



**2024**

**FACILITY AUDIT & MASTER PLAN**

**RANDOLPH PUBLIC SCHOOLS**

**MARCH 11, 2024**



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MECHANICAL  
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# INTRODUCTION

## **Purpose**

Randolph Public Schools embarked on a facility improvement project in the fall of 2020 when the district identified the need to replace the aging and cramped vocational buildings. Due to an unforeseen global pandemic and higher rates in inflation, the project came in over the originally projected budget and the project was put on hold. The continued need for a new vocational building has brought into focus issues with other district facilities. In an effort to get a comprehensive understanding of district facilities, Fakler Architects and Geary Engineering were hired to generate this facility audit and master plan. This document will detail existing conditions at the Middle/High School, Elementary School, Vocational Buildings, and Bus Barn. It will identify how these conditions compare to current codes and standards. It will seek to prioritize projects designed to correct deficiencies and will provide a master plan for making improvements to all four district facilities.

## **Objectives**

The overall objective of this study is to examine the existing facilities of the district, and to provide an assessment, in hopes of helping the school board and the district patrons make informed decisions. This objective can be further broken down as follows:

1. Analyze the existing facilities.
  - a. Weaknesses
  - b. Strengths
  - c. Opportunities
2. Identify site constraints that would prohibit future development.
3. Identify maintenance needs.
4. Suggest possible remodels/additions/replacements.

## **Process**

This study was a collaborative effort between district administration, district staff, and the design team which included an Architect, Mechanical, and Electrical Engineers. The design team met with district administration on several occasions to discuss district needs, it toured district facilities several times, and it questioned district staff to compile an extensive list of staff and student wants and needs. During facility tours the design team documented items in each of the targeted facilities that fell within the realm of the identified objectives. Once all the data was compiled, the design team analyzed it and, through a continual process of refinement, distilled the information into a long-term master plan that will help guide the district board and patrons.

# **ANALYSIS OF EXISTING FACILITIES**

# MIDDLE/HIGH SCHOOL





# ARCHITECTURAL ANALYSIS

## Site



When considering new buildings and additions to existing ones, there are a number of site related items that can affect outcomes. Reviewing site constraints will help inform where new buildings and additions can and cannot go. Local zoning regulations define the property's permitted uses, the amount of site that can be covered, maximum building heights, setbacks from the property lines, and other constraints. Utility easements are another important factor to consider. Based on available drawings provided by the school district, there are no recorded easements. Before undertaking any future building project, it is recommended that a survey and title search be performed. This would help identify any unknown constraints. The Middle/High School site is mostly utilized. The site has adequate parking for daily operations but parking areas can become congested during special functions and home games. Any future expansion of the site would result in loss of parking that would need to be made up elsewhere on an adjacent site.

## Exterior

The middle/high school currently has three roofing types: ballasted EPDM, fully adhered EPDM, and fully adhered TPO. All of the roofs appear to be in good shape, age considered; however, routine inspections and maintenance should be performed. The original gymnasium has a fully adhered TPO membrane. This roof has little to no slope and water is allowed to pond along the eaves on the north and south. Any standing water on a roof is bad and increases the chance for roof leaks. Because this roof has long periods of standing water on it, algae has begun to grow. Over time the algae will deteriorate the surface of the roof membrane and will rapidly age the roof and shorten its usefulness. Cleaning the roof occasionally would increase its life span. When the roof is replaced, adding slope to prevent standing water is recommended. The fully adhered EPDM roof covers the east half of the structure. This roof appears in good shape but it

does have a few standing water areas as well. When this roof was last replaced, the roofer covered an area of structural damage around the existing chimney just east of the original gymnasium. The structural metal deck in this area is completely rusted through and presents a hazard to anyone walking around the chimney area. This decking needs to be replaced. During replacement the roof bar joists should be inspected for damage as well. Any damage found should be investigated by a structural engineer. The new gymnasium and commons area is covered by a ballasted EPDM roof. A ballasted roof is this architect's least favorite roofing system and is personally never specified. A ballasted roof requires tons of rock to hold the roofing membrane in place. This extra weight requires the roof structure to be more robust which costs additional money. The foundation and supporting structure also must be stronger, again costing additional dollars. The system is more labor intensive as massive amounts of rock must be lifted onto the roof and spread evenly. When a roof leak occurs the source of the leak can be harder to find as rock must be moved in order to locate the leak. Lastly, rock slows the movement of water and creates low spots for water to be trapped increasing leak potential. When this roof is ready for replacement it is recommended that the district use a fully adhered EPDM or TPO roof.

As with any masonry covered building or masonry structure, cracks develop over time. These can be caused by thermal movement, uneven settlement, rising damp, freeze/thaw cycles, and water infiltration. All buildings require routine maintenance, and brick veneer, although touted as maintenance free, is no exception. When cracks occur mortar should be tuck pointed to fill them and the source for the crack should be found and rectified. One of the biggest issues and the easiest to solve is keeping up with sealant maintenance. Sealants are typically used around doors, windows, and other penetrations. Sealants are also part of a brick veneer system as they are utilized at control joints. Control joints occur at corners and regular intervals to allow for thermal movement. Over time sealants dry out and lose their elasticity. When this happens, they should be replaced. Another misconception when using brick is that it is impervious to water. Nothing could be further from the truth. Water will readily pass through brick and will do so quickly when driven by the wind. With this in mind, when the new addition was placed against the original gymnasium some type of rain screen should have been installed above the roof of the new addition. The lack of a rainscreen is what is causing the water infiltration issues being experienced along the south wall of the commons. To prevent this issue the brick on the original gym's north wall should be sealed with a liquid water proofing membrane, and then a windscreen such as ribbed metal panel should be installed over the brick. Once water is prevented from entering the brick, the leaks in the commons will stop.

Grade around the building and its movement of water away from the building is very important. It is recommended that the grade around a building slope down at least six inches in the first ten feet. Along with this, the discharge of downspouts and roof drains should receive particular attention as the water is concentrated at these points. When possible, it is always best to pipe downspouts and roof drains directly into a storm water system. When this is not possible, the discharge should occur at splash blocks, and grade should insure that water is carried away from the building.

To assist in routine maintenance, especially on the roof, it is recommended that a permanent roof access be added.



Ballasted EPDM



Leaks at the original gymnasium north wall can not be stopped in this fashion. The wall must be sealed and a rain screen added.



Fully adhered EPDM / standing water should be eliminated



The roof deck around this chimney has completely rusted through. Standing water in this area is evident and was likely a contributing factor



Fully adhered TPO / standing water should be eliminated



Algae should be removed to extend the life of the roofing



Sealant around window is deteriorating



Sealant is no longer flexible



Crack in brick



Control joint sealant has failed  
The steel lintel is rusting which leads to expansion and brick cracking



Crack in brick



Stress cracks in sealant show that it is losing its flexibility



Grade on the east side of the building is running toward the building



Crack in brick



Sealant beginning to pull away from window



Crack in brick / grade does not slope away

## Interior

A limited review was conducted of the interior. Most items requiring upgrade are MEP related. These will be discussed in the MEP analysis. These items include completion of the existing fire sprinkler system to cover the entire building, replace existing lighting with better and more efficient LED lighting, and addition of air conditioning in unconditioned portions of the building.

## Security

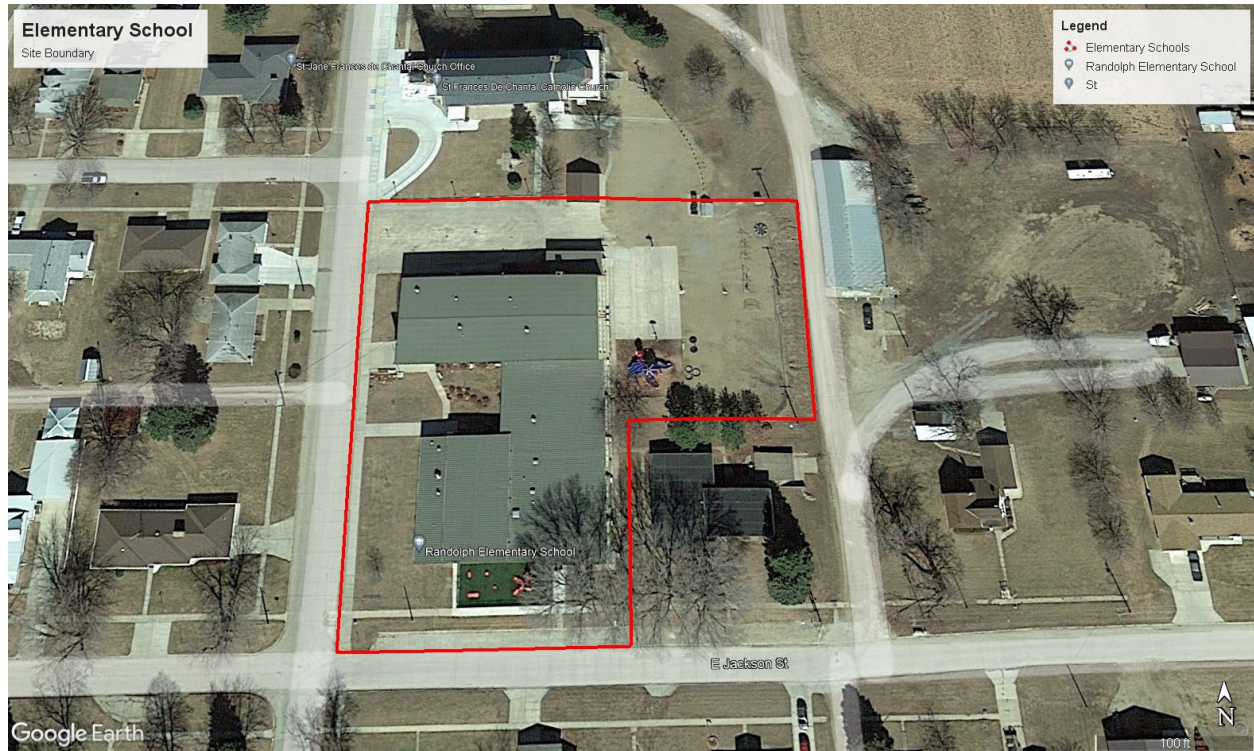
Few older school buildings gave thought to security. It was not the issue it is today. The district has placed a camera and lock system at the main entrance vestibule to address security but due to the layout of the floor plan there is no direct visual by administration or staff. Visitors once past the entrance vestibule, have access to the entire building. The current layout is quite confusing to first time visitors as the administration and supporting staff are across the commons from the main entry. Direct visual observation and even staff contact before allowing entrance is the preferred security today.

# ELEMENTARY SCHOOL



# ARCHITECTURAL ANALYSIS

## Site



The Elementary School site has some expansion opportunities including the existing courtyard on the west side of the building and on the north half of the east side. With any expansion project, thought should be given to additional paved parking. The playground is currently an unsecured area and a temporary plastic construction barrier has been put up to help separate children from the parking area. This barrier is not complete and does not provide adequate protections from vehicle traffic or from possible intruders.



Existing barrier between parking and playground is not adequate protection. A vehicle barrier and a permanent chain link fence would be more appropriate

## Exterior

The roof of the elementary school is not the original. The original roof was flat, and because of this at some point likely leaked causing the addition of a second sloped standing seam metal roof. The roof has hail damage but still retains its finish and should continue to serve its function well. There are a few, maintenance related items that should be addressed. The chimney does not have a cap and rain water is allowed into the chimney. Over time copious amounts of water along with freeze/thaw will deteriorate the chimney. A weather cap should be fabricated and installed. Additionally, a review should be made of all roof penetrations. Dried out sealants should be replaced, missing fastener holes should be filled, exhaust hood covers should be inspected for damage and repairs should be made as needed.

The cracks in the brick exterior of the elementary school seem to be limited to two types: differential settlement and stress caused by the expansion of rusting lintels. Fortunately, there are very few settlement cracks. The mortar at these locations should be tuck pointed and the locations monitored for further movement. If the cracks reopen, a foundation specialist should be consulted about the remedies available. The lintel issue can be combined with the aging sealant issue and the inefficient window issue. All three of these items can be addressed together with the replacement of the windows. The rusting lintels expand and crack the brick at the window corners. Sealants have deteriorated, and it is time they be removed and replaced. The windows are single pane and non-thermally broken aluminum frames. This type of window is no longer used in our climate due to its poor thermal performance. Replacing the windows would make a big difference in utility bills. The recommended window would be a thermally broken aluminum frame with dual pane, gas filled, insulating glazing. At the time of window replacement, window sizes and locations could also be looked at to maximize interior comfort and alleviate safety concerns.

Besides sealants around windows and doors and sealants in brick control joints, sealants can be found at seams and at downspout locations in gutters. When these leak, they can produce slick sidewalks during winter conditions. They can also produce stains on adjacent brick or promote algae growth or erode sidewalk surfaces.



Hail damage to exhaust hood



Sealants drying out and starting to crack





Missing fastener leaves hole in flashing



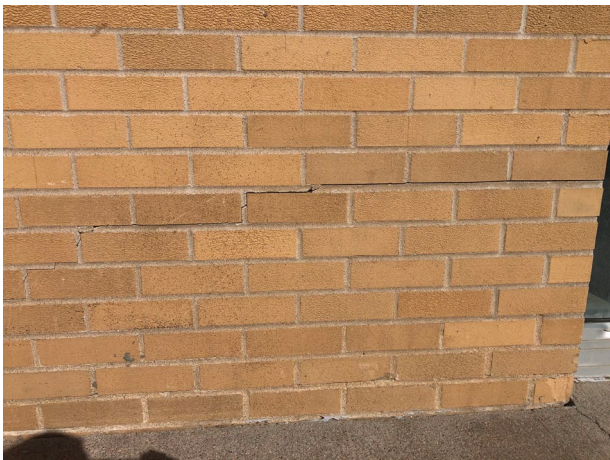
Chimney does not have a rain cap



Broken bricks at window corners



Steel window lintels starting to rust



Horizontal crack in mortar joint



Sealant missing



Algae on wall and sidewalk deteriorating under gutter seam that is leaking



Deteriorating sealant at windows



Deteriorating sealant



Cracked brick at window head

## Interior

The ceiling texture in a majority of the elementary school building contains asbestos. Asbestos is also found in the small floor tiles that remain in some of the classrooms. Asbestos is no longer used in construction as it has been found to cause lung cancer, mesothelioma, cancer of the larynx, pharynx, ovaries, stomach, colon, and rectum. Exposure to asbestos may also cause pleural plaques, pleural thickening, pleural effusions, and more diseases. Professional abatement is recommended regardless of whether or not the district chooses to do any remodeling of the building.

When the building was designed by the Catholic Church it is suspected that boys and girls were separated by gender as each floor of the original two-story portion of the structure only has one public restroom. With the current co-ed system students of both genders must transverse the stairs to utilize the restroom of their gender. This gives students more opportunity to roam and places a heavier burden on staff for supervision. Modern designs provide restrooms for each gender at each restroom location. Along with a lack of restrooms, janitorial space is severely limited. Additional space for equipment and supplies is needed.

Lighting upgrades have begun as fluorescent fixtures are being replaced with LED fixtures. The improvement in lighting quality is readily apparent. It is recommended this process be continued throughout the building as both an improvement to lighting quality and a savings in utility costs. The building lacks fire sprinklers. While not required when the building was built, modern code requires all educational occupancies with fire areas over 12,000 square feet be fire sprinkled. It is recommended that the building be fire sprinkled.



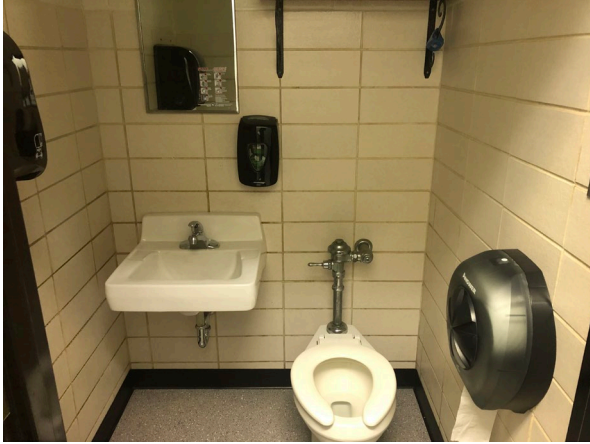
Fluorescent

VS

LED

## Accessibility

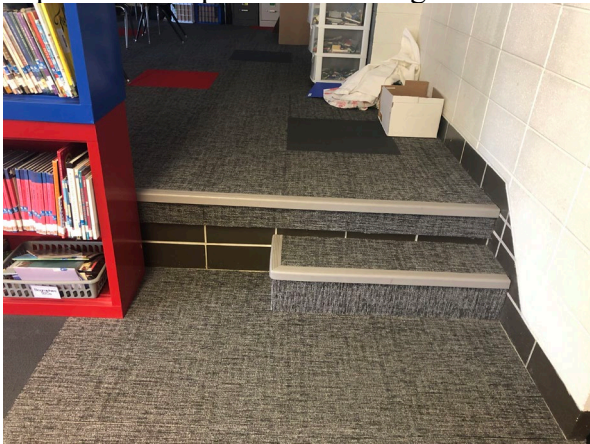
Issues with accessibility begin at the main entrance. The main entrance doors are narrow and do not meet ADA. There is an accessible entrance around the corner on the south side of the entrance vestibule, but this is not obvious to an unfamiliar user. Some doors do not have ADA compliant hardware and are still using door knobs that are hard to grasp. The school does have internal stairways and a lift is provided at the west stair to the second floor and at the half flight of stairs to the south half of the building. The only floor area not available to the wheelchair bound is the raised floor area in the library. A lack of required maneuvering area at several doors is an issue. Restrooms are the main area of concern as there are no fully compliant restrooms in the building. Violations of ADA vary by location but include the following: lack of insulation on pipes below lavatories, lack of grab bars at toilets, toilet stall doors swinging in the wrong direction, lack of maneuvering space at fixtures, mirrors set to high, toilet paper dispensers not set at the correct location, flush valves on the wrong side of the toilet, paper towel dispenser set to high, shelves set to high, and lack of a five-foot diameter turning circle in some spaces.



Typical restroom with accessibility issues:  
No 60" diameter turning circle  
No grab bars  
No insulation on pipes under lavatory  
No maneuvering space at toilet  
Mirror set too high  
Shelf set too high  
Paper towel dispenser set too high



Main entry doors are too narrow to meet ADA



Raised area in library prevents wheelchair access



Maneuvering space at this door does not meet ADA



Gymnasium door hardware does not meet ADA

## Security

The district has placed a camera and lock system at the ADA entrance on the south side of the main entrance vestibule, but once inside this door a person has access to the entire building. Unlike the middle/high school building the layout in the elementary building does place the main administration office adjacent to the entry vestibule. With some modifications the entry vestibule could be secured and complete visual observation by administration staff would be possible.

## Administration

The administration area is small by modern standards and does not meet modern security requirements. The existing reception desk does not meet ADA standards and is not situated properly to be affective for visual command of the main entrance. Storage for the space appears to be inadequate. The space is adjacent to the main entrance, however, and could be arranged to security and accessibility concerns.



Reception desk is outside the entry vestibule      Administration space lacks adequate storage  
The desk height is too tall to meet ADA

## Classroom

Modern Pre-K through 1<sup>st</sup> grade classroom size is recommended as 1200 square feet. Modern 2<sup>nd</sup> grade through 6<sup>th</sup> grade classroom size is recommended as 900 square feet. The observed Randolph elementary classroom sizes ranged between 796 and 926 square feet. This is adequate for 2<sup>nd</sup> through 6<sup>th</sup> grades but leaves Pre-K through 1<sup>st</sup> grade spaces on the small side. Classrooms had plenty of natural light but this comes with costs. The lower-level classrooms, especially those with a finish floor lower than the adjacent outdoor grade, have a greater security risk. The large area of windows also contribute to issues with comfort as summer sun warms the interior to uncomfortable levels, and winter's cold quickly transfers to the interior because the windows are not thermally broken and are single pane. This leads to wide temperature swings that are tough for the current HVAC systems to compensate for. The number of electrical convenience outlets is a major problem. This issue will be covered in the MEP analysis, but as it relates to life safety it is worth mentioning here as well. There are very few outlets in the classrooms. Extension cords and multi-plug outlets are used in nearly every classroom. More

outlets are needed on every wall in every classroom. Built-in storage space is also lacking in the classrooms. Upper and lower cabinets and countertops are standard in modern designs.



Typical classroom without built-in storage



This 6 plug multi-outlet was plugged into.....this 6 plug outlet which was fed by an extension cord. This is a typical problem.

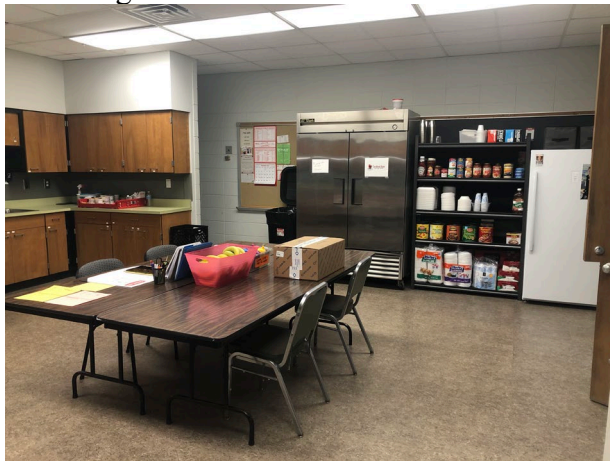
## Kitchen

Originally there was a kitchen in the elementary school, but this area was repurposed when it was decided that the elementary school students would be bused to the middle/high school for lunch each school day. Currently, there is a kitchen like space that is being utilized by the pre-school but this space is not adequate to prepare meals for the kindergarten through 6<sup>th</sup> grade students. Currently, this space provides dry storage, cold storage, frozen storage, work space, the appropriate number of required sinks, one small residential stove, and one small residential dish washer. The size of the storage is capable of handling the pre-school but would not be adequate for kindergarten through 6<sup>th</sup> grade. The busing of students is a major disruption to the school day and requires an extremely long drawn-out multi-shift lunch. If it was desired to end the busing of students there are several ways to go about this. The first decision that must be reached is whether or not to prepare the meals on site or to deliver meals prepared at the middle/high school to the elementary. Preparing the meals on site would require more space than keeping previously prepared meals warm. Preparing the meals on site would likely require a new kitchen addition.

This could be accomplished in the existing courtyard on the west side of the building. If on the other hand keeping previously prepared meals warm was all that was required, the existing kitchen area could be updated and possibly expanded into the speech intervention room 16. This would be the least costly option both from a construction standpoint and from a staffing standpoint.



Washers and dryers are not allowed in kitchens according to the Nebraska Food Code



## Gymnasium/Multi-Purpose Room

The Gymnasium/Multi-Purpose Room has durable wall and floor finishes. The court size is average for an elementary school but it lacks adequate out of bounds space. This issue is compounded by the fact there is no storage space for dining tables that must be placed along the perimeter of the court when being used as a gym. This is a hazardous condition during games and other physical activities. There is no padding on the walls beyond the basket ball goals and there are no bleachers. The lighting in the space is sub-standard.



Out of bounds space lacking, no storage for dining tables, poor lighting, no wall padding and no bleachers.

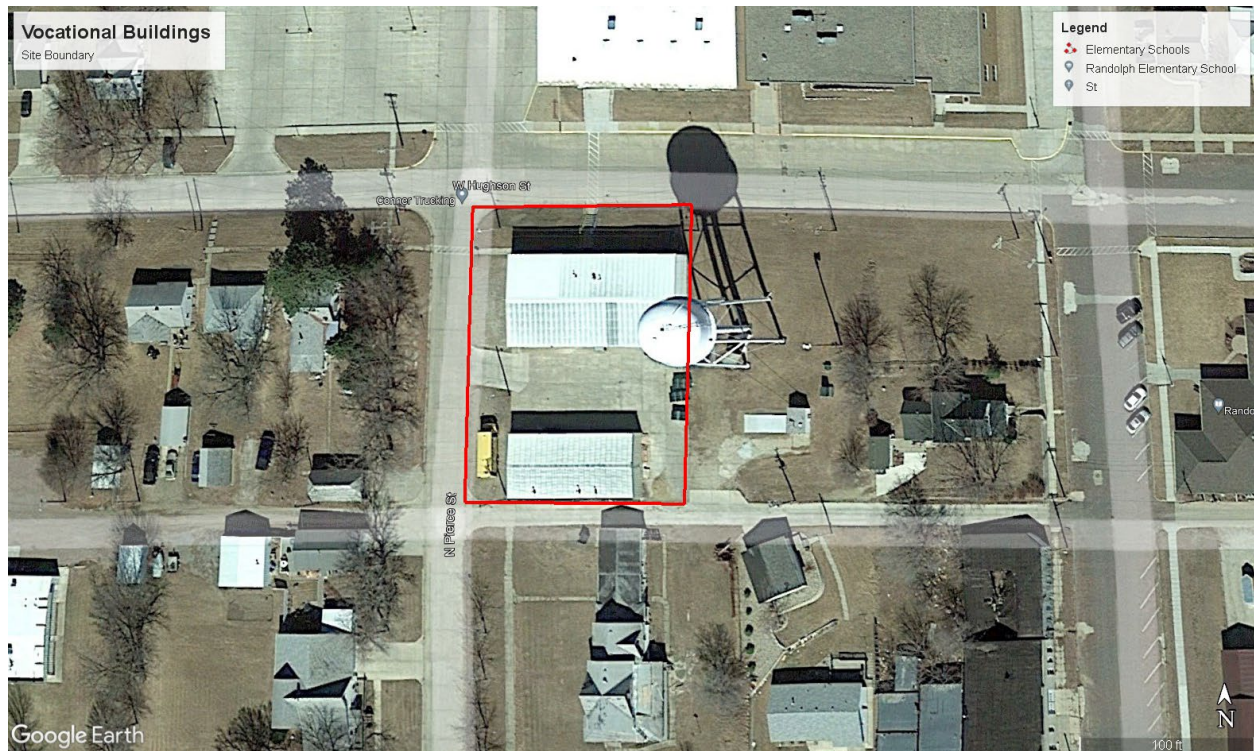


# VOCATIONAL BUILDING



# ARCHITECTURAL ANALYSIS

## Site



The vocational building site is under-utilized. While not on the same property as the Middle/High School building, it has quick adjacent access. It's elevation from the street poses some challenge to ADA compliance, but this difficulty has been overcome in the proposed design of a new structure. The two-building complex does not provide adequate supervision of students by a single teacher.

## Exterior

Built in 1966, the existing vocational buildings are approximately 58 years old. The roofs of the buildings show hail damage and are both missing significant finish on the metal roof panels. There is damage to gutters and downspouts. There is physical damage to siding and on the smaller building, grade along the alley is high, placing the metal panel in the soil and causing it to rust. There is damage to the CMU block of the larger building in the form of cracks in the mortar joints. The cracks extend horizontally and vertically and are likely the result of some differential settlement of the foundation. Window seals are deteriorating and seals around overhead doors are damaged and missing. On the CMU block building the CMU is exposed on the south and east facades. This block is the both interior and exterior finish. This type of construction provides little to no insulation and leaves the wall exposed to the winter cold and summer sun. It also does not provide a rain screen and is therefore susceptible to moisture penetration of the wall.



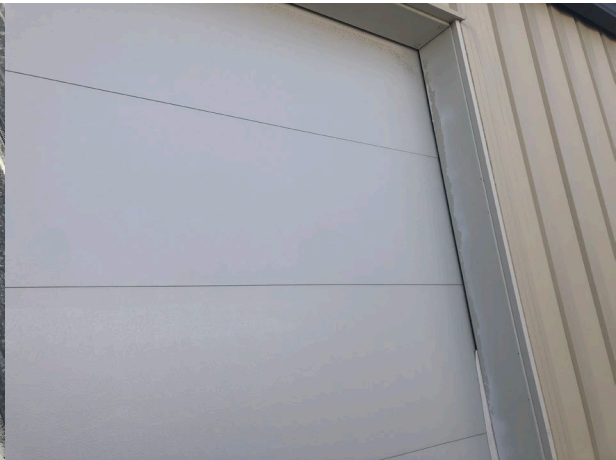
Roof damage



Loss of finish



Hail damage upper right and rib damage



Missing and damaged weather seals



Typical siding damage



Typical siding damage



Missing downspout



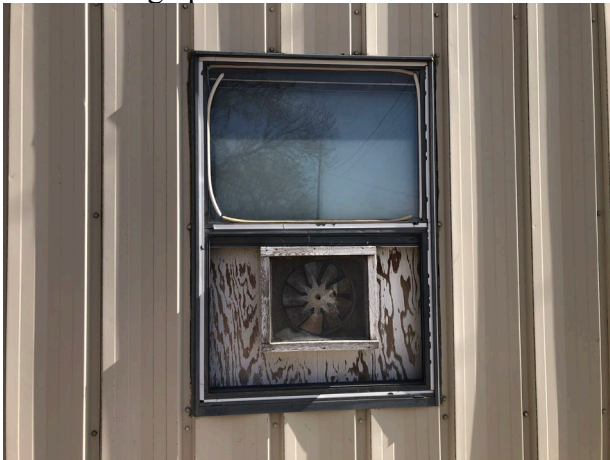
Gutter damage



Grade to high panels buried in dirt – rust



Gutter damage



Deteriorating window seals



Typical siding damage



Soft joints in masonry deteriorating



Movement of CMU/brick veneer



Typical mortar joint cracking in CMU



Typical mortar joint cracking in CMU

## Interior

Due to the size of the buildings, there is a significant lack of storage space for the various vocational programs. Currently, the buildings house the woods, metals, and agriculture programs. A larger building on a fully utilized site would allow for the existing programs plus related school programs such as art and school businesses. This would free up space in the existing Middle/Highschool building for expansion as needed. This feature has been programmed in the proposed new structure. A modern upgrade that is currently required in all new school construction has been included in the proposed new design, the inclusion of a storm shelter. This is lacking in the current facilities. A fire sprinkling system is also included in the proposed new design as required by modern code. This also is not available in the current facilities. Lighting in the current buildings is of poor quality and is not as efficient as the modern LED (light emitting diode). Modern LED lighting could provide significantly increased lighting levels for the expenditure of less electrical energy. Other interior issues include worn finishes, the use of hollow core residential doors for some classrooms, and a lack of guard rails and handrails for the mezzanine stair in the metals shop.



Interior hollow core residential door used for classroom door. Provides poor security and will not stand up to abuse. Note non ADA door hardware



Metals shop mezzanine stair lacks guard and hand rails.



Metals shop lacks equipment  
Exposed CMU exterior wall little or no Insulation.



Wood shop lacks open space, adequate lighting



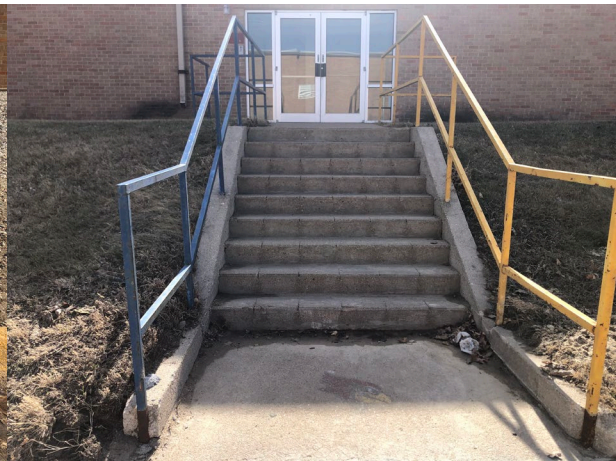
Wood shop lacks storage space

## Accessibility

Accessibility issues begin at the main entrance to the larger building. There is no handicap ramp at the main entrance so when crossing at the designated location, a person must then travel west in the street around the corner and then south to a sidewalk that does not meet ADA in order to arrive at the main entrance. Once at the main entrance the entry door stoop is over an inch lower than the building finish floor elevation which exceeds the maximum ADA threshold requirement of one-half inch. Once inside, the existing drinking fountain does not provide knee or toe space for the wheelchair bound. The restroom doors are only 2'-0" wide and therefore too narrow to allow a wheelchair to pass. The men's and women's restrooms are not ADA compliant. They do not provide grab bars, toilet seats at the right height, urinals at the right height, insulation on exposed pipes under the sinks, paper towel dispensers within the reach range of a wheelchair bound individual, or mirrors at the correct height. Lack of maneuvering space in the shop areas also poses a barrier to the disabled.



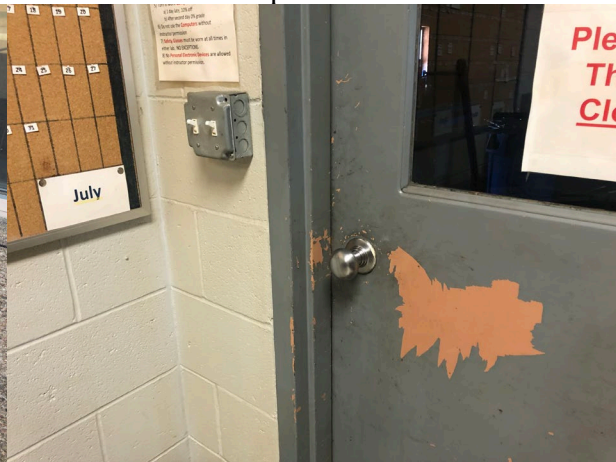
Non-compliant sidewalk and curb ramp



No direct accessible path



Vertical rise at entry door exceeds ADA



Non ADA door hardware



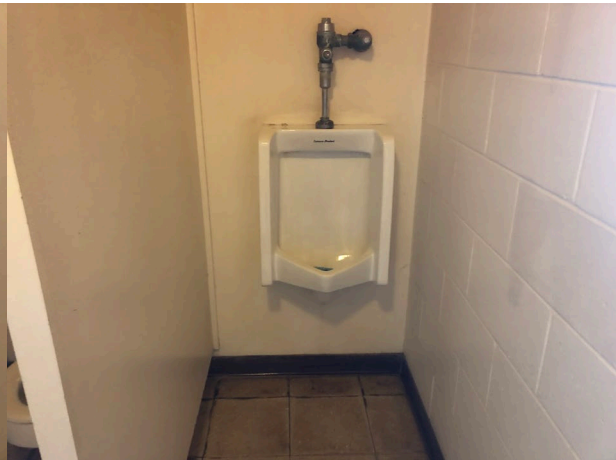
No knee and toe clearance at water fountain  
Fountain should also be a high/low model



Restroom doors too narrow to allow wheelchairs



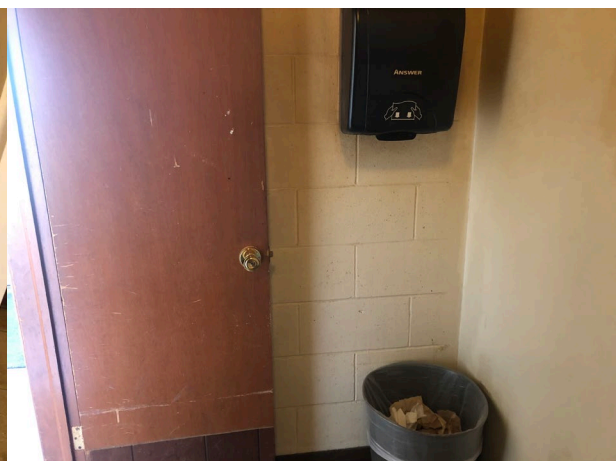
No insulation on lavatory piping to prevent burns, mirror set too high, paper towel dispenser set above reach range.



Urinal rim set too high to meet ADA



No grab bars, flush on wrong side,  
No maneuvering area, paper towel dispenser not in correct location



Paper towel dispenser set too high, no turning circle in restroom, non ADA door hardware



## Security

The two-building vocational building poses a significant security risk as students must move back and forth between buildings during class time. Also, the existing buildings lack lockable vestibules, card readers, or door monitoring.



There is no security vestibule. Once inside, a person has access to both shop doors. The metals shop shown here has a large glass opening, and the woods shop is a hollow core residential door.

## Classroom

The existing classroom/shop sizes are too small. Storage space is extremely limited. Maneuvering space around the various pieces of equipment is congested. There is little to no open area for working on student projects. This lack of space creates a safety hazard. Also, due to the small space, the numbers of pieces of equipment are limited thus reducing the overall experience and learning opportunities.



Wood shop lacks open space, adequate lighting Agriculture classroom is congested



Metals shop lacks equipment

Metals shop lacks sufficient open space

# BUS BARN



# ARCHITECTURAL ANALYSIS

## Site



The bus barn site was once part of a railroad easement. The unusual shape of the property and its dissection by public streets makes expansion of the building impractical. There is no space to the north or south for expansion. An approach apron to the barn is necessary for backing onto the street, so eastward expansion is not an option. The area behind the building has a triangle shape and the grade is significantly higher than the floor elevation of the barn. For these reasons, expansion to the west is impractical. The bus barn building is not large enough to store all existing equipment and some equipment is forced to set outside. The depth of the bus barn is only 40'. This barely provides enough room for a person to walk around the longer length busses. When working on a bus, maintenance personnel must back the bus part way out of the building in order to have room to maneuver. In the winter months this leaves workers in the cold. Most modern bus barns are 60' deep to properly accommodate working on the busses. The site currently lacks appropriate space for bus drivers to park their personal vehicles when taking a bus on route. If a new site and building are contemplated, a level site of approximately 1 acre in size with street and alley frontage is recommended. This would equate to a lot one half the size of a typical city block. Street and alley access would allow pass through vehicle bays.

## Exterior

The Bus Barn was built in 1970 making it approximately 54 years old. The roof has obvious hail damage and the finish on the metal roof panels is almost completely gone. Evidence of panel rusting is just beginning to show. The roof leaks in several locations as panel closures have deteriorated over time. Gutters are missing on part of the building as are downspout extensions and splash blocks. This is a contributing factor to ground water entering the building through the damaged CMU retaining wall on the back side of the building. It appears that the CMU wall

does not contain steel reinforcing and soil pressure has bowed the wall and broken mortar joints and blocks. The metal panel siding is damaged in numerous locations, especially nearest the ground. The overhead doors have damage and are starting to lose their finish. The overhead doors are narrow by modern standards, only 10'-6", and all the door jambs show evidence of being hit repeatedly over the years.



Deteriorated panel closures



Missing gutters, evidence of rust beginning



Finish gone, hail damage present



Hail damage



Damage to finish on overhead doors



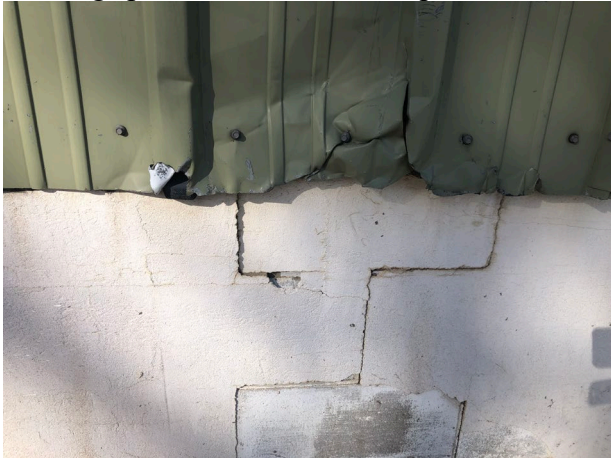
Typical siding damage



Missing splash block and downspout



Broken CMU and cracked mortar



Siding and CMU damage



Damage to corner trim and downspout strap



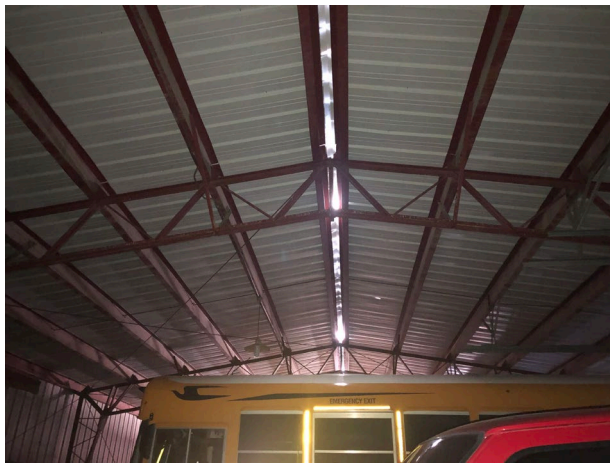
Overhead door damage



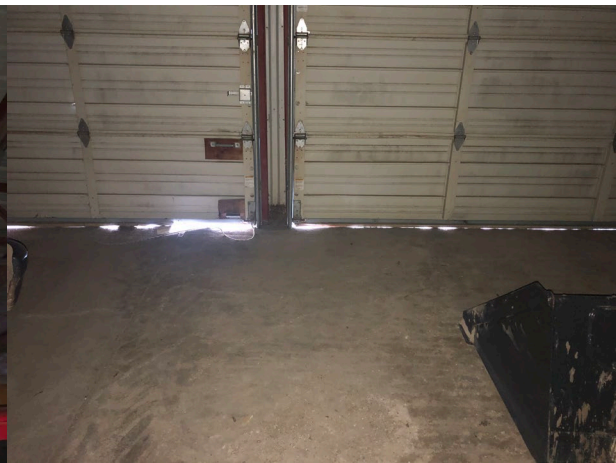
Typical damage at overhead door jambs

## Interior

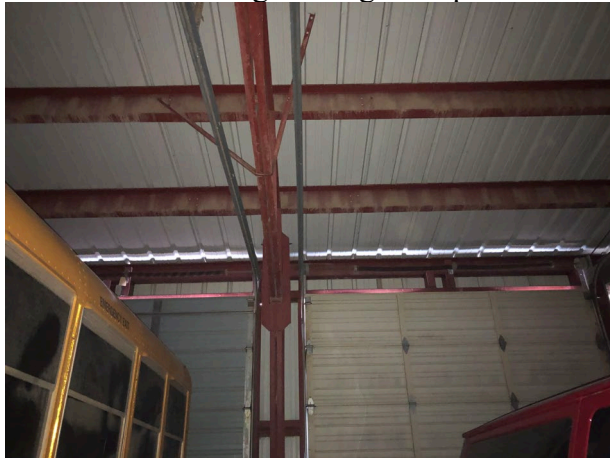
The interior of the bus barn is in poor shape and, as previously mentioned, is not an adequate size. Besides vehicle bays not being deep enough and there not being enough bays to accommodate all of the district's vehicles, there is also not enough storage space for buildings and grounds supplies. The heated portion of the building has little to no insulation, and what little insulation there is is damaged. The heating system is undersized and does not keep up with demand in the winter months leading to water pipe freeze ups. When buses have to be worked on in the winter, they have to be backed partially out of the building in order to provide work space leading to a cold work environment and wasted utilities. The lighting in the space is not adequate, making completing tasks with the overhead doors shut difficult. Due to roof and CMU retaining wall issues previously mentioned, rain water and ground water often enter the building. Additional amenities that are found in modern bus barns that the existing facility does not have include automatic garage door openers, mechanical ventilation for vehicle exhaust, a wash bay, and floor drains in vehicle bays for melting snow and water.



Panel closures along the ridge compromised



Overhead door seals damaged or missing



Panel closures at eaves missing



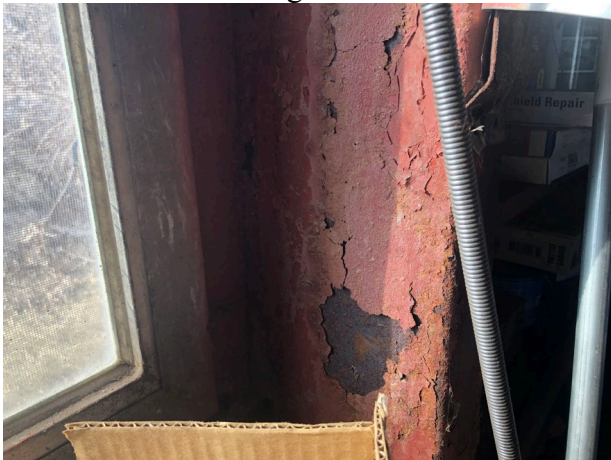
Repair bay is cramped and not long enough



Walk door seals damaged



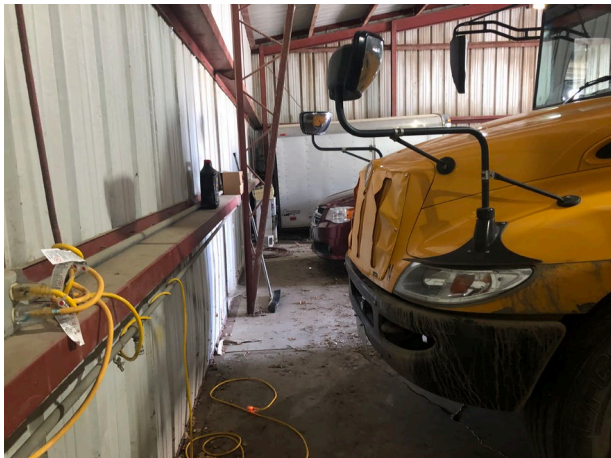
Existing insulation inadequate and damaged



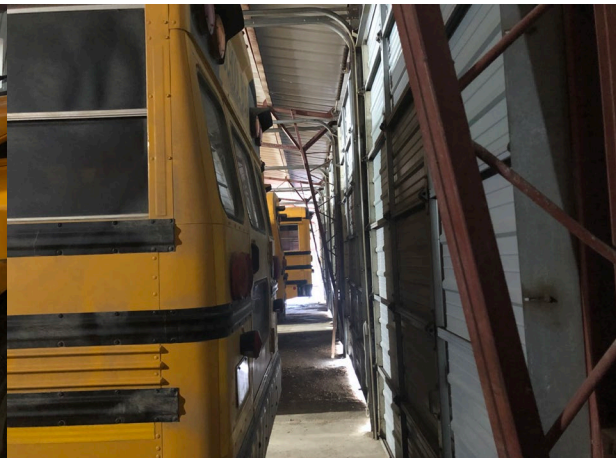
Rust and finish damage on main frame  
Windows are single pane and not thermally broken.



Water heater and space heater are exposed in the office. The smell of gas/exhaust evident



Building depth is not adequate for bus length





# **MECHANICAL/ELECTRICAL/PLUMBING ANALYSIS**

# MASTER PLAN

Items that require immediate attention

Pressing items that may need to be financed

Items to be included in 10-year plan

New Vocational Building

New Bus Barn

Middle / Senior High School

1. Evaluate the extent of structural damage around the existing chimney. Repair/replace decking, insulation, and roofing as needed.
2. One section of the roof has not been updated. There is currently a leak where the lower roof abuts the original gymnasium. Also, investigate potential mold/roof leak along west wall of north gymnasium.
3. Add fire sprinklers to cover the entire building.
4. Relocate high school office for increased security.
5. A/C and fans to be added in new gym.
6. A/C to be added in the original gym.
7. Community weight room addition.
8. Add roof access for maintenance – explore interior and exterior options.
9. Replace the bleachers in the original gymnasium.
10. Replace existing lighting with LED throughout building.
11. Replace commons, office, and hallway carpet.
12. New tables and chairs in library.
13. New showers in the high school locker rooms.
14. Update locker rooms under stage.
15. New scoreboards in original gym.

Elementary School

1. Asbestos abatement must be completed by the school.
2. Investigate daycare issues with low water pressure and with sewer backing up.
3. Replace HVAC systems.
4. Add fire sprinklers to the building.
5. Additional Restrooms
  - a. Add boy's on 1<sup>st</sup> floor
  - b. Add girl's on 2<sup>nd</sup> floor
  - c. Add in daycare area both boy's and girl's
6. Add janitorial space on 1<sup>st</sup> and 2<sup>nd</sup> floors.
7. Update existing restrooms, possibly move sinks to hallway.
8. Replace the windows throughout the building – existing windows are single pane with non-thermally broken aluminum frames. (possibly fewer windows, possibly bullet resistant)
9. Replace remainder of original lighting with LED.
10. Pave the gravel parking lot.
11. Install fence between parking lot and playground.
12. North side entrance to the playground to be enclosed and not interfere with parking lot entrance.
13. Add classroom storage cabinets.

14. Remove the stage in the library and update finishes.
15. Add cabinets in the elementary library.
16. Reconfigure Main Entrance for security.
17. Add backup generator for emergency systems.
18. Add kitchen in the courtyard area north of the gymnasium.
19. Add storage in the courtyard area for the gymnasium.
20. Update and add additional lockers.
21. Update internal phone system.
22. Add electrical outlets in classrooms.
23. Add sinks in classrooms.
24. Paint interior walls throughout building.
25. Replace flooring as needed.
26. Add gym type space for daycare so gym can be used by school students at any time.