

# INDIAN ORCHARD BRANCH LIBRARY

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44 Oak Street  
Springfield, MA 01151

## FACILITIES REPORT 12/2/96

BUILT: 1909  
SQUARE FOOTAGE: 5,206±

CAOLO & BIENIEK  
ASSOCIATES, INC.  
435 Cottage Street  
Springfield, MA 01104

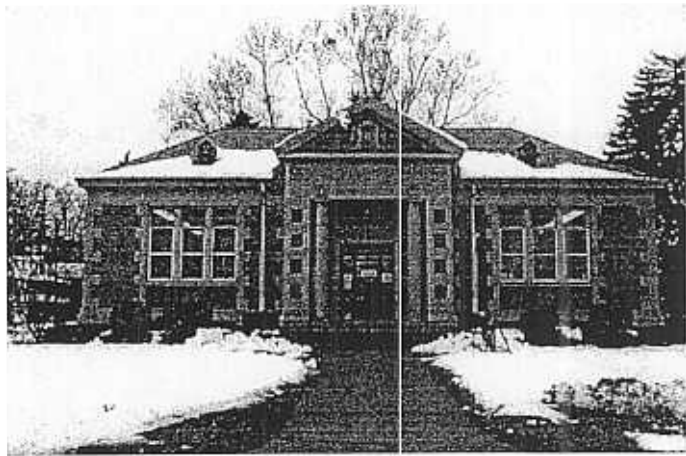


FIG. 1

TOWSLEY ASSOCIATES, INC.  
32 Knollwood Drive  
East Longmeadow, MA 01028

E. M. SULLIVAN CO., INC.  
2 Weston Street  
Wilbraham, MA 01095

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## UNIVERSAL ACCESSIBILITY BARRIERS

(Accessibility requirements are based on the Americans With Disabilities Act & 521 CMR Architectural Access Board)

**SITE:** ADA 4.1.2 No accessible parking is present at the facility. An accessible parking lot consisting of one handicap accessible space, one van accessible space and 8 - 10 typical parking spaces needs to be constructed on site. This would resolve the need for accessible parking and provide new sidewalks and access to the main entrance at the proper slope.

**RAMPS:** ADA 4.8 A ramp at the front of the building is required for access. An existing set of steps on the exterior consists of 5 risers with a second set of steps inside the vestibule consisting of two steps. A 48'-0" long ramp would be required with handrails and guardrails to reach the finish floor elevation. The exterior book drop is located at the top of the exterior steps. See figure 1.

**STAIRS:** ADA 4.9 The second means of egress on the back of the building requires new handrails and a top landing at the exit door. Handrail are needed on the front steps on the exterior and in the entry vestibule. See figure 2.  
ADA 4.3.1 A 36" wide minimum sidewalk is required from the second means of egress door to safe location away from the building.  
ADA 13.5 The egress door to the exterior is only 28" wide and is required to be 36" wide.

**DOORS:** ADA 4.13.7 The front vestibule does not provide the minimum 48" of clearance between the doors.

ADA 4.13.10 The front and rear exterior doors require new door closers/openers to meet the 5 pound push/pull force requirements.

ADA 4.13.9 All doors in the building require accessible hardware including handles, levers, closers and locks.

ADA 4.13.5 The doors into the first floor private office and storage area are not the required 36" wide.

**TOILETS:** ADA 4.16 No accessible toilet rooms exist in the building. One toilet room is located in the basement of the building in a small room that consists of a toilet only. The inaccessible sink is located outside of the toilet room. No accessible route exists from the first floor to the basement.

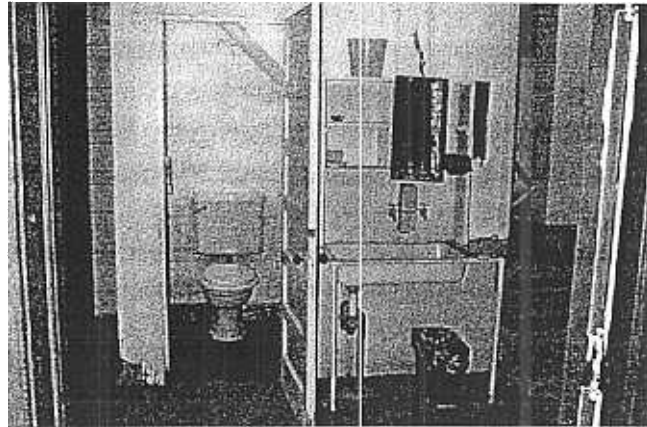


Fig 2

A second inaccessible toilet room is located directly off of the private office. This 4'-0" x 5'-0" room consists of a toilet and sink. See figure 2.

**ALARMS:** ADA 4.28 No fire or security alarms exist in the building. See electrical items.

**SIGNS:** ADA 4.30 No accessible signage exists in the building. Each room requires a sign with a written tactile description, grade 2 Braille description and accessible symbol.

**SEATING** ADA 4.32 Existing movable furniture does not provide the required 27" high knee space under the tables. Computer tables are not the proper height and do not provide the required 27" knee space, however, these tables are adjustable. A minimum of 5% of all seating and tables are required to be accessible.

**COUNTER:** ADA 4.32.4 The existing check-out counter does not provide a 30" high x 36" wide accessible area.

**STACKS:** ADA 8.5 Some of the existing stacks have the required 36" minimum between them, however, approximately 50% of the stacks are only 25" too 30" away from each other which is inaccessible. The existing stacks consist of original wood wall shelves and new metal free standing shelving units.

**CONTROLS:** ADA 4.27 All existing controls, switches, dispensers, etc. are required to be no higher than 54" from the highest operable point to the finished floor. The following items do not comply:

- exterior book drop
- thermostat
- air conditioner controls

**MATS:** MASS 25.4 There are existing door mats inside the vestibule and inside the second pair of doors. These mats are require to be recessed or anchored to the floor to prevent tripping hazards.

**KITCHEN:** MASS 45.1 No kitchen facilities exist in the building, however, an inaccessible microwave, refrigerator and coffee maker are being used in the private office in the rear of the building.

**ACCESSIBILITY COST ESTIMATE**

<b>SITE:</b>	Accessible parking:	\$50,000.00
	New sidewalk from rear door:	\$500.00
<b>RAMP:</b>	New accessible 48' 0" ramp:	\$35,000.00
<b>STAIRS:</b>	New stairs to basement at second means of egress:	\$15,000.00
<b>DOORS:</b>	Vestibule doors modified with ramp design:	\$10,500.00
	Hardware throughout the building:	\$3,500.00
<b>TOILETS:</b>	Two new accessible toilet rooms:	\$15,000.00
<b>ALARMS:</b>	See electrical section:	
<b>SIGNS:</b>	New signage throughout building:	\$500.00
<b>SEATING:</b>	New accessible tables & chairs:	\$500.00
<b>COUNTER:</b>	New accessible check-out counter:	\$1,500.00
<b>STACKS:</b>	Relocate existing book stacks:	\$5,000.00
<b>CONTROLS:</b>	Relocate existing controls:	\$500.00
<b>MATS:</b>	Recessed vestibule mat:	\$500.00
<b>KITCHEN:</b>	New accessible kitchenette unit:	\$2,000.00
	<u>Total:</u>	<u>\$140,000.00</u>

Our recommendation is to construct an addition to the building that would include an accessible entrance with a ramp, accessible toilet rooms and stairway to the basement. An elevator could also be included in this addition if employee accessible access is require to the basement. New mechanical and electrical systems could also be housed in the basement of the new addition.

Cost (including elevator, however other renovations in the existing building would also be required ) \$260,000.00

**BUILDING CODE**

(Building Code requirements are based on the Fifth Edition of the Massachusetts State Building Code 780 CMR)

**EGRESS:** None of the exits from the building are equipped with illuminated exit signs. Both means of egress are inaccessible to handicap people due to stairs and should be equipped with an area of refuge and emergency call button.

**STAIRS:** All interior and exterior stairs to the building do not comply with the handrail requirements. All staircases and steps are required to have handrails and guardrails on both sides of the stairs that extend 12" beyond the top riser and 12" + one tread at the bottom riser. All handrails should be 1-1/4" to 1-1/2" in diameter and have 1-1/2" clear space between the wall. The staircase leading to the basement only provides 5' 6" of head clearance and not the 6' 8" minimum clearance required by code. See fig. 3.

**ASBESTOS:** The existing boiler and piping in the basement is insulated with asbestos material and should be tested.

**BUILDING CODE CORRECTION COST**

<b>EGRESS:</b>	Accessible second means of egress:	\$20,000.00
<b>STAIRS:</b>	<u>New stairs and handrails:</u>	<u>\$15,000.00</u>
	<b>Total:</b>	<b>\$35,000.00</b>

**MAINTENANCE ITEMS**

**WINDOWS:** The existing windows are wood framed with single pane glazing with aluminum storm windows on the exterior. These aluminum storm windows only cover the bottom 3/4 of the window. The top quarter of all the windows are allowing a large amount of air infiltration into the building. Several windows should be recaulked and repainted. Two residential size air conditioners have been installed in two of the large double hung windows on the ends of the building. The air conditioners have been installed with plywood to seal the remaining area. This installation is not air tight and does not allow the storm windows to be installed during the heating season.

Some of the small basement windows have also been sealed with plywood from the interior. All of these windows should be replaced.

**PAINT:** In several rooms in the basement, the paint on the walls and ceiling is peeling due to age and moisture problems through the masonry walls. Several steps should be done to correct this problem. First, the site along the building should be regraded to provide a positive slope away from the building and extensions should be added on the existing downspouts to drain the rain and surface water further away from the building. A better solution would be to connect the downspouts to the public storm sewer system if one exists and if the City of Springfield would allow it. Second, a drain tile system with gravel backfill should be installed around the perimeter foundation footings of the building. This system would redirect the ground water away from the building and would need to empty into a well away from the building or into the public storm sewer system. Third, the heating system should be up-graded to provide heat, ventilation and dehumidification in the basement spaces. After the moisture problems has been resolved, the basement walls and ceiling should be cleaned of any remaining paint, repointed and repaired as required and then repainted with a masonry sealer or epoxy paint.

**ROOF:** Several ceiling tiles throughout the building are stained which indicate leaks through the slate roof. When these areas are opened for repairs, the wood substrate and framing should be inspected for water damage.

**MASONRY:** The exterior masonry requires repointing in areas around the entire building. Large amount of repairs are needed near the rear means of egress of the building. See figure 3.

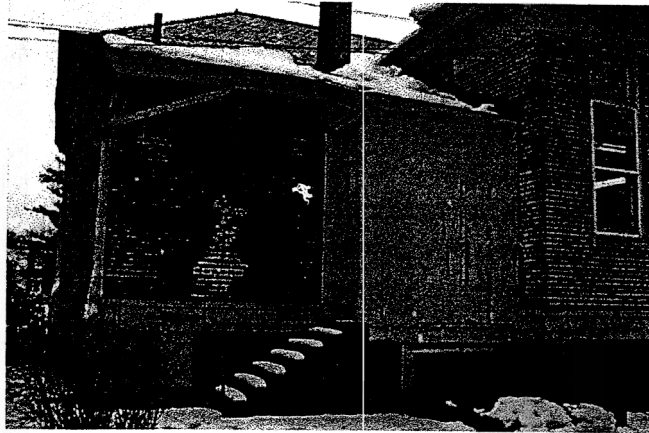


FIG. 3

### MAINTENANCE COST ESTIMATE

WINDOWS:	Replaced with aluminum insulated windows:	\$70,000.00
PAINT:	Site regrading, drain tile installation, and repainting (heating system under Mech. Items):	\$150,000.00
MASONRY:	<u>Repointing</u>	<u>\$5,000.00</u>
	Total:	\$225,000.00

## MECHANICAL ITEMS

### HEATING SYSTEM

- A. The building is heated by a cast iron oil-fired boiler. The distribution system is a one pipe system with manual control valves at each radiator. Oil is stored in a buried oil tank on the side of the building. The heating system is over 60 years old and has to be replaced with an energy efficient hot water system.

### AIR CONDITIONING SYSTEM

- A. The air conditioning system consists of window units.

### VENTILATION SYSTEM

- A. Mechanical ventilation does not exist. Ventilation for this type of building should provide a minimum of 15 CFM per person of outside air. The toilet rooms in the basement do not have exhaust fans (code violation).

### PLUMBING SYSTEM

- A. The cold water piping in the basement is brass and should be replaced with copper. A backflow preventer is not installed in the cold water make up to the boiler (code violation). The existing gas-fired water heater should remain.

## ENGINEER'S CONSTRUCTION COST ESTIMATE

A.	New HVAC system consisting of a combination gas/oil hot water boiler, air handling unit, refrigerant piping, "DX" cooling coils, pumps, terminal units, distribution system, and gas and oil piping:	\$180,000.00
B.	Fuel oil tank removal:	7,000.00
C.	Domestic water piping replacement:	3,000.00
D.	Toilet room exhaust fans and ductwork:	1,500.00
E.	Three (3) new fuel oil tanks in the basement with containment enclosure:	1,500.00
<b>TOTAL:</b>		<b>\$193,500.00</b>

## ELECTRICAL ITEMS

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### ELECTRICAL EQUIPMENT EVALUATION/CODE COMPLIANCE

- A. The electrical panels located in the closet and near the circulation desk are in violation of the Massachusetts Electric Code, Article 110-16. Three feet of clearance is required in front of electrical panels.
- B. The 100 amp, 2 pole electrical service equipment should be replaced because it is in questionable condition and is inadequate for future load increases.

### GENERAL ILLUMINATION

- A. The existing lighting in the stacks area are 1 x 4 pendant mounted fixtures which contain 2-T12 fluorescent lamps. These fixtures are in poor condition and the lenses are damaged and yellow. These should be replaced with energy efficient fluorescent 2 x 4 troffers and stack lights.
- B. Incandescent fixtures are used in the basement and restroom. These fixtures are not energy efficient and do not provide adequate lighting.
- C. Exterior lighting consists of HID fixtures which are in fair condition. This lighting is adequate but can be replaced for better energy efficiency.
- D. Lighting in offices and restrooms which are frequently unoccupied should have ceiling mounted occupancy sensors for energy savings..

### FIRE ALARM SYSTEM

- A. This branch has no fire alarm system. To meet Massachusetts Building Code requirements for use Group A-3, signaling devices should be audio/visual and voice type. The rest rooms require signaling devices and ADA requires pull stations and audio/visual devices at specific heights above the finished floor.

We recommend a complete fire alarm system installation with pull stations at every exit. Smoke and heat detectors shall be installed for sensing. Strobe

lights and speakers for a taped message shall be installed for fire alarms as required by the building code.

### EMERGENCY LIGHTING/EXIT SIGNS

Egress lighting is provided by emergency down lights at the exits. Exit signs are not illuminated.

We recommend that the new fixtures described in item 2 should have emergency ballasts to provide proper emergency lighting levels. The exit signs should be replaced with LED type fixtures with battery backup and down light.

### TELEPHONE SYSTEM

The existing telephone system should be modernized. Additional outlets are required in the office areas and circulation desk area. Also, outlets are required at the computer cluster area.

### ENGINEERING ESTIMATE

A.	Service Equipment, Feeders and Panels:	\$15,305.00
B.	Lighting, Emergency Lights and Exit Signs:	\$23,323.00
C.	Fire Alarm System:	\$11,660.00
D.	Telephone System:	\$ 8,745.00
E.	Branch Circuit Wiring:	\$13,840.00
	<u>Total</u>	<u>\$72,873.00</u>

### TOTAL COST FOR BUILDING IMPROVEMENTS

#### ACCESSIBLE RENOVATION COST

New addition with renovations to the kitchen, signage, stacks, seating, counter and controls. \$359,500.00

#### BUILDING CODE RENOVATION COST

New second means of egress with area of refuse. New stairs would be constructed in the new addition. \$20,000.00

MAINTENANCE RENOVATION COST \$225,000.00

MECHANICAL RENOVATION COST \$193,500.00

ELECTRICAL RENOVATION COST \$72,873.00

TOTAL \$870,873.00