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# Executive Summary

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## Introduction

The Town of Lunenburg recognized that as a result of changing educational needs, aging and reconfigured buildings and the potential for enrollment changes related to anticipated community development, they needed a comprehensive study of all of their facilities on the central campus. Because their current facilities constrain educational opportunities, they sought expert guidance to articulate an updated educational program for the immediate, medium and long term. This educational program, coupled with a demographic study and facilities assessment, would provide the foundation for an updated facilities master plan. (*source: Lunenburg Public Schools, Request for Qualifications, March 3, 2006*)

To respond to this identified need the Town issued a Request for Qualifications in March 2006 and in June Drummey Rosane Anderson, Inc. (DRA) was hired to prepare a comprehensive long-term educational program; school district facilities master plan; and feasibility study for Lunenburg High School.

## Overview

Lunenburg is a residential town of approximately 10,000 people located in North Central Massachusetts. The Lunenburg Public Schools educate 1850 students in four schools, serving pre-K through grade 12. A primary school, opened 2005, serves pre-K through grade 2, and is located 2 miles from the town center. The other three schools share a 62-acre campus in the town's center (central campus), abutting the town's teen center, senior center, and public library. The elementary school is configured for grades three through five; the middle school for grades six through eight; and the high school for grades nine through twelve. The district administration is housed in a historic home on the main campus.

As outlined in the Request for Qualifications, DRA's charge was to assess all central campus facilities' and grounds' compliance with code requirements and the life expectancy of each facility and system. Systems include but are not limited to electrical, plumbing, heating, and technology infrastructure. The document shall provide a long-term capital improvement plan for all central campus school facilities, identifying and prioritizing need and estimating costs for improvements.

The feasibility study shall provide conceptual design options that address the articulated educational program for renovation and/or new construction of Lunenburg High School. It shall include methodology (ies) for phasing of construction of each design option without significantly limiting the department's ability to educate all students. The study shall also consider the impact of the school's needs in the context of the town's ability to fund the plan as well as the possibilities for the Massachusetts School Building Authority's partnership in funding.

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## Overview continued

The facilities master plan and feasibility study shall evaluate social, cultural, and recreational needs of the overall Lunenburg community that might be supported in school facilities. Surveys of town residents and community organizations shall be conducted to develop a basis for evaluating these needs. (*source: Lunenburg Public Schools, Request for Qualifications, March 3, 2006*)

To accomplish these goals, DRA established a workplan of simultaneous activities, tasks and deliverables including the following:

- .1 Information synthesis
- .2 Demographics and enrollment statistics
- .3 Educational programming and specifications
- .4 Physical plant assessment
- .5 Sites evaluation
- .6 Community space
- .7 Design options
- .8 Community involvement

These activities commenced in the summer of 2006 and concluded in February 2007. The Study Team's process included monthly meetings with the Feasibility Study Advisory Group, regular meetings with the Superintendent's working group, numerous programming sessions with each school's administration and staff, consultations with Town officials and a series of four well-attended community forums.

This document represents the synthesis of the collected information.

## Needs

As outlined in the Overview, a goal of this Study was to identify the variety of needs of Lunenburg's central educational campus. These needs fall into three general categories: Physical Facilities, Educational Program, and Enrollment Projections. Each of these categories is described in subsequent chapters of this report; a brief summary is as follows:

### Physical Facilities

**General:** Each of the school buildings on Lunenburg's central campus has several common deficiencies. Many of these deficiencies are items that do not meet today's building codes, but are allowed to continue in use under "grandfather" provisions of the code. These sub-standard items include: electrical distribution and lighting systems, heating and ventilation systems and energy inefficient construction. Each of the buildings also lacks modern life-safety items such as a full fire protection (sprinkler) system, communication systems and addressable fire alarms that would be required by code in new construction.

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**General continued:**

In addition, there are pervasive handicap accessibility issues throughout the campus including items that do require immediate attention such as handicap parking spaces, access to the front entrances, accessible toilet rooms, drinking fountains and tele-phones.

The technology network and related electric power distribution is generally inadequate to meet the curriculum needs and is below standards for comparable schools. These existing systems would be difficult to expand or improve without wholesale replacement.

It should also be noted that there are asbestos containing materials in each of the schools, which, although not an imminent danger to occupancy, do pose a restriction to any renovation work undertaken to correct deficiencies.

In addition to the above, the following specific issues are present at each school:

**Lunenburg High School:** The basic building envelope (walls, windows and roof) is in fair to poor condition and requires attention. There is also evidence of the structural concrete floor slab settling causing cracking and related issues. Life safety systems are lacking as noted above and much of the plumbing and electrical infrastructure is at the end of its useful life.

**Turkey Hill Middle School:** The exterior windows are in poor condition and need replacement. There are numerous accessibility issues, including the replacement of a substandard elevator. The heating and ventilation system, including controls, is beyond its useful life and requires replacement. Finishes, casework and kitchen equipment are all reaching the end of their useful life and need replacement.

**T.C. Passios Elementary School:** Roofing is nearing the end of its useful life. Interior finishes are in fair to poor condition and will need replacement. The electrical distribution system is out-dated and should be replaced. An existing underground oil tank should be removed.

**Site:** The overall amount of recreational green space is inadequate for the number of students and activities on this campus, although the recently installed artificial turf field will reduce this problem. There are several areas of pedestrian and vehicular conflicts and poor site circulation caused by bus/car conflicts. Site lighting and drainage also needs improvement.

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## Educational Program

Based upon several programming sessions with teachers, administrators and students, DRA developed educational space programs for each of the schools in the Study. Each existing building was also evaluated as to the adequacy of the available spaces relative to the new State space standards adopted by the Massachusetts School Building Authority (MSBA). Each space was rated as “adequate”, “marginal” or “inadequate”. Additionally, each building was compared against the allowable size for new school construction using the MSBA’s guidelines for the current and projected enrollments. In summary, each existing building to a varying degree falls short of meeting State standards.

Using the above methodology, the existing High School is approximately 20,000 square feet short of an appropriate program for its current enrollment of 650 students. Most of the general classrooms are smaller than the state minimum of 850 square feet for new classrooms. The science labs also do not meet State minimum of 1,000 sf. For a school of this enrollment, the library media center is another space that is significantly undersized. Said another way, the planned capacity for the existing 100,000 sf building is approximately 550 students; assuming an average class size of 20 students, a classroom utilization rate of 85% and the provision of adequate support spaces to meet the desired educational program.

Because of the limited number of classrooms and the reduced size of the current classrooms, the existing high school currently lacks scheduling flexibility and the variety of spaces necessary to deliver its optimal educational program. Specifically, Lunenburg’s District Improvement Plan has four major goals. Unfortunately, many of these goals are challenged by the physical limitations of the existing Lunenburg High School (LHS); for instance :

1. In order to “foster potential of all students in accordance with current best practices” to accommodate a variety of learning styles, the building should provide a variety of spaces with adequate adjacent storage - LHS is lacking in both areas.
2. The District wishes “to use technology as an integral component of teaching and learning”. Unfortunately at LHS there are serious infrastructure deficiencies, outdated equipment, and very limited student access to technology.
3. The District strives “to provide facilities that meet staff needs”. Unfortunately, the high utilization rate of classrooms coupled with the lack of teacher workspace results in inadequate accommodations for teacher planning and conferences.

## Educational Program continued

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With projected growth over the next twenty years, Lunenburg High School's space needs will grow to require approximately 48,500 sf of additional space to accommodate 750 students. It should also be noted that even without the tuition students from the Town of Shirley or the school-choice students, the projected enrollment of 570 could not be adequately housed in the existing high school building without an addition and renovation.

A similar analysis of the Turkey Hill Middle School reveals that it is approximately 6,000 sf (9%) below space standards for its current enrollment in a renovation/addition scenario and over 10,000 sf below the allowable area for a comparable new school. This shortfall is primarily in the library, music and administrative support spaces.

At T.C.Passios Elementary School, the art, music and support spaces are slightly below standards, while the library-media center is significantly undersized, resulting in about a 4,000 sf (7%) deficit in educational space in a renovation/addition scenario and about 9,000 sf below the allowable size for a new school for the current enrollment.

## Enrollment Projections

Due to several variables, a variety of enrollment projections were developed for this Study. Most notably, due to the projected long-range development in the community, 20-year enrollment projections were performed in addition to the typical 10-year projections. Also, because the tuition agreement with the Town of Shirley is currently being renegotiated (and regionalization is being considered), there is uncertainty as to the future composition of the high school population. The inclusion of out-of-district School-choice students is also a variable at this time. Therefore, projections have been provided for three future scenarios: 1. including Shirley and choice students (comparable to current enrollment composition), 2. including Choice students and 3. Lunenburg residents only.

Please also refer to the chapter on enrollment projections for the full explanation of methodologies and assumptions utilized in these projections.

The basic results of these projections show that there will be steady but significant growth in student enrollments in the Town of Lunenburg in the first ten years and a gradual leveling off. It is apparent that this growth is due to the current and anticipated development in town.

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## Enrollment Projections continued

The current K-12 population is 1852 students. Utilizing the first scenario, that figure will rise to 2128 in ten years and level off at about 2150 students in 20 years. Much of this growth will be at the High School level. If Shirley and choice students continue to be included, the high School population will grow from its current 653 to 725 students in ten years and will peak at about 750 students within 20 years. Without Shirley students included, the enrollments would be about 610 students in 10 years and 640 in 20 years; and considering Lunenburg residents only the enrollments will peak at about 570 students within 20 years. It is noteworthy that even at these reduced numbers the present facility will not adequately meet the anticipated space needs.

## Options

To address the needs identified above, a series of options was developed by the Study Team and evaluated against a set of mutually agreed upon criteria.

The options ranged from minimal renovations to replacement of existing buildings with new construction. Consideration was also given to reconfiguring grade structure, combining schools with shared core facilities and even incorporating existing community facilities into the educational program. Consideration was also given to the implementation of possible solutions over time and the creation of a campus master plan.

Ultimately the possibilities were organized into three “families” of options, based upon the strategy of addressing the High School needs first.

- Option A** Replacement of the existing high school with all new construction
- Option B** Additions/Renovations to the existing high school
- Option C** Creation of a campus type high school utilizing portions of the existing building

Several design options were studied within each of these families to arrive at solutions that best demonstrated the feasibility of that option. Additionally, consideration was given to the master plan possibilities created by each of the solutions. Site plans, floor plans, three-dimensional studies, phasing plans and cost estimates were generated for each option.

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## Conclusions and Recommendations

- The improvement and/or replacement of Lunenburg High School(LHS) should be the next major capital construction project undertaken on Lunenburg’s educational campus, based upon the following:
  - The High School is a 50-year old building with urgent physical major facility needs. Many of its systems and materials have reached the end of their useful life which is generally expected to be 40 to 50 years for buildings of this vintage. It would not be prudent to continue to expend money on “band-aid”, short-term solutions that don’t effectively extend the useful life of the building.
  - LHS has significant educational space needs and accreditation issues, including: 1. undersized Library; 2. undersized Science Labs; 3. Limited technology; 4. poor accessibility
  - LHS has the most severe current overcrowding of the three schools.
  - Among Lunenburg’s schools, LHS would receive the highest priority ranking by the Massachusetts School Building Authority based upon its conditions affecting health and safety (MSBA priority #1), current overcrowding (priority #2), possible accreditation issues (priority #3), energy-efficiency (priority #5) and obsolete facilities (priority #7) .
- New construction (Option A) is the preferred option to address the needs of Lunenburg High School. This is the case even if Shirley students are not included and the projected enrollment is 640 Lunenburg residents only. The reasons favoring this option over the others studied include:
  - Lower life cycle costs despite an initial higher construction cost
  - Better educational product
  - Less disruption during construction
  - More efficient land use resulting in more field space
  - Renovations are hindered by the existing construction and the presence of asbestos.
- Lunenburg’s unique “educational campus” presents an excellent opportunity to consider a master plan approach to its facilities. This configuration has the potential to efficiently share resources and infrastructure and to develop unique educational opportunities. The master plan approach should be adopted and considered for all future projects to spend capital funds wisely. The master plan should be revisited periodically (approximately every 5 years) and updated accordingly.

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## Conclusions and Recommendations (continued)

- This Educational Facilities Master Plan is a required part of Phase 1 of the new process of working with the Massachusetts School Building Authority (MSBA). This insures that a community has prioritized its needs. Lunenburg should complete Phase 1 by submitting a *Statement of Interest* for their high school, which “identifies the problem” to the MSBA. This new process, which is being implemented for the first time this year, requires the “partnering” of the Town and MSBA before proceeding to verify the problem and collaborate on a solution. Only after an agreed-upon solution is then developed would the full community be asked to vote.
- Lunenburg Public Schools should continue to perform appropriate maintenance and repairs during this period of developing their capital construction project. In a best-case scenario the high school renovation or replacement would not be completed until 2011 and the buildings need to be serviced until then. Spending should obviously be coordinated with Master Plan, but urgent items should not be postponed unless they can reasonably last until that point. It should also be noted that the MSBA will reward districts that demonstrate best practices for maintenance efforts with up to 8 additional percentage points on their reimbursement rate. This could result in significant savings to the Town (e.g.. one extra percentage point on a \$40M project equals an additional \$400,000 reimbursement to the Town).
- Lunenburg is educationally well served by their current grade configuration and this report does not recommend any changes in this area. However in order to successfully maintain desired class size certain improvements will be needed to handle projected enrollment increases at all grade levels. The masterplan study did reveal a potential advantage for the district to consider combining facilities under one roof (such as a Grade 3 – 8 school) in order to share core facilities. The schools could still be operated and administered as separate schools but the overall building footprint would be reduced, freeing up valuable green space on

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## Next Steps

the site and resulting in both reduced construction and operating costs.

- The school committee should draft and endorse the MSBA *Statement of Interest* form for Lunenburg High School.
- The school committee should enlist the support of the Selectmen to sign and certify the *Statement of Interest*.
- The Superintendent of Schools should sign and certify the *Statement of Interest* and submit it to the MSBA prior to July 2007.
- The district should continue to inform and involve the community in the school improvement process. The district should use a variety of media and outlets to spread the message, including the Town's website, cable TV, updates to Parent groups, newsletters, school committee and other Town meetings. This report should be made available at each school office, the superintendent's office, Town Hall and the public library.
- The Town should continue to support the formation of a regional planning committee in order to consider regionalization with the Towns of Shirley and Ayer. Although not the charge of this Study, the current issue of regionalization that has developed is an important issue that planning committee should undertake in order to appropriately consider all options and alternatives to Lunenburg's current and future space needs. We recommend that the School Department contact the MSBA to discuss the implications of this issue on their process. The Town