NORTH SLOPE
BOROUGH SCHOOL DISTRICT

Striving For Excellence

ATQASUK
AREAWIDE MECHANICAL AND ELECTRICAL BUILDING ASSESSMENT AND INVENTORY SURVEY REPORT

August 19, 2024

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TABLE OF CONTENTS

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SECTION 1. INTRODUCTION

A. OVERVIEW

This report provides an area wide condition survey of the mechanical and electrical systems of the buildings owned by the North Slope Borough School District in Atqasuk. The purpose of the survey was to develop a plan to prioritize and address the issues with the mechanical and electrical systems as money is available. The assessment was performed by a survey team composed of representatives from RSA Engineering Inc. and the NSBSD. The survey included a walk-through of each building to evaluate condition of the existing mechanical and electrical systems. The survey was non-destructive, issues noted in this report were visible during the building walk-through or reported by NSBSD staff. During the walk-through, the survey team met with NSBSD staff to discuss issues at the buildings and proceeded to assess the project area to develop recommended upgrades for the facility.

Team Member	Title
Dustin McCleskey, P.E.	Project Mechanical Engineer
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B. BUILDING SUMMARY

The below table includes a list of buildings inspected in this survey:

Table 1: Buildings Surveyed

Village	Building Name
Atqasuk	Meade River School

C. REFERENCED CODES AND STANDARDS

The buildings were inspected for conformance of the following adopted codes and standards:

International Building Code 2021
International Mechanical Code 2021
International Fire Code 2021
Uniform Plumbing Code 2021
National Electrical Code 2020
ASHRAE 62.1-2014 – Ventilation & Acceptable Indoor Air Quality.
Standard ASCE 7-10 - Minimum Design Loads for Buildings and Other Structures.
National Fire Alarm Code (NFPA 72), 2019
ADA Standards for Accessible Design 2021
ANSI A117.1 2009: Accessible and Usable Buildings and Facilities
Illuminating Engineering Society (IES) Standards, most recent version

SECTION 2. SURVEY RESULTS

MEADE RIVER SCHOOL

Note that 2017 reports are included in regular text and updates from 2024 site visits are found in bold italic after each section.

Mechanical Systems

Overview

The school was visited on May 14, 2024, to review the condition of the mechanical systems that were inspected in 2017. Heating and ventilation systems remained largely unchanged. Upgrades to plumbing and controls were performed as part of Phase 2 renovations in 2020. Only work under the base bid of the phase 2 project was completed.

The school was originally constructed in 1982, with a pool added in 1995, as well as other smaller remodels and renovations. Overall the existing mechanical equipment is in fair to poor condition. The school has been fairly well maintained but standard wear and tear as well as the harsh environmental conditions have taken their toll.

Plumbing

Domestic water and sanitary sewer service is provided to the school by the city utility through an arctic pipe at the northeast corner of the building. The building does not have a storm drainage system.

The condition of the plumbing piping is fair to poor. The majority of the waste and water piping is in poor condition and warrants replacement due to age. A reasonable service life for most plumbing piping is about 30 years. Most of the water and waste pipe in the building is copper, which could stay in service for 40-50 years. However, give the harsh treatment many remote schools experience assuming a shorter life is safer. The waste piping is in fair condition. No failures were observed but it is common for copper waste to fail at restroom groups, especially urinals, which could go unnoticed for some time if buried in the walls. Sewer waste currently gravity drains to the village utility. However, there is an existing lift station that is disconnected and not in use that used to convey the building waste. Since the lift station is no longer in use it should be demolished. Domestic water piping is primarily copper and appears to be in fair condition though lacking insulation in some locations. It is likely that the existing soldered joints to not meet current code requirements for low lead content.

The plumbing fixtures vary in condition from fair to poor. The visible condition of many fixtures is good, but trim is not performing sufficiently and failing, and many fixtures and trim are coming loose from their mounting bases. There is also a mix of different makes and models of equipment, which complicates and adds cost to maintenance. It is also important to note that the existing fixtures

consume more water per use than contemporary fixtures, which would reduce village water use and wastewater treatment if updated.

Plumbing equipment in the commercial kitchen is in poor condition and warrants replacement due to age and installations that do not meet current code. Food preparation sinks require indirect drainage with airgaps, which are not present. The pre-rise garbage disposal is very loud. The existing 3-bin sink grease interceptor has holes in the lid. The hot water booster for the 3-bin sink is an electric water heater that is corroded and leaking. In general, all new plumbing fixtures should be installed to provide a more functional environment set up per code.

Domestic hot water is provided by one 175-gallon oil-fired water heater that is in poor condition. Due to its age replacement parts and maintenance will become costlier. It takes up considerable space in the mechanical room, has poor maintenance access and is not seismically braced. The unit also lacks a thermostatic mixing valve, creating a potential for scalding.

Emergency shower and eyewash fixtures in the pool mechanical room, metal shop and wood shop do not meet code requirements. They are generally lacking tempering valves, sufficient placards, activating levers, and are obstructed.

The condition of the fuel oil system is poor. The fuel oil storage tank appears to be single wall. Tank trim and placards do not meet current code requirements and the tank access is poor. No day tank is present because the fuel tank is directly outside the boiler room at the same elevation as equipment burners. The entire fuel oil system warrants replacement with a new UL-142 above ground double wall tank, new distribution piping and potentially a new day tank if the new fuel tank is at grade.

The building has a swimming pool that outwardly appears to be in good shape but has outdated and failing equipment that needs replaced. The underside of the pool enclosure is rusty and has pipes that are leaking. The main circulation pump is also leaking, and the chemical mixing equipment is not functioning properly.

Photo M1 – Fuel Oil Water Heater

Photo M2 – Fuel Tank

Photo M3 – Metal Shop Eyewash

Photo M4 – Corrosion Under Pool Deck

2024 Update

The school plumbing fixtures, including emergency eyewash's, were replaced as part of the Phase 2 School Upgrades project with modern code compliant fixtures. Plumbing piping and equipment have remained unchanged since the 2017 report.

Heating

The primary heating source for the building is waste heat from the village power plant, which is transferred to the school through a plate and frame heat exchanger in the boiler room. The school also has two fuel oil cast iron boilers, each rated at 1,920,000 BTU/hr gross input. The boilers were installed in 2009 and appear to be in good condition but with considerable corrosion on the flues. The boilers are piped in a primary only system with two sets of system pumps piped in parallel for redundancy. The building heating pumps are constant volume. The piping as configured does not ensure even flow to each boiler and it does not provide minimum return water protection or minimum flow to the boilers. The piping configuration can lead to condensation of flue gases due low temperature, overheating of glycol solution and uneven system heating as each boiler receives part of the flow regardless of boiler operation. The circulation pumps are also piped such that they pump toward each other causing their respective check valves to slam hard and likely wearing out the motors from drastic changes in head pressure. The piping system should be replaced with a primary/secondary pumping system with variable flow secondary pumps. The primary/secondary pumping system would ensure adequate flow to each boiler, allow control system to flow water only through operating boiler and would provide energy savings with the variable speed secondary pumps. The variable speed secondary pumps would operate to match actual system demand, saving energy and improving overall system performance. This also allows an opportunity to correct the incorrect pump piping configuration. Supporting equipment such as expansion tanks, air separators, glycol storage/fill tanks, and other similar equipment will also be

replaced as it is in poor condition. The piping connecting the heat exchanger to the building hydronic system will also be replaced and the heat exchanger will be insulated. Boiler emergency shutdown switches need to be installed per code. This space would require at least two.

The heating system is an inhibited propylene glycol-based system with propylene, presumably mixed on site with water to the desired concentration. The piping in the boiler room consists of steel and copper piping. The piping was observed leaking at joints at a number of places throughout the building including mechanical rooms and crawlspaces. It is likely a combination of age and boilers overheating the glycol, causing it to become acidic and corrode piping and seals. It is recommended that all of the heating piping be replaced.

Terminal heating equipment in the building includes fintube baseboard with enclosures, cabinet unit heaters, and unit heaters. The equipment is generally in poor condition due to damaged enclosures and leaking joints, except for the secondary classroom baseboard enclosures, which are new.

Photo M5 – Typical Boiler

Photo M6 – Waste Heat Heat Exchanger

Photo M7 – Heating Pumps

Photo M8 – Fintube Enclosure Falling Off Wall

Photo M11 – Old Cabinet Unit Heater

2024 Update

The heating system itself remained unchanged since the 2017 inspection. Unit heaters along with associated isolation and control valves were replaced with new as part of the phase 2 renovation project. It was noted during the site visit by the maintenance personnel that balancing was never fully completed. New 3-way control valves have been installed at all the air handler heating coils.

Boiler B-2 was undergoing a burner replacement at the time of the site visit and not operational.

Ventilation

Ventilation for the school is provided by a number of air handlers and associated exhaust fan, relief fans and relief openings. The gymnasium is served by air handling unit 1 (AHU-1). AHU-2 serves the commercial kitchen as make-up air for the Type 1 hood. AHU-3 serves the administration area, library and southeast interior rooms. AHU-4 serves the elementary and middle school classrooms. AHU-5 serves the natatorium. AHU-6 ventilates the pool equipment room and AHU-7 ventilates the attic space above the pool. AHU-8 serves the vocational educational classroom. AHU-9 does not appear to exist in the building. AHU-10 serves the high school classrooms. Make up air unit 1 (MAU-1) serves the welding room in conjunction with exhaust fan 2 (EF-2). There is also an air handler in the boiler room for cooling. EF-1 provides exhaust for the central locker rooms and rest rooms. Most air handlers are combined with gravity relief except AHU-5 and AHU-6, which have associated relief fans. AHU-1 through 4 are original to the building and are in poor shape. Their casings are in good condition so it is reasonable to look at refurbishing these units with new insulation, motors, sheaves, bearings, fan shafts, dampers and door gaskets, however since current code-required ventilation rates are higher than 1982 rates they may need to be replaced with larger units. AHU-5 appears to be in fair condition, but it is likely the interior has corrosion due to handling humid pool air and should be replaced. The natatorium is also served by a dehumidification unit that warrants replacement due to age and the pool environment. AHU-6 and 7 have also been exposed to the pool environment and due to age warrant replacement. AHU-8 is in poor condition and warrants replacement. AHU-10 and MAU-1 appears to be in in poor shape; however, their casings are in good condition, so it is reasonable to look at refurbishing these units similar to AHU-1 through 4 or replaced if needed due to higher ventilation rates. All exhaust and relief fans are in poor condition and need replaced. A propeller-type ventilation fan next to the second-floor fan room that provides cooling for the refrigerator condensing units is in poor condition and due to age warrants replacement. The boiler room cooling-only air handler is in poor condition with leaking heating coil and bad access and needs replaced. There were some spaces without ventilation such as the exercise room of the gymnasium, the wood shop, the metal shop, and the maintenance office. The maintenance office is also very hot due to server equipment, which needs to be taken into consideration when sizing ventilation. In general, existing ductwork, diffusers and grilles are in good condition and could be cleaned and reused. The outside air intake duct that goes through the gymnasium tends to collect snow, which melts and leaks into the gym. A new exterior arctic tee hood should be installed, and the duct sloped toward the exterior to discourage snow from collecting. All occupied spaces will need to be provided with ventilation. All air handling systems in the building should to be rebalanced.

The school kitchen Type 1 hood has a sidewall mounted exhaust fan that also needs replaced. The Type 1 hood is too small to adequate cover the existing cooking equipment and should be replaced. In addition, if a small partition wall was constructed to mount the hood on the exhaust fan would be smaller due to less exposed hood perimeter. The grease duct does not meet code requirements for containment within a chase or fire rated insulation and does not have cleanouts. The duct needs to be replaced. The kitchen has a commercial dishwasher that does not have a code required steam and heat exhaust hood and fan. This will need to be added or the dishwasher replaced with a unit that does not require a hood.

The wood shop does not have ventilation air. It should have a dedicated air handler that can help remove odors and dust from the air. The space is currently served by an indoor dust collector ducted to each piece of machinery. It is assumed that this equipment does not meet current safety codes and standards and needs to be replaced.

The metal shop should also have a dedicated air handler for reasons similar to the wood shop. It is not currently ventilated. The metal shop has three welding hoods and flexible hose connected to an exhaust fan. The equipment appears to be in good condition, but the fan should be replaced due to excessive wear and tear that weld exhaust fans experience. The weld hoods and ductwork should be cleaned and remain.

The pool deck, the space below the pool deck and the pool equipment room are ventilated but showing signs of corrosion due to the humid environment.

The combustion air system for the boilers is a large opening in the wall with control dampers, which is not allowable by code. The combustion opening should be provided with a large, upturned elbow without restrictions.

The boiler room has a backup generator with ductwork and mixing dampers, which are currently manually operated. The dampers are old and warrant replacement as well as the related controls. The ductwork flexible connections are failing as well and need replaced.

Photo M12 – Typical Original Air Handler

Photo M13 – Typical Original Fan

Photo M14 – Gym Outside Air Intake Duct

Photo M15 – Type 1 Cooking Exhaust Hood

2024 Update

There are no changes to the ventilation system report.

HVAC Controls System

The control system utilized throughout the building is an older DDC system with some Barber Colman equipment and some Johnson Controls MetaSys equipment. The equipment is in poor condition and not controlling the equipment sufficiently. Equipment is running outside of normal occupied hours. Heating in the building is inconsistent. Many of the space temperature control devices have failed. Given the age of the system the costs of maintaining it will continue to increase due to equipment failure and scarcity of replacement parts. The existing control system should be replaced with a contemporary BACnet based direct digital control (DDC) system for proper environmental control, failure notifications and energy management.

Photo M14 – Barbar Colman Control Panel

Photo M15 – Typical MetaSys Controllers

2024 Update

The DDC system was upgraded to a modern system provided by LONG Building Technologies during the phase 2 remodel project. It was noted by maintenance personnel that they lack training on the DDC system and having issues with controlling the heating system.

Fire Protection

The fire protection system is a NFPA 13 wet sprinkler system tied into the village water service entrance on the northeast end of the school. Overall the system appears to be in fair condition. No leaks were observed. The backflow preventers in the boiler room do not have good access because they are installed behind the waste heat heat exchanger. Due to the system being 40 years old it is recommended that as portions of the school are remodeled the sprinkler system in those areas be replaced as well.

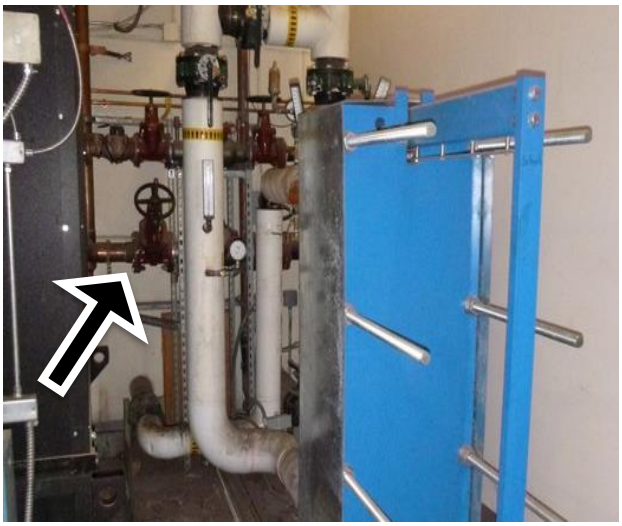

Photo M16 – Poor Backflow Prevention Access

Photo M17 – Backflow Preventers

2024 Update

There are no changes to the fire protection system report.

Electrical Systems

Overview

The site was visited on May 15th, 2024, to inspect the electrical system for the school. The overall condition was excellent and like new condition for most systems in the building as a renovation has recently taken place. While much of the power system and the stand-by power system have remained unchanged, most other systems have been replaced. A renovation took place recently based on drawings dated 2/25/19 where only the base bid was performed, Add alts were not accepted, and those portions of the school remain untouched from original construction.

Power

The school electrical power service is supplied by the utility from a platform-mounted transformer located on the west side of the school *(Photo E1)*. The service is fed from below the building to an interior switchgear which houses the CT enclosure, meter base, and 1,000A,208V,3p disconnect located in main electrical room *(Photo E2)*. The main feeder was then routed into a 1,000A, 208V, 4p Automatic Transfer Switch located in the mechanical room. The transfer switch serves a 1,000A, 120/208V, 3p, 4W switchboard 'MDP' located in main electrical room and is fed from a 265kW generator. Between the Automatic transfer switch and 'MDP', there is a bypassed manual transfer switch and generator controller. The generator control panel and transfer switches are in poor condition and should be replace. The service switchgear and 'MDP' are Square D type Sw-1 switchboard. The distribution section serves all of the normal power panelboards located throughout the facility and have limited spare capacity for additional breakers. The Main switchgear is in average condition and could be changed out with the bi-passed manual transfer switch and generator controller but is not necessary.

Photo E1 – Incoming Utility Service

Photo E2– Service Entrance Switchgear

Backup Power: The entire school is provided with standby power via a 265kW,208V, 3ph, 4W diesel-fired engine generator set. The generator is original to the building and in poor condition. The generator is oversized for the school and constantly has minor maintenance issues, which are usually dealt with in-house.

2024 Power Update

The power system has gone unchanged since the last inspection with the exception of a new ASCO 1200A, 208/120V, 3Φ Automatic Transfer Switch that replaced the old Automatic Transfer Switch, and it is in excellent condition. The remaining electrical distribution equipment is original to the building and in average condition for its age. The generator is original to the building and is nearing end of life. It would be recommended that a generator upgrade take place in the near future. Design drawings dated 2/25/19 include an add alt for the generator replacement and engineering for this work is complete. The main electrical room was being utilized as storage and is violating the equipment's NEC working space. It would be recommended removing all stored items from the main electrical room.

Wiring Devices and Cabling Systems

The typical branch wiring system in the facility consists of ½" electrical metallic conduit with copper building wire with *(Photo E3)*. It is assumed that some of the older circuits utilized the conduit for a ground and did not contain a separate equipment grounding conductor, however, the panels were not opened during the site visit so this information could not be verified.

The wiring devices in the facility consisted of ivory NEMA 5-20R receptacles and 20A, 120V light switches with stainless steel wallplates. In general, they are in poor condition.

The motor starters and switches used for mechanical equipment were noted to be in fair to good condition. Replacement components are readily available for these devices for future maintenance needs.

2024 Wiring Devices and Cabling Systems Update

Conduits have gone largely unchanged from the previous inspection.

The recent renovation replaced 80% of the receptacles and most wiring devices in the building. The new devices consisted of white NEMA 5-20R receptacles and 20A, 120V light switches with stainless steel wallplates. In general, they are in excellent condition. *(Photo E4)* is a typical device in the building.

The motor starters and switches used for mechanical equipment are in fair condition and unchanged from the previous inspection.

Photo E3 – Building Raceway

Photo E4 – Typical Receptacle

Photo E5– Interior Light fixtures

Lighting

In general, the school was illuminated with T8 lamps and recessed incandescent fixtures inside the building and with LED fixtures outside the building. The interior fixtures were in OK to poor shape. The exterior fixtures in good condition, because they were updated to LEDs in 2009.

Classrooms on the elementary side of the school (East side) consisted of recessed mounted T8 light fixtures. The High school side of the school (North side) consisted of pendant mounted T8 light fixtures. In general, the classroom lighting was in OK condition.

The gymnasium was illuminated with newer LED fixtures. Lighting levels are good. The gymnasium lighting was controlled via keyed switches on the wall.

Corridor lighting consisted of recessed mounted T8 light fixtures and were in OK condition. The corridor lighting was controlled by keyed light switches.

The exterior lighting includes LED wallpacks around the building perimeter and were new in 2009, with the area wide LED upgrade. The exterior lighting is controlled by a lighting contactor with an input from the building DDC time clock system.

Most of the emergency lights tested were inoperable, requiring new batteries, with some which are actually broken. Exit signs that were tested were in working order, but past their useful life.

2024 Lighting Update

The recent renovation upgraded the interior lighting to LED with automatic controls and dimming. The lights were installed less than 5 years ago and are in excellent condition. (*Photo E5)*

Classrooms consisted of new recessed mounted 2x4 LED fixtures with dimming control.

The lighting in the gym was unchanged from the previous inspection and is in excellent condition.

The exterior lighting is unchanged from the previous inspection. It was noted on site that the exterior lighting was always on suggesting the lights are currently bypassing the photocell control.

Emergency lighting in the building was new as part of the recent renovation and in excellent condition.

Telecommunication Systems

The building is fed from the utility by an overhead drop from the West side of the school down underneath the building to the main Telephone Terminal Board located in the center of the building next to the main electrical room. From punchdown blocks at the TTB copper is terminated to patch panels located in a rack in the maintenance office.

The telecommunications system cabling generally consists of category 5 cabling run in conduit or surface raceways to surface or recess mounted computer jacks. There are two 7ft tall racks in maintenance office that contain telecommunication patch panels and network equipment for the entire facility. *(Photo E6)* There are also some newer POE switches that serve new data jacks in elementary wing with Category 6 cabling located throughout the school for a wireless network system.

There are very few network drops in the facility. There are approximately 3 drops with 2 Cat 5 cables each (6 total) per classroom.

Throughout the school, new wireless access points were added and seem fairly new.

2024 Telecommunication System Update

The building telecommunication system has gone through upgrades in the recent renovation. New Cat 6 cabling has been provided throughout the building with new data jacks. The new cabling and wall jacks are in excellent condition. The data rack for the building in messy and could benefit from increased cable management.

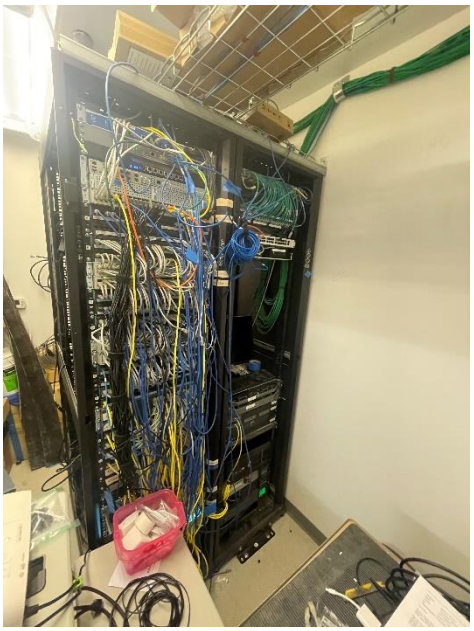

Photo E6– Telecommunication Racks

Photo E7– Fire Alarm Control Panel

Fire Alarm System

The fire alarm system consists of an addressable Class 'B' fire alarm System. The Fire Alarm Control Panel 'FACP' is located in the Administration office and is a Johnson Controls Metasys control panel which was installed in the original construction of the school. Located in the main entry of the school is a zone panel. The fire initiating devices consist of pull stations at the exits, smoke detectors throughout the building, heat detectors in the mechanical and kitchen areas, duct smoke detectors on the air handlers, beam type smoke detectors in the gym, kitchen hood suppression system, and sprinkler flow/tamper switches. The signaling devices consist of fire alarm horn/strobe devices in the corridors, classrooms, and public spaces and an alarm dialer. The system as installed appeared to meet current NFPA 72 and ADA guidelines.

The only problem is that the fire alarm panel is over 20 years old and is approaching the end of its useful life and the maintenance staff will have difficulty finding parts.

2024 Fire Alarm System Update

The fire alarm system has been upgraded since the previous inspection. The fire alarm system consists of an addressable voice evacuation fire alarm System. The Fire Alarm Control Panel 'FACP' is located in the near the main entry and in excellent condition. Device type has been upgraded throughout the building and replaced in similar locations. The Fire alarm system is in excellent condition.

Intercom, Master Clock and Bell System

The school has a stand-alone intercom/bell system located in the administration office that was abandoned. The Intercom/bell system has not worked in years and needs to be updated.

The clock system is in working order. Some clocks were taken out or are falling off the wall. This system should be upgraded.

2024 Intercom, Master Clock and Bell System

The intercom system, master clock system and bell system have been upgraded since the previous inspection. New head end equipment and devices have been installed throughout the building and are in excellent condition. The intercom system is a Rauland 'Telecenter U' with the bell system integrated into it. The clock system is an "Innovation" wireless series. All are in excellent condition.

Gymnasium Sound System

The gymnasiums sound system was not located during the investigation of the school. It is assumed that it was abandoned, because it was obsolete and/or stopped working.

2024 Gymnasium Sound System Update

The gymnasium sound system is located in a storage room connected to the gym. The sound system appears to be new and in excellent condition. (*Photo E8)*

Photo E8 Gymnasium Sound System

Security Systems

There is a brand-new exterior IP camera system (7 total) that are located on all exterior entry points. The new headend equipment in located in the maintenance office. The Client Workstation computer is location in the new Principal's Office.

A new Johnson Controls access control system was also installed on the exterior entry points of the school and consists of proximity card readers and keypads.

2024 Security Systems Update

The security system has gone unchanged since the previous inspection and is in excellent condition. When talking with the principal it was determined that the new camera system is non-operational, and we would recommend trouble shooting the system.

End of Meade River School Survey results

SECTION 3. DEFICIENCY CODES & FINDINGS

This section explains the codification system for categorizing facility deficiencies based upon field survey findings.

A. DEFICIENCY CODES

1 – Health/Life Safety: These deficiencies identify areas where the facility is not constructed or maintained in compliance with provisions of the state mandated life safety aspects of building codes including the codes adopted from the International Code Council (such as the International Building Code) or other standards organizations (such as the National Fire Prevention Association). Deficiencies could include inadequacies in fire barriers, smoke barriers, capacity and means of egress, door ratings, and fire protection equipment not covered in other deficiency codes.

2 – Operating Cost: These deficiencies address the efficiency of lighting, heating systems/fuel types and the thermal enclosures of buildings, processes, and are required for energy conservation and good energy management.

3 – Technical Upgrade: These are items that would upgrade obsolete equipment or systems to the current technology.

4 – Code Upgrade: These are deficiencies related to building code violations where there is no imminent threat to life safety.

5 – Protection of Structure: These are deficiencies that endanger the physical structure of the facility.

6 – Functional Upgrade: These are deficiencies in the plumbing, heating, ventilating, air conditioning, power, lighting, special systems, etc. requiring maintenance due to normal wear and tear that would result in system failure.

7 – Education Program Upgrade: These are items that would improve the ability of the educators to instruct the students.

The deficiencies are further categorized by design disciplines and priority as follows:

Code	Discipline
M	Mechanical
E	Electrical

Priority	Description
1	Highest priority – Life safety or imminent danger
2	Building Code Compliance Issues
3	Energy Efficiency Upgrades

See attached Deficiency Matrix for detailed information.

B. MASTER DEFICIENCY INDEX

Discipline/ Record #	Deficiency Code	Priority	Building	Deficiency Title	*2024 Update*
M1	Code Upgrade	1	Meade River School	Boiler room ventilation and combustion air	***No change noted.***
M2	Code Upgrade	1	Meade River School	Water heater deficiencies	***No change noted.***
M3	Health/Life Safety	1	Meade River School	Insufficient pipe bracing	***No change noted.***
M4	Health/Life Safety	1	Meade River School	Eyewash not to code	***Item Addressed***
M5	Health/Life Safety	1	Meade River School	Kitchen plumbing deficiencies	***Item Addressed***
M6	Code Upgrade	1	Meade River School	Kitchen ventilation deficiencies	***No change noted.***
M7	Health/Life Safety	1	Meade River School	Natatorium equipment failing and code issues	***No change noted.***
M8	Functional Upgrade	2	Meade River School	Heating plant upgrades	***No change noted.***
M9	Functional Upgrade	2	Meade River School	Fuel oil system deficiencies	***No change noted.***
M10	Functional Upgrade	2	Meade River School	Generator ventilation control	***Item Addressed***
M11	Technical Upgrade	2	Meade River School	Upgrade HVAC controls	***No change noted.***
M12	Code Upgrade	2	Meade River School	Dust Collection system does not meet current codes.	***No change noted.***
M13	Functional Upgrade	2	Meade River School	Various plumbing deficiencies	***No change noted.***
M14	Code Upgrade	2	Meade River School	Voc-ed Ventilation Upgrades	***No change noted.***

M15	Functional Upgrade	2	Meade River School	General ventilation items	***No change noted.***
M16	Functional Upgrade	2	Meade River School	Air handling units and fans are at the end of useful life expectancy	***No change noted.***
M17	Functional Upgrade	3	Meade River School	Ventilate cleaning supply storage area	***No change noted.***
M18	Functional Upgrade	3	Meade River School	Replace plumbing fixtures	***Item Addressed***
M19	Functional Upgrade	3	Meade River School	Heating deficiencies	***No change noted.***
M20	Functional Upgrade	3	Meade River School	Controls Training	***New Item***
M21	Technical Upgrade	3	Meade River School	Boiler Repair	***New Item***
E1	Health/Life Safety	1	Meade River School	Fire alarm system parts are obsolete	***Fire alarm has been upgraded to new Notifier system. No longer a Deficiency***
E2	Functional Upgrade	2	Meade River School	Cat 5, Cat 5e cabling are nearly obsolete.	***Most cabling has been upgraded to CAT 6. No longer a deficiency***
E3	Operating Costs	3	Meade River School	Existing T8, and CFL lighting not as energy efficient as new LED	***School has gone through a lighting upgrade in 90% of the building. Only fluorescents remain in back of house areas. No longer a deficiency.***
E4	Functional Upgrade	3	Meade River School	Existing lighting not as energy efficient as new LED	***School has gone through a lighting upgrade in 90% of the building. Only fluorescents remain in back of house areas. No longer a***

					deficiency.
E5	Functional Upgrade	4	Meade River School	In discussion with Principal, it was discovered that the camera system is non-operational. Reason is unknown	***New Item***
E6	Functional Upgrade	5	Meade River School	Generator is 38 years old and is nearing end of life.	***New Item***