



Committee: Tewksbury North and Trahan School Reuse Committee

Date: Jan. 7, 2021

Time: 6:42 pm

Location: WebEx Virtual Meeting

Members & Guests present: Bob Fowler, Keith Sullivan, Bridget Garabedian, Lorna Garey, Ken Duffet, Kristen Smith and guests Steve Watchorn of CBI Consulting and John Pierga with BLW Engineers

Members not present: Jay Kelly

The meeting was called to order at: 6:42 pm. Meeting was called to order late due to WebEx issues. Co-chair Bridget Garabedian led the meeting.

Meeting Motions / Actions and Summary of Discussions:

- Approval of meeting minutes for Nov. 19, 2020
Motion to approve: Bob Fowler Second: Keith Sullivan
The motion carried
- **Update from CBI Consulting:** SEE ATTACHED REPORTS
CBI has contracted to have mechanical/electrical/plumbing engineering firm BLW Engineers on call. CBI has been to the schools and has perspective on potential repurposing options. BLW also walked through the schools.

Mr. Watchorn touched base with cost estimators to compile an estimate for a full-building demolition for both schools, including mitigating and disposing of hazardous materials. Costs for North St. and Trahan should be comparable as both buildings are in similar condition, with the exception of an underground storage tank found at Trahan that may be contaminated. Potentially \$35,000 to \$50,000 to remove.

John Pierga of BLW updated the committee on plumbing, fire protection, fire alarm electrical capacity.

North St. has 400 amp service with equipment from the original 1952 buildout and is well beyond useful life. Trahan is similar. Everything downstream from the transformers would have to be replaced. Lighting systems in both schools are largely inefficient fluorescent fixtures, are also beyond expected useful life and would not meet energy codes.

Fire alarm systems in both buildings are only about four years old but cover only common areas. Some of these systems are salvageable but would need to be completely rewired. There are no sprinklers.

Plumbing and HVAC systems appear to be 25 years old and are approaching end of expected useful life and likely could not be repurposed.

Mr. Fowler asked how upgrade costs compare with demolition costs.

Mr. Watchorn approximates contingency demolition costs as \$2 million for North St. and \$2.5 million for Trahan, excluding site preparation. The bulk of this cost, approximately \$1.2 million, is hazardous materials abatement costs. Depending on how the town wants to use the land, there would be additional costs for the site work.

Repurposing the buildings would run \$200 to \$250 per square foot, based on a previous project. Each building is upward of 40,000 square feet. He estimates about \$8 million to \$12 million per building for renovation. For example, a sprinkler system would have to be added to the buildings because of the square footage of each.

Ms. Garabedian asked about sewer. That would require a civil engineer consultation. Mr. Watchorn will consult previous reports that were commissioned and get back to the committee.

By-Right Uses: SEE ATTACHED

Mr. Watchorn's review of the proposed zoning bylaws with Mr. Sadwick suggests that uses by right include:

Trahan: The proposed South Village offers a number of options. "South Village Business (SB). The South Village Business District includes a node of neighborhood commercial activity around the Shawsheen Street/Route 38 and South Street/Route 38 intersections. It is intended to support small-scale, attractive, neighborhood-focused development and business uses that do not require high traffic volume locations."

See attached bylaw proposal for additional information.

North St: The bulk of this parcel is in a flood plain, and there are few uses by right as it is a Residential District/R40. For example, a gym is not allowed. However, the building is grandfathered and therefore could be renovated for educational use; for example, a collaborative school. Based on wetlands, a basement would likely not be allowed. There are dry wells on the lot, some of which likely need work.

Ms. Smith asked about allowable recreation/open space uses. Mr. Fowler says the planning board is in possession of this information.

It is possible that some portion of one or both buildings could be repurposed with selective demolition, but it is unclear how that would affect by-right/grandfathered uses.

Additional areas of discussion:

Current assessed value of both lots is in the \$500,000 to \$550,000 range. Selling the lots “as is” would require disclosing the existence of hazardous materials in both buildings, in addition to underground storage tank at Trahan.

North St.: Mr. Fowler points out that the state via Tewksbury State Hospital owns some portion of the North St. property. There may be an interest in, for example, a cemetery expansion. Ms. Smith noted that the Boy Scouts constructed a walkway between the North St. and the soccer fields.

Trahan: There are a number of dead-end streets that could be extended to the Trahan site. Ms. Garey noted that the map CBI is working with does not reflect the new four-story mixed use building being constructed on Rt. 38 closely adjacent to the Trahan, which increases traffic in that area.

New Business:

Mr. Watchorn will explore the percentage of the North St. lot that is buildable based on wetlands.

Committee continued reorganization discussion as Mr. Kelly is not at the meeting.

Committee continued discussion of how we will reach out to other town committees and elected boards to ask if they are interested in coming in and speaking with us or if they would like to just send us feedback on their thoughts. Discussion to form a subcommittee to develop a letter/survey.

- Motion to adjourn made by Ms. Garey, seconded by Ms. Smith.
Meeting was adjourned at 7:39 p.m.

Next meetings:

All at 6:30 p.m. and virtual until further notice:

Jan. 21, 2021

Feb. 4, 2021

Feb. 18, 2021

March 4, 2021

March 18, 2021

April 1, 2021

April 15. 2021

Minutes approved by Committee on:

Feb. 18



TOWN OF TEWKSBURY

1009 Main Street
TEWKSBURY, MASSACHUSETTS 01876

DEPARTMENT OF COMMUNITY DEVELOPMENT

STEFANIA GALLO
PLANNER / CONSERVATION AGENT

(978) 640-4370 x255
sgallo@Tewksbury-Ma.Gov

January 13, 2021

North Street Elementary School Map 62 Lot 11 Wetland Resource Area Evaluation

*Existing Wetland Resource Areas were determined through evaluating existing datasets and aerial photography on Tewksbury MapsOnline, and MassGIS OLIVER. A field survey was not conducted and as a result this information is not to be construed as an accurate representation of the actual Wetland Resource Areas onsite.

Wetland Resource Areas Onsite:

- Bank to perennial and intermittent streams
- Bordering Land Subject to Flooding (Zone AE, 100-year Floodplain)
- Bordering Vegetated Wetland
- Riverfront Area to Strongwater Brook

Strongwater Brook borders the site to the north. According to the most current United States Geological Survey (USGS) this brook is considered a perennial stream at this section of its flow which means it has a 200-foot **Riverfront Area** associated with it. The Riverfront Area extends 200 feet horizontally from the delineated **Bank** of the stream.

The available wetlands dataset from the State (which includes potential areas of **Bordering Vegetated Wetlands**) shows a small wetland system on the eastern side of the site. This is circled in red in the map to the right. By reviewing the aerial photography of the site and the contours for the area, it appears as though this wetlands dataset is not an accurate depiction of the actual wetlands on the site. The actual wetland system is likely much larger and can be found to the north and east of the existing school and development.





TOWN OF TEWKSBURY

1009 Main Street
TEWKSBURY, MASSACHUSETTS 01876

DEPARTMENT OF COMMUNITY DEVELOPMENT

STEFANIA GALLO
PLANNER / CONSERVATION AGENT

(978) 640-4370 x255
sgallo@Tewksbury-Ma.Gov



According to the most current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the area, a portion of the site is located within the 100-year floodplain which means it is a Wetland Resource Area in the Wetlands Protection Act (known as **Bordering Land Subject to Flooding**). The National Flood Hazard Layer FIRMette Map downloaded from the FEMA website is attached to this report.





TOWN OF TEWKSBURY

1009 Main Street
TEWKSBURY, MASSACHUSETTS 01876

DEPARTMENT OF COMMUNITY DEVELOPMENT

STEFANIA GALLO
PLANNER / CONSERVATION AGENT

(978) 640-4370 x255
sgallo@Tewksbury-Ma.Gov

Based on the information above, I have estimated where the potential buildable area is on the site.



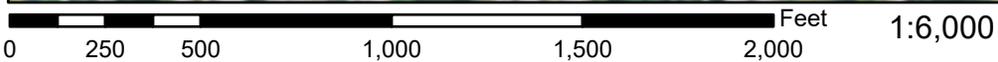
Total Parcel Area = 740,520 sf (outlined in yellow in the image above)
17 acres

Total Buildable Area = 295,379 sf (red area in the image above)
6.8 acres
40% of the parcel

National Flood Hazard Layer FIRMMette



71°14'12"W 42°37'9"N



71°13'35"W 42°36'43"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
MAP PANELS		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **1/13/2021 at 8:53 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

B. EXEMPT AND INSTITUTIONAL USES	R40	FA	LB	COM	TR	P	MN	MFD	MFD/55	CDD	HI	HI-1	OR	WNB
1. Use of land or structures for religious purposes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2. Use of land or structures for educational purposes on land owned or leased by the Commonwealth or any of its agencies, subdivisions or bodies politic or by a religious sect or denomination, or by a nonprofit educational corporation	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3. Child care facility in existing building	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4. Child care facility in new building	N	PB	PB	PB	PB	PB	N	N	N	N	PB	PB	PB	PB
5. Use of land for the primary purpose of agriculture, horticulture, floriculture, or viticulture on a parcel of more than five (5) acres in area	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
6. Facilities for the sale of produce, and wine and dairy products on exempt agricultural sites	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
7. Cemeteries, private	SP	N	N	N	N	N	SP	N	N	N	SP	SP	N	N
8. Municipal parks and playgrounds	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
9. Other municipal facilities	PB	PB	PB	PB	PB	PB	Y	PB	PB	Y	PB	PB	PB	PB
10. Essential services	N	N	N	PB	N	N	PB	N	N	N	PB	PB	PB	PB
11. Water towers and reservoirs	PB	PB	PB	PB	PB	PB	PB	PB	N	N	PB	PB	PB	PB
12. Hospital	PB	N	N	PB	N	N	PB	N	N	N	PB	PB	PB	PB

Section 5.4.3
APPENDIX A. TABLE OF USES

DISTRICTS & USES	F	R40	MF	VR	MUB	TC	LB	WNB	SB	GB	I1	I2	OR	TD	P
A.1 CONSERVATION, RECREATION															
a. Commercial agriculture, including farm stand	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
b. Commercial agriculture, non-exempt, including farm stand	Y	N	N	N	N	N	N	N	N	N	N	PB	PB	N	N
c. Forestry management	Y	Y	N	N	N	N	N	N	N	N	SP	N	N	Y	Y
d. Non-profit outdoor recreation, e.g., swimming, hiking, picnicking, fishing	Y	SP	N	N	N	N	N	N	N	N	N	N	N	Y	Y
e. Camp, day camp only, e.g., summer camp for children	Y	SP	N	N	N	N	N	N	N	N	N	N	N	Y	Y
f. Municipal use	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
A.2 RESIDENTIAL															
Residential: Principal															
a. Single-family dwelling, detached	Y	Y	Y	Y	N	N	Y	N	N	N	N	N	N	Y	N
b. Townhouse	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N
c. Two-family dwelling	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N
d. Multifamily dwelling, up to 7 units; Sec. 8.2	N	N	Y	Y	PB	PB	N	N	PB	N	N	N	PB	N	N
e. Multifamily dwelling, 8 or more units; Sec. 8.2	N	N	N	N	N	PB	N	N	N	N	N	N	N	N	N
f. Multi-family development	N	N	PB	PB	PB	PB	N	N	PB	N	N	N	PB	N	N
g. Dwelling units above the ground floor of a commercial building	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N
h. Artist loft or live/work units	N	N	PB	Y	Y	Y	PB	PB	Y	PB	N	N	N	N	N
i. Open Space Residential Development (OSRD); Sec. 8.4	PB	PB	PB	N	N	N	N	N	N	N	N	N	N	N	N
j. Congregate residence	N	N	Y	Y	PB	PB	N	PB	PB	PB	PB	N	PB	N	N
k. Assisted living residence	N	N	Y	Y	N	PB	N	N	PB	PB	PB	N	PB	N	N
l. Continuing care retirement community	N	N	PB	PB	Y	N	N	N	N	PB	PB	N	PB	N	N
Residential: Accessory															
m. Family suite; Sec. 7.1, Sec. 3.6	PB	PB	PB	PB	N	N	N	N	N	N	N	N	N	PB	N
n. Home occupation; Sec. 7.2	Y/SP	Y/SP	Y/SP	Y/SP	Y/SP	Y/SP	N	N	Y/SP	N	N	N	N	Y/SP	N
o. Family child care home	Y	Y	Y	Y	SP	N	N	N	N	N	N	N	N	Y	N
p. Family child care home, large	SP	SP	SP	SP	SP	N	N	N	N	N	N	N	N	N	N
q. Room and board for not more than two borders	Y	Y	Y	Y	SP	N	N	N	SP	N	N	N	N	N	N
r. Parking of one light commercial vehicle	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	SP	SP	SP	SP	N
s. Parking of two light commercial vehicles (three is prohibited)	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	N

NOTES: (1) Many of the uses classified as “Y” may require Site Plan Review under Section 3.6 prior to issuance of a building permit. (2) Legend: Y = permitted as of right (but may be subject to Site Plan Review); PB = Planning Board special permit; SP = ZBA special permit. (3) For specifically prohibited uses, see Section 5.4.2.

DISTRICTS & USES	F	R40	MF	VR	MUB	TC	LB	WNB	SB	GB	I1	I2	OR	TD	P
t. Private game court	PB	Y	PB	PB	N	N	N	N	N	N	Y	Y	Y	N	N
A.3 PUBLIC, INSTITUTIONAL, PHILANTHROPIC															
a. Religious or exempt educational use	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
b. Cemetery, which may include a crematorium	N	SP	N	N	N	N	N	N	N	N	SP	SP	N	N	N
c. Hospital	PB	PB	N	N	N	N	N	N	N	PB	PB	PB	N	N	N
d. Nursing home, rest home, similar long-term residential-congregate care, which may include accessory adult day care	N	N	PB	N	N	PB	N	N	PB	PB	PB	N	PB	N	N
e. Adult day care and/or respite care services	N	N	PB	PB	N	PB	N	N	PB	PB	PB	N	PB	N	N
f. Function hall, community center, similar non-commercial place of assembly	PB	N	N	PB	PB	PB	N	N	PB	PB	N	N	N	N	N
A.4 COMMERCIAL															
Retail															
a. Retail store															
1. Up to 1,500 sq. ft.	N	N	N	Y	Y	Y	N	PB	Y	Y	PB	PB	N	N	N
2. Up to 7,500 sq. ft.	N	N	N	PB	Y	Y	N	PB	Y	Y	PB	PB	N	N	N
3. Up to 15,000 sq. ft.	N	N	N	N	N	PB	N	N	Y	Y	N	N	N	N	N
4. Over 15,000 sq. ft.	N	N	N	N	N	N	N	N	PB	PB	N	N	N	N	N
b. Shopping center	N	N	N	N	N	N	N	PB	PB	PB	N	N	N	N	N
c. Retail sale of alcoholic beverages	N	N	N	N	PB	PB	N	PB	PB	PB	Y	PB	PB	N	N
Greenhouse	N	N	N	PB	PB	N	N	N	PB	PB	PB	N	N	N	N
d. New automotive sales, leasing and rental	N	N	N	N	PB	N	N	PB	PB	PB	PB	PB	N	N	N
e. Used automotive sales	N	N	N	N	N	N	N	N	N	N	N	PB	N	N	N
f. Gasoline service station, which may include a convenience store not exceeding 2,500 sq. ft. or accessory light auto service	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
g. Car wash	N	N	N	N	N	N	N	N	PB	PB	N	N	N	N	N
h. Auto body shop, auto repair facility	N	N	N	N	N	N	N	N	N	N	N	PB	N	N	N
i. Commercial parking lot or parking garage	N	N	N	N	N	PB	N	N	N	N	Y	PB	Y	N	N
j. Taxi or limousine service	N	N	N	N	SP	N	SP	N	SP	SP	SP	SP	N	N	N
Office, Professional Use															
k. Personal service establishment, Business or professional office	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	PB	N
l. Business or professional office	N	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N
Hospitality, Food Service															
m. Restaurant, which may include outdoor seating on an adjacent patio; no drive-through service	N	N	N	N	Y	Y	N	PB	Y	Y	PB	PB	PB	N	N

NOTES: (1) Many of the uses classified as “Y” may require Site Plan Review under Section 3.6 prior to issuance of a building permit. (2) Legend: Y = permitted as of right (but may be subject to Site Plan Review); PB = Planning Board special permit; SP = ZBA special permit. (3) For specifically prohibited uses, see Section 5.4.2.

DISTRICTS & USES	F	R40	MF	VR	MUB	TC	LB	WNB	SB	GB	I1	I2	OR	TD	P
n. Restaurant with drive-through service	N	N	N	N	PB	N	N	N	N	PB	PB	PB	PB	N	N
o. Food establishment, not exceeding 1,200 sq. ft.	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
p. Bed & breakfast	N	PB	PB	Y	Y	Y	Y	PB	Y	Y	N	N	N	N	N
q. Inn	N	N	N	Y	Y	Y	PB	N	PB	Y	N	N	N	N	N
r. Hotel or motel, with or without conference facilities	N	N	N	PB	PB	PB	N	N	N	PB	PB	PB	PB	N	N
Public Services															
s. Child care center	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
t. Postal service	N	N	N	N	PB	Y	PB	N	Y	Y	PB	PB	PB	N	N
u. Fraternal or membership organization; professional or trade organization	N	N	N	N	Y	Y	N	PB	Y	PB	PB	PB	N	N	N
v. Funeral home	N	N	N	N	PB	PB	N	N	PB	PB	PB	PB	N	N	N
w. Non-exempt educational use	N	N	N	N	PB	N	PB	PB	Y	Y	PB	PB	PB	N	N
x. Sheltered bus stop	SP	SP	SP	SP	Y	Y	SP	SP	Y	Y	Y	Y	Y	N	N
y. Essential services	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Culture, Entertainment Uses															
z. Museum or art gallery	PB	N	N	Y	Y	Y	Y	Y	Y	Y	Y	PB	Y	N	N
aa. Cinema	N	N	N	PB	PB	PB	N	N	PB	Y	Y	N	PB	N	N
bb. Theatre for live performing arts (dance, music, dramatic productions, etc.)	N	N	N	PB	PB	PB	N	N	PB	PB	PB	PB	PB	N	N
Commercial Recreation															
cc. Large commercial indoor recreation (inc. bowling, ice skating, roller skating rink)	N	N	N	PB	PB	N	N	N	PB	PB	PB	PB	N	N	N
dd. Gym or athletic club, fitness facility	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
ee. Golf course	N	PB	N	N	PB	N	N	N	N	N	N	N	N	N	PB
ff. Miniature golf	N	N	N	N	N	N	N	N	N	PB	N	N	N	N	N
gg. Camping facility with accommodations for tents, camp trailers/recreational vehicles, travel trailers	N	N	N	N	N	N	N	N	N	N	N	N	N	N	PB
Other															
hh. Adult use	N	N	N	N	N	N	N	N	N	N	PB	PB	PB	N	N
ii. Veterinarian, animal hospital	PB	N	N	PB	Y	Y	PB	PB	PB	Y	PB	PB	PB	N	N
jj. Pet services	N	N	N	N	Y	Y	PB	PB	PB	Y	N	N	N	N	N
kk. Kennel, commercial	N	N	N	N	PB	PB	PB	N	PB	PB	PB	N	N	N	N
ll. Self-storage facility	N	N	N	N	N	N	N	PB	N	N	PB	PB	N	N	N
mm. Marijuana Cultivation	N	N	N	N	N	N	N	PB	N	N	PB	PB	PB	N	N
nn. Marijuana Research	N	N	N	N	N	N	N	PB	N	N	PB	PB	PB	N	N
oo. Marijuana Manufacturing	N	N	N	N	N	N	N	PB	N	N	PB	PB	PB	N	N
A.5 INDUSTRIAL															
a. Research & development, laboratory, which may include accessory manufacturing of products in testing and development	N	N	N	N	N	N	N	Y	N	N	Y	Y	Y	N	N
b. High-tech/biotech	N	N	N	N	N	N	N	N	N	N	PB	PB	Y	N	N

NOTES: (1) Many of the uses classified as “Y” may require Site Plan Review under Section 3.6 prior to issuance of a building permit. (2) Legend: Y = permitted as of right (but may be subject to Site Plan Review); PB = Planning Board special permit; SP = ZBA special permit. (3) For specifically prohibited uses, see Section 5.4.2.

DISTRICTS & USES	F	R40	MF	VR	MUB	TC	LB	WNB	SB	GB	I1	I2	OR	TD	P
manufacturing															
c. Manufacturing	N	N	N	N	N	N	N	PB	N	N	PB	PB	PB	N	N
d. Machine, welding shop	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N
e. Warehouse/distribution facility	N	N	N	N	N	N	N	PB	N	N	PB	PB	N	N	N
f. Transportation or Freight terminal	N	N	N	N	N	N	N	N	N	N	PB	PB	N	N	N
g. Wireless communication facility	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB
h. Plant, storage, substations for public utilities, or storage and sale of heating fuel	N	N	N	N	N	N	N	N	N	N	PB	PB	N	N	N
i. Retail showroom and sale of products manufactured on the premises	N	N	N	N	N	N	N	N	N	PB	Y	Y	N	N	N
j. Contractor's yard	N	N	N	N	N	N	N	N	N	N	PB	PB	N	N	N
k. Stone or monument works	N	N	N	N	N	N	N	N	N	N	PB	PB	N	N	N
l. Sale of lumber, farm supplies, similar products, including outdoor storage and sales	N	N	N	N	N	N	N	N	N	PB	PB	PB	N	N	N
m. Accessory dwelling for use as watchperson's quarters only	N	N	N	N	N	N	N	N	N	PB	PB	PB	PB	N	N

NOTES: (1) Many of the uses classified as "Y" may require Site Plan Review under Section 3.6 prior to issuance of a building permit. (2) Legend: Y = permitted as of right (but may be subject to Site Plan Review); PB = Planning Board special permit; SP = ZBA special permit. (3) For specifically prohibited uses, see Section 5.4.2.

**North and Trahan Schools
133 North Street and 12 Salem Road
Tewksbury, MA**

MEPFP Evaluation



North School



Trahan School

Prepared For:

**Stephen Watchorn, LEED AP, Associate A.I.A
CBI Consulting, LLC
250 Dorchester Ave.
Boston, Massachusetts 02127**

January 5, 2021

FIRE PROTECTION

Fire Protection Existing Conditions

North School

There are no Fire Protection Sprinkler Systems within the building.

Trahan School

There are no Fire Protection Sprinkler Systems within the building.

End of Fire Protection Section

PLUMBING

Plumbing Existing Conditions

North School

The building water service and water meter appears to be 2". Domestic hot water is generated through a gas fired hot water heater with storage. Domestic cold water and domestic hot water is distributed throughout the building with a piping system.

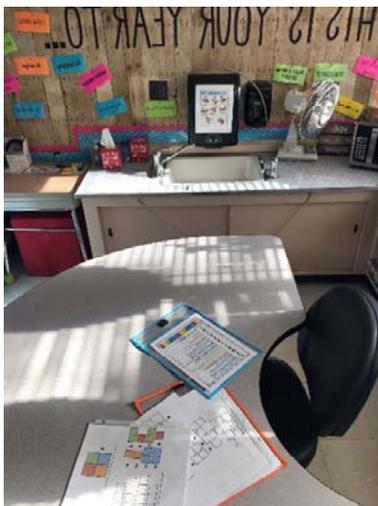


Water Meter



Hot Water Heater

Plumbing fixtures throughout the building were various types and states of condition. Waste piping throughout the building is through gravity.



Typical Classroom Sink



Water Bubbler



Typical Fixtures



Lab Sink

Natural gas is utilized within the school for hot water heating and kitchen cooking appliances. The gas piping was steel pipe with threaded fittings. It was noted that the gas line under the hood did not appear to have the latest CO interlock safety devices.



Natural Gas Pipe to Kitchen Appliances

Kitchen grease interceptor is located within the kitchen below the kitchen pot sink.



Grease Interceptor



Kitchen Pot Sink

Trahan School

The building water service and water meter appears to be 2". Domestic hot water is generated through a gas fired hot water heater with storage. Domestic cold water and domestic hot water is distributed throughout the building with a piping system.



Water Meter



Hot Water Heater

Plumbing fixtures throughout the building were various types and states of condition. Waste piping throughout the building is through gravity.



Typical Classroom Sink



Natural gas is utilized within the school for hot water heating and kitchen cooking appliances. The gas piping was steel pipe with threaded fittings. It was noted that the gas line under the hood did not appear to have the latest CO interlock safety devices.



Gas Meter

Plumbing Recommendations

The existing plumbing systems appear to be more than 25 years old and should be replaced.

End of Plumbing Section

Mechanical Existing Conditions**North Street**

The building is heated with (2) steam water boilers (Smith Boiler) with a heating capacity of 3,978 MBH each. The boilers operating efficiency is approximately 80%. Each boiler has been provided with natural gas fired burners. The boilers and condensate transfer system appears more than 25 years old.

***Steam Boiler #1******Steam Boiler #2***

Steam is distributed throughout the building with a steam supply distribution piping and condensate return piping systems. Heating is also provided through hot water heating system through a hot water heat exchanger. Hot water supply and return piping distribution system and hot water system specialties including air separator and expansion tanks. Water is pumped through the piping systems with (2) base mounted pumps. The pumps, water specialties and piping appear to be more than 25 years old.

***Typical Hot Water Pumps******Heat Exchanger***

The original building classrooms are heated with finned tube radiation. Ventilation air is provided through a central ventilation system that consists of air handling unit, heating coil, plenum distribution and air outlets. Exhaust air is provided through roof mounted exhaust fans, exhaust ductwork and exhaust registers. The heating systems, ventilation systems and exhaust systems appear to be more than 25 years old.



Typical Finned Tube Radiation



Typical Supply Register

The classrooms that were added (Greenhouse Area) are heated and ventilated with unit ventilators with hot water heating coils. Exhaust air is provided through roof mounted exhaust fans, exhaust ductwork and exhaust registers. The unit ventilators system and exhaust fans appear to be more than 25 years old.



Unit Ventilator – Supply Register



Typical Unit Ventilator – Greenhouse Addition

Common space and office areas are heated with finned tube radiation and unit heaters. Each heater is controlled with a pneumatic hot water control valve and space thermostat. Ventilation air is provided through operable windows. The finned tube radiation and unit heater systems appear to be more than 25 years old.



Typical Finned Tube Radiation



Unit Ventilator

Bathroom and locker room exhaust is through roof mounted exhaust fans. Exhaust ductwork extends from the roof fan and extends to each bathroom and locker rooms and terminates with an exhaust register. Kitchen hood exhaust is through a roof mounted up-blast exhaust fan. Hood exhaust ductwork extends from the fan and extends down to hood.



Typical Exhaust Fan



Kitchen Exhaust

The building controls are pneumatic with the air compressor located within the mechanical room. Pneumatic tubing extends from the mechanical room to controllers throughout the building.



Air Compressor



Typical Wall Thermostat

Trahan School

The building is heated with (2) steam water boilers (Smith Boiler) with a heating capacity of 3,978 MBH each. The boilers operating efficiency is approximately 80%. Each boiler has been provided with natural gas fired burners. The boilers and condensate transfer system appears more than 25 years old.



Steam Boiler #1



Steam Boiler #2

Steam is distributed throughout the building with a steam supply distribution piping and condensate return piping systems. Heating is also provided though hot water heating system through a hot water heat exchanger. Hot water supply and return piping distribution system and hot water system specialties including air separator and expansion

tanks. Water is pumped through the piping systems with (2) base mounted pumps. The pumps, water specialties and piping appear to be more than 25 years old.



Typical Hot Water Pumps



Boiler Feed

The original building classrooms are heated with finned tube radiation. Ventilation air is provided through a central ventilation system that consists of air handling unit, heating coil, plenum distribution and air outlets. Exhaust air is provided through roof mounted exhaust fans, exhaust ductwork and exhaust registers. The heating systems, ventilation systems and exhaust systems appear to be more than 25 years old.



Typical Finned Tube Radiation



Typical Supply Register

The classrooms that were added (Greenhouse Area) are heated and ventilated with unit ventilators with hot water heating coils. Exhaust air is provided through roof mounted exhaust fans, exhaust ductwork and exhaust registers. The unit ventilators system and exhaust fans appear to be more than 25 years old.



Unit Ventilator – Supply Register



Typical Unit Ventilator – Greenhouse Addition

Common space and office areas are heated with finned tube radiation and unit heaters. Each heater is controlled with a pneumatic hot water control valve and space thermostat. Ventilation air is provided through operable windows. The finned tube radiation and unit heater systems appear to be more than 25 years old.



Cabinet Unit Heater



Unit Heater

Bathroom and locker room exhaust is through roof mounted exhaust fans. Exhaust ductwork extends from the roof fan and extends to each bathroom and locker rooms and terminates with an exhaust register. Kitchen hood exhaust is through a roof mounted up-blast exhaust fan. Hood exhaust ductwork extends from the fan and extends down to hood.

The building controls are pneumatic with the air compressor located within the mechanical room. Pneumatic tubing extends from the mechanical room to controllers throughout the building.



Air Compressor



Typical Wall Thermostat

Mechanical Recommendations

Hot water boiler, pumps, water specialties, controls, unit ventilators, cabinet unit heaters, roof top units, air handling units and exhaust fans are more than 25 years old and at the end of their useful life expectancy and should be replaced.

End of Mechanical Section

Electrical Service Existing Conditions – North Elementary School

The building’s service originates from a utility pole on North Street; primary conductors and conduit run underground to (3) 25 KVA below-grade submersible-type can transformers. The service size is 400 amps at 120/208 volt 3-phase 4-wire. The secondary service conductors terminate in a 400 amp disconnect. The switchboard is rated 400 amps, 208 volt 3-phase and is from the original construction (ca. 1952). The switchboard is located in the building’s main electric room at the basement level.

The switchgear was manufactured by Square D. The gear consists of a distribution section, which contains draw-out fusible switches. The gear is well past the expected useful life for switchgear by 18 years or more. The switches in the switchboard feed other panels throughout the school. The other panels in the school were also manufactured by Square D and are from the original construction. A few other load centers were added over the years due to new loads being required. The original panels have also exceeded their expected lifespans.



NGRID Pirmary Pole



(3) 25 KVA Transformers



4" Primary Conduit



Switchboard



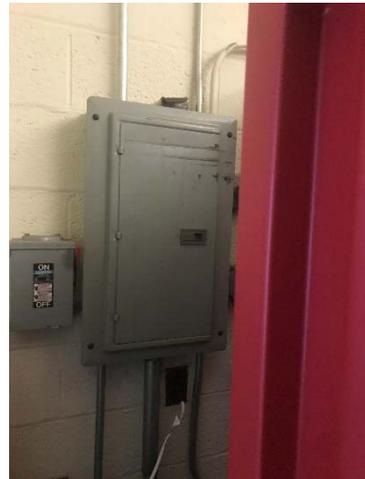
400 AMP Disconnect and Meter



400 AMP Main Switchboard



Boiler Panel



Load Center



Original Recessed Panel

Fire Alarm System

The building has a complete fire alarm system which was installed approximately 4 years ago. The system consists of an addressable Fire-Lite MS-9200 UDLS control panel, manual addressable pull stations at exit doors, an interior digital Masterbox connected to the city's fire department; horn/strobe devices in common public spaces. There was minimal smoke ore heat detector coverage. There were no horn/strobe devices in the classrooms. The building is not sprinklered, therefore there is no tamper and flow switch connections to the control panel.

The system appears to be in good working condition and has approximately 16 years of remaining expected life.



Main FACP



Manual Pull Station



Non-Functioning Masterbox

Lighting

The building's lighting is mostly inefficient fluorescent-lamped fixtures. Fixture types include 2'x4' paracube surface-mounted, 8' 2-lamp T12 industrials, incandescent sockets, 8' 2-lamp suspended classroom fixtures, 4' surface wraparounds, fluorescent high-bay gym fixtures.

The fixtures are all inefficient, at or past their expected useful lives, lenses are discolored from age. None of the fixtures would be worth salvaging.



2' x 4' Paracube



8' x 2 Lamp Industrial



2 Lamp Classroom Suspended



Surface Wraparounds



Classroom Fixtures



Gym Fixtures

Emergency Lighting

The building's emergency lighting consists of remote emergency heads, non-illuminated (Code Violation), illuminated exit signs. The emergency lighting equipment is all dated and approaching the end of their expected useful life.



Remote Emergency Heads



Non-Illuminated Exit Sign

Electrical Recommendations – North Elementary School

Electrical Service

The existing service and electrical panels are well past their useful lives and would be inadequately sized for any repurposing of the building. The existing transformer vault would not meet the utilities' requirements and could not be reused. A new primary underground service conduit(s) and a new padmount transformer would be required for a new service to the building. All of the existing electrical infrastructure should be removed/demolished.

Existing Fire Alarm

Although only 4 years old, it would not make financial sense to try and reuse the fire alarm system. The building reconfiguration would require existing devices and wiring to be removed and relocated. It would be more cost effective to demolish the existing system and provide all new.

Lighting

The existing lighting is past its expected life, inefficient and would not meet the latest energy code if reused. All lighting and branch wiring and controls should be demolished.

Emergency Lighting

The existing emergency lighting is past its expected life and should be demolished in its entirety.

Electrical Service Existing Conditions – Trahan Elementary School

The building’s service originates from a utility pad-mounted transformer (150KVA). The service size is 400 amps at 120/208 volt 3-phase 4-wire. The secondary service conductors terminate in a 400 amp disconnect. The switchboard is rated 400 amps, 208 volt 3-phase and is from the original construction (ca. 1952). The switchboard is located in the building’s main electric room at the basement level.

The switchgear was manufactured by Square D. The gear consists of a distribution section, which contains draw-out fusible switches. The gear is well past the expected useful life for switchgear by 18 years or more. The switches in the switchboard feed other panels throughout the school. The other panels in the school were also manufactured by Square D and are from the original construction. A few other load centers were added over the years due to new loads being required. The original panels have also exceeded their expected lifespans.



Trahan School Transformer



400 Amp Main Building Disconnect



Main Switchboard



4" 400 Amp Incoming Service



Boiler Room Panel



Original Panel



Newer Panel



Newer Panelbaord



Original Panel-Recessed



Newer Loadcenter

Fire Alarm System

The building has a complete fire alarm system which was installed approximately 4 years ago. The system consists of an addressable Fire-Lite MS-9200 UDLS control panel, manual addressable pull stations at exit doors, an interior digital Masterbox connected to the city's fire department; horn/strobe devices in common public spaces. There was minimal smoke or heat detector coverage. There were no horn/strobe devices in the classrooms. The building is not sprinklered, therefore there is no tamper and flow switch connections to the control panel.

The system appears to be in good working condition and has approximately 16 years of remaining expected life.



Fire Alarm Control Panel

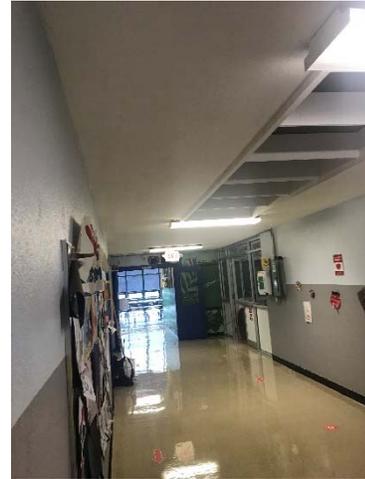
Lighting

The building's lighting is mostly inefficient fluorescent-lamped fixtures. Fixture types include 2'x4' paracube surface-mounted, 8' 2-lamp T12 industrials, incandescent sockets, 8' 2-lamp suspended classroom fixtures, 4' surface wraparounds, fluorescent high-bay gym fixtures.

The fixtures are all inefficient, at or past their expected useful lives, lenses are discolored from age. None of the fixtures would be worth salvaging.



Utility Fixture



Surface Wraparound/Exit Light



Classroom Lighting



Surface Paracube



2' x 4' Acrylic Lens

Emergency Lighting

The building's emergency lighting consists of remote emergency heads, non-illuminated (Code Violation), illuminated exit signs. The emergency lighting equipment is all dated and approaching the end of their expected useful life.



Non-Illuminated Exit Sign



Exit/Emergency Fixture

Electrical Recommendations – Trahan Elementary School

Electrical Service

The existing service and electrical panels are well past their useful lives and would be inadequately sized for any repurposing of the building. The existing transformer vault would not meet the utilities' requirements and could not be reused. A new primary underground service conduit(s) and a new padmount transformer would be required for a new service to the building. All of the existing electrical infrastructure should be removed/demolished.

Existing Fire Alarm

Although only 4 years old, it would not make financial sense to try and reuse the fire alarm system. The building reconfiguration would require existing devices and wiring to be removed and relocated. It would be more cost effective to demolish the existing system and provide all new.

Lighting

The existing lighting is past its expected life, inefficient and would not meet the latest energy code if reused. All lighting and branch wiring and controls should be demolished.

Emergency Lighting

The existing emergency lighting is past its expected life and should be demolished in its entirety.