



# Performance Services

School District of Brown Deer

Facility Study  
September 26, 2023

SUBMITTED TO:  
School District of Brown Deer  
8200 N. 60<sup>th</sup> Street  
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# Table of Contents

- 1) Brown Deer Middle/High School**
- 2) Brown Deer Elementary School**
- 3) Administrative Service Center**
- 4) Outdoor Athletic Facilities**

Performance Services is pleased to present a Facility Needs Assessment for the School District of Brown Deer. This detailed study provides data to the School District of Brown Deer to guide planning for facility improvements and provides data and analysis in the following areas:

- Assessment of the physical condition of facilities
- Identification of critical physical condition improvement needs
- Budget estimates for improvements to address critical needs

The study organizes assessments by building providing separate tabs for Brown Deer Elementary School, Brown Deer Middle/High Schools and the Administrative Service Center.

### **Methodology**

The Performance Services Team met with the School District of Brown Deer to discuss facility goals, plans, and needs. Your input was considered along with our site visits and engineering analysis of data to develop a Preliminary Facility Conditions Report to address the objectives of the District. Our skilled team of Architects, Engineers, Building Envelope Specialists, and Drone Pilots visited the site, recording the existing conditions of the facilities. They then compiled the following report noting conditions and potential improvements to consider.

### **Goal**

The intent of our Preliminary Facility Conditions Report is to identify opportunities and offer solutions to save energy, reduce maintenance costs, and replace aging equipment and assemblies serving District facilities. The report also includes an overview of District buildings' infrastructure and systems. The final section of the report contains anticipated costs for the solutions.

The Performance Services Team would like to thank the School District of Brown Deer for their generous access to facilities, staff, and data in developing the report.

# Brown Deer Middle / High School

## Facility Overview

- ✓ The building area is approximately 300,970 square feet.
- ✓ Current enrollment is about 852 students (6-12 grades; 2022-2023 Department of Public Instruction).
- ✓ Initially built in 1960 as Granville Union High School
  - Additions in 1973 (Media Center, Classrooms, Pool, & CTE)
  - Additions in 2012 (Fieldhouse, Locker Rooms, Commons, HS Art, & Fitness Center)
  - Additions in 2018 (Middle School Admin & Classroom Wing)



## Site

### **Existing Conditions:**

- Parking and drive lanes have several large cracks and should be considered for resurfacing - the back drive has some evidence of base failure and should have selective base repair prior to repaving.
- The gravel construction road is not being used for authorized purposes.

### **Recommendations:**

- Replace selective sections of the drives.
- Remove Gravel construction road.



*Poor Asphalt*



*Poor Asphalt and Ponding*



*"Alligator Cracking"*

## **Safety & Security**

### **Existing Conditions:**

- Both the middle and high schools have functioning secure entrance vestibules that prevent visitors from entering the school prior to checking in with the office.
- Exterior doors are labeled for quick identification and wayfinding. Consider also labeling classrooms with numbers to assist emergency responders in locating a room from the exterior of the building.
- The district has concerns with the amount of transparency in the middle school collaboration areas and classrooms.

### **Recommendations:**

- Ensure all doors are properly numbered and specialty doors identified.
- Install ballistic window film on interior windows in the Middle School



*Existing HS Secure Entrance*



*Existing MS Secure Entrance*



*Existing Door Labels - Classrooms not labeled*



*MS interior glazing*

## **Building Envelope**

### **Existing Conditions:**

- Overall, the building envelope is in fair condition, generally varying with the age of the particular portion of the building.
- Several windows and curtain walls in the original wing of the building area, single pane with non-thermally broken frames.
- Roof Areas A, B, & D are in need of replacement.

### **Recommendations:**

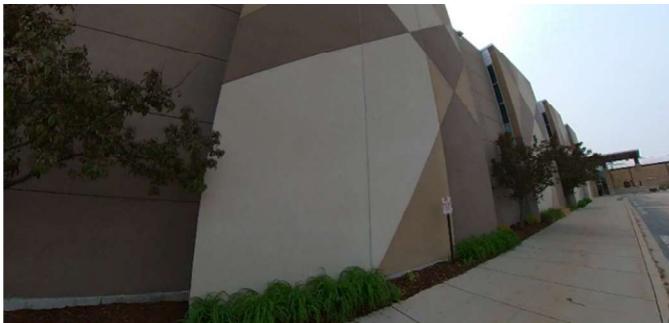
- Consider replacing the windows and curtain walls in the oldest wing of the building with more energy-efficient windows.
- Perform a tuckpointing audit and repair as needed.
- Replace roofs A, B, & D.



*Exterior Curtain Wall*



*Single glazed window*



*Fieldhouse wall in good condition*



*Fieldhouse locker room exterior - good condition*



*Art Addition Exterior - Good Condition*



*Exterior Curtain Wall - Poor Condition*



*Brick Exterior in good condition*



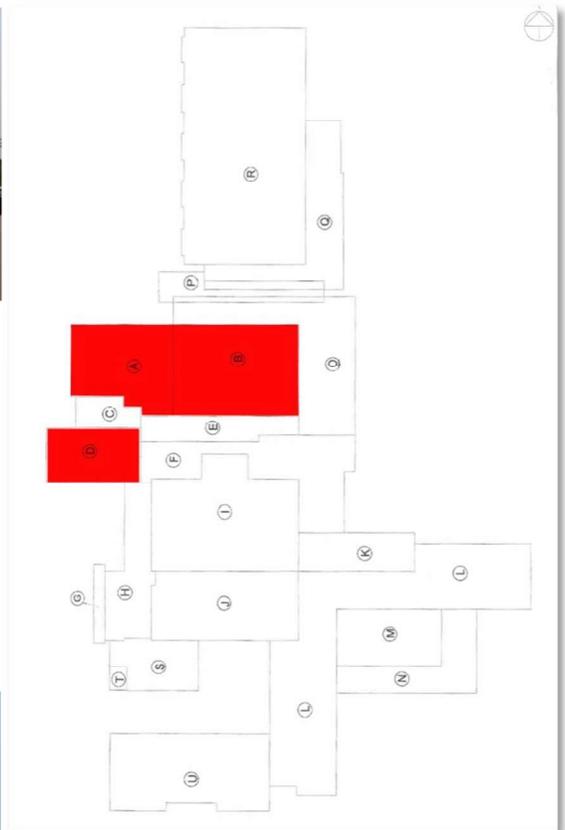
*Exterior Curtain Wall, fair to poor condition*



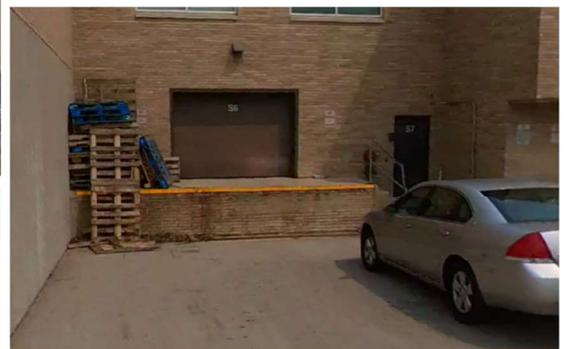
*Exterior curtain wall in good condition*



*Exterior Curtain Wall in good condition*



*High Priority Roofing Areas*



*Loading Dock - Very Poor condition*



*Exterior Curtain Wall - Fair to Poor Condition*



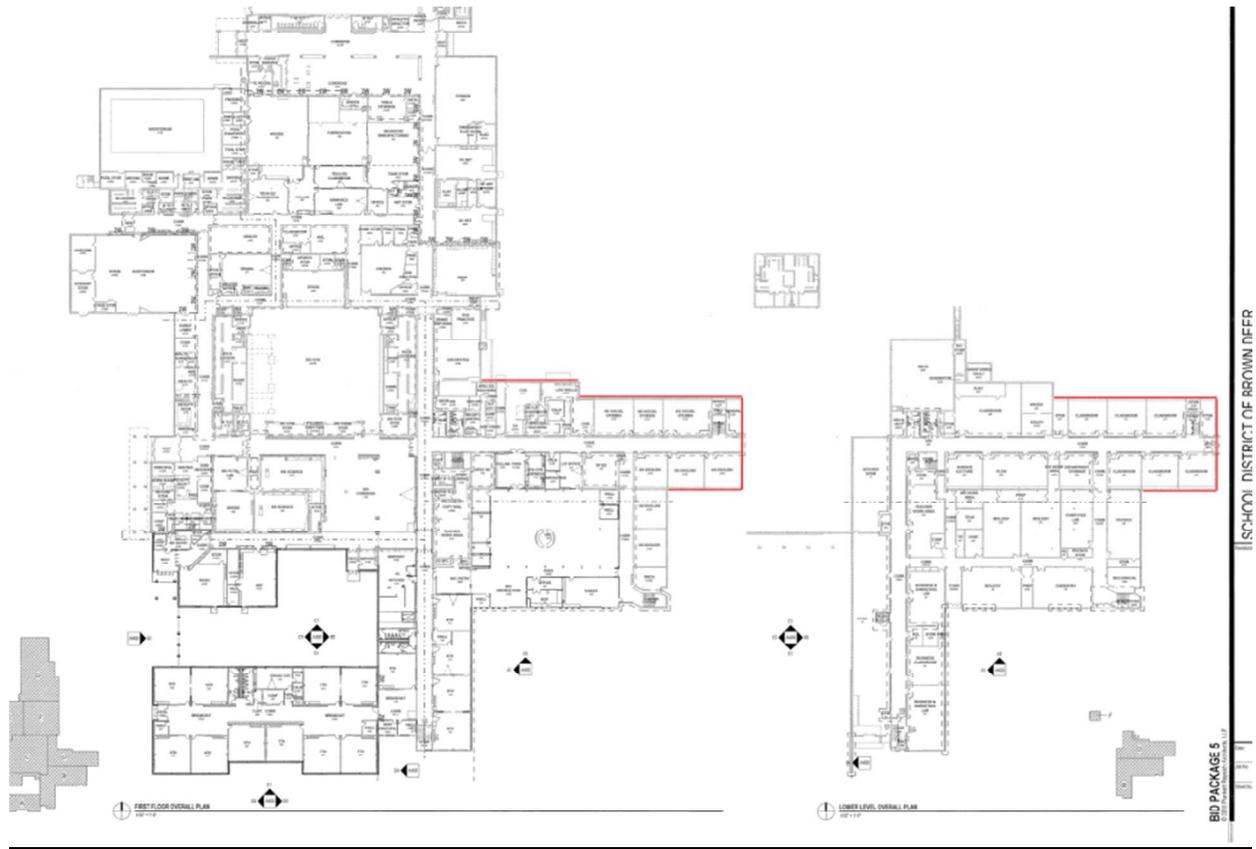
*Exterior Stair: signs of spalling, non-complaint guard rail*



*Doors showing signs of oxidation - consider repainting*



*Infill Brick or provide louver/cover*



*Curtainwall Replacement*

## **Code and ADA Considerations**

### ***Existing Conditions:***

- The building is fully sprinkled.
- The platform in the orchestra room does not have a handrail.
- Select rooms have doorknobs.
- Most handrails are in good condition and compliant with current extension requirements.
- Select restrooms are not compliant with ADA (older restrooms & locker rooms).
- Pool does not have a lift.
- Pool spectator seating is not ADA-compliant.
- East Bleachers in MS Gym do not have ADA cutouts, stairs, guardrails, or handrails.
- The courtyard gate does not have an egress release or panic.

### ***Recommendations:***

- Consider rectifying minor compliance issues.
- Consider replacing bleachers.



*No handrail*



*Provide lever handles for ADA compliance*



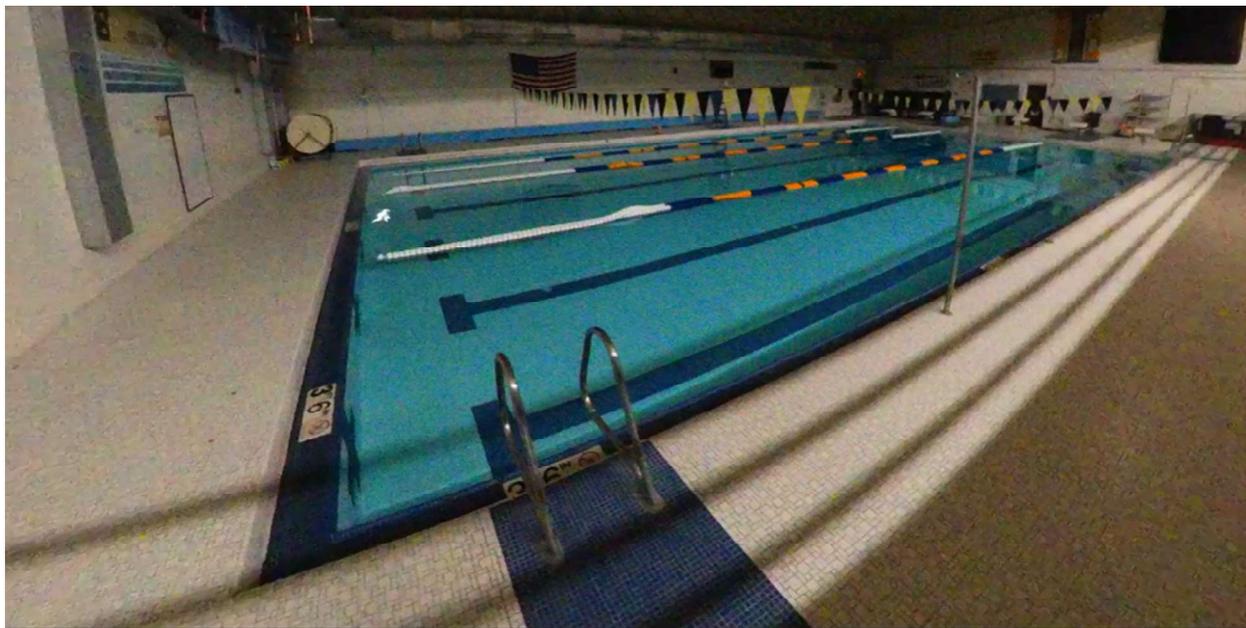
*Non-compliant toilet stalls*



*Example handrail - compliant and in good condition*



Existing Pool



Existing Pool



Gate latch could create an entrapment hazard



Latching Gate w/ panic solution

## **Interior Materials, Finishes, and Equipment**

### **Existing Conditions:**

- Flooring in select rooms should be considered for replacement, including vinyl asbestos tile in many of the classrooms in the original building wings and the instrument storage and band uniform storage rooms.
- Ceilings in the different portions of the building vary in vintage and style. Consider replacing the old, dirty, and worn ceilings.
- Most doors in the original classroom wing have reached their end of life and should be considered for replacement.

### **Recommendations:**

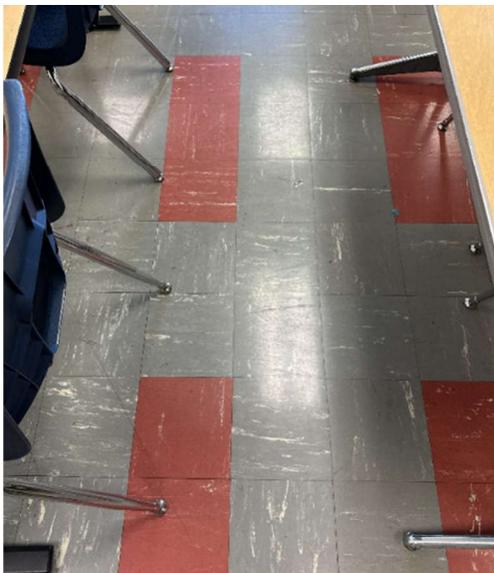
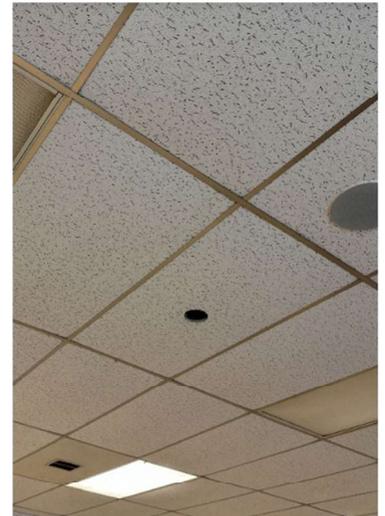
- Consider replacing flooring, ceiling, lights, and doors in select areas.



*Old / worn carpet*



*Old / dirty ceilings*



*Original floor tile (may contain asbestos)*

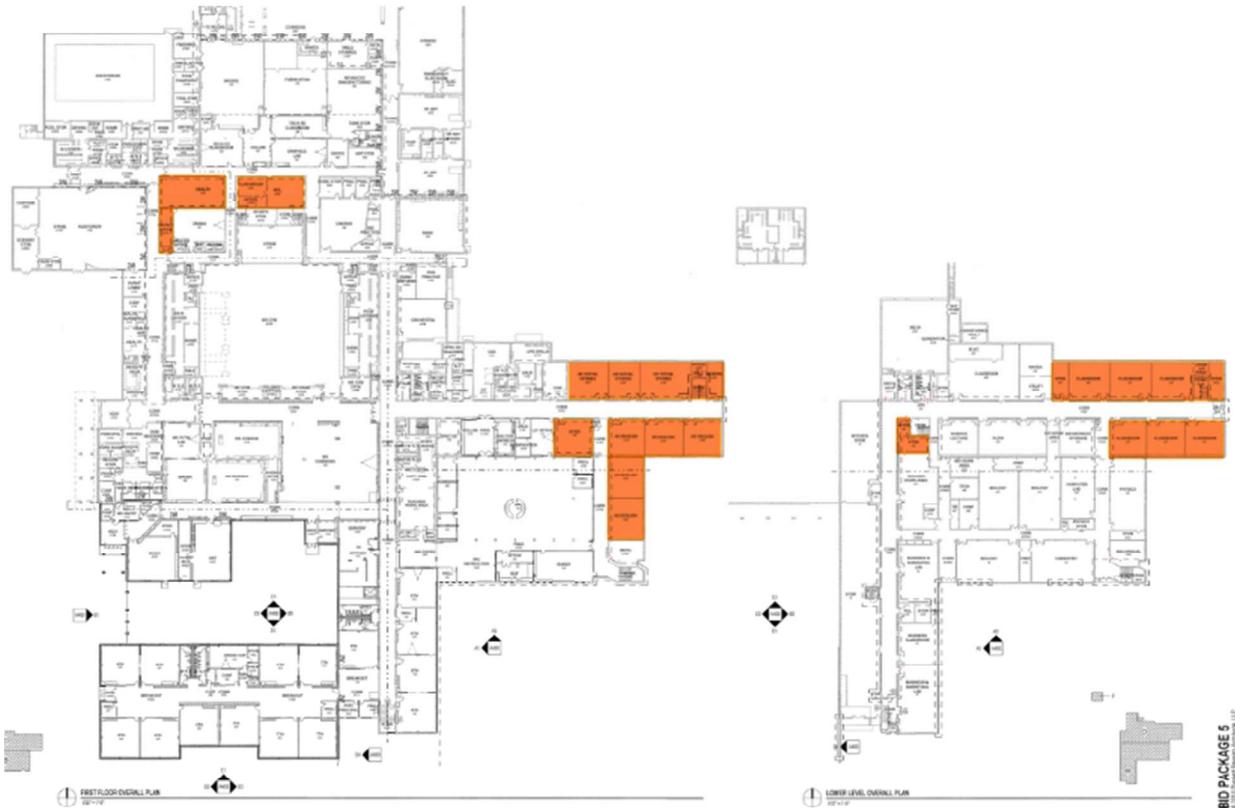


*Original doors - damaged, worn finishes*





Example Corridor – Fair Condition



Recommended locations for updated finishes

## **Administrative and Support Spaces**

### ***Existing Conditions:***

- All administrative spaces were updated in the last two referenda. The physical conditions of these spaces are in good condition.

### ***Recommendations:***

- No physical plant recommendations.



*HS Reception - Good Condition*



*HS Nurse - Good Condition*



*HS Guidance Area*



*MS Reception - Good Condition*



*MS Administration - Good Condition*

## Indoor Athletic Spaces

### **Existing Conditions:**

- The field house is a fairly new construction being built in the last referendum and is in good condition.
  - The associated locker rooms, coaches offices, training room, fitness center, and all seating and gym equipment appear to be in good condition and working order.
- The locker rooms connected to the fieldhouse are also new and in good condition.
- The pool is physically in fair condition but lacks sufficient lanes and a diving well to host WIAA meets. The spectator seating for the pool is not ADA-accessible. The Natatorium could also benefit from acoustic treatments to reduce reverberation.
- The pool locker rooms are all an older vintage and are showing significant signs of wear.
- The older gymnasium is in fair condition. The bleachers appear of newer vintage and include stair aisles, handrails, and ADA cutouts.
- The basement locker rooms have seen significant age and are due for renovation
- The wrestling area is undersized for the current program and is not currently at an accessible level.
- The older boys' locker rooms have communal showers, which are less likely to be used by today's students.

### **Recommendations:**

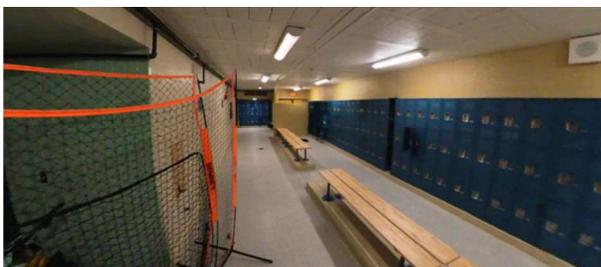
- Renovate high school pool locker rooms.
- Renovate middle school locker rooms.
- Evaluate the long-term natatorium needs and consider replacing the pool and spectator seating.
- Renovate basement locker rooms.
- Renovate existing space to accommodate wrestling or build a new wrestling room and associated lockers.



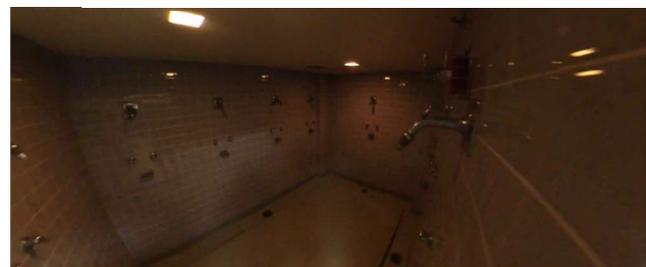
*Pool Locker Rooms - Old Finishes, Damaged Lockers*



*Communal Showers - less likely to be used by students*



*MS Locker Rooms*



*Basement Lockers*



Pool



Pool Locker Room



Pool Locker Room



Wrestling Room – Space is limited



Bleachers - no handrails or stair sections



Gym Floor - Good Condition



Basement Locker Rooms - Damaged Lockers, Outdated Finishes



Cardio Fitness



Field House - Good Condition



Fieldhouse



Field House Lockers



Fieldhouse Locker Restrooms - Good Condition



Field House - Individual Showers



Fitness Center - Good Condition



Athletic Training Room



Coaches Lockers



Coaches Offices

## Performing Arts Spaces

### **Existing Conditions:**

- The auditorium is in good condition; however, the district would like to look into replacing or reupholstering the seating.
- The auditorium appears to seat about 300 and is good for smaller performances. It does not have a full-fly loft or an orchestra pit, and may be challenging to house larger ensembles.
- The Band room.

### **Recommendations:**

- Consider replacing the auditorium seating.



Auditorium



Stage - no fly loft limits production capability



Orchestra



Middle School Music



Music Storage



Vocal Music



HS Band



Music Storage - low lighting, outdated flooring, not ADA compliant

## Visual Arts

### **Existing Conditions:**

- There are dedicated Visual Arts rooms for both Middle and High Schools.
- The MS Art rooms are new as part of an addition in 2018 and are in good condition.
- The HS Art rooms have been recently updated.
- All appear to be well-equipped and functioning.

### **Recommendations:**

- No physical plant recommendations.



MS Art



HS Art



Ceramics Lab



MS Kiln Room



HS Kiln Room



HS Art

## Career and Technical Education

### **Existing Conditions:**

- The CTE spaces incorporate Woods, Construction, and Fabrication Labs.
- The classroom spaces have been recently updated and include collaboration space.
- The CTE site appears to be in good physical condition and in good working order.

### **Recommendations:**

- No recommendations (programmatic recommendations TBD).



Metals Shop



CTE Collaboration Space



CTE Classroom



Construction Lab



Wood Shop



CAD / Graphics Lab



CTE Classroom

## **Food Service and Commons**

### **Existing Conditions:**

- The Kitchens and Dining area were updated in the last referendum and are in good physical condition.

### **Recommendations:**

- No recommendations (programmatic recommendations TBD).



MS Commons



MS Kitchen



Falcon Express

## Media Center

### **Existing Conditions:**

- The Media Center and STEM Lab were updated in the 2018 Referendum and are in good physical condition.
- The Media Center houses varying sizes of collaboration rooms, a room with a green wall, and a STEM lab.

### **Recommendations:**

- No recommendations (programmatic recommendations TBD).



STEM Lab



Media Center



Collaboration Room



Circulation Desk



Green Screen Room



Collaboration Room



Media Center

## **General Classrooms HS**

### **Existing Conditions:**

- The General HS Classrooms vary in age since their last renovation.
- Most classrooms in the original building wing still have their original finishes.
- Furniture in many of these classrooms is also older and less flexible for today's collaborative learning environments.
- Classroom presentation technology is mostly projector-based, which can be restricted by light levels in the room as well as shadows caused by the operator.

### **Recommendations:**

- Remove and replace old flooring, paint walls, and replace ceilings/lighting in select rooms.
- Consider replacing the older student furniture.
- Consider replacing projector-based presentation systems with interactive screens.



*HS Classroom - Outdated Finishes*



*HS Classroom - Outdated Finishes*



*HS Classroom - Older Finishes*



*HS Classroom - Older Finishes*

## **General Classrooms MS**

### **Existing Conditions:**

- Middle school classrooms were updated or built new with the 2018 referendum and are in good physical condition.

### **Recommendations:**

- No recommendations (programmatic recommendations TBD).



*MS Classroom*



*MS Classroom*



*MS Classroom*

## **Science Labs and Classrooms**

### ***Existing Conditions:***

- The Science LABS were updated in 2012 and are in good physical condition with minor wear and tear.

### ***Recommendations:***

- No recommendations (programmatic recommendations TBD).



*HS Science*



*HS Science*



*HS Science Prep Room*



MS Science Lab



HS Chem Lab



HS Chem Lab



*HS Physics Lab*



*HS Chem Lab*

## Restrooms

### **Existing Conditions:**

- Most of the MS/HS restrooms were updated in the 2018 referendum and are in good physical condition.
- There are a few public and staff restrooms that should be updated to meet ADA and contemporary finishes.

### **Recommendations:**

- Renovate select restrooms.



*Older Restroom Finishes*



*Newer restroom Finishes*



*Newer Restroom*



*Older Restroom Finishes*



*Older Restroom Finishes*



*Newer Restrooms*

## **Special Education**

### **Existing Conditions:**

- The Special Education spaces were updated in the 2012 referendum and are in good physical condition.

### **Recommendations:**

- No recommendations (programmatic recommendations TBD).



*Life Skills*



*OT/PT Room*



*Restroom equipped w/ accessible toilet, shower, and large changing table*



*Reset Room w/ color selectable lighting*

# Brown Deer Middle/High School

## Facility Overview

- ✓ Electrical service is provided by WE Energies
- ✓ Natural Gas is provided by WE Energies

## Central Heating System

### Existing Conditions:

- ✓ The building has two heating plants
  - (6) Thermal Solutions boilers serve Middle School
    - Five boilers are 2,000,000 BTU/h input.
    - One boiler is 1,000,000 BTU/h input.
    - Installed in 2003 / 20 years old
    - Average service life is 30 years
  - Boiler circulation pumps provided as part of each boiler
    - Pumps are in below-average condition
    - Pumps are constant volume
  - Main heating water pumps are variable-speed pumps
    - (2) inline pumps manufactured by Taco
    - Pumps are in average condition and are served by Variable Frequency Drives
  - (5) Boilers serve the High School
    - Four boilers are 2,000,000 BTU/h input Thermal Solutions boilers installed in 2003 / 20 years old
    - One boiler has 850,000 BTU/h input Lochinvar boiler was installed in 2019 / 4 years old and serves the pool
  - Boiler circulation pumps provided as part of each boiler
    - Pumps are in below-average condition
    - Pumps are constant volume
  - Main heating water pumps are variable-speed pumps
    - (2) base-mounted pumps manufactured by Bell & Gossett
    - Pumps are in average condition and are served by Variable Frequency Drives



### Recommendations:

- ✓ Begin planning for replacement of the boiler plants in the next 5-10 years, beginning with the HS boiler plant.

## Central Cooling System

### Existing Conditions:

- ✓ No central cooling system present. Packaged rooftop units and split DX air-cooled condensing units tied to air handling units provide cooling to various areas of the building.
  - (12) Packaged Rooftop units serve the facility
    - Manufactured by York, AAO and Trane
    - (8) units installed in 2013 / 10 years old
    - (4) units installed in 2019 / 4 years old
    - In good condition
    - Average service life of rooftop units is 15 years
  - (12) Air Cooled Condensing Units serve Air Handling Units
    - Manufactured by York and Carrier
    - (2) R22 units installed in 2008 / 15 years old
    - (5) R410A units installed in 2012 / 11 years old
    - (5) R410A units installed in 2019 / 4 years old
    - In good condition
    - Average service life of condensing units is 20 years
  - Multiple Ductless Split Systems provide cooling for spaces
    - Manufactured by Mitsubishi and Sanyo



### Recommendations:

- ✓ Begin planning for replacement of the R22 condensing units in the next 1-5 years, or at the same time the corresponding air handling units are replaced.
- ✓ Begin planning for replacement of the 2012 rooftop units in the next 5-10 years.
- ✓ Begin planning for replacement of the 2013 condensing units in the next 5-10 years.

## Air Distribution Systems

### Existing Conditions:

- ✓ West IMC & Classrooms are served by Indoor Air Handling Unit-1
  - Original to building
  - Average service life is 30 years
  - In poor condition
  - Provides Heating (hot water), Cooling (split dx), and Ventilation



- Zoning provided by constant volume terminal reheat
  - Hot water coils provide reheat
  - Original to building old
  - Average service life is 20 years
  - In poor condition
- ✓ East IMC & Classrooms are served by Indoor Air Handling Unit-2
  - Original to building
  - Average service life is 30 years
  - In poor condition
  - Provides Heating (hot water), Cooling (split dx), and Ventilation
  - Zoning provided by constant volume terminal reheat
    - Hot water coils provide reheat
    - Original to building old
    - Average service life is 20 years
    - In poor condition
- ✓ Lower-Level Science Classrooms are served by Indoor Air Handling Unit-3
  - Installed in 2008 / 15 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water), Cooling (split R22 dx), and Ventilation
  - Zoning provided by constant volume terminal reheat
    - Hot water coils provide reheat
    - Unknown age
    - Average service life is 20 years
    - In unknown condition
- ✓ Natatorium is served by Indoor Air Handling Unit-4
  - Installed in 2019 / 4 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water), Cooling (split dx), and Ventilation
  - Single zone served
  - Unit contains a heat recovery coil and glycol loop piping system
- ✓ Pool Lockers are served by Indoor Air Handling Unit-5
  - Installed in 2019 / 4 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water) and Ventilation
  - Zoning provided by constant volume terminal reheat
    - Hot water coils provide reheat
    - Unknown age
    - Average service life is 20 years
    - In unknown condition



- ✓ Auditorium is served by Indoor Air Handling Unit-6
  - Installed in 2006 / 17 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water), Cooling (split R22 dx), and Ventilation
  - Zoning provided by constant volume terminal reheat
    - Hot water coils provide reheat
    - Unknown age
    - Average service life is 20 years
    - In unknown condition
- ✓ Health/Drama Classrooms are served by Indoor Air Handling Unit-7
  - Original to building
  - Average service life is 30 years
  - In fair condition
  - Provides Heating (hot water) and Ventilation
  - Zoning provided by constant volume terminal reheat
    - Hot water coils provide reheat
    - Unknown age
    - Average service life is 20 years
    - In unknown condition
- ✓ Wood Shop Make-up air is provided by Indoor Air Handling Unit-8
  - Original to building, not in use
  - Average service life is 30 years
  - In fair condition
  - Provides Heating (hot water) and Ventilation
  - Single zone served
- ✓ Lower Level Classrooms East/South, HS SS/English are served by Indoor Air Handling Unit-9 and 10
  - Original to building
  - Average service life is 30 years
  - In poor condition
  - Provides Heating (gas-fired) and Ventilation
  - Zoning provided by multizone dampers
  - Controls are pneumatic
- ✓ MS Gymnasium is served by Indoor Air Handling Unit-11
  - Original to building
  - Average service life is 30 years
  - In poor condition
  - Provides Heating (gas-fired) and Ventilation
  - Zoning provided by multizone dampers
  - Controls are pneumatic



- ✓ Boiler room ventilation was provided by Indoor Air Handling Unit (AH. NO. 12)
  - Original to building
  - Average service life is 30 years
  - In poor condition
  - Provides Heating (hot water and Ventilation
  - Serves single-zone
- ✓ Manufacturing Shop is served by Indoor Air Handling Unit-12
  - Installed in 2019 / 4 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water) and Ventilation
  - Serves single-zone
- ✓ Band/Chorus/Tech Ed Classrooms are served by Indoor Air Handling Unit-13
  - Installed in 2019 / 4 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water), Cooling (split dx), and Ventilation
  - Zoning provided by variable air volume boxes
    - Hot water coils provide reheat
    - Installed in 2019 / 4 years old
    - Average service life is 20 years
    - In good condition
- ✓ Fabrication Shop is served by Indoor Air Handling Unit-14
  - Installed in 2019 / 4 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water) and Ventilation
  - Serves single-zone
- ✓ Wood Shop is served by Indoor Air Handling Unit-15
  - Installed in 2019 / 4 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water) and Ventilation
  - Serves single-zone
- ✓ Reception and Health Offices served by Packaged Rooftop Unit-1A
  - Installed in 2013 / 10 years old
  - Average service life is 15 years
  - In fair condition
  - Provides Cooling (packaged dx) and Ventilation
  - Zoning provided by variable air volume boxes
    - Hot water coils provide reheat
    - Installed in 2013 / 10 years old
    - Average service life is 20 years
    - In good condition



- ✓ Admin Offices served by Packaged Rooftop Unit-1B
  - Installed in 2019 / 4 years old
  - Average service life is 15 years
  - In good condition
  - Provides Heating (indirect gas burner), Cooling (packaged dx), and Ventilation
  - Zoning provided by variable air volume boxes
    - Hot water coils provide reheat
    - Installed in 2019 / 4 years old
    - Average service life is 20 years



- ✓ MS Science, Art and Music served by Packaged Rooftop Unit-2
  - Installed in 2013 / 10 years old
  - Average service life is 15 years
  - In fair condition
  - Provides Heating (indirect gas burner), Cooling (packaged dx), and Ventilation
  - Zoning provided by variable air volume boxes
    - Hot water coils provide reheat
    - Installed in 2013 / 10 years old
    - Average service life is 20 years
    - In good condition



- ✓ MS Science and Classrooms served by Packaged Rooftop Unit-3
  - Installed in 2013 / 10 years old
  - Average service life is 15 years
  - In fair condition
  - Provides Cooling (packaged dx) and Ventilation
  - Zoning provided by variable air volume boxes
    - Hot water coils provide reheat
    - Installed in 2019 / 4 years old
    - Average service life is 20 years
    - In good condition

- ✓ Art served by Packaged Rooftop Unit-4
  - Installed in 2013 / 10 years old
  - Average service life is 15 years
  - In fair condition
  - Provides Heating (indirect gas burner), Cooling (packaged dx), and Ventilation
  - Zoning provided by variable air volume boxes
    - Hot water coils provide reheat
    - Installed in 2013 / 10 years old
    - Average service life is 20 years
    - In good condition



- ✓ Fitness is served by Packaged Rooftop Unit-5
  - Installed in 2013 / 10 years old
  - Average service life is 15 years
  - In fair condition
  - Provides Heating (indirect gas burner), Cooling (packaged dx), and Ventilation



- Zoning provided by variable air volume boxes
  - Hot water coils provide reheat
  - Installed in 2013 / 10 years old
  - Average service life is 20 years
  - In good condition
- ✓ North Commons served by Packaged Rooftop Unit-6
  - Installed in 2013 / 10 years old
  - Average service life is 15 years
  - In fair condition
  - Provides Cooling (packaged dx) and Ventilation
  - Zoning provided by variable air volume boxes
    - Hot water coils provide reheat
    - Installed in 2019 / 4 years old
    - Average service life is 20 years
    - In good condition
- ✓ South Fieldhouse served by Packaged Rooftop Unit-7A
  - Installed in 2013 / 10 years old
  - Average service life is 15 years
  - In fair condition
  - Provides Heating (indirect gas burner), Cooling (packaged dx), and Ventilation
  - Serves single-zone
- ✓ North Fieldhouse served by Packaged Rooftop Unit-7B
  - Installed in 2013 / 10 years old
  - Average service life is 15 years
  - In fair condition
  - Provides Heating (indirect gas burner), Cooling (packaged dx), and Ventilation
  - Serves single zone, has hot water reheat coil in interior supply ductwork for humidification control.
- ✓ South Addition Classrooms are served by Packaged Rooftop Unit-8
  - Installed in 2019 / 4 years old
  - Average service life is 15 years
  - In good condition
  - Provides Heating (indirect gas burner), Cooling (packaged dx), and Ventilation
  - Zoning provided by variable air volume boxes
    - Hot water coils provide reheat
    - Installed in 2019 / 4 years old
    - Average service life is 20 years
    - In good condition
- ✓ MS Cafeteria and South Commons served by Packaged Rooftop Unit-9
  - Installed in 2019 / 4 years old
  - Average service life is 15 years
  - In good condition
  - Provides Heating (indirect gas burner), Cooling (packaged dx), and Ventilation
  - Serves single-zone
- ✓ Special Education and Guidance is served by Packaged Rooftop Unit-10
  - Installed in 2019 / 4 years old



- Average service life is 15 years
  - In good condition
  - Provides Heating (indirect gas burner), Cooling (packaged dx), and Ventilation
  - Zoning provided by constant volume terminal reheat
    - Hot water coils provide reheat
    - Unknown age
    - Average service life is 20 years
    - In unknown condition
- ✓ Multiple spaces are served by Ductless Split Fan Coils and Ducted Fan Coils
- Installed in 2013 / 10 years old
  - Average service life is 15 years
  - In fair condition
  - Provides Cooling (dx split system), and ducted fan coils also provide heating (hot water)
  - Serves single-zone



**Recommendations:**

- ✓ Recommend replacing AHU-1 and the duct-mounted booster coils with new AHU and variable air volume boxes with hot water reheat for better temperature control and energy savings. Condensing unit serving AHU-1 is newer and could be reused with new AHU.
- ✓ Recommend replacing AHU-2 and the duct mounted booster coils with new AHU and variable air volume boxes with hot water reheat for better temperature control and energy savings. Condensing unit serving AHU-2 is newer and could be reused with new AHU.
- ✓ Recommend replacing original hot deck/cold deck multizone units (AHU-9, AHU-10 & AHU-11) with new AHUs and variable air volume boxes with hot water reheat for better temperature control and energy savings. Provide new condensing units on roof to provide cooling to spaces served.
- ✓ Recommend providing more zones of control for RTU-10 serving Special Ed. This would be accomplished by adding a variable air volume box with terminal reheat and distribution ductwork.
- ✓ Recommend replacing duct mounted terminal reheat coils with variable air volume boxes with terminal reheat.
- ✓ Recommend adding destratification fans to the MS Gym to provide better air distribution throughout the space.

## Control System

### **Existing Conditions:**

- ✓ Existing controls are Johnson Controls
  - Majority of the school is Direct Digital Controllers installed most recently in 2019
  - Portions of the school are still on pneumatic controls

### **Recommendations:**

- ✓ Replace remaining pneumatic controls with DDC and eliminate air compressors.



## Terminal Supplemental Heating Equipment

### **Existing Conditions:**

- ✓ Terminal heating equipment throughout the building is a mixture of various types of heating equipment
  - Cabinet heaters are in good condition
  - Average service life is 20 years

### **Recommendations:**

- ✓ None at this time.



## Electrical

### **Existing Conditions:**

- ✓ Building is served by two electrical services
- ✓ Middle School service is 2000 Amp 208/3 phase
- ✓ High School service is 3000 Amp 208/3 phase
- ✓ There are no reported issues by the maintenance department regarding the electrical system

### **Recommendations:**

- ✓ None at this time.



## Lighting

### **Existing Conditions:**

- ✓ Most of the building lighting is LED
- ✓ Exit lighting throughout the building appears to be LED style lighting



### **Recommendations:**

- ✓ Replace Fluorescent lighting in Fieldhouse with LED
- ✓ Replace Fluorescent lighting in MS Gym with LED
- ✓ Replace Fluorescent lighting in East Wing classrooms and corridors with LED

## Domestic Water System

### **Existing Conditions:**

- ✓ Multiple Water heaters throughout the building
  - Two HTP power vented, 199,000 BTU/h input, installed in 2019 / 4 years old
    - Water heaters are in good condition
    - Heaters are high efficiency type
  - Two Bradford White power vented, 3000,000 BTU/h input, installed in 2019 / 4 years old
    - Water heaters are in good condition
    - Heaters are high efficiency type
  - One AO Smith power vented, 199,000 BTU/h input, installed in 2019 / 4 years old
    - Water heater is in good condition
    - Heaters are high efficiency type



### **Recommendations:**

- ✓ None at this time.

## **Fire Protection System**

### **Existing Conditions:**

- Facility has Fire Protection System present. Fire Protection System serves entire facility.

### **Recommendations:**

- ✓ None at this time.



## **Pool Solar Heating System**

### **Existing Conditions:**

- Existing solar pool heating system is not in use.



### **Recommendations:**

- ✓ Recommission the solar pool heating system to provide supplemental heating water to the pool.

**Brown Deer Middle/High School**

**Building HVAC Equipment Inventory**

Equipment	Make	Model	Quantity	Installed Year	Age	Expected Useful Life	Condition	Targeted Replacement Date				Outstanding Issues and/or Notes
								1-2 Years	2-5 Years	5-10 Years	10+ Years	
HW Boiler	Thermal Solutions	EVA2000BN1	1	2003	20	30	Fair			✓		HS Boiler 1
HW Boiler	Thermal Solutions	EVA2000BN1	1	2003	20	30	Fair			✓		HS Boiler 2
HW Boiler	Thermal Solutions	EVA2000BN1	1	2003	20	30	Fair			✓		HS Boiler 3
Pool HW Boiler	Lochinvar	FTX850N	1	2019	4	30	Fair				✓	HS Boiler 4
HW Boiler	Thermal Solutions	EVA2000BN1	1	2003	20	30				✓		HS Boiler 5
HW Boiler Pump	Taco	Inline	5	2003	20	10	Fair	✓				For HS Boilers 1-3
HW System Pumps	Bell & Gossett	4C 11BF	2			20	Fair		✓			Prior to 2012, 20 HP motors with VFD
HW System Pumps	Taco	KV2009J	2			10	Fair	✓				5 HP motor
Coil Pumps	Various					10	Fair	✓				
HW Boiler	Cleaver Brooks		1			30	Poor					Abandoned in place
HW System Pump	Taco	KV3009AE2JCC717M	2	2012	11	10	Fair		✓			Inline, 5HP
HW System Pump	Taco	KV6009	2	2003	20	10	Fair		✓			Inline, 15HP
HW Boiler	Thermal Solutions	EVA2000BN1	1	2003	20	30	Fair			✓		MHS Boiler 1
HW Boiler	Thermal Solutions	EVA2000BN1	1	2003	20	30	Fair			✓		MHS Boiler 2
HW Boiler	Thermal Solutions	EVA2000BN1	1	2003	20	30	Fair			✓		MHS Boiler 3
HW Boiler	Thermal Solutions	EVA2000BN1	1	2003	20	30	Fair			✓		MHS Boiler 4
HW Boiler	Thermal Solutions	EVA2000BN1	1	2003	20	30	Fair			✓		MHS Boiler 5
HW Boiler	Thermal Solutions	EVA1000BN1	1	2003	20	30	Fair			✓		MB-6
HW Boiler Pumps	Taco	Inline	6	2003	20	10	Fair		✓			



**Brown Deer Middle/High School**

**Building HVAC Equipment Inventory**

Equipment	Make	Model	Quantity	Installed Year	Age	Expected Useful Life	Condition	Targeted Replacement Date				Outstanding Issues and/or Notes
								1-2 Years	2-5 Years	5-10 Years	10+ Years	
RTU-1A	Johnson Controls	J08ZJC	1	2013	10	15	Fair			✓		R410A
RTU-1B	Johnson Controls	J06ZJN	1	2019	4	15	Good				✓	R410A
RTU-2	Johnson Controls	V33AC02	1	2013	10	15	Fair			✓		R410A
RTU-3	Johnson Controls	V33AC02	1	2013	10	15	Fair			✓		R410A
RTU-4	Johnson Controls	J12ZJC00	1	2013	10	15	Fair			✓		R410A
RTU-5	Johnson Controls	J15ZJS32	1	2013	10	15	Fair			✓		R410A
RTU-6	Johnson Controls	V33AC02	1	2013	10	15	Fair			✓		R410A
RTU-7A	Johnson Controls	V34AS82	1	2013	10	15	Fair			✓		R410A
RTU-7B	Johnson Controls	V34AS82	1	2013	10	15	Fair			✓		R410A, vibration noise from relief damper
RTU-8	AAON	RN-050	1	2019	4	15	Good				✓	RTU-1 on nameplate, R410A
RTU-9	AAON	RN-040	1	2019	4	15	Good				✓	RTU-2 on nameplate, R410A
RTU-10	Trane	YSD240G3	1	2019	4	15	Good				✓	RTU-3 sticker, R410A
Energy Recovery Ventilator (EV-1)	Greenheck	ERVE-45-15H	1	2012	11		Good				✓	
Condensing Unit	York	YCUL0065EE	1	2019	4	20	Good				✓	Condensing Unit for Pool unit?
Condensing Unit	Johnson Controls	J25YCC	1	2019	4	20	Good				✓	Condensing Unit for AHU-1?
Condensing Unit	Johnson Controls	J25YCC	1	2019	4	20	Good				✓	Condensing Unit for AHU-2?
Condensing Unit (CU-1)	Johnson Controls	J30HBC00A	1	2008	15	20	Fair	✓				Auditorium, R22 unit
Condensing Unit	York	YXT60B2	1	2019	4	20	Good				✓	R410A
Condensing Unit	Johnson Controls	J30YDC00A	1	2019	4	20	Good				✓	R410A
Condensing Unit (CU-1)	Carrier	24ABB324A	1	2012	11	20	Good				✓	R410A, CU-1 Tag
CU-2	York	CZH02411CA	4	2012	11	20	Good				✓	R410A, A,B,C,D
Condensing Unit	York	YCUL0060EC17X	1	2008	15	20	Fair	✓				R22



# Brown Deer Elementary

## Facility Overview

- ✓ The building area is approximately 83,000 square feet.
- ✓ Current enrollment is about 709 students (K4-5 grades; 2022-2023 Department of Public Instruction)
- ✓ Initially built in 1967 as Brown Deer Middle School
  - Converted to an elementary school in 2012
  - Additions in 2018



## Site

### **Existing Conditions:**

Brown Deer Elementary School is located on the Northwest corner of a contiguous property also containing the Administrative Service Center, Brown Deer Middle/High School, and the athletic complexes. Dean Road and North 60th Street intersection is Northwest of the site. There are two playgrounds, one west and one south of the building. East of the building is the site of the former elementary school, which is now a soccer field.

- Portions of the parking and drive lanes were resurfaced with the 2018 building additions. The remaining parking lot and drive lanes need to be milled and a new top layer of asphalt installed.
- Playgrounds currently have wood mulch surfaces. Consider installing a rubberized play surface to better comply with ADA. Consider additional ADA-compliant features.

**Recommendations:**

- Consider removing and reconditioning the remaining portions of the asphalt drives.
- Replace the wood mulch surface with a rubberized play surface.



*Older Asphalt - Recommend Replacing*



*EC Playground - should have ADA compliant paths and equipment*



*Playground - Should have ADA compliant Equipment & Paths - Kids must cross traffic lane to access playground*

## **Safety & Security**

### **Existing Conditions:**

- Exterior doors and classroom windows are not currently labeled. Labeling assists emergency responders in responding to emergencies. Labeling also helps communicate to parents and students which doors they should use for different needs.
- The building does have a secure entry sequence that allows for visitors to be vetted in the office prior to being allowed into the building.

### **Recommendations:**

- Install new numbers on all exterior doors.
- Install classroom identification on one window per classroom.
- Install directory signage at special doors (Main Entrance, Receiving, Maintenance, Electrical Room, etc.).



*Secure Entrance - No Door Identification*



*Secure Entry Sequence*

## **Building Envelope**

### ***Existing Conditions:***

- Walls are in good condition, with a few cracks due to control joint location; control joints need new sealant. Some concrete spalling is evident on the exterior columns.
- Windows in the 1967 portion of the building are single panes in non-thermally broken frames.
- The roof system consists of a four-ply built-up roof with gravel surfacing and an adhered EPDM membrane.

### ***Recommendations:***

- Repair brick at crack locations.
- Replace old, cracked, loose, or missing control joint sealants.
- Replace older windows with new thermally broken windows.
- Perform minor repairs in the roof membrane fields and details.



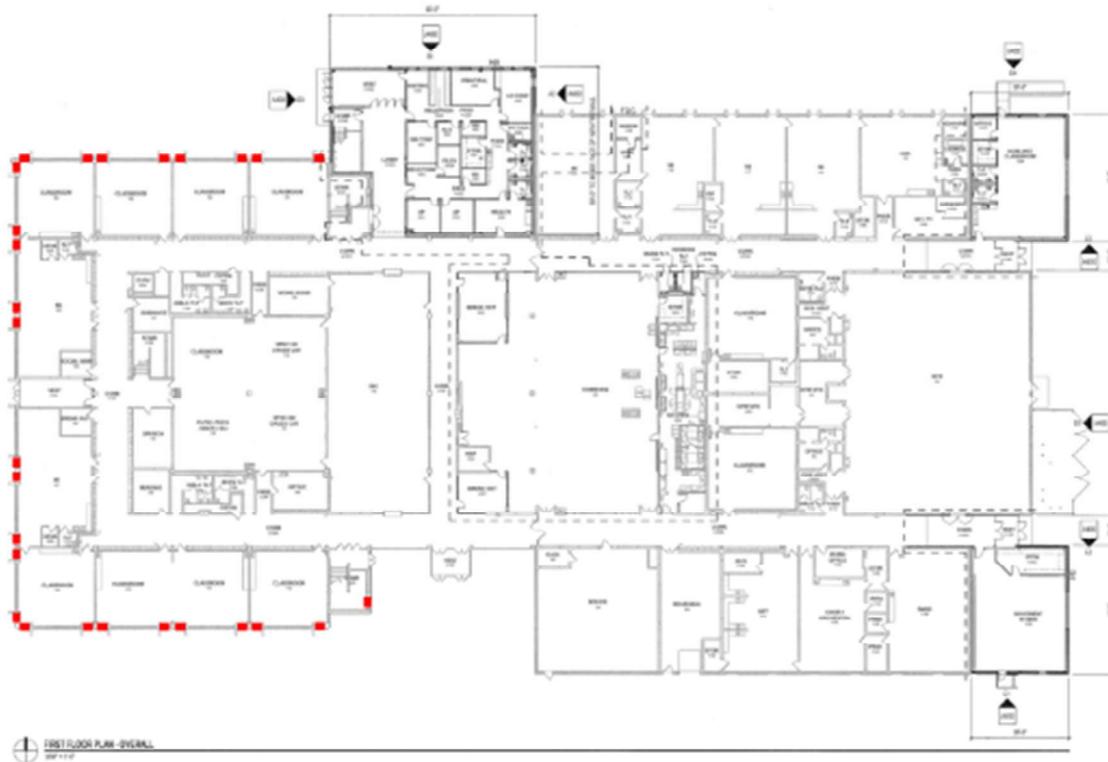
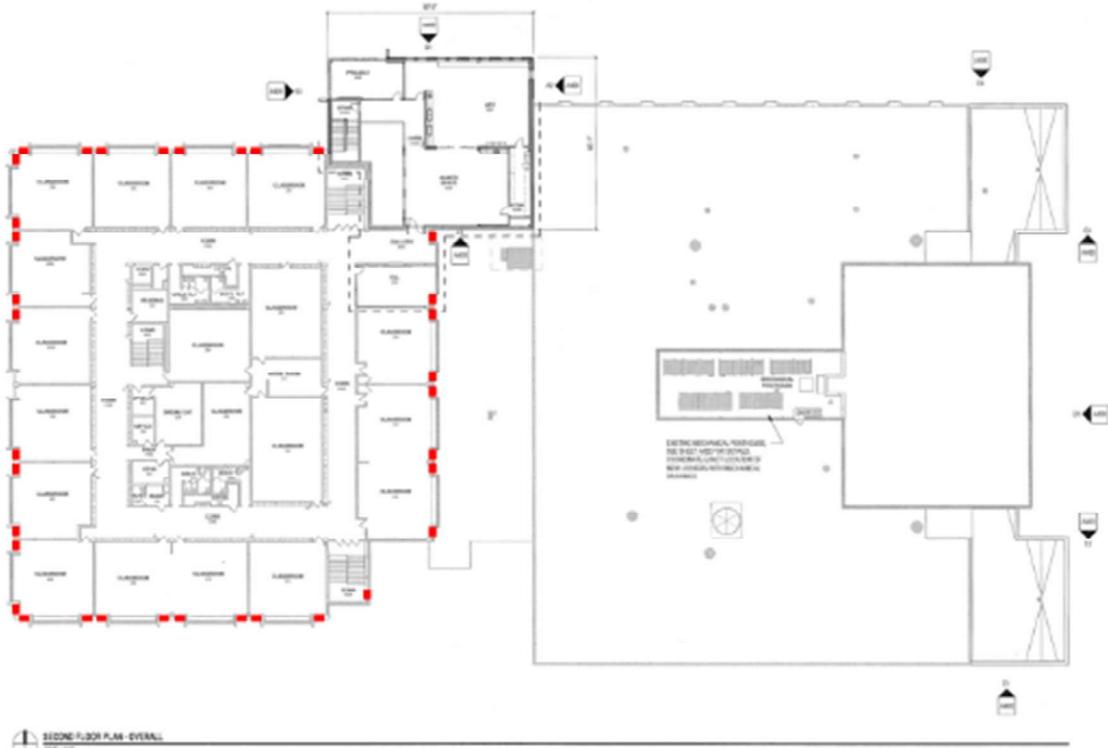
*Original Single Pane Windows and Non-Thermally Broken Window Systems*



*Concrete Spalling Off Columns*



*Missing Control Joint Sealant*



Original Windows

## Interior – Materials, Finishes, & Equipment

### **Existing Conditions:**

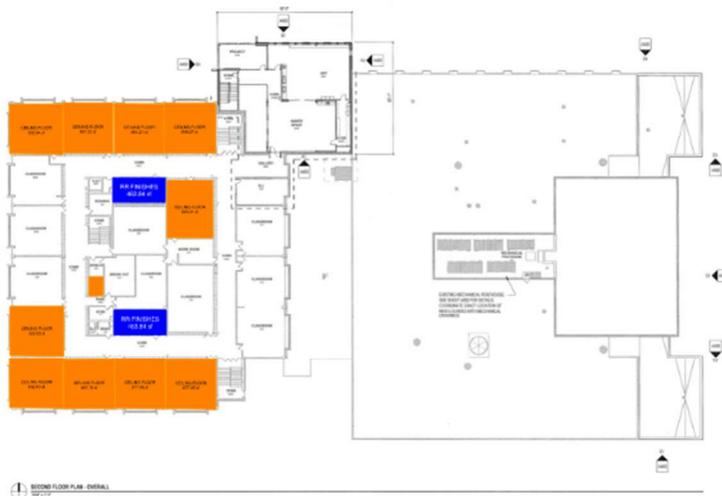
- Most spaces were updated in 2012 during the conversion from middle school to elementary school.
- Many of the 1967 ceilings are still in place and are showing significant wear.
- Several of the classrooms have older VCT flooring that is showing its age in stains and discoloration.

### **Recommendations:**

- Consider replacing the older ceilings and flooring throughout the building.



1 Older & Worn Ceilings



Rooms w/ Outdated Finishes

## **Administrative Suite & Support Spaces**

### ***Existing Conditions:***

- The Admin Suite was built new as part of the 2018 referendum and is in excellent physical condition.
- On the first floor, a former classroom has been converted into a teacher work room.
- In the second-floor teacher workroom, the original science prep room casework and finishes.

### ***Recommendations:***

- Consider replacing the original science prep room casework with new and updating the finishes in the room.



*Reception Space - Good Condition*



*Admin Work Area - Good Condition*



*Teacher Work Room – Original Science Prep Cabinets*

## **Early Childhood**

### **Existing Conditions:**

- The 4K and kindergarten classrooms are a mix of spaces that were updated in recent referendums. Both eras of updates are still in good condition and serve their function.

### **Recommendations:**

- No building recommendations (programming recommendations TBD).



*EC Classroom*



*EC Classroom*



*EC Classroom*

## **General Classrooms**

### ***Existing Conditions:***

- Many of the original building classroom spaces were updated during the 2012 conversion from BDMS to BDES.
- Classroom technology currently consists of projector-based interactive displays.
- Several classrooms have traditional folding partitions to allow flexibility in opening up a classroom for team teaching or assigning a larger space to a program. The problem with this type of partition is that it is rarely opened or closed, limiting the intended flexibility.
- Casework overall is in good condition, with a few minor repairs needed.

### ***Recommendations:***

- Consider replacing the folding partitions with an easier-to-use solution.
- Consider updating finishes older than 2012.
- Consider replacing projector-based displays with screen-based interactive whiteboards.



*Old Heavy folding partition*



*Classroom W/ Older Finishes*



*Classroom w/ Older Finishes*

## Gymnasium

### **Existing Conditions:**

- The existing gymnasium is a single-station gym with two short cross-courts.
- The bleachers are steel frames with wooden seats and do not currently have stair aisles, handrails, or ADA cutouts.
- The original folding partition divider wall has been replaced with a motorized drop curtain.
- The floor appears to be in good condition.
- The perimeter of the upper portion of the gym has tectum acoustic panels that have seen a fair amount of wear. Also, the exposed cross-bracing provides an area for ball entrapment.
- The gym has a bouldering wall that appears to be in good condition.

### **Recommendations:**

- Consider replacing bleachers to provide ADA-compliant seating.



*ES Gymnasium Fair Condition Overall*



*Older Bleachers - No Stair or ADA Complaint Sections*

## **Media Center**

### ***Existing Conditions:***

- The Media Center was updated in 2012 and appears to be in good condition.

### ***Recommendations:***

- No building recommendations (programming recommendations TBD).



*Updated Media Center*



*Media Center*



*Circulation Desk*

## **Music Room(s)**

### ***Existing Conditions:***

- The music rooms were updated during the conversion from a middle school to the Elementary School in 2012. The physical condition of the rooms are good.

### ***Recommendations:***

- No building recommendations (programming recommendations TBD).



*Music Room*



*Music Room*

## **STEM & Art Rooms**

### ***Existing Conditions:***

- The STEM and Art rooms and labs were built new as part of the 2018 referendum and are in excellent physical condition.

### ***Recommendations:***

- No building recommendations (programming recommendations TBD).



*STEM LAB*



*Art Classroom*



*Collaboration Room*

## **Food Service / Dining**

### ***Existing Conditions:***

- The Commons was updated in a recent referendum.
- The flooring is a VCT with a multicolored pattern and appears to be in good condition.
- The ceiling consists of lay-in acoustical tile clouds and appears to be in good condition.
- The furniture consists of oblong folding tables with built-in seats in the period to be in good condition.
- The point of sale and serving lines appear to have a predictable and efficient flow.
- The kitchen was also updated in a recent referendum and appears to be adequately equipped for cooking, serving, storage, and operations.
- The kitchen also has updated finishes that appear to be in good condition.

### ***Recommendations:***

- No building recommendations (programming recommendations TBD).



*Updated Kitchen*



*Updated Commons*

## Corridors / Lockers

### **Existing Conditions:**

- The corridor floors were updated in 2018.
- Lockers appear to be in good physical condition but need to be repainted. Consider also adding liners to the bottoms of the lockers to protect the locker floor from rusting.

### **Recommendations:**

- Consider repainting lockers.
- Consider adding liners to the bottoms of the lockers to protect the locker floor from rusting.

## Restrooms

### **Existing Conditions:**

- Several of the existing restrooms have been updated in the past two referendums and are in good physical condition as well as ADA-compliant.
- Restrooms in the original classroom wing have been updated to meet ADA requirements but still retain original finishes and wooden shelving.

### **Recommendations:**

- Update the (4) restrooms in the original classroom wing.



*Original Restrooms - Older Finishes*



*Updated Restroom*

# Brown Deer Elementary School

## Facility Overview

- ✓ Electrical service is provided by WE Energies.
- ✓ Natural Gas is provided by WE Energies.

## Central Heating System

### Existing Conditions:

- ✓ The building has a single heating plant
  - (1) Thermal Solutions boiler
    - Installed in 2019 / 4 years old
    - Good condition
    - Average service life is 30 years
  - (1) Fulton Reliance boiler
    - Installed in 2009 / 14 years old
    - Has been decommissioned due to failure
    - Average service life is 30 years
  - Boiler circulation pumps are provided as part of each boiler
    - Pumps are in fair condition
    - Pumps are constant volume
  - Main heating water pumps are constant-speed pumps
    - (2) pumps manufactured by Bell & Gossett
    - Pumps are in average condition



### Recommendations:

- ✓ Replace Fulton boiler with new Thermal Solutions boiler to bring heating plant to full capacity.

## Central Cooling System

### Existing Conditions:

- ✓ The building's central cooling plant consists of a single chiller and (2) circulating pumps.
  - Outdoor air-cooled chiller
    - Manufactured by Trane
    - Installed in 2019 / 4 years old
    - Average service life of chillers is 20 years
    - In good condition
  - (2) base-mounted chilled water circulating pumps
    - Manufactured by Bell & Gossett



- In fair condition
- Include Variable Frequency Drives
- (2) base-mounted cooling tower water circulating pumps
  - Manufactured by Bell & Gossett
  - Not in use
  - In fair condition
  - Include Variable Frequency Drives
- The chilled water system includes glycol to prevent freezing; the owner believes it is Propylene Glycol.



**Recommendations:**

- ✓ None at this time.

**Air Distribution Systems**

**Existing Conditions:**

- ✓ The Kitchen is served by a Blower Coil Unit-1
  - Installed in 2019 / 4 years old
  - Average service life is 20 years
  - In good condition
  - Provides Heating (hot water), Cooling (chilled water), and Ventilation
- ✓ North West Classrooms are served by Indoor Air Handling Unit-1
  - Installed in 2019 / 4 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water), Cooling (chilled water), and Ventilation
  - Zoning provided by variable air volume boxes
    - Hot water coils provide reheat
    - Installed in 2019 / 4 years old
    - Average service life is 20 years
    - In good condition
- ✓ South West Classrooms are served by Indoor Air Handling Unit-2
  - Installed in 2019 / 4 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water), Cooling (chilled water), and Ventilation
  - Zoning provided by variable air volume boxes
    - Hot water coils provide reheat
    - Installed in 2019 / 4 years old
    - Average service life is 20 years
    - In good condition
- ✓ East Classrooms are served by Indoor Air Handling Unit-3
  - Installed in 2019 / 4 years old
  - Average service life is 30 years
  - In good condition



- Provides Heating (hot water), Cooling (chilled water), and Ventilation
- Zoning provided by variable air volume boxes
  - Hot water coils provide reheat
  - Installed in 2019 / 4 years old
  - Average service life is 20 years
  - In good condition
- ✓ Gym is served by Indoor Air Handling Unit-4
  - Installed in 2019 / 4 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water), Cooling (chilled water), and Ventilation
  - Single zone served
- ✓ Cafeteria is served by Indoor Air Handling Unit-5
  - Installed in 2019 / 4 years old
  - Average service life is 30 years
  - In good condition
  - Provides Heating (hot water), Cooling (chilled water), and Ventilation
  - Single zone served
- ✓ North Addition served by Packaged Rooftop Unit-1
  - Installed in 2019 / 4 years old
  - Average service life is 15 years
  - In good condition
  - Provides Heating (indirect gas burner), Cooling (packaged dx), and Ventilation
  - Zoning provided by variable air volume boxes
    - Hot water coils provide reheat
    - Installed in 2019 / 4 years old
    - Average service life is 20 years
    - In good condition
- ✓ MDF is served by Ductless Split Fan Coil-1
  - Installed in 2012 / 11 years old
  - Average service life is 15 years
  - In good condition
  - Provides Cooling (dx split system)
  - Single zone served



**Recommendations:**

- ✓ None at this time.

## Temperature Controls

### Existing Conditions:

- ✓ Existing controls are Johnson Controls installed in 2019.

### Recommendations:

- ✓ None at this time.



## Terminal Supplemental Heating Equipment

### Existing Conditions:

- ✓ Terminal heating equipment throughout the building is primarily cabinet heaters in vestibules and corridors.
  - Cabinet heaters/convectors are a mix of original and new replacements from 2019.
  - Average service life is 30 years.

### Recommendations:

- ✓ None at this time.



## Exhaust Fans

### Existing Conditions:

- ✓ Exhaust fans were mostly replaced in 2012 and 2019 and are in good condition.

### Recommendations:

- ✓ None at this time.



## Electrical

### Existing Conditions:

- ✓ Electrical service #1 is 460/3 phase, 800A
- ✓ Electrical service #2 is 208/3 phase, 1200A

### Recommendations:

- ✓ None at this time.



## Lighting

### **Existing Conditions:**

- ✓ Part of the building lighting is LED lighting.
- ✓ Exit lighting throughout the building appears to be mostly LED.



### **Recommendations:**

- ✓ Replace remaining fluorescent lighting with LED.

## Domestic Water System

### **Existing Conditions:**

- ✓ The water heaters and circulation pump have recently been replaced and are in good condition.
  - Average service life is 15 years.

### **Recommendations:**

- ✓ None at this time.

## Fire Protection System

### **Existing Conditions:**

- ✓ Facility has Fire Protection System present. Fire Protection System serves the entire facility.

### **Recommendations:**

- ✓ None at this time.



**Brown Deer Elementary School**

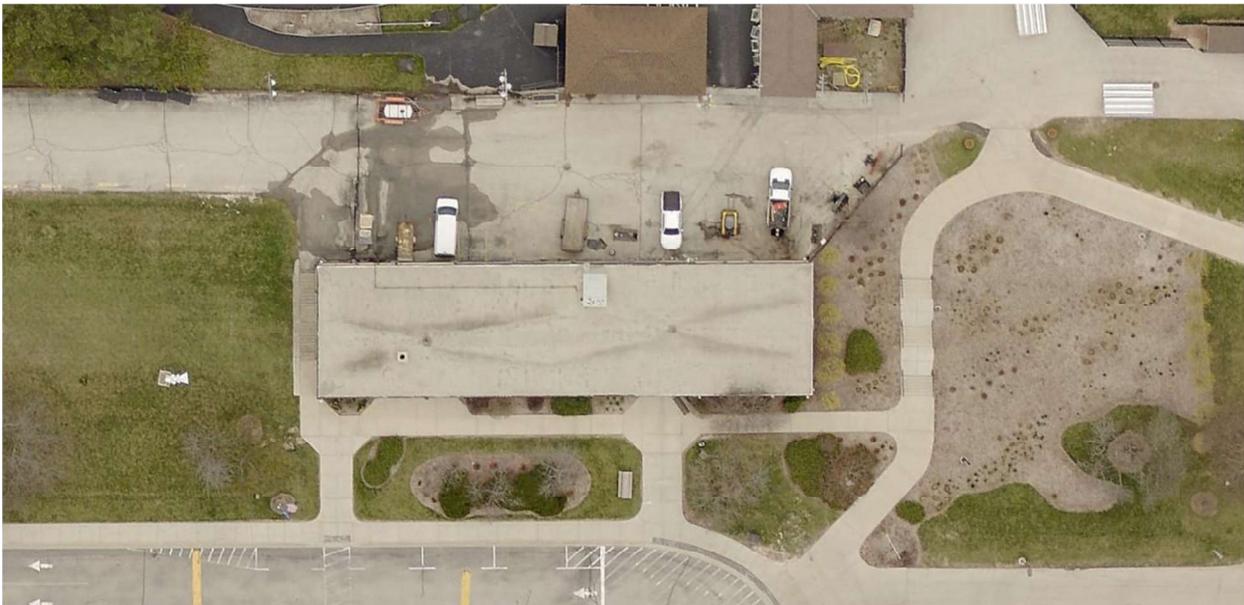
**Building HVAC Equipment Inventory**

Equipment	Make	Model	Quantity	Installed Year	Age	Expected Useful Life	Condition	Targeted Replacement Date				Outstanding Issues and/or Notes
								1-2 Years	2-5 Years	5-10 Years	10+ Years	
HW Boiler	Thermal Solutions	ARC 2000	1	2019	4	25	Good				✓	
HW Boiler	Fulton	RLN-2000	1	2009	14	25	Poor	✓				Decommissioned
HW Boiler Pumps		Inline	2			10	Good			✓		
HW System Pumps	Bell & Gossett	e1510 2.5BB	2			20	Fair				✓	10 HP Motor (2019)
Air-Cooled Chiller	Trane	RTAC 200	1	2019	4	20	Good				✓	
CHW Pumps	Bell & Gossett	1510 4BC	2			20	Fair				✓	20 HP Motor
Condenser Pumps	Bell & Gossett	1510 3BC	2			20	Fair				✓	15 HP Motor, Abandoned in place, not needed with air-cooled chiller
AHU-1	York	XTI-090X072	1	2019	4	25	Good				✓	
AHU-2	York	XTI-090X078	1	2019	4	25	Good				✓	
AHU-3	York	XTI-072X072	1	2019	4	25	Good				✓	
AHU-4	York	XTI-060X066	1	2019	4	25	Good				✓	
AHU-5	York	XTI-054X072	1	2019	4	25	Good				✓	
RTU-1	Johnson Controls	J20ZJS40	1	2019	4	15	Good				✓	
Suspended Unit Heaters	Various		Various		Various	20	Good				✓	
Cabinet Unit Heaters			Various		Various	20	Good				✓	
Exhaust Fans			Various		Various	20					✓	
Mini Splits	Mitsubishi		1	2019	4	15	Good				✓	
Domestic Water Heaters	AO Smith	BTH-199A 300	2	2019	4	15	Good				✓	
Domestic Hot Water Recirculation Pump			2	2019	4	10	Good			✓		
VAV Boxes	Various		Various		Various	20	Good				✓	

# Administrative Service Center

## Facility Overview

- ✓ The Administrative Service Center (ASC) was originally constructed in 1960 as part of the Granville Union High School complex.
- ✓ The upper level of the building houses administrative offices and meeting space, while the lower-level houses maintenance garages, storage rooms, and auxiliary locker rooms that served the football complex prior to the construction of the fieldhouse.
- ✓ From its construction until 1972, the building was leased to the Village of Brown Deer for its administrative offices, Police Department, and Health Department.
- ✓ The building area is approximately 6,200 sf on each level for a total of 12,400 sf.



*Poor Asphalt & Drainage*

## Site

### **Existing Conditions:**

- The exterior stairs are having issues with erosion and are causing movement to the east building wall.
- The asphalt paving and drive north of the ASC has significant paving and drainage concerns.

### **Recommendations:**

- Consider removing and replacing stairs, along with proper grading and stair edge construction.
- Consider regrading and repaving the asphalt drive and apron.



*Exterior Stair - Erosion and Settling Issues*



*Exterior Stair*

## **Safety & Security – Code Concerns**

### ***Existing Conditions:***

- The existing entrance does have an intercom and a remote release on the main entrance. The district would like to reconfigure the secure entrance to provide more visitor control once inside the building.
- The building does not currently have a fire alarm or sprinkler system. These systems are not currently required because the building is grandfathered; however, future renovations may require the addition of these systems.
- The building does not currently meet ADA accessibility requirements for restrooms and access between floors.

### ***Recommendations:***

- Renovate the front entrance area to allow for a transaction window and waiting area.
- Consider adding fire safety features such as sprinklers and fire alarms in future renovations.
- Consider the longevity of the facility and the upgrades required vs. replacements that can better facilitate current and desired programmatic needs.



*Entry Sequence Allows Free Access Before Reception Can Vet Visitors*

## **Building Envelope & Structure**

### ***Existing Conditions:***

- The concrete wall has separated from CMU at the basement garage door. Verify movement has stopped and repair the joint.
- Existing windows appear to be a full curtain wall that has had panels added to it on the interior and exterior. The framing is not thermally broken and appears to be causing damage to the interior wall. Consider replacing the window system.
- When the building was built, there was a need to provide restrooms for outdoor activities at the nearby sports fields. The need for these restrooms has been replaced by a dedicated concessions and restroom facility. The restrooms themselves have fallen into disrepair.
- The roof system consists of a four-ply built-up roof with gravel surfacing.

### ***Recommendations:***

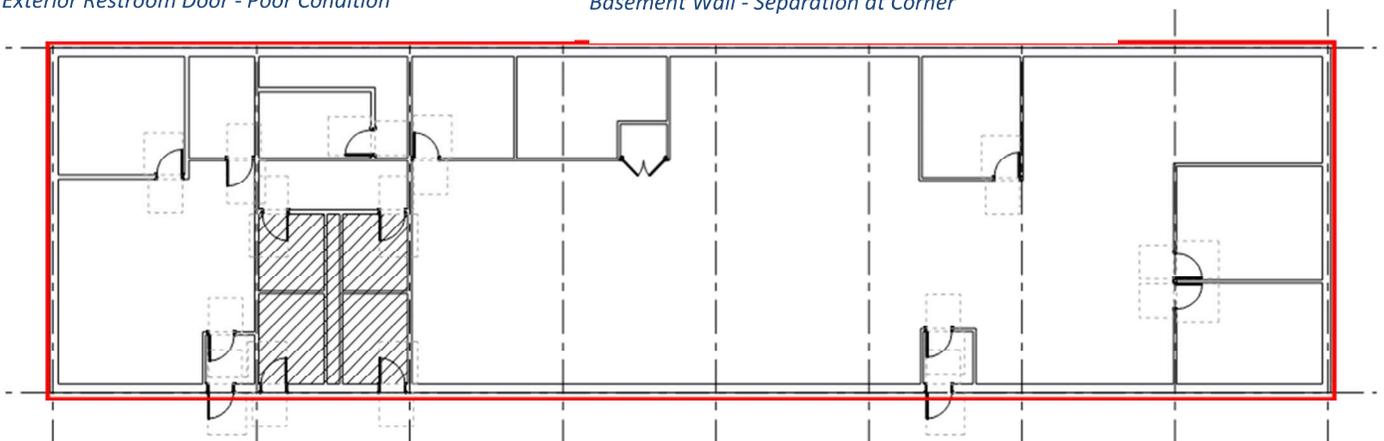
- Consider replacing the exterior stair in conjunction with the wall repair below.
- Consider replacing the window system with new thermally broken windows.
- Consider renovating the restrooms and removing the exterior access.



*Exterior Restroom Door - Poor Condition*



*Basement Wall - Separation at Corner*



*Window Replacement*

## **Interior Materials, Finishes, and Equipment**

### ***Existing Conditions:***

- Existing restrooms are not ADA-compliant.
- Exterior restrooms are not used and are in need of repair.

### ***Recommendations:***

- Consider reconfiguring unused exterior restrooms back into the main restrooms suite and revise to create ADA-compliant restrooms



*No ADA Complaint Restrooms*



*Exterior Restroom Underutilized*

# Administrative Service Center

## Facility Overview

- ✓ Electrical service is provided by WE Energies.
- ✓ Natural Gas is provided by WE Energies.

## Central Heating System

### Existing Conditions:

- ✓ The building has a single heating plant
  - One (1) boiler
    - Installed in 2009
    - In poor condition
    - The boiler has begun experiencing various failures with increasing frequency
    - Average service life is 30 years
  - Main heating water pump is constant speed
    - Pumps are in poor condition

### Recommendations:

- ✓ Replace the existing boiler plant with a new high-efficiency condensing boiler and variable-speed pumping.



## Central Cooling System

### Existing Conditions:

- No central cooling system exists

### Recommendations:

- ✓ None at this time.

## Air Distribution

### Existing Conditions:

- ✓ First Floor Office spaces are served by a Packaged Rooftop Unit-1
  - Installed in 2021
  - Average service life is 15 years
  - In good condition
  - Provides Heating (indirect gas burner), Cooling (packaged dx), and Ventilation
  - Serves single-zone



- ✓ Lower-Level Locker Rooms are served by Unit Ventilators
  - Units are original to the building
  - Average service life is 20 years
  - In poor condition
  - Provides Heating (hot water) and Ventilation
  - Serves individual spaces
- ✓ Various Unoccupied spaces are served by Cabinet Unit Heaters and Unit Heaters
  - Units are original to the building
  - Average service life is 20 years
  - In poor condition
  - Provides Heating (hot water) and Ventilation
  - Serves individual spaces



**Recommendations:**

- ✓ Replace existing Unit Ventilators with new units to provide improved ventilation. Units should be sized for low-temperature water to provide heating efficiency from a new boiler plant.
- ✓ Replace existing terminal heat with new units. Units should be sized for low-temperature water to provide heating efficiency from a new boiler plant.
- ✓ Recommend adding zone control to the existing rooftop system. This would be accomplished by adding variable air volume boxes with terminal reheat and distribution ductwork.

**Control System**

**Existing Conditions:**

- ✓ Existing controls are limited DDC electronic with some pneumatic
  - Controls are in poor condition



**Recommendations:**

Provide a new Direct Digital Control (DDC) System when major equipment is replaced.

**Exhaust Fans**

**Existing Conditions:**

- ✓ Exhaust fans appeared original to the building and are in poor condition.

**Recommendations:**

- ✓ Recommend replacing exhaust fans with associated major HVAC equipment replacements.



## **Electrical**

### ***Existing Conditions:***

- ✓ The electrical system was not reviewed for this facility.

### ***Recommendations:***

- ✓ None at this time.

## **Lighting**

### ***Existing Conditions:***

- ✓ Most of the building lighting is fluorescent.

### ***Recommendations:***

- ✓ Replace all fluorescent lighting with LED.

## **Domestic Water System**

### ***Existing Conditions:***

- ✓ The domestic water heater is original to the building.
  - System is currently oversized for existing facility use (Lockers not currently in use)
  - Appears original to the building
  - In poor condition
  - Standard efficiency
  - Average service life of 15 years



### ***Recommendations:***

- ✓ Replace the water heater with a new high-efficiency condensing hot water heater.

## **Fire Protection System**

### ***Existing Conditions:***

- The facility does not have a Fire Protection System present.

### ***Recommendations:***

- ✓ None at this time.

**Brown Deer Administrative Service Center**

**Building HVAC Equipment Inventory**

Equipment	Make	Model	Quantity	Installed Year	Age	Expected Useful Life	Condition	Targeted Replacement Date				Outstanding Issues and/or Notes
								1-2 Years	2-5 Years	5-10 Years	10+ Years	
HW Boiler	Fulton	RLN-1000	1	2009	14	30	Poor	✓				
HW Boiler Pump		Inline	1			10	Fair	✓				
HW System Pumps		Inline	2			10	Fair	✓				
Domestic Water Heaters	AO Smith	BC420 670	1			15	Poor	✓				Natural Gas, 420 MBH Input
Domestic Water Storage Tank	AO Smith	TJV 120M	1			10	Good			✓		119 Gallon Storage Tank
Domestic Hot Water Recirculation Pump			1			10	Fair			✓		
Suspended Unit Heaters	Various		Various		Various	20	Fair		✓			
Cabinet Unit Heaters	Various		Various		Various	20	Poor		✓			
Unit Ventilators	Various	Various	Various		Various	20	Poor		✓			In locker and storage rooms
Finned Tube Radiators	Various	Various	Various		Various	25	Fair		✓			
RTU-1	Trane	YSD180G3	1	2021	2	15	Good				✓	R410A
Exhaust Fans	Various	Various	Various		Various	20	Fair		✓			

# Outdoor Athletics

## Football Stadium

### **Existing Conditions:**

- The existing bleachers on the home field side are aluminum on steel structure and appear to be in fair condition. These bleachers are equipped with ADA-compliant ramps and seating locations. The bleachers also include a press box.
- The existing bleachers on the visitor's side are also aluminum benches on steel frames and appear to be in good condition. They are not elevated and provide cutouts for ADA seating at ground level. These seats do have a partial visual obstruction from the fence between the track and the bleachers.
- The scoreboard was not visually checked for functionality but appears to be in good cosmetic and structural order.
- The football field did not show signs of poor drainage or other adverse conditions. It does appear to have a standard crown to enable proper drainage.
- Fencing around the stadium complex appears to be in good physical condition, but the black paint has peeled off of the galvanized posts in several locations.
- Field goals and other field apparatus appear to be in good working order
- The track base does not show signs of cracking; however, the top surface appears to be at the end of its useful life and should be considered for replacement/reconditioning. The markings on the track have faded/worn, and there is evidence of rubber granules collected at the perimeter of the track.

### **Recommendations:**

- Consider resurfacing the track.
- We recommend repainting the posts.



*Paint Peeling From Perimeter Fencing*



*Eroded Track Surface*



*Faded Track Markings*

## **Softball / Baseball Fields**

### ***Existing Conditions:***

- The existing baseball and softball fields appear to be in fair condition but require minor grading improvements to deal with drainage and variations in the ground surface.
- The Fencing around the baseball field is peeling and should be repainted.
- The softball field is not currently accessible via an ADA-compliant path, nor has ADA-compliant seating. Recommend constructing a concrete walk and pads for the bleacher seating.

### ***Recommendations:***

- Consider adding an electronic scoreboard for softball.
- Consider regrading the playing surfaces to eliminate inconsistencies and drainage issues.
- Consider creating ADA-compliant paths and seating pads to allow access to all sports facilities.



*Aerial Image Showing Notable Elevation Changes*



*Paint Peeling from Backstop Fence*

## Soccer Fields

### Existing Conditions:

- The varsity soccer field is in good condition, with minor repairs needed for netting and equipment.
- The JV field has a constant cross slope and could be considered for regrading; however, the use and size of this field appear to be limited to Jr. games.
- Neither field has an accessible route nor accessible seating. Consider building a concrete path and pad for bleacher seating.
- The Varsity Soccer Field does not have lighting, which limits its use.
- The Varsity Soccer Field is well-graded and built on the old site of Dean Elementary. However, the grade slopes away from the field rather quickly, just outside of the boundaries of the field, creating a challenging runup for corner kicks and throw-ins.
- Ball containment nets behind the goals need repair or replacement. Also, soccer balls tend to roll down the slope to the west and into the retention basin.

### Recommendations:

- Consider installing lighting at the Varsity soccer field.
- Update the parking lighting for safety and security purposes.
- Consider creating ADA-compliant paths and seating pads to allow access to all sports facilities.
- Consider building up additional play space around the varsity soccer field.
- Consider replacing the nets behind the goals and adding fencing where needed to keep soccer balls close to the field of play when kicked out of bounds.



*Jr Soccer Field Has Notable Cross-Slope*



*Jr Soccer Bench Area*



*Decommissioned Seating*



*Cross Slope*



*Varsity Soccer - Slopes off quickly at end lines*



*Varsity Soccer Drone Image – Drainage Area West of Field*



*Soccer Backstop*

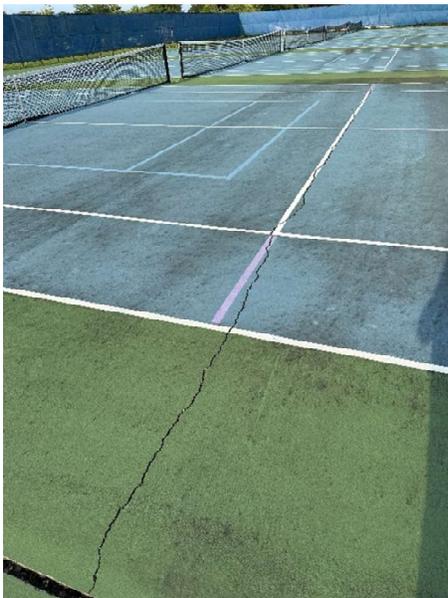
## **Tennis Courts**

### ***Existing Conditions:***

- The tennis courts have some larger cracks in the substrate.
- The tennis courts have been reduced from the previous 8-court capacity.
- The seating is not currently on a concrete pad and is not ADA-compliant.

### ***Recommendations:***

- Consider replacing the tennis courts.
- Consider adding an 8<sup>th</sup> tennis court to replace one that was removed during the 2018 referendum.
- Consider building a concrete pad and path to the tennis court seating.



*Cracking in Tennis Court Surface*



*Tennis Seating - Not ADA Compliant*

## **South Sports Restroom/Concessions**

### ***Existing Conditions:***

- The Tennis Courts, softball, and JV Soccer fields are a considerable distance from the main concession stand and restrooms.

### ***Recommendations:***

- Consider building a secondary Concession stand with restrooms to serve these fields.