



BENTON HARBOR AREA SCHOOLS

2017 Facility Assessment

GMBae Project #5-4061



2017 Facility Assessment

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Unoccupied Buildings

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Executive Summary

On multiple dates in March and April, 2017 GMB Architecture + Engineering toured twenty one facilities to assess the conditions of the buildings, site and playground equipment. Our team included the following:

- | | |
|---------------------|--|
| • Brad Hemmes | Principal, Director of Business Development, PreBond |
| • Dave Alphenaar | Architect |
| • Matt Kalajainen | Electrical Engineer |
| • Amy Broersma | Landscape Architect |
| • Nate Van Heukelum | Mechanical Engineer |
| • Cecil Patterson | Construction Administration |
| • Jeff Soules | Construction Administration |

The report is organized by school and highlights key elements of the site and facilities including the following:

- Building History Plan
- Civil & Site Assessment
- Building Envelope Assessment
- Roof System Assessment
- ADA Accessibility Assessment
- Interior Finishes Assessment
- Life Safety Assessment
- Food Service Assessment
- Mechanical & Plumbing Assessment
- Electrical Systems Assessment

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What We Learned...

General

While there are some areas of recent updates, most of the facilities are old with many finishes, systems and equipment wearing out and well past their expected life cycles. In addition, most of the buildings that are unoccupied have had components repurposed for use in occupied buildings, scavenged, vandalized and generally not maintained.

Some of the deficiencies and immediate repair items include:

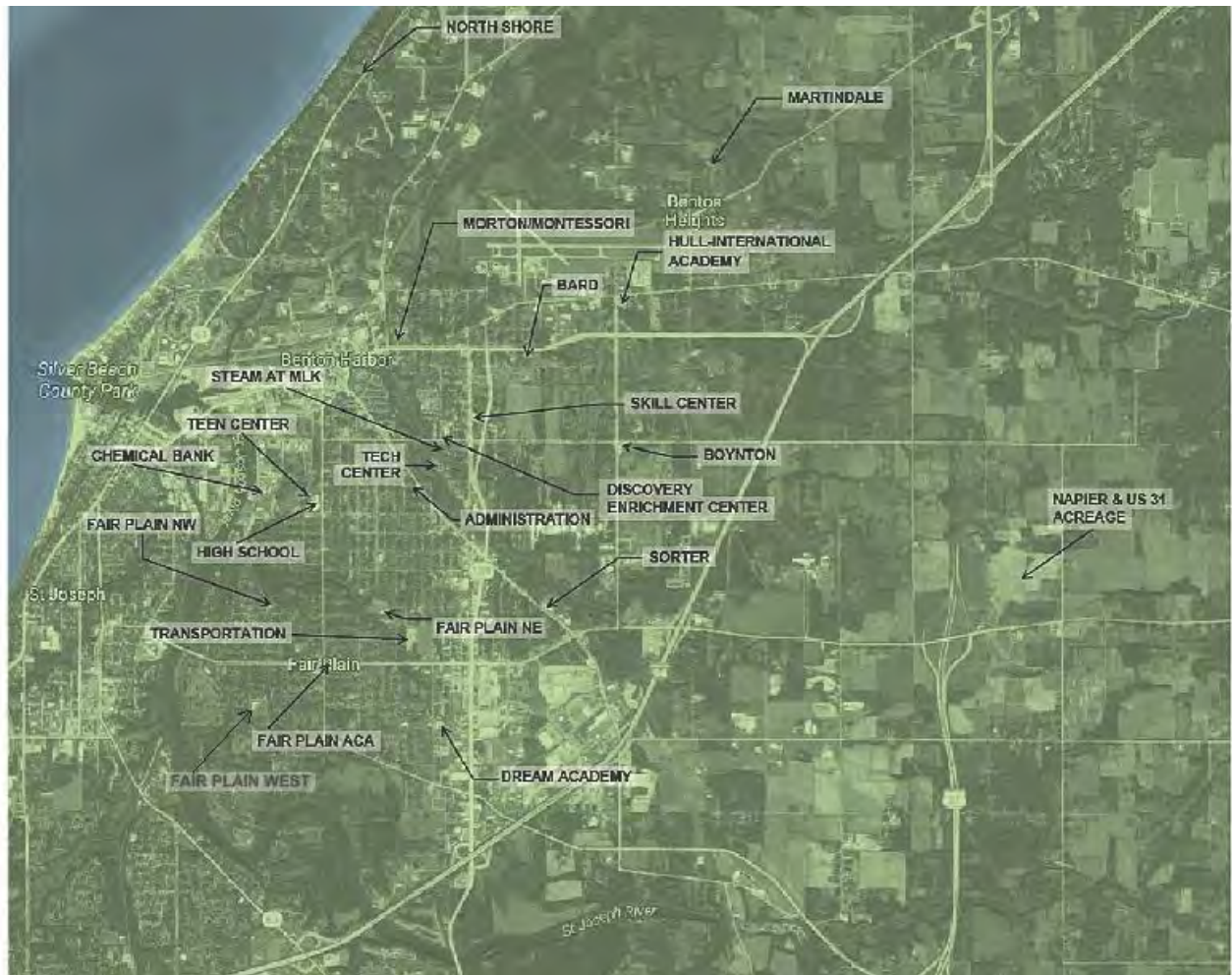
1. Paving & Site Improvement Projects
 - We observed parking lots, bus loops, and drives that are due for replacement.
 - There is a need for enhanced safety at some of the student drop off areas to maintain separation between student traffic, buses and vehicular traffic.
 - Sidewalk safety concerns, trip hazards, and ADA accessibility improvements noted.
 - Additional parking lot and exterior lighting needed for enhanced visibility and safety.
2. Elementary Playground Equipment Improvement Projects
 - We've identified needs for selective playground equipment replacements to address both safety and code concerns.
3. Re Roofing Projects
 - There are multiple roof systems that are in poor condition and past due for replacement.
4. Secure Entry Projects
 - There is a need for secure entry remodeling as well as perimeter doors to control access into the buildings.
5. Electronic Site Signage Projects
 - We've noted needs for electronic site signage at multiple schools currently in operation.
6. HVAC Building Management Systems / Temperature Controls Projects
 - The existing system is out of date and inconsistent throughout the district. A new control system is needed throughout the district to improve facilities operation, efficiency, and comfort.

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7. Mechanical Systems Replacement Project
 - There are considerable equipment replacements needed at all schools
8. Plumbing Infrastructure Project
 - Plumbing improvements are needed to repair/replace old infrastructure and fixtures
9. Lighting Control Projects
 - There is a need for lighting control systems to be improved and/or added allowing enhanced efficiencies and potential cost savings
10. Electrical Systems
 - There are many electrical components that are outdated, non-serviceable or are full with no room for expansion

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Facilities Location Map



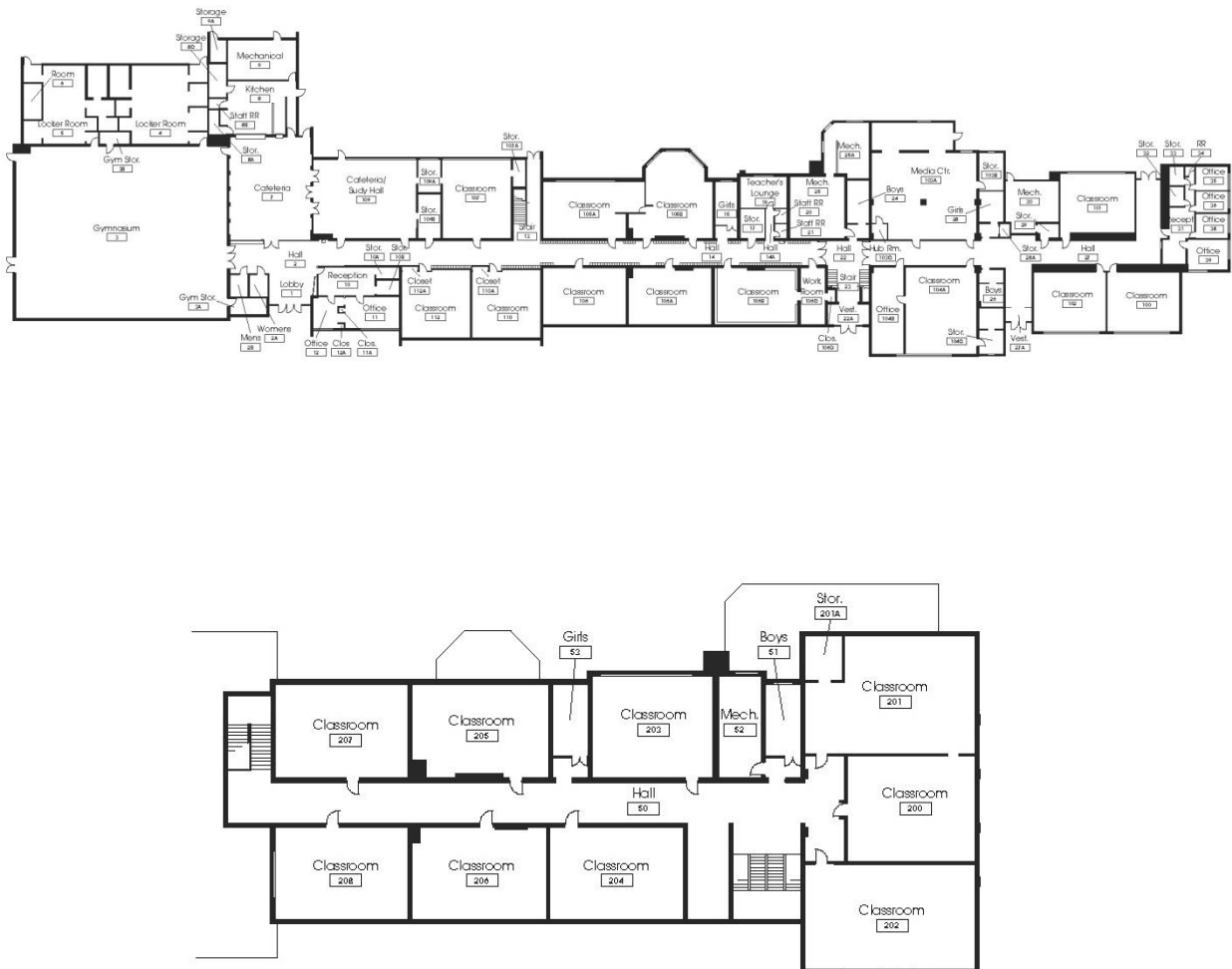
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Arts & Communications Academy

Building History Plan

51,645 SF

- Built in 1958 – 1959

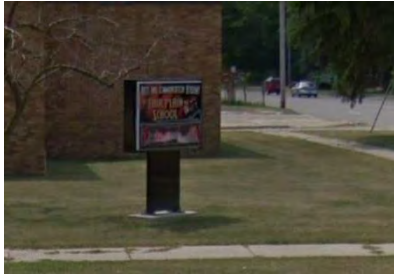


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Civil & Site Assessment

Signage

- LED Sign placed at the corner of Napier and Colfax Streets in good condition



Pavements

- Asphalt and exterior concrete is in poor condition.



Traffic Flow

- Bus loop separate from vehicular traffic
- Separate staff parking lot
- No parent drop-off

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Building Envelope Assessment

- Poured concrete structure, masonry with brick exterior.
- The walls are structurally sound with evidence of moisture intrusion causing damage to the plaster wall finishes
- Aluminum double pane awning operable windows in good condition
- Sills at interior are in need of repair or replacement
- FRP doors installed in aluminum frames are in fair condition
- Single doors are hollow metal in hollow metal frames that are rusted and should be replaced
- The chimney is in poor condition with extensive repair required



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Roof System Assessment

- Duro-Last roof system is showing wear and has had extensive repairs
- No roof overflow drains or scuppers were observed
- Roof deck is wire lath and gypsum plaster at the original building section and is susceptible to deterioration when wet
- Roof deck at the addition is metal deck



Roof Conditions & Anticipated Service Life Plan



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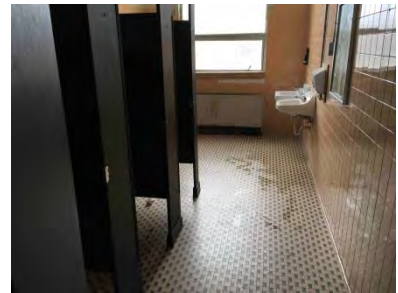
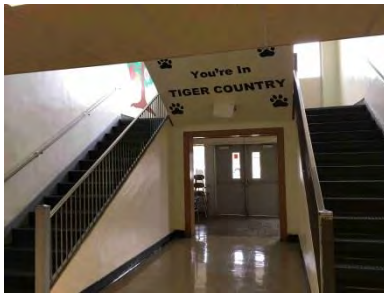
ADA Accessibility Assessment

Exterior:

- No tactile warning strips at curb cut-down
- No dedicated ADA parking spaces were present

Interior:

- Access to second floor level is by stair only
- Toilet rooms are not Barrier Free compliant
- Majority of the doors have knobs and levers are required for ADA compliance



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Interior Finishes Assessment

Flooring:

- Corridors have terrazzo floors with some cracks but are in good condition overall
- Classrooms have carpet squares and are in good condition
- VCT is in poor condition in all areas where installed
- Wood gym floor is in good condition

Ceilings:

- 2x4 suspended grid is in poor to fair condition with stains and warped tile from roof or pipe leaks
- Exposed 12"x12" adhered ceiling tile is in poor condition
- Plastered ceilings throughout the corridors are in fair condition

Walls:

- Corridor walls have glazed block up about 7' with plaster above mostly in good condition
- Painted CMU in classrooms with some exterior block showing movement with separation of mortar from block. Paint is generally good.
- Glazed block walls in the kitchen are in good condition
- Exterior walls have deteriorated plaster due to moisture intrusion
- Toilet rooms are ceramic tile that are generally good in the larger rooms

Casework:

- Older wood casework in poor condition

Doors:

- Wood doors at classrooms and offices set in wood frames are in poor condition.
- Mechanical room door is hollow metal in poor condition. It is locked with combination lock making the space difficult to access and has the possibility for someone to be locked inside.

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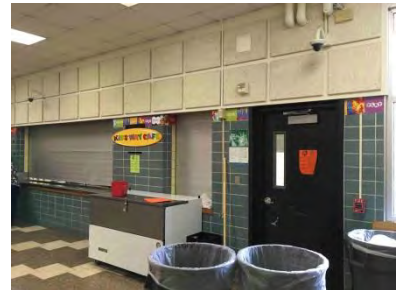
Life Safety Assessment

- This is a non sprinklered building
- Illuminated exit signs are lacking
- Door hardware is a mix of lever and knobsets with panic devices at corridor exiting doors – knobs are non-compliant



Food Service Assessment

- Very small kitchen that is not utilized for food preparation
- Finishes are outdated and in fair condition

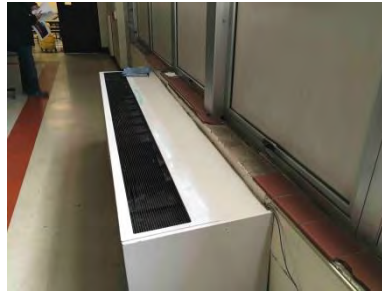


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Mechanical & Plumbing Assessment

Air Handling Systems

- Trane horizontal unit ventilators installed in 1999 are in average condition
- A handful of miscellaneous rooftop exhaust fans are old and due to be replaced
- Gymnasium Trane heat/vent unit installed in 1986 is due to be replaced
- RTU above cafeteria installed in 2015 assumed to be in good condition
- Cabinet unit heaters are in poor condition



Central Plant Systems

- (1) Johnston heating hot water boiler, 2,500 MBH capacity, installed in 1989. Boiler is near end of service life. A handful of miscellaneous rooftop exhaust fans are old and due to be replaced.
- (1) Lochinvar heating hot water boiler, 1,440 MBH capacity, installed in 1994. Boiler is near end of service life.

Building Controls

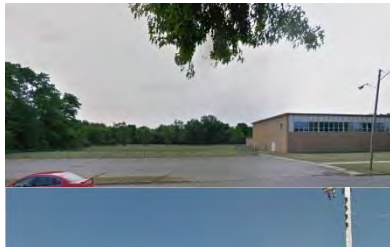
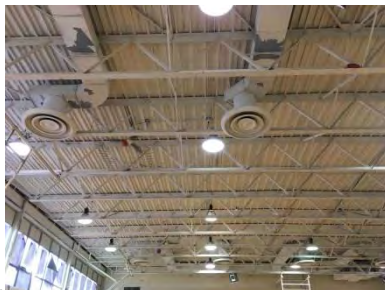
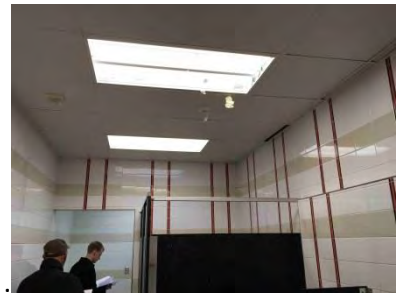
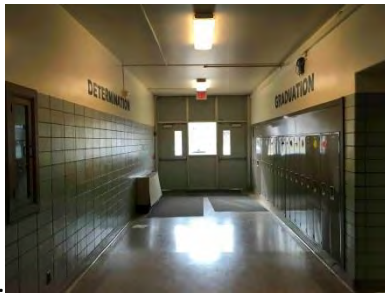
- Trane DDC control system that is 15+ years old and due to be upgraded

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Electrical Systems Assessment

Building lighting is in poor condition.

- The existing lighting is fluorescent and incandescent in the classrooms and common areas. Metal halide in the gymnasium. The update to LED would result in significant monetary savings and energy conservation. This would require all new lighting throughout the building.
- Occupancy sensors are used sporadically throughout the building. There is no existing central lighting control system. If more than 50% of the fixtures were upgraded to LED at one time, a central lighting control system and occupancy sensors would be required per the Michigan Building Energy Code.
- The exterior building lighting and parking lot lighting is metal halide and the quantity of lighting is sparse. Additional LED lighting would be recommended for safety and energy savings.



Building Technology is Adequate.

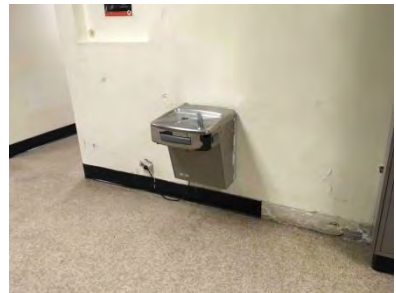
- Wireless Access Points are installed throughout the building.
- There is a use of wall mounted projectors in some classrooms.
- There are teachers stations in classrooms tied to the projectors.
- There are TVs/monitors throughout the building.
- Classrooms are using netbooks or iPads (wireless devices).
- More wiring supports for wiring and IT closets is recommended.

2017 Facility Assessment



Electrical building system is adequate.

- The existing primary main distribution panel appears to be newer and is in good condition.
- Existing electrical secondary Cutler Hammer and Square D panels are old and it becomes hard to find replacement breakers for this equipment. It is recommended that some of these panels are replaced.
- There is no generator on site; however that is a mobile generator connection in place.
- Electrical duplex receptacles in hallways and classrooms need to be brought up to code. Damaged receptacles are throughout the building and need to be replaced. Junction boxes need to be covered.

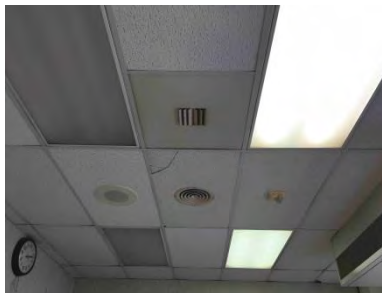
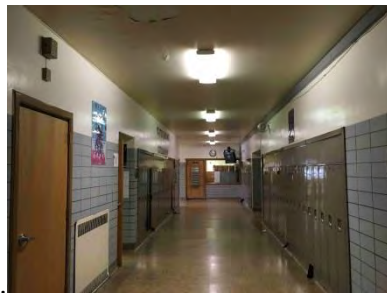


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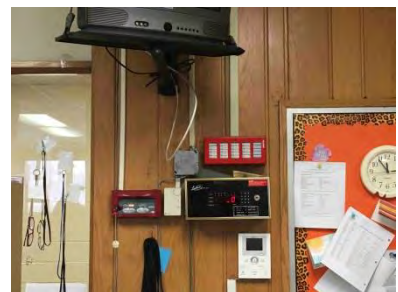
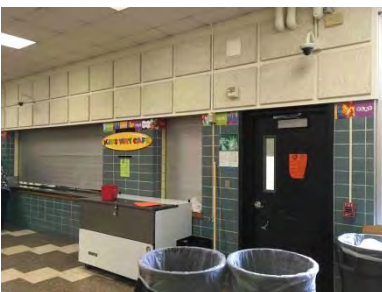
Clock/ PA systems are in poor condition.

- Existing paging system is inadequate. New system is recommended to be installed to provide proper life safety communications.
- Central clock system is inadequate. Different clock types are installed throughout the building. New clock system is recommended to be installed.

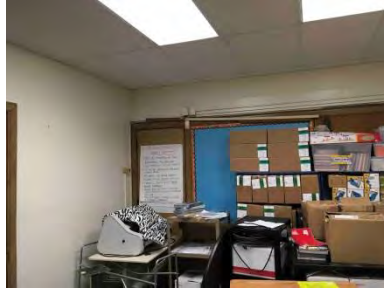
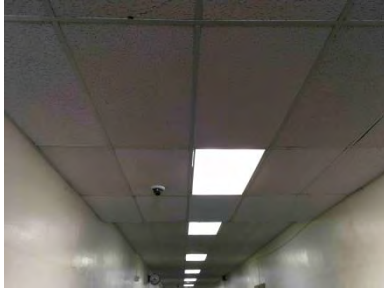


Security Systems are adequate.

- Existing security system is a Honeywell system with cameras, door contacts and motion detectors.
- There is an Aiphone in the building for some secure entrance. A new building access system would be recommended for building security and teacher access to the building.

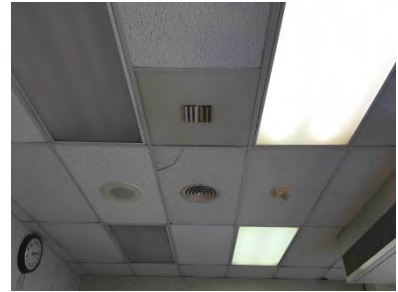


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Fire Alarm System is adequate.

- Existing FCI fire alarm. The school district is required to service this system once a year by a licensed contractor. The system does have horn/strobe capabilities but no voice annunciation system, which was adopted by NFPA in 2014. If the owner wants voice annunciation, the system will have to be replaced. The system is adequate and grandfathered with the State without voice annunciation. It is recommended that the existing system is updated and that may require replacement.

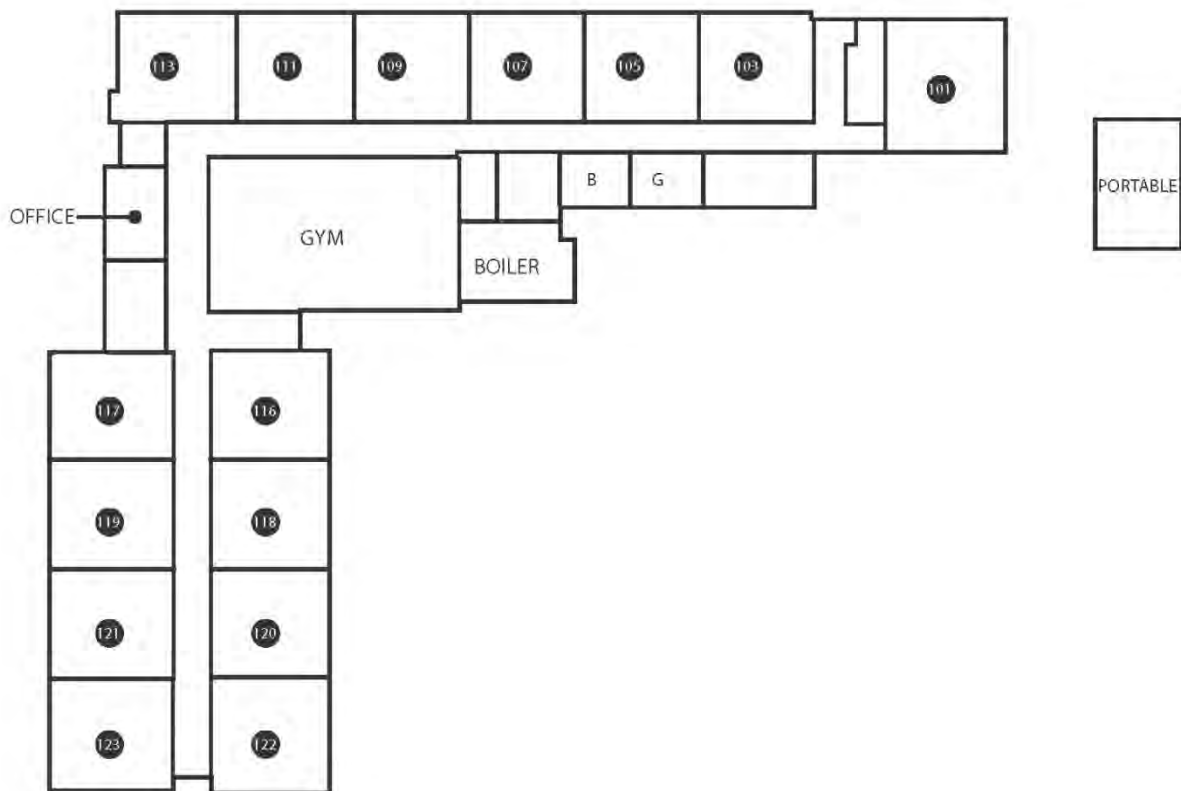


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Discovery Enrichment Center Building History Plan

38,350 SF

- Constructed in 1950
 - Classrooms addition – Unknown
 - Locker room and Dance Studio renovations – Unknown



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Civil & Site Assessment

Signage

- There is no exterior signage along the street, only what is on the canopy



Pavements

- Asphalt and exterior concrete is in poor condition



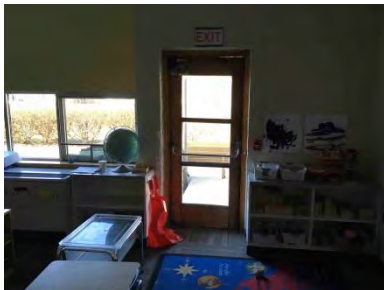
Traffic Flow

- Bus loop separate from vehicular traffic
- Separate staff parking lot
- No parking lot access to main entry - Parents and visitors must park on road
- No parent drop-off - Parents must park and walk students in

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Building Envelope Assessment

- Masonry bearing with brick veneer in good condition
- Control joints and sealants are in fair condition with a few needed to be caulked
- Tuck pointing and brick cleaning is needed
- There are a couple of window air conditioning units installed in masonry walls that are not sealed, allowing water to get in behind the brick veneer
- Aluminum double pane awning windows with EIFS panels above in good condition
- FRP main entry doors installed in aluminum frames in fair condition
- Several exterior hollow metal doors and frames are in very poor condition
- Some wood doors and frames need to be repaired or replaced as they are in extremely poor condition
- Exterior door panic hardware is old and in very poor condition



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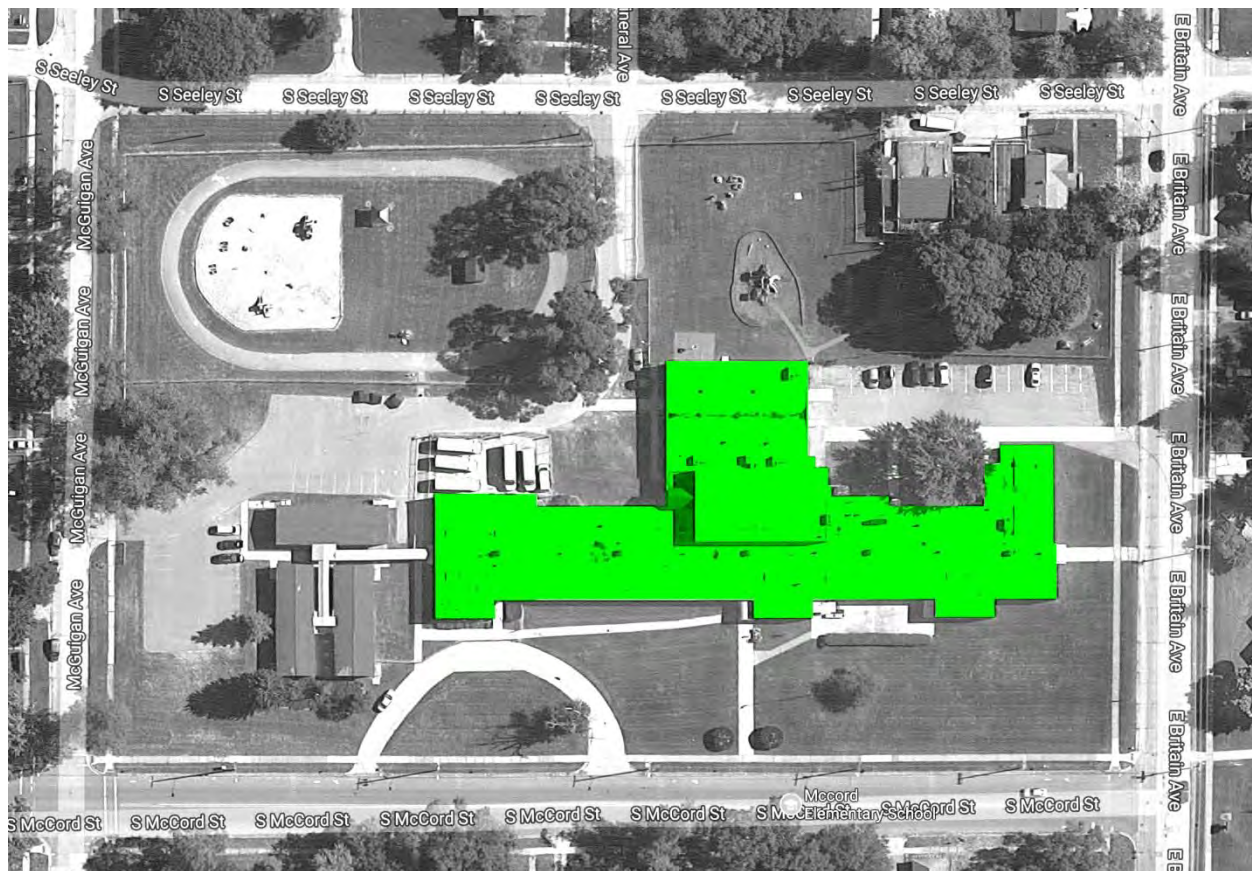
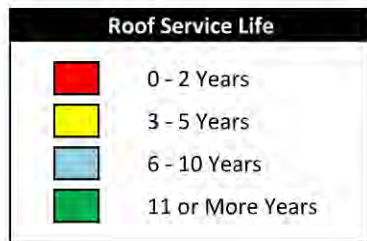
Roof System Assessment

- Steel joist with a composite fiber deck at gym, composite fiber loses its structural integrity when wet, and metal deck at Dance Studio addition.
- Roof membrane is Duro-Last white TPO
- 2004 – 20,000 SF
- 2003 – 20,000 SF
- Condition is good and may be under warrantee
- Several roof drains are in need of being cleaned
- 10'x20' pitched roof fascia is in need of repair
- Very minimal overflow roof drains or scuppers were present



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Roof Conditions & Anticipated Service Life Plan



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ADA Accessibility Assessment

Exterior:

- No tactile warning strips at curb cut-downs
- Two ADA parking spaces



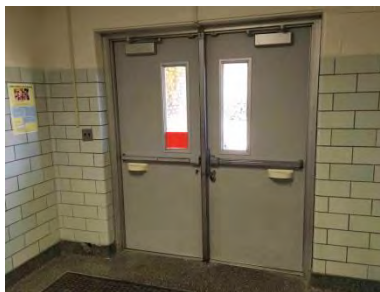
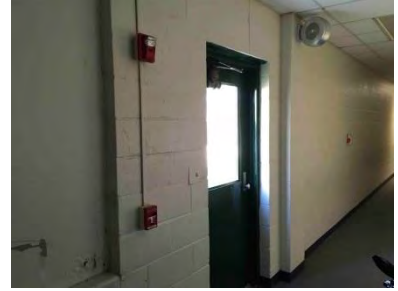
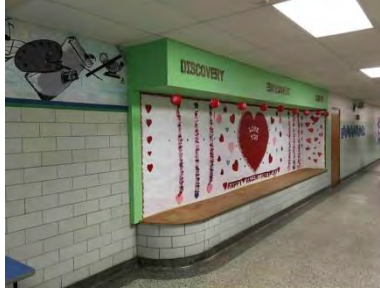
Interior:

- Building is not barrier free accessible at all entries.
- Not all toilet rooms meet barrier free requirements

Interior Finishes Assessment

- Terrazzo flooring is in good condition throughout corridors and toilet rooms
- Upgraded carpet squares in classrooms were recently installed and are in good condition
- 2'x4' suspended acoustic ceiling systems are installed in the majority of the building and are in good condition
- Exposed ceiling in the Multi-Purpose room has water damage and repairs are required
- Glazed block located in corridors and toilet rooms are in good condition
- Wood casework and shelving throughout is in fair condition
- Wood doors in wood frames are in fair condition
- Door hardware is old and replacement should be considered

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Life Safety Assessment

- Fire Alarm system installed throughout
- Building is non sprinklered
- Illuminated exit sign locations should be verified as additional cross corridor doors have been installed

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Mechanical & Plumbing Assessment

Building Systems

- Trane horizontal unit ventilators probably installed in 1999 are in average condition
- Handful of miscellaneous rooftop exhaust fans are original to building and rusted out
- Kitchen space has inadequate exhaust and is very smelly
- (3) RTUs for gymnasium, dance studio and library installed in 2002 and are near end of service life



Central Plant Systems

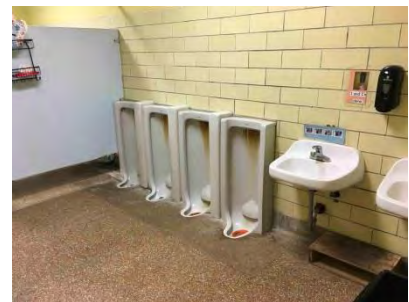
- Heating distribution piping routed thru tunnels, assumed to be original to building
- (2) Lochinvar heating hot water boilers, 1,440 MBH capacity, installed in 2000
- Boiler room piping and insulation in good condition except for corrosion on pumps and piping near connection

Building Controls

- Trane DDC control system that is 15+ years old and due to be upgraded

Plumbing Fixtures

- Most fixtures appear to be in average condition and in need of some repair/replacement



Plumbing Piping and Systems

- Domestic water heater appears newer and satisfactory
- Plumbing piping is routed thru tunnels and assumed to be original to the building

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Electrical Systems Assessment

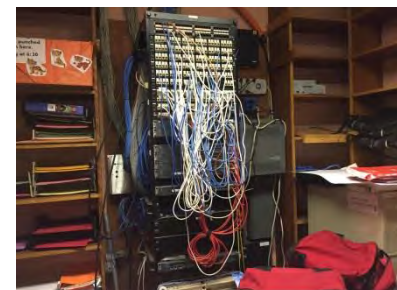
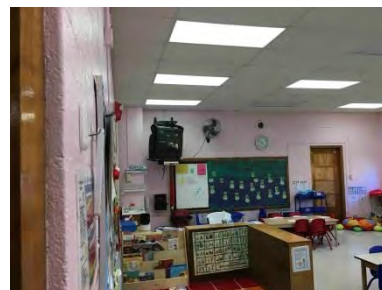
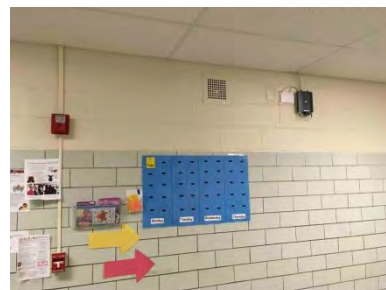
Building lighting is adequate.

- The existing lighting is fluorescent. The update to LED would result in significant monetary savings and energy conservation. This would require all new lighting throughout the building.
- There are no occupancy sensors and no existing central lighting control system. If more than 50% of the lights were to be upgraded to LED at one time a central lighting control system and occupancy sensors would be required per the Michigan Building Energy.
- The exterior building lighting and parking lot lighting is metal halide and the quantity of lighting is sparse. Additional LED lighting would be recommended for safety and energy savings.



Building technology is adequate.

- Wireless Access Points are installed throughout the building.
- There are t.v./monitors throughout building.
- More wiring supports for wiring and IT closets is recommended.



Electrical building system is in poor condition.

- The existing primary main distribution panel is at end of life and needs to be replaced.

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- Existing electrical, secondary Cutler Hammer and Square D, are old and new. On the older panels it becomes hard to find replacement breakers for this equipment. It is recommended that some of these panels are replaced.
- There is no generator on site – However there is a connection for a mobile generator
- Damaged receptacles are throughout the building and need to be replaced. Junction boxes need to be covered. Rusted conduits on roof.



Clock/ PA systems are in poor condition.

- Existing paging system is inadequate. New system is recommended to be installed to provide proper life safety communications.
- Central clock system is a Edwards system and at the end of life. Different clock types are installed throughout the building. Clocks are missing on the walls. New clock system is recommended to be installed.



Security Systems is non-existent.

- A new building access system would be recommended for building security and teacher access to the building.
- A new security system with cameras, door contacts and motion detectors would be recommended to be installed for safety.

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Fire alarm system is adequate.

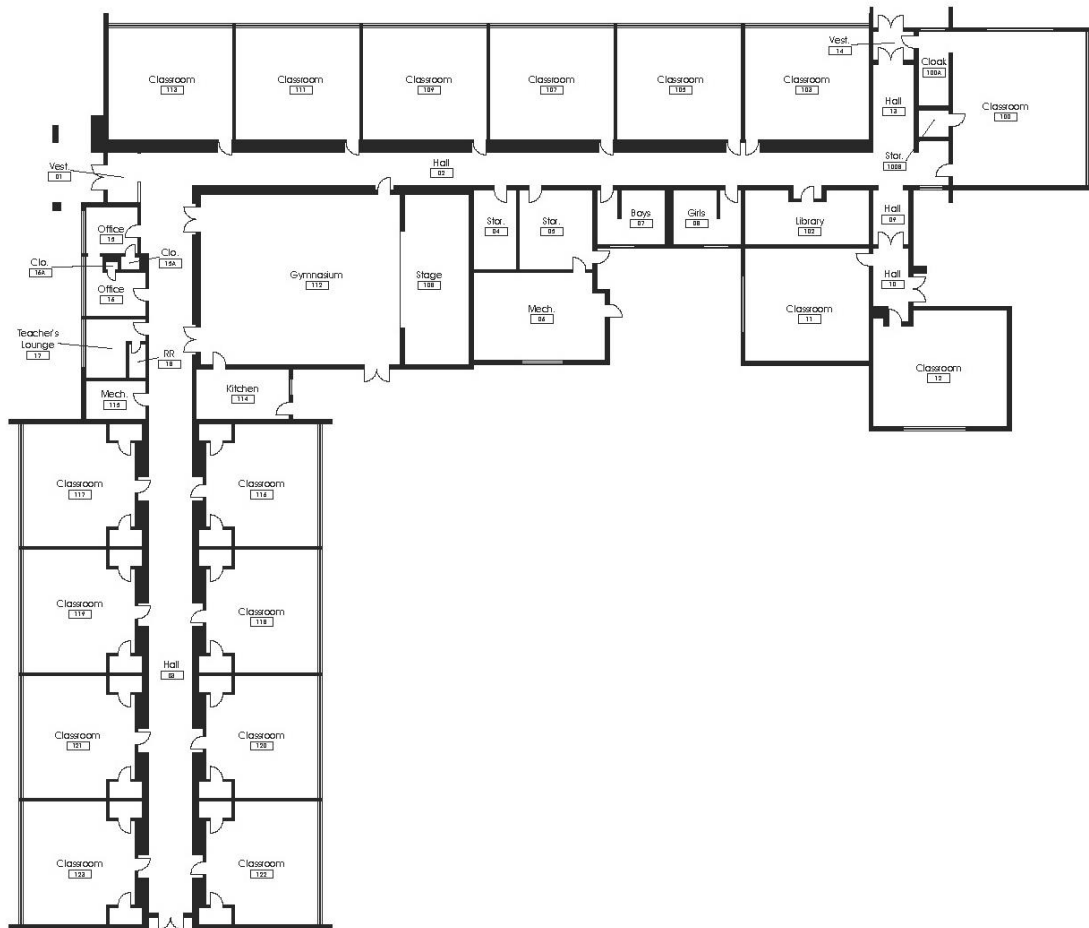
- Existing FCI/Simplex fire alarm. The school district is required to service this system once a year by a licensed contractor. The system does have horn/strobe capabilities but no voice annunciation system, which was adopted by NFPA in 2014. If the owner wants voice annunciation, the system will have to be replaced. The system is adequate and grandfathered with the State without voice annunciation. It is recommended that the existing system is updated with hardware and software.

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Dream Academy Building History Plan

28,000 SF

- Constructed in 1955 for K-2 Occupants
 - South Addition – 1960
 - East Classroom addition – 2008



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Civil & Site Assessment

Signage

- Painted wooden sign was placed along the street

Pavements

- Asphalt and exterior concrete is in very poor condition



Traffic Flow

- Separate staff parking lot
- Visitor parking with access to main entry
- No bus loop separate from vehicular traffic
- No separation/physical barrier between street and parking on west side of building

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Building Envelope Assessment

- Masonry block exterior walls with brick veneer and sand stone at main entry. Sandstone is in good condition
- There are some cracking in the brick joints in need of repair
- EIFS panels located above awning windows have some discoloration and minor repairs are required
- Control joints and the perimeter window sealants need to be replaced
- The top portion of the brick chimney stack is deteriorated and repairs are needed
- Aluminum double pane awning type are in good condition
- Exterior window sills need to be tuck pointed to seal voids and to minimize water infiltration
- Doors are aluminum in good condition



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Roof System Assessment

- Approximate roof area of 30,000 SF
- Duro-Last white TPO membrane
- 2009 – 4,000 SF
- 2008 – 7,000 SF
- 2005 – 3,525 SF
- Remainder of the roof appears to be in good condition

Roof Conditions & Anticipated Service Life Plan

Roof Service Life	
	0 - 2 Years
	3 - 5 Years
	6 - 10 Years
	11 or More Years



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ADA Accessibility Assessment

Exterior

- Building is not BF accessible from the parking lot.

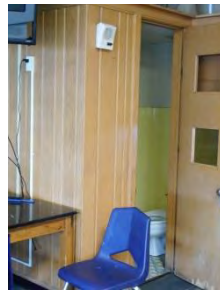
Interior

- Toilet rooms are not barrier free compliant as the fixtures are small and low due to the original design for a younger population

Interior Finishes Assessment

- Terrazzo floors in corridors and toilet rooms still in good condition
- Carpet squares in classrooms installed 2010 in very good condition
- VCT in gym and some classrooms in good condition
- Combination of 2'x4' suspended acoustic ceiling systems, adhered 12"x12" acoustic tile and plaster. The adhered 12"x12" are in poor condition and the remaining is in fair to good condition
- Glazed block walls in corridors, gym, kitchen and some of the classrooms in original building section is in fair condition
- Painted CMU condition is good
- Walls have extensive amount of surface mounted electrical, data and fire alarm conduit and raceway
- Wood casework and wood paneling in the original portion of the building are in poor condition
- Wood doors in wood frames in poor to fair condition

2017 Facility Assessment



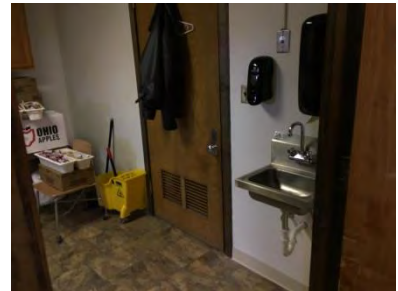
2017 Facility Assessment

Life Safety Assessment

- Fire alarm system throughout
- Illuminated exit signs are lacking
- Panic hardware is installed at corridor exiting doors

Food Service Assessment

- Very small kitchen utilized for cleaning only
- Electric household range was in place – A commercial hood is required above the range

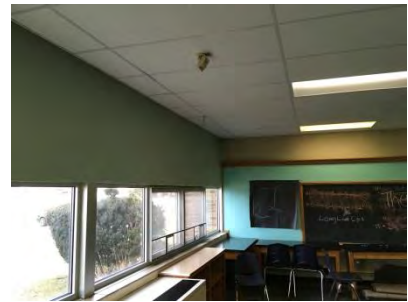
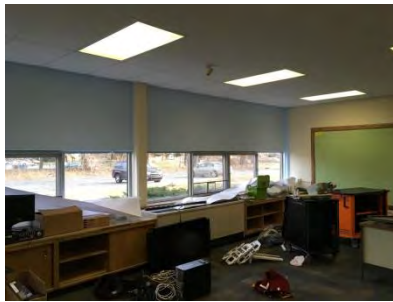


2017 Facility Assessment

Mechanical & Plumbing Assessment

Building Systems

- Nesbitt horizontal unit ventilators installed in 1999 are in average condition and near end of service life.
- New addition includes vertical unit ventilators with A/C and hot water heat.
- Gymnasium heating and vent unit, not running



Central Plant Systems

- (1) Johnston steam boiler, 2024 lbs./hr., installed in 1986. Boiler is near end of service life.
- Small steam to HW converter for serving new vertical unit ventilators.
- Steam distribution piping routed thru tunnels, assumed to be original to building with new hot water piping also routed thru tunnels.



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Building Controls

- Trane DDC control system that is 15+ years old is due to be upgraded

Plumbing Fixtures

- Most fixtures appear to be in average condition and in need of some repair/replacement.



Plumbing Piping and Systems

- Domestic water heater in good condition.
- Plumbing piping is routed thru tunnels and assumed to be original to the building. Original study noted multiple patches and that piping is in poor condition.

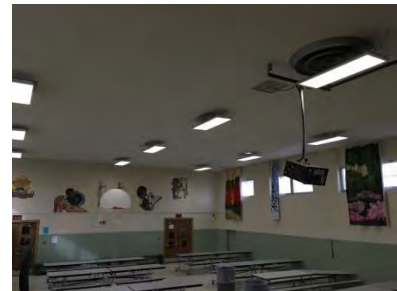
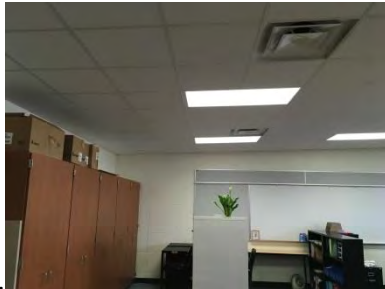


2017 Facility Assessment

Electrical Systems Assessment

Building lighting is adequate.

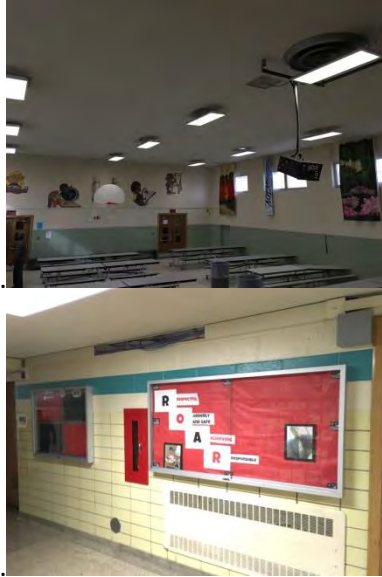
- The existing lighting is fluorescent. The update to LED would result in significant monetary savings and energy conservation. This would require all new lighting throughout the building.
- There are no occupancy sensors or central lighting control system. If more than 50% of the lights were to be upgraded to LED at one time a central lighting control system and occupancy sensors would be required per the Michigan Building Energy.
- The exterior building lighting is metal halide and is placed well for security. LED lighting would be recommended to be installed for energy savings at these locations.



Building technology is adequate.

- Wireless Access Points are installed throughout the building.
- There is a use of wall mounted projectors.
- There are t.v./monitors throughout building.
- More wiring supports for wiring and IT closets is recommended.

2017 Facility Assessment



Electrical Building System is adequate.

- Existing electrical secondary Cutler Hammer and Square D panels are old and it becomes hard to find replacement breakers for this equipment. It is recommended that some of these panels are replaced.
- There is no generator on site – However there is a connection for a mobile generator
- Electrical in areas need to be brought up to code for safety. Open junction boxes, open busses in panel boards and cords for receptacles need to corrected.



Clock/ PA systems are in poor condition.

2017 Facility Assessment

- Existing paging system is inadequate. New system is recommended to be installed to provide proper life safety communications.
- Central clock system a Simplex system is inadequate. Different clock types and empty clock boxes are installed throughout the building. New clock system is recommended to be installed.



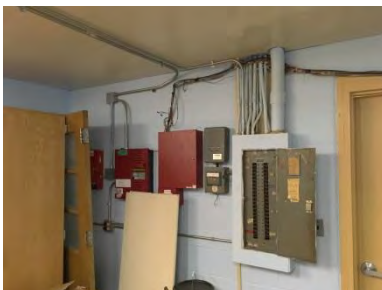
Security Systems are adequate.

- Existing security system has cameras, door contacts and motion detectors.
- A new building access system would be recommended for building security and teacher access to the building.



Fire alarm system is adequate.

- Existing FCI fire alarm. The school district is required to service this system once a year by a licensed contractor. The system does have horn/strobe capabilities but no voice annunciation system, which was adopted by NFPA in 2014. If the owner wants voice annunciation, the system will have to be replaced. The system is adequate and grandfathered with the State without voice annunciation. It is recommended that the existing system is updated and that may require replacement.



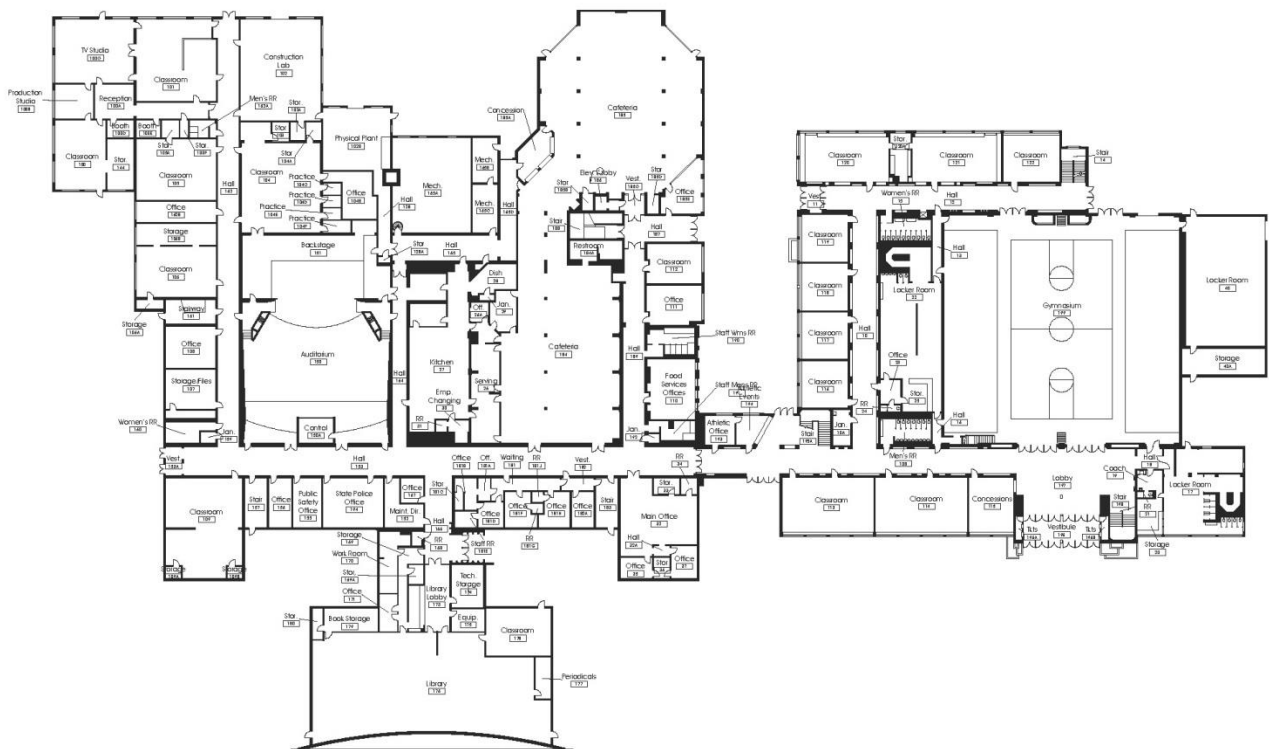
2017 Facility Assessment

High School

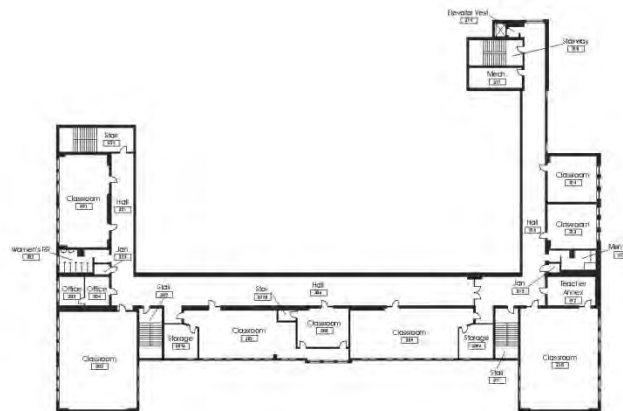
Building History Plan

219,550 SF

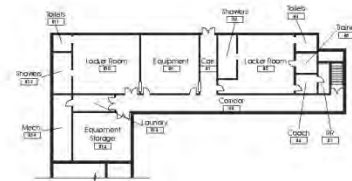
- Constructed in 1924 with Additions/Renovations
 - South Wing – 1956
 - Library Addition – Unknown
 - Cafeteria/Kitchen – 1986
 - South Second Floor Renovations – 2003
 - Second Floor Science Labs – 2016
 - Third floor Renovations – 2012
 - Gym/Locker Room Renovations – 2016



2017 Facility Assessment



THIRD LEVEL



2017 Facility Assessment

Civil & Site Assessment

Signage

- LED sign located at the intersection of Colfax and Empire Avenues and is in good condition



Pavements

- Asphalt drive and parking has been sealed and striped within the last few years
- Very few dedicated ADA parking spaces were observed



Traffic Flow

- Separate staff, student, and visitor parking areas
- Visitor parking with access to main entry
- No bus loop separate from vehicular traffic

2017 Facility Assessment

Building Envelope Assessment

- Exterior walls of the original building are masonry with limestone and brick veneer in fair condition
- All of the additions are exterior brick veneer
- A majority of the windows are aluminum double pane in good condition
- Sections have Kalwall with vision glass in good condition
- Library addition had single pane wire glass installed in hollow metal frames that should be replaced
- Doors are a variety of aluminum, FRP and hollow metal in hollow metal frames and are in poor condition mainly due to abuse



2017 Facility Assessment

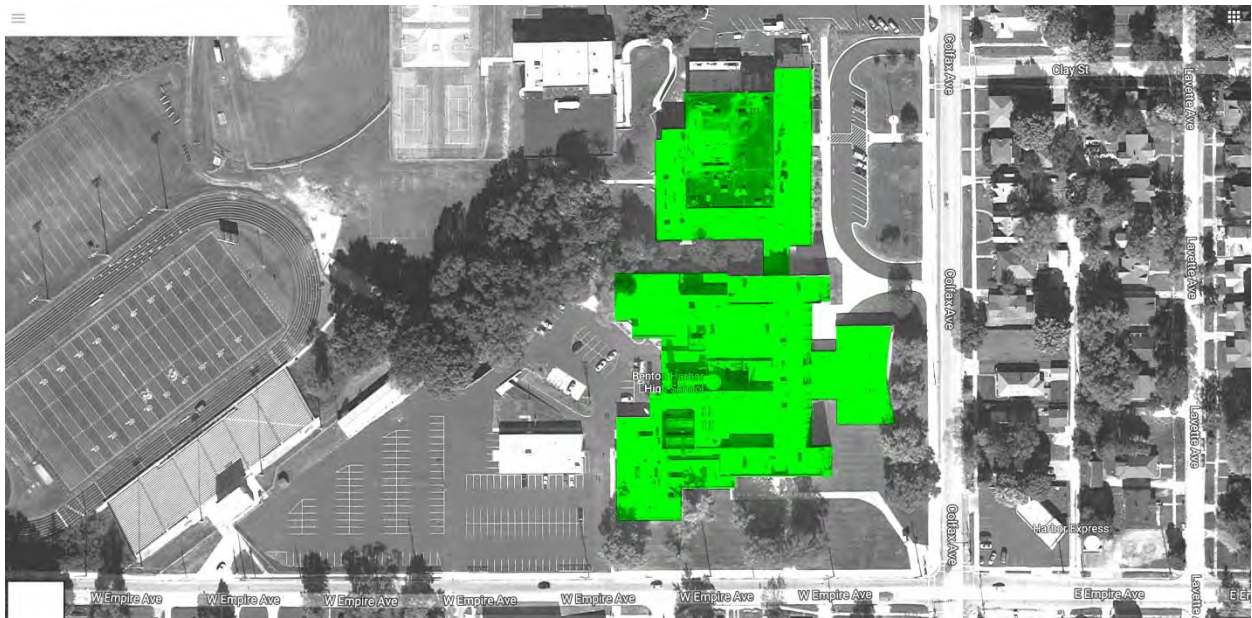
Roof System Assessment

Duro-Last White Membrane with Re-Roof Sections completed in:

- 2016 – Gym Roof
- 2010 – 25,600 SF
- 2009 – 28,400 SF
- 2008 – 26,800 SF
- 2005 – 8,500 SF
- 2004 – 14,000 SF
- 2003 – 18,500 SF



Roof Conditions & Anticipated Service Life Plan



2017 Facility Assessment

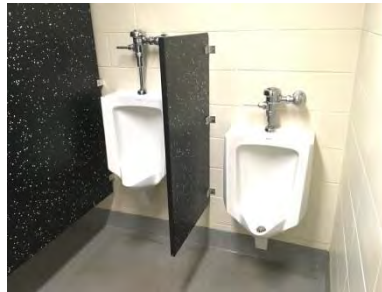
ADA Accessibility Assessment

Exterior:

- No tactile warning strip at curb cut-down
- There were a few dedicated ADA parking spaces

Interior:

- Most toilet rooms are not barrier free compliant with a limited number of grab bars
- Several entry points are not BF accessible
- Knobsets are installed on most of the interior doors – Levers are required to be compliant
- Building is equipped with an elevator for access to upper floors
- Recently renovated locker rooms are barrier free compliant



2017 Facility Assessment

Interior Finishes Assessment

Flooring:

- Corridor floors have terrazzo or VCT installed and is in good condition with some minor repairs needed
- Classrooms have VCT or carpet in good condition as a vast majority of the carpet was replaced in 2010
- Locker and shower rooms have epoxy coated floors that are in good condition
- Ceramic tile in toilet rooms is in fair to good condition

Ceilings:

- 2'x4' suspended acoustic ceiling system overall is in good condition with some areas with water damage
- 12"x12" adhered tile where remaining is in poor condition
- A majority of the gypsum board bulkheads have water damage

Walls:

- Glazed block in corridors and some toilet rooms is in fair to good condition
- Ceramic tile in kitchen and toilet rooms in good condition
- Painted CMU in other areas in good condition

Casework:

- The older portion of building has wood casework that is in poor condition
- Casework located in the recently renovated science and computer rooms are in very good condition

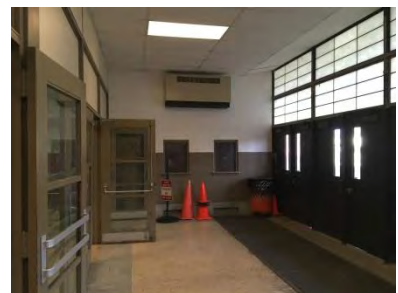
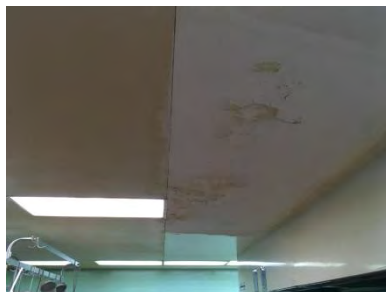
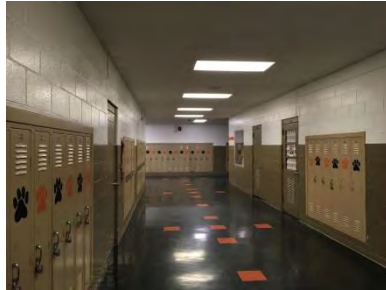
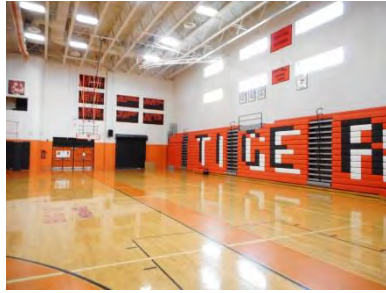
Doors:

- The interior doors are mostly hollow metal set in hollow metal frames that are in poor condition
- Panic hardware at exiting doors is in very poor condition

Auditorium:

- Rigging, lighting and sound systems are very outdated. The access to rigging and lighting is very poor and unsafe

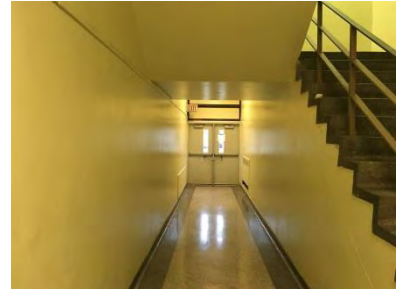
2017 Facility Assessment



2017 Facility Assessment

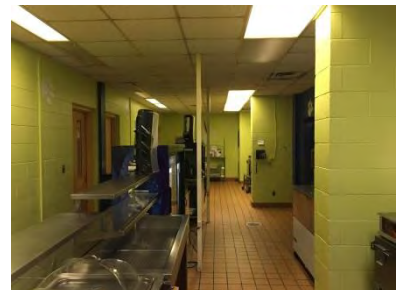
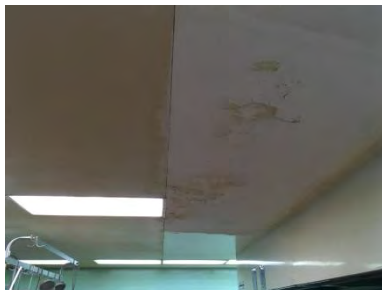
Life Safety Assessment

- Building is non sprinklered
- Illuminated exit signs were found lacking
- Many panic exit doors are either chained and padlocked or dead bolted closed making emergency exiting impossible at many locations



Food Service Assessment

- Finishes are outdated and repairs are needed
- Equipment appears to be in good condition



2017 Facility Assessment

Mechanical & Plumbing Assessment

Building Systems

- Library is conditioned only by Nesbitt horizontal unit ventilators that are old and need to be replaced.
- Main office area served by radiator that is not controlled well and was found to be very hot
- Cafeteria served by rooftop unit, condition and age is unknown
- Gymnasium served by two rooftop units, ages are unknown
- Most first floor classrooms have old horizontal unit ventilators that need to be replaced. Some have newer Trane vertical unit ventilators that are in good condition.
- Second floor contains mix of new and updated vertical unit ventilators and a handful of old, original horizontal unit ventilators that should be replaced
- Science renovation spaces in good condition with newer Aeon RTU and lab exhaust fans.



Central Plant Systems

- Primary mechanical room contains (3) Johnston steam boilers. (2) sized at 10,350 lbs./hr. and (1) at 3,450 lbs./hr. Boilers were installed in 1955 and are well beyond expected service life, they need to be replaced.
- Boiler combustion flue ductwork has rusted away at the wall termination so that combustion fumes are now leaking into the mechanical room and is a health hazard
- Steam and condensate piping routed thru tunnels assumed to be original to building. The piping most likely should be replaced.
- Newer steam to hot water converters and pumps used for hot water system presumably serving newer vertical unit ventilators and air handlers. Heating water piping can likely be reused for new hot water heating systems.

2017 Facility Assessment



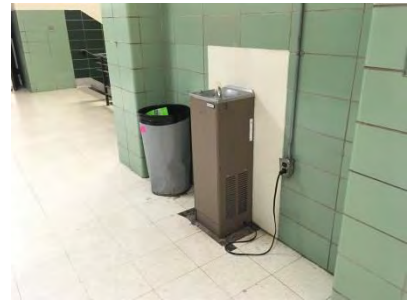
Building Controls

- Trane DDC Control System that is 15+ years old and due to be upgraded

2017 Facility Assessment

Plumbing Fixtures

- Plumbing fixtures are in fair condition with some needing to be replaced.
- Lower level locker rooms are in good condition with new and upgraded fixtures.



Plumbing Piping and Systems

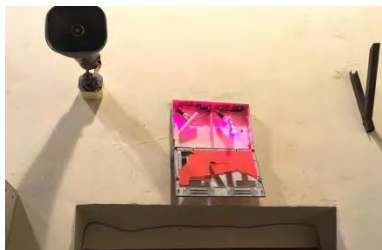
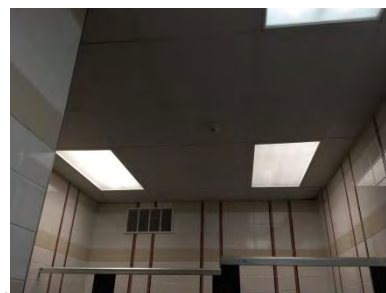
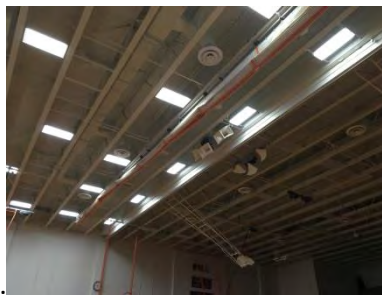
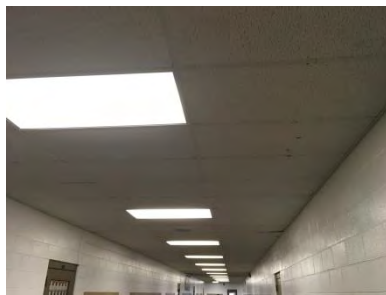
- Plumbing piping in the boiler room is in poor condition and should be replaced
- Existing steam water heater is in poor condition; new water heater needs to be installed.

2017 Facility Assessment

Electrical Systems Assessment

Building Lighting is adequate.

- The existing lighting is fluorescent. The update to LED would result in significant monetary savings and energy conservation. This would require all new lighting throughout the building.
- Occupancy sensors are used sporadically throughout the building. There is no existing central lighting control system. If more than 50% of the lights were to be upgraded to LED at one time a central lighting control system and occupancy sensors would be required per the Michigan Building Energy.
- The exterior building lighting and parking lot lighting is metal halide and the quantity of lighting is sparse. Additional LED lighting would be recommended for safety and energy savings.



Building Technology is adequate.

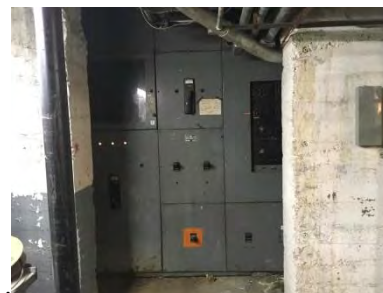
- Wireless Access Points are installed throughout the building.
- There is a use of wall mounted projectors in some classrooms.
- There are teachers stations in classrooms tied to the projectors.
- There are TVs/monitors throughout the building.
- More wiring supports for wiring and IT closets is recommended.
- A nice sound system room in the auditorium.

2017 Facility Assessment

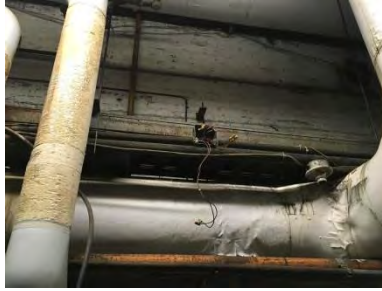


Electrical Building System is adequate.

- The existing primary main distribution panel appears to be newer and is in good condition.
- The location is a life safety hazard as it does not meet the required clear distance in front of the panels.
- Existing electrical secondary Cutler Hammer and Square D panels are a combination of old and new. On the older panels it becomes hard to find replacement breakers for this equipment. It is recommended that some of these panels are replaced.
- There is no generator on site – However there is a connection for a mobile generator
- Electrical duplex receptacles in hallways and classrooms need to be brought up to code. Damaged receptacles are throughout the building and need to be replaced. Junction boxes need to be covered.

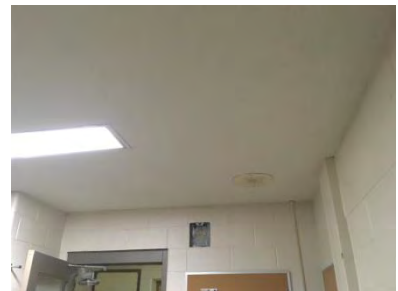
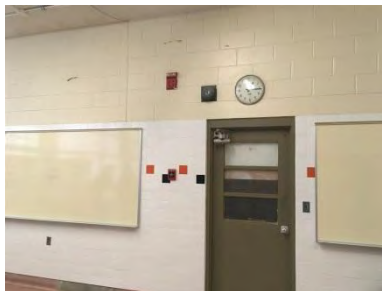


2017 Facility Assessment



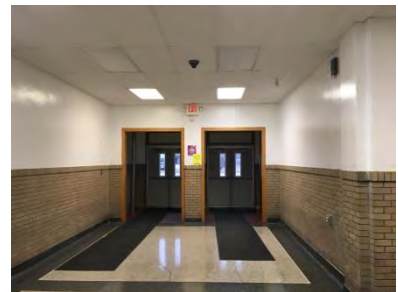
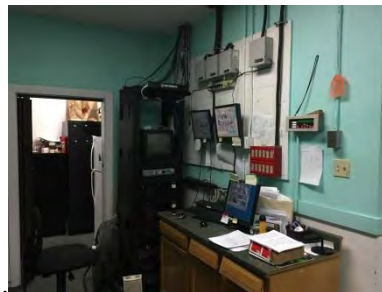
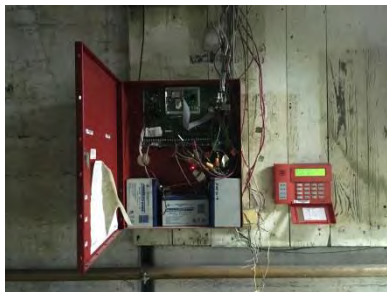
Clock/ PA Systems are in poor condition.

- Existing paging system is inadequate. New system is recommended to be installed to provide proper life safety communications.
- Central clock system is inadequate. Different clock types are installed throughout the building. Clocks are missing on the walls. New clock system is recommended to be installed.



Security Systems is adequate.

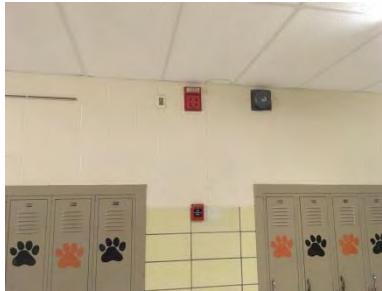
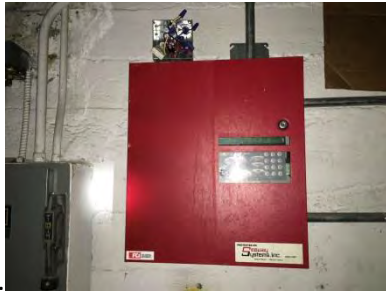
- Existing security system is a Simplex system with cameras, door contacts and motion detectors.
- A new building access system would be recommended for building security and teacher access to the building.



2017 Facility Assessment

Fire Alarm System is adequate.

- Existing FCI/Simplex fire alarm. The school district is required to service this system once a year by a licensed contractor. The system does have horn/strobe capabilities but no voice annunciation system, which was adopted by NFPA in 2014. If the owner wants voice annunciation, the system will have to be replaced. The system is adequate and grandfathered with the State without voice annunciation. It is recommended that the existing system is updated with hardware and software.



2017 Facility Assessment

International Academy at Hull Building History Plan

53,400 SF

- Constructed in 1926
 - Additions at both ends of the building – 1955



2017 Facility Assessment

Civil & Site Assessment

Signage

- No exterior signage was noted

Pavements

- Asphalt and site concrete is in very poor condition



Traffic Flow

- Bus loop separate from vehicular traffic
- No parking lot access to main entry
- No parent drop-off - Parents must park and walk students in

2017 Facility Assessment

Building Envelope Assessment

- Masonry with brick exterior in need of some tuck pointing, cleaning and new sealants at control joints and around doors and windows
- EIFS panels above windows need cleaning and restoration in some area.
- Aluminum double pane awning style in fair condition.
- Limestone exterior sills need tuck pointing
- FRP doors in aluminum frames with some hardware in need of replacement
- Exterior hollow metal doors and metal frames in poor condition







2017 Facility Assessment

Roof System Assessment

- Approximate roof area 53,400 SF
- Roofing membrane is Duro-Last white TPO in fair condition.
- East section of building appears to be a newer roof membrane

Roof Conditions & Anticipated Service Life Plan

Roof Service Life	
	0 - 2 Years
	3 - 5 Years
	6 - 10 Years
	11 or More Years



2017 Facility Assessment

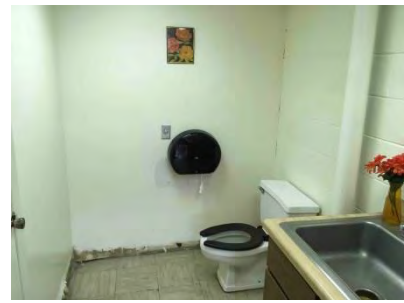
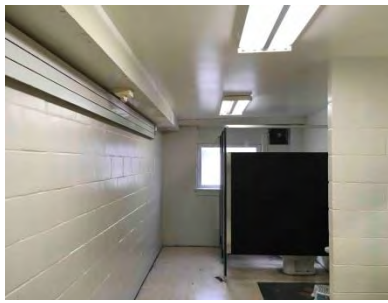
ADA Accessibility Assessment

Exterior:

- Access from parking lot into building is not barrier free accessible
- Some exterior entries are not barrier free accessible

Interior:

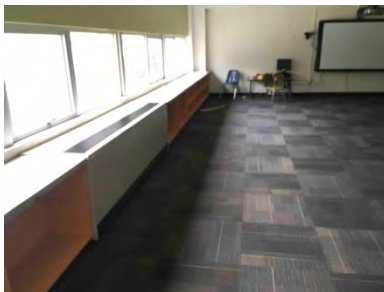
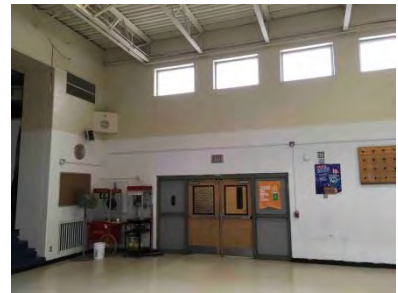
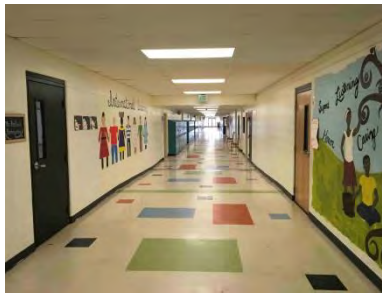
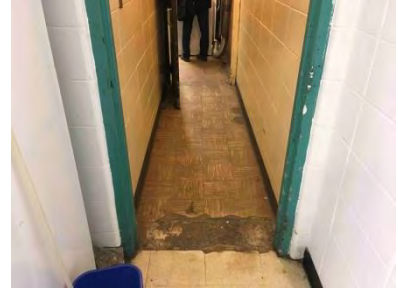
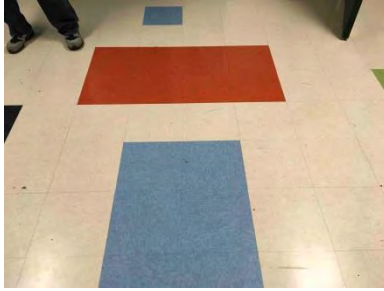
- Toilet rooms and fixtures are not barrier free accessible



Interior Finishes Assessment

- VCT in corridors and classrooms in good condition
- VCT in toilet room in very poor condition
- Carpet squares in classrooms are in good condition
- Combination of 2'x4' suspended acoustic ceiling system, metal deck panels, 2'x4' Tectum, 12"x12" adhered tile, and painted plaster ceilings. Ceilings range in conditions, areas of water damage was noted mostly along the exterior walls
- Corridor ceiling in addition are 8' acoustic lay-in ceiling in good condition.
- Painted masonry walls are in good condition
- Wood casework is in poor condition.
- Wood and hollow metal doors in metal frames were mostly in good condition

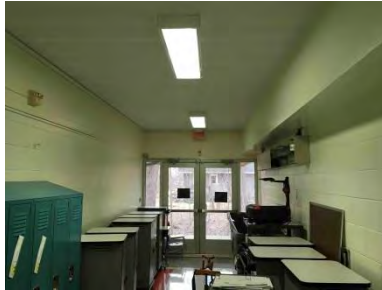
2017 Facility Assessment



2017 Facility Assessment

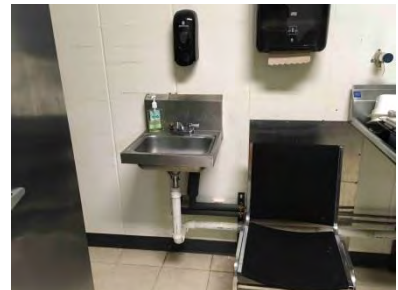
Life Safety Assessment

- Fire alarm system throughout
- Some corridors are cluttered and should be cleared



Food Service Assessment

Kitchen is in good condition and is set up to wash dishes only as there are no means for food prep



2017 Facility Assessment

Mechanical & Plumbing Assessment

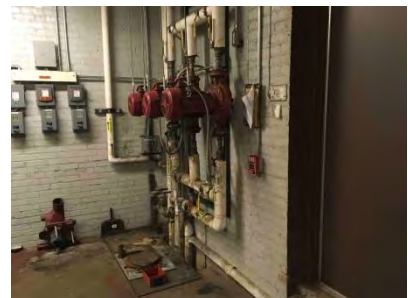
Building Systems

- Trane horizontal unit ventilators installed in 1997 are in average condition.
- Gymnasium has heating and ventilation unit that is old and past its service life.
- Handful of misc. window air conditioners that are 20+ years old and should be removed.



Central Plant Systems

- (1) Johnston heating hot water boiler, 5120 lbs./hr. capacity (not steam), installed in 1994 and is in fair condition. Boiler is nearing end of expected usable life and should be considered for replacement in 3-7 years.
- Pumps/piping in the boiler room are leaking and should be repaired/replaced.



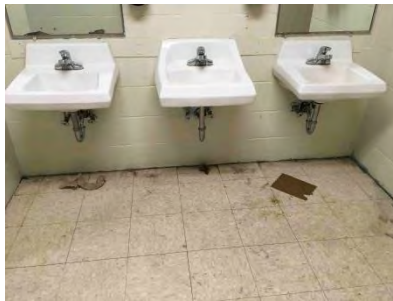
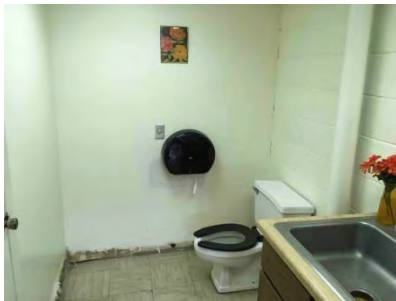
2017 Facility Assessment

Building Controls

- Trane DDC control system that is 20 years old and due to be upgraded

Plumbing Fixtures

- One bathroom has upgraded fixtures, other bathroom fixtures in fair condition and may need replacing.



Plumbing Piping and Systems

- Plumbing piping is routed thru tunnels and assumed to be original to building.
- Multiple existing electric water heaters. Appear to be in operable condition, but may consider replacing with gas water heaters to reduce operating costs.

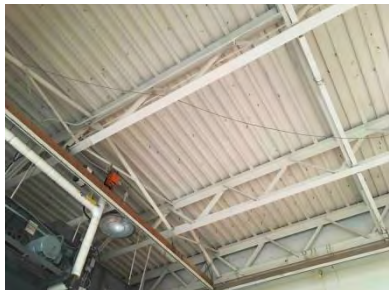
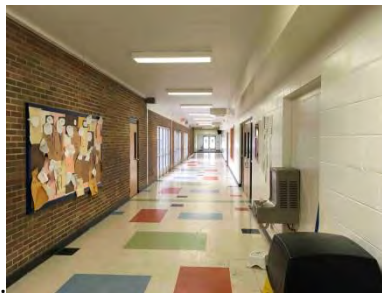
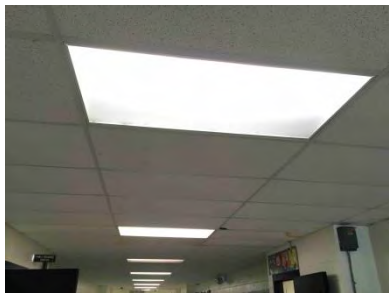


2017 Facility Assessment

Electrical Systems Assessment

Building Lighting is adequate.

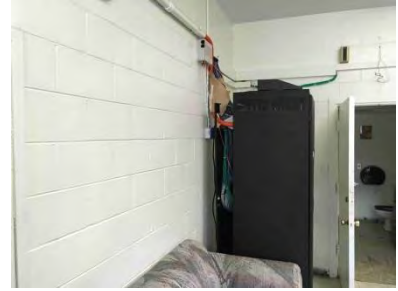
- The existing lighting is fluorescent and metal halide. The update to LED would result in significant monetary savings and energy conservation. This would require all new lighting throughout the building.
- There are no occupancy sensors or central lighting control system. If more than 50% of the lights were to be upgraded to LED at one time a central lighting control system and occupancy sensors would be required per the Michigan Building Energy.
- The exterior building lighting and parking lot lighting is metal halide and the quantity of lighting is sparse. Additional LED lighting would be recommended for safety and energy savings.



Building Technology is adequate.

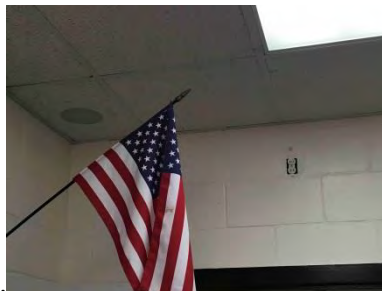
- Wireless Access Points are installed throughout the building.
- There is a use of wall mounted projectors in some classrooms.
- There are teachers stations in classrooms tied to the projectors.
- There are TVs/monitors throughout the building.
- More wiring supports for wiring and IT closets is recommended.

2017 Facility Assessment



Electrical Building System is in poor condition.

- The existing primary and secondary panels are old and at the end of their life and need to be replaced.
- There is no generator.
- Electrical in the building needs to be brought up to code for safety. There are open panel boards and junction boxes which provide a lot of hazards.



Clock/ PA Systems are in poor condition.

- Existing paging system is a Dukane system and is at the end of its life. New system is recommended to be installed to provide proper life safety communications.
- Central clock system is an existing Simplex system that is at the end of its life. New clock system is recommended to be installed.

2017 Facility Assessment



Security Systems are adequate.

- Existing security system has cameras, door contacts and motion detectors.
- There is an Aiphone in the building for some secure entrance. A new building access system would be recommended for building security and teacher access to the building.



2017 Facility Assessment

Fire Alarm System is adequate.

- Existing FCI fire alarm. The school district is required to service this system once a year by a licensed contractor. The system does have horn/strobe capabilities but no voice annunciation system, which was adopted by NFPA in 2014. If the owner wants voice annunciation, which was adopted by NFPA in 2014, the system will have to be replaced. The system is adequate and grandfathered with the State without voice annunciation. It is recommended that the existing system is updated and that may require replacement.



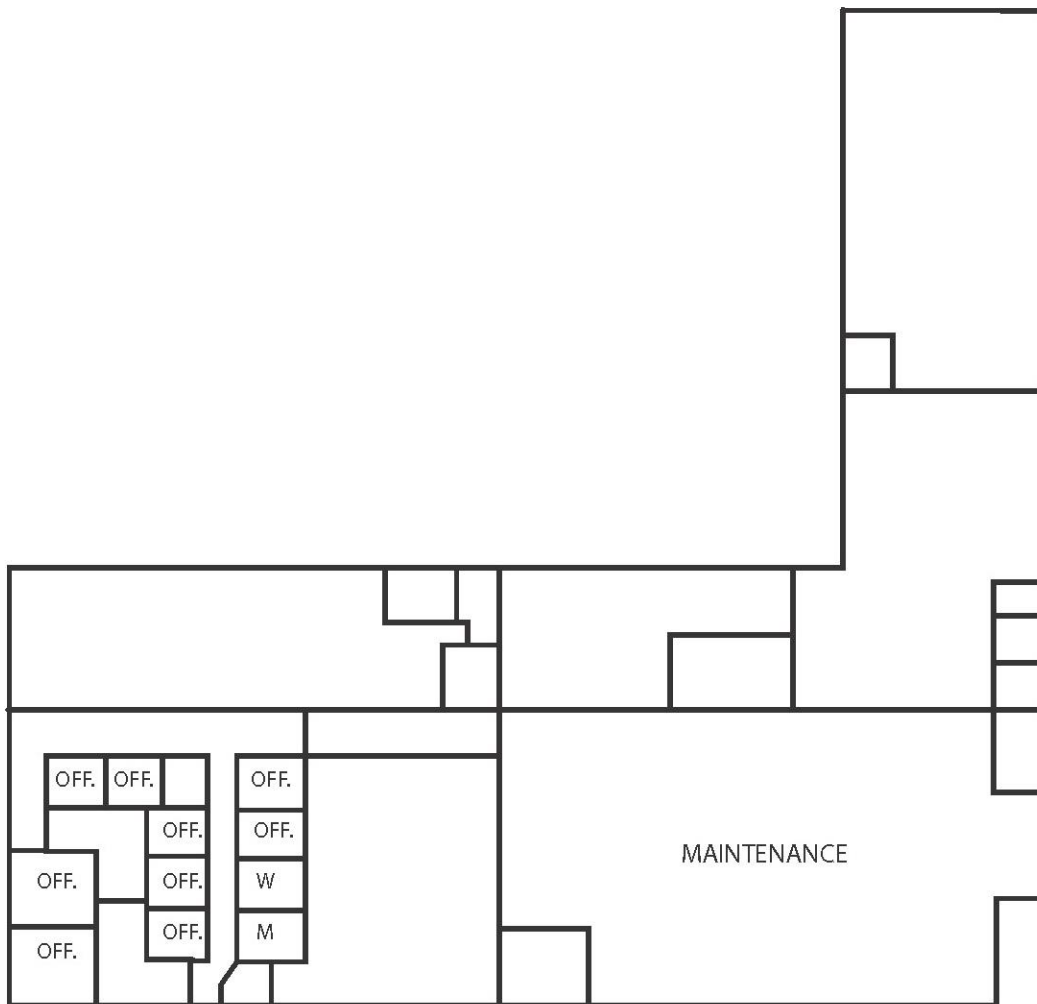
2017 Facility Assessment

Skill Center

Building History Plan (Currently in use for Facilities)

22,500 SF

- Date of construction is unknown



2017 Facility Assessment

Civil & Site Assessment

Entrance Signage

- Wood Post & Panel Sign

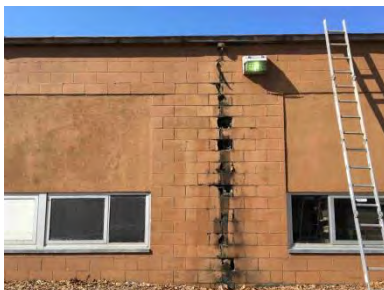
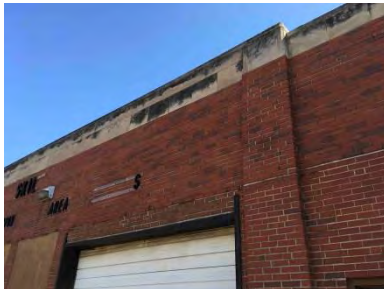
Pavements

- Asphalt and exterior concrete is in poor condition



Building Envelope Assessment

- Masonry block with brick veneer in very poor condition with several cracks present
- Aluminum framed windows in poor condition
- Hollow metal doors in poor condition
- Addition on the back of the building is pre-engineered steel building in poor condition







2017 Facility Assessment

Roof System Assessment

- Approximately 22,500 SF
- White TPO in fair condition



Roof Conditions & Anticipated Service Life Plan

Roof Service Life	
	0 - 2 Years
	3 - 5 Years
	6 - 10 Years
	11 or More Years



2017 Facility Assessment

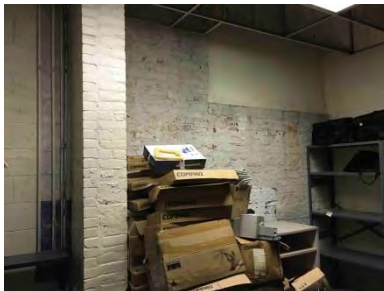
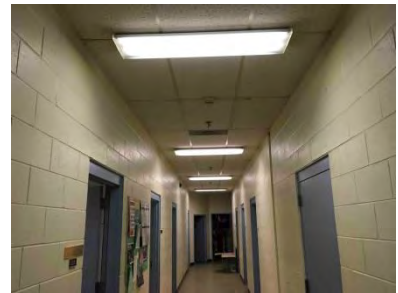
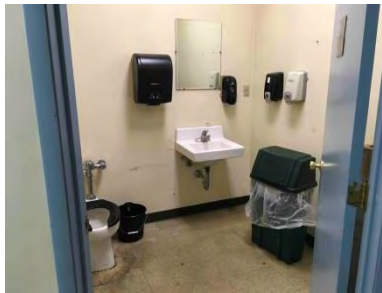
ADA Accessibility Assessment

Interior

- Does not comply with barrier free requirements

Interior Finishes Assessment

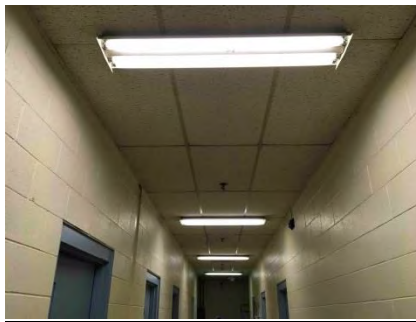
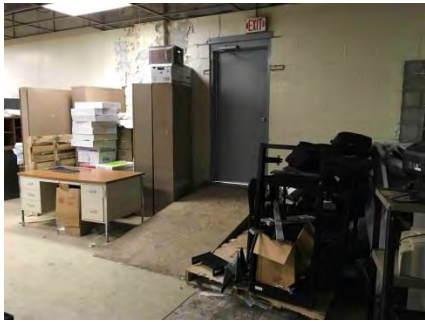
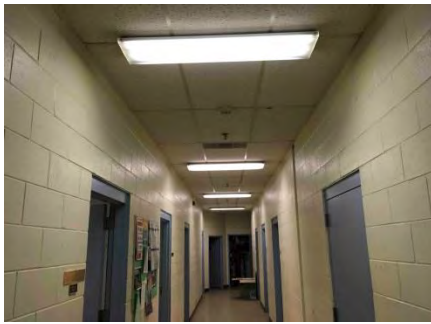
- Office area has carpet and VCT that is in fair condition
- Shop area is exposed concrete in fair condition
- Ceilings in the offices are 2'x2' suspended acoustic system in fair condition
- Shop ceilings are painted exposed structure consisting of steel joists and wood deck or steel joists and metal deck



2017 Facility Assessment

Life Safety Assessment

- Illuminated Exit Signage is lacking in several areas.
- Exterior doors have knob hardware.



2017 Facility Assessment

Mechanical & Plumbing Assessment

Building Systems

- Maintenance shop has ductwork from previously used RTU's, all RTU's curbs are capped and ductwork is abandoned. Maintenance area has minimal ventilation and exhaust. If vehicles are operated indoors current codes require much more ventilation and specialized exhaust.
- (1) RTU installed in 2010 serves front office area and is in average condition.
- Remainders of spaces are served by ceiling hung hot water unit heaters.

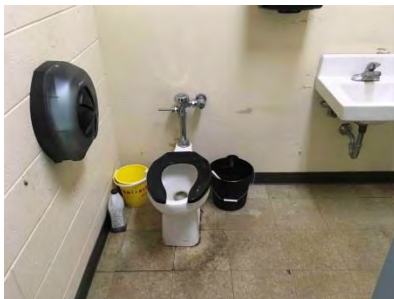


Central Plant Systems

- (1) Lochinvar heating hot water boiler, 750 MBH capacity, installed in 1997 and in average condition.

Plumbing Fixtures

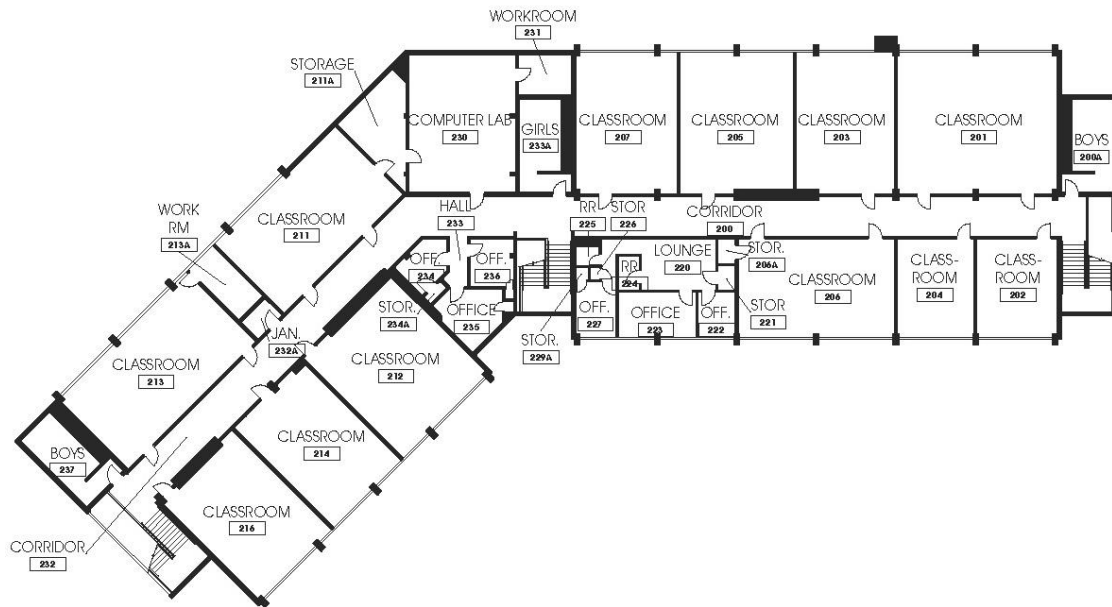
- Bathroom fixtures are in average condition.



Electrical Systems Assessment

The lighting in this building is in poor condition. Lights are broken, lamps need to be replaced and exterior fixtures are metal halide. The lighting per the Michigan energy code and NFPA needs to be updated. There is a lot of power being utilized due to the nature of the building. Per NEC it would have to be brought up to code. For life safety a new fire alarm system would be required for installation. There are intrusion detectors and a security system in the building. Building access system would be recommended for installation.

2017 Facility Assessment



2nd Level

2017 Facility Assessment

Civil & Site Assessment

Entrance Signage

- LED Sign in good condition



Pavements

- Asphalt and site concrete is in very poor condition



Traffic Flow

- Visitor parking with access to main entry
- No bus loop separate from vehicular traffic
- No separate staff parking lot
- No parent drop-off - Parents must park and walk students in

2017 Facility Assessment

Building Envelope Assessment

- Exposed concrete and brick in good condition with some repairs needed at concrete support columns
- There are areas with stress cracks in the brick veneer that need repaired
- Aluminum curtain wall system with awning style operable windows. All glass is double pane in good condition
- Main entry doors are FRP installed in aluminum frames and are in good condition. However some of the door hardware is damaged and should be replaced
- Soffit areas are in poor condition with repairs being needed
- Hollow metal doors and frames are rusted through and are in very poor condition



2017 Facility Assessment

Roof System Assessment

- Approximate roof area 35,400 SF
- Black EPDM in fair condition

Roof Conditions & Anticipated Service Life Plan



2017 Facility Assessment

ADA Accessibility Assessment

Exterior:

- Some of the entrances are not barrier free accessible

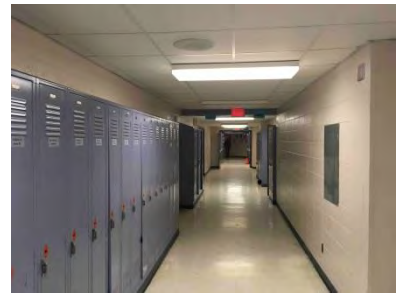
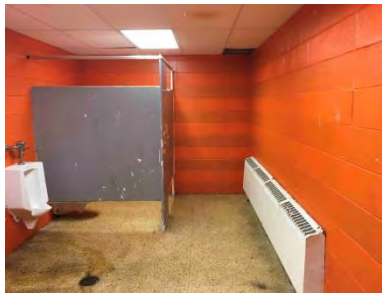
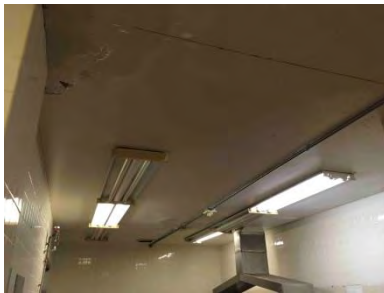
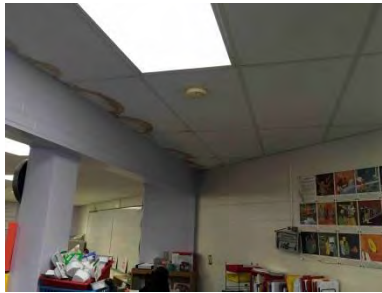
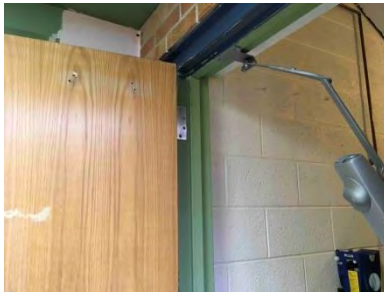
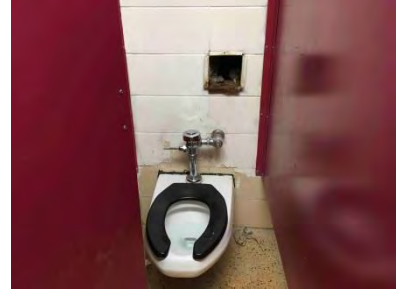
Interior:

- Doors were observed having non-functions hardware installed

Interior Finishes Assessment

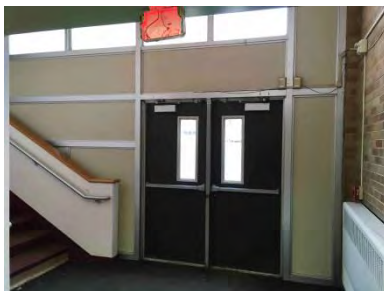
- Flooring
 - Corridors have VCT flooring installed and is in good condition
 - Toilet rooms have terrazzo flooring that is stained but could be cleaned bringing it back to an acceptable finish
 - Ceramic tile at toilet rooms is in poor condition
 - Carpet in classrooms is in good condition however the VCT in these rooms is poor
 - Gym wood flooring is in good condition
 - Quarry tile in the kitchen is in good condition
- Ceilings
 - 2'x4' suspended acoustic ceiling system is overall in good condition. There are many water stained ceiling tile that need to be replaced
- Walls
 - Painted concrete masonry units are in good condition
 - Toilet rooms have ceramic tile and is in fair condition
 - Tiled walls in the kitchen are in good condition
- Doors
 - Wood doors installed in hollow metal frames are mostly in good condition

2017 Facility Assessment



Life Safety Assessment

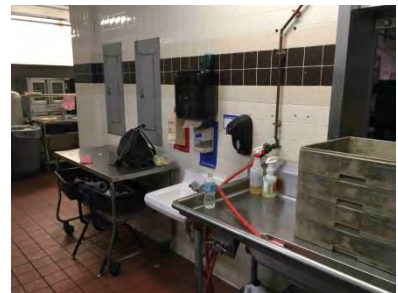
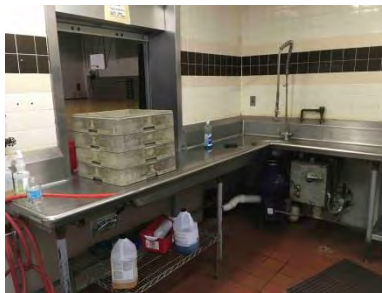
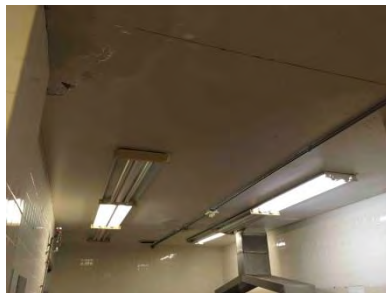
- Building has a Fire alarm system
- Several illuminated exit signs are damaged



2017 Facility Assessment

Food Service Assessment

- Equipment appears to be in fair condition
- Ceiling and light fixtures are in poor condition

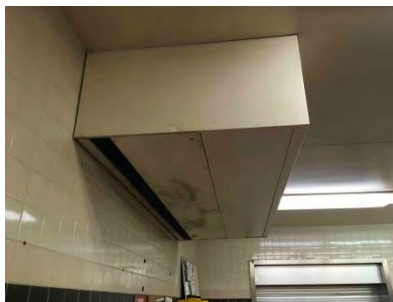


2017 Facility Assessment

Mechanical & Plumbing Assessment

Building Systems

- Separate Packaged RTU's serve Media Center, Technology Room and Server Room. Units appear to be near the end of their service life.
- Gas meter and piping external to building in poor condition, very corroded.
- Gymnasium heating and ventilation unit is beyond expected usable life.
- Trane horizontal unit ventilators are in average condition and near end of service life.
- Kitchen exhaust fan and make up air unit are near end of service life.



Central Plant Systems

- (3) Lochinvar Copper-Fin heating hot water boilers, 1440 MBH input each, installed in 2000. The boilers appear to be in relatively good condition.
- Heating hot water piping insulation in good condition, some hot water pumps are newer.



2017 Facility Assessment

Building Controls

- Trane DDC control system that is 15+ years old and due to be upgraded

Plumbing Fixtures

- Bathroom plumbing fixtures are in poor condition and may need to be replaced.



Plumbing Piping and Systems

- Plumbing piping routed thru tunnels in fair condition per original assessment.
- Domestic water heaters are in good condition.

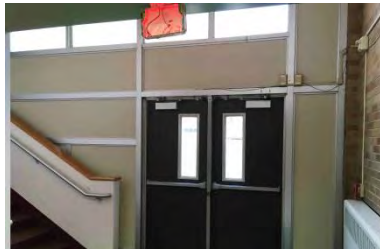


2017 Facility Assessment

Electrical Systems Assessment

Building lighting is in poor condition.

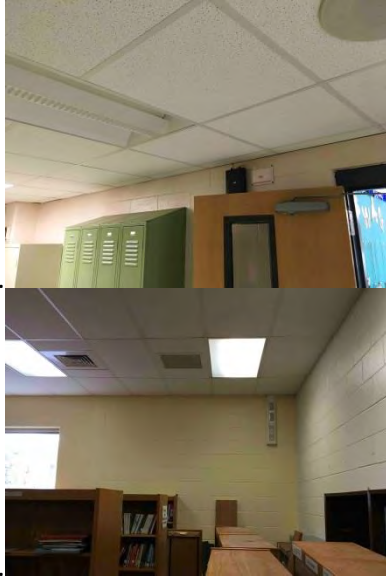
- The existing lighting is fluorescent in classrooms and common areas and maintenance is required on a good percentage of these fixtures. Metal halide in the gymnasium. The update to LED would result in significant monetary savings and energy conservation. This would require all new lighting throughout the building.
- There are no occupancy sensors or central lighting control system. If more than 50% of the lights were to be upgraded to LED at one time a central lighting control system and occupancy sensors would be required per the Michigan Building Energy.
- The exterior building lighting and parking lot lighting is metal halide and the quantity of lighting is sparse. Additional LED lighting would be recommended for safety and energy savings.



Building technology is adequate.

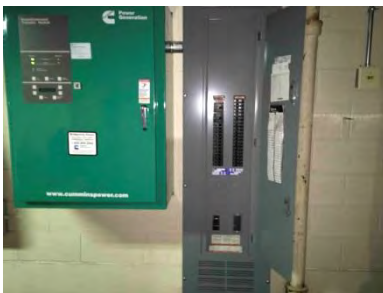
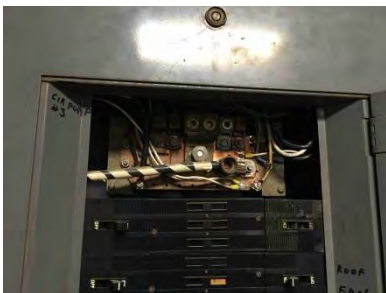
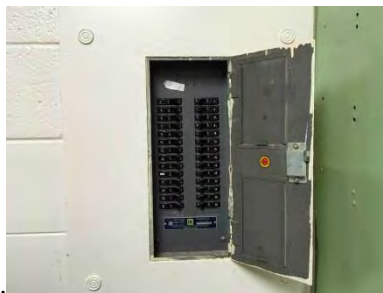
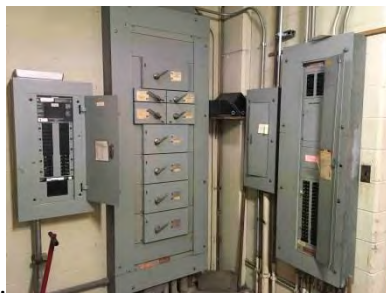
- Wireless Access Points are installed throughout the building.
- There is a use of wall mounted projectors in some classrooms.
- There are teachers stations in classrooms tied to the projectors.
- There are TVs/monitors throughout the building.
- More wiring supports for wiring and IT closets is recommended.
- Classrooms are set up for additional monitor/projector technology with energized raceways.

2017 Facility Assessment



Electrical building system is fair.

- The existing primary main distribution panel is older and is at the end of its life and should be replaced.
- Existing electrical secondary Cutler Hammer and Square D panels are old and it becomes hard to find replacement breakers for this equipment. It is recommended that some of these panels are replaced.
- There is a generator on site.
- Electrical panels should be investigated and brought up to code for safety. Open panel boards are dangerous.



2017 Facility Assessment

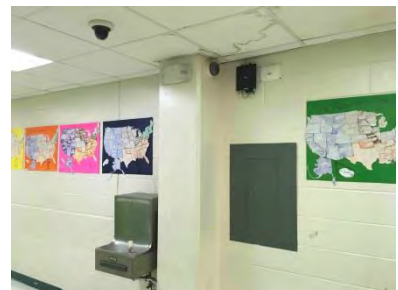
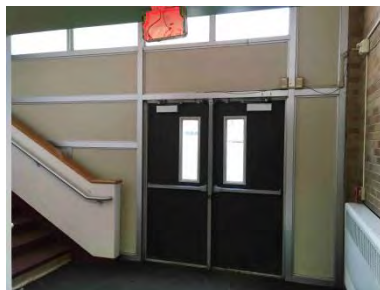
Clock/ PA Systems are in poor condition.

- New p.a. system is recommended to be installed to provide proper life safety communications.
- Existing central clock is out of date. Different clock types are installed throughout the building. New clock system is recommended to be installed.



Security Systems are adequate.

- Existing security system is a Honeywell and has cameras, door contacts and motion detectors.
- A new building access system would be recommended for building security and teacher access to the building.



2017 Facility Assessment

Fire Alarm System is adequate.

- Existing FCI fire alarm. The school district is required to service this system once a year by a licensed contractor. The system does have horn/strobe capabilities but no voice annunciation system, which was adopted by NFPA in 2014. If the owner wants voice annunciation, the system will have to be replaced. The system is adequate and grandfathered with the State without voice annunciation. It is recommended that the existing system is updated and that may require replacement.

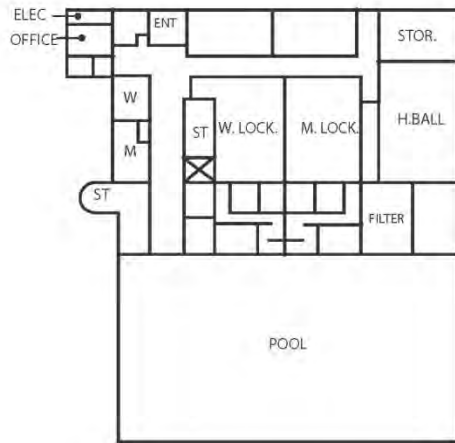


2017 Facility Assessment

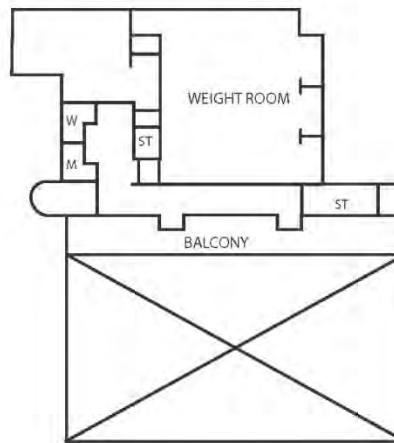
Charles Gray Teen Center Building History Plan

27,000 SF

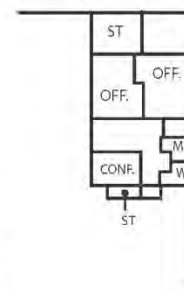
- Date of construction is unknown



LOWER LEVEL



MIDDLE LEVEL



UPPER LEVEL

2017 Facility Assessment

Civil & Site Assessment

Entrance Signage

- Partial sign remained on the face of the building in poor condition



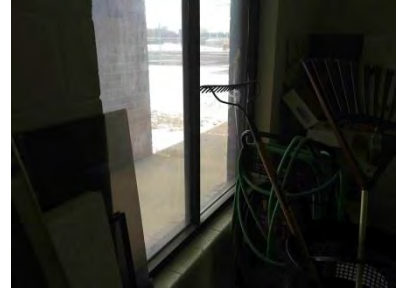
Pavements

- Asphalt and exterior concrete is in poor condition

Building Envelope Assessment

- Exterior masonry walls with brick veneer is in good condition
- Some areas showing water infiltration mainly at the skylight
- Double pane fixed glass in aluminum frames are in good condition
- Large skylight section above the second floor corridor is in poor condition with broken panes or seals damaged
- FRP and aluminum doors installed in aluminum frames are in poor condition and need to be replaced

2017 Facility Assessment






2017 Facility Assessment

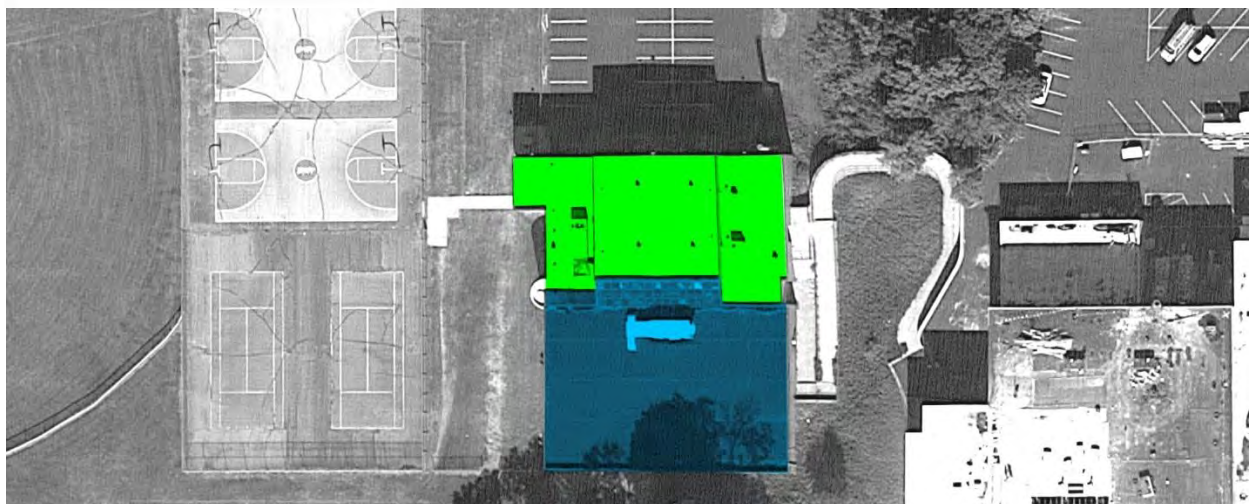
Roof System Assessment

- Approximate roof is 19,000 SF
- Approximately 11,000 SF of black EPDM at the pool
- Approximately 8,000 SF White Duro-Last TPO over the remaining building
- Roof has adequate draining with very little ponding of water
- Skylight is in very poor condition with damaged panels with some indication of leaking



Roof Conditions & Anticipated Service Life Plan

Roof Service Life	
	0 - 2 Years
	3 - 5 Years
	6 - 10 Years
	11 or More Years



2017 Facility Assessment

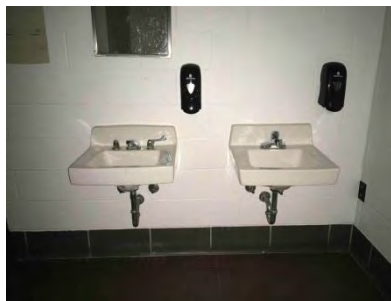
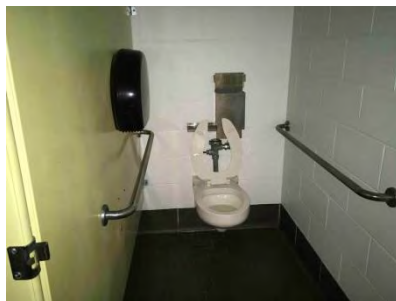
ADA Accessibility Assessment

Exterior:

- Entrances are barrier free accessible with ramps and railings in place

Interior:

- The building is barrier free accessible and is equipped with an elevator
- Toilet rooms and fixtures are all barrier free

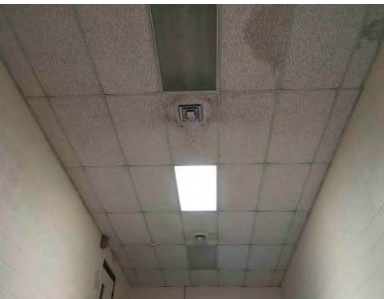
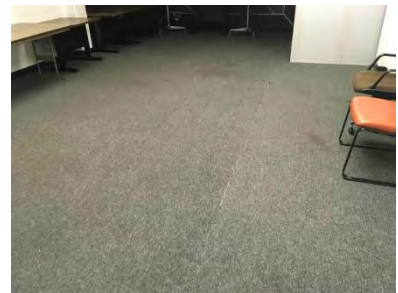
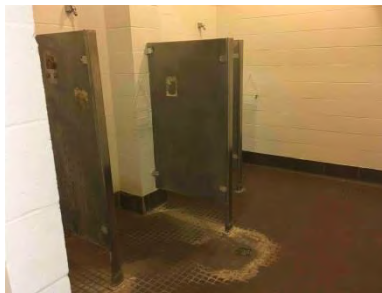
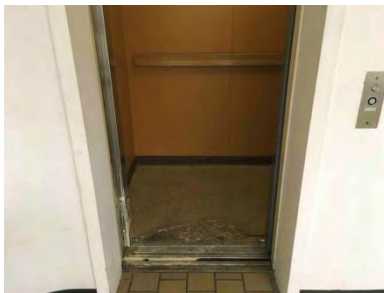
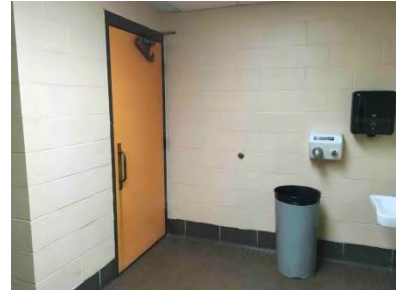


2017 Facility Assessment

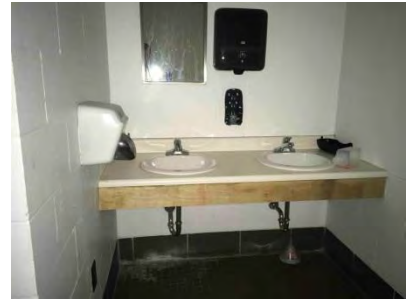
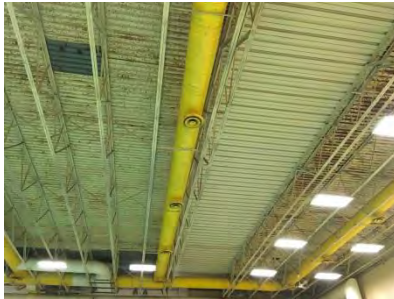
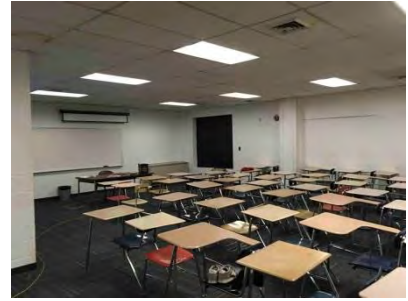
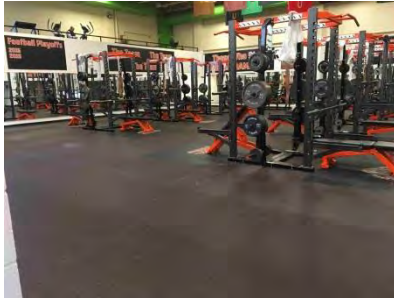
Interior Finishes Assessment

- Flooring
 - Quarry tile is installed throughout the corridors are in good condition
 - Ceramic tile in toilet rooms are in good condition
 - Sports flooring was recently installed in the weight room is in excellent condition
 - Office and meeting room carpeting is in very poor condition
 - Sheet vinyl flooring around the pool is in very poor condition and should be replaced
 - Starting block bolts and feet are rusted and need to be replaced
- Ceilings
 - 2'x4' suspended acoustic ceiling systems should be replaced as they are in poor condition due to the many water leaks throughout
 - Ceilings in the locker, shower, pool and weight rooms are all exposed
 - Pool roof deck is extremely rusted with several panels being required to be replaced. The entire deck needs to be sandblasted and painted. It is recommended that a testing agency is brought in to verify the structural condition of the steel joists and their connections.
 - Main corridor ceiling requires repairs being made with repainting due to the water intrusion at the skylight system
- Walls
 - Mostly painted masonry and are in good condition
 - The walls in the pool area need to be cleaned and painted
- Doors
 - Wood and hollow metal in metal frames most are in good condition
 - There are a few doors within the pool area that should be replaced as they are in poor condition
- Toilet and shower partitions are in poor condition and need to be replaced. Toilet room countertops are also in poor condition and need to be replaced.

2017 Facility Assessment



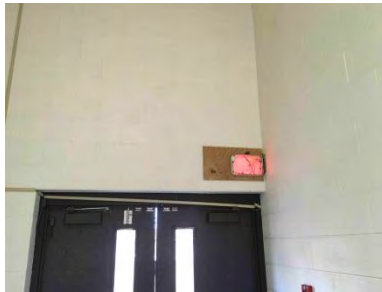
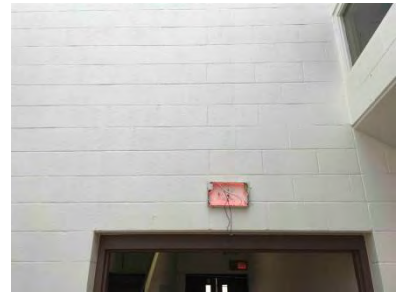
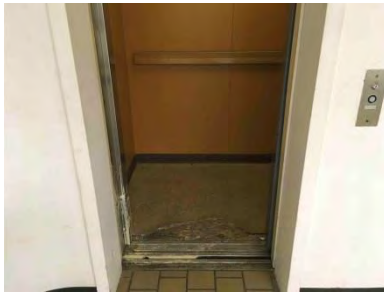
2017 Facility Assessment



2017 Facility Assessment

Life Safety Assessment

- Illuminated exit signs are in poor condition with many damaged due to vandalism, not functioning or missing altogether
- There are clear paths of egress
- The fire alarm system is outdated with devices not installed in all the required areas
- Panic exit hardware was in place on corridor exiting doors



2017 Facility Assessment

Mechanical & Plumbing Assessment

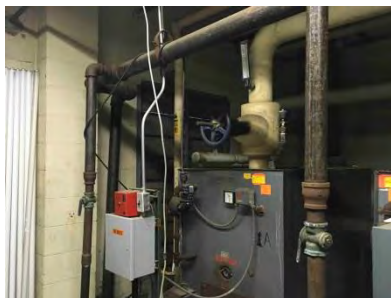
Building Systems

- (1) Trane rooftop mounted DX heating and cooling units, appear to be old and beyond service life.
- Rooftop mounted ductwork is rusted and degrading.
- (1) American Energy Exchange heat recovery rooftop unit appears to be in average condition and newer than Trane unit.
- (1) small Trane RTU installed 2015 in good condition.
- Some horizontal unit ventilators that appear to be in poor condition.



Central Plant Systems

- (3) Weil McLain heating hot water boiler, 1,200 MBH capacity, unknown age but appear fairly old. Boilers are near end of service life.
- Piping appears to be in average condition.



Building Controls

- Trane DDC control system that is 15+ years old and due to be upgraded

Plumbing Fixtures

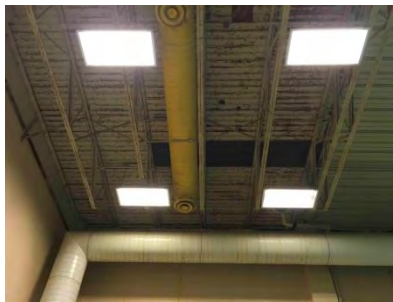
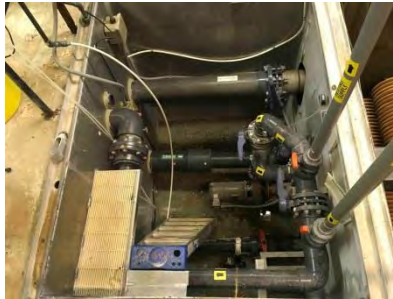
- Most fixtures appear to be in average/workable condition.

2017 Facility Assessment



Natatorium Systems

- Duct cable supports are rusted and need to be replaced
- Ductwork shows some signs of corrosion but generally acceptable
- Dehumidification is needed to protect building structure from rust
- Hot water heat exchanger piping, insulation and control valve need to be replaced
- New sump pump needed for pool

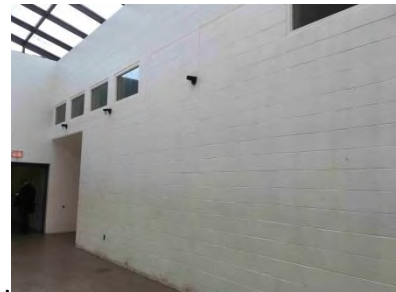


2017 Facility Assessment

Electrical Systems Assessment

Building Lighting is in poor condition.

- The existing lighting is fluorescent and incandescent. Many lights need repair or replaced. The update to LED would result in significant monetary savings and energy conservation. This would require all new lighting throughout the building.
- There are no occupancy sensors and there is no existing central lighting control system. If more than 50% of the lights were to be upgraded to LED at one time a central lighting control system and occupancy sensors would be required per the Michigan Building Energy.
- The exterior building lighting and parking lot lighting is metal halide and the quantity of lighting is sparse. Additional LED lighting would be recommended for safety and energy savings.

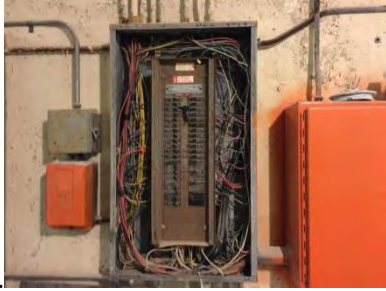


Building Technology is the phone system.

Electrical Building System is adequate with exception of pool area.

- The existing primary main distribution panel is older.
- Existing electrical secondary panels in pool area are corroded, have no covers and need to be replaced. This is a dangerous situation that could cause harm to people and a fire to the building.
- There is no generator on site.

2017 Facility Assessment



Clock/ PA systems are adequate due to the use of this building.

Security Systems are adequate.

- There appears to be a door access system.
- There is a small existing security camera system.



Fire alarm system is in poor condition.

- Existing Simplex fire alarm. The school district is required to service this system once a year by a licensed contractor. The system does have horn/strobe capabilities but no voice annunciation system, which was adopted by NFPA in 2014. If the owner wants voice annunciation, the system will have to be replaced. The system is adequate and grandfathered with the State without voice annunciation. It is recommended that the existing system is replaced.



2017 Facility Assessment

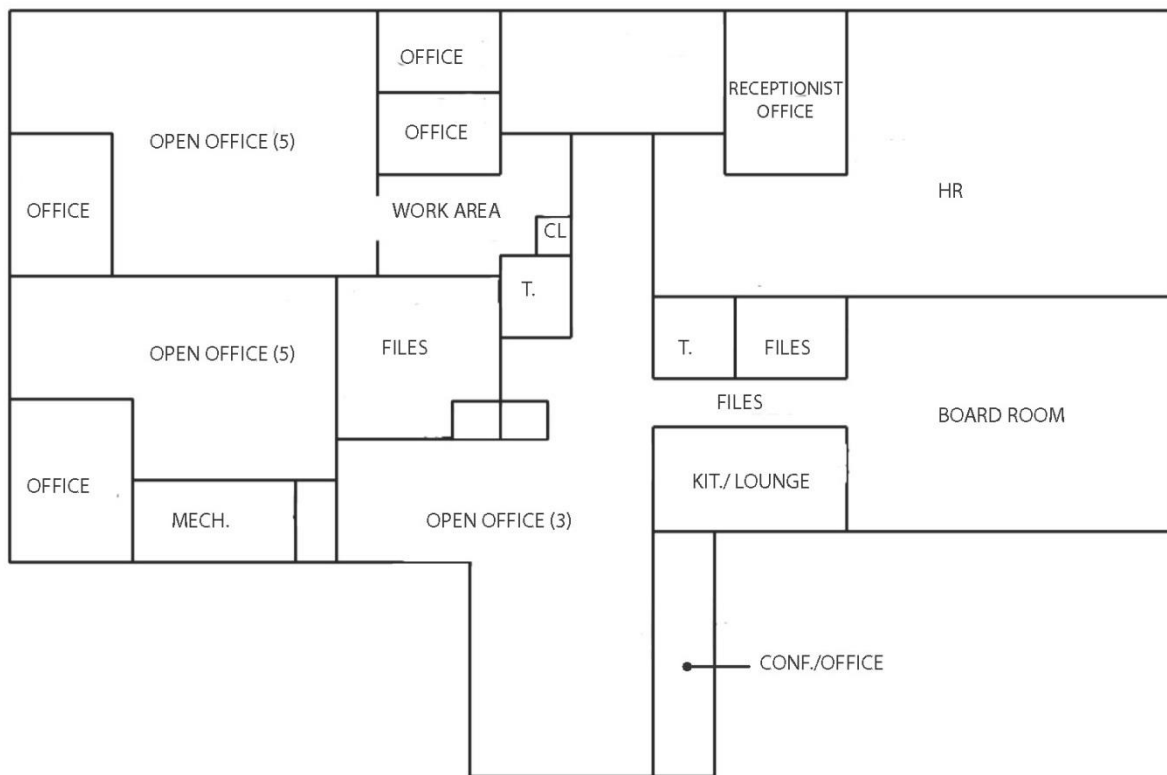
Administration

Building History Plan

7,000 SF

- Originally was a preschool building constructed in 1961
 - Possible addition – 1994

This facility is too small for the district needs and does not function well with the current layout



2017 Facility Assessment

Civil & Site Assessment

Entrance Signage

- Unlit painted wood sign



Pavements

- Asphalt parking lot is in poor condition
- The gravel drive to the staff parking lot should have additional gravel placed and re-graded
- Concrete walks are in fair condition



2017 Facility Assessment

Building Envelope Assessment

- Exterior masonry bearing walls with brick veneer. Several missing brick should be patched in
- There are several exterior openings that are currently covered with plywood and required a permanent weather proof cover to be installed
- Wood soffit and fascia currently in good condition but is in need of painting
- Aluminum double pane windows are in good condition however the perimeter sealants need to be replaced
- Aluminum entry door system in good condition
- All remaining exterior doors are hollow metal in fair condition and required to be cleaned and painted







2017 Facility Assessment

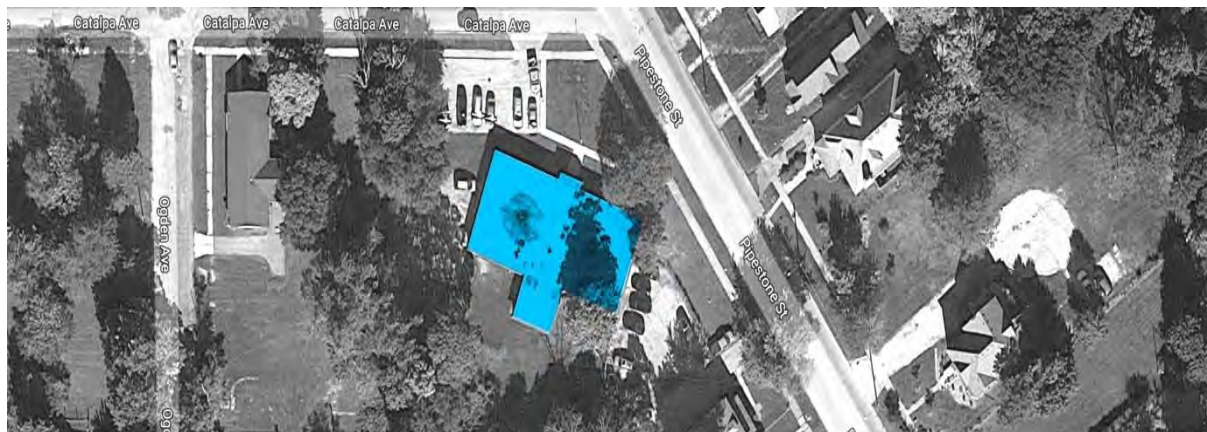
Roof System Assessment

- Approximately 7,000 SF total roof
- White TPO membrane system showing excessive wear
- Perimeter sloped band has mansard shingles installed with some minor repairs required



Roof Conditions & Anticipated Service Life Plan

Roof Service Life	
	0 - 2 Years
	3 - 5 Years
	6 - 10 Years
	11 or More Years



2017 Facility Assessment

ADA Accessibility Assessment

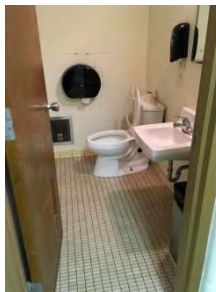
Exterior

- Barrier free accessible from the parking lot to the building



Interior

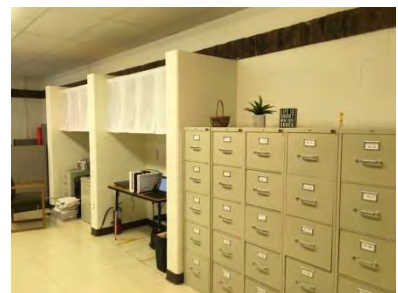
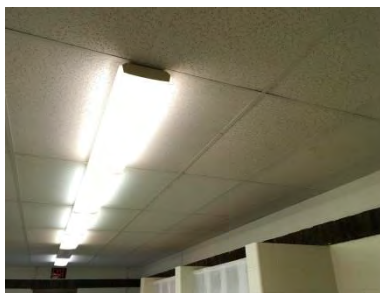
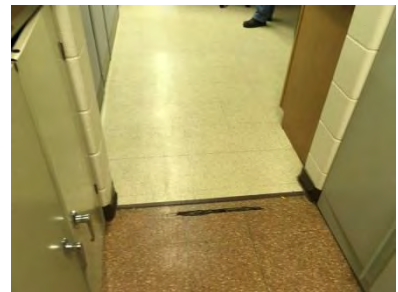
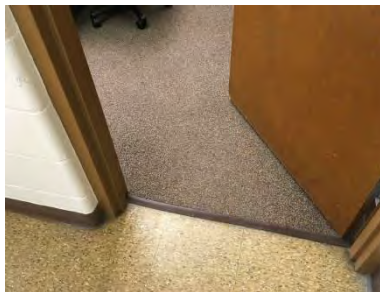
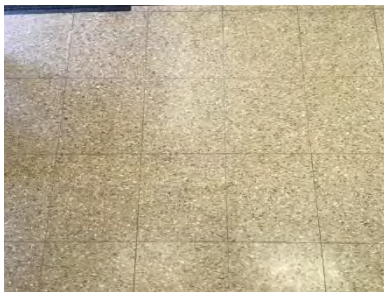
- Majority of the building is not barrier free compliant as all of the door hardware is knob
- Toilet rooms and accessories are not barrier free compliant



2017 Facility Assessment

Interior Finishes Assessment

- Flooring
 - Combination of VCT and carpet.
 - Carpet is in good condition as it is relatively new
 - The VCT is fair with some areas of repairs required
 - The toilet rooms have ceramic tile installed in good condition
- Ceilings
 - 2'x'4' suspended acoustic tile system installed throughout. There are several stained tile indicating roof or overhead piping leaks.
- Walls
 - Painted masonry block in good condition
- Casework
 - Wood casework in good condition
- Doors
 - Wood doors installed in hollow metal frames in good condition

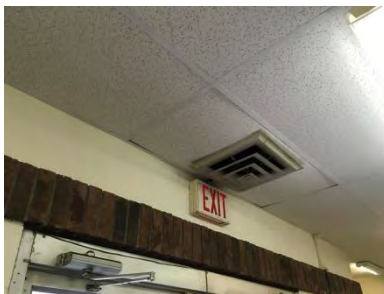


2017 Facility Assessment



Life Safety Assessment

- A majority of the exit signs are store bought placards and are non-compliant
- Most door hardware is knobsets
- The fire alarm system is old and is not installed in all areas

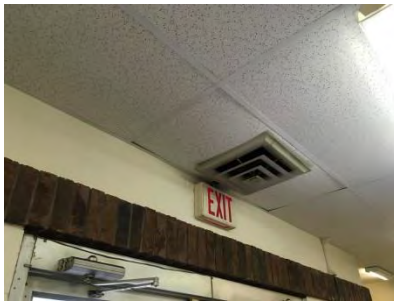


2017 Facility Assessment

Mechanical & Plumbing Assessment

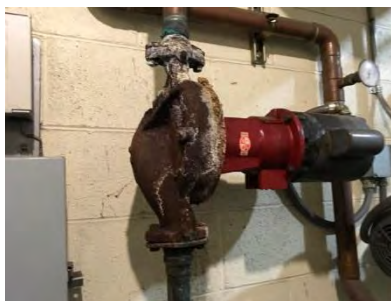
Building Systems

- Front entrance has old and dirty diffusers served by unknown equipment, likely FCU above ceiling or an RTU.
- Unit ventilators appear original to building and due for replacement. The unit ventilators location and sizing is not adequate for current building layout and usage.
- Building ventilation is inadequate. Some office spaces have little or no airflow.
- Kitchen area has large cabinet unit heater and old exhaust hood. Kitchen smells very strong.



Central Plant Systems

- (1) Lochinvar Heating Hot Water Boiler, 745 MBH capacity, installed in 1994.
- Boiler room piping appears in good condition, no insulation on piping in boiler room.
- Some pump casings are very rusted and old.
- There is a sign for asbestos in the boiler room.



2017 Facility Assessment

Building Controls

- Only controls appear to be old JCI pneumatic panels

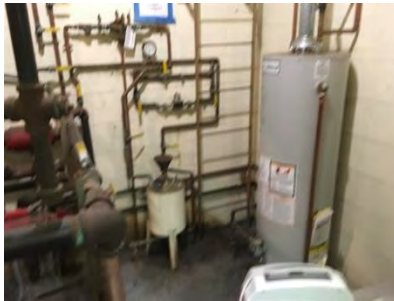
Plumbing Fixtures

- Most fixtures appear to be in satisfactory condition.



Plumbing Piping and Systems

- Domestic hot water heater appears satisfactory; venting layout seems to not follow typical guidelines.

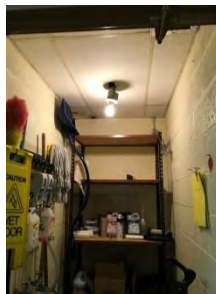


2017 Facility Assessment

Electrical Systems Assessment

Building lighting is in poor condition.

- The existing lighting is fluorescent and incandescent. The update to LED would result in significant monetary savings and energy conservation. This would require all new lighting throughout the building.
- Occupancy sensors and lighting control would help the efficiency of this building. Michigan Energy Code will require sensors with any lighting update.
- The exterior building lighting is recessed fluorescent and needs to be assisted. It is recommended that these lights be replaced with LED.



Building Technology is adequate.

- Wireless Access Point is provided.
- There is a use a projector in the conference room.
- There is data/voice for office connections.



2017 Facility Assessment

Electrical building system is fair.

- The existing primary ITE main distribution panel is at the end of its life and needs to be replaced.
- Existing electrical secondary FFE panels are old and it becomes hard to find replacement breakers for this equipment. It is recommended that some of these panels are replaced.
- There is no generator on site.



Clock/ PA systems are not necessary for this building.

Security Systems are adequate for the use of this building.

- Existing security system is a Honeywell system with no cameras or motion detectors just door contacts.



Fire alarm system is in poor condition.

- Existing fire alarm is old and at the end of its life. It is recommended that a new fire alarm system is installed.



2017 Facility Assessment

Transportation Building History Plan

12,500 SF

- Constructed in 2002

Civil & Site Assessment

Entrance Signage

- Masonry sign along the street in good condition. The landscaping is beginning to be overgrown and should be cut back.



Pavements

- Asphalt and exterior concrete is in good condition
-



2017 Facility Assessment

Building Envelope Assessment





- Exterior walls are masonry and metal siding in good condition
- Roof is standing seam with metal coping in good condition
- Main exterior entry doors are FRP set in aluminum frames with the remaining being hollow metal in good condition
- Aluminum fixed double pane window system in good condition

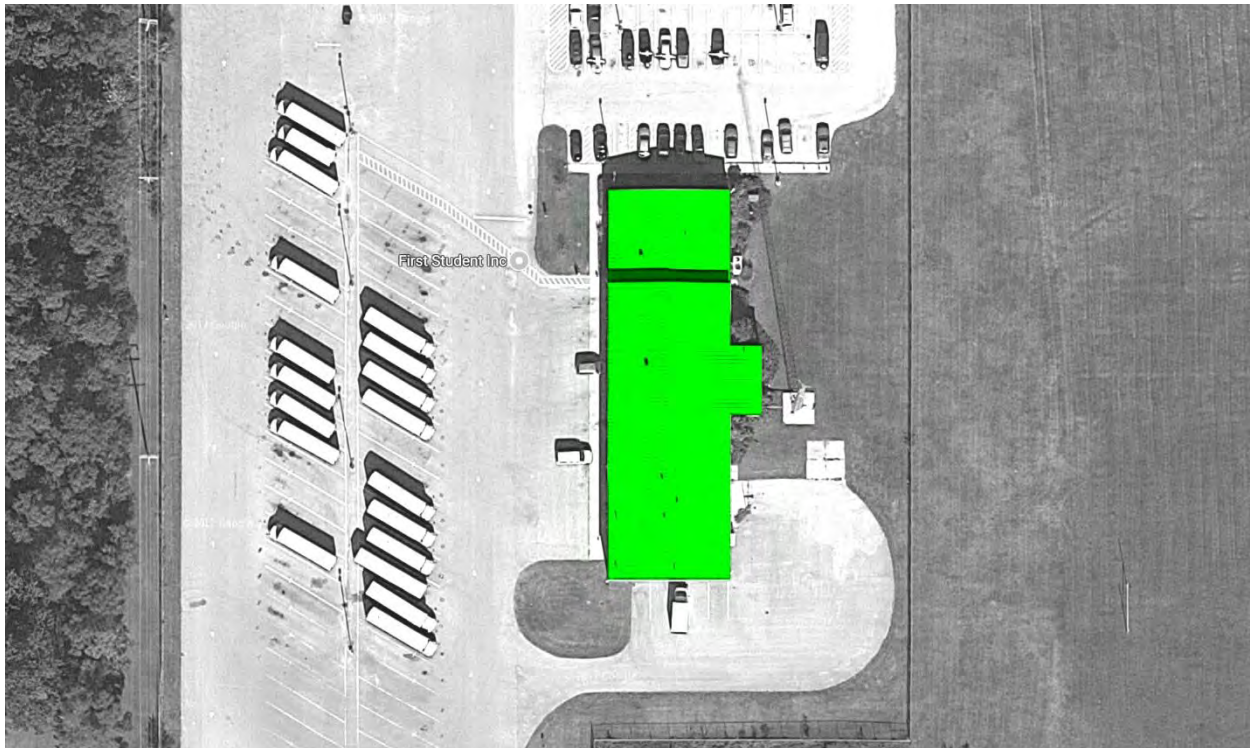


2017 Facility Assessment

Roof Conditions & Anticipated Service Life Plan

- Approximately 12,500 SF
- Metal standing seam in very good condition

Roof Service Life	
	0 - 2 Years
	3 - 5 Years
	6 - 10 Years
	11 or More Years



2017 Facility Assessment

ADA Accessibility Assessment

Exterior

- Barrier Free accessible

Interior

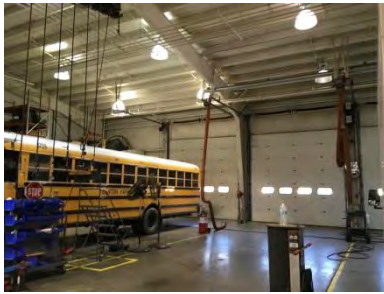
- Facility is barrier free compliant
- Toilet rooms are barrier free compliant

Interior Finishes Assessment

- Flooring
 - Carpet and VCT is installed throughout the office area and is in good condition
 - Painted concrete through the shop area in good condition
- Ceilings
 - 2'x2' suspended acoustic ceiling system in the office in good condition
 - Exposed faced insulation and structure in the shop. Most in good condition with some insulation repairs needed.
- Walls
 - Painted concrete block in good condition
- Casework
 - Plastic laminated cabinets in good condition
- Doors
 - Hollow metal in metal frames all found to be in good condition



2017 Facility Assessment



Life Safety Assessment

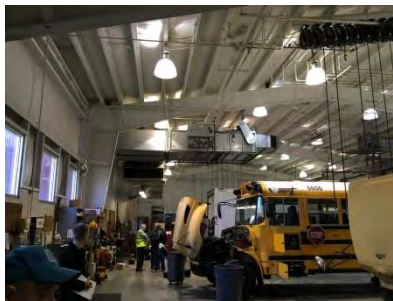
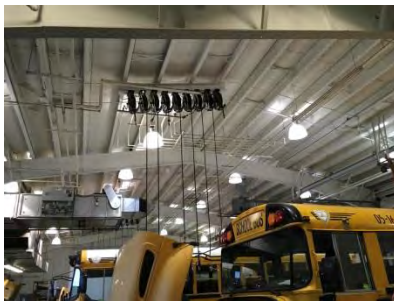
- Illuminated exit signage at exiting doors was noted
- ADA accessible hardware was installed throughout

2017 Facility Assessment

Mechanical & Plumbing Assessment

Building Systems

- Bus garage systems appear to be in good condition including vehicle exhaust system, makeup air units with energy recovery and hose reels.
- RTU on grade serves office area installed in 2003 and may be due for replacement in the near future.



Building Controls

- Trane DDC controls from 2002 may be due to be upgraded.

Plumbing Fixtures

- Bathroom plumbing fixtures are in good condition.

2017 Facility Assessment

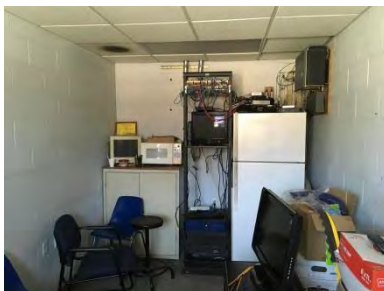
Electrical Systems Assessment

Building lighting is adequate.

- The existing lighting is fluorescent and metal halide. The update to LED would result in significant monetary savings and energy conservation. This would require all new lighting throughout the building.
- There are no occupancy sensors in the building. Installing occupancy sensors would help with energy conservation and monetary savings.
- The exterior building lighting and parking lot lighting is metal halide. . The update to LED would result in significant monetary savings and energy conservation.



Building technology is adequate and provides for the needs of this building.



2017 Facility Assessment

Electrical Building System is adequate.

- The existing primary main distribution is Square D and is in good condition.



Security Systems are adequate.

- Existing security system is a Secure Alarm system with motion detectors, cameras and door contacts for intrusion detection.

