0811 Fixtures – Sinks, drinking fountains, water closets, showers, etc.

Classroom Sinks. Classroom sinks (12) are enameled cast iron self-rimming side ledge with gooseneck faucet trim with index handles, and ledge mounted bubbler with push button actuators. Fixtures were installed in 1963. It should be noted that school maintenance staff have a supply of plumbing fixtures and routinely replace fixtures that have malfunctioned or are broken.

Classroom sinks are in fair condition. Faucet trim and bubblers are in fair condition. Fixtures are approximately 40 years old.

Remaining life expectancy: 5-10 years

Main girl’s toilet rooms for South and East Wings. Girl’s toilet rooms fixtures are vitreous china wall mounted water closets (9) with flush valves, and wall mounted lavatories (8) with manual faucets.

Plumbing fixtures are in fair condition. Fixtures were installed during the original construction in 1963. Fixtures are approximately 40 years old.

Remaining life expectancy: 5-10 years

Main boy’s toilet rooms for the South and East Wings. Boy’s toilet rooms fixtures are vitreous china wall mounted water closets (7) with flush valves, wall mounted urinals (6) with flush valves, and wall mounted lavatories (8) with manual faucets.

Plumbing fixtures are in fair condition. Fixtures were installed during the original construction in 1963. Fixtures are approximately 40 years old.

Remaining life expectancy: 5-10 years

South wing corridor vitreous china drinking fountain. One single drinking fountain is installed in the corridor. This is the only hallway drinking fountain in the south wing serving both the corridor and the multipurpose room. It is not an ADA compliant drinking fountain. It was installed in the 1963 original construction.

The drinking fountain is in fair condition but does not meet ADA requirement. Fixture was installed in the 1963 construction, making the fixtures approximately 40 years old.

Remaining life expectancy: 0-5 years

East wing corridor stainless steel drinking fountain. One single drinking fountain is installed in the corridor. This is the only hallway drinking fountain in the east wing. It is not an ADA compliant drinking fountain. It was installed in the 1963 original construction.

The drinking fountain is in fair condition but does not meet ADA requirement. Fixtures were installed in the 1963 construction, making the fixtures approximately 40 years old.

Remaining life expectancy: 0-5 years
Mechanical Inspection – Plumbing

Janitor closet service sinks. Janitor service sinks (2) are an enamel cast iron wall mounted tub with faucet trim. Wall mounted faucet trim. It appears to have been installed in the original construction in 1963. Service sink condition is fair. Service sink was installed in the original 1963 construction.
Remaining life expectancy: 5-10 years

Code Fixture Analysis: There are 15 fixtures in the public restrooms (this number does not count the Kindergarten, Nurse and Administration areas). Per IBC Table 2902.1 which requires one fixture per 50 occupants, the toilet fixture count is adequate for 750 people.
Mechanical Inspection – Plumbing

Deficiency

0811-1 Classroom Sinks
(12) Enameled cast iron classroom sink are past their service life. Bubbler trim in classroom is non ADA compliant. Faucet trim is past service life. Total of 12 classroom sinks, faucets trim, and bubblers.

Deficiency category: RR

Remedy
Install self-rimming, fully undercoated, stainless steel, single compartment sink with ADA compliant gooseneck faucets with wrist blade handles, ADA compliant bubbler with flexible bubbler guard. Total of 12 classroom sinks.

Estimated Construction Cost: $18,800.
Deficiency

0811-2 Main girl’s toilet rooms South and East Wings
Fixtures are the original 1963 fixtures and past their service life. No ADA water closet enclosure in toilet room. No insulation shields installed below ADA lavatory. 9 water closets and 8 lavatories

Deficiency category: RR

Remedy
Remove 9 wall mounted vitreous china water closets, flush valves, and carriers. Replace with 8 wall mounted vitreous china water closets, flush valves, and carriers. 9 water closet to be fully ADA compliant. Remove and replace 8 all mounted vitreous china lavatories and faucet trim. One lavatory to be fully ADA compliant.

Estimated Construction Cost: $26,100.
Deficiency

0811-3  Main boy’s toilet room South and East Wing
Fixture are the original 1963 fixtures and past their service life. Trip lever for water closet is not ADA complaint. No ADA urinal. No insulation shields installed below ADA lavatory.
7 water closet
6 urinals
8 lavatories

Deficiency category: RR

Remedy
Remove (7) wall mounted vitreous china water closets, flush valves, and carriers, (5) wall mounted vitreous china urinals, and (8) wall mounted vitreous china lavatories with faucet trim. One urinal has been removed but the rough-in piping still exists. Replace with (7) wall mounted vitreous china water closets, flush valves, and carriers, (6) wall mounted vitreous china urinals and (8) wall mounted vitreous china lavatories and faucet trim. One water closet, one urinal, and one lavatory to be fully ADA compliant.

Estimated Construction Cost: $32,000.
Deficiency

0811-4 Drinking Fountains
Drinking fountains in South and East Wing were installed in the original 1963 construction and are past their service life. Drinking fountains are the only ones in each corridor and are not ADA compliant.

Deficiency category: RR, C (ADA Requirements)

Remedy
Install new dual level ADA compliant Hi/Lo drinking fountain with push bar actuator, flexible bubbler shields, and ADA apron at each location.

Estimated Construction Cost: $11,600.
Mechanical Inspection – Plumbing

Deficiency

0811-5 Old Service Sink
Wall mounted enameled cast iron service sink is past service life. Service sink was installed in original 1963 construction.

Deficiency category: RR

Remedy
Install a wall mounted enameled cast iron service sinks (2) with wall mounted faucet trim with vacuum breaker, screw driver stops, and 5 feet of rubber hose.

Estimated Construction Cost: $4,300.
Deficiency

0811-6 Staff toilet rooms
Fixtures are past service life. Fixtures were installed in the original 1963 construction. Toilet room fixtures are not ADA compliant.

Deficiency category: RR, C (ADA requirements)

Remedy
Remove (3) floor mounted, flush valve, water closet and (3) wall mounted lavatory. Install (3) adult height ADA floor mounted water closet and flush valve in each staff toilet rooms. Install (3) ADA compliant lavatory and faucet trim. Remodel space as required. See architectural survey.

Estimated Construction Cost: $11,600.
Mechanical Inspection – Plumbing

Deficiency
No picture taken.

0811-7 East Wing Classroom Sinks:
Entire wing does not have sinks in classrooms. Requests from teachers and staff to install a sink in each classroom in building wing.

Deficiency category: F

Remedy
Install ADA approved sink with gooseneck faucet and bubbler in each classroom (12) in the East Wing. Approximately 120 feet of corridor concrete floor will need to be cut and patched for the waste piping installation. Cold and hot water piping connections can be made in the corridor ceiling outside the East Wing Toilet rooms. Domestic water piping length would be approximately 120 feet each of ¾-inch hot and cold water piping and 1/2-inch hot water recirculation piping above corridor ceiling and down walls to new fixture location. All piping insulated. Estimated Cost does not include floor covering replacement.

Estimated Construction Cost: $87,000
**Mechanical Inspection – Plumbing**

**0812 Equipment** – Circulation pumps, water heaters, water softeners, etc.

Domestic hot water is provided by a horizontal shell and tube hot water heat exchanger with 200 gallon tank and is supplemented by an 85 gallon electric hot water heater for summer use. Electric hot water heater was installed later, approximately 10-12 years ago. Pump P-8 is an in-line, pipe mounted circulation pump that circulates heating water to the hot water heat exchanger. P-10 is a hot water recirculation pump. No hot water tempering valve is evident.

Remaining life expectancy: 5-10 years.
Deficiency

0812-1 Shell and Tube Domestic Hot Water Heat Exchanger and circulation pump
Heat exchanger and pump were installed in the original 1963 Construction. They are past their service life.

Deficiency category: RR

Remedy
Remove and install hot water heat exchanger/storage tank (nickel or copper clad) and circulation pump, sized to for domestic hot water load for building. Install summer use electric hot water tank.

Estimated Construction Cost: $21,700.
Mechanical Inspection – Plumbing

Deficiency

No Photo of deficiency

0812-2 Lack of hot water tempering valve
No hot water tempering valve installed in the hot water supply line. Hot water should be mixed to 115 F for elementary aged students to prevent scalding. UPC requires all public lavatories to have a maximum of 120F discharge.

Deficiency category: C

Remedy
Install one hot water tempering valve station. This will consist of tempering valve, three isolation valves, two check valves on inlet to the tempering valve, two pipe mounted thermometers, unions on three pipes, and testing to insure the proper temperature water is provided.

Estimated Construction Cost: $ 4,300
Mechanical Inspection – Plumbing

0813 Waste & Vent Piping – Pipe, fittings, cleanouts, floor sinks, floor drains, etc.

Sanitary waste and vent piping is the original hub and spigot cast iron piping. Floor drains in the original 1963 are not trapped or vented.

Roof drainage system is the original hub and spigot cast iron piping in the original 1963 building.

Overflow roof drainage system is not installed. System independent of the roof drainage is required. Scuppers may suffice.

Remaining life expectancy: 5-10 years
Deficiency

0813-1 *Unvented and primed floor drains*
Floor drains in 1963 the original construction are not trap primed or vented. This consists of a total of (13) floor drains in main toilet rooms, mechanical spaces. However the smell of sewer gases was not evident.

Deficiency category: C (UPC)

**Remedy**
Remove existing floor drains install new floor drains with trap priming valves and vent. This will require modification of the piping. Saw cutting concrete floor in several locations. Total of (13) locations.

Estimated Construction Cost: $43,500.
Mechanical Inspection – Plumbing

Deficiency

Photo of deficiency: No picture provided.

0813-2 No overflow roof drain system
The roof lacks a secondary overflow drain system.

Deficiency category: C, 2003 UPC

Remedy
Investigate need for overflow roof drains due to no parapet on roof. Possibility that scuppers could be installed.

Estimated Construction Cost for overflow roof drain system, if required: $37,700
Mechanical Inspection – Plumbing

0814 Domestic Water Supply – Pipe, fitting, valves, hose bibs, insulation, etc.

A six inch galvanized steel cold water service serves the domestic water systems and is routed under the building to the cold water header in the boiler room. Originally installed in the 1963 building was a well water system for domestic water use. It is estimated that in the late 70’s the domestic water service was modified to connect to city water routed from the header at the sprinkler main. Cold water header has branch mains with isolation valves located in the boiler room. These systems have been renovated over time, and the water header has been reconfigured to serve the domestic hot water, the building cold water service, sprinkler wet valve, and sprinkler dry valve. Fire hose cabinets have been abandoned with the branch piping demolished or abandoned since the building has been sprinklered. Domestic water piping was original installed with galvanized steel piping material. Remodels and addition have used copper tubing, though evidence of some steel remaining. Non freeze type hose bibs are located on the exterior walls of the building at 10 locations. Piping is insulated with an average of one inch thick mineral fiber insulation with cloth covering.

Domestic water supply piping system is reported to be in fair condition. In several locations there are signs of the corrosion on piping.

Remaining life expectancy: 5-10 years
Deficiency

0814-1 Domestic cold water service piping
Domestic service piping into the water header is a 6 inch galvanized pipe installed in the 1977 renovation. Branch piping throughout the building is either the original black steel piping installed in the 1963 construction, or patches of copper pipe added for repairs of renovation. Original pipe is rusted and corroded. Insulation is old, stained, or missing in several locations throughout the building. Existing galvanized steel piping is routed underground to all the exterior hose bibs. Original piping has reached the end of its service life.

Deficiency category: RR

Remedy, Option 1
Refurbish existing domestic water piping systems using FDA approved pipe lining procedure. Replacement of the hose bibs and all isolation valves would still be required.

Estimated Construction Cost: $290,000.

Remedy, Option 2
Remove and replace all domestic water piping throughout the original 1963 construction with copper tubing. The pipe removal work will most likely include abatement of pipe insulation as it was assumed to be asbestos containing in AHERA report based on testing of other pipe insulation in the facility. Install dielectric unions at connection to hot water generating equipment. Insulate all domestic piping with 1-1/2 inch mineral fiber pipe insulation with cloth covering. New piping for the exterior hose bibs (10) would be routed overhead. Extensive cutting and patching will be required.

Estimated Construction Cost: $435,000.