Existing Facility Conditions Analysis
+
Improvement Plan

10-05-2023

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IA. Acknowledgements

The preparation of a study of this nature and scope requires a great deal of cooperation and time by School officials and staff. The Lancer + Beebe Planning Team would like to give special recognition to everyone who participated and contributed to this effort by including their names in this acknowledgement section.

School Board
- James Graf, President
- Glenn Scholl, Vice President
- Dawn Burke, Secretary
- Joseph Bulach, Board Member
- Robert Davis, Board Member
- Gary Gellert, Board Member
- Sara Hylton, Board Member

Administration
- Dr. Andrew Jackson, Superintendent
- Brandon (Dusty) Burress, Director of Support Services
- Mary Ann Baines, Director of Financial Operations

IB. Scope of Work

This document summarizes the data collection for the Sunman-Dearborn Community Schools Assessment Study conducted by the Lancer Associates and Primary Engineering Team. In generating this report, the Team of Architects, Engineers toured the facilities and interviewed multiple groups to gather on-site information. To gain a comprehensive analysis of each facility the team gathered the following information:

- Interviews with Administration, Maintenance
- Photographed existing conditions
- Studies existing drawings

After gathering this information, the Lancer Associates developed a summary schedule with assessments of specific facility elements and broke down the needs based on locations and type of improvement

Part II Facilities Overview

A. District Map

IIA. Facilities Overview DISTRICT MAP INFORMATION

Construction History

1. EAST CENTRAL HIGH SCHOOL
2. EAST CENTRAL MIDDLE SCHOOL
3. SUNMAN ELEMENTARY SCHOOL
4. NORTH DEARBORN ELEMENTARY SCHOOL
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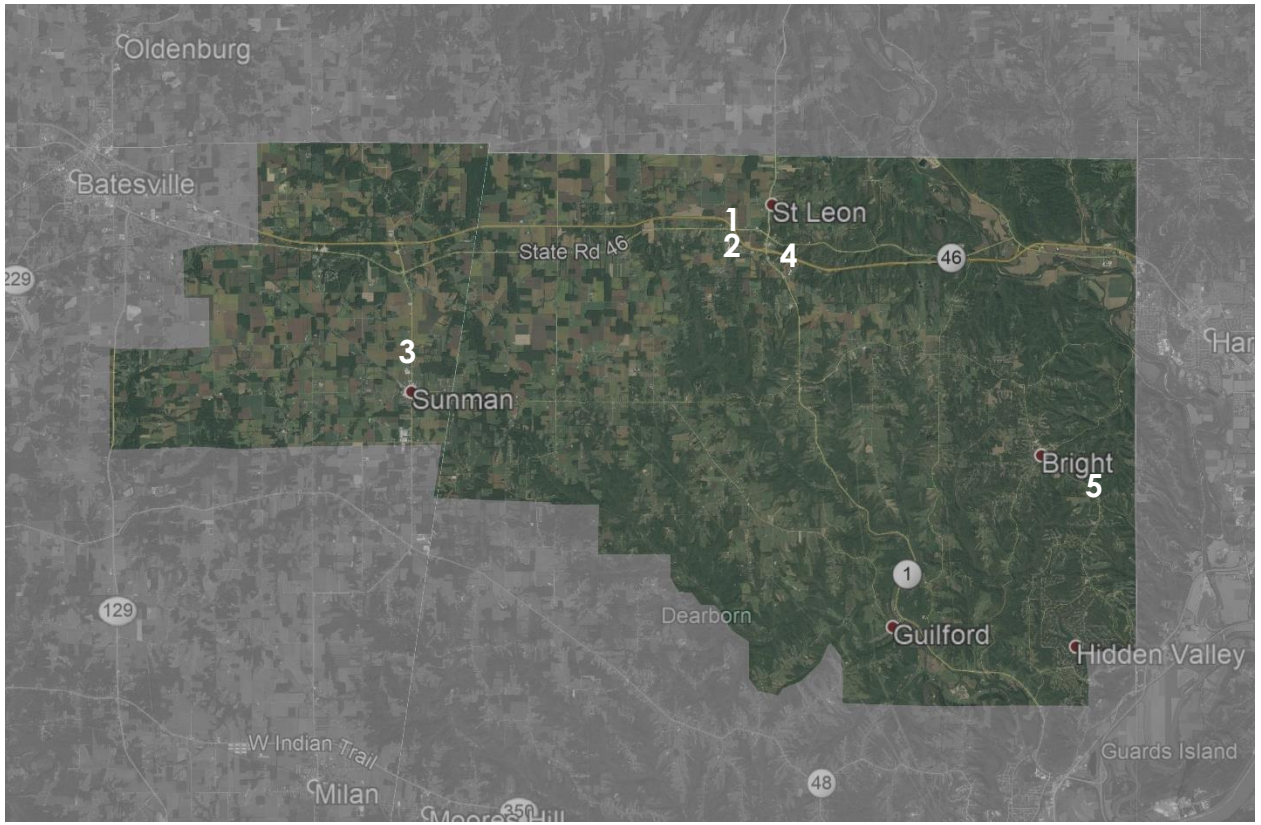

Part II Detailed Facility Report

A. East Central High School

B. East Central Middle School

C. Sunman Elementary School

D. North Dearborn Elementary School

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II A. EAST CENTRAL HIGH SCHOOL-SITE

The High School/Middle School Site has undergone a large transformation over the past few years with a lot of improvements that were made to site circulation, parking and athletic fields. However, there are a few areas that still require attention to improve the functionality, look and access of the site.

Site Access

- The front drop-off area of the high school is confusing and requires to be rethought to improve circulation and efficiency of the drop off as well as improving efficiency of deliveries to the kitchen
- New/Improved signage is needed to allow visitors understand which entrance to use and where to park for specific events
- Curb appeal should be considered for the next renovation project in order to clearly identify front entrance and signage can help with daily announcements
- Additional cameras are needed outside the building to be able to observe the parking lots and athletic areas

Pavement

- The current bus parking lot is a gravel lot and needs to be paved to help with maintenance, snow removal and increase of parking spots for athletic fields nearby
- Existing parking lots, curbs and sidewalks need to be milled/repaved as they are cracking, heaving and getting to the end of usable life

Athletics

- New golf facility is requested for the golf team to be able to practice all year round
- Turf of the soccer field has been requested to be able to play/practice during different weather conditions
- There are currently 6 tennis courts (in fair condition) but expansion in the number of courts would be beneficial

Building Additions

- There is a need for a maintenance facility on site to be able to work on things outside the school buildings

II A. EAST CENTRAL HIGH SCHOOL-BUILDING

The High School building was built in phases with the latest round of additions and renovations just wrapping up. The High School is connected to the Middle School and some of the middle school classes are physically located inside the High School Building. A large portion of the High School has been recently renovated but a few areas need attention to bring them up to current education/safety standards or components are reaching end of the life cycle

Safety/Security

- New/Additional cameras should be considered to improve coverage and quality of images

Auditorium

- Lighting, curtains, stage flooring, rigging are reaching the end of the usable life cycle
- Seating is older and needs to be replaced as the fabric and moving parts are starting to fail
- The finishes in the auditorium need to be updated as they are reaching end of usable life cycle

Finishes

- Finishes/toilet partitions in the group restrooms need to be replaced to match the latest renovation
- Main gym concrete stairs are starting to crack and rubber/vinyl stair covers should be considered
- There is a locker room that was not renovated during last renovation effort that need to be brought up to the standard of the most recent renovation (north of the fieldhouse)
- Library has not been renovated in the last round of work and needs to be looked at for finish replacement as the finishes are reaching end of life

Miscellaneous

- Serving area in the cafeteria needs to be upgraded to match the work that has been done at the Middle School
- A staff restroom needs to be added to the second-floor teacher work room
- There are multiple doors around PE/Athletics areas that need to be replaced as they are reaching end of life due to wear and tear
- Window shades need to be added to the pool area to reduce glare on the water
- The wall padding in the fieldhouse is older and approaching end of life

II A. EAST CENTRAL HIGH SCHOOL-BUILDING - MEP

Heating plant

The building is heated by means of (2) Weil-McLain SVF 2000 boilers and (4) Aerco Benchmark 2.0 boilers. The Weil-McLain boilers were installed in 2022 and are in good condition. The Aerco boilers are 18 years old and are in fair condition generally speaking however it is known that one of the existing units has a cracked heat exchanger and the others are likely to fail in the near future. Given that two of these Aerco boilers have been replaced by the Weil-McLain boilers, it would be recommended that **the remaining Aerco boilers also be replaced soon**.

Rooftop units

The building is cooled by means of (33) Addison rooftop units that are approximately 18 years old. According to ASHRAE, the median lifespan of a commercial rooftop unit is 15-20 years. Typically, at 15 years the compressors will start to fail and condenser fans motors will also start to fail. It was observed that in a few cases, new compressors were already installed in some of the units. **Given the age of these units is nearing 20 years, it is strongly recommended to start replacing units in a planned rotation with several every year**.

It was noted that on the newer rooftops that exist, they were not purchased with hail guards on the condenser coils. With the new generation of equipment using a micro-channel style condenser coil, these hail guards are critical to protect the unit from hail stone damage that is capable of breaching the refrigerant circuits and causing leaks. Old style plate fin condensers could take hail abuse and while their performance was degraded, the refrigerant circuit was buried deep within the fins, the new units are no longer this way. It is strongly recommended that all new units come with hail guards and the guards be purchased and added to recently purchased units.

There are 7 rooftop units that are not Addison brand (York, Carrier, Daikin, Trane) that appear to be relatively new and in good condition. These appear to be about 2 years old and in good condition. **There are two carrier units that appear to be older (16 years old) and will most likely need replacement soon**.

While performing our study, it was reported that a **lack of cooling ability for the performing arts center (PAC) existed**. The current rooftop units that are in place are rated for a total of 50 tons of cooling. After running a load calculation, the need for cooling load in the PAC was determined to be 86 tons of cooling. This presents an issue as the need for the PAC to be properly cooled cannot be met with the current equipment in place. This would either need to be resolved with entirely new rooftop units and ductwork, or by adding a third rooftop unit and adding ductwork to the system. Estimated cost for new equipment and associated ductwork will vary depending on the exact path selected for resolution as there will be impacts to structural, architectural, and appearances.

Exhaust fans

Most of the exhaust fans used on the building were either estimated to be about 2 years old or 18 years old with most of them being recently replaced. It is recommended that the older fans that are 18 years old be investigated to determine if they are still in service, need to be in service, and if so**, replace them with new direct drive ECM style fans** to reduce belt maintenance. Fans E-5 (east) and E-9 were noted to have been making noise, suggesting belts that need replacement.

VAV Box Replacement

The VAV boxes in the building are nearing a point where it is likely they may need to be replaced and when doing so, the heating coils in them should be updated to capitalize on using lower temperature hot water that the condensing boilers are capable of.

Building Controls

The building is currently controlled by a mixture of DDC platforms that include Johnson Controls (JCI), Schneider, and legacy Steafa controllers. It was expressed that the preferred system for the district is the JCI platform as is has the best local support and all other buildings in the district are on this platform. The legacy Steafa equipment is aged and failing in many cases. **This platform is no longer supported and is used for most of the 200 VAV boxes in the building**. The rooftop units are primarily controlled with Schneider controls and as part of the rooftop unit replacement, these controls will need to be replaced at the same time. It is recommended that a new backbone be run thru the building to connect all VAV boxes and rooftop units to the same system.

Entryway Heaters

It was noted that the entry way heaters in the English classroom area were unable to keep up and maintain the spaces. It is advised to **add additional cabinet unit heaters** to these areas to recover spaces more quickly during arrival and dismissal times.

Building Relief and Ventilation

It was noted that the building lacked adequate building relief for outside air ventilation to exit the building that is entering through HVAC units. When operating in a full economizer mode on mild fall and spring days, it is often possible to provide adequate cooling with just the outside air. In this instance, 100% outside air enters through the rooftop units and this air must then have a path to exit the building. It was noted that the rooftop units did not universally include powered relief fans. It was observed in a few locations of the building that building pressurization was very positive to the point that air was howling through exterior doors and vestibule doors. The concern with this condition is that the positive air pressure will often prevent an exterior door from closing and latching due to the air rushing out of the building through the door opening. With the expectation that schools always remain secured and all doors locked, this is problematic and needs to be addressed.

Given the number of exhaust fans on the building, much of the relief air can exit through normal toilet exhaust and localized exhaust locations, however it is recommended to have the means to exhaust this relief air when small fans are scheduled off. It is recommended that as part of the rooftop unit replacement, that units be selected with integral relief fans when possible.

It is recommended that a full ventilation study with field testing by a certified test and balance firm to simulate the building in a full economizer/occupied mode and then take measurements of building pressurization to determine how much relief air exhaust is needed to balance the building needs.

Plumbing Systems

The existing plumbing system consists of a pressure booster system that is in good condition, a water softener, and fairly new water heaters and storage tanks that are all in good condition. The fixtures throughout the building are of various ages and styles. It noted that the age and style of the urinals in men's restrooms were of the type that were popular in the 1960-1970's and generally consume large amounts of water to flush. **It is recommended to replace urinals and water closets to reduce flush rates**. Generally, the water savings cost is not significant, however the real savings occurs on the sanitary waste charges in most municipalities. Payback is generally 3-5 years for heavily used fixtures that see frequent use in a school setting. New water closet fixtures should use 1.28 or 1.5 gpf and urinals should flush at 0.5 gpf.

While is it possible to get urinals with a pint of water per flush, we generally find that in existing buildings with aged cast iron drain pipes, they can be problematic if the pipe is holds water and debris with sagging joints and combined with cast iron pipe. What can happen is that the limited amount of water does not fully dilute the urine, and if not fully drained, the water will evaporate out in the pipe and leave the salts from the urine and crystalize in the pipe creating further obstructions.

Prior to replacing water closets in mass, it is recommended to camera inspect the sanitary mains to identify and clear any obstructions before using reduced flow rate fixtures.

Power

The building is served by a pad mount utility transformer by the local utility supplying 480/277 Volt 3-phase service to the building. The secondary conductors are route below grade to a 4000 Amp, 480/277 Volt 3-phase switchboard. The service entrance switchboard (14MDP) is a Square D QES switchboard with 4000-amp bolted pressure switch as the main disconnect. The distribution sections are fusible switch style that feed distribution panels, a branch circuit panels, dry type transformers and air-cooled condensing units. The switchboard does have a meter and surge suppression that appears to be operating. There are three (3) 200A. 3-pole fusible switches that appear to be spare. The main switchboard appears to be in good condition and is still serviceable. The switchboard should have 40-50 years of service from 2004 based on proper maintenance and exercise of the disconnects.

The service entrance switchboard back feeds the 1993 gym addition. The existing switchboard in the electrical room in the 1993 addition is a Siemens switchboard with 2000-amp bolted pressure switch as the main disconnect. The distribution sections are fusible switch style that feed distribution panels, a branch circuit panels, dry type transformers. The switchboard and panelboards should have 40-50 years of service from 2004 based on proper maintenance and exercise of the disconnects.

Unit A first floor has two (2) 1200-amp 480/277 Volt 3-phase distribution panels that serve branch circuit panels, rooftop units, and dry type transformer. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The panels appear to be in good condition and are still serviceable. 225 KVA dry-type transformer serving one (1) 600-amp 208/120 Volt 3-phase circuit breaker distribution panel with 600-Amp main circuit breaker is serving panels. The distribution panels are a Square D I-line panel. The panels appear to be in good condition and are still serviceable. The panel should have 30-40 years of service from 2004 based on proper exercise of the circuit breaker.

Unit F distribution has one (1) 800A-amp 480/277 Volt 3-phase distribution panels with 800-Amp main circuit breaker that serve branch circuit panels, rooftop units, and dry type transformer. here appears to be sufficient space in the distribution Panel to

add additional circuit breakers. The panels appear to be in good condition and are still serviceable. The panel should have 30-40 years of service from 2004 based on proper exercise of the circuit breaker.

First Floor Unit G distribution has one (1) 1200A-amp 480/277 Volt 3-phase distribution panels with 1200-Amp main circuit breaker that serve branch circuit panels, rooftop units, and dry type transformer. here appears to be sufficient space in the distribution Panel to add additional circuit breakers. The panels appear to be in good condition and are still serviceable. The panel should have 30-40 years of service from 2004 based on proper exercise of the circuit breaker.

Second Floor Unit G Distribution has one (1) 1200A-amp 480/277 Volt 3-phase distribution panels with 1200-Amp main circuit breaker that serve two (2) 225 KVA dry type transformers that serve the dimming system. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The panels appear to be in good condition and are still serviceable. The panel should have 30-40 years of service from 2004 based on proper exercise of the circuit breaker.

Unit J distribution has one (1) 1200A-amp 480/277 Volt 3-phase distribution panels with 1200-Amp main circuit breaker that serve branch circuit panels, rooftop units, and dry type transformer. here appears to be sufficient space in the distribution Panel to add additional circuit breakers. The panels appear to be in good condition and are still serviceable. The panel should have 30-40 years of service from 2004 based on proper exercise of the circuit breaker.

Second Floor Unit J (Mechanical Mezzanine by Gymnasium) Distribution is (1) 400A480/277 Volt 3-phase distribution panels with 400-Amp main circuit breaker that serve branch circuit panels, rooftop units, and dry type transformer. here appears to be sufficient space in the distribution. **The panelboard appears to be part of the original service entrance and are beyond their serviceability and should be consider for replacement.**

The Main telecom distribution system has a small single-phase residential style engine-generator and transfer switch that serves the space that has been installed in recent years. It appears to be in good condition.

Lighting

The existing lighting throughout the facility is mostly fluorescent type fixtures with some accent and decorative lighting that is incandescent and metal halide. Exterior Lighting is metal halide style fixture with LED replacement lamps.

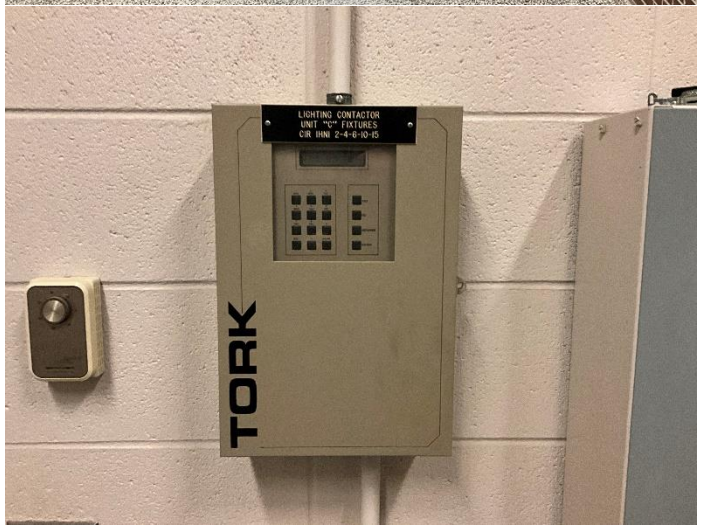
There were various classrooms with new LED lighting which would remain as is.

The classroom lighting control is inboard/outboard lamp switching which gives the space light levels of 33%, 66%, or 100% of lumen output. The corridor lighting control is operated contactor with timeclock operation. The remaining spaces operated through toggle switch(es). There appears to be no occupancy sensing in the facility.

The corridors appear to be controlled through a timeclock throughout.

Exterior Lighting is controlled through contactors and time clock.

First recommend putting forth a replacement strategy to replace all fixtures with new high efficiency LED light fixtures. Since most new LED fixtures are equipped with 0-10v dimming capabilities with 100% to 10% range. Classrooms and offices would benefit greatly from dimming for better lighting control is needed for various activities. Second recommended is to utilized occupancy sensors through the facility to help reduce wasted power consumption when a space is unoccupied. The two recommendations would help reduce overall power consumption that would be reflected in your energy bills. Based on Electrical Service Territories (IURC) on IN.gov. The facility is served by Duke utilities. Duke Indiana offer rebates on replacement of fluorescent lighting to LED.



Auditorium Lighting

The existing auditorium lighting appear to be original to the building (completed in 2006). The lighting consists of incandescent for both house lighting and theatrical lighting. The theatrical dimming system appears to be original as well and is **outdated to today standard and is at the end of its useful life**.

Fire Alarm System

The fire alarm system is being replaced in the summer of 2023. The new system is a Simplex 4100ES series voice evacuation system which is the most up to date system that can be installed. The system shall be good for 10-15 years before system parts and updates become less accessible.

The auditorium has an existing voice evacuation system and the assumption it will be replaced with the updated fire alarm system installed during summer of 2023 project.

Telecommunications

The horizontal backbone in the facility appears to be multi-mode fiber which has limited bandwidth based on type. Based on the color of cable jacket the facility could have OM1 62.5/125 multi-mode optical fiber. The limits on bandwidth will be based on the total overall length of the cable. Below are approximate distance limitations based on transmission.

Fiber Type	CORE/CLADDING (µM)	Distance Limitations (Feet)			
		1G BASE	10G BASE	40G BASE	100G BASE
OM1	62.5/125	900	82		
OM2	50/125	1,800	280		
OM3	50/125	2822	984	325	230
OM4	50/125	2822	1312	325	325
OS1	9/125	6,560	6,560		
OS2	9/125	32,736 (6.2 miles)	32,736 (6.2 miles)	32,736 (6.2 miles)	32,736 (6.2 miles)

The telecommunication horizontal cabling system in the building is various cabling types which includes 6, 6e and 6A type cabling.

Security Camera

Primary Engineering will need to evaluate the entire building to verify camera layouts. Recommended areas would be to cover all corridors, stairwells, cafeteria, access points into the building. The system being installed is a Tyco Ezacqvision Z series recorders and Hanwah Techwin Cameras

II B. EAST CENTRAL MIDDLE SCHOOL-SITE

The High School/Middle School Site has undergone a large transformation over the past few years with a lot of improvements that were made to site circulation, parking and athletic fields. However, there are a few areas that still require attention to improve the functionality, look and access of the site.

Site Access

- New/Improved signage is needed to allow visitors understand which entrance to use and where to park for specific events
- Curb appeal needs to be looked at in order to clearly identify front entrance and signage can help with daily announcements
- Additional cameras are needed outside the building to be able to observe the parking lots and athletic areas

Pavement

- The current bus parking lot is a gravel lot and needs to be paved
- Existing parking lots, curbs and sidewalks need to be milled/repaved

Building Footprint

- There is a need to look at the earth mounds around the building. The earth mounds are hard to maintain and detract from curb appeal of the building. Low maintenance landscaping should be considered

Miscellaneous

- The painted steel railings around the building are getting older and some have started to rust. The railings need to be repainted every couple of years. Consideration should be made to replace the railings

II B. EAST CENTRAL MIDDLE SCHOOL-BUILDING

East Central Middle School was built in 1984. Its design is a typical earth ship design that is not unusual of middle and late 70s. The building is buried halfway underground with some of the roofs covered with grass. The Middle School is physically connected to East-Central High School and some of the middle school classes are housed in the high school building. A large part of the school was remodeled during the last renovation project but a few items still remain.

Safety/Security

- New/Additional cameras should be considered to improve coverage and quality of images

Vocational training

- The current FACS room has not been updated during the last renovation. Finishes and casework need to be updated
- The Agricultural program is developing and the space needs to meet current needs

Miscellaneous

- Corridor door hardware needs to be replaced due to the wear and tear
- Sound system in the gym is needs to be replaced

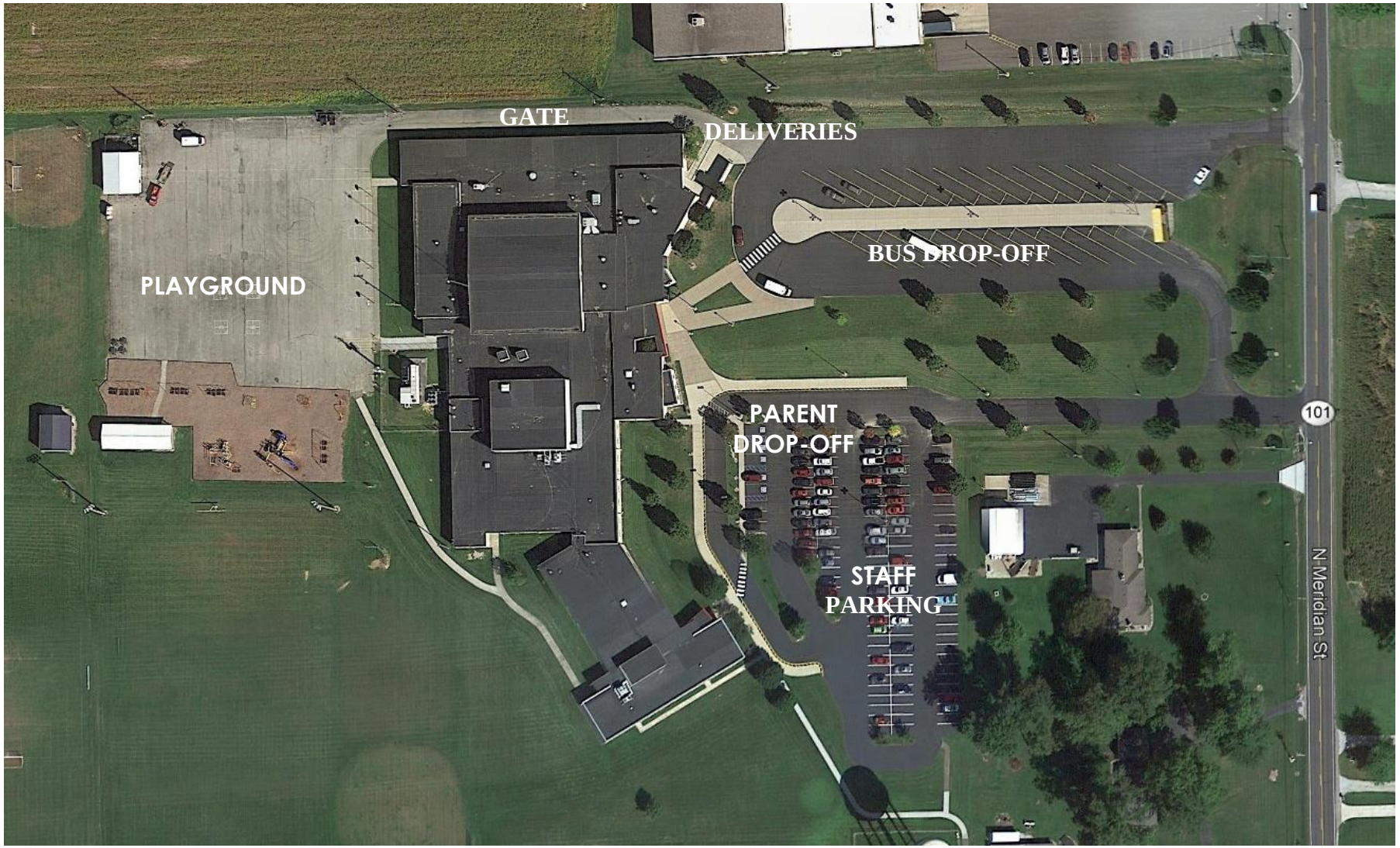
Exterior

- Window shade replacement should be considered as the blinds are getting older and have reached the end of life cycle

II B. EAST CENTRAL MIDDLE SCHOOL-MEP

The MEP systems in the Middle school have gone through an overhaul during the last renovation. The only items left of the list is the partial upgrade of the lighting to LED system. The remaining spaces that have not been upgraded are the cafeteria, gym, AG and new art classroom. The occupancy sensors will need to be added with the lighting replacement as well.

II C. SUNMAN ELEMENTARY-SITE



The school was built in 1962 as a high school. Sunman Elementary school had the last major addition/renovation project in 2001. The building is located right off North Meridian Street. The entrance is marked by a street sign. Due to narrow street frontage the bus/delivery drive and car access drives are very close to each other (buses and cars share an entry drive but exit in separate drives).

Site Access

- The entry drive needs to be widened to accommodate the wider turns of the buses entering the site from the north
- New/Improved signage is needed to allow visitors understand which entrance to use and where to park for specific events
- Curb appeal needs to be looked at in order to clearly identify front entrance and signage can help with daily announcements
- The gate separating the playground and the bus parking needs to move to allow for more visibility from the playground side

Site Security

- Additional cameras are needed outside the building to be able to observe the parking lots and playgrounds
- Additional PA system speakers are needed outside the building (especially pointing to the south-west side of the building)

Pavement

- The current bus parking lot is a gravel lot and needs to be paved
- Existing curbs and sidewalks need to be milled/repaved

II C. SUNMAN ELEMENTARY-BUILDING

Building Access

- A few doors on the west side of the building are at the end of their usable life and need to be replaced with new storefront

Miscellaneous

- Shading of the art classroom skylight is needed to be able to control how much natural light is coming into the classroom

II C. SUNMAN ELEMENTARY-MEP

Fire Sprinkler

The building is fully sprinklered with a single zone wet-system fire protection system and Ames 3000SS stainless steel backflow preventer. No deficiencies were noted, and no improvements are recommended.

Plumbing

Plumbing systems include a water entrance with (2) 3" Watts 909 backflow preventers, VC Systems domestic water pressure boosting system, Aqua Systems duplex water softener, Lochinvar Copper Fin II water heater with 752-gallon storage tank, Lawler 802 thermostatic mixing valve, and (2) Bell & Gossett PL-50 domestic hot water recirculation pumps. Of these systems, the water heater and pressure boosting system are nearest to the end of useful service life. It is recommended that these systems be replaced.

Water heater: replace within (5) years

Pressure boosting system: replace within (10) years

Heating Plant

The heating plant consists of (2) Burnham 4,174 MBH cast-iron sectional boilers, (2) Taco base mounted centrifugal house pumps, (2) Taco in-line centrifugal boiler pumps, expansion tank, and air separator that are aged and in poor condition. **It is recommended that the heating plant be replaced**.

Cooling Plant

The cooling plant consists of (1) Carrier air-cooled scroll chiller with remote evaporator barrel, in-line centrifugal chiller pump, expansion tank, and air-separator. The system was recently upgraded and is in good condition. No improvements are recommended.

Classroom Unit Ventilators

There are approximately (30) horizontal unit ventilators serving classrooms and other spaces. These appear to be original to the building, but no deficiencies were noted. As unit ventilators age beyond useful service life, it **is recommended that they be replaced** with vertical unit ventilators.

Gym Air Handlers

The gym is served by (4) Trane semi-custom modular air handlers located on platforms above the gym. Each has a hot water coil for heating and DX coil with outdoor condensing unit for cooling. These systems are new and in good condition. No upgrades are recommended.

Mezzanine Air Handlers

There are (3) Trane semi-custom modular air handlers located in Units A and B Mezzanines. Each has a hot water coil for heating and DX coil with outdoor condensing unit for cooling. The air handling units are in good condition and no improvements are recommended. **Outdoor condensing units ACCU-1, ACCU-2, and ACCU-3 are near the end of useful service life, and it is recommended that they be replaced**.

Rooftop Units

There are (4) packaged rooftop units serving the cafeteria, computer lab, kitchen, and grease hood makeup air. **These are at or near the end of useful service life and it is recommended that they be replaced as needed.**

Roof Exhaust Fans

There are approximately (20) roof mounted exhaust fans that appear to be original to construction. No deficiencies were noted, but the fans are at or near the end of their useful service life**. It is recommended that they be audited for functionality and replaced as needed.**

Direct Digital Controls for HVAC

The building control system is a hybrid pneumatic and Johnson Controls MetaSys digital control system. **It is recommended that this system be upgraded to eliminate existing pneumatic controls**.

Power

The building is served by a pad mount utility transformer by the local utility supplying 480/277 Volt 3-phase service to the building. The secondary conductors are route below grade to a 2000 Amp, 480/277 Volt 3-phase switchboard in the main electrical room.

The service entrance switchboard is switchboard is a Square D QED switchboard with 2000-amp Main Circuit breaker with micrologic LED adjustable trip circuit breaker as the main disconnect. The distribution sections are circuit breaker style that feed distribution panels and air-cooled condensing unit. The switchboard does have a meter and surge suppression that appears to be operating. There appears to be sufficient space in the switchboard to add additional circuit breakers. The main switchboard appears to be in good condition and is still serviceable.

Unit A Electrical room has one (1) 400-amp 480/277 Volt 3-phase distribution panel that serves branch circuit panel, lift station elevator, and dry type transformer. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The panels appear to be in good condition and are still serviceable. 112.5 KVA dry-type transformer serving one (1)-400-amp 208/120 Volt 3-phase circuit breaker distribution panel with 400A, 3-pole circuit breaker that two (2) 200A/3P sub feed circuit breaker feeding the branch panels with space to add circuit breaker but, they circuit breakers are limited to 100A/3P and below. The 480v distribution panel is a Square D I-line panel and the 208v is a NF panel. The panels appear to be in good condition and are still serviceable. The switchboard should have 30-40 years of service from 2002 based on proper maintenance and exercise of the circuit breakers.

Unit B Electrical room has one (1) 800-amp 480/277 Volt 3-phase distribution panel that serves branch circuit panel, mechanical equipment, and dry type transformer. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The panels appear to be in good condition and are still serviceable. 225 KVA dry-type transformer serving one (1)-800-amp 208/120 Volt 3-phase circuit breaker distribution panel with 800A, 3-pole circuit breaker that serves branch circuit panels. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The distribution panels are a Square D I-line panel. The panels appear to be in good condition and are still serviceable. The switchboard should have 30-40 years of service from 2002 based on proper maintenance and exercise of the circuit breakers.

Unit C Electrical room has one (1) 800-amp 480/277 Volt 3-phase distribution panel that serves branch circuit panel, mechanical equipment, trash compactor, and dry type transformer. There appears to be sufficient space in the distribution Panel to add additional circuit breakers with one (1) 200A/3P spare circuit breaker. The panels appear to be in good condition and are still serviceable. 225 KVA dry-type transformer serving one (1)-800-amp 208/120 Volt 3-phase circuit breaker distribution panel with 800A, 3-pole circuit breaker that serves branch circuit panels. There appears to be sufficient space in the distribution Panel to add additional circuit breakers with one (1) 200A/3P spare circuit breaker. The distribution panels are a Square D I-line panel. The panels appear to be in good condition and are still serviceable. The switchboard should have 30-40 years of service from 2002 based on proper maintenance and exercise of the circuit breakers.

Lighting

The existing lighting throughout the facility is mostly fluorescent type fixtures with some accent lighting that is incandescent. Exterior Lighting is metal halide style fixture with LED replacement lamps.

The classroom lighting control is inboard/outboard lamp switching which gives the space light levels of 33%, 66%, or 100% of lumen output. The corridor lighting control is operated contactor with timeclock operation. The remaining spaces operated through toggle switch(es). There appears to be no occupancy sensing in the facility.

Exterior Lighting is controlled through contactors and time clock.

First recommend putting forth a replacement strategy to replace all fixtures with new high efficiency LED light fixtures. Since most new LED fixtures are equipped with 0-10v dimming capabilities with 100% to 10% range. Classrooms and offices would benefit greatly from dimming for better lighting control is needed for various activities. Second recommended is to utilized occupancy sensors through the facility to help reduce wasted power consumption when a space is unoccupied. The two recommendations would help reduce overall power consumption that would be reflected in your energy bills. Based on Electrical Service Territories (IURC) on IN.gov. The facility is served by Duke utilities. Duke Indiana offer rebates on replacement of fluorescent lighting to LED.

Fire Alarm System

The fire alarm system is being replaced in the summer of 2023. The new system is a Simplex 4100ES series voice evacuation system which is the most up to date system that can be installed. The system shall be good for 10-15 years before system parts and updates become less accessible.

Educational Intercom System

The Education Intercom System has been recently replaced

Telecommunications

The horizontal backbone in the facility appears to be multi-mode fiber which has limited bandwidth based on type. Based on the color of cable jacket the facility could have OM1 62.5/125 multi-mode optical fiber. The limits on bandwidth will be based on the total overall length of the cable. Below are approximate distance limitations based on transmission.

Fiber Type	CORE/CLADDING (µM)	Distance Limitations (Feet)			
		1G BASE	10G BASE	40G BASE	100G BASE
OM1	62.5/125	900	82		
OM2	50/125	1,800	280		
OM3	50/125	2822	984	325	230
OM4	50/125	2822	1312	325	325
OS1	9/125	6,560	6,560		
OS2	9/125	32,736 (6.2 miles)	32,736 (6.2 miles)	32,736 (6.2 miles)	32,736 (6.2 miles)

The telecommunication horizontal cabling system in the building is various cabling types which includes 6, 6e and 6A type cabling.

The telecommunication system appears to have some analog phone lines but, will need owner to confirm.

The facility still has coaxial distribution and copper backbone set up in the building.

Current design practices are horizontal cabling to be category 6A and a OS2 single mode optical fiber backbone through the building to maximum bandwidth potential. The current telecommunications system would need expanded discussion with the owner on overall technology goal of facility.

Cameras

Primary Engineering will need to evaluate the entire building to verify camera layouts. Recommended areas would be to cover all corridors, stairwells, cafeteria, access points into the building. The system being installed is a Tyco Ezacqvision Z series recorders and Hanwah Techwin cameras

II D. NORTH DEARBORN ELEMENTARY-SITE

North Dearborn elementary school was built in 2001 as an intermediate school and was converted to be an elementary school. There is a sign marking the entrance. Even though the front door is not visible from the road the way to the office is logical and can be easily understood by the visitors.
Cars and busses use the same access drive due to how much street frontage the site has.

Site Access

- The entry drive needs to be widened to accommodate the wider turns of the buses entering the site from the north
- New/Improved signage is needed to allow visitors understand which entrance to use and where to park for specific events
- Curb appeal needs to be looked at in order to clearly identify front entrance and signage can help with daily announcements
-

Site Security

- Additional cameras are needed outside the building to be able to observe the parking lots and playgrounds
- Additional PA system speakers are needed outside the building (especially pointing to the west side of the building)

Pavement

- One of the playgrounds was updated to have a rubber surface during the last renovation. The other playground should be meeting the same standards

II D. NORTH DEARBORN ELEMENTARY- BUILDING

Security

- There are a few doors that are not electrified or monitored on the north side of the building
- Gym sound system is hard to hear and is getting close to the end of the lifecycle

Special Education

- There is a need to create a special education suite with a calm room in the school

II D. NORTH DEARBORN ELEMENTARY- MEP

Fire Sprinkler

The building is fully sprinklered with a two-zone wet-system fire protection system and Ames 1000DCV detector check valve backflow preventer. No deficiencies were noted, and no improvements are recommended.

Plumbing

Plumbing systems include a water entrance with (2) 3" Watts 009 backflow preventers, Aqua Systems duplex water softener, LAARS Mighty Therm2 water heater with 940-gallon storage tank, Syymons TempControl thermostatic mixing valve, and (2) Bell & Gossett PL-50 domestic hot water recirculation pumps. No deficiencies were noted, and no improvements are recommended.

Heating Plant

The heating plant consists of (2) Burnham 4,174 MBH cast-iron sectional boilers, (2) Aurora base mounted centrifugal house pumps, (2) Aurora base-mounted centrifugal boiler pumps, expansion tank, and air separator that are aged and in poor condition. **It is recommended that the heating plant be replaced**. At the time of the site visit, a new Hydrotherm KN-20 boiler was being stored in the boiler room. It is assumed that this boiler is intended as a replacement heating boiler but is not considered in this study.

Cooling Plant

The cooling plant consists of (2) York air-cooled scroll chillers with remote evaporator brazed plate heat exchangers, (2) Aurora base mounted centrifugal house pumps, (2) Aurora base-mounted centrifugal chiller pumps, expansion tank, and air-separator. The system was recently upgraded and is in good condition. No improvements are recommended.

Mezzanine Air Handlers

There are (11) Carrier and Carnes semi-custom modular air handlers located in Units A, B, and C Mezzanines. The air handlers have a mixture of hot water coils for heating, chilled water coils for cooling, and DX coils with outdoor condensing units for cooling. The air handling units are in good condition and no improvements are recommended. **Outdoor condensing units ACCU-A and ACCU-B are near the end of useful service life and it is recommended that they be replaced**.

Rooftop Units

There is (1) packaged rooftop unit serving the grease hood makeup air. **This is at or near the end of useful service life and it is recommended that is be replaced**.

Roof Exhaust Fans

There are approximately (5) roof mounted exhaust fans that appear to be original to construction. No deficiencies were noted, but the fans are at or near the end of their useful service life**. It is recommended that they be audited for functionality and replaced as-needed.**

Direct Digital Controls for HVAC

The building control system is a Staefa Controls digital control system. No deficiencies were noted and no improvements are recommended.

Power

The building is served by a pad mount utility transformer by the local utility supplying 480/277 Volt 3-phase service to the building. The secondary conductors are route below grade to a 3000 Amp, 480/277 Volt 3-phase switchboard in the main electrical room.

The service entrance switchboard is switchboard is a Square D QED switchboard with 3000-amp Main Circuit breaker with micrologic LED adjustable trip circuit breaker.as the main disconnect. The distribution sections are circuit breaker style that feed distribution panels, a branch circuit panels, dry type transformers (T-4) and two (2) chillers. The switchboard does have a meter and surge suppression that appears to be operating. There appears to be sufficient space in the switchboard to add additional circuit breakers. The main switchboard appears to be in good condition and is still serviceable.

225 KVA dry-type transformer serving one (1)-600-amp 208/120 Volt 3-phase circuit breaker distribution panel with 600A, 3-pole circuit breaker that serves branch circuit panels. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The distribution panels are a Square D I-line panel. The panels appear to be in good condition and are still serviceable. The switchboard should have 30-40 years of service from 2002 based on proper maintenance and exercise of the circuit breakers. The switchboard should have 30-40 years of service from 2002 based on proper maintenance and exercise of the circuit breakers.

Unit B Electrical room has one (1)1000-amp 480/277 Volt 3-phase distribution panel with 1000-amp main circuit breaker that serves branch circuit panel, lift station elevator, and dry type transformer. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The panels appear to be in good condition and are still serviceable. 300 KVA dry-type transformer serving one (1)-1000-amp 208/120 Volt 3-phase circuit breaker distribution panel with 1000A, 3-pole circuit breaker that serves branch circuit panels. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The distribution panels are a Square D I-line panel. The panels appear to be in good condition and are still serviceable. The switchboard should have 30-40 years of service from 2002 based on proper maintenance and exercise of the circuit breakers.

Unit C First Floor Electrical room has one (1)-800-amp 480/277 Volt 3-phase distribution panel with 180-amp main circuit breaker that serves branch circuit panel, mechanical equipment, and dry type transformer. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The panels appear to be in good condition and are still serviceable. 300 KVA dry-type transformer serving one (1)-1000-amp 208/120 Volt 3-phase circuit breaker distribution panel with 1000A, 3-pole circuit breaker that serves branch circuit panels and a Kiln. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The distribution panels are a Square D I-line panel. The panels appear to be in good condition and are still serviceable. The switchboard should have 30-40 years of service from 2002 based on proper maintenance and exercise of the circuit breakers.

Unit C Second Floor Electrical room has one (1)-800-amp 480/277 Volt 3-phase distribution panel with 180-amp main circuit breaker that serves branch circuit panel, mechanical equipment, and dry type transformer. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The panels appear to be in good condition and are still serviceable. 300 KVA dry-type transformer serving

one (1)-1000-amp 208/120 Volt 3-phase circuit breaker distribution panel with 800A, 3-pole circuit breaker that serves branch circuit panels and a Kiln. There appears to be sufficient space in the distribution Panel to add additional circuit breakers. The distribution panels are a Square D I-line panel. The panels appear to be in good condition and are still serviceable. The switchboard should have 30-40 years of service from 2002 based on proper maintenance and exercise of the circuit breakers.

The overall power distribution system appears to be in good condition and does not need any immediate attention. The system will need to be re-evaluated as parts become less accessible during the life of the gear.

Lighting

The existing lighting throughout the facility is mostly fluorescent type fixtures with some accent lighting that is incandescent. Exterior Lighting is metal halide style fixture with LED replacement lamps.

The classroom lighting control is inboard/outboard lamp switching which gives the space light levels of 33%, 66%, or 100% of lumen output. The corridor lighting control is operated contactor with timeclock operation. The remaining spaces operated through toggle switch(es). There appears to be no occupancy sensing in the facility.

Exterior Lighting is controlled through contactors and time clock with BMS relays.

First recommend putting forth a replacement strategy to replace all fixtures with new high efficiency LED light fixtures. Since most new LED fixtures are equipped with 0-10v dimming capabilities with 100% to 10% range. Classrooms and offices would benefit greatly from dimming for better lighting control is needed for various activities. Second recommended is to utilize occupancy sensors through the facility to help reduce wasted power consumption when a space is unoccupied. The two recommendations would help reduce overall power consumption that would be reflected in your energy bills. Based on Electrical Service Territories (IURC) on IN.gov. The facility is served by Southeastern Indiana REMC. Southeastern Indiana REMC offer rebates on replacement of fluorescent lighting to LED.

Fire Alarm System

The fire alarm system is a Simplex 4010ES series which is the most up to date system that can be installed. The system shall be good for 10-15 years before system parts and updates become less accessible.

Educational Intercom System

Has been recently replaced

Telecommunications

The horizontal backbone in the facility appears to be multi-mode fiber which has limited bandwidth based on type. Based on the color of cable jacket the facility could have OM1 62.5/125 multi-mode optical fiber and a single mode optical fiber backbone. The limits on bandwidth will be based on the total overall length of the cable. Below are approximate distance limitations based on transmission.

Fiber Type	CORE/CLADDING (µM)	Distance Limitations (Feet)			
		1G BASE	10G BASE	40G BASE	100G BASE
OM1	62.5/125	900	82		
OM2	50/125	1,800	280		
OM3	50/125	2822	984	325	230
OM4	50/125	2822	1312	325	325
OS1	9/125	6,560	6,560		
OS2	9/125	32,736 (6.2 miles)	32,736 (6.2 miles)	32,736 (6.2 miles)	32,736 (6.2 miles)

The telecommunication horizontal cabling system in the building is various cabling types which includes 6, 6e and 6A type cabling.

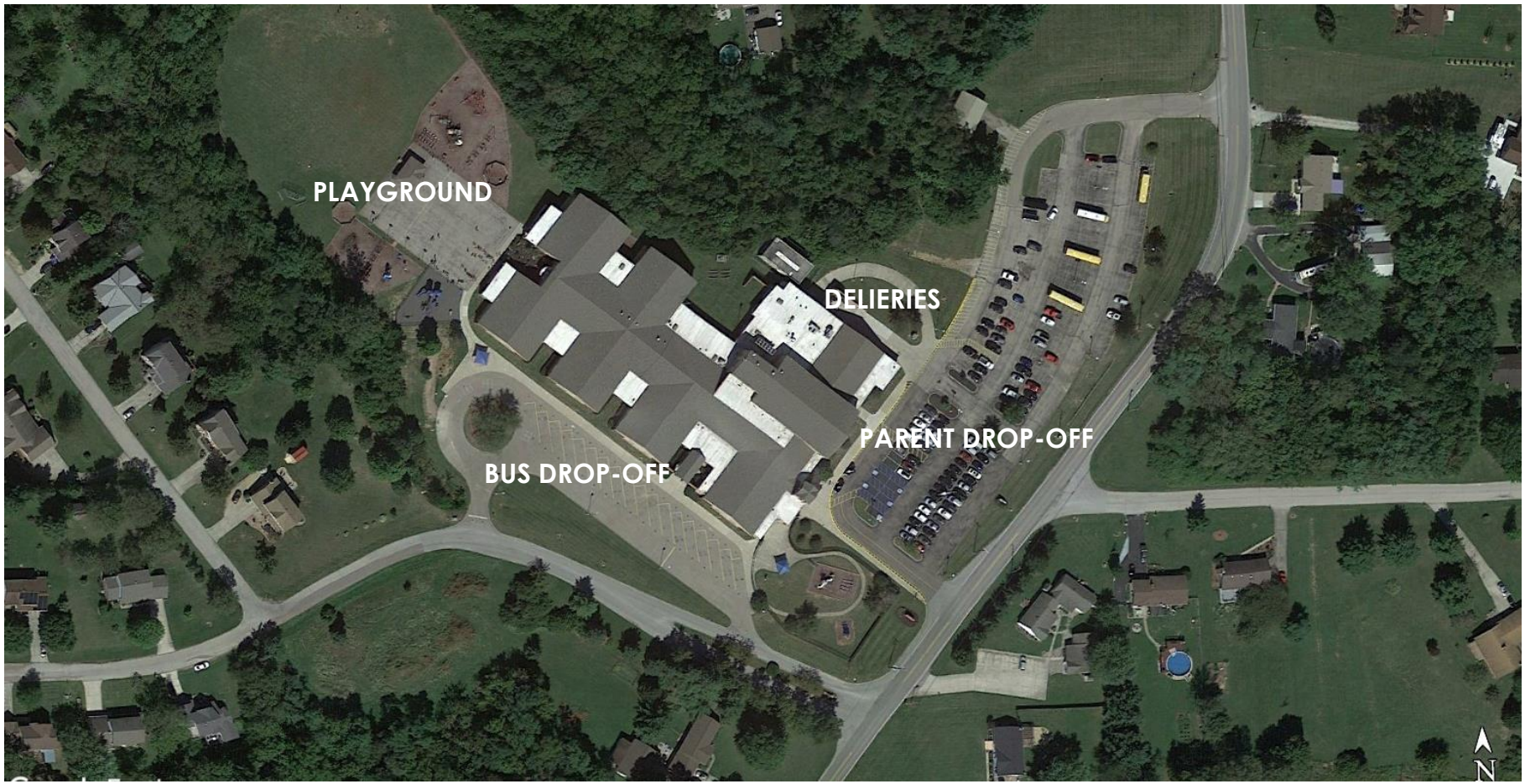
The facility still has coaxial distribution set up in the building.

Current design practices are horizontal cabling to be category 6A and a OS2 single mode optical fiber backbone through the building to maximum bandwidth potential. The current telecommunications system would need expanded discussion with the owner on overall technology goal of facility.

Security Camera

Primary Engineering will need to evaluate the entire building to verify camera layouts. Recommended areas would be to cover all corridors, stairwells, cafeteria, access points into the building. The system being installed is a Tyco Ezacqvision Z series recorders and Hanwah Techwin Cameras

II E. BRIGHT ELEMENTARY-SITE



The school was built in 1993. The building is located off State Line Road and the front door is clearly visible from the public road. The bus and car entry drives are clearly separated and are far from each other. Some visiting drivers enter the bus parking lot by mistake; this is directly adjacent to the playground

Site Access

- New/Improved signage is needed to allow visitors understand which entrance to use and where to park for specific events
- Curb appeal needs to be looked at in order to clearly identify front entrance and signage can help with daily announcements
-

Site Security

- Additional cameras are needed outside the building to be able to observe the parking lots and playgrounds
- Additional PA system speakers are needed outside the building (especially pointing to the north-west side of the building)

Pavement

- The kindergarten playground is a little undersized for the student population and should be expanded
- Older playground equipment needs to be replaced as it is starting to fail

II E. BRIGHT ELEMENTARY- BUILDING

Building Envelope

- During the last renovation the gable roofs were replaced but the flat roofs were not. It is recommended for the flat portions of the roof to be replaced
- The windows on the west side of the building are starting to go up, it is recommended to take a look at replacing all the windows as the windows are close to 30 years old

Special Education

- There are a few special education renovation items that are needed to meet the current needs

II E. BRIGHT ELEMENTARY-MEP

Fire Sprinkler

The building is fully sprinklered with a two-zone wet-system fire protection system and Watts 909 reduced pressure detector assembly backflow preventer. No deficiencies were noted, and no improvements are recommended.

Plumbing

Plumbing systems include a water entrance with (1) 4" Watts 909 backflow preventers, American Water Conditioning simplex water softener, Lochinvar AWN water heater with 500-gallon storage tank, Symmons TempControl thermostatic mixing valve, and (2) Grundfos domestic hot water recirculation pumps. No deficiencies were noted, and no improvements are recommended.

Heating Plant

The heating plant consists of (2) Weil-McLain 3,000 MBH fire-tube condensing boilers, (2) Bell & Gossett base mounted centrifugal pumps, expansion tank, and air separator that have recently been upgraded and are in good condition. No improvements are recommended.

Cooling Plant

The cooling plant consists of (1) Carrier air-cooled scroll chiller with remote evaporator barrel, (2) Bell & Gossett base mounted centrifugal pumps, expansion tank, buffer tank, and air-separator. The system is roughly 50% of useful service life. **It is recommended that it be replaced when the useful service life is complete**.

Mezzanine Air Handlers

There are (4) Trane semi-custom modular air handlers located in the Mezzanine. The air handlers have a mixture of hot water coils for heating, chilled water coils for cooling, and DX coils with outdoor condensing units for cooling. The air handling units appear to be original to construction and are near the end of useful service life. **It is recommended that they be replaced**. The outdoor condensing units ACCU-1 and ACCU-C2 have recently been upgraded and are in good condition.

Classroom VAV Terminals

There are approximately (70) VAV terminals that appear to be original to construction and are near the end of useful service life. **It is recommended that they be replaced**.

Rooftop Units

There is (1) packaged rooftop unit that is in good condition. No improvements recommended.

Roof Exhaust Fans

There are approximately (20) roof mounted exhaust fans that appear to be original to construction. No deficiencies were noted, but the fans are at or near the end of their useful service life. **It is recommended that they be audited for functionality and replaced as needed**.

Direct Digital Controls for HVAC

The building control system is a Johnson Controls MetaSys digital control system. No deficiencies were noted, and no improvements are recommended.

Power

The building is served by a pad mount utility transformer by the local utility supplying 480/277 Volt 3-phase service to the buildin0g. The secondary conductors are route below grade to a 1600 Amp, 480/277 Volt 3-phase switchboard. The service entrance switchboard is a Siemens Sentron switchboard with 1600-amp bolted pressure switch as the main disconnect. The distribution sections are fusible switch style that feed distribution panels, a branch circuit panels, dry type transformer (T-1) and air-cooled condensing units. The switchboard does have a meter and surge suppression that appears to be operating. There are three (3) 200A. 3-pole fusible switches that appear to be spare. The main switchboard appears to be in good condition and is still serviceable. The switchboard should have 40-50 years of service from 1994 based on proper maintenance and exercise of the disconnects.

The main electrical room has a 112.5 KVA dry-type transformer serving one (1) 400-amp 208/120 Volt 3-phase circuit breaker distribution panel serving panels in unit C, dimming system, and the kitchen areas. There are one (1) 60A, 3-pole and one (1) 100A, 3-pole circuit breakers that appear to be spare. The distribution panel is a Siemens type S4 panel. The panels appear to be in good condition and are still serviceable. The panel should have 40-50 years of service from 1994 based on proper exercise of the circuit breaker.

Unit B electrical room has one (1) 400-amp 480/277 Volt 3-phase distribution panel with 300-amp main circuit breaker that serves branch circuit panels and dry type transformer. There are one (1) 100A, 3-pole, and one (1) 200A, 3-pole circuit breakers that appear to be spare. The panels appear to be in good condition and are still serviceable. 112.5 KVA dry-type transformer serving one (1) 600-amp 208/120 Volt 3-phase circuit breaker distribution panel with 500-Amp main circuit breaker is serving panels in unit b, kiln, and the kitchen areas. There is one (1) 100A, 3-pole circuit breaker that appears to be spare. The distribution panel is a Siemens type S4 panel. The panels appear to be in good condition and are still serviceable. The panel should have 40-50 years of service from 1994 based on proper exercise of the circuit breaker.

Unit C electrical room has one (1) 800-amp 480/277 Volt 3-phase distribution panel with 700-amp main circuit breaker that serves air handlers, Boiler, Pumps, compressor branch circuit panel and dry type transformer. The panels appear to be in good condition and are still serviceable. 150 KVA dry-type transformer serving one (1) 600-amp 208/120 Volt 3-phase circuit breaker distribution panel with 500-Amp main circuit breaker is serving panels in unit b, kiln, and the kitchen areas. There are one (1) 100A, 3-pole, and one (1) 200A, 3-pole circuit breakers that appear to be spare. The distribution panel is a Siemens type S4 panel. The panels appear to be in good condition and are still serviceable. The panel should have 40-50 years of service from 1994 based on proper exercise of the circuit breaker.

The branch circuit panels that are throughout the facility are Siemens type S1 (208/120 Volt, 3-Phase, 4 wire) and Siemens Type S2 (480/277 Volt, 3-Phase, 4 wire). The panels appear to be in good condition and are still serviceable.

The overall power distribution system appears to be in good condition and does not need any immediate attention. The system will need to be re-evaluated as parts become less accessible during the life of the gear.

Lighting

The existing lighting throughout the facility is mostly fluorescent type fixtures with some accent lighting that is incandescent. Exterior Lighting is metal halide style fixture with LED replacement lamps.

The classroom lighting control is inboard/outboard lamp switching which gives the space light levels of 33%, 66%, or 100% of lumen output. The corridor lighting control is operated contactor with timeclock operation. The remaining spaces operated through toggle switch(es). There appears to be no occupancy sensing in the facility.

Exterior Lighting is controlled through contactors and time clock.

Emergency Egress Lighting in Gymnasium, mechanical, Electrical Spaces utilized Wall mounted emergency Egress lighting. Emergency egress lighting in spaces such as hallways, cafeteria and restrooms is connected through emergency power inverter (4.2kW). These fixtures are operational 24 hours per day 7 days a week. Emergency Power Inverter was replaced in March of 2018 per document on unit. Typical Lead Acid Batteries last 5-7 years.

First recommend putting forth a replacement strategy to replace all fixtures with new high efficiency LED light fixtures. Since most new LED fixtures are equipped with 0-10v dimming capabilities with 100% to 10% range. Classrooms and offices would benefit greatly from dimming for better lighting control is needed for various activities. Second recommended is to utilized occupancy sensors through the facility to help reduce wasted power consumption when a space is unoccupied. The two recommendations would help reduce overall power consumption that would be reflected in your energy bills. Based on Electrical Service Territories (IURC) on IN.gov. The facility is served by Duke utilities. Duke Indiana offer rebates on replacement of fluorescent lighting to LED.

Fire alarm:

The fire alarm system is being replaced in the summer of 2023. The new system is a Simplex 4100ES series voice evacuation system which is the most up to date system that can be installed. The system shall be good for 10-15 years before system parts and updates become less accessible.

Education Intercom

The educational intercom system is being replaced in the summer of 2023. The new system is a Bogen Nyquist system which is a hybrid digital-analog system which is the most up to date system that can be installed.

Telecommunications

The horizontal backbone in the facility appears to be multi-mode fiber which has limited bandwidth based on type. Based on the color of cable jacket the facility could have OM2 and/or OM3 50/125 multi-mode optical fiber. The limits on bandwidth will be based on the total overall length of the cable. Below are approximate distance limitations based on transmission.

Fiber Type	CORE/CLADDING (µM)	Distance Limitations (Feet)			
		1G BASE	10G BASE	40G BASE	100G BASE
OM1	62.5/125	900	82		
OM2	50/125	1,800	280		
OM3	50/125	2822	984	325	230
OM4	50/125	2822	1312	325	325
OS1	9/125	6,560	6,560		
OS2	9/125	32,736 (6.2 miles)	32,736 (6.2 miles)	32,736 (6.2 miles)	32,736 (6.2 miles)

The telecommunication horizontal cabling system in the building is various cabling types which includes 6, 6e and 6A type cabling.

Current design practices are horizontal cabling to be category 6A and a OS2 single mode optical fiber backbone through the building to maximum bandwidth potential. The current telecommunications system would need expanded discussion with the owner on overall technology goal of facility.

Security Camera

Primary Engineering will need to evaluate the entire building to verify camera layouts. Recommended areas would be to cover all corridors, stairwells, cafeteria, access points into the building. The system being installed is a Tyco Ezacqvision Z series recorders and Hanwah Techwin Cameras

II E. SOLUTIONS

HIGH SCHOOL

HIGH PRIORITY ITEMS		Preliminary Cost
1.	New Boilers	400,000.00
2.	New Rooftop Units	4,100,000.00
3.	New Rooftop Unit for PAC	300,000.00-425,000.00
4.	New Rooftop Exhaust Fans	375,000.00-400,000.00
5.	New Building Controls	1,100,000.00-1,500,000.00
6.	Additional Relief Fans	250,000.00-300,000.00
7.	Replacement of Second Floor Unit J Distribution Panel, Transformer, and Branch Circuit	75,000.00-80,000.00
8.	Cameras (30 New Cameras)	75,000.00
9.	Reconfiguration of Drives by the Front Door (80,000 SF)	800,000.00-1,000,000.00
10.	Site Signage and Curb Appeal	250,000.00
11.	Paving the Bus Parking (48,000 SF)	450,000.00-600,000.00
12.	Milling and Re-paving Existing Parking Lots and Adjacent Sidewalks (200,000 SF)	2,000,000.00
13.	Auditorium Renovation (Chairs, Curtains, Rigging, Stage, Flooring, Lighting)	3,000,000.00-3,650,000.00
14.	Main Gym Rubber Stairs	30,000.00
15.	Window Shades in the Pool	25,000.00
16.	Interior Door Replacement (25 doors)	100,000.00
	TOTAL:	**13,330,000.00-14,935,000.00**

2nd PRIORITY ITEMS	Preliminary Cost
17. Group Restroom Renovation (6,000 sf for 7 Sets of Restrooms)	1,500,000.00-1,800,000.00
18. Locker Replacement (300 Corridor Lockers)	110,000.00-125,000.00
19. Staff Restroom on the Second Floor	80,000.00
20. VAV Box Replacement	1,500,000.00
21. Wall Padding Replacement	50,000.00
22. Locker Room Renovation (1,700 SF)	400,000.00-500,000.00
TOTAL:	**3,640,000.00-4,055,000.00**

DISCRETENARY ITEMS – IF BUDGET ALLOWS	Preliminary Cost
23. Entry Way Heaters	150,000.00
24. New Golf Facility	600,000.00
25. New Maintenance Faciltiy (2,500 SF)	450,000.00-750,000.00
26. Turf on Soccer Field	1,000,000.00
27. Cafeteria Serving Area (1,200 SF)	350,000.00-450,000.00
28. Additional Tennis Courts (5)	750,000.00-900,000.00
29. Media Center Interior Renovation (4,750 SF)	700,000.00-950,000.00
TOTAL:	**4,000,000.00-4,800,000.00**

High School Total (All Items): 20,970,000.00-23,790,000.00

MIDDLE SCHOOL

HIGH PRIORITY ITEMS	Preliminary Cost
1. Mill and Re-pave Parking Lots and Adjacent Sidewalks (43,000 SF)	450,000.00
2. Site Signage and Curb Appeal	150,000.00
3. Additional Cameras (30)	75,000.00
4. Earth Mound Landscaping	600,000.00-800,000.00
5. Painted Steel Railings Replacement	75,000.00
6. Sound System in the Gym Replacement	100,000.00
7. FACS Renovation (2,200 SF)	450,000.00-650,000.00
8. Window Shade Replacement (30 windows)	90,000.00-150,000.00
TOTAL	**1,990,000.00-2,450.00**

2nd PRIORITY ITEMS	Preliminary Cost
9. AG Program Renovation (2,500 SF)	500,000.00-750,000.00

Middle School Total (All Items): 2,490,000.00-3,200,000.00

SUNMAN ELEMENTARY

HIGH PRIORITY ITEMS	Preliminary Cost
1. Water Heater	75,000.00
2. Heating Plant Replacement	500,000.00
3. (30) Classroom Unit Ventilators	900,000.00
4. New (3) Outdoor Condensing Units	90,000.00
5. New (4) Rooftop Units	100,000.00
6. New Building HVAC Controls	400,000.00
7. Widening Entry Drive into the School	60,000.00-75,000.00
8. Repaving the Bus Parking Lot and Adjacent Sidewalks (72,000 SF)	720,000.00-850,000.00
9. Site Signage and Curb Appeal	150,000.00
10. Moving the Gate closer to the Playground	10,000.00
11. Additional Cameras and Speakers (10)	25,000.00
12. Electrifying All the Exterior Doors (3)	15.000.00
13. Door 4,5 and 7 Replacement (Storefront with Sidelights and Transoms; 100SF Each)	35,000.00-50,000.00
14. Shades in the Art Classroom	25,000.00
TOTAL	**3,105,000.00-3,265,000.00**

Sunman Elementary School Total (All Items): 3,105,000.00-3,265,000.00

DISCRETENARY ITEMS (FUTURE ITEMS; OUTSIDE OF THE SCOPE)	Preliminary Cost
15. Pressure boosting system: replace within 10 years	50,000.00
16. (20) Roof Exhaust Fans (past life cycle but functional)	400,000.00
17. HVAC Controls	400,000.00

NORTH DEARBORN ELEMENTARY

Item	Preliminary Cost
HIGH PRIORITY ITEMS	
1. Heating Plant Replacement	500,000.00
2. New (5) Outdoor Condensing Units	150,000.00
3. (1) Rooftop Unit (Grease Hood Makeup Air)	25,000.00
4. Milling and Re-paving the Existing Parking Lots and Adjacent Sidewalks (150,000 SF)	1,500,000.00
5. Additional Cameras and Speakers (10)	25,000.00
6. Site Signage and Curb Appeal	150,000.00
7. Electrifying All Exterior Doors (4 sets)	20,000.00
8. Gym Sound System Replacement	100,000.00
9. Create a New Special Education Suite with Restroom and Calm Room (1,400 SF)	250,000.00-350,000.00
TOTAL:	**2,720,000.00-2,820,000.00**

DISCRETENARY ITEMS – IF BUDGET ALLOWS	Preliminary Cost
10. Playground Rubber Surface	350,000.00-400,000.00

North Dearborn Elementary School Total (All Items): 3,070,000.00-3,220,000.00

DISCRETENARY ITEMS (FUTURE ITEMS; OUTSIDE OF THE SCOPE)	Preliminary Cost
12. (5) Roof Exhaust Fans (Past Life Cycle but Functional)	100,000.00
13. HVAC Controls	650,000.00

BRIGHT ELEMENTARY

Item	Preliminary Cost
HIGH PRIORITY ITEMS	
1. Cooling Plant	500,000.00
2. Replacement of (4) Air Handling Units	400,000.00
3. Mill and Re-pave Parking Lots and Adjacent Sidewalks (64,000 SF)	650,000.00-750,000.00
4. Additional Cameras and Speakers Outside (10)	25,000.00
5. Replacement of Playground Equipment, Moving the Fence for New Playground, Installing New Fence to Enclose the Playground	250,000.00-350,000.00
6. Signage/Curb Appeal	150,000.00
7. Flat Roof Replacement (24,000 SF)	600,000.00-750,000.00
8. Special Education Renovation	15,000.00
9. Window Replacement (4,800 SF)	385,000.00-480,000.00
TOTAL	**2,975,000.00-3,420,000.00**

Bright Elementary School Total (All items): 2,975,000.00-3,420,000.00

DISCRETENARY ITEMS (FUTURE ITEMS; OUTSIDE OF THE SCOPE)	Preliminary Cost
13. (20) Roof Exhaust Fans (past life cycle but functional)	400,000.00
14. HVAC Controls	400,000.00

V. ADDITIONAL SKETCHES: