

EXECUTIVE SUMMARY

SECTION ONE EXECUTIVE SUMMARY

FOCUS OF STUDY

The City of Beverly, acting through its Building Commission engaged Symmes Maini & McKee Associates to conduct a Feasibility Study of Beverly High School.

The study is to provide a comprehensive analysis of the current High School and to develop options and costs for future facilities needs to serve 1,400 students.

BACKGROUND

Beverly High School Facilities and Maintenance staff reported to SMMA past and present issues affecting the building systems and components. Issues include:

- Cracks in exterior walls;
- Significant water infiltration through exterior walls;
- Building flooding at wings lowest on the site during extreme storms;
- Electrical system failures in underground conduit;
- Frequent failures in heating system piping;
- Considerable maintenance required for most engineering building systems.

The "School Needs Study" conducted by Strekalovsky and Hoit in 1998 was reviewed as part of this study.

PROCESS

Numerous activities were conducted within this Study, including a Physical Evaluation, Educational Evaluation, Sub-Soils Investigation, Development of Options and Recommendations.

The Physical Evaluation was summarized in an Interim Report titled "The Existing Conditions Report" dated October 30, 2001. The report is included within this report.

The Educational Evaluation was summarized in an Interim Report titled "Educational Specifications" dated November 13, 2001. The report is included within this report.

FINDINGS

- The Sub-soils investigation revealed that the building flooding and below slab electrical shorting is likely due to a result of a build-up of surface water which saturates the soil and has no place to go because of the clay sub-soils. This condition is referred to as a "perched water table". This perched water table, at its extreme, find its easiest outlet, which typically has been into the building. Regrading around the building and installation of a system of perimeter and area drains could mitigate the ground water problems. A drain system of this type would require a separate "outlet" as the existing outlet pipe is overtaxed from offsite water.
- The uninsulated exterior walls are in poor condition with water infiltration at windows and precast panels. If renovation were to be undertaken, the addition of a new exterior wall system would be recommended.
- Mechanical, electrical and plumbing systems are beyond their useful life and require full replacement.
- The High School building, including the Patten Wing, is larger in size than is necessary to fulfill the educational program requirements.
- Multiple floor levels (10) and significant other obstacles to handicapped accessibility make providing accessibility difficult and expensive.

OPTIONS

Four options were presented and discussed with the City.

Option One - Full building renovation with minor additions. The renovations would be undertaken one wing at a time and would require approximately twenty portable classrooms. This option would take approximately six years to complete.

Option Two - Full building renovation with minor additions. The renovations would be undertaken two wings at a time and would require approximately forty portable classrooms. This option would take approximately four years to complete.

Option Three - New construction. This would replace the existing 274,295 SF facility with a smaller 247,000 SF building. This option would take approximately two years to complete.

Option Four - Combination of new construction and renovation. This option retains the Field House, Auditorium and Cafeteria and replaces all classrooms and specialty teaching spaces. This option would take approximately twenty-nine (29) months to complete.

RECOMMENDATIONS

Option Four has numerous advantages that make it the recommended option.

Advantages include the following:

- All academic spaces will be the optimum size and will conform with DOE recommendations.
- The existing Field House will be retained and renovated. (Current DOE / SBA regulations will not allow for construction of a fully reimbursable Field House).
- The existing classrooms will be temporarily retained and used as swing space for future renovations of the Brisco and Memorial Middle Schools.

All options were discussed at two public meeting that included the Mayor, City Council, School Committee, School Administration, and Building Commission. Option Four was identified by these groups as the option that best fulfills the needs and desires of the Beverly community.

SUBSURFACE INVESTIGATION

Subsequent to the main activity of the study, the Building Commission authorized SMMA to conduct sub soil borings of the proposed building addition site. Haley & Aldrich, Inc. conducted this study in June of 2002. Haley & Aldrich's Preliminary Geotechnical Study can be found in the appendix of this report. Their preliminary investigation suggests that conventional, shallow spread footings can likely support the proposed addition.

GREEN DESIGN STUDY

The Beverly School Department applied for and has received a grant from the Massachusetts Technology Collaborative to study "green design" opportunities for the proposed high school project. Symmes Maini & McKee Associates is currently conducting the study in collaboration with Solar Now and the Energy Conservation Committee. The study is expected to be completed in the summer of 2002 and will be issued as a supplement to this study.