



December 27, 2019

Site Visit Notes

Re: **Tucker Free Library**
Construction Documents
Henniker, New Hampshire
Site Visit Notes of November 19, 2019
WVA Project No. 18189

During our 11/19/19 site visit to the Tucker Free Public Library in Henniker, NH we observed the following:

Sprinkler

- There is no existing sprinkler service or coverage at the building.

Plumbing

- Domestic water is provided by a 1" copper water service located in a lower level storage room.
- Domestic hot water is provided by a 12 gallon, 1,500 watt Bradford White electric water heater located in the lower level mechanical room. There does not appear to be any hot water recirculation piping or ASSE 1017 anti-scald mixing valve.
- Sanitary waste piping is a mix of hub and spigot cast iron and PVC. The service exit appears to be out the front and back of building. The front service exit may be the original with the back service exit created when the lower level was renovated.
- The lower level plumbing fixtures appear to have been recently replaced and in good condition. These fixtures are suitable for reuse.
- The lower level meeting room sink waste is pumped to the sanitary sewer. The sink and faucet are not ADA compliant. The fixtures appear in fair condition and may be reused or replaced at Owner's discretion.

Mechanical

- The building is served by multiple mechanical systems that have been modified, renovated or replaced during the building's life.
- Hot water heat is provided by a Buderus G115 oil fired hot water boiler installed in 2017. There are six (6) heating zones piped to fin tube radiation or cabinet unit heaters throughout the building. The zones are labeled as:
 - ▶ File Room/Storage
 - ▶ Kids' Reading Room/E-Room
 - ▶ Kindergarten/Lower Level
 - ▶ Kiosk/Main Floor Circulation Desk
 - ▶ Youth Area/J-Room
 - ▶ Meeting Room/Elevator Hall
- Heating and air conditioning are provided by a floor mounted oil fired furnace located in the lower level mechanical room. Based upon review of the visible ductwork the furnace (AHU-1) appears to serve the main floor with floor mounted registers. AHU-1 appears to have a 190,000 BTU/HR heating capacity at 76% efficiency and a five (5) ton cooling capacity. AHU-1 appears to have been installed in 2005. The air conditioning condenser has been recently replaced.
- The oil boiler and oil furnace are vented through single wall vent into the existing masonry chimney.
- Oil is stored in a 275 gallon vertical tank located in the lower level mechanical room with fill and vent connections at the building exterior.
- Additional air conditioning is provided by a horizontal ducted air handler (AHU-2) located in lower level mechanical room. Based upon review of visible ductwork AHU-2 appears to serve the lower level. Installation date and capacity is unknown. AHU-2 ductwork has been modified and we understand is non-operational.
- Heating for the attic storage room is provided by four (4) sticks of electric radiation. Remaining attic space is un-conditioned.
- There is no mechanical ventilation provided.

Electrical

- Electric service comes overhead from a utility pole across Western Avenue. The service is 200 amp, 240/120 volt, single phase. The utility meter is located on the building exterior outside the lower level mechanical room.
- Telephone and data service come overhead from the same utility pole across Western Avenue.
- 200 amp main distribution panel and 100 sub-panel are located near the exterior door in the lower level mechanical room. Circuit directory indicates a 60 amp sub-panel at the kindergarten room, we did not observe this panel. 30 amp sub-panel located in the attic serving the attic.
- Wiring throughout the building appears to be NM type. Receptacles are older with some surface mounted and some recessed.
- Lighting is older style fluorescent with a mix of pendant, surface mounted or recessed style depending upon installation location. Emergency lighting is limited to a wall mounted battery unit with integral heads at the basement. Emergency lighting coverage does not meet current code requirements.
- Fire alarm panel is a Silent Knight type located in the lower level mechanical room with a MirCom 1000 remote annunciator panel located at the main building entry. Fire alarm system appears to be an older zoned-type with smoke detector and pull station initiation devices. Strobe and horn/strobe coverages do not appear to meet current code.
- Security front end controller is located in the lower level mechanical room near the main electrical panel. The emergency battery was replaced in 2009.

Recommendations

We understand the building renovations include a new addition with public restrooms and three stop elevator. We understand the MEP scope to be the following:

Basement

- This part of the building will be converted from its current use to a crawlspace, no MEP work anticipated.
- Provide complete NFPA 13 dry sprinkler coverage at the un-conditioned crawlspace.

Lower Level

- Architectural renovations include lowering the E-Room floor level to improve building circulation. This will impact the existing E-Room MEP services.
- Provide complete NFPA 13 wet coverage at the building conditioned areas. Given the limited space above lower level ACT lay-in ceilings and historical tin ceilings we recommend sprinkler piping be installed exposed around the room perimeters with exposed sidewall sprinkler head coverage.
- Provide complete NFPA 13 dry head coverage at building porches and overhangs.
- Provide plumbing services for new elevator hoistway sump pump.
- Existing bathroom fixtures to remain, no MEP work.
- Existing fin tube radiation to remain. E-Room radiation to be lowered to accommodate new finished floor height.
- Remove AHU-2, provide new mechanical air conditioning and ventilation systems. Existing AHU-2 ductwork to be evaluated and reused if possible.
- Existing bathroom exhaust to remain.
- Provide new 400 amp, 208/120 volt, three-phase power service to accommodate the new elevator and increased air conditioning load.
- Remove existing fluorescent and provide new LED lights. Provide code required daylight controls and motion sensors.
- Existing power, data and telephone outlets to remain. E-Room outlets to be lowered to accommodate new finished floor height.

Main Level

- Provide complete NFPA 13 wet coverage at the building conditioned areas. Given the limited space above lower level ACT lay-in ceilings and historical tin ceilings we recommend sprinkler piping be installed exposed around the room perimeters with exposed sidewall sprinkler head coverage.
- Provide complete NFPA 13 dry head coverage at building porches and overhangs.
- Existing bathroom fixtures to remain, no MEP work.

- Provide plumbing services for the addition ADA bathroom.
- Existing heating and air conditioning to remain. Provide code required mechanical ventilation to AHU-1 and CO₂ monitoring. Assume AHU-1 heating capacity is sufficient to support added ventilation, to be evaluated.
- Existing bathroom exhaust to remain.
- Existing lighting to remain.
- Existing power, data and telephone outlets to remain.

Attic Level

- Provide complete NFPA 13 wet coverage at the building conditioned areas. Piping and heads to be exposed or concealed depending upon renovation construction.
- Provide complete NFPA 13 dry sprinkler coverage at the unconditioned attic.
- Provide plumbing services for the addition ADA bathroom.
- Provide new mechanical system for attic level heating, air conditioning and ventilation. Assume heating to be provided from the existing oil fired boiler, excess boiler capacity to be reviewed.
- Provide new bathroom exhaust.
- Provide new LED lighting.
- Provide new power, data, telephone and fire alarm coverage.

END

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