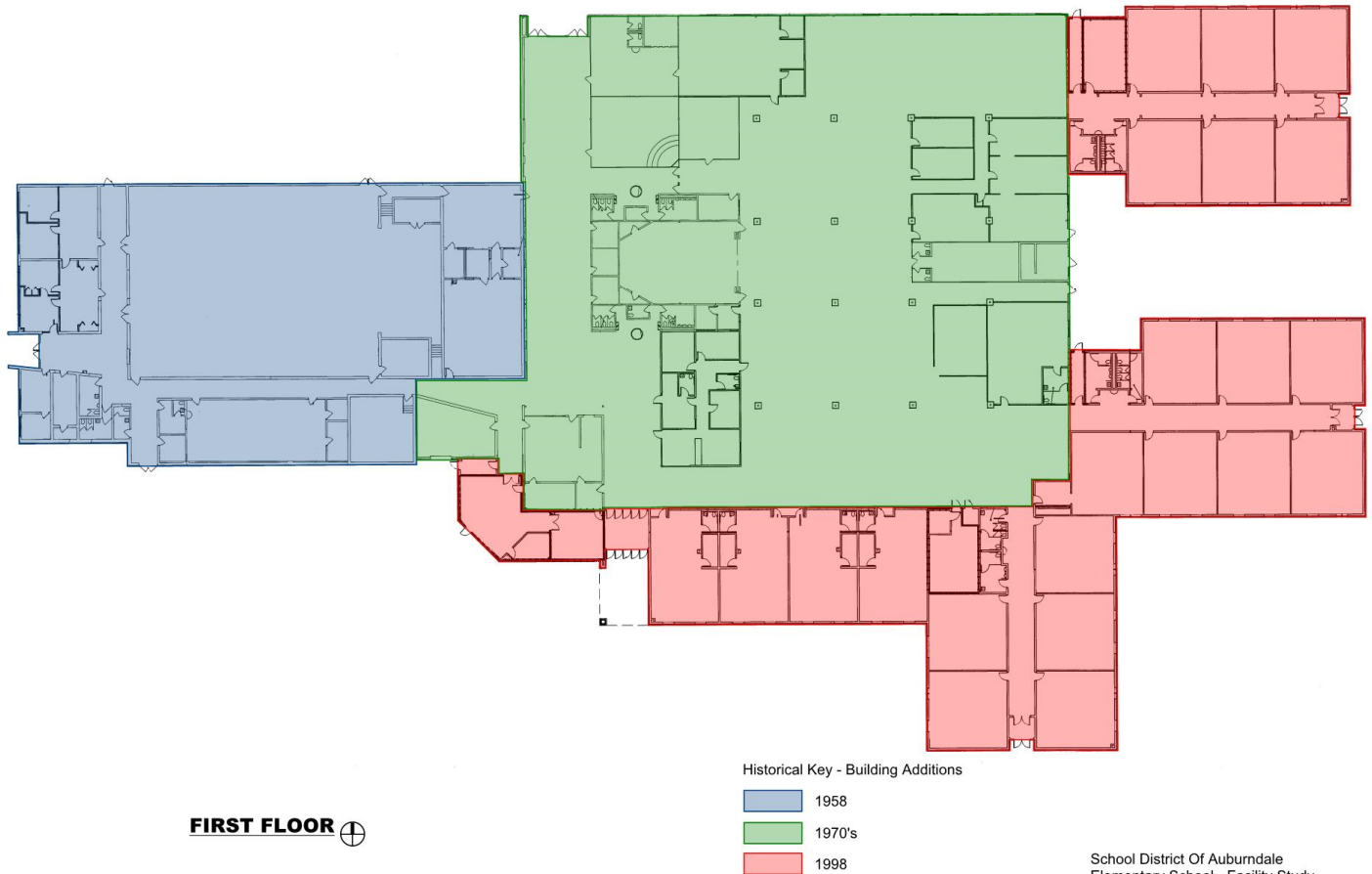


SECTION 3

SITE AND BUILDING INSPECTION SUMMARY

HISTORICAL PLAN



Historical 1st Floor Plan



Elementary School Entrance

EDUCATIONAL ADEQUACY ASSESSMENT

School: Auburndale Elementary School

Configuration: **4K – 5th Grades**

Also houses Early Childhood, Private Day Care, and District Offices

Date of Assessment: November 14, 2019

Evaluator(s): Bob Morris (EUA), Mary Jaimes (EUA),
Andrew Scharenbroch (Elementary Principal)

Introduction

As part of the broader facilities assessment, Eppstein Uhen Architects (EUA) was asked to provide feedback regarding the educational adequacy of the district's current facilities. EUA conducted interviews with building principals and walk-throughs at each school to identify educational shortcomings and space needs. Findings were based on general observations during these walk-throughs, district provided data on scheduling and attendance, and analyses of existing building plans. Observations were compared against current industry standards and best practices in school design to better understand potential shortcoming and concerns. More information on best practices in educational design can be found in the appendix to this document.

The following assessment analyzes your facility with respect to how it supports the needs of students and educators with respect to 21st century education. Special emphasis is placed on how your facility can support the development of the following 21st century skills your students will need to compete in a global environment:

A Critical Thinker
A Problem solver
An Innovator
An Effective Communicator
An Effective Collaborator

A Self-Directed Learner
Information and Media Literate
Globally Aware
Civically Engaged
Financially and Economically Literate

A facility and its infrastructure can play a significant role in supporting educators to develop these skills (*italicized items above*). The physical environment can provide students with environmental stimulus, relevant technology, and spaces that are flexible enough to support a variety of learning modalities. These spaces encourage student engagement, facilitate collaboration and project-based learning, and foster real-world partnerships with your local business community.





Typical Classroom



Interior Office Location



Computer Lab

General Overview

Auburndale Elementary school is generally well-maintained, clean, and orderly. The district strives to create positive environments that encourage student engagement and allow students and teachers to flourish.

In general, however, the school functions as a traditional “cells and bells” environment. Curriculum is delivered in traditional classrooms, which work well for large group instruction, but are not ideally suited for small-group work, project-based learning, or individualized intervention. Traditional furniture in use in most of the facility is also inflexible and does not allow for easy reconfiguration of spaces to support different educational modalities. Best practice in school design would allow for more flexible break-out space to be located adjacent to large group learning spaces to allow for these kinds of activities. Windows between adjacent spaces are typically used to allow for clear supervision, while maintaining acoustical control. At one time, much of the facility functioned as an open-concept school design, but this proved ineffective and much of that area has been infilled with temporary wall construction. These walls do not allow for integrated technology, provide poor acoustical control, and do not allow for transparency between spaces for supervision.

The district has taken significant steps to ensure student safety. Recent improvements to the school’s site allow for reasonably efficient traffic flow and create separate pickup/drop-off areas for parent and bus traffic. Exterior doors are kept locked throughout the day, and a security camera system is in use. To gain entrance to the facility, visitors must buzz in and are viewed by office staff on camera before they are given admittance to the facility. Visitors are supposed to check-in at the office, but once they have entered the facility they are not fully secured, and have access to the entire facility. Best practice calls for visitors to be admitted directly into a secure office/reception area where could be properly checked-in and their needs and purposes could be assessed before granting access to other areas of the facility.

The district also has addressed many of the highest priority technology concerns. Each classroom is equipped with a digital “smart” board, and laptops are available for students and teachers to check out as needed. There is a laptop for every student at the fifth-grade level, and the district continues to expand availability of laptops at all levels. As the technology capabilities continue to grow, the need for dedicated computer lab spaces should diminish, and these spaces could become available for other uses.



Temporary Wall Construction



Traditional Library Model



Little Theater



Typical Classroom Furniture

Specific Concerns

- Entrance is not fully secure. Once guests enter the building, they have full access to the school and are not restricted to the office area.
- Classrooms are generally well-suited for large group instruction but lack adjacent breakout space for small group collaboration, project-based work, and personalized interventions.
- A number of spaces have been built with temporary walls that do not provide adequate acoustic separation and lack typical electrical/technology amenities.
- One 4K classroom was constructed of temporary walls, is undersized, and does not have typical 4K amenities including in-room toilet facilities.
- The Special Education classroom was also constructed of temporary walls and lacks appropriate acoustical separation and natural light. Appropriate spaces for calming and sensory stimulation are needed.
- Several classrooms, the library, and the main office area lack natural light.
- The library functions as a traditional library. This space could be remodeled to serve as a multi-functional resource hub for 21st century learning.
- The stage, little theater, and playground areas are inaccessible to those with mobility impairments. Several restrooms are also not fully accessible.
- The little theater space provides a place for multi-classroom functions and professional development. However, tiered seating is inaccessible, movable partition provides little acoustical control, and ventilation is problematic.
- Band lacks an appropriate space for large group rehearsals. The cafeteria is currently used for this function but lacks physical and acoustical separation.
- Staff lack appropriate and functional break/work areas.
- Reception area is inadequately sized for two staff members. One staff member is housed in an area intended to serve as a work/storage room, which has displaced storage/work space to the conference room.
- Storage space was also a concern for many staff members.
- Showers are no longer used as students do not change for PE. Showers are now used only for storage.
- Building aesthetics and environment are not ideal for an elementary school. Movable walls and panelized wall system in gym/cafeeteria corridors contribute to a utilitarian/industrial building feel. New lighting and a more colorful paint scheme could help create a more age-appropriate educational environment.
- Much of the furniture throughout the building is heavy and inflexible, which does not encourage reconfiguration for group work or collaborative learning.



Typical District Office

District Office

The School District of Auburndale's administrative offices are housed within the elementary school facility. They have their own direct exterior door with easy access to parking which works adequately for availability and access. District staff also have easy access to the elementary school but have less direct access to the Middle and Senior High school. Access is convenient but not essential. The district office area houses an administrative assistant, the district's book keeper, the director of Information Technology, and the district Superintendent. The School Board also meets in these facilities.



District Office Board Room

Generally, the district office has enough space, but because the Superintendent office is on the other side of a public corridor, functional adjacencies are somewhat challenging. Much of the district office is constructed with walls that do not provide adequate sound separation, so privacy and confidentiality have been concerns. Also, circulation between offices requires passing through the board/work room which can create minor access and confidentiality issues.

ADA COMPLIANCE REPORT

School: Elementary

Date of Assessment: October 11, 2019

Evaluator(s): Sean Clendenning (EUA), Randy All (Fredericksen Eng – HVAC), Kevin Schurrer (MSA Professional Services, Inc. – Elec), Justin Monk (MSA Professional Services, Inc. – Plumb)

ADA Summary

This summary report for facility compliance is not intended to determine the accessibility of specific programs. Program decisions are beyond this scope and involve judgments that must be made by the School District. Our team at Eppstein Uhen Architects together with the School District can access how various programs can affect the use of the facility and the level of compliance required. Reviewing existing conditions at the building, the following items are key items with respect to compliance or barrier removal.



ADA school Main Entrance



Entrance



Knob Style door Hardware

1. Accessible Route from Property Line to Main Entry (grade slope, walks, curb ramps, etc.)
 - A. There is a side walk along the property line at the street but only a connection from Main Street. There is a sidewalk on Brickle Ave that leads half way to the school entrance but then stops.
2. Parking and Drop-Off (identifiable parkway and crosswalk, loading area, curb ramps, etc.)
 - A. There are accessible parking stalls with marked cross walks leading to ADA accessible paths to the main entrance of the school and district office.
3. Main Entrance (Surface, Doors, Hardware and Thresholds)
 - A. The entrance doors meet ADA.
 - B. The doors to the schools main entrance has automatic door operators however the entrance to the district office does not.
 - C. The path is flat and does not impede access to the building.
4. Interior Building Path (Corridors, Stairs, Elevators, Circulation, Doors and Hardware)
 - A. Many of the knob type door hardware have been changed to lever type but there are still a handful of knob type.
 - B. The handrails for the stairs to the stage do not have compliant extensions at the top or bottom of the stair.
 - C. The stage does not have wheelchair access



Non-ADA compliant Sink

5. Accessible restrooms (Entry and Turning Radius, Clearances, Fixtures, Grab Bars, Accessories)
 - A. Many of the toilet rooms have automatic door openers
 - B. The multi fixture toilet rooms in the 1970's portion of the building do not have ADA accessible stalls
 - C. The 1998 addition toilet rooms meet ADA and have accessible stalls
 - D. The circular hand sinks outside the toilet rooms at the cafeteria are not ADA compliant.

RECOMMENDATION

- 1) Replace door knobs with lever type hardware.
- 2) Replace railings that do not have the proper extensions at the stage
- 3) Provide wheelchair access to the stage
- 4) Provide an ADA stall in all multi fixture toilet rooms that do not currently have one
- 5) Replace the non-compliant toilet room sinks



No ADA stall in the multi fixture toilet room

BUILDING INSPECTION REPORT

School: Elementary School

Date of Assessment: October 11, 2019

Evaluator(s): Sean Clendenning (EUA), Randy All (Fredericksen Eng – HVAC), Kevin Schurrer (MAS Professional Services – Elec), Justin Monk (MAS Professional Services – Plumb)

The assessment of site and building systems identifies the condition of categorized elements observed during inspection and graded for relative fitness by the following criteria for expected service.

Good: The reviewed element has been observed to have the following characteristics.

- Is between the beginning and middle of its expected service life.
- Meets optimum functional and / or performance requirements.
- Requires routine maintenance or minor repair.
- Less than 25% of the element is in substandard condition or has failed.

Fair: The reviewed element has been observed to have the following characteristics.

- Is between the middle and end of its expected service life.
- Meets minimum acceptable functional and / or performance requirements.
- Requires attention to repair beyond routine maintenance.
- 25 - 50% of the element is in substandard condition or has failed.

Poor: The reviewed element has been observed to have the following characteristics.

- Is at or has passed the end of its expected service life.
- Fails to meet functional and / or performance requirements.
- Requires excessive and constant attention, and major corrective repair.
- More than 50 percent of the element is in substandard condition or has failed.





1998 Addition Windows



1958 Portion of the Building
Window

EXTERIOR ENVELOPE

1. Exterior Windows

- a. *Expected life span 25-30 years for wood windows.*
- b. *Current Condition – Good/Poor*
- c. Older window frames are usually not thermally broken or do not contain high performance insulated glass. Glass performance has improved dramatically over the past 10-15 years and glass is designed to much better sun shading co-efficient (ability to block UV rays) and overall better R-Value. (Quality of thermal conductivity). Single pane or clear glass does not block UV rays or have any insulating value. Insulated glass that is tinted is also recommended to reduce glare as well.
- d. The windows at the 1958 portion of the building are original to the building and single pane
- e. The windows on the south side are original to the building.
- f. There is a mix of replaced and original windows around the building.

RECOMMENDATION

- 1). Replace all the original 1958 windows
- 2). Stay on maintenance schedule.



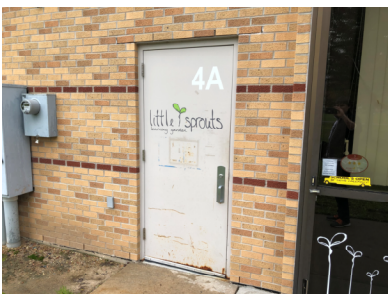
Roof at the Gym



Roof at the 1970 portion of the Building



FRP Door Aluminum Frame



Hollow Metal Door and Frame

2. Roof

- Expected life span 20 years for rubber EPDM, 30 years for Thermo-plastic, 40 years for built-up asphalt system*
- Current Condition – Good/Poor.*
- Portions of the roof were replaced however other portions have exceeded their expected life span

RECOMMENDATION

- 1) Replace the portions of the roof that have exceeded the expected life span
- 2) Stay on maintenance schedule.

3. Exterior Doors

- Expected life span 20 years for steel, 30 years for aluminum/ FRP systems*
- Current Condition – Good/Fair*
- Most of the doors are Aluminum Frames with FRP Door leaf's, all in good condition
- There are a small number of hollow metal frames many of them are beginning to rust

RECOMMENDATION

- 1) Stay on maintenance schedule.
- 2) Consider replacing the rusting hollow metal frame doors and frames with FRP doors and aluminum frames.



Damaged Brick at Corner



Typical EFIS



Precast and Metal Panel



Entrance Canopy

4. Exterior Walls

- a. *Expected life span of masonry 50 -100 years with periodic maintenance*
- b. *Current Condition - Good*
- c. Brick locations are in good condition, however there are areas with damaged bricks.
- d. The Precast exterior wall at the 1970's addition is in good condition
- e. There are masonry joints that need to be resealed with caulk
- f. *Expected life span of Exterior Finish Insulation System (EFIS) 25-30 years with periodic maintenance*
- g. *Current Condition - Fair*
- h. The EFIS system is approaching the end of its expected life span
- i. The metal panels are in fair condition, there are locations where the paint is beginning to peel off of them.

RECOMMENDATION

- 1) Replace, repair and tuckpoint brick walls as necessary.
- 2) Recaulk masonry joints
- 3) Replace the EFIS system as the maintenance costs increase
- 4) Repaint metal panels

5. Entry Canopy / Overhangs / Fascia

- a. *Life Expectancy – same as building depending on maintenance and materials used.*
- b. *Current Condition – Good*
- c. The overhangs have the ability to adequately protect users.

RECOMMENDATION

- 1) Stay on maintenance schedule.

6. Walkways, Asphalt and Drainage

- a. *Life Expectancy – 20 years*
- b. *Current Condition – Good*
- c. The parking lots are in good condition
- d. There was standing water on the north side of the site around a drain. The grades were lower than the rim of the drain.

RECOMMENDATION

- 1) Stay on maintenance schedule.
- 2) Regrade around the drain



Typical 1998 Corridor



Demountable Partition



VCT in a typical corridor



VCT and Carpet in a Classroom

INTERIOR

7. Walls

- Expected life span 50 -100 years with periodic maintenance*
- Current Condition – Good/Fair*
- There is a mix of CMU, Gypsum board, and demountable partition walls
- The CMU and gypsum walls are in good condition
- The Demountable partition walls are in fair condition and do not provide the same level of sound dampening as the other two wall types.

RECOMMENDATION

- 1) Stay on maintenance schedule.
- 2) As the movable partition walls become damaged from wear consider removing and replacing with fixed walls.

8. Floor Coverings

- Expected life span VCT 20 years, carpet 10 – 15 years.*
- Current Condition – Good/Fair*
- Corridor flooring is mostly vinyl composition tile (VCT) and is in Good / Fair Condition.
- There are some areas around the library that have carpet in the corridor in fair condition
- The Classrooms are a mix off Carpet and vinyl composition tile (VCT) and in Good to Fair condition.
- The Library area is Carpet in Fair condition

RECOMMENDATION

- 1) Stay on a maintenance schedule
- 2) When the carpet is replaced consider changing to a carpet tile instead of broadloom. The carpet tile allows for replacement of stained portions of the carpet without replacing the entire floor.



Typical 2'x4' Act Ceiling



Typical 2'x2' Act Ceiling



Door at the 1964 portion of the building



Door at the 1998 Addition

9. Ceilings

- Expected life span 15 years*
- Current Condition – Good/Fair/Poor*
- The building has a mix of 2'x2' or 2'x4' Acoustical Lay in Ceilings (ACT), The 2'x4' ACT ceilings are generally in poor condition.
- The 1998 addition contains the 2'x2' ceiling tiles in good condition
- There are some areas of water damaged ACT ceiling tiles around the building
- Acoustical lay in ceilings (ACT) have tendency to sag over time and discolor.
- Ceiling grid discolors over time.
- New ceilings will increase light reflectance and give the space improved visual appeal.

RECOMMENDATION

- 1) Replace the poor 2'X4' ACT ceilings with 2'x2' ACT ceilings to match the new ceiling tiles throughout the building.
- 2) Replace the water stained ceiling tiles
- 3) Stay on a maintenance schedule.

10. Doors Frames and Hardware

- Expected life span 40 years with periodic maintenance*
- Current Condition – Good/Fair*
- Door hardware is a mix of knob and lever type. The majority of the doors are lever but some knob type still exist in the older portions of the building
- Doors are wood in hollow metal frames. Wood doors in good/fair condition
- Many of the doors in the older portions of the building are in fair condition and have some wear consistent with there age.
- Due to the use and continued operation of interior wood doors the facing veneer will chip and tear over time and experience scrapes and dents.

RECOMMENDATION

- 1) Stay on a maintenance schedule
- 2) Replace door hardware with ADA compliant lever type.



1970's area toilet room
Original Gym



1998 Addition Toilet Room



Typical Casework



Cubbies

11. Restrooms

- Current Condition – Good/Fair/Poor*
- Refer to ADA report for accessibility recommendations.*
- Ceramic Floor Tile (expected life span 40 years) – Good/Fair. Older grout holds bacteria.
- Ceramic Wall Tile (expected life span 40 years) Good/Fair. Older grout holds bacteria and there are locations with chipped tile.
- Toilet Partitions (metal) -(expected life span 15 years) Good/Fair/Poor
- Many of the partitions at the older portions of the building are in poor condition.
- Accessories – (expected life span 8-10 years) good, provided by vendors.

RECOMMENDATION

- Remove and replace all wall and floor tile with new at older portions of the building.
- Replace toilet partitions with anti-graffiti plastic type.

12. Cabinetry and Countertops

- Expected life span 20-25 years*
- Current Condition – Good / Fair*
- Cabinets in the 1998 addition classrooms are in good condition.
- There are a few pieces of casework in the original building that have reached their expected life span.

RECOMMENDATION

- Stay on a maintenance schedule
- Replace cabinetry and countertops as needed in the older portions of the building.

13. Gymnasium

- a. Basketball backboards and wall supports are in good condition.
- b. Flooring – wood athletic flooring
- c. The Bleachers are in good condition

RECOMMENDATION

- 1) Stay on maintenance schedule.





MECHANICAL SYSTEM

EXISTING DATA

1. The heating system serving the original building is a hot water system that consists of one (1) Superior firebox boiler and one (1) Laars high-efficiency condensing boiler. The Superior boiler is rated at 2,946,000 btu gross output. The Laars boiler did not have any capacity data to reference on the outside of the unit.
2. The hot water pumping system is an uncommon combination. There are two separate system pumps serving separate circuits of the building. Neither circuit has a stand-by pump. The Laars boiler is served by a dedicated boiler pump while the Superior boiler is not. However, the Superior boiler does have an automatic isolation valve located on the return piping to isolate the boiler when it is not in operation.
3. The 1998 addition is heated by one (1) Patterson-Kelley sealed combustion non-condensing boiler rated at 765,000 btu gross output and one Laars high-efficiency condensing boiler rated at 813,450 btu gross output.
4. The 1998 pumping system is a primary-secondary arrangement with constant flow pumps. A stand-by pump is piped in parallel in the event of failure of the main system pump.
5. The building cooling is provided by packaged rooftop units as well as outdoor air-cooled condensing units that are connected to indoor air handling units.
6. The building is ventilated by multiple packaged rooftop units and indoor air handling units.
 - a. The packaged rooftop unit serving the school office area is a single-zone constant volume unit with a hot water heating coil mounted in the supply duct main.
 - b. The packaged rooftop unit serving the district office area is a constant volume unit with duct-mounted hot water booster coils for zoning.
 - c. The indoor air handling units that serve the 1998 addition are variable air volume (VAV) units. The VAV systems are zoned with VAV boxes with hot water reheat coils. Air handling unit AHU-1 is still modulated using the supply fan inlet vanes that are original to the unit. Air handling unit AHU-2 was retrofitted with a variable frequency drive to control fan speed.
 - d. The air handling units that serve the original building utilize an air tunnel system with zone dampers.





7. The original building is controlled by a Tridium/Niagara direct digital control system. The 1998 addition is controlled by a Siemens digital control system. Some pneumatic controls remain in the original area of the building.

OBSERVATIONS



1. The Superior boiler serving the original building was installed in 1997 and is in good condition. The one remaining Patterson-Kelley boiler from the 1998 addition appears to be in satisfactory condition but is nearing the end of its expected service life of 20-25 years. The Laars boilers were both installed in 2014 and are in good condition. The pumps appear to be from the 1997 and 1998 installations. With a proper maintenance program, the Superior boiler and the Laars boilers should continue to serve the building for another 10-15 years.
2. The 1998 system pumps are located on a wall of the mechanical room literally buried behind air handling unit number two (AHU-2).
3. The packaged rooftop units were installed in 1998 and appear to be in satisfactory condition. However, they have exceeded their ASHRAE service life expectancy of 15-20 years.
4. The air handling units from 1998 have been well maintained and are in good condition. The ASHRAE service life expectancy for indoor air handling units is 30-35 years. With proper maintenance, these units should continue to serve the building for another 10-15 years.
5. The older air handling units serving the original building have been well maintained but have far exceeded their ASHRAE service life expectancy of 30-35 years.
6. The outdoor air-cooled condensing units from 1998 have been well maintained but are nearing their ASHRAE service life expectancy of 20-25 years. Plans should be made for their eventual replacement.
7. The outdoor air-cooled condensing unit pictured here on the right appears to be original to the building and has far exceeded its ASHRAE service life expectancy.

RECOMMENDATIONS

1. Continue with the current preventative maintenance program to maximize the life expectancy of all equipment.
2. Replace the existing Patterson-Kelley boiler from 1998 with a matching Laars condensing boiler to upgrade the 1998 boiler plant.
3. Upgrade the current hot water pumping systems on the two boiler plants to primary-secondary variable flow systems. The current system pumps would be replaced with new energy efficient pumps with inverter-duty motors and variable frequency drives. Existing 3-way coil control valves would be replaced with 2-way control valves. System pressure differential control and a system minimum flow bypass valve would also be installed.
4. Replace the existing air handling units and condensing units serving the original building with new equipment and digital controls. Abandon the air tunnel system and install new overhead ductwork, VAV boxes with distribution ductwork and ceiling diffusers, and new hot water distribution piping system.
5. Consider removal of the existing 1998 outdoor condensing units along with the original building condensing unit and replacing with a central chilled water system consisting of a high-efficiency chiller and variable flow pumping system to serve all air handling units.
6. Remove the existing packaged rooftop units and replace with roof-mounted air handling units served by the existing hot water system and the chilled water system suggested in item #5 above.
7. Upgrade the remaining pneumatic controls to digital controls to complete the building automation system.



ELECTRICAL SYSTEM



Transformer



Main Service

1. Electrical Service

- a. *Expected life span 30-40 years.*
- b. *Current Condition – Fair to Poor*
- c. The building is fed from a 300KVA 277/480 volt 3 phase 4 wire ground mounted transformer. This feeds into a wall mounted C/T cabinet via underground conduits into a main disconnect that feeds a fusible switch section with fusible buckets that feed loads throughout the facility. The service dates to the original construction of this building.
- d. The demand reading from Alliant Energy indicated that the service peak demand was in September 2018 at 224KW.

RECOMMENDATION

- 1). The service can remain in place and appears to be servicing the school without any issues. Due to the age of the existing equipment, a plan should be in place to update the existing main and distribution section in the near future. This equipment typically has a useful life of 40 years. We estimated the equipment to be 60 plus years old. The new equipment could be located in the same location as the existing gear and will require a shutdown to allow for the switch over. We recommend replacement with new I-line panel and new breakers to replace the fusible buckets.

2. Panelboards

- a. *Expected life span 30-40 years.*
- b. *Current Condition – Good to Fair.*
- c. The panels in the facility are a mix of original and newer from approximately 2000. The majority of the existing panels do not have room for future additions. Panels dating to the original construction were noted. The district has been upgrading older panelboards. Two of the oldest panelboards were being replaced at the time of this walk-through.

RECOMMENDATION

- 1) Panels can remain in place as is. Upgrades on panels can be done if additional circuits are required in classrooms or other spaces. Due to the age of the existing panelboards, a plan should be in place to



Generator

update them. This equipment typically has a useful life of 40 years. Breakers will become hard to find if replacement is required.

3. Generator

- a. *Expected life span 40 years.*
- b. *Current Condition - poor*
- c. An Onan 15kw generator is located in the boiler room to provide limited backup power to the building. The set is 120/208 volt three phase.
- d. The transfer switch is located adjacent to generator and is dated to the original generator.
- e. The generator appears to be vintage (1970s) and part of the 1970s addition.

RECOMMENDATION

- 1) Due to the age of the existing equipment, a plan should be in place to update the existing generator in the near future. This equipment typically has a useful life of 40 years. We estimated the age of the equipment to be 45 plus years. Any new generator should be located outside the facility and be natural gas-fired.
- 2) The generator loads must be separated into two sets of distribution to comply with codes; life safety and non-life safety loads. This will require two transfer switches and two panels.



Fire Alarm Control Panel

4. Fire Alarm

- a. *Expected life span 20+ years with periodic maintenance*
- b. *Current Condition – Good*
- c. The system is a Notifier addressable panel located in a storage room. PerMar installed this system within the last 5 years. There is no dialer present. System does not present any issues at this time.

RECOMMENDATION

- 1) Additional horn and strobe devices can be added

5. Interior Lighting

- a. *Life Expectancy – 20 years*
- b. *Current Condition – Good / Fair*



Corridor Lighting



Exit Light



Exterior Pole Lighting



CCTV System



CCTV Camera



- c. Some of the interior fluorescent light fixtures have been upgraded by the district. This process has been a lamp/driver replacement only with the fixture housing remaining in place. Exit lights appear to be LED type. The gym lighting fixture lamps appear to have been upgraded to LED. We did note areas of the corridors where exit lights were not present for direction to exits, or need to be replaced.

RECOMMENDATION

- 1) Any of the interior lighting that has not been upgraded to LED should be scheduled for replacement. This would add to the efficient LED lighting that has already been replaced. Replacement of any existing switches to dimmers to control LED fixtures would also be required.

6. Exterior Lighting

- a. *Life Expectancy – 20 years*
- b. *Current Condition – Good / Fair*
- c. All majority of the exterior lighting, both pole mounted and building mounted have been upgraded to LED by the district. Wall packs under soffit and building mounted flood lighting provides the building security lighting. Parking lot shoe box type fixtures were present to provide lighting in the parking lot. The district indicated they were going to finish updating any remaining fixtures to LED type. We did not walk through the facility during night time hours and could not verify the light levels, but recommend upgrading any remaining fixtures to LED type.

RECOMMENDATION

- 1) If the district does not finish the upgrade to LED lighting, we recommend fixtures be scheduled for upgrade.

7. CCTV

- a. *Life Expectancy – 15 years*
- b. *Current Condition – Good*
- c. The facility contains a CCTV system located in the office for interior and exterior cameras. An estimate of 15 total cameras for the facility were present. CCTV PerMar system is approximately 5 years old.

RECOMMENDATION

- 1) If additional cameras are added, extend existing camera system. The district would need to verify if there is a need for any additional cameras.





Intercom Head-end

8. Intercom

- a. *Expected life span 30 -40 years with periodic maintenance*
- b. *Current Condition – Good to Fair*
- c. A Dukane system is located near the office. The system appears to be somewhat newer. The district indicates no issues with the system at this time.
- d. The existing Franklin Time System master clock is located near the office. The district indicates no issues with the system at this time.

RECOMMENDATION

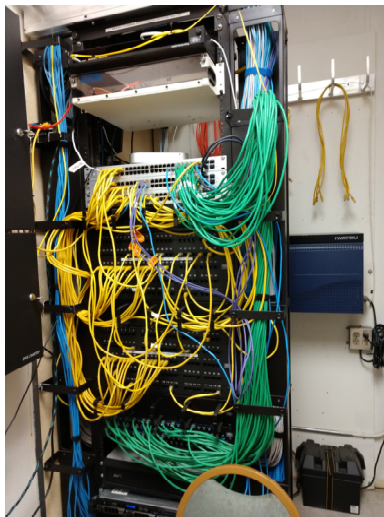
- 1) A plan should be implemented to consult with the district if any upgrades to the intercom system are needed. The district did not indicate any issues with the system at the time of walk through.

9. Data, Phone

- a. *Expected life span 20 years.*
- b. *Current Condition – Good to Fair*
- c. The phone system for the elementary is IWATSU VOIP based. The facility contains wireless access throughout with adequate coverage. The classrooms and offices contained Cat 5 data drops. Existing data racks look to have some room for expansion. One IDF rack is an open wall mounted type. The MDF is a floor mounted open rack.

RECOMMENDATION

- 1) If new drops are added in the building, there appears to be room for additional drops depending on number of drops requested by the district. Proper grounding should be added and new Cat 6 cabling provided



Data Rack

PLUMBING SYSTEM



Water Service

1. Domestic Water Service

- a. *Expected life span 15-20 years.*
- b. *Current Condition – Fair*
- c. The water service is a 1" copper with a 1" water meter.
- d. Pressure booster pump is non-VFD without a pressure tank.
- e. Piping system material is Copper.
- f. Domestic cold water hard piping system is in fair condition.
- g. Domestic hot water supply piping system is in fair condition. Hot water delivery wait time to fixture is over 90 seconds.
- h. Domestic hot water return piping system is in fair condition.
- i. Water pressure is in fair condition. Actual pressure 45-65.
- j. The system relies on a booster pump for normal operation. The existing pressure booster pump is non-VFD without a pressure tank. It is in fair condition.
- k. Water is softened for the hot water system only.
- l. Backflow preventers serving boiler are in fair condition.

RECOMMENDATION

- 1) Backflow preventers shall be maintained / repaired as required and tested once a year.
- 2) Water testing shall be acquired to determine water quality and proper treatment of equipment.
- 3) The existing galvanized piping shall be replaced with new copper or approved piping material.
- 4) Repair all leaks on piping as required with new copper or approved piping material.
- 5) Provide new pipe insulation as required on exposed and damage piping areas & sections.
- 6) Provide complete new properly sized domestic water piping system with new copper or approved piping material for any addition or remodeled area per new energy codes concerning hot water distance to faucets for hand washing.
- 7) Extend and balance hot water return and supply piping to fixtures to improve hot water delivery wait time.

2. Fire Sprinkler System

- a. *Expected life span N/A years.*
- b. *Current Condition – N/A.*
- c. There is no automatic fire sprinkler system in the building.

RECOMMENDATION

- 1) Existing water service is not capable of supporting a whole building automatic fire sprinkler system. A new properly sized water service will be required to support a whole building automatic fire sprinkler system.

3. Sanitary Drain, Waste and Vent System

- a. *Expected life span 10-15 years.*
- b. *Current Condition – Fair*
- c. Sewer size could not be confirmed at time of inspection.
- d. Piping system material is Cast Iron and PVC.
- e. Piping system is in fair condition.
- f. Grease interceptor location(s) could not be confirmed at time of inspection.
- g. Solid waste interceptors are not present.

RECOMMENDATION

- 1) Repair all leaks on piping as required with new PVC or approved piping material.
- 2) Camera video inspection of all underground piping shall be acquired to determine system's quality and proper flow.
- 3) Provide entire drain and waste system with auger and or jetting cleaning maintenance twice a year.
- 4) All interceptors shall be maintained as required and pumped out twice a year.
- 5) All the existing clay, cast iron and galvanized underground piping shall be replaced with new PVC or approved piping material.
- 6) All the existing cast iron and galvanized above floor piping shall be replaced with new PVC or approved piping material.
- 7) Repair all leaks on piping as required with new PVC or approved piping material.
- 8) Provide adequately sized Grease interceptor for the equipment load discharging into it.

4. Storm and Clear Water Drain, Waste and Vent System

- a. *Expected life span 10-15 years.*
- b. *Current Condition – Good*
- c. Sewer size could not be confirmed at time of inspection.
- d. Piping system material is Cast Iron, & PVC.
- e. Piping system is in fair condition.



- f. Interior roof drain and conductor piping system discharges to interior storm drainage system.
- g. Sump pumps are not present.

RECOMMENDATION

- 1) Repair all leaks on piping as required with new PVC or approved piping material.
- 2) Camera video inspection of all underground piping shall be acquired to determine system's quality and proper flow.
- 3) Provide entire drain and waste system with auger and or jetting cleaning maintenance twice a year.
- 4) All the existing clay, cast iron and galvanized underground piping shall be replaced with new PVC or approved piping material.
- 5) All the existing cast iron and galvanized above floor piping shall be replaced with new PVC or approved piping material.
- 6) Repair all leaks on piping as required with new PVC or approved piping material.
- 7) Provide new pipe insulation as required on exposed and damaged piping areas and sections.



Water Softener



Water Heaters

5. Other Plumbing System

- a. *Life Expectancy – 15-20 years*
- b. *Current Condition – Good*
- c. Natural gas system supplying plumbing and kitchen equipment pressure is 2 pounds with single regulators for the equipment.
- d. Natural gas system material piping system is black iron steel and **copper**.

RECOMMENDATION

- 1) N/A.

6. Plumbing Equipment

- a. *Life Expectancy – 2-5 years*
- b. *Current Condition – Fair*
- c. Water Softener(s).
 - i. 1qty. 75 gpm.
 - ii. Poor condition
- d. Gas Water Heater(s).
 - i. 3qty. 80 gal.
 - ii. 120 degree storage temperature.
 - iii. Poor condition.

- e. Circulator Pump.
 - i. 1qty. 3 gpm.
 - ii. Poor condition.



Water Closet



Wash Fountain



Lavatory

RECOMMENDATION

- 1) Provide complete new domestic hot water heating plant equipment.
- 2) Provide new high efficiency gas water heaters or boiler with storage tank. Temperature storage shall be 135 degrees per ASPE recommendation with master thermostatic mixing valve for 120 degree outlet temperature.
- 3) Provide new circulating pumps and associated valves.
- 4) Provide new expansion tank.
- 5) Re-balance hot water distribution system.

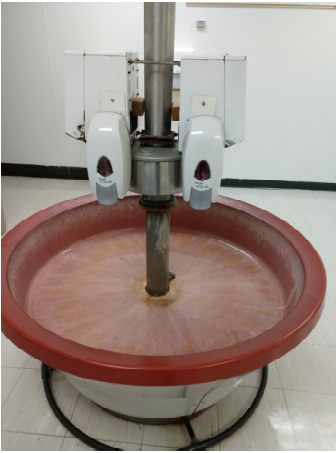
7. Plumbing Fixtures

- a. *Life Expectancy – 5-10 years*
- b. *Current Condition – Fair*
- c. Water Closets are mixture of floor mount with flush valve and wall mount with flush valve fixtures. Flush valves are manual lever operated. The majority of the fixtures are in fair condition and ADA compliant.
- d. Lavatories are mixture of wall mount fixtures. Faucets are manual lever operated. The majority of the fixtures are in fair condition and ADA complaint.
- e. Wash fountains are circular type fixtures. Faucets are foot manual lever operated. The majority of the fixtures are in poor condition and not ADA complaint.
- f. Urinals are floor mount with flush valve. Flush valves are sensor hard wired and sensor battery operated. The majority of the fixtures are in fair condition and ADA complaint.
- g. Electrical Water Coolers are a mixture with and without bottle filling stations. The majority of the fixtures are in fair condition and ADA complaint.
- h. A majority of sinks (general) are in fair condition and not ADA complaint.
- i. Classroom sinks are a mixture with and without drinking fountains. Only cold water supplies the majority of the faucets.

RECOMMENDATION

- 1) Provide sensor operated flush valves and faucets in toilet rooms.
- 2) Provide all new plumbing fixtures and trim accessories.
- 3) Provide wall mounted fixtures where possible in toilet rooms.

- 4) Provide floor drains with trap seal protection in all toilet rooms.
- 5) Replace non ADA complaint fixtures with ADA complaint fixtures.
- 6) Provide solid interceptors at art sink.



Wash Fountain



Urinals



Electric Water Cooler

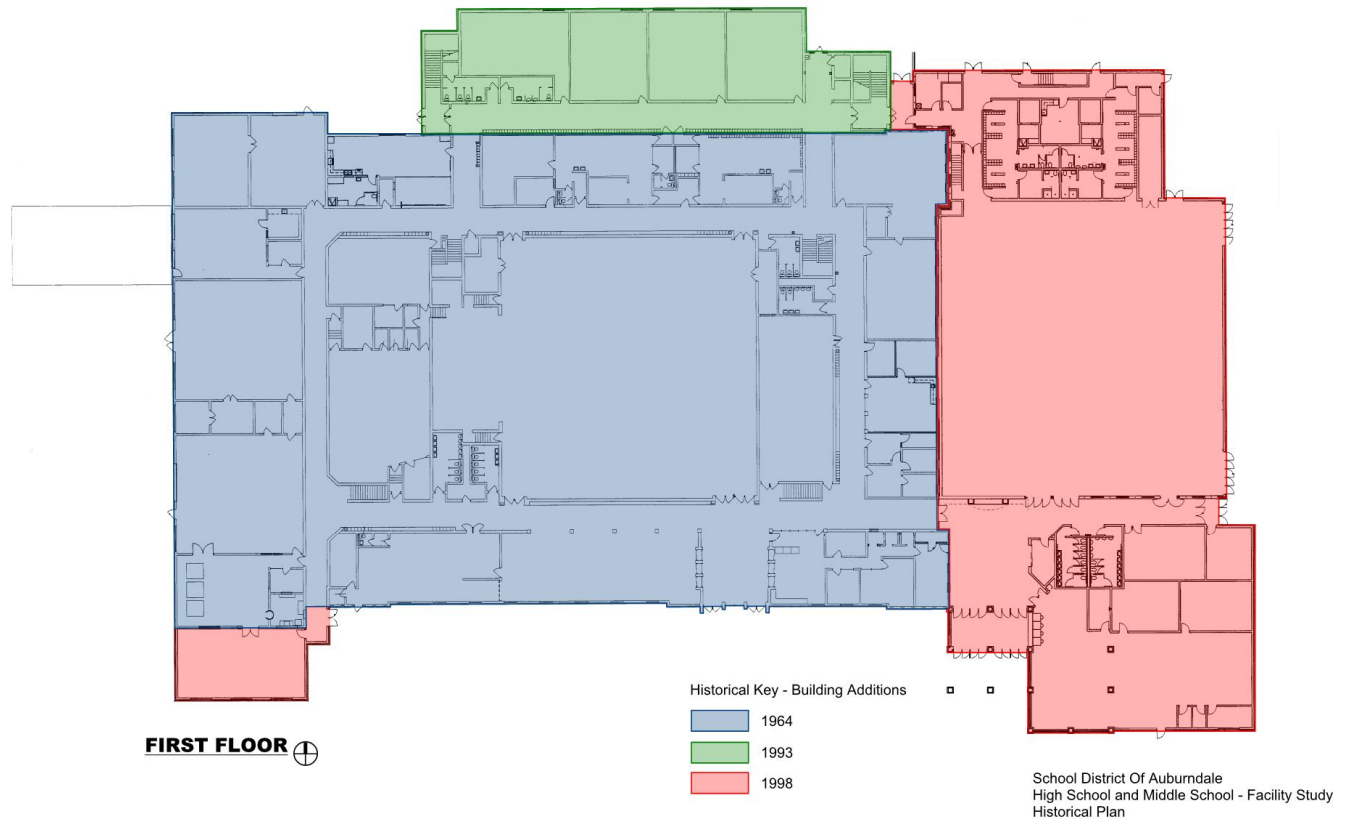


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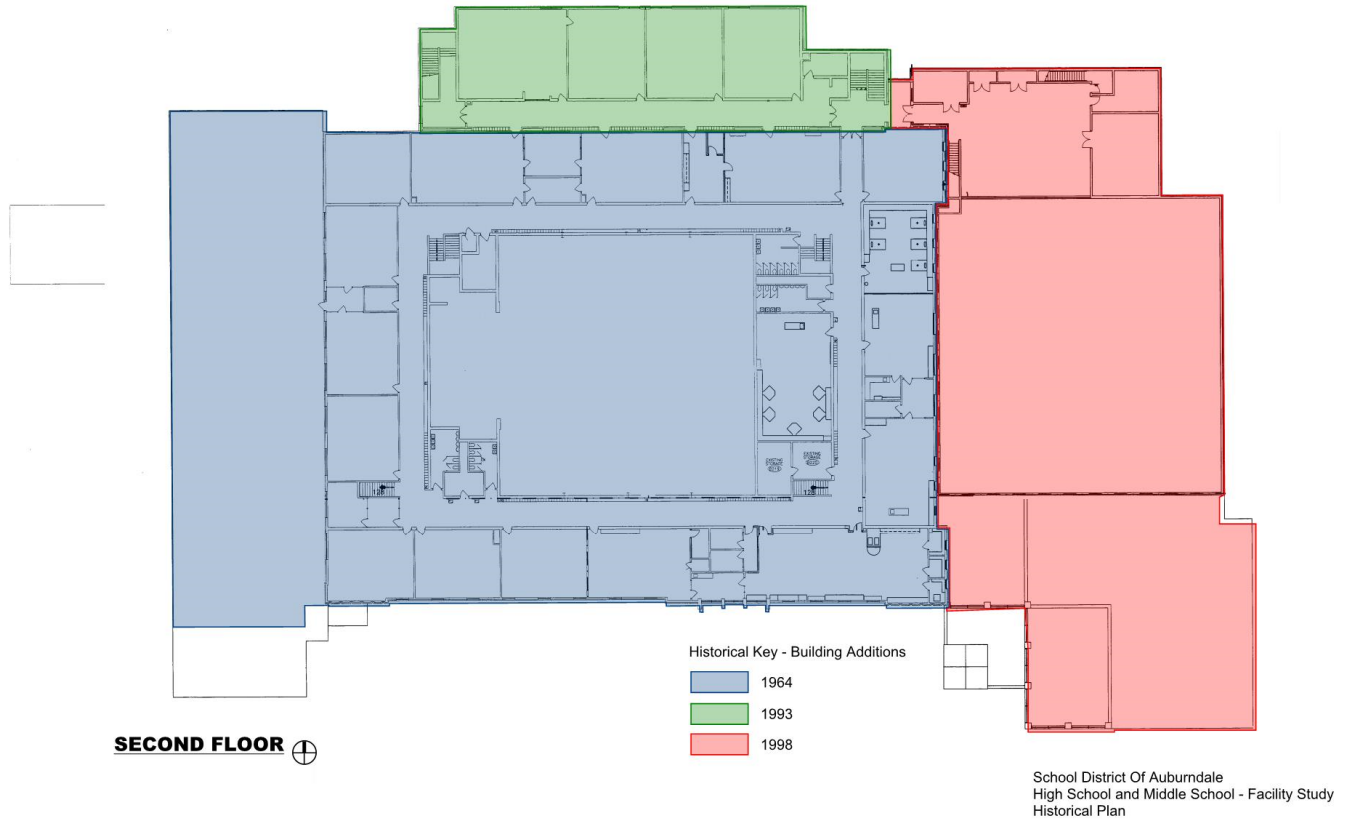
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HISTORICAL PLANS



Historical 1st Floor Plan



Historical 2nd Floor Plan



School Entrance

EDUCATIONAL ADEQUACY ASSESSMENT

School: Auburndale Middle and Senior High School

Configuration: **6th through 12th Grade**

Date of Assessment: November 14, 2019

Evaluator(s): Bob Morris (EUA), Mary Jaimes (EUA),
Steven Van Wyhe (Junior/Senior High School Principal)

Introduction

As part of the broader facilities assessment, Eppstein Uhen Architects (EUA) was asked to provide feedback regarding the educational adequacy of the district's current facilities. EUA conducted interviews with building principals and walk-throughs at each school to identify educational shortcomings and space needs. Findings were based on general observations during these walk-throughs, district provided data on scheduling and attendance, and analyses of existing building plans. Observations were compared against current industry standards and best practices in school design to better understand potential shortcoming and concerns. More information on best practices in educational design can be found in the appendix to this document.

The following assessment analyzes your facility with respect to how it supports the needs of students and educators with respect to 21st century education. Special emphasis is placed on how your facility can support the development of the following 21st century skills your students will need to compete in a global environment:

A Critical Thinker

A Problem solver

An Innovator

An Effective Communicator

An Effective Collaborator

A Self-Directed Learner

Information and Media Literate

Globally Aware

Civically Engaged

Financially and Economically Literate

A facility and its infrastructure can play a significant role in supporting educators to develop these skills (*italicized items above*). The physical environment can provide students with environmental stimulus, relevant technology, and spaces that are flexible enough to support a variety of learning modalities. These spaces encourage student engagement, facilitate collaboration and project-based learning, and foster real-world partnerships with your local business community.

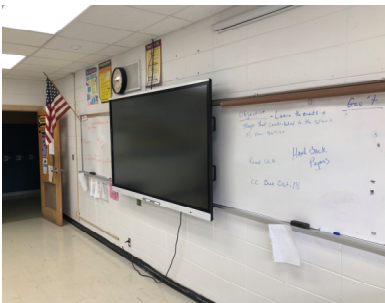




Main Office/Reception



Typical classroom



Visual Display Technology



Computer Lab and
Visual Display Technology

General Overview

The Auburndale Middle and Senior High School facility serves students from sixth through twelfth grade in a shared building. The facility is generally well-maintained, clean, and orderly. The district strives to create positive environments that encourage student engagement and allow students and teachers to flourish.

While there are challenges to housing both schools in one building, the arrangement allows the district to efficiently and effectively maximize physical space, personnel, and other resources. Core classes for Middle School students are generally grouped on the west end of the first and second floor of the building. Middle and High school students share gym/athletic spaces, the cafeteria, and specialist spaces throughout the building. As currently configured, the middle school has almost no unique identity. However, the arrangement allows Middle School students to take advantage of resources that may not otherwise be available.

In general, the school functions as a traditional “cells and bells” learning environment. Curriculum is delivered in traditional classrooms, which work well for large group instruction, but are not ideally suited for small-group work, project-based learning, or individualized intervention. Traditional furniture in use in most of the facility is also inflexible and does not allow for easy reconfiguration of spaces to support different educational modalities. Best practice in school design would allow for more flexible break-out space to be located adjacent to large group learning spaces to allow for these kinds of activities. Windows between adjacent spaces are typically used to allow for clear supervision, while maintaining acoustical control.

The district has taken significant steps to ensure student safety. Exterior doors are kept locked throughout the day, and a security camera system is in use. To gain entrance to the facility, visitors must buzz in and are viewed by office staff both on camera and in person before they are given admittance to the facility. Visitors enter into a secured vestibule area and are restricted from accessing other parts of the building until they have checked in at the reception area, and the purpose of their visit has been ascertained. Because the community needs access to fitness areas, however, many members of the community have security cards/fobs that give them access to the facility after hours which is less than ideal. The school could potentially consider expanding its security camera system and including electronic door contacts to monitor perimeter doors and ensure that doors are not propped open.

The district has addressed many of the highest priority technology concerns in recent years. Virtually all classrooms are equipped with overhead projectors or digital “smart” boards. One-to-one technology is in place so that all students have access to laptop computers. The district also utilizes desktop computer technology in two business classrooms and in a dedicated technology lab within the technical education wing. As laptop technologies continue to improve, the district may be able to consider different uses or configurations for these spaces. The district should also continue to look at expanding opportunities for students to utilize visual display technology for project-based activities and group work.



Tech Ed/Automotive Lab

Auburndale School District is committed to offering authentic learning opportunities that will prepare its students for the real world. As such, student interest and program offerings in the areas of Technical Education and Agricultural Science have seen significant growth in recent years. In order to offer more authentic experiences in these areas, the school could benefit by expanding its automobile program capabilities by adding additional auto lifts, expanding construction technology opportunities by creating space for larger scale project builds, and expanding space for storage of larger scale student projects. Agricultural Technology could also benefit from a more functional greenhouse, expanded food science resources for farm-to-table programming. The district should continue to foster relationships with area businesses to ensure programmatic alignment with area job opportunities



Greenhouse

The Auburndale School District's facilities are heavily utilized not only as schools, but also as space for events and activities that benefit the entire community. As well as hosting numerous outside events, the school offers music concerts, drama programs, holiday performances and other essential community programming. However, the district lacks a try performance venue. The gymnasium does have a stage, but the stage is undersized (the school band does not fit on the stage) and room acoustics, A/V technology, and lighting are not well suited for performances. In order to address these issues, the district could consider major renovation of the gymnasium space to create expanded multi-purpose capabilities or consider construction a separate facility for these kinds of events.

Specific Concerns

- Classrooms are generally well-suited for large group instruction but lack adjacent breakout space for small group collaboration, project-based work, and personalized interventions.
- The Middle School lacks any kind of unique identity as a separate entity from the High School.
- There is insufficient technical education space to allow for large-scale construction projects, and insufficient storage space for longer duration student projects, construction materials, and equipment.
- The automotive technology lab needs additional space and additional auto lift(s) in order to effectively serve larger automotive classes.
- The agricultural sciences classroom lacks appropriate space and amenities for food science and farm-to-table projects.
- The greenhouse is in poor condition.
- There are accessibility concerns for those with mobility impairments in many of the restrooms, at the stage area, the FACE lab, and in the band room.
- Family and Consumer Science spaces are in need of updating to better support a more career-based curriculum



Science Classroom



Family and Consumer Science



Old Gym/Performance Space



Weight Room
(Community Access)

- Science classrooms are inflexible and outdated. Some of the lab equipment no longer aligns with current program offerings. A redesign of these areas would allow for more efficient and multi-functional use of the space.
- Stage area size and gymnasium acoustics, audio/visual, and lighting systems are not well-suited for music or drama performances.
- Weight and cardio room locations create community supervision and access issues. Because these rooms are located in the heart of the building, community members using these facilities have access to other areas of the building as well.
- High school administrative offices do not have adequate project/work space. Former work area is now used as sick room, leaving little space left for conferencing, storage, or work space.
- There is a need for more team space in locker rooms, and office space for coaches/assistants. Multi-user shower facilities are underutilized, and single-user facilities would be preferred.
- Newer Gymnasium basketball court space is tight for sporting events when bleachers are fully extended. Clearances between courts and bleachers are less than recommended.
- Much of the furniture throughout the building is heavy and inflexible, which does not encourage reconfiguration for group work or collaborative learning.

ADA COMPLIANCE REPORT

School: High School

Date of Assessment: October 11, 2019

Evaluator(s): Sean Clendenning (EUA), Randy All (Fredericksen Eng – HVAC), Kevin Schurrer (MSA Professional Services, Inc. – Elec), Justin Monk (MSA Professional Services, Inc. – Plumb)

ADA Summary

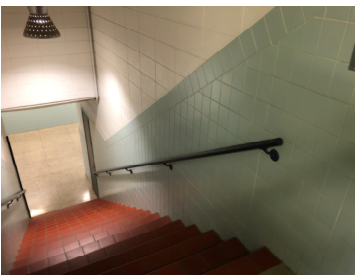
This summary report for facility compliance is not intended to determine the accessibility of specific programs. Program decisions are beyond this scope and involve judgments that must be made by the School District. Our team at Eppstein Uhen Architects together with the School District can access how various programs can affect the use of the facility and the level of compliance required. Reviewing existing conditions at the building, the following items are key items with respect to compliance or barrier removal.



ADA path from parking lot



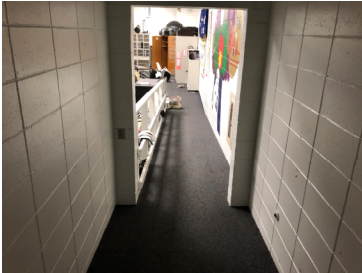
Entrance



Non-compliant railing

1. Accessible Route from Property Line to Main Entry (grade slope, walks, curb ramps, etc.)
 - A. There is a side walk along the property line at the street but no connection to the sidewalks within the school property. You would need to walk from the property line down the drive to reach a sidewalk connecting to the main entrance.
2. Parking and Drop-Off (identifiable parkway and crosswalk, loading area, curb ramps, etc.)
 - A. There is accessible parking stalls with marked cross walks leading to ADA accessible paths to the main entrances of the school.
3. Main Entrance (Surface, Doors, Hardware and Thresholds)
 - A. The entrance doors meet ADA.
 - B. The doors have automatic door operators
 - C. The path is flat and does not impede access to the building.
4. Interior Building Path (Corridors, Stairs, Elevators, Circulation, Doors and Hardware)
 - A. Many of the knob type door hardware have been changed to lever type but there are still a handful of knob type.
 - B. The handrails for the stairs in the original building do not have compliant extensions at the top or bottom of the stair.

- C. The band room ramp appears to be a greater slope than 1:12 and is without hand rails.
- D. The stage does not have wheelchair access



- 5. Accessible restrooms (Entry and Turning Radius, Clearances, Fixtures, Grab Bars, Accessories)
 - A. The toilet rooms in the original building have been retrofitted with automatic door openers
 - B. The multi fixture toilet rooms in the original building do not have an ADA accessible toilet stall
 - C. The additions toilet rooms meet ADA



RECOMMENDATION

- 1) Provide an ADA compliant path from the property line sidewalk to the entrance.
- 2) Replace door knobs with lever type hardware.
- 3) Replace railings that do not have the proper extensions
- 4) Provide wheelchair access to the stage
- 5) Provide an ADA stall in all multi fixture toilet rooms
- 6) Provide wheelchair access to the band and music room that meet code.

Automatic door openings on the
toilet room doors



No ADA stall in the multi fixture
toilet room

BUILDING INSPECTION REPORT

School: High School

Date of Assessment: October 11, 2019

Evaluator(s): Sean Clendenning (EUA), Randy All (Fredericksen Eng – HVAC), Kevin Schurrer (MSA Professional Services, Inc. – Elec), Justin Monk (MSA Professional Services, Inc. – Plumb)

The assessment of site and building systems identifies the condition of categorized elements observed during inspection and graded for relative fitness by the following criteria for expected service.

Good: The reviewed element has been observed to have the following characteristics.

- Is between the beginning and middle of its expected service life.
- Meets optimum functional and / or performance requirements.
- Requires routine maintenance or minor repair.
- Less than 25% of the element is in substandard condition or has failed.

Fair: The reviewed element has been observed to have the following characteristics.

- Is between the middle and end of its expected service life.
- Meets minimum acceptable functional and / or performance requirements.
- Requires attention to repair beyond routine maintenance.
- 25 - 50% of the element is in substandard condition or has failed.

Poor: The reviewed element has been observed to have the following characteristics.

- Is at or has passed the end of its expected service life.
- Fails to meet functional and / or performance requirements.
- Requires excessive and constant attention, and major corrective repair.
- More than 50 percent of the element is in substandard condition or has failed.





1998 Addition Windows



Elevation Showing Different Windows



Exterior HM Window

EXTERIOR ENVELOPE

1. Exterior Windows

- a. *Expected life span 25-30 years for aluminum windows.*
- b. *Current Condition – Good/Fair/ Poor*
- c. Older window frames are usually not thermally broken or do not contain high performance insulated glass. Glass performance has improved dramatically over the past 10-15 years and glass is designed to much better sun shading co-efficient (ability to block UV rays) and overall better R-Value. (Quality of thermal conductivity). Single pane or clear glass does not block UV rays or have any insulating value. Insulated glass that is tinted is also recommended to reduce glare as well.
- d. There is a set of Hollow Metal window frames at the east side of the building that have areas of rust.
- e. The windows on the south side are original to the building.
- f. There is a mix of replaced and original windows around the building.

RECOMMENDATION

- 1). Replace the Hollow metal windows on the east side of the building.
- 2) Replace all the original 1964 windows
- 3) The windows in the 1993 addition have reached the end of their expected lifespan consider replacing them as the maintenance needs increase.



South Side Low Roof



Rusted exposed column



FRP Door Aluminum Frame



Hollow Metal Door and Frame

2. Roof

- Expected life span 20 years for rubber EPDM, 30 years for Thermo-plastic, 40 years for built-up asphalt system*
- Current Condition – Good/Poor.*
- The southern low roof over the Tech Ed classrooms has gone past its useable life span and needs replacement.
- The rest of the buildings roof is in good condition

RECOMMENDATION

- 1) Replace the Southern Low Roof
- 2) Stay on maintenance schedule.

3. Exterior Doors

- Expected life span 20 years for steel, 30 years for aluminum/ FRP systems*
- Current Condition - Good*
- Most of the doors are Aluminum Frames with FRP Door leaf's, all in good condition
- There are a small number of hollow metal frames and doors all in good condition.

RECOMMENDATION

- 1) Stay on maintenance schedule.
- 2) When steel doors and frames begin to rust and near the end of their life expectancy consider replacing with aluminum frames and FRP doors.



Damaged Brick at Corner



Damaged Caulk Joint



Rusted Columns and Damaged Fascia at Canopy



South Parking Lot

4. Exterior Walls

- a. *Expected life span of masonry 50 -100 years with periodic maintenance*
- b. *Current Condition - Good*
- c. Brick locations are in good condition, however there are areas with damaged bricks.
- d. There are masonry joints that need to be resealed with caulk

RECOMMENDATION

- 1) Replace, repair and tuckpoint brick walls as necessary.
- 2) Recaulk masonry joints

5. Entry Canopy / Overhangs / Fascia

- a. *Life Expectancy – same as building depending on maintenance and materials used.*
- b. *Current Condition – Good/Fair*
- c. The overhangs have the ability to adequately protect users from weather
- d. The canopy at the south east corner of the building has damaged Fascia and the columns are rusting at the base

RECOMMENDATION

- 1) Stay on maintenance schedule.
- 2) Repair the Fascia and columns at the south east canopy.

6. Walkways, Asphalt and Drainage

- a. *Life Expectancy – 20 years*
- b. *Current Condition – Good / Poor*
- c. The East parking lot was repaved recently and is in good condition
- d. The South parking lot has a lot of cracking and is in poor condition
- e. Sidewalks are in Good condition

RECOMMENDATION

- 1) Repave the South Parking Lot
- 2) Stay on maintenance schedule.



1964 Typical Corridor



1993 Addition Typical Corridor



Vinyl Asbestos Tile in the
Corridor



Typical Classroom Carpet

INTERIOR

7. Walls

- a. *Expected life span 50 -100 years with periodic maintenance*
- b. *Current Condition – Good*
- c. Most interior walls are either brick or CMU and show no signs of cracks, fractures or failure.
- d. The Corridors of the 1964 portions of the school have a 4"x4" Tile wainscot and is in Fair condition.

RECOMMENDATION

- 1) Stay on maintenance schedule.

8. Floor Coverings

- a. *Expected life span VCT 20 years, carpet 10 – 15 years.*
- b. *Current Condition – Good/Fair/Poor*
- c. Corridor flooring is either Terrazzo or vinyl composition tile (VCT) and is in Good / Fair / Poor Condition
- d. The corridor in the 1998 addition is ceramic tile in good condition.
- e. The Classrooms are a either Carpet or vinyl composition tile (VCT) and in Good to Fair condition.
- f. The 1964 building has some originally vinyl asbestos tile (VAT). Some areas have been renovated to a VCT however some areas still contain VAT which is in fair/poor condition.

RECOMMENDATION

- 1) Replace VAT (asbestos tile) flooring. Replace wall base as well which is typical when flooring is replaced.
- 2) When the carpet is replaced in the classrooms consider changing to a carpet tile instead of broadloom. The carpet tile allows for replacement of stained portions of the carpet without replacing the entire floor.



Typical 2'x4' Act Ceiling



Typical 2'x2' Act Ceiling



Door at the 1964 portion of the building



Door at the 1993 portion of the building

9. Ceilings

- a. *Expected life span 15 years*
- b. *Current Condition – Good/Fair/Poor*
- c. The building has a mix of 2'x2' or 2'x4' Acoustical Lay in Ceilings (ACT), The 2'x4' ACT ceilings are generally in poor condition.
- d. There are some areas of water damaged ACT ceiling tiles around the building
- e. Acoustical lay in ceilings (ACT) have tendency to sag over time and discolor.
- f. Ceiling grid discolors over time.
- g. New ceilings will increase light reflectance and give the space improved visual appeal.

RECOMMENDATION

- 1) Replace the poor 2'X4' ACT ceilings with 2'x2' ACT ceilings to match the new ceiling tiles throughout the building.
- 2) Replace the water stained ceiling tiles
- 3) Stay on maintenance schedule.

10. Doors Frames and Hardware

- a. *Expected life span 40 years with periodic maintenance*
- b. *Current Condition – Good/Fair/Poor*
- c. Door hardware is a mix of knob and lever type.
- d. Doors are wood in hollow metal frames. Wood doors in good/fair/poor condition
- e. Many of the doors at the 1964 portion of the building have large portions of the veneer removed
- f. Due to the use and continued operation of interior wood doors the facing veneer will chip and tear over time and experience scrapes and dents.
- g. Metal door frames can be repaired and painted while various hardware components can be replaced. Door chips and scratches can be sanded, filled and restrained to revive an old door. Depending on severity of door or frame damage, it may be cost effective to replace the entire door and frame.

RECOMMENDATION

- 1) Replace door hardware with ADA compliant lever type.
- 2) Replace the door leafs at the severely damaged doors.



1964 area toilet room
Original Gym



Toilet room in the locker room



1993 Addition Casework



Science Casework

11. Restrooms

- a. *Current Condition – Good/Fair*
- b. *Refer to ADA report for accessibility recommendations.*
- c. Ceramic Floor Tile (expected life span 40 years) – Good/Fair. Older grout holds bacteria.
- d. Ceramic Wall Tile (expected life span 40 years) Good/Fair. Older grout holds bacteria and there are locations with chipped tile.
- e. Toilet Partitions (metal) -(expected life span 15 years) Good/Fair/Poor
- f. Many of the partitions at the 1964 toilet rooms are in poor condition
- g. Accessories – (expected life span 8-10 years) good, provided by vendors.

RECOMMENDATION

- 1) 1964 restrooms: Remove and replace all wall and floor tile with new.
- 2) Replace toilet partitions with anti-graffiti plastic type.

12. Cabinetry and Countertops

- a. *Expected life span 20-25 years*
- b. *Current Condition – Good / Fair*
- c. Cabinets appear to be original to building.
- d. The cabinets have reached the end of there expected lifespan in the original and 1993 addition.

RECOMMENDATION

- 1) Replace cabinetry and countertops as needed.

13. Gymnasium

- a. Basketball backboards and wall supports are in good condition.
- b. Flooring – wood athletic flooring
- c. The Bleachers are in good condition

RECOMMENDATION

- 1) Stay on maintenance schedule.



Addition Gym

14. Locker Room

- a. Steel lockers are in good condition.

RECOMMENDATION

- 1) Stay on maintenance schedule.



Typical Locker Room

15. Cafeteria

- a. Cafeteria is in Fair condition

RECOMMENDATION

- 1) Stay on maintenance schedule



MECHANICAL SYSTEM

EXISTING DATA

1. The heating system serving the original building is a hot water system that consists of two (2) Superior firetube boilers. One boiler is rated at 2,343,000 btu gross output and the other boiler is rated at 5,021,000 btu gross output.
2. The hot water pumping system is a single-circuit arrangement with constant flow system pumps. A stand-by pump is piped in parallel in the event of failure of the main system pump.
3. The 1998 addition is heated by two (2) Patterson-Kelley sealed combustion non-condensing boilers each rated at 1,275,000 btu gross output.
4. The 1998 pumping system is a primary-secondary arrangement with constant flow pumps. A stand-by pump is piped in parallel in the event of failure of the main system pump.
5. The building cooling is provided by packaged rooftop units as well as split condensing units that are connected to indoor air handling units.
6. The building is ventilated by multiple packaged rooftop units and indoor air handling units. The rooftop unit systems are variable air volume (VAV) systems. The indoor air handling units serve the 1998 addition and consist of a constant volume single-zone unit serving the gym, and a standard VAV unit with a variable frequency drive to provide variable fan speed operation serving the Library area. The VAV system is zoned with VAV boxes with hot water reheat coils.
7. The Welding Shop and Woods Shop are each served by single-zone air handling units to provide makeup air for the welding and wood dust collection systems.
8. The Woods Shop is also ventilated by a central dust collection system.
9. The original building is controlled by a Tridium/Niagara direct digital control system. The 1998 addition is controlled by a Siemens digital control system. The Superior boiler plant and the air handling system serving the Woods Shop are still controlled pneumatically.





OBSERVATIONS

1. The Superior boilers serving the original building were installed in 1996 and 2001 and are in good condition. The pumps appear to be from the 1996 installation as well. With a proper maintenance program, the boiler plant should continue to serve the building for another 10-15 years.
2. The Patterson-Kelley boilers installed in 1998 appear to be in good condition. However, at 21 years of age, these boilers are nearing the end of their expected service life of 20-25 years.
3. The packaged rooftop units have been installed over the last 5 years to replace the original classroom unit ventilators. All units are in excellent condition.
4. The air handling units from 1998 have been well maintained and are in good condition. The ASHRAE service life expectancy for indoor air handling units is 30-35 years. With proper maintenance, these units should continue to serve the building for another 10-15 years.
5. The air handling unit serving the Welding Shop was installed in 2013 and is in good condition. This unit should continue to serve the building for another 25-30 years.
6. The air handling unit serving the Woods Shop is original to the building from the 1960's. While the unit has been well maintained, it has exceeded its ASHRAE service life expectancy of 30-35 years. Plans should be made for its replacement.

RECOMMENDATIONS

1. Continue with the current preventative maintenance program to maximize the life expectancy of all equipment.
2. Upgrade the current hot water pumping systems on the two boiler plants to primary-secondary variable flow systems. The current system pumps would be replaced with new energy efficient pumps with inverter-duty motors and variable frequency drives. Existing 3-way coil control valves would be replaced with 2-way control valves. System pressure differential control and a system minimum flow bypass valve would also be installed.
3. Upgrade the current hot water boiler plant by adding a single high-efficiency condensing boiler (95% efficient) to provide low water temperature capabilities for summer reheat and humidity control as well as shoulder month heating.
4. Replace the Woods Shop air handling unit with a new unit with a premium efficiency motor and variable frequency drive.
5. Upgrade the remaining pneumatic controls to digital controls to complete the building automation system.



Transformer and Entrance



Main Switchboard



Secondary Entrance

ELECTRICAL SYSTEM

1. Electrical Service

- a. *Expected life span 30-40 years.*
- b. *Current Condition – Good*
- c. This building is fed from a 300KVA 277/480 volt 3 phase 4 wire ground mounted transformer. This feeds into a wall mounted C/T cabinet via underground conduits into a main disconnect that feeds a fusible switch section with fusible buckets that feed loads throughout the facility. The service dates to the original construction of this building.
- d. This building also has a 120/208 volt 3 phase 4 wire ground mounted transformer on the north side of the facility. This feeds a wall mounted C/T cabinet via underground conduits. This feeds panel “PPA” in gym storage room. It appears to be added with the 2000 building addition.

RECOMMENDATION

- 1) The service can remain in place and appears to be servicing the school without any issues. Due to the age of the existing equipment, a plan should be in place to update the existing main and distribution section in the near future. This equipment typically has a useful life of 40 years. We estimated the equipment to be 50 plus years old. The new equipment could be located in the same location as the existing gear and will require a shutdown to allow for the switch over.
- 2) The 120/208V service can remain in place and appears to be servicing the school without any issues. This service can remain in place.
- 3) The demand reading from Alliant Energy indicated that the service peak demand was in October 2018 at 168 KW.

2. Panelboards

- a. *Expected life span – 30 - 40 years.*
- b. *Current Condition – Good to Fair*
- c. The panels in the facility are a mix of original and newer from approximately 2000. The existing panels do not have room for future additions. Panels dating to the original construction were noted. The district has been upgrading older panelboards due to the fact that finding replacement breakers has become more difficult.



Second Main Service



Generator



Fire Alarm Control Panel

RECOMMENDATION

- 1) Panels can remain in place as is. Upgrades on panels can be done if additional circuits are required in classrooms or other spaces. Due to the age of the existing panelboards, a plan should be in place to update them. This equipment typically has a useful life of 40 years. Breakers will become hard to find if replacement is required.

3. Generator

- a. *Expected life span – 40 years.*
- b. *Current Condition – Poor*
- c. An Onan LP generator is located in the boiler room to provide limited backup power to the building. The set is 120/208 volt three phase.
- d. The transfer switch is located adjacent to generator and is dated to the original generator.
- e. The generator appears to be vintage (1960's).

RECOMMENDATION

- 1) Due to the age of the existing equipment, a plan should be in place to update the existing generator in the near future. This equipment typically has a useful life of 40 years. We estimated the equipment to be 50 plus years old. Any new generator should be located outside the facility.
- 2) The generator loads must be separated into two sets of distribution to comply with code, life safety and non-life safety loads. This will require two transfer switches and two panels.

4. Fire Alarm

- a. *Current Condition - Good*
- b. The system is a Notifier addressable panel located in boiler room. PerMar installed this system within the last 5-8 years. There is no dialer present. System does not present any issues at this time.

RECOMMENDATION

- 1) Additional horn and strobe devices can be added to all occupied areas to bring the system up to complete code compliance. This will require a more in-depth study to determine the areas that need additional equipment added. The system is addressable and devices can be added to the existing system.



Corridor Lighting



Exterior Lighting

5. Interior Lighting

- a. *Life Expectancy – 20 years*
- b. *Current Condition – Good/Fair*
- c. Approximately 50% of the facility lighting has been upgraded to LED by the district. This process has been a lamp/driver replacement only with the fixture housing remaining in place. Exit lights appear to be LED type. The gym lighting fixture lamps appear to have been upgraded to LED. We did note areas of the corridors where exit lights were not present in need of replacement.
- d. There appears to be areas of the building that have separate dual and single head emergency fixtures.

RECOMMENDATION

- 1) Any of the interior lighting that has not been upgraded to LED should be scheduled for upgrading. This would add to the efficient LED lighting that has already been replaced. Replacement of any existing switches to dimmers to control LED fixtures. Replacement of any damaged fixtures, IE exit lights.
- 2) Remove existing dual and single head emergency fixtures and re-circuit corridor lighting to be controlled via emergency generator to provide code compliant emergency egress lighting.

6. Exterior Lighting

- a. *Life Expectancy – 20 years*
- b. *Current Condition – Good / Fair*
- c. The majority of the exterior lighting, both pole mounted and building mounted, have been upgraded to LED by the district. Wall packs, under soffit and building mounted flood lighting provide the building security lighting. Parking lot shoe box type fixtures were present to provide lighting in the parking lot. The district indicated they were going to finish updating any remaining fixtures to LED type. We did not walk through the facility during night time hours and could not verify the light levels, but recommend upgrading any remaining fixtures to LED type.

RECOMMENDATION

- 1) If there are fixtures that need upgrading, we recommend this work to be completed. The new IBC codes dictate that emergency exterior egress lighting be installed outside each code required egress exit. Due to the age of this facility, it currently does not meet code in regards to exterior egress lighting. This facility is grandfathered in and does not require it, however, if new LED type lighting is provided to



CCTV



Intercom Head-end



Data Rack / Phone Rack

replace the existing fixtures, we would recommend updating to meet current code.

7. CCTV

- Life Expectancy – 15 years*
- Current Condition – Good*
- The facility contains a CCTV system located in the MDF room for interior and exterior cameras. An estimate of 20-30 total cameras for the facility were present. CCTV PerMar system is approximately 5 years old.

RECOMMENDATION

- 1) If additional cameras are added, an IP based camera system should be considered. This type of system offers many advantages in storage, wiring and configuration. The system can also be programmed to allow for security motion detection and allow for auto dialing. The district would need to verify if they were to require any additional cameras.

8. Intercom

- Expected life span 30-40 years with periodic maintenance*
- Current Condition – Good to Fair*
- A Dukane system is located in the office. The system appears to be of older age. The district did not indicate any issues with the system at this time.

RECOMMENDATION

- 1) A plan should be implemented to consult with the district if any upgrades to the intercom system are needed. The district did not note any issues with the system at time of walk through.

9. Data, Phone

- Expected life span 20 years.*
- Current Condition – Good to Fair*
- The phone system for the elementary is VOIP based. The facility contains wireless access throughout with adequate coverage. The classrooms and offices contained Cat 5 data drops. Existing data racks appear to have some room for expansion. One IDF rack is an open wall mounted type. The MDF is a floor mounted open rack. The remaining 3 IDF racks are full floor mounted racks.

RECOMMENDATION

- 1) If new drops are added in the building, there appeared to be room for additional drops depending on number of drops requested by the district. Proper grounding should be added and new Cat 6 cabling.



Clock

10. Clock System

- a. *Expected life span 15-20 years*
- b. *Current Condition – Good to Fair*
- c. There is an old 120V clock system in the building, but 90% of the clocks are now battery operated. The clocks are a mix of different manufacturers.

RECOMMENDATION

- 1) A plan should be implemented to consult with the district if an upgraded clock system is desired. At time of walk through, none were indicated by staff.

PLUMBING SYSTEM



Water Meter



Hose Bibb

1. Domestic Water System

- a. *Expected life span 5-10 years.*
- b. *Current Condition – Poor*
- c. Water Service is a 4" Ductile Iron for domestic use only with 3" meter with by-pass piping.
- d. Piping system material is mostly copper and galvanized piping.
- e. Domestic cold water hard piping system is in fair condition.
- f. Domestic hot water supply piping system is in fair condition. Hot water delivery wait time to fixture is over 90 seconds.
- g. Domestic hot water return piping system is in fair condition.
- h. Domestic hot water return piping system is in fair condition.
- i. Water is softened for the hot water system only.
- j. Backflow preventers serving boiler are in fair condition.

RECOMMENDATION

- 1) Backflow preventers shall be maintained / repaired as required and tested once a year.
- 2) Water testing shall be acquired to determine water quality and proper treatment of equipment.
- 3) All the existing galvanized piping shall be replaced with new copper or approved piping material.
- 4) Repair all leaks on piping as required with new copper or approved piping material.
- 5) Provide new pipe insulation as required on exposed and damaged piping areas and sections.
- 6) Provide new properly sized domestic water piping system with new copper or approved piping material for any addition or remodeled area per new energy codes concerning hot water distance to faucets for hand washing.
- 7) Extend and balance hot water return and supply piping to fixtures to improve hot water delivery wait time.

2. Fire Sprinkler System

- a. *Expected life span N/A years.*
- b. *Current Condition – N/A.*
- c. There is no automatic fire sprinkler system in the building.

RECOMMENDATION

- 1) Existing water service not capable of supporting a whole building automatic fire sprinkler system. A new properly sized water service will be required to support a whole building automatic fire sprinkler system.

3. Sanitary Drain, Waste and Vent System

- a. *Expected life span 10-15 years.*
- b. *Current Condition - Good*
- c. Sewer size could not be confirmed at time of inspection.
- d. Piping system material is Cast Iron and PVC.
- e. Piping system is in fair condition.
- f. Grease interceptors location could not be confirmed at time of inspection.
- g. Solid waste interceptors are not present.



Grease Interceptor

RECOMMENDATION

- 1) Repair all leaks on piping as required with new PVC or approved piping material.
- 2) Camera video inspection of all underground piping shall be acquired to determine system's quality and proper flow.
- 3) Provide entire drain and waste system with auger and / or jetting cleaning maintenance twice a year.
- 4) All interceptors shall be maintained as required and pumped out on twice a year.
- 5) All the existing clay, cast iron and galvanized underground piping shall be replaced with new PVC or approved piping material.
- 6) All the existing cast iron and galvanized above floor piping shall be replaced with new PVC or approved piping material.
- 7) Repair all leaks on piping as required with new PVC or approved piping material.
- 8) Provide adequately sized Grease interceptor for the equipment load discharging into it.

4. Storm and Clear Water Drain, Waste and Vent System

- a. *Expected life span of 10-15 years.*
- b. *Current Condition - Good*
- c. Sewer size could not be confirmed at time of inspection.
- d. Piping system material is Cast Iron and PVC.
- e. Piping system is in fair condition.



Gas Water Heater

- f. Interior roof drain and conductor piping system is discharging to interior storm drainage system.
- g. Sump pumps are not present.

RECOMMENDATION

- 1) Repair all leaks on piping as required with new PVC or approved piping material.
- 2) Camera video inspection of all underground piping shall be acquired to determine system's quality and proper flow.
- 3) Provide entire drain and waste system with auger and / or jetting cleaning maintenance twice a year.
- 4) All the existing clay, cast iron and galvanized underground piping shall be replaced with new PVC or approved piping material.
- 5) All the existing cast iron and galvanized above floor piping shall be replaced with new PVC or approved piping material.
- 6) Provide new pipe insulation as required on exposed and damaged piping areas and sections.

5. Other Plumbing Systems

- a. *Life Expectancy – same 10-15 years.*
- b. *Current Condition – Good*
- c. Natural gas system supplying plumbing and kitchen equipment pressure is 2 pounds with single regulators for the equipment.
- d. Natural gas system material piping system is black iron steel and copper.
- e. Compressed air system shop area on VFD. It is in good condition.
- f. Compressed air system material piping system is black iron steel and copper.



Water Softener

RECOMMENDATION

- 1) N/A.

6. Plumbing Equipment

- a. *Life Expectancy – 10-15 years*
- b. *Current Condition – Good / Fair*
- c. Water Softener(s) –serving hot water system only.
 - i. 1qty. 75 gpm.
 - ii. Poor condition.
- d. Gas Water Heater(s)
 - i. 1qty. 100 gal.
 - ii. 120 degree storage temperature.



Circulating Pump



Old Water Closet



Lavatories



Urinals

- iii. Fair Condition
- e. Circulator Pump(s)
 - i. 1qty. 3 gpm.
 - ii. Fair condition.

RECOMMENDATION

- 1) Provide complete new domestic hot water heating plant equipment.
- 2) Provide new high efficiency gas water heaters or boiler with storage tank. Temperature storage shall be 135 degree per ASPE recommendation with master thermostatic mixing valve for 120 degree outlet temperature.
- 3) Provide new circulating pumps and associated valves.
- 4) Provide new expression tank.
- 5) Re-balance hot water distribution system.

7. Plumbing Fixtures

- a. *Life Expectancy – 15 years*
- b. *Current Condition – Fair*
- c. Water Closets are a mixture of floor mount with flush valve and wall mount with flush valve fixtures. Flush valves are manual lever operated. The majority of the fixtures are in fair condition and ADA compliant.
- d. Lavatories are mixture of wall mount fixtures. Faucets are manual lever operated. The majority of the fixtures are in fair condition and ADA compliant.
- e. Wash Fountains are circular type fixtures. Faucets are foot manual lever operated. The majority of the fixtures are in poor condition and not ADA compliant.
- f. Urinals are floor mount with flush valve. Flush valves are sensor hard wired and sensor battery operated. The majority of the fixtures are in fair condition and ADA compliant.
- g. Electrical Water Coolers are a mixture with and without bottle filling stations. The majority of the fixtures are in fair condition and ADA compliant.
- h. The majority of sinks (general) are in fair condition and not ADA compliant.

RECOMMENDATION

- 1) Provide sensor operated flush valves and faucets in toilet rooms.
- 2) Provide all new plumbing fixtures and trim accessories.
- 3) Provide wall mounted fixture where possible in toilet rooms.
- 4) Provide floor drains with trap seal protection in all toilet rooms.



- 5) Replace non ADA compliant fixtures with ADA compliant fixtures.
- 6) Provide solid interceptors at art sink.
- 7) Provide monthly testing of all emergency fixtures.
- 8) Provide emergency fixtures in science rooms.
- 9) Provide emergency fixtures in shop areas.

Old Lavatories



Electric Water Cooler