



NEEDHAM SCHOOL MASTER PLAN

Project Update

School Committee 9/15/20

Objectives / Agenda



Review Process

Facility Needs & Code Triggers

Capacity Needs for Enrollment & Educational Programming

Review Master Plan Scenarios

Process

Goal: Determine Facility Needs To Meet Educational Program District Wide

Educational Space Needs

Capacity Analysis
Space Utilization Analysis
Enrollment Projections

High Rock
Mitchell
Pollard

Physical Building Needs

Physical Assessment
Detail Report

Mitchell
Pollard

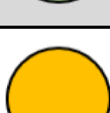
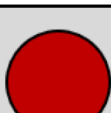
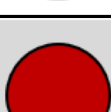
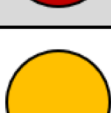
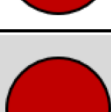
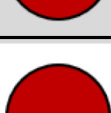
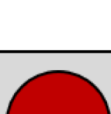
Facility Needs

EXISTING CONDITIONS GRAPH FOR NEEDHAM 2020 MASTER PLAN												
School	Key		Excellent	Very Good	Good	Fair	Poor	Poor: non or poorly functioning, replacement or repair required				
	Site & Civil	Site Accessibility -Parking / Play Area	Exterior Building Elements	Interior Building Elements	Accessibility	Structural Elements	Mechanical Systems	Electrical Systems	Plumbing Systems	Fire Protection System	Functional Use of Space	
MIDDLE SCHOOLS	Pollard Middle School	Good	Good	Fair	Fair	Good	Fair	Fair	Good	Fair	Fair	Good
	High Rock (Gr 6 School)	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Poor
ELEMENTARY SCHOOLS	Broadmeadow Elementary School	Good	Good	Good	Good	Good	Fair	Good	Good	Good	Good	Good
	Elliot Elementary School	Good	Good	Good	Good	Good	Fair	Good	Good	Good	Good	Good
	Mitchell Elementary School	Good	Fair	Poor	Fair	Poor	Good	Poor	Fair	Poor	Poor	Poor
	Newman Elementary School	Good	Good	Good	Good	Good	Good	Fair	Good	Good	Good	Good
	Sunita L Williams Elementary School	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
	Former Hillside Elementary School	Poor	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Fair	Poor	Poor

School	Site & Civil	Site Accessibility -Parking / Play Area	Exterior Building Elements	Interior Building Elements	Accessibility	Structural Elements	Mechanical Systems	Electrical Systems	Plumbing Systems	Fire Protection System	Functional Use of Space
Pollard Middle School											
High Rock (Gr 6 School)											
Broadmeadow Elementary School											
Elliot Elementary School											
Mitchell Elementary School											
Newman Elementary School											
Sunita L Williams Elementary School											
Former Hillside Elementary School											

EXISTING CONDITIONS GRAPH FOR NEEDHAM 2020 MASTER PLAN



School	Site & Civil	Site Accessibility Parking / Play Area	Exterior Building Elements	Interior Building Elements	Accessibility	Structural Elements	Mechanical Systems	Electrical Systems	Plumbing Systems	Fire Protection System	Functional Use of Space
Pollard Middle School											
\$39,048,770	\$3,226,377		\$14,092,560	\$1,618,044		\$488,520 *	\$12,705,412	\$4,686,542	\$158,976	\$2,072,339	
Mitchell Elementary School											
\$24,801,107	\$1,338,387		\$5,504,357	\$1,831,496		Included *	\$10,528,158	\$3,076,073	\$1,778,267	\$744,369	

* Does not include cost for seismic upgrades

* Does not address capacity issues

* Does not resolve Functional Use of Space

What's Included

Pollard

+/- \$40 m

- Accessibility of the Courtyard
- Repairs to Exterior Columns
- Building Envelope Upgrades
- Window Replacement
- Modular Building Replacement (\$9m)
- HVAC, Electrical , Plumbing Upgrades
- Fire Protection Installation

Mitchell

+/- \$25 m

- Window and Vent Replacement
- HVAC, Electrical , Plumbing Upgrades
- Fire Protection Installation

Compliance & Triggers

Code Compliance

Issues not in compliance with **CURRENT** are identified. As an occupied building constructed under former building codes the facilities are code compliant with approved occupancies.

Triggers

- **Seismic:**
if **renovations, additions or alterations of an existing building exceed 50%** of the aggregate area of the building then **the entire facility** must be upgraded to meet current seismic codes.
- **Fire Protection**
buildings that exceed 7500 sq. ft. any addition or renovation to the building will require that the entire facility have an automatic fire suppression system

Handicap Accessibility:

Items that met the accessibility guidelines of the 1991 ADA and have not been altered may be considered “safe harbor”

However, Schools and other public building are required to meet the minimum of **access to the front entrance**, and provide an **accessible toilet room**, and an **accessible drinking fountain**

All renovations must comply.

Renovations over the course of 3 years that amount to **more than 30% of the fair values** will trigger the requirement for **the entire facility to be upgraded** including access to the site, parking, front entrance playground and playfields

Code Triggers

Total Gross Square Feet

Pollard =	134,427 (no modulares)	50% = 67,213.5
Mitchell =	53,785 (no modulares)	50% = 26,892.5

Fair Market Value

Pollard = \$ 20,421,500	30% = \$6,126,450 = NTE \$2 m / yr for 10 years
Mitchell = \$ 8,215,200	30% = \$2,464,560 = NTE \$800t /yr for 10 years

Capacity & Ed. Program Needs

Educational Space Needs
Capacity Analysis
Space Utilization Analysis
Enrollment Projections

Elementary Schools

- Current General Classroom
123

Middle Schools

- Current General Classroom
86

Elementary School Needs

- Capacity Challenges @
Broadmeadow
Eliot &
Mitchell
- Classroom target for Master Plan is
126 General Classrooms

Middle School Needs

- Capacity Challenges @
High Rock
Pollard
- Classroom target for Master Plan is
101 General Classrooms

Master Plan Scenarios Explored:

* Not a free-standing elementary school. Two schools under one roof model with 6th-8th MS.

Major Project Required

	Status Quo	Discontinue High Rock 5ES & MS	High Rock As ES 6ES & MS	Two 6-8 Middle Schools 5ES & 2MS	One 5-8 Middle School 5ES & MS	Two 5-8 Middle Schools 5ES & 2 MS	Super School 5ES* & MS
	PK, K-5 th , 6 th , 7 th , 8 th	PK, K-5 th , 6 th , 8 th	PK, K-5 th , 6 th , 8 th	PK, K-5 th , 6 th , 8 th	PK, K-4 th , 5 th , 8 th	PK, K-4 th , 5 th , 8 th	PK, K-5 th , 6 th , 8 th
Broadmeadow	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-4 th Remains	K-4 th Remains	K-5 th Remains
Eliot	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-4 th Remains	K-4 th Remains	K-5 th Remains
Mitchell	K-5 th New ES (5 sections)	K-5 th New ES (5 sections)	K-5 th New ES (3 sections)	K-5 th New ES (7 sections)	K-4 th New ES (4 sections)	K-4 th New ES (3 sections)	Discontinued
Newman	PK, K-5 th Remains	PK, K-5 th Remains	PK, K-5 th Remains	6 th -8 th MS Reno	PK, K-4 th Remains	5 th -8 th Reno/Add	PK, K-5 th Remains
Williams	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-4 th Remains	K-4 th Remains	K-5 th Remains
High Rock	6 th Only Addition	Repurposed TBD	Repurposed for ES	Repurposed for ES	Repurposed TBD	Repurposed K-4 th	Repurposed TBD
Pollard	7 th -8 th Reno/Add or New	6 th -8 th Reno/Add or New	6 th -8 th Reno/Add or New	6 th -8 th Reno or New	5 th -8 th Reno/Add or New	5 th -8 th Reno or New	K-5 th & 6 th -8 th Reno/Add or New

Potential Scenarios

FINAL OPTIONS

Status Quo

Grade Configuration

\$310.3 m +/-

Pollard 7&8

Renovations + Addition
907-955 Students

High Rock 6

Addition
430-477 students

Mitchell

5 sect / grade
New School
650 +/- Students

Discontinue

High Rock

\$287.1 m +/-

Pollard 6-8

Renovations + Addition
1,337-1,432 Students

High Rock

Vacant
0 Students

Mitchell

5 sect / grade
New School
650 +/- Students

High Rock 6th

Elementary School

\$251.9 m +/-

Pollard 6-8

Renovations + Addition
1,337-1,432 Students

High Rock K-5

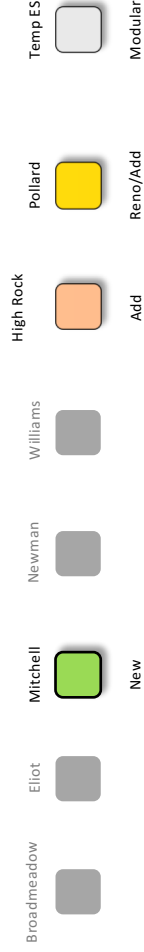
3 sect / grade
Renovations
330 +/- Students

Mitchell

3 sect / grade
New School
330 +/- Students

Master Plan Sequences w/ Cost Estimates

Status Quo (grade configuration) Scenario



SEPT 2025
Begin Construction

MAY 2022
Town Vote to Fund Feasibility

NOV 2023
Town Vote to Fund Construction

APR 2027
Occupancy

\$106.5 M

5-Section Mitchell Project – 120,000 GSF

\$1.5 M CIP

2020

2025

2030

High Rock Addition Project
15,000 GSF

SEPT 2023
Occupancy

\$16.4 M

\$2M / yr CIP @ Pollard = \$20 M CIP

7th-8th Pollard Project – 134,000 GSF (Reno)
15,000 GSF (Addition)

\$146.9 M

FEB 2027
Submit SOI to MSBA

MAY 2028
Town Vote to Fund Feasibility

NOV 2029
Town Vote to Fund Construction

SEPT 2032
Occupancy

Temporary ES Project – 56,000 GSF

\$40.5 M

NOV 2022
Town Vote to Fund Designer Services

NOV 2023
Town Vote to Fund Construction

APR 2025
Occupancy

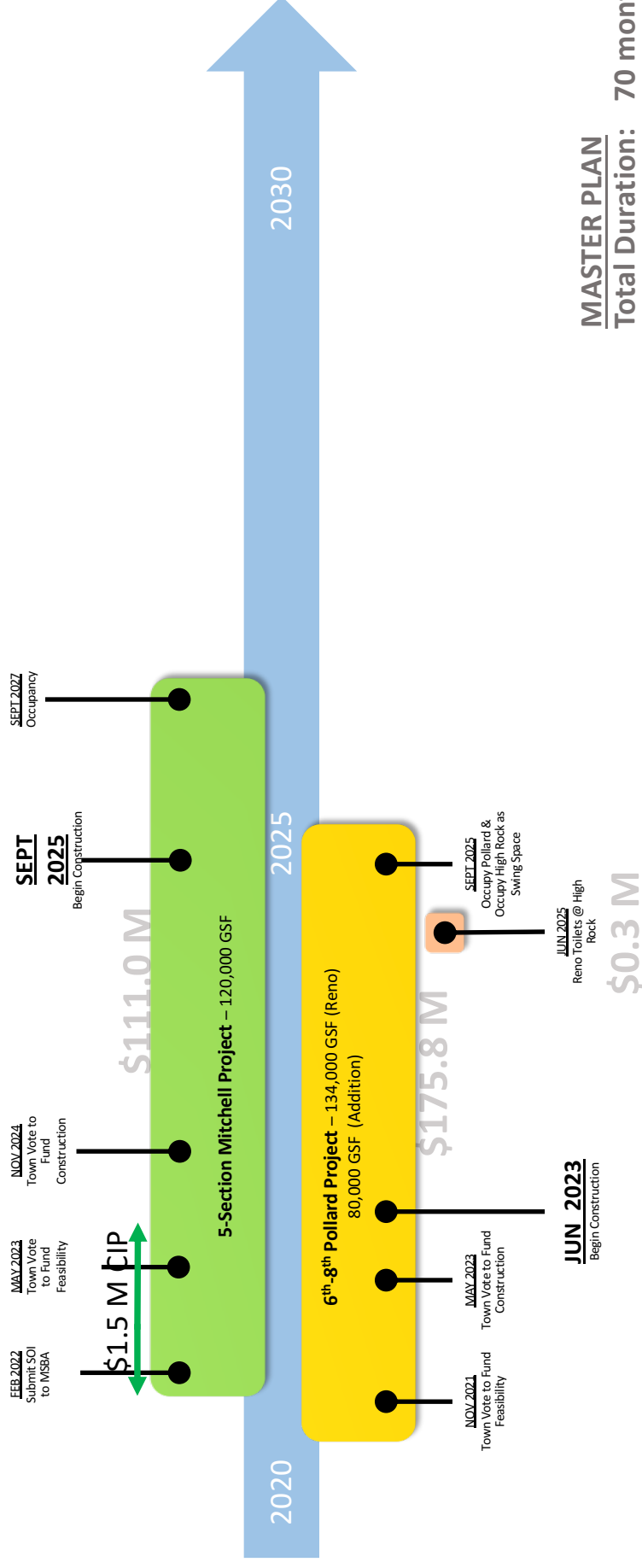
MASTER PLAN

Total Duration: 139 months

Total Cost: \$ 310.3 M

CIP: \$ 21.5 M

Discontinue High Rock Scenario



MASTER PLAN

Total Duration: 70 months

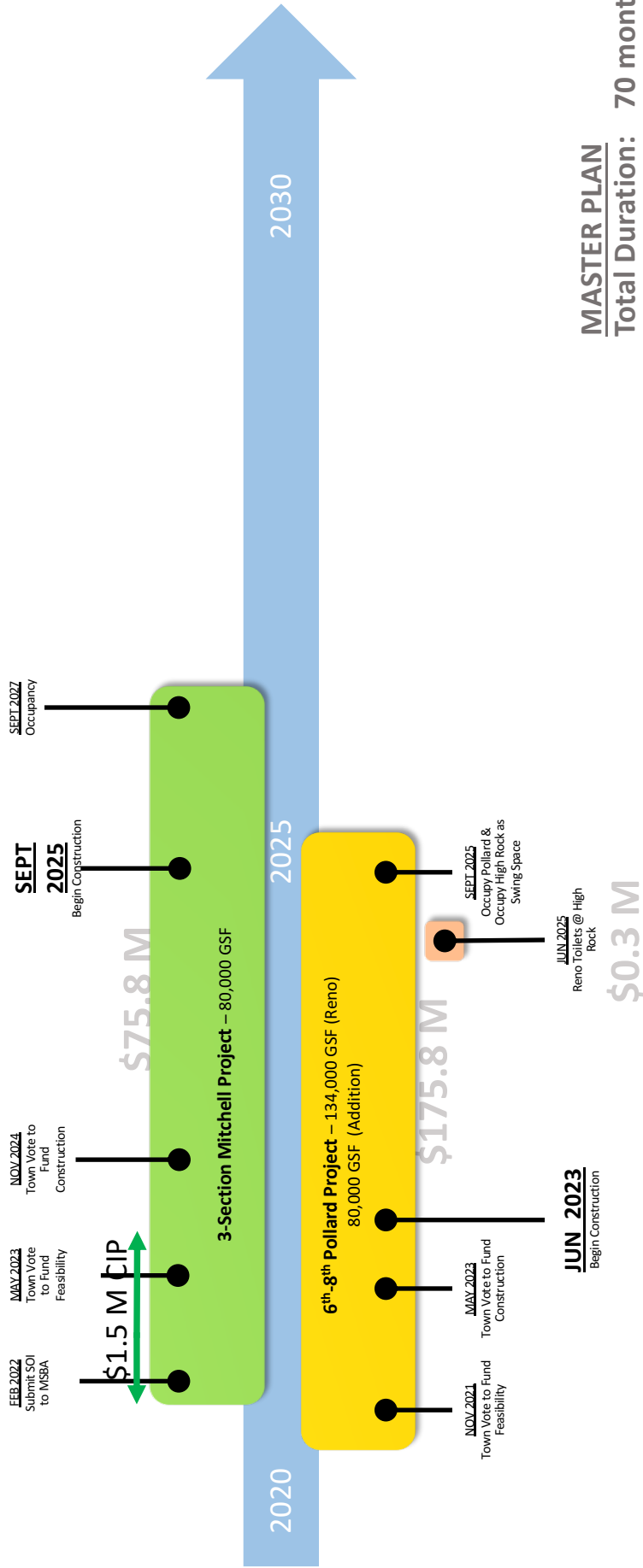
Total Cost: \$ 287.1 M

CIP: \$ 1.5 M

High Rock as ES

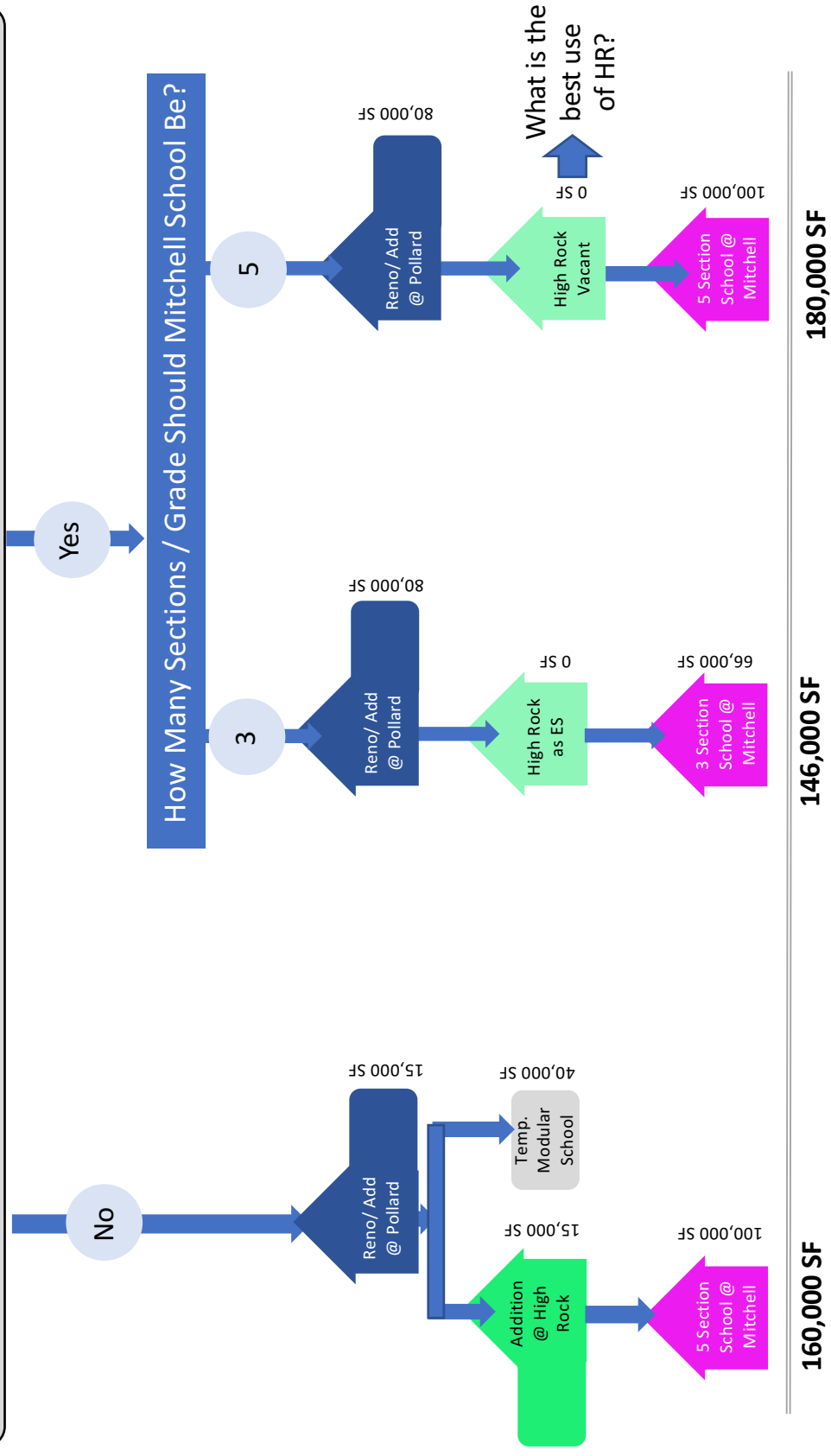
Grade 6 at Pollard Scenario

- Broadmeadow
- Eliot
- Mitchell
- Newman
- Williams
- High Rock
- Pollard
- Reno/Add
- New
- Reno



MASTER PLAN
Total Duration: 70 months
Total Cost: \$ 251.9 M
CIP: \$ 1.5 M

Should Grade 6 be part of the 7th & 8th Grade School?



Next Steps

- School Committee Public Hearing 10/6/20
- Issue Final Report
- Town to begin conversations with MSBA



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School Committee 9/15/2020

Addition @ High Rock

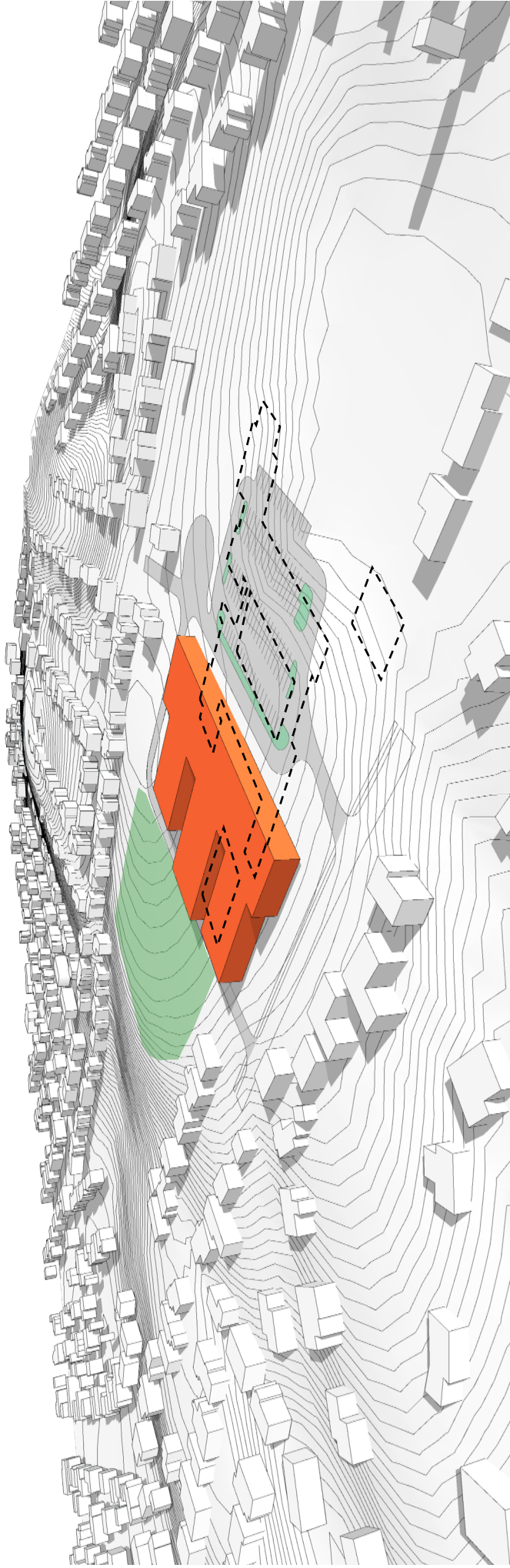
6th Grade Only

- 15,000 GSF
- 2 Stories
- Occupied, Phased Construction

New Mitchell Elementary School

5 Sections/Grade

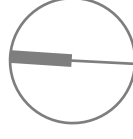
- 120,000 GSF
- 2 Stories



- No phasing required if Students are off-site during construction
- Existing fields are retained
- Construction logistics manageable

Mitchell ES, Proposed Site Plan

- 4 Sections Per Grade, Two Stories
- Grades K-5th

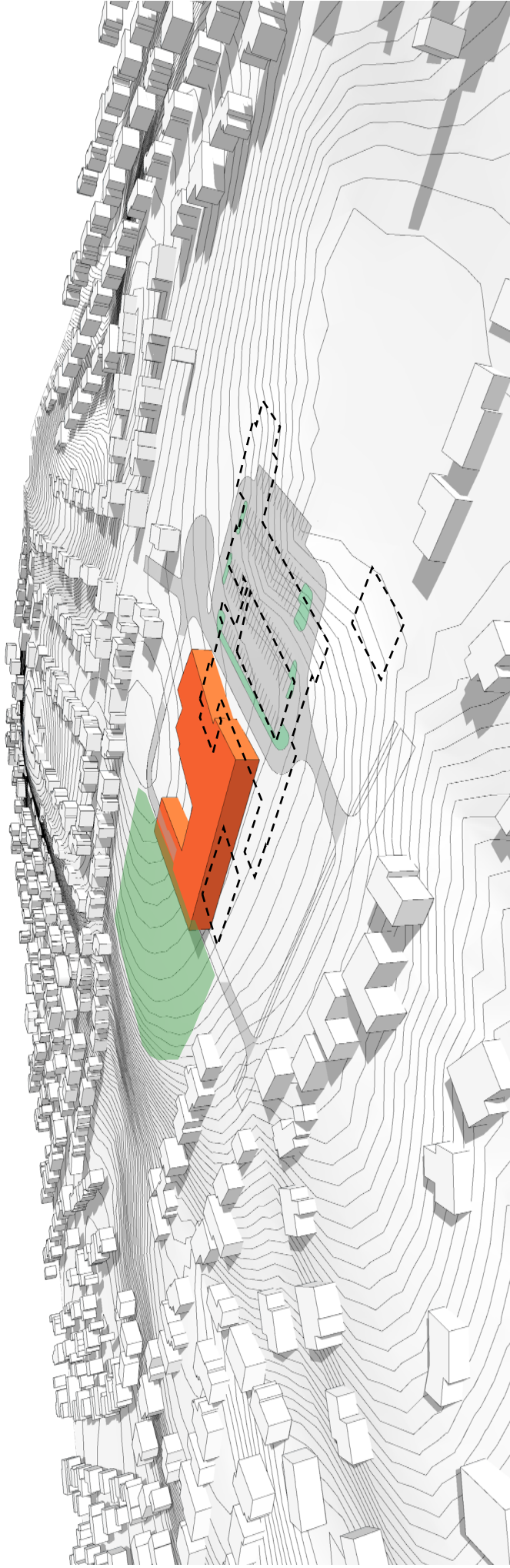


-  New 90,000 GSF Building
-  Modified Playground

New Mitchell Elementary School

3 Sections/ Grade

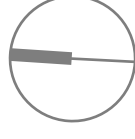
- 80,000 GSF
- 2 Stories



- No phasing required if Students are off-site during construction
- Existing fields are retained
- Construction logistics manageable
- More open space and less architectural impact to neighbors

Mitchell ES, Proposed Site Plan

- 3 Sections Per Grade, Two Stories
- Grades K-5th

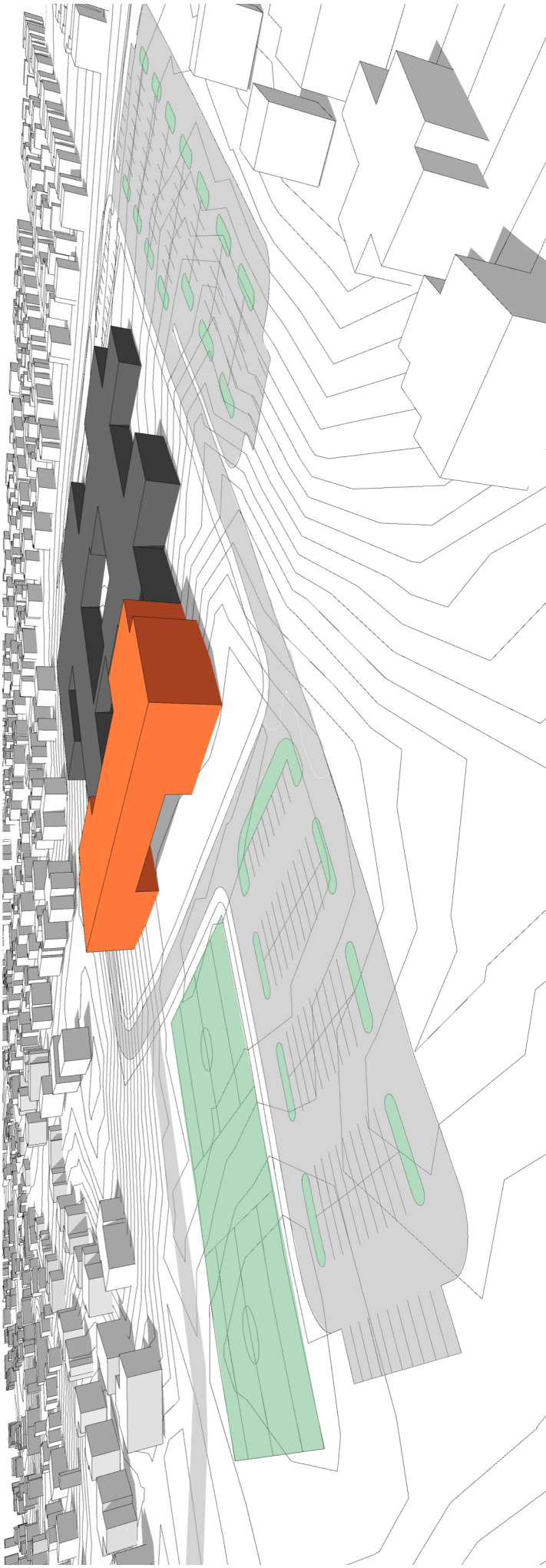


-  New 80,000 GSF Building
-  Modified Playground

Addition/Reno to Pollard MS

6th-8th Grade (1,432 Students)

- 35 Teaching Stations
- 60,000 GSF Addition
- 2+ Stories
- Occupied, Phased Construction

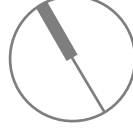


- Requires removal of modular classrooms during construction. Swing space?
- Construction adjacent to occupied space is a challenge.
- Construction logistics more manageable.
- Results in loss of softball field and tennis courts.
- Concerns about increased traffic in neighborhood.

Pollard MS, Addition/ Renovation

- 1,432 Students
- Grades 6th-8th

- Existing Building to Remain
- New 80,000 GSF Addition
- Replicated Playground



MASTER PLAN STUDY

NEEDHAM, MASSACHUSETTS



draft report

September 4, 2020

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Dore + Whittier Architects would like to acknowledge the following individuals for their dedication to the Town of Needham School Department and for their assistance to the Design Team.

Town Administration

Kate Fitzpatrick, Town Manager

Board of Selectman

John A. Bulian, Chairman

Maurice P. Handel, Vice Chairman

Matthew Borrelli, Clerk

Marianne B. Cooley

Daniel P. Matthews

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Michael J. Greis, Chairman

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Karen Bourn, Principal Eliot Elementary School
Jessica Downey, Principal High Rock School
Gregory Bayse, Principal Mitchell Elementary School
Jessica Peterson, Principal Newman Elementary School
Michael Kascak, Principal Sunita Williams Elementary School

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Steven Popper, Director of Design and Construction
Barry Dulong, Director of Building Maintenance

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Newburyport, MA and South Burlington, VT

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Engineers Design Group
Cambridge, MA

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Cost Estimating

Project Management & Cost, LLC.
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EXECUTIVE SUMMARY I

INTRODUCTION AND BACKGROUND

I-A.1

INTRODUCTION & BACKGROUND

In August 2019 the Town of Needham, MA issued a Request for Proposal (RFP) for the comprehensive facilities assessment and master plan study of its public elementary and middle schools. Dore + Whittier Architects responded to this request and was chosen by the Permanent Public Building Committee (PPBC) to perform this study. This study includes a comprehensive facility assessment, analysis of projected enrollment growth and shifts across the district, and the development of a multi-year master plan to address the identified needs.

THE REPORT

This report reflects the work, data, and analysis that led to the development of multiple scenarios to resolve key issues that were identified through our research. The report is broken into five sections:

Section I – Executive Summary: This section, provides an overview of the work, findings, and options that are found in greater detail in the subsequent sections of this report.

Section II - Facility Assessments: This section includes an in-depth report of the physical condition of each of the facilities included in this report. Each facility assessment includes overall site and building data, a regulatory assessment, civil, structural, architectural, mechanical, electrical, plumbing and fire protection assessment. These assessments outline the existing conditions and identify needs. A Capital Improvement Plan (CIP) spreadsheet records each of the building needs and provides a cost estimate for repair or replacement.

Section III – Analysis & Programing: This section includes capacity and space needs analysis, and the educational program analysis that informed the development of the master plan options

Section IV- Master Plan: This section provides an overview of the process, the master plan scenarios and the total project cost estimate and time to completion for each of the scenarios.

OVERVIEW OF THE DISTRICT

The Needham Public School District currently serves approximately 3,979 students in grades K thru 8 and is projected to reach 3,884 students by 2028-2029. Five elementary schools serve the district's 2,587 K-5 students. These schools vary considerably in enrollment size, sections per grade, and age of facility. The newest school, the Sunita L. Williams School, opened in September 2019 and replaced the aging Hillside School. With a design enrollment of 430 students the school currently serves 518 students. The oldest elementary school in the district is the Mitchell School. This school was constructed in 1949 and currently serves 484 students. One school, the Pollard School, serves grades seven and eight while grade six students, district wide, attend the High Rock School. These schools have enrollments of 893 and 499 consecutively.

This Study provides the following for each school:

1. Documentation of existing conditions and physical assessment of each building and site with recommendations to address deficiencies at each school.

2. Review of the district's enrollment and consideration of the impact on future needs.
3. Review of Educational Program needs, goals, strengths and deficiencies, including a 'Space Utilization Analysis'.
4. A review of the potential and suggested capital improvements to extend the useful life of each facility in relationship to building systems and equipment, health, safety and welfare of building occupants.
5. Conceptual master planning solutions for long term replacement or repairs to the facilities*.

*All long-term building renovation recommendations developed during the course of this study support the integration of sustainable design components including energy efficiency, recycling of materials, water conservation, renewable energy technology and environmentally friendly materials to the extent feasible.

DOCUMENTATION

This report is based on information gathered by visual observations of each facility and site conducted by Dore + Whittier Architects, Inc. and its consultants, as well as a review of the available existing building drawings, documents, reports and enrollment projections that were provided to the Design Team from the Town of Needham. The extent and accuracy of the documentation available varies with each building.

Existing Buildings:

Building	Address	Year built / Renovated	Total Sq. Ft	Grade Configuration Total Enrollment / FTE Staff
Pollard Middle School	200 Harris Ave. Needham, MA. 02492 (781) 455-0480	Original Building: 1956 Add/Reno: 1969, 1996	147,224 GSF (including modular classrooms)	Grades: 7-8 Students: 893
High Rock School	77 Ferndale Rd. Needham, MA. 02492 (781) 455-0455	Original Building: 1959 Add/Reno: 1953, 2007	72,927 GSF	Grade: 6 Students: 499
Broadmeadow Elementary School	120 Broadmeadow Rd. Needham, MA. 02492 (781) 455-0448	Original Building: Add/Reno: 2003	116,466 GSF	Grades: K-5 Students: 548
Eliot Elementary School	135 Wellesley Ave. Needham, MA. 02492 (781) 455-0452	Original Building: Add/Reno:	70,850 GSF	Grades: K-5 Students: 412
Mitchell Elementary School	187 Brookline St. Needham, MA. 02492 (781) 455-0466	Original Building: 1949 Add/Reno: 1958, 1968	53,785 GSF	Grades: K-5 Students: 484

Newman Elementary School	1155 Central Ave. Needham, MA. 02492 (781) 455-0416	Original Building: 1960 Add/Reno: 1995	139,710 GSF	Grades: K-5 Students: 625
Sunita L Williams School	585 Central Ave. Needham, MA 02492 (781) 455-0461	New construction: Opened: 9/2019	90,702 GAF	Grades: K-5 Design Enrollment: 430 Current Enrollment: 518
(Former) Hillside Elementary School	28 Glen Gary Rd. Needham, MA. 02492	Original Building: 1959 Add/Reno: 1968	47,095 GSF	Currently used as temporary Fire & Police Station

- **Student population is as of September 2019**

EXECUTIVE SUMMARY

I-A.2

EXECUTIVE SUMMARY

INTRODUCTION

This report provides an independent architectural and engineering assessment of the middle and elementary school facilities in the Needham Public School District. The study serves as a tool to assist the town with identifying and prioritizing a long-term master plan including a capital improvement plan for each facility included in the study. The plan identifies facility space needs based on enrollment projections and current educational delivery methods and educational programs.

Dore & Whittier used the following method to develop this report:

- A. Data gathering and review of previous studies
- B. Facility Assessments (non-destructive only)
- C. Analysis and Programming
- D. Master Plan Scenarios
- E. Feasibility of Master Plan Components

Throughout the course of this study, Dore + Whittier Architects consulted with the town facilities department, the school district administration, school committee members, and the permanent public building committee (PPBC) to identify and prioritize facility and educational space needs. The result of this work includes facility assessment reports, capital improvement plans (CIP) and options for building additions, renovations, or replacements over an extended time period.

A - DATA GATHERING AND REVIEW OF PREVIOUS STUDIES

The District provided the Design Team with existing building and site plans as available, prior capital improvement project lists, previous master plans and reports, and tax cards reporting the current value of each facility. This “current value of the building” is important when reviewing the scope of work proposed for repairs or renovations: it is important to review the current value of the facility, as a percentage of this value is used to trigger other code related work such as seismic, accessibility, and fire protection upgrades. The current value of each building and site is included in the facility assessment, Section II, under Section B – Existing Site & Building Data for each building and in Appendix B of this report. Data was also provided regarding enrollment projections. This information was developed by McKibben Demographic Associates and included an enrollment projection for each grade level for fifteen years. The preliminary projections are included in Appendix C of this report.

B - FACILITY ASSESSMENTS AND CAPITAL IMPROVEMENT PLANS

The Facility Assessment Reports were developed by the architectural and consultant teams and involved visual assessment of each building and site. No destructive or investigative work was conducted. These reports include Architectural, Civil, Structural, Mechanical, Electrical, Plumbing, and Fire Protection. These assessments identify existing conditions, note specific issues, and make recommendations for repairs or replacements.

The Capital Improvement Plan (CIP) spreadsheet records each of the specific issues identified as in need of repair or replacement provides an estimated cost of the repair and identifies a timeline for when the repair should be considered. The CIP spreadsheet does not consider bundled scopes of work (ie. the installation of sprinklers with the replacement of ceiling tile systems) which could add to potential cost savings or reprioritize the timeline for a particular repair or replacement.

In addition to identifying the cost of a repair, the CIP spreadsheet also categorizes the capital need as Health, Safety & Welfare, Code Compliance, Functional Use of Building or Site, Handicap Accessibility, Extending the Life of the Building (Maintenance), Energy Efficiency / Energy, Water Savings, and Hazardous Material Abatement to further assist the Owner in prioritizing the needs of the facility. Note that these items are solely addressing building conditions and do not include a review of the educational program. Items that fall under Health, Safety, & Welfare often receive the highest priority.

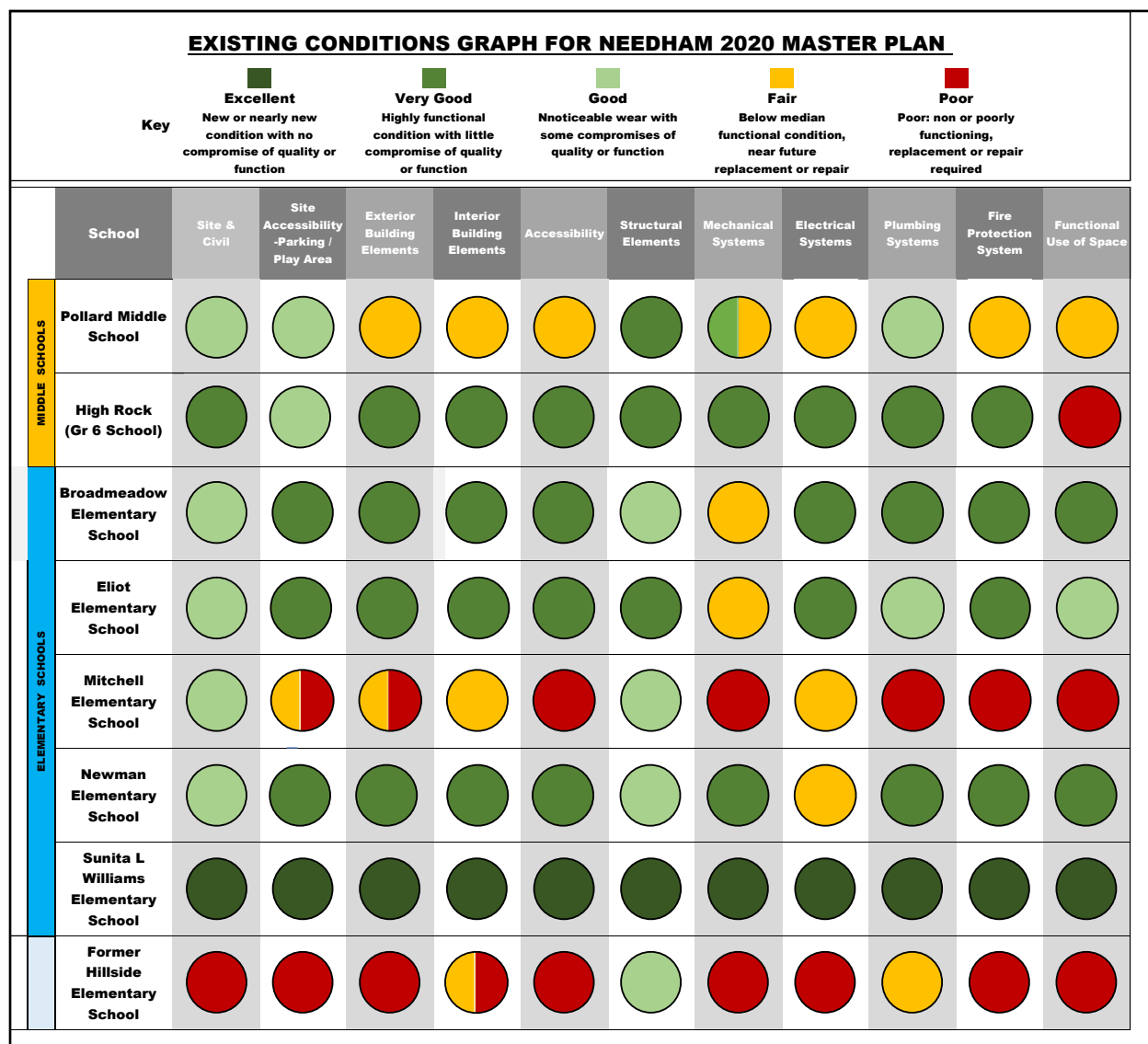
Cost estimates are given in today's dollars (June 2020). These costs are developed based on an approximate quantity or area of repair. Estimates were prepared for budgetary purposes only and are preliminary in nature based on recent bid history and area calculations. The CIP spreadsheet reflects the cost of the work, designer pricing contingency (15%), and soft cost (25%) to arrive at an estimated project cost. Further refinement of costs will need to be evaluated as the scope of work is developed further.

Cost estimates assume that the work is placed out to bid. Use of Public Facilities staff to address certain maintenance items (that are within the limits of MGL) identified could result in significant offsets to the costs identified.

FACILITIES OVERVIEW

The following chart is a summary of the facility assessment needs for each school. The categories of assessment are (from left to right) Site & Civil, Site Accessibility / Parking / Play Areas, Exterior Building Elements (doors, windows, walls, roof, etc.), Interior Building Elements (floors, ceilings, walls, doors, etc.), Interior Accessibility, Structural Elements, Mechanical Systems, Electrical Systems, Plumbing Systems, Fire Protection, and the Functional Use of the Building, which reflects how well the building serves the educational program. Elements that performed poorly or are in the greatest need for repair or replacement are shown in red; yellow is fair condition – not an immediate need but generally will need replacement in the near future. The lightest green is systems in good condition, medium green indicates very good condition, and the dark green is excellent or new condition. A quick view of the chart shows that the former Hillside School facility performed at the lowest level in almost every category. The purpose of including this facility in the study was to assess its potential use as swing space during the renovation of other school facilities. The facility is currently in use as a temporary police and fire station while those facilities are under construction. Research conducted as part of this study indicated that the facility was converted to Business Use, a lower risk category than School, and thereby not requiring the upgrade to a fully sprinklered facility. Should this building be considered for swing space it would require a re-classification as a School, which would trigger full compliance with the building code for schools resulting in: upgrades to the structural system for seismic, wind and snow loads, the installation of a sprinkler system throughout the facility, installation of a code compliant fire alarm system, upgraded electrical service, new ventilation system, energy code compliant plumbing fixtures and the upgrade of the entire building to meet ADA / MAAB including the installation of a three stop elevator to service all areas of the building. A letter dated December 13, 2019 from our office to Mr. Steven Popper outlining these issues is included in Section G of this report.

Excluding the former Hillside School, the Mitchell School facility has been identified as the facility with the most needs, followed by the Pollard School. All other facilities are in good condition with isolated needs such as mechanical or electrical systems. The column on the far right of the chart identifies how well the facility is serving the educational program. This is equally important when we begin to address master planning needs. It indicates that, aside from the Mitchell School, the only other school that is doing poorly in this category is the High Rock School. In general, this is due to overcrowding. The High Rock School serves approximately 499 students in Grade 6 and is limited in its ability to provide appropriate special education teaching spaces and spaces for specials among other program deficits. More information regarding the educational program deficits for this school is listed below and in Section III of this report.



The town has taken proactive and strategic measures to address ongoing maintenance and extend the useful life of both the Pollard Middle School and the Mitchell Elementary School. The Pollard School has received a new roof, new boilers (the old boilers were moved to Mitchell School), and new domestic hot water heaters. Multi-user toilet rooms have been upgraded with water saving fixtures and new finishes, new seating has been added to the theater, new carpet has been placed in the media center, and the administration office has been relocated to provide additional space for guidance. Both the blue and the green gyms have received new floors, pads and wall finishes.

The Mitchell School has recently had two major building projects to address the educational program needs. These include the construction of a four-classroom modular building that is currently serving the kindergarten population and a two-classroom modular building that serves art and music. This construction has provided space within the building to accommodate special education programs and provide all-day kindergarten.

Outlined below is a general overview of our findings for each building. It is important to note that throughout this report, references have been made to the current building codes. It is assumed that at the time of construction, each facility met the existing building codes and that existing conditions have been grandfathered. Upgrades for compliance with current building codes are suggested in all areas of life safety and accessibility.

Where repairs and replacements are noted in the reports, all new work and renovations to existing conditions must comply with current building codes. In some instances, new repair or renovation work may trigger facility upgrades such as the addition of sprinklers, seismic bracing, or ADA / MAAB (handicap accessibility) compliance. A full, detailed scope of work must be developed along with a complete code review and updated cost estimate prior to the start of any repair, renovation, or new construction project. A summary of current codes is provided in Section I A-3 and is used as the basis for this study. Where repairs and replacement of building conditions extend over time, the work will need to be in compliance with the building codes in effect at the time of permitting, which may differ from those noted herein.

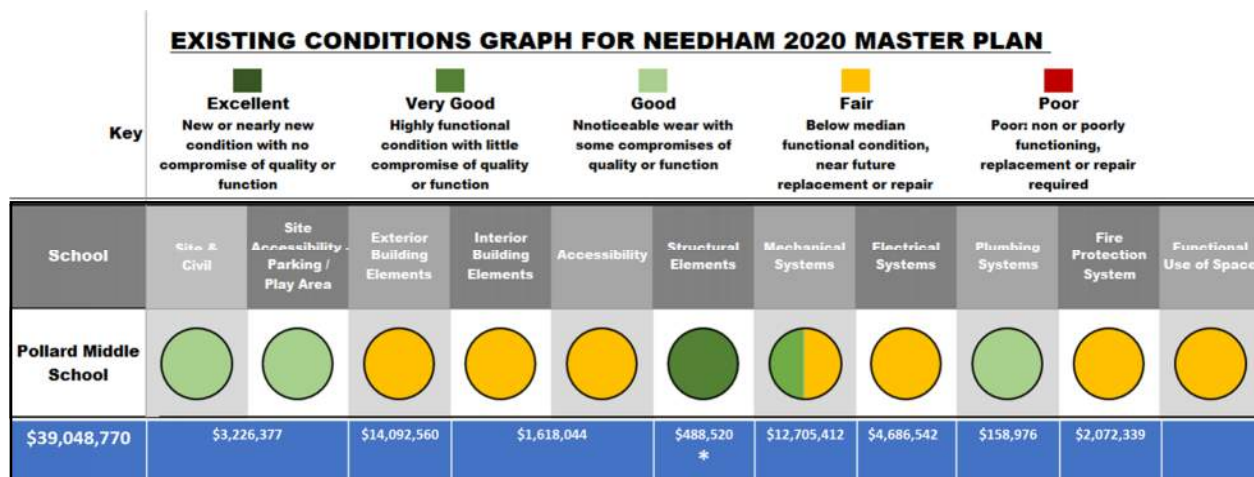
MIDDLE SCHOOLS

Pollard Middle School

Based on the MSBA guidelines for a middle school, the Pollard Middle School has adequate gross square footage for its population. However, there are many undersized classrooms, inadequate teacher planning, administration, or meeting spaces, insufficient space for special education, and antiquated science labs. The modular classroom building is fully occupied but, the building has exceeded its useful life and is in need of replacement.

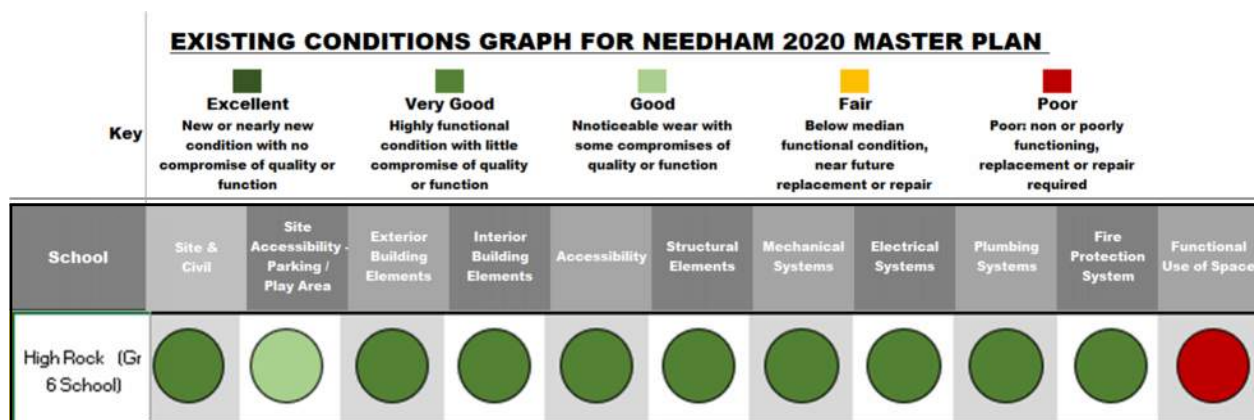
The school was constructed in 1956 and had a significant renovation in 1996. Overall, the building is in fair condition and in need of upgrades to the building envelope, mechanical system, and electrical system. Heating and cooling the building consistently is difficult given the age of the equipment, the fluctuation of gas pressure being delivered to the boilers, and the lack of a proper thermal envelope. There are several areas throughout the building that do not meet current ADA / MAAB requirements including stair railings, door push / pull clearances and equal accessibility to all spaces. Finally, the building is only partially sprinklered. Any upgrades to the facility will trigger the need to provide a fully automated fire suppression system throughout the entire building. The cost of this work may trigger other code upgrades including seismically clipping interior walls, a cost that is not anticipated in the CIP scope. The project cost estimate

for the identified facility needs was estimated to be approximately \$40,000,000 over the next ten years (without escalation). Upgrades to the facility need to be carefully planned as to not trigger additional whole facility renovations.



High Rock Grade 6 School

By comparison the High Rock school has far fewer capital needs. The addition and renovations in 2009 provided a fully sprinklered building and brought the building into compliance with accessibility requirements. Aside from on-going maintenance and small repairs, the facility does not require any major capital investments in the immediate future. However, the educational program needs would suggest that a major classroom addition is needed to serve the Grade 6 community. This is further discussed in the 'Analysis and Programming' section below.



ELEMENTARY SCHOOLS

Overall, the elementary schools, with the exception of the Mitchell School, are in very good condition. The extensive renovations / additions to Broadmeadow Elementary School in 2003, High Rock School in 2009, the Newman School in 2012, and the replacement of the Hillside School in 2019 are clear examples of the community's commitment to their school facilities. Each of these schools have been brought into compliance with ADA / MAAB and with the need for fire protection throughout the entire facility.

Broadmeadow, Eliot & Newman Schools

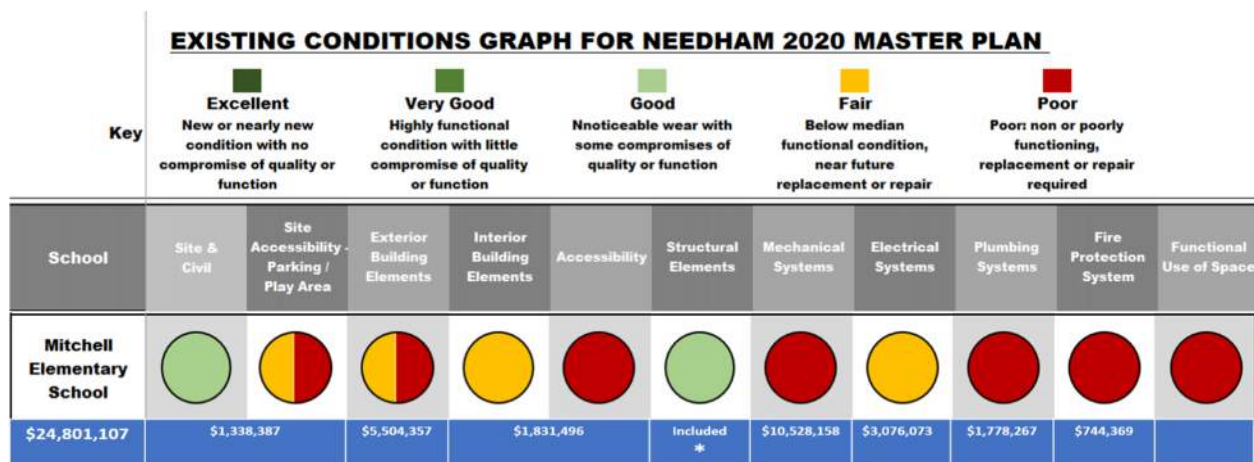
Some HVAC systems at Broadmeadow have surpassed their life expectancy while other parts of the system are approaching their 20 year life expectancy and will become more expensive to repair over time. This is true, albeit to a lesser degree, for the Eliot School as well. The Newman School underwent a full building renovation in 2010. However, some of the 1960 electrical system equipment remains in use and in need of replacement.

Sunita L. Williams School

This school is the facility in the district. Opening in September of 2019, the school was in use for approximately six months prior to closing for COVID-19 reasons. Currently all building systems are still under warranty.

Mitchell School

Despite the ongoing efforts to maintain the Mitchell Elementary School facility, many systems are beyond their useful life and require replacement. The original building was constructed in 1948, with additions in '58 and '68. Many of the building systems are original. Upgrades to the facility, while occupied, are difficult as any renovation will likely trigger code required upgrades to the entire facility including the addition of sprinklers, full compliance with handicap accessibility, and structural upgrades to meet current seismic code requirements; a cost that is not anticipated in the CIP scope. The project cost estimate for the identified facility needs was estimated to be approximately \$25,000,000 over the next ten years (without escalation). Upgrades to the facility need to be carefully planned in three-year increments as to not trigger additional whole facility renovations.



C - ANALYSIS and PROGRAMMING

Dore &Whittier performed a review of an enrollment forecast produced by McKibben Demographics in December of 2019. Dore & Whittier used that information to perform a space needs analysis to identify how many general classrooms and teaching stations would be necessary to maintain class sizes within the District's guidelines. In addition, Dore & Whittier performed a capacity analysis to refute or corroborate the enrollment and space needs analyses. The bullets below highlight the key findings from these analyses.

Enrollment Forecast:

- The elementary population is expected to experience a slight uptick before a slow decline, peaking at 2,634 students in 2020-21 and declining to 2,428 in 2034-35.
- The middle grades population (6th-8th) is expected to experience a slight up-tick before a slow decline peaking at 1,405 in 2021-22 and declining to 1,364 in 2034-35.

Space Needs Analysis:

- Existing elementary schools contain a total of 116 general education classrooms. Seven spaces (four modular classrooms at Mitchell and one repurposed space at each of Eliot, Broadmeadow, and Newman) were not counted toward this total.
- In order to remain within the District's guidelines for students per classroom, the District needs between 114 of 141 general classrooms.
- It appears there are enough general classrooms within the District to accommodate the entirety of the enrollment forecast by redistricting around the edges if the District maximizes the students per classroom.
- To have all general classrooms be near the mid-point of its class size guidelines, the District would need a maximum of 127 general classrooms. Dore & Whittier, however, recommends a minimum of 126 general classrooms in the District due to the slightly declining enrollment. Dore & Whittier also observes that there may be a case for a few more general classrooms to give the District more flexibility in its class sizes and/or to provide dedicated space for specials.
- The existing High Rock School contains a total of 25 teaching stations.
- In order to maintain an average class size of 22 students per teaching station, the building requires at least 31 teaching stations at the school's current utilization rate of 71%.
- High Rock School also has spatial deficiencies related to special education spaces, an undersized cafeteria, and an undersized gymnasium. Dore & Whittier did not explore ways to address the deficiencies associated with the gymnasium or cafeteria but recommend any classroom additions contain approximately 10 spaces to address both the teaching station and special education needs.
- The existing Pollard Middle School has 61 existing teaching stations. The ten existing modular classrooms are excluded from this count.
- Should Pollard Middle School continue to serve only grades 7th & 8th, it appears the existing 61 teaching stations are enough to serve the enrollment forecast assuming the school adjusts its daily schedule to utilizing space slightly more efficiently, similar to the daily schedule used at High Rock.

- Should the Pollard Middle School serve grades 6th-8th, the analysis suggests a need for 90 total teaching stations, necessitating an addition to the existing building or a newly constructed facility.

Capacity Analysis:

- The table below communicates the calculated capacities for each elementary school and compares them to the individual school forecast from the McKibben demographic study. The analysis corroborates the space needs analysis, suggesting the District can accommodate the entirety of the enrollment forecast within existing classrooms if class sizes average the maximum identified in the District's class size guidelines and by re-districting around the edges. It also communicates there are localized capacity challenges at Broadmeadow, Eliot, and Mitchell.

	Capacity		Need
	General Classrooms	Students	Enrollment Forecast
Broadmeadow Current = 548	24	448 to 544	504 to 560
Eliot Current = 412	18	336 to 408	413 to 443
Mitchell* Current = 484	20	376 to 456	423 to 481
Newman Current = 624	30	560 to 680	586 to 648
Williams Current = 518	24	448 to 544	502 to 533
	116	2,168 to 2,632	2,428 to 2,634

* Does not include modular classrooms for Kindergarten. Including those modular classrooms would increase capacity to 448 to 544.

The table below communicates the calculated capacities for Pollard Middle School and the High Rock school and compares them to the individual school forecast from the McKibben demographic study. Capacity calculations are based on the midpoint of the District's class size guidelines (20-24) and the capacity range is based on two utilization models (71% and 75%). The analysis corroborates the space needs analysis:

- A capacity challenge exists at High Rock for the entirety of the enrollment forecast.
- Pollard Middle School appears to have sufficient capacity (without the use of the modular classrooms) to accommodate the enrollment forecast assuming a slight change in the daily schedule to utilize space more efficiently.

	Capacity		Need
	Current Teaching Stations	Students	Enrollment Forecast
High Rock (6 th Only) Current = 499	25	391 to 412	430 to 477
Pollard* (7 th – 8 th) Current = 892	61	953 to 1,007 (895) Based on current utilization of 67%.	907 to 955
Pollard* (6 th – 8 th) Current = 1,391	61	953 to 1,007	1,361 to 1,405

* Does not include modular classrooms. Including those modular classrooms would increase capacity to 1,109 to 1,172.

D – MASTER PLAN SCENARIOS

Dore & Whittier explored seven master plan scenarios to address the three basic findings of the facility assessments, enrollment and space needs analysis, and the capacity analysis:

- Mitchell Elementary School possesses the greatest facility and spatial needs of all the schools in the District's inventory.
- High Rock School exhibits capacity needs.
- Pollard exhibits the second greatest facility needs and may possess some capacity needs depending on the school scheduling methodology.

Master Plan Scenarios Being Explored:

Major Project Required

	Status Quo Pk, K-5th, 6 th , 7 th -8 th	Discontinue High Rock SES & MS Pk, K-5th, 6 th -8 th	High Rock As ES 6ES & MS Pk, K-5th, 6 th -8 th	Two 6-8 Middle Schools SES & 2MS Pk, K-5th, 6 th -8 th	One 5-8 Middle School SES & MS Pk, K-4th, 5 th -8 th	Two 5-8 Middle Schools SES & 2 MS Pk, K-4th, 5 th -8 th	Super School SES* & MS Pk, K-5th, 6 th -8 th
Broadmeadow	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-4 th Remains	K-4 th Remains	K-5 th Remains
Eliot	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-4 th Remains	K-4 th Remains	K-5 th Remains
Mitchell	K-5 th New ES (5 sections)	K-5 th New ES (5 sections)	K-5 th New ES (3 sections)	K-5 th New ES (7 sections)	K-4 th New ES (4 sections)	K-4 th New ES (3 sections)	Discontinued
Newman	PK, K-5 th Remains	PK, K-5 th Remains	PK, K-5 th Remains	6 th -8 th MS Reno	PK, K-4 th Remains	5 th -8 th Reno/Add	PK, K-5 th Remains
Williams	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-4 th Remains	K-4 th Remains	K-5 th Remains
High Rock	6 th Only Addition	Repurposed TBD	Repurposed for ES	Repurposed for ES	Repurposed TBD	Repurposed K-4 th	Repurposed TBD
Pollard	7 th -8 th Reno/Add or New	6 th -8 th Reno/Add or New	6 th -8 th Reno/Add or New	6 th -8 th Reno or New	5 th -8 th Reno/Add or New	5 th -8 th Reno or New	K-5 th & 6 th -8 th Reno/Add or New

Each scenario was explored by calculating the size of each potential project (component of the scenario) and testing its feasibility as either a renovation, renovation/addition, or new construction project depending on the specifics of the project. The scenarios were then cost estimated and sequenced on a timeline. Based on these explorations, three scenarios were eliminated from consideration.

- **Two 6th-8th Middle Schools** – Relocate 6th grade to be housed with grades 7th and 8th grade at both the Pollard and Newman sites. Repurpose the High Rock School as an elementary school to partially replace Newman as an elementary school. Essentially, address the High Rock and Pollard needs with projects at Pollard and Newman (addressing these needs in two projects limits the number of students on the Pollard campus.) Address Mitchell needs at Mitchell. This scenario was eliminated from further consideration because the project at Mitchell needs to be seven sections per grade to accommodate the loss of classrooms at Newman. Even if the students could be relocated during construction, a seven section school was deemed infeasible because of the site constraints present at Mitchell.
- **One 5th-8th Middle School** – Relocate 5th and 6th grades to be housed with grades 7th and 8th grades at the Pollard site. Repurpose the High Rock School as swing space for a Mitchell project. Essentially, address the High Rock and Pollard needs at Pollard. Address Mitchell needs at Mitchell. This scenario was eliminated from further consideration for two reasons:
 - The project at Pollard would result in approximately 2,000 students on that campus, even more than the existing high school, which was considered unattractive to the Working Group and the PPBC.
 - In order to create a facility large enough to house 2,000 students, it appears necessary to relocate the existing 7th-8th grade students to another site during construction so that the project could be located where the existing building sits. Currently there are no locations to house students off-site during construction.
- **Super School** – Explores a single project to house all grades 6th-8th and the equivalent of a replacement for Mitchell all under one roof as a school-within-a-school model at the Pollard site. This scenario was eliminated from further consideration for two reasons:
 - The project at Pollard would result in approximately 2,000 students on that campus, even more than the existing high school, which was considered unattractive to the Working Group and the PPBC.
 - In order to create a facility large enough to house 2,000 students, it appears necessary to relocate the existing 7th-8th grade students to another site during construction so that the project could be located where the existing building sits. Currently there are no locations to house students off-site during construction.

The four scenarios identified for the District to consider include:

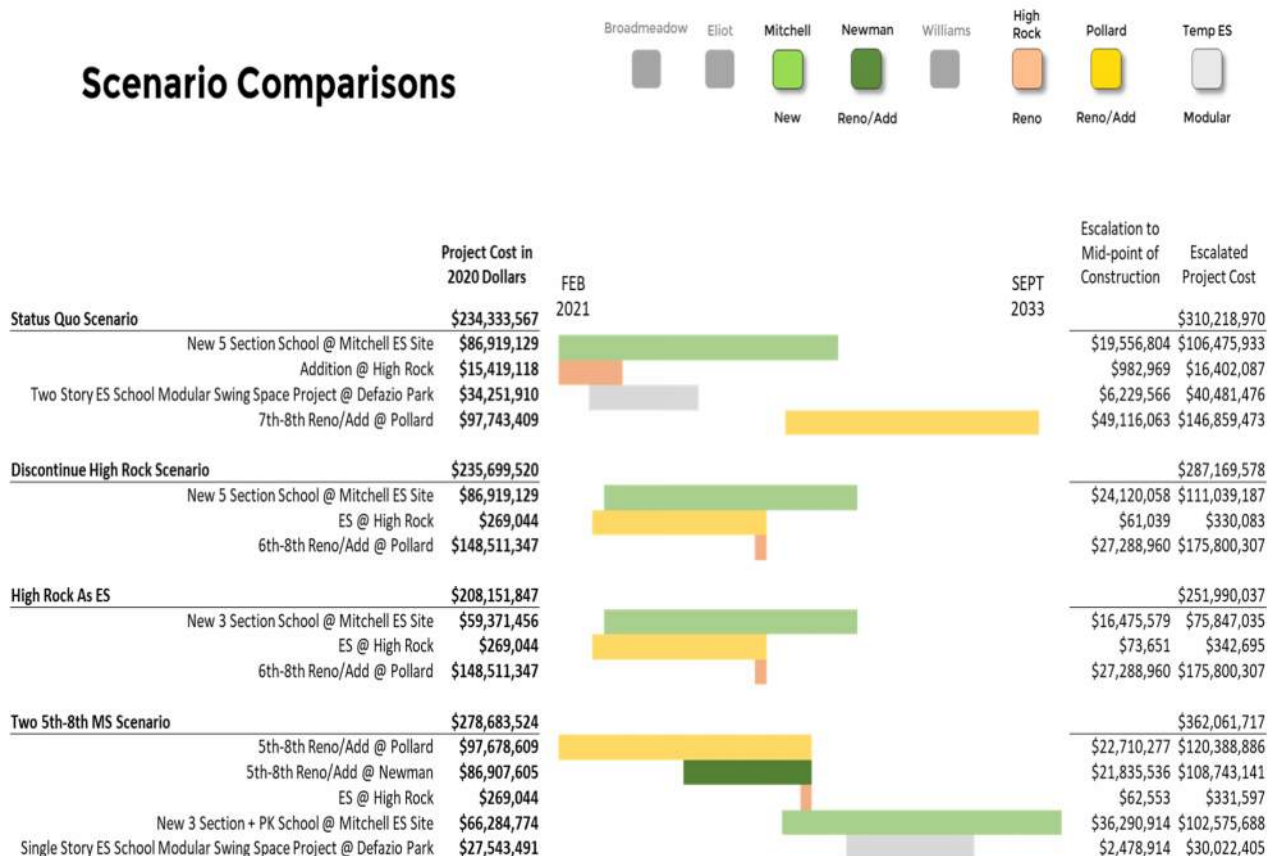
- **Status Quo** – Perform the work necessary to address each of the identified needs without changing the grade configuration or the number of elementary schools. Essentially address the Mitchell needs at Mitchell. Address the High Rock needs at High Rock. Address the Pollard needs at Pollard.
- **Discontinue High Rock** – Relocate 6th grade to be housed with grades 7th and 8th grade at the Pollard site. Use the vacant High Rock School as swing space for a Mitchell project sized to address all the capacity needs across the elementary schools, then discontinue High Rock for educational

use. Essentially address the High Rock and Pollard needs at Pollard. Address the Mitchell needs at Mitchell with a five section per grade project.

- **High Rock as Elementary School** – Relocate 6th grade to be housed with grades 7th and 8th at the Pollard site. Use the vacant High Rock School as swing space for a Mitchell project, sized only for three sections per grade and then allow High Rock to serve as a permanent elementary school to address some of the capacity needs at the other elementary schools. Essentially address the High Rock and Pollard needs at Pollard. Address the Mitchell needs at Mitchell with a three section per grade project.
- **Two 5th-8th Middle Schools** - Relocate 5th and 6th grade to be housed with grades 7th and 8th at both the Pollard and Newman sites. Newman requires an addition. Reconfigure elementary schools to be K-4th with the Pre-K incorporated into the Mitchell project. Repurpose the High Rock School as an elementary school to partially replace Newman as an elementary school. Essentially, address the High Rock and Pollard needs with projects at Pollard and Newman (addressing these needs in two projects limits the number of students on the Pollard campus.) Address Mitchell needs at Mitchell.

The table below summarizes the individual component cost estimates for each of these four scenarios, the sequence of project's timeline, and the estimated overall total escalated project cost of each scenario.

Scenario Comparisons



It is important to note that all four scenarios under consideration require at least two projects to be in process concurrently. Some scenarios could be sequenced differently to limit the concurrency of projects in an effort to reduce the financial commitment of the Town at any one time, but doing so may result in a longer time to completion, greater escalation costs, and an increase to the overall project costs. Based on the scenarios presented, the High Rock School as an elementary school which includes an addition and renovation to the Pollard School has both the shortest time to completion and is the most cost effective solution. This scenario also presents the best use of the Town's current assets.

Should the District consider the High Rock as an Elementary School scenario, the key question is 'which of the major projects should be identified as the District's priority project for the Massachusetts School Building Authority (MSBA) grant program'. Based on the space needs and capacity analysis, the District may consider the Pollard School addition /renovation project to be the priority. Should the District be successful in being invited into the MSBA's Core program, the High Rock facility will become available upon the completion of the Pollard School addition / renovation project which will defray the capacity challenges at the elementary school level. Following the completion of the Pollard project, the Town could seek MSBA participation in the Mitchell School project. If the Town is not successful in receiving the assistance of the MSBA for the Mitchell School, the District can continue to operate with the five elementary schools (including High Rock and discontinuing Mitchell) and maximize the average elementary school class sizes across the district to accommodate the enrollment, understanding that doing so provides limited flexibility should the enrollment forecast trend back upward.

SUMMARY OF CODES

I-A.3

SUMMARY OF CODES

The Regulatory Overview for Massachusetts outlines the current building codes that the facility assessments were measured against. This document in combination with the Massachusetts School Board Authority (MSBA) space guidelines assisted the team in determining both the facility and space needs for each of the school buildings. A detailed evaluation of the space needs is included in Section III B. The facility assessments for each building are found in Section II.

The Capital Improvements Plan (CIP) included in each facility assessment outlines the cost of improvements. It is important to note that a complete scope of work must be developed and coordinated with other trades and improvements including hazardous material abatement for each line item in the CIP. Each improvement has a potential impact on the code compliance of the existing facility and on previously grandfathered code compliant issues including accessibility and life safety. Improvements and renovations of any amount may trigger the need for additional work to meet the current code. These may include, the addition of sprinklers, upgrades to handicap accessibility, and upgrades to the building structural system to meet seismic requirements. The regulatory overview noted below is applicable to each building assessment. It is also noted that it may be in the best interest of the school department to group several capital improvements together to save the cost of replicating work, for example: ceiling renovations should be combined with the replacement of light fixtures and the installation of any above ceiling work such as sprinklers and hvac ductwork. A full scope of work should be developed and reviewed in coordination with the applicable regulations to assess the potential of code required upgrades triggered by cost, square footage, or general nature of the of the improvement project.

REGULATORY OVERVIEW FOR MASSACHUSETTS

Applicable Regulations

Buildings undergoing repairs, alterations, additions, changes in use, or relocation will be permitted under the 9th edition of the Massachusetts State Building Code (780 CMR). The base code for the 9th Edition is comprised of the following 2015 International Code Council family of codes with Massachusetts amendments:

- International Building Code (IBC)
- International Energy Conservation Code (IECC)
- International Existing Building Code (IEBC)
- International Mechanical Code (IMC)

Additional building regulations, included by reference in the base code or enforceable under Massachusetts General Law include:

- Massachusetts Fire Code (527CMR)
- Massachusetts Elevator Code (524 CMR)
- Massachusetts Plumbing Code (248 CMR)
- Massachusetts Electrical Code (NFPA 70 – NEC)

Accessibility regulations applicable to the project are the Massachusetts Architectural Access Board Rules (MAAB) (521 CMR), and the 2010 Americans with Disabilities Act Architectural Guidelines. Where these two regulations are in conflict, the regulation that provides the greater accessibility should be provided.

Finally, in addition to the sprinkler protection requirement found in the building codes, certain Massachusetts General Laws (M.G.L.s) require sprinkler protection in certain types of new and existing non-residential buildings over 7,500 gross square feet.

Scoping Requirements and Thresholds for Compliance

Of the regulations described above, three of them require special consideration since they contain specific thresholds for full compliance with the regulation. These threshold-defining regulations are:

- The International Existing Building Code (IEBC)
- 521 CMR, or the Architectural Access Board (MAAB)
- M.G.L. c.148 s.26G, or the Automatic Sprinkler System Requirements

Compliance thresholds are based on either the area or cost of proposed work in comparison the existing building area or building value and are defined in greater detail under each specific regulation description below. Generally, when the proposed scope of work does not exceed a defined threshold, only the work being performed is required to comply with the current edition of the codes. The Americans with Disabilities Act (ADA) also contains requirements for incorporating improvements to an accessible path to Primary Function areas where alterations to that area are undertaken.

International Existing Building Code (IEBC)

When considering changes to an existing building, the principal guiding regulation is the International Existing Building Code (IEBC), which is enforced by the local building official. The IEBC requires that any proposed work on an existing building or portion thereof first undergo an evaluation to determine the effect of the proposed work on at least the following systems: structural, means of egress, fire protection, energy conservation, lighting, hazardous materials, accessibility, and ventilation for the space under consideration. Because no specific scope of work is being proposed as part of an existing conditions survey, this report includes a Regulatory Assessment for each building under consideration in order to determine to what degree the existing building[s] and systems comply with current regulations. It should be understood that non-compliance with current regulations does not compel corrective action. Only when a scope of work is defined can the Existing Building Code be applied to determine the applicable requirements.

Following completion of an evaluation for a proposed scope of work, a *compliance path* needs to be selected for the application of building code requirements. Owners must choose either the Prescriptive, Work Area, or Performance Compliance path and apply only the provisions of the chosen compliance path to the project. *The Prescriptive Compliance Path* provides a broad-brush approach to existing buildings and could result in requiring additional work that may not be necessary under the other compliance paths and will not be employed for this assessment.

The *Performance Compliance Path* uses a calculation based methodology to determine the general level of life safety of a building. This path assigns numeric values to various life safety features of a building to arrive at an overall building “score”. Different building types require different scores to determine compliance or non-compliance with this path. This numeric value approach can be useful to evaluate the

general life safety performance of an existing building as compared to current building regulations; because of this the Performance Compliance Path will be used to evaluate the general life safety condition of the existing facilities. Again, it should be noted that a non-compliant score does not compel corrective action – this methodology will be used to convey only how the existing building compares to current regulations.

The *Work Area Compliance* path typically offers the most advantageous approach to defining the code requirements for each portion of a building undergoing a scope of work because it most closely correlates the required upgrades to building systems and components to that specific defined scope of work; for this reason, the Work Area compliance path will be the assumed compliance path for sake of any proposed work on the facilities, should they be pursued.

Work Area Compliance relies on identifying the type of work that is occurring throughout the building, and then applying the requirements for that type of work to the *Work Area*. The *Work Area*, as defined by the IEBC is:

That portion or portions of a building consisting of all reconfigured spaces as indicated in the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed...

Using the definitions provided in the Code, the scope of work identified for existing buildings or portions thereof is categorized as follows:

Repairs: "...include the patching or restoration or replacement of damaged materials, elements, equipment, or fixtures for the purpose of maintaining such components in good or sound conditions with respect to loads or performance requirements..." (IEBC s. 502.1) Examples of repair would be repair or replacement of damaged plaster finishes, tiled or wood floors, replacement of wood trim, replacement of door hardware, replacement of any plumbing, heating, electrical ventilating, air conditioning, refrigerating, and fire protection equipment as well as the repair of any exterior masonry or roofing system, and repair of damaged structural elements with "in kind" elements or equipment. Chapter 6 of the IEBC is applicable to all Repairs.

Level 1 Alterations: "...include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose." This classification could be described as replacement with different systems, materials, or equipment, but providing the same function. Replacing wood flooring with a tile floor system, or proving all new kitchen equipment to replace outdated equipment would be considered Level 1 Alterations. (IEBC s. 503.1). Chapter 7 of the IEBC is applicable to all Level 1 alterations.

Level 2 Alterations: "...include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment." (IEBC s. 503.1). Chapter 7 and Chapter 8 of the IEBC is applicable to all Level 2 alterations.

Level 3 Alterations: "...apply where the work area exceeds 50 percent of the *building area*."

Change of Occupancy: "A change in the use of the building or a portion of the building. A change of occupancy shall include any change of occupancy classification, any change from one group to another group within an occupancy classification or any change in use within a group for a specific occupancy classification."

Additions: "An extension or increase in floor area, number of stories, or height of a building structure."

Under the work area compliance path, each of the classifications of work described above require increasing levels of compliance with the building code. Repairs have the least restrictive requirements, essentially permitting replacement-in-kind for any repaired elements. Additions require the highest level of compliance and require that the addition comply with the building code as for new construction. The other classifications require increasing compliance and, for each classification, define prescriptive requirements for specific systems and elements such as means of egress, mechanical, electrical and fire protection systems, building materials, fire resistance ratings, and structural systems.

Work Areas, including Level 2 Alterations and Additions would be required to be identified on the construction documents. Repairs and Level 1 alterations, because they do not include reconfigured spaces, are not considered part of the "Work Area" defined by the code. Although there may be substantial repairs and Level 1 alterations throughout the building, this distinction is important; when the Work Area exceeds 50% of the floor area, the provisions for Level 3 alterations become applicable.

In addition to alterations that affect the building spaces and areas, it is necessary to understand how alterations affect the building structural system and elements. Where alterations change individual gravity or lateral load resisting elements, each element requires evaluation to determine if the alteration will result in additional loads and, if so, the element must be altered or replaced. For buildings with concrete or unreinforced masonry walls, when the work area exceeds 50 percent of the floor area, then all of the structural concrete or masonry walls (both gravity and lateral load resisting walls) are required to be secured to the floor or roof deck above.

Sprinkler Protection Requirements

There are two separate regulations that govern the requirements for sprinkler protection: the IBC and M.G.L. c.148 s.26G.

IBC requirements, enforced by the building official, would require sprinklers where the *work area* (defined previously) exceeds 50 percent of the floor area and the work area is required to be provided with sprinklers in accordance with the International Building Code, Chapter 9.

M.G.L. c.148 s.26G, which is enforced by the fire official, requires enhanced sprinkler protection in certain buildings which total more than 7,500 gross square feet in aggregate (adding all stories) floor area. This requirement is applicable when "major" alterations or modifications are occurring to a building. Because the statute is not specific about the definition of a "major" alteration, a memo issued on October 14, 2009 by the Fire Safety Commission's Automatic Sprinkler Appeals Board provides additional guidance on this subject.

This memo indicates two factors that are used to determine whether "major" alterations are taking place: a Nature of Work factor and a Scope of Work factor.

If the **Nature of the Work** is such that the effort to install sprinklers is substantially less than if the building was intact, or is the nature of work merely minor repairs and cosmetic work, or is the Nature of the Work "major" in its scope. There is no specific definition of "major", but the memo offers examples including: the demolition of existing ceiling or installation of suspended ceilings; the removal and installation of subflooring, exposing the building framing (not merely the replacement of finished flooring); the reconstruction or repositioning of walls; and the removal or relocation of a significant

portion of the buildings HVAC, plumbing, or electrical systems involving penetrations of walls, floors, or ceilings.

If the **Scope of Work** affects a substantial portion of the building, or the cost of work is moderate in comparison to the total cost of work, then the Scope of Work criteria would be applicable to a project. The Scope of Work Thresholds defined in the memo are as follows:

1. Alterations or modifications are reasonably considered major when the work affects **33 percent or more of the total gross square footage of the building** (all floor levels combined). Again, no specific definition of alterations or modifications is provided, but we can infer from other codes and definitions that alterations relate specifically to the reconfiguration of spaces, or the "major" Nature of Work examples above.
2. Alterations or modifications are reasonably considered major when the total cost of the work (excluding costs related to sprinkler expenditure) is equal to or greater than **33 percent of the assessed value of the subject building**.

The memo then indicates that if the Nature and Scope of work criteria and the Scope of Work (either 1 or 2) is satisfied, then the Board would consider the alterations "major" and thus require the installation of a sprinkler system.

Accessibility

In Massachusetts, the state developed Architectural Access Board Regulations (521 CMR) replace the accessibility provisions of the building code. Like the other sections of the building code, the accessibility regulations are enforced by the building official. However, waivers or variances to 521 CMR cannot be granted by the building official. Rather, any such appeal or variance request needs to be reviewed and accepted by the Architectural Access Board.

Chapter 3 of the Architectural Access Board Regulations outlines the scoping thresholds for the applicability of accessibility guidelines for a project. Specifically, section 3.3 describes three different dollar value thresholds for any proposed *additions to, reconstruction, remodeling, and alterations or repairs* to existing buildings as compared to the buildings "full and fair cash value". The full and fair cash value is generally the assessed value of the building as recorded with the town assessor's office. This section then lists the applicability requirements for each dollar value threshold:

- For work costing less than \$100,000, only the work being performed is required to comply with Accessibility regulations.
- A scope of work that is more than \$100,000, but less than 30% of the full and fair cash value requires the incorporation of an accessible public entrance, toilet, telephone, and drinking fountain.
- When a scope of work costing more than 30% of the full and fair cash value is proposed, the entire facility is required to be brought into compliance with the accessibility guidelines. This threshold also clarifies that additions costing more than 30% of the current building value would require the entire existing facility to be brought into compliance.

Two additional sections in Chapter 3 require special consideration. Section 3.4 requires that when a building undergoes a change from a private use to a public use, an accessible entrance must be provided, even if no work is being performed. This is significant because it is the *only compulsory requirement* found in the building or accessibility codes when no other work is proposed or anticipated.

Finally, 521 CMR section 3.9 allows for variances to the accessibility guidelines for Historic Structures listed on the State or National Register of historic places. The process of documenting and being granted variances for a broad range of accessibility requirements based on historic status is a complicated and nuanced process that requires careful coordination with the Access Board. The Board reviews the proposed variances to ensure that people with disabilities are granted dignified access to the primary function spaces of the building with as little influence on the historic fabric of the building as is feasible.

The Americans with Disabilities Act Architectural Guidelines (ADAAG 2010) is part of a federal civil rights regulation that is also applicable to work on existing buildings depending on their intended users. ADA applicability would be under Title II for any state or local government entity, program, service, or facility whereas Title III is applicable for any places of public accommodation or commercial facilities that fall into specifically defined categories. The requirements for buildings under the ADA are enforced by the US Department of Justice, and enforcement is typically through investigations or civil lawsuits resulting from complaints filed by individuals or organizations for perceived violations of the Act. These actions can be brought against a building Owner at any time, as opposed to building codes which are typically enforced when an building permit is granted for a proposed scope of work.

Title II (State and Local Governments) of the ADA requires that all services, programs, and activities provided by state and local government entities be accessible to people with disabilities. This does not require that all existing facilities be brought into compliance, but that barriers be removed in existing buildings such that all public services or programs, when viewed in their entirety, are accessible. Any proposed work on an existing building under Title II would be required to comply with ADA guidelines to the maximum extent feasible and new facilities would be required to comply completely with the guidelines. Additionally, when work is proposed that affects a primary function of an existing facility, the path of travel to that area, including the bathrooms, drinking fountain, and telephones on that path would need be made accessible as well. There are exceptions in Title II for structural impracticability, historic buildings, certain types of spaces, and disproportionality of cost for alterations to an accessible path serving a primary function area which all require close consideration for each scope of work in each building under consideration.

Title III facilities are privately owned buildings that are either defined as places of public accommodation (business open to the public and fall into one of 12 categories listed in the ADA) or as commercial facilities (non-residential facilities that are not defined as places of public accommodation). The requirements for alterations to these facilities are similar to those as for Title II facilities, including the provisions for an accessible path serving a space that is considered a primary function. The most significant difference is that Title III existing facilities are not held to the same "removal of existing barriers" standard or program and service access standards as Title II facilities. Still, any proposed work in a Title III building would be required to comply to the maximum extent feasible, taking all of the applicable exceptions into consideration.

Energy Conservation

The 2015 International Energy Conservation Code (IECC) replaces the Chapter 13 requirements of the building code. This specialized code, also enforced by the building official, is intended to regulate the design and construction of facilities with respect to the use and conservation of energy over the life of the building. Chapter 5 of the IECC controls the alteration, repair, addition, and change of occupancy of existing buildings and has no authority to require the removal, alteration, or prevent the continued use of any existing buildings. For communities that have adopted the Massachusetts STRETCH Code, increased reductions in energy consumption beyond the baseline thresholds established in the 2009

IECC would be required for new buildings and additions to existing buildings only. Alterations to existing buildings in these communities would be subject to the requirements of Chapter 5 of the 2015 IECC, described below.

Section C501.6, states that no provisions of the code relating to the repair, alteration, restoration or change of occupancy shall be mandatory for historic structures provided a report is submitted to the building official demonstrating that compliance with the provision would threaten, degrade, or destroy the historic fabric function of the building. While this is not a categorical exemption to the energy conservation code, it does place a high degree of value on the historic fabric of the building.

Proposed additions to existing structures would be required to comply with the IECC as for new construction. Alterations to existing buildings also need to comply with the IECC as for new construction and cannot make the existing building less conforming to the code than it was prior to the alteration. In general, this means that when a building envelope or mechanical system or piece of equipment is modified as part of a scope of work, the replacement elements or systems are required to comply with the IECC for new construction. There is no provision, based on the work area or dollar value of alterations, which would require an existing facility to be brought into full compliance with the energy code.

Certain specific scopes of work that may be limited to one portion of the building, whether considered as additions or alterations to existing facilities, are required to consider the effect on the entire facility. The addition of windows or other fenestration, including skylights, needs to incorporate all of the building fenestration areas in the total allowable fenestration area. Alternatively, a project could pursue the Total Building Performance method, requiring energy modeling, but would then need to demonstrate full compliance with the IECC as for new construction. Otherwise, alteration and addition compliance requirements are limited to the work performed.

Although not part of the energy conservation code, it is important to note that in Massachusetts, M.G.L. chapter 7C, section 29 requires that for any new construction or renovation of a public facility where the cost exceeds \$25,000 and includes systems or elements that affect energy or water consumption, a life-cycle cost analysis (LCCA) would be required to be performed. This analysis is required to determine the short and long term costs and feasibility of different technologies or systems considered as part of the scope of work. These systems and components would include both energy consuming equipment as well as building envelope elements or systems, since all of these elements affect energy consumption.

Fire Safety Code

In addition to the building code (780 CMR), there is also a Massachusetts Comprehensive Fire Safety Code (527) which is enforced by the local Fire Official. The Fire Code is generally enforced as a safety maintenance code, intended to prevent or remedy any conditions that may be fire hazards and to provide safety requirements to protect the public in the event of a fire. This code also regulates the installation and maintenance of fire safety equipment such as sprinkler systems and fire detection systems.

The Fire Code does apply to both new and existing conditions, but this code states that all installations of equipment completed prior to the adoption of the code are deemed to be in compliance. However, the fire official still has the authority to require compliance with the code for any condition which constitutes an imminent danger.

For the purposes of this report, it is important to note that the Fire Code also states that any provision related to the construction, alteration, movement, enlargement, replacement, repair, equipment, use, occupancy, removal, or demolition of buildings shall effectively be regulated by the building code and is subject to the jurisdiction of the Building Official. As such, this report contains minimal references to the Fire Code and will rely on the IEBC requirements outlines above for evaluation and consideration of existing conditions and any proposed scope of work.

Historic Structures

Massachusetts General Laws require that any project that requires funding, licensing, or permitting from a state agency to be reviewed by the Massachusetts Historical Commission (MHC). This review and the regulations that guide the review are designed to identify historic properties, evaluate the impact of a proposed project, and consult with the invested parties to avoid, minimize, or mitigate any adverse effects of the project. Once a general scope of work is defined, a Project Notification Form should be filed with the MHC to determine if any historical or archeological considerations will need to be addressed as part of the project.

Beyond the State of Massachusetts regulations, the US Department of the Interior has developed a set of standards and guidelines related to the maintenance, repair, replacement of historic materials, and the design of alterations or additions to historic structures. The *Standards* are a set of concepts related to these different treatments, whereas the Guidelines offer design and technical recommendations in applying the Standards.

In order to determine which Standards and Guidelines are applicable, it is necessary to determine which treatment of a historic structure would be pursued for a given facility. A proposed scope of work outlined in a Capital Improvements Plan generally falls into work that could be classified as one of the following Treatments:

- **Preservation:** the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time.
- **Rehabilitation:** recognizing the need to alter or add to a historic property to meet continuing or changing uses while retaining the properties historic character.

In working to develop a defined scope of work as well as a sustainable capital improvement plan for the future, the Standards for Preservation and Rehabilitation as well as the Guidelines for the Treatment of Historic Properties will serve as guiding documents in the development of such plans. Compliance with the Guidelines is not obligatory, but will provide the best practice approach to both maintaining the building and allowing for alterations to serve the intended end use. It also serves to demonstrate that the Owner values and wishes to maintain the historic integrity of a building, reinforcing the appropriate application of any historic structure exceptions to accessibility and building code regulations.



FACILITY ASSESSMENTS II

see separate files for each school



ANALYSIS & PROGRAMMING III

ASSUMPTIONS & METHODOLOGIES

ASSUMPTIONS

In conducting the study, Dore + Whittier used several assumptions for the study based on information provided by the District.

- **Class Size Guidelines**
 - Kindergarten through 3rd Grade = 18 to 22 Students
 - 4th and 5th Grade = 20 to 24 Students
 - 6th-8th – “Reasonable” = 20 to 24 students for purposes of the study arithmetic
 - District’s preference is to maintain class sizes within these guidelines.
- **Repurposing of Space**
 - In the elementary schools, calculations assume spaces currently dedicated to specials like Art, Music, STEAM, Technology, and World Languages would remain or return to those dedicated functions. The sizing of new elementary school projects would assume enough general classroom spaces across the district to allow those specials to have dedicated space. Master plan calculations, however, assume that specials that haven’t had dedicated space historically would still not have dedicated space in the future.
 - Spaces currently dedicated to Special Education functions may not be considered as targets to be repurposed into general classrooms. Calculations will assume appropriate and dedicated space for special education spaces in each elementary school across the district.
- **Master Plan Level Programming**
 - Programming for this study was based largely on general classroom counts at the elementary grades, overall teaching station counts at the middle grades, and capacity analyses. Individual space summaries were not prepared for each school in every master plan scenario. However, theoretical space summaries were prepared for potential projects resulting from the exploration of new grade configurations. For example, the Design Team relied on MSBA space summary templates to determine the approximate size of a project that would house grades 6th-8th in a single facility.
- **Redistricting**
 - The study did not explore alterations to the existing elementary school catchment area boundaries. However, the study took a wholistic view of the elementary schools to see if redistricting “around the edges” could be a strategy to alleviate perceived and/or emerging overcrowding in specific areas of town.
- **Utilization Rates at the Middle Grades**
 - Daily school schedules for middle school grades are often more complex than at elementary schools. They are often based on whether or not instructional spaces are “owned” by teachers, on the middle school model of being “on-team” versus “off-team”, and based on offering the widest range of specials and electives possible. This often results in inefficient utilization of space.

- Observed utilization rates for the High Rock School differ from those at Pollard Middle School.
- Calculations to determine capacity and to size potential projects assume utilization rates of either 67% (Current Pollard Utilization Rate), 71% (Current High Rock Utilization Rate), 75% (Rate based on students occupying instructional spaces 6 of 8 periods per day, or 85% (Rate based on MSBA guidelines).
- Enrollment Forecasts
 - McKibben Demographic Research, LLC prepared three enrollment forecast scenarios: Low, Best, and High.
 - Dore + Whittier analyzed all three scenarios to determine space needs but relied mostly on the Best scenario when preparing master plan scenarios.

METHODOLOGIES

In order to understand the capacity of each facility and the impact of the enrollment forecast on space, Dore & Whittier performed several calculations. With many of these calculations, the objective was to establish the boundary conditions so that the District could understand how changing one or more independent variable impacted the dependent variable. Dore & Whittier's methodology for performing those calculations is detailed below.

Elementary Building Capacity

Number of Existing Grade Level Classrooms X Minimum Allowable Class Size for Each Grade Level

4 Kindergarten x 18
 + 4 1st Grade x 18
 + 4 2nd Grade x 18
 + 4 3rd Grade x 18
 + 4 4th Grade x 20
+ 4 5th Grade x 20
 448 Student Capacity

4 Kindergarten x 22
 + 4 1st Grade x 22
 + 4 2nd Grade x 22
 + 4 3rd Grade x 22
 + 4 4th Grade x 24
+ 4 5th Grade x 24
 544 Student Capacity

Elementary School Theoretical Classroom Count Need

Total Forecasted Enrollment by Grade ÷ Minimum Allowable Class Size for Each Grade Level

100 Kindergartners ÷ 18 Students per Classroom = 5.55 Sections = 6 Sections Needed

100 Kindergartners ÷ 22 Students per Classroom = 4.55 Sections = 5 Sections Needed

Elementary School Theoretical Classroom Size

Total Forecasted Enrollment by Grade ÷ Bounding Number of Sections per Grade

90 Kindergartners ÷ 4 Sections = 22.50 Students per Section = 22 in 2 sections, 23 in 2 sections

90 Kindergartners ÷ 5 Sections = 18.00 Students per Section

Total District-wide Elementary School Classroom Need

*Sum of the Enrollment Forecast for Kindergarten through 3rd Grade ÷ 20 Students per Classroom
+ Sum of the Enrollment Forecast for 4th and 5th Grade ÷ 22 Students per Classroom*

Perform this calculation for each year of the enrollment forecast and identify the minimum and maximum classroom count needs.

Middle Grades Building Capacity

*Number of Existing Teaching Stations X Midpoint of Allowable Class Size (22) x Current
Utilization Rate (71%)*

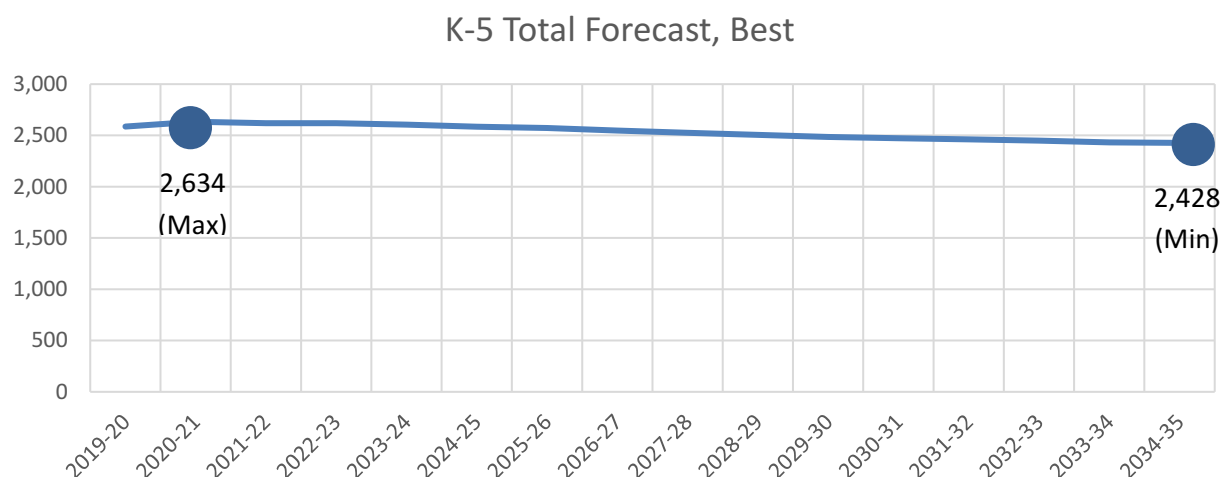
*Number of Existing Teaching Stations X Midpoint of Allowable Class Size (22) x Proposed
Utilization Rate (75%)*

ENROLLMENT ANALYSIS**MCKIBBEN ASSOCIATES: DISTRICT-WIDE POPULATION AND ENROLLMENT FORECASTS, DECEMBER 2019**

In the summer of 2019, Needham Public Schools hired McKibben Demographic Research, LLC to prepare a population and enrollment forecast for the district. The study documents the demographic characteristics of the Town of Needham and presents three enrollment forecast scenarios based on different predictions for changes to the median age of the population and the expected impact of both housing stock turnover and development of new rental units in town. A copy of the complete report is provided in the appendices. In the executive summary, McKibben writes:

1. *The resident total fertility rate for Needham Public Schools over the 15-year life of the forecasts is below replacement level. (1.82vs. The theoretical replacement level of 2.1)*
2. *Most in-migration to the district continues to occur in the 0-to-9 and 30-to-44 year old age groups.*
3. *The local 18-to-24 year old population continues to leave the district, going to college or moving to other urbanized areas. This population group accounts for the largest segment of the district's out migration flow. The second largest out flow is the 70+ age group, which are downsizing their homes and leaving the district*
4. *The primary factors causing the district's enrollment to rise and then stabilize over the next 15 years is the number of empty nest households (home owners age 70+) "turning over" compared to the number of homes (homeowners age 50-59) that become empty nest each year.*

5. *Changes in year-to-year enrollment over the next five years will primarily be due to the size of the grade cohorts entering and moving through the school system in conjunction with the size of the cohorts leaving the system.*
6. *The elementary enrollment will begin a slight decline after the 2025-26 school year in all three scenarios. This will be due primarily to the fact that the rising 5th grade cohorts will be greater the 440 in size while the incoming grade cohorts will decline slightly.*
7. *In the Low scenario, the median age of the population will increase from 42.9 in 2010 to 43.4 in 2035. In the Best scenario, the median age of the population will increase from 42.9 in 2010 to 43.5 in 2035. In the High scenario, the median age of the population will decrease from 42.0 in 2010 to 42.8 in 2035.*
8. *Even if the district continues to have some of annual new home construction (particularly if that construction is rental units), the rate, magnitude and price of existing home sales will become the increasingly dominant factor affecting the amount of population and enrollment change.*
9. *In the **Low scenario**, total district enrollment is forecasted to increase by 178 students, or 3.1%, between 2019-20 and 2024-25. Total enrollment is forecasted to decrease by 124 students, or-2.1%, from 2024-25 to 2029-30. The total enrollment is forecasted to decline by 66 students, or-1.1%, from 2029-30 to 2034-35.*
10. *In the **Best scenario**, total district enrollment is forecasted to increase by 182 students, or 3.2%, between 2019-20 and 2024-25. Total enrollment is forecasted to decrease by 116 students, or2.0%, from 2024-25 to 2029-30. The total enrollment is forecasted to decline by 77 students, or-1.3%, from 2029-30 to 2034-35.*
11. *In the **High scenario**, total district enrollment is forecasted to increase by 182 students, or 3.2%, between 2019-20 and 2024-25. Total enrollment is forecasted to decrease by 59 students, or-1.0%, from 2024-25 to 2029-30. The total enrollment is forecasted to decline by 57 students, or-1.0%, from 2029-30 to 2034-35.*

FORECASTS AND ANALYSIS FOR GRADES K-5TH

The table below summarizes the projected classroom need for grades K-5th over the course of the ‘best’ scenario enrollment forecast. There are currently four modular classroom spaces at Mitchell that are excluded in the existing classroom count and three classroom spaces, (one at Eliot, one at Broadmeadow, and one at Newman) that have been repurposed into classrooms from other functions that are also excluded from the existing classroom count.

District-Wide Classroom Need – ‘Best’ Enrollment Forecast Scenario

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
Total Classroom Need @ Minimum Students/ Classroom	139	141	141	140	140	139	138	137	135	134	133	133	132	132	130	130
Total Classroom Need @ Midpoint Students/ Classroom	125	127	127	127	126	125	124	124	122	121	121	120	119	119	117	117
Total Classroom Need @ Maximum Students/ Classroom	114	116	115	115	115	115	114	112	111	111	109	109	108	108	107	107
Total Available Classrooms*	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
Surplus Classrooms @ Maximum Students/ Classroom	2	0	1	1	1	1	2	4	5	5	7	7	8	8	9	9

* Does not include four modular classrooms at Mitchell or three classrooms that have been repurposed into general classrooms (one at Broadmeadow, one at Eliot, and one at Newman).

This high level analysis suggests that even if the three spaces that have been repurposed into classrooms were converted back to their specialized function, the District could accommodate the entirety of the K-5th ‘best’ scenario enrollment forecast within the existing classrooms AND stay within the district’s class size guidelines by redistricting around the edges.

District-Wide Classroom Need – ‘High’ Enrollment Forecast Scenario

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
Total Classroom Need @ Minimum Students/ Classroom	139	141	141	140	140	139	138	138	137	137	135	136	135	133	132	132
Total Classroom Need @ Midpoint Students/ Classroom	125	127	127	127	126	125	125	124	124	123	122	123	122	120	119	119
Total Classroom Need @ Maximum Students/ Classroom	114	116	115	115	115	115	114	113	113	112	112	111	111	110	109	108
Total Available Classrooms*	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
Surplus Classrooms @ Maximum Students/ Classroom	2	0	1	1	1	1	2	3	3	4	4	5	5	6	7	8

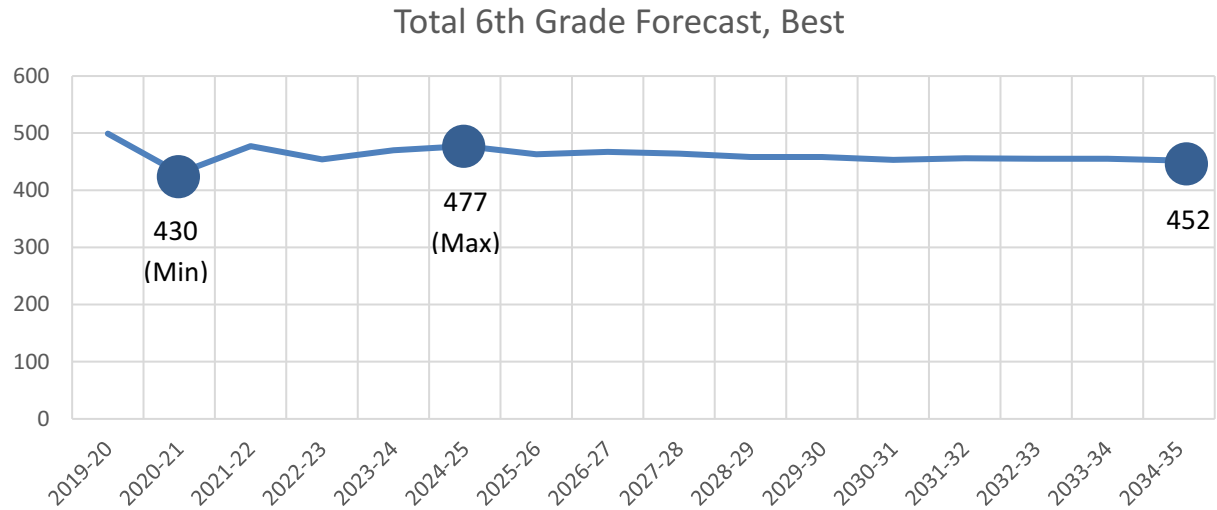
* Does not include four modular classrooms at Mitchell or three classrooms that have been repurposed into general classrooms (one at Broadmeadow, one at Eliot, and one at Newman).

This high level analysis suggests that even in the ‘high’ enrollment forecast scenario, the District would only need to continue the current repurposing of three spaces into classrooms to accommodate the enrollment forecast to stay within the District’s class size guidelines.

While these analyses suggest it is possible to accommodate the entirety of the enrollment projection within the existing classroom count and remain within the District’s class size guidelines, this analysis also suggests that doing so will require all classrooms across the District to be at the maximum end of the class size guidelines leaving little to no room for flexibility to accommodate deviations in the enrollment forecast. It may be in the District’s best interest to plan for a total of 126 general classrooms across the District to allow all classes to be at the approximate mid-point of the class size guideline to provide this level of flexibility.

FORECASTS AND ANALYSIS FOR GRADES 6TH-8TH

McKibben projected 6th grade independent of grades 7th and 8th based on the current grade configuration. However, since some of the master plan scenarios explore the possibility of grades 6th, 7th, and 8th in a single facility, Dore + Whittier has also combined those forecasts into one grade grouping.



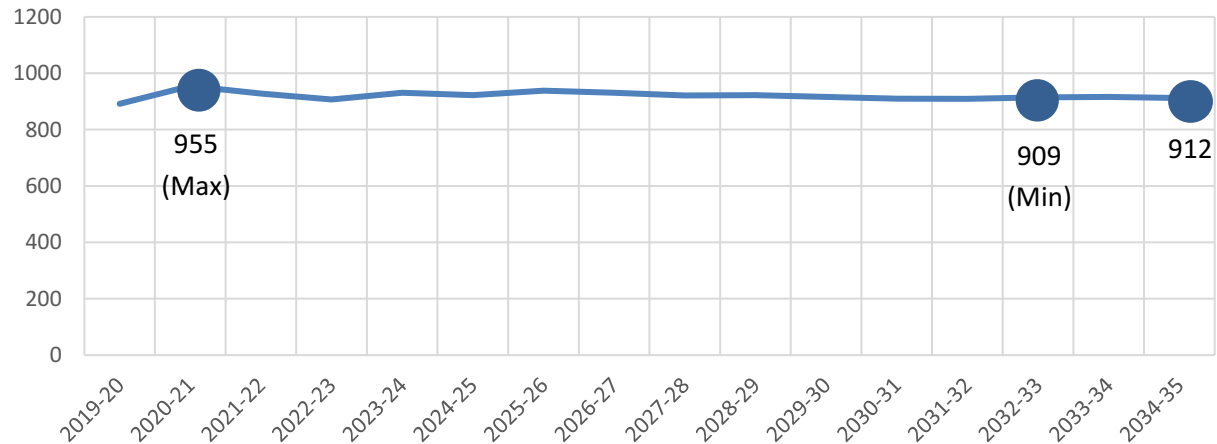
The table below summarizes the projected classroom need for grade 6th over the course of the ‘best’ scenario enrollment forecast assuming the existing utilization rate of 71% (spaces occupied by students 5 of 7 periods per day).

6th Grade Teaching Station Need (71% Utilization)
‘Best’ Enrollment Forecast Scenario

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
Total Teaching Stations Needed @ 20 Students / Classrooms & 71% Utilization	35	30	34	32	33	34	33	33	33	32	32	32	32	32	32	32
Total Teaching Stations Needed @ 22 Students / Classrooms & 71% utilization	32	28	31	29	30	31	30	30	30	29	29	29	29	29	29	29
Total Teaching Stations Needed @ 24 Students / Classrooms & 71% utilization	29	25	28	27	28	28	27	27	27	27	27	27	27	27	27	27
Total Available Teaching Stations	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Surplus Teaching Stations @ 22 Students/ Classroom	-7	-3	-6	-4	-5	-6	-5	-5	-5	-4	-4	-4	-4	-4	-4	-4

This high level analysis suggests that as many as six more teaching stations are required to accommodate the enrollment forecast. Additional spaces for dedicated special education classrooms or specialty spaces to serve more elective programs may also be needed over and above these teaching station needs.

Total 7th-8th Grade Forecast, Best



The table below summarizes the projected teaching station need for grades 7th – 8th over the course of the ‘best’ scenario enrollment forecast assuming the existing 67% utilization rate (spaces occupied by students 4 of 6 periods per day). The total existing teaching station count does not include the 10 modular classrooms present.

7th – 8th Grade Teaching Station Need (67% Utilization)

‘Best’ Enrollment Forecast Scenario

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
Total Teaching Stations Needed @ 20 Students / Classrooms & 67% Utilization	67	72	70	68	70	69	70	70	69	69	69	68	68	69	69	68
Total Teaching Stations Needed @ 22 Students / Classrooms & 67% utilization	61	65	63	62	63	63	64	63	63	63	62	62	62	62	62	62
Total Teaching Stations Needed @ 24 Students / Classrooms & 67% utilization	56	60	58	57	58	58	59	58	58	58	57	57	57	57	57	57
Total Available Teaching Stations	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Surplus Teaching Stations @ 22 Students/ Classroom	0	-4	-2	-1	-2	-2	-3	-2	-2	-2	-1	-1	-1	-1	-1	-1

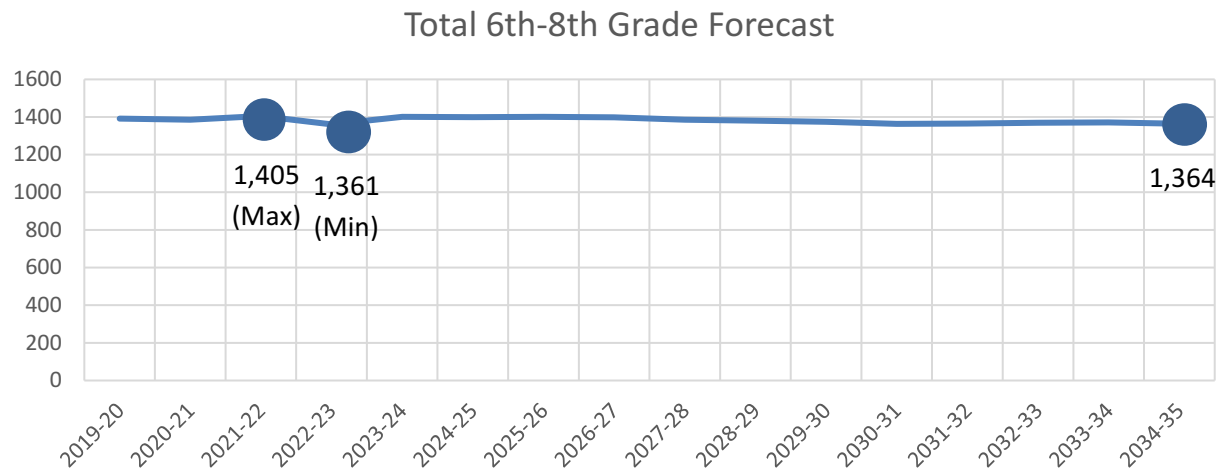
This high level analysis suggests that as many as four additional teaching stations are needed to serve the enrollment forecast. Or stated slightly differently, four of the ten modular classrooms would need to be replaced to serve the enrollment forecast using the existing daily schedule.

While a 67% utilization rate for middle school facilities is not uncommon, it falls well short of the MSBA guidelines of 85% utilization. The table below summarizes the projected teaching station need for grades 7th – 8th over the course of the ‘best’ scenario enrollment forecast assuming the same 71% utilization rate as the High Rock School. The total teaching station count excludes the 10 modular classrooms present.

**7th – 8th Grade Teaching Station Need (71% Utilization)
‘Best’ Enrollment Forecast Scenario**

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
Total Teaching Stations Needed @ 20 Students / Classrooms & 71% Utilization	63	67	65	64	66	65	66	66	65	65	65	64	64	64	65	64
Total Teaching Stations Needed @ 22 Students / Classrooms & 71% utilization	57	61	59	58	60	59	60	60	59	59	59	58	58	59	59	58
Total Teaching Stations Needed @ 24 Students / Classrooms & 71% utilization	52	56	54	53	55	54	55	55	54	54	54	53	53	54	54	54
Total Available Teaching Stations	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Surplus Teaching Stations @ 22 Students/ Classroom	4	0	2	3	1	2	1	1	2	2	2	3	3	2	2	3

This high level analysis suggests that altering the daily schedule to be more efficient with space (71% utilization, rather than the existing 67% utilization) would allow the district to accommodate the enrollment forecast in the existing teaching stations without the need for the modular classrooms and still have as many as three additional teaching stations to function as the school desired.



The table below summarizes the projected teaching station need for grades 6th – 8th over the course of the ‘best’ scenario enrollment forecast assuming the same 71% utilization rate as the High Rock School. The total teaching station count excludes the 10 modular classrooms present.

6th – 8th Grade Teaching Station Need (71% Utilization)
‘Best’ Enrollment Forecast Scenario

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
Total Teaching Stations Needed @ 20 Students / Classrooms & 71% Utilization	98	98	99	96	99	99	99	98	98	97	97	96	96	96	97	96
Total Teaching Stations Needed @ 22 Students / Classrooms & 71% utilization	89	89	90	87	90	90	90	90	89	88	88	87	87	88	88	87
Total Teaching Stations Needed @ 24 Students / Classrooms & 71% utilization	82	81	82	80	82	82	82	82	81	81	81	80	80	80	80	80
Total Available Teaching Stations	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Surplus Teaching Stations @ 22 Students/ Classroom	-28	-28	-29	-26	-29	-29	-29	-29	-28	-27	-27	-26	-26	-27	-27	-26

This high level analysis suggests that as many as 29 teaching stations must be added to the Pollard facility to accommodate the enrollment forecast assuming the High Rock utilization rate of 71%.

CAPACITY ANALYSIS

OVERVIEW

Building Capacities for elementary schools are based on the assumptions and methodologies identified below:

$$\begin{aligned} \text{Minimum Capacity} = \\ \text{Number of general classrooms (grades K-3}^{\text{rd}}) \times 18 \text{ students per classrooms} \\ + \text{number of general classrooms (grades 4}^{\text{th}} \text{ \& 5}^{\text{th}}) \times 20 \end{aligned}$$

$$\begin{aligned} \text{Maximum Capacity} = \\ \text{Number of general classrooms (grades K-3}^{\text{rd}}) \times 22 \text{ students per classroom} \\ + \text{number of general classrooms (grades 4}^{\text{th}} \text{ \& 5}^{\text{th}}) \times 24 \end{aligned}$$

This technique generates a range for each school's capacity based on the boundaries of the District's current class size policies.

Building Capacities for middle schools are based on the assumptions and methodologies identified below:

$$\begin{aligned} \text{Minimum Capacity} = \\ \text{Number of total teaching stations} \times 20 \text{ students per teaching station} \times 71\% \text{ utilization rate} \end{aligned}$$

$$\begin{aligned} \text{Maximum Capacity} = \\ \text{Number of total teaching stations} \times 24 \text{ students per teaching station} \times 71\% \text{ utilization rate} \end{aligned}$$

This technique generates a range for each school's capacity based on the boundaries of the District's current class size policies.

ELEMENTARY SCHOOL BUILDING CAPACITIES

The following table communicates the calculated capacities for each elementary school and compares them to the individual school forecast from the McKibben demographic study.

	Capacity		Need
	General Classrooms	Students	Enrollment Forecast
Broadmeadow Current = 548	24	448 to 544	504 to 560
Eliot Current = 412	18	336 to 408	413 to 443
Mitchell* Current = 484	20	376 to 456	423 to 481
Newman Current = 624	30	560 to 680	586 to 648
Williams Current = 518	24	448 to 544	502 to 533
	116	2,168 to 2,632	2,428 to 2,634

* Does not include modular classrooms for Kindergarten. Including those modular classrooms would increase capacity to 448 to 544.

This high level capacity analysis suggests that the maximum capacity of the existing buildings (without the modular classroom facilities at Mitchell Elementary School) is nearly identical to the maximum enrollment forecast for grades K-5th. This suggests that the District can accommodate the entire enrollment forecast within the existing classrooms and remain within its class size policy by redistricting students around the edges of existing catchment area boundaries. While accommodating the entire enrollment forecast within the existing number of classrooms appears possible, this analysis suggests that all classrooms would be at the maximum of the District's class size guidelines, leaving little room for deviations from the enrollment forecast without either increasing class sizes or repurposing specialized spaces into general classrooms. It may be in the District's best interest to pursue master plan scenarios that increase the total number of general classrooms to create this flexibility.

The table below compares the existing classroom counts to proposed classroom counts to demonstrate the impact on class sizes across the district.

	Current	Proposed*
	General Classrooms	General Classrooms
Broadmeadow	24	24
Eliot	18	18
Mitchell	20	30*
Newman	30	30
Williams	24	24
	 @ 2,634 Students, AVG Class Size: 22.7	 @ 2,634 Students, AVG Class Size: 20.9 @ 2,428 Students, AVG Class Size: 19.3

* Proposed general classrooms varies by master plan scenario.

At the peak K-5th enrollment of 2,634 students, the average class size across the District would be just under 23 students per classroom assuming the existing classroom count. In master plan scenarios where a potential Mitchell project assumed five sections per grade level (a total of 126 general classrooms), the average class size across the District drops to just under 21 student per classroom. Based on this analysis, it may be in the best interest of the District to pursue master plan scenarios that target 126 general classrooms across the elementary schools.

MIDDLE SCHOOL BUILDING CAPACITIES

The table below communicates the calculated capacities for Pollard Middle School and the High Rock school and compares them to the individual school forecast from the McKibben demographic study. Capacity calculations are based on the midpoint of the District's class size guidelines (20-24) and the capacity range is based on two utilization models (71% and 75%).

		Capacity	Need
	Current Teaching Stations	Students	Enrollment Forecast
High Rock (6 th Only) Current = 499	25	391 to 412	430 to 477
Pollard* (7 th – 8 th) Current = 892	61	953 to 1,007 (895) Based on current utilization of 67%.	907 to 955
Pollard* (6 th – 8 th) Current = 1,391	61	953 to 1,007	1,361 to 1,405

* Does not include modular classrooms. Including those modular classrooms would increase capacity to 1,109 to 1,172.

The analysis suggests there is an overcrowding challenge at High Rock currently, that will lessen over time but remain a challenge. While not appearing in this simple capacity analysis, High Rock has other spatial deficiencies including the following:

- Limited space for special education and academic support services
- A significantly undersized cafeteria
- A significantly undersized gymnasium
- Limited middle school size labs
- Limited space to offer elective specials

This analysis also suggests that the current daily schedule (under utilization) has led to an overcrowding condition when only considering the existing permanent construction. If the modular classrooms are included in the calculation, there are approximately the right number of teaching stations for the current utilization rate. It appears that if the school were to entertain a slightly more efficient use of space, the existing building (without) the modular classrooms would be sufficient to accommodate the entirety of the enrollment forecast.

While not appearing in this simple capacity analysis, it is important to note that the existing science labs are well below MSBA guidelines in both their size and their features. Any future project should address these deficiencies in addition to the capacity challenges.

Finally, this analysis suggests that the District would need to increase the capacity of the building by approximately 400 students to accommodate the enrollment forecast for grades 6th, 7th, and 8th.

The following table compares the existing teaching stations to a proposed number in three scenarios: an intervention at High Rock to just serve 6th grade, an intervention at Pollard to just serve grades 7th-8th, and an intervention at Pollard to serve grades 6th-8th. The total proposed number of teaching stations is based on the enrollment forecast and assumes 22 students per teaching station and 71% utilization.

	Current	Proposed
	Teaching Stations	Teaching Stations
High Rock (6 th Only)	25	34
Pollard* (7 th – 8 th)	61	67
Pollard* (6 th – 8 th)	61	101

* Does not include modular classrooms.

The 34 teaching stations at High Rock include 4 spaces to serve special education. The 67 teaching stations to serve only grade 7th-8th at Pollard Middle School contains a few more classrooms than the strict calculation would suggest to give the school the flexibility to either maintain their current utilization rate or support a slightly lower average class size (approximately 20 students per teaching station). In the scenario that explores all three grades at the Pollard site, the proposed number of teaching stations is a few more that are indicated by the strict calculation for reasons similar to those just mentioned for the other two scenarios. If 6th grade relocates to Pollard, its special education space needs will come with it. Having a few additional teaching stations allows the District the flexibility to continue its current utilization or lower the average class size.

MASTER PLAN SCENARIOS & COMPONENTS

OVERVIEW

Dore & Whittier was tasked with identifying several master planning scenarios that would address the spatial needs across the district necessary to accommodate the enrollment forecast. To brainstorm the widest range of potential scenarios possible, the Design Team facilitated a ‘What If?’ workshop with members of the Working Group composed of district administrators, building principals, and town officials. Over the course of the four-hour workshop, the Working Group discussed how the enrollment forecast and spatial needs could be met through adjusting school sizes, grade groupings, grade configurations, and through several potential construction projects. Both full master plan scenarios (a series of moves and construction projects constituting a coherent plan) and master plan components (individual moves and construction projects not necessarily tied to a larger master plan) were discussed. The goal of the meeting was not to evaluate any solution or scenario, but rather generate a list of different scenarios that could be explored. Ultimately, the result of the workshop was seven master plan scenarios based on the resulting grade configuration. The table below summarizes those scenarios. The text that follows describes each in more detail.

Master Plan Scenarios Being Explored:

 Major Project Required

	Status Quo Pk, K-5th, 6 th , 7 th -8 th	Discontinue High Rock 5ES & MS Pk, K-5th, 6 th -8 th	High Rock As ES 6ES & MS Pk, K-5th, 6 th -8 th	Two 6-8 Middle Schools 5ES & 2MS Pk, K-5th, 6 th -8 th	One 5-8 Middle School 5ES & MS Pk, K-4th, 5 th -8 th	Two 5-8 Middle Schools 5ES & 2 MS Pk, K-4th, 5 th -8 th	Super School 5ES* & MS Pk, K-5th, 6 th -8 th
Broadmeadow	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-4 th Remains	K-4 th Remains	K-5 th Remains
Eliot	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-4 th Remains	K-4 th Remains	K-5 th Remains
Mitchell	K-5th New ES (5 sections)	K-5th New ES (5 sections)	K-5th New ES (3 sections)	K-5th New ES (7 sections)	K-4th New ES (4 sections)	K-4th New ES (3 sections)	Discontinued
Newman	PK, K-5 th Remains	PK, K-5 th Remains	PK, K-5 th Remains	6th-8th MS Reno	PK, K-4 th Remains	5th-8th Reno/Add	PK, K-5 th Remains
Williams	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-5 th Remains	K-4 th Remains	K-4 th Remains	K-5 th Remains
High Rock	6th Only Addition	Repurposed TBD	Repurposed for ES	Repurposed for ES	Repurposed TBD	Repurposed K-4th	Repurposed TBD
Pollard	7th-8th Reno/Add or New	6th-8th Reno/Add or New	6th-8th Reno/Add or New	6th-8th Reno or New	5th-8th Reno/Add or New	5th-8th Reno or New	K-5th & 6th-8th Reno/Add or New

Since each of these scenarios could be executed in a multitude of ways, the narratives below only describe what was explored in a general way. The individual projects, and the variations of those projects (called master plan components) are described narratively and graphically in the Master Plan Components section later in the report.

STATUS QUO

Grade Configuration:	PK, K-5 th , 6 th , 7 th – 8 th
Time to Completion:	139 Months,
Estimated Cost to Complete:	\$331.8 M

The Status Quo scenario maintains both the current grade configuration and the number of elementary schools. It explores what would be required to meet the spatial needs and accommodate the enrollment forecast by executing projects at each site where spatial deficiencies exist. Based on the enrollment and capacity analysis presented earlier in this report, three major projects would be required.

Mitchell Elementary School:

To create the 126 general classrooms required across the district to accommodate the enrollment forecast, a major project at Mitchell Elementary School would require 30 general classrooms (5 sections/grade level). Dore + Whittier explored two projects to achieve this goal:

- A new two-story school west of the existing school assuming the existing building would continue to be occupied while construction took place.
- A new two-story school where the existing building currently sits assuming students could be relocated to another site during construction.

All other Elementary Schools:

Since Mitchell was identified as the elementary school with the greatest physical needs, the potential projects identified above were sized to address all the district's elementary school space needs assuming some redistricting around the edges would be necessary. As a result, the Status Quo scenario does not require any additional work to the other elementary schools.

High Rock School:

In the Status Quo scenario, High Rock School remains the District's 6th grade center. Based on the capacity analysis already presented earlier in this report, High Rock School required approximately 9 more classroom-sized spaces to satisfy the enrollment forecast. In the Status Quo scenario, Dore + Whittier tested the feasibility of positioning a two-story addition onto the existing building.

Pollard Middle School:

Based on the enrollment and capacity analysis, Dore + Whittier recommended 67 teaching stations to serve the enrollment forecast and allow the district some flexibility with how it schedules its spaces. Since there are only 61 permanent teaching stations in the existing building, this scenario explored two strategies to achieve the total number of teaching stations required:

- Removing the existing modular classrooms and placing a 6 teaching station addition onto the existing building paired with a phased, occupied renovation of the remaining building and site.

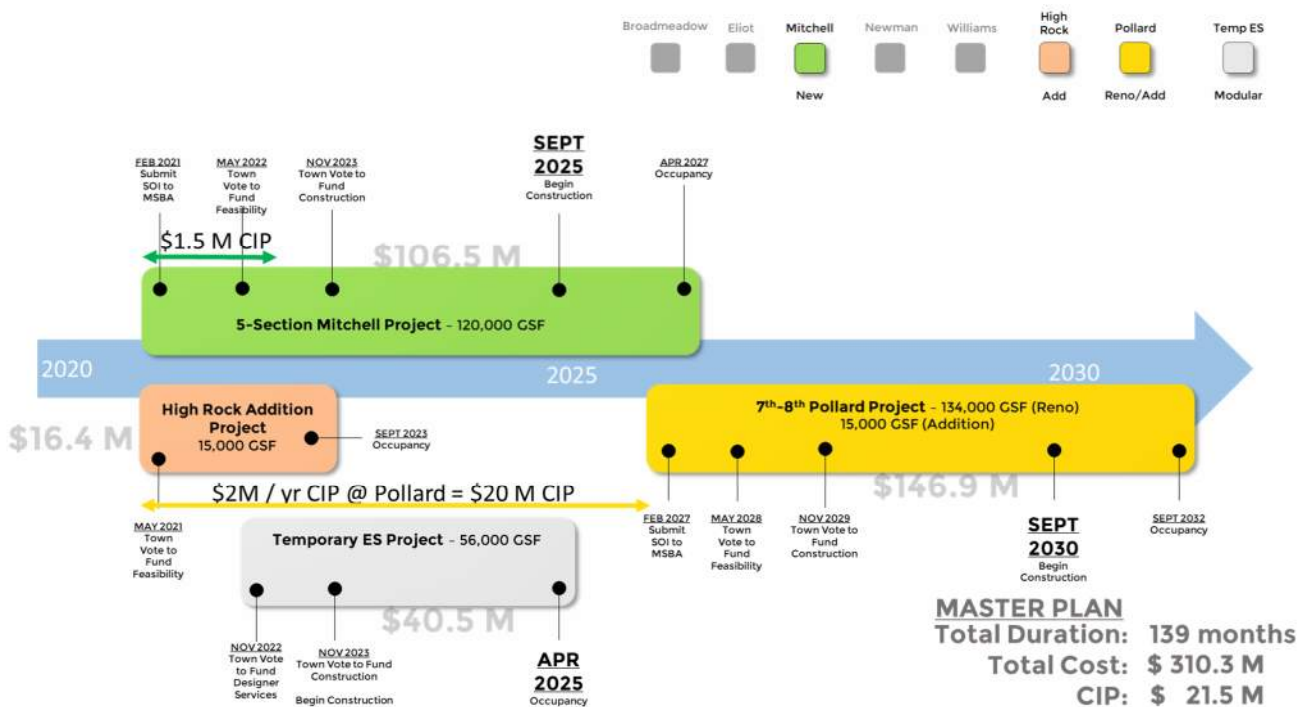
- A new three-story school south of the existing school assuming the existing building would continue to be occupied while construction took place.

Sequencing of the Status Quo Scenario

The sequencing of this scenario assumes that a Mitchell Elementary School project is identified as the District's priority project for the MSBA's grant program since it has the greatest physical and spatial needs. This scenario also assumes a High Rock project should be undertaken in parallel with the Mitchell project in order to address High Rock's capacity issues as quickly as possible. Finally, due to the size of the Mitchell project in this scenario and the site constraints present on the Mitchell site, a temporary elementary school project on the DeFazio site is necessary to serve as swing space during the construction of the Mitchell project.

Potential Variations

- The start of any or all projects could be delayed but would result in additional escalation costs and additional capital improvement expenditures in order to extend the useful life of the Mitchell and Pollard Schools until major projects could be realized.
- The District could choose not to execute the High Rock project and continue to experience the current overcrowding condition, which will lessen slightly over time according to the enrollment forecast but will exist for the entirety of the forecast.



Evaluation of the Scenario

- The feasibility of both strategies to construct a five-section elementary school on the existing Mitchell site is limited for two basic reasons. First, if the project is constructed west of the existing building, it may not be feasible to provide adequate construction access, lay down, and parking given the site constraints present. Second, there are currently no options for swing space (without

significant additional expense) to allow students to be relocated during construction.

- The feasibility of placing a two-story classroom addition at the High Rock School is limited given the site constraints present. The most likely location for an addition impacts an existing detention area, would require complex construction coordination for laydown and contractor parking areas, and would require construction both within and immediately adjacent to occupied space.
- It appears to be feasible to place an addition at Pollard on the existing building in approximately the same location as the existing modular classrooms. However, in order to execute an addition in this location, the modular classrooms would either have to be replicated temporarily somewhere else on the site, or the school would need to adopt a slightly different daily school schedule to increase the utilization rate of instructional spaces and vacate the modular classrooms.
- Approximately \$1.5 M worth of capital improvements are necessary at Mitchell Elementary School under the timing proposed in order to extend the useful life of the building (but not trigger substantial upgrades) until the new project can be realized. Additional capital investments would be needed each year the construction project is delayed but cannot exceed 30% of the fair market value (\$8,215,200) over the course of three years without triggering additional code upgrades which would require significant investments into the building.
- Approximately \$20 M worth of capital improvements are necessary at Pollard Middle School to extend its useful life until a major project can be realized. This amount is approximately half of the required upgrades necessary over the course of ten years per the CIP schedule but the maximum allowed without hitting the code triggers.
- Of all the scenarios under consideration, this scenario has the greatest capital improvement investment in buildings expected to be renovated or replaced.

DISCONTINUE HIGH ROCK SCHOOL

Grade Configuration: PK, K-5th, 6th – 8th
 Time to Completion: 70 Months,
 Estimated Cost to Complete: \$288.6 M

This scenario explores positioning grades 6th-8th under one roof at Pollard and discontinuing the High Rock School for educational use. This scenario was born out of questions about how to solve the overcrowding condition at High Rock, potentially opening up a place for the District Offices, and/or positioning High Rock as a swing space for a future Mitchell Elementary School project. In such a scenario, two major projects are required and a Pollard School project must occur first if High Rock is to be used as swing space for a Mitchell project.

Mitchell Elementary School:

To create the 126 general classrooms required across the district to accommodate the enrollment forecast, a major project at Mitchell Elementary School would require 30 general classrooms (5 sections/grade level). Dore + Whittier explored two projects to achieve this goal:

- A new two-story school west of the existing school assuming the existing building would continue to be occupied while construction took place.
- A new two-story school where the existing building currently sits assuming students could be relocated to another site during construction, this option assumed the High Rock School.

All other Elementary Schools:

Since Mitchell was identified as the elementary school with the greatest physical needs, the potential projects identified above were sized to address all the district's elementary school space needs, assuming some redistricting around the edges would be necessary. As a result, this scenario does not require any additional work to the other elementary schools.

High Rock School:

In this scenario, High Rock School would likely serve as swing space for a future Mitchell Elementary School project but would be discontinued for educational use once it had served that purpose. It is important to note that Dore + Whittier tested the feasibility of the High Rock School to serve as an elementary school, either as temporary swing space or as a permanent elementary school. Based on the enrollment forecast and the total number of grade level classrooms in the District, High Rock is six classrooms short of being able to accommodate the entire Mitchell Elementary School population but close enough to potentially redistribute the remaining students to the other elementary schools temporarily.

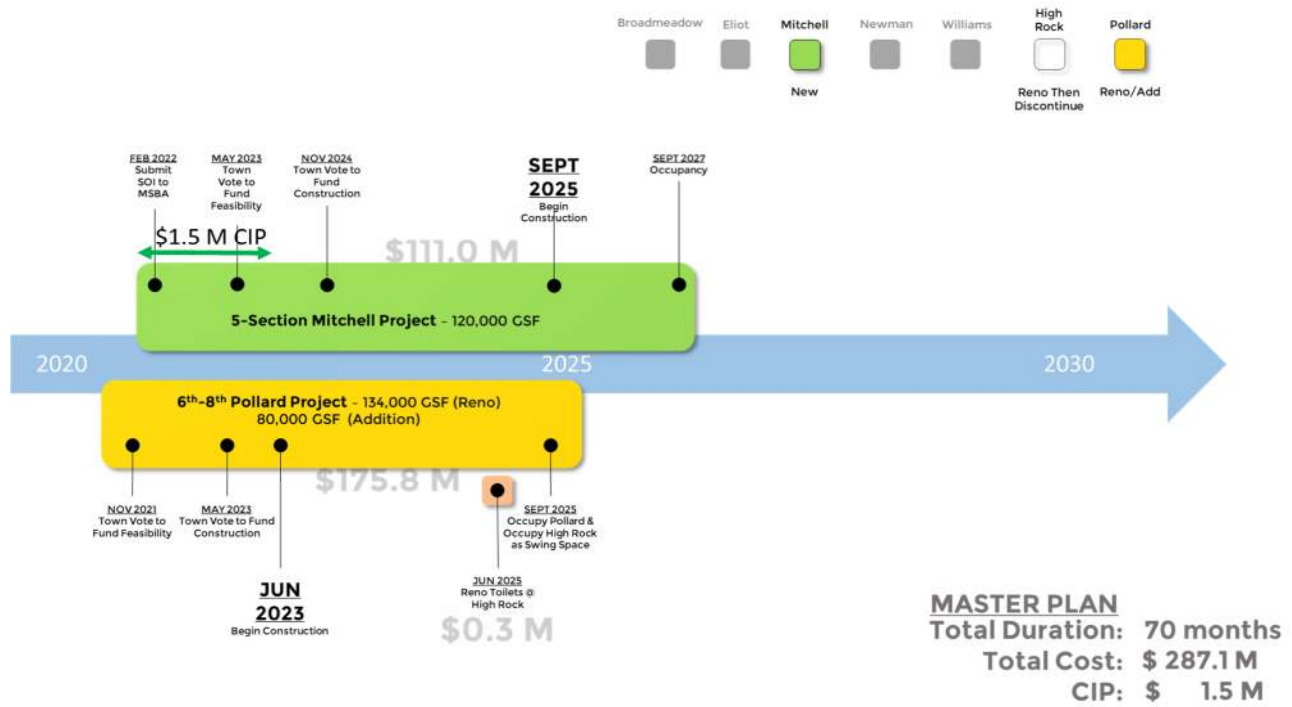
Pollard Middle School:

Based on the enrollment and capacity analysis, Dore + Whittier recommended 101 teaching stations to serve the enrollment forecast and allow the district some flexibility with how it schedules its spaces. Since there are only 61 permanent teaching stations in the existing building, this scenario explored two strategies to achieve the total number of teaching stations required:

- Removing the existing modular classrooms and placing a 40+/- teaching station addition onto the existing building paired with a phased, occupied renovation of the remaining building and site.
- A new three-story school south of the existing school assuming the existing building would continue to be occupied while construction took place.

Sequencing of the Discontinued High Rock Scenario

The sequencing of this scenario assumes that a Mitchell Elementary School project is identified as the District's priority project for the MSBA's grant program since it has the greatest physical and spatial needs. This scenario also assumes a Pollard project should be undertaken in parallel with the Mitchell project in order to address challenges identified at both High Rock and Pollard Schools. While financially a challenge, executing these two major project concurrently allows for High Rock School to serve as swing space for the Mitchell project.



Potential Variations

- The start of any or all projects could be delayed but would result in additional escalation costs and additional capital improvement expenditures in order to extend the useful life of the Mitchell and Pollard Schools until major projects could be realized.
- The District could choose to identify Pollard as the priority project for the MSBA's grant program. Doing so would extend the time needed to complete the Pollard project and, therefore, push out the completion of the Mitchell project by approximately one year. Pushing out the completion of both projects would also have financial implications due to increased escalation costs and potentially more capital improvement investment needed in both schools.

Evaluation of the Scenario

- Both strategies construct a five-section elementary school on the existing Mitchell site if students are relocated during construction to a combination of High Rock and the other four elementary schools during construction.
- While having the High Rock School available for swing space to support a future Mitchell project, doing so requires a Mitchell project to be pushed out. Occupancy of a Mitchell project may be as far out as ten or more years. In addition, once the Mitchell project is completed, it will be necessary to identify the use for the vacated High Rock School.
- It appears to be feasible to place an addition at Pollard on the existing building in approximately the same location as the existing modular classrooms. However, in order to execute an addition in this location, the modular classrooms would either have to be replicated temporarily somewhere else on the site, or the school would need to adopt a slightly different daily school schedule to increase the utilization rate of instructional spaces in the main building.

- It also appears feasible to construct an entirely new three-story school south of the existing Pollard building but may be slightly more challenging from a construction logistics perspective.
- In either a renovation/addition or new construction strategy, increasing the student population on the Pollard site may increase traffic stresses on the site and surrounding neighborhood.
- Approximately \$1.5 M worth of capital improvements are necessary at Mitchell Elementary School under the timing proposed in order to extend the useful life of the building until the new project can be realized. This cost would increase if the start of the project was delayed but cannot exceed 30% of the fair market value over any three year period in an effort to avoid triggering code upgrades that would require substantial capital investment.
- Along with the High Rock as Elementary School scenario, this scenario has the least capital improvement investment for buildings that are to be renovated or replaced.
- Because of the size of the Mitchell project, the District must execute the Mitchell project if High Rock is discontinued for educational use.

HIGH ROCK SCHOOL as ELEMENTARY SCHOOL

Grade Configuration:	PK, K-5 th , 6 th – 8 th
Time to Completion:	70 Months,
Estimated Cost to Complete:	\$253.4 M

This scenario explores positioning grades 6th-8th all under one roof at Pollard and repurposing High Rock as a sixth elementary school. This scenario was born out of questions about whether or not a Mitchell project could be smaller if High Rock were repurposed as an elementary school. In short, yes. The capacity analysis suggested that 126 total classrooms were necessary across the whole district to both accommodate the enrollment forecast and stay near the mid-point of the District's class size guidelines. Bringing High Rock on as a sixth elementary school would mean that a new Mitchell School could be a three section school: a total of 132 general classrooms across the district, allowing the District to either maintain a slightly lower average class size or allow some specials to have dedicated space.

Mitchell Elementary School:

To create the 126 general classrooms required across the district to accommodate the enrollment forecast, a major project at Mitchell Elementary School would require 12 general classrooms (2 sections/grade level). However, in this scenario, Dore + Whittier would recommend Mitchell as a three section per grade school to position it to have parity with both Eliot and High Rock and to give the district a little more flexibility to either lower its average class size or to provide specials with their own dedicated space. Dore + Whittier explored one project to achieve this goal:

- A new two-story school where the existing building currently sits, assuming students could be relocated to another site during construction.

All other Elementary Schools:

Since Mitchell was identified as the elementary school with the greatest physical needs, the potential projects identified above were sized to address all the district's elementary school space needs assuming

some redistricting around the edges would be necessary. As a result, this scenario does not require any additional work to the other elementary schools.

High Rock School:

In this scenario, High Rock School would serve as swing space for a future Mitchell Elementary School project with some students redistributed to other elementary schools until a new Mitchell School can be completed. Once Mitchell is complete students across the district would be redistributed to the six elementary schools. This would allow the elementary schools across the district to lower all class sizes or provide dedicated space for specials

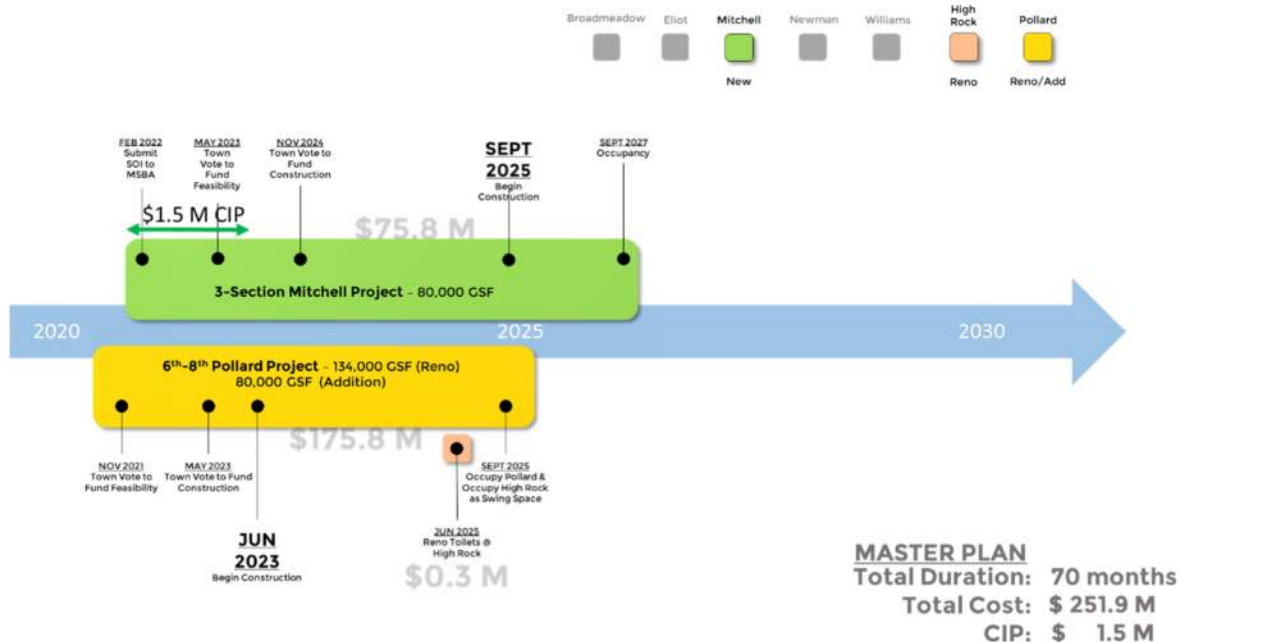
Pollard Middle School:

Based on the enrollment and capacity analysis, Dore + Whittier recommended 101 teaching stations to serve the enrollment forecast and allow the district some flexibility with how it schedules its spaces. Since there are only 61 permanent teaching stations in the existing building, this scenario explored two strategies to achieve the total number of teaching stations required:

- Removing the existing modular classrooms and placing a 40+/- teaching station addition onto the existing building paired with a phased, occupied renovation of the remaining building and site.
- A new three-story school south of the existing school, assuming the existing building would continue to be occupied while construction took place.

Sequencing of the High Rock as an Elementary School Scenario

The sequencing of this scenario assumes that a Mitchell Elementary School project is identified as the District's priority project for the MSBA's grant program since it has the greatest physical and spatial needs. This scenario also assumes a Pollard project should be undertaken in parallel with the Feasibility / Schematic Design study for the Mitchell School project in order to complete the Pollard School addition and vacate the High Rock School for use as an elementary school. While financially a challenge, executing these two major project concurrently allows for High Rock to serve as swing space for the Mitchell project.



Potential Variations

- The start of any or all projects could be delayed but would result in additional escalation costs and additional capital improvement expenditures in order to extend the useful lives of Mitchell and Pollard until major projects could be realized.
- The District could choose to identify Pollard as the priority project for the MSBA's grant program. Doing so would extend the time needed to complete the Pollard project and, therefore, push out the completion of the Mitchell project by approximately one year. Pushing out the completion of both projects would also have financial implications due to increased escalation costs and potentially more capital improvement investments.
- The District could choose to only execute the Pollard project and either delay or not execute the Mitchell project. Doing so would still require elementary students to move into the High Rock facility once the Pollard project is complete. In a delay of the Mitchell project where Mitchell continues to be occupied, the district would have enough general classrooms across the district to both accommodate the enrollment forecast and stay within the district's class size guidelines. If the District decides to delay the Mitchell project or not execute it at all, where Mitchell is discontinued for educational use, the District would have the minimum number of classrooms needed across the District but would need to maximize class sizes across all elementary classrooms, which would leave very little flexibility to accommodate enrollment deviations from the forecast.

Evaluation of the Scenario

- The strategy to construct a three-section elementary school on the existing Mitchell site if students are relocated during construction to a combination of High Rock and the other four elementary schools during construction appears feasible and by having a smaller footprint would offer more flexibility with internal site circulation, parking, playgrounds, and playfields.
- While having the High Rock School available for swing space to support a future Mitchell project, doing so may require a Mitchell project to be pushed out. Since this project is smaller than the five-section school needed in the Status Quo scenario, there may be a timeline where a Pollard project and a Mitchell project could occur somewhat concurrently potentially shortening the timeline for the completion of the Mitchell project.
- It appears to be feasible to place an addition at Pollard on the existing building in approximately the same location as the existing modular classrooms. However, in order to execute an addition in this location, the modular classrooms would either have to be replicated temporarily somewhere else on the site, or the school would need to adopt a slightly different daily school schedule to increase the utilization rate of instructional spaces.
- It also appears feasible to construct an entirely new three-story school south of the existing building but may be slightly more challenging from a construction logistics perspective.
- In either a renovation/addition or new construction strategy, increasing the student population on this site may increase traffic stresses on the site and surrounding neighborhood.

Two 6th-8th Middle Schools

Grade Configuration: PK, K-5th, 6th – 8th

Time to Completion:

Estimated Cost to Complete:

*Option was eliminated from consideration prior to developing timeline or cost estimates

This scenario explores positioning grades 6th-8th together as a grade grouping, but splitting the population into two cohorts, one at the Pollard site and one at the Newman site. Repurposing Newman as a 6th-8th middle school would displace all the K-5th students currently housed there. Assuming Pre-K would remain at Newman making it necessary to recreate its 30 general classrooms elsewhere in the district. This scenario would, therefore, require High Rock to be repurposed as an elementary school replacement for Newman students and for the proposed project at Mitchell require seven sections per grade.

Mitchell Elementary School:

To create the 126 general classrooms required across the district to accommodate the enrollment forecast, a major project at Mitchell Elementary School would require 42 general classrooms (7 sections/grade level). However, in this scenario, Dore + Whittier would not recommend attempting a project of this size on the existing Mitchell site. In collaboration with the Working Group and the PPBC, this scenario was eliminated from further consideration because of the infeasibility of this project.

Newman Elementary School:

Newman would be repurposed as a second middle school and continue to serve as the location for the District's Pre-K program. Converting this facility to serve grades 6th-8th, however, would displace all its K-5th population. Because this scenario was deemed infeasible due to the size of the project required at Mitchell, no test-fits for this component were explored.

All other Elementary Schools:

Since Mitchell was identified as the elementary school with the greatest physical needs, the potential projects identified above were sized to address all the district's elementary school space needs assuming some redistricting around the edges would be necessary. As a result, this scenario does not require any additional work to the other elementary schools.

High Rock School:

In this scenario, High Rock School would need to be repurposed as a partial replacement for the Newman elementary school.

Pollard Middle School:

The initial strategy for this scenario was to perform a phased, occupied renovation of the existing facility to support approximately 800 of the total 6th-8th grade population. However, because this scenario was deemed infeasible due to the size of the project required at Mitchell, no test-fits for this component were explored.

Evaluation of the Scenario

- The strategy to construct a seven-section elementary school on the existing Mitchell site was deemed infeasible based on the size and constraints of the site even if students were able to be relocated during construction.
- The Working Group and the PPBC eliminated this scenario for further consideration before it was estimated or sequenced for these reasons.

One 5th-8th Middle Schools

Grade Configuration: PK, K-4th, 5th – 8th

Time to Completion:

Estimated Cost to Complete:

*Option was eliminated from consideration prior to developing timeline or cost estimates

This scenario explores positioning all grades 5th-8th together as a grade grouping under one roof at the Pollard site as a school within-a-school model, reconfiguring the existing elementary schools to serve grades K-4th, and discontinuing the High Rock School as an educational facility.

Mitchell Elementary School:

This master plan scenario explores changing the grade configuration at the elementary schools. If fifth grade is removed from the elementary schools, the total District classroom need at the elementary schools drops from 126 to 106. A Mitchell project in this scenario would only require 10 general classrooms (2 sections per grade level x 5 grade levels), but would also require an imbalance of sections at the other elementary schools (i.e. some grade levels of three sections and other grade levels of four sections). In this scenario, Dore + Whittier recommends a Mitchell project with three sections per grade level to create parity with Eliot and to give the District the flexibility to reduce average class size or to create dedicated spaces for specials.

All other Elementary Schools:

Since Mitchell was identified as the elementary school with the greatest physical needs, the potential projects identified above were sized to address all the district's elementary school space needs assuming some redistricting around the edges would be necessary. As a result, this scenario does not require any additional work to the other elementary schools.

High Rock School:

In this scenario, High Rock School could potentially serve as swing space for a Mitchell project, but then would be discontinued for educational use.

Pollard Middle School:

This scenario would result in locating approximately 2,000 students on the Pollard site and a facility of approximately 360,000 sf. Dore + Whittier explored the feasibility of constructing a new facility to accommodate this population, ultimately determining that, while geometrically feasible, it would likely require positioning the new construction where the existing building sits in the widest part of the site and would require students to be relocated during construction making it logistically infeasible.

Evaluation of the Scenario

- This strategy results in a grade reconfiguration, a change that was deemed unattractive to members of the Working Group but was explored to see if it yielded any spatial or financial benefits.
- While it appeared geometrically feasible to construct a new 360,000 SF facility on the Pollard site, it also appeared to be logistically infeasible because it required the relocation of students during construction.
- The Working Group and PPBC eliminated this scenario for further consideration before it was estimated or sequenced for these reasons.

Two 5th-8th Middle Schools

Grade Configuration:	PK, K-4 th , 5 th – 8 th
Time to Completion:	151 months
Estimated Cost to Complete:	\$388.8 M

This scenario was born out of the question, “Does splitting the 5th-8th grades into two facilities make this more feasible and reduce the potential stress on the Pollard site resulting from all 5th-8th grades on that site?” It explores positioning approximately half of all grades 5th-8th together at the Pollard site, repurposing Newman as the second 5th-8th facility, reconfiguring the other existing elementary schools to serve grades K-4th, and repurposing the High Rock School as a partial replacement for the Newman Elementary School.

Mitchell Elementary School:

This master plan scenario explores changing the grade configuration at the elementary schools. If fifth grade is removed from the elementary schools, the total District classroom need at the elementary schools drops from 126 to 106. A Mitchell project in this scenario would only require 22 general classrooms (4 +/- sections per grade level x 5 grade levels) and the necessary PK classrooms to accommodate those displaced from Newman. This scenario would also require an imbalance of sections at the other elementary schools (i.e. some grade levels of three sections and other grade levels of four sections).

Newman Elementary School:

Newman would be repurposed as a second middle school to serve approximately half the student population in grades 6th-8th, however, would displace all its K-4th population. Dore + Whittier explored the feasibility of placing an addition onto the existing building to serve this population.

All other Elementary Schools:

Since Mitchell was identified as the elementary school with the greatest physical needs, the potential projects identified above were sized to address all the district’s elementary school space needs assuming some redistricting around the edges would be necessary. As a result, this scenario does not require any additional work to the other elementary schools.

High Rock School:

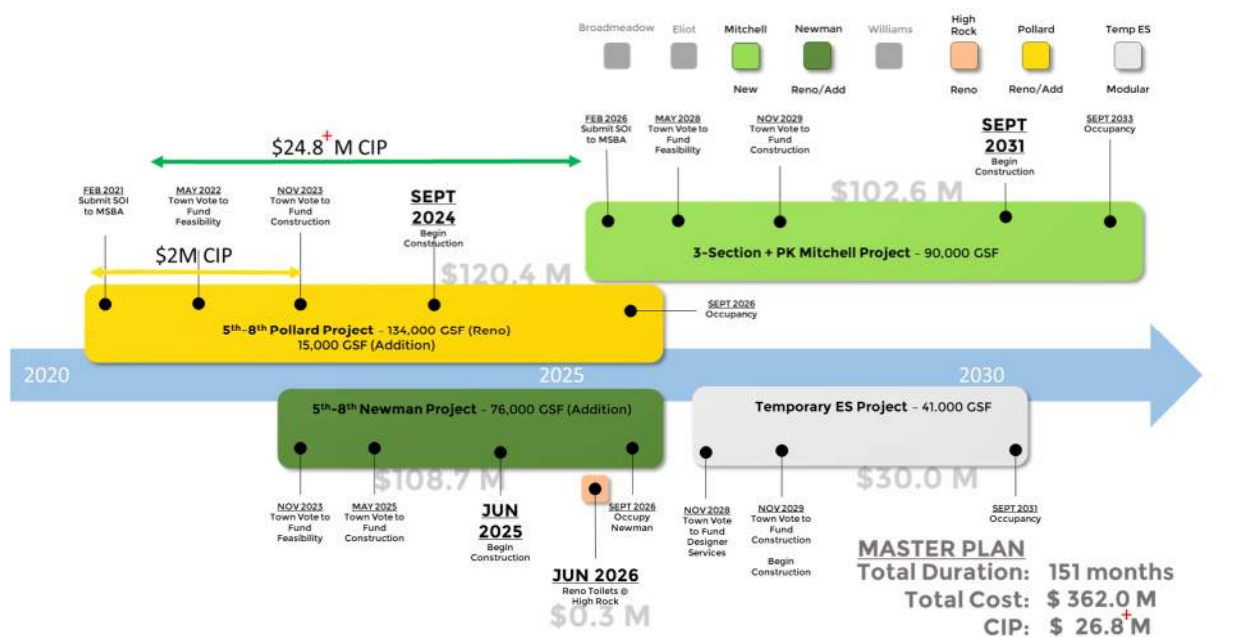
In this scenario, High Rock School could potentially serve as swing space for a Mitchell project and then be repurposed as the fifth elementary school.

Pollard Middle School:

The initial strategy for this scenario was to perform a phased, occupied renovation of the existing facility to support approximately 900 of the total 5th-8th grade population. In order to accomplish this renovation, it may be necessary for the school to consider an alternative daily schedule to be more efficient with space or to consider the use of additional modular classrooms in order to vacate existing space during the renovation.

Sequencing of the Two Middle School Scenario

The sequencing of this scenario assumes that a Pollard School project is identified as the District's 1st priority project for the MSBA's grant program and assumes a Newman project would need to occur concurrently in order to execute the grade reconfiguration. This scenario also assumes a Mitchell project would follow the first two projects as the District's second priority for the MSBA's grant program.

Potential Variations

- The start of any or all projects could be delayed but would result in additional escalation costs and additional capital improvement expenditures in order to extend the useful lives of Mitchell and Pollard until major projects could be realized.
- Other than delaying the entire master plan, there are limited potential variations to consider for this scenario. In order to both execute the grade reconfiguration and maintain enough general classrooms at the elementary schools, both the Pollard and Newman projects must occur concurrently. Since the Newman project would likely focus on a major addition and not require a significant renovation to the existing building, it makes little sense to consider it as the MSBA priority project. Because High Rock must serve as a partial replacement for the Newman elementary school students immediately following the grade reconfiguration, it would not be

available to serve as swing space for the Mitchell project, thereby, making it necessary to execute a temporary elementary school project on the DeFazio property.

Evaluation of the Scenario

- This strategy results in a grade reconfiguration, a change that was deemed unattractive to members of the Working Group but was explored to see if it yielded any spatial or financial benefits with consideration.
- The work necessary to place a sizable addition onto the existing Newman Elementary School appeared to be feasible without any significant negative impacts to the existing site features.
- Although Mitchell possesses the greatest physical and spatial needs, this scenario delays addressing those issues for more than ten years. As a result, it would be necessary to invest approximately \$25 M in capital improvements at Mitchell to extend its useful life until a major project could be realized.
- Because the Pollard project is assumed to be the first MSBA priority project, it would take slightly longer to complete than if the project were executed by the town without MSBA assistance. As a result, this scenario would require approximately \$2M worth of capital improvement investment to extend its useful life until the major project could be completed.
- Of all the options considered, this scenario has the longest duration to completion, the highest total cost, and the greatest capital improvement investment in buildings scheduled to be renovated or replaced.

Super School

Grade Configuration: PK, K-5th, 6th – 8th

Time to Completion:

Estimated Cost to Complete:

*Option was eliminated from consideration prior to developing timeline or cost estimates

This scenario was born out of the question, “Is there a single project on a single site that can address all of the enrollment and spatial needs?” In response to that question, Dore + Whittier explored a scenario that tests the feasibility of constructing a super school housing the equivalent of one elementary school and all grades 6th-8th under one roof in a school-within-school model. Upon completion, this scenario would discontinue both the existing High Rock and Mitchell schools for educational use.

Mitchell Elementary School:

This master plan scenario would discontinue Mitchell for educational use and require redistricting to reflect an elementary school on the Pollard site.

All other Elementary Schools:

As a result of the District’s elementary school needs being met with an elementary school project at the Pollard site, this scenario does not require any additional work to the other elementary schools.

High Rock School:

This master plan scenario would discontinue High Rock for educational use and require redistricting to reflect an elementary school on the Pollard site.

Pollard Middle School:

This scenario would result in locating approximately 2,000 students on the Pollard site and a facility of approximately 360,000 sf very similar to the 5th-8th project explored in a different scenario. Dore + Whitter explored the feasibility of constructing a new facility to accommodate this population, ultimately determining that, while geometrically feasible, it would likely require positioning the new construction where the existing building sits in the widest part of the site and would require students to be relocated during construction making it logistically infeasible.

Evaluation of the Scenario

- This strategy results in a facility with a population that was deemed unattractive to members of the Working Group but was explored to see if it yielded any spatial or financial benefits with consideration.
- No other sites in town were deemed large enough to accommodate such a large facility.
- The Working Group and PPBC eliminated this scenario for further consideration before it was estimated or sequenced for these reasons.



Needham School Committee

September 15, 2020

Agenda Item: **Discussion**

Reopening of School Update

Background Information:

- The Superintendent will provide an update on the plans for the reopening of schools.

Person Available for Presentation:

Dr. Daniel Gutekanst, Superintendent of Schools



Needham School Committee

September 15, 2020

Agenda Item: **Discussion**

October Special Town Meeting Preparation

Background Information:

- The School Committee may wish to discuss items relative to preparing for the October 4, 2020 Special Town Meeting.

Persons Available for Presentation:

Andrea Longo Carter, Chair
Connie Barr, Vice-Chair
Heidi Black
Michael Greis
Susan Neckes
Aaron Pressman
Matthew Spengler



Needham School Committee

September 15, 2020

Agenda Item: Action

Approve FY22 Budget Guidelines

Action Recommended:

Upon recommendation of the Superintendent, that the Needham School Committee approves the FY22 Budget Guidelines as submitted.

Introduction

The Needham School Committee is responsible for establishing budget priorities and subsequently voting a budget that reflects applicable state and federal mandates, as well as the priorities and needs of the Needham Public Schools. Once adopted by the School Committee, the budget must ultimately be approved at the Annual Town Meeting. The purpose of this document is to outline the roles and responsibilities associated with the budget process, to identify a timeline for budget development and to outline assumptions and priorities that will guide the School Committee in its deliberations and interactions with other Town boards during the budget process. The budget for Fiscal Year 2021/22 (FY22) will begin on July 1, 2021.

Budget Roles & Responsibilities

The School Committee, Finance Committee, School department's administrative staff, Town Manager's office, and others have various roles and responsibilities in the budget development process:

- a) The Future School Needs Committee– Assists with identifying criteria for development of enrollment estimates and projections by professional demographer; reviews draft enrollment projections and provides guidance and feedback to demographer.
- b) Town Meeting – Town legislative body responsible for approving the annual Town-wide operating budget.
- c) The Town Manager – Provides guidelines for developing Town-wide budget requests, develops revenue projections, reviews the budget requests of Town Departments and makes a balanced budget recommendation to the Finance Committee.
- d) The Finance Committee (FinCom) - Reviews departmental spending requests, the Town Manager's recommended budget and the School Committee's budget proposal and makes budget recommendations to Town Meeting.
- e) The School Committee (SC) – Establishes School Department budget policy and priorities, reviews the Superintendent's initial budget request and presents the School Committee's final budget recommendation to the Town Manager, FinCom and Town Meeting.
- f) The School Department's Central Administration (CA) – Utilizes Town Manager's budget guidelines and School Committee priorities to guide budget development; develops the District-wide salary budget; reviews and evaluates building and department-based budget requests; develops the Superintendent's system-wide budget request and develops enrollment projections with the assistance of a professional demographer.
- g) Principals and Directors - Generate detailed cost-center budgets for non-salary line items, within budget guidelines.

Budget Process & Calendar

Date	Activity
July 1, 2020	Start of Fiscal Year 2020/21
Aug 20 (Thurs)	School Committee Reviews Draft FY 2021-22 Budget Guidelines
Sept 15 (Tues)	- School Committee Votes FY 2021-22 Budget Guidelines - School Committee Engages in October 2020 Special Town Meeting Prep - School Committee Receives Draft School Master Plan for Review
Oct 4 (Sun)	October 2020 Special Town Meeting (Rain Date is Oct 11)
Oct 5 (Mon)	Future School Needs Committee Identifies Criteria for Development of School Enrollment Projections
Oct 6 (Tues)	- School Committee Reviews & Discusses FY22-26 School Capital Requests - School Committee Public Hearing on School Master Plan - School Committee Consensus Vote on Preferred Master Plan Scenario
Oct 20 (Tues)	School Committee Prioritizes and Votes FY22-26 School Capital Requests
Nov 1-Nov 30	Superintendent's FY22 Budget Request Developed
Nov 10 (Tues)	School Committee Reviews & Discusses FY22-26 Five-Year Forecast (Target Date)
Nov 17 (Tues)	School Committee Reviews & Discusses FY22-26 Five-Year Forecast (Alternate Date)
Mid-Nov TBD	Future School Needs Reviews Draft Enrollment Projections
Dec 8 (Tues)	- School Committee Receives Superintendent's FY22 Budget Request - School Committee Budget Discussion – Summary Overview & Highlights - School Committee Reviews and Discusses FY22-37 Enrollment Projections
Dec 9 (Wed)	- Departmental Spending Requests Due to FinCom from the Town Manager and School Superintendent [Due by Second Wed in Dec] 5:30 pm (Tentative) School Committee/FinCom School Budget Workshop
Dec 15 (Tues)	- School Committee Budget Discussion – Student Support Services - School Committee Reviews Student Development Budget Request
Dec 22 (Tues)	Select Board Votes FY22-26 Capital Improvement Recommendation
Jan 5 (Tues)	- School Committee Budget Discussion - School Committee Reviews Secondary, Technology & Other Program Improvement Requests - School Committee Reviews Revolving Budget Requests (Transportation, Athletics, Preschool & Community Education) - Town Manager Budget Consultation with School Committee

Needham Public Schools
Operating Budget Guidelines
For the Fiscal Year Ending June 30, 2022 (FY22)

Jan 12	Town Manager Releases FY22-26 Capital Improvement Plan (Capital Budget Due to FinCom from Town Manager)
Jan TBD	Finance Committee Budget Hearing (Operating & Capital)
Jan 19 (Tues)	- School Committee Budget Discussion - School Committee Budget Public Hearing - School Committee Reviews Revolving Budget Requests (Transportation, Athletics, Preschool & Community Education) - Alternate Date - School Committee Reviews 2021 ATM Warrant Article Requests, if Applicable
Jan 26 (Tues)	- School Committee Votes FY22 Budget Request - School Committee Votes Selected Revolving Fees (Transportation, Athletics, Preschool & Community Education) - School Committee Votes 2021 ATM Warrant Article Requests, if Applicable
Jan 27 (Wed)	- Summary of School Committee Budget Vote Sent to Town Manager - Summary of School Committee Budget Recommendation Sent to Principals & Directors - FY22 Governor's Budget Recommendation Due (4th Wed in January)
Jan 29 (Fri)	Town Manager's Balanced Budget Recommendation (Including Voted School Committee Request) Due to FinCom
Feb 1 (Mon)	2021 ATM Warrant Articles Due to Select Board
Feb 22 (Mon)	FinCom's FY22 Draft Budget Due to Town Manager
Mar 2 (Tues)	- Primary Election (Anticipated) - School Committee Reviews FY22 Revolving Fund Budgets (as Needed)
Mar 15 (Mon)	FinCom's FY22 Budget Recommendation Due to Town Manager for Inclusion in ATM Warrant
Mar 16 (Tues)	School Committee Reviews FY22 Revolving Fund Budgets (as Needed)
April 6 (Tues)	School Committee Reviews FY22 Revolving Fund Budgets (as Needed)
April 13 (Tues)	Annual Town Election
April 27 (Tues)	- School Committee Reviews FY22 Revolving Fund Budgets (as Needed) - School Committee Annual Town Meeting Preparation
TBD	League of Women Voters' Warrant Meetings
May 3 (Mon)	May 2021 Annual Town Meeting Begins
May 4 (Tues)	School Committee Reviews FY22 Revolving Fund Budgets (as Needed)
May 10 (Mon)	2021 Special Town Meeting Begins
May 18 (Tues)	- School Committee Budget Update - School Committee Reviews FY22 Revolving Fund Budgets (as Needed)

June 1 (Tues)	School Committee Reviews FY22 Revolving Fund Budgets (as Needed)
June 15 (Tues)	- School Committee Reviews FY22 Revolving Fund Budgets (as Needed) - School Committee Votes FY22 Revolving Fund Budgets & Fees - School Committee Votes FY22 COLA Adjustments (Non-Union Contracts)
July 1, 2021	Start of FY 2021/22

State and Local Budget Requirements and Applicable Laws

The school budget process is governed by State law, the Town's By-Laws and School Committee policy. Needham's By-Laws require that the Town Manager issue budget guidelines and instructions for all departments to use in preparing their spending requests for the ensuing fiscal year. The Town Manager must consult with the Finance Committee prior to issuing the guidelines and throughout the budget process. The Town Manager and School Superintendent must provide the Finance Committee with copies of their respective departmental spending requests on or before the second Wednesday in December. After receiving these spending requests, the Finance Committee begins its consideration of the budget, including holding budget hearings. After consultation with the Select Board and School Committee, the Town Manager then presents a balanced budget proposal to the FinCom no later than January 31, which includes the spending priorities of all Town departments, and in addition thereto, the voted School Committee budget, if different from that contained in the balanced budget proposal. The Town Manager's executive budget recommendation is not binding on the Finance Committee. (*Town By-Laws, Section 2.2.1*) The Commonwealth of Massachusetts further requires that the final, recommended budget be submitted to the Finance Committee not less than 10 days before the end of the calendar year, or not less than 90 days prior to the date of the start of Annual Town Meeting, whichever is later. (*MGL Ch 41, s. 59*) (In Needham, the Annual Town Meeting is held during the first week in May.) The Finance Committee's recommendation on the operating budget is considered the Main Motion to be acted upon by Town Meeting. The Finance Committee's draft budget is due to the Town Manager by February 22, and a final recommendation for inclusion in the Annual Town Meeting warrant is due by March 15 under Section 1.11.3 of the Town's By-Laws. The budget is adopted by the voters of the Town of Needham at the Annual Town Meeting, prior to June 30. The fiscal year for all towns in the Commonwealth begins on July 1st and ends the following June 30th. (*MGL Ch 44, Sect. 56*)

The School Committee in each city and town is required to review and approve the budget for public education in the district. (*MGL Ch 71 Sect. 37*) A public hearing on the proposed school budget is required, and must be advertised at least one week prior in a newspaper of general circulation. A copy of the proposed budget also must be made available to the public at least 48 hours prior to the scheduled public hearing. (*MGL Ch 71, Sect. 38N*) Additionally, School Committee policy requires the public hearing to be held in January or earlier and to be conducted by a quorum of the School Committee. After a review of the proposed budget, the School Committee shall approve its final budget request for presentation to the Annual Town Meeting on or before January 31, so that the voted budget request may be included in the Town Manager's Budget Recommendation. (*School Committee Policy #DB.*)

School Committee Policy #DB further specifies that the School Committee shall issue budget guidelines on or before its first meeting in November that articulate the general framework to be used in developing the budget. The guidelines shall be consistent with state law, the Town's By-Laws and the Town Manager's guidelines, and must include a budget calendar, assumptions and

priorities for the ensuing fiscal year. Principals and department heads must use these guidelines to develop their budget requests. These departmental requests and a preliminary budget recommendation are to be presented to the School Committee and the Finance Committee on or before the second Wednesday in December. In addition, following approval, the School Committee will send a copy of its proposed budget to all Town Meeting members at least seven days prior to Annual Town Meeting.

The budget is adopted by Town voters at the Annual Town meeting before June 30 for the fiscal year beginning July 1. Subsequent to Town meeting approval, the School Committee votes to adopt the corresponding budget detail budget by category of expenditure for implementation purposes. If the budget adopted by Town Meeting is less than or more than that requested by the School Committee, the budget shall be appropriately adjusted and voted by the School Committee. The Superintendent shall prepare an annual budget document, which represents the completed financial plan for the ensuing fiscal year. (*School Committee Policy #DB*) The adopted budget of the School Department, in combination with the expenditures from other municipal departments on behalf of the School District, shall meet anticipated Chapter 70 Net School Spending Requirements (*School Committee Policy #DB, MGL Ch70 s. 6.*)

School Committees may receive grants or gifts for educational purposes, which are held in separate accounts, and, once accepted, may be expended without further appropriation. (*MGL Ch 71 Sect. 37A, MGL Ch. 44 s. 53A*) The School Committee also may charge fees or receive monies in connection with certain other school activities, the receipts of which also are held separately (in revolving funds) and may be spent without further appropriation. (*MGL C44 s53, C44 s53e1/2, C71 s26a, C71 s26c, C71 s47, C71 s71e, C71 s71f, C548 of Acts of 1948*)

Guidelines for Budget Requests

There are two levels of funding requests within the School Committee's budget: Level Service budget requests and Program Improvement budget requests.

The **Level Service Budget** assumes the same level of service to the schools from the FY21 budget to the FY22 budget, including the current school programs, staffing levels, class sizes, and services. The base budget includes:

- i. The total FY21 budget appropriation (net of turnover savings);
- ii. Statutory or regulatory mandates;
- iii. Contractual personnel step, longevity and collective bargaining increases (including cost of living);
- iv. Other contractual increases;
- v. Significant inflationary or enrollment increases (inflationary increase in the cost of student supplies, additional teachers needed to maintain student-teacher ratios, etc.)
These requests should include:
 - Specific dollar increase by line item; and
 - Purpose of the requested increase; and
- vi. Other items considered necessary and recommended by the Superintendent.

The **Program Improvement Budget** includes both the Level Service Budget, plus additional funds for new or expanded programs of the Needham Public Schools. The Program Improvement Budget is the budget mechanism the School Committee will use to invest in service and program improvements for the Needham Public Schools. The Program Improvement Budget is not a wish list; rather it reflects the need to grow and improve the schools in a way consistent with the mission, values, and goals of the Needham Public Schools and the high expectations of the Needham community. Program Improvement Budget requests must be listed in order of priority and include:

- i. Specific dollar amount;
- ii. Purpose of request;
- iii. Projected impact of request on service delivery;
- iv. Identification of grants or other outside sources of revenues.
- v. Reflect the district's values and goals.

School Committee Budget Assumptions

The budget is developed with certain assumptions and priorities established by the School Committee. For example, the budget reflects the assumption that the School District will meet all federal, state, and local mandated programs and requirements.

Thus, the budget should include sufficient resources and funding to meet contractual obligations and mandated programs. These mandated programs include, but are not limited to:

(a) Education Reform Act

- a. *The Education Reform Act* of 1993 (MERA, St. 1993, c. 71) required the state to develop academic standards in core subjects, setting forth the "skills, competencies and knowledge" to be possessed by all students, with high expectations for student performance, otherwise known as the 'curriculum frameworks.' To help districts meet these standards, the Act also established a school finance system designed to make available an adequate level of resources to each school district, irrespective of each community's fiscal capacity.
- b. "Common Core" competency standards have been developed state-wide for ELA/Literacy (2017), Mathematics (2017), Science and Technology/Engineering (2016), Digital Literacy and Computer Science (2016) and History and Social Science (2018.)
- c. In implementing the Common Core requirements, Needham will:
 - i. Provide MCAS support and continue to close the achievement gap for minority, English Language Learners, economically challenged, and special education students, as well as for the group of lowest performing students.
 - ii. Comply with state financial, pupil and student reporting requirements, including providing the financial resources need to meet minimum state per student funding requirements under M.G.L. Ch. 70.
 - iii. Implement MCAS 2.0, the next generation of student assessments that improved upon the existing tests in ELA and Math to better measure the critical skills students need for success in the 21st Century. Changes in the content and format of the assessments have been made in ELA and Math for Grades 3-8 and 10, and reflect a curriculum that is aligned to the MA Common Core.
 1. The new format of the Next Generation MCAS includes assessments in ELA and Math that must be administered online in Grades 3-8 and Grade 10. It also includes Science in Grades 5 and 8, as well as Biology and Introductory Physics tests for students in the Class of 2023. It is essential that the

technology infrastructure is in place, sufficient up-to-date computers are available, and adequate staffing is available to support and administer the new assessments.

(b) Massachusetts School and District Accountability System

- a. On December 10, 2015, President Obama signed the *Every Student Succeeds Act (ESSA)* into law, reauthorizing the federal *Elementary and Secondary Education Act of 1965 (ESEA)* and replacing the most recent reauthorization of ESEA, the *No Child Left Behind Act of 2001 (NCLB)*. With a few exceptions, ESSA took effect at the beginning of the 2017-18 school year. The law includes provisions to help ensure improved outcomes for all students receiving an elementary and secondary education.
- b. Meet Massachusetts Department of Elementary and Secondary Education regulations related to accountability and assistance for school districts and schools. 603 CMR 30 established the Massachusetts Comprehensive Assessment System (MCAS) and standards for competency determination. 603 CMR 2 holds districts accountable for the educational services they provide: it governs the overview of public school programs and the assistance provided to districts to improve them; identifies the circumstances under which a school may be declared underperforming.
- c. While the Massachusetts School and District Accountability System (2012) currently meets most of the ESSA requirements, some modifications will be required. Indicators used to determine accountability ratings for Grades 3-8 will continue to be academic achievement and academic progress for all students as a whole, and for all previously determined subgroups. Starting in 2018, the indicators also included: progress made by students in attaining English language proficiency (percentage of students meeting annual targets required in order to attain English proficiency in six years), and chronic absenteeism (percentage of students missing 10% or more of the school year.) For high schools, in addition to all of the above, accountability indicators include: four-year cohort graduation rate, extended engagement rate (five-year cohort graduation rate), annual dropout rate, and percentage of 11th & 12th graders completing advanced coursework. A new indicator introduced in 2018 at all grade levels in the ELA and Math assessments was the performance of the lowest performing 25% of the students in each school and the district as a whole.
- d. The goal of reducing proficiency gaps is a cornerstone of the Massachusetts School and District Accountability System and will continue. All districts, schools, and subgroups will be expected to make progress toward reducing the proficiency gap in ELA and Math. Based on 2017 and 2018 test results, initial gap setting targets will be set for 2019. Targets continue to be reviewed and established as additional longitudinal data becomes available.

(c) Student Learning Time

- a. Meet Massachusetts Department of Elementary and Secondary Education (DESE) regulations, which establish the minimum length for a school day and the minimum number of days in a school year for Massachusetts public schools (603 CMR 27.)

(d) Non-Discrimination

- a. Meet various federal civil rights laws, which prohibit discrimination in programs or activities that receive federal financial assistance from the U.S. Department of Education:
 - i. Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, and national origin.

- ii. Title IX of the Education Amendments of 1972, which prohibits sex discrimination. The US Department of Education recently released new rules on sexual harassment under this law on May 6, 2020.
 - iii. Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of disability.
 - iv. Title II of the Americans with Disabilities Act of 1990 (ADA), which prohibits discrimination on the basis of disability by public entities, whether or not they receive federal financial assistance.
 - v. Age Discrimination Act of 1975, which prohibits age discrimination.
 - b. Meet DESE regulations around non-discrimination against students, which ensure that public schools do not discriminate against students on the basis of race, color, sex, homeless status, gender identity, religion, national origin, sexual orientation, or disability, and ensure that all students have 'equal rights of access to the opportunities, privileges, advantages, and courses of study (603 CMR 26, as amended June 26, 2012.)
- (e) Chapter 766: Special Education (SpEd)
 - a. Meet the federal requirement under the *Individuals with Disabilities Education Act (IDEA)* and state statutes under (M.G.L. c71B) to provide a free and appropriate public education to students with disabilities in the least restrictive environment. (34 CFR s.300.24(b)(15.)) This often means creating programs to retain students 'in-district,' whenever possible;
 - i. Priority is given, whenever possible, to providing in-district special education programs to students;
 - ii. Where out-of district programming is required,
 - 1. Provide for special education out-of-district tuition costs;
 - 2. Provide for special education transportation; and
 - 3. Implement and maintain systems for complying with monitoring, procedural review and paperwork requirements.
 - iii. Developing in-district programs for special education will include a cost benefit analysis.
 - b. Meet DESE regulations related to special education (603 CMR 28, amended March 27, 2018, with recent amendments July 1, 2018.)
 - c. Meet DESE regulations related to program and safety standards for approved public or private day and residential special education school programs (603 CMR 18, effective January 1, 2016.)
- (f) Student Discipline
 - a. Meet DESE regulations (603 CMR 53) related to student discipline, including the requirement to provide every student who is expelled or suspended with the opportunity to receive education services to make academic progress during the period of suspension or expulsion. These regulations were effective July 1, 2014.

(g) English Language Learners (ELL)

- a. Meet the federal (Title VI, Civil Rights Act) and state (M.G.L. c71A) bilingual statutes that require districts to provide limited English Proficient (LEP) students with support services until they are proficient enough to participate meaningfully in the regular educational program. The DESE has developed regulations pertaining to the education of English learners under 603 CMR 14. These requirements:
 - i. Provide academic support and English language instruction for all LEP students;
 - ii. Implement, coordinate and maintain systems for student identification, assessment, support and student data reporting; and
 - iii. Provide training in sheltered English immersion practices to teachers with LEP students in their classrooms.
- b. Recently, Massachusetts implemented the Rethinking Equity and Teaching for English Language Learners (RETELL) initiative. This initiative implemented Massachusetts Department of Elementary and Secondary Education regulations (603 CMR 14.07 and 603 CMR 7.15 (9)(b)), related to teacher and supervising administrators of English Language Learners. Both teachers and administrators are required to hold the Sheltered English Endorsement (SEI.) (These regulations were most recently amended June 26, 2018.)

(h) Section 504 and Americans with Disabilities Act (34 CFR s104.37)

- a. Meet the federal requirement to provide reasonable accommodations so that all people (students, faculty and community) can participate in activities in our schools, regardless of disability. These accommodations can include building modifications, specialized equipment, instructional or testing changes, or care from a nurse or other staff member.

(i) McKinney Vento Homeless Education Act (as amended by the *Every Student Succeeds Act (ESSA) of 2015*)

- a. This law allows homeless students to continue their education in their schools of origin (the school in which they were enrolled at the time of homelessness) for the remainder of the academic year in which they become permanently housed. Districts must provide transportation to students for the duration of their homelessness and through June of the year they become permanently housed.

(j) Prevention of Physical Restraint

- a. Meet DESE regulations (603 CMR 46.00,) effective January 1, 2016, which require that physical restraint of students be used only in emergency situations of last resort, after other lawful and less intrusive alternatives have failed or been deemed inappropriate, and with extreme caution. This regulation also requires the development and implementation of a written policy, staff training, student data review and reporting.

(k) Bullying Prevention

- a. Meet Massachusetts requirements related to bullying prevention and intervention. (Chapter 86 of the Acts of 2014, which amended M.G.L. Ch. 71 s370, the ‘anti-bullying statute.’) This law requires each school district to develop and implement a

plan to address bullying prevention and intervention. The DESE has developed regulations under 603 CMR 49.00 addressing a principal's duties under the ten required elements of the prevention and intervention plan, namely notification to parents or guardians of the target and the aggressor of bullying or retaliation and the action taken to prevent further bullying, and notification to law enforcement that the aggressor's conduct may result in criminal charges.

(l) Student Discipline

- a. Meet Massachusetts requirements related to student discipline (603 CMR 53, effective July 1, 2014.) These regulations limit the use of long-term suspension as a consequence for student misconduct, promote the engagement of parents in the discussion of student misconduct, assure that expelled or suspended students have an opportunity to receive the services and make academic progress, and keep school safe and supportive for students while ensuring fair and effective disciplinary practices.

(m) Educator Licensure & Evaluation

- a. Promote the growth and development of District administrators and teachers, using multiple measures of student learning.
- b. Meet state law (MGL Ch. 71 s.38G) and DESE regulations (603 CMR 35) related to educator evaluation.
- c. Meet Massachusetts Department of Elementary and Secondary Education regulations (603 CMR 44) related to educator license renewal.
- d. Meet Massachusetts Department of Elementary and Secondary Education regulations (603 CMR 7) related to educator licensure and preparation programs, approved on June 27, 2017, with recent amendments effective July 28, 2017.

(n) Criminal History Checks

- a. Meet DESE regulations (603 CMR 51) related to both national and state criminal history checks for school employees.

(o) Education Personnel Information Management System (EPIMS)

- a. Meet DESE requirements to collect individual educator data, from all public school districts and charter schools. The data collected is linked with the licensure data, which the Department currently maintains in ELAR, the Educator Licensure and Recruitment database. This information is used to comply with state and federal requirements, and to perform analysis on the state's educator workforce that, over time, will identify high need areas, evaluate current educational practices and programs, and assist districts with their recruiting efforts.
- b. The DESE has developed the Educational Personnel Information Management System (EPIMS), a state-wide database that collects demographic data and work assignment information on individual public school educators.

(p) Massachusetts Equal Pay Act (MEPA)

- a. Meet Massachusetts requirements related to preventing gender-based wage discrimination, as established by *An Act to Establish Pay Equity* (M.G.L. Ch. 177 of the Acts of 2016,) which became effective July 1, 2018. This law requires Massachusetts employers to ensure that all employees are paid a salary or wage that is no less than rates paid to employees of a different gender for comparable work.

(q) Educational Finance

- a. Meet Massachusetts regulations under 603 CMR 10, pertaining to school and school district financial record keeping and reporting of information used to determine compliance with state and federal education statutes and regulations. These regulations also provide for the computation of school spending requirements and annual state aid allocations, and evaluate progress toward meeting the objectives of the Education Reform Act of 1993 (St. 1993, C.71.)

(r) COVID-19 Pandemic/ Other Health Emergency

- b. Needham's response to the COVID-19 Pandemic, or other health emergency, will comply with guidelines issued by the Center for Disease Control (CDC), the Department of Public Health (DPH), the Needham Health Department and DESE.

School Committee Priorities

The School Committee budget should reflect certain priorities that address the needs of the Needham Public Schools. These priorities should provide direction to administrators and guide staff in developing budget recommendations. The priorities also should guide the School Committee in its deliberations and the budget planning process.

The budget should reflect equity, inclusion and anti-racist programming for students and staff that seek to close the achievement gaps and empower students to explore new educational opportunities, build an inclusive school culture, diversify our staff; and ensure that we develop and nurture anti-racist educational opportunities and programs for all students and staff.

The budget should also reflect the following priorities, in relative order.

- The District's mission, vision, goals and objectives;
- The need for highly qualified staff teaching within established student/teacher ratio guidelines;
- The ongoing refinement of curriculum, instruction, and assessment practices;
- The need to develop and maintain educational resources and a technology infrastructure that supports student learning and meets District goals; and
- The need to ensure that fee-based extracurricular programs reflect School Committee budget guidelines and that student fees are set to recover the cost of providing associated services, without restricting student participation or becoming unaffordable for families.

(a) The District's mission, vision, supporting assumptions, core values, goals and objectives are:

- a. Mission Statement: A school and community partnership that creates excited learners, inspires excellence, and fosters integrity.
- b. Vision Statement: Preparing *ALL* Needham Public School students to be creative thinkers and problem solvers, communicators and collaborators, socially and culturally responsive contributors, responsible and resilient individuals, and empowered learners.
- c. Goals and Objectives: Approved Portrait of a Needham Graduate FY20 Action Plan (Approved July 19, 2019)

- i. Priority I: All students are drivers of their own learning.
 - 1. Objectives:
 - a. Objective A: Incorporate opportunities for student choice, independent learning, and personalized pathways.
 - b. Objective B: Provide structures and experiences that enable student efficacy, leadership, and voice.
 - c. Objective C: Teach students the content and skills necessary for them to grow personally and academically.
 - ii. Priority II: All students experience integrative teaching and learning.
 - 1. Objectives:
 - a. Objective A: Extend interdisciplinary teaching and learning PreK-12.
 - b. Objective B: Embed Portrait competencies, Technology, Inclusive Practices, SEL, and Equity into all curricula and instructional practices.
 - c. Objective C: Provide opportunities for students to demonstrate knowledge and skills through multiple means of expression.
 - iii. Priority III: All students learn and grow within adaptable environments.
 - 1. Objectives:
 - a. Objective A: Support and design classroom models and environments that foster collaboration & innovation.
 - b. Objective B: Provide time, schedules, and spaces that promote learning objectives.
 - c. Objective C: Complement instruction with accessible learning beyond the classroom, within the community, and in partnership with families.
 - iv. Priority IV: Infrastructure supports the needs of all students.
 - 1. Objectives:
 - a. Objective A: Provide staffing, facilities, and budget resources aligned to district priorities.
 - b. Objective B: Implement recruitment, retention, and development process for staff growth and diversity.
 - c. Objective C: Establish a professional learning structure supporting equity and the Portrait vision.
- (b) The need for highly qualified staff teaching within established student/teacher ratio guidelines.
- a. Provide competitive wages for teachers and administrators by funding collective bargaining agreements and contractual obligations. The Units A and B contracts were recently settled for FY 2019/20 - 2021/22. Contracts for Units C, D and E were recently negotiated for FY 2020/21 - 2022/23.
 - b. Develop and retain “highly qualified” teaching staff through professional development and licensing; and maintain student/teacher ratios at within established guidelines:
 - i. Class sizes should be within the guidelines set forth in SC Policy #IHB. These

guidelines specify class sizes of 18-22 in Grades K-3, 20-24 in Grades 4-5, and 'reasonable class size' in Grades 6-12. These guidelines are recommendations, however, rather than absolute limits requiring strict, literal adherence.

- ii. Student/Teacher ratios should be set to optimize the instructional benefit to students, within the constraints of Policy #IHB, fiscal considerations and information from Needham's comparison communities.
- iii. For FY22, the following new personnel and classroom costs should be assumed:
 - iv. The FY22 base salary budget resets FTE's to the FY21 Annual Town-Meeting appropriation.
- (c) The ongoing refinement of curriculum, instruction, and assessment practices. High priority is given to the elements that insure the continuance, renewal, revision, delivery and management of curriculum and instruction. These include:
 - a. Professional development for teachers and administrators;
 - b. Regular curriculum review, revision and development;
 - c. Implementation of new programs to increase student achievement, growth and development;
 - d. Developing innovative instructional programs that support and extend learning beyond the classroom;
 - e. Purchase and replacement of paper and/or electronic textbooks, consumable material and curriculum-related resources, management and assessment tools, supplies and materials
- (d) The need to develop and maintain educational resources and a technology infrastructure that supports student learning and meets District goals:
 - a. Educational Supplies
 - i. Provide for the acquisition and replacement of instructional and administrative technology, software, online services, supplies and other equipment;
 - ii. Provide for student and classroom supplies;
 - iii. Provide a 1:1 technology environment for students, K-12.
 - iv. Provide for office administrative and teacher supplies; and
 - v. Provide for maintenance, licensing, online services and contractual agreements.
 - b. Equipment/ Capital Outlay
 - i. Provide for the regular replacement of copiers, and other instructional equipment, optimally within the capital budget;

- ii. Provide for administrative, financial and personnel systems, computers, interactive whiteboards, projectors and other administrative and instructional equipment consistent with the Technology Plan and efficient school operations;
 - iii. Provide school buildings and physical and technology infrastructure that adequately support the educational program and promote student safety; and
 - iv. Plan proactively for future technology needs and the evolving impact of technology on the school budget.
- c. Administrative Support Staff
 - i. Provide a sufficient number of trained and competent instructional and technical support staff to support the work of teachers and administrators throughout the District.
- (e) The need to ensure that fee-based extracurricular programs reflect School Committee budget guidelines and that student fees are set to recover the cost of providing associated services, without restricting student participation or becoming unaffordable for families.
 - a. Set student fees to recover the cost of providing associated services, unless the fiscal impact on families is determined to be excessively burdensome or has the potential to limit student participation. If the latter, the School Committee may subsidize the program budget from other operational resources.
 - b. Develop and approve annual operating budgets for fee-based programs, according to the same general guidelines as used to develop the regular School Operating budget.
 - c. Authorize student fees and fee-based program budgets annually by vote of the School Committee.
- (f) The District will be guided by the following priorities and values as it responds to the ongoing COVID-19 Pandemic:
 - a. Maintaining the health, safety and wellbeing of all students and staff, as a first priority.
 - b. Developing and nurturing caring relationships.
 - c. Ensuring equitable access to education for all students.
 - d. Recognizing that flexibility and the opportunity to learn and adapt are essential; we are committed to making adjustments or improvements where needed.
 - e. Supporting all students and staff with their personal health and family concerns and needs.
 - f. Providing students and staff with the tools and resources to work together and in a way that supports student growth, understanding and achievement,

School Committee Budget Document Contents

The School Committee's recommended budget document should include the following information and features (School Committee Policy #DB):

- (a) A budget message describing the important features of the budget and major changes from the preceding fiscal year.
- (b) Summary revenue and expenditure information, including: prior year actual, current year budget

and next fiscal year requests. This information should be provided by:

- (a) Program level (District, Elementary, Middle, and High);
- (b) Major category (salary, purchase of services, expenses, capital outlay, revenue type);
- (c) Functional area/department (Administration, Transportation, Other General Services, K-12 Regular Instruction, Guidance & Psychology, K-12 Sp.Ed. Services, SPED Tuitions, Technology & Media, Physical Education & Health, Fine & Performing Arts, World Languages)
- (d) Line item.
- (c) Budget assumptions and fiscal strategies used to develop the budget.
- (d) The budget calendar.
- (e) Multi-year FTE summary for all staff categories (administrators, teachers, instructional support and non-instructional staff.)
- (f) Charts and tables to show where each budget line item appears on the system-wide reports.
- (g) Highlights of revolving fund budget requests and operating budget impacts.
- (h) Highlights of grant budget requests and program operating budget impacts.
- (i) Highlights of capital budget requests and operating budget impacts.
- (j) Relationship of priorities to district-wide goals and objectives.
- (k) Five-year financial forecast.



Needham School Committee

September 15, 2020

Agenda Item: **School Committee Comments**

Background Information:

- Members of the School Committee will have an opportunity to report on events, information, and matters of interest not on the agenda.

Members of the School Committee available for comment:

Andrea Longo Carter, Chair

Connie Barr, Vice-Chair

Heidi Black

Michael Greis

Susan Neckes

Aaron Pressman

Matthew Spengler

Aidan Michelow, Student Representative member of School Committee