

District: Northeast Metropolitan Regional Vocational School District
 School Name: Northeast Metropolitan Regional Vocational High School
 Recommended Category: Preferred Schematic
 Date: February 3, 2021

Recommendation

That the Executive Director be authorized to approve the Northeast Metropolitan Regional Vocational School District (the “District”), as part of its Invitation to Feasibility Study, to proceed into Schematic Design to replace the existing Northeast Metropolitan Regional Vocational High School with a new facility on the site of the existing school. MSBA staff has reviewed the Feasibility Study and accepts the District’s Preferred Schematic.

District Information	
District Name	Northeast Metropolitan Regional Vocational School District
Elementary School(s)	N/A
Middle School(s)	N/A
High School(s)	Northeast Metropolitan Regional Vocational High School
Priority School Name	Northeast Metropolitan Regional Vocational High School
Type of School	High School
Grades Served	9-12
Year Opened	1970
Existing Square Footage	240,138
Additions	1975, Storage Garage
Acreage of Site	42.73 acres
Building Issues	<p>The District identified deficiencies in the following areas:</p> <ul style="list-style-type: none"> – Structural integrity – Mechanical systems – Electrical systems – Plumbing systems – Envelope – Windows – Roof – Accessibility <p>In addition to the physical plant issues, the District reported that the existing facility does not support the delivery of its educational program as well as existing and projected overcrowding.</p>
Original Design Capacity	900
2020-2021 Enrollment	1,281
Agreed Upon Enrollment	1,250 as Currently Configured (Grade Configuration 9-12) 1,722 with Proposed Expansion of Chapter 74 Programming (Grade Configuration 9-12) Between 1,250-1,722 with Expansion of Chapter 74 Programming (Grade Configuration 9-12) (Preferred Schematic)

District Information	
Enrollment Specifics	Contingent upon the Board’s approval of the Preferred Schematic, the District will sign a Design Enrollment Certification for 1,600 students in grades 9-12.
Total Project Budget – Debt Exclusion Anticipated	Yes

MSBA Board Votes	
Invitation to Eligibility Period	December 13, 2017
Invitation to Feasibility Study	April 10, 2019
Preferred Schematic Authorization	On February 11, 2021 Board agenda
Project Scope & Budget Authorization	District is targeting Board authorization on August 25, 2021
Feasibility Study Reimbursement Rate (Incentive points are not applicable)	63.34%

Consultants	
Owner’s Project Manager (the “OPM”)	PMA Consultants, LLC
Designer	Drummeay Rosane Anderson, Inc.

Discussion

The existing Northeast Metropolitan Regional Vocational High School is a three-story 240,138 square-foot facility located on a 43 acre parcel of land adjacent to the Breakheart Reservation in Wakefield, Massachusetts. The original school building was constructed in 1968 with an addition completed in 1975. The facility currently houses approximately 1,281 students in grades 9-12. The school currently offers 16 Chapter 74 career vocational programs. The Regional District includes the communities of Chelsea, Malden, Melrose, North Reading, Reading, Revere, Saugus, Stoneham, Wakefield, Winchester, Winthrop, and Woburn.

The District identified numerous deficiencies in the Statement of Interest including, structural, mechanical, electrical, plumbing, building envelope issues, windows, roof, and accessibility. The District has indicated that the building lacks adequate fire protection and currently has undersized classrooms and science labs. Additionally, the District reports that there are no small academic support spaces or extended learning spaces in the facility. The District has also noted that Special Education spaces are mainly concentrated in the south-west corner of the existing building.

As part of the Feasibility Study, the MSBA mutually agreed with the District to explore the following three enrollment options for students in grades 9-12: 1,250 (existing enrollment), 1,722 (proposed expansion of Chapter 74 programs), and a third option for a range in between 1,250-1,722. It should be noted that for the third option, the District studied enrollment options for 1,400, 1,600, and 1,660.

In conjunction with its consultants, the District performed a comprehensive assessment of the existing conditions and the educational program and received input from educators, administrators, and facilities personnel. Based on the findings of this effort, the District and its consultants initially studied and provided construction cost estimates for (37) preliminary options

that included (1) base repair, (1) renovation only option, (10) addition/renovation configurations of varying sizes, and (25) new construction options as listed below.

Option	Description of Preliminary Options
0	Base Repair /Code Upgrade (1,250 students)
A.1	Renovation only - Base Repairs and reconfiguration of the interior to accommodate the educational program and to address deficiencies (1,250 students)
B1.a	Addition/ Renovation - three-story addition in front of the existing school; (1,250 students)
B1.b	Addition/ Renovation - three-story addition in front of the existing school; (1,400 students)
B1.c	Addition/ Renovation - three-story addition in front of the existing school; (1,600 students)
B1.d	Addition/ Renovation - three-story addition in front of the existing school; (1,660 students)
B1.e	Addition/ Renovation - three-story addition in front of the existing school; (1,722 students)
B2.a	Addition/ Renovation - three-story addition in front of the existing school; (1,250 students)
B2.b	Addition/ Renovation - three-story addition in front of the existing school; (1,400 students)
B2.c	Addition/ Renovation - four-story addition (1,600 students)
B2.d	Addition/ Renovation - four-story addition (1,660 students)
B2.e	Addition/ Renovation - four-story addition (1,722 students)
C1.a	New Construction – five story building located on the north side of the existing school site; (1,250 students)
C1.b	New Construction – five story building located on the north side of the existing school site; (1,400 students)
C1.c	New Construction – five story building located on the north side of the existing school site; (1,600 students)
C1.d	New Construction – five story building located on the north side of the existing school site; (1,660 students)
C1.e	New Construction – five story building located on the north side of the existing school site; (1,722 students)
C2.a	New Construction – four story building located on the two flat portions of the site to the west of the existing school; (1,250 students)
C2.b	New Construction – four story building located on the two flat portions of the site to the west of the existing school; (1,400 students)
C2.c	New Construction – four story building located on the two flat portions of the site to the west of the existing school; (1,600 students)
C2.d	New Construction – four story building located on the two flat portions of the site to the west of the existing school; (1,660 students)
C2.e	New Construction – four story building located on the two flat portions of the site to the west of the existing school; (1,722 students)
C2A.a	New Construction – New construction on a portion of land adjacent to the existing site (1,250 students)

Option	Description of Preliminary Options
C2A.b	New Construction – New construction on a portion of land adjacent to the existing site (1,400 students)
C2A.c	New Construction – New construction on a portion of land adjacent to the existing site (1,600 students)
C2A.d	New Construction – New construction on a portion of land adjacent to the existing site (1,660 students)
C2A.e	New Construction – New construction on a portion of land adjacent to the existing site (1,722 students)
C3.a	New Construction – three story building located on the undeveloped hillside area south of the existing school; (1,250 students)
C3.b	New Construction – three story building located on the undeveloped hillside area south of the existing school; (1,400 students)
C3.c	New Construction – three story building located on the undeveloped hillside area south of the existing school; (1,600 students)
C3.d	New Construction – three story building located on the undeveloped hillside area south of the existing school; (1,660 students)
C3.e	New Construction – three story building located on the undeveloped hillside area south of the existing school; (1,722 students)
D1.a	New Construction – New construction at alternative site (1,250 students)
D1.b	New Construction – New construction at alternative site (1,400 students)
D1.c	New Construction – New construction at alternative site (1,600 students)
D1.d	New Construction – New construction at alternative site (1,660 students)
D1.e	New Construction – New construction at alternative site (1,722 students)

Although “Option A.1”, the renovation only option, would include significant reconfiguration of the interior to accommodate the educational program and to address deficiencies, this option was eliminated from further consideration because the District determined that the size of the existing building could not accommodate even the lowest enrollment option of 1,250 without an addition to the existing building.

“Options B1.a-e”, were eliminated from further consideration because the District determined that these options do not fulfill the District’s educational vision of separating academic classrooms from Career and Technical Education (“CTE”) shops and other CTE program spaces, and do not provide the desired configuration of the vocational programs into career clusters. All five options proposed construction phasing that would extend the project schedule, be disruptive to teaching and learning, and propose inadequate physical education and auditorium spaces. Additionally, the District determined that “Options B1.a and B1.b” could not accommodate the desired enrollment of 1,600 students.

Although the site selection for “Options C2A.a-e” provide a larger and more flexible parcel of land for development, these options were eliminated from further evaluation as a result of additional investigation discovering that the property has significant wetland restrictions that makes this site unfeasible for this type of building project. “Options D1.a-e” were also eliminated from further consideration because the District determined that these options would result in the undesirable purchase of land, and the District administration and School Committee did not endorse the relocation of the existing school.

Upon further review, MSBA staff and the District agreed to advance (21) options for further development and consideration in the final evaluation and development of preliminary design pricing as presented below.

Summary of Preliminary Design Pricing for Final Evaluation of Options

Option (Description)	Total Gross Square Feet	Square Feet of Renovated Space (cost*/sq. ft.)	Square Feet of New Construction (cost*/sq. ft.)	Site, Building Takedown, Haz Mat. Cost*	Estimated Total Construction ** (cost*/sq. ft.)	Estimated Total Project Costs
OPTION 0 Base Repair	240,000	240,000 sf \$321/sf	N/A	\$17,774,411	\$94,900,000 \$395/sf	\$115,000,000
OPTION B2.a 1,250 Enrollment Add/Reno	314,923	239,144 sf \$378/sf	75,779 sf \$700/sf	\$37,506,916	\$180,904,613 \$574/sf	\$244,351,332
OPTION C1.a 1,250 Enrollment New Construction	314,923	N/A	314,923 sf \$546/sf	\$35,073,172	\$206,980,685 \$657/sf	\$270,283,911
OPTION C2.a 1,250 Enrollment New Construction	314,923	N/A	314,923 sf \$531/sf	\$33,634,799	\$200,778,855 \$638/sf	\$262,395,184
OPTION C3.a 1,250 Enrollment New Construction	314,923	N/A	314,923 sf \$524/sf	\$43,702,941	\$208,829,188 \$663/sf	\$272,635,207
OPTION B2.b 1,400 Enrollment Add/Reno	343,349	239,144 sf \$410/sf	103,946 sf \$553/sf	\$40,684,726	\$196,231,933 \$572/sf	\$264,746,976
OPTION C1.b 1,400 Enrollment New Construction	343,349	N/A	343,349 sf \$535/sf	\$37,483,970	\$221,207,759 \$644/sf	\$288,666,949
OPTION C2.b 1,400 Enrollment New Construction	343,349	N/A	343,349 sf \$523/sf	\$36,130,612	\$215,677,312 \$628/sf	\$281,632,221
OPTION C3.b 1,400 Enrollment New Construction	343,349	N/A	343,349 sf \$514/sf	\$46,742,406	\$223,352,903 \$651/sf	\$291,395,573
OPTION B2.c 1,600 Enrollment Add/Reno	363,974	239,144 sf \$412/sf	143,509 sf \$495/sf	\$41,574,568	\$211,078,047 \$580/sf	\$284,606,678
OPTION C1.c 1,600 Enrollment New Construction	383,000	N/A	383,000 sf \$528/sf	\$41,272,522	\$243,503,186 \$636/sf	\$317,408,333
OPTION C2.c 1,600 Enrollment New	383,000	N/A	383,000 sf \$514/sf	\$39,627,178	\$236,628,140 \$618/sf	\$308,663,274

Option (Description)	Total Gross Square Feet	Square Feet of Renovated Space (cost*/sq. ft.)	Square Feet of New Construction (cost*/sq. ft.)	Site, Building Takedown, Haz Mat. Cost*	Estimated Total Construction ** (cost*/sq. ft.)	Estimated Total Project Costs
<i>OPTION C3.c *** 1,600 Enrollment New Construction</i>	<i>383,000</i>	<i>N/A</i>	<i>383,000 sf \$503/sf</i>	<i>\$50,958,346</i>	<i>\$243,514,418 \$636/sf</i>	<i>\$317,422,620</i>
OPTION B2.d 1,660 Enrollment Add/Reno	393,327	239,144 sf \$393/sf	154,183 sf \$532/sf	\$40,380,008	\$216,376,740 \$550/sf	\$291,673,043
OPTION C1.d 1,660 Enrollment New Construction	393,327	N/A	393,327 sf \$523/sf	\$41,952,329	\$247,577,311 \$629/sf	\$322,705,100
OPTION C2.d 1,660 Enrollment New Construction	393,327	N/A	393,327 sf \$512/sf	\$40,540,078	\$241,999,081 \$615/sf	\$315,609,591
OPTION C3.d 1,660 Enrollment New Construction	393,327	N/A	393,327 sf \$501/sf	\$52,112,885	\$249,015,085 \$633/sf	\$324,533,948
OPTION B2.e 1,722 Enrollment Add/Reno	403,554	239,144 sf \$406/sf	164,410 sf \$514/sf	\$41,664,522	\$223,259,827 \$553/sf	\$300,821,949
OPTION C1.e 1,722 Enrollment New Construction	403,554	N/A	403,554 sf \$520/sf	\$42,835,471	\$252,789,087 \$626/sf	\$329,452,775
OPTION C2.e 1,722 Enrollment New Construction	403,554	N/A	403,554 sf \$510/sf	\$41,454,363	\$247,456,794 \$613/sf	\$322,670,098
OPTION C3.e 1,722 Enrollment New Construction	403,554	N/A	403,554 sf \$498/sf	\$53,226,413	\$254,335,941 \$630/sf	\$331,420,373

* *Marked up construction costs*

** *Does not include construction contingency*

*** ***District's Preferred Schematic***

Through additional analysis and consideration, the School Building Committee and the School Committee decided that based on the District's consistent waiting list of applicants and projection of future growth, the lowest reasonable enrollment for the proposed project should be 1,400 students; approximately 10% greater than the current enrollment. Upon further consideration of the estimated construction costs and input from several of the key member communities, the District selected 1,600 students as the desired enrollment for the proposed project as this enrollment provides the optimal balance of expanding student opportunity and the funding capacity of member communities.

After carefully considering a full range of options, evaluating the advantages and disadvantages of each design option, and determination of an enrollment option, the District has selected "Option

C3.c”, a three-story new construction building as the Preferred Schematic to proceed into Schematic Design. The proposed three-story building is organized into desired career clusters with academic areas in close proximity as outlined in the District’s Educational Program. As part of the proposed project, the District is proposing to provide programmatic space to add three new Chapter 74 programs, Biotechnology, Marketing, and Medical Assisting, to its existing sixteen Chapter 74 programs. The District determined that a major advantage is the proposed location of the Preferred Schematic is because this location allows for more separation from the existing building and the least disruption to the existing athletic fields during construction.

The Preferred Schematic also proposes to organize the school into small learning communities with a variety of distributed supporting spaces. Proposed large public areas are clustered at the north end of the building and adjacent to the main entrance, separated from the academic areas to the south. The District has indicated the Preferred Schematic creates spaces and configurations that support desired project-based learning opportunities. Additionally, the Preferred Schematic proposes to improve adjacencies between vocational and academic areas to foster collaboration and proposes to improve visibility and access to public CTE shops including Culinary Arts, Cosmetology, and Early Education programs.

“Options C3.a and C3.b” did not provide for the desired expansion and were not selected. The estimated project cost for “Options C3.d”, and “C3.e” exceeded funding capacity of member communities and were eliminated from further consideration.

The base repair option, “Option 0”, was eliminated from further consideration because the District determined that this option does not address the desired educational program or space deficiencies associated with the existing building.

The District reported that “Options B2.a through B2.e” did not support the desired career clustering of program spaces that was achieved in the Preferred Schematic, included insufficient separation of car and bus traffic and continued less than ideal accessibility to the existing playfields and were eliminated from further consideration.

Although “Options C1.a through C1.e” propose to achieve the District’s educational program goals, and allow the existing school to remain in operation throughout construction of the new school, these options were eliminated from further consideration. The District determined that site constraints compromise the building configuration resulting in an inefficient layout, windowless spaces, increased site developments costs, and this option raised concern regarding the close proximity of construction to the existing school.

Finally, “Options C2.a-e” also achieve the District’s educational program goals and would allow the existing school to remain in operation throughout construction of the new school with minimal disruption. However, these options were eliminated from further consideration because of existing site constraints including the undesirable disruption of the current athletic fields anticipated during construction.

The District presented its Preferred Schematic to the MSBA Facilities Assessment Subcommittee (“FAS”) on January 13, 2021. At that meeting, FAS members discussed a number of items including, the location of the new school building in relation to the site and consideration for traffic; parking locations and green space; appreciation for the distribution of Special Education spaces; further refinement of the roadways on the site plan; appreciation of the Educational

Program; appreciation for the District's consideration of non-advanced placement elective alternatives; OSHA standards in the shop classrooms; consideration for further staff professional development; use of the gymnasium and its associated curriculum/schedule; consideration for site drainage; and the location of the Pre-kindergarten playground and its proximity to the auto shop storage yard.

MSBA staff reviewed the conclusions of the Feasibility Study and all other subsequent submittals with the District and found:

- 1) The options investigated were sufficiently comprehensive in scope, the approach undertaken in this study was appropriate, and the District's Preferred Schematic is reasonable and cost-effective and meets the needs identified by the District.
- 2) The District has submitted an operational budget for educational objectives and a capital budget statement for MSBA review.
- 3) The District's Special Education submission will be subject to final review and approval by the Department of Elementary and Secondary Education as part of the Schematic Design submittal, which is prior to executing a Project Scope and Budget Agreement.
- 4) Subject to Board approval, the MSBA will participate in a project that includes spaces that meet MSBA guidelines, except for variations previously agreed to by the MSBA. All proposed spaces will be reviewed during the Schematic Design phase.
- 5) As part of the Schematic Design phase, the District will work with the MSBA to determine a mutually agreeable methodology to differentiate eligible costs from ineligible costs.

Based on the review outlined above, staff recommends that the Northeast Metropolitan Regional Vocational School District be approved to proceed into Schematic Design to replace the existing Northeast Metropolitan Regional Vocational High School with a new facility on the site of the existing school.