

Massachusetts School Building Authority

School District Berkshire HillsDistrict Contact Donna Moyer TEL: (413) 274-6400Name of School Monument Mt Reg HighSubmission Date 11/12/2008

Note

The following Priorities have been included in the Statement of Interest:

1. Replacement or renovation of a building which is structurally unsound or otherwise in a condition seriously jeopardizing the health and safety of school children, where no alternative exists.
2. Elimination of existing severe overcrowding.
3. Prevention of the loss of accreditation.
4. Prevention of severe overcrowding expected to result from increased enrollments.
5. Replacement, renovation or modernization of the heating system in a schoolhouse to increase energy conservation and decrease energy related costs in the schoolhouse.
6. Short term enrollment growth.
7. Replacement of or addition to obsolete buildings in order to provide for a full range of programs consistent with state and approved local requirements.
8. Transition from court-ordered and approved racial balance school districts to walk-to, so-called, or other school districts.

Potential Project Scope: Major Project

Is this SOI the District Priority SOI? YES

The MSBA ID for the District Priority SOI: 2009 Monument Mt Reg High

District Goal for School: Please explain the educational goals of any potential project at this school

To understand the educational goals of this project, it is important to first understand the mission and objectives of the Berkshire Hills Regional School District. The mission is: "In cooperation with the community, the Berkshire Hills Regional School District will provide all students the highest quality education and challenge them to explore and maximize their potential, ensuring the acquisition of knowledge and skills necessary to lead fulfilling lives." One of the District's objectives is that 100% of students will successfully complete their individual achievement programs. Two of the strategies to ensure that this happens involve providing "a learning environment that is equitable and consistently excellent" and developing and implementing "a facilities plan that fully supports the District's mission and objectives." (To read more about this District's mission, objectives and strategies, go to <http://www.bhrsd.org/district/mission.pdf>.) Each of the schools within the District is working diligently to bring all curricula into compliance with the state curriculum frameworks. At Monument Mountain Regional High School, this is particularly challenging. Built in 1968, the building could be considered educationally obsolete. A 21st-century education requires an educational environment that is vastly different than what had been conceived in the mid-20th century. Technology and its requisite wiring and networking alone is an excellent example of the changes and challenges facing the high school. Much of today's education is enhanced by technology, such as data streaming when studying world geography. In many cases, this technology is required to bring the most up-to-date information into the classroom. Berkshire Hills participates in the Virtual

High School, in collaboration with the other members of the South Berkshire Educational Collaborative. This type of instruction provides the District with entirely new access to a variety of class options. The proposed project would include reconfiguration of the technology infrastructure to facilitate distribution of data. It would also include upgrades to science labs that no longer meet today's educational requirements. The physical education department was designed based on a sports concept, not a wellness concept. Therefore the project would include upgrades to the gymnasium, including wellness facilities. As the reader will see, the objectives of providing an educational experience that allows each student to achieve his or her greatest academic potential is hampered by the current high school. Within our goal is the understanding that all students, no matter what their abilities or challenges, will succeed to the best of his or her abilities. Unfortunately, the building is not configured to truly make this possible. There are only one minimally accessible bathroom in the school and the entire horticulture program is not handicapped accessible. The ability to meet state frameworks is also hampered. Additionally, the District works to provide a safe learning environment for all students. Unlike the new elementary and middle schools on the campus, the building is not equipped with a security system, nor does it have a fire-suppression system. You will also see that the examples provided here for inclusion within the project are only a small part of the necessary upgrades. The School Committee recognizes the need to provide a facility that reflects today's educational requirements to ensure that Berkshire Hills is able to meet its mission and objectives.

Is this part of a larger facilities plan? YES

If "YES", please provide the following:

Facilities Plan Date: 8/29/2009

Planning Firm: Roy S. Brown Architects

Please provide an overview of the plan including as much detail as necessary to describe the plan, its goals and how the school facility that is the subject of this SOI fits into that plan:

In the spring of 2007, Roy S. Brown Architects prepared a feasibility study for the high school building. This study included an evaluation of the building, architecturally and structurally, as well as an evaluation of the HVAC, plumbing and electrical systems. A Massachusetts state building code compliance analysis was requested as well as a list of prioritized recommendations in all of the above areas with corresponding budget estimates for corrections and renovations. In addition, there was a Facilities Improvement Plan for: the greenhouse; auto shop; telephone system; fire alarm system; science labs; and, library. The final component was to create an energy audit for the building and for an opinion regarding the process to follow for installing a sprinkler system. The entire study will be mailed for your reference.

Please provide the current student to teacher ratios at the school facility that is the subject of this SOI: 20 students per teacher.

Please provide the originally planned student to teacher ratios at the school facility that is the subject of this SOI: 20 students per teacher.

Is there overcrowding at the school facility? NO

If "YES", please describe in detail, including specific examples of the overcrowding.

General Description

SITE DESCRIPTION: Please provide a detailed description of the current site and any known existing conditions that would impact a potential project at the site (maximum of 5000 characters).:

With the construction of new elementary school and middle schools, the Berkshire Hills Regional School District consolidated a wide-spread school system into a self-contained campus on approximately 50 acres off Route 7 in Great Barrington, Massachusetts, in the southern Berkshires. Monument Mountain Regional High School sits on top of a hill overlooking the rest of the campus and is bordered by Route 7 on the west, Muddy Brook Regional Elementary School on the south and wood land on the north and east. Much of the property to the east is protected by the Trustees of the Reservation. Areas to the far north of the property are considered wetlands. None of the existing conditions of the surrounding property should impact the potential project due to the proposed project scope.

BUILDING ENCLOSURE: Please provide a detailed description of the building enclosure, types of construction materials used, and any known problems or existing conditions (maximum of 5000 characters).:

Building Enclosure: The building envelope is made of cinder block with a brick façade on a one-story structure. There are structural steel beams throughout the building.

- All of the exterior walls are 40 years old (building's first year was 1968).
- There have been no known repairs or replacements of the exterior walls.
- The current roof system was installed September 21, 1998 (date of substantial completion).
- All of the windows in the building are also 40 years old. They are single paned windows - most of which run the from ground level to the ceiling all along the first floor.

Age of EXTERIOR WALLS (In Years): 40

Year of Last Repair or Replacement: 1968

Description of Last Repair or Replacement:

No known repairs or replacements.

Age of ROOF(In Years): 10

Year of Last Repair or Replacement: 1998

Description of Last Repair or Replacement:

Roof system was completely replaced in 1998, with the removal of the old system and installation of a complete new roof.

Age of WINDOWS(In Years): 40

Year of Last Repair or Replacement: 1968

Description of Last Repair or Replacement:

Panes are replaced with similar single-pane glass as they are broken.

MECHANICAL and ELECTRICAL SYSTEMS: Please provide a detailed description of the current mechanical and electrical systems, and any known problems or existing conditions (maximum of 5000 characters).:

MMRHS has a hot water heating system serviced by two boilers. The boilers are HB Smith Mils 640, 20 sections. The burners are industrial combustion Model MMG 23S. The rating of each boiler/burner is 6,800,000 BTU/hr gross output. The burners are dual fuel, natural gas and number 2 fuel oil. The oil is stored in an underground single-walled 15,000 gallon storage tank. The oil piping within the boiler room has been replaced with copper piping and pressed fittings.

There is also a dedicated gas-fired hot water boiler, an H. B. Smith 28A. This boiler provides hot water to two 1,050 gallon indirect water heaters.

There are two zones (north and south halves of the building) served by three circulating pumps. One pump is designated as a stand-by for the two zones. The pumps are 10hp each and are furnished with high efficiency motors.

The building is heated by 9 multi-zone air handling units. The air handling units have been fitted with high efficiency motors, but are considered to be past their useful life. There are single- and multi-zone units. The multi-zone units have no control valves and the single zone units have 3-way control valves. Two of the single-zone units have had the bypass leg for the hot water piping disconnected. The pumping systems are essentially constant volume.

The controls system is pneumatic and has an energy management system that provides only for occupied and unoccupied settings.

Age of BOILERS(In Years): 40

Year of Last Repair or Replacement: 1968

Description of Last Repair or Replacement:

Repairs are made to gaskets, nipples, etc., as needed.

Age of HVAC SYSTEM (In Years): 40

Year of Last Repair or Replacement: 1968

Description of Last Repair or Replacement:

Although called an "HVAC" system, the system at the high school is not what would be considered a true heating ventilation and air conditioning system by today's standards. Air handling and air exchange is minimal with this system.

Age of ELECTRICAL SERVICES AND DISTRIBUTION SYSTEM(In Years): 40

Year of Last Repair or Replacement: 1968

Description of Last Repair or Replacement:

Annual maintenance as needed.

BUILDING INTERIOR: Please provide a detailed description of the current building interior including a description of the flooring systems, finishes, ceilings, lighting, etc. (maximum of 5000 characters).:

The entire building sits on a concrete slab. The flooring within the building includes VCT tile, carpet tiles, broad loom carpet, ceramic tile (locker rooms), hardwood flooring (gym and stage) and painted concrete (auto shop, carpentry shop, metals shop).

The interior walls are painted sheetrock.

The ceiling is an old 4-tab 9-inch interlocking ceiling tile system, which is being replaced with 2' x 2' drop in ceilings as needed. Approximately 20 percent of this work has been completed. Most of the lights are fluorescent; however, there are still some incandescent lights. A high majority of the fluorescent lights are T-8's. There are T-12 high output lights in our gym and in most of the shop rooms.

The lighting system is an "old-fashioned" one switch per room, with lights getting turned on in the morning and truned off in the evening, regardless of occupancy.

The horticulture program is housed in a farm-type wooden structure, with glass greenhouses in need of repair and weather-proofing.

PROGRAMS and OPERATIONS: Please provide a detailed description of the current programs offered and indicate whether there are program components that cannot be offered due to facility constraints, operational constraints, etc.:

Monument Mountain Regional High School offers a broad range of academic and vocational programming. The academic program includes five "levels" of programming: standard; intensive; honors; college placement; and, advanced placement. The core subject areas - English Language Arts, Social Studies, Science and math, as well as Foreign Language - offer these different levels. Electives range from Life & Death to Politics in Social Studies to Probability & Statistics in Math and Anatomy in Science. Band, music theory, photography, ceramics, drama, and sculpture are a few examples of classes offered in the Fine and Performing Arts programs. A+ programming and law are examples in the Business Education program. Within

the Vocational program, MMRHS has certified automotives and horticulture programs. Rounding out the vocational educational opportunities are Family & Consumer Sciences, early childhood education, nursing, woodworking, and metals, to name a few. Various science, physical education, horticultural, and automotive programs cannot be offered due to existing facility constraints.

CORE EDUCATIONAL SPACES: Please provide a detailed description of the Core Educational Spaces within the facility, a description the number and sizes (in square feet) of classrooms, a description of science rooms/labs including ages and most recent updates, and a description of the media center/library (maximum of 5000 characters).:

“A” wing - VocEd: one classroom, 750sf; auto -2,261sf; drafting -1,003sf; metals - 2,875sf; woodshop - 2,040sf; photography -1,224sf. “B” wing - ELA & Foreign Languages: 8 classrooms at 816sf ea., 2 @ 792sf, 1 @ 756sf; “F” wing - math & science - 3 classrooms at 1,224sf, 2 @ 1,632sf, 1 @ 816sf, 3 @ 768sf, one @ 731sf. Labs not handicap accessible. No updates to labs in 40 years. “H” wing - Business Technology & Social Studies: 2 classrooms at 1,224sf, 1 @ 888sf, 5 @ 816sf and 2 @ 719sf. Art: 1 classroom @ 1,470sf, 1 @ 1,200sf, 1 @ 1,050sf. Music - band room at 1,600sf, one classroom - 556sf, 2 practice rooms @ 112sf. Gym - 9,200sf; boys locker room - 1,064sf; girls locker room - 1,064sf; JV locker room - 793sf; varsity locker room - 793sf; storage - 400sf, "workout room" - 402sf. Auditorium - 10,800sf. Library/media center - 2,888sf. The “B”, “F” and “H” wing rooms are painted sheetrock walls with VCT tile floors. Ceilings are 4-tab 9-inch interlocking tile systems, with fluorescent lighting. Classrooms along the outside walls have windows for the exterior wall. The library/media center is in an interior space with no natural light. The original library was divided to make room for other necessary educational spaces. The lighting is fluorescent and the flooring is carpet tiles. Most of the wall space is solid wood paneling; some walls are painted sheetrock. Separate non-ADA compliant classroom and greenhouse for horticulture program 200 yards from main building.

CAPACITY and UTILIZATION: Please provide a detailed description of the current capacity and utilization of the school facility. If the school is overcrowded, please describe steps taken by the administration to address capacity issues. Please also describe in detail any spaces that have been converted from their intended use to be used as classroom space (maximum of 5000 characters).:

Based on pure square footage, the building in total is large enough to accomodate the number of students currently enrolled in the high school. The major true capacity issue presently is in the cafeteria. Beginning in the fall of 2008, the daily schedule was altered to provide for three lunch periods, so that all of the students could eat in the cafeteria at lunch time. Even with this change, the space is filled to capacity with little additional room. The aisles between the chairs at each table are barely large enough for students to get through. The density within the space would create an extremely hazardous situation during an emergency.

Due to the various levels of programming, all classrooms are used consistently throughout the day. Ex-tech classes need to be taught in the library, due to the lack of available "free" classroom space. Shop space has been used for additional art studio space, due to the classroom limitations within that department.

MAINTENANCE and CAPITAL REPAIR: Please provide a detailed description of the district’s current maintenance practices, its capital repair program, and the maintenance program in place at the facility that is the subject of this SOI. Please include specific examples of capital repair projects undertaken in the past, including if any override or debt exclusion votes were necessary (maximum of 5000 characters).:

The largest repair to the building was in 1998, with the replacement of the roof, which required a bond to fund the expense. Over the forty year life of the building, annual maintenance and repairs have been funded through the operating budget. There are annual service maintenance contracts for major systems and smaller repairs are done with in-house staff.

Capital repairs consist of: replacement of central area carpeting, in 2006; upgrade to the telephone system, summer of 2008; and, boiler gasket and sections replacement, also done in the summer of 2008. Six sets of exterior doors were replaced in September 2008. All of the projects mentioned were funded through the operating budget. Although the high school has been well-maintained annually, most of it is forty years old and is beginning to "show its age." For example, the building has many

energy inefficiencies that newer facilities do not face, resulting in higher operational costs. This last point is detailed in the Priority 5 discussion.

Priority 1

Please provide a detailed description of the perceived health and safety problems below. Attach copies of orders or citations from state and/or local building and/or health officials.

There are six primary areas of concern within the high school that present an imminent danger to our students and staff. First, the building was constructed without a fire suppression system. Even though the building is "grand-fathered" due to the age of construction, it is a serious safety issue and one that causes concern for the District, town building inspector and fire chief. It is self-evident why this is a concern.

Second is the condition of the science labs. Subsequent to the original construction, the labs were retro-fitted with eye wash stations and emergency pull showers that only have cold water running to them. The District is preparing to remedy this situation prior to the acceptance of this project by the MSBA, by doing work on these two systems over the 2008-2009 school year. There are also some areas that still do not have emergency stations within the lab rooms themselves. The gas shut-offs in the labs are old ball valves housed in access panels within the wall. The panel must be opened, a person then reaches into the wall to find the valve and then shuts it off. Again, this problem will be remedied within the current school year by relocating the shut-offs valves in an open and accessible location within the rooms. This does not rectify the need for completely upgraded science labs, which cannot support classroom instruction as well as experimentation. Moving back and forth between classrooms, particularly for science experiments creates a hazardous situation.

Third, there are three oil-filled transformers suspected to be contaminated with PCB's housed within the building in the transformer closet. There is also a single-walled underground oil tank proximate to the building.

Fourth, there are serious concerns with air quality and ventilation within the high school. The following information is quoted from an January, 2008 Air Quality study conducted by Massachusetts Department of Public Health (MDPH).

Ventilation – Carbon dioxide levels were elevated above 800 parts per million (ppm) in 35 of 68 areas surveyed, indicating poor air exchange in approximately half of the areas evaluated. It is important to note that several of the classrooms had open windows and/or were empty or sparsely occupied [at the time]. Typically, open windows and low occupancy can greatly reduce carbon dioxide levels. Carbon dioxide levels would be expected to be higher with full occupancy and with windows closed. (p. 3)

Carbon dioxide is not a problem in and of itself. It is used as an indicator of the adequacy of the fresh air ventilation. As carbon dioxide rises, it indicates that the ventilating system is malfunctioning or the design occupancy of the room is being exceeded. When this happens, a buildup of common indoor air pollutants can occur, leading to discomfort or health complaints. The Occupational Safety and Health Administration (OSHA) standard for carbon dioxide is 5,000 parts per million (ppm) parts of air. Workers may be exposed to this level for 40 hours/week, based on a time-weighted average (OSHA, 1997). The MDPH uses a guideline of 800 ppm for publicly occupied buildings. A guideline of 600ppm or less is preferred in schools due to the fact that the majority of occupants are young and considered to be a more sensitive population in the evaluation of health status. (p. 4)

The exhaust system used in the general classrooms was employed in the wood shop. In particular, a heavy amount of sawdust had accumulated at the base of the storage closet. The exhaust vent can draw the sawdust up into the exhaust system. A shared system exhausts the vocational wing of MMRHS; therefore, sawdust can be distributed into areas of the wing, posing a fire hazard. (p. 3)

As previously mentioned, the classrooms and shops of the vocational wings share an exhaust system. This exhaust configuration is prone to drawing a pollutant from one area and distributing it to another area as the wood shop serves as a potential example. In order to alleviate this situation, the general exhaust system should be disconnected from each shop. Therefore it is important that each local and specialized exhaust system in each shop must be in good standing and have the ability to operate continuously during school hours. (p. 5)

Additional Issues - Cutting and grinding machines in the meal shop did not have dedicated local exhaust ventilation to remove

metal fumes produced during operation. (p. 8)

The fifth area of primary concern involves the entire electrical system within the high school. As with most schools built in the 1960's, electrical needs were limited to, possibly, an overhead projector in a classroom and very little else. Therefore, most classrooms have one or two double outlets per classroom. The 21st-century classroom has much greater electrical needs for everything from computers and printers to LCD projectors, through Smart Boards. In many classrooms, to meet these needs, there are power strips plugged into power strips, an extremely hazardous situation.

The sixth area of concern is the lack of a modern security system. The current system is a basic motion-activated security system. Unfortunately times have changed from 1968 and a more comprehensive security system is necessary, both technologically and operationally. Basic issues such as a locked-door system, whereby either a daily locked procedure is followed or a system-wide lock-down is initiated at the touch of a button, need to be addressed at the school. The school is unable to provide differentiated access to areas of the building for public organizations to use classrooms or the gymnasium. The current configuration limits the ability of school administration to know when someone enters the building and where they go in the building. Finally, there are no security cameras anywhere on the high school property or in the building.

MMRHS doubles as the town's emergency shelter. In addition to the security issues mentioned above, an additional area of concern is an emergency generator that has been determined to be past its useful life.

Priority 1

Please describe the measures the School District has taken to mitigate the problem(s) described above.

The school district has taken several of the first steps in order to address the concerns surrounding the age, safety, inefficiencies and limitations in the current high school. First, a feasibility study was done to analyze current standings with respect to building and fire/safety code, architectural condition, HVAC, Plumbing, and Electrical systems and an energy study. Subsequent to that study's presentation, a 5-10 year maintenance plan was developed to try to address all of the study's findings. We are currently in year one of the plan, which focuses on building security and safety. For safety and security, an antiquated phone/intercom system was replaced with a new phone system over the summer of 2008. This new system provides for fully functioning phones in all classrooms. There are more than 46 exterior doors in the high school and some were in such poor condition they needed continuous maintenance in order to fully close and lock; six sets were replaced in the summer of 2008. We will be addressing the relative inaccessibility of the gas shut offs in the labs and hope to run a hot water line to the safety showers and eye wash stations in order to have tempered water in those safety mechanisms. Major safety renovations/installations needed include the installation of a security system, fire suppression system, magnetic door hold-opens tied into a new up-to-date fire alarm system.

As previously stated, there is a concern about the air quality at the high school. To that end, the old ventilation system, which was shut down during the energy crisis in the 1970's was re-activated in the 2007-2008 school year. While this now allows fresh air to be brought in, it does not resolve the ventilation issue and creates another heating challenge in the winter.

After the top safety and security priorities are addressed, we will turn our attention to more significant problem areas, including: replacement windows; replacement boilers; an energy controls system; replacement lighting; upgraded fresh air systems; and a new emergency generator. (The high school is also the town's emergency shelter site.) The list is a long one and the costs are very significant. A fiscally responsible approach is to tie as many projects together so that when walls and ceilings are open, more work can be done at one time, thereby limiting costs.

Priority 1

Please provide a detailed explanation of the impact of the problem described in this priority on your district's educational program. Please include specific examples of how the problem prevents the district from delivering the educational program it is required to deliver and how students and/or teachers are directly affected by the problem identified.

In addition to everything else cited in this statement, one of the larger areas of concern for the school building facility is that many areas are educationally obsolete. There is a lack of adequate space necessary for today's educational requirements. Each department has an area of the building that is used continuously throughout the day for that respective department's purpose. This fact prevents two different departments from sharing the same space. Within several of the departments, there is a lack of space to properly offer the curriculum designed to meet State requirements. One example is within the science labs. Science lab classes are being taught in rooms that are not labs. The current standard is to have classrooms that are set up for both lecture and labs. Right now schedules are juggled in order to take advantage of the labs; however, there just are not enough lab spaces. Also, the science department lacks a dedicated chemical storage room with proper ventilation. Currently, the chemicals are stored in a prep room which also contains one of the eye wash stations, so it cannot be locked while the class is in session. The biology program is built around a "hands-on" program, which requires some "greenhouse" windows/areas in order to fully execute the curriculum. None of the science labs are handicapped accessible.

Another area that is lacking space is the PE department. As PE is transitioning into a wellness-based program, we need smaller spaces and workout rooms, in addition to the larger gymnasium. Unfortunately, we currently have no space for either of these. Rather, there is only the gym itself to teach all of our PE classes in, which results in a curtailed program.

A third curriculum area that is restricted due to space limitations is the music program. The band room is used most of the day for large ensembles and band rehearsal. There are no other spaces for individual or smaller groups to practice or rehearse. The high school has most of the equipment necessary for a recording studio yet, no place to set it up. There are also no "traditional" classrooms to teach theory, music reading or any non-instrumental classes. There is no instrument storage facility in the building.

Because the library was carved up to make room for other needed space, there is limited space for study hall students to use the library during school hours. The problem is further exacerbated by the fact that, since there isn't a computer lab, computers were lined up against one wall to provide student access to computers for projects, as well as to house the computer instruction program. This configuration short-changed both the library and media center functions.

In the Family & Consumer Science room, the stoves and ranges are out-of-date and out of compliance with current safety requirements. There are no exhaust systems for this room, either. This room is always an area of concern for the administration, the town building inspector and fire chief.

With the increase in Special Education students in public schools, more space is needed for quiet tutorial sessions, as well as an area for autistic students to "cool down."

Throughout the building, improvements are necessary for interior lighting, air quality and access to electricity. These three areas were consistently cited as areas that desperately needed improvement throughout the building and within each department.

Please also provide the following:

Name of Firm that performed the Study/Report:

Roy S. Brown Architects

Date of Study/Report: 5/3/2008

Synopsis of Study/Report:

The study was very focused and developed recommendations for: greenhouse; windows; overhead doors; ceilings; white boards; library; science labs; dust collector; handicap toilets; other structural improvements; and, HVAC system. In other sections of this SOI there are additional areas that the School Committee needs and/or would like to address, such as the Physical Education department, cafeteria and kitchen, main office, security systems, technology infrastructure and fire suppression as well as a fire alarm system.

Synopsis:

Greenhouse-new classroom and flower arrangement building; new greenhouses and heating system.

Windows - replace with insulated windows.

Overhead doors - replace with newer, more energy efficient models.

Ceilings - complete conversions.

White Boards - replace chalk boards with new white boards.

Library - redesign current space. (Did not address space needs)

Science labs - the study merely recommended making the labs more accessible. It did not address current educational needs.

Handicap Access - bring building up to ADA compliance, including bathrooms.

Structural - includes modifications of roof drift areas.

HVAC system - replace out-dated system with new computer controlled system.

See report sent under separate cover.

The District recognizes that additional substantial upgrades and renovations are necessary to other systems and structural components of the high school, as mentioned in the first paragraph of the section.

Is the perceived Health and Safety problem related to asbestos?: YES

If "YES", please describe the location in the facility, if it is currently friable, and the mitigation efforts that the district has undertaken to date.:

Our high school does have asbestos in it, however, none is currently friable. We have had several abatements done over the years with a goal of removing all of the asbestos from the building. Currently we only have floor tile that is in good shape and pipe-wrap, again in good shape. We believe that the walls of our lab hoods are made of an asbestos containing material.

As was stated earlier we have three oil-filled transformers housed inside the building that we believe to contain PCBs.

Is the perceived Health and Safety problem related to an electrical condition?: NO

If "YES", please describe the electrical condition, any imminent threat, and the mitigation efforts that the district has undertaken to date.:

Is the perceived Health and Safety problem related to a structural condition?: NO

If "YES", please describe the structural condition, any imminent threat, and the mitigation efforts that the district has undertaken to date.:

Is the perceived Health and Safety problem related to the building envelope?: NO

If "YES", please describe the building envelope condition, any imminent threat, and the mitigation efforts that the district has undertaken to date.:

Is the perceived Health and Safety problem related to the roof?: NO

If "YES", please describe the roof condition, any imminent threat, and the mitigation efforts that the district has undertaken to date.:

Is the perceived Health and Safety problem related to accessibility?: YES

If "YES", please describe the areas that lack accessibility and the mitigation efforts that the district has undertaken to date. In addition, please submit to the MSBA copies of any federally-required ADA Self-Evaluation Plan and Transition Plan.:

The science labs are not handicapped accessible. The horticulture program is not handicapped accessible. There is only one partially handicapped-accessible bathroom in the entire high school. Doors do not have the necessary ADA hardware. Front walkways have been replaced to provide more accessibility to the building.

Priority 5

Please provide a detailed description of the energy conservation measures that are needed and include an estimation of resultant energy savings as compared to the historic consumption.

The high school has two 40-year old boilers that have been described as "past their useful life" by Robert W. Hall, Consulting Engineers. The air handling units were also described as "past their useful life," again by Robert W. Hall. The heating and HVAC systems alone result in exceptionally high energy consumption and costs. Due to the age of the systems, there is no way to retro-fit the systems. They should be completely replaced with modern, controlled systems. The current controls only allow for one daytime set-point and one evening setback.

As described in other areas of this SOI, the exterior walls in classroom and office areas are primary floor to ceiling single-pane windows. Significant energy is lost through these window walls. The solution to this problem is to replace all of the windows with smaller thermo pane windows, at a considerable expense since this would also require re-construction of exterior walls.

In addition to replacing doors for security purposes, they need to be replaced with more energy efficient models. This measure would apply to both the personal doors and the large overhead doors.

Specific recommendations from the Spring, 2008 study include:

Recommendations

1. Reconnect outdoor air ductwork to the air handling units. Current codes require that mechanical ventilation be provided for these areas. The ductwork should be reinstalled and the functionality of the controls verified. The function of the exhaust fans that correspond to the air handling units.
2. Replace the boilers. The boilers are original to the building and are nearing the end of the useful life. The boilers are currently operating at good combustion efficiencies. We believe this is due to under-firing of the units. Modern boilers would be more efficient than the present boilers.
3. Upgrade the control system of DDC control. DDC is an acronym for direct digital control. The recommendation is to replace the present pneumatic control with a computer based control system. The new control system will perform the following functions
 - a. Provide 2 way control valves on all the air handling units. Provide variable speed drives on the pumps. The pumps will be controlled by differential pressure in the building loops. This will result in pump energy savings.
 - b. Control the building pumps so that they are only operational above when heat is required by any of the air handling units during occupied periods and only when ambient is below 40 degrees during unoccupied periods.
 - c. Provide control of all air handling units.
 - d. Provide demand controlled ventilation on all the air handling units. This involves using CO2 sensors to modulate the quantity of outdoor air. This matches the ventilation rate to the building occupancy and eliminates waste from over ventilating spaces.
 - e. Add variable speed drives to the units serving the Gymnasium, Auditorium and Library. Control the units as single zone variable units. This will result in fan energy savings.
 - f. The new DDC system will also control occupied/unoccupied cycles.
4. Add Air Conditioning to the Library.

Recommendation

1. Replace the indirect water heaters. The existing indirect water heaters date back to the original construction and have exceeded their useful life. The indirect water heaters are 1050 gallons each. They could be replaced with smaller heaters.

Emergency Power

Investigate with the contracted service provider (Weld/Power) whether components are and will be available in the foreseeable future for continued operation of this generator. If it is determined that this generator will not be capable of being maintained, then a new generator should be considered. Since this generator is classified as an emergency generator, the local electrical inspector in accordance with the MEC may require that the emergency generator transfer switch and emergency panels presently located in the same room as the main switchboard be installed in a 2-hour dedicated room. This could become extremely costly. Another consideration would be to provide life safety emergency and egress lighting via self contained emergency lighting fixtures. These fixtures can be separate fixtures either wall or ceiling mounted or self-contained emergency ballasts added to existing fluorescent fixtures to illuminate one of the fluorescent tubes for the minimum of 90 minutes. This measure would allow the emergency generator to be replaced in its existing location and by not accommodating life safety, be classified as a standby generator. Standby generators are not required to be installed in a dedicated 2-hour room (or outdoors).

Panel Boards

Test all original existing circuit breakers to verify reliability and replace any found to operate improperly or faulty. Replacement breakers shall be UL Listed and Approved for Panel board manufacturer.

Interior Lighting

Replace or upgrade all remaining existing fluorescent fixtures containing magnetic ballasts and T12 lamps with new electronic ballasts and either T8 or T5 lamps. Decision should be made upon the recommendation of National Grid Energy Conservation Department and current available rebates. Hazardous materials (PCB's in ballast and lamps with mercury) shall be disposed of per Federal Regulations.

Replace all incandescent lamping (outside of Auditorium) with compact fluorescent lamps with corresponding lumen output. Where fixtures are not suitable for upgrade to compact fluorescent lamps, new fixtures containing compact fluorescent lamps shall be provided.

Provide ceiling occupancy sensors for control of all lighting fixtures in classrooms, corridors, offices, storage rooms, toilets, etc. In areas with sufficient daylight illumination, provide ambient and occupancy sensors. Existing room switches in classrooms shall remain to allow over-ride should need for room darkness be necessary. All room switches in toilets, storage rooms and offices (not containing ceiling sensor) shall be replaced with wall type occupancy sensors. Shop areas, Boiler Rooms, Mechanical and Electrical spaces will not contain sensors due to possibility of task injury.

All occupancy sensors shall be dual technology (passive and infrared) with adjustable time setting beyond the factory pre-set levels. Contact National Grid's Energy Conservation-Department for available rebates.

ENERGY CONSERVATION MEASURE SUMMARY CHART

ECM#	Monument High School	Annual Savings (kWh)	Annual Elect. Savings (\$)	Annual Gas/Oil Savings (Mill BTU)	Annual Gas/Oil Savings (\$)	Annual Net Savings (\$)	Installed Cost (\$)	Simple P.B. Payback Years

1	Update the EMS	26,135	2,091	1,361	24,534	26,624	235,088	8.8
2	Vending machine energy misers	2,097	168	0		168	287	1.7
3	Upgrade lighting	84,338	6,747	0	0	6,747	40,382	6.0
4	Add VSD to heating pumps	54,632	4,371	0	0	4,371	34,975	8.0
5	Replace windows	0	0	1,132	20,401	20,401	269,985	13.2
6	Replace boiler	0	0	938	16,898	16,898	17.2	17.2
	Building total	167,203	13,376	3,430	61,833	75,209	870,716	11.6

Priority 5

Please describe the measures the School District has already taken to reduce energy consumption.

As a whole, the District practices energy conservation as much as possible. The new middle school is a green school and both the middle and elementary schools have a complex modern HVAC system that can be controlled room by room, both day and night. We are currently evaluating "power-down" systems that turn off energy supplies to unnecessary electrical units, such as computers, computer labs and other sources of continuous draw. The District is instituting tighter temperature controls throughout each of its buildings. The outstanding issue in the high school that presents conservation challenges is outlined in Question 1 of this section.

Priority 5

Please provide a detailed explanation of the impact of the problem described in this priority on your district's educational program. Please include specific examples of how the problem prevents the district from delivering the educational program it is required to deliver and how students and/or teachers are directly affected by the problem identified.

Energy costs directly impact the District's bottom line. Any expense that cannot be controlled due to out-dated systems is a loss to the educational expenditures the District would like to make. Students and teachers are impacted in a number of ways. On a day-to-day basis, the antiquated HVAC system creates an unpleasant environment, when air quality, temperature and flow is impacted.

Please also provide the following:

Age of Roof (Years): 10

Were any major repairs or renovations of the roof undertaken in the past?: YES

If "YES", please provide the year of the last major repair/renovation of the roof: 1998

Age of Windows (Years): 40

Were any major repairs or renovations of the windows undertaken in the past?: NO

If "YES", please provide the year of the last major repair/renovation of the windows:

Age of Doors (Years): 40

Were any major repairs or renovations of the doors undertaken in the past?: YES

If "YES", please provide the year of the last major repair/renovation of the doors: 2008

Age of HVAC (Years): 40

Were any major repairs or renovations of the HVAC undertaken in the past?: NO

If "YES", please provide the year of the last major repair/renovation of the HVAC:

Age of Boilers (Years): 40

Were any major repairs or renovations of the boilers undertaken in the past?: NO

If "YES", please provide the year of the last major repair/renovation of the boilers:

Age of Electrical System (Years): 40

Were any major repairs or renovations the electrical system undertaken in the past?: NO

If "YES", please provide the year of the last major repair/renovation of the electrical system:

Age of Lighting System (Years): 40

Were any major repairs or renovations of the lighting system undertaken in the past?: YES

If "YES", please provide the year of the last major repair/renovation of the lighting system: 2008

Have the systems identified above been examined by an engineer or other trained building professionals?: YES

If "YES", please provide the name of the individual and his/her professional affiliation:

Roy S. Brown, Architects

Please also provide the date of the inspection:: 5/1/2008

Please describe how addressing the system will extend the useful life of the facility that is the subject of this SOI (maximum of 5000 characters):

In the feasibility study conducted in May 2008, the District was pleased to have confirmed that the building was structurally sound and in good condition. However, the systems cited here, and in other sections of the SOI are in serious need of upgrade, repair and/or renovation. A modern system would provide a safe/healthy environment and enable more control, energy efficiency and cost savings.

Priority 7

Please provide a detailed description of the programs not currently available due to facility constraints, the state or local requirement for such programs and the facility limitations precluding the programs from being offered.

As previously discussed, the science labs do not meet current educational requirements, in size, accessibility, location and lab layout. The science curriculum is compromised due to limitations on the number and type of labs that can be run.

The library doubles as the media center. The space does not meet current space standards for either a library or a media center. The current configuration does not allow for a computer lab, where students can learn the latest in technology, which is a key component of technology proficiency.

The current physical education program does not align with the state curriculum frameworks. There are space constraints that prohibit wellness programs/activities and class instruction.

Coming into compliance with the state mandate for technology proficiency is problematic due to the extremely limited infrastructure in the building.

Drafting programs and classes are limited by both the physical limitations and the technology infrastructure. Due to space and electric limitations, CAD and other similar types of programs cannot be offered at Monument Mountain, limiting access to this training.

Automotive program limited in type of classes offered and type of vehicles which can be worked on due to outdated equipment.

Horticulture program not handicapped accessible. Upgrades needed to all structures.

Priority 7

Please describe the measures the School District has taken or is planning to take in the immediate future to mitigate the problem(s) described above.

The science department is "creative" in their use of available space through scheduling. However, since the issue is space limitations and no other space is available, there is a limited amount they can do to address this problem.

The PE program has had a curtailed program due to the space limitations. However, they must increase offerings to become compliant with the state frameworks. The District is in year two of a three-year plan to become compliant. An additional PE teacher will be hired for the 2009-2010 school year. However, the greatest constraint is the physical structure, which will be addressed in the over-all facility plan.

Since many of the constraining factors on programs are due to the physical structure, the District is putting together a long-term plan to address a renovation and upgrade. In the meantime, security issues, like the upgraded phone system, relocation of gas shut-offs, and new doors have been addressed. The District recognizes that a prudent course of action balances the financial realities of a construction project with the recognition of efficiencies realized by doing major repair, renovation and upgrade work within one construction cycle.

Priority 7

Please provide a detailed explanation of the impact of the problem described in this priority on your district's educational program. Please include specific examples of how the problem prevents the district from delivering the educational program it is required to deliver and how students and/or teachers are directly affected by the problem identified.

As previously stated, Monument Mountain Regional High School was designed and built for a 1960's education. This space severely hampers the efforts to offer a 21st-century education.

The biology/botany program is limited in its offerings due to space configurations that do not allow for living specimens to be propagated. Within the Science department, program offerings are limited by the current lab configuration and construction. Current requirements advise that instruction and experimentation should occur in one room. Unfortunately, this is not possible at MMRHS. Work stations do not have the necessary equipment, water source or proximity to emergency eyewash stations and showers.

The library doubles as the media center. The space does not meet current space standards for either a library or a media center. Computers are crowded against one wall, limiting access to both the computers and the study space in the library. The Librarian teaches an exploratory technology class one period a day, each day. Because all classrooms are used in other areas of the building, she must hold class in the library. During that time, the library is closed to other users. At other times, if a teacher wants to bring in a class for research, other students are often turned away due to space constraints. The space is too small for more than one activity. Students with study halls often cannot use the library because a full class is doing research at that time.

In all academic wings, all classrooms are used constantly throughout the day, as above indicated. There is no "extra" space for additional/new classes.

The Physical Education program primarily consists of sports related activities. In the 1960's when this building was designed and constructed, physical education was built around sports programs, such as soccer, volleyball, etc. Today's frameworks are built around wellness, not just sports. The current physical configuration of this area of curriculum consists of a gym. There is a small storage room that houses some workout equipment, but the space is basically a closet and should not be used by students, since the egress is questionable. Wellness classes, such as yoga and Pilates, health programs and classes, true weight training, and other similar programs cannot be offered at this time. The District is in year two of a three-year process to bring the PE/health curriculum into compliance with state requirements. While the personnel can be hired, and the gym can be portioned off to hold mini-classes, only with a renovation of this part of the building will true compliance be able to be obtained.

Technology instruction is severely hampered in this building. The District has made a sizable investment in fiber optics throughout the campus, and the investment at the high school is at considerable risk due to the infrastructure. Because the building was built before computers and other forms of technology - other than early electronic typewriters - there are no communication ports or drops built into the classrooms. It is not uncommon to either find the fiber optic cabling wrapped snug along the walls at the floor or hanging from the ceiling, providing a drop to plug into. In addition to risking the investment, this situation creates a fire hazard. Data streaming is nearly impossible due to the configuration, or really, lack thereof, of the network

To bring the vocational program up to standards, a considerable investment will be needed in the automotive shop for new lifts and electronic machinery. As will be shown in other sections of this SOI, reconfiguration of electrical services will be critical to this upgrade. Work on "modern technology" in current vehicle models is hampered by the current operations in the automotive program.

As stated previously, the horticulture program is not handicapped accessible. All of the structures that house the program are in need of upgrade, including fire suppression, watering, climate control, and classroom accommodations. More, and better organized, space is necessary to expand the program into a broader educational program.

The area for fine and performing arts is limited; again, it has not expanded to reflect today's educational needs. For example,

there are no "traditional" classrooms available to teach non-instrumental classes, such as music theory, composition, and music appreciation. These types of classes provide experience for the musician and non-musician alike. If different instrument sections are to hold class or practice at the same time, the strings are sent out onto the stage in the auditorium. Not only are they away from the music program itself, they then become a hindrance to the performing arts classes, which then cannot use the auditorium. Although not educational, the lack of safe storage space for instruments causes a problem for students.

The Food Service operations suffer from age as well. Modern in 1968, the cafeteria and kitchen are not configured to meet current wellness models for school food programs. The kitchen is about 60% of the size of the new kitchens in the elementary and middle schools, which serve about 34% fewer students. Since time on learning has increased the amount of time students must be in class, time for lunch has decreased. Getting a healthy meal into some of the students can be a challenge with the current time constraints and space configuration. Updated space would alleviate some of this problem. With more fresh food being served on the menus, more storage space is required as well. A well outfitted kitchen that provides healthy meal choices is a key component to school Wellness programs. The current space constraints limits the opportunities to incorporate a greater food choice.

One of the greatest operational challenges arises from the lack of a security system in the building. As was mentioned, the District includes community involvement in its mission statement. Unfortunately, the community does not have access to the building except to attend school-related functions. At both the elementary and middle schools, the state-of-the-art security system enables section by section security so the gym, community rooms and classrooms can be made available to the public, while ensuring the remainder of the building is secure. This type of system is necessary at the high school. With more than 47 exterior doors, basic security is compromised. Part of the facilities plan for this building is to replace old doors as well as replace unnecessary doors with knee walls and windows.

Vote

Vote of Municipal Governing Body YES: NO: Date:

Vote of School Committee YES: NO: Date:

Vote of Regional School Committee YES: 10 NO: 0 Date: 11/6/2008

Form of Vote

The following form of vote should be used by both the City Council/Board of Aldermen, Board of Selectmen/equivalent governing body AND the School Committee in voting to approve this Statement of Interest.

If a regional school district, the regional school district should use the following form of vote.

Resolved: Having convened in an open meeting on _____, the _____ *[City Council/Board of Aldermen, Board of Selectmen/Equivalent Governing Body, School Committee]* of _____ *[City/Town/School District]*,

in accordance with its charter, by-laws, and ordinances, has voted to authorize the Superintendent to submit to the Massachusetts School Building Authority the Statement of Interest dated _____ for the _____ *[Name of School]* located at

_____ *[Address]* which describes and explains the following deficiencies and the priority category(s) for which

_____ *[Name of City/Town/District]* may be invited to apply to the Massachusetts School Building Authority in the future

_____ *[Insert a description of the priority(s) checked off on the Statement of Interest and a brief description of the deficiency described therein for each priority];* and hereby further specifically

acknowledges that by submitting this Statement of Interest, the Massachusetts School Building Authority in no way guarantees the acceptance or the approval of an application, the awarding of a grant or any other funding commitment from the Massachusetts School Building Authority, or commits the

_____ *[Name of City/Town/District]* to filing an application for funding with the Massachusetts School Building Authority.

CERTIFICATIONS

The undersigned hereby certifies that, to the best of his/her knowledge, information and belief, the statements and information contained in this statement of Interest and attached hereto are true and accurate and that this Statement of Interest has been prepared under the direction of the district school committee and the undersigned is duly authorized to submit this Statement of Interest to the Massachusetts School Building Authority. The undersigned also hereby acknowledges and agrees to provide the Massachusetts School Building Authority, upon request by the Authority, any additional information relating to this Statement of Interest that may be required by the Authority.

**LOCAL CHIEF EXECUTIVE OFFICER/DISTRICT SUPERINTENDENT/SCHOOL COMMITTEE CHAIR
(E.g., Mayor, Town Manager, Board of Selectmen)**

Chief Executive Officer

School Committee Chair

Superintendent of Schools

(print name)

(print name)

(print name)

(signature)

(signature)

(signature)

Date

Date

Date