

## ARCHITECTURAL ASSESSMENT Sylvester Elementary School

Originally constructed in 1927 with an addition in 1960, the building has an area of approximately 33,210 sf. and currently houses 235 students. General facility comments are as follows:



### **Exterior Envelope** (foundation, walls, windows, doors, roof)

#### *Description*

Foundation: Cast in place concrete foundation.

Exterior wall: Brick load bearing walls.

Windows: Painted, non-thermal, single-pane, double hung wood windows. No screens

Doors: Wood doors, some hollow metal.

Roof: Ballasted EPDM rubber membrane except at 1960 addition where membrane is fully adhered.



The exterior of the building is generally in very good condition with the exception of:

- a. The deteriorating single-pane wood windows (source of extreme heat loss). Chipping and peeling paint is most likely lead-containing paint and should be removed. Recommend full replacement.
- b. Concrete steps are in poor condition; appear to have been repaired a number of times. Recommend full replacement with accessible ramp.
- c. Deteriorated and discolored brick on the exterior of cafeteria due to years of ivy growth. Some brick cleaning and repointing is recommended.
- d. Rusted and failing steel lintels at cafeteria windows. Excessive water infiltrating the steel over time has caused the steel to expand and corrode. Lintels



should be replaced while the reason for the water/moisture infiltration should be investigated and addressed.

- e. Precast concrete sills at a few locations have spalled exposing re-bar. Recommend replacement.
- f. Wood cornice is deteriorating and paint is peeling extensively. Recommend restoration.
- g. Northside portico drains water against the building and has created a deteriorating effect on the brick. This should be remedied before further deterioration occurs.



## Roofing

Through discussions with school facility staff, we gained some knowledge regarding the history of the roof. The original tar and gravel 'built-up' roof was re-roofed approximately 7 years ago at the 1927 building while the 1960 addition was re-roofed in 2000. Reportedly at the 1927 building, the gravel was removed and a ballasted EPDM rubber membrane roof was installed over it. At the addition, the gravel was reportedly removed and EPDM rubber membrane is fully adhered to roof board or tapered insulation. This new roof carries a 10-year warranty.

Generally the ballasted roof appears to be in good condition, but during any renovation project, test cuts should be made to determine the exact roof content, amount of insulation, etc. Remove all existing roofing materials and install new fully adhered EPDM rubber membrane with 20 year warranty, tapered insulation and roof drains as required. Roofing at addition appears to be installed well and should not need to be replaced.

## **Interior** (flooring, walls, doors, built-ins and equipment, ceiling)

Overall the building has been maintained very well. Comments and observations are as follows:

### Flooring

Floors are mostly wood construction with Vinyl Asbestos Tile (VAT) and original wood planks. VAT is in fair condition with some areas tile has broken. Wood floor is uneven in some areas causing a potential tripping hazard, while in other classrooms it is remarkably still in very good condition.

## Walls

Walls are a combination of plaster lathe on wood studs or brick, concrete masonry units, and brick masonry.

Leaks occur in the basement between floor and wall.

## Doors

Some doors are original, wood doors with knob handles, no closers and are in fair to poor condition. Recommend replacement. Some exterior doors have been replaced recently with new wood and hollow metal type and panic hardware and do not need replacing.

## Built-ins and Equipment

Generally speaking most of the building system components are original with few exceptions. This is a continual problem for maintenance as parts and components are difficult to find and many of the systems fail often.

Kitchen equipment has lived its useful life and inadequate for the number of students served. Recommend inventory be done and replace as necessary.

Library has new furnishings recently purchased.

Classroom loose furnishings are mostly in good condition.

## Ceiling

Ceilings throughout are mostly glue-on ceiling tile with suspended acoustical ceiling panels in the 1960 addition and some plaster ceilings in the basement. The glue-on ceiling tiles are a continual problem for maintenance staff as they become loose and fall easily. Many tiles are stained due to building leaks.

## Space Use

There are a number of changes that have occurred to the building and to education since the original construction





in 1927 and the addition in 1960. Many current programs and services were not offered or planned for in the original building design. Over the years, new programs developed, other programs were removed and new requirements were mandated by the state. The use of space slowly evolved into one of the greatest challenges facing the school today. There are numerous space utilization deficiencies within the building. The factors affecting the Space Utilization review include:

- A. In 1993 Massachusetts enacted the Massachusetts Education Reform Act that set uniform standards for space requirements in schools across the State. This piece of legislation was developed for a number of reasons including;
  - Uniform standards for space requirements while allowing for flexibility; 115 sf/student for Elementary Schools. General Classrooms (900-1000).
  - Certain space requirements for core areas such as: the library/media, kitchen/cafeteria, gym, etc.
  - Improve and set standards for student/teacher ratios
  - Aggressive approach toward building schools for the future with space for computer stations, hands-on projects, and community space.
- B. State mandated Special Needs regulations have been adopted requiring space in the school for special needs programs.
- C. 1927 and 1960 designed capacity vs. 2001/2002 actual enrollments combined with recommended State guidelines.

Taking these issues into consideration, we have compiled the following assessment of the current utilization of space:

1. The school does not have adequate space for Art, Music and Gym programs, thus the students must walk to nearby Center Elementary School for these programs.
2. Lack of classroom and general storage space
3. Lack of space for backpacks/cubby units.
4. Nurse's office is very small and offers no privacy for students.
5. Lack of conference space
6. Lack of administrative work space. Copiers and work tables are currently located in the gym/auditorium.



7. Gym is heavily used by community: HS cheerleaders, adult night school, aerobics, Destination Imagination, Odyssey of the Mind, Student Council, local meetings, parent gathering. The community enjoys coming to the school.
8. The stage is used for storage of art supplies and other school supplies.
9. Many classrooms are undersized to meet current needs and programs. Aisle space does not meet current code.



### *Space Utilization -Recommendation*

Over the past 75 years, requirements and needs have changed in education. The facility must be flexible and be adaptable to adequately provide for today's and tomorrow's educational program. Some existing spaces should be relocated to match the current desired educational program configuration (Educational Specifications). Where existing spaces do not "fit" the stated program, the school should consider modifications.



Flexibility in educational spaces should be incorporated into any renovation/expansion plan for the future so that as requirements change, the school program may adjust more easily than in years past.

## **Handicap Accessibility**

Requirements for handicap accessibility were non-existent in 1956 when this school was built. In 1990, the Americans with Disabilities Act (ADA) was enacted into law by the Federal Government to provide civil rights protections and nondiscrimination on the basis of disability. Since 1990, the original regulations

have been updated and new requirements and clarifications have been added. In addition, the Commonwealth of Massachusetts has developed their own regulations (521 CMR Architectural Access Board) that are in many instances more stringent than the ADA. Regulations are updated and added almost every year. Based on these regulations, we have found the following items to be in noncompliance or not accessible to the disabled:

1. Stairs at each entrance into the building
2. Basement, first and second floor are not accessible. No elevator or lift to access each of the floors.
3. Stage not accessible.
4. No lever hardware at doors
5. Lack of proper room signage
6. Double door leafs are too narrow.
7. Clear space adjacent to latch side of doors.
8. Sinks in classrooms.
9. Toilet rooms throughout the building are not accessible, including the nurse's room. The following items are not in compliance:
  - a. Lavatories
  - b. Toilets and urinals
  - c. Grab bars
  - d. Door width and clear space adjacent to doors
  - e. Clear turning space at single fixture toilet rooms

*Handicap Accessibility -Recommendation*

Although it appears as though some building features are accessible to the disabled, many unfortunately are not. Each of the inaccessible features listed above has an impact on the ability of disabled students or





members of the community to access various spaces throughout the school independently. Disabled people may include students with a permanent handicap condition, students that are temporarily disabled from athletic activity, parents or other visitors that could have any form of disability. Any form of renovation plan should incorporate as many items as possible to accommodate disabled people to the fullest extent possible.

## **Security**

No rooms throughout the school are lockable. There is no way to lock off portions of the school during public events. This is a security concern. Discussion should take place as to different types of security systems available and to what extent the school is interested in integrating a control system into the school.

## **Health and Life Safety**

There are a number of issues affecting the health, welfare, and safety of students and staff. From a building environment standpoint we have observed the following:

1. The entire below-grade level of the school would not be acceptable for classroom use (by current Life Safety codes) as the sill height of the windows (approximately 5'-3" above finish floor) is almost 2 feet above the maximum allowed (3'-6").
2. The school does not meet current building code for a number of reasons. Below are a few items to note that would need to be addressed during any major renovation/addition project. See also the code analysis sheet at the beginning of the feasibility study for more information.
  - a. The first floor framing other than the corridors and main entry are wood framed. This is not permitted in the current code as these should have a 1-hour fire rating.
  - b. The auditorium, cafeteria, and library do not have the required 2-hour fire ratings to meet current code.
2. Stair guardrails and handrails do not meet current life safety code requirements.



3. Plaster and paint in some areas are chipping off of the wall. Plaster has been tested positive for asbestos. Paint is highly likely to contain lead.
4. The original iron steam radiators pose a serious health and safety concern for potential burns, particularly ones located in stairs and corridors.
5. The stairs to the side of the stage and kitchen are constructed of wood, are very narrow (34-1/2" wide) and do not meet code in any respect. The exterior door from those stairs is not equipped with emergency hardware. Although not required for the auditorium, this exit is a required means of egress for the cafeteria. This is a safety concern.
6. It is important to note that the building inspector has given a certificate of occupancy to the school except for the cafeteria. This is due, we are told, due to the glue-on 12"x 12" ceiling tiles that fall from the ceiling on a regular basis. One tile fell and injured a child. There is one location in the cafeteria, adjacent to the fan room and boiler room where a portion of the ceiling is sloping down. It was not possible, at the time of visit, to determine the cause of the sloping ceiling or falling tile. But we do know that portions of the Auditorium wood floor have buckled due to excessive moisture from the steam boiler that the school used prior to its replacement in 1960. We also know that the kitchen, cafeteria and dishwashing areas have very poor or no ventilation system and that the ceiling must receive a large amount of moisture. Further investigation is recommended to address this issue.
7. There is no clear delineation for parking and bus loop. This results in a safety concern for children and pedestrians on site.
8. Problems with the electrical wiring has been reported. Some wiring has been re-done, but majority require full evaluation.
9. Items are stored under the stage; is not sprinklered.





10. Corridor, stair, gym and cafeteria doors are not smoke or fire rated: are not labeled, do not have latch, no panic devices, are held open with wood wedges.
11. Classroom doors open into stairwell. This does not meet current code.
12. Boiler room door has no sign, is not locked, and is not fire rated. One door exiting from this room does not have proper exit sign. Exit doors have deteriorated/broken and are difficult to open/close. This is a safety concern.
13. Men's room in basement has a horrible sewer gas smell, possibly from floor drain.
14. Stage does not have fire curtain.
15. Building is almost all wood floor framing with no sprinkler system installed.

