10/19/2006 Mechanical : Existing HVAC system

Currently, the facility is not occupied. The building is being used as a warehouse for the school district. Part of the roof area were no accessible. Therefore, the operational condition for all HVAC is unknown. The survey is solely based on visual inspection and judgement.

Heating steam is generated by two(2) Kewanee boilers. Unit ventilators with steam heating and OA ventilating capabilities are located on the perimeter wall in each classroom, and other academic areas to provide space heating and ventilation. Fin-tube radiators are located in admin. offices, hallways and vestibules. An AHU provides heating and OA ventilation for the science labs. on the first floor. A rooftop gas-fired MAU provides ventilation in the greenhouse.

Partial air-conditioning is available through DX-cooling system. An AHU each provide air-conditioning in the cafeteria and the admin. office area. Three(3) outdoor AHUs provide cooling and OA ventilation for the library on the first floor. The computer rooms on the second floor right above the library are cooled by two(2) rooftop units that also provide OA ventilation. Two(2) split

10/19/2006 Mechanical : Recommendations for HVAC renovation

All equipment appeared to be original since the school opened in 1960. The equipment are in below average physical condition. Two(2) 4800 MBH hot water boilers with circulating pumping system are proposed to provide heating throughout the school building. A 500-ton chilled-water system with chiller(s), condenser(s), circulating pumps and associated accessories is recommended to provide cooling throughout the facility. A new four-pipe circulating loop shall replace the existing two-pipe steam heating pipes. All existing Nesbitt ventilators are proposed to be replaced with packaged units with heating, cooling and OA ventilating capabilities in the classrooms and labs. AHUs with hot-water and chilled-water coils are proposed to serve the Gymnasium and the Auditorium replacing the existing units. Rooftop units with pre-heat, cooling and OA ventilation are proposed for the Admin. Office, Cafeteria, Computer rooms, Library, and the areas around the Gymnasium. VAV boxes with re-heat coils are to provide additional heat for areas served by these rooftop units. New exhaust fans are also proposed to replace the existing exhaust system through the building. Evaporative cooler(s) and fin-tube heaters are recommended to replace the existing MAU in the greenhouse. A gas-fired MAU shall replace the one connected to the kitchen hood system. A DDC control with WEB based Lonworks protocol is also proposed to operate the new HVAC system efficiently and economically.

10/19/2006 Mechanical : Cost estimate for HVAC improvements

---

http://www.techaces.com/kcmsdview/dialogue.asp
The cost estimates are based on rules of thumb for the building size, age, condition and type of usage. Any requirements of asbestos removal are not included in the following estimation:

1. Install two (2) 4800 MBH hot water boilers with recirculation pumps and accessories - $350,000
2. Install 500-ton chilled-water system with chillers, condensers, pumps and a new four-pipe setup - $450,000
3. Install new 4-pipe unit ventilators with heating, cooling and OA ventilation - $90,000
4. Install AHUs for Gymnasium and Auditorium - $100,000
5. Install rooftop units with pre-heat coil and OA ventilation - $120,000
6. Install VAV boxes with re-heat coil - $75,000
7. Install MANU for the kitchen - $15,000
8. New DDC control system with WEB based Lonworks protocol - $510,000
9. Demolition and removal allowance - $30,000
10. Miscellaneous and architectural allowance - $20,000

10/18/2006 Plumbing: Plumbing improvements

1. Provide drain piping covers for 26 number of lavatories (ADA) - $1,350
2. Provide hand rails for 4 number of toilets (ADA) - $200

Total estimated cost - $1,550

9/12/2006 Electrical:

Lighting--Type and Condition

The fixtures for classrooms and most corridors are 4 lamp T12 recessed fluorescent fixtures with prismatic acrylic lenses. Some corridor lights have been circuited as night lights. These are now burned out. Other rooms have had lights left on. Since the building has been unoccupied for years, at least half the fixtures are in need of re-lamping, or re-ballasting, or repairs to diffusers. If the building is to be re-occupied, we estimate no less than 1500 lamps would need to be changed out to make all fixtures light.

4 lamp T12 fixtures on a 6 ft x 8 ft spacing produce more light than is required for classroom use. This represents an opportunity for operating savings. These 4 lamp T12 fixtures can be replaced with 3 lamp T8 fixtures.

9/12/2006 Fire Prot:

No smoke detectors at elevators or in the auditorium or some corridors. FACP is a Sensiscan 2000. Corridors, Auditorium, have lighted exits and Egress Lights. If Bingham is to be occupied as a High School again, it will need additional initiating and notification devices equivalent to about doubling the existing system. Estimat at 25 cents per square foot upgrade.

9/6/2006 Asphalt/Concrete: Asphalt

General appearance is poor, with overall deterioration. West side parking and north side service drive alligated and settling. North and south side paved areas show heavy cracking with bio-growth. Surface textures are poor. Parking: 92 total regular and 6 handicapped stalls with signs. Markings are faded.

9/6/2006 Asphalt/Concrete: Concrete
North side dock slab is cracked and settling. North side entrance sidewalk and east side sidewalk and curb are broken and settling. Wood steps at dock railing at north stair are broken. Two landings north and west walls are spalled and rusted railings.

9/6/2006 Asphalt/Concrete: Play Equipment

Four badly rusted basketball goals on north side hard surface. Softball backstop on south side grass field, north side soccer field. Gravel sprint track is 80% grass covered. North and south hard surfaces are badly cracked with bio-growth.

9/6/2006 Doors: Exterior Entrances

Hollow metal doors and frames with single glazing. Most show rusting and some corrosion and graffiti damage especially north side entry.

9/6/2006 Windows: Windows

Typical windows are uninsulated hollow metal units and window walls, which are rusted, corroded and leaking on all sides of building. There are aluminum windows with insulated glazing on west wall of west wing. Greenhouse has clouded plexiglass. Broken, cracked, and missing glass was noted on most building walls.

9/6/2006 Walls: Exterior Walls

This building exterior is in an overall state of deterioration. Brick shows open head joints on west wing, several areas of rusting ledger angles and cracking. Concrete support column southside is cracked vertically, horizontal cracked north side lintel and spalling on south walls. Massive biogrowth and missing vent covers on north wall of gym. Peeling and blistering concrete foundations and fascia on east and south sides. All aggregate stone panels below window units are stained with rust. Interior side of exterior wall have water leaks through and under window units on all sides of building. Large area of peeling ceiling in southwest corner of east wing. All walls below window leaks are peeling. Carpeting is stained and mildewed. Ceiling types: 1X1 tile above, 2X4 accoustical tile, 2X2 accoustical tile in corridors, gypsum board, and painted concrete.

8/25/2006 Electrical:

Electrical Service—Suitability for Air Conditioning

Bingham Middle (Junior High) School is an air conditioned school. The building has a 2000A 208Y/120V electrical service with 2000A main breaker. The service and distribution equipment are entirely original and appear to be in good operating order. It is likely that upgrades to the mechanical (AC) system will not require any revisions to the power distribution system. If new equipment is installed, it is likely, of similar type, new connections can come off existing circuits.