

Building Dialogue

Blenheim Elementary School

11/9/2006

Year Open: 1924 Additions: 1927, 1930
Square Footage: 67760 Acreage: 350**FACILITY MANAGEMENT / FLEM****Date Dialogue****10/16/2006 Plumbing: Plumbing improvements**

1. Replace 2 number of electric water coolers (ADA) - \$3,000
 2. Provide drain piping covers for 2 number of sinks (ADA) - \$150
- Total estimated cost - \$3,150

10/4/2006 Mechanical : Cost Estimate for Proposed HVAC Improvements

The cost estimates are based on rules of thumb for the building size, age, condition and types of usage. Any requirements of asbestos removal are not included in the following costs:

1. Install two 4500 MBH hot water boilers, pumps and accessories - \$270,000.
2. Install 300 Ton chilled water systems with chillers, pumps and accessories - \$300,000.
3. Replace the existing five AHUs with new AHUs having chilled water and hot water coil - \$50,000.
4. Install two new Make-up air unit and ductwork - \$60,000.
5. Install new 4-pipe unit ventilators for other areas including piping - \$500,000.
6. New DDC controls with WEB based Lonworks protocol - \$200,000.

9/20/2006 Asphalt/Concrete : Asphalt

Parking lot on west side of the building has many areas of cracking which need to be sealed and filled. There is a 1,500 s.f. "L" shaped area of alligator cracking which needs to be replaced. Service drive is in poor state of condition- broken up, alligators and potholes. Remove service drive entirely and replace with new pavement. Striping needs to be repainted.

9/20/2006 Asphalt/Concrete : Concrete

Northeast stair on site northeast of building is damaged and need repair. Southwest stair to playground east of the building needs to be replaced - concrete is spalling off and hazardous.

9/20/2006 Asphalt/Concrete : Play Equipment

Hard surface play areas fill cracks and seal the entire surface. Stripes will need to be redone. Play equipment is minimal but generally in good condition.

9/20/2006 Doors: Exterior Entrances

Hollow metal doors and frames on west elevation and aluminum doors and frames on the east elevation. Weather seals need to be replaced. Note: Inside vestibule pair of doors north of Administration Office, hardware is missing and needs to be replaced.

9/20/2006 Windows: Windows

Aluminum replacement double sash windows with single layer glazing have been installed. Color of aluminum is dark champagne but a few on north elevation are brown. Screens are on the exterior of windows. On north elevation graffiti on plexiglass windows need to be cleaned but may require these to be replaced. Windows in this building are single glazing recommend these windows be replaced with insulated window units.

9/20/2006 Walls : Exterior Walls

This brick building has major portions of the building that has been tuckpointed (repointed). This repointing work is not done as well as the original - mortar is over filling the joint and color does not match the original mortar. Approximately half of cast stone sills and decorative bands joints need to be repointed. Some brick at east bay - Administration Office has spalled off and needs to be replaced. Decorative cast stone has broken off and some is loose. These need to be repaired and replaced at multiple locations. On west elevation stone sill section is missing and metal rebar exposed- this needs to be replaced. The east projection bay of the building entire structure appears to be pulling off of the main facade. This area needs to be repointed and monitored for any future movement. Plaster damage and peeling paint at several interior sides of exterior walls need to be repaired.

9/13/2006 Fire Prot:

The FACP is a new 5820XL IntelleKnight. Corridors have pull stations, smoke detectors, horn/strobes and lighted Exit signs. Upper floors have areas of Rescue Assistance with communication. Not all rooms have smoke detectors, but many do. There are no detectors in the library. Egress lights are on a central emergency power system, battery powered. Given 1/3 of lamps are out, this may negatively affect the egress capability. Ducts have smoke detectors, supply/return. There is an egress lift from the lower gym. The auditorium has strobes and egress lights.

9/12/2006 Electrical :

The lighting is primarily 4 lamp fluorescent recessed fixtures on 64 square feet. Most fixtures have been retrofitted with T8 lamps and ballasts. Estimate 25% (250 fixtures) remain for retrofit. The egress lighting is provided through an emergency circuit. About 1/3 of the fixtures had lights not burning. It would be reasonable to assume that about 1/3 or more of the egress lights would be out as well since these are often connected as night lights.

9/12/2006 Electrical :

The existing service is not underground, it is overhead. Current KCPL standards require an enclosed bus when the number of conductors per phase exceeds 3, as it will for an expanded service. There are two viable options for adding sufficient power for whole school air conditioning. The first is to provide an 1800A or 2000A switchboard for power at 208Y/120V, and an enclosed bus. This will then pick up existing loads. The other is to obtain a second service at 480Y/277V, probably about 600A along with distribution to new loads at that voltage. Either case, will cost about \$60,000.

9/2/2006 Electrical :

Blenheim Elementary School has service at 208Y/120V. The service is likely to be multi-handle with rating of 1000A although this could not be confirmed without removal of covers. There are two 600A switches and a 400A switch. The school is partly air conditioned using roof top units and window units. Based on the size of the school, the service should be at least 1800A if 208Y/120V. Clearly the existing service is not adequate for whole school air conditioning.

9/1/2006 Mechanical : Existing HVAC System

Two low pressure steam boilers provide heat in the entire building. Two big fan units are the only source of air for most of the area in the building, including all the classrooms. Auditorium and gymnasiums are served by one fan each. All these four fans are located in the fan room. These fans provides recirculated air to all the areas. These fan units have heating capabilities also as they have steam coils. Most of the area of the building, including all the classrooms and except office, library, computer room, gymnasium and auditorium are set up for perimeter heating. Steam from boiler is circulated to all the fin tube radiators installed on the perimeter walls. Steam condensate produced in the all the areas is collected in a steam condensate return unit in boiler room. Then it is feeded to boiler through boiler feed water storage tank and pumps.

Partial air conditioning was provided in few areas of the building. Split units with AHUs having DX cooling and condensing units outside serve these areas. Two split units serve office and health rooms and two units feed library and office/workroom area in first floor level. A separate split unit system had been installed for the computer room. The AHUs for these areas are ceiling mounted type and also have steam coil to provide heat.

Two classrooms in ground floor and one classroom in second floor have window units for cooling.

9/1/2006 Mechanical : Recomendations for renovation of HVAC System

The building is only partially air conditioned. Only office area, library and computer room have cooling. It is proposed to air condition the entire building with central chilled water system. A central chilled water system of 300 Ton shall be installed. The package chiller(s) and chilled water circulating pumps shall be located in a suitable space, either in fan room or in the boiler room. The remote air cooled condenser(s) can be located on the roof.

Steam and condensate pipe is presently extended to the fin tube radiator units located on the perimeter of most of the building. This piping can be reused as much as possible and converted to hot water pipes. The existing steam boilers shall be replaced by new gas fired hot water boilers. The existing fin tube radiators shall be replaced with unit ventilators with four pipe system. Chilled water pipes shall be also extended to the unit ventilators, installed on the perimeter walls. So, these unit ventilators shall be designed for hot water heat and chilled water cooling.

The existing AHUs shall be replaced by new AHUs with chilled water and hot water coil. These AHUs shall also be designed to bring require quantity of OA in the space as per the ventilation code ASHRAE-62.1-2004. New AHUs are also proposed for gymnasium and auditorium.

The existing roof vents shall be removed. New make-up air units shall be installed to provide OA in all the areas, including the classrooms as per