

FACILITY STUDY REPORT

FOR THE

**WHITEFORD AGRICULTURAL SCHOOLS**  
**ELEMENTARY + MIDDLE/HIGH SCHOOLS**  
6655 CONSEAR ROAD  
OTTAWA LAKE, MI 49267



Presented by:  
**JAMES S. JACOBS ARCHITECTS, PLLC.**

Presented to:  
**WHITEFORD AGRICULTURAL SCHOOLS**  
6655 CONSEAR ROAD  
OTTAWA LAKE, MI 49267

Report Date:  
**January 14, 2018**



**JAMES S. JACOBS ARCHITECTS, PLLC**

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## WHITEFORD AGRICULTURAL SCHOOLS

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6655 CONSEAR ROAD  
OTTAWA LAKE, MI 49267



PRESENTED TO:

**VALERIE ORR, SUPERINTENDENT**  
**WHITEFORD AGRICULTURAL SCHOOLS BOARD OF EDUCATION**

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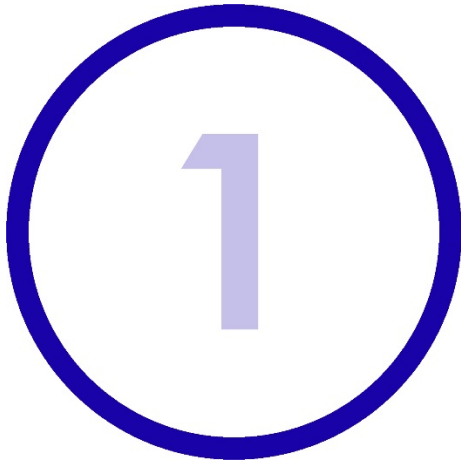
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+

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## Introduction

Over the course of approximately five months, Whiteford Agricultural Schools worked with the Team of James S. Jacobs Architects and JDRM Engineering to study and compile information on the existing facilities, maintenance and repair items, potential program/educational deficiencies, and proposed improvements.

The process encompassed an assessment of the existing Elementary and Middle/High School facilities, as well as input from user engagement groups composed of Students, Staff, Community Stakeholders, and the Board of Education to ascertain their current experiences and vision for the future.

This process allowed the Team to determine the current deficiencies and improvements required with the existing facilities and site, as well as with spatial requirements and needs of the existing educational programs. We were also able to determine opportunities for improvements and areas of need as pertains to current educational programs, and the future of education within the Whiteford Agricultural Schools' system.

## Purpose

The purpose of this report is to provide a general overview and information of the multiple aspects that contribute to the ongoing maintenance and planning of educational facilities. The cost estimates are general and preliminary in nature, and based upon historical information of similar types of projects. The intent of this report is to allow Whiteford Agricultural Schools to understand and prioritize future planning based on the magnitude and likely costs associated with providing a safe, progressive educational environment for the Whiteford Agricultural Schools Community.

## Whiteford Agricultural Schools' Mission

Engaged in our Learning.

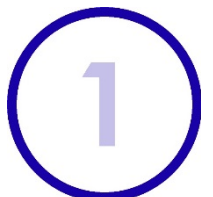
Encouraged by our Community.

Empowered for the Future.

## Priorities

Over the course of the Study, Whiteford Agricultural Schools identified areas that are general priorities. This listing of priorities helped guide the Study and planning process to address the issues of greatest importance to the school system.

1. **A Safe and Secure Campus.**
2. **Structural and Mechanical integrity of buildings.**
3. **Energy efficient Mechanical and Electrical Systems.**



4. Upgrade buildings to provide improved educational environments for today's current educational needs.
5. Improved spaces for Arts, Agriculture and STEM programs.
6. Improved Athletic/Physical Education/Community Activity Facilities.
7. Improved overall image in the buildings and campus which will contribute to Community pride and help inspire the students.

## Summary of Topics

Listed below are summaries of the topics that were developed over the course of the study:

### Architectural + Structural Conditions

James S. Jacobs Architects visited each of the buildings on site. The review involved walking through the buildings, attic space inspections, exterior review, as well as conversations with faculty and staff. Conclusions of these reviews were the buildings appear to be in structurally good condition with some minor maintenance issues that should be addressed. Architecturally, the Study focused on how the schools can better provide personalized learning environments with the freedom for collaboration and inquiry. This type of collaborative, experiential learning requires changes in the way content is taught, as well as a different type of flexible learning space that promotes collaboration, communication, and critical thinking. Learning spaces need to be flexible, provide areas for movement, and promote innovation and inquiry. Therefore, as the curriculum changes, so must the ideas of what a learning environment looks like. Further information regarding existing facility conditions can be found in Section 2 of this Study. Additional information regarding proposed Concept Plans can be found in Section 4 of this Study.

### Mechanical + Electrical + Plumbing Conditions

Representatives from JDRM Engineering studied the existing Mechanical, Electrical and Plumbing Systems in each of the buildings. The Elementary School appeared to be in relatively good condition. This is based primarily on the newer upgrades; however, ventilation issues still remain, and should be addressed. The Middle/High School has older equipment that could benefit from upgrades, and in most cases have outlived or reached their useful life limit. In addition, there are potential opportunities for energy savings that may occur with the possible replacement of equipment. There are some maintenance items to be attended to as regards existing hot water lines, as well as replacement of domestic water lines to coincide with the connection to water supplied by the new water treatment plant. Further information,



regarding the existing Mechanical, Electrical and Plumbing Systems can be found in Section 2 of this Study.

### **Safety**

Buildings could benefit from enhanced safety measures, particularly at the main entrances to improve access control. Phase I Safety Improvements, undertaken in 2018, provided an improved level of safety that should be expanded to include secured access vestibules, safety glass, and expanded configuration of exterior closed-circuit video surveillance cameras; at a minimum. There are other technologies to explore including mass notification systems and cell phone activated access controls. Consultation with a Security Consultant and local law enforcement is highly recommended.

### **Energy Efficiency**

The School District has taken steps to upgrade the MEP Systems to incorporate strategies for saving energy. They are currently completing a lighting overhaul, converting all light fixtures on campus to LED fixtures with control systems and an energy monitoring system. There are additional opportunities for energy savings in the High School with the replacement of existing boiler systems to new efficient systems, potentially reducing the energy consumption even further.

### **Technology**

One area in need of significant upgrade is technology used for presentation and collaboration. There is currently very little technology available to students outside of the classroom to be used collaboratively or to personalize their learning opportunity. Currently, the Whiteford Agricultural Schools continue to provide computer access to all students, however, associated technologies are often lacking in providing for collaborative, interactive and innovative learning. Also, consistency with technologies from classroom to classroom could be improved. The inconsistency creates added cost, lower efficiency and potentially lower use in each classroom. A consistent technology footprint in each classroom is desired. A comprehensive plan developed by a Technology Consultant and WAS Technology Team is recommended.

### **Spatial Improvements**

The Middle/High School was constructed in 1957, with a significant addition in 1960. In 2002, a standing seam metal roof was constructed, and windows and exterior doors were replaced. Although there have been changes over the years, the building is primarily organized as originally constructed. Through the Facility Study process, the following areas were identified as deficient and in need of improvements:

1. Dedicated areas for Band, Choir and Arts
2. Dedicated and Expanded areas for Agricultural and STEM programs



3. Dedicated areas for Direct College, Virtual Classroom and Senior Year Experience programs
4. Reconfiguration and renovation of Library to provide more collaboration work spaces and resource opportunities pertinent to current and future educational needs
5. Relocation of (1) and updates to existing Science Labs
6. Provide 'Commons' area (located near Entry)
7. Improve main entry to provide inviting and secure lobby
8. Dedicated areas for exterior learning environments
9. New Running Track

The Elementary School was constructed in 1966, with significant renovations and an addition in 2002, including renovated Media Center, new Lunch Room and Art Room. During the Facility Study process, the following areas were identified for possible improvements:

1. Dedicated Community/Parent Area
2. Enhance Security at the Entrances & Classrooms
3. Dedicated Special Education Classroom & Intervention Spaces
4. Dedicated Areas for Exterior Learning Environments

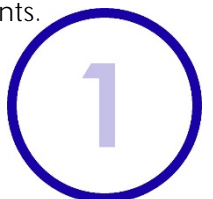
### **Campus Improvements**

To relieve arrival and departure congestion, this Facility Study has investigated reconfiguring parking, providing a continuous bus loop, and opportunities for additional parking and movement throughout the campus. There have also been proposed areas suggested for location of new septic field to replace the existing field serving the Middle/High School, Field Event Concessions Building and Restrooms. In addition, the proposed Campus Plan shows a potential Multi-purpose Building that may relieve pressure on after school athletic practices, training and other Community uses. Site improvements identified:

1. Enhance Site Security
2. Provide Dedicated Area for New Septic Field (Middle/High School)
3. Relocation of Bus and Maintenance Garage and Bus Parking

### **Estimates of Probable Construction Costs**

As a final step in this Study, we have identified potential costs for the building reconfigurations and new construction suggested within this Study. These costs are an estimate of cost range only, and could be affected by several variables. The purpose of the estimates is to allow Whiteford Agricultural Schools to consider the potential scope of costs for the various ideas that are included within this Study to use as a planning tool for future improvements.



## Summary of Existing Conditions – Middle/High School

The Middle/High School was found to be in generally good condition. Our observations of areas of concern are included in Photos 1 through 30, on the following pages. (See Existing Middle/High School [Key Plan] for location reference.)

We did not observe any visible structural concerns; however, we would suggest a Structural Engineer be consulted with to assess the purpose of jack posts at various locations throughout the facility, and wall cracking within storage rooms located on the High School Stage. See photos 20 & 21 for documentation.

The building envelope could use some attention, however, given the age of the building it appears to be in relatively good condition. Brick clads most of the façade and should be inspected, cleaned, repointed and sealed, as we observed multiple areas around the building of deteriorating, loose or missing grout. A thorough inspection, cleaning, repoint and seal is recommended to be performed every 5 years and inspected annually.

The standing-seam metal roof appears to be in good condition, having been installed in 2002, however, we did come across a couple of locations of water infiltration within the building.

The window and door systems generally appear to be in good condition, we recommend general weather-stripping and caulking maintenance to address existing infiltration concerns observed. This should be performed on an annual basis. Pay special attention to entry doors, as we witnessed water entering the vestibule under doors during a hard rain. Evidence of water damage can be seen in each vestibule where damaged VCT tile is broken and missing.

We would recommend replacement of all service doors with steel doors and frames.

During discussion with Staff it was reported that in Room #8, water infiltrates the room from below the floor during times of heavy rainfall. This issue should be investigated and repaired with urgency. We suggest starting with Camera Inspection of the under-slab roof storm pipe to determine cause of issue.

All classroom spaces received new 2x2 carpet tile and rubber wall base throughout in 2015.

The entire facility is in the process of being upgraded with new LED lighting and control systems.

The High School Gymnasium is scheduled to receive new performance flooring and telescoping stands in Summer 2019. Existing High School Gymnasium does not meet standards to host volleyball or basketball events at District level. Ceiling height and court size are sub-standard for current requirements for athletic

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events. Current size of gymnasium does not allow for multi-team practicing opportunities, requiring student-athletes to practice before school hours and late into evening hours. Lack of available gymnasium times limits use by Community Members, and requires their use to be subject to very early morning or late evening sessions.

Hallways are scheduled to receive new flooring with rubber wall base scheduled to be installed in Summer 2020 along with renovations to existing Girl's and Boy's Locker Rooms.

Phase 1 of security upgrades, updated in 2018, provide an initial level of safety for students and staff. We recommend a Phase 2 of security upgrades, including secure access vestibules, safety glass, and an expanded scope of surveillance cameras. Consultation with a Security Consultant and local law enforcement is highly recommended.

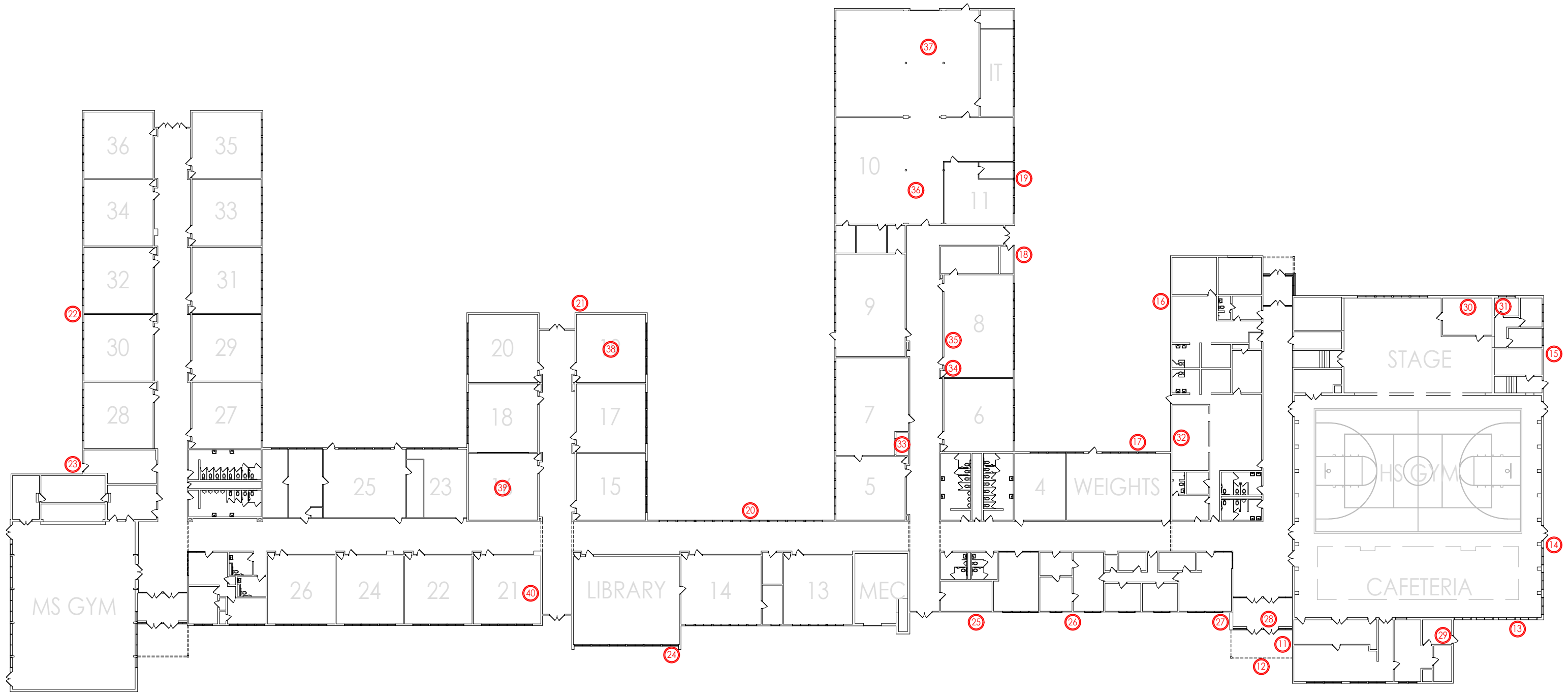
We recommend addressing the below observations in a timely manner to prevent sever damage caused by water infiltration and preserve the integrity/viability of the structure. Our repair recommendations for the Middle/High School are as follows:

1. Replace weather-stripping at exterior doors.
2. Inspect, Clean, Repoint and Seal entirety of existing brick façade.
3. Clean the organic growth and staining from the brick façade.
4. Repair concrete slabs at entry locations.
5. Install backer rod and sealant at northwest exterior wing wall of Library.
6. Repair the leaking downspouts, and determine cause of overflow at underground connection.
7. Repair punctures in EIFS on south façade.
8. Replace service doors with new steel man doors.
9. Consult with Structural Engineer and repair/monitor areas of structural concerns as noted throughout facility.
10. Investigate cause of water infiltration in Room #8 and repair as required.
11. Inspect standing seam metal roof for locations of water infiltration and make any necessary repairs.

DRAWING LEGEND

23 ROOM IDENTIFICATION NUMBER

21 EXISTING PHOTO IDENTIFICATION NUMBER



# Photographic Documentation of Existing Facilities

## Middle/High School - Exterior



1. CLEANOUT CASKET DRYROTTED + DISLODGED FROM CONCRETE ENCLOSURE  
- REPLACE RUBBER GASKET AND PROVIDE CLEANOUT COVER



2. BROKEN CONCRETE ENTRY SLAB @ CONCRETE SIDEWALK - MAIN ENTRY  
- REPLACE BROKEN CONCRETE



3. EXTERIOR WATER BIB, RESIDUE ON FACE OF BRICK INDICATES LEAKING WATER  
- CLEAN ORGANIC MATTER FROM BRICK, INSPECT WATER BIB AND REPAIR AS REQUIRED



4. ERODED + LOOSE GROUT, TYPICAL AT DOOR + WINDOW FLASHING  
- CLEAN & REPOINT MASONRY AS NEEDED FOR DAMAGED JOINTS. INSPECT ANNUALLY.



**5. BROKEN + MISSING BRICK THROUGHOUT AREA OF FAÇADE**  
- CLEAN & REPOINT MASONRY AS NEEDED. INSPECT ANNUALLY.



**6. BROKEN + MISSING BRICK + ERODED GROUT THROUGHOUT AREA OF FAÇADE**  
- CLEAN & REPOINT MASONRY AS NEEDED FOR DAMAGED JOINTS. INSPECT ANNUALLY.



7. ALUMINUM STAINS ON BRICK, TYPICAL AT ALL WINDOWS THROUGHOUT FACILITY  
- CLEAN AND SEAL MASONRY AS NEEDED IN ALL SIMILAR LOCATIONS.



8. BROKEN + ERODED GROUT, 2'-0" ABOVE GRADE AND BELOW, TYPICAL  
- CLEAN & REPOINT MASONRY AS NEEDED FOR DAMAGED JOINTS. INSPECT ANNUALLY.



**9. PLYWOOD + GYPSUM BOARD EXPOSED TO EXTERIOR ELEMENTS**  
- CUT-BACK PLYWOOD AND GYPSUM, INFILL OPENING FOR WEATHER TIGHTNESS



**10. PUNCTURES IN EIFS, ALLOWING AIR + WATER INFILTRATION INTO ROOF CAVITY**  
- PATCH AND REPAIR EIFS, FINISH TO MATCH EXISTING



**11. BROKEN CONDUIT + EXPOSED WIRING OF ABANDONED JUNCTION BOX**  
- DISCONNECT JUNCTION BOX AND CAP ELECTRICAL AS REQUIRED



**12. ORGANIC GROWTH + STAINING BELOW BROKEN WATER BIB**  
- CLEAN ORGANIC MATTER FROM BRICK, INSPECT WATER BIB AND REPAIR AS REQUIRED





**13. PEELING PAINT + DAMAGED WOOD SERVICE DOOR**  
- REPLACE EXISTING WOOD SERVICE DOOR WITH NEW STEEL DOOR AND FRAME



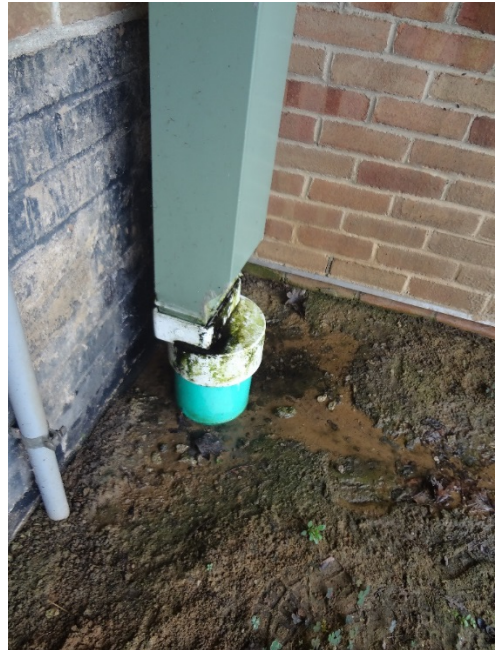
**14. OPEN EXPANSION JOINT, SHOULD BE FILLED WITH BACKER ROD + SEALANT**  
- INSTALL BACKER ROD AND CAULK AROUND FRAME, INSPECT WEATHERSTRIPPING



15. WATER LEAKING FROM TOP OF DOWNSPOUT, ORGANIC GROWTH ON FACE  
- CLEAN, INSPECT AND REPAIR DOWNSPOUT CONNECTION AS REQUIRED



16. ANOTHER DOWNSPOUT LEAKING FROM SEAM AT TOP OF DOWNSPOUT  
- CLEAN, INSPECT AND REPAIR DOWNSPOUT CONNECTION AS REQUIRED

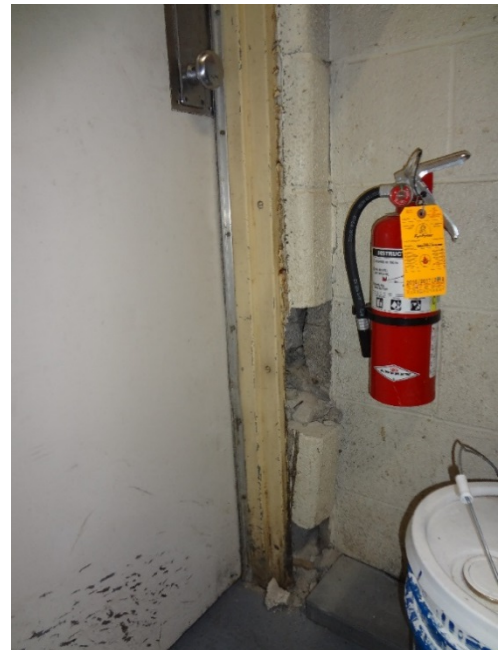


17. OVERFLOWING DOWNSPOUT AT CONNECTION TO UNDERGROUND LEADER, TYPICAL  
- CLEAN, INSPECT AND REPAIR DOWNSPOUT CONNECTION AS REQUIRED

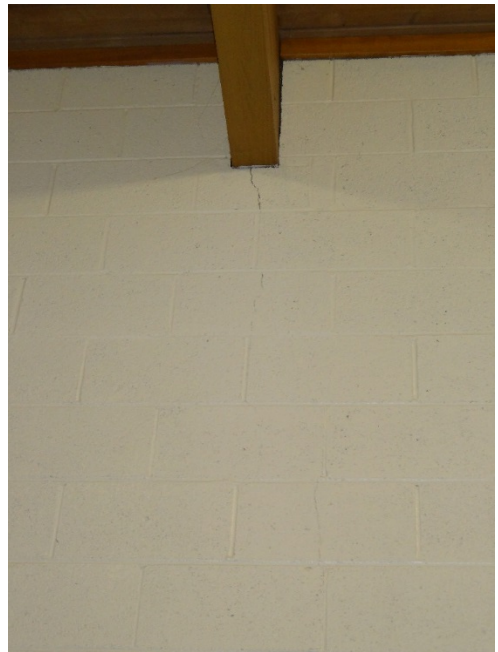
## Middle/High School - Interior



18. BROKEN VCT AT VESTIBULE ENTRY FROM WATER INFILTRATING UNDER DOORS, TYPICAL  
- STOP WATER INFILTRATION. FLOOR REPLACEMENT IN 2019, PART OF SINKNG FUND PROJECT



19. BROKEN + MISSING CMU AT EXTERIOR DOOR FRAME  
- CONSULT STRUCTURAL ENGINEER TO MONITOR AND DETERMINE REPAIR SOLUTION



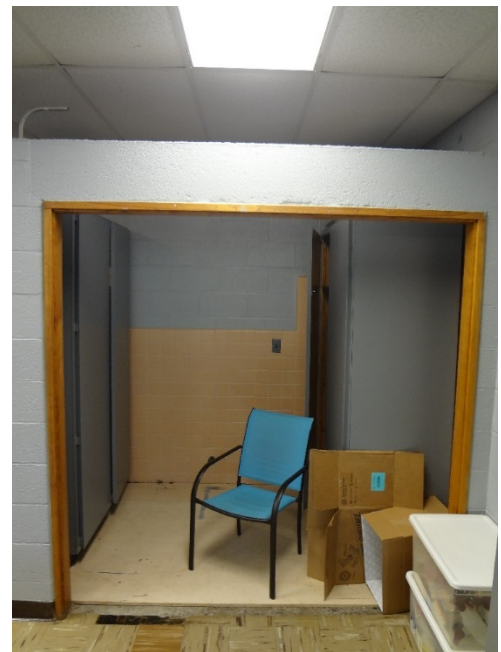
**20. MASONRY CRACK OBSERVED ON SOUTH WALL AT LAMINATED WOOD BEAM**  
- CONSULT STRUCTURAL ENGINEER TO MONITOR AND DETERMINE REPAIR SOLUTION



**21. MASONRY CRACKS THROUGHOUT SOUTHEAST CORNER OF STORAGE ROOM**  
- CONSULT STRUCTURAL ENGINEER TO MONITOR AND DETERMINE REPAIR SOLUTION



**22. TWO RETROFIT STEEL JACKPOSTS AT LAMINATED WOOD BEAMS**  
- CONSULT STRUCTURAL ENGINEER. TO BE REPAIRED/REPLACED DURING 2019 REMODEL



**23. UNFINISHED DEMOLITION AND RENOVATION OF FORMER TOILET ROOM**  
- COMPLETE DEMOLITION OF SPACE, FINISH TO MATCH EXISTING CLASSROOM



24. AREA OF WATER AND SAND INFILTRATION INTO CLASSROOM DURING HEAVY RAINS  
- CAMERA (INSPECT) UNDERGROUND STORM LINE TO DETERMINE CAUSE, REPAIR



25. WATER STAINED CEILING TILES INDICATE A POTENTIAL OF WATER INFILTRATION AT ROOF  
- INVESTIGATE SOURCE OF MOISTURE AND REPAIR. REPLACE CEILING TILES



**26. CRACKING IN CONCRETE FLOOR THROUGHOUT SHOP AREA**  
- CRACKING IS INHERENT IN CONCRETE. MONITOR FOR MOVEMENT, FINISH IF DESIRED



**27. CRACKING IN CONCRETE FLOOR THROUGHOUT STORAGE AREA**  
- CRACKING IS INHERENT IN CONCRETE. MONITOR FOR MOVEMENT, FINISH IF DESIRED





**28. RETROFIT STEEL JACKPOST AT CENTER OF CLASSROOM**  
- CONSULT STRUCTURAL ENGINEER TO MONITOR AND DETERMINE REPAIR SOLUTION



**29. TWO RETROFIT STEEL JACKPOSTS AT CENTER OF COMPUTER LAB**  
- CONSULT STRUCTURAL ENGINEER TO MONITOR AND DETERMINE REPAIR SOLUTION



**30.** WATER STAINED CEILING TILES INDICATE A POTENTIAL OF WATER INFILTRATION AT ROOF  
- INVESTIGATE SOURCE OF MOISTURE AND REPAIR. REPLACE CEILING TILES

## Mechanical / Electrical / Plumbing

### Boiler Room

The existing Kewaunee hot water boilers are over twenty (20) years old and appear to be in good shape based on the annual inspection. The only exception being a cosmetic problem on the exterior of Boiler #1 which we were told was caused by a leak at the pump above the boiler. With continued maintenance, they could last as much as another ten to twenty years. However, Kewaunee closed its doors in 2002 which may present a problem finding replacement parts as time passes.

Both boilers could be replaced with new condensing gas-fired hot water boilers. This would improve the efficiency of the system from an estimated 80% to as much as 95% or more, thus providing energy saving dollars. These boilers can also be used to heat domestic water. One of the existing primary pumps is in need of repair and the second appears to be near end of life, making replacing the associated pumps a wise decision. The estimated cost of installation of a condensing boiler system would be \$270,600.00.

### Temperature Control

In general, cabinet unit heaters and unit heaters are cycled with electric controls and unit ventilators use equipment supplied controls to maintain space temperature. The remainder of the heating equipment is or was controlled by the existing pneumatic control system. In several locations it appears thermostats were removed resulting in equipment being shut-off or running wild by adjusting water flow with no control.

The existing control system could remain with some repair or rework. However, the existing pneumatic system could be replaced with a direct digital control system monitored via computer. The system could be expanded later to include classroom unit ventilators, Gymnasium ventilation units, rooftop units, etc. as required. The estimated cost of installation of a direct digital control system would be \$200,000.00.

### Building Air Conditioning

Air conditioning was added in the 2002 renovation by Fanning/Howey to the office space, two science rooms, STEM room, choir, media center, three computer rooms and three offices. This cooling is a mix of rooftop units mounted on grade (all of the office spaces) and unit ventilators. The rooftop unit on grade serving the office space is currently having issues. These units are now fifteen to sixteen years old. Typical life for unitary heating and air conditioning equipment is twenty years. At the same time, ductless split air conditioning units were relocated in the faculty lounges. While the exact age is unknown, these units are near end of life. Each of the unit ventilators installed in the classrooms in 2002 came with direct expansion cooling coils for the future addition of air conditioning.

If cooling in classrooms is desired, each of the existing unit ventilators should be replaced due to the age of the units. These classrooms could be cooled in three ways. Unit ventilators with condensing units located outside similar to what is installed now, vertical self-contained unit ventilators or a variable refrigerant flow (VRF) unit ventilators. The vertical self-contained unit ventilators are typically located in the corner by an exterior wall and require a large louver be cut into the wall. The variable refrigerant flow (VRF) system would have a few outdoor units serving multiple unit ventilators. Because these utilize fewer outdoor units it is

easier to hide the outdoor unit. Typical unit ventilators with condensing units cost \$10,000 to \$12,000 per classroom. Vertical self-contained unit ventilators and VRF systems cost \$18,000 to \$20,000 per classroom. Air conditioning excludes gymnasiums, locker rooms, toilet rooms, corridors and shops (e.g. wood working, auto). Monies for providing additional electrical transformer capacity to serve the additional cooling load have not been included in the estimate. Additional investigation of the need for new transformers would have to be undertaken if this option were to be considered.

### **Gymnasium Ventilation**

The gymnasium is served by two Trane air handling units installed in 2002. Each air handler supplies 7,500 CFM and have hot water heating coils and the ability to bring in 100% outside air, but no cooling. The gymnasium also has hot water radiant heat. Due to the fact that the hot water radiant hat is capable of heating the space, the air handling system is not currently being utilized. While the space does not need the heat, the system can supply the ventilation air. During periods of colder weather, the outside air intake dampers can be adjusted to bring in a minimum quantity of outside air for ventilation to the space. During warmer months the system is an "ambient plus 10 degrees Fahrenheit" system. This means the space will be 10 degrees Fahrenheit above the outdoor ambient temperature. While this could be rather warm and undesirable during periods of hot weather, the system can temper the space during milder weather and high occupancy. These air handlers have a Trane Tracer Summit control system. This control system should be capable of being programmed to provide ventilation based on time and indoor/outdoor air temperature.

### **Domestic Water Systems**

The existing domestic water system is a copper pipe system. A significant amount of this piping is missing insulation. This has energy as well as condensation implications. The well water system utilizes four well tanks and a softener system. With a municipal water system coming online soon the school could abandon the well system and go on municipal water. This will eliminate the necessity to soften the water and maintain the pump and well tank system. The potential downfall could be problems with the existing piping. The school is already experiencing problems with pipe deterioration. It is very difficult to determine what is eating at the pipe right now but it is common with well systems. Unfortunately, it is not possible to tell you how the municipal water will be. The Toledo based municipal water system is drawn from Lake Erie and does not appear to have any pipe deterioration problems but is rather hard and causes a significant build-up of lime in the piping. The Bryan Ohio municipal water system is pumped from wells but has been known to deteriorate copper piping systems.

If it is determined the copper system is going to be problematic with the water system it could be replaced with a PEX based system. Based on the extent of the tunnel system there is a significant amount of domestic water buried under the building slab. Replacing this piping in place would be cost prohibitive. This leaves either installing piping above the ceiling in the attic space or providing soffits. The attic space will be difficult since it is not heated. The piping will need to be installed below the insulation. Replacing the domestic water piping system will cost approx. \$90,000.00.

The electric domestic water heaters in the Kitchen in the eastern Faculty room look to be near end of life. Due to the fact that the usage of this unit is now rather low, an instantaneous type water heater would be desirable but the electrical service makes this not an option. The electric panels can't support the high amperage instantaneous water heaters draw. Each of these water heaters could be replaced with a smaller electric unit at a cost of approx. \$1,000 each.

The domestic hot water boiler is eighteen (18) years old, which is quite old for a domestic hot water boiler. The storage tanks do not have a date on them and appear from the outside to be in good condition. The storage tanks do not age as quickly as the associated boiler or tank type domestic water heaters. This heating system should be replaced by an indirect water heater utilizing the new condensing heating water boilers for a heat source. Approx. cost \$18,000.00.

### **Electrical Distribution**

The utility owns the electrical service overhead lines, and the pole mounted transformers located south of the facility. The building electrical system is well maintained and has been updated as need through the years. The system can support the building usage as currently configured, however, there is no capacity or space for system expansion to support additional load connections. The electrical service is a 1,200 amp main switch/fuse distribution at 120/208V-3PH-4W system. The electrical distribution was installed in 1998. Maintenance and repair parts are available for the distribution panel. The electrical distribution panel has a surge protective device on it. The electrical panels throughout the facility are a mix of modern panels (15 years old) and old outdated panels (over 30 years). There may not be replacement parts for repair and maintenance of the old outdated electrical panels. The electrical branch panels do not have spare capacity or space for additional circuit breakers for any revisions within the facility. There is not a stand-by power generator to provide power for emergency egress lighting or optional stand-by loads.

Revise the electrical distribution to a 1,600 amp main switch/fuse, 277/480-3PH-4W system to accommodate the upgrade to air conditioning for the facility. Upgrade the 120/208V-3PH-4W electrical system and distribution. Install lightning protection system to protect the electrical distribution and technology system. Install three levels of surge protective devices on the main distribution, sub distribution, lighting, and receptacle branch panels. Install phase monitoring for electrical motor protection. Install Arch Flash Hazard Coordination and Labels to meet current Building Code. Install stand-by power generator for emergency power for egress lighting, and optional standby power for technology equipment, any mechanical equipment, and any food service equipment. Electrical Distribution System replacement cost \$8-\$10.00/SF. Stand-by power Generator installation cost \$0.75-\$3.00/SF.

### **Lighting**

The building interior lighting and exterior site lighting has been upgraded to energy efficient LED type lighting, with additional lighting controls to meet ASHRAE 90.1 Energy Code. The lighting is in good condition, and should provide less maintenance and high energy savings annually. The interior and exterior emergency egress lighting has battery back-up. The egress lighting is adequate, and does not have any Building Code deficiencies.

### **Fire Alarm**

The building is protected by a zoned fire alarm system consisting of horn/strobes, pull stations, power supplies, and a digital communicator. The fire alarm system is not capable of expansion and the current equipment/device layout is deficient based upon current Building Codes.

With any Mechanical system revisions, or major building renovations, a new addressable fire alarm system shall be installed. A new fire alarm system equipment and device layout will meet current Building and Fire Codes for this type of facility. The new fire alarm system will also provide expandability, repair and maintenance cost reductions with the availability of replacement parts. Fire Alarm System upgrade cost \$2-\$3.00/SF.

## Summary of Existing Conditions – Elementary School

The Elementary School Building was found to be in generally good condition. Our observations of areas of concern are included in Photos 31 through 40, on the following pages. (See Existing Elementary School [Key Plan] for location reference.)

We did not observe any visible significant structural issues; however, we would suggest a Structural Engineer be consulted to investigate and monitor minor Structural concerns. Identified and depicted in photos 35 & 36, on the following pages.

A few minor building envelope related issues were observed. Brick clads most of the façade and appears to be in good condition, however, the brick façade should be inspected annually. The roof appears to be in good condition, however, we recommend a regularly scheduled roof inspection to monitor any issues to prevent water infiltration. The window and door systems, replaced in 2002, generally appeared to be in good condition. We recommend general weather-stripping and caulking maintenance annually. We recommend replacement of all service doors with steel doors and frames.

All classroom spaces received new 2x2 carpet tile and rubber wall base throughout in 2002, however, has been well taken care of and still is in good condition.

The entire facility is in the process of being upgraded with new LED lighting and control systems.

Phase 1 of security upgrades, updated in 2018, provide an initial level of safety for students and staff. We recommend a Phase 2 of security upgrades, including secure access vestibules, safety glass, and an expanded scope of surveillance cameras. Consultation with a Security Consultant and local law enforcement is highly recommended.

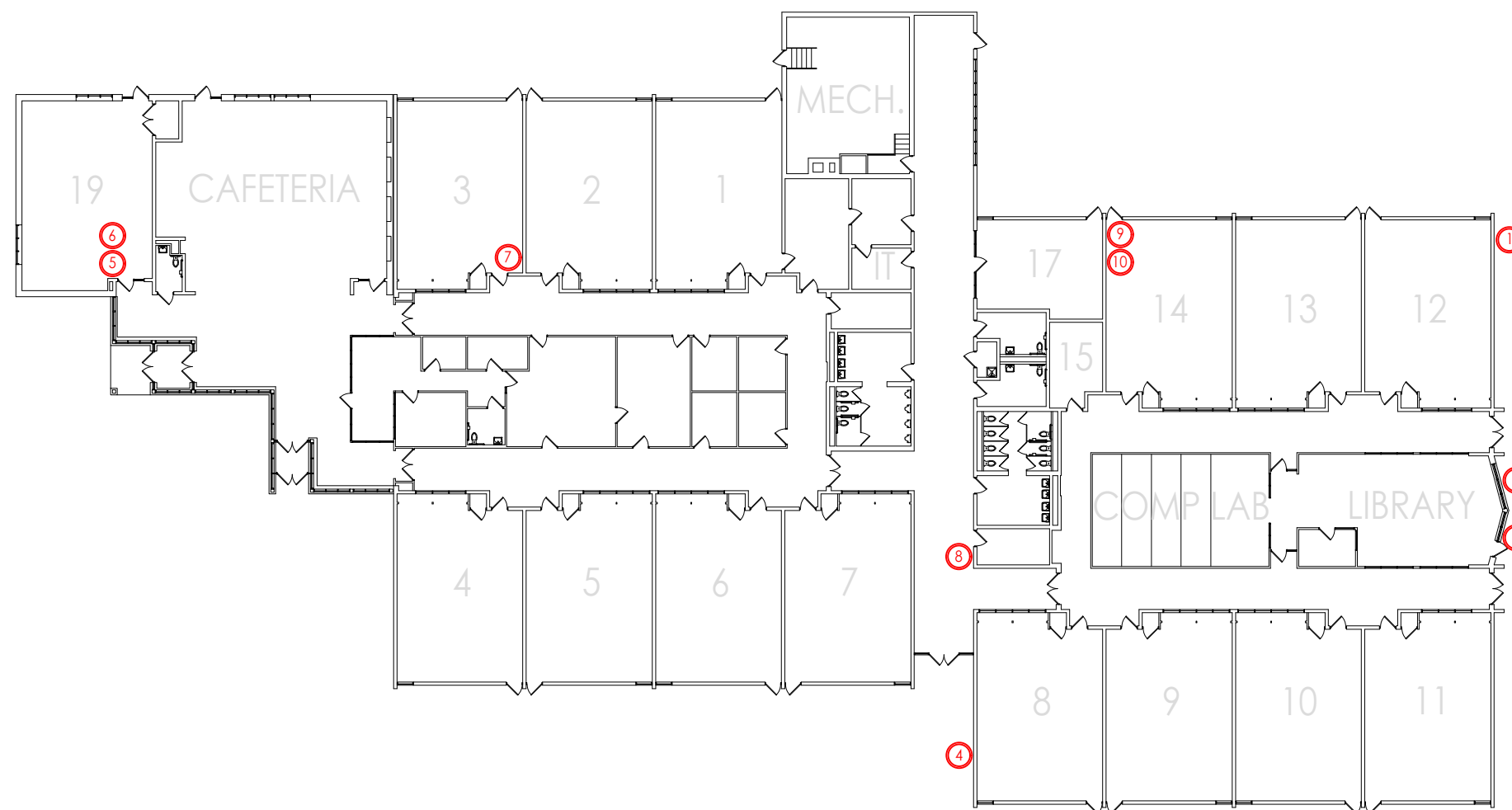
Where identified, our maintenance and repair recommendations for the Elementary School are as follows:

1. Clean, repair and seal gaps in roof coping at southeast corner of boiler room.
2. Repair/Replace soffit trim at exterior window wall of Library.
3. Inspect all window and door locations for proper weather protection. Repair/Replace caulk, backer rod, weather-stripping, etc. as required.
4. Replace service doors with new steel man doors.
5. Enact Phase 2 of security upgrades.

DRAWING LEGEND

23 ROOM IDENTIFICATION NUMBER

②1 EXISTING PHOTO IDENTIFICATION NUMBER





# Photographic Documentation of Existing Facilities

## Elementary School - Exterior



**31. WIDE OPENING AT METAL ROOF FLASHING ALLOWING WEATHER INFILTRATION + NESTING**  
- CLEAN DEBRIS FROM OPENING AND INFILL FLASHING TO CLOSE AREA OF INFILTRATION



**32. MISSING TRIM AT TECTUM SOFFIT EXPOSING STRUCTURE TO CORROSION + INFILTRATION**  
- REPLACE METAL SOFFIT TRIM AND ENSURE OPENING IS WEATHER TIGHT

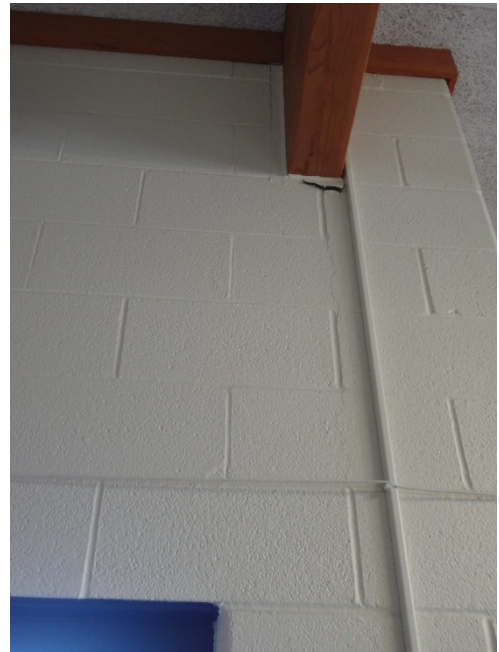


**33. MISSING TRIM AT TECTUM SOFFIT EXPOSING STRUCTURE TO CORROSION + INFILTRATION**  
- REPLACE METAL SOFFIT TRIM AND ENSURE OPENING IS WEATHER TIGHT



**34. BROKEN EXTERIOR LIGHT FIXTURE ARM + MISSING EXTERIOR LIGHT FIXTURE**  
- REPLACE EXTERIOR LIGHT FIXTURE

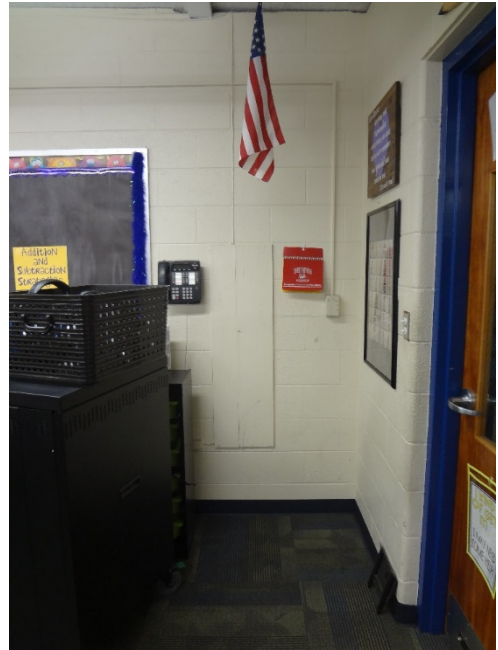
## Elementary School - Interior



**35. MASONRY CRACK OBSERVED ON WEST WALL OF ROOM 19 – ART.**  
- CONSULT STRUCTURAL ENGINEER TO MONITOR AND DETERMINE REPAIR SOLUTION



**36. ENLARGED IMAGE OF MASONRY CRACK OBSERVED ON WEST WALL OF ROOM 19 – ART.**  
- CONSULT STRUCTURAL ENGINEER TO MONITOR AND DETERMINE REPAIR SOLUTION



**37. WOOD PANEL COVERING CMU WALL OPENING**  
- REMOVE PANEL, INVESTIGATE PURPOSE, REPAIR OPENING WITH MASONRY



**38. CORROSION OF METAL FRAMING, STAINING FROM MOISTURE INFILTRATION**  
- INVESTIGATE SOURCE OF MOISTURE AND REPAIR. CLEAN BRICK AND CEILING ASSEMBLY



**39. MISSING BACKER ROD + SEALANT AROUND ENTIRE DOOR FRAME**  
- INSTALL BACKER ROD AND CAULK AROUND FRAME, INSPECT WEATHERSTRIPPING



**40. ENLARGED IMAGE OF MISSING BACKER ROD + SEALANT AROUND DOOR FRAME**  
- INSTALL BACKER ROD AND CAULK AROUND FRAME, INSPECT WEATHERSTRIPPING

## Mechanical / Electrical / Plumbing

### HVAC Systems

The existing space is heated with a new condensing boiler system that was installed in 2012. This piping system was not insulated during the installation. Cost to insulate this piping would be \$7.00 per foot of pipe.

The boiler system feeds a series of unit ventilators, radiation, cabinet unit heaters and unit heaters. The classroom unit heaters were installed in 2002 and have direct expansion cooling coils but no associated condensing units for cooling. Controls for these unit ventilators are electronic Trane controls. Like the high school unit ventilators, they are getting near end of life. Typical unit ventilators with condensing units cost \$10,000 to \$12,000 per classroom.

The central core Offices and Media Center are cooled by rooftop units also installed in 2002. Cooling from these spaces is allowed to bleed out into the adjacent corridors. The adjacent classrooms have transfer air openings to the corridor and some teachers have improvised a system of fans to attempt to draw cooling into their spaces. While there were no problems reported with these units, they too are nearing end of life.

An additional rooftop unit was relocated from the high school in 2002 to serve a couple of offices, computer room and a classroom adjacent to the boiler room. This classroom is also served by a unit ventilator with direct expansion cooling. The ductwork from this rooftop unit is exposed and quite low. The computer room was rather warm and should be on its own control. The rooftop unit itself is nearing end of life.

It was observed that the teaching staff in the elementary likes to get additional ventilation into their spaces by opening windows and doors. Unfortunately, the layout of the rooms does not allow outside air to pass through the room since the openings are all on one wall. A simple ventilation system consisting of individual fans located on the roof and the existing window system. These fans would be installed on sound attenuating curbs and have a short-lined duct to keep sound down to a minimum. A timer system could be utilized to ensure the system gets shut down during unoccupied hours.

### Electrical Distribution

The utility owns the electrical service overhead lines, and the pole mounted transformers located north of the facility. The building electrical system is well maintained and has been updated as needed through the years. The system can support the building usage as currently configured, however, there is no capacity or space for system expansion to support additional load connections. The electrical service is an 800 amp main switch/fuse distribution at 120/280V-3PH-4W system. The electrical distribution was installed in 1998. Maintenance and repair parts are available for the distribution panel. The electrical distribution panel has surge protective devices on it. The electrical branch panels throughout the facility are a mix of modern panels (15 years old) and outdated panels (over 30 years old). There may not be replacement parts for repair and maintenance of the old outdated electrical panels. The electrical branch panels do not have spare capacity or space for additional circuit breakers for any revisions within the facility. There is not a stand-by power generator to provide power for emergency egress lighting or optional stand-by loads.

2

Revise the electrical distribution to an 800 amp main switch/fuse, 277/480V-3PH-4W system to accommodate the upgrade to air conditioning for the facility. Upgrade the 120/208V-3PH-4W electrical system and distribution. Install lightning protection system to protect the electrical distribution and technology system. Install three levels of surge protective devices on the main distribution, sub-distribution, lighting, and receptacle branch panels. Install phase monitoring for electrical motor protection. Install Arc Flash Hazard Coordination and Labels to meet current Building Code. Install stand-by power generator for emergency power for egress lighting, and optional standby power for technology equipment, any mechanical equipment, and any food service equipment. Electrical Distribution System replacement cost \$8-\$10.00/SF. Stand-by power Generator installation cost \$0.75-\$3.00/SF.

### **Lighting**

The building interior lighting and exterior site lighting has been upgraded to energy efficient LED type lighting, with additional lighting controls to meet ASHRAE 90.1 Energy Code. The lighting is in good condition, and should provide less maintenance and high energy savings annually. The interior and exterior emergency egress lighting has battery back-up. The egress lighting is adequate, and does not have any Building Code deficiencies.

### **Fire Alarm**

The building is protected by a zoned fire alarm system consisting of horn/strobes, pull stations, power supplies, and a digital communicator. The fire alarm system is not capable of expansion and the current equipment/device layout is deficient based upon current Building Codes.

With any mechanical system revisions, or major building renovations, a new addressable fire alarm system shall be installed. A new fire alarm system equipment and device layout will meet current Building and Fire Codes for this type of facility. The new fire alarm system will also provide expandability, repair and maintenance cost reductions, with the availability of replacement parts. Fire Alarm System upgrade cost \$2-\$3.00/SF.

## Summary of Existing Conditions – Site

The Whiteford Agricultural Schools Campus, 44.37 acres, was purchased in 1956.

We identified a list of items for repair, deficiencies, concerns and code issues regarding the existing conditions of the Campus Site.

Some of the items that were identified and discussed with Staff include Parking Lot congestion, primarily during school arrival and departure times, and the lack of a dedicated Bus route throughout the Campus. Often on days the Campus hosts athletic events, Parking overtakes the Campus, and patrons park on unpaved areas across the Site. There is a general need for additional Parking on Site, as well as for Athletic Fields.

Handicap Accessibility to Athletic Fields, and Handicap Accessible seating remains a deficiency on Campus. Currently, there are no accessible routes to any of the Athletic Fields, and all Fields lack seating options for those requiring Accessibility.

Site Lighting in Parking Areas, as well as on travel routes to Athletic Facilities are either broken or inadequate. As part of the School's LED Lighting Project, these issues should be resolved.

As the existing Middle/High School Septic Field has reached the end of its useful life, provisions will need to be made for the future location of a new Septic Field. See the Middle/High School [Concept Plan] in Section 4 of this study for one proposed location.

Large portions of the Site are covered in heavy vegetation. Desires to preserve all of the trees and vegetation on site could pose problematic with future Site Development, as existing Site is reaching the limit of maximum usable coverage with existing uses.

Lastly, as part of the Phase II Security Upgrade, Site Fencing and gates should be considered as an added layer of security for Staff and Students.

As identified, issues to be addressed to ensure Site Safety, Accessibility and future expansion for the Campus are as follows:

1. Repair existing Site Lighting and provide adequate Lighting as part of ongoing LED Lighting Project.
2. Reconfigure and/or provide additional Parking throughout Campus.
3. Provide Handicap Accessible routes to Athletic Fields and Facilities.
4. Replace existing Bleachers at Athletic Fields to provide Handicap Accessible seating opportunities.
5. Identify areas of Site for new Middle/High School Septic Field.
6. Enact Phase 2 of security upgrades.





## Historical Project Index

1957	Whiteford Agricultural High School Constructed
1957	High School Septic Field Constructed
1960	High School Addition – Library & East Wing
1960	High School Septic Field Expanded
1965	High School Addition – Shop & Girl’s Locker Room
1965	Owen V. McNulty Primary Building Constructed
1976	Bus Garage Constructed
1987	Storage Building Constructed
1988	Athletic Fields Concession/Storage Building Constructed
1994	Middle/High School Boiler System Updated
2001	Athletic Fields Restroom/Storage Building Constructed
2002	Elementary School Addition – Art Room, Cafeteria, Lobby
2002	Elementary School Media Center/Computer Lab Constructed
2002	Elementary School Restrooms Remodeled
2002	Elementary School Flooring Replacement
2002	Elementary School Roof Replacement
2002	Elementary School Partial Electrical Upgrades
2002	Middle/High School Standing Seam Metal Roof Constructed
2002	Middle/High School Window & Door Replacement
2002	High School Science Labs Remodeled
2002	Middle/High School Partial Electrical Upgrades
2002	Athletic Fields Storage Building Constructed
2004	Baseball Press Box Constructed
2005	Softball Press Box/Concession Stand Constructed
2006	Elementary School Boiler System Replacement
2014	Elementary School Window & Door Replacement
2016	Middle/High School Boiler Piping Updated
2016	Football Press Box/Storage Reconstructed
2016	Football Field Lighting Replaced
2017	Middle School Gymnasium Renovated
2018	Elementary School Septic Field Replacement
2018	Elementary School Playground Upgraded
2018	Elementary School Security Upgrades – Phase I
2018	Middle/High School Security Upgrades – Phase I



# Summary of Visioning Sessions and Facility Needs

## Summary of Visioning Sessions

JSJA facilitated three Visioning Sessions over the course of the Study, involving the Board of Education, Faculty, Staff and Community Stakeholders.

The process allowed these groups, and individuals, to provide input into the design and planning for the future of education in their Community. To provide a Vision of focus on both the current needs of, and future planning for continued educational success.

These sessions allowed for comments about current concerns and successes, and for the exploration of new ideas and possible modern methods of preparing students for their future endeavors, as well as provide spaces for Community involvement and opportunities for collaboration amongst students and community members.

We spent time in each of these sessions discussing current programmatic strengths and deficiencies, envisioning what additional program spaces may be needed, and how to strengthen current programs through improved and updated Facility design. The programmatic areas of focus developed from these sessions are listed below:

1. Arts Programs [Art, Band, Choir, Performance Spaces]  
[Dedicated spaces are needed for each of these programs, that are spacious and equipped with the proper technology for learning. Existing Choir Room is inadequately sized for the number of students using it. Band space exists on stage with very poor acoustical qualities and limits the opportunities for current students and for the Program to grow. Performing Arts Program currently has no dedicated space or storage, and current performance facility lacks proper lighting, audio, and acoustics. Lack of dedicated practice/performance space hinders the student's opportunities and limits the number of performances presented by the students.]
2. Agricultural Education Program  
[The Agricultural Education Program (Agriscience) provides students the opportunity of learning hands-on about the industry of Agriculture and also the Agribusiness side of the Industry. Students have the opportunity through this Program of participating in and being registered through the FFA. Dedicated classroom, presentation area and shop space required for the Program. Existing space does not meet the needs of the program and hinders further development and growth. Current space is a make-shift classroom that does not provide areas required by the program.]
3. STEM Program [Science, Technology, Engineering & Math]  
[Classroom and STEM laboratory that allows for exploration and innovative teaching techniques is needed. Current space does not provide for proper growth. Current space used by program is



former Home Economics room that does not provide the proper Classroom space nor Lab spaces.]

4. Virtual Learning  
[The Virtual Learning Program is an expanding program that currently shares spaces around the Campus, primarily using the Library when required. As this Program continues to grow there is a need for a dedicated space provided for Students on Campus.]
5. Direct College Program  
[The Direct College Program provides Students the opportunity to take College level courses on the Campus of WAS. This program currently has no dedicated space to provide these courses. A dedicated Classroom is needed for the continued success and growth of the Direct College Program.]
6. Senior Year Experience  
[The Senior Year Experience Program provides opportunities for Students to prepare for the future endeavors. This program is deficient of Dedicated Space. Planning for a Dedicated Classroom for this Program should be investigated.]
7. Athletics/Physical Education/Community Activity Facility  
[New running track that would meet the standards of other MHSAA High School Programs. Current Track is not able to host athletic events. Existing High School Gymnasium does not meet standards to host volleyball or basketball events at District level. Ceiling height and court size are sub-standard for current requirements for athletic events. Current size of gymnasium does not allow for multi-team practicing opportunities, requiring student-athletes to practice before school hours and late into evening hours. Lack of available gymnasium times limits use by Community members, and requires their use to be subject to very early morning or late evening sessions.]

We asked the participants to provide suggestions as to how we could provide the appropriate spaces for each of these programs, and how they envisioned it might look or feel. Some of the ideas that came from these discussions were the spaces provide collaboration and innovation, they were safe and inviting, and provide opportunity to have Community involvement. Spaces should mimic the current and future work environments and be cutting edge and provide excitement for learning. Laboratories be provided with the latest technologies and opportunities for presentation and integrated learning.

A common vision developed from these Visioning Sessions. That being; Whiteford Agricultural Schools should look to provide personalized learning environment with the freedom of collaboration and innovation, providing the opportunity for students to prepare and learn in environments rivaling those of higher education and professional business environments, with a focus on Fine Arts, Agricultural Programs, STEM learning and Core Value Education.



## Proposed Improvements of Existing Facilities

Whiteford Agricultural Schools has realized, in order to live their mission of “Engaged in our Learning, Encouraged by our Community, Empowered for the Future”, the Schools need to transition to a modern learning environment providing students with opportunities to explore their interests and learn without boundaries. Rigorous programming emphasizing critical thinking, problem solving, and inquiry must continue to be implemented throughout the School District.

JSJA recommends, in order to provide students with spaces to explore their interests and reach their fullest potential, to allow for flexible learning spaces that promote collaboration, communication, critical thinking and experiential learning as envisioned, the District should consider the next steps in developing facilities and learning environments encouraging progressive educational ideas. Listed below are proposed reconfigurations, renovations and building additions proposed to provide the spaces necessary to achieve the Vision for enhanced success for today’s students and the Future of Education at Whiteford Agricultural Schools.

These ideas are a broad stroke conceptual vision that will require refinement and detailed study to confirm details, final layout and design:

### Arts Programs [Art, Band, Choir, Performance Arts]

- + Dedicated Art Studio [1,200 sf]
- + Dedicated Band Room + Storage [1,350 sf]
- + Dedicated Choir Room [1,200 sf]
- + Black Box Theatre + Storage [4,050 sf]

### Agricultural Education Program [3,750 sf]

- + Classroom
- + Presentation + Exhibition Hall
- + Makerspace

### STEM Program [3,150 sf]

- + Classroom
- + STEM Laboratory

### Student Collaboration Center [3,800 sf]

- + Reconfigured and renovated Library + Computer Lab
- + Collaborative learning spaces
- + Private + group learning spaces
- + Flexible learning environment



### **“Commons”** [2,550 sf]

- + Community collaboration space
- + Presentation + Exhibit Gallery
- + Flexible learning environment
- + Student Den
- + Collaborative learning spaces

### **Direct College Program**

- + Classroom dedicated for on campus college courses

### **Elementary Community / Parent Lounge** [500 sf]

- + Dedicated space for parents and community members

### **Special Education Classroom + Intervention Spaces**

- + Classroom and break out learning spaces

### **Multi-Purpose Facility** [19,000 sf]

- + Multiple Practice Courts
- + Restroom facilities
- + Storage
- + Maintenance Garage

See [Concept Plans] in Section 4 of this Study for graphic representations of possible areas of impact and interior reconfigurations and renovations to provide spaces to meet the current and future needs of students at Whiteford Agricultural Schools.

## Summary of Facility Improvements

Through the process of this Study, the team of James S. Jacobs Architects, JDRM Engineering, Students, Staff and Community Stakeholders, determinations were made regarding current maintenance needs, existing spatial and code deficiencies and potential areas of improvement to spaces to meet today's educational needs as well as a vision towards the future, to create spaces to inspire continued success at Whiteford Agricultural Schools.

See the proposed [Concept Plans] in this Section for reference.

The following is a list of existing spatial deficiencies determined through the process of this Study:

1. Existing Choir Room is inadequately sized for the number of Students in the Program, and lacks acoustical qualities appropriate for this type of space.
2. Band Program lacks a Dedicated space. Currently sharing stage space that lacks acoustical qualities appropriate for this type of space.
3. Performing Arts program lacks a Dedicated space and storage. Current facility lacks appropriate lighting, audio and acoustical qualities. The lack of dedicated practice and performance space limits the opportunities for performances and practice.
4. Agricultural Education Program is currently using a make-shift Classroom that lacks space for presentation and collaboration.
5. Virtual Learning Program lacks a Dedicated Classroom.
6. Direct College Program lacks a Dedicated Classroom.
7. Senior Year Experience Program lacks a Dedicated Classroom.
8. Special Education Classroom and Intervention Spaces are deficient in Elementary School.
9. Middle/High School does not provide spaces for break-out learning opportunities or spaces for collaboration between Students and Community.
10. Existing Library is outdated and does not currently meet the needs of Students for today or tomorrow.
11. Existing STEM learning environment does not meet the needs of providing a proper Classroom or Laboratory space.
12. Existing Middle School Science Lab is no adequate for learning needs.
13. Existing Athletic Facilities do not meet the needs of Students or Community. Existing Gymnasiums do not meet performance standards of MHSAA and do not provide opportunity for proper practice or usage by Community during normal hours. Existing Track does not meet performance standards of MHSAA and does not provide adequate opportunity for use by Community members.



The following is a list of proposed improvements to address the existing spatial deficiencies determined through the process of this Study:

1. Dedicated Arts Program Spaces. Choir Room, Band Room and Storage, Art Studio, Black Box Theatre and Storage.
2. Dedicated Agricultural Education Program Spaces. Classroom, Presentation Area and Maker Shop.
3. Dedicated Classroom Spaces for Virtual Learning Program, Direct College Program and Senior Year Experience Program.
4. Dedicated Special Education and Intervention Spaces in Elementary School.
5. Renovation of existing Library and Computer Lab to provide for Student Collaboration Center.
6. Relocation of existing Weight Room and renovation of area to provide for "Commons" area, providing area for collaboration, presentation and exhibition, and flexible learning environments.
7. Renovation of existing STEM Classroom to provide Middle School Science Laboratory.
8. Relocation of Agricultural Education Program and Shop and renovation of space to provide STEM Classroom and Laboratory spaces.
9. New Multi-Purpose Facility to accommodate the needs of Students, Staff and Community in providing space for Athletics, Physical Education and Community Activities.
10. New Track that meets the requirements of MHSAA to allow for hosting events, as well as use by Community members and Staff.

A large portion of the items found in Section 2 of this Study regarding the Existing Facilities can be addressed immediately as maintenance issues.

Several preventative maintenance and upgrade projects, ie; replacement of Boiler System in Middle/High School and Insulation of hot water piping in Elementary and Middle/High School, could be undertaken as Sinking Fund Improvements if this type of funding source is extended into the future. Some of the other projects have already planned to be addressed as part of current Sinking Fund Improvements or Capital Improvements.

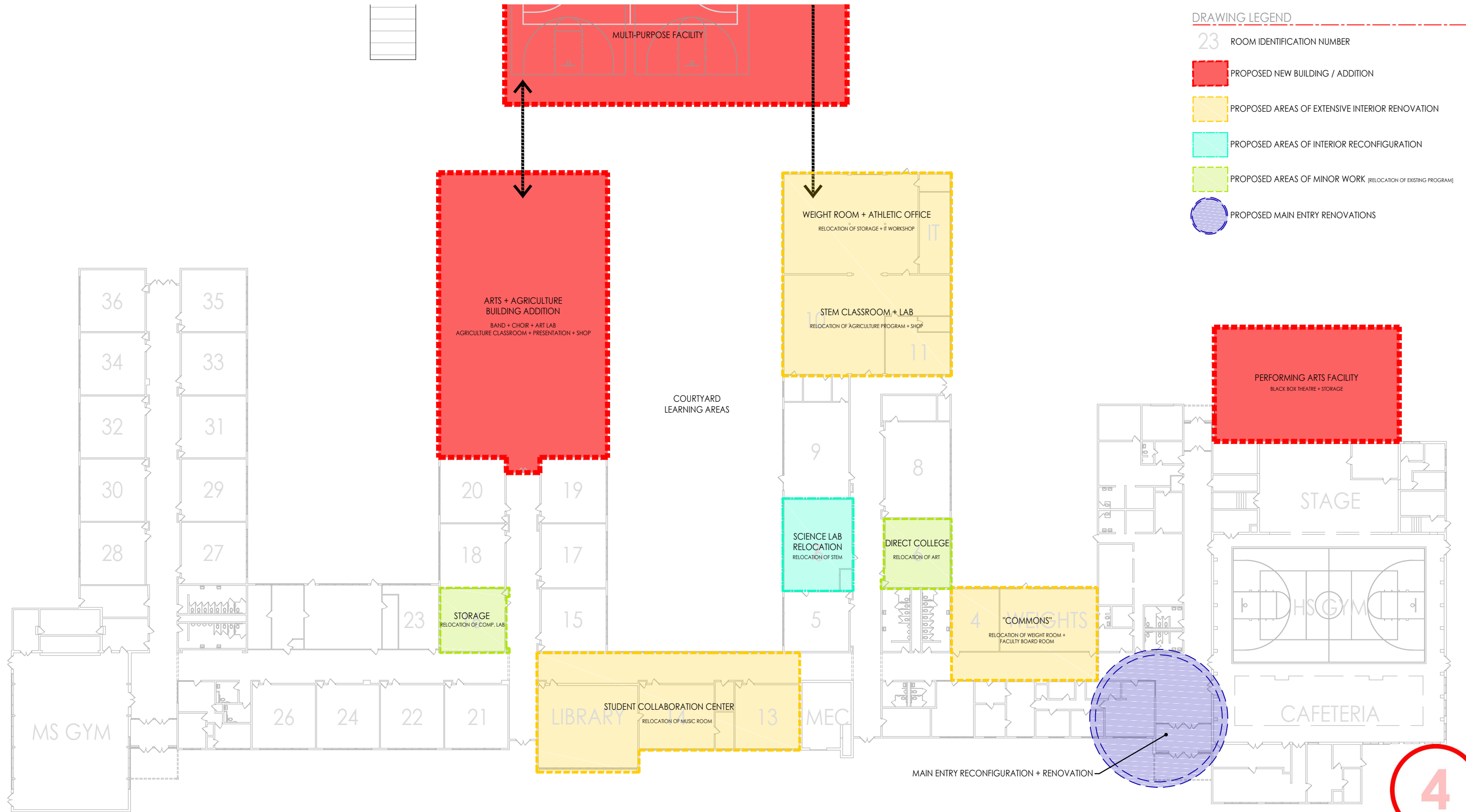
Projects with larger scopes of work will need Community Support to providing funding, and it is our team's opinion that the School should explore pursuing these projects to not only address today's educational needs, but to provide the opportunities to achieve the Vision for Whiteford Agricultural Schools as seen by Students, Staff and the Community.

These projects will require additional definition refinement and may look entirely different than currently proposed, however in order to achieve the Vision established, some form of all or part of these projects are needed to support the continued legacy of education and preparation of the Youth in Whiteford Agricultural Schools.





- DRAWING LEGEND**
- 23 ROOM IDENTIFICATION NUMBER
  - PROPOSED NEW BUILDING / ADDITION
  - PROPOSED AREAS OF EXTENSIVE INTERIOR RENOVATION
  - PROPOSED AREAS OF INTERIOR RECONFIGURATION
  - PROPOSED AREAS OF MINOR WORK (RELOCATION OF EXISTING PROGRAM)
  - PROPOSED MAIN ENTRY RENOVATIONS



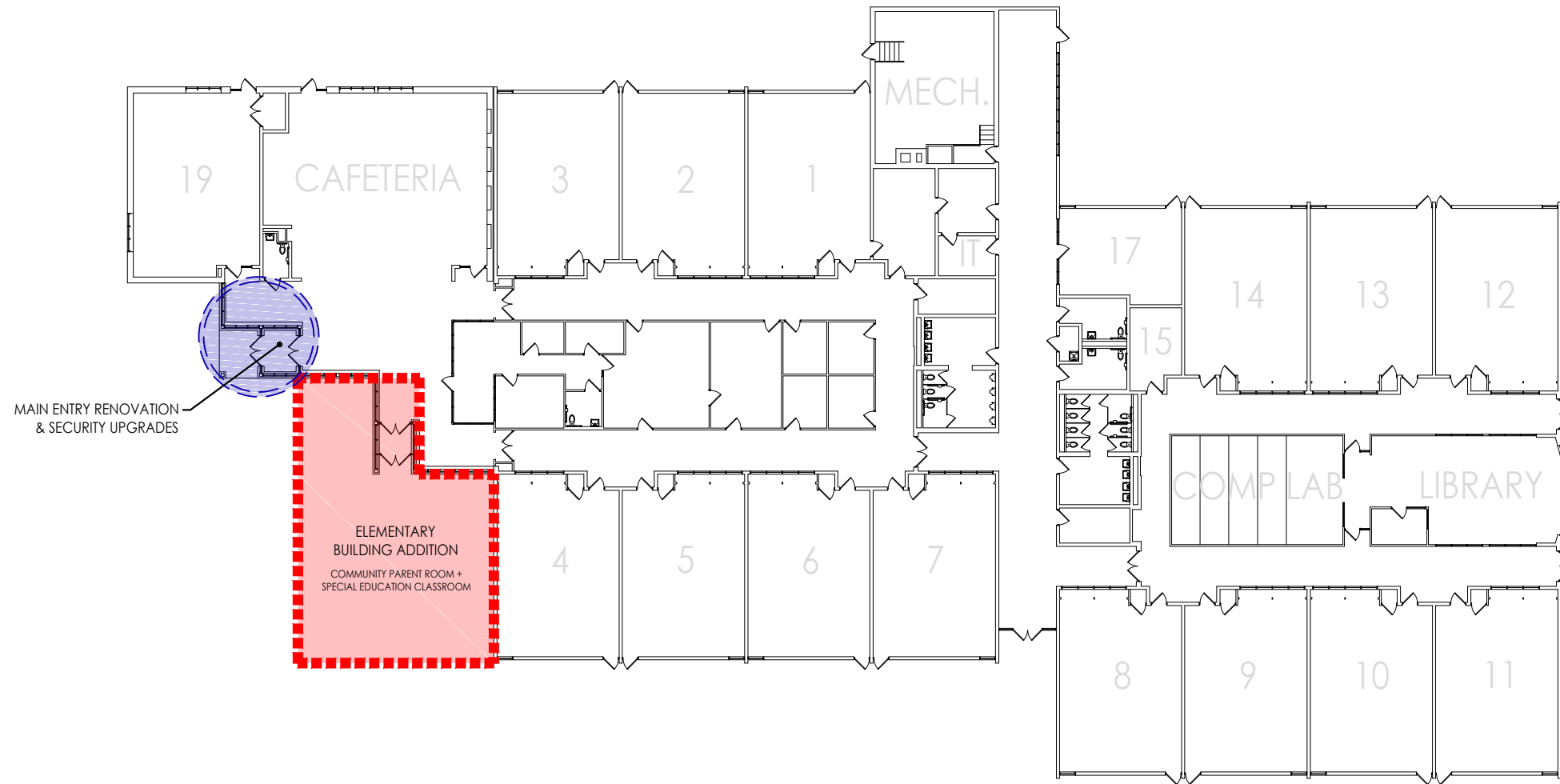


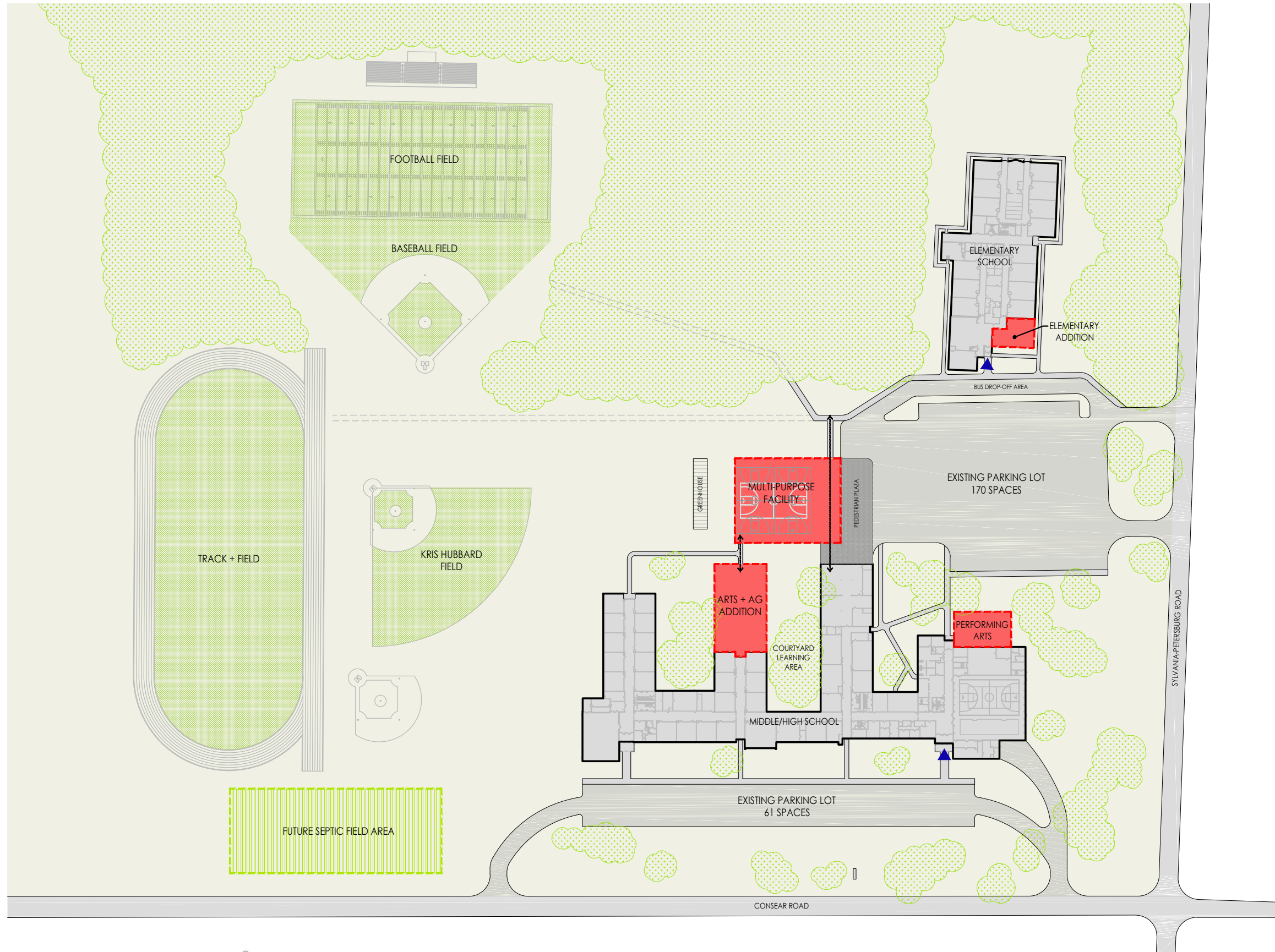
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23 ROOM IDENTIFICATION NUMBER





PROPOSED NEW BUILDING / ADDITION

PROPOSED MAIN ENTRY RENOVATIONS





DRAWING LEGEND

-  LOCATION OF BUILDING ENTRANCE
-  EXISTING EDUCATIONAL FACILITY
-  PROPOSED NEW BUILDING / ADDITION
-  EXISTING SITE VEGETATION

## Estimates of Probable Construction Costs

### Middle/High School

The estimates below are a summary of items that should be considered for repair or upgrade:

Replacement of Boiler System	\$270,600
Replacement of domestic water lines	\$90,000
Insulation of hot water lines	\$10,000
Storm line repairs	\$35,000
Structural repairs	\$30,000
Electrical upgrades	\$325,000
<b>TOTAL</b>	<b>\$760,600</b>

The estimates below are a summary of items including existing building reconfigurations, renovations and proposed building additions:

Arts + Agriculture Programs Addition [9,300 sf]	\$1,850,000
Performing Arts Addition [4,050sf]	\$800,000
Student Collaboration Center Renovation [3,800 sf]	\$650,000
STEM Classroom + Laboratory [3,150 sf]	\$550,000
Commons Renovation [2,550 sf]	\$450,000
Main Entry Renovation	\$150,000
Science Laboratory Relocation	\$100,000
Weight Room Relocation + Renovation [3,150 sf]	\$30,000
<b>TOTAL</b>	<b>\$4,580,000</b>



## Elementary School

The estimates below are a summary of items that should be considered for repair or upgrade:

Mechanical Ventilation improvements	\$75,000
Insulation of hot water lines	\$10,000
<u>Electrical upgrades</u>	<u>\$125,000</u>
<b>TOTAL</b>	<b>\$210,000</b>

The estimates below are a summary of items including existing building reconfigurations, renovations and proposed building additions:

Elementary Building Addition [2,110 sf]	\$350,000
<u>Main Entry Renovation</u>	<u>\$75,000</u>
<b>TOTAL</b>	<b>\$425,000</b>

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## Campus Site Improvements

The estimates below are a summary of items that should be considered for upgrade or site improvements:

Multi-Purpose Facility [19,000 sf]	\$2,800,000
New 8-lane Running Track	\$700,000
<u>New High School Septic Field</u>	<u>\$300,000</u>
<b>TOTAL</b>	<b>\$3,800,000</b>

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