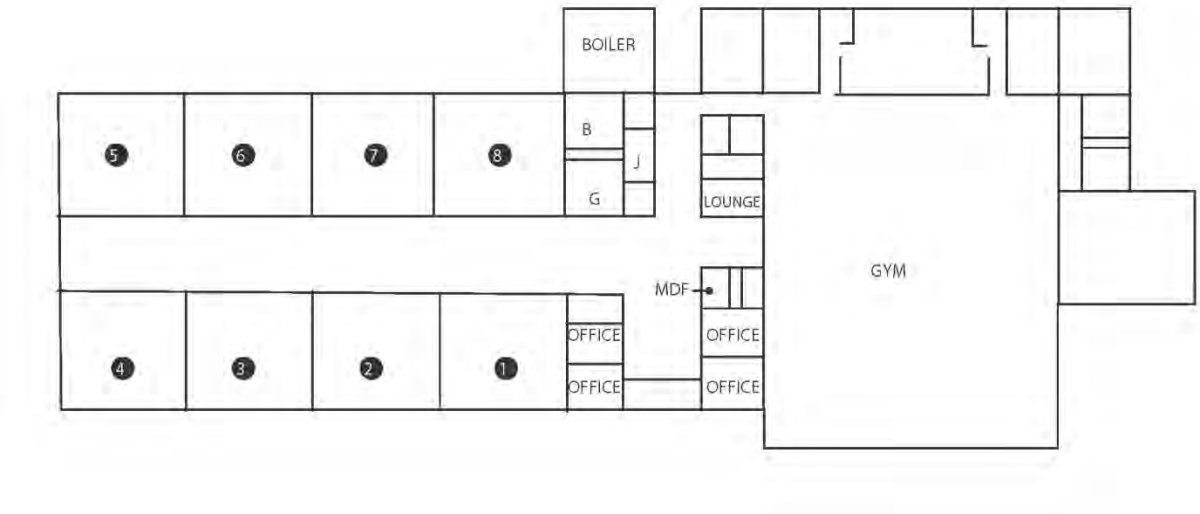
UNOCCUPIED BUILDINGS

Bard

Building History Plan

22,555 SF

- Date of construction in unknown



Civil & Site Assessment

Pavements

- Asphalt and exterior concrete in extremely poor condition



Building Envelope Assessment

- Exterior walls are concrete masonry with brick veneer in poor condition
- Exterior doors are in poor condition
- Many exterior windows are broken with plywood installed in the openings

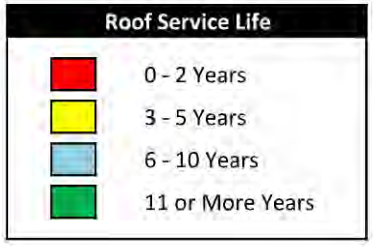


2017 Facility Assessment

Roof System Assessment

- Approximately 23,000 SF
- Black EPDM in extremely poor condition
- Many roof leaks noted from below.

Roof Conditions & Anticipated Service Life Plan



Interior Finishes Assessment

- All interior finishes are in extremely poor condition
- Mold was found growing in many areas throughout the building






Life Safety Assessment

- The building is not inhabitable and would require extensive work for it to become habitable

Mechanical & Plumbing Assessment

Due to the deterioration of the existing mechanical systems, it is presumed that all equipment should be replaced including unit ventilators, boiler, pumps, exhaust fans, control system and terminal units. It is also be recommended that distribution heating hot water piping routed thru tunnels be abandoned and new piping routed overhead to ensure integrity of systems.

It is recommended that the entire plumbing system be replaced with new plumbing fixtures, water heaters, and piping. Water piping routed thru tunnels should be abandoned and new piping routed overhead to ensure acceptable water quality.

Electrical Assessment

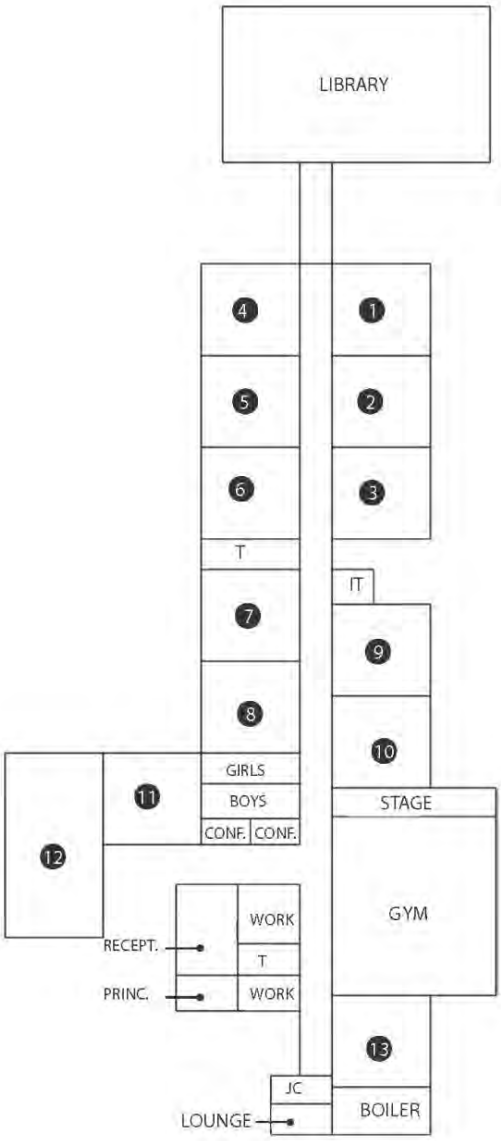
Due to the deteriorating conditions of this building, electrically this building would require all new lighting and electrical wiring and panels per the NEC and the Michigan Energy code. For life safety a fire alarm, clock/p.a. system and building security would be required for installation. A building access system would be recommended to help secure the building. All new technology wiring, head-end equipment and devices would be required to create an educational facility.

Boynton

Building History Plan

23,265 SF

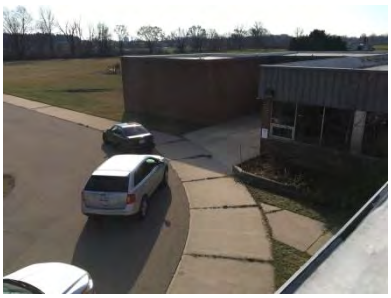
- Constructed in 1962
    - Library addition – 1992



Civil & Site Assessment

Pavements

- Asphalt and exterior concrete in fair condition



Building Envelope Assessment

- The building exterior walls are masonry block with brick veneer in good condition
- Windows are aluminum double pane awning style with EIFS in-filled panels above. The EIFS is in poor condition and many glass panels have been broken out with plywood installed.
- Exterior doors are a combination of aluminum, hollow metal and FRP. They range in fair to poor condition.
- The Library is a standalone building that is wood framed with brick, EIFS and metal panel exterior. This portion of the building is in poor condition

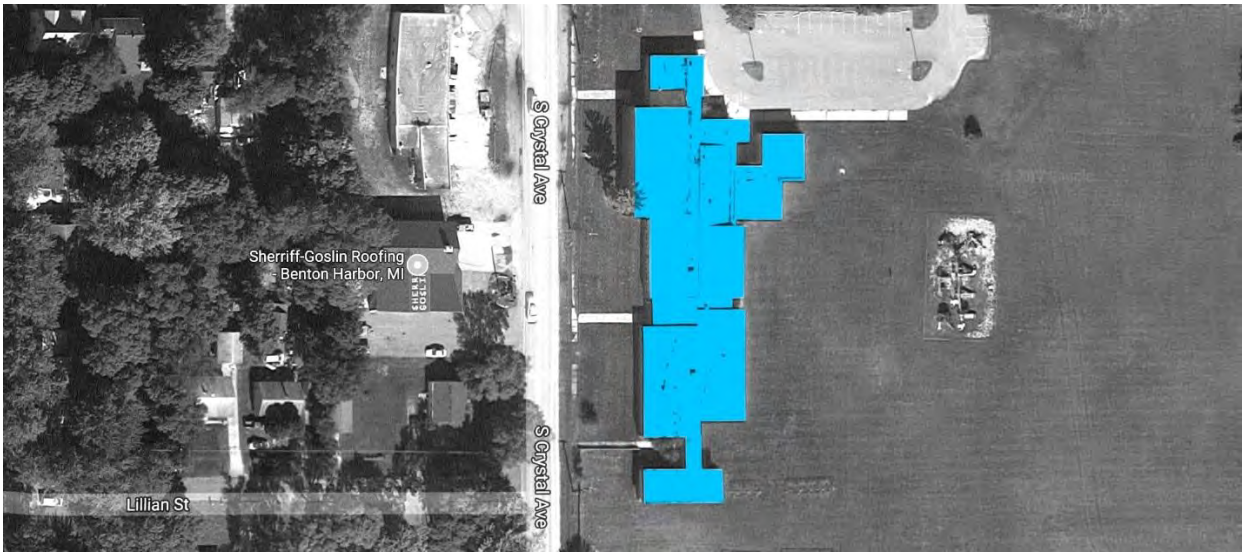





Roof System Assessment

- Approximately 24,000 SF of total roof area
- Dura-Last white TPO system
- 6,000 SF portion was replaced in 2007 in good condition
- Remaining membrane is in fair condition with existing skylights being covered over with methods unknown.

Roof Conditions & Anticipated Service Life Plan



2017 Facility Assessment

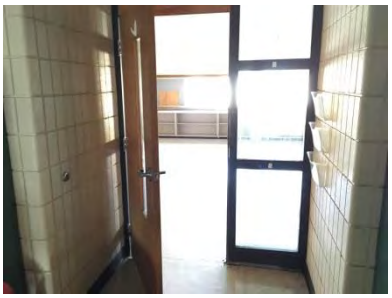
ADA Accessibility Assessment

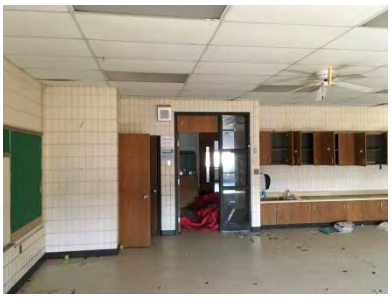
Exterior

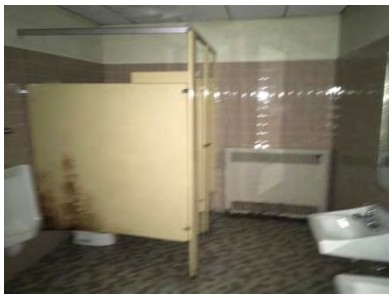
- Exterior parking and access into the building is compliant

Interior

- Toilet rooms do not meet barrier free requirements
- Door hardware is a combination of lever and knob
- Classroom doors have the required latch side clearance





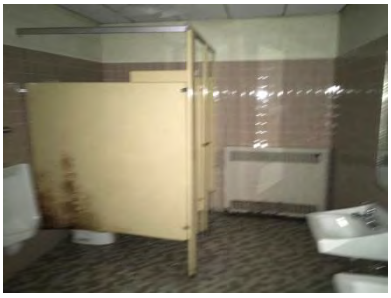
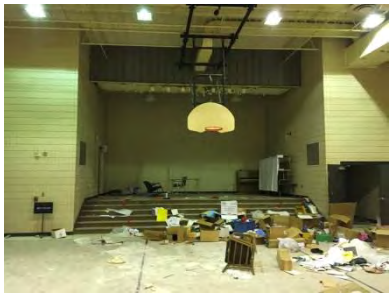


Interior Finishes Assessment

- Terrazzo throughout the corridors in good condition with some minor cracking
- Carpet, VCT and 9”x9” tile installed in classrooms and offices in poor condition
- Majority are 2’x4’ suspended acoustic system in fair to poor condition
- Painted masonry block in classrooms with glazed block in the corridors in good condition
- Combination of wood and plastic laminate in poor condition with some areas of surface mold present
- Wood doors in wood frames are all in poor condition

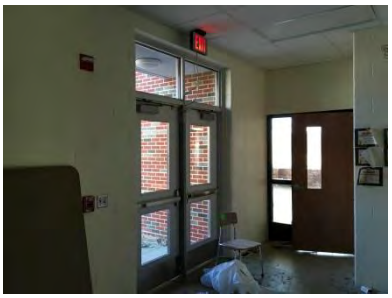




Life Safety Assessment

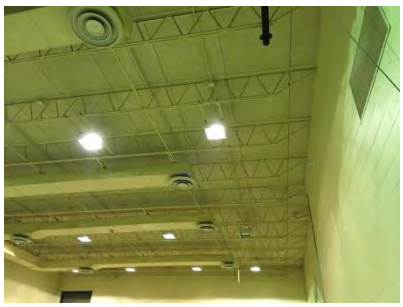
- Illuminated exit signage is installed throughout
- Exterior doors have panic hardware installed
- Fire alarm system is installed throughout



Mechanical & Plumbing Assessment

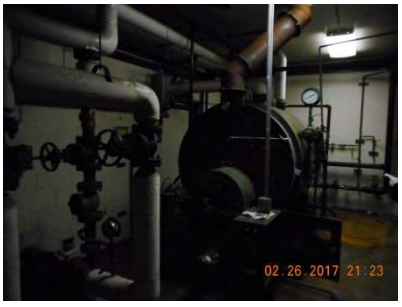
Building Systems

- Gym has a Heating and Vent unit with new smoke detectors. Unit is old, but externally appears in good condition.
- Misc. Fin Tube at perimeter walls
- Most classrooms have Trane horizontal unit ventilators (old) that have their front panels removed, and are beyond expected service life.
- Heating distribution piping routed thru tunnels, assumed to be original to building.
- Newer 2 classroom addition with Vertical Unit Ventilators in good condition.


Central Plant Systems

- (1) Johnston Heating Hot Water Boiler, 2024 lbs./hr. capacity (not steam) installed 1987. Boiler is at the end of its expected usable life and assuming boiler is still operational should be considered for replacement in 1-5 years.
- Exposed piping, insulation, boiler and pumps appear to be in satisfactory condition.
- Boiler control panel open and may be damaged.

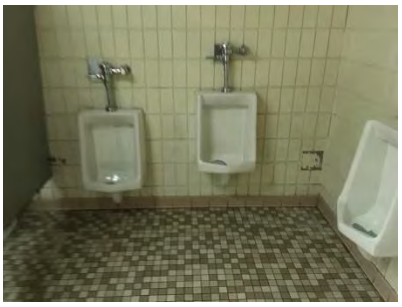


Building Controls

- Remnants of old JCI pneumatic control panels and old JCI DDC panels. New control system is needed.

Plumbing Fixtures

- Bathroom fixtures in general appear to be average condition. Some flush valves are missing.



Plumbing Piping and Systems

- Plumbing piping is routed thru tunnels and assumed to be original to building.

Electrical Systems Assessment

Due to the materials stripped from this building, electrically this building would require all new lighting per the Michigan Energy code. For life safety the fire alarm, clock/p.a. system would have to be updated with hardware and software. Building security and a secure entry would be recommended for installation. There is existing technology wiring in the building but all new head-end equipment and devices would be required to create an educational facility.

Chemical Bank

Building History Plan

21,000 SF

- Date of original construction is unknown

Civil & Site Assessment

Pavements

- Asphalt and exterior concrete is in very poor condition

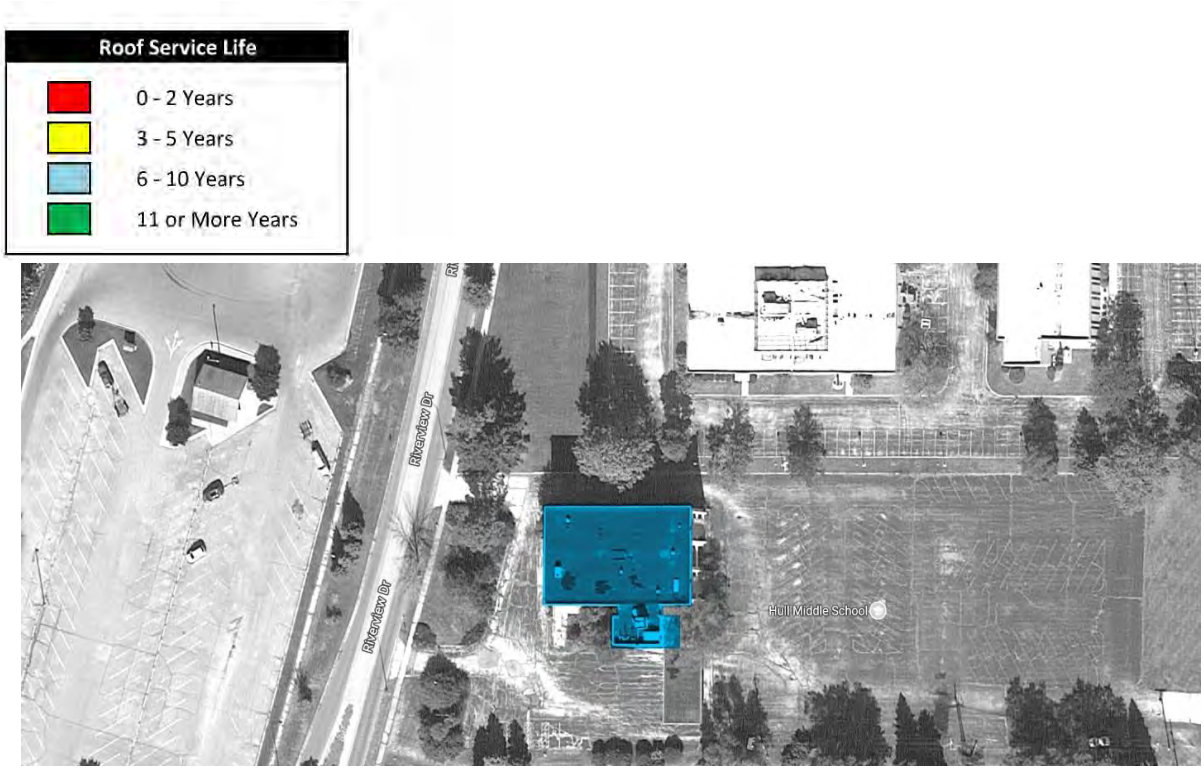
Building Envelope Assessment

- Walls are poured concrete with exposed aggregate panels
- There is extensive water damage to the inside of the exterior walls possibly due to the concrete cornice
- Aluminum storefront system in good condition

Roof System Assessment

- Approximately 8,200 SF of total roof area
- Black EPDM is in fair condition

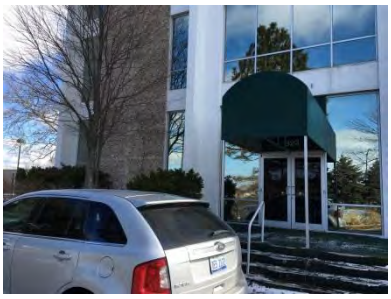
Roof Conditions & Anticipated Service Life Plan



ADA Accessibility Assessment

Exterior

- Does not meet barrier free requirements
- Not all entrances/exits are barrier free

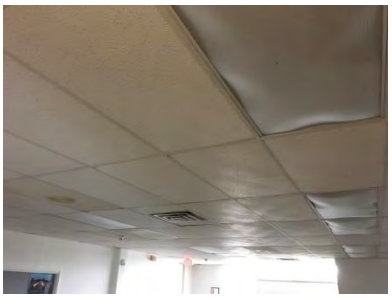


Interior

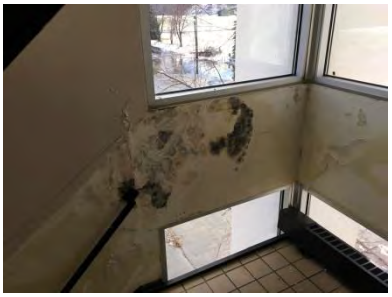
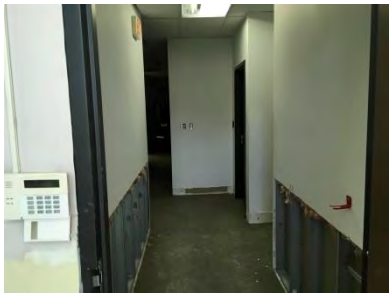
- Partially meets barrier free requirements
    - Equipped with an elevator
    - Toilet room stalls do not meet barrier free requirements

Interior Finishes Assessment

- Interior finishes are in very poor condition with extensive water damage throughout






Life Safety Assessment

- Fire alarm system throughout
- Illuminated exit signs are placed and operable throughout

Mechanical & Plumbing Assessment

Building Systems

- Perimeter fin tube in average condition.
- (1) Trane RTU appears old and due for replacement.
- (1) Trane RTU mounted on grade, installed in 2002 and near end of service life.
- Several Trane furnace units appear to be in average condition, mechanical room is used as return air plenum for units


Central Plant Systems

- (1) Lochinvar heating hot water boiler, 750 MBH capacity, installed in 1991. Boiler is near end of service life.
- Systecon packaged chilled water skid with heat exchanger and pumps. Appears to be in average condition, piping is uninsulated.
- (1) Roof mounted BAC cooling tower appears old and near end of service life.

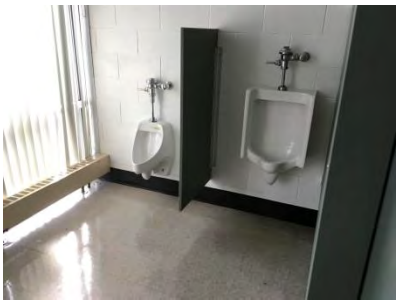


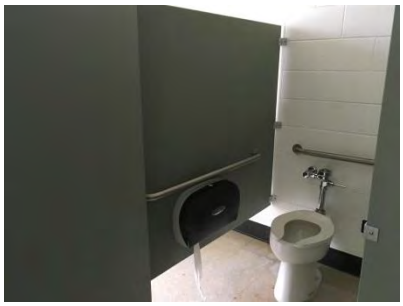

Building Controls

- 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.

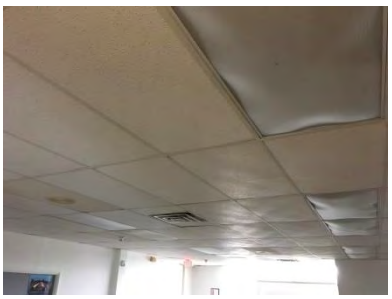


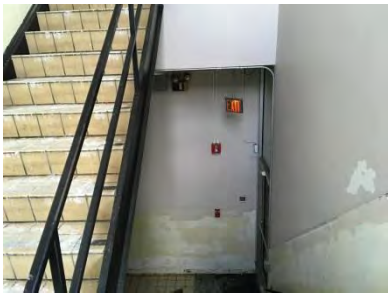


Electrical Systems Assessment

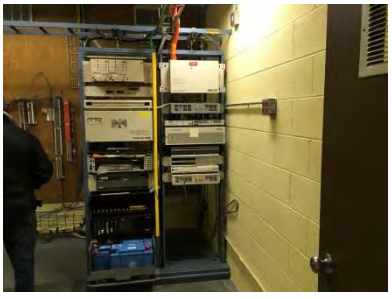
Building Lighting is in poor condition.

- The existing lighting fixtures are damaged fluorescent fixtures which need to be replaced with new lighting. The update to LED would result in significant monetary savings and energy conservation.
- Occupancy sensors in spaces would be recommended for energy and monetary savings.
- The exterior building lighting is metal halide. Changing these fixtures to LED would bring energy and large monetary savings.



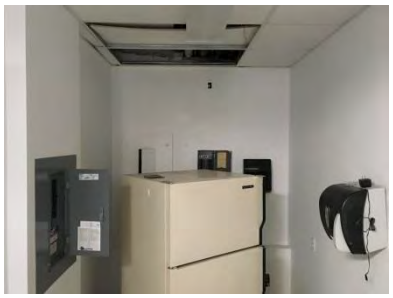
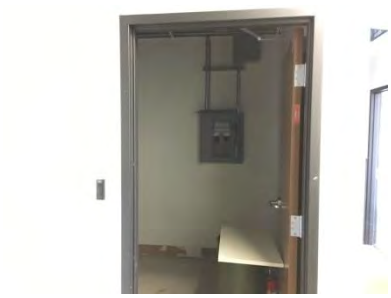
Building technology is in poor condition. There are existing wiring closets and equipment and raceways. Building would require all new technology wiring and devices to make it an educational facility.



Electrical Building System is fair

- The existing primary main distribution panel is older and at the end of its life and hard to find replacement parts.
- Existing electrical secondary Cutler Hammer and Square D panels are newer and in good condition.
- There is a generator set up and transfer switch on site.
- Electrical duplex receptacles in building need to be brought up to code. Damaged receptacles are throughout the building and need to be replaced. Junction boxes need to be covered.

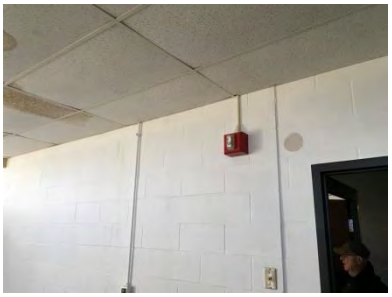


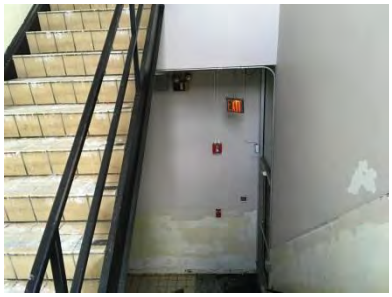




Security System is present but needs to be replaced with installation of new doors, door contacts, motion detectors and readers.

Fire alarm system needs to be replaced.

- Existing fire alarm is old and at end of life.





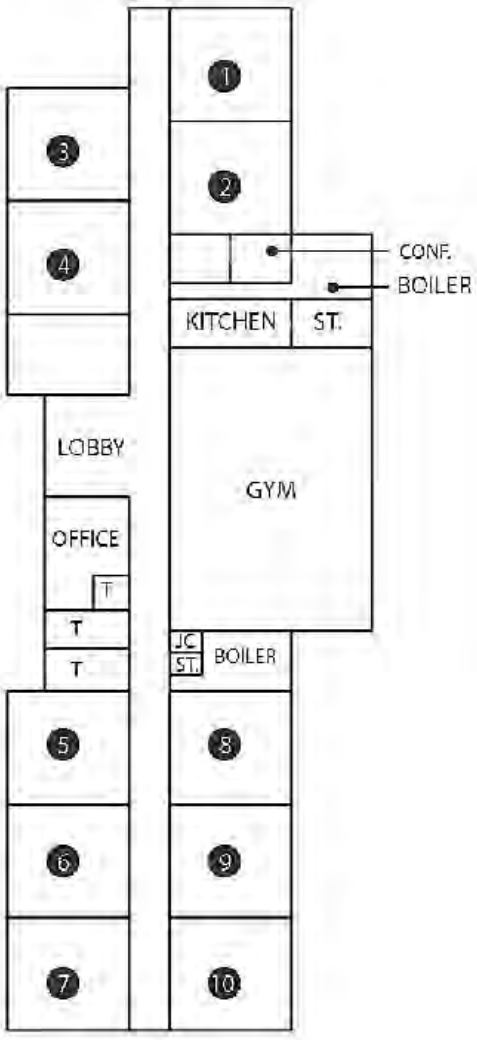
2017 Facility Assessment

Fair Plain Northeast

Building History Plan

14,300 SF

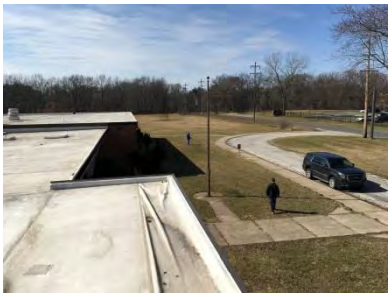
- Constructed in 1959-1960



Civil & Site Assessment

Pavements

- Asphalt and exterior concrete is in very poor condition
- The site is long and narrow with an area for parking expansion if needed.



Building Envelope Assessment

- Exterior walls are masonry with brick veneer in good condition
- Classroom exterior walls are steel stud framed with EIFS below and above the aluminum awning style windows. The back of the building has been vandalized with extensive damage to the EIFS and window systems.
- The exterior unit vent louvers have been removed allowing water to enter into the wall cavity.
- Soffit and fascia are painted plywood that are in fair condition

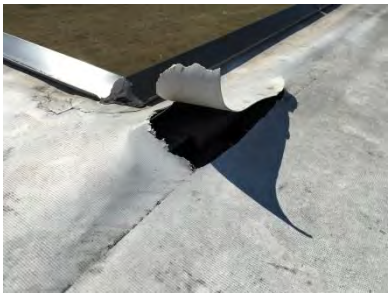







Roof System Assessment

- Approximately 20,000 SF of total roof area
- White TPO in poor condition with a few areas in need of immediate repair



Roof Conditions & Anticipated Service Life Plan

ADA Accessibility Assessment

Exterior

- Entrance from the parking area to the building does not meet barrier free requirements

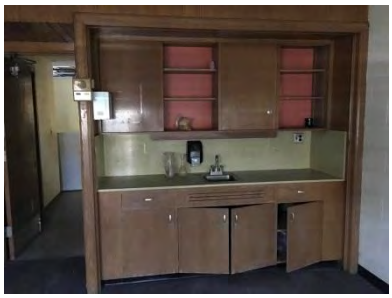
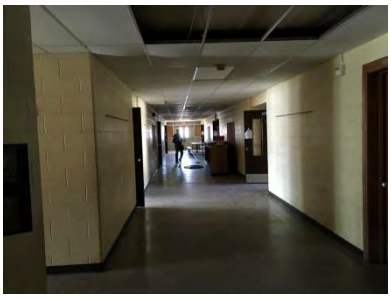
Interior

- Toilet rooms do not meet barrier free requirements
- Door hardware does not meet barrier free requirements

Interior Finishes Assessment

- Flooring
  - Terrazzo tile throughout the corridors in good condition
  - Ceramic tile in toilet rooms in fair condition
  - VCT and carpet in classrooms and offices in poor condition
- Ceilings
  - 2'x4' suspended acoustic system in poor to fair condition
  - Gym has 12"x12" adhered tile in fair condition
- Walls
  - Interior walls are mostly painted masonry block in good condition
- Casework
  - Wood casework and paneling in fair condition
  - Classrooms have chalk boards in fair condition
- Doors
  - Wood doors in wood frames in fair condition



Life Safety Assessment

- Clear paths of egress
- Illuminated exit signs appear to be adequate
- Exiting corridor doors have panic hardware installed
- Many interior doors missing hardware
- Fire alarm system in place

Food Service Assessment

- Very small kitchen with residential casework

Mechanical & Plumbing Assessment

Building Systems

- Classrooms have horizontal unit ventilators that appear to be original, very old and poor condition. They are well beyond expected service life.
- Gym has fin tube up high along the windows
- (3) Existing rooftop exhaust fans, all need to be replaced.



Central Plant Systems

- Boiler room has piping disconnected and missing.
- (1) Johnstone heating hot water boiler, 4,000 MBH capacity installed in 1971 and needs to be replaced.
- Heating distribution piping routed thru tunnels, assumed to be original to building.
- Piping and insulation is in average condition, many valves rusty.



Building Controls

- JCI pneumatic control system that needs to be replaced/upgraded.

Plumbing Fixtures

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

Plumbing Piping and Systems

- Plumbing piping is routed thru tunnels and assumed to be original to building.

Electrical Systems Assessment

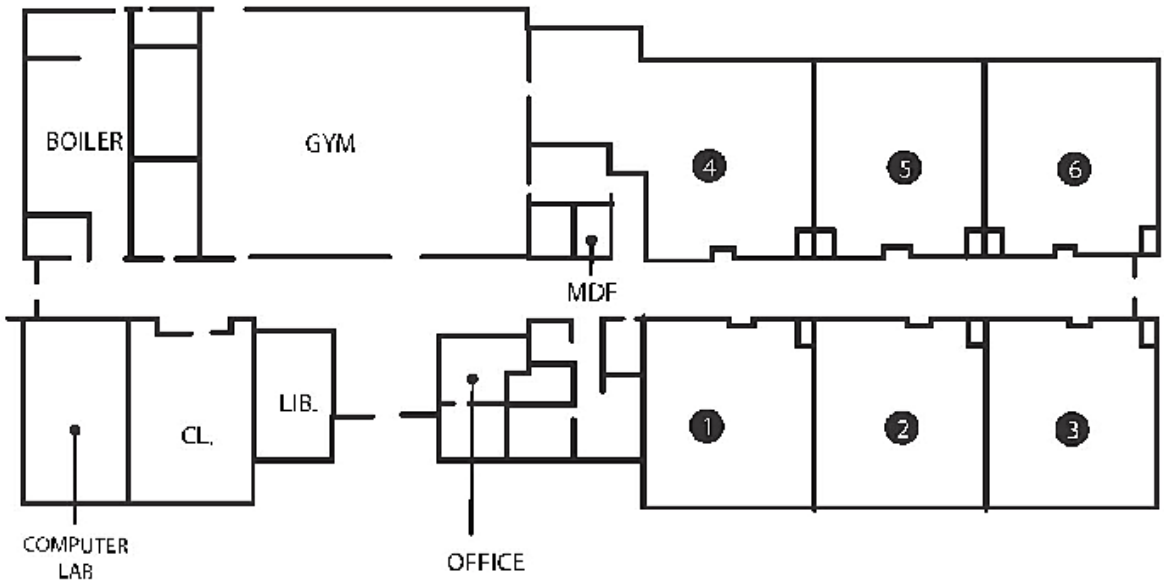
Due to the some materials stripped from the building and environmental deterioration, electrically this building would require all new lighting per the Michigan Energy code. For life safety the fire alarm, clock/p.a. system would have to be updated with hardware and software. Building security and a secure entry would be recommended for installation. The building will require new technology wiring, head-end equipment and to create an educational facilities.

Fair Plain Northwest

Building History Plan

16,210 SF

- Constructed in 1959-1960



2017 Facility Assessment

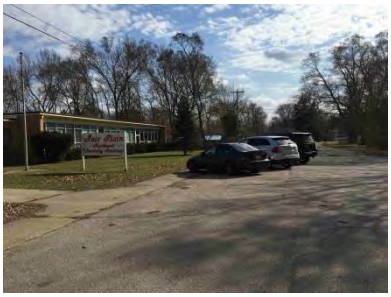
Civil & Site Assessment

Entrance Signage

- Unlit painted wooden sign

Pavements

- Asphalt and exterior concrete is in poor condition



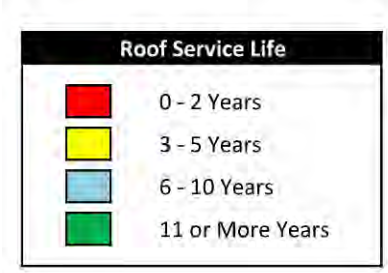
Building Envelope Assessment

- Masonry block with brick veneer in good condition
- Aluminum framed double pane windows with composite panels in good condition
- FRP doors installed in aluminum frames in good condition
- Hollow metal doors and frames in fair condition

Roof System Assessment

- Approximately 15,000 SF of total roof area
- Duro-Last white TPO system
- Approximately 2,200 SF of roof at the office area is in poor condition
- Remaining portions of the roof are in fair condition
- No roof overflow drains or edge scuppers were observed

Roof Conditions & Anticipated Service Life Plan



2017 Facility Assessment

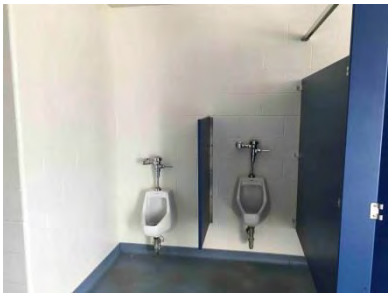
ADA Accessibility Assessment

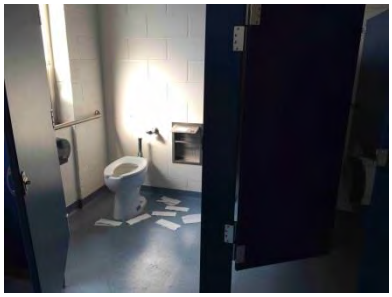
Exterior

- Building is barrier free accessible from the parking lot

Interior

- Toilet rooms are barrier free accessible
- Clear egress paths
- Panic hardware at all corridor exiting doors

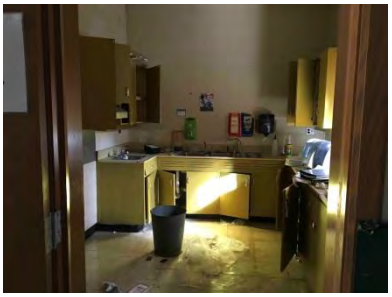


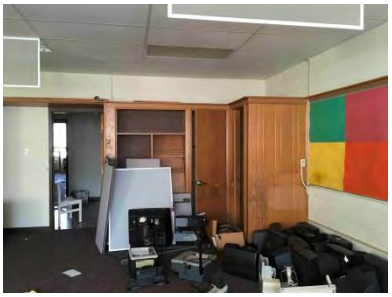
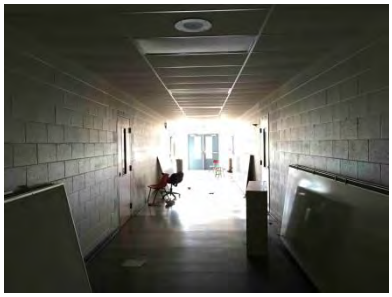


Interior Finishes Assessment

- Flooring
  - Terrazzo in corridors is in good condition
  - VCT and carpet in classrooms and office areas that are in poor condition
- Ceilings
  - 2'x4' suspended acoustic ceiling systems are in fair condition
  - 12"x12" adhered acoustic tile installed in the gym in poor condition

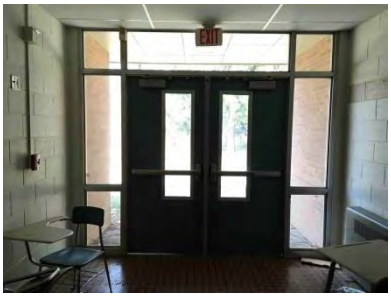
- Painted masonry block walls in good condition
- Original wood casework and paneling is outdated and in fair condition
- Wood doors installed in wood frames in fair condition

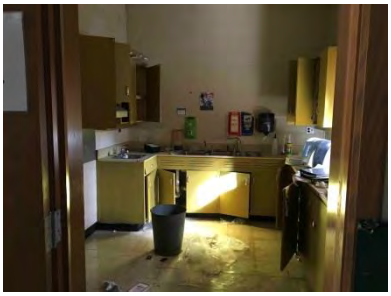
Life Safety Assessment

- Fire alarm system installed
- Exit signs are installed at corridor exits
- Panic hardware is installed at corridor exiting doors



Food Service Assessment

- Extremely small kitchen with just a few outdated cabinets



Mechanical & Plumbing Assessment

Building Systems

- Original horizontal unit ventilators in poor condition and well beyond expected service life. Units need to be replaced.
- Trane RTU installed in 2006 for office area, 2.5 Tons. Unit is near end of expected service life.
- Fin tube high along gym wall windows
- (4) Rooftop exhaust fans from 2006 and older.



Central Plant Systems

- (1) Johnston heating hot water boiler, 4000 MBH, installed in 1971. Boiler is in average condition but beyond expected service life.
- Heating hot water piping is routed thru tunnels to terminal devices. Piping to tunnels is welded steel, not insulated. It is assumed piping in tunnels is original to the building.

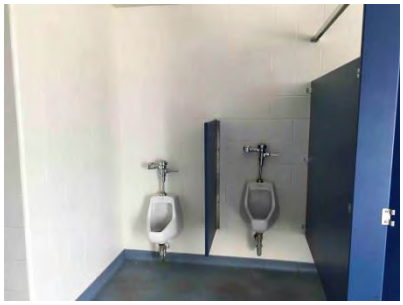

Building Controls

- JCI pneumatic control system that needs to be replaced/upgraded.

Plumbing Fixtures

- Some bathroom fixtures removed and missing.
- Some fixtures newer and in good condition.
- Some flush valves removed and missing.





Plumbing Piping and Systems

- Plumbing piping is routed thru tunnels and assumed to be original to building.

Electrical Systems Assessment

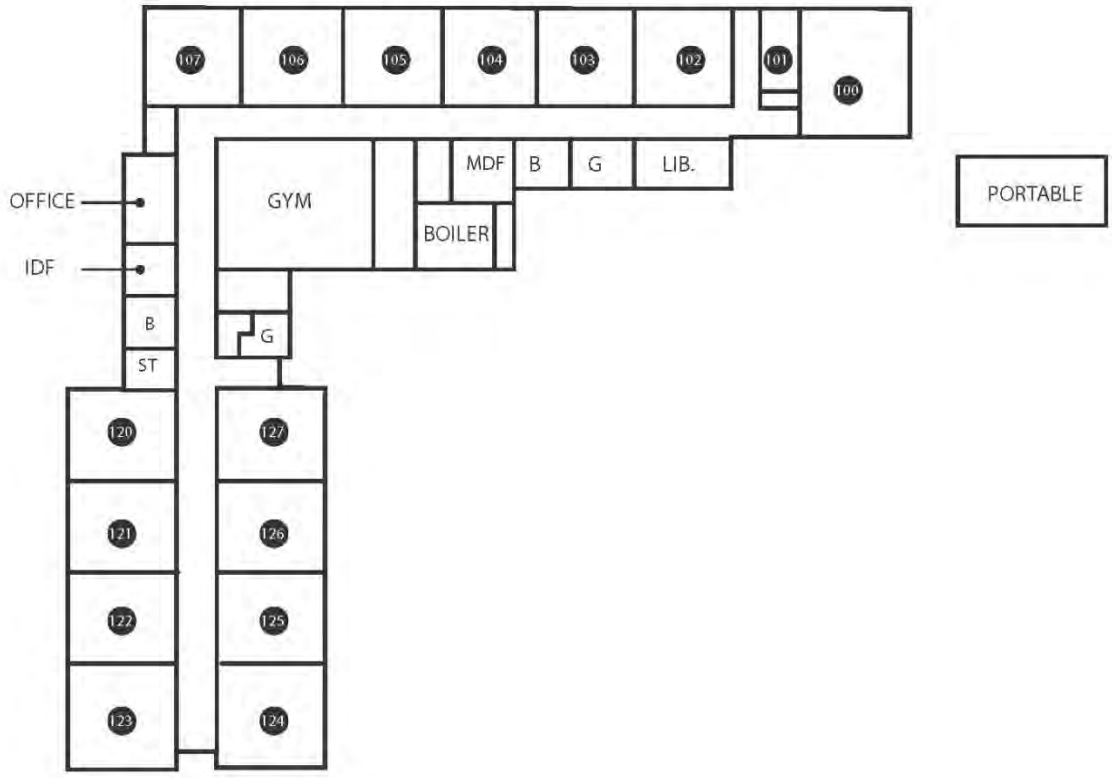
The lighting in the building is in poor condition in some locations and adequate in others. Due to the materials stripped from this building and existing incandescent, electrically this building would require all new lighting per the Michigan Energy code. For life safety the fire alarm, clock/p.a. system would have to be updated with hardware and software. Building security and a secure entry would be recommended for installation. There is existing technology wiring in the building but all new head-end equipment and devices would be required to create an educational facility.

Fair Plain West

Building History Plan

27,000 SF

- Constructed in 1953-1953



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 either side of the building

Building Envelope Assessment

- Masonry block exterior walls with brick veneer and sand stone at main entry. Sandstone is in good condition
- The bushes and vines along the front of the building are quite overgrown
- Brick exterior with EIFS infill panels above windows.
- EIFS panels are in need of some repair and recoated due to heavy staining
- Sealants at control joints and the perimeter of the windows need to be replaced
- The top portion of the brick chimney stack is deteriorated and repairs are needed
- Many windows are covered with plywood due to broken glass
- Doors are aluminum in good condition

Roof System Assessment

- Approximate roof area of 27,500 SF
- Duro-Last white TPO membrane
- 2003 – 4,346 SF
- 2004 – 27,056 SF

Roof Conditions & Anticipated Service Life Plan

ADA Accessibility Assessment

Exterior

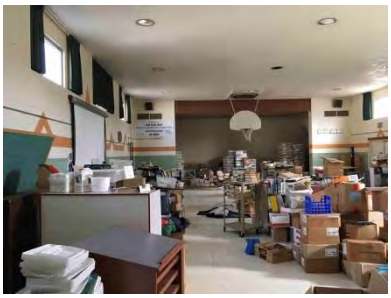
- Building is not BF accessible from the parking lot.

Interior

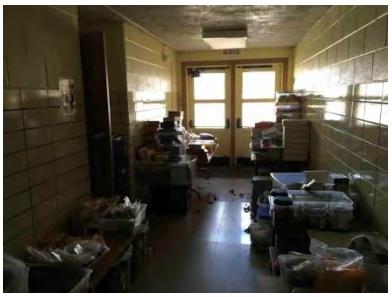
- Toilet rooms are not barrier free compliant as the fixtures are small and low due to the original design for a younger population

Interior Finishes Assessment

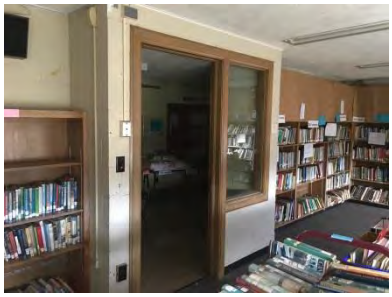
- Terrazzo floors in corridors and toilet rooms in good condition
- Carpet is in poor condition
- VCT in gym and some classrooms in good condition
- Combination of 2'x4' suspended acoustic ceiling systems, and plaster. Suspended system is in fair condition. Plastered ceilings have some damage and is water stained in areas.
- Glazed block walls in corridors, gym, kitchen and some of the classrooms in original building section is in fair condition
- Wood casework and wood paneling in the original portion of the building are in fair condition
- Wood doors in wood frames in fair condition



2017 Facility Assessment





Life Safety Assessment

- Fire alarm system throughout
- Additional Illuminated exit signs should be installed
- Panic hardware is installed at the corridor exiting doors

2017 Facility Assessment

Mechanical & Plumbing Assessment

Building Systems

- Old horizontal unit ventilators that appear original to building are in poor condition and should be replaced.
- Gymnasium has old vertical heat/vent unit that is due to be replaced.


Central Plant Systems

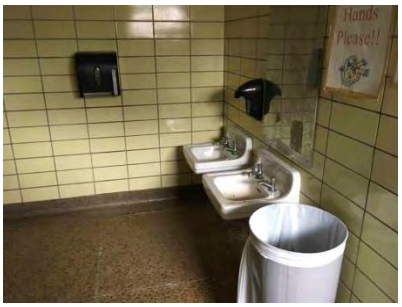
- (1) Johnston steam boiler, 2,024 lbs/hr capacity, installed in 1986. Boiler is near end of service life.
- Steam distribution piping routed thru tunnels, assumed to be original to building.


Building Controls

- JCI pneumatic control system that needs to be replaced and/or upgraded.

Plumbing Fixtures

- Most fixtures appear to be in poor condition and in need of some repair.



Plumbing Piping and Systems

- Plumbing piping is routed thru tunnels and assumed to be original to building.

Electrical Systems Assessment

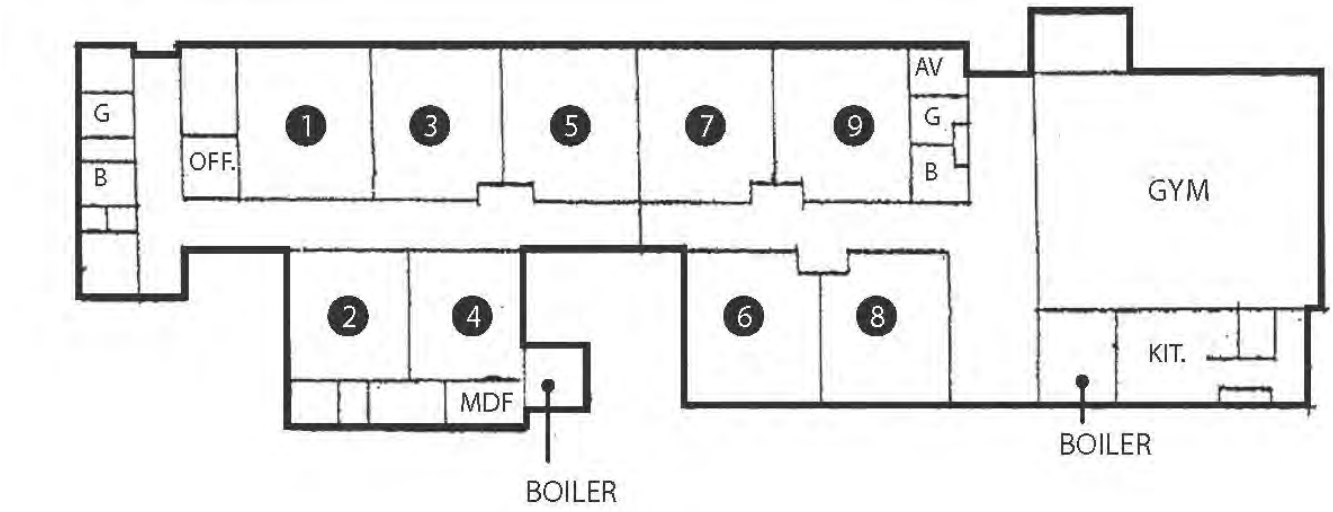
The lighting and electrical power appears to be adequate in this building. For life safety the fire alarm, clock/p.a. system would have to be updated with hardware and software but because of the removal of end devices the clock/PA needs to be replaced. There are cameras for building security but a secure entry would be recommended for installation. There is existing technology wiring in the building but all new head-end equipment and devices would be required to create an educational facility.

Martindale

Building History Plan

18,141 SF

- Date of construction is unknown



Civil & Site Assessment

Pavements

- Asphalt and exterior concrete is in extremely poor condition

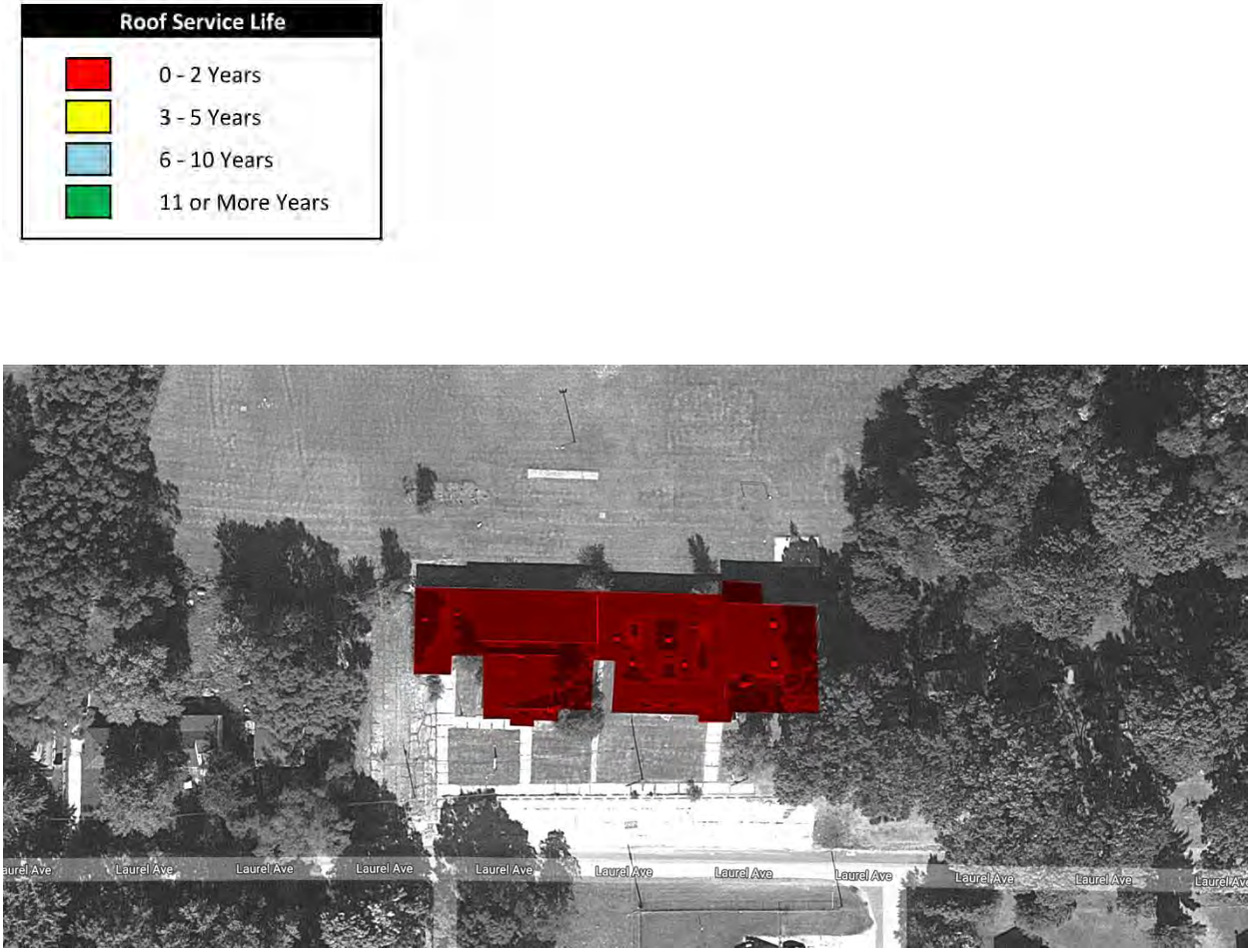
General Items

- We were unable to enter this facility; therefore we could not accurately assess the interior conditions.
- We were informed that it is scheduled to be demolished in the near future

Building Envelope Assessment

Roof Conditions & Anticipated Service Life Plan

Approximately 17,300 SF of black EPDM in poor condition

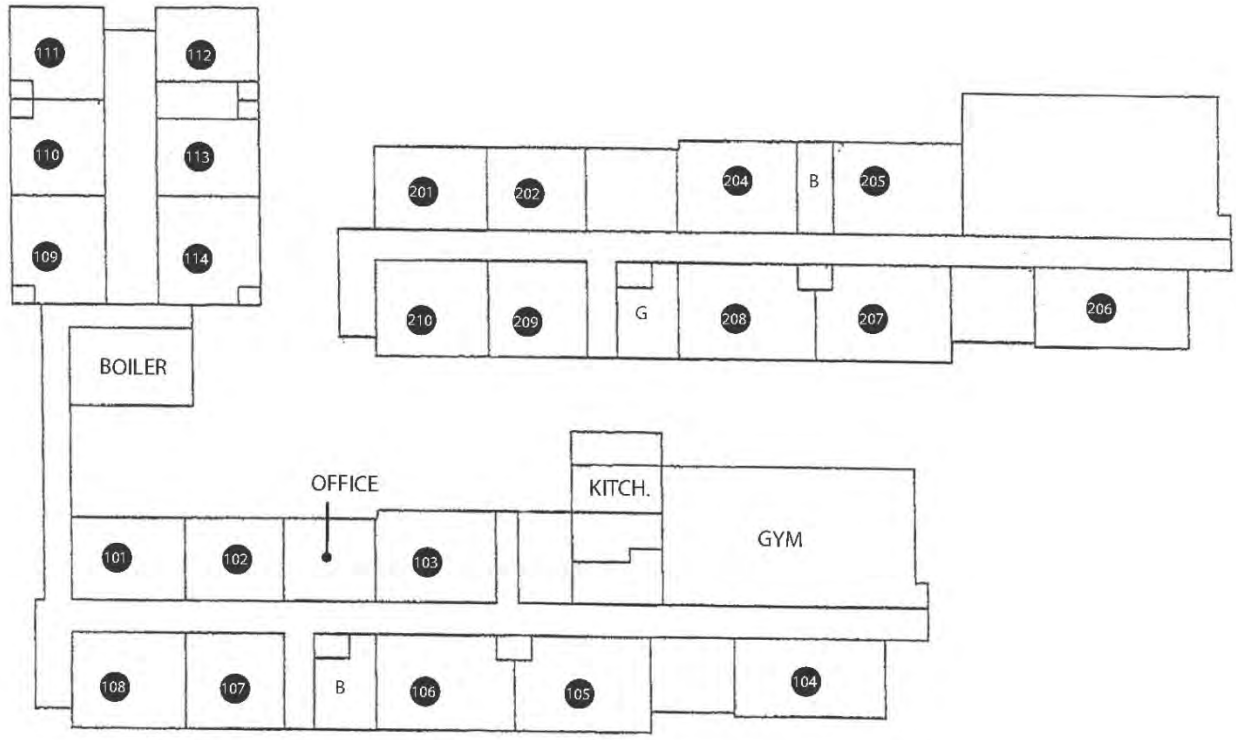


Morton

Building History Plan

35,000 SF

- Date of construction is unknown



Civil & Site Assessment

Entrance Signage

- Signage is located on the building

Pavements

- Asphalt and exterior concrete is in poor condition

Building Envelope Assessment

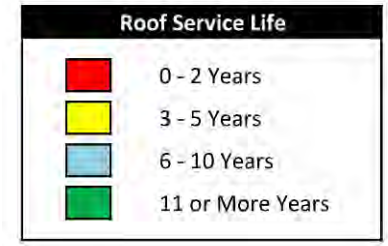
- Exterior masonry block walls with brick veneer in good condition
- Kalwall window system with one row of vision glass at each floor level in good condition
- FRP main entry doors in aluminum frames in good condition
- Several areas on the inside of the exterior walls has visible water damage

2017 Facility Assessment

Roof System Assessment

- Approximately 23,000 SF
- Duro-Last white TPO membrane
- Approximately 8,000 SF installed in 2008

Roof Conditions & Anticipated Service Life Plan



ADA Accessibility Assessment

Exterior

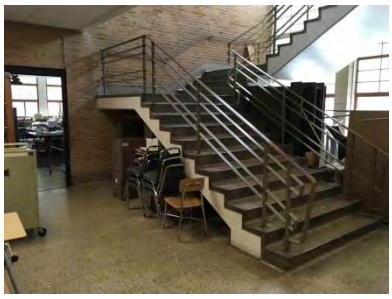
- Main entry has stair access only
- Other entries have accessible ramps in place

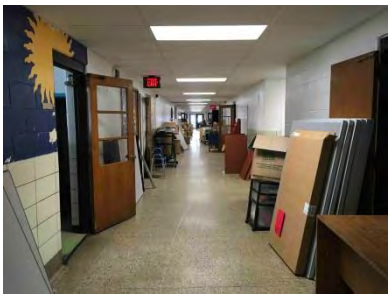
Interior

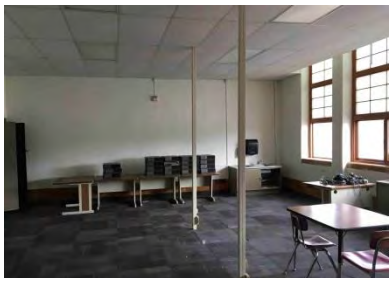
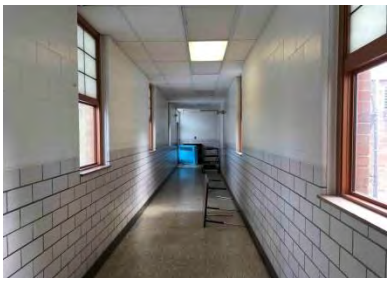
- This is not a barrier free accessible building as the second floor is accessible only by stair
- Knob hardware throughout
- Doors do not have latch side clearance
- Toilet rooms are not barrier free accessible

Interior Finishes Assessment

- Flooring
  - Terrazzo flooring is in good condition within the corridors, toilet rooms and a majority of the classrooms
  - The north addition has terrazzo in the corridors and VCT and carpet in the classrooms
- Ceilings
  - 2'x4' suspended acoustic ceiling systems in poor condition that is installed below the original plaster ceilings
  - 12"x12" adhered tile in poor condition
- Walls
  - Glazed block throughout the corridors and classrooms
  - Exposed brick at the main entry and in the stairwells
- Casework
  - Wood casework and shelving in fair condition
- Doors
  - Interior doors are mainly wood installed in wood frames in fair to good condition

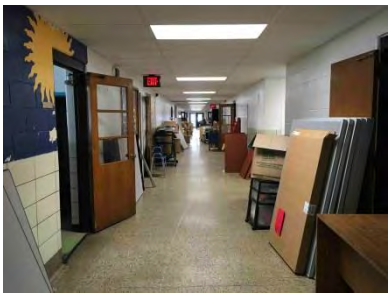
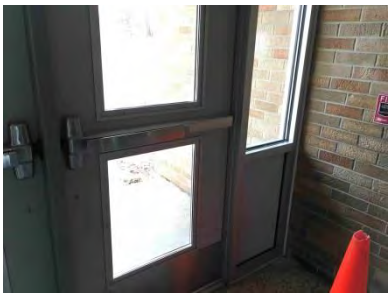





Life Safety Assessment

- Illuminated exit signage was noted
- Panic hardware installed at corridor exiting doors
- Fire alarm doesn't appear to be a full system

Mechanical & Plumbing Assessment

Building Systems

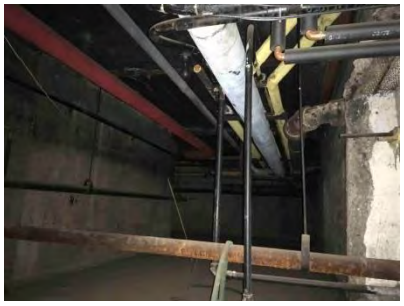
- Original horizontal unit ventilators are well beyond expected service life. Need to be replaced.
- Heating and ventilation units serve gymnasium are old and beyond expected service life.
- Steam radiators in stairwells and bathrooms



Central Plant Systems

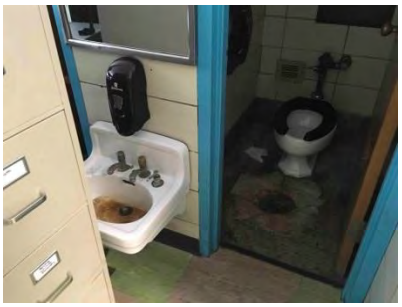
- Old basement boiler room appears to be abandoned.
- Current boiler room contains (1) Johnston steam boiler, that has front casing removed. Boiler tubes are visible and exposed. Boiler appears to serve a steam heating system with piping routed thru tunnels.
- Boiler has certificate of inspection from October 2016.
- Steam distribution piping routed thru tunnels, assumed to be original to building.

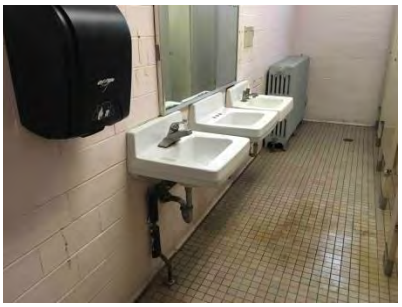
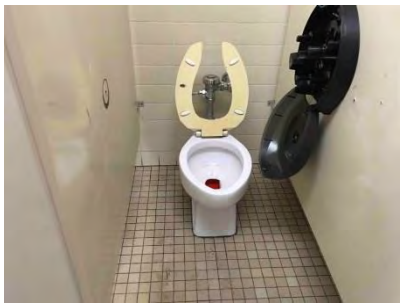





Plumbing Fixtures

- Bathroom fixtures old, in poor condition and need to be replaced.
- Some fixtures removed and missing.



Plumbing Piping and Systems

- Plumbing piping is routed thru tunnels and assumed to be original to building.


Electrical Systems Assessment

The lighting and electrical power is adequate in this building. For life safety the fire alarm, clock/p.a. system would have to be updated with hardware and software but because of the removal of end devices the clock/PA needs to be replaced. There are cameras for building security but a secure entry would be recommended for installation. There is existing technology wiring in the building but all new head-end equipment and devices would be required to create an educational facility.

North Shore Elementary

Building History Plan

11,500 SF

- Constructed in 1948

Civil & Site Assessment

Pavements

- Asphalt and exterior concrete in very poor condition

General Items

- Building has been unoccupied for many years and is in extremely poor condition
- We were unable to enter the building; Therefore we could not accurately assess the interior conditions

Exterior

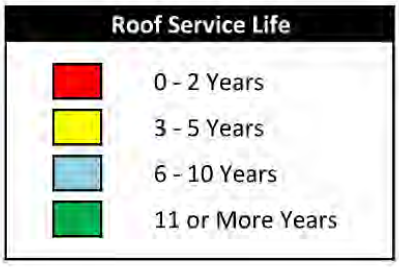
- Masonry block with brick veneer in very poor condition
- Aluminum single pane awning windows with EIFS panels above in poor condition
- Aluminum exterior doors and hollow metal doors all in poor condition

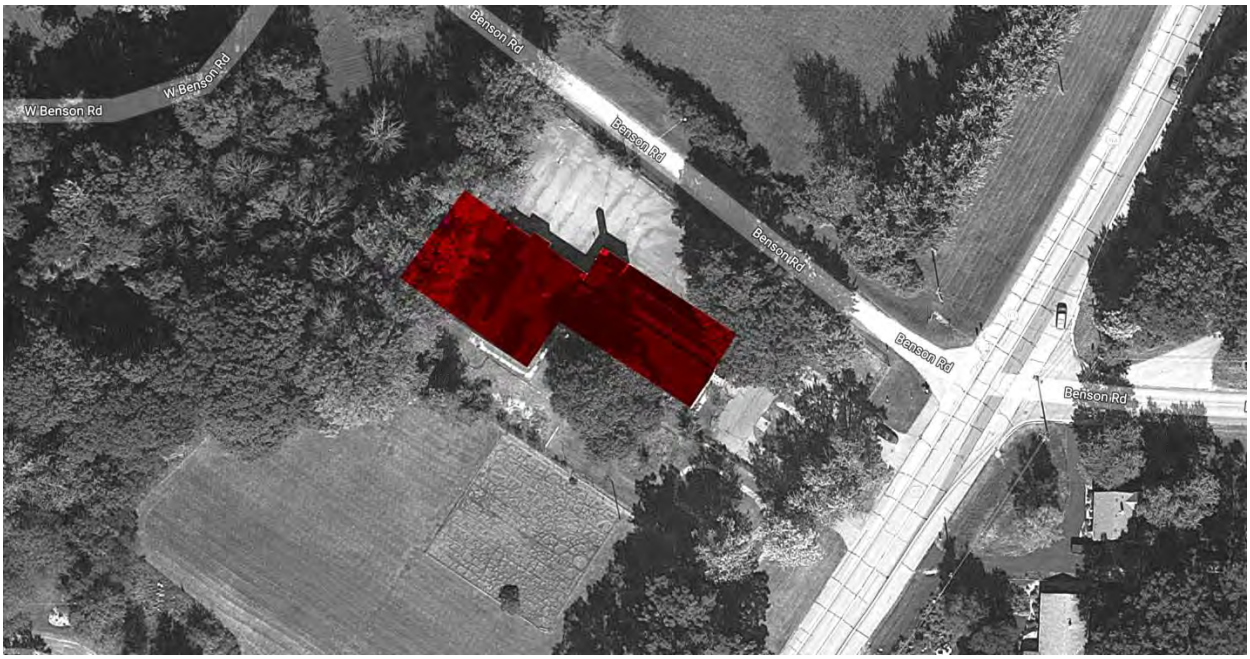
2017 Facility Assessment

Roof System Assessment

- Approximately 12,000 SF
- Membrane type and condition unknown as the structure appeared to be unsafe

Roof Conditions & Anticipated Service Life Plan



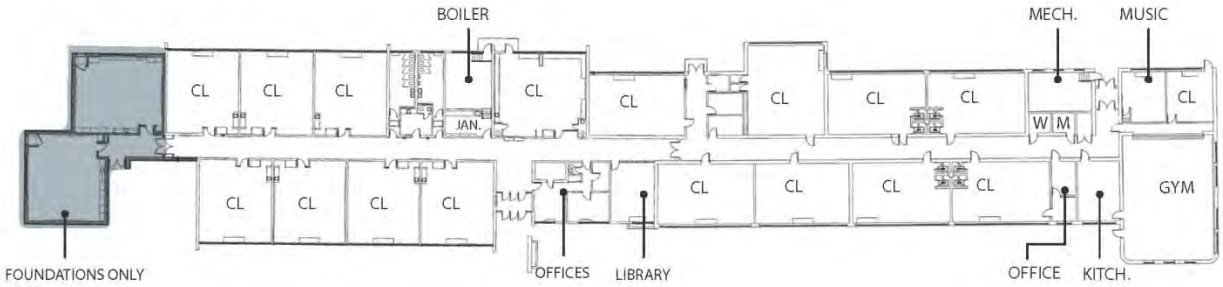


Sorter

Building History Plan

24,466 SF

- Constructed in 1952
  - East addition – 1961
  - West addition foundations within the past few years



Civil & Site Assessment

Pavements

- Asphalt and exterior concrete is in poor condition

Building Envelope Assessment

- Masonry block with brick veneer is in fair to good condition
- Aluminum framed double pane awning windows in fair condition with several broken sections
- Glass block infill above operable windows at the back of the building that have many broken due to vandalism
- FRP main entry doors in good condition while the remaining exterior doors are hollow metal in poor condition





Roof System Assessment

- Approximately 25,000 SF total roof area
- Dura-Last white TPO membrane installed in 2007

Roof Conditions & Anticipated Service Life Plan

ADA Accessibility Assessment

Exterior

- The path from the parking lot to the building is not barrier free compliant

Interior

- Toilets are not barrier free compliant
- Door hardware is knob and is not barrier free compliant

Interior Finishes Assessment

Flooring

- Terrazzo throughout corridors and toilet rooms in good condition with minor cracks present
- VCT and carpet in the office area and classrooms in very poor condition

Ceilings

- 12”x12” adhered ceilings in classrooms in poor condition
- Suspended acoustic ceiling systems are in poor condition

Walls

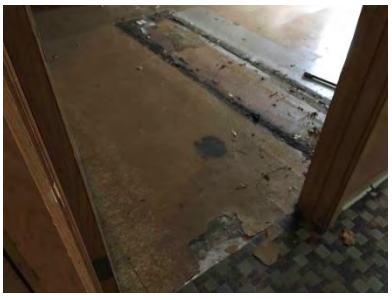
- Glazed block walls in corridors and toilet rooms in good condition
- Classrooms have painted masonry walls or glazed block in good condition

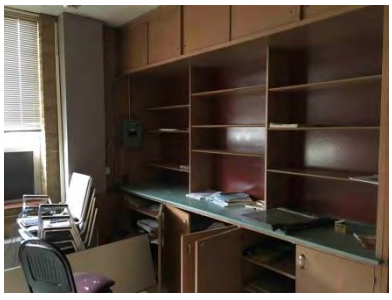
Casework

- Wood casework with wood panels sections in poor condition
- Several classrooms have the old green chalkboards in fair condition and other rooms have marker boards in poor condition

Doors

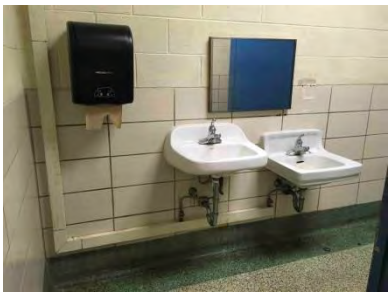
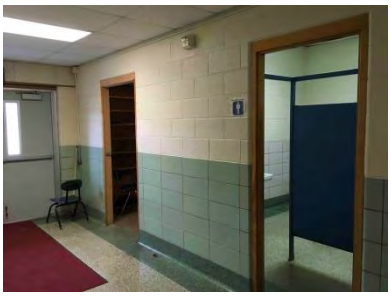
- Painted wood interior doors in wood frames in poor condition

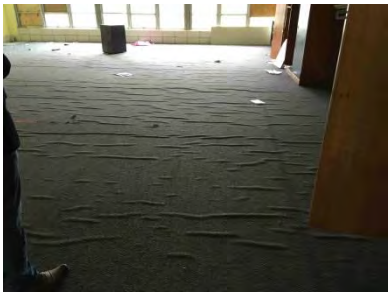






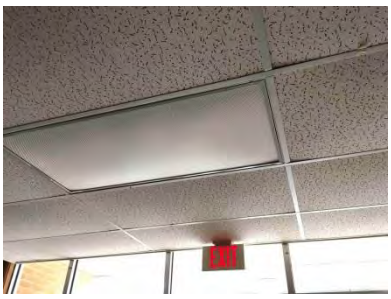





Life Safety Assessment

- Building has a fire alarm system throughout
- Illuminated exit signs are installed throughout



Mechanical & Plumbing Assessment

Building Systems

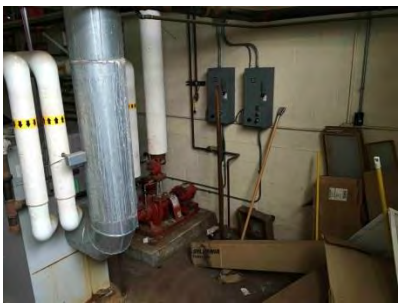
- Old horizontal unit ventilators, not original. Most front panels removed, some missing. Units need to be replaced.
- Large cabinet unit heaters serve the Gym.



Central Plant Systems

- Original boiler room appears to be abandoned and heating piping in tunnels no longer used.
- Current boiler room includes (3) Lochinvar Powerfin heating hot water boilers, 750 MBH input, installed 1994.
- Appears that (1) boiler was removed, there is room and piping for (4) boilers.
- All heating hot water piping and insulation is new (1994?) and routed overhead thru classrooms with pipe drops down to horizontal unit ventilators and new valves.
- Piping and insulation in boiler room is in good condition, many valves are newer.



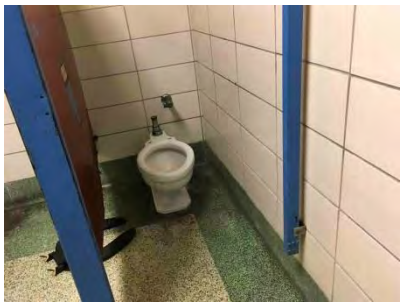



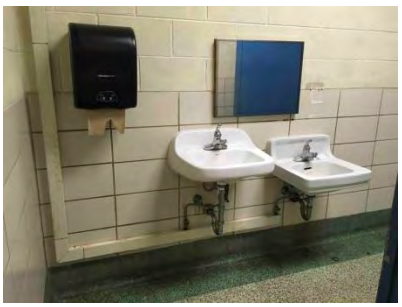

Building Controls

- Trane DDC controls panel in room due to be upgraded.

Plumbing Fixtures

- Bathroom fixtures are old and need to be replaced. Some have been removed and are missing. Some flush valves removed/missing.



Plumbing Piping and Systems

- Hot water piping is newer and has been rerouted overhead. It appears that only cold water piping is routed thru tunnels.

Electrical Systems Assessment

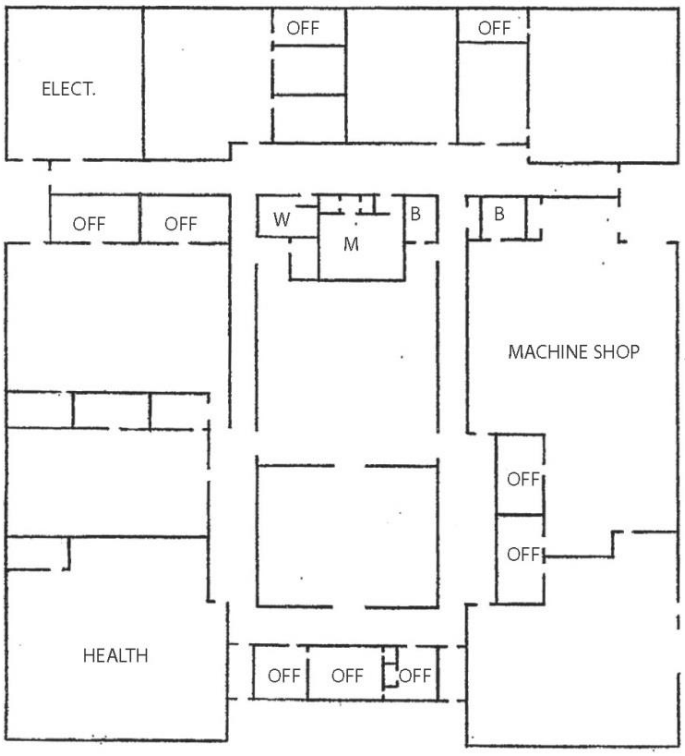
Due to the materials stripped from this building, electrically this building would require all new lighting per the Michigan Energy code. Electrically part of the electrical panels would need to be replaced for reasons of end of life and hard to find replacement breakers. This building electrically would be required to be brought up to the National Electrical Code. For life safety the fire alarm, clock/p.a. system would have to be updated with hardware and software. There is an existing building security that could be salvaged and upgraded and a secure entry would be recommended for installation. There is existing technology wiring in the building but all new head-end equipment and devices would be required to create an educational facility.

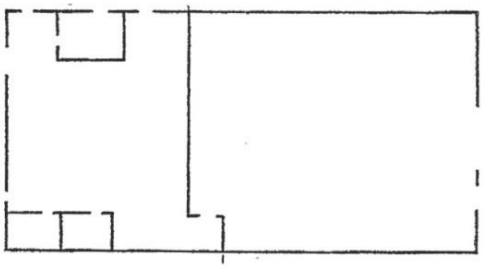
Tech Center

Building History Plan

20,300 SF

- Date of construction is unknown





Building Envelope Assessment

- Only the building shell remains and is in extremely poor condition
- Building is approximately 20,300 SF
- No further assessment was conducted

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Site Assessment Executive Summary

Prepared for

Benton Harbor Area Schools
636 Pipestone Rd
Benton Harbor, MI 49022

March 28, 2017

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Introduction

This Executive Summary ("Summary") is being presented to Benton Harbor Area Schools (BHAS) to assist in ensuring that BHAS continues to provide a safe and secure educational environment for the students, families, and staff they serve. This Summary follows a comprehensive examination of BHAS policies, procedures and current physical operations as they relate to safety, security and emergency preparedness. This Summary represents the opinions of the security consultants of Secure Education Consultants, LLC ("SEC") and is intended for the sole use of BHAS. It is recommended that the findings detailed within be used as a basis for further examination and discussion among key stakeholders at BHAS and be used for possible remediation and mitigation strategies, policies, and procedures.

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Methodology

On March 14 through March 16th, 2017 SEC Founder and CEO Jason Russell conducted an in-depth assessment of the buildings, grounds, and processes that make up the operations of all currently operational locations of the BHAS (collectively, the "Assessment"). SEC was assisted in this assessment by BHAS Immanuel Williams. The Assessment included examination of all BHAS school locations and the immediate area surrounding the schools. The Assessment looked at not only the physical components of BHAS, but also examined its current policies, procedures and common practices to determine BHAS ability to respond and successfully navigate any level of emergency or critical incident. The findings of this report represent both aggregate findings, those that were found at all locations, as well as unique findings that were not observed at all locations. The report will designate if the finding represents the entire district, or if the finding is unique to one or more location. SEC will characterize the threat level of the findings as High, Medium, or Low. This will designate the likely impact the failure to address this issue could have on general safety and security of the district or school. The designation does not address the likelihood of a particular threat.

It should be noted that the findings in this document represent the opinions of Secure Education Consultants and are intended for the sole us of the BHAS and this report should not be disseminated or shared beyond key stakeholders within the BHAS.

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District Findings

SEC's review of the district as a whole includes both operational findings as well as policy and procedure findings that were consistent throughout the entire BHAS District

Risk Level High	
1	BHAS has outdated camera systems at each school with the exception of Dream Academy. SEC found that at many of the schools the cameras were not functioning properly and when they are functioning they do not provide significant detail to make them useful for identification. SEC found many cameras were broken and had not been prepared. In addition, at several of the schools the camera servers were not recording as designed and the time on the server was incorrect. There are several blind spots that are not currently covered by the camera systems. These include the need for additional exterior cameras at the high school and ACA near the portable classrooms. There are also significant blind spot areas within each school that should be addressed with a new camera system. SEC recommends that BHAS consider new camera systems at each school. SEC further recommends that BHAS consider analytic cameras and a system similar to what is currently installed at Dream. This would allow the entire district to be on the same system and would allow security at each location to access cameras at other schools. The additional benefit of analytic cameras is they would allow BHAS to consider eliminating its interior motion detector monitoring as the analytic cameras can serve that purpose allowing BHAS to realize a cost saving for interior intrusion monitoring.
2	BHAS has security at most schools with the exception of Discover Enrichment Academy. This security currently is handled by EduStaff at some locations and VSS Security at others. SEC recommends that all security be handled by VSS Security. SEC further recommends that BHAS enter into a memorandum of understanding with VSS regarding what expectations and limitations are at each location and with the district as a whole. SEC further recommends that VSS response in emergency situations be inserted into the Districts emergency plan. The current emergency plan makes no mention of VSS or any security response element at all. SEC recommends that BHAS consider a surge plan that would allow for additional security to be available from VSS if needed for an event, protest, or when a particular school location needs additional security staff

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District Findings (cont.)

Risk Level High (cont.)	
3	SEC found that except for the High School the status of classroom doors at each school was completely inconsistent. SEC found that while the locking mechanism were similar at each location the way doors were maintained during school hours was inconsistent. SEC found that teachers should have the keys to their rooms and if the door is unlocked would need to go to the hallway side of the door and lock the door from the outside during a lockdown. During high stress situations utilizing a key and lock would prove difficult due to loss of fine motor skills. Further SEC found several teachers indicated they did not have the keys to their rooms at all thus preventing them from ever being able to lock down. SEC found that substitute teachers are never given the keys to their rooms. SEC recommends that give the manner in which the doors lock they should be kept locked at all times and the doors either open or closed. This would allow teachers to quickly pull the door closed and the classroom would be on lockdown. SEC further recommends that substitute teachers be provided with keys to their room or instructed to keep their doors locked and open during the day, if they needed to go on lockdown they could simply close the door. SEC recognizes that a locked and closed door can create a disruption to the learning when students must knock on the door to get back into the classroom. For this reason, SEC believes that a locked and open door is a suitable solution.
Risk Level Medium	
4	SEC found that each school uses a different system for monitoring visitors. None of the visitor management systems was within best practice. Several of the schools use visitor tags that are hung out in the open and are easily accessible to anyone. Other schools use visitor stickers that are filled out by the visitor. SEC recommends that BHAS standardize its visitor management into one system used consistently at each school. SEC has two recommendations for visitor management depending on budget. The first recommendation is a credential exchange in which the visitor provides some type of identification in exchange for a visitor credential. BHAS should ensure if it controls dissemination of the visitor tag and consider numbering the visitor tags and note the number signed out by each visitor. If budget permits BHAS should consider an automated visitor management system, such as Raptor or School Gate Guardian.

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District Findings (cont.)

Risk Level Medium (cont.)	
5	SEC found that security at each school were equipped differently with both radios and additional equipment. SEC recommends that all security personnel are on the same radio technology that would allow for security to be moved from one school to another if necessary. In addition, SEC strongly recommends that security use earpieces for their radios. SEC observed several security staff struggling to hear the radio traffic because they were wearing radios on their belt. SEC recommends BHAS upgrade its radio technology in the district.
6	SEC observed that there were not basic emergency protocols available in each classroom. SEC questioned several staff regarding some of the basic protocols and found that most did not have any idea how to respond to most situations beyond a fire drill. SEC recommends that BHAS consider placing simple basic protocol flip charts or guides in each classroom. SEC recommends that these basic protocols include only Lockout, Lockdown, Evacuate, and Shelter in Place. In addition, the current fire evacuations are text based without diagrams at all. This could prove difficult for a staff member or visitor who is not familiar with the building or area as the language used is often specific to the building and area. SEC recommends that BHAS consider placing floor plans in each room with both a primary and backup evacuation route as well as identification of appropriate shelter locations for each room.
7	SEC found that none of the schools had the current ability to communicate with any outside playground or recreation areas. During severe emergencies, it will be necessary to quickly and effectively communicate with outside areas. SEC recommends BHAS consider installation of outside PA speakers particularly at the schools that have outside recess and student areas.
8	SEC found the PA system at each school was inconsistent and could only be accessed from the office. Each school had blind spots in their PA speakers where audio could not be heard. SEC recommends that BHAS consider improving its phone system to a system that includes an all call or PA function. It is imperative that staff in multiple areas of the facility be able to alert in serious or potentially violent situations. SEC spoke with several teachers who indicated they have difficulties contacting security or the office when they have a disturbance in their classroom

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District Findings (cont.)

Risk Level Low	
9	SEC observed that none of the schools have the main exterior doors marked with letters or number to allow for easy identification for both law enforcement and witnesses. Best practice involves placing letters or number that area easily visible at each major entry door on each location. SEC recommends utilizing the system preferred by the local responding Police and Fire Entities. SEC further recommends that whatever letter or number is utilized on the outside of the door be mirrored on the inside so staff or students can easily relay information related to location to emergency responders
10	SEC found several schools had missing fire extinguishers and found other fire extinguisher holders that had handles missing making preventing from them from being accessed if needed. SEC recommends BHAS conduct a complete audit of both its fire extinguishers and its pull stations.
11	SEC was not able to determine what the relocation site for each school would be. SEC was unable to find emergency plans at any of the schools and staff was unaware where they would evacuate to in the event of an evacuation. SEC recommends that BHAS determine a primary and backup relocation for each school. These relocation areas as well as where students will be loaded onto buses should be included in the basic protocol flip charts available to staff in each classroom
12	SEC found inconsistent emergency supplies at the schools. SEC found that none of the locations were equipped with any advanced medical supplies such as tourniquets. SEC recommends that BHAS build consistent emergency medical supplies at each school and ensure they are readily accessible to both security and trained staff. SEC recommend that age appropriate tourniquets be added to any supplies. Swift and appropriate use of a tourniquet can prevent death associated with extreme bleeding.
13	BHAS does not currently have any means for students to anonymously report potentially dangerous or threatening situations. Students are often apprehensive to report peers directly to staff or security for fear of being identified. There are several anonymous reporting applications available to schools in Michigan including OK2Say www.michigan.gov/ok2say/ which is free to Michigan Schools.

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Benton Harbor High School

Risk Level High	
1	SEC recommends considering a redesign of the current entry used for visitors. SEC recommends building out the area near the office for an entry that would feed visitors directly into the office. This would allow the office to control the entry into the school once the school day has begun and allow the staff member currently monitoring the entrance to be utilized for other purposes. SEC observed the current entry and found it does not have any entry control at all. The school remains completely unlocked and visitors have easy access. A staff member monitors this entry but SEC observed the entry was left unattended several times during the assessment.
Risk Level Medium	
2	SEC found that most of the security personnel at the High School had no training in CPR or First Aid. SEC recommends that all security staff be trained in basic CPR, First Aid and the use of an AED
3	Most of the exterior doors at the main entrance are in disrepair and need replaced. Several of the doors do not lock properly without use of a padlock. SEC recommends the exterior entry doors be replaced at the current main entrance.
4	SEC learned that the media center volunteers have never been briefed on the emergency procedures and their expectations. SEC spoke with the volunteers who do not have keys to lockdown. SEC recommends that all volunteers are briefed on the basics of the emergency protocols and provide keys if needed for lockdown situations.
5	The current PA system for the High School does not extend to the Rec Center. SEC recommends when improvements are made to the phone or PA system the Rec Center be included to allow for communication back and forth between buildings.

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Benton Harbor High School (cont.)

Risk Level Low	
6	The High School has a non-functioning magnetometer at the front entry. SEC recommends that the High School either replace the magnetometer and ensure it is properly maintained or completely remove the device completely. The presence of the non-functioning magnetometer creates a liability for the district for the appearance of a security feature that does not function.
7	SEC found that during the morning only 1staff member monitors the main student entry. SEC recommends that at least 3 staff members monitor the entry to include security staff.
8	Benton Harbor High School does not currently ask for students' cell phone numbers. Given the fact that most High School Students have cellular phones it is a good practice to request students cell phone numbers for emergency purposes.
9	Benton Harbor High School does not currently have parking tags for students or staff vehicles. Parking or vehicle tags allow security to quickly identify vehicles that do not belong in the parking area. In addition, parking passes should be assigned specifically to a student or staff member for easy tracking.
10	SEC did not observe a Knox Box outside of the school that would allow emergency responders access to keys. SEC recommends that Benton Harbor High School request the Fire Department place a Knox Box outside the facility. SEC recommends that Benton Harbor High School place at least 2 maser keys in the box.
11	SEC learned that students continually take the fire extinguishers and use them for vandalism. In addition, several of the fire alarm pull stations get pulled when there is no fire emergency. SEC recommends Benton Harbor High School not only find more secure means to hold the fire extinguisher but ensure they have camera coverage on as many extinguishers and pull stations as possible.
12	Observation of the operations of the school revealed there are three locations at which remote entry controls should be considered. The entry door across from the student clinic, the entry to the school near the recreation center, and the entrance students use for the recreation center. SEC observed students coming back to the school from the Clinic waited or banged on the door and other students let them back into the school. SEC found the same conditions exist between the Rec Center and the School.

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Arts & Communication Academy

Risk Level Medium	
1	SEC found the current method of entry into the school requires a visitor buzz the front office and the office staff grant entry after observing the visitor via a camera. SEC suggests if renovations are made ACA add a storefront wall at the edge of the current office and add a door into the office in what would become a secure foyer area. This would allow staff to observe visitors in a secure area before granting entry to the school. Whether a new safety foyer is added or not SEC suggests adding a security feature to the entry glass to limit the likelihood of someone gaining entry by breaking the glass.
2	SEC found that security at ACA was busy with constant issues. SEC learned after speaking with teachers that in order to call security staff must call the office and the office contacts security. This process causes a delay and many times the office is too busy to answer the phone. SEC recommends that with any new phone system installation the staff should be provided a direct number to contact security when needed.
3	SEC found two of the portable classrooms were completely unlocked as well as the classrooms inside were unlocked. SEC recommends keeping the portable main doors locked always to prevent unauthorized entry. Considering there is no other entry controls for these building it is imperative to keep them locked whenever possible. ACA should also ensure the classroom doors within the portables remain locked as well.
Risk Level Low	
4	SEC found the door between the rear of the school and the portables was in regular use with staff and students passing back and forth between the buildings. SEC found that this necessitated a security guard remaining near the door constantly to control the entry. SEC also observed times when this security guard was needed in other areas and this area was left unoccupied. During those times students or other staff granted access via this door. SEC recommends considering a remote access device at this door so security staff or office staff can remotely unlock the door. If this option is pursued a camera is needed to monitor this door.
5	There are currently no cameras showing the area of the portable classrooms. SEC recommends if camera upgrades are made at ACA the area of the portables is covered by an exterior camera.

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Arts & Communication Academy (cont.)

Risk Level Low (cont.)	
6	SEC learned during staff interviews that the intrusion alarms in the portables are often not set at night leaving them vulnerable to break in. SEC recommends always using available intrusion detection alarms. The proposed new analytic cameras might reduce the need for intrusion detection alarms at the portables
7	SEC found the front office to be extremely congested during the assessment. This was due to all disciplinary issues being dealt with in the main office. The congestion reduced the ability for the staff member controlling the door to focus on that area. During the time of the assessment there were an average of 5-10 people in the main office to include students and staff. SEC suggests that disciplinary issues be handled either in the security office or someplace other than the main office as it creates unnecessary congestion and causes this area to be poorly monitored.
8	SEC found the rear door to the kitchen was propped open and there was not staff around to prevent unauthorized entrance. SEC recommends that BHAS have a policy that no exterior doors are to be propped open at any time
9	SEC found the doors to Portable C completely unsecured allowing access into both the portable and the classrooms inside. SEC recommends the portable doors remain secure as well as the classroom doors inside the portables at all times.

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MLK

Risk Level High	
1	SEC found the vast majority of classroom doors were unlocked and found a few teachers who did not have the keys to their doors. This would completely prevent these classrooms from being locked down which could cause a major issue when lockdown was necessary to protect students.
2	SEC found that the cafeteria/gym area of this school has two office area that were converted from locker rooms. SEC discovered that each of these offices have exterior doors that have no handles on the inside. Therefore, these doors could not be used for a fire or other evacuation route. SEC recommends immediately replacing the handles on these doors so they might be used as an evacuation route.
Risk Level Medium	
3	The IT department is housed at MLK and SEC found that the rear window had been broken out and several items stolen from the IT department. The window has not yet been replaced and currently the window is covered with a piece of plywood. SEC recommends additional motion sensors be placed in the IT area near the rear door. In addition, SEC recommends when the glass windows are replaced MLK should consider covering the window with a safety window film covering that would deter breakage.
4	SEC and Office staff were unable to locate the AED. The AED was eventually found buried under some other equipment. AED's are designed to be deployed within the first minutes of a cardiac event. They should be stored in a known location and should be ready for use at all times. SEC recommends storing the AED in a location and ensuring it is clearly marked for easy identification.
5	One of the fire pull stations was held onto the wall with tape. It was not clear if the pull station was functional. SEC recommends that BHAS conduct a complete audit of the fire pull stations and fire extinguishers. They should both be better secured and functioning at all times.
Risk Level Low	
6	There is currently a hard key needed to get back into the school from the playground. SEC recommends adding a key fob entry to the door from the playground to the school to allow for easy entry back into the school building during an emergency outside causing a reverse evacuation.

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MLK (cont.)

Risk Level Low (cont.)	
7	There is an alternate entry to this location that appears to be the main entrance. SEC found no signage directing visitors to the other door for entry. SEC observed staff members letting people in this entry rather than directing them to the main entry. SEC recommends adding significant an obvious signage at this alternative entrance directing visitors to the main entry. In addition, Staff should be directed to not open this door for anyone and to direct people to the main entry
8	SEC found the cameras feed for this location was housed in an office off the main office area. This room has a large front facing window and no window coverings were observed. SEC recommends if this is continued as the camera feed room some window coverings be added to this to prevent outsiders from seeing the camera equipment as it is a prime target for theft.
9	SEC found that more than half of the lights in the Cafeteria/Gymnasium were out. The room was not well lit and this could hamper evacuation or other emergency response protocols. This lighting could also cause an unnecessary liability for BHAS should an incident occur. SEC recommends MLK replace the broken lights in the Cafeteria/Gymnasium

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Discovery Enrichment Center

Risk Level High	
1	The entry to this school is controlled by a camera in the office that is designed to have both visual and audio capability. The exterior camera is behind the person ringing the buzzer so the office staff only has a rear view of the person requesting entry. The buzzer is on the wall behind the staff member and during the assessment appeared to have a short as it was not properly functioning. The current entry method allows for a visitor once they are in the building to have free and complete access. There is no security at this location so if a visitor decides not to come to the office the staff member has little recourse. If renovation was done this school could add a store front wall inside the current entry and cut a door into what is currently the Principal's Office. This would necessitate relocating the Principal's office into what is now the copy room. This would allow for a secure entry into the school. If renovation is not done the camera and entry buzzer should be updated to allow for the staff member controlling the entry to have a better visual and audio communication with the person at the entrance.
Risk Level High	
2	There is not adequate signage in the entry hallway directing visitors to the office. SEC recommends adding a larger sign inside the entry directing visitors to report directly to the office.
3	DEC does not have an AED. The staff indicated they have not been provided with an AED. Given that most of the other schools have an AED it is imperative to have a standard level of emergency medical equipment across the district. SEC recommends DEC obtain an AED and train staff on its use and location.
Risk Level Low	
4	SEC observed 2 external doors propped open one near the kitchen and one near the gym. All exterior doors should remain secure during school hours.
5	DEC is connected to a Head Start. While DEC cannot access the Head Start side anyone in the Head Start Side can access the DEC side without any entry controls. SEC recommends adding an access control to prevent Head Start visitors from being able to access the DEC side of the facility.

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Hull Elementary and International Academy

Risk Level High	
1	There was currently no entry security at this location. There was a security desk in the entrance that was not being monitored upon our initial arrival. If this school were renovated a storefront wall would need to be added as well as an additional door into the office. If renovation is not undertaken the security guard at the front desk or the office staff should control the door via a buzzer system. SEC preference would be the security control the door from the hallway as they have a better view of the person requesting entry.
Risk Level Low	
2	The intercom at this school had significant issues. Several speakers were out and the speakers in several rooms on the International Side did not function. SEC recommends repairing or replacing broken intercom speakers. If BHAS moves to a new phone system with intercom features this fix would not be necessary.
3	SEC found VSS security at this location and the radio used by the front desk security guard did not function at all. All security and select staff and administrators should have access to the radio system.
4	SEC learned that due to the high number of students running from the school to the nearby wooded area a fence was being added around the perimeter of the school to include the portables. SEC recommends that a security gate be added to this fence to ensure no unauthorized persons can gain access to the gated area. BHAS should also consider alternate gates to allow for vehicles to access the gated area if needed for an emergency or for maintenance issues.
5	The portable buildings were found to be completely unsecured. SEC recommends securing the front portable doors always and considering securing the interior portable classroom doors as well to prevent an unauthorized entry.

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Dream Academy

Risk Level Medium	
1	SEC observed the entry to this school was via buzzer but there was not camera or audio capability at the entry. If renovation was undertaken at this school a storefront wall would need to be added near where the current security desk sits. A door would need to be cut into the office and the current door to the office could be used to allow access to the school. If renovation is not undertaken the school should consider adding a camera with audio capability for the security and office staff to use to grant entry
2	Dream Academy currently has 2 security staff from Edu Staff. One security remains at the front desk thus allowing only 1 security staff to move around the school. SEC recommends the addition on at least 1 more security staff at this location given the age of the kids and the size of the facility 2 security is not sufficient.
3	Dream does not have an AED. Cardiac issues in High Schools are extremely common and it standard for High Schools to have AEDs onsite for response. SEC recommends Dream Academy obtain and AED and ensure they have staff trained on its use

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Emergency Plan Findings

1	The current emergency plan used by BHAS is generally sound and includes many best practices. The plan however was not observed at any location and the plan does not have detail information for relocation sites etc. BHAS should ensure each location get a complete plan custom to their site.
2	The plan has multiple versions of "Lockdown" this is confusing and is likely to cause significant confusion for administrators and staff. SEC recommends that for the basic protocols BHAS adopt the standard response protocols:
a	Lockout – Used when a threat is external and has not yet affected the school. The perimeter of the school is secured and all students remain inside.
b	Lockdown – Used when a threat is imminent or when the location of the threat is unknown.
c	Evacuate – Used when the facility is threatened or compromised or used after a serious incident.
d	Shelter in Place – Used for weather issues or possibly for chemical related issues.
3	The current plan calls for the Superintendent to decide if a school should be evacuated. This is likely to cause significant delay and possibly endanger students and staff. School administrators should be trained to understand when an evacuation is appropriate so they can decide if an evacuation is necessary at the school level.
4	The plan indicates that Lockdowns will be announced to staff via two way radios but most staff do not have two way radios. SEC suggests that Lockdowns be announced via both the PA system and supplemented by Airhorns unless a more permanent solution is installed

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Emergency Plan Findings (cont.)

5	The plan calls for the use of crisis kits and provides a list of supplies in the kits. SEC did not observe these kits at any location and staff were not aware these existed.
6	The plan directs staff to seal areas during a chemical incident but no shelter related supplies were observed at any school.
7	The plan indicates it will be available to all staff at each school. SEC did not observe the plan at any school. SEC does not suggest providing the entire plan to all staff but BHAS should develop a simple guide for classrooms that includes only basic protocols and evacuation as well as relocation site information.

2017 Facility Assessment

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Playground Location Maps

GMB

Discovery Enrichment Center

1

Discovery - Code Violations

Crescent Climber

ASTM F 1487, 9.2.1 Play Structure Use Zone
ASTM F 1487, 13.2.1 Maintenance - Play Surfacing

Recommendations: Provide and maintain safety surfacing to proper depth. Bee and Snail Spring Toys are less than 6'-0" away from climber. Equipment should be relocated to achieve proper use zones.

Spring Toys and Little Tikes Climber

ASTM F 1487, 9.2.1 Play Structure Use Zone
ASTM F 1487, 13.2.1 Maintenance - Play Surfacing

Recommendations: Provide and maintain safety surfacing to proper depth. Spring Toys and Climber don't have proper use zones. Equipment should be relocated to achieve proper use zones.

Pods and Wood Balance Beam

ASTM F 1487, 8.1.1 Balance Beams
ASTM F 1487, 9.2.1 Play Structure Use Zone
ASTM F 1487, 13.2.1 Maintenance - Play Surfacing

Recommendations: Provide and maintain safety surfacing to proper depth. Pods are less than 6'-0" away from play border. Border should be relocated to achieve proper use zone. Balance beams shall be no higher than 12" above protective surface for 2-5 years olds and no higher than 16" for 5-12 year olds. High end of existing balance beam is too high at 21".

Composite Play Structure

ASTM F 1487, 3.1.48 Trip Hazard
ASTM F 1487, 6.1 Head and Neck Entrapment
ASTM F 1487, 6.3 Protrusions
ASTM F 1487, 7.4.4.1 Inadequate Barriers
ASTM F 1487, 10.1.4 Accessibility (tripping, paved path within use zone)
ASTM F 1487, 13.1 Maintenance (broken equipment)
ASTM F 1487, 13.2.1 Maintenance - Play surfacing

General Findings: Insufficient safety surfacing. Head and Neck entrapment. Broken section of equipment. Missing barrier panel. Protruding border spikes. See additional information to follow. Existing paved path is within the transfer point use zone.

2

Discovery - Code Violations

GMB

Entrapment at red panel

ASTM F 1487, 6.1 Head and Neck Entrapment

Recommendations: Head and Neck entrapment occurs between bar of red panel on storefront and deck. Adjust panel height location to 9"+ from deck.

Broken equipment

ASTM F 1487, 13.1 Maintenance (broken equipment)

Recommendations: Remove and replace broken section of equipment.

Missing Panel

ASTM F 1487, 7.4.4.1 Inadequate Barriers

Recommendations: Missing panel. Temporarily infill to prevent falls until new panel can be purchased and installed.

Missing Panel causing protrusion

ASTM F 1487, 6.3 Protrusions

Recommendations: This will be eliminated when panel is reinstalled.

3

Discovery - Code Violations

GMB

Blue Climber

ASTM F 1487, 9.2.1 Play Structure Use Zone
ASTM F 1487, 13.2.1 Maintenance - Play surfacing

Recommendations: Provide and maintain safety surfacing to proper depth. Climber is located less than 6' from existing fencing.

Overhead Climber

ASTM F 1487, 13.2.1 Maintenance - Play surfacing

Recommendations: Provide and maintain safety surfacing to proper depth. Exposed footings must be covered once new safety surface is installed.

Car Spring Toy

ASTM F 1487, 9.2.1 Play Structure Use Zone
ASTM F 1487, 13.2.1 Maintenance - Play surfacing

Recommendations: Provide and maintain safety surfacing to proper depth. Exposed footings must be covered once new safety surface is installed. Spring Toy is located less than 6' from existing blue spring toy.

Place Spring Toy

ASTM F 1487, 9.2.1 Play Structure Use Zone
ASTM F 1487, 13.2.1 Maintenance - Play surfacing

Recommendations: Provide and maintain safety surfacing to proper depth. Exposed footings must be covered once new safety surface is installed. Spring Toy is located less than 6' from existing fencing and from red spring toy.

4

Overall Playground Conclusions

Providing children with safe, challenging, stimulating environments is a major goal of the Benton Harbor Area Schools. Improving the quality of play environment for children of all abilities is a step in the right direction

Based on the information of this report, Discovery Enrichment Center has a number of code violations. A few moderate and many minor violations should be corrected as soon as possible.

A plan to repair or replace potentially fatal playground equipment should be developed immediately by the owner in conjunction with a playground designer. Contact the installer or manufacturer where appropriate for warranty information and repair suggestions.

5


Benton Harbor Area Schools
International Academy at Hull
GMB
Playground Safety Report - 2017

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Playground Location Maps

GMB

International Academy at Hull

Hull - Code Violations

GMB

Composite Play Structure (LSI)

ASTM F 1487, 4.1.1 Rusted Metal , Chipped Paint
ASTM F 1487, 9.2.1 Use Zone (less than 6'-0")
ASTM F 1487, 10.1.4 Accessibility (tripping)
ASTM F 1487, 13.1 Maintenance (broken equipment)
ASTM F 1487, 13.2.1 Maintenance - Play Surfacing

General Findings: Insufficient safety surfacing. Provide and maintain safety surfacing to proper depth. Consider underdrainage to alleviate wet areas. Touch up paint all areas of chipped or worn paint. Adjust border near transfer point/stair and block climber to achieve 5'-0" use zone.

Broken panel component

ASTM F 1487, 13.1 Maintenance (broken equipment)

Recommendations: Monitor equipment for any sharp edges, replace when budget allows.

Surfacing, exposed footing

ASTM F 1487, 13.2.1 Maintenance - Play Surfacing

Recommendations: Inadequate surfacing on entire playground. Several areas of exposed concrete footing. Provide and maintain safety surfacing to proper depth.

Missing Pod Bridge, exposed foundation

ASTM F 1487, 10.1.4 Accessibility (tripping)
ASTM F 1487, 13.1 Maintenance (broken equipment)
ASTM F 1487, 13.2.1 Maintenance - Play Surfacing

Recommendations: Replace broken equipment.Provide and maintain safety surfacing to proper depth.

Hull - Code Violations


Warped bridge

ASTM F 1487, 13.1 Maintenance (warped equipment)

Recommendations: Monitor equipment for increased gaps to avoid tripping and crush/ shear, replace when budget allows.


Spiral Slide, gap at support post

AASTM F 1487, 13.1 Maintenance (wearing equipment)

Recommendations: Monitor equipment for chain wear, replace when budget allows.


Swing #1

ASTM F 1487, 12.1 Structural Integrity

Recommendations: Consult manufacturer on missing collar pins and replace as needed.

ASTM F 1487 7.1 Accessible Routes to play
ASTM F 1487, 13.1 Maintenance (broken equipment)

Recommendations: Difficult access to deck and equipment since pad/disc bridge is missing.

Overall Playground Conclusions

Providing children with safe, challenging, stimulating environments is a major goal of the Benton Harbor Schools. Improving the quality of play environment for children of all abilities is a step in the right direction

Based on the information of this report, International Academy at Hull has a number of code violations. A few moderate and many minor violations should be corrected as soon as possible.

A plan to repair or replace potentially fatal playground equipment should be developed immediately by the owner in conjunction with a playground designer. Contact the installer or manufacturer where appropriate for warranty information and repair suggestions.

2017 Facility Assessment

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Playground Location Maps

STEAM Academy at MLK

MLK - Code Violations

GMB

Composite Play Structure (LSI)

ASTM F 1487, 4.1.1 Rusted Metal , Chipped Paint
ASTM F 1487, 6.3 Protrusions
ASTM F 1487, 10.1.4 Accessibility (tripping, exposed rock/concrete)
ASTM F 1487, 13.1 Maintenance (broken equipment)
ASTM F 1487, 13.2.1 Maintenance - Play Surfacing

General Findings: Insufficient safety surfacing. Provide and maintain safety surfacing to proper depth. Touch up paint all areas of chipped or worn paint. Replace all rusted hardware that appears to serve a structural purpose or may cause injury due to rough or sharp edges. Replace all missing hand hold panels or missing barriers. Adjust safety surface depth at slide discharge points to bring the height from discharge to appropriate heights. Cut off any protruding bolts to less than 2 threads. Replace damaged equipment.

Chimney Climber

ASTM F 1487, 13.1 Maintenance (broken equipment)

Recommendations: Install temporary barrier to prohibit access until climber can be replaced.

Summit Climber

ASTM F 1487, 13.1 Maintenance (broken equipment)

Recommendations: Remove debris from hole to prevent bees and other nuisances until climber can be replaced.

Exposed concrete, Inadequate Surfacing

ASTM F 1487, 13.2.1 Maintenance - Play Surfacing

Recommendations: Provide and maintain safety surfacing to proper depth. Consideration should be given to the excavation and removal of debris/rock within play use zones.

MLK - Code Violations

GMB

ASTM F 1487, 7.4.2 Transition from access to platform
ASTM F 1487, 7.5.5.2 Maximum clear opening

Recommendations: Reinstall existing handhold panels.

ASTM F 1487, 7.4.2 Transition from access to platform
ASTM F 1487, 7.5.5.2 Maximum clear opening

Recommendations: Replace missing handhold panel.

ASTM F 1487, 13.1 Maintenance (broken equipment)

Recommendations: Install temporary barrier to prohibit access until climber can be replaced.

AASTM F 1487, 13.1 Maintenance (broken equipment)

Recommendations: Install temporary barrier to prohibit access until climber can be replaced.

MLK - Code Violations

GMB

ASTM F 1487, 12.1 Structural Integrity

Recommendations: Consult manufacturer on missing collar pins and replace as needed.

ASTM F 1487, 6.3 Protrusions
ASTM F 1487, 6.4.4 Entanglement

Recommendations: Exposed bolts are protrusions and entanglement hazards. Replace washer and cut bolt end down with no more than 2+ threads exposed.

ASTM F 1487, 7.4.4.1 Inadequate barrier

Recommendations: Replace missing barrier panel.

Overall Playground Conclusions

Providing children with safe, challenging, stimulating environments is a major goal of the Benton Harbor Area Schools. Improving the quality of play environment for children of all abilities is a step in the right direction

Based on the information of this report, STEAM Academy at MLK has a number of code violations. A few moderate and many minor violations should be corrected as soon as possible.

A plan to repair or replace potentially fatal playground equipment should be developed immediately by the owner in conjunction with a playground designer. Contact the installer or manufacturer where appropriate for warranty information and repair suggestions.

Conclusion

Existing Buildings:

It is the consensus opinion of the team of assessors from GMB Architecture + Engineering that the buildings that the school district is currently occupying are in the best condition of all of the buildings the district currently owns.

Sorter is the best candidate to house future growth as it is in the best condition, has higher ceilings to allow for more possibilities for improved ventilation and has foundations in place for a future addition if expansion is needed.

Fair Plain NW is our recommendation for a new location for the administration building. The current administration building is overcrowded and the layout is not efficient. With approximately 8,000 additional square feet, Fair Plain NW allows for a layout that can be better organized and allow for larger meetings and staff training to be held in the current gymnasium.

New Buildings:

GMB Architecture + Engineering also reviewed property holdings that Benton Harbor Area School owns and have put forward an option to build a new campus on the 136 acre property near Napier and US 31.

The following page(s) show an opinion of probable cost for (4) different options of renewal based on our conclusions. The first 3 options consider the existing occupied buildings with additional costs for Sorter and Fair Plain NW. The fourth option is an opinion of probable cost for all new buildings on the new property.

EXISTING BUILDING REMODEL

OPTION A

Renovations
No New A/C
No New Programming

Current buildings	
1. Discovery Enrichment Center	$4,495,129
2. HULL International Academy	$7,846,786
3. MLK - Steam Academy	$7,416,066
4. ACA - Arts & Communications	$7,477,163
5. Dream Academy	$4,339,636
6. High School	$31,786,015
Subtotal Current Buildings	**$63,360,795**
Future buildings	
7. Administration – Fair Plains NW	$2,769,323
8. Sorter	$4,179,781
Subtotal Future Buildings	**$6,949,104**
Subtotal current and future buildings	**$70,309,899**
Deduct Site Sinking Fund	-13,000,000
Total current and future buildings	**$57,309,899**

	Add	Total
Add Pool	$421,310	**$57,731,209**
Add Stadium	$3,426,491	**$60,736,390**
Add Pool and Stadium	$3,847,801	**$61,157,700**

OPTION B

Renovations
A/C for Total Building
No New Programming

Current Buildings	
1. Discovery Enrichment Center	$5,225,588
2. HULL International Academy	$9,023,804
3. MLK - Steam Academy	$8,528,476
4. ACA - Arts & Communications	$8,598,738
5. Dream Academy	$4,990,581
6. High School	$34,964,616
Subtotal Current Buildings	**$71,331,803**
Future Buildings	
7. Administration - Fairplains NW	$2,933,605
8. Sorter	$4,569,422
Subtotal Future Buildings	**$7,503,027**
Subtotal Current and Future Buildings	**$78,834,830**
Deduct Site Sinking Fund	-13,000,000
Total Current and Future Buildings	**$65,834,830**

	Add	Total
Add Pool	$1,548,639	**$67,383,469**
Add Stadium	$3,436,491	**$69,261,320**
Add Pool and Stadium	$4,975,130	**$70,809,960**

OPTION C

Renovations
A/C for Total Building
New Programing

Current Buildings	
1. Discovery Enrichment Center	$8,035,044
2. HULL International Academy	$11,377,840
3. MLK - Steam Academy	$10,753,296
4. ACA - Arts & Communications	$10,841,886
5. Dream Academy	$6,726,435
6. High School	$50,857,623
Subtotal Current Buildings	**$98,592,125**
Future Buildings	
7. Administration - Fairplains NW	$3,966,234
8. Sorter	$6,127,984
Subtotal Future Buildings	**$10,094,218**
Subtotal Current and Future Buildings	**$108,686,343**
Deduct Site Sinking Fund	-13,000,000
Total Current and Future Buildings	**$95,686,343**

	Add	**Total**
Add Pool	$1,548,639	**$97,234,982**
Add Stadium	$3,426,491	**$99,112,834**
Add Pool and Stadium	$4,975,130	**$100,661,473**

OPTION D
NEW BUILDINGS OPTION

All New Buildings
on 136 acre Property

New Buildings	
1. PK-2nd	$26,573,750
2. 3rd - 5th	$18,313,750
3. 6th - 8th	$25,121,980
4. 9th - 12th	$55,344,060
5. Administration/Central Services	$4,800,000

Total New Buildings	**$130,153,540**
Deduct Site Sinking Fund	-13,000,000
	$117,153,540

Add Pool	$9,867,000	**Total =**	**$127,020,540**
Add Stadium	$6,000,000	**Total =**	**$123,153,540**
Add Pool & Stadium	$15,867,000	**Total =**	**$133,020,540**

Mechanical Replacement Matrix

	Discovery Enrichment Center			
Mechanical System	**Age (yrs.)**	**Summary**	**Time (yrs.)**	**Replacement Cost**
Heating Boiler	17	(2) Lochinvar heating hot water boilers, 1,440 MBH capacity	6-10	$155,240.00
Heating Piping System	67	Heating hot water piping routed thru tunnels can be reused until it becomes leaky or problematic.	10+	$ -
Temperature Controls	18	Trane DDC system is due to be upgraded	1-5	$155,240.00
Unit Ventilators	18	Units are in average condition and will need replacement soon.	1-5	$194,050.00
Heating/Vent Units	-	-	-	$ -
Exhaust Fans	67	Roof exhaust fans are rusted out and need replacement. Kitchen requires additional exhaust.	1-5	$58,215.00
Rooftop Units/Air Handling Units	15	(3) RTUs for gym, dance studio and library are near end of usable life.	1-5	$72,000.00
Plumbing Piping System	67	Plumbing piping routed thru tunnels should be replaced to ensure proper water quality.	1-5	$135,835.00
Plumbing Fixtures	N/A	Some fixtures require new flush valves, faucets or replacement	1-5	$38,810.00
Domestic Water Heater	N/A	Newer and in satisfactory condition	6-10	$38,810.00
ADD Air Conditioning	N/A	Includes chiller, chilled water piping, cooling coil in UV's and additional controls. Assumes Unit Ventilators are already being replaced as noted above	-	$388,100.00
TOTAL COSTS	**Cost Summary**		1-5	$654,150.00
			6-10	$194,050.00

Mechanical System	Dream Academy				
	Age (yrs.)	Summary	Time (yrs.)	Replacement Cost	
Heating Boiler	31	(1) Johnston steam boiler, 2024 lbs./hr. Boiler is near end of service life.	1-5	$119,900.000	
Heating Piping System	62	Steam and condensate piping system is old and likely requires replacement. HW heating system is recommended to replace steam. HW piping installed in 2008 to serve classroom addition can remain.	1-5	$149,875.000	
Temperature Controls	18	Trane DDC system is due to be upgraded	1-5	$119,900.000	
Unit Ventilators	18	Units are in average condition and may need to be replaced to align with a new hot water system. Classroom addition vertical unit ventilators are new and can remain.	1-5	$179,850.000	
Heating/Vent Units	62	Units are in poor condition, not running and need to be replaced	1-5	$119,900.000	
Exhaust Fans	N/A	Misc. Exhaust fans in unknown condition, bathrooms have odor concerns	1-5	$44,962.500	
Rooftop Units/Air Handling Units	-	-	-	-	
Plumbing Piping System	62	Plumbing piping routed thru tunnels should be replaced to ensure water quality.	1-5	$104,912.500	
Plumbing Fixtures	N/A	Some fixtures require new flush valves, faucets or replacement	1-5	$29,975.000	
Domestic Water Heater	6	Unit is in adequate condition	6-10	$29,975.000	
ADD Air Conditioning	N/A	Includes chiller, chilled water piping, cooling coil in UV's and additional controls. Assumes Unit Ventilators are already being replaced as noted above	-	$299,750.000	
TOTAL COSTS	**Cost Summary**		1-5	$869,275.000	
			6-10	$29,975.000	

Mechanical System	Fair Plain ACA			
	Age (yrs.)	Summary	Timing (yrs.)	Replacement Cost
Heating Boiler	23-28	(1) Johnston heating hot water boiler, 2,500 MBH capacity, installed in 1989. (1) Lochinvar heating hot water boiler, 1,440 MBH capacity, installed in 1994. Lochinvar boiler likely needs to be replaced in near future	1-5	$103,290.00
Heating Piping System	59	Heating hot water piping routed thru tunnels can be reused until it becomes leaky or problematic.	10+	$ -
Temperature Controls	18	Trane DDC system is due to be upgraded	1-5	$ 206,580.00
Unit Ventilators	18	Units are in average condition and will need replacement soon .	1-5	$ 309,870.00
Heating/Vent Units	31	Trane Gym heating and vent unit should be replaced	1-5	$ 206,580.00
Exhaust Fans	N/A	Misc. Exhaust fans in poor condition, bathrooms have odor concerns	1-5	$ 77,467.50
Rooftop Units/Air Handling Units	2	New cafeteria RTU assumed to be in quality condition and remain.	10+	-
Plumbing Piping System	59	Plumbing piping routed thru tunnels should be replaced to ensure water quality.	1-5	$ 180,757.50
Plumbing Fixtures	N/A	Some fixtures require new flush valves, faucets or replacement	1-5	$ 51,645.00
Domestic Water Heater	15	(2) Water heaters should be replaced	1-5	$ 51,645.00
ADD Air Conditioning	N/A	Includes chiller, chilled water piping, cooling coil in UV's and additional controls. Assumes Unit Ventilators are already being replaced as noted above	-	$ 516,450.00
TOTAL COSTS	**Cost Summary**		1-5	$ 1,187,835.00
			6-10	$ -

Mechanical System	High School			
	Age (yrs.)	Summary	Time (yrs.)	Replacement Cost
Heating Boiler	62	(3) Johnston steam boilers. (2) Sized at 10,350 lbs./hr. and (1) at 3,450 lbs./hr. Boilers 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.	1-5	$ 878,200.00
Heating Piping System	62	Steam and condensate piping routed thru tunnel should be replaced. Hot water piping serving renovated areas can remain.	1-5	$1,317,300.00
Temperature Controls	18	Trane DDC system is due to be upgraded	1-5	$ 878,200.00
Unit Ventilators	5-62	Mixture of newer vertical unit ventilators and very old horizontal unit ventilators. All horizontal and steam unit ventilators should be replaced.	1-5	$1,097,750.00
Heating/Vent Units	-	-	-	$ -
Exhaust Fans	N/A	Science lab exhaust system is new and should remain. Misc. exhaust fans for toilets etc. likely need to be replaced.	1-5	$ 329,325.00
Rooftop Units/Air Handling Units	N/A	6+ RTU's and Air Handling units serving labs, auditorium, cafeteria, gymnasium in unknown condition. Science Lab RTU is new and can remain. Assumed 3 RTUs need to be replaced.	1-5	$ 439,100.00
Plumbing Piping System	62	Plumbing piping routed thru tunnels should be replaced to ensure water quality.	1-5	$ 768,425.00
Plumbing Fixtures	N/A	Some fixtures require new flush valves, faucets or replacement	1-5	$ 219,550.00
Domestic Water Heater	62	Steam water heater needs to be replaced	1-5	$ 219,550.00
ADD Air Conditioning	N/A	Includes chiller, chilled water piping, cooling coils and additional controls.	-	$1,756,400.00
TOTAL COSTS	**Cost Summary**		1-5	$6,147,400.00
			6-10	-

Mechanical System	Hull International Academy			
	Age (yrs.)	Summary	Time (yrs.)	Replacement Cost
Heating Boiler	23	(1) Johnston heating hot water boiler, 5120 lbs./hr. capacity (not steam), is in fair condition.	6-10	$ 216,792.00
Heating Piping System	62	Heating hot water piping routed thru tunnels can be reused until it becomes leaky or problematic.	10+	-
Temperature Controls	20	Trane DDC system is due to be upgraded	1-5	$ 216,792.00
Unit Ventilators	20	Units are in average condition and will need replacement soon .	1-5	$ 270,990.00
Heating/Vent Units	62	Units are in poor condition and need to be replaced	1-5	$ 162,594.00
Exhaust Fans	N/A	Misc. Exhaust fans in unknown condition, bathrooms have odor concerns	1-5	$ 81,297.00
Rooftop Units/Air Handling Units	-	-	-	-
Plumbing Piping System	62	Plumbing piping routed thru tunnels should be replaced to ensure proper water quality.	1-5	$ 189,693.00
Plumbing Fixtures	N/A	One bathroom has upgraded fixtures, other bathroom fixtures in fair condition and may require new flush valves, faucets or replacement	1-5	$ 40,648.50
Domestic Water Heater	N/A	Average condition	6-10	$ 54,198.00
ADD Air Conditioning	N/A	Includes chiller, chilled water piping, cooling coil in UV's and additional controls. Assumes Unit Ventilators are already being replaced as noted above	-	$ 541,980.00
TOTAL COSTS	**Cost Summary**		1-5	$ 962,014.50
			6-10	$ 270,990.00

Mechanical System		MLK STEAM		
	Age (yrs.)	Summary	Time (yrs.)	Replacement Cost
Heating Boiler	17	(3) Lochinvar Copper-Fin heating hot water boilers, 1440 MBH input each. The boilers appear to be in relatively good condition.	6-10	$ 204,892.00
Heating Piping System	N/A	Boiler room pumps, piping and insulation appear to be in good condition.	10+	-
Temperature Controls	18	Trane DDC system is due to be upgraded	1-5	$ 204,892.00
Unit Ventilators	18	Units are in average condition and will need replacement soon.	1-5	$ 256,115.00
Heating/Vent Units	20	Units are near end of service life	1-5	$ 153,669.00
Exhaust Fans	18+	Kitchen exhaust fan and toilet exhaust fans are due to be replaced	1-5	$ 76,834.50
Rooftop Units/Air Handling Units	18	(3) Packaged RTU's serving media center, technology room, and server room are near the end of service life.	1-5	$ 72,000.00
Plumbing Piping System	52	Plumbing piping routed thru tunnels should be replaced to ensure water quality.	1-2	$ 179,280.50
Plumbing Fixtures	N/A	Some fixtures require new flush valves, faucets or replacement	1-5	$ 38,417.25
Domestic Water Heater	7	(2) Units are in good condition	6-10	$ 51,223.00
ADD Air Conditioning	N/A	Includes chiller, chilled water piping, cooling coil in UV's and additional controls. Assumes Unit Ventilators are already being replaced as noted above	-	$ 512,230.00
TOTAL COSTS	**Cost Summary**		1-5	$ 801,927.75
			6-10	$ 256,115.00

Mechanical System	Sorter			
	Age (yrs.)	Summary	Time (yrs.)	Replacement Cost
Heating Boiler	23	(3) Lochinvar Powerfin Boilers, 750 MBH capacity. Piping is setup for (1) additional boiler	6-10	$97,784.00
Heating Piping System	23	All heating hot water piping and insulation is newer and routed overhead thru classrooms with pipe drops down to horizontal unit ventilators and new valves.	10+	$122,230.00
Temperature Controls	18	Trane DDC system is due to be upgraded	1-5	$97,784.00
Unit Ventilators	18	Units are in poor condition with some parts and panels missing.	1-5	$146,676.00
Heating/Vent Units	N/A	Old Cabinet unit heaters serve the gym, may need to be replaced.	1-5	$97,784.00
Exhaust Fans	N/A	Misc. Exhaust fans in unknown condition, bathrooms have odor concerns	1-5	$36,669.00
Rooftop Units/Air Handling Units	-	-	-	-
Plumbing Piping System	N/A	Hot water piping is new and routed overheated. Cold water piping routed thru tunnels should be replaced to ensure water quality.	1-5	$48,892.00
Plumbing Fixtures	N/A	Some fixtures require new flush valves, faucets or replacement	1-5	$36,669.00
Domestic Water Heater	N/A	Assumed unit needs replacement	1-5	$24,446.00
ADD Air Conditioning	N/A	Includes chiller, chilled water piping, cooling coil in UV's and additional controls. Assumes Unit Ventilators are already being replaced as noted above	-	$244,460.00
TOTAL COSTS	**Cost Summary**		1-5	$488,920.00
			6-10	$97,784.00

Mechanical System	Fair Plain NW (Future Administration)			
	Age (yrs.)	Summary	Time (yrs.)	Replacement Cost
Heating Boiler	46	(1) Johnston heating hot water boiler, 4,000 MBH capacity, installed in 1971. Average condition but beyond expected usable life	1-5	$ 64,840.00
Heating Piping System	58	Heating hot water piping routed thru tunnels can be reused until it becomes leaky or problematic.	10+	-
Temperature Controls	18	JCI Pneumatic controls existing need to be replaced	1-5	$ 64,840.00
Unit Ventilators	58	Original horizontal unit ventilators in poor condition and well beyond expected service life. Units need to be removed to accommodate reconfigured spaces	1-5	$ 2,400.00
Heating/Vent Units	31	Remove existing Gym Units	1-5	$ 2,500.00
Exhaust Fans	N/A	Misc. Exhaust fans in poor condition, bathrooms have odor concerns	1-5	$ 24,315.00
Rooftop Units/Air Handling Units	11	Existing 2.5 Ton RTU serving office area. (3) New Ducted RTU's with cooling for Gym, and each office wings	1-5	$ 194,520.00
Plumbing Piping System	59	Plumbing piping routed thru tunnels should be replaced to ensure water quality.	1-5	$ 56,735.00
Plumbing Fixtures	N/A	Some fixtures require new flush valves, faucets or replacement	1-5	$ 24,315.00
Domestic Water Heater	N/A	Assumed unit needs replacement	1-5	$ 16,210.00
ADD Air Conditioning	N/A	All cooling provided by new rooftop units	-	-
TOTAL COSTS	Cost Summary		1-5	$ 450,675.00
			6-10	-