

MEMORANDUM

TO: Board of Directors, Massachusetts School Building Authority
FROM: John K. McCarthy
DATE: May 30, 2012
RE: Recommendations for Invitation to Feasibility Study:
Science Lab Initiative

At the September 2011 MSBA Board of Directors meeting, MSBA staff proposed that the MSBA utilize the remaining allocation of Qualified School Construction Bond proceeds to establish a \$60 million Science Lab Initiative (“Initiative”). This Initiative gives districts the opportunity to repair, renovate, and/or construct science labs in otherwise sound high school facilities by focusing capital spending on such projects in accordance with MSBA policies, standards, guidelines, and prototypical designs. In addition, the Initiative provides the MSBA with an opportunity to partner with the Department of Elementary and Secondary Education to evaluate and address deficient science laboratory space at high schools throughout Massachusetts, aiding districts in meeting their curriculum needs.

In establishing guidelines for participation in the Initiative, MSBA staff determined that any district with a high school suitable for delivering a sound educational program but lacking modernized science lab space would be eligible to apply for the Initiative. In addition, within its sole discretion, the MSBA may allow the eligible scope of an approved Initiative project to include items or building systems that are unrelated to the repair, renovation, and/or construction of science labs in the same project, such as boilers, roofs, and windows.

Districts selected to participate in the Initiative will have to comply with the MSBA’s Science Lab Guidelines, which help establish flexible and modernized teaching and learning laboratory spaces. These Guidelines were established by the MSBA’s Science Lab Task Force, which included MSBA Board members and staff, Department of Elementary and Secondary Education staff, science educators, science and technology consultants, science lab safety consultants, architects, and construction management consultants. Together, the Initiative and the Guidelines further recognize the importance of educational spaces that are curriculum driven, accommodate all science disciplines through flexibility, and provide a safe learning environment for students.

To assist with the development of the qualifications and application and review process for the Initiative, MSBA formed a Science Lab Advisory Committee (“Committee”), composed of an MSBA Board member, representatives from the Department of Elementary and Secondary Education, and MSBA staff. On January 11, 2012, the

MSBA received 13 conforming Statements of Interest (“SOF”) for the Initiative as listed in Attachment A of this memo. MSBA staff first conducted an initial assessment of each SOI to determine the eligibility of the facility relative to the Initiative guidelines. This assessment included a review of the science lab certification requirements, a comparison of previously-filed SOIs for the same project, existing and preliminary projections for enrollment as compared to MSBA area guidelines for a comparable population, MSBA Needs Survey data, and statements in the SOI regarding the overall condition and maintenance of the facility. Staff also noted whether the district adhered to current standards for chemical and material storage and proper disposal of unnecessary hazardous stored chemicals. After this initial assessment, MSBA staff summarized the information for review by the full Committee. The Committee and MSBA staff then visited each school facility and conducted interviews with key personnel to further understand the district’s educational program and the challenges and limitations it faces in delivering the program due to facility deficiencies.

As this Initiative requires that all projects be substantially complete by September 30, 2013, it is critical that each district invited into the Initiative be able to obtain funding and immediately begin working with consultants to scope and estimate the proposed project. Therefore, concurrent with the site visits, MSBA staff issued two Requests for Services for owner’s project managers and architectural design firms. It is anticipated that MSBA staff will assign these firms to districts by a random selection process immediately following approval by the Board of Directors of the Invitations to Feasibility Study.

The Committee has visited each facility and has reviewed the submitted materials. The Committee is still in the process of examining issues related to overcrowding and building conditions that were identified in Newton, Revere, and Springfield. These issues will require substantial additional examination and discussion, and the MSBA anticipates concluding its review of these three districts for discussion at the Board’s July meeting. Based on its review, the Committee recommends that the Board approve the following 10 districts for an Invitation to Feasibility Study, subject to certain conditions:

District	School	DESE Current Enrollment
Blackstone Valley Regional School District	Blackstone Valley Regional Vocational Technical High School	1,147
Gardner	Gardner High School	636
Holyoke	William J. Dean Vocational Technical High School	573
Medford	Medford High School	1,227

Melrose	Melrose High School	1,026
Nashoba Regional School District	Nashoba Regional High School	1,016
North Attleborough	North Attleborough High School	1,209
Saugus	Saugus High School	709
Swansea	Joseph Case High School	587
Tri-County Regional School District	Tri-County Regional Vocational Technical High School	1,006

The Board's approval of the above 10 districts to receive an Invitation to Feasibility Study shall be subject to the following conditions:

- 1) As part of its schematic design submittal to the MSBA for project approval, each District shall submit a narrative describing its plan for staff professional development that will support opportunities for the development and implementation of more robust science course offerings and curricula and allow the District to take full advantage of its proposed science laboratories.
- 2) Improvement of chemical management and removal of excess stored items: Each District shall perform a thorough review and assessment of items stored within science department spaces to ensure that excess or outdated materials not being used in the current curricula and/or inappropriate for long-term storage are not unnecessarily cluttering the area and reducing the space available for program delivery.
- 3) Each District shall ensure that areas designated as chemical storage and preparation areas are being used for their intended purpose and not for offices, lunch areas, or other inappropriate uses.
- 4) Each District shall complete the implementation of all items included in the MSBA's Chemical Management Certification, which the MSBA provided to the District by letter dated February 23, 2012.
- 5) Each District shall comply with Massachusetts Stretch Energy Code requirements for any scope of work that includes roof, windows, and/or boiler replacement.
- 6) Each District shall comply with all applicable Massachusetts public bidding and procurement laws including, but not limited to, M.G.L. Chapter 149 and 149A, and shall be prepared to provide proof of compliance with all public bidding and procurement laws to the MSBA upon request.

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7) Each District shall comply with the MSBA Science Lab Guidelines except as may otherwise be authorized in writing by the MSBA.

MSBA staff and the Science Lab Advisory Committee are pleased to recommend these 10 districts for participation in the Science Lab Initiative, which will target funding toward the improvement of these facilities to support the delivery of science education for more than 9,000 students.

Attachment A - Recommendation for Invitation to Feasibility Study - Science Lab Initiative

District	Recommended for June 6 Invitation to SLI Feasibility Study	Current Enroll	Adjusted Enroll *	5-Year Enroll Trend (2007-2012)	Average Science Class Size	# of Sci. Classes Exceed 24 Students / Class	# of Students Requested Courses But Unable To Be Scheduled	District Graduation Requirement (MASSCORE Recommendation 3 Years of Lab Science)	# of Students Indicating Interest in STEM Related Careers	Comments (What Typical Students Take for Science)
Blackstone Valley Regional School District	Yes	1147	574	+153; 15% increase	No data available	17	0	4 year science requirement for every student	45% of 1147 students interested in pursuing STEM in college or career as indicated in a 2012 survey	15% of students go beyond the District's science graduation requirement
Gardner	Yes	636	636	-347; 33% decrease	16.9	0	0	3 years of science	Report 31 freshman, but no mention of other classes	8% of juniors and 81.5% of seniors go beyond the District's science graduation requirement
Holyoke	Yes	573 / 700	404	-112; 14% decrease	11.2	0	0	3 years of science	37.50%	10% of students go beyond the District's science graduation requirement
Medford	Yes	1227	1305	-110; 8% decrease	19.2	0	1	3 years of science	No data available	76% of students go beyond the District's science graduation requirement
Melrose	Yes	1026	1026	+88; 10% increase	21.8	5	No data available	3 credits in Science are required for graduation. Students must take Biology (or life science) and either Physics or Chemistry	70% of PSAT takers indicated a career goal in a STEM or allied health professional career	Over 56% of students go beyond the District's science graduation requirement
Nashoba Regional School District	Yes	1016	1016	+89; 10% increase	19.3	8	50	3 courses, natural science	28% of the Junior and Senior classes indicated interest in a STEM related career	94% of students go beyond the District's science graduation requirement
Newton	TBD	1691	1691	-39; 2% decrease	23.6	7	No data available	2 years of laboratory science	48% of the students who took the PSAT indicated interest in a STEM related career	90% of students go beyond the District's science graduation requirement
North Attleborough	Yes	1209	1209	-39; 3% decrease	19.4	1	No data available	3 years of science	Unclear from the information submitted by District	92.7% of students go beyond the District's science graduation requirement and take 4 years of science
Revere	TBD	1530	1530	-50; .3 % decrease	15.3	14	28	3 Carnegie Units of Lab Science including one year each of Biology, Chemistry and Physics.	25% of freshmen, sophomores, and juniors who took the PSAT identified interest in a STEM field	23% of students go beyond the District's science graduation requirement
Saugus	Yes	709	709	-119; 14% decrease	14.8	1	No data available	3 years science	28% of 181 students at end of 2011 school year identified interest in a STEM related career	62% of students go beyond the District's science graduation requirement
Springfield	TBD	2074	2074	+61; 3% increase	16	35	No data available	Complete 3 lab sciences, including an Introductory Physics Lab and a Biology Lab	37% of 274 SAT takers identified interest in a STEM related career	66% of students go beyond the District's science graduation requirement
Swansea	Yes	587	587	-16; 2% decrease	15.5	3	72	3 years of science	No data available	11.4% of juniors and 42.5% of seniors go beyond the District's science graduation requirement
Tri County Regional School District	Yes	1006	503	+67; 7% increase	17.9	1	0	4 years of science	16% of students in the class of 2012 indicated interest in a STEM related career	32% of the seniors go beyond the District's science graduation requirement

* Revised to reflect science dept enrollment as altered for voc techs, etc.

Exhibit D

Invitation to Science Lab Initiative Program

District	School	Age of Existing Building	Grade	2011/2012 Enrollment
Blackstone Valley Regional Vocational Technical School District	Blackstone Valley Regional Vocational Technical High School	1964	9-12	1,147
Gardner	Gardner High School	1976	9-12	636
Holyoke	William J. Dean Technical High School	1989	9-12	573
Medford	Medford High School	1971	9-12	1,227
Melrose	Melrose High School	1975	9-12	1,026
Nashoba Regional School District	Nashoba Regional High School	1961	9-12	1,016
North Attleborough	North Attleborough High School	1973	9-12	1,209
Saugus	Saugus High School	1953	9-12	709
Swansea	Joseph Case High School	1975	9-12	587
Tri-County Regional Vocational Technical School District	Tri-County Regional Vocational Technical High School	1977	9-12	1,006