

PROGRAMMING, OPTIONS AND OPINION OF POTENTIAL COSTS AND REIMBURSEMENT

Existing Conditions

The Ashby Elementary school is a 52,800 SF building built in (3) phases between 1951 and 1989. In 2020 the North Middlesex Regional School District hired Habeeb & Associates to perform a facility assessment and develop a scope of work to repair the building. This scope would be somewhat similar to the MSBA's capital project Base Repair scheme. A Base repair scheme done during a Feasibility Study evaluates a building through the lens of code and safety upgrades only, the cost developed is to bring the subject building up to current code and replace all aging systems in order to ensure the renovated / repaired building can last another 50 years into the future. It does not address any programmatic changes or needs that the facility may have and does not address any educational objectives that the district may have.

Currently the building consists of three primary areas:

- The Original front portion includes the more public spaces, Gymnatorium, Media Center, specials, Offices and mechanical and café on a lower level.
- The west side addition which is primarily classrooms and is un-used.
- The classroom addition at the north.



We have reviewed the 2020 document and it provides a cursory review of the deficiencies found within the current facility, however, study also does not identify all of the needs that are present such as:

- Lack of a full fire suppression system which is required by code and would likely be required by the local fire department based on the scope of the renovations proposed and the value of the projects being put forth.
- AAB/ADA compliance trigger – the AAB requires that if any project amounts to more than 30% of the assessed value of the facility then full compliance is required – in this case 30% of the \$2,115,500 is \$634,650 – this means that any project undertaken or any series of projects undertaken within a 3-year span exceed \$634,650 in cost then full compliance is required.
- Phasing costs – although the building and student population are small it is very likely there would be some student relocation and program disruption required during any construction project.
- The roofing system is approaching the end of its warranty, as such consideration should be made to reroofing the building to “re-start” the warranty and protect the new investments made in the building.
- Partial system upgrades, the report identifies the need for new BMS controls, security systems, data and electrical infrastructure but only for the 1950’s portion of the building, the remainder of the building is currently 33 years old and the standards for security, BMS and data have changed as well as the needs for additional electrical infrastructure to support a fully digital educational environment.

The costs presented in the Habeeb report are relatively optimistic based on the current market for Mechanical and Electrical work and we have adjusted these to be more in line with our experience. Finally, a study like this accounts for the work to be done but in some cases that work cannot be done in a manner that will be consistent with expectations for the final product, as an example:

- Item 3.14 calls for replacement of a single cabinet at classroom sinks to make the overall casework accessible. It is our experience that attempting to remove a single cabinet from a 33 year-old cabinet run and replace it and rework the countertop / sink does not leave the final product in the classrooms as expected or desired.
- Item 3.23 calls for the addition of a chair lift at the gym, the cost presented only allows for the lift itself, there is re-work required to insert the lift into the space without interfering with the gym and stage programs.

These differentials require that the pricing from the 2020 report to be adjusted to today’s market as well as some measure of scope adjustments to account for the work that will be truly required to perform an adequate base repair. The base repair is generally viewed as the cost basis for a project as it is representative of the minimum cost to “fix what is broken” and come up to code. In this case we would suggest a base repair cost around 7.7 million with a total project cost of around 9.9 million.

Preliminary Studies

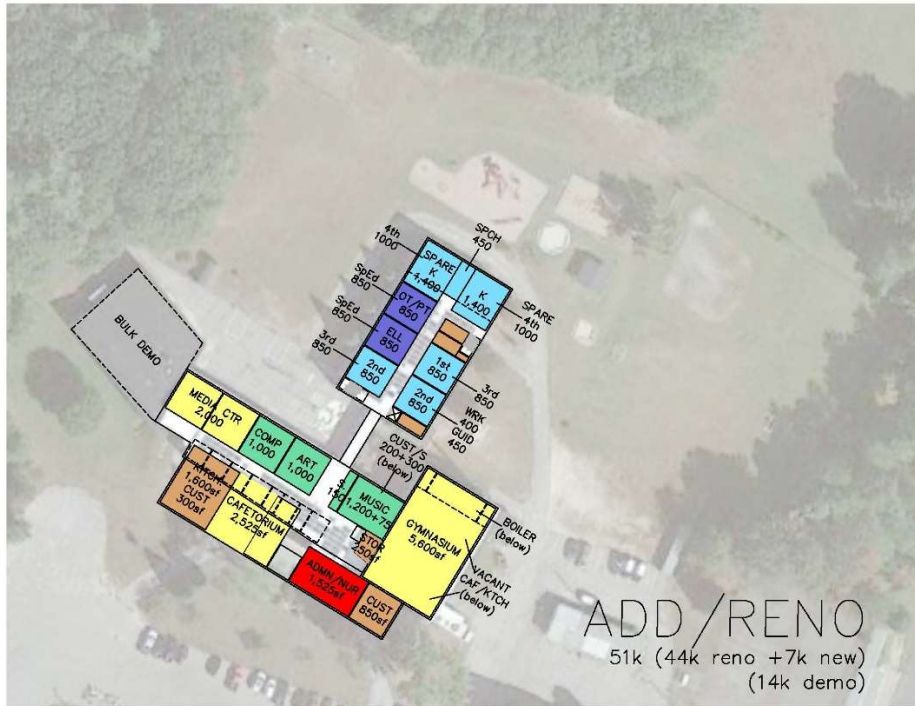
The cursory studies we’ve developed range from addition/renovation, to all-new construction and include a consolidated plan at the Spaulding ES site. The consolidated study is based on the possibility of the MSBA not participating or prioritize funding for such a small school on its own and likely requiring a consolidation study. We recommend contacting the MSBA to better understand their position and if there is a threshold for consideration. While we are not familiar with a specific

threshold, we recognize that their guidelines do not chart incremental program needs below 300 students for elementary schools and as an example calculates zero art and music rooms.

The three studies are based on very limited information and should be used only for comparative purposes, not for actual program, scope, costs or schedules. The program assumes approximately 150 students in grades K-4 with specialty spaces, such as Art, Music and Special Education carried forward from the existing plans. The program comparison (snapshot below and full spreadsheet attached), evolves from existing spaces/sizes in renovated areas to MSBA standards for additions and new construction.

Proposed Space Summary- Elementary Schools

Ashby 150 Stu. K-4				Existing Conditions			ADD/RENO			ALL NEW			ADD TO SPAULDING			MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)				
ROOM TYPE	ROOM NFA¹	# OF RMS	area totals	ROOM NFA¹	# OF RMS	area totals	ROOM NFA¹	# OF RMS	area totals	ROOM NFA¹	# OF RMS	area totals	ROOM NFA¹	# OF RMS	area totals	ROOM NFA¹	# OF RMS	area totals	Comments	
CORE ACADEMIC SPACES			9,200			9,850			9,500			9,500			9,500					
Pre-kindergarten w/ toilet																1,200	2	-	1,100 SF min - 1,300 SF max	
Kindergarten w/ toilet	1,400	2	2,800			2,200	2	2,400	1,200	2	2,400		1,200	2	2,400	1,200	2	2,400	1,100 SF min - 1,300 SF max, 2 stairs/min. req.	
General Classrooms - Grade 1-6	850	4	3,400			4,250	5	4,250	850	7	3,950		850	7	3,950	850	5	4,750	800 SF min - 1,000 SF max, 2 stairs/min. req.	
STE Room- Grade 3-6 (Computer)	1,000	2	2,000			1,000	2	2,000	1,000	1	1,000		1,000	1	1,000	1,080	1	1,080	1 per 450 stu. or 3-6	
STE Storage									150	1	150		150	1	150	120	1	120	1 per 450 stu. or 3-6	
SPECIAL EDUCATION			3,850			3,850			4,360			4,360			4,360					
Self-Contained SPED (2 + ELL)	850	3	2,550			850	3	2,550	850	3	2,550		850	3	2,550	850	1	850	800+300 SF equal to surrounding classrooms	
Self-Contained SPED - Toilet									60	1	60		60	1	60	60	1	60		
Resource Room (Speech & Therapy)	450	1	450			450	1	450	450	1	450		450	1	450	500	1	500	1/2 size Gen. Cmn.	
Small Group Room / Reading									450	1	450		450	1	450	500	1	500	1/2 size Gen. Cmn.	
OT/PT	850	1	850			850	1	850	850	1	850		850	1	850					
ART & MUSIC			1,850			2,425			2,425			2,425			2,425					
Art Classroom - 25 seats	850	1	850			1,000	1	1,000	1,000	1	1,000		1,000	1	1,000	1,000	0	-	assumed schedule 2 times / week / student	
Art Workroom w/ Storage & kiln						150	1	150	150	1	150		150	1	150	150	0	-	assumed schedule 2 times / week / student	
Music Classroom / Large Group - 25-50 seats	1,000	1	1,000			1,200	1	1,200	1,200	1	1,200		1,200	1	1,200	1,200	0	-	assumed schedule 2 times / week / student	
Music Practice / Ensemble						75	1	75	75	1	75		75	1	75	75	1	75		
HEALTH & PHYSICAL EDUCATION			4,800			5,600			6,000			6,000			6,000					
Gymnasium	4,800	1	4,800			5,600	1	5,600	6,000	1	6,000				6,000	1	6,000	6,000 SF Min. Size		
Gym Storeroom															150	1	150			
Health Instructor's Office w/ Shower & Toilet															150	1	150			
MEDIA CENTER			2,000			2,000			2,000			2,000			2,000					
Media Center / Reading Room	2,000	1	2,000			2,000	1	2,000	2,000	1	2,000				2,000	1	2,000			
DINING & FOOD SERVICE			4,750			4,125			4,125			4,125			4,125					
Cafeteria / Dining	2,500	1	2,500			1,125	1	1,125	1,125	1	1,125				1,125	1	1,125	2 settings - 150F per seat		
Stage	650	1	650			1,000	1	1,000	1,000	1	1,000				1,000	1	1,000			
Chair / Table / Equipment Storage						200	1	200	200	1	200				200	1	200			
Kitchen	1,600	1	1,600			1,600	1	1,600	1,600	1	1,600				1,600	1	1,600	1600 SF for 300 + 1 SF/Student Assn		
Staff Lunch Room						200	1	200	200	1	200				200	1	200	all SF equipment		
MEDICAL			455			410			410			410			410					
ADMINISTRATION & GUIDANCE			2,105			2,015			2,015			2,015			2,015					
CUSTODIAL & MAINTENANCE			1,750			1,900			1,900			1,900			1,900					
OTHER			0			0			0			0			0					
TOTALS			30,760			31,975			32,735			32,735			32,735					
NON-PROGRAMMED SPACES			54			50			50			50			50					
TOTALS			30,814			32,025			33,285			33,285			33,285					
TOTALS			30,760			31,975			32,735			32,735			32,735					
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The plans includes 1 extra classroom for sake of flexibility and to handle year to year class size fluctuations given the small enrollment that results in an unfortunate average of 30 students/grade (likely ranging from 20-40 and requiring 1 or 2 classrooms in any given year). Reuse of the existing spaces leaves some slightly under or over square foot guidelines, but right-sizes where possible.

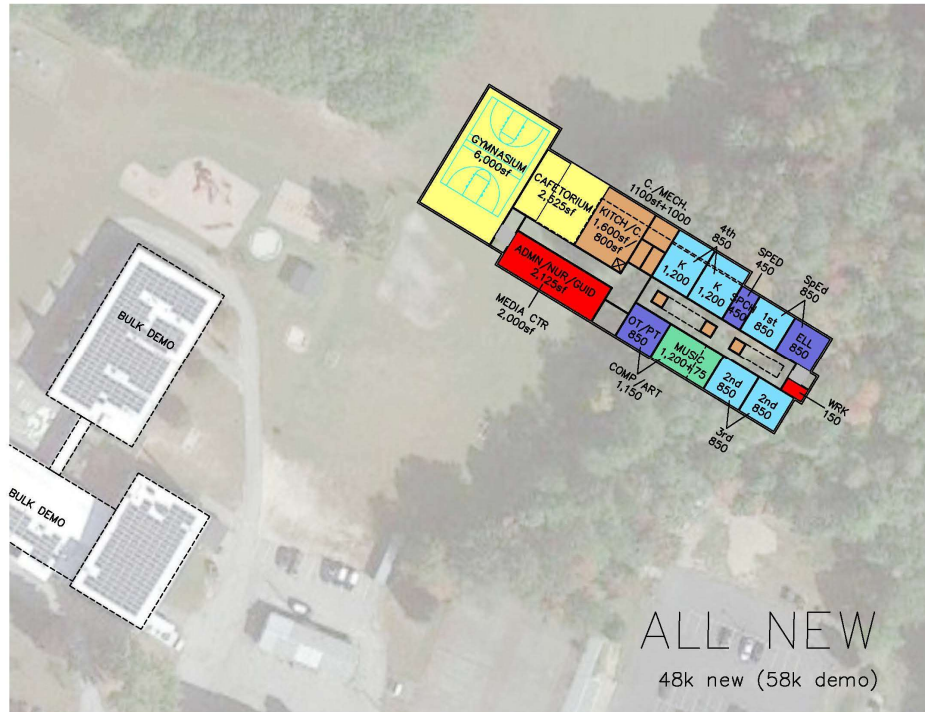
The new construction would require temporary relocation of the administration and nurses suites, but would be significantly separated from the majority of academics, helping to minimize disruption to the existing schools. Interior renovations would need to be phased and requires further study.

It should be noted that with the other two elementary schools in the range of 450 to 600 students, this school suffers inequities and the benefits of 3-4 classroom teams, full-time resources and specialists and likely enrichment options that a larger school can provide. Some examples include multiple art rooms that can be specialized for 2D or 3D work, access to specialists and support services and larger gym, cafeteria and media center spaces for gathering, performance or assembly.

2. **N1MS – an all new option on the Main Street site.** This study builds an all new school on site and away from the existing building to minimize educational disruption while under construction. The location for the new school is flexible, but intended to stay clear from the wetlands, well protection easement and sewage lines.

The simple two-story linear plan has a center entry with K-2 classrooms to the east on the ground floor, grades 3-4 above, and major activity/community spaces (gym/caf and media center above)

to the west. All spaces are brought up to guidelines and it includes Art, Music and Special Needs rooms are provided per current plans, despite the MSBA default calculations.



This plan at 150 students carries the same concerns for program equity as the Add/Reno.

3. **AR1SP – Add/Reno of the Spaulding Street School.** This plan provides a comparative study of consolidating the Ashby needs at the Spaulding Elementary School in Townsend. The size, shape and location of an addition would require further study, but for conceptual purposes, is shown as a 2-story academic wing for 150 students with supplemental Art, Music, Tech. & Administration space. The existing 79,000 Spaulding ES would be included as renovated scope, anticipating that the original 1930 building and prior additions/renovations (most recent in 1994) would need to be addressed and brought up to current code requirements and standards.

Without a full assessment of the existing Spaulding School, this plan is based on some assumptions. One assumption is that decreased enrollments across the District creates some capacity and the Spaulding School’s major spaces (gym, cafeteria & media center), can accommodate another 150 students.

- For the option at Spaulding school we have left the Main Street building as it is today as demolition or any work there will not be reimbursable and it will likely be returned to the Town if it is decommissioned as a school.
- For the renovations we have not adjusted the building envelope other than the roof and we assume that other systems that are functional would remain in place.

As for the MSBA’s potential involvement and reimbursement of any of these options, it is difficult to say for any of the options on Main Street due to the size and enrollment of the school the MSBA may choose to not participate in any options that utilize that site.

For this exercise we have made the following assumptions:

- MSBA will not participate in any version of the project put forth by the District that has a student population below the MSBA threshold.
- The grant will be based on 57% reimbursement with possibly 2 points for Green schools plus up to 7 points for area of renovation.
- The Spaulding School would be fully renovated as part of any project.
- The MSBA cost per square foot cap will remain at \$333 and the site cap will remain at 8%.

	AR1MS	N1MS	AR1SP
Eligible Cost	\$17,437,233.65	\$19,244,015.91	\$34,747,250.21
Grant	\$0.00	\$0.00	\$21,890,767.63
On District	\$21,389,815.60	\$29,552,604.23	\$13,970,782.75

MSBA’s grant process relies on eligible and ineligible costs to develop the grant, the cost per square foot cap is generally the largest deduction as MSBA’s average construction costs for new construction far exceed the cap. This is followed by the site cap which is generally exceeded by most projects. In this case two of the options may not exceed the site cap and due to the extensive amount of renovation in each the PSF cap has limited effect on the project.

AR1MS – this option benefits from substantial renovation which keeps the overall blended PSF cost lower, however, it does not have the student population required by MSBA, and unless a special disposition is made the MSBA will not participate in funding this option.

N1MS – the all new option is most effected by exceeding both the site cap and the PSF cost cap, it is also a small project which generally carries a premium. It also does not have the student population required by MSBA, and unless a special disposition is made the MSBA will not participate in funding this option.

AR1SP – This option also benefits from the substantial renovation and limited site work which pushes the PSF cost cap down.

This exercise indicates that at this size building the add/reno schemes are the most economic for the District to pursue. However, these options come with a caveat that they will all be using similar levels of fuel, water and electricity as they are currently as the add/renos do not fully resolve operational

costs as they relate to the building's envelope. It is also important to note that we have not done a full study on the options and can only present this data based on the limited information we have and our experience, ultimately the costs could be lower or higher and the grant amounts could swing considerably.

Proposed Space Summary- Elementary Schools

Ashby 150 Stu. K-4

ROOMTYPE	Existing Conditions			ADD TO SPAULDING			ALL NEW			ADDDRENO			MSEA Guidelines (refer to MSEA Educational Program & Space Standard Guidelines)			
	ROOM NFA ¹	# OF RMS	area totals	ROOM NFA ¹	# OF RMS	area totals	ROOM NFA ¹	# OF RMS	area totals	ROOM NFA ¹	# OF RMS	area totals	ROOM NFA ¹	# OF RMS	area totals	Comments
SORE ACADEMIC SPACES			9,200			9,600			9,600			9,600			9	
Pre-Kindergarten w/ toilet	1,400	2	2,800	1,200	2	2,400	1,200	2	2,400	1,200	2	2,400	1,200	2	2,400	1,100 SF min.-1,200 SF max.
Kindergarten w/ toilet	850	4	3,400	850	5	4,250	850	7	5,950	850	7	5,950	850	7	5,950	1,100 SF min.-1,200 SF max. 2 sinks/min. req
General Classrooms - Grade 1-6	1,000	2	2,000	1,000	2	2,000	1,000	2	2,000	1,000	2	2,000	1,000	2	2,000	800 SF min.-1,000 SF max. 2 sinks min. req
Site Room- Grade 3-6 (Computer)	1,000	1	1,000	1,000	1	1,000	1,000	1	1,000	1,000	1	1,000	1,000	1	1,000	1,000 SF min.-1,200 SF max. 2 sinks min. req
Site Storage			-			-			-			-			-	1 DEF. 350.30U. OF. 3-6
			-			-			-			-			-	1 DEF. 350.30U. OF. 3-6
SPECIAL EDUCATION			3,850			3,850			3,850			3,850			2,010	
Self-contained SPED (2 + ELL)	850	3	2,550	850	3	2,550	850	3	2,550	850	3	2,550	850	3	2,550	300-1,200 SF equal to surrounding classrooms
Self-contained SPED - Toilet			-			-			-			-			-	60
Resource Room (Speech & Therapy)	450	1	450	450	1	450	450	1	450	450	1	450	450	1	450	500 1/2 size cert. Chm.
Small Group Room / Reading	850	1	850	850	1	850	850	1	850	850	1	850	850	1	850	500 1/2 size cert. Chm.
OT/PT			-			-			-			-			-	
ART & MUSIC			1,850			2,425			2,425			2,425			75	
Art Classroom - 25 seats	850	1	850	1,000	1	1,000	1,000	1	1,000	1,000	1	1,000	1,000	0	-	assumed schedule 2 lines / week / student
Art Classroom w/ Storage & kiln			-	150	1	150	150	1	150	150	1	150	150	0	-	
Music Classroom / Large Group - 25-50 seats	1,000	1	1,000	1,200	1	1,200	1,200	1	1,200	1,200	1	1,200	1,200	0	-	assumed schedule 2 lines / week / student
Music Practice / Ensemble			-	75	1	75	75	1	75	75	1	75	75	1	75	
HEALTH & PHYSICAL EDUCATION			4,800			5,600			5,600			5,600			6,000	
Gymnasium	4,800	1	4,800	5,600	1	5,600	5,600	1	5,600	5,600	1	5,600	5,600	1	5,600	8,000 SF Min. Size
Gym Storeroom			-			-			-			-			-	
Health Instructor's Office w/ Shower & Toilet			-			-			-			-			-	
MEDIA CENTER			2,000			2,000			2,000			2,000			2,020	
Media Center / Reading Room	2,000	1	2,000	2,000	1	2,000	2,000	1	2,000	2,000	1	2,000	2,000	1	2,020	
DINING & FOOD SERVICE			4,750			4,125			4,125			4,125			4,125	
Cafeteria / Dining	2,500	1	2,500	1,125	1	1,125	1,125	1	1,125	1,125	1	1,125	1,125	1	1,125	2 seatings - 15SR per seat
Stage	650	1	650	1,000	1	1,000	1,000	1	1,000	1,000	1	1,000	1,000	1	1,000	
Chair / Table / Equipment Storage			-	200	1	200	200	1	200	200	1	200	200	1	200	
Kitchen	1,600	1	1,600	1,600	1	1,600	1,600	1	1,600	1,600	1	1,600	1,600	1	1,600	1600 SF for first 300 + 1 SF/Student Adm
Staff Lunch Room			-	200	1	200	200	1	200	200	1	200	200	1	200	20 SF/Student
MEDICAL			455			410			410			410			410	
			-			-			-			-			-	
ADMINISTRATION & GUIDANCE			2,105			2,015			2,015			2,015			2,015	
			-			-			-			-			-	
CUSTODIAL & MAINTENANCE			1,750			1,900			1,900			1,900			1,900	
			-			-			-			-			-	
OTHER			0			0			0			0			0	
			-			-			-			-			-	
Total Building Net Floor Area (NFA)			30,760			32,735			32,735			32,735			27,205	
Proposed Student Capacity / Enrollment			139			150			150			150			160	Enter grade enrollments below
			85			90			90			90			90	Lower Elementary, Grades K-2
			54			60			60			60			60	Upper Elementary, Grades 3-6
NON-PROGRAMMED SPACES			19,025			15,265			15,265			15,265			8,115	
Total Building Gross Floor Area (GFA) ²			50,000			48,000			48,000			48,000			40,885	
(includes 14k gsf abandoned wing)																
Crossing factor (GFANFA)			1.89			1.47			1.47			1.47			1.59	

¹ Ashby's enrollment is based on DESE data for the 2021/22 school year. Spaulding (Townsend) = 466 students in a 79k gsf 1930-94 Bldg and Yarnum (Pepperell) was 561 in a 128k gsf 1977-96 Bldg.