Mechanical and Electrical Systems
Existing Conditions Narrative

Town Campus Learning Center
Pre-Kindergarten School
Madison, Connecticut

3/11/10

Prepared By
Consulting Engineering Services, Inc.
811 Middle Street, Middletown, Connecticut 06457
CES Project No. 29066.00

A. ***PLUMBING NARRATIVE***

APPLICABLE CODES AND STANDARDS

The plumbing systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Plumbing Code
5. 2003 International Energy Conservation Code
6. NFPA, Latest Version
7. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The building is currently served by a 2" domestic water main fed from Connecticut Water Company. This water service currently serves all of the school's domestic water needs. The water distribution system is original to the building.
2. Natural Gas:
   a. Existing Natural Gas Service: The building is currently served by natural gas fed from the local utility's distribution system.
3. Sanitary:
   a. Existing Sanitary Service: The School's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the School. The sanitary waste piping discharges to a septic tank and leaching field.
4. Storm:
   a. Existing Storm System: Building is served by gutters.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The domestic hot water is generated by a 40 gallon, gas fired water heater.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   a. Urinals are wall mounted with flush valves original to the building.
   b. Water closets are floor mounted; tank type, vitreous china; original to the building.

   c. Lavatories are wall hung, vitreous china original to the building.

B. ***FIRE PROTECTION NARRATIVE***

FIRE PROTECTION SERVICE

1. There is no central fire protection system (sprinklers) currently at the facility.

C. ***MECHANICAL NARRATIVE***

APPLICABLE CODES AND STANDARDS

The mechanical systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Mechanical Code
5. 2003 International Energy Conservation Code
6. NFPA, Latest Version
7. ASHRAE 90.1

EXISTING SYSTEMS

1. HVAC Systems: The spaces are served by multiple Trane packaged rooftop units with gas heat and electric air conditioning capabilities There are a few locations where there is electric heat to supplement the rooftop units. The units are single zone, constant volume type.
2. The HVAC distribution systems consist of ductwork to ceiling diffusers in each room. The toilet rooms are served by a ducted exhaust system.
3. Temperature controls consist of local Trane thermostats (electric type).

D. ***ELECTRICAL NARRATIVE***

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Energy Conservation Code
5. 2005 National Electrical Code, NFPA 70 (NEC)
6. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition

EXISTING SYSTEMS

1. The building is served by an electrical service rated at 800 amperes, 208Y/120volts, 3-phase. This service equipment consists of an 800 amp main disconnect switch, distribution section and metering per utility company requirements. The service equipment is original to the building and is in good condition.

2. There are a number of electrical panels located throughout the facility. These panelboards are original to the facility and are in good condition.
3. Lighting at classrooms, corridors and administrative areas consists primarily of fixtures with acrylic lenses and T8 fluorescent lamps. Lighting throughout the facility is in good condition and light levels are within recommended levels.
4. Site lighting: There are no site lights around the building.
5. The fire alarm system is a Notifier system with a Fire Lite dialer. There are manual fire alarm pullstations throughout the building and smoke detectors within the corridors.
6. Emergency lighting is handled by 2-head emergency lighting fixtures with integral battery packs.
7. Security: The building is served by a Gemini security system.

E. ***MEP SYSTEMS CONCLUSION***

The MEP systems are original to the building and are thus only 10+ years old. The equipment is in good condition and there are no immediate recommendations to replace or upgrade MEP systems in the near future. We recommend a DDC panel be installed in the building to monitor space temperatures. If the temperature in the building drops below 45 degrees F, the DDC system can signal the Town's maintenance personnel of potential freezing problems. No costs were generated for this recommendation.

Long term planning should include replacement of the rooftop units in approximately 10 years. No costs were generated for this recommendation.