Executive Summary

Below we have provided a summary of our findings after several facility walk-throughs, study of existing blueprints, as well as information gathered from the staff, student, and community interviews.

The summary is broken into specific categories that are divided into two levels of recommendations. Immediate recommendations typically deal with replacement or maintenance of items that could have a larger impact down the road if not considered in the short term. These items may even impact life safety. Long-term recommendations are items that should be considered in the next 5-10 years or be included in any planned referendum or fundraising projects.

Site

Immediate Recommendations

1. Cracked and settled or deteriorated sections of concrete curbs, drives, and pavements should be removed and replaced.
2. Corroded steel elements should be blasted, primed, and painted. Any steel that is prepped should be tested for the presence of lead paint and handled accordingly.
3. Continue maintenance of bituminous asphalt pavements.
4. Add fencing to the main gas line and meter, dumpsters, and generator.

Architectural

Immediate Recommendations

1. Provide new carpet in rooms as required.
2. Replace cubbies and end panels as required.

Exterior Closure System

Immediate Recommendations

1. Replace failed sealants at storefronts, windows, precast panel, and metal panel joints.
2. Areas of missing stone ballast should be addressed.
3. Prepare, prime and paint existing corroded steel elements including lintels at openings and the HSS columns at the front entrance.
4. Replace damaged soffit and fascia panel at the south canopy.
5. Existing cracked and damaged brick at tops of window openings need to be further evaluated to determine why the cracking is occurring at those locations and the damaged addressed. Areas of efflorescence would need to be further evaluated to determine the source of moisture contributing to that efflorescence. Enclosure brick wall cap should be evaluated to determine if a thru-wall flashing exists below that cast stone cap.
6. Efflorescence in the precast panels above the service door should be evaluated along with the crack. Repair the hole in the panel.

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7. Corroded trim at hollow metal service doors should be replaced and damaged doors repaired or replaced. Paint weathered doors and frames.
8. Inside corner trims at the metal wall panels at the penthouses should be removed and reinstalled and properly sealed along edges. Missing panels/closures at the bottom of outside corners need to be installed with proper backing and details for terminating the roofing system. Replace missing panel joint gaskets.
9. Low flashings at several parapets should be monitored and raised and properly flashed with any future reroofing project.
10. Address the damaged storefront framing where the sunscreen was removed.
11. Review the north side hose bibb.
12. Secure return corners on the top of wall flashings.
13. Address the open electrical box at the penthouse door.

Long-Term Recommendations

1. Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
2. As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project.
3. EPDM ballasted and fully adhered roofs are approximately 13 years old and would have an expected service life of 20 – 25 years. Owner should anticipate roof replacement for these areas in 7 – 12 years with regular inspections and maintenance. Address any issues found during the inspections.
4. The standing seam metal roofs are also approximately 13 years old and would have an expected minimum service life of 30 years. Owner should anticipate roof replacement of these areas in 17+ years with regular inspections and maintenance.

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Plumbing/ Fire Sprinkler

Immediate Recommendations

1. Maintain a clear path of travel from the exterior doors of Gym Storage 537 to the fire sprinkler devices, for fire department access and use in case of emergency.
2. The 2009 water heater is near its end-of-life cycle and should be replaced upon available funding for equipment replacement.

Long-Term Recommendations

1. The existing piping was installed in 2009 and is in reasonable condition. Backflow prevention devices shall be tested and inspected annually. Check isolation valves for corrosion and exercise semi-annually. The grease interceptor should be inspected on an annual basis for signs of damage or leaks. The kitchen drain piping is susceptible to grease build-up and clogs from food waste, and should be inspected annually to ensure it is free flowing.
2. Investigate the water supply piping serving the pre-K area of the building. Add additional hot water circulation piping as required to ensure consistent hot water supply throughout the day. Review circulation pump size and capacity, and

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replace it with a larger pump if required to meet the flow and pressure requirements of the pre-K area.

3. The existing storm piping to remain in place. Recommend ongoing maintenance with inspections of existing storm roof drains and conductors to be clear of debris and checking for potential roof leaks at roof drain pans. Any new roof replacements shall evaluate the roof drain pans for any corrosion for potential leaks.
4. Plumbing fixtures should be scheduled for replacement on an as-needed basis. All fixtures should be inspected on an annual basis to ensure proper operation and water flow.
5. The fire sprinkler backflow prevention device should be inspected and tested on an annual basis. The other fire sprinkler devices and systems should be tested according to NFPA 25 Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.

HVAC – Heating, Ventilation and Air Conditioning

Immediate Recommendations

1. It is recommended that the 1996 hydronic pumps be replaced. All of the pump's piping specialties and variable frequency drives (VFD) also are to be replaced with the pumps.

Long-Term Recommendations

1. Any future additions or construction may require the addition of heating and cooling system modules to increase capacity to serve the additional spaces.
2. Plans should be made to commission the gym air handling system.
3. Plans should be made for the replacement of the radiant floor system.
4. Plans should be made to provide an open protocol, Tridium/Niagara N4 system at each school and tied together into the same control access program. With a new control system, plans should be made to commission the HVAC systems.

Electrical

Immediate Recommendations

1. Rework SPD at main switchboard. The excessive length of conductors between the switchboard and SPD results in the unit not providing the proper surge protection. Maximum SPD conductor length is typically limited to 24" or less.
2. Replace existing fire alarm control panel with new so as existing system is aging and replacement parts will be increasingly harder to find due to the panel no longer being manufactured.
3. Correct Light Harvesting issues.
4. Maintain existing security CCTV system and add/modify cameras as needed. Consider a detailed walk-thru of facility to survey camera coverage and identify dead zones where additional cameras are necessary.

Long-Term Recommendations

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1. Consider replacement of existing T-8 fixtures with LED flat-panel type fixtures or similar.
2. Exterior pole fixtures that are metal halide are recommended to be replaced with LED for longer lamp life and increased efficiency.
3. Consider replacing receptacles and switches that are older than 10 years. This will ensure that receptacle pulling tensions are adequate to hold plugs, fully engaged, into devices.

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Executive Summary

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The summary is broken into specific categories that are divided into two levels of recommendations. Immediate recommendations typically deal with replacement or maintenance of items that could have a larger impact down the road if not considered in the short term. These items may even impact life safety. Long-term recommendations are items that should be considered in the next 5-10 years or be included in any planned referendum or fundraising projects.

Site

Immediate Recommendations

1. Cracked and settled or deteriorated sections of concrete curbs, drives, and pavements should be removed and replaced.
2. Continue maintenance of bituminous asphalt pavements where practicable and remove and replace deteriorated, settled or failing sections. Prior to any pavement work, a geotechnical testing program should be instituted to verify subsurface conditions and make recommendations for subgrade and pavements thickness based on vehicular loadings.
3. Underground storm piping should be televised to determine if there are breaks or other issues leading to some of the noted pavement depressions adjacent to the playground catch basin.
4. Electrical transformer at the north service road should be fenced or at least protected with bollards.

Long-Term Recommendations

1. Have a site survey upgraded or done to document existing site improvements and aid in future planning.

Architectural

Immediate Recommendations

1. Update/replace items listed in the diagrams and schedules provided. Code/safety/security items should be addressed as a priority. Finishes to be updated as necessary.

Exterior Closure System

Immediate Recommendations

1. 1954 - The white fully adhered roof is approximately 17 years old and would have an expected service life of 20 years. Owner should anticipate roof replacement for these areas in 3 – 5 years with regular inspections and maintenance. Address any issues found during the inspections.

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2. Clean, prime and paint corroded AHU steel and gas piping. Existing coatings should be tested prior to any work to determine if lead paints are present and handled accordingly.
3. 1954 - Paint the HSS window and door members.
4. The white fully adhered roof is approximately 17 years old and would have an expected service life of 20 years. Owner should anticipate roof replacement for these areas in 3 – 5 years with regular inspections and maintenance. Address any issues found during the inspections.
5. 1992 - Verify and re-engage east side fascia lower edge into the cleat if required.
6. 1992 - The brick enclosure wall at the gas meter should be replaced with a cap that includes a thru-wall flashing.
7. 2010 - Clean, prime and paint corroded ladder steel and window openings. Existing coatings should be tested prior to any work to determine if lead paints are present and handled accordingly.
8. 2010 - Address the wall openings at the two pipes.
9. 2010 - Restore areas of missing roof ballast.
10. 2010 - Stack vent boots should have a SS band installed to secure the top of the boot and sealant added if required.
11. 2010 - Replace failed HM doors and address corroded frames.
12. 2010 - Replace the damaged chiller piping insulation and cover. Reseal the penetration at the precast panel.
13. 2010 - Replace failed sealants where noted.

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Long-Term Recommendations

1. Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
2. As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project.
3. 1954 - Review grades at the west side and adjust to provide some clearance to grade at the storefront and grille
4. 2010 - EPDM ballasted and fully adhered roofs are approximately 14 years old and would have an expected service life of 20 – 25 years. Owner should anticipate roof replacement for these areas in 6 – 11 years with regular inspections and maintenance. Address any issues found during the inspections.

<u>Plumbing/ Fire Protection</u>

Immediate Recommendations

1. Maintain a clear path of travel from the exterior doors of Storage 122 to the fire sprinkler devices, for fire department access and use in case of emergency.

Long-Term Recommendations

1. Most of the existing piping was installed in 2009 and is in reasonable condition. Backflow prevention devices shall be tested and inspected annually. Check

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isolation valves for corrosion and exercise semi-annually. The kitchen drain piping is susceptible to grease build-up and clogs from food waste and should be inspected annually to ensure it is free flowing. The grease interceptor should be inspected on an annual basis for signs of damage or leaks.
2. The water supply piping serving the staff break room should be reviewed, and additional hot water recirculation pipe should be provided to reduce the time it takes to deliver hot water to the fixture.
3. Fiberglass pipe insulation should be added to water supply pipe located in exterior walls.
4. Plumbing fixtures in need of repair and non-accessible lavatory faucets should be replaced as soon as funds become available.
5. Plaster traps should be added to the art room sinks as funds become available.
6. The next major renovation project should replace plumbing fixtures throughout with fixtures of the same make and model.
7. Temperature gauges should be installed in the hot water supply pipe to monitor hot water temperature.
8. The 2016 gas-fired water heater has evidence of corrosion and should be replaced in the next major renovation project.
9. The district should consider removing all three water heaters and replacing them with two new high efficiency, natural gas-fired, tank type water heaters located in Mechanical 131.
10. The fire sprinkler backflow prevention device should be inspected and tested on an annual basis.
11. The district should consider extending fire sprinkler systems to the remainder of the building during the next major renovation project.

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HVAC – Heating, Ventilation and Air Conditioning

Immediate Recommendations

1. Plans should be made to replace the three boilers.

Long-Term Recommendations

1. Plans should be made for the replacement of the air handling units serving the commons and art/music areas.
2. Plans should be made for the replacement of the fan coil unit serving Title 1.
3. Plans should be made for the replacement of the unit ventilators serving the principal office and adjacent office.
4. Plans should be made to replace the roof exhaust fans with direct drive fans.
5. With any remodel or renovation, plans should be made to replace the door transfer grille relief system with a code approved system. The current building code does not allow transfer air into a path of emergency egress.
6. Plans should be made to relocate the kitchen freezer condensing unit.
7. Continue to maintain and operate the pneumatic control system as long as the current mechanical equipment remains. When any renovations to the existing equipment are made, a changeover to digital controls is strongly recommended.

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8. Plans should be made to provide an open protocol, Tridium/Niagara N4 system at each school and tied together into the same control access program. With a new control system, plans should be made to commission the HVAC systems.

Electrical

Immediate Recommendations

1. Replace the main switchboard.
2. A type 1 or type 2 surge protective device is recommended to be added to both of the electrical services to protect interior building electrical system from voltage transients.
3. Replace Westinghouse panelboards. (6)
4. Replace exterior pole fixtures to LED.
5. Replace exit signs.

Long-Term Recommendations

1. Any work associated with the service shall consider replacement of the existing load center configuration and transition the entire building to all EBU's for egress lighting and batteries for the fire alarm control panel.
2. Consider replacement of existing T-8 fixtures throughout the original building footprint with LED flat-panel type fixtures.
3. Replace all receptacles and switches that are older than 10 years.
4. Receptacle locations should be reviewed within classrooms and spaces and devices added where determined to be inadequate.

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Site

Immediate Recommendations

1. Cracked and settled or deteriorated sections of concrete curbs, drives, and pavements should be removed and replaced.
2. Continue maintenance of bituminous asphalt pavements. Faded and weathered pavement markings should be repainted.
3. The existing generator, dumpsters, and gas meter should be enclosed by fencing to limit access. The dumpsters should be located on a concrete pad to limit asphalt damage.
4. Repair areas of damaged chain link fencing and gates.
5. The existing infield at the softball field should be reworked to improve drainage.
6. Repair the damaged roofing and trim at the NE corner storage building.
7. Paint exterior steel that is corroded.
8. Verify that there is a thru-wall flashing at the top of the chiller enclosure wall and address noted efflorescence.
9. Address the missing shingles at the NE storage building along with trim.
10. Add chips and replace wood edging at the shot-put areas.

Long-Term Recommendations

1. A further evaluation of the north side concessions building should be done.
2. Have a site survey upgraded or done to document existing site improvements and aid in future planning.

Architectural

Immediate Recommendations

1. Update/replace items listed in the diagrams and schedules provided. Code/safety/security items should be addressed as a priority. Finishes to be updated as necessary.
2. Provide additional storage for all building functions.
3. Provide furniture that provides flexibility and collaboration.
4. Provide additional breakout rooms for staff and students to utilize in smaller groups.

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Exterior Closure System

Immediate Recommendations

1954 Building

1. The smooth surfaced built-up roof membrane roofs range in age from 20 to 24 years as noted in the roof summary at the end of this report. With expected service lives of approximately 20 years, these roofs have reached their expected service life and should be replaced. According to the Owner, roof area 5 is scheduled to be replaced.
2. Remove and replace failed sealants throughout the building.
3. Replace damaged grille.
4. Either repair the brick chimney and cap or remove it if it is no longer needed.
5. Clean, prime and paint corroded opening lintels, steel ladders, railings, gas lines and other components throughout the roof areas. Existing coatings should be tested prior to any work to determine if lead paints are present and handled accordingly.
6. Provide additional membrane protection where upper roofs drain on to lower roofs.
7. Paint hollow metal doors and frames. Install sealant where missing at the perimeter of door frames.
8. Paint the overhead door and replace the broken window pane.
9. Remove and replace exposed wood trim.
10. Reset stone window sills if needed, then point open joints or install backer rod and sealant.

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1961 Building

1. Replace the hollow metal door hinges and replace the north side door and frame.
2. Replace the window systems at the east elevation.
3. Further evaluate the efflorescence in the brick wall to determine where moisture may be entering the wall and address. Address the cracking and spalled brick by tuck-pointing.
4. Replace failed sealants.

1967 -1976 Buildings

1. The smooth surfaced built-up roof membrane roofs range in age from 20 to 24 years as noted in the roof summary at the end of this report. With expected service lives of approximately 20 years, these roofs have reached their expected service life and should be replaced. According to the Owner, roof area 10 is scheduled to be replaced.
2. Address corroded electrical junction box.
3. Address standing water issues as roofs are replaced.
4. Exposed laminated wood members should be covered with a system to prevent moisture exposure.
5. Corroded flashings at roof top equipment should be replaced when roofs are replaced. Missing rooftop equipment shrouds should be replaced.
6. Provide access to roof area 11.

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7. Replace the hollow metal door hinges and replace exposed wood trim. Address corroded frames and replace if required.
8. Replace the window systems throughout.
9. Clean, prime and paint corroded opening lintels, steel ladders, railings, gas lines and other components throughout the building. Existing coatings should be tested prior to any work to determine if lead paints are present and handled accordingly.
10. Paint hollow metal doors and frames.
11. Reset stone window sills if needed, then point open joints or install backer rod and sealant.
12. Have a detailed assessment done to document areas of brick that should be repaired or replaced and tuck-pointed including areas of efflorescence and spalling. Existing control joints need to be evaluated and failed sealants removed and replaced. With noted extruded sealants and tight joints saw cutting will likely be needed to widen the joints to provide for properly sized control joints.
13. Monitor cracks in the exposed painted CMU wall. Should there be continued movement the wall should be further evaluated by a structural engineer.
14. The damaged metal siding should be removed and replaced. Replace loose or missing fasteners.
15. Existing wood siding should be removed and replaced with a low maintenance product.
16. Install thru-wall flashings where required.
17. Replace failed sealants throughout.
18. Replace any entrance or window system with single pane glazing.
19. Consider covering the exposed steel columns at the east elevation above roof 10 and flash appropriately to the roofing system.
20. The taller chimney at roof 15 needs to be further evaluated and cracking addressed. The owner should evaluate whether the chimney is required and remove if not used.

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Long-Term Recommendations

1. Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
2. As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project. Replacement should also include proper detailing for support of equipment and gas lines.
3. With any reroofing project replace existing roof drains, especially if the roofing system is not a multi-ply asphalt roof.
4. Have a detailed assessment done to document areas of brick that should be repaired or replaced and tuck-pointed including areas of efflorescence. Install thru-wall flashings where required.

1954 Building

1. The gravel surfaced built-up roof membranes range in age from 13 to 17 years as noted in the roof summary at the end of this report. With an expected service life of

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approximately 25 years these roofs would be scheduled for replacement in 8 to 12 years with continued inspections and maintenance.
2. The standing seam metal roof is approximately 7 years old and would have an expected minimum service life of 30 years. Owner should anticipate roof replacement of these areas in 27+ years with regular inspections and maintenance.

1961 Building

1. The gravel surfaced built-up roof membranes have an expected service life of approximately 25 years. With the unknown installation date for roof 18 and 14 year age of roof 19 and given observed conditions these roofs would be scheduled for replacement in 8 years with continued inspections and maintenance.

1967 -1976 Buildings

1. The gravel surfaced built-up roof membranes have an expected service life of approximately 25 years. With an unknown installation date for roof 17 and given observed conditions this roof should be scheduled for replacement within 8 years with continued inspections and maintenance. The ages of roofs 1, 7, and 11 vary between 13 and 17 years since installation and should be scheduled for replacement in 8 – 12 years with continued inspections and maintenance.

<u>Plumbing</u>

Immediate Recommendations

1. The sump pit should be cleaned thoroughly. The plexiglass lid should be replaced with a proper sump pump cover. A floor sink should be installed to collect discharge from all of the indirect waste pipes and hoses. The only power cords penetrating the lid of the sump pump should be directly serving the pump or level control.

Long-Term Recommendations

1. All piping installed prior to the 1997 renovation is at least 47 years old and is approaching the end of its expected service life. It should be replaced during the next major renovation project.
2. Air chambers on water supply piping should be replaced with water hammer arrestor devices during the next major renovation project.
3. The exterior grade around the soccer fields should be reviewed for proper slope and drainage path.
4. The site storm sewer system should be inspected with drainline video camera for sections of broken pipe and repaired as required.
5. During the next major renovation project, the roof drainage system for areas around the courtyard should be revised to connect to the underslab storm sewer system.
6. Sinks in the wood lab are in poor condition, and should be replaced in the next major renovation project.
7. An ASSE 1016 thermostatic mixing valve should be installed on the hot water supply system.
8. The water heater installed in 2004 should be replaced with a new water heater during the next major renovation project.

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9. It is recommended to replace the air compressor during the next major renovation project.

HVAC – Heating, Ventilation and Air Conditioning

Immediate Recommendations

1. Plans should be made for the replacement of the dust collector serving the shop.

Long-Term Recommendations

1. Plans should be made for the replacement of the make up air unit serving the maintenance shop.
2. Plans should be made for the replacement of the ten roof exhaust fans.
3. With any remodel or renovation, plans should be made to replace the door transfer grille relief system with a code approved system. The current building code does not allow transfer air into a path of emergency egress.
4. Plans should be made to provide an open protocol, Tridium/Niagara N4 system at each school and tied together into the same control access program. With a new control system, plans should be made to commission the HVAC systems.

Electrical

Immediate Recommendations

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1. Replace Cutler Hammer Panels
2. Replace Trubmull Panel in Cafeteria.
3. Replace old Cutler Panel
4. The service panel associated with the chiller yard electrical service needs replacement.
5. Replace panelboards that were installed prior to 1996.

Long-Term Recommendations

1. 1997 distribution equipment replacement.
2. Add occupancy sensors to classrooms.
3. Replace all receptacles and switches that are older than 10 years. This will ensure that receptacle pulling tensions are adequate to hold plugs, fully engaged, into devices.
4. Existing abandoned data cabling is recommended to be demolished and removed throughout the building.
5. Upgrade existing fire alarm system to a speaker-based system.

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Site

Immediate Recommendations

1. Cracked and settled or deteriorated sections of concrete curbs, drives, and pavements should be removed and replaced. Repaint curbs in no parking areas.
2. Continue maintenance of bituminous asphalt pavements. Faded and weathered pavement markings should be repainted including the ADA symbols. Areas of distressed and failing pavements should be removed and replaced. Prior to any work borings should be performed by a geotechnical firm to document subgrade conditions and make recommendations for pavement and subgrade designs.
3. The existing dumpsters should be enclosed by fencing to limit access. The dumpsters should be located on a concrete pad to limit asphalt damage.
4. Existing electrical transformer should be enclosed by fencing to limit access.
5. Repair areas of damaged chain link fencing and gates. The fence at the football field grandstand should be removed and replaced or reset. Any unused sections of fencing should be removed.
6. Paint exterior steel components that are corroded.
7. Owner should review all outdoor storage buildings and garages and determine if any of those structures can be removed. Update structures to address wood trim and siding issues.
8. Replace missing aluminum soffits at the concession building. Cracked block walls should be reviewed by a structural engineer and may require a review by a geotechnical engineer to document soil conditions below the slabs.
9. Grandstand and ADA ramps are in poor condition with supports that rest on wood blocking or the gravel base. It was reported by the Owner that there was an inspection done of the grandstand and also discussions with their insurance company. Stands and ramp should be replaced.
10. Address the non-functioning irrigation system, replace the controller and other components as needed.
11. Replace the football field scoreboard. As a minimum the steel needs to be painted.
12. Have the damaged flagpole checked by the manufacturer or distributor and follow their recommendations.

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Long-Term Recommendations

1. Have a site survey upgraded or done to document existing site improvements and aid in future planning.

Architectural

Immediate Recommendations

1. Update/replace items listed in the diagrams and schedules provided. Code/safety/security items should be addressed as a priority. Finishes to be updated as necessary.
2. Provide better visual access over the parking lot and main entry for office staff.
3. Provide additional storage for all building functions.
4. Move or get rid of unneeded storage items crowding several rooms.
5. Consider updating the performing arts center and the associated spaces.
6. Provide furniture that provides flexibility and collaboration.
7. Consider an outdoor shared classroom(s).
8. Provide additional breakout rooms for staff and students to utilize in smaller groups.
9. Consider adding a commercial cooking station for the FACE lab.

Long-Term Recommendations

1. Incorporate new science areas with new technical education areas to create a consolidated STEAM (Science Technology Engineering Art Math) areas to allow better collaboration and utilization of these areas.
2. Consider alternative energy production sources such as solar and geothermal.

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Exterior Closure System

Immediate Recommendations

1. The age of the white SPM roof at roof area 8 was not included in information from the Owner. Based on observations and previous assessments the Owner should anticipate roof replacement for these areas in 3 – 5 years with regular inspections and maintenance. Address any issues found during the inspections.
2. Replace failed sealants at storefronts, windows, precast panel joints and parapet caps.
3. Areas of missing stone ballast on roofs should be addressed.
4. Prepare, prime and paint existing corroded steel elements including lintels at openings, AHU and chiller steel framing, and exterior access ladders.
5. Finish paint the roof scuttle.
6. Replace damaged flashings and parapet caps.
7. Existing cracked and damaged brick at tops of window openings need to be further evaluated to determine why the cracking is occurring at those locations and the damaged addressed.
8. Monitor precast panels for any additional cracking and address as needed. Fabricator should review cracked and damaged panels and make any repair recommendations.
9. Replace damaged OH door panels and seals. Paint jamb frames.

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10. Masonry control joints will need to be addressed which may include cutting the joints wider to provide for properly sized back rod and sealant.
11. Corroded door frames should be reviewed and prepped, primed, and painted if the corrosion has not significantly reduced the steel sections, otherwise replace the frames. Paint doors that are weathered.
12. Replace corroded hinges throughout.
13. Remove the two aluminum roof access ladders and install appropriate ladders.
14. Replace damaged and missing window screens.
15. Rework the base flashing on the gooseneck vent and at the roof #11 pipe penetrations.
16. Further documentation of split face CMU's will be needed with tuckpointing likely required to address noted joint cracking.
17. Replace the deteriorated plywood at the duct stand.
18. Repair the damaged soffit.
19. Pipe penetrations at the chiller through the precast wall panel will need to be repaired. Replace the foam insulation and install appropriate flashings to prevent water intrusion.
20. Address the loose electrical outlet.
21. Replace the corroded metal below the AHU on roof #5 when the unit is replaced.
22. Flashings and reglets at roof to precast wall junctions should be reviewed to verify the reglets are properly installed and sealed.

Long-Term Recommendations

1. Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
2. As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project.
3. EPDM ballasted roofs reportedly have been replaced starting in 2014 with those roofs still under warranty and would have an expected service life of 20 – 25 years with regular inspections and proper maintenance. Further study would be required to verify that roofs 3, 4, and 5 were replaced in 2016 and whether roofs 1 and 2 have been replaced. Address any issues noted during the inspections.

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Plumbing

Immediate Recommendations

1. The water meter shows signs of corrosion, and replacement should be coordinated with the water utility.
2. The drain and vent piping in Pool Equipment F163 is in poor condition and should be replaced with new.
3. The plumbing fixtures all appear original to the 1997 construction and replacement of all fixtures in their entirety is recommended.
4. Toilet room fixtures should be replaced.
5. Science classroom sinks should be replaced.

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6. Faucets in art and agriculture labs should be replaced with new gooseneck type faucets with wristblade handles.
7. Sinks in wood, metals, and auto shops are in generally poor condition and should be replaced with new stainless steel fixtures, floor or countertop mounted as appropriate.
8. New wall mounted eyewash stations should be installed.
9. The electric tank type water heaters should all be replaced.

Long-Term Recommendations

1. The air compressor appears in satisfactory condition. The district should perform manufacturer recommended maintenance, including inspecting the condensate drain on a weekly basis, and an annual inspection to review filters, belts, and lubricants.

HVAC – Heating, Ventilation and Air Conditioning

Immediate Recommendations

1. Plans should be made to replace the boilers and pumps.
2. Plans should be made for the replacement of the air handling units, rooftop units, two heat exchangers and boilers serving the pool, variable frequency drives, heating and ventilating units, dust collector, chillers and associated pumps.

Long-Term Recommendations

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1. Continue to maintain and operate the pneumatic control system as long as the current mechanical equipment remains. When any renovations to the existing equipment are made, a changeover to digital controls is strongly recommended.
2. Plans should be made to provide an open protocol, Tridium/Niagara N4 system at each school and tied together into the same control access program. With a new control system, plans should be made to commission the HVAC systems.
3. Plans should be made to replace ductwork insulation in areas of failure.

Electrical

Immediate Recommendations

1. Pool mechanical room electrical equipment.
2. Replace Metals shop transformer and clean and separate area from the surrounding environment.
3. Replace T-8 fixtures with LED.
4. Replace lighting controls.
5. Update Auditorium lighting.
6. Update Auditorium emergency lighting.
7. Seal exterior electrical conduit.
8. Complete an Arc Flash study with a third party.
9. Replace generator, transfer switch and main panel.

Long-Term Recommendations

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1. Replace all receptacles and switches that are older than 10 years. This will ensure that receptacle pulling tensions are adequate to hold plugs, fully engaged, into devices.
2. Replacement of 1996 power distribution equipment.

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Site Assessment

The following report is the result of a site visit by Mark C. Spielbauer of Hoffman PD&C that occurred on May 9, 2023. Site observations, construction plan reviews, and interviews with staff were all used in the preparation of this report. The site assessment was limited to the Shawano School District property identified as Hillcrest Elementary as identified on Owner furnished drawings and information in the Shawano County GIS website.

Zoning

The site is zoned Two Family Residential – 6 (TR-6). Part of site is included in a Zone A groundwater protection area. All of the City of Shawano lies within the Airport Height Limitation Zoning area.

Environmental

No environmental concerns were identified by the Owner.

Neighborhood

The Shawano School District Hillcrest Primary School is located in an area of residential properties to the north and commercial properties to the east, south and west. A review of online maps suggest there does not appear to be vacant property adjacent that would allow for any expansion. The site is bounded by S. Waukechon Street to the west and Engel Drive to the south. Site acreage was listed on the County GIS site as 18.12 acres. Perimeter streets are asphalt paved with concrete curb and gutter. Sidewalks are present at the east side of S. Waukechon Street, and a section of walk at the north side of Engel Drive. Municipal utilities including water, storm sewer and sanitary sewer are located in perimeter streets.

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Observations and Existing Site Conditions

Parking Lots

Parking at the school is provided in three (3) separate lots located north, south, and west of the school. Observations for each lot included:

South Parking Lot

Asphalt paved lot with single entrance off Engel Drive. There are a total of 34 marked parking stalls configured for angled parking and no defined ADA parking stalls. The pavement is in good to fair condition with a number of previously repaired cracks. Pavement markings are weathered and in fair condition. Lot is illuminated with pole mounted LED lights and drains west to east to a storm catch basin.

North Parking Lot

An asphalt paved parking lot north of the school which is accessed off a drive from Waukechon Street at the NW corner. There are a total of 102 marked parking stalls either angled or configured for 90-degree parking. The lot also includes 5 van-accessible ADA parking stalls. Asphalt pavement condition ranges from good to fair

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with previously repaired cracks. Lot generally drains south to north to a drainage swale along the north edge of the site. The lot is illuminated with pole mounted LED lights.

West Parking Lot

An asphalt paved parking lot at the west side of the school is accessed off a common drive from Waukechon Street at the NW corner and a second drive to the south at Engel Drive. There are a total of 87 marked parking stalls configured for 90-degree parking. There are also 4 van-accessible ADA parking stalls configured for angled parking. Previously repaired cracks are present with the pavement ranging from good to fair condition. Drainage is provided by a storm catch basin connected to the underground storm piping. The lot is illuminated with pole mounted LED lights.

Pavement

Concrete pavements including walks and drives along with curbs and gutters and range from good to fair condition with cracked and settled pavements noted at various locations around the site.

Water Mains

Municipal water mains are present in perimeter streets with several onsite hydrants at the drive south of the west lot and near the SE corner of the north parking lot.

Flagpole

An illuminated aluminum flagpole is located west of the school and is in good condition.

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Bollards

Light bollards are present at the walk leading to the main entrance.

Dumpsters

Dumpsters are located on a concrete slab at the south side of the school. The dumpsters are not enclosed by fencing.



Dumpsters south of school

Gas Meter

Gas Meter A gas meter is also located at the south side of the school.

Manholes

Two manholes, likely for the grease interceptor are present south of the school adjacent to the gas meter.

Fencing

Chain link fencing is present at 3 sides of the play equipment area SE of the school. The fencing is in good condition.

Playgrounds

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Southeast Playground

The play equipment at SE of the school is in generally good condition with rubber mulch fall protection. A series of swings are located in a separate area east of the school.

North Playground

A second playground and area of playground equipment is located north of the school and includes a larger sandbox, asphalt playground with markings and play equipment with rubber fall protection. The area is enclosed by chain link fencing with gates that are in good condition.



Soil erosion along retaining wall

Landscaping:

A lower area of wood chips is present along the south wall of the east wing with a stepped landscaping block retaining wall. Some soil erosion is occurring along the east edge of the retaining wall.

At the east end of the south parking lot there are two basketball goals which are in good condition.

Landscaping includes a variety of trees, bushes, and plantings with river stone beds along with larger decorative stones and grassed areas. Overall, the landscaping appeared to be well maintained and in good condition. A memorial plaque is located at a tree on the south side of the school. A ground mounted generator is present at the south side of the east wing. The generator is not fenced.

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Corroded Railing

A traffic control gate is present at the entrance drive off Engel Drive for the south parking lot. The steel gates are corroded.

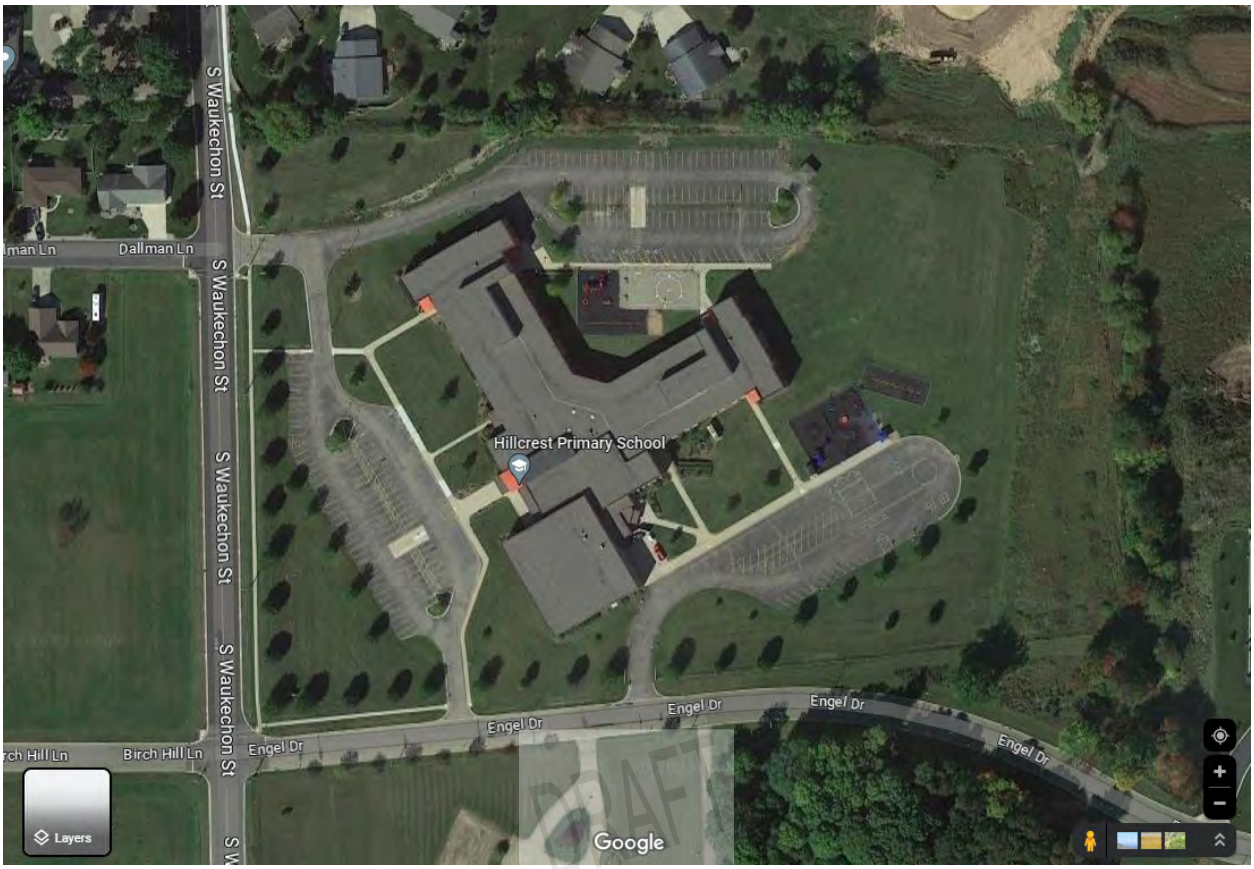
The steel railing along the sidewalk south of the school is corroded.

Recommendations

- Cracked and settled or deteriorated sections of concrete curbs, drives, and pavements should be removed and replaced.
- Corroded steel elements should be blasted, primed, and painted. Any steel that is prepped should be tested for the presence of lead paint and handled accordingly.
- Continue maintenance of bituminous asphalt pavements.
- Add fencing at the main gas line and meter, dumpsters, and generator.

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Aerial View of School Site



Architecture

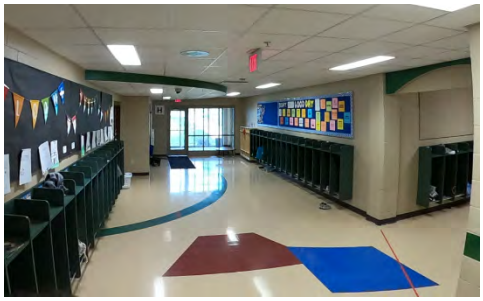
The following report is the result of a site visit by Kurt Peeters and Casey Helmrath of Hoffman PD&C that occurred on April 19th, 2023. Facility observations, construction plan reviews, and interviews with staff were all used in the preparation of this report.

Existing Data

The school was originally constructed in 2010. The 145,000 sq ft facility houses 491 students 4K – 2nd grade and an additional 67 students as part of the LEADS charter school.

Code Assessment

No major code violations were found during our walk-thru.



End Corridor, Typical Finishes

Interior Finishes

During the facility walk-thru we noticed some finishes that were "dated" but none that were in major need or repair or replacement. We noted rooms 108, 201, 202, and 408 as needing carpet. Some of the hallway cubbies are in need of repair or replacement, especially end panels.

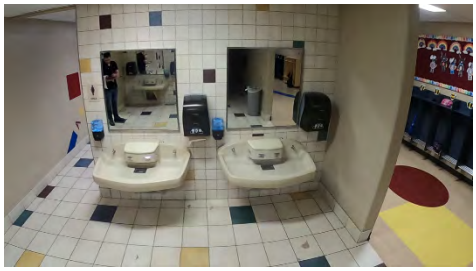
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Elevators

We noted one elevator within the facility. The elevator worked as required when tested.

Restroom Facilities

Restroom facilities provided adequate accessibility and fixtures were working properly.



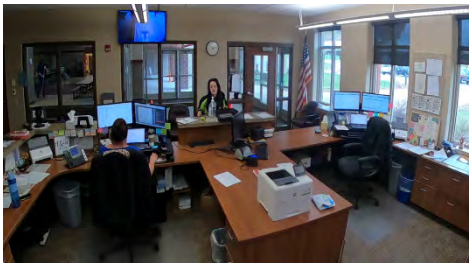
Shared Restroom Layout

Stairs

Stairs were in good condition overall.

General Internal Access

Access throughout the facility was adequate, the main office was easy to find and features a secure entry with good visibility.



Main Entry

Recommendations

When looking at the facility itself we make the following recommendations:

- Provide new carpet in rooms as required.
- Replace cubbies and end panels as required.

Exterior Closure Systems

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The following report is the result of a site visit by Mark C. Spielbauer of Hoffman PD&C that occurred on April 20 and 25, 2023. Site observations, construction plan reviews, Owner furnished facility reports, and interviews with staff were all used in the preparation of this report.

2010 Original Construction

The current building exteriors consist of the following:

- Running bond and soldier course brick
- Metal wall panels
- Aggregate surfaced precast concrete panels.
- Exposed concrete at foundation walls
- Cast stone at entry columns.
- Exposed HSS steel columns at entry columns

Entrance doors and frames are aluminum with insulated glazing.

Service doors and frames are hollow metal.

Windows systems are aluminum frames with fixed insulated glazing. Systems also include spandrel panels and metal wall panels at the taller two-story locations.

Overhangs and soffits are pre-painted metal panels.

The roof is original to construction and is currently under warranty per the Owner.

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There was no report of water infiltration related to the exterior walls or roofs at the time of the site assessments.

Observations

The main roofs are all stone ballasted EPDM single-ply membranes over rigid insulation. Most of the roofs have internal roof drains with the exception of roof areas 10, 12, and 13, which pitch to gutters along the low edges. Overall the roofing was in good condition with the following noted:

- Areas of missing stone ballast at various locations, some of which may be wind scour as they occur at building corners.
- Low base of wall flashings was noted at several inside building corners
- Distressed flashing sealant at a penetration on roof area 7



Low wall flashing at corner

Roof areas 14, 15, 16, 17, 18, 19, and 20 are curved standing seam metal roofs with low edge gutters and snow bars. The roofs appeared to be in generally good condition. Gutters are connected to downspouts that direct water to grade or underground storm system.

Roof area 21 is a fully adhered EPDM single-ply membrane on a curved substrate. The roof membrane is in good condition. Perimeter metal is in fair condition with some missing paint at the roof edges.



Open wall base at corner

The canopy and curved standing seam metal roofs were not accessible or were observed from the ground or other higher elevation roofs.

SPM flashings at bases of walls and penetrations appeared to be in generally good condition.

Gravel stops and fascia at the roof edges are prefinished metal and appeared to be in generally good condition. At several parapets the flashings are returned and not secured.

Lambs tongue type relief drains are present in the exterior walls.

Access ladders are galvanized and in good condition.

Light corrosion was noted at various steel lintels at openings. The exposed HSS columns at the front entrance are also lightly corroded.

Aluminum entrances are in generally good condition.



Crack at corner of window

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Aluminum windows are in good condition. Some of the windows have sunscreens, one of which has been removed leaving holes in the aluminum framing.

Hollow metal doors and frames are in good to fair condition with several doors having corroded trim and weathered paint finishes. One of the doors in the gym is damaged.

Aluminum storefront and panel systems are in generally good condition with the following noted:

- Perimeter sealants between the storefront framing and adjacent masonry or metal panels are failing.
- Metal panels are in generally good condition.

Insulated metal wall panels are in generally good condition with the following noted:

- At several inside corners, the trim is open, and sealant failed.
- There is no removable counterflashing at the bottom of the metal panels, with the EPDM flashing installed behind the panel.
- At several outside corners, the metal wall panels do not extend to a flashed wall, with the insulation and sub-framing exposed.
- Joint gaskets at missing at small, isolated areas in the penthouse panels.
- An area of joint sealant has failed at the east penthouse.

Metal soffits and trim is in good condition. The south side entrance canopy has been damaged.

Bricks were installed in a half running bond and are in good condition. Weeps and top of wall vents were present along with a stainless-steel base of wall flashing. Cracked and displaced brick are present at the tops of a number of window opening at the ends of the steel lintels. Some areas of efflorescence were noted at various locations.

Cast stone elements are in good to fair condition.

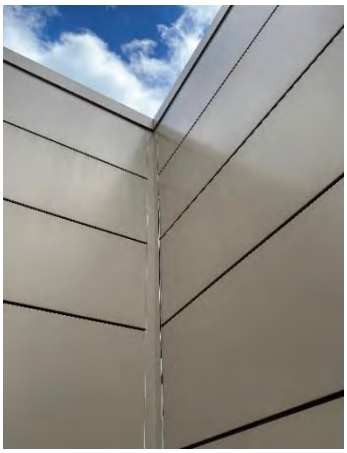
Precast panels are in good condition. One of the sealant joints in the south elevation has failed. There is an area of efflorescence and cracking above the double door at the east elevation. There is a hole in the precast adjacent to that door. Some distress is showing at sealants in the joints. At least one crack was noted in a panel reveal.

Exposed concrete foundation walls are in good condition.

There is a leaking hose bibb on the north side of the school.



Efflorescence at precast



Failed sealant and open trim



Crack at bottom of reveal

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There is an open electrical box adjacent to one of the roof access doors at the mechanical mezzanine.

Recommendations

- Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
- As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project.
- EPDM ballasted and fully adhered roofs are approximately 13 years old and would have an expected service life of 20 – 25 years. Owner should anticipate roof replacement for these areas in 7 – 12 years with regular inspections and maintenance. Address any issues found during the inspections.
- The standing seam metal roofs are also approximately 13 years old and would have an expected minimum service life of 30 years. Owner should anticipate roof replacement of these areas in 17+ years with regular inspections and maintenance.
- Replace failed sealants at storefronts, windows, precast panel, and metal panel joints.
- Areas of missing stone ballast should be addressed.
- Prepare, prime and paint existing corroded steel elements including lintels at openings and the HSS columns at the front entrance.
- Replace damaged soffit and fascia panel at the south canopy.
- Existing cracked and damaged brick at tops of window openings need to be further evaluated to determine why the cracking is occurring at those locations and the damaged addressed. Areas of efflorescence would need to be further evaluated to determine the source of moisture contributing to that efflorescence. Enclosure brick wall cap should be evaluated to determine if a thru-wall flashing exists below that cast stone cap.
- Efflorescence in the precast panels above the service door should be evaluated along with the crack. Repair the hole in the panel.
- Corroded trim at hollow metal service doors should be replaced and damaged doors repaired or replaced. Paint weathered doors and frames.
- Inside corner trims at the metal wall panels at the penthouses should be removed and reinstalled and properly sealed along edges. Missing panels/closures at the bottom of outside corners need to be installed with proper backing and details for terminating the roofing system. Replace missing panel joint gaskets.



Efflorescence at brick wall

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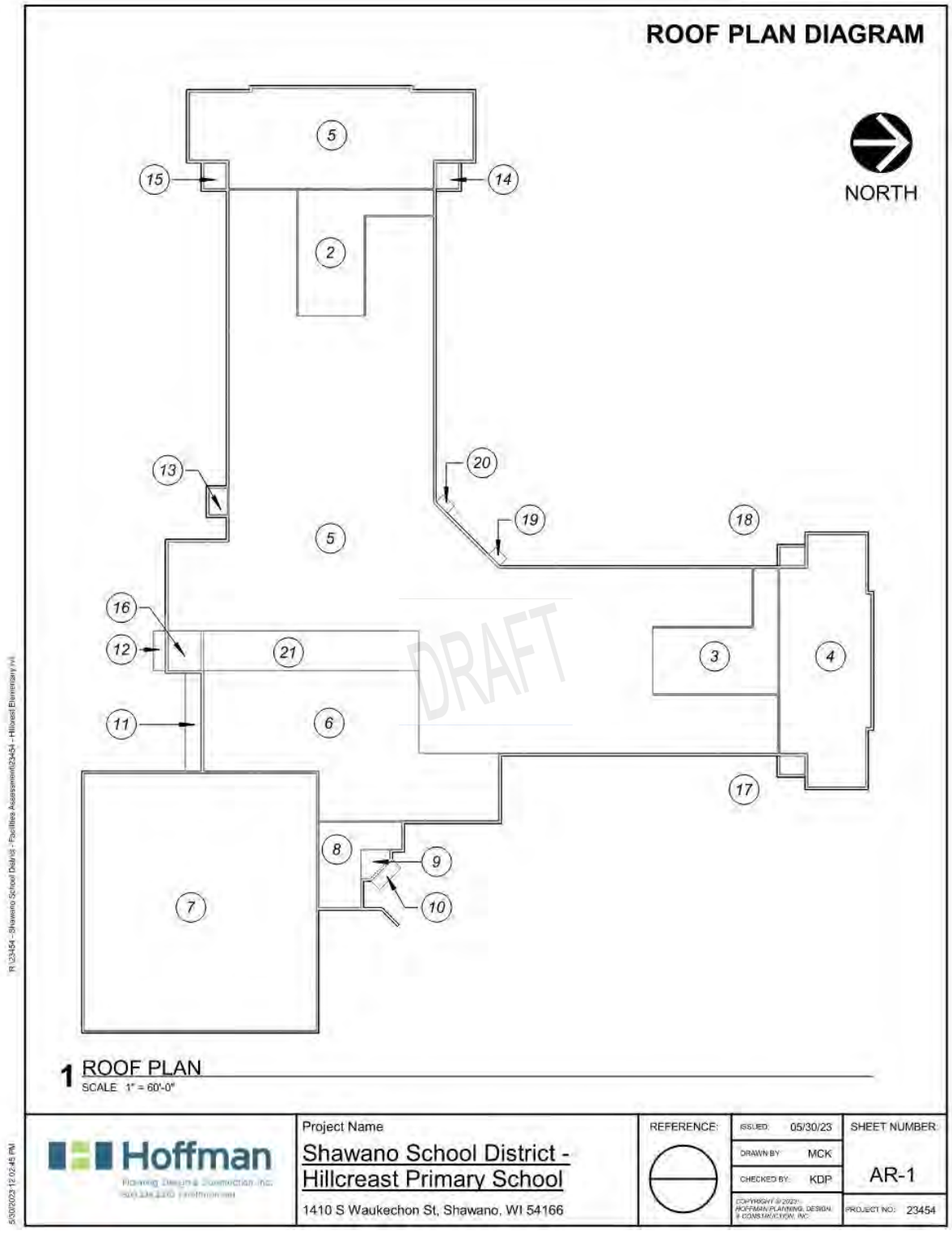
- Low flashings at several parapets should be monitored and raised and properly flashed with any future reroofing project.
- Address the damaged storefront framing where the sunscreen was removed.
- Review the north side hose bibb.
- Secure return corners on the top of wall flashings.
- Address the open electrical box at the penthouse door.

Roof Summary

Roof No.	Roof Type	Roof Area	Installed	Age	Warranty	Service Life
1	Ballasted EPDM	46,316	2010	13	2030	7-12
2	Ballasted EPDM	3,521	2010	13	2030	7-12
3	Ballasted EPDM	3,439	2010	13	2030	7-12
4	Ballasted EPDM	5,354	2010	13	2030	7-12
5	Ballasted EPDM	6,333	2010	13	2030	7-12
6	Ballasted EPDM	8,556	2010	13	2030	7-12
7	Ballasted EPDM	15,800	2010	13	2030	7-12
8	Ballasted EPDM	1,278	2010	13	2030	7-12
9	Ballasted EPDM	191	2010	13	2030	7-12
10	Ballasted EPDM	144	2010	13	2030	7-12
11	Ballasted EPDM	550	2010	13	2030	7-12
12	Ballasted EPDM	249	2010	13	2030	7-12
13	Ballasted EPDM	193	2010	13	2030	7-12
14	Standing Seam Metal	261	2010	13	2030	17
15	Standing Seam Metal	228	2010	13	2030	17
16	Standing Seam Metal	539	2010	13	2030	17
17	Standing Seam Metal	158	2010	13	2030	17
18	Standing Seam Metal	158	2010	13	2030	17
19	Standing Seam Metal	73	2010	13	2030	17
20	Standing Seam Metal	73	2010	13	2030	17
21	Fully adhered EPDM	1,904	2010	13	2030	7-12

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ROOF PLAN DIAGRAM
NORTH
5
15
14
2
13
20
19
18
5
16
12
21
3
4
11
6
17
8
9
7
10
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1 ROOF PLAN
SCALE: 1" = 60'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Hillcreast Primary School
1410 S Waukechon St, Shawano, WI 54166
REFERENCE:
ISSUED: 05/30/23
DRAWN BY: MCK
CHECKED BY: KDP
SHEET NUMBER:
AR-1
PROJECT NO.: 23454

Plumbing Systems

Domestic Water and Natural Gas



Water Service Entrance

Observations

- The building is served by an 8" combined fire sprinkler and domestic water service, with 4" water meter located in Gym Storage 537. The domestic water supply pipe is copper. There is no report by facility of problems with water piping or leaks. Maintenance staff report the pre-K area has sufficient hot water in the mornings, but in the afternoon there is a lack of hot water in this area.
- The natural gas meter is located outside the building, adjacent to Gym Storage 537. The natural gas enters the building at the storage room, and serves domestic water heaters and food service equipment. The natural gas pipe is steel, with threaded connections for small diameter pipe and welded connections for large diameter pipe.

Recommendations

- The existing piping was installed in 2009, and is in reasonable condition. Backflow prevention devices shall be tested and inspected annually. Check isolation valves for corrosion and exercise semi-annually.
- Investigate the water supply piping serving the pre-K area of the building. Add additional hot water circulation piping as required to ensure consistent hot water supply throughout the day. Review circulation pump size and capacity, and replace with a larger pump if required to meet the flow and pressure requirements of the pre-K area.

Sanitary Drain and Vent

Observations

The sanitary drain and vent systems are cast iron soil pipe with no-hub couplings. A grease interceptor is located outside the building, adjacent to Gym Storage 537. There is no report by facility of problems with sewer backups or slow drainage.

Recommendations

The existing piping was installed in 2009, and is in reasonable condition. The grease interceptor should be inspected on an annual basis for signs of damage or leaks. The kitchen drain piping is susceptible to grease build-up and clogs from food waste, and should be inspected annually to ensure it is free flowing.

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Storm Drain

Observations

The storm drain systems are cast iron soil pipe with no-hub couplings.

Recommendations

The existing storm piping to remain in place. Recommend ongoing maintenance with inspections of existing storm roof drains and conductors to be clear of debris and checking for potential roof leaks at roof drain pans. Any new roof replacements shall evaluate the roof drain pans for any corrosion for potential leaks.

Plumbing Fixtures

Observations

The plumbing fixtures appear to be in good condition. The water closets are wall hung with low flow manual flush valves rated for 1.28 gallons per flush. The urinals are floor set with low flow battery powered sensor flush valves rated for 0.125 gallons per flush. Multi-station wash fountains are provided with manual soap dispenser and sensor operated handwash stations. Classroom sinks are stainless steel drop-in with manual gooseneck faucets. Sinks in the art classroom include plaster traps. Sinks in the other classrooms include drinking fountain spout.

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Typical Water Closet



Typical Wash fountain



Typical Urinal

Recommendations

Plumbing fixtures should be scheduled for replacement on an as-needed basis. All fixtures should be inspected on an annual basis to ensure proper operation and water flow.

Plumbing Equipment

Observations

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The domestic hot water system includes two tank-type water heaters and one 250-gallon storage tank. Each water heater has 100 gallons of storage with a heating capacity of 300 MBH at 92% thermal efficiency. The water heaters are set to generate hot water at 150°F. A high/low style thermostatic mixing valve reduces the temperature to 110°F for delivery to the plumbing system. One small in-line pump circulates water between the water heaters and the storage tank, and a second small in-line pump serves the hot water recirculation system.



Water Heating System

A water softener serves only domestic hot water. It includes one brine tank and two resin tanks. Water softener appears to be in working condition.

Recommendations

One water heater was installed in 2020, and one water heater was installed in 2009. The older water heater is near its end-of-life cycle, and should be replaced upon available funding for equipment replacement.

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Fire Protection Systems

Observations

The building is served by an 8" combined fire sprinkler and domestic water service, with 4" double check backflow prevention device located in Gym Storage 537. Fire sprinkler pipe is black steel with grooved joint fittings. There are two zones of coverage for the building, one for the lower level and one for the upper level and mezzanines.



Fire Sprinkler Riser

Recommendations

- The fire sprinkler backflow prevention device should be inspected and tested on an annual basis. The other fire sprinkler devices and systems should be tested according to NFPA 25 Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.
- Maintain a clear path of travel from the exterior doors of Gym Storage 537 to the fire sprinkler devices, for fire department access and use in case of emergency.

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HVAC Systems

The following report is the result of a site visit by Jason Testin of Fredericksen Engineering that occurred on April 20, 2023. Site observations, construction plan review, and interviews with staff were all used in the preparation of this report.

Heating And Cooling System

Existing Data

The building is served by a Multistack geothermal heat pump chiller. It provides hot water and chilled water for the entire building. The unit receives water from the geothermal well field and passes it through modules to produce hot water and chilled water that is then pumped throughout the building. The unit has a heating capacity of 3,971 mbh output and a cooling capacity of 3,248 mbh output.

A primary base mounted pump, with a stand-by pump, pumps a 25% propylene glycol solution from the Multistack unit out through the geothermal field.

A set of base mounted pumps in primary/secondary arrangement pumps chilled water from the Multistack unit out through the building.

A set of base mounted pumps, each with a stand-by pump, in primary/secondary arrangement pumps hot water from the Multistack unit out through the building.

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Observations

- The Multistack geothermal unit was installed in 2009 and is in fair condition. The Owner has indicated that the controllers have failed on occasion. The unit has an estimated life expectancy of 20 years.
- The base mounted pumps were installed in 2009 and are in fair condition. The units have an estimated life expectancy of 20 years.
- According to information obtained by the Owner, the Multistack unit has no reserve capacity at this point, as all modules are brought online during periods of hot or cold weather.
- Insulation at most piping is of adequate thickness and in fair condition.
- The Owner has indicated that there are no current concerns or issues with the system.

Recommendations

- Continue preventative maintenance on the system.
- Any future additions or construction may require the addition of modules to increase capacity to serve the additional spaces.

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Ventilation Systems

Existing Data

The gym is served by a SZ air handling system. The unit consists of a supply fan, hot water heating coil, chilled water cooling coil, energy recovery wheel, hot water reheat coil and exhaust fan.

The remainder of the building is served by nine VAV air handling systems. Each unit consists of a supply fan, hot water heating coil, chilled water cooling coil, energy recovery wheel, hot water reheat coil and exhaust fan. Hot water VAV boxes are installed in the ductwork to provide individual temperature control.

The ground floor classrooms and first floor classrooms 401 through 404 are served by hot water radiant floor. Each room has a separate system consisting of a supply and return manifold, three-way valve and in floor tubing.

The toilet rooms are exhausted through exhaust fans located in the mechanical mezzanines.

Observations

- The air handling units were installed in 2009 and are in good condition. The units have an estimated life expectancy of 25 years.
- The radiant floor was installed in 2009 and is in good condition. The units have an estimated life expectancy of 25 years.
- The exhaust fans were installed in 2009 and are in fair condition. The units have an estimated life expectancy of 20 years.
- The Owner indicated the gym has pressurization difficulties.
- The Owner indicated that they would like the radiant floor system replaced.

Recommendations

- Continue preventative maintenance on the systems.
- Plans should be made to commission the gym air handling system.
- Plans should be made for the replacement of the radiant floor system.

Control Systems

Existing Data

A Delta digital control system serves the building.

Observations

The control system is in good condition.

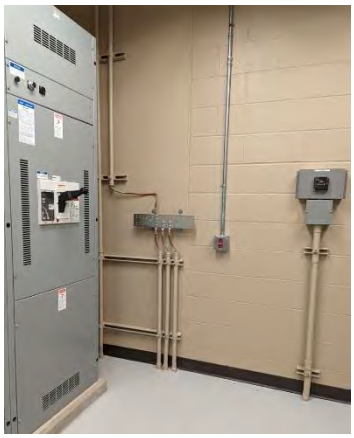
The Owner indicated they would like all four schools tied into the same control system.

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Recommendations

- Continue to maintain and operate the control system.
- Plans should be made to provide an open protocol, Tridium/Niagara N4 system at each school and tied together into the same control access program. With a new control system, plans should be made to commission the HVAC systems.



SPD (on right)

Electrical Systems

Main Electrical Service

Observations

- The facility electrical service is from Shawano Municipal Utilities. There is a 1,500kVA transformer and exterior CT cabinet located off the south end of the building.
- The service conductors travel underground from the CT cabinet to the main electrical room and up into a Cutler-Hammer, Pow-R-Line C switchboard. The switchboard is 2,000A 480Y/277V 3-phase, 4-wire. It has a 2,000A individually mounted main breaker section and one distribution section. The switchboard was installed in 2009 and appears to be in good condition.
- Surge protection is installed on a wall adjacent to the switchboard. Conductor length to the switchboard is estimated to be between fifteen and twenty feet.



Service Transformer



Main Switchboard

Recommendations

- Continue to service and maintain existing switchboard.
- Rework SPD at main switchboard. The excessive length of conductors between the switchboard and SPD result in the unit not providing the proper surge protection. Maximum SPD conductor length is typically limited to 24” or less.

Panelboards

Observations

All panelboards were installed in 2009 and are Cutler Hammer PRL-1a type. They are in good condition and appear to have a lot of service life left.

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Recommendations

Maintain existing panelboards and add branch breakers as necessary to accommodate any future facility renovations or additions.



Panelboards and transformer

Emergency Systems

Observations

There is an emergency standby generator located off the south end of the building within the vicinity of the main electrical service. The generator is 600kW/750kVA, 480Y/277V, 3-phase, 4-wire output mounted on a sub-base diesel fuel tank. It is within a weatherproof steel enclosure. The generator was installed in 2009 and appears to be in good condition.

There is an output feeder from the generator that travels underground and into a wireway within the Emergency Electrical room. The feeder is tapped and tap conductors go into two different circuit breakers. One circuit breaker is 800A and the other is 100A which then serves automatic transfer switches ATS-EQ and ATS-LS, respectively.

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Emergency ATS and Equipment

ATS-LS serves building emergency systems (NEC 700) that consists of:

- Egress lighting
- Fire Alarm
- Fire Sprinkler Alarm
- Area of Refuge System
- Paging System



Generator

ATS-EQ serves building optional standby equipment (NEC 702) that consists of:

- Chiller #1
- HVAC Controls
- Air Handling Units 4, 5, 6, 7 and 9
- MDF and IDF equipment
- MDF and IDF HVAC Split Systems
- Unit Heaters
- Water Pumps
- Power Door Actuators

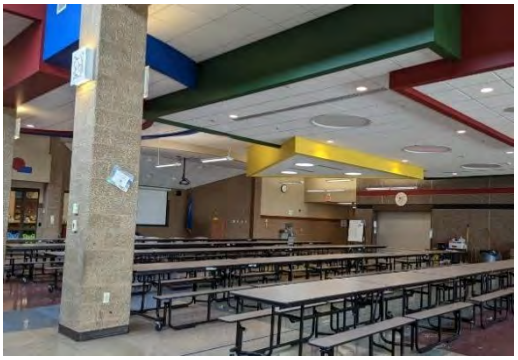
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Recommendations

Equipment is in good condition. Continue to perform regular testing and maintenance.

Lighting Fixtures and Controls

Observations



Commons Area

Lighting throughout the building consists of fluorescent T-8 lamping and compact fluorescent lamping. Classrooms consist of suspended direct/indirect fixtures with dimming controls, occupancy sensors and daylight harvesting. It was noted by facility staff that daylight harvesting throughout classrooms and spaces do not function properly. On some occasions entire building wings go dark due to these issues.



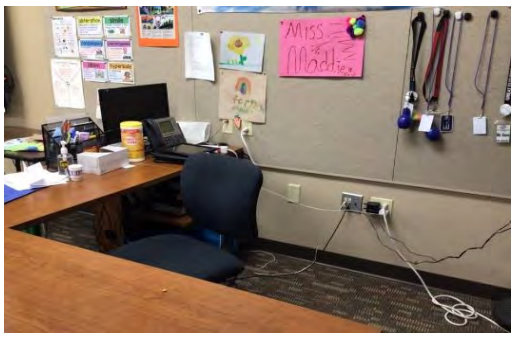
Classroom Lighting

Gym lighting consists of 2' x 4', 6-lamp T8 fluorescent high bay fixtures. Fixtures are suspended from the ceiling with aircraft cabling and equipped with wire guards. Lighting controls consist of a gym relay panel for group control and ceiling mounted high bay occupancy sensor.

Exit signs throughout the building are LED type.

Exterior parking and drive luminaire fixtures that are original to the building are Signify Gullwing type with HID lamps. Fourteen of these fixtures have had their heads replaced on existing poles with LED type. The remainder of the pole fixtures remain HID lamp type. Fixtures are controlled via relay panel for timeclock on and photocell off.

Recommendations



Classroom Instructor Area

Consider replacement of existing T-8 fixtures with LED flat-panel type fixtures or similar. New lighting will be more energy efficient, have longer lamp life (decreasing maintenance) and provides better dimming capabilities than existing fluorescent. Concurrently with fixture replacement it is recommended that existing fluorescent dimming controls be replaced with new multi-zone room controllers with dimming capabilities to provide upgraded daylight dimming controls within spaces.

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Exterior pole fixtures that are metal halide are recommended to be replaced with LED for longer lamp life and increased efficiency. Additionally, metal halide lamps will become increasingly more difficult to procure as time goes on.

Wiring Devices



Fire Alarm Control

Observations

Classrooms appear to have an adequate quantity of power receptacles and data jacks. Access points are installed in the ceiling throughout the hallways and other spaces for full wireless access coverage. Data cabling was noted to be Cate 6 and routed free air within J-hooks and cable tray.

Recommendations

Consider replacing receptacles and switches that are older than 10 years. This will ensure that receptacle pulling tensions are adequate to hold plugs, fully engaged, into devices.

Fire Alarm System

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Observations

The existing fire alarm system is an addressable system with horn-based notification devices. The fire alarm control panel is a Simplex 4010 and located in the MDF room. This system was installed in 2009 and is no longer manufactured by Simplex/JCI.

Recommendations

Replace existing fire alarm control panel with new so as existing system is aging and replacement parts will be increasingly harder to find due to the panel no longer being manufactured. Consider upgrading to a speaker-based system with one way voice for specific command instruction and mass notification capabilities.



Primex Clock Controller

Clock System

Observations

The clocks within the building are battery operated and on a centralized Primex wireless clock system for synchronization.

Recommendations

Maintain existing clock system add clocks as necessary for any future building additions or renovations.

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Public Address System

Observations

The public address system head end is located within a closet inside classroom 140. There is a TOA 9000 M2 series digital matrix mixer fed from a network controller and additional amplifiers for other building zones. Equipment appears to be in good condition. Wiring was noted to be free-air routed.

Recommendations

Extend and modify the system as necessary to accommodate any building renovation or addition.



PA System Head End

Phone System

Observations

Existing phone system is a VoIP system. Each teacher workstation and office work area contains a Cisco IP Phone 7942 handset.

Recommendations

Existing system is in good condition and shall be expanded as necessary to accommodate any building addition or renovation.

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Data System

Observations

The MDF room is on the first floor Room #540. There are 12-Strands of single mode fiber between the MDF and each IDF room. IDF rooms were noted to be the following:

- Room #140
- Room #318



MDF Room

There are uninterruptible power supplies (UPS) mounted within each rack for short duration backup upon a power outage until the standby generator comes online. The MDF and IDF rooms contain two and four post racks with switches and patch panels. Horizontal cabling is done via Cat 6 cabling which appears to be in good condition.

Recommendations

Existing equipment and cabling appear to be in good condition and has room for expansion.

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CCTV System

Observations

There is an IP camera-based video surveillance system located throughout the building. Cameras were noted to be located at the building entrances, around the building exterior and throughout the hallways.



Video Storage

Recommendations

Maintain existing system and add/modify cameras as needed. Consider a detailed walk-thru of facility to survey camera coverage and identify dead zones where additional cameras are necessary.

Access Control/Security System

Observations

Building entrances were noted to contain motion sensors for building security with TECC security system touch pads for arming and disarming the system.

Many entry doors are equipped with HID proximity readers.

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Recommendations

Maintain existing system and add/modify devices as needed for any future renovations or additions.

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Site Assessment

The following report is the result of a site visit by Mark C. Spielbauer of Hoffman PD&C that occurred on May 9, 2023. Site observations, construction plan reviews, and interviews with staff were all used in the preparation of this report.

The site assessment was limited to the Shawano School District property identified as Olga Brener Intermediate School as identified on Owner furnished drawings and information in the Shawano County GIS website.

Zoning

The site is zoned Single Family Residential – 5 (SR-5).

Part of site is included in a Woodland Protection Area.

All of the City of Shawano lies within the Airport Height Limitation Zoning area.

Environmental

No environmental concerns were identified by the Owner

Neighborhood

The Shawano School District Olga Brener Intermediate School is located south of the Middle School site with residential properties to the west and south. There is a mix of residential and a health care facility to the east.

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With the exception of school district property to the north, there does not appear to be vacant property adjacent that would allow for any expansion.

The site is bounded by S. Union Street to the west, E Ridlington Avenue to the south and S. Evergreen Street to the east.

Perimeter streets are asphalt paved with concrete curb and gutters.

Sidewalks are present at the east side of S. Union Street, north side of E. Ridlington Avenue and the west side of S. Evergreen Street

Municipal utilities including water, storm sewer and sanitary sewer are located in perimeter streets.

Observations and Existing Site Conditions

Parking Lot

Parking is provided in a single lot south of the school. Conditions included:

- Lot has three access drives off E. Ridlington Avenue
- The lot is asphalt paved with a total of 110 marked parking stalls configured for angled parking. There are an additional five (5) van-accessible ADA stalls located at the NW corner of the lot.
- There are a number of cracks in the asphalt pavement that have been previously repaired.

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Surface water in the lot drains to storm catch basins.

There is an asphalt paved drive west of the school that connects to S. Union Street at the SW and NW corners. The pavement is in good to fair condition with some previously repaired cracks present.

A second drive that connects to the west drive at the NW corner provides vehicular access to the north side of the school and the dumpsters. The pavement is in good to fair condition with some previously repaired cracks. Standing water was present in several low spots along the north side of the drive.

Pavement

Concrete pavements including walks and drives along with curbs and gutters range from a good to failing condition with cracked and settled pavements noted at various locations around the site. There is some spalled and missing concrete curbs at an entry drives.

Water Mains

Municipal water mains are present in perimeter streets with several hydrants present.

Signage

There is an illuminated sign south of the school that appears to be newer and in good condition.

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Bike Rack

Two bike racks are present at the north side of the building near the NW corner.

Flagpole

An aluminum flagpole is located west of the school and is in good condition and is illuminated.

Dumpster

Dumpsters are located on the asphalt pavement north of the school and are not enclosed by fencing.



North drive with access to dumpster and transformer

Fencing

Chain link fencing is present at the south side of the school between the playground and the adjacent parking lot. Chain link fencing also encloses the chiller north of the school. There is a short section of fencing with slats at the south side of the storage building with a 3-sided section of backstop fencing at the NE corner of the site. Fencing condition varies from good to fair with some damage to a top rail section of fence at the south parking lot.

Landscaping

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Landscaping across the site includes a variety of trees, bushes, and plantings along with decorative beds along buildings and grassed areas. Overall the landscaping appeared to be well maintained and in good condition.

Site improvements also included areas of clay pavers and garden walls near the front entrance.

Single ground mounted electrical transformers are present on the site north of the school. The transformer is not fenced or protected by any bollards.

Gas Meter

The gas meter is located within a masonry brick enclosure at the south side of the school.

Access Covers

Two access covers are located south of the school and may be access to the grease interceptor.

Playground

An asphalt paved playground is located south and east of the school and includes game markings. Pavements are in fair condition with numerous repaired cracks. There is an isolated section of failed pavement adjacent to a catch basin that was covered by a wood pallet. An isolated section of pavement is missing near the school. There are three basketball goals along the east edge of the playground.



Pallet covering failed pavement

Play equipment is located SE of the school and includes the following:

- An area of play equipment is located east of the gym in an area of wood chips.
- Two soccer goals are located in the grassed field east of the school.
- A second area of play equipment including swings with wood chip fall protection is located east of the paved playground.

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- Overall the play equipment appeared to be in good condition.



Typical play equipment

Recommendations

- Cracked and settled or deteriorated sections of concrete curbs, drives, and pavements should be removed and replaced.
- Continue maintenance of bituminous asphalt pavements where practicable and remove and replace deteriorated, settled or failing sections. Prior to any pavement work, a geotechnical testing program should be instituted to verify subsurface conditions and make recommendations for subgrade and pavements thickness based on vehicular loadings.
- Underground storm piping should be televised to determine if there are breaks or other issues leading to some of the noted pavement depressions adjacent to the playground catch basin.
- Electrical transformer at the north service road should be fenced or at least protected with bollards.
- Have a site survey upgraded or done to document existing site improvements and aid in future planning.

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Aerial View of School Site



Architecture

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The following report is the result of a site visit by Kurt Peeters and Casey Helmrath of Hoffman PD&C that occurred on April 19th, 2023. Facility observations, construction plan reviews, and interviews with staff were all used in the preparation of this report. At the end of this section, we have included building diagrams to visually showcase our findings and schedules to consolidate all data into one location.

Existing Data

The school was originally constructed in 1968 with a major addition in 1991 and mechanical upgrades and remodeling in 2011. The 104,000 square foot facility houses 422 students currently from 3rd- 5th grade.

Code Assessment

During the facility walk-thru we noted any items that could be considered code, accessibility, or safety concerns. These noted items can be looked at as a starting point in determining areas that may need updates or remodeling to correct the issues present.

Interior Finishes

During the facility walk-thru we noted any interior finishes that could be considered damaged, worn or past their life expectancy. In addition, we looked at exterior windows and doors, interior doors and hardware and casework (cabinetry). These

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noted items can be looked at as a starting point in determining areas that may need finish updates and/or replacement.



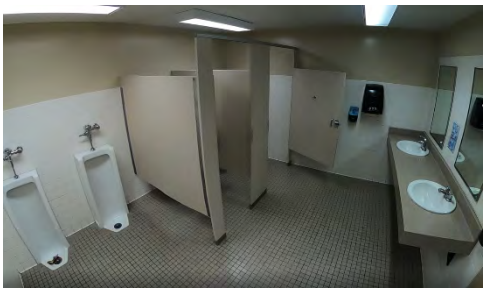
Art Room Casework and Ceiling in Need of Updates

Elevators

We noted one elevator within the facility that was constructed as part of the 1991 addition. The elevator worked as required when tested.

Restroom Facilities

Restroom facilities vary throughout the facility with several providing adequate accessibility in the 1991 addition. There are also several restrooms located in older portions of the building that do not meet these standards.



Restroom 1991 Addition

Stairs

Stairs were in good condition overall but the original stairs from 1968 lacked current code required provisions like handrail extensions and proper guardrails for added accessibility and safety.



Classroom Used for Storage

General Access

The arrangement of the main office was found to be sufficient from both a wayfinding and safety perspective. Signage from the parking lot would help as the South side entry doors look mistakenly close to the main entry.

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Recommendations

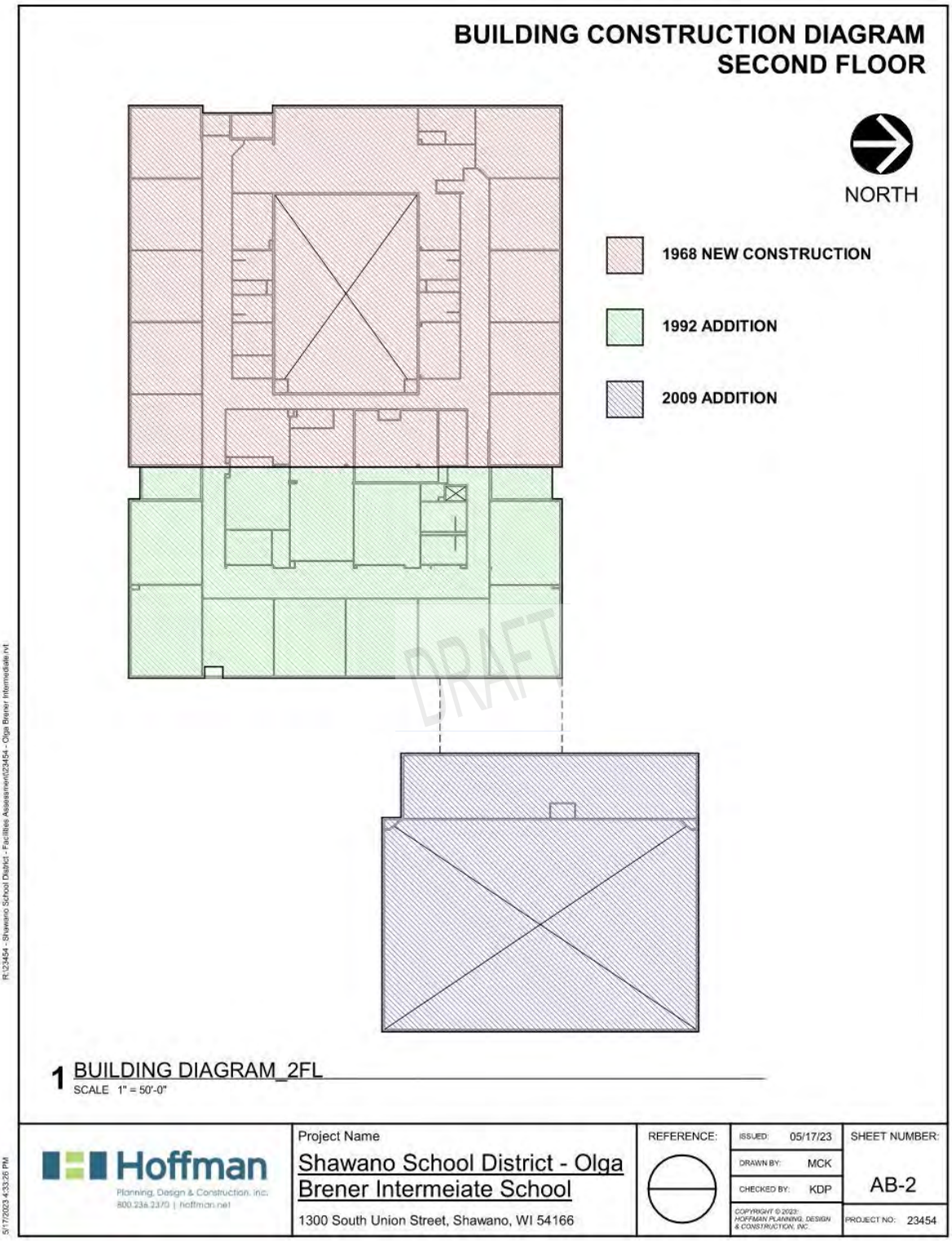
When looking at the facility itself we make the following recommendations:

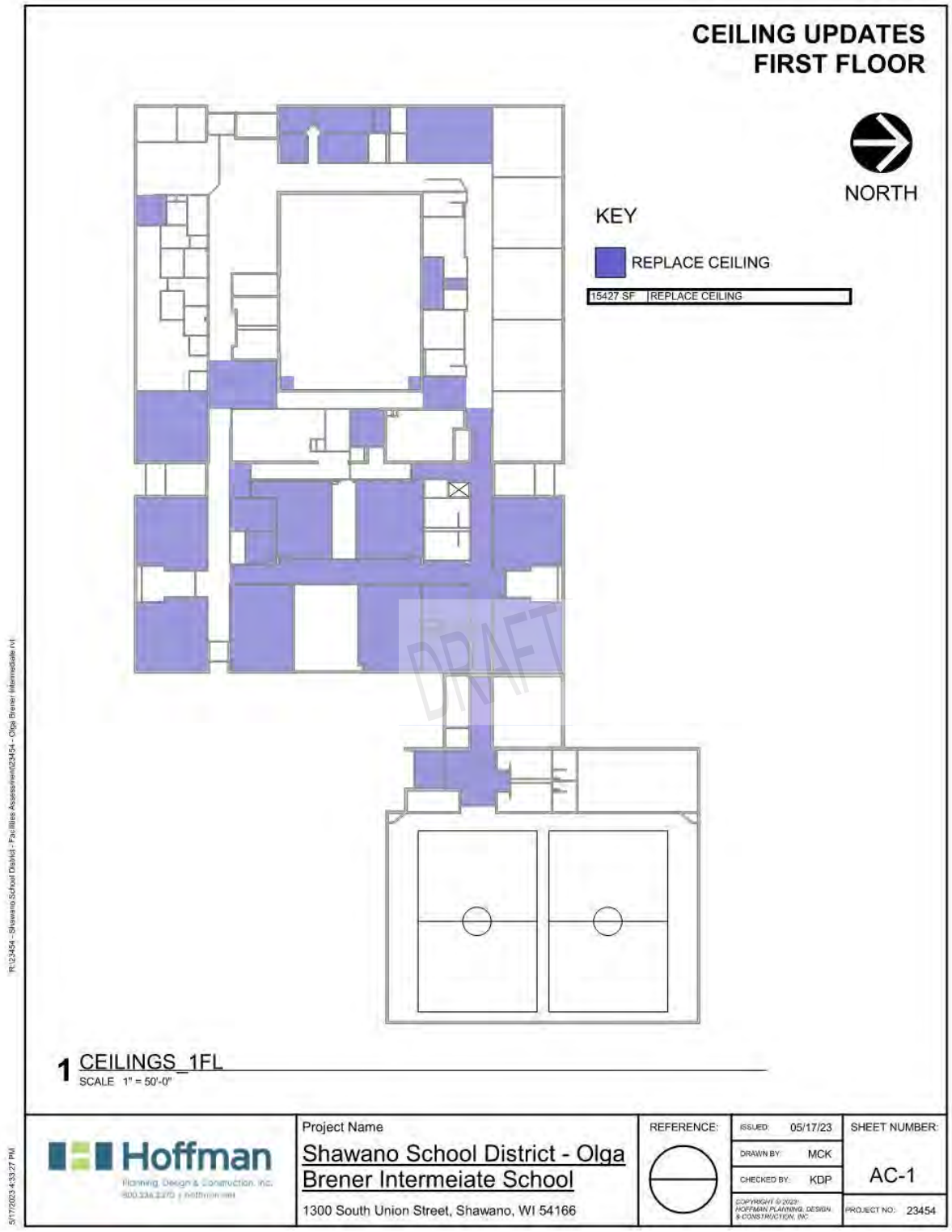
- Update/replace items listed in the diagrams and schedules provided. Code/safety/security items should be addressed as a priority. Finishes to be updated as necessary.

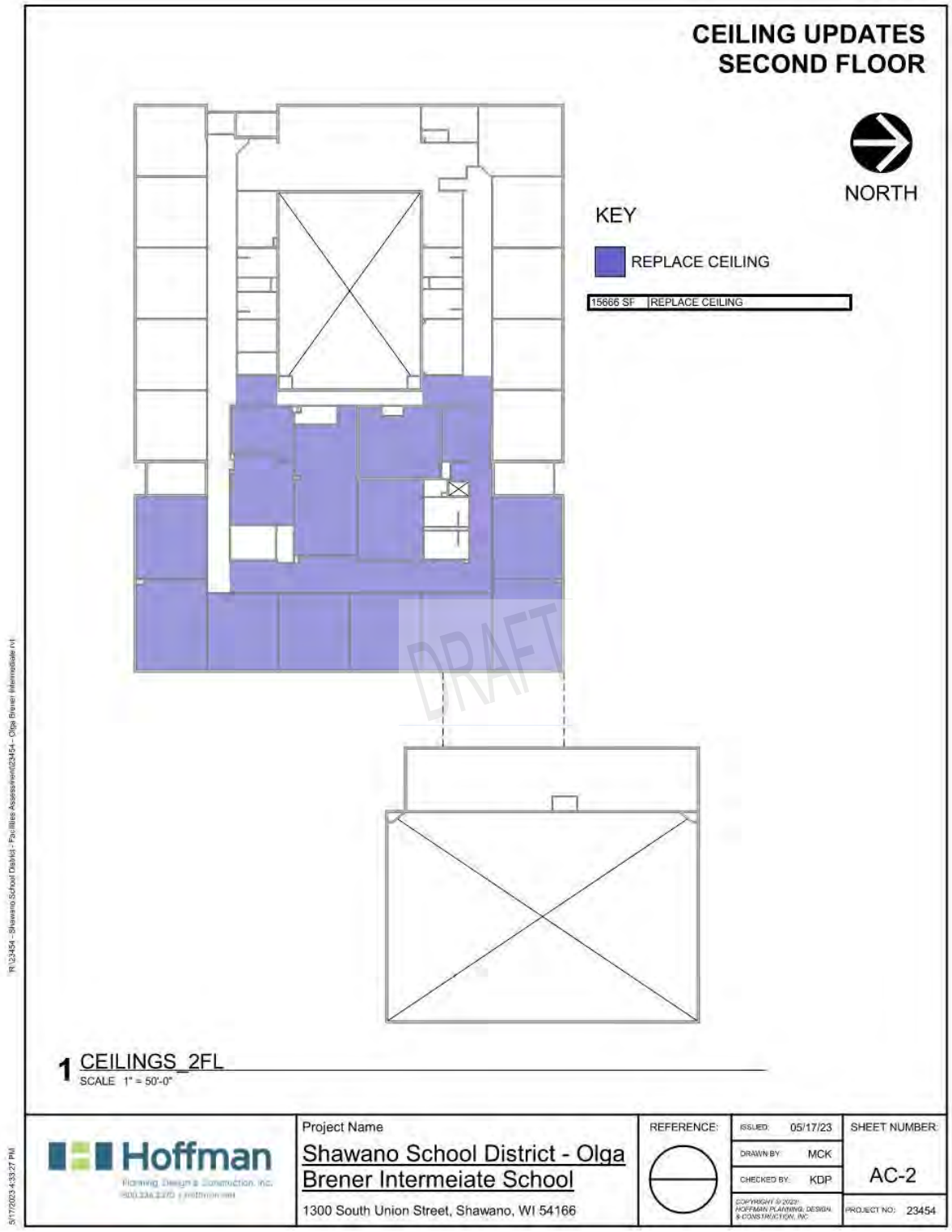
Diagrams

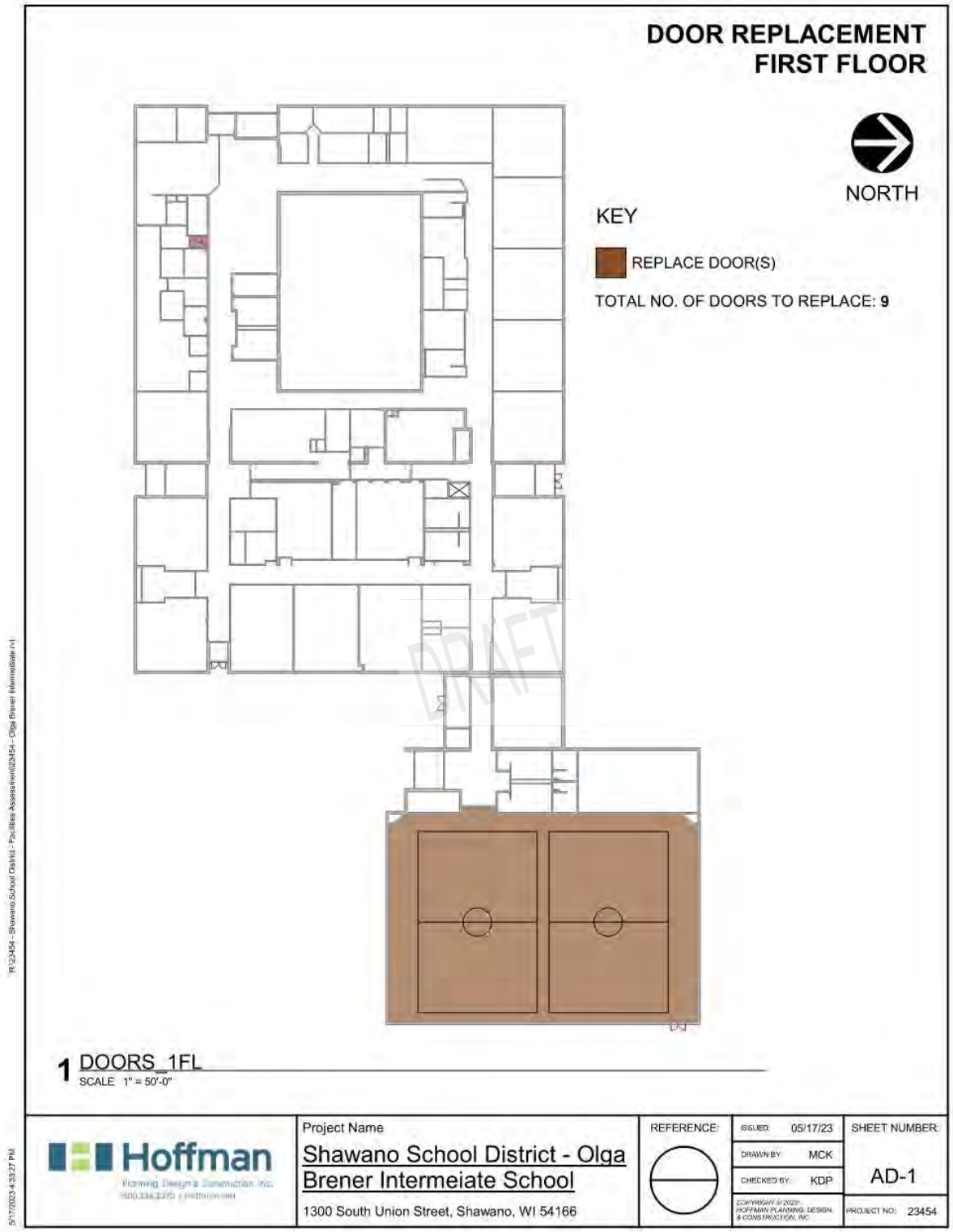
The next pages are a series of diagrams that contain information from some of the Architectural categories above. In addition, we have included a schedule breakdown of each room and the recommendations based on the findings we noted during the walkthrough.

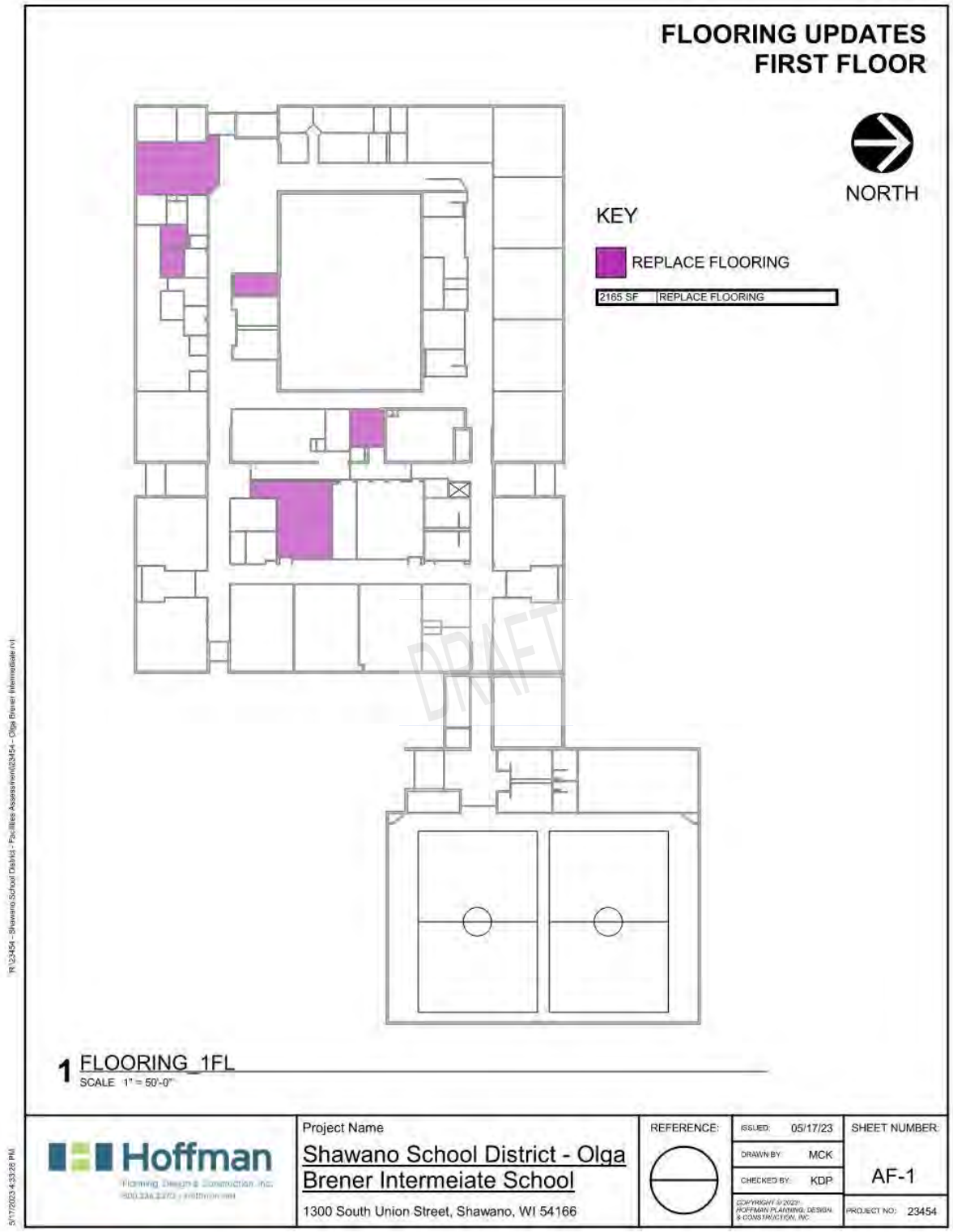
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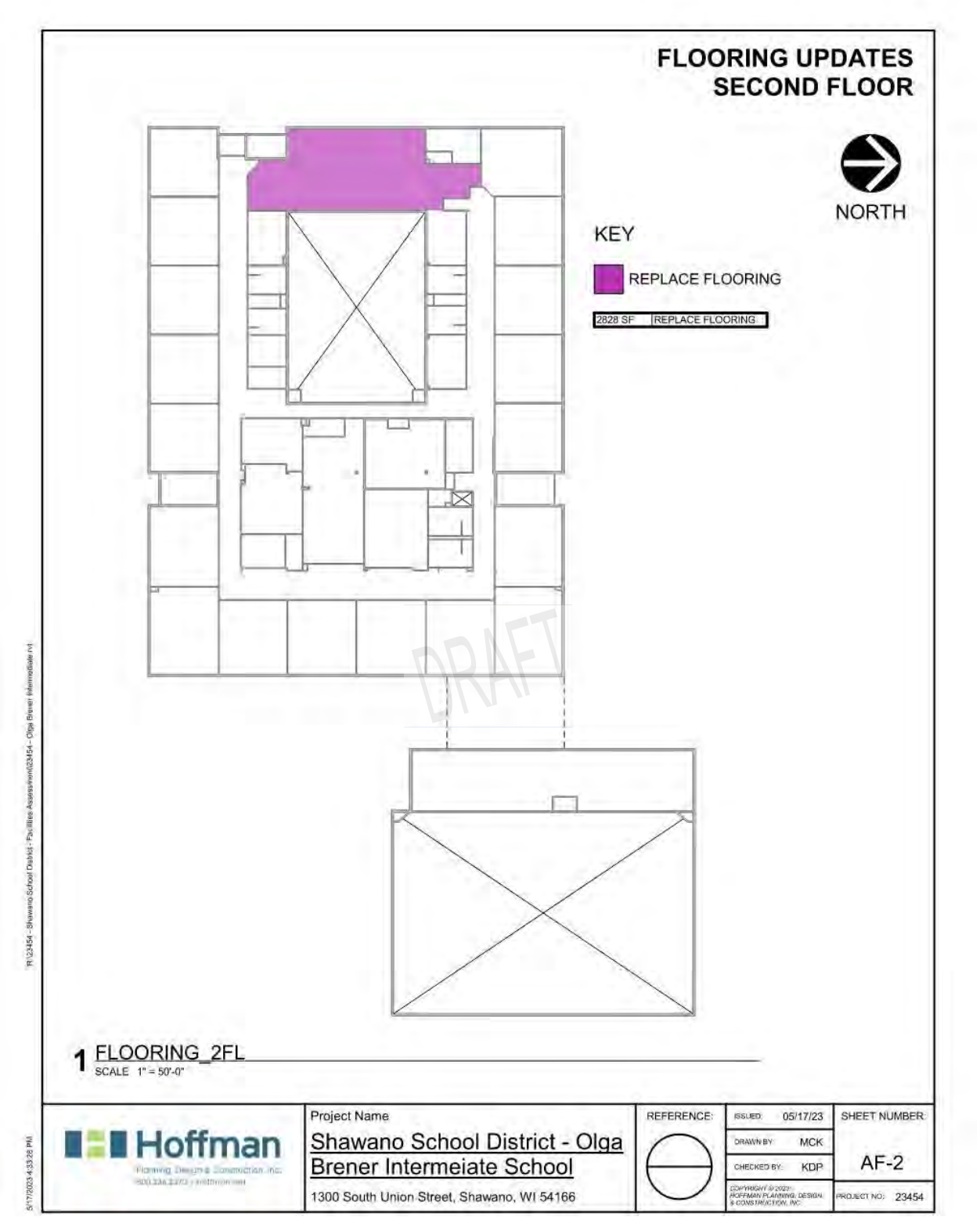

BUILDING CONSTRUCTION DIAGRAM
SECOND FLOOR
NORTH
1968 NEW CONSTRUCTION
1992 ADDITION
2009 ADDITION
DRAFT
1 BUILDING DIAGRAM_2FL
SCALE 1" = 50'-0"
Hoffman
Planning, Design & Construction, Inc.
800.236.2370 | hoffman.net
Project Name
Shawano School District - Olga Brener Intermeiate School
1300 South Union Street, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
DRAWN BY: MCK
CHECKED BY: KDP
COPYRIGHT © 2023: HOFFMAN PLANNING, DESIGN & CONSTRUCTION, INC.
SHEET NUMBER:
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PROJECT NO: 23454
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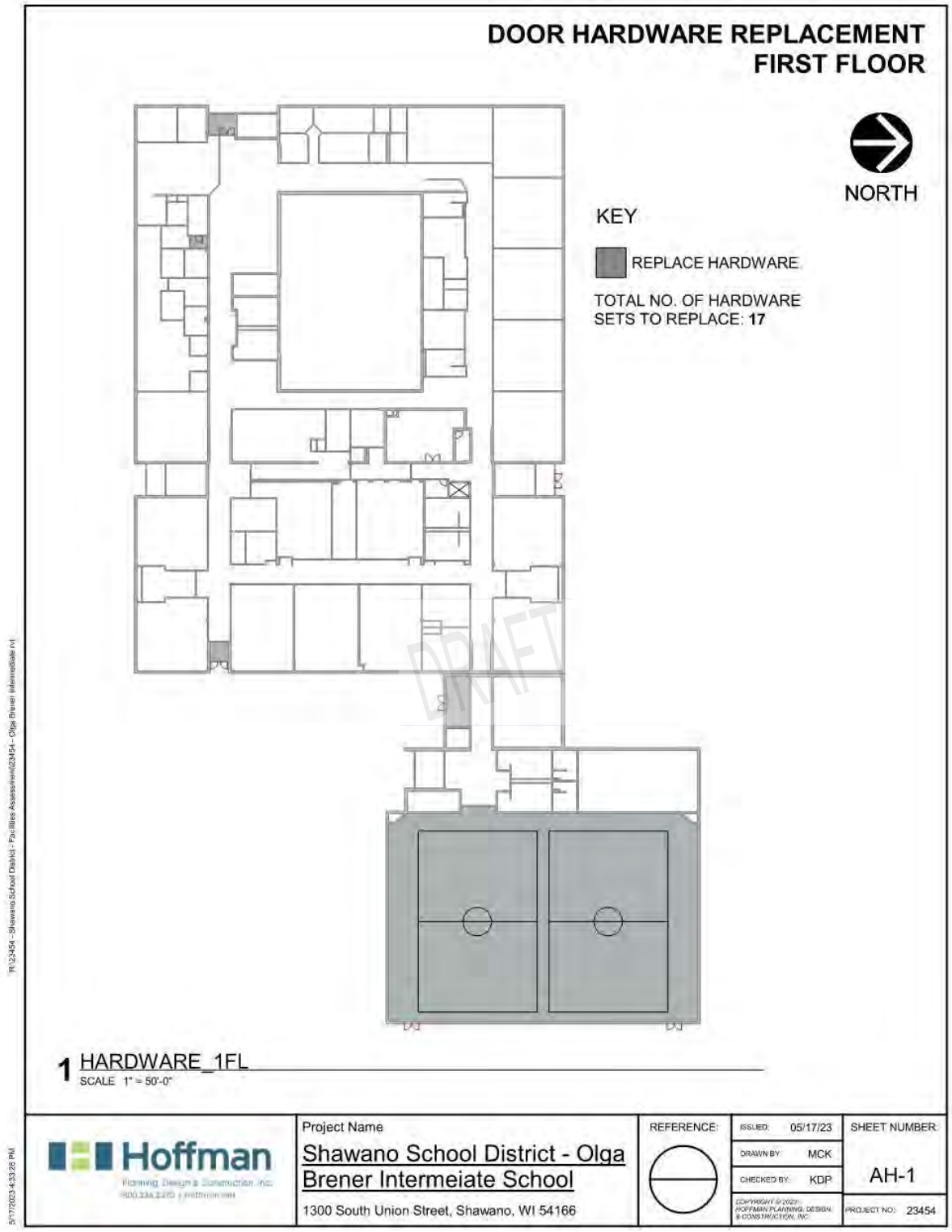

CEILING UPDATES
FIRST FLOOR
NORTH
KEY
REPLACE CEILING
15427 SF REPLACE CEILING
DRAFT
1 CEILINGS_1FL
SCALE 1" = 50'-0"
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Planning, Design & Construction, Inc.
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1300 South Union Street, Shawano, WI 54166
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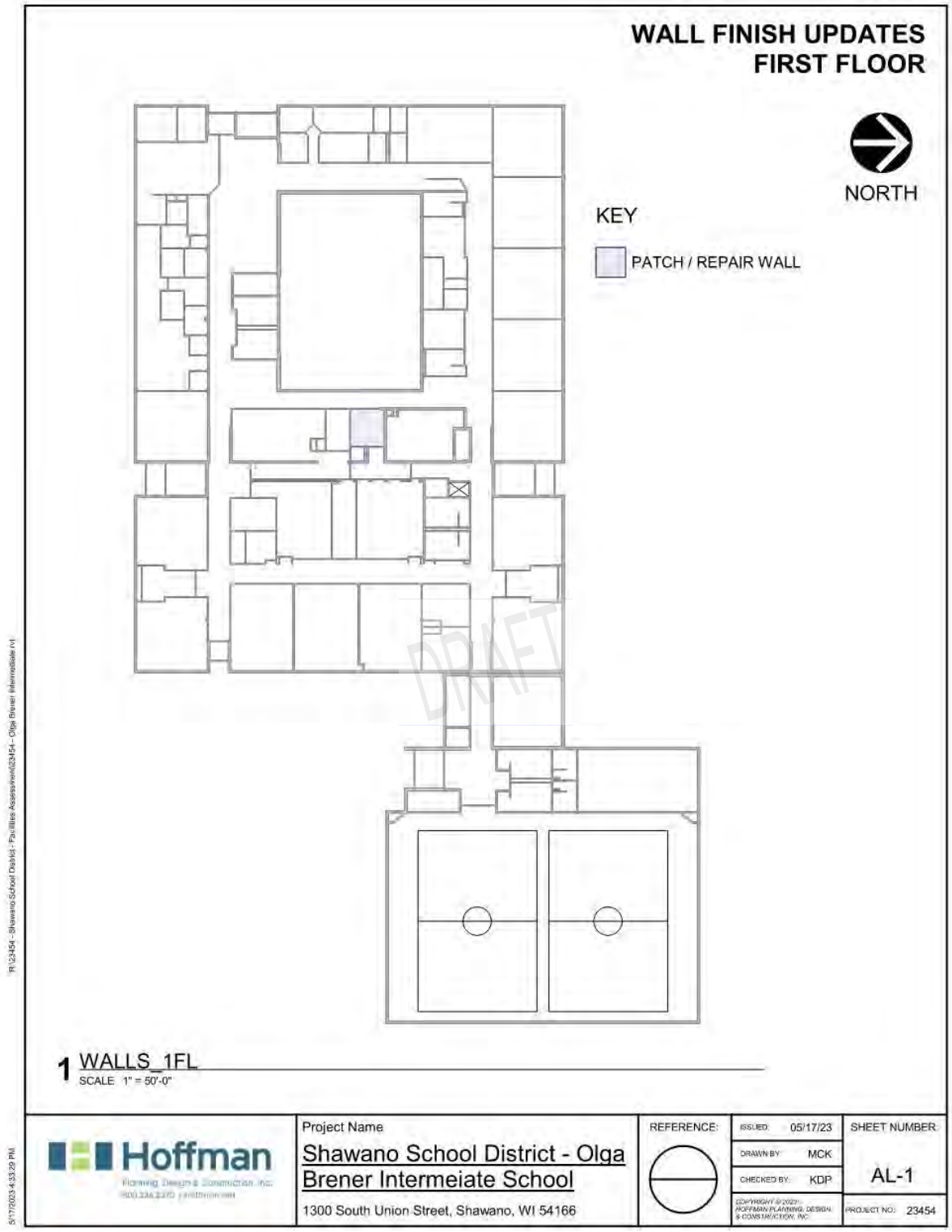

CEILING UPDATES
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NORTH
KEY
REPLACE CEILING
15666 SF REPLACE CEILING
DRAFT
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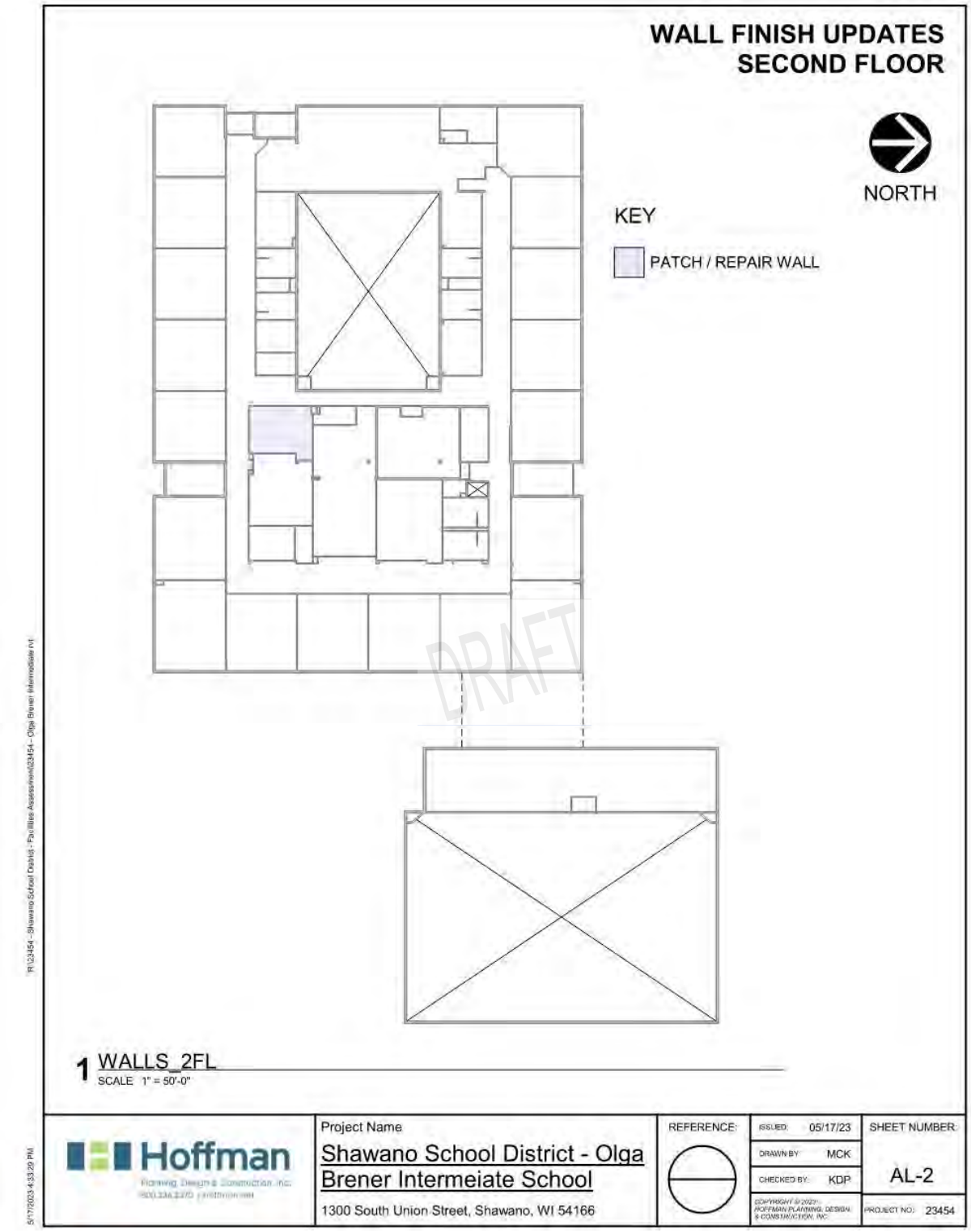

DOOR REPLACEMENT
FIRST FLOOR
NORTH
KEY
REPLACE DOOR(S)
TOTAL NO. OF DOORS TO REPLACE: 9
DRAFT
1 DOORS_1FL
SCALE 1" = 50'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
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1300 South Union Street, Shawano, WI 54166
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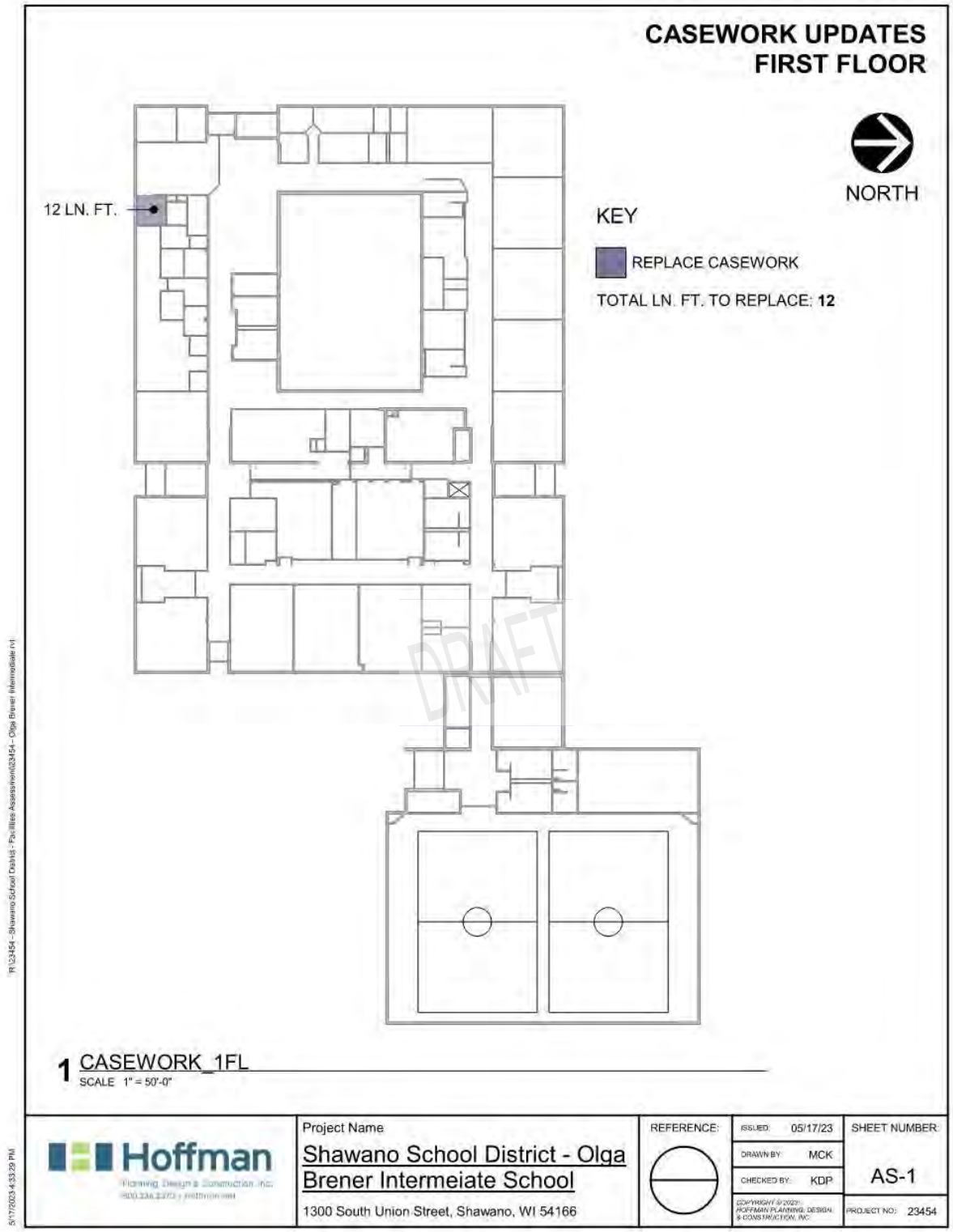

FLOORING UPDATES
FIRST FLOOR
NORTH
KEY
REPLACE FLOORING
2165 SF REPLACE FLOORING
DRAFT
1 FLOORING_1FL
SCALE 1" = 50'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Olga Brener Intermeiate School
1300 South Union Street, Shawano, WI 54166
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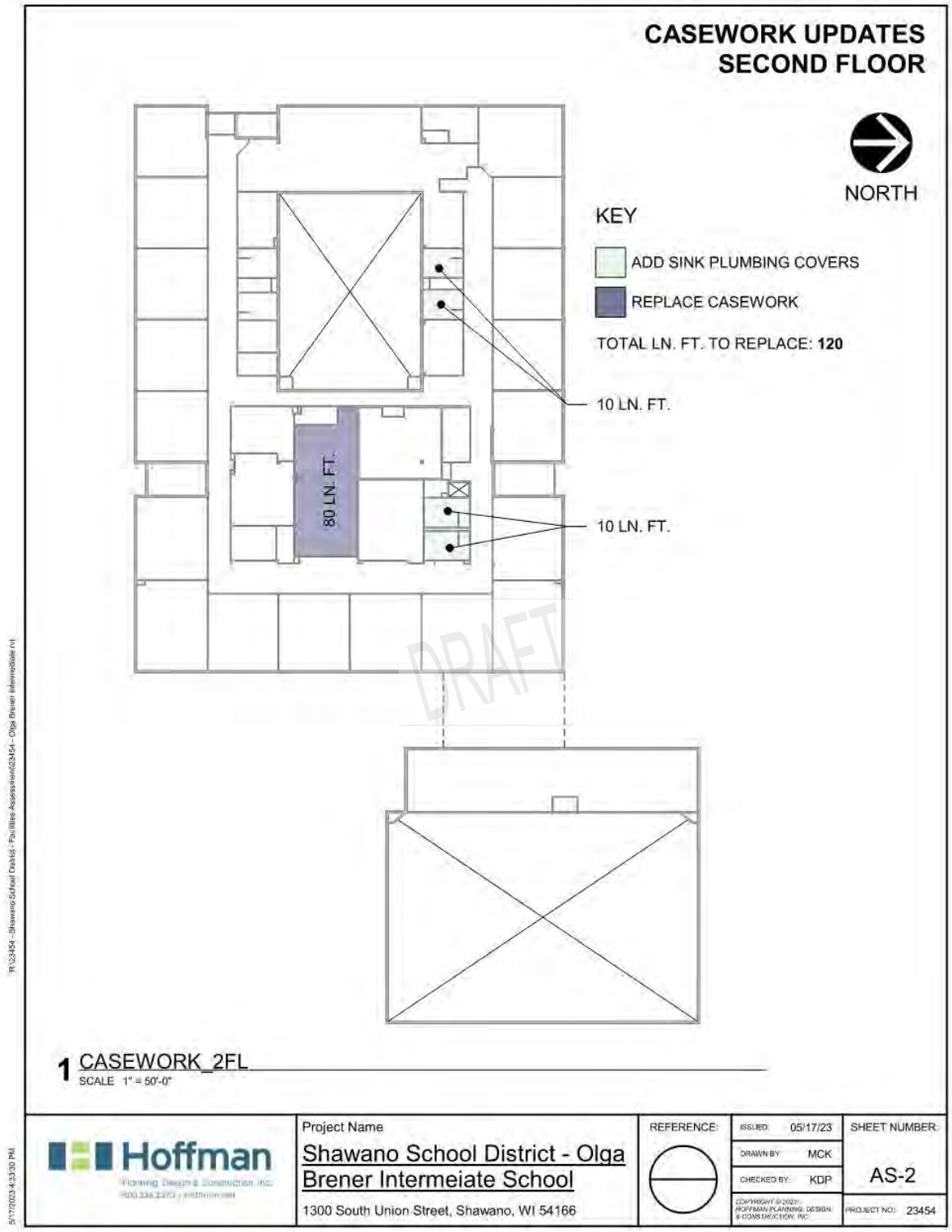

FLOORING UPDATES
SECOND FLOOR
NORTH
KEY
REPLACE FLOORING
2828 SF REPLACE FLOORING
DRAFT
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SCALE 1" = 50'-0"
Hoffman
Planning, Design & Construction, Inc.
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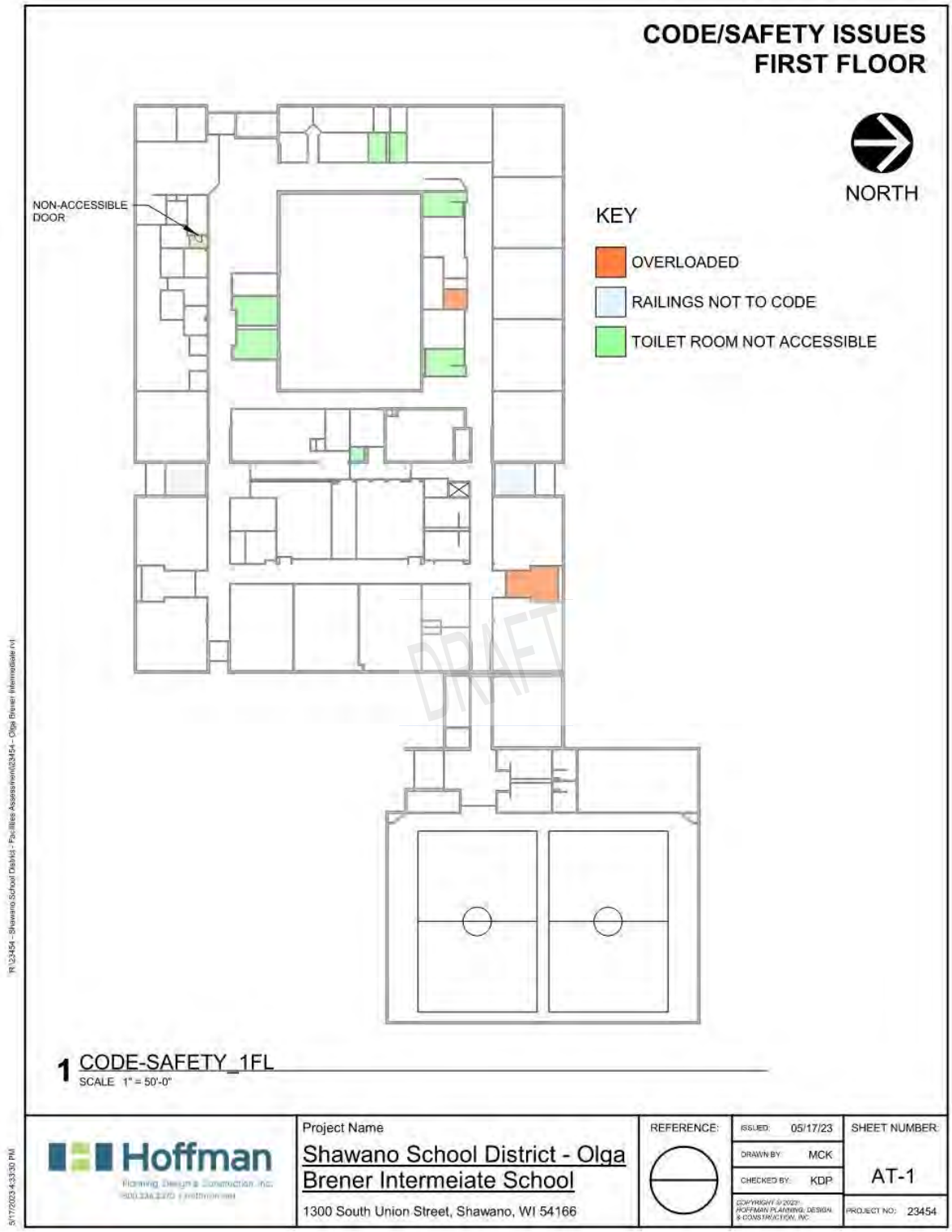

DOOR HARDWARE REPLACEMENT
FIRST FLOOR
NORTH
KEY
REPLACE HARDWARE
TOTAL NO. OF HARDWARE SETS TO REPLACE: 17
DRAFT
1 HARDWARE_1FL
SCALE 1" = 50'-0"
Hoffman
Planning, Design & Construction, Inc.
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Shawano School District - Olga Brener Intermeiate School
1300 South Union Street, Shawano, WI 54166
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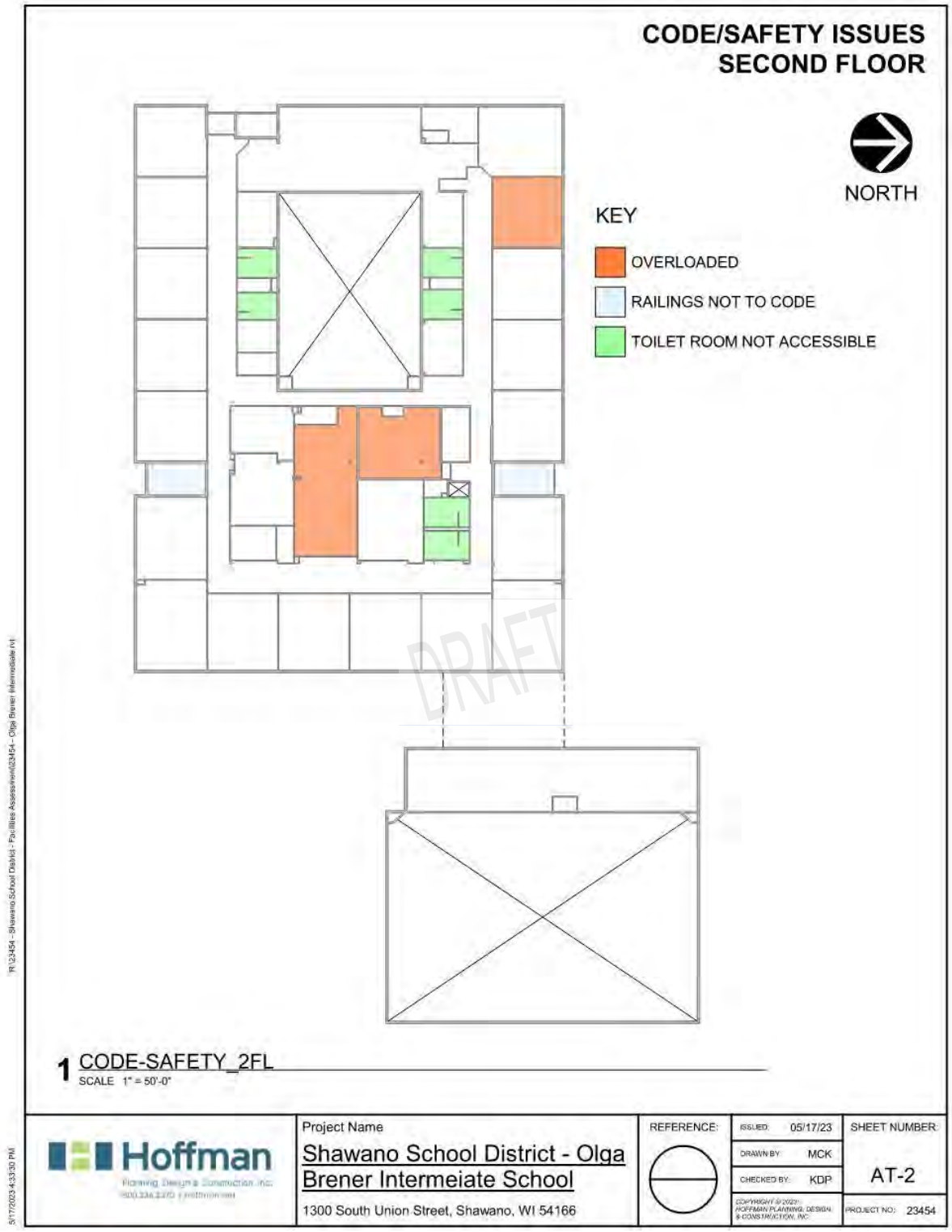

WALL FINISH UPDATES
FIRST FLOOR
NORTH
KEY
PATCH / REPAIR WALL
DRAFT
1 WALLS_1FL
SCALE 1" = 50'-0"
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CHECKED BY: KDP
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PROJECT NO: 23454


WALL FINISH UPDATES
SECOND FLOOR
NORTH
KEY
PATCH / REPAIR WALL
DRAFT
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SCALE 1" = 50'-0"
Hoffman
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Shawano School District - Olga Brener Intermeiate School
1300 South Union Street, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
DRAWN BY: MCK
CHECKED BY: KDP
SHEET NUMBER:
AL-2
PROJECT NO.: 23454


CASEWORK UPDATES
FIRST FLOOR
NORTH
12 LN. FT.
KEY
REPLACE CASEWORK
TOTAL LN. FT. TO REPLACE: 12
DRAFT
1 CASEWORK_1FL
SCALE 1" = 50'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Olga Brener Intermeiate School
1300 South Union Street, Shawano, WI 54166
REFERENCE:
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SHEET NUMBER
AS-1
PROJECT NO: 23454


CASEWORK UPDATES
SECOND FLOOR
NORTH
KEY
ADD SINK PLUMBING COVERS
REPLACE CASEWORK
TOTAL LN. FT. TO REPLACE: 120
10 LN. FT.
80 LN. FT.
10 LN. FT.
DRAFT
1 CASEWORK_2FL
SCALE 1" = 50'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Olga Brener Intermeiate School
1300 South Union Street, Shawano, WI 54166
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SHEET NUMBER:
AS-2
PROJECT NO.: 23454


CODE/SAFETY ISSUES
FIRST FLOOR
NORTH
NON-ACCESSIBLE DOOR
KEY
OVERLOADED
RAILINGS NOT TO CODE
TOILET ROOM NOT ACCESSIBLE
DRAFT
1 CODE-SAFETY_1FL
SCALE 1" = 50'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
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REFERENCE:
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SHEET NUMBER
AT-1
PROJECT NO: 23454


CODE/SAFETY ISSUES
SECOND FLOOR
NORTH
KEY
OVERLOADED
RAILINGS NOT TO CODE
TOILET ROOM NOT ACCESSIBLE
DRAFT
1 CODE-SAFETY_2FL
SCALE 1" = 50'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
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1300 South Union Street, Shawano, WI 54166
REFERENCE:
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AT-2
PROJECT NO: 23454



ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
100	OFFICE			REPLACE FLOORING					
101	COMMONS								
101.1	COMMONS	REPLACE CEILING							
101.1	OFFICE	REPLACE CEILING					REPLACE CASEWORK		
101.2	COMMONS	REPLACE CEILING							
102	STUDENT SERVICES								
103	STAFF ROOM								
104	KITCHEN								
105	THIRD GRADE RESOURCE	REPLACE CEILING							
106	THIRD GRADE	REPLACE CEILING							
107	THIRD GRADE STORAGE								
108	THIRD GRADE	REPLACE CEILING							
109	THIRD GRADE	REPLACE CEILING							
110	OT/PT/SENSORY	REPLACE CEILING		REPLACE FLOORING					
111	OFFICE	REPLACE CEILING							
112	OFFICE	REPLACE CEILING							
113	THIRD GRADE								
114	CD	REPLACE CEILING							
115	THIRD GRADE	REPLACE CEILING							
116	SPEECH	REPLACE CEILING							
117	SPEECH	REPLACE CEILING							
118	MAINTENANCE				REPLACE HARDWARE				

DRAFT

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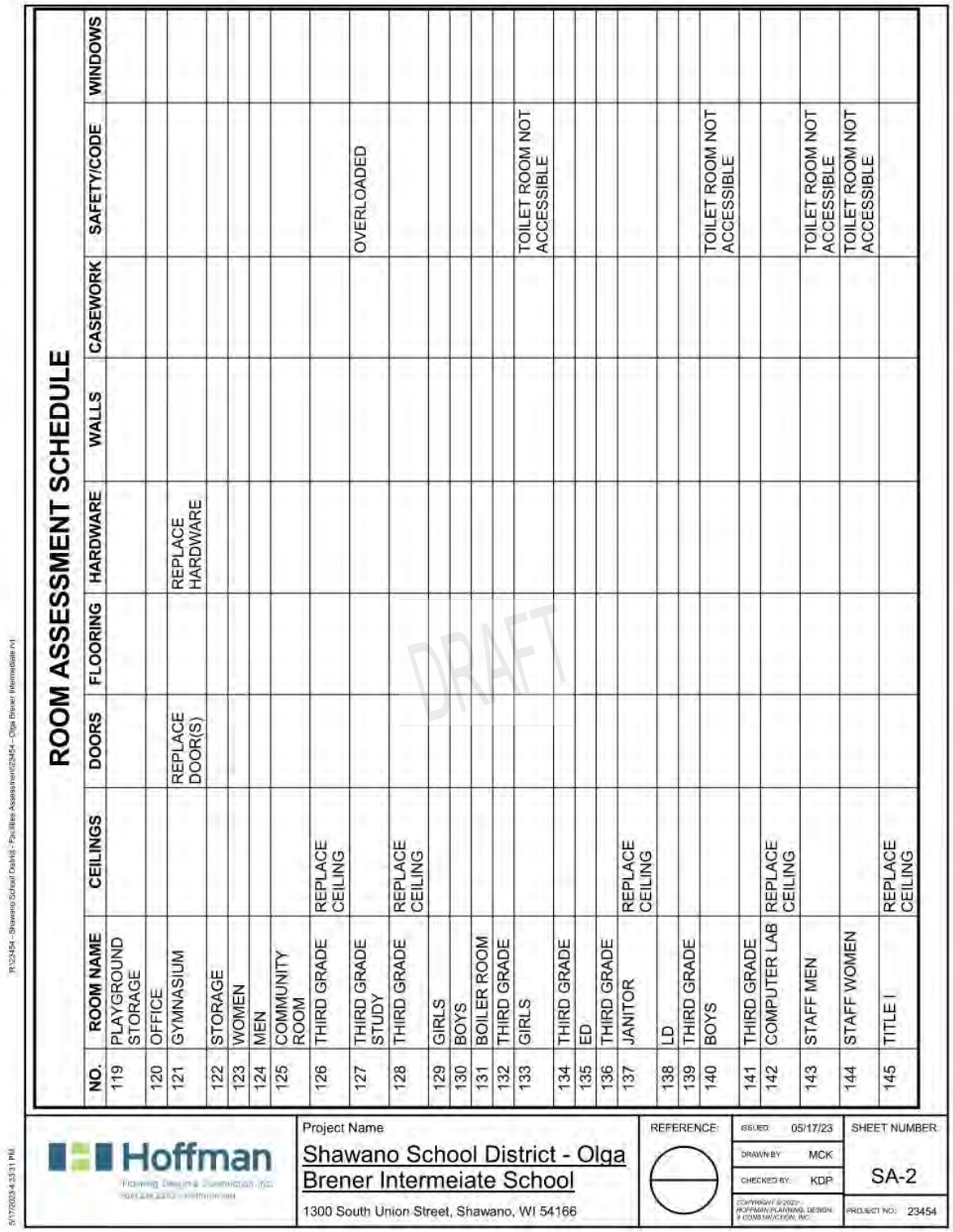
Project Name
Shawano School District - Olga Brener Intermeiate School
1300 South Union Street, Shawano, WI 54166

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PROJECT NO.: 23454

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
119	PLAYGROUND STORAGE								
120	OFFICE								
121	GYMNASIUM		REPLACE DOOR(S)		REPLACE HARDWARE				
122	STORAGE								
123	WOMEN								
124	MEN								
125	COMMUNITY ROOM								
126	THIRD GRADE	REPLACE CEILING							
127	THIRD GRADE STUDY							OVERLOADED	
128	THIRD GRADE	REPLACE CEILING							
129	GIRLS								
130	BOYS								
131	BOILER ROOM								
132	THIRD GRADE								
133	GIRLS							TOILET ROOM NOT ACCESSIBLE	
134	THIRD GRADE								
135	ED								
136	THIRD GRADE								
137	JANITOR	REPLACE CEILING							
138	LD								
139	THIRD GRADE								
140	BOYS							TOILET ROOM NOT ACCESSIBLE	
141	THIRD GRADE								
142	COMPUTER LAB	REPLACE CEILING							
143	STAFF MEN							TOILET ROOM NOT ACCESSIBLE	
144	STAFF WOMEN							TOILET ROOM NOT ACCESSIBLE	
145	TITLE I	REPLACE CEILING							

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
146	TITLE I	REPLACE CEILING							
147	TEST OFFICE	REPLACE CEILING							
148	COACH OFFICE	REPLACE CEILING							
149	JANITOR			REPLACE FLOORING					
150	BOYS							TOILET ROOM NOT ACCESSIBLE	
151	GIRLS							TOILET ROOM NOT ACCESSIBLE	
152	VEST.				REPLACE HARDWARE				
153	STAIR NO. 1								
154	LOBBY								
155	PRINCIPAL								
156	CONF.								
157	SICK ROOM								
158	TOILET		REPLACE DOOR(S)		REPLACE HARDWARE			TOILET ROOM NOT ACCESSIBLE	
159	NURSE								
160	WORK ROOM								
161	STORAGE			REPLACE FLOORING					
162	OFFICE								
163	OFFICE			REPLACE FLOORING					
164	OFFICE								
165	OFFICE								
166	STAFF TOILET								
167	STAFF TOILET								
168	SERVING AREA	REPLACE CEILING							
169	STAIR NO. 2							RAILINGS NOT TO CODE	
170	VESTIBULE								
171	JANITOR								
172	VEST.				REPLACE HARDWARE				
173	STORAGE								

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Project Name
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1300 South Union Street, Shawano, WI 54166

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
174	VESTIBULE	REPLACE CEILING							
175	GYM LOBBY	REPLACE CEILING							
176	WOMENS LOCKER SHOWER								
177	MENS LOCKER SHOWER								
178	STAIR NO. 3							RAILINGS NOT TO CODE	
179	VESTIBULE								
180	ELEV. EQUIP.								
181	ELEC.								
182	OFFICE	REPLACE CEILING		REPLACE FLOORING		PATCH / REPAIR WALL			
183	ADA TOILET								
184	STORAGE							OVERLOADED	
185	STORAGE	REPLACE CEILING							
186	STAIR NO. 4								
187	STOR.								
188	STOR.	REPLACE CEILING							
189	CORRIDOR								
190	CORRIDOR								
191	CORRIDOR	REPLACE CEILING							
192	CORRIDOR	REPLACE CEILING							
193	CORR.	REPLACE CEILING							
194	CORRIDOR	REPLACE CEILING							
194.1	CORRIDOR								
195	CORRIDOR								
196	CORRIDOR								
197	CORRIDOR								

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Project Name
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1300 South Union Street, Shawano, WI 54166

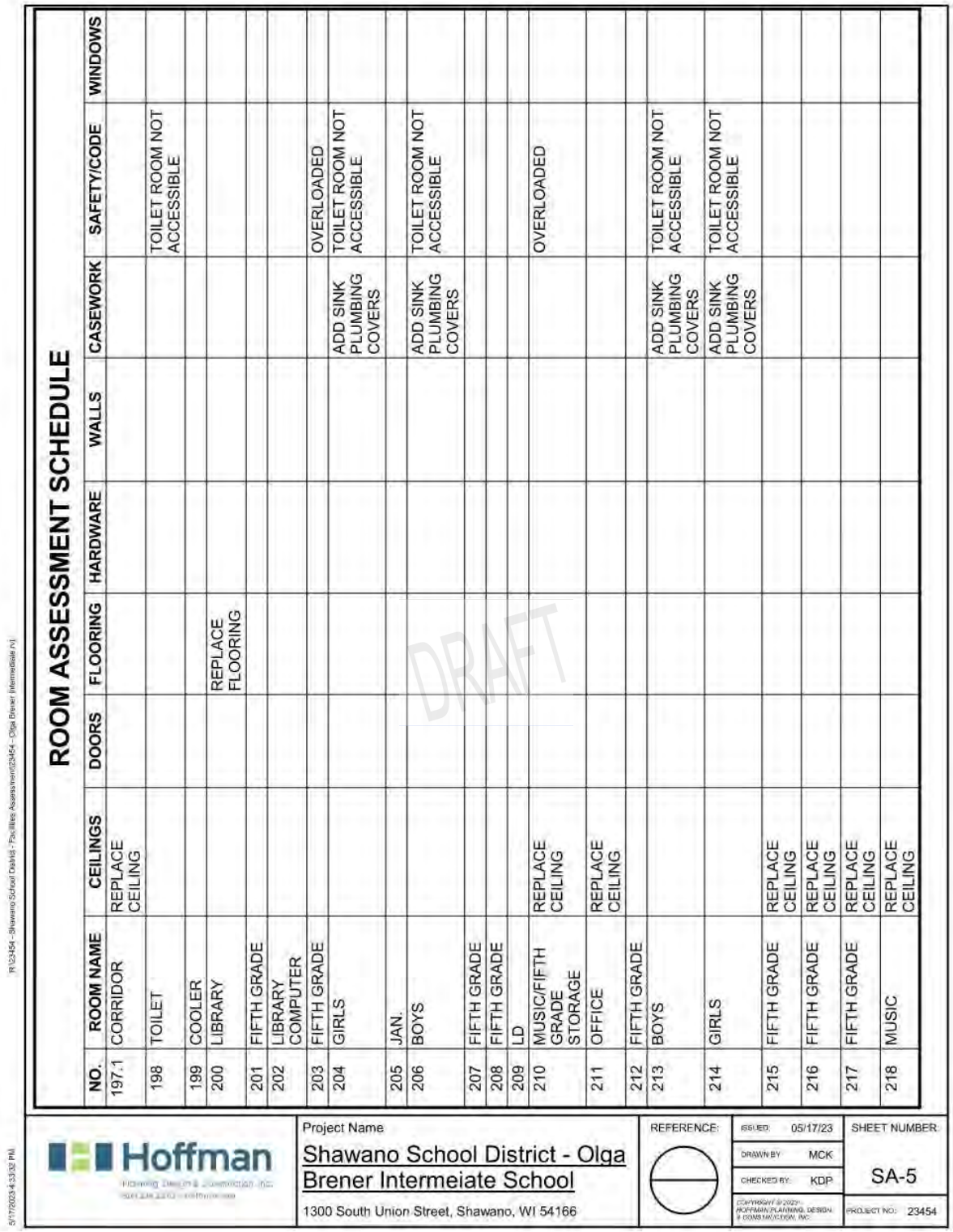
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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
197.1	CORRIDOR	REPLACE CEILING							
198	TOILET							TOILET ROOM NOT ACCESSIBLE	
199	COOLER								
200	LIBRARY			REPLACE FLOORING					
201	FIFTH GRADE								
202	LIBRARY COMPUTER								
203	FIFTH GRADE							OVERLOADED	
204	GIRLS						ADD SINK PLUMBING COVERS	TOILET ROOM NOT ACCESSIBLE	
205	JAN.								
206	BOYS						ADD SINK PLUMBING COVERS	TOILET ROOM NOT ACCESSIBLE	
207	FIFTH GRADE								
208	FIFTH GRADE								
209	LD								
210	MUSIC/FIFTH GRADE STORAGE	REPLACE CEILING						OVERLOADED	
211	OFFICE	REPLACE CEILING							
212	FIFTH GRADE								
213	BOYS						ADD SINK PLUMBING COVERS	TOILET ROOM NOT ACCESSIBLE	
214	GIRLS						ADD SINK PLUMBING COVERS	TOILET ROOM NOT ACCESSIBLE	
215	FIFTH GRADE	REPLACE CEILING							
216	FIFTH GRADE	REPLACE CEILING							
217	FIFTH GRADE	REPLACE CEILING							
218	MUSIC	REPLACE CEILING							

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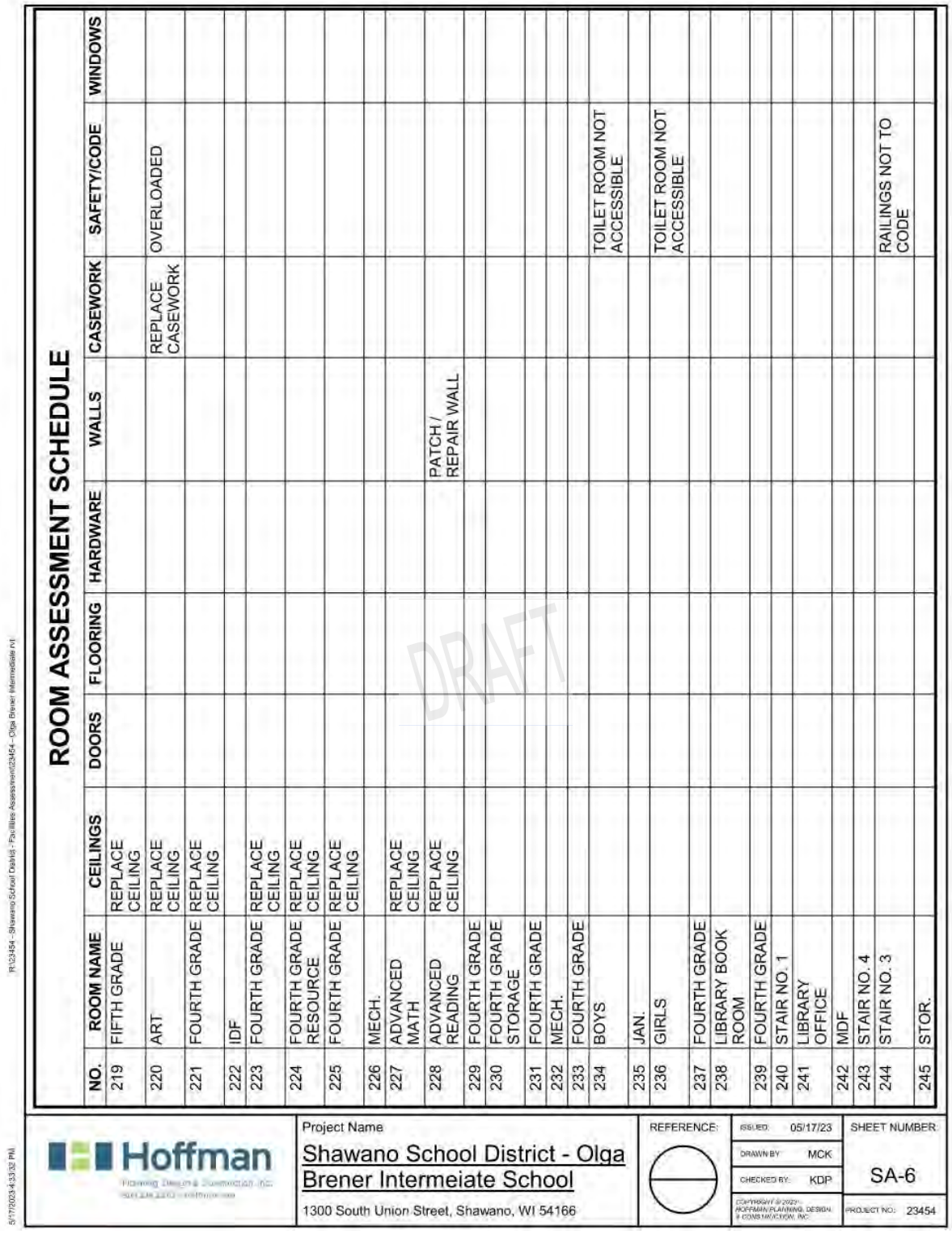
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1300 South Union Street, Shawano, WI 54166

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
219	FIFTH GRADE	REPLACE CEILING							
220	ART	REPLACE CEILING					REPLACE CASEWORK	OVERLOADED	
221	FOURTH GRADE	REPLACE CEILING							
222	IDF								
223	FOURTH GRADE	REPLACE CEILING							
224	FOURTH GRADE RESOURCE	REPLACE CEILING							
225	FOURTH GRADE	REPLACE CEILING							
226	MECH.								
227	ADVANCED MATH	REPLACE CEILING							
228	ADVANCED READING	REPLACE CEILING				PATCH / REPAIR WALL			
229	FOURTH GRADE								
230	FOURTH GRADE STORAGE								
231	FOURTH GRADE								
232	MECH.								
233	FOURTH GRADE								
234	BOYS							TOILET ROOM NOT ACCESSIBLE	
235	JAN.								
236	GIRLS							TOILET ROOM NOT ACCESSIBLE	
237	FOURTH GRADE								
238	LIBRARY BOOK ROOM								
239	FOURTH GRADE								
240	STAIR NO. 1								
241	LIBRARY OFFICE								
242	MDF								
243	STAIR NO. 4								
244	STAIR NO. 3							RAILINGS NOT TO CODE	
245	STOR.								

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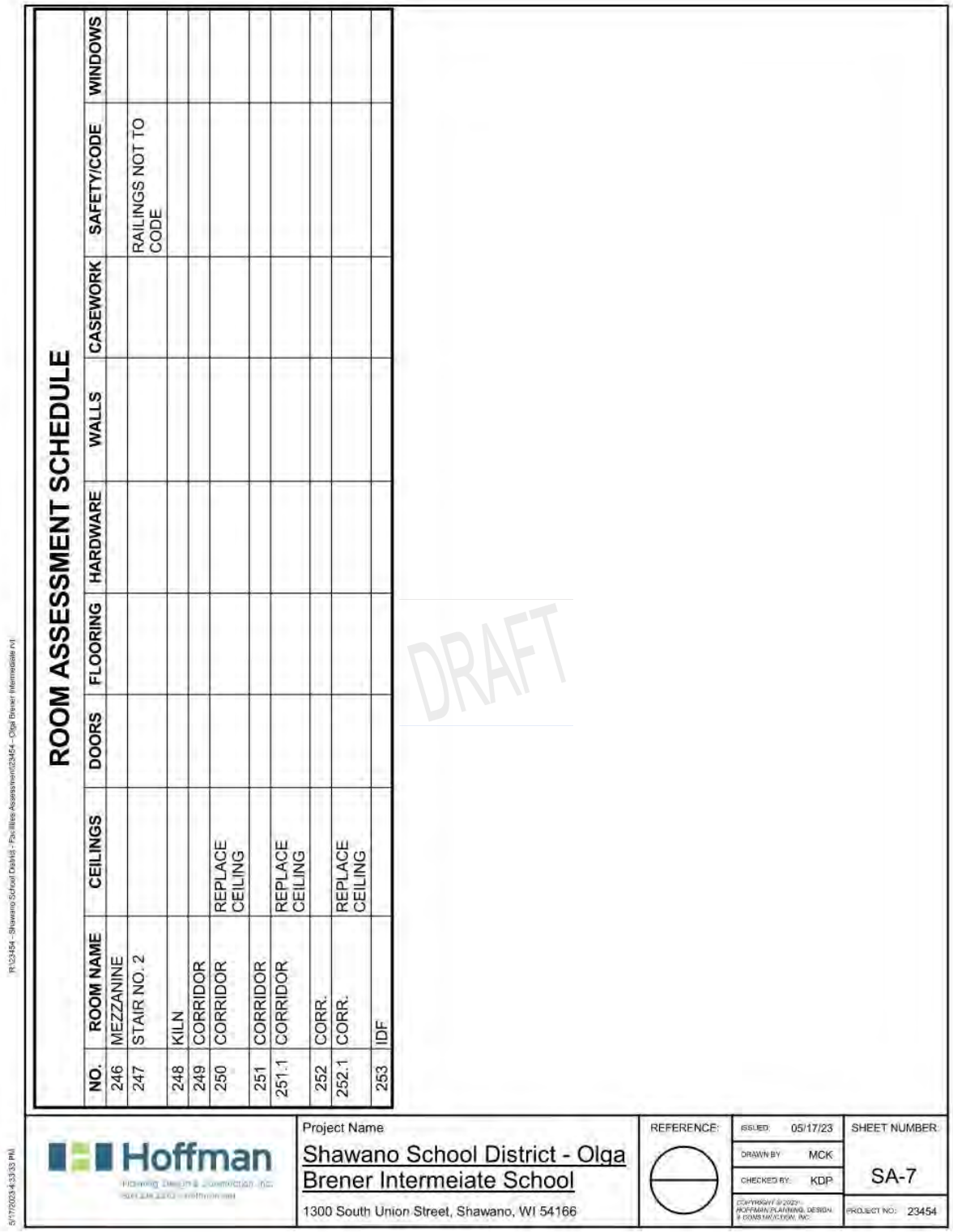
Project Name
Shawano School District - Olga Brener Intermeiate School
1300 South Union Street, Shawano, WI 54166

REFERENCE:

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SA-6
PROJECT NO.: 23454

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
246	MEZZANINE								
247	STAIR NO. 2							RAILINGS NOT TO CODE	
248	KILN								
249	CORRIDOR								
250	CORRIDOR	REPLACE CEILING							
251	CORRIDOR								
251.1	CORRIDOR	REPLACE CEILING							
252	CORR.								
252.1	CORR.	REPLACE CEILING							
253	IDF								

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Project Name
Shawano School District - Olga Brener Intermeiate School
1300 South Union Street, Shawano, WI 54166

REFERENCE:

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SHEET NUMBER: SA-7
PROJECT NO.: 23454

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Exterior Closure Systems

The following report is the result of a site visit by Mark C. Spielbauer of Hoffman PD&C that occurred on April 20 and May 9, 2023. Site observations, construction plan reviews, Owner furnished facility reports and interviews with staff were all used in the preparation of this report.

1954 Original Construction

The current building exteriors consist of the following:

- Running bond brick with 6th course headers
- Exposed concrete at storefront sills
- Exposed steel HSS sections at storefronts
- Painted metal panels

Entrance doors and frames at the front entrance are aluminum with insulated glazing and is not original to construction and appears to have been replaced as a part of the 2010 addition construction.

Storefront aluminum windows systems are original to construction and consist of operable units with screens and fixed glazing and spandrel panels. Sills are exposed concrete.

The roof is not original to construction and was reportedly replaced in 2006. Drawings for the 2010 addition suggest that the original roof was a built-up roof over tapered insulation.

There was no report of water infiltration related to the exterior walls. Owner personnel reported there is an ongoing leak in the area below one of the elevated AHU's.

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Observations

The existing roof is a Tremco white reinforced single-ply membrane over rigid insulation. Drainage is provided by internal roof drains. Some staining and fungal growth was noted at various locations. Pockets of standing water were also present. Overall the roofing was in fair condition.

There was debris present at several of the roof drains which are in recessed insulation sumps.

The steel framing at AHU's is corroded.

Gas lines across the roofs were corroded.

Gravel stop and fascia at the roof edges are aluminum and appeared to be in generally good condition.

The replaced aluminum entrance doors and storefront system at the main entrance is in good condition.



Corroded steel at AHU

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Metal panels at the entrance canopy are in good condition.

Brick is in generally good condition. There are areas throughout the building where it appears that HVAC grilles had been previously removed and infilled with brick. There are grilles that also appear to have been added since original construction as evidenced by replacement brick in those areas including the installation of a stainless steel flashing above the openings. No construction joints are present in the brick.

One of the storefront windows and adjacent grille were noted to be at or below grade at the west elevation.

The base of one of the steel HSS members at a west side storefront needs to be painted. Two areas of corroded steel are present at a south side door/storefront assembly.

Recommendations

- Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
- As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project.
- The white fully adhered roof is approximately 17 years old and would have an expected service life of 20 years. Owner should anticipate roof replacement for these areas in 3 – 5 years with regular inspections and maintenance. Address any issues found during the inspections.
- Clean, prime and paint corroded AHU steel and gas piping. Existing coatings should be tested prior to any work to determine if lead paints are present and handled accordingly.
- Review grades at the west side and adjust to provide some clearance to grade at the storefront and grille.
- Paint the HSS window and door members.

1992 Building Addition

The building addition was constructed along the east side of the original building according to drawings furnished by the Owner.

The current building exteriors consist of the following:

- Running bond brick with 6th course headers
- Exposed concrete

Entrance doors and frames are aluminum with insulated glazing.

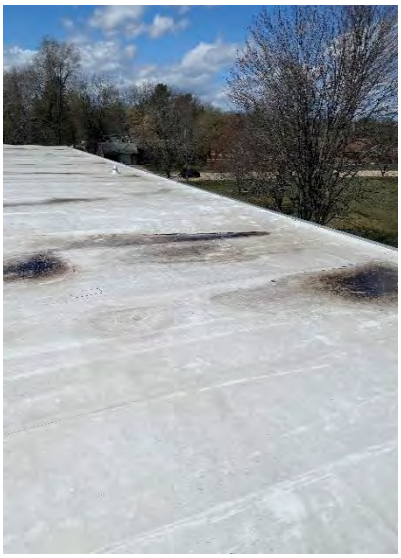
Storefront aluminum windows systems are original to construction and consist of operable units with screens and fixed glazing and spandrel panels. Sills and mullions are aluminum.

The roof is not original to construction and was reportedly replaced in 2006. Drawings for the 2010 addition suggest that the original roof was a fully adhered EPDM roof membrane over cellular insulation.

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There was no report of water infiltration related to the exterior walls and roofing.

Observations



Roof stains and standing water

- The existing roof is a Tremco white reinforced single-ply membrane over rigid insulation. Drainage is provided by internal roof drains. Some staining and fungal growth was noted at various locations. Pockets of standing water were also present. Overall the roofing was in fair condition.
- There was debris present at several of the roof drains which are in recessed insulation sumps.
- Brick is in generally good condition. There are areas throughout the building where it appears that HVAC grilles had been previously removed and infilled with brick. No construction joints are present in the brick.
- The south brick enclosure wall at the gas meter is in poor condition with no cap present at the top of the wall.
- Gas lines across the roof are corroded.
- Gravel stop and fascia at the roof edges are aluminum and appeared to be in generally good condition. One section of fascia appeared to be disengaged from the cleat at the east edge.
- Aluminum storefront systems and frames are in generally good condition with some operable windows noted to be missing screens.

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Recommendations

- Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
- As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project.
- The white fully adhered roof is approximately 17 years old and would have an expected service life of 20 years. Owner should anticipate roof replacement for these areas in 3 – 5 years with regular inspections and maintenance. Address any issues found during the inspections.
- Clean, prime and paint corroded AHU steel and gas piping. Existing coatings should be tested prior to any work to determine if lead paints are present and handled accordingly.
- Verify and re-engage east side fascia lower edge into the cleat if required.
- The brick enclosure wall at the gas meter should be replaced with a cap that included a thru-wall flashing.

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2010 Building Addition

The building addition was constructed along the northeast corner of the 1992 addition according to drawings furnished by the Owner.

The current building exteriors consist of the following:

- Running bond brick
- Aggregate faced precast concrete wall panels
- Exposed concrete

Entrance doors and frames are aluminum with insulated glazing and are original to construction.

Service doors and frames are hollow metal.

Windows are fixed aluminum units with insulated glazing with painted steel trim at the perimeter of the opening.

Roofs for the addition include area #2 at 1,400 square feet and area #3 at 14,900 square feet. Roofs are original to construction and are still under warranty per Owner information.

There was no report of water infiltration related to the exterior walls and roofing.

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Observations

The existing roof is a stone ballasted single-ply EPDM membrane over rigid insulation. Drainage is provided by internal roof drains. Overflow relief was provided by relief drains with piping through exterior walls. Overall the roofs are in good condition. An area of missing ballast was present adjacent to a pipe curb on the lower roof. Some scour or isolated area of missing/displaced ballast was noted at several locations.

There was debris present at several of the roof drains which are in recessed insulation sumps.

Gravel stop and fascia at the roof edges are aluminum and appeared to be in generally good condition.

A SS band was not installed at a stack vent at roof area #3.

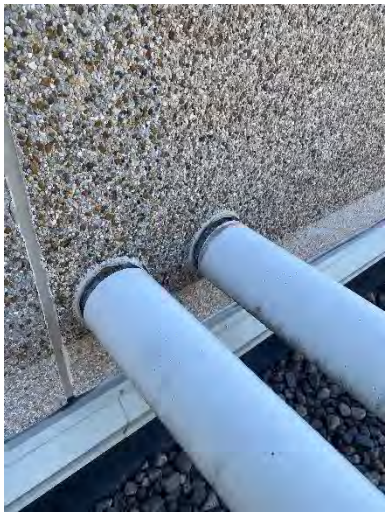
At the lower roof, the east ends of the two pipes were open where they pass through the precast concrete wall panels.

Some corrosion was noted on the west access ladder.

Precast panels appeared to be in good condition. The sealant in a joint between the precast and adjacent brick at the north elevation is failing.

Windows are in good condition. The metal framing has some corrosion and peeling paint and is in fair condition.

Brick in the area of the south elevation entrance is in good condition.



Open pipes at precast panel

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Hollow metal doors and frames range from good to failed with corrosion and complete section loss at one of the east elevation doors.

The aluminum insulation cover at the chiller pipes that penetrate the precast wall panel at the north elevation is damaged a space present where the pipe penetrates the panel.



Door corroded thru panel

Recommendations

- Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
- As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project.
- EPDM ballasted and fully adhered roofs are approximately 14 years old and would have an expected service life of 20 – 25 years. Owner should anticipate roof replacement for these areas in 6 – 11 years with regular inspections and maintenance. Address any issues found during the inspections.
- Clean, prime and paint corroded ladder steel and window openings. Existing coatings should be tested prior to any work to determine if lead paints are present and handled accordingly.
- Address the wall openings at the two pipes.
- Restore areas of missing roof ballast.
- Stack vent boots should have a SS band installed to secure the top of the boot and sealant added if required.
- Replace failed HM doors and address corroded frames.
- Replace the damaged chiller piping insulation and cover. Reseal the penetration at the precast panel.
- Replace failed sealants where noted.

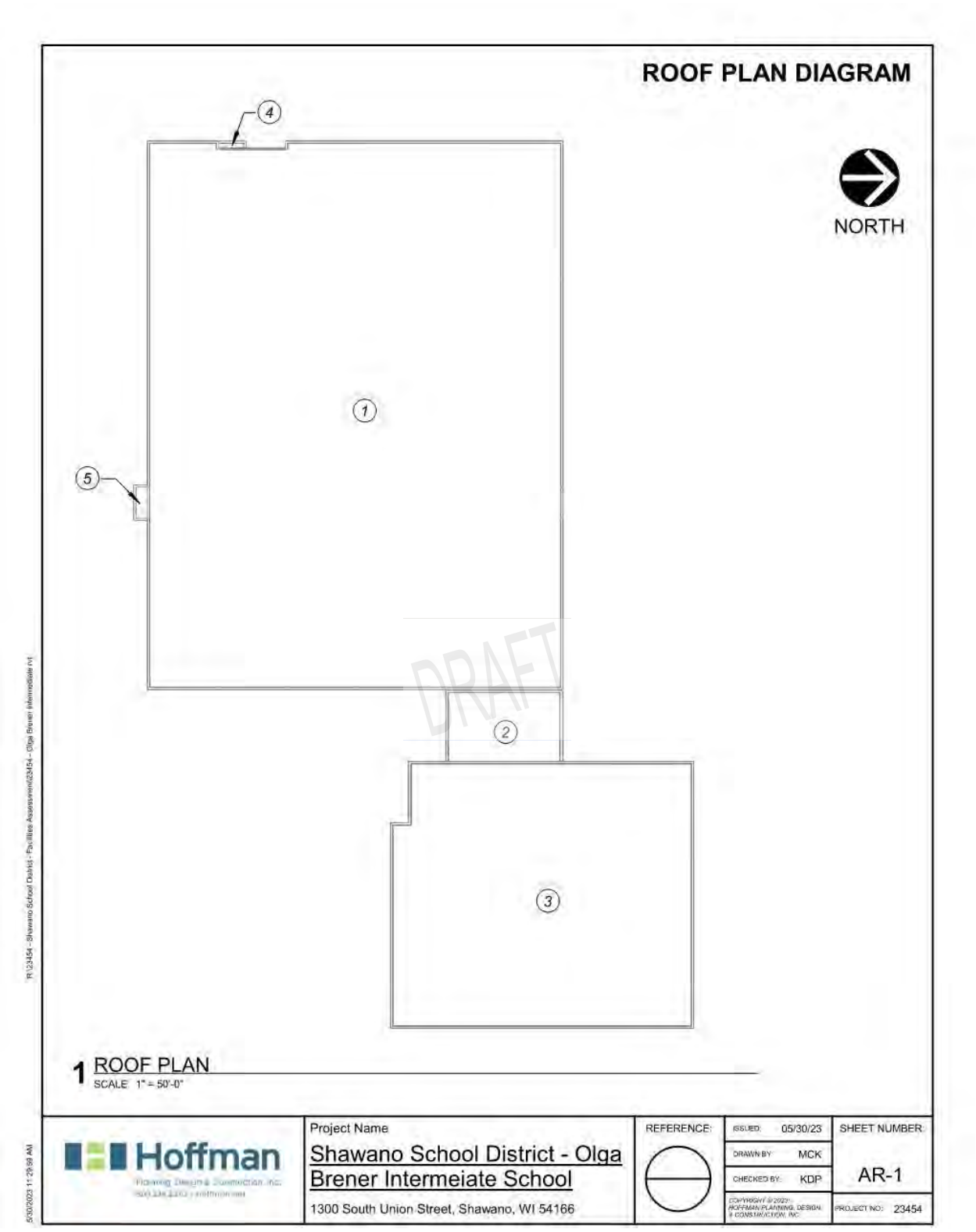
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Roof Summary

Roof No.	Roof Type	Roof Area	Installed	Age	Warranty	Service Life
1	Tremco fully adhered SPM	44,000	2006	17	Expired	3-5
2	Ballasted EPDM	1,400	2009	14	2029	6-11
3	Ballasted EPDM	14,900	2009	14	2029	6-11
4	Fully adhered EPDM	400	20092009*	14	2029	6-11

* Assumed installed with 2009 construction

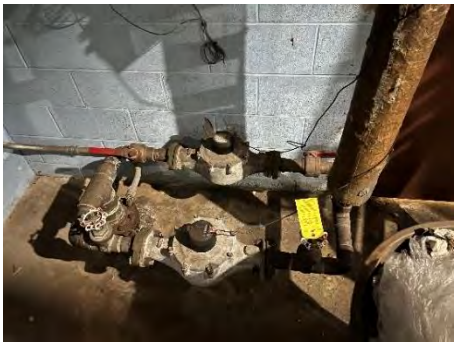
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ROOF PLAN DIAGRAM
NORTH
1
2
3
4
5
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1 ROOF PLAN
SCALE: 1" = 50'-0"
Hoffman
Project Name
Shawano School District - Olga Brener Intermeiate School
1300 South Union Street, Shawano, WI 54166
REFERENCE:
ISSUED: 05/30/23
DRAWN BY: MCK
CHECKED BY: KDP
SHEET NUMBER
AR-1
PROJECT NO.: 23454

Plumbing Systems

Domestic Water and Natural Gas

Observations



Water Service Entrance

The building is served by a 4" domestic water service, with two parallel water meters located in Mechanical 131. The domestic water supply pipe is copper. There is no report by facility of problems with water piping or leaks. The staff break room sink is reported to take 4+ minutes to deliver hot water, and maintenance currently arrives to the building early to run hot water at the fixture prior to teachers arriving for the day. Concerns were also reported regarding water supply pipes freezing due to their location in exterior building walls. One such location was reviewed, and it was discovered the pipes are not insulated in the wall chase.

The natural gas meter is located outside the building, adjacent to Entry Vestibule 170 on the south side of the building. The natural gas enters the building at the storage room, and serves domestic water heaters and food service equipment. The natural gas pipe is steel with threaded connections.

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Recommendations

- Most of the existing piping was installed in 2009, and is in reasonable condition. Backflow prevention devices shall be tested and inspected annually. Check isolation valves for corrosion and exercise semi-annually.
- The water supply piping serving the staff break room should be reviewed, and additional hot water recirculation pipe should be provided to reduce the time it takes to deliver hot water to the fixture.
- Fiberglass pipe insulation should be added to water supply pipe located in exterior walls.

Sanitary Drain and Vent

Observations

The sanitary drain systems are service weight cast iron soil pipe with hub and spigot fittings. The sanitary vent systems are galvanized steel with threaded joints and fittings. The building is served by two sewer laterals: a 6" sanitary sewer collects the west half of the building and discharges to the west near Stair 153, and a 4" sanitary sewer collects the east half of the building and discharges to the south near Storage 107. There is a grease interceptor adjacent to the gas meter. There is no report by facility of problems with slow drainage, and the last reported sewer backup was in 2017.

Recommendations

The existing piping was installed in 2009, and is in reasonable condition. The kitchen drain piping is susceptible to grease build-up and clogs from food waste, and should be

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inspected annually to ensure it is free flowing. The grease interceptor should be inspected on an annual basis for signs of damage or leaks.

Storm Drain

Observations

The storm drain is Schedule 40 PVC pipe with solvent welded fittings. The building is served by three storm sewer laterals: a 10" storm sewer collects the west third of the building and discharges to the west near Office 146, a 10" storm sewer collects the center third of the building and discharges to the south near Storage 107, and an 8" storm sewer collects the east third of the building and discharges to the south near Entry Vestibule 118.

Recommendations

The existing storm piping to remain in place. Recommend ongoing maintenance with inspections of existing storm roof drains and conductors to be clear of debris and checking for potential roof leaks at roof drain pans. Any new roof replacements shall evaluate the roof drain pans for any corrosion for potential leaks.

Plumbing Fixtures

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Observations



Non-accessible lavatory



Multiple Flush Valve Styles

Many plumbing fixtures were replaced during the 2009 renovation, but most toilet room fixtures were not replaced at that time. Many fixtures have required repair and/or replacement since that time, and the replacement parts for the older fixtures do not match what was installed for the newer fixtures. All water closets are wall hung. Fixtures installed in the 2009 addition are 1.28 gallons per flush; in the rest of the building they are 1.6 gallons per flush. Flush valves are a mixture of manual and battery operated sensor, piston type and diaphragm type, with multiple manufacturers represented. All urinals are wall hung. Fixtures installed in the 2009 addition are 0.125 gallons per flush; in the rest of the building they are 1.0 gallons per flush. Flush valves have the same blend of make and model as the water closet flush valves. Multi-station wash fountains are provided with manual soap dispenser and sensor operated handwash stations in the 2009 addition. In the rest of the building, vitreous china drop-in lavatories are provided. Lavatory faucets are a mixture of sensor and manual operation, with a variety of different handle styles and manufacturers represented. Some lavatory faucets are not accessible fixtures. Classroom and break room sinks are stainless steel drop-in with manual gooseneck

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faucets. Sinks in classrooms include drinking fountain spout. Several sink faucets show evidence of corrosion.



Typical Water Closet



Corroded Sink Faucet

Recommendations

- Plumbing fixtures in need of repair and non-accessible lavatory faucets should be replaced as soon as funds become available. Lavatory faucets should be 0.5 gpm flow rate gooseneck faucets with wristblade handles.
- Plaster traps should be added to the art room sinks as funds become available.
- The next major renovation project should replace plumbing fixtures throughout with fixtures of the same make and model.
    - Water closets should be wall hung, 1.28 gallons per flush, with manual diaphragm type flush valves.
    - Urinals should be wall hung, 0.125 gallons per flush, with manual diaphragm type flush valves.
    - Lavatories should be replaced with multi-station wash fountains where space allows, to match the 2009 addition. Where space constraints require individual lavatories, they should be vitreous china, drop-in style with 0.5 gpm flow rate gooseneck faucets with wristblade handles. In both cases, an ASSE 1070 thermostatic mixing valve should be provided on the hot water supply and set to 105°F supply temperature.

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Plumbing Equipment

Observations

There are two water heating systems that serve the building. The west half of the building is served by two tank type, natural draft, natural gas-fired water heaters located in Mechanical 131. One water heater was installed in 2016, has 50 gallons of storage capacity, and is rated for 38 MBH at standard efficiency. One water was installed in 2020, has 50 gallons of storage capacity, and is rated for 40 MBH at standard efficiency. There are no temperature gauges installed to determine the supply temperature of the hot water. The AO Smith model is set to approximately level “C”, which is above the manufacturer recommended “Hot” setting and is approaching the equipment’s maximum 155°F supply temperature. One in-line pump circulated water

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thru the hot water supply system and back to the water heaters. Both water heaters are served by a water softener installed in 2006, with one resin tank and one brine tank.

The east half of the building is served by one tank type, electric water heater located in Janitor 171 and installed in 2017. It is set to generate hot water at 110°F, and a thermostatic mixing valve reduces the temperature to 100°F before distributing to the rest of the building. One in-line pump circulates water thru the hot water supply system and back to the water heaters, and is set to run when the return water temperature is below 115°F.



Gas-Fired Water Heaters



Electric Water Heater

Recommendations

- Water supply temperatures above 125°F present a risk of severe burns from scalding. Children and the disabled are at higher risk of scalding than the typical adult. The water supply temperature should be immediately verified, and lowered to no more than 120°F. Temperature gauges should be installed in the hot water supply pipe to monitor hot water temperature. An ASSE 1016 thermostatic mixing valve should be installed on the hot water supply system and should be set to 120°F. Once the thermostatic mixing valve is installed, the storage temperature of the water heaters can be increased to 140°F to increase the total capacity of the system.
- The electric water heater should be adjusted to generate hot water at 140°F, the thermostatic mixing valve should be adjusted to deliver hot water at 110°F, and the return pump should be set to run below 105°F.
- The 2016 gas-fired water heater has evidence of corrosion, and should be replaced in the next major renovation project.
- The district should consider removing all three water heaters and replacing them with two new high efficiency, natural gas-fired, tank type water heaters located in Mechanical 131. The gas-fired water heaters should generate hot water at 140°F, a thermostatic mixing valve should reduce the temperature to 120°F for distribution, and a hot water return pump should be set to run when temperature falls below 110°F.

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Fire Protection Systems



Fire Riser

Observations

The 2009 building addition is served by 6" fire service and a 4" backflow prevention device located in Storage 122. The fire sprinkler piping is black steel with grooved joint fittings. There is one fire sprinkler zone.

Recommendations

- The fire sprinkler backflow prevention device should be inspected and tested on an annual basis. The other fire sprinkler devices and systems should be tested according to NFPA 25 Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.
- Maintain a clear path of travel from the exterior doors of Storage 122 to the fire sprinkler devices, for fire department access and use in case of emergency.
- The district should consider extending fire sprinkler systems to the remainder of the building during the next major renovation project. It may be required by code, depending on the extent of renovations. The existing fire service has adequate capacity to serve the rest of the building. The existing backflow prevention device and riser assembly will be modified to add additional fire sprinkler zones.

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HVAC Systems

The following report is the result of a site visit by Jason Testin of Fredericksen Engineering that occurred on April 20, 2023. Site observations, construction plan review, and interviews with staff were all used in the preparation of this report.

Heating System

Existing Data

A single boiler plant serves the building. The boiler plant consists of three boilers: two Kewanee boilers and one Burnham boiler. Each hot water boiler is fired with natural gas. The Kewanee boilers have a capacity of 2,050 mbh output and the Burnham boiler has a capacity of 1,945 mbh output. Each boiler is served by a boiler pump, installed in 2009. The Kewanee boilers were installed in 1967 and the Burnham boiler was installed in 1991. The pumping system consists of a single circuit with a stand-by pump. If the primary pump fails, the secondary (stand-by pump) will provide hot water circulation to the system. The pumps were installed in 2000.

Observations

According to information obtained by the Owner, the boiler plants have no reserve capacity at this point, as all boilers are brought online during periods of colder weather.

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The boilers are in fair condition but have exceeded the estimated life expectancy of 20 years. The Owner indicated one of the Kewanee boilers has been rebuilt due to rust and the second boiler is showing the same signs.

The pumps are in fair condition and have an estimated life expectancy of 20 years.

Insulation at most piping is of adequate thickness and in fair condition.

The Owner has indicated that there are no current concerns or issues with the heating supply system.

Recommendations

- Continue preventative maintenance on the system.
- Any future additions or construction may require the addition of boiler capacity to serve the additional spaces.
- Plans should be made to replace the three boilers.

Ventilation and Air Conditioning Systems

Existing Data

Air conditioning is provided to the facility by an air cooled chiller and multiple packaged DX unit ventilators.

The air cooled chiller has a capacity of 83 tons and utilizes a 35% propylene glycol solution. A primary/secondary pumping arrangement is utilized.

The gym is served by a SZCV air handling unit. The unit consists of a supply fan, hot water heating coil, chilled water cooling coil,

The main gym is served by two SZCV air handling units. Each unit has a supply fan, hot water preheat coil and chilled water cooling coil, hot water reheat coil, energy recovery wheel and exhaust fan.

The community room, gym lobby and maintenance are served by a VAV air handling unit. The unit consists of a supply fan, hot water heating coil and chilled water cooling coil. Hot water VAV boxes are installed in the ductwork to provide individual temperature control.

Two rooftop make up air units provide the make up air for the toilet exhaust. Each unit consists of a supply fan, gas fired heating section and packaged DX cooling section.

The commons are served by a SZCV air handling unit. The unit consists of a supply fan, hot water heating coil and chilled water cooling coil.

The art, music and surrounding interior classrooms are served by a VAV air handling unit. The unit consists of a supply fan, DX cooling coil, remote mounted condensing unit and hot water heating coil. Hot water VAV boxes are installed in the ductwork to provide individual temperature control.

The office area is served by a SZCV fan coil unit. The unit consists of a supply fan, hot water heating coil DX cooling coil and remote mounted condensing unit.

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The Title 1 area rooms and LD area rooms are served by two SZCV fan coil units. Each unit consists of a supply fan, hot water heating coil, DX cooling coil and remote mounted condensing unit.

The remaining classroom and main office reception are served by vertical unit ventilators. Each unit ventilator consists of a supply fan, hot water heating coil and packaged DX cooling section.

The principal office and adjacent office are served by unit ventilators. Each unit ventilator consists of a supply fan and hot water heating coil.

Observations

- The air cooled chiller was installed in 2009 and is in good condition. The unit has an estimated life expectancy of 20 years.
- The pumps serving the chiller were installed in 2009 and are in fair condition. The units have an estimated life expectancy of 20 years.
- The air handling units serving the gym, community room, gym lobby and maintenance were installed in 2009 and are in good condition. The units have an estimated life expectancy of 25 years.
- The rooftop units providing the make up air for the toilets were installed in 2009 and are in fair condition. The units have an estimated life expectancy of 15 years.
- The air handling unit serving the commons is original to the building and in poor condition. Insulation for the ductwork has failed. The unit has exceeded the estimated life expectancy of 25 years.
- The air handling unit serving the art and music area is original to the building and in poor condition. The unit has exceeded the estimated life expectancy of 25 years.
- The fan coil units serving the office and LD areas were installed in 2009 and are in fair condition. The units have an estimated life expectancy of 15 years.
- The fan coil unit serving the Tittle 1 area is original to the building and is in poor condition. The unit has exceeded the estimated life expectancy of 15 years.
- The vertical unit ventilators were installed in 2009 and are in fair condition. The owner indicated that many of the hot water coil actuators have begun to fail in the units. The units have an estimated life expectancy of 20 years.
- The unit ventilators serving the principal office are original to the building and in fair condition. The units have an estimated life expectancy of 20 years.
- The owner indicated that many of the roof exhaust fans have failed over the years. They are repaired each one as they fail. Currently, two of the fans are currently not operational.
- Door transfer grilles are currently utilized to transfer relief air from the classrooms to the corridor.

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- The Owner noted the kitchen freezer condensing unit is not located in an ideal location as it tends to get very warm.

Recommendations

- Continue preventative maintenance on the systems.
- Plans should be made for the replacement of the air handling units serving the commons and art/music areas.
- Plans should be made for the replacement of the fan coil unit serving Title 1.
- Plans should be made for the replacement of the unit ventilators serving the principal office and adjacent office.
- Plans should be made to replace the roof exhaust fans with direct drive fans.
- With any remodel or renovation, plans should be made to replace the door transfer grille relief system with a code approved system. The current building code does not allow transfer air into a path of emergency egress.
- Plans should be made to relocate the kitchen freezer condensing unit.



Original Building Service Transformer

Control Systems

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Existing Data

A Johnson Controls digital control system and a pneumatic control system serve the building.

The pneumatic control system serves the supplemental heating units.

Observations

The two control systems are in fair condition. However the limitations of the pneumatic system do result in comfort complaints. Pneumatic systems require frequent calibration to maintain accuracy. The newer digital controls are more accurate and more flexible. In addition, the industry has made such a complete changeover to digital controls that it is becoming difficult to find good pneumatic service technicians.

The Owner indicated they would like all four schools tied into the same control system.

Recommendations

- Continue to maintain and operate the pneumatic control system as long as the current mechanical equipment remains. When any renovations to the existing equipment are made, a changeover to digital controls is strongly recommended.
- Plans should be made to provide an open protocol, Tridium/Niagara N4 system at each school and tied together into the same control access program. With a new control system, plans should be made to commission the HVAC systems.

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Electrical Systems

Main Electrical Service

Observations

- The facility is served by two separate electrical services from Shawano Municipal Utilities. There is one service for the original building and another service for the Gym addition. Both services are located to the north of the building with the gym addition service being to the west of the respective gym addition. Both services are served via 300kVA pad mounted transformers and have exterior CT cabinets and utility metering.
- The original building service conductors travel underground to the boiler room and up into a 1968 Westinghouse, 2,000A 208Y/120V 3-phase, 4-wire switchboard. The switchboard has a 2,000A individually mounted main breaker section and a double row distribution section. Directly adjacent to the switchboard is a newer 1,200A enclosed circuit breaker labeled "MDP1" that appears to serve a Square D I-Line panelboard labeled "MDP2", MDP2 is located on the backside of the boiler room. Both MDP1 and MDP 2 appear to be in good condition and have been installed within the last 15 years.
- The gym addition service conductors travel underground and to the gym storage room and into the bottom of an 800A, 480Y/277V 3-phase, 4-wire Square D, I-Line distribution panelboard that was installed in 2009 and is equipped with an 800 main circuit breaker. This panelboard is in good condition.
- Surge protection is not present on either electrical service.



Gym Service Transformer



1968 Main Switchboard



Gym Main Panel

Recommendations

- Switchboard MDP1 is past its useful service life and replacement is recommended.
- A type 1 or type 2 surge protective device is recommended to be added to both of the electrical services to protect interior building electrical system from voltage transients.

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Panelboards



Westinghouse Panelboard

Observations

- There are a mix of different two different panel manufacturers troughout the building. Manufacturers that were found are Square D and Westinghouse. The Square D panels are approximately 13 years old and the Westinghouse panels appear to be original to the building.
- In general, there is a lack of additional circuit capacity on Westinghouse panels and 20% or greater spare capacity on the Square D panels.

Recommendations

- Replace Westinghouse panelboards. It is recommended that replacement panels be equipped with numerous additional spaces for future renovations or expansions due to higher electrical demands today compared to when these panels were originally installed.

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Emergency Systems



Emergency Panel

Observations

There is load center near the original building service that is powered via a tap ahead of the main breaker. This load center serves emergency lighting throughout the entire building as well as the fire alarm control panel power. Additionally, there are emergency battery units (EBUs) located throughout the building along the egress paths.



Classroom Lighting

Recommendations

Any work associated with the service shall consider replacement of the existing load center configuration and transition the entire building to all EBU's for egress lighting and batteries for the fire alarm control panel. For the existing EBU's, facility staff shall continue to perform monthly tests on battery units and replace as needed.

Lighting Fixtures and Controls

Observations

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- Most fixtures throughout the original areas of the building have fluorescent T-8 lamping. No occupancy sensors or automatic means to turn of lighting is present within this area of the building. Classrooms were noted to have dual level switching controls with an inboard/outboard configuration per fixture. Exit signs throughout this area of the building were noted to be incandescent lamp source.
- The 2011 gym addition is equipped with LED fixtures, occupancy sensors and dimming controls. Additionally, portions of the original building on the east have had fixture and lighting control upgrades done within the past 12 years. This includes the addition of LED fixtures, dimming controls and occupancy sensors.
- Exterior parking luminaire lamps are 250W metal-halide. Fixtures are controlled via timeclock on and photocell off.

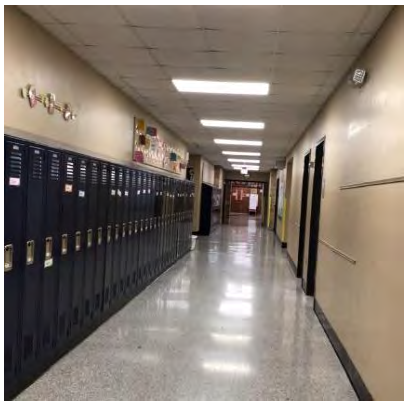


Photo: Hallway Lighting

Recommendations

- Consider replacement of existing T-8 fixtures throughout the original building footprint with LED flat-panel type fixtures. It is recommended that lighting controls in the classroom be upgraded in conjunction with fixture upgrades to provide dimming functionality. This will allow educators better control of their classroom to create an ideal learning environment based on student task/activity. Additionally, consider adding occupancy sensors to all spaces for automatic-off functionality.

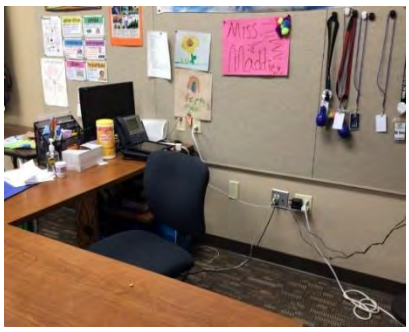


Photo: Classroom Instructor Area

- Exterior pole fixtures that are metal halide are recommended to be replaced with LED for longer lamp life and increased efficiency. Additionally, metal halide lamps will become increasingly more difficult to procure as time goes on.

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Wiring Devices

Observations

- Classrooms appear to have a general lack of receptacles. The instructor station areas tend to have power strips and long runs of cords to receptacles.
- Data cabling is Cat 5 and 6 and routed free air, above ceiling.

Recommendations

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- Replace all receptacles and switches that are older than 10 years. This will ensure that receptacle pulling tensions are adequate to hold plugs, fully engaged, into devices.
- Receptacle locations should be reviewed within classrooms and spaces and devices added where determined to be inadequate. Data outlet locations should also be reviewed throughout and outlets should be added to accommodate the increased needs for technology.



Photo: Fire Alarm Control

Fire Alarm System

Observations

The existing fire alarm system is an addressable system with horn-based notification devices. The fire alarm control panel is a Simplex 4100U and located in the main Electrical Room adjacent to the Boiler room. Pull stations are located at egress doors for manual alarm initiation. Smoke detection was observed within storage rooms, technology closets, and electrical rooms.

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Recommendations

- Continue to maintain existing fire alarm system and expand/extend system to accommodate future additions or renovations. If there are future plans for a large assembly addition with 300 or more spectators, it is recommended that the existing system be upgraded to a speaker-based system. This would require head end equipment upgrades, the addition of amplifiers and new signaling circuit wiring.

Clock System

Observations

The clocks within the building are battery operated and on a centralized wireless clock system for synchronization. There were several different manufacturers of clocks found throughout the facility including Simplex and La Crosse Technologies. A Primex wireless clock controller was noted within IDF #2. Maintenance staff replaces clocks and batteries as needed.

Recommendations



Photo: Typical Clock

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Maintain existing clock system add clocks as necessary for any future building additions or renovations. Continue clock replacements as needed.

Public Address System

Observations

Public address speakers were located throughout hallways and common areas. Speakers were noted to be Simplex type.

Recommendations

Extend and modify the system as necessary to accommodate any building renovation or addition.



Hallway PA Speaker

Phone System

Observations

Existing phone system is a VoIP system. Each teacher workstation and office work area contains a Cisco IP Phone 7942 handset.

Recommendations

- Existing system is in good condition and shall be expanded as necessary to accommodate any building addition or renovation.

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VoIP Handset

Data System

Observations

The MDF room is in a closet off the 2nd Floor Library area. There are 12-Strands of single mode fiber between the MDF and each IDF room. IDF rooms were noted to be the following:

- Closet Near Mechanical #216 – IDF #1
- Gym Area Mezzanine Closet – IDF #2

There are uninterruptible power supplies (UPS) mounted within each cabinet for short duration backup upon a power outage. The MDF and IDF rooms contain cabinet style mounting equipment with switches and patch panels. Horizontal cabling is done via Cat 5 and Cat 6 cabling. It was noted that there is a mix between plenum rated and non-plenum rated cabling. Cables are routed



MDF Equipment

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free-air above accessible ceilings. All appear to be in good condition. There are wireless access points located throughout the facility.

Recommendations

Existing equipment and cabling appear to be in good condition and has room for expansion. Minor modifications to rack mounted equipment and cable management are recommended. Additionally, there appears to be a large quantity of abandoned cabling left behid after a recent upgrade. It is recommended that all abadoned cabling be demolished.

CCTV System

Observations

There is an IP camera-based video surveillance system located throughout the building. Cameras were noted to be located at the building entrances, around the building exterior and throughout the hallways.

Recommendations

Maintain existing system and add/modify cameras as needed.



Exterior Camera

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Access Control/Security System

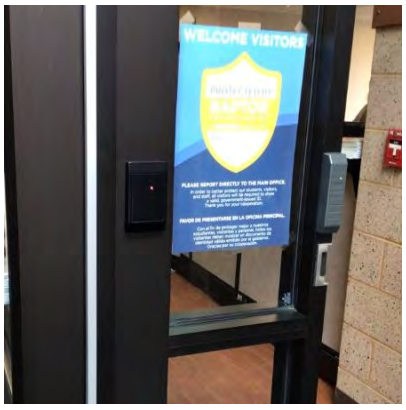
Observations

Building entrances were noted to contain motion sensors for building security with TECC security system touch pads for arming and disarming the system.

Many entry doors are equipped with HID proximity readers. Readers were noted at the following entry doors:

Aiphone intercom is installed at the main entry door with master station located within main office.

Recommendations Maintain existing system and add/modify devices as needed for any future renovations or additions.



HID Card Readers



Entry Door Intercom

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Site Assessment

The following report is the result of a site visit by Mark C. Spielbauer of Hoffman PD&C that occurred on May 9, 2023. Site observations, construction plan reviews, and interviews with staff were all used in the preparation of this report.

The site assessment was limited to the Shawano School District property identified as Shawano Middle School as identified on Owner furnished drawings and information in the Shawano County GIS website.

Zoning

The site is zoned Single Family Residential – 5 (SR-5).

All of the City of Shawano lies within the Airport Height Limitation Zoning area.

Environmental

No environmental concerns were identified by the Owner

Neighborhood

The Shawano School District Middle School is located north of the Olga Brener school site with residential properties to the north, east, and west.

With the exception of school district property to the south, there does not appear to be vacant property adjacent that would allow for any expansion.

The site is bounded by S. Union Street to the west, E. Lieg Avenue to the south and S. Evergreen Street to the east. The north property is located off E. Lieg Avenue south of a row of residential properties except for a drive for access to the north parking lot.

Perimeter streets are asphalt paved with concrete curb and gutters.

Sidewalks are present at the east side of S. Union Street, both sides of E. Lieg Avenue and the west side of S. Evergreen Street

Municipal utilities including water, storm sewer and sanitary sewer are located in perimeter streets.

Observations and Existing Site Conditions

Parking Lot

Parking is provided in three separate lots at the school. These include:

NW Bus Parking Lot

Access is provided with a rollover curb and sidewalk along S. Union Street. Lot is asphalt paved with previously repaired cracks. The pavement is in fair condition while the

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pavement markings are in fair to poor condition. Lot drains to an east side catch basin along the east side. There is some damage to the concrete curb.



Damaged curb at bus parking lot

North Parking Lot

Access is from a drive off E. Lieg Avenue to the north. Asphalt pavement and markings are in good condition.

- Lot drains to catch basins along the west edge concrete curb.
- Lot is illuminated with pole mounted LED lights.
- Parking is provided in 137 marked parking stalls configured for parallel or 90-degree parking. Five of the stalls are marked as "reserved". There is 5 ADA stalls either angled or 90-degree parking.

Maintenance Building

There are 8 marked parking stalls configured for 90-degree parking adjacent to the maintenance building along with 1 90-degree ADA stall.

Fencing

A chain link fence along the north property line is in fair condition.

Pavement

Concrete pavements including walks and drives along with curbs and gutters range from a good to fair condition with cracked and settled pavements noted at various locations around the site.

Water Mains

Municipal water mains are present in perimeter streets with several hydrants present.

Topography

The site is generally flat with drainage provided by onsite storm catch basins connected to the underground storm piping system. There are no detention/retention ponds at the site.

Signage

There is an illuminated sign west of the school that appears to be newer and in good condition.

Flagpole

An illuminated aluminum flagpole is located west of the school and is in good condition.

Chiller

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The east side chiller has a split face CMU enclosure wall. The top of the wall is capped with a metal coping and the wall is in generally good condition with some efflorescence present.



Bollards at electrical transformer

Dumpsters

Dumpsters are located on the asphalt pavement east of the school and are not enclosed by fencing.

Landscaping

Landscaping across the site includes a variety of trees, bushes, and plantings along with decorative beds along buildings and grassed areas. Overall the landscaping appeared to be well maintained and in good condition.

Transformer

A ground mounted electrical transformer is present on the site east of the school. The transformer is not fenced but is protected by pipe bollards. The steel bollards are not painted, and the concrete infill is flat and not crowned at the top of the bollards.

Access Covers

Two access covers are located near the NW corner of the school and may be access to the grease interceptor.

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Generator on pad, note deteriorated conc at walk

Gas Meter

The gas meter is located at the west side of the school.

Electrical Generator

An electrical generator is located east of the school near the chiller enclosure. The generator is installed on a concrete pad and is not enclosed by fencing.

Bike Racks

Four bike racks are located at the NW corner of the school. Some of the steel racks are corroded.

Green Space & Sports Fields

A grass surfaced football/soccer field is located along the east property line. The field is not illuminated and has a perimeter chain link fence that varies from good to fair with one NW corner gate in poor condition. The grass surface is in good condition with drainage provided by onsite storm catch basins. Football goals also appeared to be in good condition.

Bleachers are located along the west side of the football field and track. The bleachers are aluminum with galvanized steel fencing and access ramps.

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An asphalt paved running track encircles the east side football field. The base is asphalt with a rubberized running surface. The surface including lane markings appeared to be in good condition.

An illuminated scoreboard is located at the NW corner of the football field and supported by WF columns. The paint on the supports is weathered and in fair condition.

West of the football field and track is a wood framed, vinyl sided concessions building with vinyl trim at the roll-up shutters, entry door and OH door. Roofing is asphalt shingles with vented aluminum soffit and fascia. The building overall was in good condition.



Missing shingles at roof

Storage Structure

A wood framed storage building is located at the NE corner of the site with stained plywood siding. Roofing is asphalt shingles and felt over plywood sheathing. An area of missing shingles is present at the west side of the roof. Exposed wood trim paint is peeling and the trim at the SE corner is damaged.

Sports Fields & Courts

A softball field is located at the SE corner of the site and includes a chain link backstop and team seating along the two baselines. There is fencing along the two baselines with no outfield fencing present. Fencing is in fair condition. The infield surface is in fair to poor condition and does not appear to drain well. There is a new small storage barn at the 3rd base side of the field.



NW corner gas meter, GI cover and corroded bike rack

Two discus and two shot put areas are present south of the track. The discuss areas are fenced. The shot put areas have stone chips retained by wood edging which is in poor to missing condition.

There are 8 tennis courts at the SW corner of the property which are enclosed with chain link fencing. The asphalt and surfacing are in good condition with the exception of several noted cracks. The perimeter fencing is in good to fair condition with some top rail damage noted. The courts do not have lights.

Playground

An asphalt paved playground is located south of the school which includes 4 basketball goals and play pavement markings. The asphalt pavement has cracks that have been previously repaired and is in fair condition. There are swings located near the playground.

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Courtyard

Within the confines of the building is an open courtyard that included landscaping, planting beds and clay pavers. The area was well managed and in good condition.



General view of exterior courtyard

Wooden Storage Structure

There is a small wood framed storage building at the south side of the west wing.

Recommendations

- Cracked and settled or deteriorated sections of concrete curbs, drives, and pavements should be removed and replaced.
- Continue maintenance of bituminous asphalt pavements. Faded and weathered pavement markings should be repainted.
- The existing generator, dumpsters, and gas meter should be enclosed by fencing to limit access. The dumpsters should be located on a concrete pad to limit asphalt damage.
- Repair areas of damaged chain link fencing and gates.
- Have a site survey upgraded or done to document existing site improvements and aid in future planning.
- Wood edging at the shot put areas should be replaced.
- The existing infield at the softball field should be reworked to improve drainage.
- Repair the damaged roofing and trim at the NE corner storage building.
- Paint exterior steel that is corroded.
- Verify that there is a thru-wall flashing at the top of the chiller enclosure wall and address noted efflorescence.
- Address the missing shingles at the NE storage building along with trim.
- Paint bollards at the transformer or install plastic cover which would address the top concrete not being rounded.
- Add chips and replace wood edging at the shot-put areas.

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Aerial View of School Site



Architecture

The following report is the result of a site visit by Kurt Peeters and Casey Helmrath of Hoffman PD&C that occurred on April 19th, 2023. Facility observations, construction plan reviews, and interviews with staff were all used in the preparation of this report. At the end of this section, we have included building diagrams to visually showcase our findings and schedules to consolidate all data into one location.

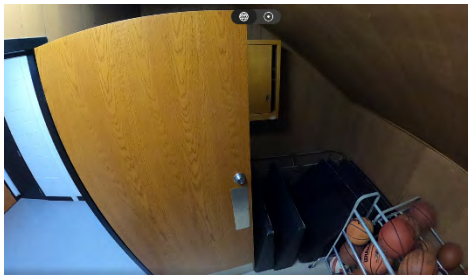
Existing Data

The school was originally constructed in 1955 and has been added on to and remodeled several times throughout the years. Please reference the Building Construction Diagram on the next page. The 122,000 square foot facility houses over 500 students grades 6th – 8th.

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Code Assessment

During the facility walk-thru we noted any items that could be considered code, accessibility, or safety concerns. These noted items can be looked at as a starting point in determining areas that may need updates or remodeling to correct the issues present. Please reference the Code/Safety Issues diagrams and schedule below for a breakdown of our findings.



Storage with Wood Paneling Under Egress Stair

Interior Finishes

During the facility walk-thru we noted any interior finishes that could be considered damaged, worn or past their life expectancy. In addition, we looked at exterior windows and doors, interior doors and hardware and cabinetry. These noted items can be looked at as a starting point in determining areas that may need finish updates and/or replacement. Please reference the diagrams and schedules below for a breakdown of our findings in each category.



Restroom with Updated Finishes, Accessible

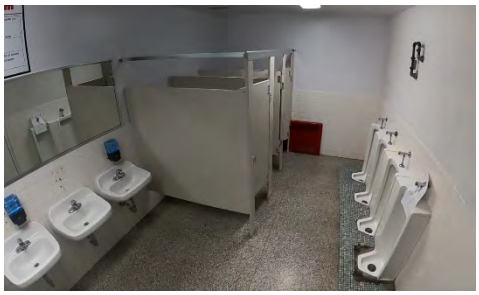
Toilet Facilities

Restroom facilities vary throughout the facility with several providing adequate accessibility and with updated finishes. There are also several restrooms located in older portions of the building that do not meet these standards.

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Stairs

Stairs were in good condition overall but in a few cases lacked current code required provisions like handrail extensions and guardrails for added accessibility and safety.



Restroom Needing Updates, Non-Accessible

General Internal Access

Access throughout the facility was adequate from both a wayfinding and safety perspective. The North side door being open and unsupervised in the morning is a point of weakness that we identified that should be looked into closer. The main entry features a secure entry with good visibility.

Recommendations

When looking at the facility itself we make the following recommendations:

- Update/replace items listed in the diagrams and schedules provided above.
- Provide additional storage for all building functions.
- Move or get rid of unneeded storage items crowding several rooms.
- Provide furniture that provides flexibility and collaboration.
- Consider an outdoor shared classroom(s).

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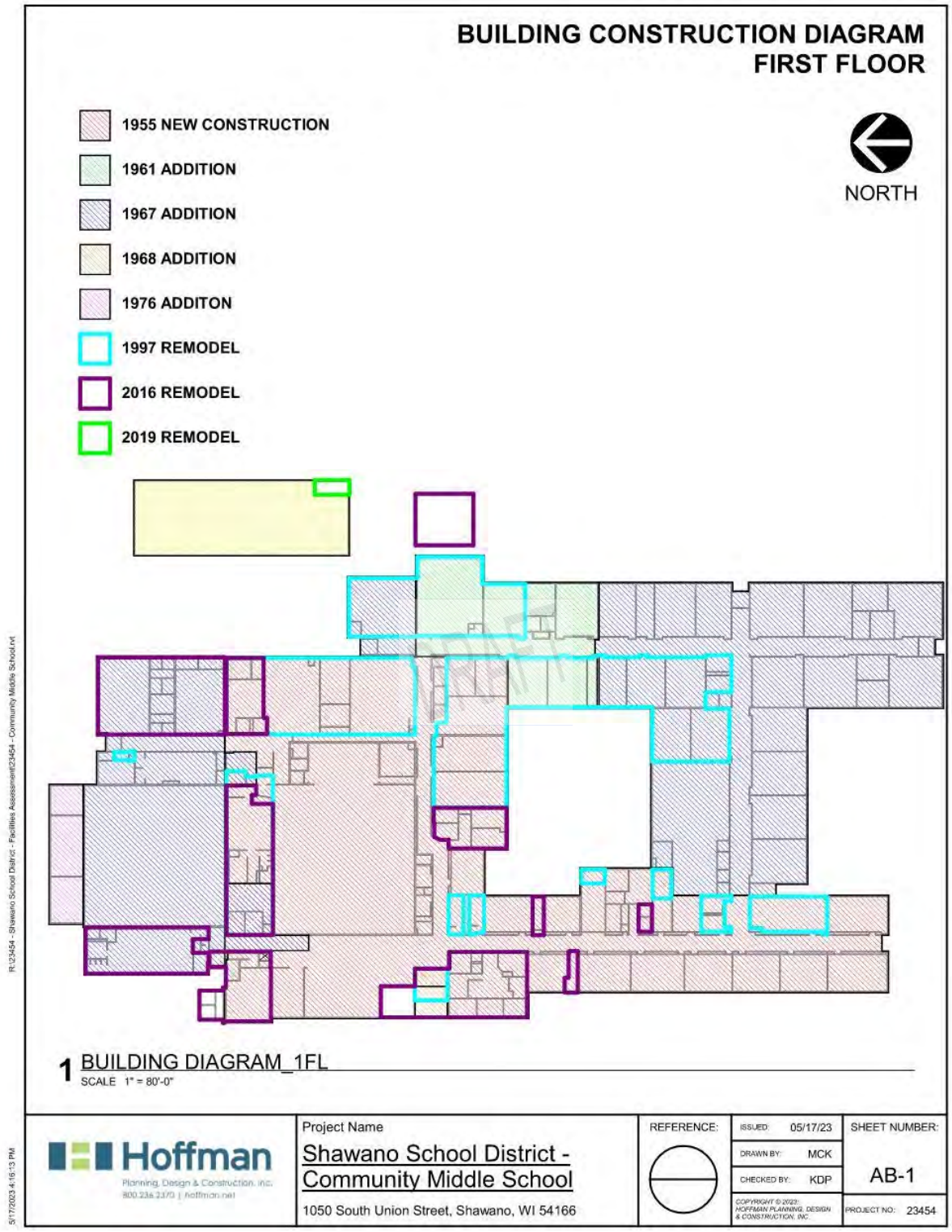
- Provide additional breakout rooms for staff and students to utilize in smaller groups.

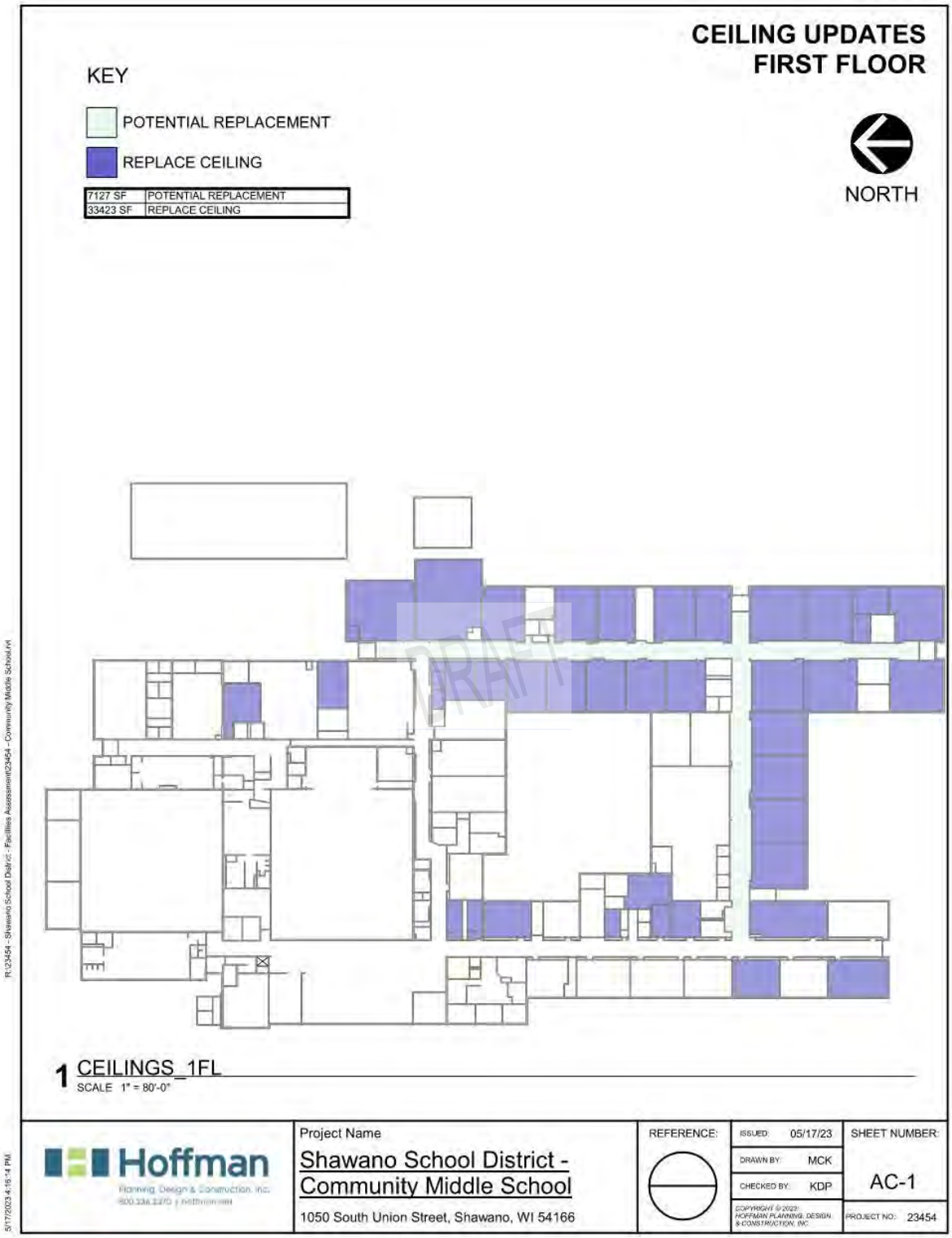
Diagrams

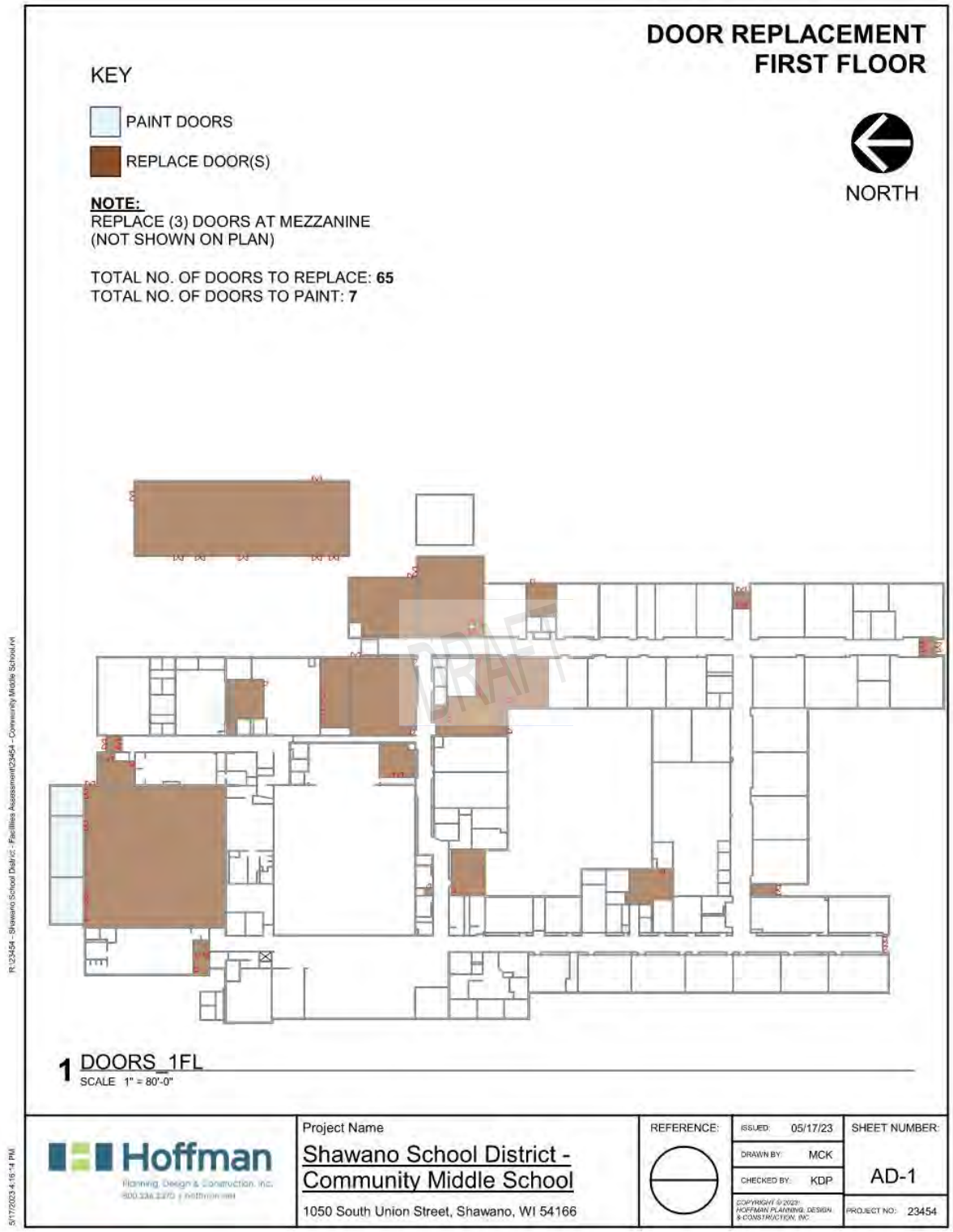
The next pages are a series of diagrams that contain information from some of the Architectural categories above. In addition, we have included a schedule breakdown of each room and the recommendations based on the findings we noted during the walkthrough.

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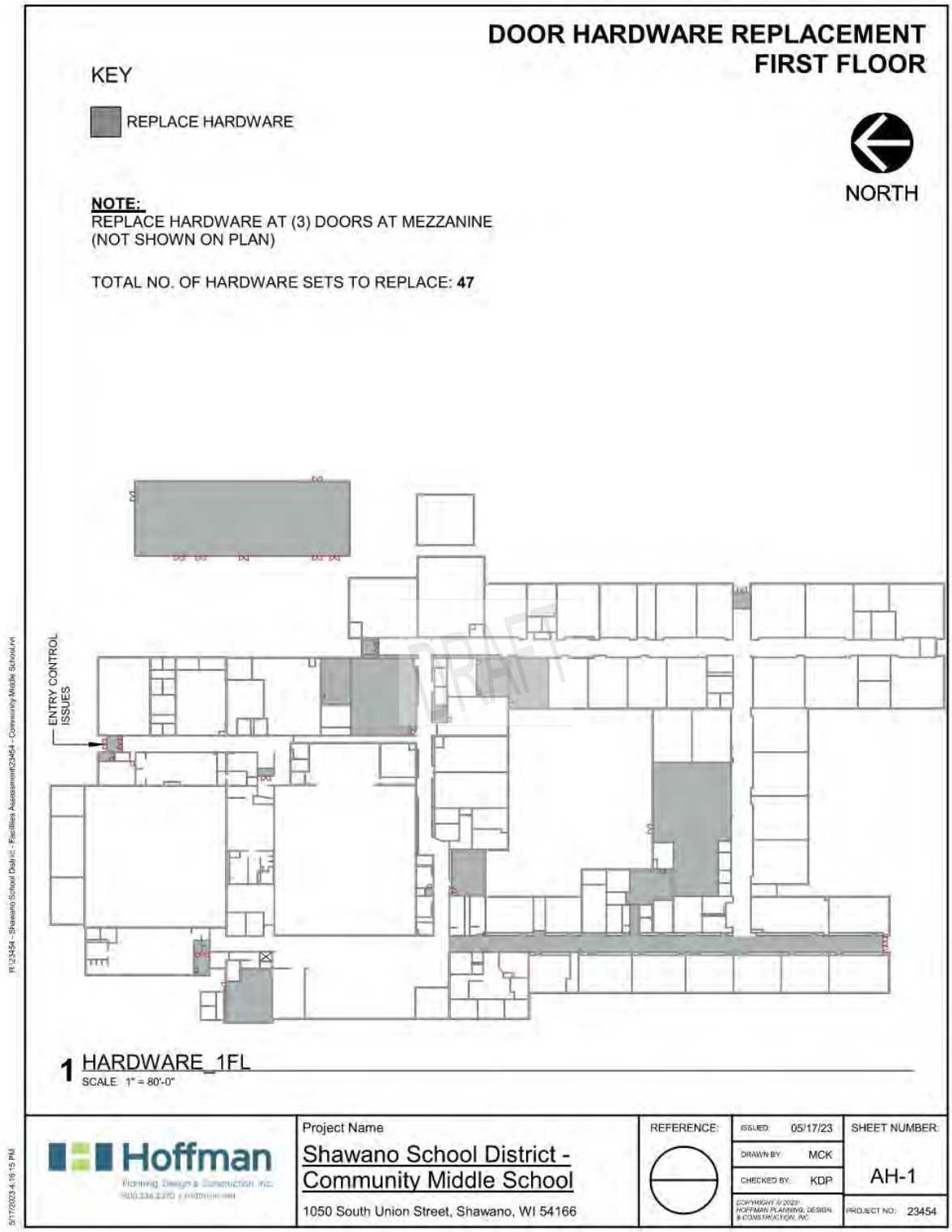
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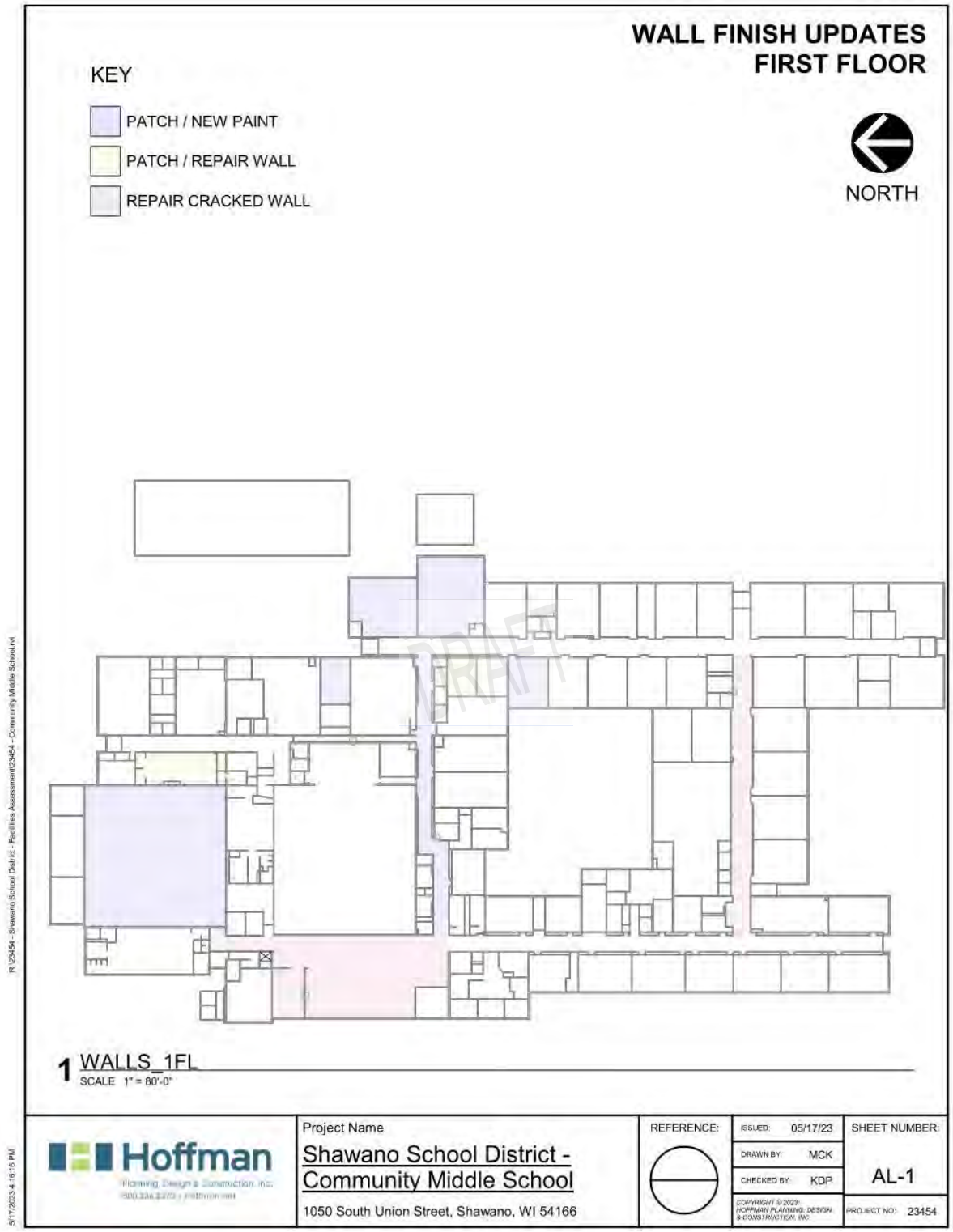

BUILDING CONSTRUCTION DIAGRAM
FIRST FLOOR
1955 NEW CONSTRUCTION
1961 ADDITION
1967 ADDITION
1968 ADDITION
1976 ADDITON
1997 REMODEL
2016 REMODEL
2019 REMODEL
NORTH
1 BUILDING DIAGRAM_1FL
SCALE 1" = 80'-0"
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Project Name
Shawano School District - Community Middle School
1050 South Union Street, Shawano, WI 54166
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CEILING UPDATES
FIRST FLOOR
KEY
POTENTIAL REPLACEMENT
REPLACE CEILING
7127 SF POTENTIAL REPLACEMENT
33423 SF REPLACE CEILING
NORTH
DRAFT
1 CEILINGS_1FL
SCALE 1" = 80'-0"
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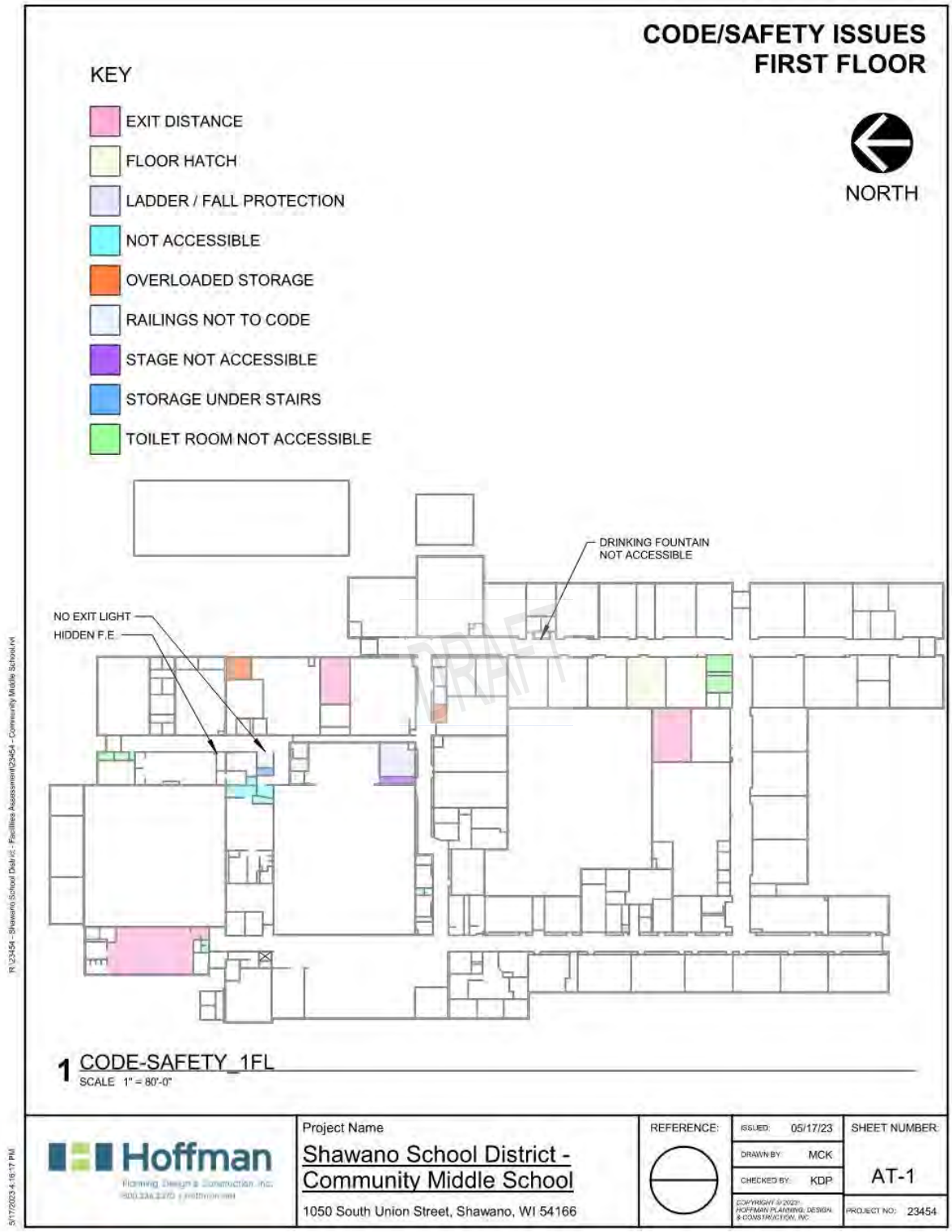

DOOR REPLACEMENT
FIRST FLOOR
KEY
PAINT DOORS
REPLACE DOOR(S)
NOTE:
REPLACE (3) DOORS AT MEZZANINE
(NOT SHOWN ON PLAN)
TOTAL NO. OF DOORS TO REPLACE: 65
TOTAL NO. OF DOORS TO PAINT: 7
NORTH
DRAFT
1 DOORS_1FL
SCALE 1" = 80'-0"
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AD-1
PROJECT NO.: 23454

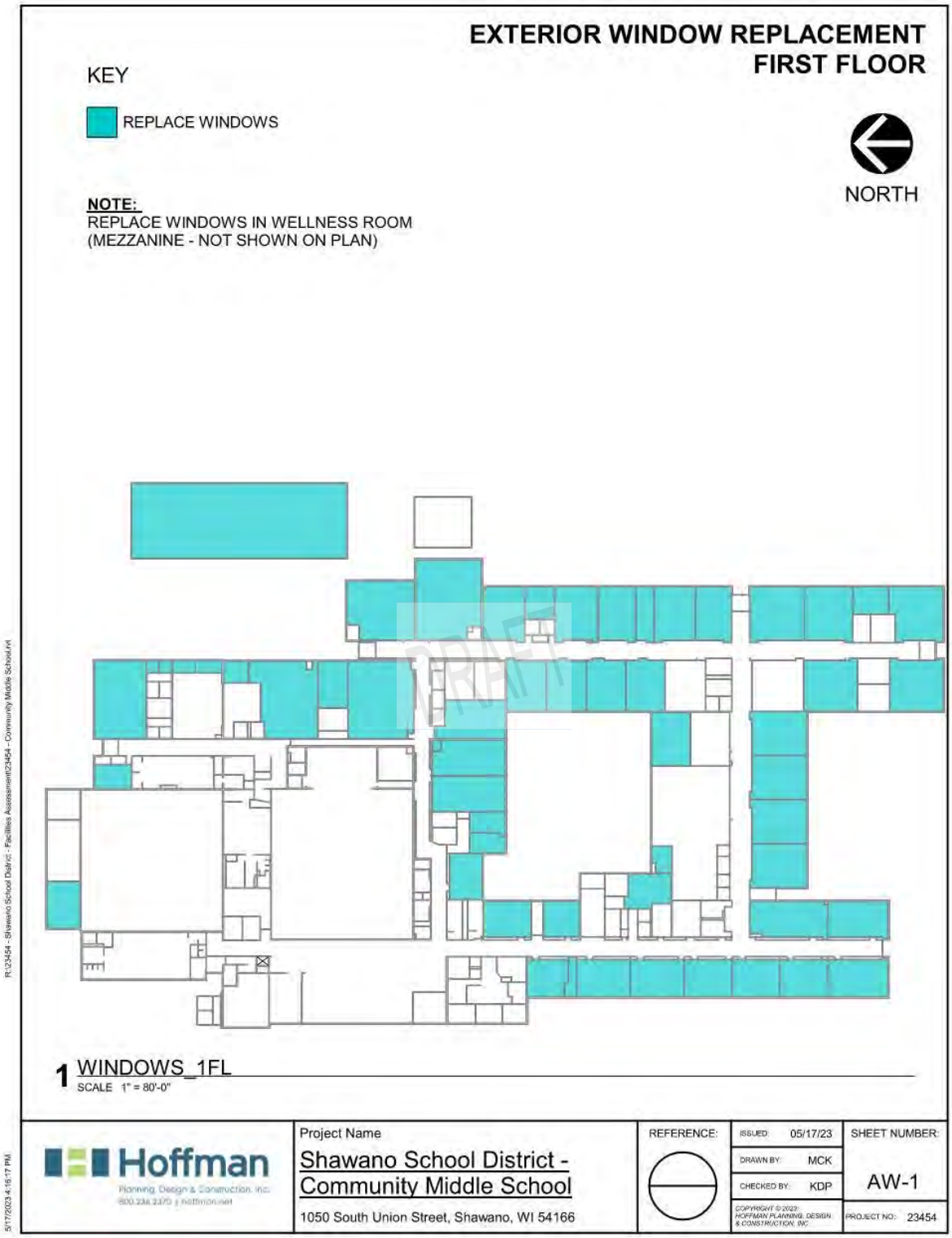

FLOORING UPDATES
FIRST FLOOR
KEY
REPLACE FLOORING
47866 SF REPLACE FLOORING
NORTH
DRAFT
1 FLOORING_1FL
SCALE 1" = 80'-0"
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PROJECT NO.: 23454


DOOR HARDWARE REPLACEMENT
FIRST FLOOR
KEY
REPLACE HARDWARE
NORTH
NOTE:
REPLACE HARDWARE AT (3) DOORS AT MEZZANINE
(NOT SHOWN ON PLAN)
TOTAL NO. OF HARDWARE SETS TO REPLACE: 47
ENTRY CONTROL ISSUES
DRAFT
1 HARDWARE_1FL
SCALE: 1" = 80'-0"
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WALL FINISH UPDATES
FIRST FLOOR
KEY
PATCH / NEW PAINT
PATCH / REPAIR WALL
REPAIR CRACKED WALL
NORTH
DRAFT
1 WALLS_1FL
SCALE 1" = 80'-0"
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CASEWORK UPDATES
FIRST FLOOR
KEY
REPLACE CASEWORK
REPLACE CHAIRS/DESKS
TOTAL LN. FT. TO REPLACE: 605
NORTH
DRAFT
1 CASEWORK_1FL
SCALE 1" = 80'-0"
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Project Name
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PROJECT NO.: 23454


CODE/SAFETY ISSUES
FIRST FLOOR
KEY
EXIT DISTANCE
FLOOR HATCH
LADDER / FALL PROTECTION
NOT ACCESSIBLE
OVERLOADED STORAGE
RAILINGS NOT TO CODE
STAGE NOT ACCESSIBLE
STORAGE UNDER STAIRS
TOILET ROOM NOT ACCESSIBLE
NORTH
DRINKING FOUNTAIN
NOT ACCESSIBLE
NO EXIT LIGHT
HIDDEN F.E.
DRAFT
1 CODE-SAFETY_1FL
SCALE 1" = 80'-0"
Hoffman
Project Name
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1050 South Union Street, Shawano, WI 54166
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PROJECT NO: 23454


EXTERIOR WINDOW REPLACEMENT
FIRST FLOOR
KEY
REPLACE WINDOWS
NORTH
NOTE:
REPLACE WINDOWS IN WELLNESS ROOM
(MEZZANINE - NOT SHOWN ON PLAN)
DRAFT
1 WINDOWS_1FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
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AW-1
PROJECT NO.: 23454

ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
001	FREEZER								
002	COOLER								
003	PASSAGE								
100	MAIN ENTRY								
101	WELCOME CENTER			REPLACE FLOORING					
101-F	OFFICE			REPLACE FLOORING					
101A	PRINCIPAL			REPLACE FLOORING					
101B	CONFERENCE			REPLACE FLOORING					
101C	ASST PRINCIAPL			REPLACE FLOORING					
101D	LUNCH ROOM			REPLACE FLOORING					
101E	WORK ROOM			REPLACE FLOORING					
101F-1	TOILET			REPLACE FLOORING					
101G	NURSE			REPLACE FLOORING					
101G-1	TOILET			REPLACE FLOORING					
102	COMMUNITY EDUCATION								REPLACE WINDOWS
102A	PASSAGE								REPLACE WINDOWS
103	COMMUNITY EDUCATION			REPLACE FLOORING					REPLACE WINDOWS
104	CLASSROOM			REPLACE FLOORING					REPLACE WINDOWS
105	CLASSROOM								REPLACE WINDOWS
106	CLASSROOM	REPLACE CEILING		REPLACE FLOORING					REPLACE WINDOWS
107	CLASSROOM			REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
108	CLASSROOM	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
109	CLASSROOM								REPLACE WINDOWS
110	CLASSROOM	REPLACE CEILING							REPLACE WINDOWS
111	CLASSROOM	REPLACE CEILING					REPLACE CASEWORK		REPLACE WINDOWS
112	CLASSROOM	REPLACE CEILING					REPLACE CASEWORK		REPLACE WINDOWS
113	CLASSROOM	REPLACE CEILING					REPLACE CASEWORK		REPLACE WINDOWS
114	CLASSROOM	REPLACE CEILING					REPLACE CASEWORK		REPLACE WINDOWS
115	CLASSROOM	REPLACE CEILING		REPLACE FLOORING					
116	CLASSROOM	REPLACE CEILING		REPLACE FLOORING					REPLACE WINDOWS
117	STORAGE						REPLACE CASEWORK		
117A	PREP						REPLACE CASEWORK		
118	CLASSROOM	REPLACE CEILING		REPLACE FLOORING					REPLACE WINDOWS
119	CLASSROOM	REPLACE CEILING		REPLACE FLOORING					REPLACE WINDOWS
119A	PREP	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
120	STORAGE								
121	STORAGE	REPLACE CEILING		REPLACE FLOORING					
122	CLASSROOM	REPLACE CEILING		REPLACE FLOORING					REPLACE WINDOWS
123	CLASSROOM	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
124	CLASSROOM	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
125	CLASSROOM	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
126	CLASSROOM								REPLACE WINDOWS
127	CLASSROOM	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS

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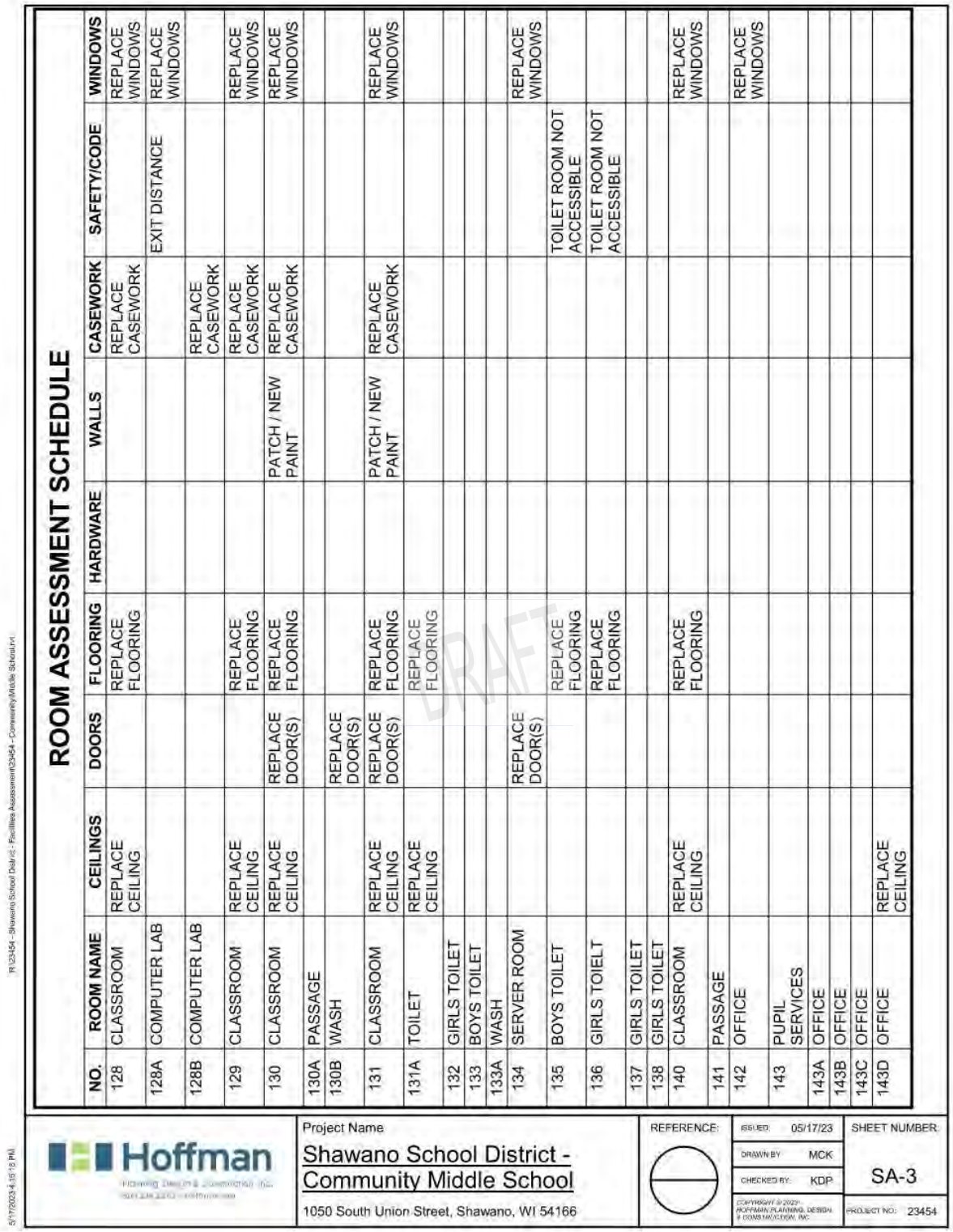
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1050 South Union Street, Shawano, WI 54166

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
128	CLASSROOM	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
128A	COMPUTER LAB							EXIT DISTANCE	REPLACE WINDOWS
128B	COMPUTER LAB						REPLACE CASEWORK		
129	CLASSROOM	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
130	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING		PATCH / NEW PAINT	REPLACE CASEWORK		REPLACE WINDOWS
130A	PASSAGE								
130B	WASH		REPLACE DOOR(S)						
131	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING		PATCH / NEW PAINT	REPLACE CASEWORK		REPLACE WINDOWS
131A	TOILET	REPLACE CEILING		REPLACE FLOORING					
132	GIRLS TOILET								
133	BOYS TOILET								
133A	WASH								
134	SERVER ROOM		REPLACE DOOR(S)						REPLACE WINDOWS
135	BOYS TOILET			REPLACE FLOORING				TOILET ROOM NOT ACCESSIBLE	
136	GIRLS TOIELT			REPLACE FLOORING				TOILET ROOM NOT ACCESSIBLE	
137	GIRLS TOILET								
138	GIRLS TOILET								
140	CLASSROOM	REPLACE CEILING		REPLACE FLOORING					REPLACE WINDOWS
141	PASSAGE								
142	OFFICE								REPLACE WINDOWS
143	PUPIL SERVICES								
143A	OFFICE								
143B	OFFICE								
143C	OFFICE								
143D	OFFICE	REPLACE CEILING							

ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
143E	TOILET							TOILET ROOM NOT ACCESSIBLE	
144	STAFF LOUNGE	REPLACE CEILING	REPLACE DOOR(S)		REPLACE HARDWARE				REPLACE WINDOWS
144A	STORAGE								
145	STORAGE	REPLACE CEILING							
146	STORAGE	REPLACE CEILING							
147	LMC				REPLACE HARDWARE				
147A	OFFICE								REPLACE WINDOWS
147B	STORAGE								
147C	STORAGE								
147D	STORAGE								
147E	STORAGE								
148	MAINT. OFFICE		REPLACE DOOR(S)						REPLACE WINDOWS
148A	TOILET		REPLACE DOOR(S)		REPLACE HARDWARE			TOILET ROOM NOT ACCESSIBLE	
148B	TOILET							TOILET ROOM NOT ACCESSIBLE	
149	CLASSROOM	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		
149A	STORAGE								
149B	JANITOR								
150	CLASSROOM	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK	FLOOR HATCH	REPLACE WINDOWS
151	CLASSROOM	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
152	CLASSROOM	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
153	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING	REPLACE HARDWARE	PATCH / NEW PAINT	REPLACE CASEWORK		REPLACE WINDOWS
154	SENSORY	REPLACE CEILING	REPLACE DOOR(S)		REPLACE HARDWARE				
154A	STUDY	REPLACE CEILING		REPLACE FLOORING		PATCH / REPAIR WALL			

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Planning, Design & Construction, Inc.

Project Name
Shawano School District - Community Middle School
1050 South Union Street, Shawano, WI 54166

REFERENCE:

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
154B	STUDY	REPLACE CEILING		REPLACE FLOORING		PATCH / REPAIR WALL			
154C	STORAGE	REPLACE CEILING		REPLACE FLOORING		PATCH / REPAIR WALL			
154D	SPED	REPLACE CEILING		REPLACE FLOORING		PATCH / REPAIR WALL			
155	CLASSROOM		REPLACE DOOR(S)						REPLACE WINDOWS
155A	STUDY		REPLACE DOOR(S)		REPLACE HARDWARE			OVERLOADED STORAGE	
156	CLASSROOM			REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
157	CLASSROOM			REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
158	PASSAGE								
158A	SOCIAL WORKER								REPLACE WINDOWS
158B	GUIDANCE COUNSELOR								REPLACE WINDOWS
158C	STORAGE								
158E	CONFERENCE								
159	CLASSROOM		REPLACE DOOR(S)		REPLACE HARDWARE				REPLACE WINDOWS
160	NURSE								
160A	TOILET							TOILET ROOM NOT ACCESSIBLE	
161	POLICE LIASON								
161A	STORAGE		REPLACE DOOR(S)		REPLACE HARDWARE				
162	LGI		REPLACE DOOR(S)		REPLACE HARDWARE		REPLACE CHAIRS/DESKS		REPLACE WINDOWS
163	SHOP								REPLACE WINDOWS
163A	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING	REPLACE HARDWARE	PATCH / NEW PAINT		EXIT DISTANCE	REPLACE WINDOWS
163B	STORAGE		REPLACE DOOR(S)						
163C	STORAGE								
164	DRAFTING	REPLACE CEILING	REPLACE DOOR(S)						

DRAFT

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Project Name
Shawano School District - Community Middle School
1050 South Union Street, Shawano, WI 54166

REFERENCE:

ISSUED: 05/17/23
DRAWN BY: MCK
CHECKED BY: KDP

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SHEET NUMBER: SA-5

PROJECT NO.: 23454

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
164A	OFFICE							OVERLOADED STORAGE	REPLACE WINDOWS
165	ORCHESTRA								
165A	OFFICE								REPLACE WINDOWS
165B	OFFICE								REPLACE WINDOWS
166	BAND								REPLACE WINDOWS
167	PASSAGE								
167A	PRACTICE ROOM								
167B	PRACTICE ROOM								
167C	PRACTICE ROOM								
168	PASSAGE								
168A	PRACTICE ROOM								REPLACE WINDOWS
168B	PRACTICE ROOM								REPLACE WINDOWS
168C	PRACTICE ROOM								
168D	PRACTICE ROOM								
169	BOYS LOCKER								
169A	PASSAGE								
170	BOYS TOILET								
171	BOYS SHOWER								
172	PHY ED TOILET								
173	PHY ED OFFICE								
174	ALCOVE								
175	OFFICE								
176	CONCESSIONS								
177	PRACTICE GYM		REPLACE DOOR(S)	REPLACE FLOORING		PATCH / NEW PAINT			
177A	STORAGE		PAINT DOORS						
177B	STORAGE		PAINT DOORS						
177D	STORAGE		PAINT DOORS						REPLACE WINDOWS

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Project Name
Shawano School District - Community Middle School
1050 South Union Street, Shawano, WI 54166

REFERENCE:

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SHEET NUMBER: SA-6
PROJECT NO.: 23454

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
177E	VESTIBULE							FLOOR HATCH	
178	GIRLS LOCKER							EXIT DISTANCE	
178A	JANITOR								
179	GYM OFFICE		REPLACE DOOR(S)		REPLACE HARDWARE				
179A	TOILET		REPLACE DOOR(S)		REPLACE HARDWARE			TOILET ROOM NOT ACCESSIBLE	
179B	STORAGE		REPLACE DOOR(S)		REPLACE HARDWARE				
180	GIRLS TOILET								
181	GIRLS SHOWER								
182	VESTIBULE								
183	STAIR								
184	STORAGE								
185	KITCHEN				REPLACE HARDWARE				
186	COMMONS			REPLACE FLOORING		REPAIR CRACKED WALL			
187	MAIN GYM								
188	STAGE								
188A	STORAGE								
188B	PASSAGE			REPLACE FLOORING				STAGE NOT ACCESSIBLE	
189	STORAGE		REPLACE DOOR(S)					LADDER / FALL PROTECTION	
190	SCHOOL STORE								
190A	HATCH							FLOOR HATCH	
191	ATHLETE LOCKER					PATCH / REPAIR WALL			
191.1	OFFICE								
191A	COACH			REPLACE FLOORING					
191B	PASSAGE							NOT ACCESSIBLE	
192	BOYS TOILET	REPLACE CEILING							
193	GIRLS TOILET	REPLACE CEILING							
194	TOILET								
195	TOILET								

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Project Name
Shawano School District - Community Middle School
1050 South Union Street, Shawano, WI 54166

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PROJECT NO.: 23454

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
196	STAFF TOILET								
197	STAFF TOILET								
198	JANITOR								
199	STORAGE								
200	BLDGS & GROUNDS		REPLACE DOOR(S)		REPLACE HARDWARE				REPLACE WINDOWS
1518D	PSYCHOLOGIST								
C100	CORRIDOR				REPLACE HARDWARE				
C101	CORRIDOR	POTENTIAL REPLACEMENT				REPAIR CRACKED WALL			
C101A	VESTIBULE		REPLACE DOOR(S)						
C102	CORRIDOR	POTENTIAL REPLACEMENT							
C102A	VESTIBULE		REPLACE DOOR(S)						
C102B	VESTIBULE		REPLACE DOOR(S)		REPLACE HARDWARE				
C102C	VESTIBULE				REPLACE HARDWARE				
C103	CORRIDOR					PATCH / NEW PAINT			
C103A	JANITOR								
C104	CORRIDOR					REPAIR CRACKED WALL			
C105	CORRIDOR							NOT ACCESSIBLE	
C105.1	PASSAGE							NOT ACCESSIBLE	
C105.1	PASSAGE							NOT ACCESSIBLE	
C105A	STORAGE							STORAGE UNDER STAIRS	
C105B	STORAGE				REPLACE HARDWARE				
C105C	VESTIBULE		REPLACE DOOR(S)		REPLACE HARDWARE			RAILINGS NOT TO CODE	
C105D	STAIR								
C105E	STAIR							RAILINGS NOT TO CODE	
C169.1	PASSAGE							NOT ACCESSIBLE	

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Project Name
Shawano School District - Community Middle School
1050 South Union Street, Shawano, WI 54166

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PROJECT NO.: 23454

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Exterior Closure Systems

The following report is the result of a site visit by Mark C. Spielbauer of Hoffman PD&C that occurred on April 20 and May 9, 2023. Site observations, construction plan reviews, Owner furnished facility reports, and interviews with staff were all used in the preparation of this report.

1954 Original Construction

The current building exteriors consist of the following:

- Running bond brick
- Split face CMU
- Stone or cast stone components
- Corrugated metal wall panels
- Exposed concrete

Entrance doors and frames are aluminum.

Service doors and frames are hollow metal.

Storefront systems at the main entrance and commons are aluminum framed with insulated glazing that is not original to construction and appears to have been installed as a part of a 2016 project which included the entry canopy.

Window systems include fixed and operable windows with screens in an aluminum framing system with panels above and between windows. Window systems do not appear to be original to construction

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Soffits are prefinished metal panels.

Roofs areas included in the original construction include 4, 5, 6, 7, 8, 9, 13, 14,15, 16, 20 and the west side entrance roof. The roofs are not original to construction and were reportedly replaced at various times.

The owner reported leaks in roof #5 and in the break room and in a tunnel at the band room that may be related to a wall flashing.

Observations

Roof areas 4, 5, and 13 are low sloped smooth surfaced built-up roof membranes with silver coating. Drainage is provided by internal roof drains. Roofs are fair to poor condition and included the following:

- Standing water was present at various locations across the roofs
- Some alligatoring was present in the membrane/asphalt mainly along roof edges
- The gas line was supported on wood blocks that rest directly on the membrane. At some locations the surfacing was worn through and the felt exposed.
- Some of the silver coating was noted to be peeling/failing at various locations
- Perimeter and penetration base flashings ranged from good to fair with some wrinkles present
- An area of repaired membrane was present on roof area 5 near the AHU.

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- Railings in the area of the AHU's are corroded
- Gal line is corroded
- A newer PVC vent is present on roof area 13 and needs to be patched
- Some steel at ladders is corroded
- Some unused penetrations are present
- Vent stacks are lead
- Blisters were noted in roof area 4

Roof areas 6, 7S, 8, 9,14, 15, 16, and 20 are all low sloped, gravel surfaced built-up roofs. Drainage is provided by internal roof drains with the exception of roof #20 which has a scupper. Overall roofs are in fair to poor condition and included the following:

- A railing and gas line at roof #5 is corroded. There are patched areas of membrane on this roof.
- A piece of weathered plywood is located at the NE corner of roof 8, presumably as membrane protection at the ladder
- A pipe extends out of the west wall at roof area 9 and appears to be for an overflow drain located on that roof. No membrane protection was provided at the area 8 roof
- A railing at the east edge of roof area 9 is corroded
- Two larger areas of membrane repairs are located along the west edge of roof 9 that were reportedly done to address leakage
- Gas lines and an electric conduit are supported on wood blocks, some of which rest directly on the gravel/membrane. The gas line is also corroded at roof #9.
- Older roof drains have beehive type strainers
- At roof area 9, gravel has been removed to provide channels for water to flow to drains from repair areas
- Gravel was noted in some of the roof sumps
- In areas across the roofs, the surfacing gravel was not adhered into an asphalt topcoat
- Flashings at most plumbing stacks are lead

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Standing water and support on membrane



Beehive strainer with roof patch

The roof at the west side entrance is a standing seam metal roof that appeared to be in good condition with a gutter along the east lower edge.

Gravel stop and fascia at the roof edges are painted metal and appeared to be in generally good to fair condition. At various locations the paint is peeling. There is an area of missing soffit adjacent to the west side entrance.

Access ladders are present for access to various roof elevations. Some of the steel is corroded.

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Brick is in good to poor condition with cracks noted at various locations. No construction joints were present and there were some areas of efflorescence noted. No weeps were noted at the base of the walls. An area of cracks with missing brick is present at an east side entry door. Patched brick present where penetrations have been previously removed. There is a vertical gap/crack in the brick pillar adjacent to the main entrance. The brick wall along the west side of roof 9 has a new aluminum counterflashing attached to an older thru wall flashing with efflorescence noted throughout that portion of the wall. There are patches at removed penetrations.

A brick chimney is present at roof area #9 with a concrete cap that is cracked with deteriorated mortar in brick joints near the top.

Vertical metal siding is in fair condition and has been previously field painted. Some of the fasteners are newer while other fasteners are loose or missing.

Hollow metal doors and frames are in good to fair condition. Wood trim is weathered with corroded hinges present at an east side door. At an east elevation door, the base of the frame is corroded. There is no sealant at the perimeter of a NW corner door.



Faded OH door paint and weathered trim

Paint on the overhead door is faded and weathered and one of the interior window panes is broken.

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Aluminum storefronts at the entrance is in good condition.

Metal wall panels are in good to fair condition with some damage noted at various locations.



Poor to failed window panel

The window and panel system ranges from good to poor and failing with single or insulated glazing. At various locations panels have been previously replaced with wood and other materials, some of which is weathered and deteriorated. There is damage and peeling finish to panels at various elevations.

Window sills are either aluminum or cast stone. Mortar is missing in a number of cast stone window sill joints.

Sealant failures are present at the perimeter of window systems throughout. Some of that sealant is hard and weathered.

Steel lintels are corroded at various openings throughout the building and at a steel member at an entry overhang.

There is a damaged grille at the south elevation.

Deteriorated and/or missing mortar was noted at ends of steel lintels at several grille openings.

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Recommendations

- Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
- As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project. Replacement should also include proper detailing for support of equipment and gas lines.
- The smooth surfaced built-up roof membrane roofs range in age from 20 to 24 years as noted in the roof summary at the end of this report. With expected service lives of approximately 20 years, these roofs have reached their expected service life and should be replaced. According to the Owner, roof area 5 is scheduled to be replaced.
- The gravel surfaced built-up roof membranes range in age from 13 to 17 years as noted in the roof summary at the end of this report. With an expected service life of approximately 25 years these roofs would be scheduled for replacement in 8 to 12 years with continued inspections and maintenance.
- With any reroofing project replace existing roof drains, especially if the roofing system is not a multi-ply asphalt roof.
- The standing seam metal roof is approximately 7 years old and would have an expected minimum service life of 30 years. Owner should anticipate roof replacement of these areas in 27+ years with regular inspections and maintenance.
- Replace existing window systems throughout the building.
- Remove and replace failed sealants throughout the building.
- Replace older aluminum entrances with new thermally broken frames with insulated glazing.
- Replace damaged grille.
- Either repair the brick chimney and cap or remove it if it is no longer needed.
- Clean, prime and paint corroded opening lintels, steel ladders, railings, gas lines and other components throughout the roof areas. Existing coatings should be tested prior to any work to determine if lead paints are present and handled accordingly.
- Provide additional membrane protection where upper roofs drain on to lower roofs.
- Paint hollow metal doors and frames. Install sealant where missing at the perimeter of door frames.
- Paint the overhead door and replace the broken window pane.
- Remove and replace exposed wood trim.
- Reset stone window sills if needed, then point open joints or install backer rod and sealant.
- Have a detailed assessment done to document areas of brick that should be repaired or replaced and tuck-pointed including areas of efflorescence. Install thru-wall flashings where required.

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1961 Building Addition

The building addition was constructed at the SE corner of the original building according to drawings furnished by the Owner.

The current building exteriors consist of the following:

- Running bond brick
- Exposed concrete

Roofs for the addition include roof areas 18 and 19.

Service doors and frames are hollow metal.

Windows are fixed aluminum with insulated glazing with an aluminum sill. The window is not original to construction.

The window systems are aluminum framed with single pane glazing.

Roofs are not original to construction with no know installation date reported for roof area 18, while roof area 19 was reportedly installed in 2009 according to information furnished by the Owner.

There was no report of water infiltration related to the exterior walls and roofing.

Observations

Includes roof areas 18 and 19 which are low sloped gravel surfaced built-up membranes. Drainage is provided by internal roof drains. Membranes are in fair condition and include the following:

- A metal gooseneck duct thru the membrane does not have a shroud or flashing
- Areas of missing gravel have left the underlying membrane exposed. There are areas of exposed felt along the edges.
- The roofing appears to have been patched at a roof drain at roof #18

Base flashings are smooth surfaced with a silver coating and in fair condition. In various locations the coating is failing.

Flashings at vent stacks are lead.

Gravel stop and fascia at the roof edges are in generally good condition.

The window and frame is in good condition.

The window system and panels are in fair to poor condition with some failed sealants. The finish on some panels is failing.

Brick is in fair condition with some previously patched holes in the east elevation. There is some efflorescence on the exposed brick wall above roof #19. It appears that the brick has been previously tuckpointed in several locations. Cracks and spalled brick were noted at the west elevation.

The hinges at the east side door are corroded. The north side door is in poor condition.

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Recommendations

- Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
- As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project. Replacement should also include proper detailing for support of equipment and gas lines.
- The gravel surfaced built-up roof membranes have an expected service life of approximately 25 years. With the unknown installation date for roof 18 and 14 year age of roof 19 and given observed conditions these roofs would be scheduled for replacement in 8 years with continued inspections and maintenance.
- With any reroofing project replace existing roof drains, especially if the roofing system is not a multi-ply asphalt roof.
- Replace the hollow metal door hinges and replace the north side door and frame.
- Replace the window systems at the east elevation.
- Further evaluate the efflorescence in the brick wall to determine where moisture may be entering the wall and address. Address the cracking and spalled brick by tuck-pointing.
- Replace failed sealants.

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1967 and 1976 Building Additions

The 1967 building additions were constructed east of roof area 4 and south of roof area 19, with additions also added north of the original building according to drawings furnished by the Owner. The 1976 addition was constructed north of area 12.

The current building exteriors consist of the following:

- Running bond brick
- Painted smooth faced CMU block
- Wood siding
- Exposed steel columns
- Exposed concrete

Entrance doors and frames are aluminum with single pane glazing.

Service doors and frames are hollow metal.

Window systems are aluminum frames with panels and fixed or operable units with screens.

Roof areas for the 1967 additions include 1, 2, 3, 7N, 10, 11, 12, and 17. Roof area 11 was included in the 1976 construction.

Roofs are not original to construction and were reportedly replaced at various stages from 1999 to 2010 as reported by the Owner.

There was no report of water infiltration related to the exterior walls and roofing.

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Observations

Roof areas 2, 3, 10, and 12 are low sloped smooth surfaced built-up roof membranes with silver coating. Drainage is provided by internal roof drains or low edge gutters at roof #2. Roofs are fair to poor condition and included the following:



Failing coating and alligatoring

- The steel railing at roof #2 is corroded
- Silver coating is peeling in various locations
- Base flashings are coated and in fair condition with some failing coatings noted.
- Wood sleepers are in poor condition
- The gas piping at roof #2 is corroded
- An electrical junction box at roof #2 is corroded
- An aluminum expansion joint cover at the east end of roof #3 is in fair condition
- Some standing water was present on the raised roof area at roof #1 which is a smooth coated built-up roof.
- Exposed laminated wood members at roof #2 are weathered
- Roofs have been patched at drains at roof #3 with standing water noted near the center drain.
- Boiler stacks and the flashing at roof #10 are corroded and there is standing water adjacent to the raised curb. Roofing in that area is in poor condition.
- Deep alligatoring was noted at the NW corner of roof #10. A drain in that area has a broken strainer. Alligatoring in the asphalt was also noted at roof #12
- There is an open/break in the flashing at the NE corner of roof #1.
- Drain sumps at roof #12 need to be cleaned
- No overflow relief was noted at roof #12. There are areas of standing water with some blisters in the membrane.
- Shrouds are missing at three exhaust fans.



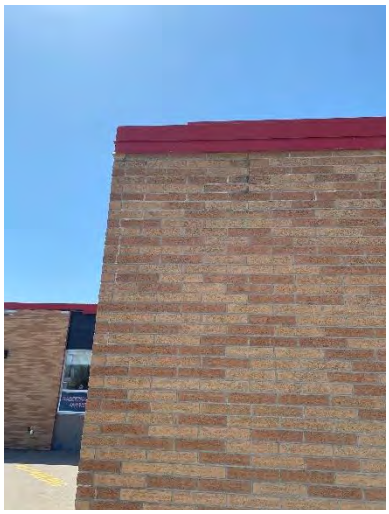
Exposed weathered wood beam

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Roof area 1, 7, 11 and 17 are gravel surfaced built-up membranes with drainage provided by internal roof drains. Roofs are fair in condition and included the following:

- Some fungal growth was present in the SE corner of roof #7 and along the south edge of roof #11
- Vents have lead flashing
- There is no access to roof #11
- The coating on base flashings is failing in some spots
- The wood supporting the dust collector duct is in poor condition
- The flashing at the base of a gooseneck duct at roof #17 is in poor condition
- There is missing gravel and exposed felts at roof #17


Cracks at corner of wall

Paint is failing on metal flashings and gravel stops.

The soffit is sagging above an east elevation window.

Soffits at some entrances are exposed tectum panels.

A newer painted CMU is present between the freezer/cooler at the NW corner of roof 7 with EPDM flashing and metal cap. The base metal cap appears to direct water towards the wall.

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Brick is in fair to poor condition with cracks and damage noted at various building elevations. Newer areas of brick are present where HVAC grilles were removed previously. Construction joints are tight with the sealant having been extruded from the joint. Sealants have failed in some joints. There is an area of efflorescence and brick spalling at a section of north wall near the NW corner.


Extruded sealant at brick joint

No weeps were noted at the base of the wall. An area of cracks with missing brick is present at an east side door.

The painted CMU is in fair condition with a number of stepped cracks.

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The metal siding is in fair condition and has been previously field painted. Some of the fasteners are newer while other fasteners are loose or missing. Some damaged siding is present.



Damaged lower panel

Wood siding at the west end of area 2 is unfinished and weathered

Hollow metal doors and frames are in good to fair condition. Wood trim is weathered with corroded hinges present at an east side door. At an east elevation door, the base of the frame is corroded.

Aluminum storefronts at the entrance is in good condition.

Window and panel system ranges from good to poor with some panels near failure. At various locations panels have been previously replaced with wood and other materials, some of which is weathered and deteriorated. There is damage and peeling finish to panels at various elevations. Screens are missing at some windows. Glazing is a single pane in some of the units. There are several failed thermopanes in east side units.



Missing mortar/sealant at grille and stone sill

Window sills are either aluminum or cast stone. Mortar is missing in a number of cast stone window sill joints.

Sealant failures are present at the perimeter of window systems throughout. Some of that sealant is hard and weathered.

Some corrosion was present at steel lintels at window openings and at a steel member at entry overhang.

There is a damaged grille at the south elevation.

Deteriorated and/or missing mortar was noted at ends of steel lintels at several grille openings. Sealants were also failing and mortar missing above grilles.

A taller brick chimney at roof 15 is brick with a concrete cap with cracks noted in the brick and mortar joints. The concrete cap is cracked, and some deteriorated mortar is present in joints below the cap.

Several rooftop units are missing shrouds.

<u>Recommendations</u>

- Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
- As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project. Replacement should also include proper detailing for support of equipment and gas lines.

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- The gravel surfaced built-up roof membranes have an expected service life of approximately 25 years. With an unknown installation date for roof 17 and given observed conditions this roof should be scheduled for replacement within 8 years with continued inspections and maintenance. The ages of roofs 1, 7, and 11 vary between 13 and 17 years since installation and should be scheduled for replacement in 8 – 12 years with continued inspections and maintenance.
- The smooth surfaced built-up roof membrane roofs range in age from 20 to 24 years as noted in the roof summary at the end of this report. With expected service lives of approximately 20 years, these roofs have reached their expected service life and should be replaced. According to the Owner, roof area 10 is scheduled to be replaced.
- With any reroofing project replace existing roof drains, especially if the roofing system is not a multi-ply asphalt roof.
- Address corroded electrical junction box.
- Address standing water issues as roofs are replaced.
- Exposed laminated wood members should be covered with a system to prevent moisture exposure.
- Corroded flashings at roof top equipment should be replaced when roofs are replaced. Missing rooftop equipment shrouds should be replaced.
- Provide access to roof area 11.
- Replace the hollow metal door hinges and replace exposed wood trim. Address corroded frames and replace if required.
- Replace the window systems throughout.
- Clean, prime and paint corroded opening lintels, steel ladders, railings, gas lines and other components throughout the building. Existing coatings should be tested prior to any work to determine if lead paints are present and handled accordingly.
- Paint hollow metal doors and frames.
- Reset stone window sills if needed, then point open joints or install backer rod and sealant.
- Have a detailed assessment done to document areas of brick that should be repaired or replaced and tuck-pointed including areas of efflorescence and spalling. Existing control joints need to be evaluated and failed sealants removed and replaced. With noted extruded sealants and tight joints saw cutting will likely be needed to widen the joints to provide for properly sized control joints.
- Monitor cracks in the exposed painted CMU wall. Should there be continued movement the wall should be further evaluated by a structural engineer.
- The damaged metal siding should be removed and replaced. Replace loose or missing fasteners.
- Existing wood siding should be removed and replaced with a low maintenance product.
- Install thru-wall flashings where required.
- Replace failed sealants throughout.
- Replace any entrance or window system with single pane glazing.

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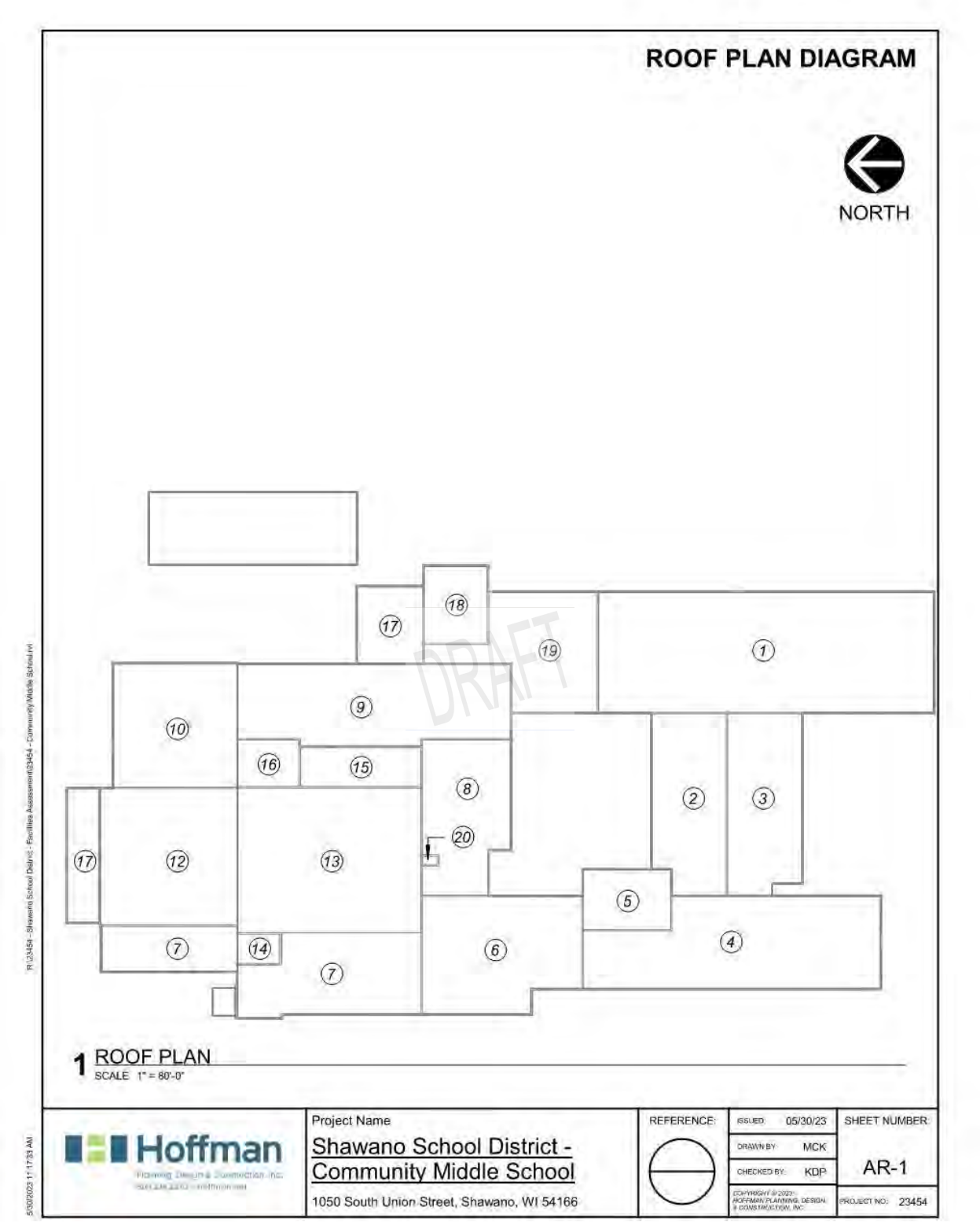
- Consider covering the exposed steel columns at the east elevation above roof 10 and flash appropriately to the roofing system.
- The taller chimney at roof 15 needs to be further evaluated and cracking addressed. The owner should evaluate whether the chimney is required and remove if not used.

Roof Summary

Roof No.	Roof Type	Roof Area	Installed	Age	Warranty	Service Life
1	Gravel surface BUR	20,000	2010	13	2020	12
2	Smooth BUR w/ coating	7,000	2002	21	2012	0
3	Smooth BUR w/ coating	5,800	2002	21	2012	0
4	Smooth BUR w/ coating	12,500	2003	20	2013	0
5	Cold BUR w/ coating	2,600	2003	20	2013	0
6	Gravel surface BUR	9,200	2009	14	2019	11
7	Gravel surface BUR	9,150	2006	17	2016	8
8	Gravel surface BUR	5,400	2009	14	2019	11
9	Gravel surface BUR	11,100	2009	14	2019	11
10	Smooth BUR w/ coating	7,700	1999	24	2009	0
11	Gravel surface BUR	2,000	2006	17	2016	8
12	Smooth BUR w/ coating	9,700	2003	20	2013	0
13	Smooth BUR w/ coating	12,900	2003	20	2013	0
14	Gravel surface BUR	420	2006	17	2016	8
15	Gravel surface BUR	2,800	2006	17	2016	8
16	Gravel surface BUR	1,800	2006	17	2016	8
17	Gravel surface BUR	2,500	N/A			
18	Gravel surface BUR	2,500	N/A			
19	Gravel surface BUR	6,600	2009	14	2019	11
20	Gravel surface BUR	100	2009	14	2019	11

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ROOF PLAN DIAGRAM
NORTH
DRAFT
1 ROOF PLAN
SCALE 1" = 80'-0"
Hoffman
Project Name
Shawano School District - Community Middle School
1050 South Union Street, Shawano, WI 54166
REFERENCE:
ISSUED: 05/30/23
DRAWN BY: MCK
CHECKED BY: KDP
SHEET NUMBER
AR-1
PROJECT NO: 23454

Plumbing Systems

Domestic Water and Natural Gas



Water Service

Observations

- The building is served by a 3" domestic water service, with 3" water meter located in a crawlspace beneath the IT closet adjacent to the main entrance. The domestic water supply pipe is copper. Air chambers were observed on water supply piping within accessible toilet chases. There is no report by facility of problems with water piping, leaks, or hot water supply temperatures.
- The natural gas meter is located outside the building, at the northwest corner of the building near the maintenance office. The natural gas enters a crawlspace beneath the building and serves domestic water heaters and food service equipment. The natural gas pipe is steel with threaded connections.

Recommendations

- Water supply piping installed during the 1997 and 2016 renovations should be in acceptable condition and may remain in place. Water supply piping installed prior to the 1997 renovation is at least 47 years old and is approaching the end of its expected service life. It should be replaced during the next major renovation project.
- Air chambers on water supply piping should be replaced with water hammer arrestor devices during the next major renovation project. Backflow prevention devices shall be tested and inspected annually. Check isolation valves for corrosion and exercise semi-annually.

Sanitary Drain and Vent

Observations

The sanitary drain systems are service weight cast iron soil pipe with hub and spigot fittings for larger diameter pipe, and galvanized steel with threaded joints and fittings for smaller pipe. A grease interceptor is located outside the building adjacent to the kitchen. Drain and vent pipe within the science wing is CPVC with solvent welded fittings. There is no acid dilution basin reported at the middle school. There is no report by facility of problems with slow drainage or sewer backups.

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Recommendations

- The existing piping was installed during the 1997 and 2016 renovations should be in reasonable condition and may remain in service. Sanitary drain and vent piping installed prior to the 1997 renovation is at least 47 years old, and is approaching the end of its expected service life. It should be replaced during the next major renovation project.
- The kitchen drain piping is susceptible to grease build-up and clogs from food waste, and should be inspected annually to ensure it is free flowing. The grease interceptor should be inspected on an annual basis for signs of damage or leaks.

Storm Drain

Observations

The storm drain is a mixture of cast iron soil pipe and schedule 40 PVC. Most of the building drains to a storm sewer system. Roof areas around the central courtyard discharge to grade within the courtyard, and a catch basin in the center of the courtyard is connected to the storm sewer system. Maintenance staff reported several concerns with storm drainage. The central courtyard does not drain properly, and soccer fields to the east of the building also experience flooding during heavy rain events. In 2020 a major underslab storm drain broke, and caused significant flooding within the building.

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Recommendations

- The existing piping was installed during the 1997 and 2016 renovations should be in reasonable condition and may remain in service. Storm drain piping installed prior to the 1997 renovation is at least 47 years old, and is approaching the end of its expected service life. It should be replaced during the next major renovation project. The underslab storm sewer should also be inspected with drainline video camera for sections of broken pipe and repaired as required.
- The exterior grade around the soccer fields should be reviewed for proper slope and drainage path. Storm sewer inlets should be lower than the surrounding area. The site storm sewer system should be inspected with drainline video camera for sections of broken pipe and repaired as required.
- The grade at the interior courtyard should be reviewed for proper slope and drainage path. Storm sewer inlets should be at the lowest point of the courtyard, with grade sloping gradually up to the finish floor elevation of the building. During the next major renovation project, the roof drainage system for areas around the courtyard should be revised to connect to the underslab storm sewer system.

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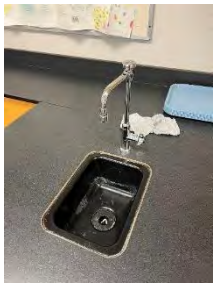
Plumbing Fixtures

Observations

Water closets are wall hung with manual flush valves rated for 1.6 gallons per flush.



Lavatories



Science Sinks



Urinals



Wood Shop Sink

Urinals are floor set with manual flush valves rated for 1.0 gallons per flush. Lavatories are wall hung with 2.2 gallons per minute faucets and wrist blade handles. Sinks in the science classrooms are integral with the countertop, and faucets are high rise spout with vacuum breaker and single handle operation. Sinks in the wood shop is floor mounted stainless steel, with two hand backsplash mounted faucet.

Recommendations



Water Closet

- Water closets and urinals in toilet rooms appears to be in acceptable condition. The district may consider replacing flush valve fixtures with water conserving type flush valve fixtures in the next major renovation project. Vitreous china lavatory fixtures appear to be in acceptable condition, but trim components are showing signs of wear and should be replaced. This includes fixture stops, supplies, and p-traps. An ASSE 1070 themostatic mixing valve set to deliver 105°F hot water should be installed at each fixture, and insulation kits should be installed on the p-traps serving accessible fixtures. The district may consider replacing lavatory faucets with water conserving type faucets in the next major renovation project.
- Sinks in the science classrooms are in generally acceptable condition. The deck mounted emergency eyewash in the work rooms is currently supplied with cold water only. This should be modified to deliver tempered water thru a thermostatic mixing valve set to 85°F supply temperature, and an ASSE 1012 backflow prevention device should be added to the supply piping.
- Sinks in the wood lab are in poor condition, and should be replaced in the next major renovation project.

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Plumbing Equipment

Observations

- There are two tank type, natural-gas fired, high efficiency water heaters that serve the building. One water heater was installed in 2004, has 100 gallons of storage capacity, and is rated for 150 MBH. One water was installed in 2021, has 100 gallons of storage capacity, and is rated for 199 MBH at 95% thermal efficiency and includes a modulating burner that will operate as low as 40 MBH. The older water heater is set to deliver 151°F hot water, and the newer water heater is set to deliver 140°F hot water. A thermostatic mixing valve assembly was not observed. One in-line pump circulated water thru the hot water supply system and back to the water heaters. The water heaters are served by a water softening system installed in 2021, with two resin tanks and one brine tank.
- A 3 HP, reciprocating type air compressor mounted on a 100 gallon tank serves compressed air outlets in the wood shop. Its age is unknown.
- A sump pump was installed in 2020 in an open pit to serve condensate drains. Clear plexiglass has been cut to fit over the pit, to prevent objects from falling in. Several indirect waste pipes discharge just above the sump pit. A number of hoses and cords enter the pit, in addition to the power cords for the pumps and level control. The pit, pipes, and cords serving the sump pump all have soil build-up on them.



Water Heaters



Sump Pump



Air Compressor

Recommendations

- Water supply temperatures above 125°F present a risk of severe burns from scalding. Children and the disabled are at higher risk of scalding than the typical adult. The water supply temperature should be immediately verified, and lowered to no more than 120°F. An ASSE 1016 thermostatic mixing valve should be installed on the hot water supply system and should be set to 120°F. Once the thermostatic mixing valve is installed, the storage temperature of the water heaters can be increased to 140°F to increase the total capacity of the system.
- The water heater installed in 2004 appears fine on visual inspection, but is at its end-of-life service condition. It should be replaced with a new water heater

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during the next major renovation project, with the same make and model water heater as the 2021 equipment.

- The air compressor appears to be working properly upon visual inspection, but is showing signs of age. It is recommended to replace the air compressor during the next major renovation project.
- The sump pit should be cleaned thoroughly. The plexiglass lid should be replaced with a proper sump pump cover. A floor sink should be installed to collect discharge from all of the indirect waste pipes and hoses. The only power cords penetrating the lid of the sump pump should be directly serving the pump or level control.

Fire Protection Systems

Observations

The building does not currently have a fire sprinkler system.

Recommendations

The district should consider adding a fire sprinkler system in the next major renovation project. It may be required by code, depending on the extent of the renovations.

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HVAC Systems

The following report is the result of a site visit by Jason Testin of Fredericksen Engineering that occurred on April 20, 2023. Site observations, construction plan review, and interviews with staff were all used in the preparation of this report.

Heating System

Existing Data

The existing boiler plant consists of four Thermal Solutions Evolution hot water boilers, installed in 2016. Each boiler is fired with natural gas and has a capacity of 2,150 mbh output. Each boiler is served by a boiler pump.

The pumping system consists of a single circuit with a stand-by pump. If the primary pump fails, the secondary (stand-by pump) will provide hot water circulation to the system.

Observations

According to information obtained by the Owner, the boiler plants have no reserve capacity at this point, as all boilers are brought online during periods of colder weather.

The boilers are in good condition and have an estimated life expectancy of 20 years.

The pumps are in good condition and have an estimated life expectancy of 20 years.

The hot water system is a 25% propylene glycol solution.

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Insulation at most piping is of adequate thickness and in fair condition.

The Owner has indicated that there are no current concerns or issues with the heating supply system.

Recommendations

Continue preventative maintenance on the system.

Any future additions or construction may require the addition of boiler capacity to serve the additional spaces.

Ventilation and Air Conditioning Systems

Existing Data

Air conditioning is provided to the entire facility by two air cooled chillers and multiple rooftop units.

The two air cooled chillers are paired together to a single circuit. Each chiller has a capacity of 160 tons and utilizes a 30% propylene glycol solution.

The chiller plant has a primary/secondary pumping arrangement.

The main gym is served by two SZCV air handling units. Each unit has a supply fan, hot water heating coil and chilled water cooling coil.

The small gym is served by a SZCV air handling unit. The unit consists of a supply fan, hot water heating coil and chilled water cooling coil.

The wrestling mezzanine, boys locker room, girls locker room and gym offices are served by five SZCV air handling units. Each unit consists of a supply fan, hot water heating coil and chilled water cooling coil.

The band and orchestra rooms are served by two VAV air handling units. Each unit consists of a supply fan, hot water heating coil and chilled water cooling coil. Hot water VAV boxes are installed in the ductwork to provide individual temperature control.

The office area is served by a VAV rooftop system. The rooftop unit consists of a supply fan, gas fired heating section and packaged DX cooling section. Hot water VAV boxes are installed in the ductwork to provide individual temperature control.

The IMC, classroom 110, LGI and Welcome Center areas are served by four SZCV rooftop systems. Each rooftop unit consists of a supply fan, gas fired heating section and packaged DX cooling section.

The remaining classrooms, commons and kitchen are served by unit ventilators. Each unit ventilator consists of a supply fan, hot water heating coil and chilled water cooling coil.

The shop is served by a make up air unit. The make up air unit consists of a supply fan and hot water heating coil.

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A cyclone style dust collector serves the shop. The dust collector consists of round ductwork run from the shop equipment, constant volume exhaust fan and collection drum.

The maintenance building is served by a make up air unit and two gas fired unit heaters. The make up air unit consists of a supply fan and gas fired heating section.

Observations

The air cooled chillers were installed in 2016 and are in good condition. The units have exceeded the estimated life expectancy of 20 years.

The pumps serving the chiller were installed in 2016 and are in good condition. The units have exceeded the estimated life expectancy of 20 years.

The air handling units were installed in 2016 and are in good condition. The units have an estimated life expectancy of 25 years.

The rooftop units were installed in 2016 and are in good condition. The units have an estimated life expectancy of 15 years.

The unit ventilators were installed in 2016 and are in good condition. The units have an estimated life expectancy of 20 years.

While it is not known when the make up air unit serving the shop was installed, it was installed prior to 2011. The unit is in fair condition and has an estimated life expectancy of 25 years.

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It is not known when the make up air unit serving the maintenance shop was installed; it appears original to the building. The unit is in poor condition and appears to have exceeded the estimated life expectancy of 25 years.

The cyclone dust collector appears to be original to the building and is in poor condition. The unit appears to have exceeded the estimated life expectancy of 20 years.

Door transfer grilles are currently utilized to transfer relief air from the classrooms to the corridor.

The Owner indicated they would like ten roof exhaust fans replaced.

Recommendations

Continue preventative maintenance on the systems.

Plans should be made for the replacement of the dust collector serving the shop.

Plans should be made for the replacement of the make up air unit serving the maintenance shop.

Plans should be made for the replacement of the ten roof exhaust fans.

With any remodel or renovation, plans should be made to replace the door transfer grille relief system with a code approved system. The current building code does not allow transfer air into a path of emergency egress.

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Control Systems

Existing Data

A Johnson Controls digital control system serves the building.

Observations

The control system is in good condition.

The Owner indicated they would like all four schools tied into the same control system.

Recommendations

Continue to maintain and operate the control system.

Plans should be made to provide an open protocol, Tridium/Niagara N4 system at each school and tied together into the same control access program. With a new control system, plans should be made to commission the HVAC systems.

Electrical Systems

Main Electrical Service

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Observations

- The facility is served by Shawano Municipal Utilities via a 750kVA pad mounted transformer located within the courtyard area just outside of the Building and Grounds outbuilding. The current transformers for metering are located within a utility MSB cabinet adjacent to the transformer. The service lateral travels underground from the transformer and up into the building within the main electrical room.
- It enters into a Cutler-Hamer enclosure that appears original to the building and then travels overhead to a new 1,200A, Square D, I-Line panelboard with a 1,200A main breaker. There is a surge protective device installed external to the panelboard enclosure.



Service Transformer

Recommendations

- The utility switching cabinet, labeled “MSB” has a plywood tophat. The exact use of this tophat is unknown. However, replacement with a weatherproof, grounded metallic enclosure is recommended.
- The interior building main electrical service equipment is in good condition and can continue to be maintained and serve current and future needs of the building. Circuit breakers can be added to this equipment to accommodate future rennovations or additions.



Service Entrance Conductor Enclosure

Panelboards

Observations

- There are a mix of different panel manufacturers and ages throughout the building. Manufacturers that were found are Square D, Cutler Hammer and Trumbull Electric.
- In general, there is a lack of additional circuit capacity on most panelboards. Additional circuits required for renovations or additions will likely require new panelboards. Panels that are located within the original footprint of the building are Cutler-Hammer, are old and in need of replacement.

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Service Disconnect Panel

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- The remainder of the panels throughout the building were installed in 1997 and are in good condition.



Cutler Hammer Panelboard

Recommendations

- Replace Cutler Hammer and Trumbull Electric panelboards. It is recommended that replacement panels be equipped with numerous additional spaces for future renovations or expansions due to higher electrical demands today compared to when these panels were originally installed.
- Highest priority is the Trumbull Electric panelboard. The existing panel does not have a door and circuit breakers are in an accessible location that students can easily access.
- Consideration should be given to replacing equipment installed in 1997. This is a medium/low priority. However, due to the age of this equipment, finding replacement components will be increasingly difficult as time goes on.



Trumbull Electric Panelboard

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Emergency Systems

Observations

The emergency egress lighting and emergency fire alarm power are obtained through unit equipment and batteries, respectively. There are emergency battery units (EBUs) located throughout the building along the egress paths.

Recommendations

The facility staff shall continue to perform monthly tests on battery units and replace as needed. Additions or renovations to the building should continue to utilize similar battery units.

Generator

Observations

There is an optional standby (NEC 702) generator that is located off the east end of the building. The generator is a 75kVA, 208/120V, 3-phase, 4-wire Generac generator within a weatherproof steel enclosure. The production date on the nameplate indicates 2007. The generator appears to be in fair condition.

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There is a feed from the output breaker on the generator to an automatic transfer switch located within the main data room of the building. This feed then serves various loads mainly associated with the building's technology systems. Specific loads served are as follows:

- Main Data Room Cooling Units
- Access Control Panel
- Main UPS
- Data Rack Receptacles
- Boiler Room Sump Pumps.



Standby Generator

Recommendations

It is recommended that the generator and transfer switch be maintained and tested regularly. No other modifications are recommended at this time.

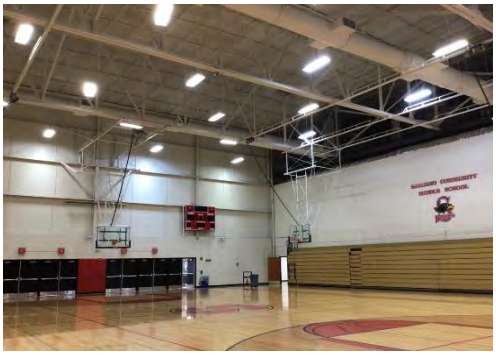


Hall Lighting

Lighting Fixtures and Controls

Observations

- Most fixtures throughout the interior of the building have been retrofitted with LED type replacement lamps. Occupancy sensors were found to be installed within the Gym, Halls, Entries, Bathrooms and Kitchens. All other interior lighting controls are manual type.
- Classroom controls consist of inboard/outboard lamp switching or separate zoned on/off switching.
- Exterior parking lot lights and building mounted wall packs are LED type. All exterior lighting is controlled dusk to dawn via photocell.



Gym Lighting

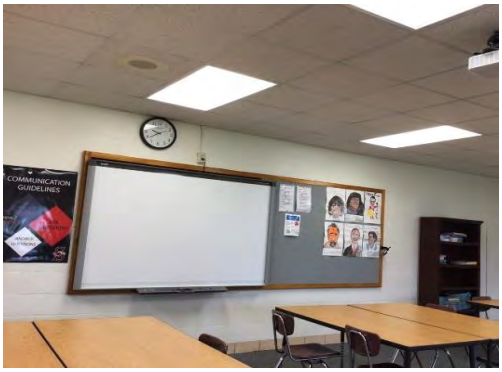
Recommendations

Consider replacement of existing LED retrofit lamp fixtures in classrooms with LED flat-panel type fixtures and integral dimming. Additionally consider adding occupancy sensors to all spaces and dimmable controls within classrooms. This will allow educators better control of their classroom to create an ideal learning environment based on student task/activity.

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Wiring Devices

Observations



Typical Classroom

Classrooms have a general lack of receptacles. May classrooms have surface wiremold receptacle and data devices added near the instructor desk location. However, the remaining walls of these classrooms appear to have an inadequately low quantity of devices.

Data cabling is Cat 5 & 6 and routed free air, above ceiling. It was noted to be CMR type.

Recommendations

Replace all receptacles and switches that are older than 10 years. This will ensure that receptacle pulling tensions are adequate to hold plugs, fully engaged, into devices.

Receptacle locations should be reviewed within classrooms and spaces and devices added where determined to be inadequate. Data outlet locations should also be reviewed throughout and outlets should be added to accommodate the increased needs for technology.

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Fire Alarm System


Fire Alarm Control Panel

Observations

The existing fire alarm system is an addressable system with horn-based notification devices. The fire alarm control panel is a Simplex 4100ES and located in the main Electrical Room. Pull stations are located at egress doors for manual alarm initiation. Smoke detection was observed within storage rooms, technology closets, electrical rooms and hallways..

Recommendations

Continue to maintain existing fire alarm system and expand/extend system to accommodate future additions or renovations. If there are future plans for a large assembly addition with 300 or more spectators, it is recommended that the existing system be upgraded to a speaker-based system. This would require head end equipment upgrades, the addition of amplifiers and new signaling circuit wiring.

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Clock System

Observations

The clocks within the building are LaCrosse Technology, battery operated, atomic type. Maintenance staff replace clocks and batteries as needed.

Recommendations

Maintain existing clock system add clocks as necessary for any future building additions or renovations. Continue clock replacements as needed.



Typical Clock

Public Address System

Observations

The public address system head end is located within a closet inside classroom 140. There is a TOA 9000 M2 series digital matrix mixer fed from a network controller and additional amplifiers for other building zones. Equipment appears to be in good condition. Wiring was noted to be free-air routed.

Recommendations

Extend and modify the system as necessary to accommodate any building renovation or addition.

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PA System Head End

Phone System

Observations

Existing phone system is a VoIP system. Each teacher workstation and office work area contains a Cisco IP Phone 7942 handset.

Recommendations

Existing system is in good condition and shall be expanded as necessary to accommodate any building addition or renovation.



VoIP Handset

Data System

Observations

The MDF room is Server Room 134. There are 12-Strands of single mode fiber between the MDF and each IDF room. IDF rooms were noted to be the following:

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- Closet Near Room 154A.
- Closet off SW corner of the Gym
- Closet off of LMC

There are rack mounted uninterruptible power supplies (UPS) within each rack. Each of these UPS units are fed from a generator sourced receptacle. The MDF and IDF rooms contain 4-post racks and data cabinets with switches and patch panels. Horizontal cabling is done via Cat 5 and Cat 6 cabling. It was noted that there is a mix between plenum rated and non-plenum rated cabling. Cables are routed free-air above accessible ceilings. All appear to be in good condition. There are wireless access points located throughout the facility.



MDF Equipment

Recommendations

Existing equipment and cabling appear to be in good condition and has room for expansion. Minor modifications to rack mounted equipment and cable management are recommended.

Existing abandoned data cabling is recommended to be demolished and removed throughout the building.

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CCTV System

Observations

There is an IP camera-based video surveillance system located throughout the building. Cameras are located at the building entrances, around the building exterior and throughout the hallways. It appears that a camera project is in-progress. New cameras were noted to be Axis.



Hallway Cameras

Recommendations

Maintain existing system and add/modify cameras as needed.



HID Card Reader

Access Control/Security System

Observations

Building entrances were noted to contain motion sensors for building security with TECC security system touch pads for arming and disarming the system.

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Many entry doors are equipped with HID proximity readers. Readers were noted at the following entry doors:

Aiphone intercom is installed at the main entry door with master station located within main office.

Recommendations

Maintain existing system and add/modify devices as needed for any future renovations or additions.



Entry Door Intercom

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Site Assessment

The following report is the result of a site visit by Mark C. Spielbauer of Hoffman PD&C that occurred on May 17, 2023. Site observations, construction plan reviews, and interviews with staff were all used in the preparation of this report. The site assessment was limited to the Shawano School District property identified as Shawano High School as identified on Owner furnished drawings and information in the Shawano County GIS website.

Zoning

The site is zoned Single Family Residential – 4 (SR-4). Part of site is included in a Woodland Protection Area. All of the City of Shawano lies within the Airport Height Limitation Zoning area. According to the Shawano GIS website there are wetland indicator soils present at several locations on the site.

Environmental

No environmental concerns were identified by the Owner

Neighborhood

The Shawano School District High School is located at the SW part of Shawano with Don Martzke Park and NWTC Shawano to the east, residential and commercial properties to the north, commercial properties to the west and open fields and the river to the south. With the exception of open property to the south, there does not appear to be vacant property adjacent that would allow for any expansion. The site is bounded by County Road B to the north, S. Lincoln Street to the west, and Thomas Avenue to the south. S. Evergreen Street is present north of the school with connections to S. Lincoln Street and County Road B. An asphalt paved drive is present off S. Evergreen Street for access to Don. County GIS information lists the site size at 37.094 acres. Perimeter streets are asphalt paved with concrete curb and gutters. Sidewalks are present at both sides of County Road B, the east side of S. Lincoln Street, and the north side of Thomas Avenue. Municipal utilities including water, storm sewer and sanitary sewer are located in perimeter streets.

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Observations and Existing Site Conditions

Parking Lots

Parking is provided in five separate lots at the school. These include:

Parking Lot #1

Located east of the school and entry drive at the SE corner of the site. Lot is asphalt paved with a single vehicle drive off the main drive near the SW corner of the lot. A pedestrian access is located near the west center of the lot. Lot surface drains to the west into a swale between the lot and drive. Pavement has cracks, some of which have been previously repaired and is in fair condition. Pavement markings are weathered and in fair condition as well. Lot is illuminated with LED fixtures on poles. Lot

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includes 132 marked parking stalls configured for 90-degree parking and 2 van accessible ADA parking stalls.

Parking Lot #2

Located east of the school and entry drive and west of the football field. Lot is asphalt paved with a single vehicle drive off the main drive near the NW corner of the lot. A pedestrian access is located near the west center of the lot. Lot surface drains to the west into a swale between the lot and drive. Pavement has cracks, some of which have been previously repaired and is in fair condition with isolated areas of poor condition as well. Pavement markings are weathered and in fair condition as well. Lot is illuminated with LED fixtures on poles. Lot includes 144 marked parking stalls configured for 90-degree parking.

Parking Lot #3

Located NE of the school and on the north side of S. Evergreen Street. Lot is asphalt paved with three vehicle drives off S. Evergreen Street. Lot surface drains to the south into a swale between the lot and street. Pavement has cracks, some of which have been previously repaired and is in fair condition with isolated areas of poor to failing pavement noted. Pavement markings are weathered and in fair condition as well. Lot is illuminated with LED fixtures on poles. Lot includes 244 marked parking stalls configured for 90-degree parking and 2 van accessible ADA parking stalls.

Parking Lot #4

Located NE of the school and south of E. Evergreen Street. Lot is asphalt paved with a single vehicle drive off the main drive and second drive off S. Evergreen Street. Lot surface drains to the northeast into a low grass area where a storm catch basin is located. Pavement is newer and is in good condition. Concrete curbs at the drives are newer and in good condition. Pavement markings are good with the exception of the ADA symbols which are weathered. Lot includes 34 marked parking stalls configured for 90-degree parking and 6 van accessible ADA parking stalls.

Parking Lot #5

Located NW of the school and south of E. Evergreen Street. Lot is asphalt paved with a two vehicle drives off S. Evergreen Street. Lot surface drains to the northwest into a low grass area where a storm catch basin is located. Asphalt pavement has cracks, some of which are repaired and ranges from fair to poor and failing in isolated areas. There are areas where the pavement has been previously patched. Pavement markings are weathered and in fair condition as well. Lot includes 36 marked parking stalls configured for 90-degree parking and 1 van accessible ADA parking stall.

Parking Lot #6

Located adjacent to the NW side 2013 shop addition. Lot is asphalt paved with a single vehicle drive off S. Lincoln Street. Lot surface drains to the north into a swale between the lot and drive. Asphalt pavement has cracks, some of which have been previously repaired and is in good to fair condition. Lot includes 6 marked parking stalls configured for 90-degree parking.

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An electrical transformer is located at the NW side of the school and is not enclosed by fencing. The top surface of the concrete slab is spalled.

Bollards

Steel bollards are present at various doors and site components and are in good to fair condition with some corrosion noted at the bases.

A chain link fence along a portion of the north property line is in fair condition. Other chain link fencing with slats at locations around the building is in fair condition

Pavement

Concrete pavements including walks and drives along with curbs and gutters range from a good to fair condition with cracked and settled pavements noted at various locations around the site. Curb paint to define no parking areas is weathered. Asphalt pavements at drives range from newer and in good condition to areas where the pavements are failing with some areas previously patched. Cracks are present, some of which have been previously repaired.



Weathered ADA symbols

The site is generally flat with drainage provided by onsite storm catch basins connected to the underground storm piping system. There are no detention/retention ponds at the site.

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There is an illuminated sign at the NE corner of the site.

Dumpsters

Five dumpsters are located on the asphalt pavement NW of the school and are not enclosed by fencing.

Flag Poles

Two aluminum flagpoles are located east of the main entry, one on each side of the main walk. The poles are illuminated from adjacent poles. The north side pole is damaged from an apparent impact.

Landscaping

Landscaping across the site includes a variety of trees, bushes, and plantings along with decorative beds along buildings and grassed areas. Overall the landscaping appeared to be well maintained and in good condition. Light bollards are present at the west side entrance walk.

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Benches at the east side of the school are in good condition while benches at the west side entry walk are older and are weathered with corroded steel.

Four access covers are located near the NW corner of the school and are likely for access to the grease interceptor.

Gas Meter

The gas meter is located at the NW side of the school and is protected by bollards. Gas piping is corroded.

The steel supports at the dust collector are corroded.



Gas meter with corroded piping

Bike Rack

A single bike rack is located at the north side of the school near parking lot 4.

Green Space

Grass surfaced football and soccer fields are located along the north property line and north of S. Evergreen Street. The field include two football goal posts that are in good condition and 4 soccer goals. The grass surface is in good condition with drainage to the swale along the south side.

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Greenhouse

A standalone aluminum framed greenhouse with panels is located at the SW corner of the school and includes a concrete foundation. The building has fiberglass entry doors with insulated glazing and is in good condition. Gutters at the low edges of the roof direct water to downspouts that drain to grade.



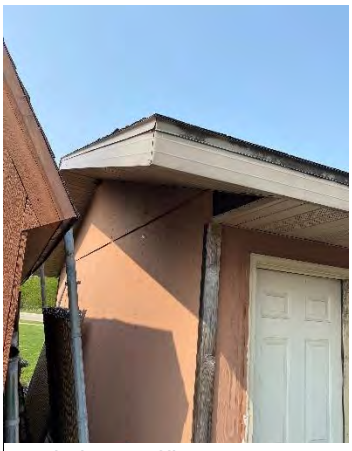
Downspout and gas meter at greenhouse

Storage Structure

Adjacent and north of the greenhouse is a small wood framed storage structure with plywood or cement board siding. The unit includes a rollup door and has 3-tab asphalt shingles and is in fair condition.

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Adjacent to the storage building and SW of the school is a wood framed garage with two overhead doors and two entry doors. Wood trim is in fair to poor condition and one of the entry doors is corroded. A newer chain link fence is located at the NW corner of the garage. A section of the soffit at the corner is missing.



Missing soffit at garage corner

Football Field

At the east side of the site and north of the NWTC building is a grassed football field. Observations included:

- Bleachers are located along the west side of the football field and include painted steel supports and aluminum bleachers. Steel support plates on wood, or the gravel base and the steel is corroded throughout the stands.
- The ramp at the south end is similar steel supports to the stands with plywood sheathing which is weathered and cupped. Railings are displaced and some are sagging.
- The field is crowned, and drainage is provided by perimeter catch basins. Drawings suggest the field has an underdrain system.
- A wood framed press box is located behind the bleachers and included cement board siding and a metal roof. The owner reported leakage into the second level with wood damage. Siding is in fair condition.



ADA ramp at bleachers

- A CMU block concessions building is located at the NW corner of the field and was constructed with wood trusses, plywood sheathing and asphalt shingles. Soffits are aluminum, some of which are missing at corner. Service doors are hollow metal and are in good condition. Stepped cracks that have been previously repaired are present in some of the interior block walls.
- An illuminated scoreboard is located at the NW corner of the football field and is supported by steel columns and framing. The paint on the supports is weathered and in fair condition. The owner reported the north side of the scoreboard no longer works and parts are no longer available to repair the south side board.
- The field is enclosed by perimeter chain link fencing with several access gates. Fence is in fair condition with some damage to top rails noted.
- A section of chain link fence is present between the field and the grandstand. That fence is also in fair to poor condition with the fence having moved vertically in several locations.

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- Field is watered from a north end hydrant. The owner reported that the system does not operate correctly.
- At the SW corner of the field is a wood framed storage building with cement board siding that is in fair condition. There is a hole in the east side of the building. Wood trim is weathered.
- An aluminum flagpole is located at the NW corner of the field and is in good condition.
- Electrical transformer and meter is located at the NE corner of the field.
- Missing covers at two outlets at NW corner of concession building.


Irrigation piping at hydrant

Recommendations

- Cracked and settled or deteriorated sections of concrete curbs, drives, and pavements should be removed and replaced. Repaint curbs in no parking areas.
- Continue maintenance of bituminous asphalt pavements. Faded and weathered pavement markings should be repainted including the ADA symbols. Areas of distressed and failing pavements should be removed and replaced. Prior to any work borings should be performed by a geotechnical firm to document subgrade conditions and make recommendations for pavement and subgrade designs.
- The existing dumpsters should be enclosed by fencing to limit access. The dumpsters should be located on a concrete pad to limit asphalt damage.
- Existing electrical transformer should be enclosed by fencing to limit access.
- Repair areas of damaged chain link fencing and gates. The fence at the football field grandstand should be removed and replaced or reset. Any unused sections of fencing should be removed.
- Have a site survey upgraded or done to document existing site improvements and aid in future planning.
- Paint exterior steel components that are corroded.
- Owner should review all outdoor storage buildings and garages and determine if any of those structures can be removed. Update structures to address wood trim and siding issues.
- Replace missing aluminum soffits at the concession building. Cracked block walls should be reviewed by a structural engineer and may require a review by a geotechnical engineer to document soil conditions below the slabs.
- Grandstand and ADA ramps are in poor condition with supports that rest on wood blocking or the gravel base. It was reported by the Owner that there was an inspection done of the grandstand and also discussions with their insurance company. Stands and ramp should be replaced.
- Address the non-functioning irrigation system, replace the controller and other components as needed.

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- Replace the football field scoreboard. As a minimum the steel needs to be painted.
- Have the damaged flagpole checked by the manufacturer or distributor and follow their recommendations.

Aerial View of School Site



Architecture

The following report is the result of a site visit by Kurt Peeters and Casey Helmrath of Hoffman PD&C that occurred on April 20th, 2023. Facility observations, construction plan reviews, and interviews with staff were all used in the preparation of this report. At the end of this section, we have included building diagrams to visually showcase our findings and schedules to consolidate all data into one location.

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Existing Data

The school was originally constructed in 1996-1997 and received a tech-ed remodel and addition in 2013. The 256,000 square foot facility houses 822 students grade 9th -12th.



Exit Light Hidden

Code Assessment

During the facility walk-thru we noted any items that could be considered code, accessibility, or safety concerns. These noted items can be looked at as a starting point in determining areas that may need updates or remodeling to correct the issues present. No major items were found.

Interior Finishes

During the facility walk-thru we noted any interior finishes that could be considered damaged, worn or past their life expectancy. In addition, we looked at exterior windows and doors, interior doors and hardware and cabinetry. These noted items can be looked at as a starting point in determining areas that may need finish updates and/or replacement.



Restroom Finishes Needing Replacement

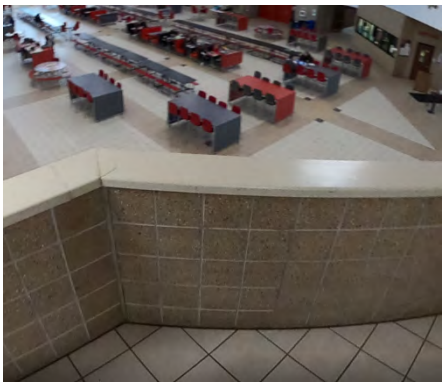
DRAFT

Elevators

We noted two elevators within the facility. Both elevators worked as required when tested.

Restroom Facilities

Restroom facilities vary throughout the facility with several providing adequate accessibility and fixtures working properly. There are also several single-occupant restrooms that do not meet these standards. Finishes throughout were beginning to show their age and the commons restrooms could use updates.



Upper Stair Half Wall

Stairs

The stairs were in good condition and comply with current building codes overall, but the half wall on the upper portion of the main commons stair is shorter than required per code and could be a safety hazard.

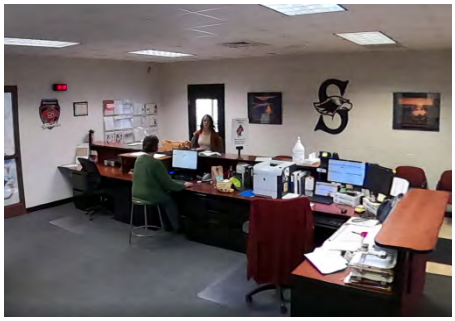
General Internal Access

Access throughout the facility was adequate but wayfinding and general room flow was difficult in the fitness/pool area of the building. The main entry features a secure entry but visibility into the vestibule is limited.

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Recommendations

When looking at the facility itself we make the following recommendations:



Limited Visibility into Main Entry Vestibule

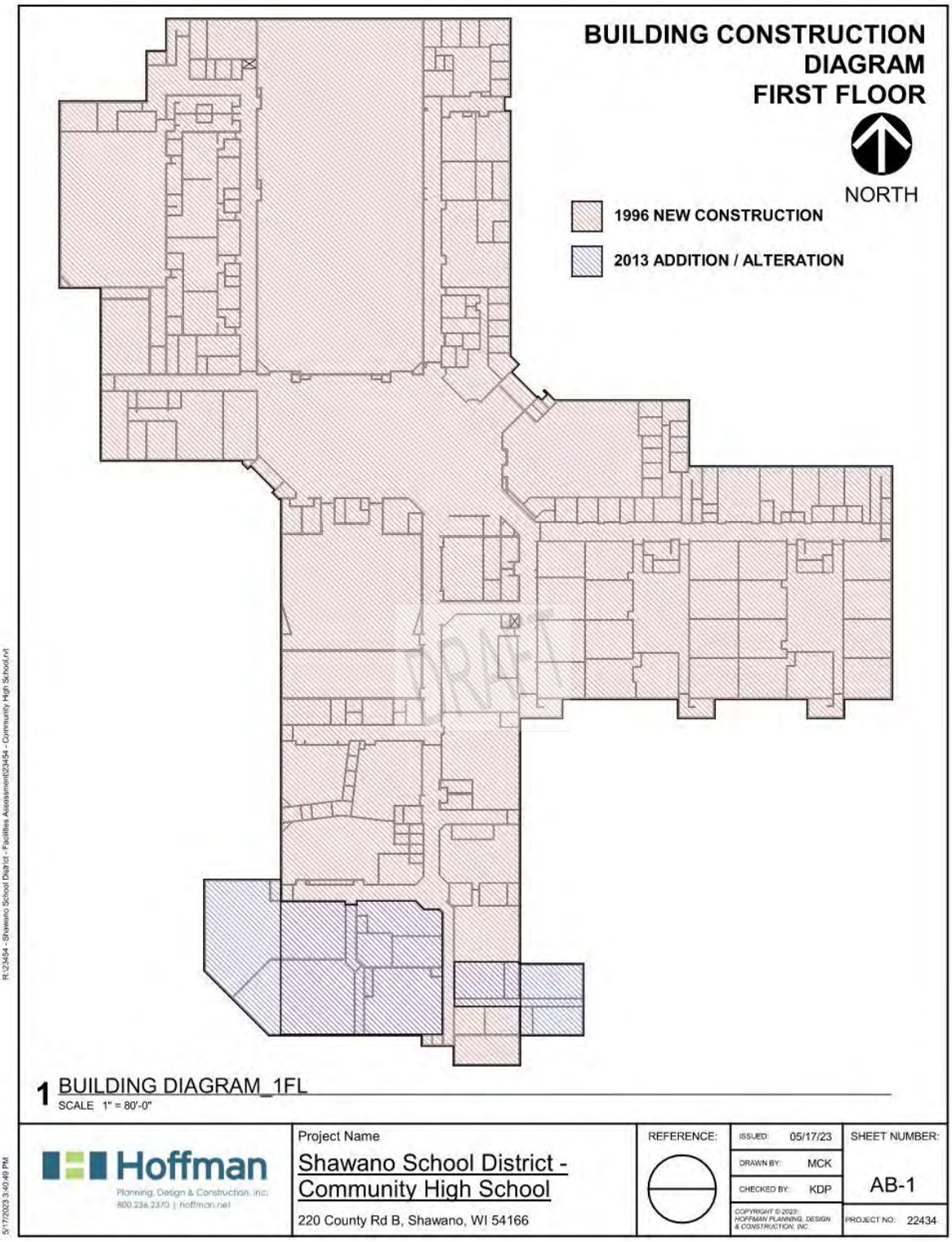
- Update/replace items listed in the diagrams and schedules provided.
- Provide better visual access over the parking lot and main entry for office staff..
- Provide additional storage for all building functions.
- Move or get rid of unneeded storage items crowding several rooms.
- Incorporate new science areas with new technical education areas to create a consolidated STEAM (Science Technology Engineering Art Math) areas to allow better collaboration and utilization of these areas.
- Consider updating the performing arts center and the associated spaces.
- Provide furniture that provides flexibility and collaboration.
- Consider an outdoor shared classroom(s).
- Provide additional breakout rooms for staff and students to utilize in smaller groups.
- Consider adding a commercial cooking station for the FACE lab.
- Consider alternative energy production sources such as solar and geothermal.

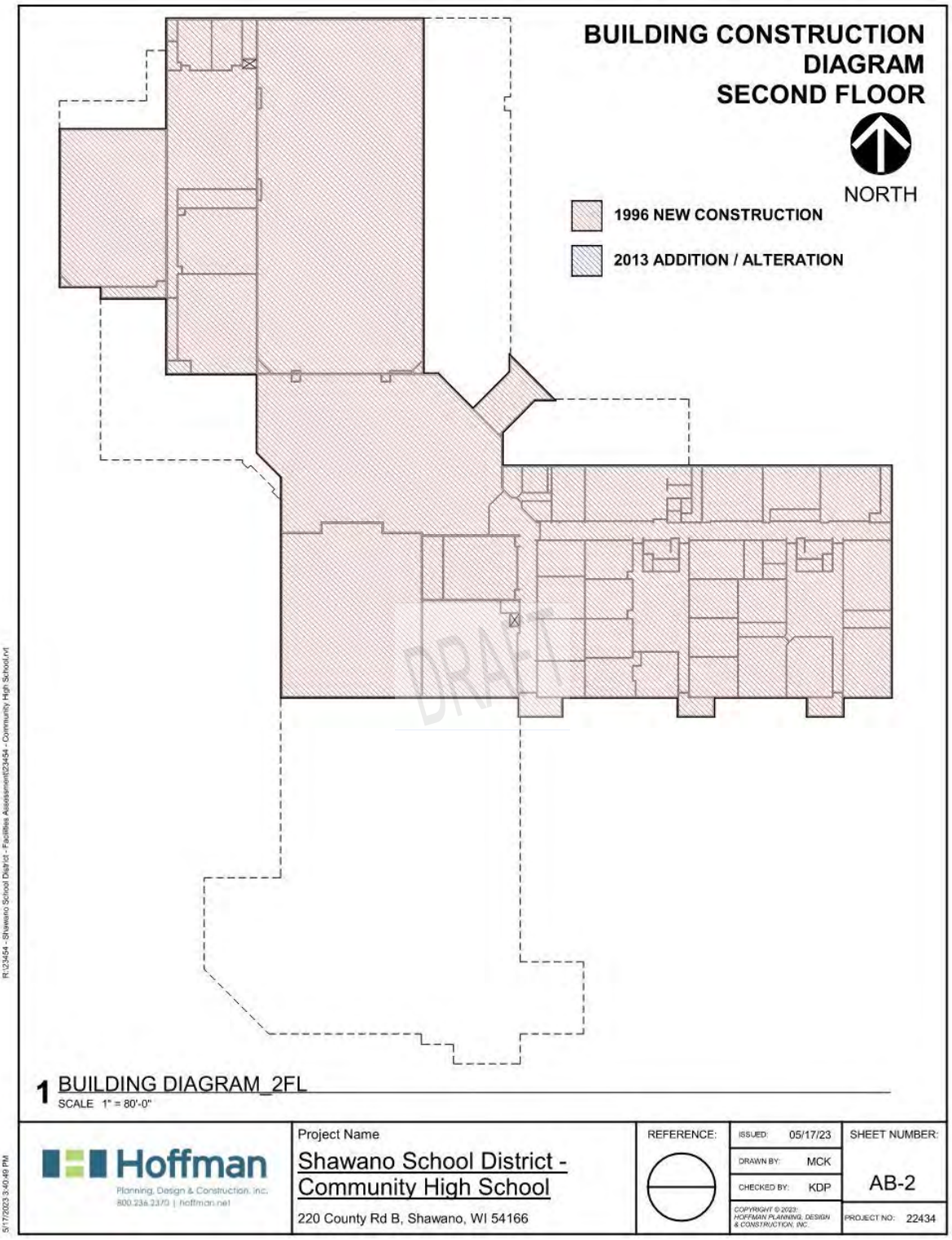
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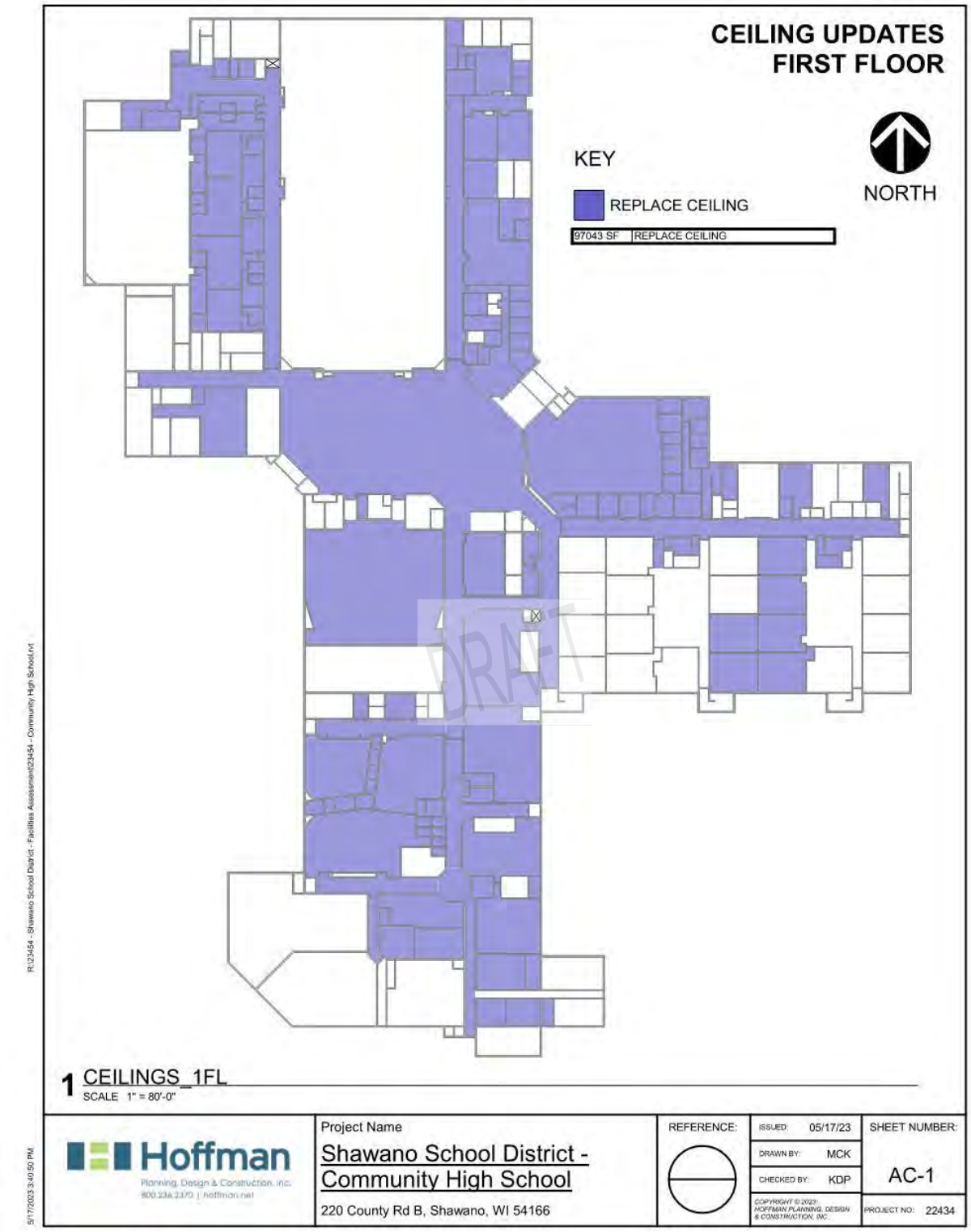
Diagrams

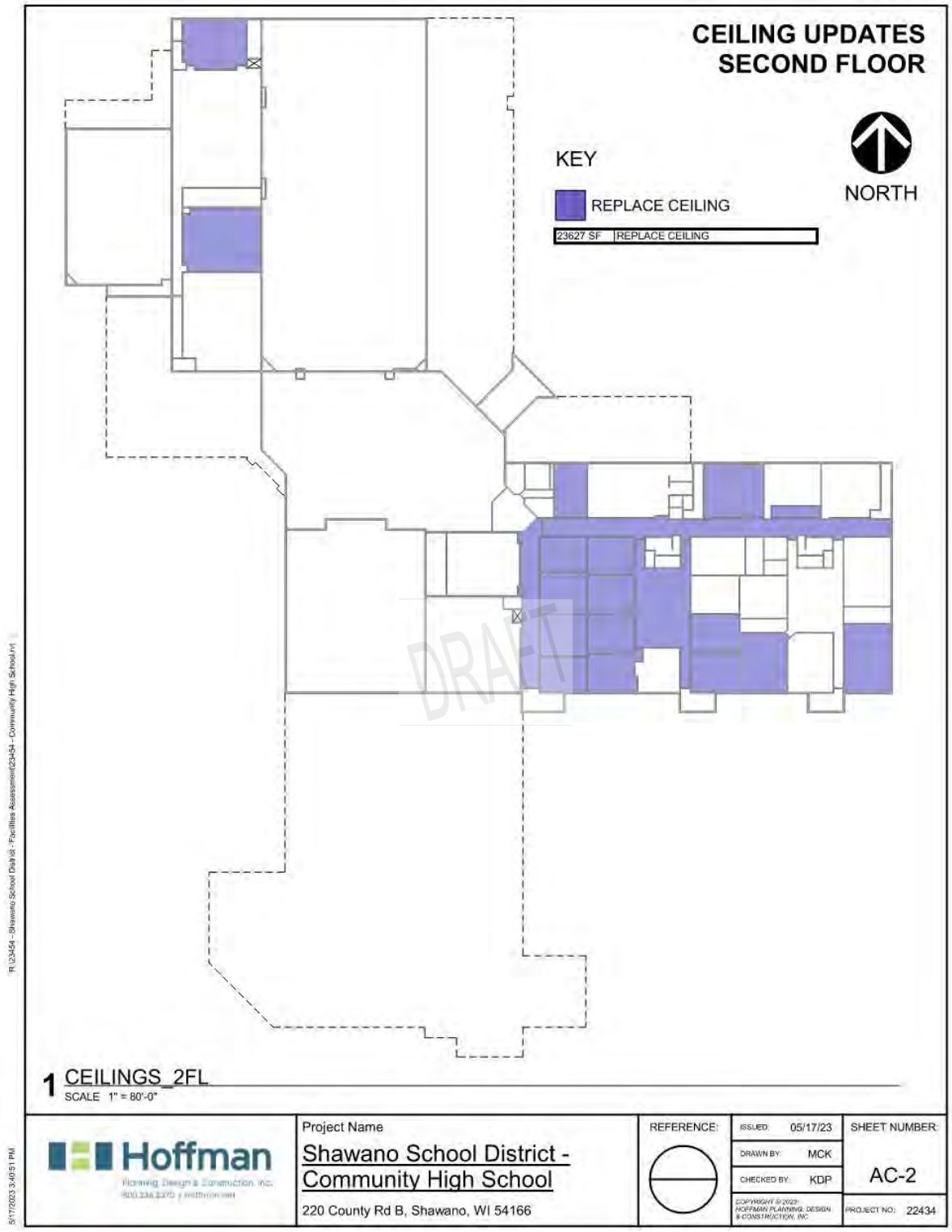
The next pages are a series of diagrams that contain information from some of the Architectural categories above. In addition, we have included a schedule breakdown of each room and the recommendations based on the findings we noted during the walkthrough.

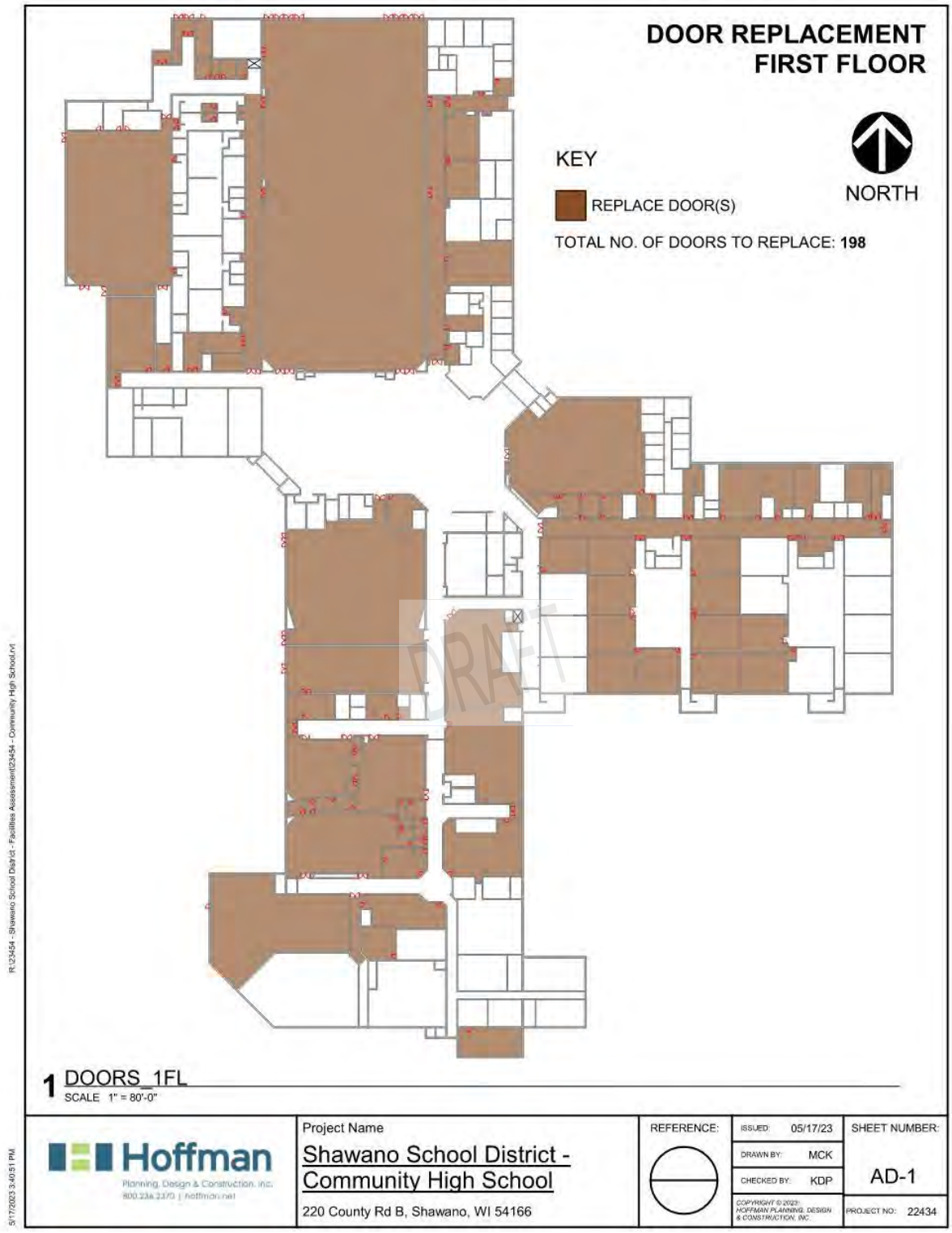
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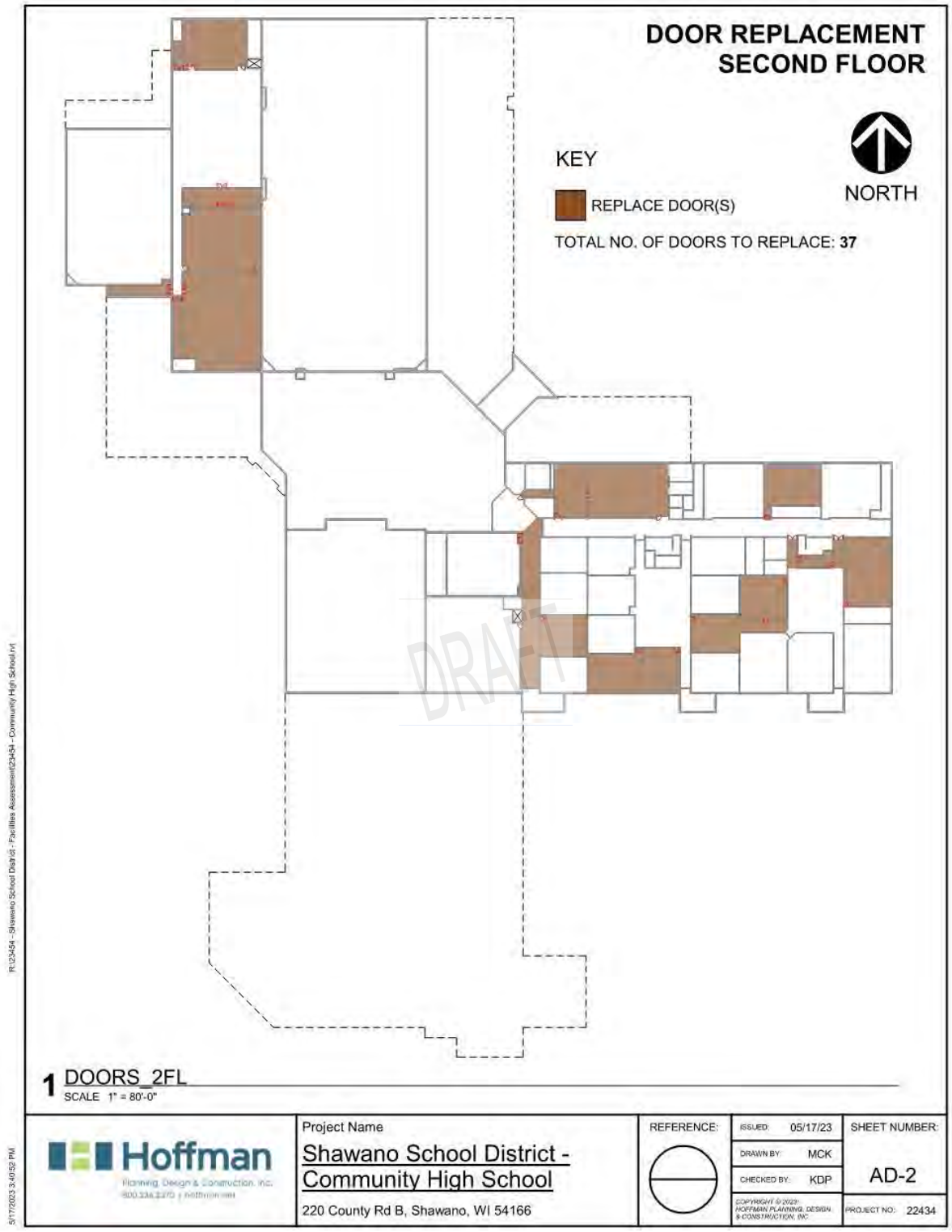

BUILDING CONSTRUCTION
DIAGRAM
FIRST FLOOR
NORTH
1996 NEW CONSTRUCTION
2013 ADDITION / ALTERATION
1 BUILDING DIAGRAM_1FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
800.236.2370 | hoffman.net
Project Name
Shawano School District -
Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
DRAWN BY: MCK
CHECKED BY: KDP
SHEET NUMBER:
AB-1
PROJECT NO: 22434
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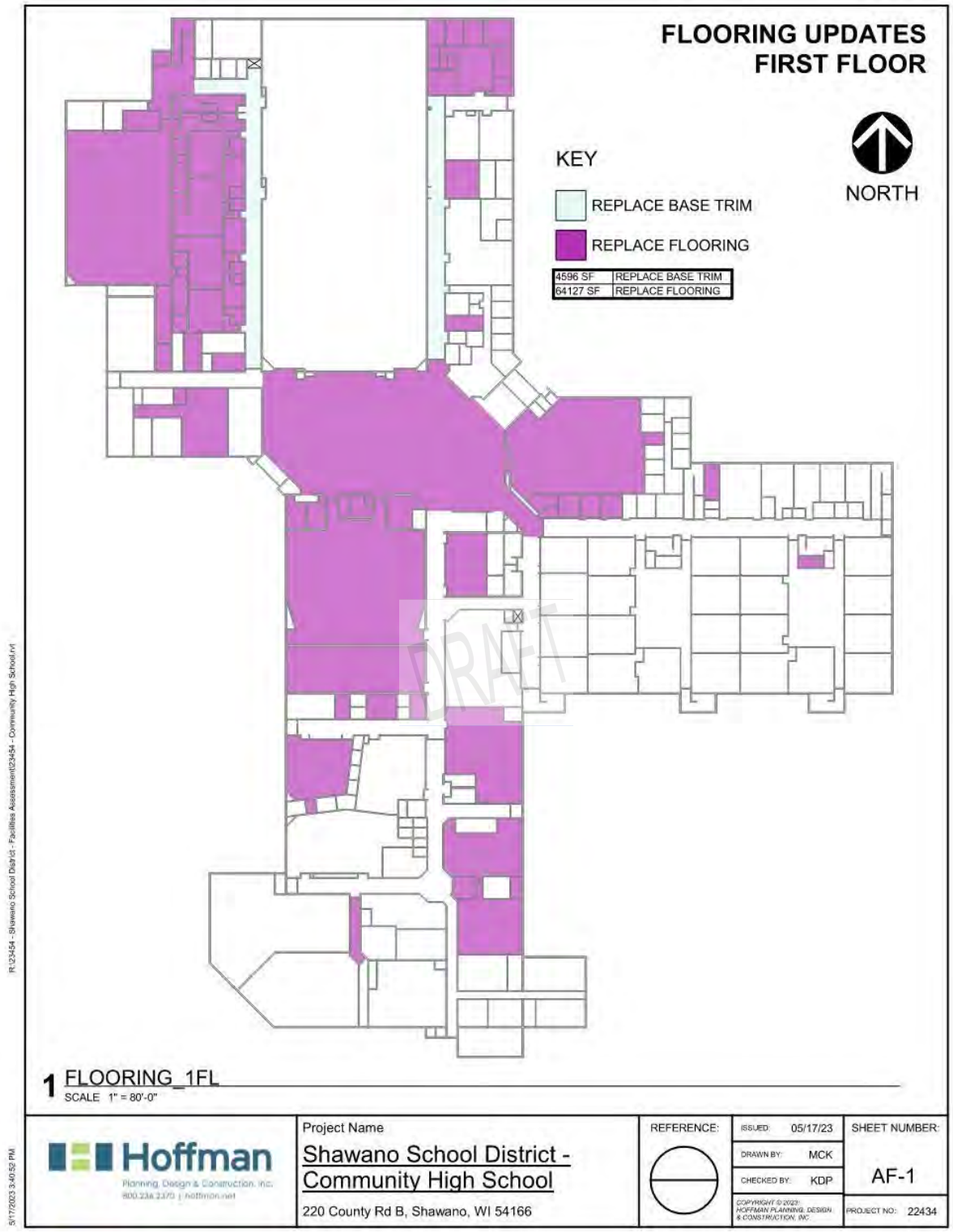

BUILDING CONSTRUCTION
DIAGRAM
SECOND FLOOR
NORTH
1996 NEW CONSTRUCTION
2013 ADDITION / ALTERATION
DRAFT
1 BUILDING DIAGRAM_2FL
SCALE 1" = 80'-0"
Hoffman
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ISSUED: 05/17/23
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CHECKED BY: KDP
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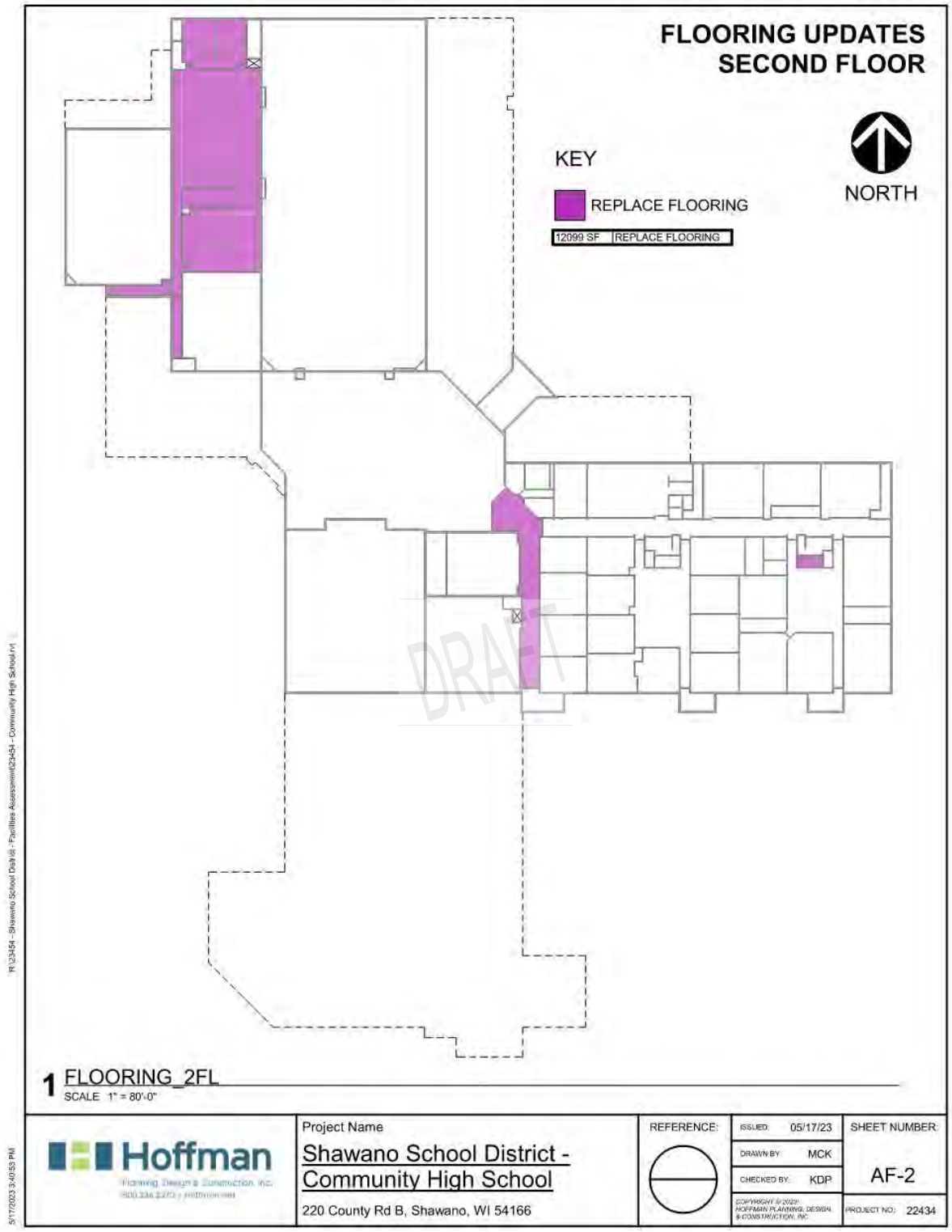

CEILING UPDATES
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REPLACE CEILING
97043 SF REPLACE CEILING
NORTH
DRAFT
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Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
DRAWN BY: MCK
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AC-1
PROJECT NO: 22434

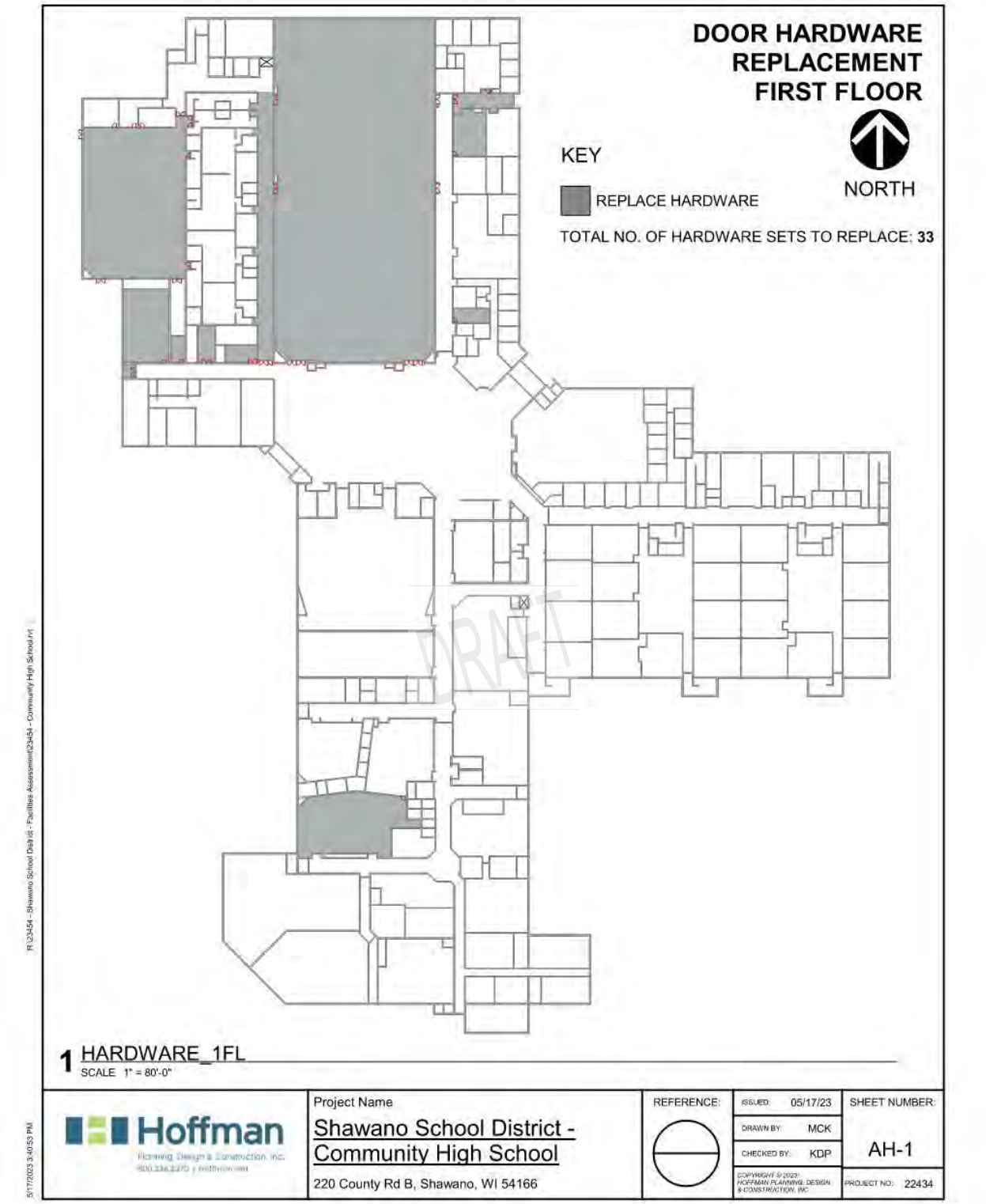

CEILING UPDATES
SECOND FLOOR
KEY
REPLACE CEILING
23627 SF REPLACE CEILING
NORTH
DRAFT
1 CEILINGS_2FL
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Hoffman
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Project Name
Shawano School District - Community High School
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REFERENCE:
ISSUED: 05/17/23
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PROJECT NO: 22434

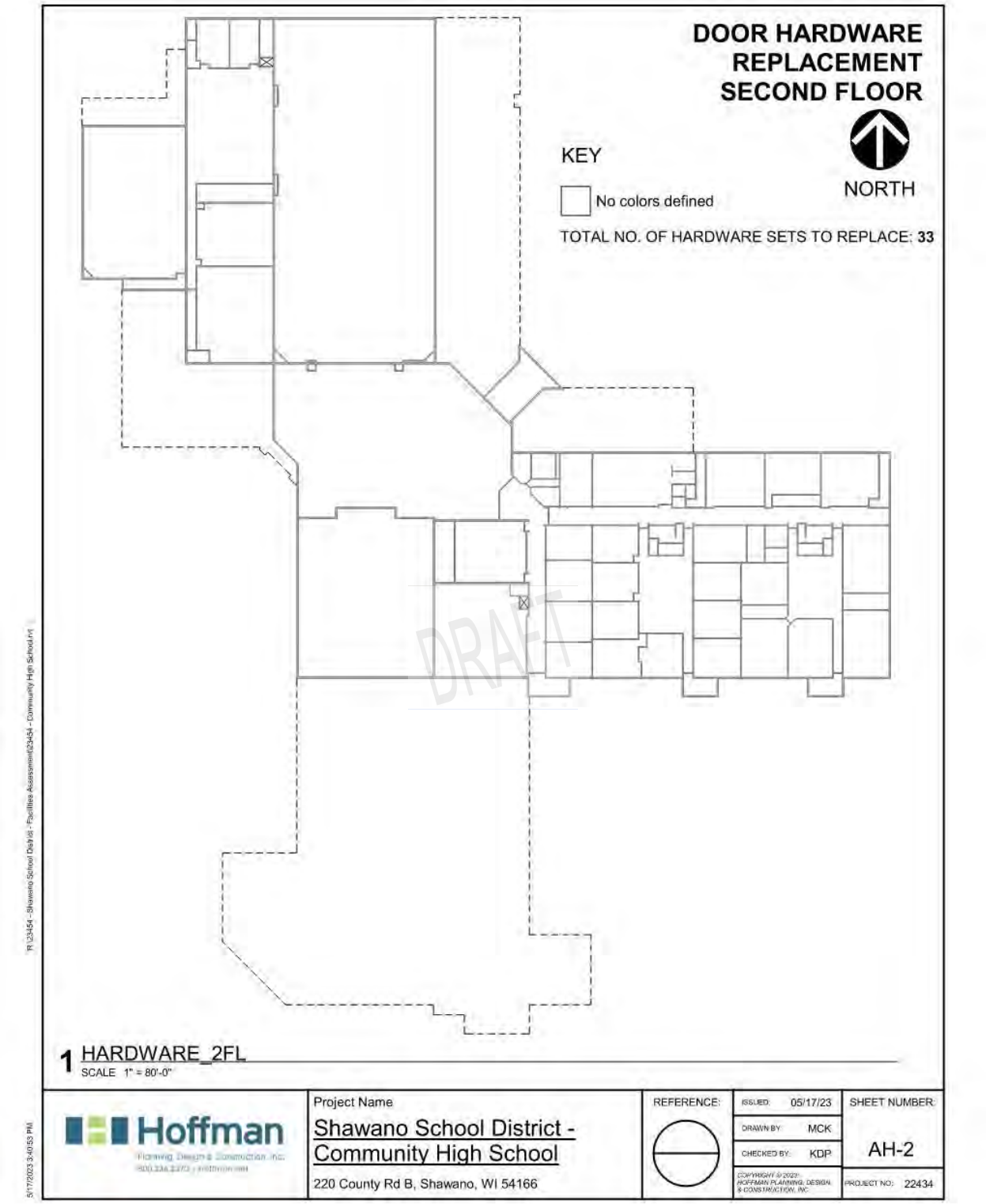

DOOR REPLACEMENT
FIRST FLOOR
KEY
REPLACE DOOR(S)
NORTH
TOTAL NO. OF DOORS TO REPLACE: 198
DRAFT
1 DOORS_1FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
DRAWN BY: MCK
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AD-1
PROJECT NO: 22434

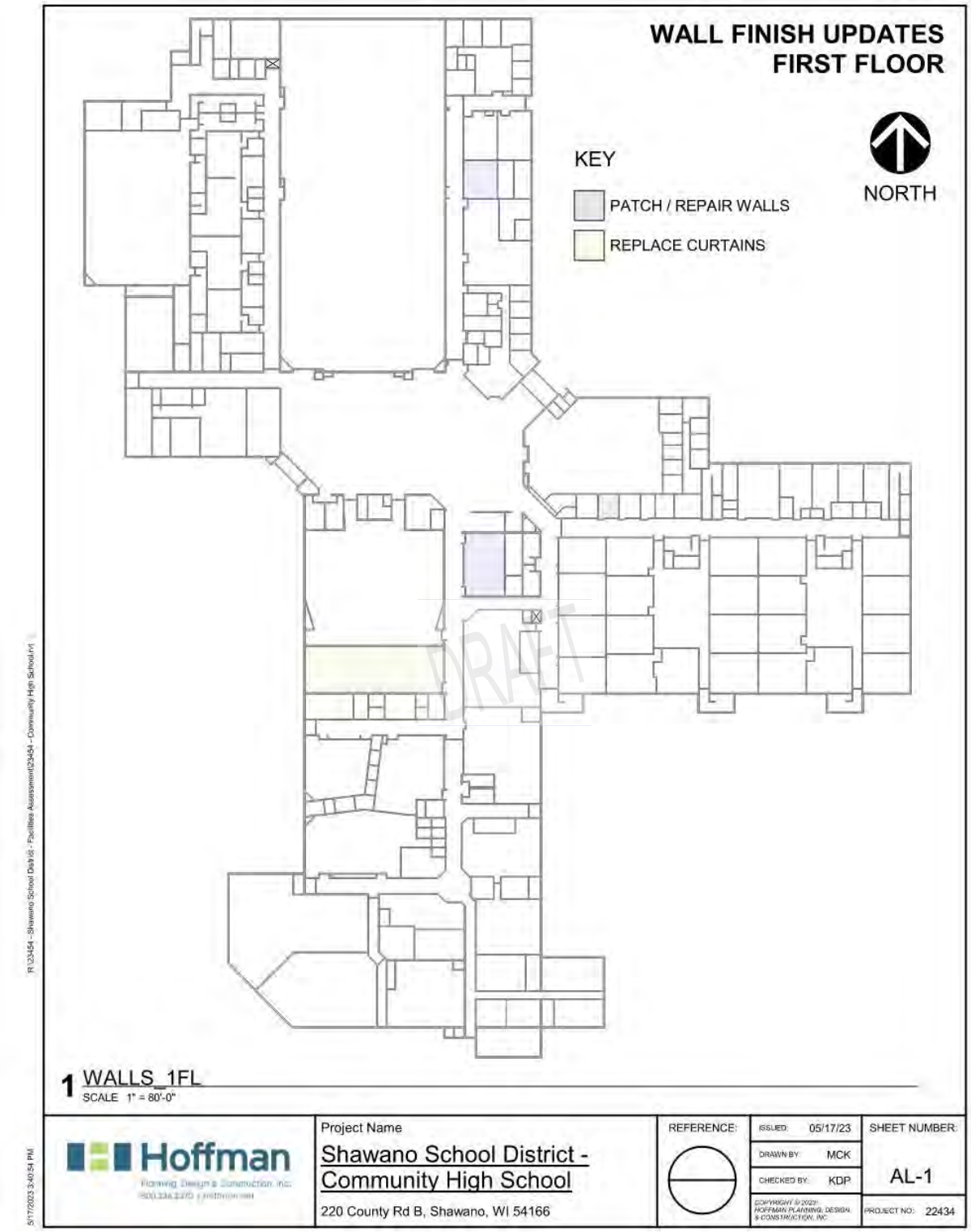

DOOR REPLACEMENT
SECOND FLOOR
KEY
REPLACE DOOR(S)
TOTAL NO. OF DOORS TO REPLACE: 37
NORTH
DRAFT
1 DOORS_2FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
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PROJECT NO.: 22434

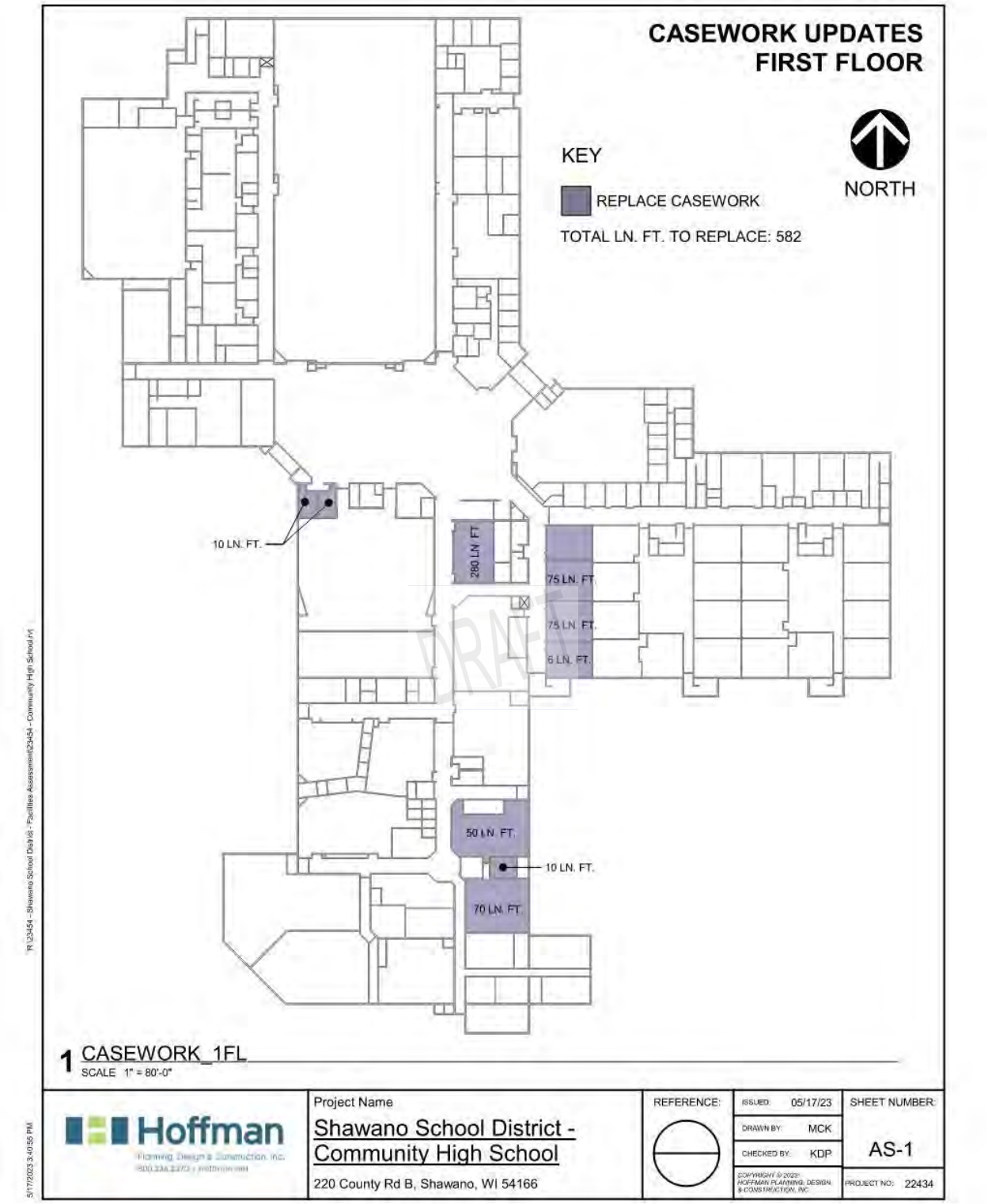

FLOORING UPDATES
FIRST FLOOR
KEY
REPLACE BASE TRIM
REPLACE FLOORING
4596 SF REPLACE BASE TRIM
64127 SF REPLACE FLOORING
NORTH
DRAFT
1 FLOORING_1FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
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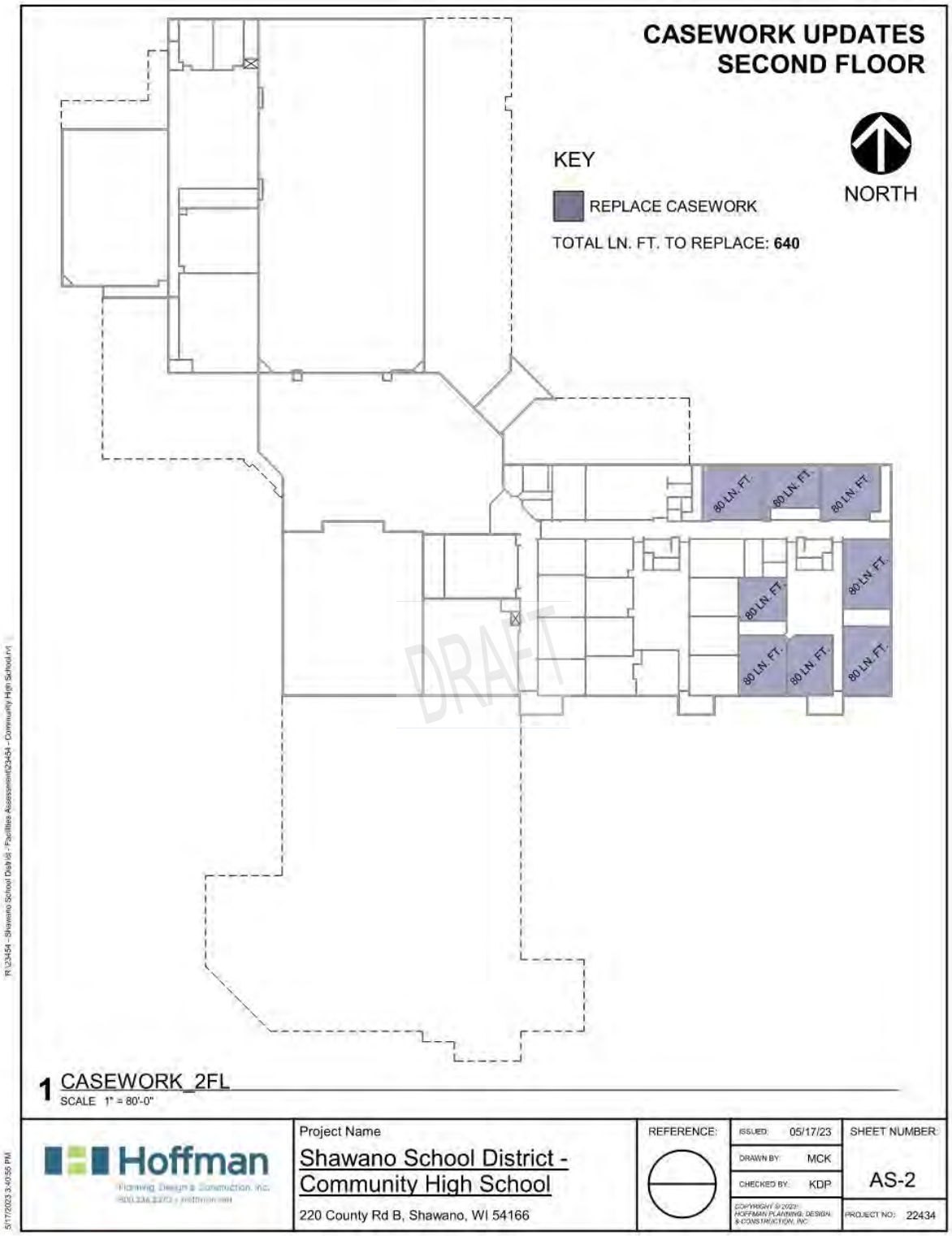

FLOORING UPDATES
SECOND FLOOR
KEY
REPLACE FLOORING
12099 SF REPLACE FLOORING
NORTH
DRAFT
1 FLOORING_2FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
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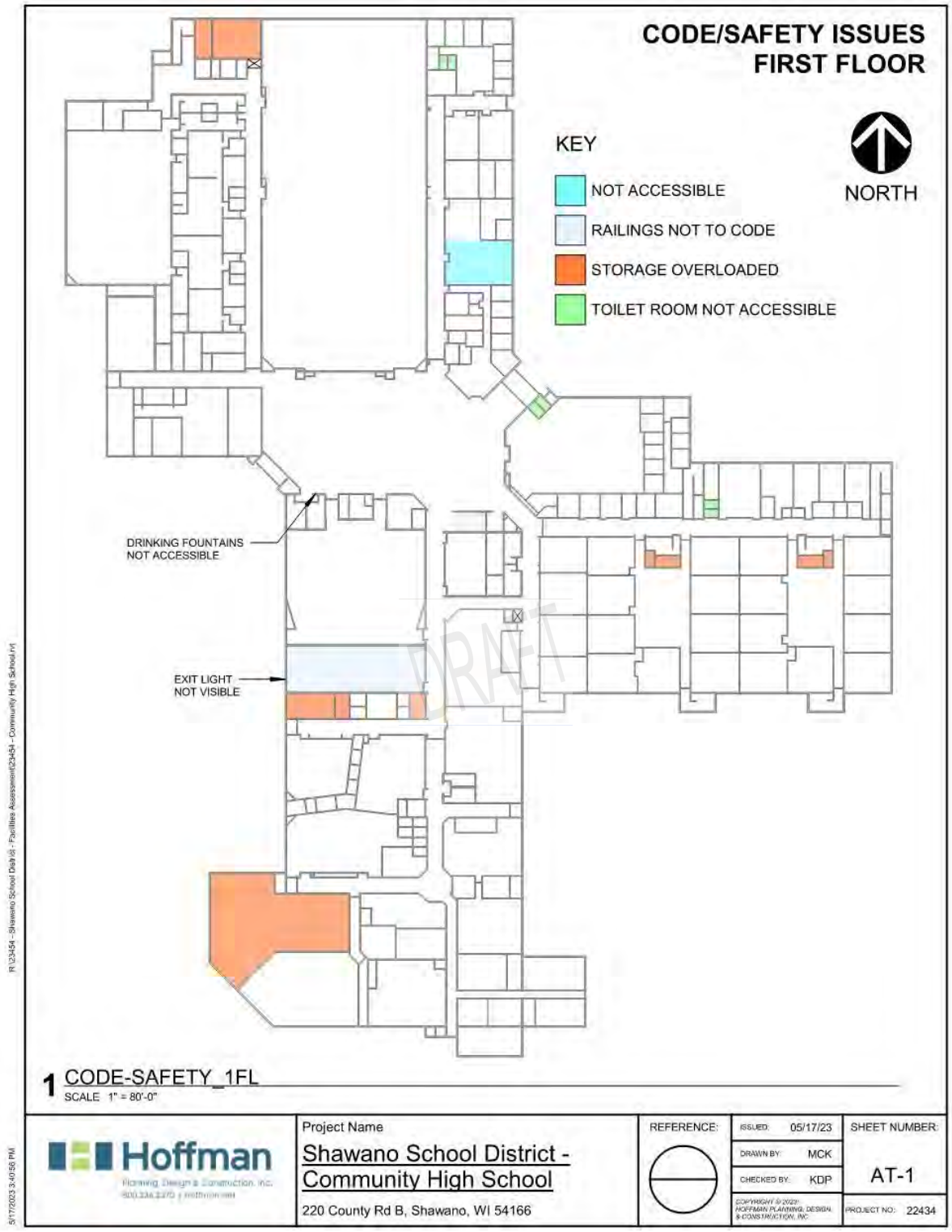

DOOR HARDWARE
REPLACEMENT
FIRST FLOOR
KEY
REPLACE HARDWARE
NORTH
TOTAL NO. OF HARDWARE SETS TO REPLACE: 33
DRAFT
1 HARDWARE_1FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
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PROJECT NO.: 22434

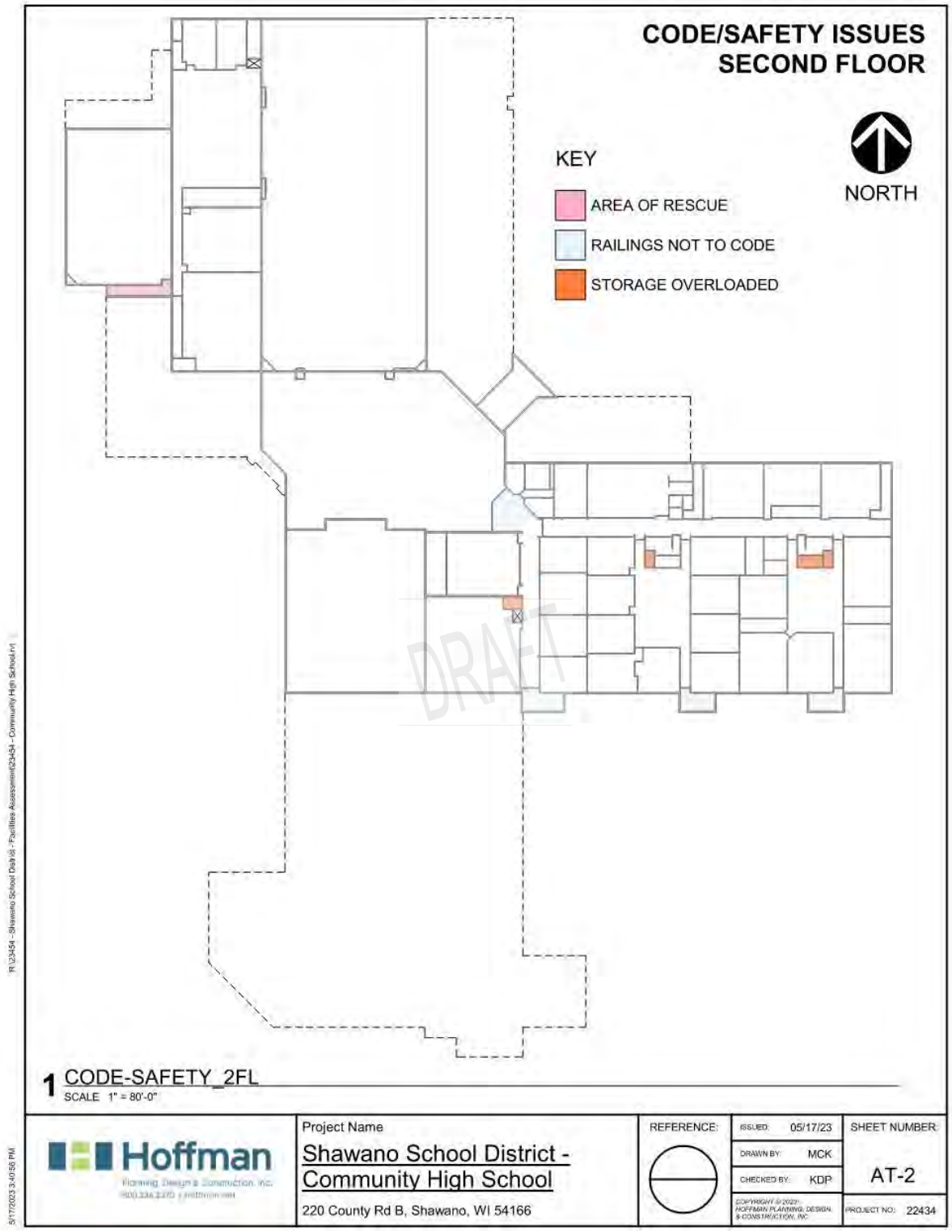

DOOR HARDWARE
REPLACEMENT
SECOND FLOOR
KEY
No colors defined
NORTH
TOTAL NO. OF HARDWARE SETS TO REPLACE: 33
DRAFT
1 HARDWARE_2FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
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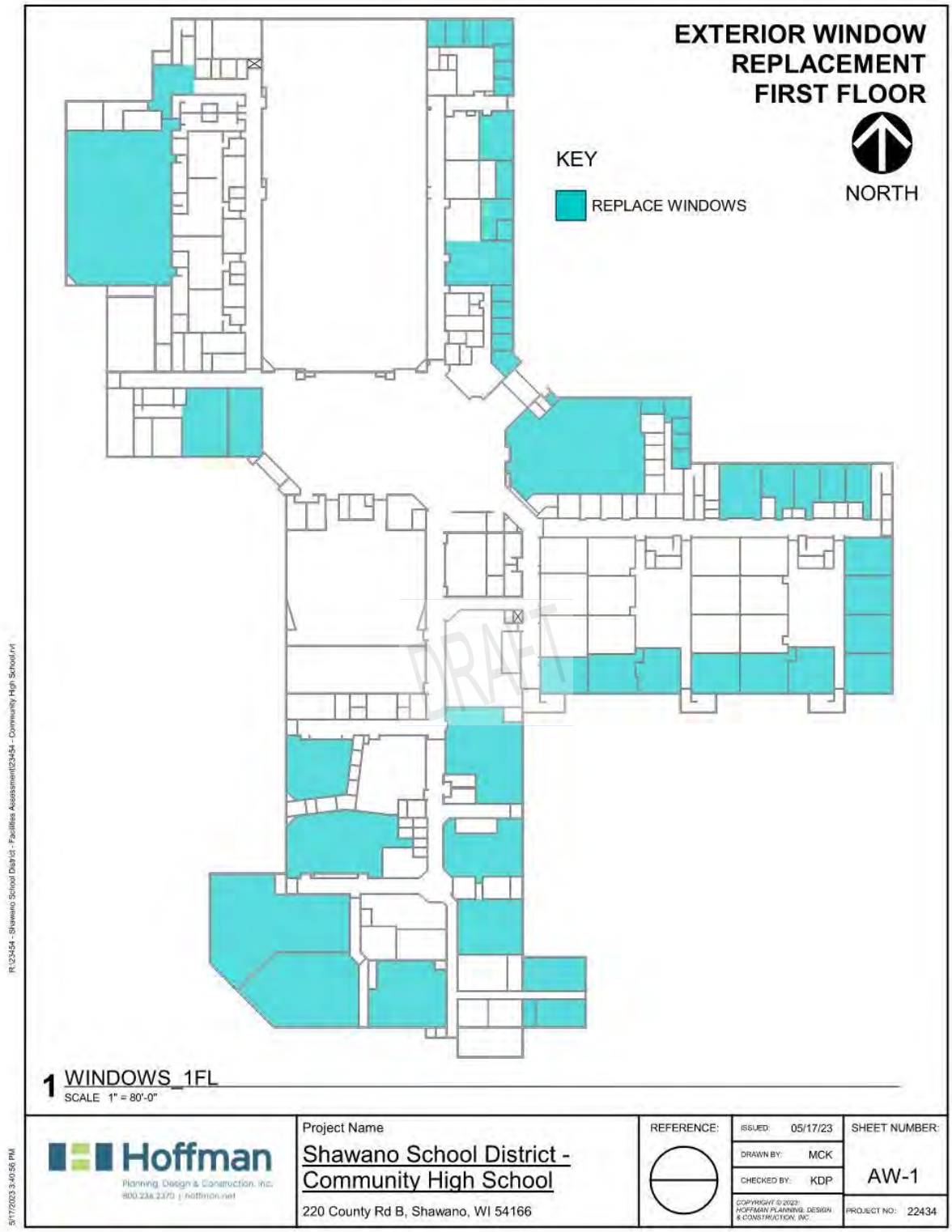

WALL FINISH UPDATES
FIRST FLOOR
KEY
PATCH / REPAIR WALLS
REPLACE CURTAINS
NORTH
DRAFT
1 WALLS_1FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
DRAWN BY: MCK
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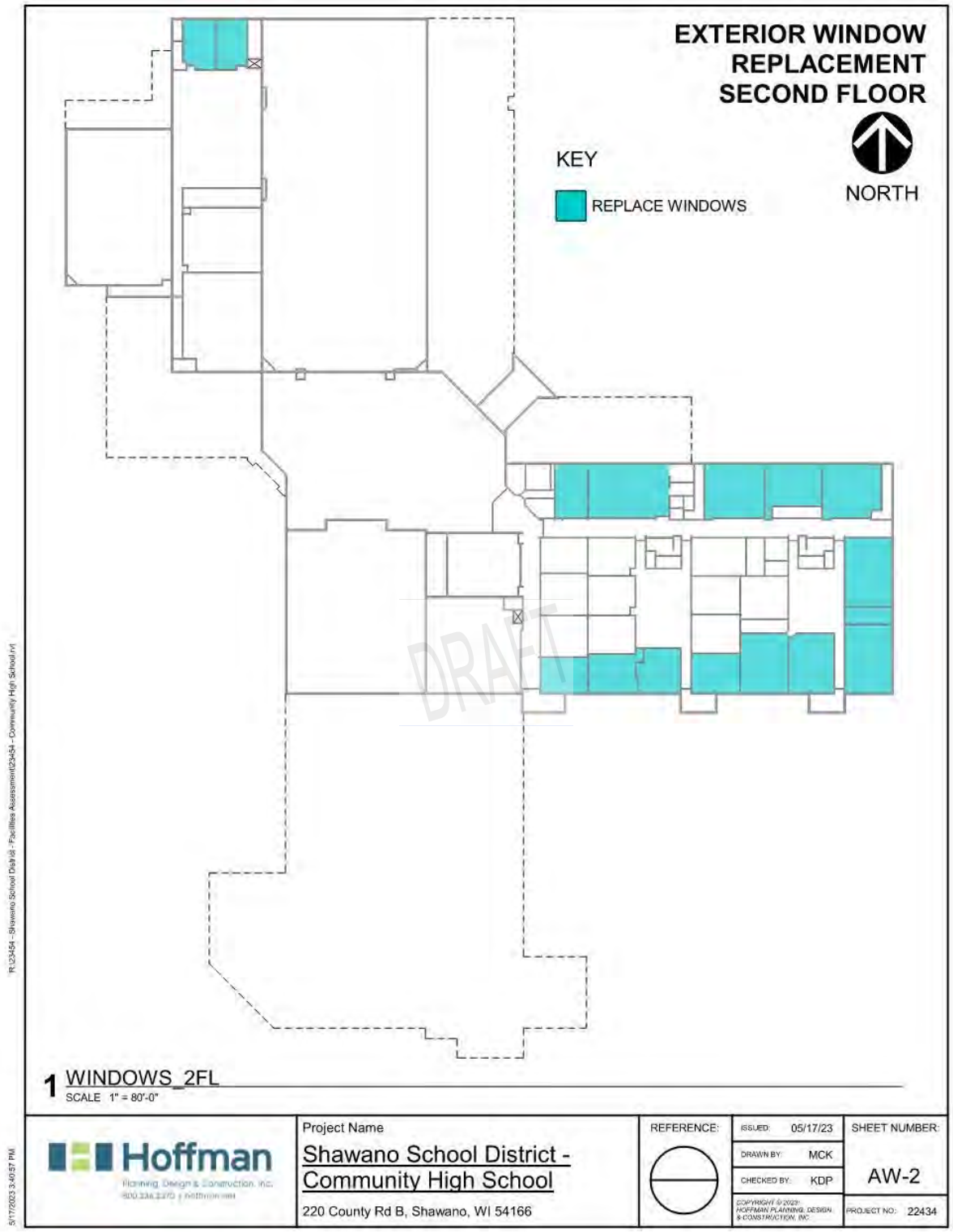

CASEWORK UPDATES
FIRST FLOOR
KEY
REPLACE CASEWORK
TOTAL LN. FT. TO REPLACE: 582
NORTH
10 LN. FT.
280 LN. FT.
75 LN. FT.
75 LN. FT.
6 LN. FT.
50 LN. FT.
10 LN. FT.
70 LN. FT.
DRAFT
1 CASEWORK_1FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
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SHEET NUMBER: AS-1
PROJECT NO: 22434

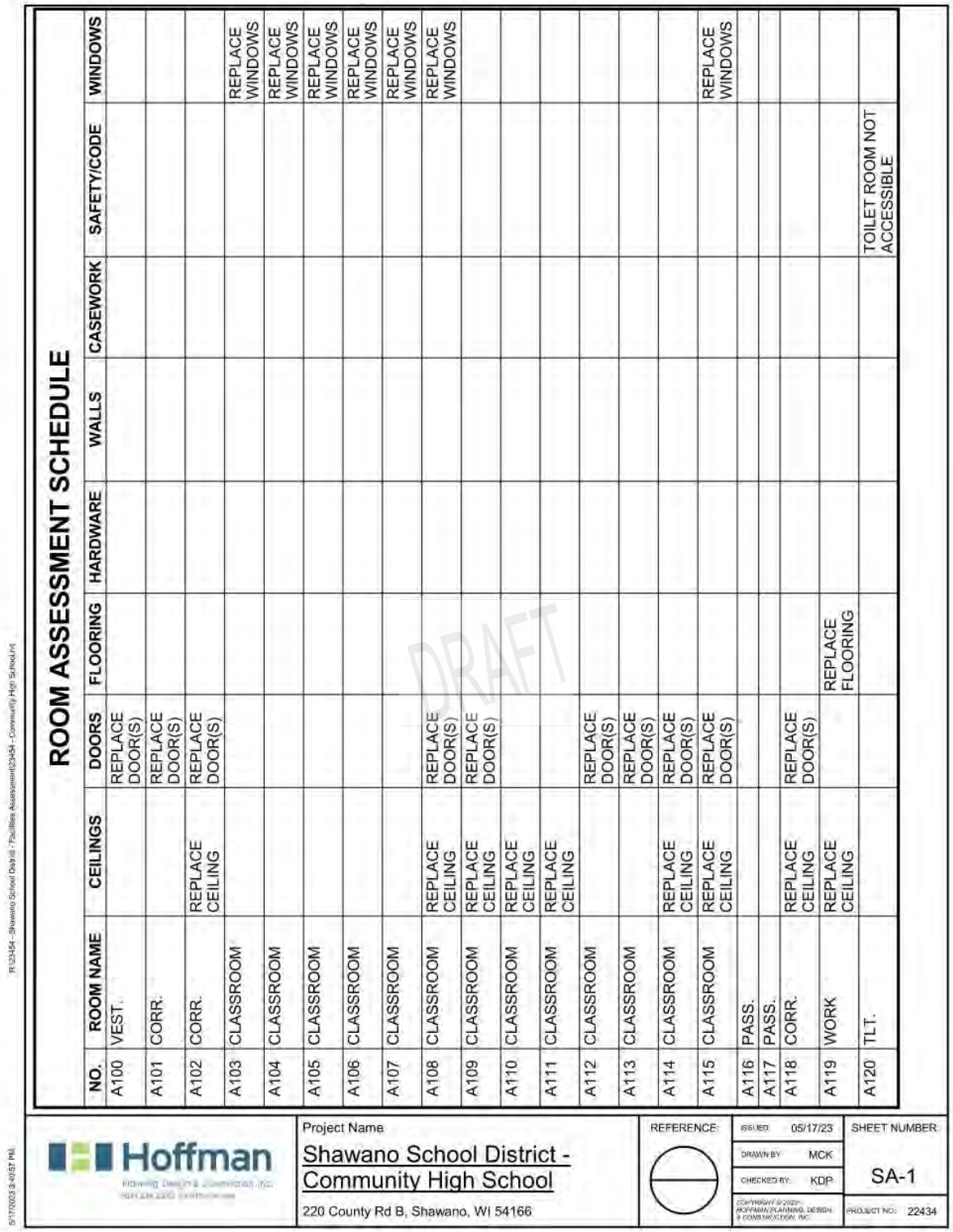

CASEWORK UPDATES
SECOND FLOOR
KEY
REPLACE CASEWORK
TOTAL LN. FT. TO REPLACE: 640
NORTH
80 LN. FT.
DRAFT
1 CASEWORK_2FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
DRAWN BY: MCK
CHECKED BY: KDP
SHEET NUMBER
AS-2
PROJECT NO: 22434


CODE/SAFETY ISSUES
FIRST FLOOR
KEY
NOT ACCESSIBLE
RAILINGS NOT TO CODE
STORAGE OVERLOADED
TOILET ROOM NOT ACCESSIBLE
NORTH
DRINKING FOUNTAINS
NOT ACCESSIBLE
EXIT LIGHT
NOT VISIBLE
DRAFT
1 CODE-SAFETY_1FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
DRAWN BY: MCK
CHECKED BY: KDP
SHEET NUMBER:
AT-1
PROJECT NO.: 22434


CODE/SAFETY ISSUES
SECOND FLOOR
KEY
AREA OF RESCUE
RAILINGS NOT TO CODE
STORAGE OVERLOADED
NORTH
DRAFT
1 CODE-SAFETY_2FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
DRAWN BY: MCK
CHECKED BY: KDP
SHEET NUMBER:
AT-2
PROJECT NO: 22434


EXTERIOR WINDOW
REPLACEMENT
FIRST FLOOR
KEY
REPLACE WINDOWS
NORTH
DRAFT
1 WINDOWS_1FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
DRAWN BY: MCK
CHECKED BY: KDP
SHEET NUMBER:
AW-1
PROJECT NO.: 22434


EXTERIOR WINDOW
REPLACEMENT
SECOND FLOOR
KEY
REPLACE WINDOWS
NORTH
DRAFT
1 WINDOWS_2FL
SCALE 1" = 80'-0"
Hoffman
Planning, Design & Construction, Inc.
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/17/23
DRAWN BY: MCK
CHECKED BY: KDP
SHEET NUMBER:
AW-2
PROJECT NO.: 22434



ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
A100	VEST.		REPLACE DOOR(S)						
A101	CORR.		REPLACE DOOR(S)						
A102	CORR.	REPLACE CEILING	REPLACE DOOR(S)						
A103	CLASSROOM								REPLACE WINDOWS
A104	CLASSROOM								REPLACE WINDOWS
A105	CLASSROOM								REPLACE WINDOWS
A106	CLASSROOM								REPLACE WINDOWS
A107	CLASSROOM								REPLACE WINDOWS
A108	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)						REPLACE WINDOWS
A109	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)						
A110	CLASSROOM	REPLACE CEILING							
A111	CLASSROOM	REPLACE CEILING							
A112	CLASSROOM		REPLACE DOOR(S)						
A113	CLASSROOM		REPLACE DOOR(S)						
A114	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)						
A115	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)						REPLACE WINDOWS
A116	PASS.								
A117	PASS.								
A118	CORR.	REPLACE CEILING	REPLACE DOOR(S)						
A119	WORK	REPLACE CEILING		REPLACE FLOORING					
A120	TLT.							TOILET ROOM NOT ACCESSIBLE	

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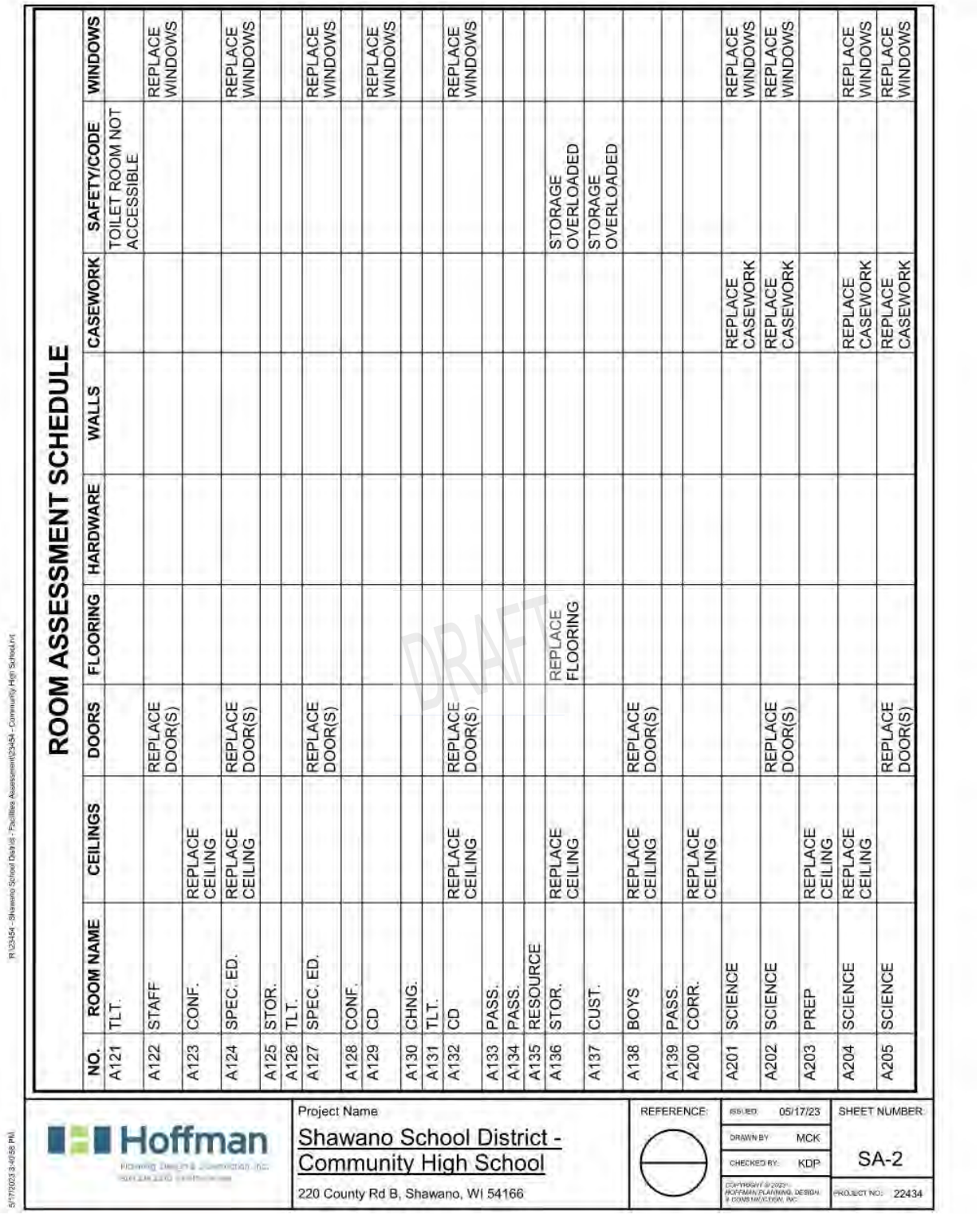
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220 County Rd B, Shawano, WI 54166

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PROJECT NO.: 22434

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
A121	TLT.							TOILET ROOM NOT ACCESSIBLE	
A122	STAFF		REPLACE DOOR(S)						REPLACE WINDOWS
A123	CONF.	REPLACE CEILING							
A124	SPEC. ED.	REPLACE CEILING	REPLACE DOOR(S)						REPLACE WINDOWS
A125	STOR.								
A126	TLT.								
A127	SPEC. ED.		REPLACE DOOR(S)						REPLACE WINDOWS
A128	CONF.								
A129	CD								REPLACE WINDOWS
A130	CHNG.								
A131	TLT.								
A132	CD	REPLACE CEILING	REPLACE DOOR(S)						REPLACE WINDOWS
A133	PASS.								
A134	PASS.								
A135	RESOURCE								
A136	STOR.	REPLACE CEILING		REPLACE FLOORING				STORAGE OVERLOADED	
A137	CUST.							STORAGE OVERLOADED	
A138	BOYS	REPLACE CEILING	REPLACE DOOR(S)						
A139	PASS.								
A200	CORR.	REPLACE CEILING							
A201	SCIENCE						REPLACE CASEWORK		REPLACE WINDOWS
A202	SCIENCE		REPLACE DOOR(S)				REPLACE CASEWORK		REPLACE WINDOWS
A203	PREP	REPLACE CEILING							
A204	SCIENCE	REPLACE CEILING					REPLACE CASEWORK		REPLACE WINDOWS
A205	SCIENCE		REPLACE DOOR(S)				REPLACE CASEWORK		REPLACE WINDOWS

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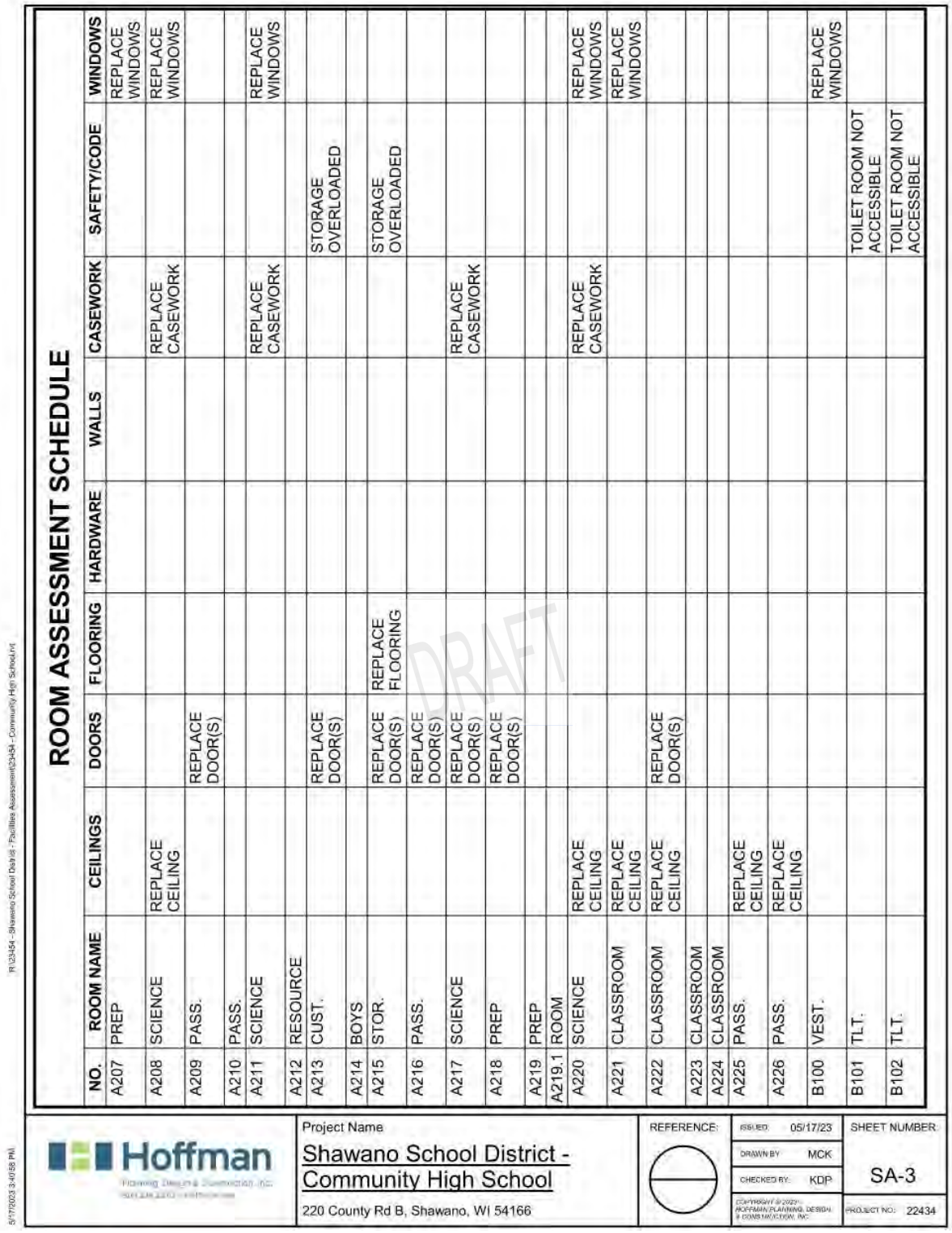
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220 County Rd B, Shawano, WI 54166

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SHEET NUMBER: SA-2
PROJECT NO.: 22434

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
A207	PREP								REPLACE WINDOWS
A208	SCIENCE	REPLACE CEILING					REPLACE CASEWORK		REPLACE WINDOWS
A209	PASS.		REPLACE DOOR(S)						
A210	PASS.								
A211	SCIENCE						REPLACE CASEWORK		REPLACE WINDOWS
A212	RESOURCE								
A213	CUST.		REPLACE DOOR(S)					STORAGE OVERLOADED	
A214	BOYS								
A215	STOR.		REPLACE DOOR(S)	REPLACE FLOORING				STORAGE OVERLOADED	
A216	PASS.		REPLACE DOOR(S)						
A217	SCIENCE		REPLACE DOOR(S)				REPLACE CASEWORK		
A218	PREP		REPLACE DOOR(S)						
A219	PREP								
A219.1	ROOM								
A220	SCIENCE	REPLACE CEILING					REPLACE CASEWORK		REPLACE WINDOWS
A221	CLASSROOM	REPLACE CEILING							REPLACE WINDOWS
A222	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)						
A223	CLASSROOM								
A224	CLASSROOM								
A225	PASS.	REPLACE CEILING							
A226	PASS.	REPLACE CEILING							
B100	VEST.								REPLACE WINDOWS
B101	TLT.							TOILET ROOM NOT ACCESSIBLE	
B102	TLT.							TOILET ROOM NOT ACCESSIBLE	

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220 County Rd B, Shawano, WI 54166

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SHEET NUMBER: SA-3
PROJECT NO.: 22434

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
B103	L.M.C.	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					REPLACE WINDOWS
B104	WORK	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
B105	RCRD.	REPLACE CEILING		REPLACE FLOORING					
B106	PERIOD	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
B107	A.V.	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING		PATCH / REPAIR WALLS			
B108	COMM.	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
B109	P.L.	REPLACE CEILING							
B110	OFFICE	REPLACE CEILING							REPLACE WINDOWS
B111	CONF.	REPLACE CEILING							
B112	RECEPT.	REPLACE CEILING							
B113	SECT.	REPLACE CEILING							
B114	CAREER CTR.	REPLACE CEILING	REPLACE DOOR(S)						
B115	OFFICE	REPLACE CEILING							
B116	OFFICE	REPLACE CEILING							
B117	OFFICE	REPLACE CEILING							
B118	REC.	REPLACE CEILING		REPLACE FLOORING					
B119	CONF.	REPLACE CEILING							REPLACE WINDOWS
B120	OFFICE	REPLACE CEILING							REPLACE WINDOWS
B121	OFFICE	REPLACE CEILING							REPLACE WINDOWS
B122	OFFICE	REPLACE CEILING							REPLACE WINDOWS
B123	WAITING	REPLACE CEILING							

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
B124	PASS.	REPLACE CEILING							
B125	CORRIDOR	REPLACE CEILING	REPLACE DOOR(S)						
B126	CORRIDOR	REPLACE CEILING							
B127	CLASSROOM						REPLACE CASEWORK		REPLACE WINDOWS
B128	CLASSROOM						REPLACE CASEWORK		
B129	CLASSROOM						REPLACE CASEWORK		
B130	CLASSROOM		REPLACE DOOR(S)				REPLACE CASEWORK		
B131	CLASSROOM		REPLACE DOOR(S)						
B132	CLASSROOM		REPLACE DOOR(S)						
B133	CLASSROOM		REPLACE DOOR(S)						
B134	CLASSROOM		REPLACE DOOR(S)						REPLACE WINDOWS
B135	CLASSROOM		REPLACE DOOR(S)						REPLACE WINDOWS
B136	RESOURCE								
B137	PASS.	REPLACE CEILING							
B138	CUST.							STORAGE OVERLOADED	
B139	STOR.							STORAGE OVERLOADED	
B140	GIRLS	REPLACE CEILING							
B200	CONF.								
B201	READING								
B202	CONF.								
B203	CORR.		REPLACE DOOR(S)						
B204	STAFF ROOM		REPLACE DOOR(S)						REPLACE WINDOWS

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Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166

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PROJECT NO.: 22434

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
B204.1	ROOM	REPLACE CEILING	REPLACE DOOR(S)						REPLACE WINDOWS
B204.3	A219.2								
B205	BREAK								
B206	WORK								
B207	STOR.								
B208	MEN								
B209	WOMEN								
B210	CORRIDOR	REPLACE CEILING							
B211	CORRIDOR	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
B212	CLASSROOM	REPLACE CEILING							REPLACE WINDOWS
B213	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)						
B214	CLASSROOM	REPLACE CEILING							
B215	CLASSROOM	REPLACE CEILING							
B216	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)						REPLACE WINDOWS
B217	CLASSROOM	REPLACE CEILING							
B218	CLASSROOM	REPLACE CEILING							
B219	CLASSROOM	REPLACE CEILING							
B220	CLASSROOM		REPLACE DOOR(S)						REPLACE WINDOWS
B221	RESOURCE	REPLACE CEILING							
B222	CUST.							STORAGE OVERLOADED	
B223	STOR.								
B224	GIRLS								
B225	PASS.	REPLACE CEILING							
C101	TECH CENTER	REPLACE CEILING	REPLACE DOOR(S)						
C102	DATA DIST.								
C103	EQUIP.								

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220 County Rd B, Shawano, WI 54166

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PROJECT NO.: 22434

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
C104	GRAPHIC ARTS	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					REPLACE WINDOWS
C105	OFFICE								
C107	BOYS	REPLACE CEILING							
C108	GIRLS	REPLACE CEILING							
C109	ALCOVE	REPLACE CEILING							
C110	VEST.		REPLACE DOOR(S)						
C111	CORR.	REPLACE CEILING							
C112	CORR.	REPLACE CEILING							
C113	ART	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
C113A	DARK ROOM								
C114	KILN	REPLACE CEILING		REPLACE FLOORING					
C115	STOR.						REPLACE CASEWORK		
C116	PASS.	REPLACE CEILING		REPLACE FLOORING					
C117	OFFICE	REPLACE CEILING		REPLACE FLOORING					
C118	ART	REPLACE CEILING		REPLACE FLOORING			REPLACE CASEWORK		REPLACE WINDOWS
C119	AG. ENG.	REPLACE CEILING							
C120	AQUACULTURE	REPLACE CEILING							
C120A	GREENHOUSE		REPLACE DOOR(S)						
C121	AG. HEAD	REPLACE CEILING							
C122	CORR.	REPLACE CEILING							
C123	OXY.								
C124	ACET.								
C125	METALS SHOP								REPLACE WINDOWS

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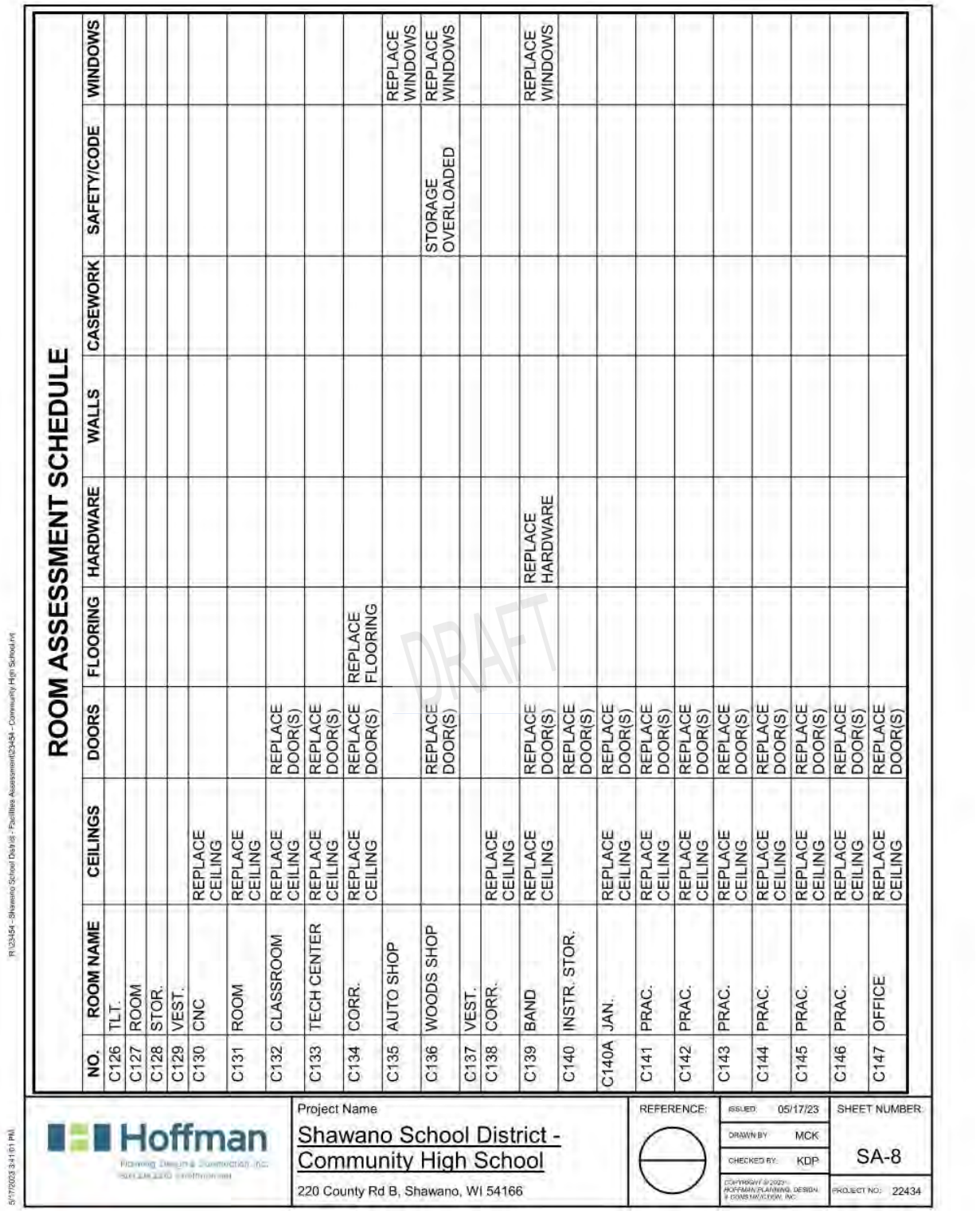
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Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166

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PROJECT NO.: 22434

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
C126	TLT.								
C127	ROOM								
C128	STOR.								
C129	VEST.								
C130	CNC	REPLACE CEILING							
C131	ROOM	REPLACE CEILING							
C132	CLASSROOM	REPLACE CEILING	REPLACE DOOR(S)						
C133	TECH CENTER	REPLACE CEILING	REPLACE DOOR(S)						
C134	CORR.	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
C135	AUTO SHOP								REPLACE WINDOWS
C136	WOODS SHOP		REPLACE DOOR(S)					STORAGE OVERLOADED	REPLACE WINDOWS
C137	VEST.								
C138	CORR.	REPLACE CEILING							
C139	BAND	REPLACE CEILING	REPLACE DOOR(S)		REPLACE HARDWARE				REPLACE WINDOWS
C140	INSTR. STOR.		REPLACE DOOR(S)						
C140A	JAN.	REPLACE CEILING	REPLACE DOOR(S)						
C141	PRAC.	REPLACE CEILING	REPLACE DOOR(S)						
C142	PRAC.	REPLACE CEILING	REPLACE DOOR(S)						
C143	PRAC.	REPLACE CEILING	REPLACE DOOR(S)						
C144	PRAC.	REPLACE CEILING	REPLACE DOOR(S)						
C145	PRAC.	REPLACE CEILING	REPLACE DOOR(S)						
C146	PRAC.	REPLACE CEILING	REPLACE DOOR(S)						
C147	OFFICE	REPLACE CEILING	REPLACE DOOR(S)						

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220 County Rd B, Shawano, WI 54166

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
C148	ORCHESTRA	REPLACE CEILING	REPLACE DOOR(S)						
C149	PRAC.	REPLACE CEILING	REPLACE DOOR(S)						
C150	PRAC.	REPLACE CEILING	REPLACE DOOR(S)						
C151	PRAC.	REPLACE CEILING	REPLACE DOOR(S)						
C152	PRAC.	REPLACE CEILING	REPLACE DOOR(S)						
C153	OFFICE	REPLACE CEILING	REPLACE DOOR(S)						
C154	OFFICE	REPLACE CEILING	REPLACE DOOR(S)						
C155	PRAC.	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
C156	ENSM.	REPLACE CEILING	REPLACE DOOR(S)						
C157	VOCAL	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					REPLACE WINDOWS
C158	VEST.		REPLACE DOOR(S)						
C159	CORR.	REPLACE CEILING							
C160	CORR.								
C161	ROOM	REPLACE CEILING							
C162	ROOM								REPLACE WINDOWS
C163	ROOM	REPLACE CEILING							REPLACE WINDOWS
C164	ROOM								REPLACE WINDOWS
D100	SCENE SHOP		REPLACE DOOR(S)					STORAGE OVERLOADED	
D101	STAGE MNGR.	REPLACE CEILING		REPLACE FLOORING				STORAGE OVERLOADED	
D102	TLT.								
D103	TLT.								
D104	GREEN ROOM	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					

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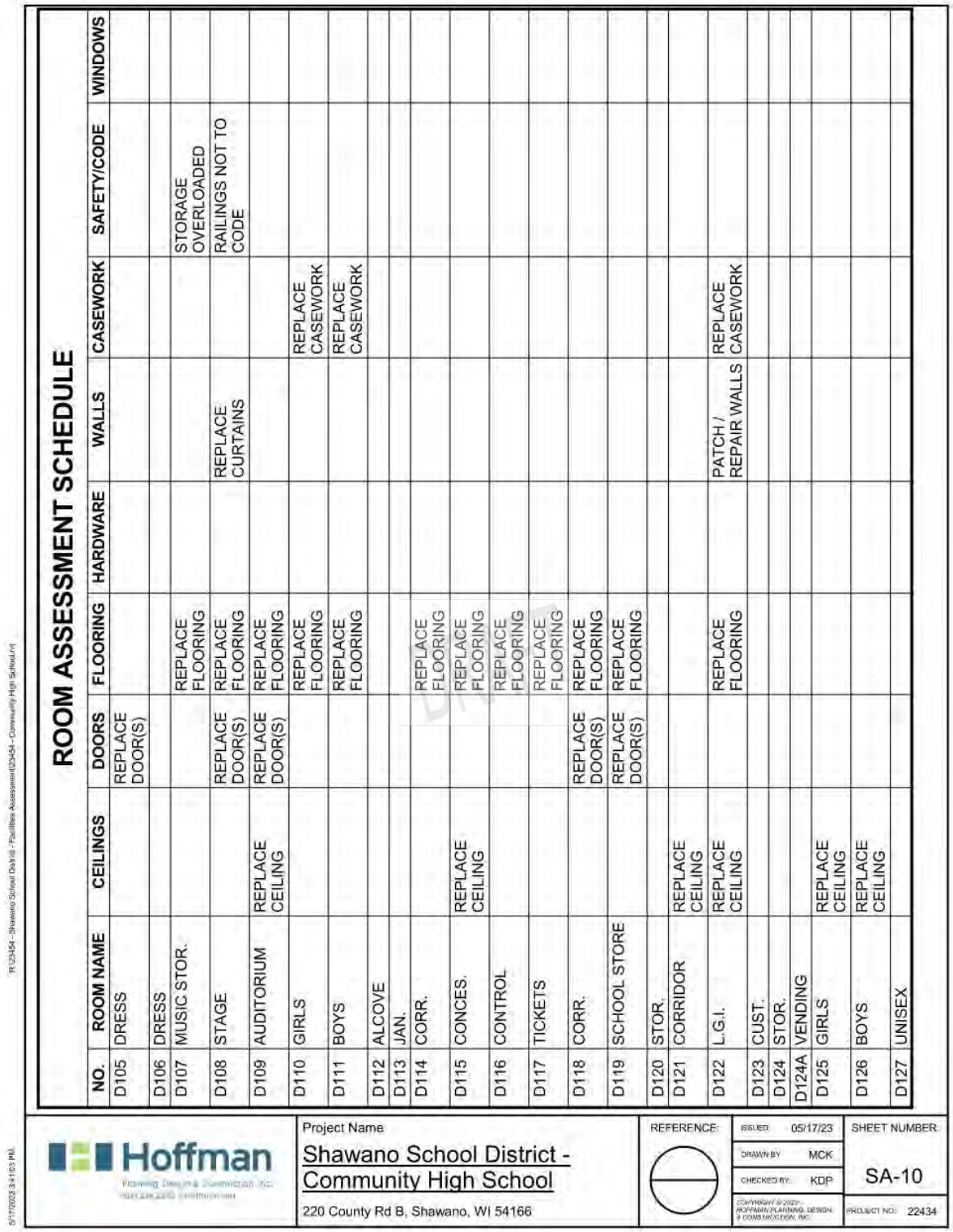
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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
D105	DRESS		REPLACE DOOR(S)						
D106	DRESS								
D107	MUSIC STOR.			REPLACE FLOORING				STORAGE OVERLOADED	
D108	STAGE		REPLACE DOOR(S)	REPLACE FLOORING		REPLACE CURTAINS		RAILINGS NOT TO CODE	
D109	AUDITORIUM	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
D110	GIRLS			REPLACE FLOORING			REPLACE CASEWORK		
D111	BOYS			REPLACE FLOORING			REPLACE CASEWORK		
D112	ALCOVE								
D113	JAN.								
D114	CORR.			REPLACE FLOORING					
D115	CONCES.	REPLACE CEILING		REPLACE FLOORING					
D116	CONTROL			REPLACE FLOORING					
D117	TICKETS			REPLACE FLOORING					
D118	CORR.		REPLACE DOOR(S)	REPLACE FLOORING					
D119	SCHOOL STORE		REPLACE DOOR(S)	REPLACE FLOORING					
D120	STOR.								
D121	CORRIDOR	REPLACE CEILING							
D122	L.G.I.	REPLACE CEILING		REPLACE FLOORING		PATCH / REPAIR WALLS	REPLACE CASEWORK		
D123	CUST.								
D124	STOR.								
D124A	VENDING								
D125	GIRLS	REPLACE CEILING							
D126	BOYS	REPLACE CEILING							
D127	UNISEX								

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SHEET NUMBER: SA-10
PROJECT NO.: 22434

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
D128	COMMONS	REPLACE CEILING		REPLACE FLOORING					
D129	VEST.								
D200	LANDING			REPLACE FLOORING				RAILINGS NOT TO CODE	
D201	STOR.							STORAGE OVERLOADED	
D202	MECHANICAL								
E100	VEST.								
E101	LOBBY								
E102	RECEPTION	REPLACE CEILING							
E103	SECT.	REPLACE CEILING							
E104	NURSE	REPLACE CEILING	REPLACE DOOR(S)						
E105	HEALTH	REPLACE CEILING							
E106	TLT.								
E107	VAULT	REPLACE CEILING							
E108	PRIN.	REPLACE CEILING							REPLACE WINDOWS
E109	OFFICE	REPLACE CEILING							REPLACE WINDOWS
E110	OFFICE	REPLACE CEILING							REPLACE WINDOWS
E111	OFFICE	REPLACE CEILING							REPLACE WINDOWS
E112	OFFICE	REPLACE CEILING							REPLACE WINDOWS
E113	CORR.	REPLACE CEILING							
E114	MAIL	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING	REPLACE HARDWARE				
E115	CONF.	REPLACE CEILING							
E116	TLT.								
E117	TLT.								
E118	CORR.	REPLACE CEILING							

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220 County Rd B, Shawano, WI 54166

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
E119	CORRIDOR	REPLACE CEILING	REPLACE DOOR(S)	REPLACE BASE TRIM					
E120	FOOD LABS	REPLACE CEILING	REPLACE DOOR(S)					NOT ACCESSIBLE	REPLACE WINDOWS
E121	CLASSROOM	REPLACE CEILING							
E122	STOR.								
E122.1	OFFICE								REPLACE WINDOWS
E123	STOR.	REPLACE CEILING							REPLACE WINDOWS
E124	STORAGE	REPLACE CEILING							REPLACE WINDOWS
E125	FABRIC/FAMILY	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING		PATCH / REPAIR WALLS			
E126	BOARD ROOM	REPLACE CEILING	REPLACE DOOR(S)		REPLACE HARDWARE				
E127	CL.								
E128	HR/PAYROLL	REPLACE CEILING							REPLACE WINDOWS
E129	CORR.	REPLACE CEILING	REPLACE DOOR(S)		REPLACE HARDWARE				
E130	REC.	REPLACE CEILING		REPLACE FLOORING					
E131	CLOSET			REPLACE FLOORING					
E132	OFFICE	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					REPLACE WINDOWS
E133	OFFICE	REPLACE CEILING		REPLACE FLOORING					REPLACE WINDOWS
E134	OFFICE			REPLACE FLOORING					REPLACE WINDOWS
E135	OFFICE			REPLACE FLOORING					REPLACE WINDOWS
E136	OFFICE			REPLACE FLOORING					REPLACE WINDOWS
E137	OFFICE			REPLACE FLOORING					REPLACE WINDOWS
E138	CONF.	REPLACE CEILING		REPLACE FLOORING					REPLACE WINDOWS
E139	WORK	REPLACE CEILING		REPLACE FLOORING					

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220 County Rd B, Shawano, WI 54166

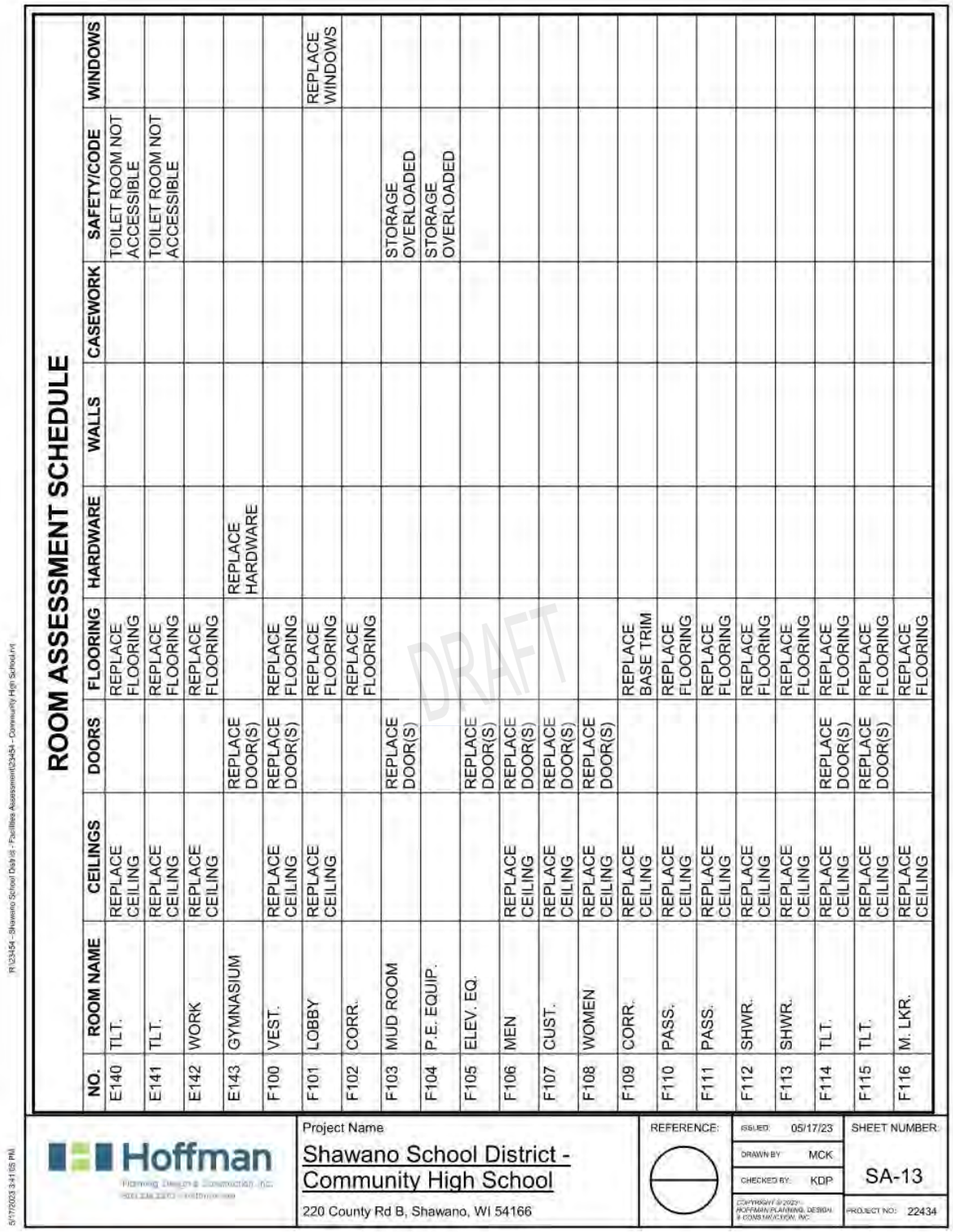
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SHEET NUMBER: SA-12
PROJECT NO.: 22434

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
E140	TLT.	REPLACE CEILING		REPLACE FLOORING				TOILET ROOM NOT ACCESSIBLE	
E141	TLT.	REPLACE CEILING		REPLACE FLOORING				TOILET ROOM NOT ACCESSIBLE	
E142	WORK	REPLACE CEILING		REPLACE FLOORING					
E143	GYMNASIUM		REPLACE DOOR(S)		REPLACE HARDWARE				
F100	VEST.	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
F101	LOBBY	REPLACE CEILING		REPLACE FLOORING					REPLACE WINDOWS
F102	CORR.			REPLACE FLOORING					
F103	MUD ROOM		REPLACE DOOR(S)					STORAGE OVERLOADED	
F104	P.E. EQUIP.							STORAGE OVERLOADED	
F105	ELEV. EQ.		REPLACE DOOR(S)						
F106	MEN	REPLACE CEILING	REPLACE DOOR(S)						
F107	CUST.	REPLACE CEILING	REPLACE DOOR(S)						
F108	WOMEN	REPLACE CEILING	REPLACE DOOR(S)						
F109	CORR.	REPLACE CEILING		REPLACE BASE TRIM					
F110	PASS.	REPLACE CEILING		REPLACE FLOORING					
F111	PASS.	REPLACE CEILING		REPLACE FLOORING					
F112	SHWR.	REPLACE CEILING		REPLACE FLOORING					
F113	SHWR.	REPLACE CEILING		REPLACE FLOORING					
F114	TLT.	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
F115	TLT.	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
F116	M. LKR.	REPLACE CEILING		REPLACE FLOORING					

ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
F117	W. LKR.	REPLACE CEILING		REPLACE FLOORING					
F118	PASS.	REPLACE CEILING		REPLACE FLOORING					
F119	PASS.	REPLACE CEILING		REPLACE FLOORING					
F120	PASS.	REPLACE CEILING		REPLACE FLOORING					
F121	P.E. OFF.	REPLACE CEILING		REPLACE FLOORING					
F122	COACH	REPLACE CEILING		REPLACE FLOORING					
F123	SHWR.	REPLACE CEILING		REPLACE FLOORING					
F124	TLT.	REPLACE CEILING		REPLACE FLOORING					
F125	BOYS P.E.	REPLACE CEILING		REPLACE FLOORING					
F126	TLT.	REPLACE CEILING		REPLACE FLOORING					
F127	SHWR.	REPLACE CEILING		REPLACE FLOORING					
F128	TLT.	REPLACE CEILING		REPLACE FLOORING					
F129	BOYS VARSITY	REPLACE CEILING		REPLACE FLOORING					
F130	PASS.	REPLACE CEILING		REPLACE FLOORING					
F131	TRAINING	REPLACE CEILING		REPLACE FLOORING					
F132	PASS.	REPLACE CEILING		REPLACE FLOORING					
F133	TLT.	REPLACE CEILING		REPLACE FLOORING					
F134	SHWR.	REPLACE CEILING		REPLACE FLOORING					
F135	COACH	REPLACE CEILING		REPLACE FLOORING					
F136	P.E. OFF.	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
F137	GIRLS VARSITY	REPLACE CEILING		REPLACE FLOORING					

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PROJECT NO.: 22434

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
F138	TLT.	REPLACE CEILING		REPLACE FLOORING					
F139	SHWR.	REPLACE CEILING		REPLACE FLOORING					
F140	TLT.	REPLACE CEILING		REPLACE FLOORING					
F141	GIRLS P.E.	REPLACE CEILING		REPLACE FLOORING					
F142	PASS.	REPLACE CEILING		REPLACE FLOORING					
F143	CORRIDOR	REPLACE CEILING	REPLACE DOOR(S)	REPLACE BASE TRIM	REPLACE HARDWARE				
F144	STOR.		REPLACE DOOR(S)						
F145	COMMONS STORAGE		REPLACE DOOR(S)	REPLACE FLOORING	REPLACE HARDWARE				
F146	LAUND.								
F147	DRY STOR.		REPLACE DOOR(S)	REPLACE FLOORING	REPLACE HARDWARE				
F148	CORR.	REPLACE CEILING							
F149	SERVING								REPLACE WINDOWS
F150	KITCHEN	REPLACE CEILING		REPLACE FLOORING					REPLACE WINDOWS
F151	FREEZER								
F152	OFFICE	REPLACE CEILING		REPLACE FLOORING					
F153	CORR.	REPLACE CEILING		REPLACE FLOORING					
F154	COOLER								
F155	STORAGE								
F156	TOILET								
F157	RECV.								
F158	VEST.		REPLACE DOOR(S)		REPLACE HARDWARE				
F159	BOILER		REPLACE DOOR(S)		REPLACE HARDWARE				
F160	OFFICE		REPLACE DOOR(S)	REPLACE FLOORING	REPLACE HARDWARE				
F161	EQUIP.			REPLACE FLOORING					

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ROOM ASSESSMENT SCHEDULE

NO.	ROOM NAME	CEILINGS	DOORS	FLOORING	HARDWARE	WALLS	CASEWORK	SAFETY/CODE	WINDOWS
F162	POOL		REPLACE DOOR(S)	REPLACE FLOORING	REPLACE HARDWARE				REPLACE WINDOWS
F163	EQUIP.								
F164	UNISEX LKR.	REPLACE CEILING							
F165	CNTRL.	REPLACE CEILING		REPLACE FLOORING					
F200	STOR.								
F201	OFFICE	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					REPLACE WINDOWS
F201.1	OFFICE	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					REPLACE WINDOWS
F202	STORAGE								
F203	WRESTLING MEZZANINE			REPLACE FLOORING					
F204	CORRIDOR			REPLACE FLOORING					
F205	WELLNESS		REPLACE DOOR(S)	REPLACE FLOORING					
F205.1	WEIGHT ROOM	REPLACE CEILING	REPLACE DOOR(S)	REPLACE FLOORING					
F206	MECHANICAL		REPLACE DOOR(S)						
F207	GEN.								
ST-A1	STAIR								
ST-A1	STAIR								
ST-A2	STAIR								
ST-A2	STAIR							RAILINGS NOT TO CODE	
ST-A3	STAIR								
ST-A3	STAIR							RAILINGS NOT TO CODE	
ST-A4	STAIR								
ST-A4	STAIR								
ST-B1	STAIR								
ST-B1	STAIR							RAILINGS NOT TO CODE	
ST-D1	STAIR							RAILINGS NOT TO CODE	
ST-F1	STAIR		REPLACE DOOR(S)	REPLACE FLOORING					
ST-F1	STAIR		REPLACE DOOR(S)						
ST-F2	STAIR								
ST-F2	STAIR		REPLACE DOOR(S)	REPLACE FLOORING					
ST-F3	STAIR		REPLACE	REPLACE				AREA OF RESCUE	

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SHEET NUMBER: SA-16
PROJECT NO: 22434

Exterior Closure Systems

The following report is the result of a site visit by Mark C. Spielbauer of Hoffman PD&C that occurred on April 25, 2023. Site observations, construction plan reviews, Owner furnished facility reports and interviews with staff were all used in the preparation of this report.

1997 Original Construction

The current building exteriors consist of the following:

- Running bond and soldier course brick
- Running bond split face concrete masonry units
- Metal wall panels
- Aggregate surfaced precast concrete panels
- Exposed concrete at precast wall panel openings

Entrance doors and frames are aluminum with insulated glazing and are original to construction.

Service doors and frames are hollow metal and original to construction.

Windows are aluminum frames with insulated glazing and are original to construction. Units are fixed or operable depending on location with aluminum sills.

Soffits at entries are EIFS over substrate materials.

The roofs are not all original to construction and is currently under warranty per the Owner.

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There was no report of water infiltration related to the exterior walls or roofs at the time of the site assessments.

Observations

The main roofs are all low sloped stone ballasted EPDM single-ply membranes over rigid insulation with internal roof drains. Membrane marking observed at various locations suggest the membrane is 45 mils in thickness. Overall the roofing was in good condition with the following noted:

- Areas of missing stone ballast at various locations, some of which may be wind scour as they occur at building corners
- There is a corroded metal flashing at the AHU on roof #5
- Owner reported that a leak occurred at the roof drain on roof #4 related to the bolts used to secure the sump pan
- It was reported that leakage had occurred at AHU's on roof #3 and that the east unit had been replaced and that the other units were scheduled to be replaced
- Roof area #9 was not accessible but was observed to have an area of fungal growth at the inside corner.
- Roof #12 was not accessible.

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Roof area 8 is a fully adhered reinforced white single-ply membrane with internal drains and in fair condition. There are some noted wrinkles at seams with walkway pads for protection in the area of the solar panel system. Metal parapet caps at the perimeter are in fair condition with some damage and sealant failures at covers. There is some fungal growth present on the membrane. The SPM flashing along the precast is in good condition with sealant added along the top edge of the counterflashing since original construction which according to the Owner was done to address leakage at the wall.



Fungal growth on #8 membrane

SPM flashings at walls and penetrations appeared to be in generally good condition.

Gravel stop and fascia at the roof edges are prefinished metal and appeared to be in generally good condition.

Flashings and counter-flashings at bases of upper walls at the roofs ranged from good to fair condition.

The steel framing at the chiller on roof #10 and #7 and the AHU on roof #2 was not painted and is corroded.

A gooseneck duck penetrates a sheet metal cover on roof #6. The base of the duct is not sealed.



Gap at pipe at precast

Two pipes penetrate a precast wall panel at roof area 10. There is exposed foam insulation that is deteriorated from exposure with no flashing or seal present to prevent water infiltration.

There is a curb with metal top with several pipe penetrations that are not sealed at roof #11

The roof scuttle at roof #2 is primed only. Several HVAC shrouds are damaged and there is a deteriorated piece of plywood below a duct support near the NW corner.

Most access ladders are steel and in fair condition with peeling paint and some corrosion present. Two ladders at roof #4 are short sections of an aluminum ladder bolted to the walls.



Aluminum access ladder

Light corrosion was noted at various steel lintels at openings.

Aluminum entrances are in generally good condition. Some of the hinges are corroded.

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Aluminum windows are in good condition. Some of the screens at operable windows are damaged. Perimeter sealants at some units are failing along with sealants at ends of the metal sills.

Hollow metal doors and frames are in good to poor condition with corrosion present at the bases of frames. Perimeter sealants have failed at several locations. A service door and frame at the west elevation has not been finish painted. Dents were noted in a west elevation door. The SPM flashing at the base of the roof access door onto roof #5 was not well done.

Soffits are in good condition. There is an area of damaged soffit at a south elevation entrance door.

Bricks were installed in a third running bond and are in good condition. Cracked and displaced brick are present at the tops of several opening at the ends of the steel lintels. Mortar is missing at ends of steel lintels, sealant is present at some of the lintels ends, while others have exposed ends. Mortar was noted to be missing at several locations.

Masonry control joints sealants have been extruded in some joints while other joints are tight. Sealant condition varies from good to failing with some of the sealants being hard and inflexible.

Cracks are present in the bed and head mortar joints of the split face masonry block units throughout the building. A crack is also present at the end the steel lintel at door A.

Overhead doors are in good to fair condition with some holes and damage noted. The bases of steel frames at some of the doors is corroded. Paint finishes are weathered.

Precast panels are in good to fair condition. There is a section of spalled precast at an outside corner of the pool. At various locations there are sealed or unsealed cracks in panels and in reveals. At several door openings in the east elevation the corners of precast panels are cracked.

Concrete frames at precast openings are in good condition with some cracking noted.

There is a loose electrical outlet at the north elevation.



Stained and failed sealant



Cracked CMU mortar joint



Cracks in precast panel

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Recommendations



Cracked brick at window

- Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
- As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project.
- The age of the white SPM roof at roof area 8 was not included in information from the Owner. Based on observations and previous assessments the Owner should anticipate roof replacement for this areas in 3 – 5 years with regular inspections and maintenance. Address any issues found during the inspections.
- EPDM ballasted roofs reportedly have been replaced starting in 2014 with those roofs still under warranty and would have an expected service life of 20 – 25 years with regular inspections and proper maintenance. Further study would be required to verify that roofs 3, 4, and 5 were replaced in 2016 and whether roofs 1 and 2 have been replaced. Address any issues noted during the inspections.
- Replace failed sealants at storefronts, windows, precast panel joints and parapet caps.
- Areas of missing stone ballast on roofs should be addressed.
- Prepare, prime and paint existing corroded steel elements including lintels at openings, AHU and chiller steel framing, and exterior access ladders.
- Finish paint the roof scuttle.
- Replace damaged flashings and parapet caps.
- Existing cracked and damaged brick at tops of window openings need to be further evaluated to determine why the cracking is occurring at those locations and the damaged addressed.
- Monitor precast panels for any additional cracking and address as needed. Fabricator should review cracked and damaged panels and make any repair recommendations.
- Replace damaged OH door panels and seals. Paint jamb frames.
- Masonry control joints will need to be addressed which may include cutting the joints wider to provide for properly sized back rod and sealant.
- Corroded door frames should be reviewed and prepped, primed, and painted if the corrosion has not significantly reduced the steel sections, otherwise replace the frames. Paint doors that are weathered.



Spalled precast panel at corner

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- Replace corroded hinges throughout.
- Remove the two aluminum roof access ladders and install appropriate ladders.
- Replace damaged and missing window screens.
- Rework the base flashing on the gooseneck vent and at the roof #11 pipe penetrations.
- Further documentation of split face CMU's will be needed with tuckpointing likely required to address noted joint cracking.
- Replace the deteriorated plywood at the duct stand.
- Repair the damaged soffit.
- Pipe penetrations at the chiller through the precast wall panel will need to be repaired. Replace the foam insulation and install appropriate flashings to prevent water intrusion.
- Address the loose electrical outlet.
- Replace the corroded metal below the AHU on roof #5 when the unit is replaced.
- Flashings and reglets at roof to precast wall junctions should be reviewed to verify the reglets are properly installed and sealed.

2013 Building Additions

Single story additions were added to the original building at the SW and NW corners of the west wing.

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The addition exteriors consist of the following:

- Running bond brick
- Split face concrete masonry units
- Exposed concrete at foundation walls

Service doors and frames are hollow metal and original to construction.

Windows are operable or fixed aluminum frames with insulated glazing and are original to construction.

The roofs which include areas 13 and 14 are original to construction and may be under warranty according to information provided by the Owner.

There was no report of water infiltration related to the exterior walls or roofs at the time of the site assessments.

Observations

The roofs are of both additions are reportedly mechanically attached reinforced white single-ply membranes over rigid insulation with internal roof drains. Roofs were in good condition with the following noted:

- Some standing water and black staining was present
- No separation membrane was installed below wood blocks supporting the gas line on roof #14
- Scuppers were present at both roofs at the exterior walls.

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Gas line at roof #14 was corroded.

Perimeter gravel stops and fascia were in good condition.

SPM flashings at walls and penetrations were in good condition.

Exterior brick and block walls are in good condition with a crack present at the base of the wall at an outside corner of area 13.

Windows are in good condition, with a sealant failure noted at the end of one of the metal sills.

The hollow metal door frame at #13 has not been caulked to the adjacent masonry. The door frame at #14 is corroded and in fair condition.

Overhead door is in good condition, the jambs are unfinished CMU block with brick return.

The aluminum entrance at area14 is in good condition.



Unfinished CMU at OH door jamb

Recommendations

- Inspect roofs at planned intervals to remove debris and play equipment, and to inspect the roof membranes and flashings. Maintain roof drains to prevent debris from accumulating that could lead to unwanted roof ponding.
- The white SPM roofs were reportedly replaced in 2013 and may still be under warranty and would have an expected service life of 20 years with regular inspections and proper maintenance. When the roof is replaced address the standing water issues with additional tapered insulation and water diverters.
- As roofs are replaced, unused equipment and penetrations should be removed and decking infilled as a part of the reroofing project.
- Add separation sheets at wood blocking supports at the gas line, prep, prime and paint the gas line.
- Add perimeter sealant to the hollow metal frame.
- Replace the failed window sill sealant.
- Prep, prime and paint the corroded hollow metal door and frame.
- Address the crack at the building corner.
- Unfinished block at the OH door jambs should be painted/coated or covered with a painted steel plate to cover the width of the jamb.

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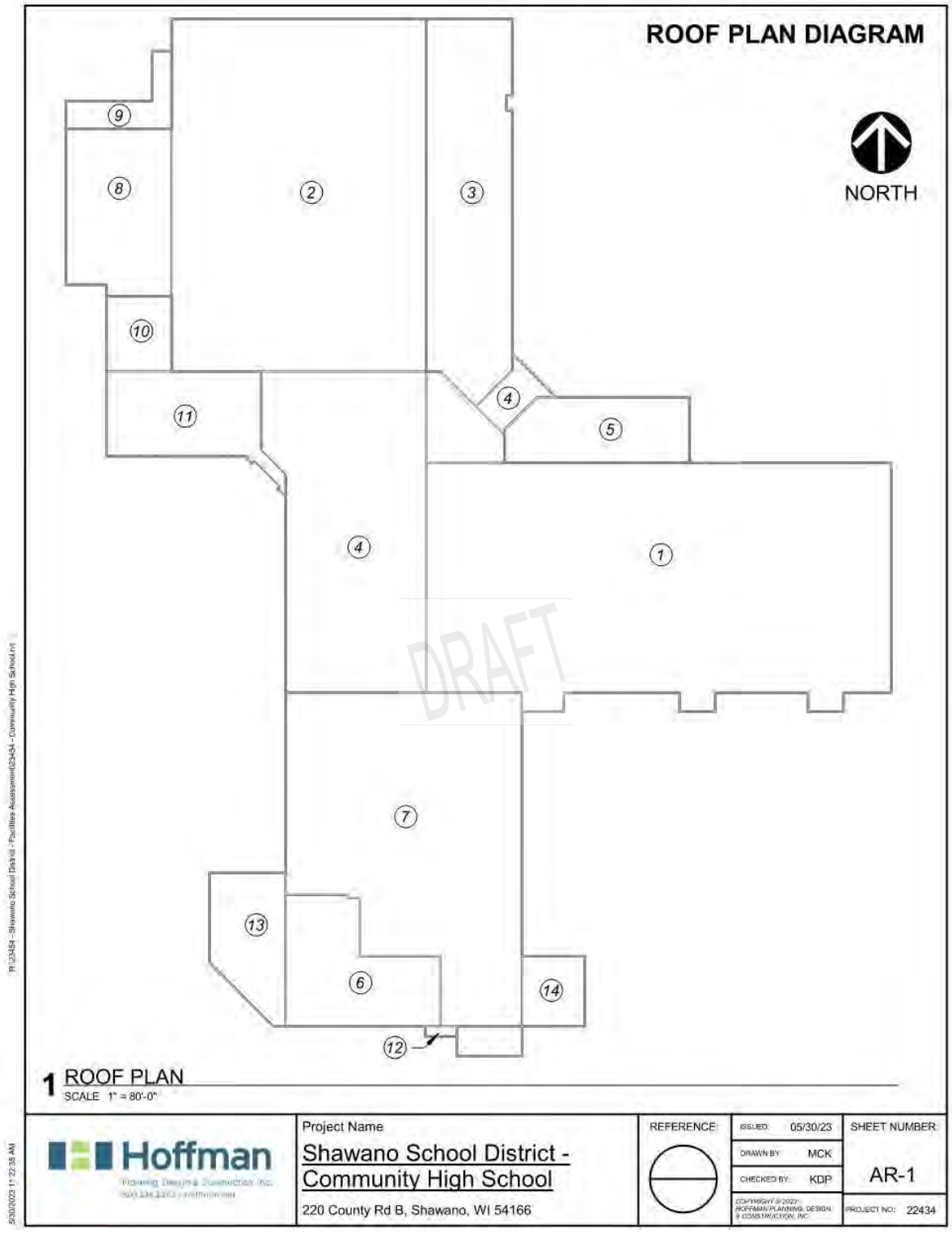
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Roof Summary

Roof No.	Roof Type	Roof Area	Installed	Age	Warranty	Service Life
1	Ballasted EPDM	72,100	1996		None	
2	Ballasted EPDM	41,000	1996		None	
3	Ballasted EPDM	14,000	1996	7	Verify	
4	Ballasted EPDM	1,050	1996	7	Verify	
5	Ballasted EPDM	5,100	1996	7	Verify	
6	Ballasted EPDM	6,650	2015	8	2025	12
7	Ballasted EPDM	37,800	2015	8	2025	12
8	White adhered SPM	7,500			Unknown	
9	Ballasted EPDM	1,400	2014	9	2024	11
10	Ballasted EPDM	1,800	2014	9	2024	11
11	Ballasted EPDM	6,000	2014	9	2024	11
12	Ballasted EPDM	100	2014	9	2024	11
13	White SPM	4,700	2013	10	Verify	10
14	White SPM	2,150	2013	10	Verify	10

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ROOF PLAN DIAGRAM
NORTH
9
8
2
3
10
11
4
5
4
1
7
13
6
14
12
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1 ROOF PLAN
SCALE 1" = 80'-0"
Hoffman
Project Name
Shawano School District - Community High School
220 County Rd B, Shawano, WI 54166
REFERENCE:
ISSUED: 05/30/23
DRAWN BY: MCK
CHECKED BY: KDP
SHEET NUMBER
AR-1
PROJECT NO.: 22434

Plumbing Systems

Domestic Water and Natural Gas

Observations

The building is served by a 6" domestic water service, with 4" water meter located in Boiler F159. The domestic water supply pipe is primarily copper, with PEX used for repairs in certain locations. There is no report by facility of problems with water piping, leaks, or hot water supply temperatures.



Water Meter

The natural gas meter assembly is located outside the building, adjacent to Boiler F159. There are two branches to the natural gas system, each with a dedicated meter. The smaller branch is dedicated to the emergency generator. The larger branch is for the rest of the facility. The natural gas pipe is steel, with threaded connections for small diameter pipe and welded connections for large diameter pipe.



Gas Meter

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Recommendations

- The existing piping was installed in 1997, and is in reasonable condition. Backflow prevention devices shall be tested and inspected annually. Check isolation valves for corrosion and exercise semi-annually.
- The water meter shows signs of corrosion, and replacement should be coordinated with the water utility.

Sanitary Drain and Vent

Observations

- The sanitary drain and vent systems are schedule 40 PVC with solvent welded fittings. The science classrooms are served by an acid waste system, with schedule 40 polypropylene pipe and mechanical joints. The building is served by multiple sewer laterals: a 6" sanitary sewer serving area F and discharges near Serving F149, a 4" grease waste serving the kitchen, a 4" sanitary sewer serving area E and discharges near Reception E102, and an 8" sanitary sewer serving areas A thru D discharges near Janitor D113. There is no report by facility of problems with slow drainage, and the only reported sewer backup was due to an excess of food products from the foods lab.
- A grease interceptor is located outside the building adjacent to the kitchen. A garage catch basin is located in Auto Shop C135. An acid dilution basin is located in Storage A136.

Recommendations

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- The existing piping is in reasonable condition and may remain in service. The drain and vent piping in Pool Equipment F163 is in poor condition and should be replaced with new.
- The kitchen drain piping is susceptible to grease build-up and clogs from food waste, and should be inspected annually to ensure it is free flowing. The grease interceptor should be inspected on an annual basis for signs of damage or leaks. It is assumed to be from the original 1997 project, and is in the end-of-life phase of use. It should be replaced in the next major renovation project. The procedures used in the foods lab should be reviewed, to ensure food waste is scraped into trash cans and not washed into the sanitary drain piping.
- The garage catch basin should be inspected on an annual basis for signs of damage or leaks. Any sediment build up or debris should be removed on a regular basis. The acid dilution basin should be inspected on an annual basis for signs of damage or leaks.

Storm Drain

Observations

The storm drain systems are schedule 40 PVC with solvent welded fittings. The building is served by multiple storm sewer laterals: a 15" storm sewer serving area F and discharges near Boiler F159, a 12" storm sewer serving area E and discharges near Conference E138, a 15" storm sewer serving area C and D discharges near Band C139, and a 15" storm sewer serving areas A and B discharges near Classroom A115. There is no report by facility of problems with slow drainage or storm sewer backup.

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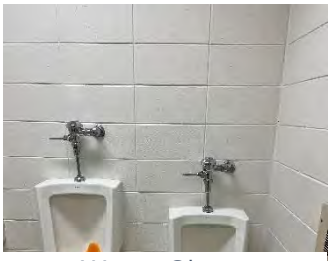
Recommendations

- The existing storm piping to remain in place. Recommend ongoing maintenance with inspections of existing storm roof drains and conductors to be clear of debris and checking for potential roof leaks at roof drain pans. Any new roof replacements shall evaluate the roof drain pans for any corrosion for potential leaks.

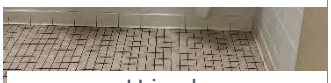
Plumbing Fixtures

Observations

Water closets are floor set, manual operation flush valve type fixtures rated for 3.5 gallons per flush with multiple manufacturers represented. Urinals are wall hung, manual operation flush valve type fixtures rated for 1.0 gallons per flush with multiple manufacturers represented. Lavatories are vitreous china drop-in style fixtures with single handle faucets. Science classroom sinks are integral with the countertop, and a mixture of single handle and two handle gooseneck style faucets with hose thread vacuum breaker. Art classroom sinks are stainless steel drop-in style with two handle gooseneck faucet and plaster trap. Agriculture lab sinks are stainless steel drop-in style with one or two handle faucets. The metals shop



Water Closet



Urinals

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has a floor mounted molded stone utility sink with two handle faucet and wall mounted eyewash station. The auto shop has a stainless steel drop-in style sink with two handle gooseneck faucet and spout mounted supplemental eyewash. The wood shop has a stainless steel drop-in style sink with two handle gooseneck faucet. Drinking fountains are a mixture of recessed and wall mounted style. Both styles include chiller and bottle filler. Showers are wall mounted multi-station stainless steel units for standard fixtures. Accessible showers are single stall with a handshower mounted on a slide rail.



Lavatory

Recommendations

- The plumbing fixtures all appear original to the 1997 construction and replacement of all fixtures in their entirety is recommended.
- Toilet room fixtures should be replaced with water conserving type manual operation fixtures of the same make and model: 1.28 gallons per flush water closets, 0.125 gallons per flush urinals, and 0.5 gallons per minute flow rate lavatory faucets with wristblade handles and ASSE 1070 thermostatic mixing valve set to deliver 105°F hot water.
- Science classroom sinks are in poor condition and faucets do not meet current code requirements for laboratory faucets, and should be replaced with new fixtures and faucets with an ASSE 1035 type vacuum breaker.
- Emergency eyewash/shower fixtures in science classrooms are currently served with cold water only. An ASSE 1071 thermostatic mixing valve should be installed, and set to deliver 85°F tempered water.
- Stainless steel sinks in art and agriculture labs are in generally acceptable condition, but faucets are showing signs of corrosion and should be replaced with new gooseneck type faucets with wristblade handles.
- Sinks in wood, metals, and auto shops are in generally poor condition and should be replaced with new stainless steel fixtures, floor or countertop mounted as appropriate.
- New wall mounted eyewash stations should be installed, ANSI Z358.1 compliant with ASSE 1071 thermostatic mixing valve set to deliver 85°F tempered water.

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Plumbing Equipment

Observations

- The building is served by multiple water heating systems located throughout the building. Two high efficiency, tank type, natural gas-fired, high efficiency water heaters and one 750 gallon storage tank located in Boiler F159 serve the locker rooms and kitchen. Each water heater is rated for 100 gallons of storage and 199 MBH at 95% thermal efficiency, with a modulating burner that will operate as low as 40 MBH input. One water heater was installed in 2016, and the other in 2022. The system is set to generate hot water at 145°F. This high temperature water is routed to the kitchen. A thermostatic mixing valve set to 100°F delivers water to the rest of the building. Three in-line pumps serve the hot water system: one to circulate water between the water heaters and the storage tank, one to circulate water thru the low temperature hot water supply system, and one to circulate water thru the high temperature hot water supply system.An electric, tank-type water is located in Janitor C140A. It was installed in 2010, and is rated for 119 gallons of storage and 18 kW input at 480 volts. There are no temperature gauges installed to verify the set point. An in-line pump serves the hot water circulation system.
- An electric, tank-type water heater is located in Storage A136. It was installed in 2020, and is rated for 80 gallons of storage and 6 kW input at 208 volts. There are no temperature gagues installed to verify the set point. An in-line pump serves the hot water circulation system.
- An electric, tank-type water heater is located in Custodian D123. It was installed in 1997, and is rated for 30 gallons of storage and 9 kW input at 480 volts. There are no temperature gauges installed to verify the set point. An in-line pump serves the hot water circulation system.
- An electric, tank-type water heater is located in Janitor D113. It was installed in 2015, and is rated for 30 gallons of storage at 9 kW input at 480 volts. There are no temperature gauges installed to verify the set point. It does not have hot water recirculation.
- The shop classrooms are served by a 15 HP rotary screw type air compressor, with integral air dryer and filters,



Gas-Fired Water Heater



Typical Electric Water Heater



Air Compressor

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mounted on a 120 gallon air receiver. The air compressor is rated to deliver 55 CFM air at 125 psi. It was installed in 2018.



Damaged Storage Tank

Recommendations

- The gas-fired water heaters appear in satisfactory condition. The storage tank has visible damage to the outer shell and some of the tank insulation, but does not appear to be leaking. This damage should be repaired.
- The electric tank type water heaters should all be replaced. The equipment in Custodian D123 and Janitor C140A is at its end-of-life service phase. The equipment in Janitor D113 is approaching its end-of-life service phase. The equipment in Storage A136 is operating properly and is within its expected service life, but is not an energy saving type device. New water heaters should be tank type, hybrid electric heat pump type water heaters. The water heaters should be set to 140°F to protect against bacterial growth and to increase capacity of the system. An ASSE 1016 thermostatic mixing valve should be installed and set to deliver 120°F hot water to the system. Thermometers should be installed to monitor water temperatures.
- The air compressor appears in satisfactory condition. The district should perform manufacturer recommended maintenance, including inspecting the condensate drain on a weekly basis, and an annual inspection to review filters, belts, and lubricants.

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FIRE PROTECTION SYSTEMS

Observations

The building does not currently have a fire sprinkler system.

Recommendations

The district should consider adding a fire sprinkler system in the next major renovation project. It may be required by code, depending on the extent of the renovations.

HVAC Systems

The following report is the result of a site visit by Jason Testin of Fredericksen Engineering that occurred on April 20, 2023. Site observations, construction plan review, and interviews with staff were all used in the preparation of this report.

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Heating System

Existing Data

The existing boiler plant consists of two Burnham hot water boilers, installed in 1997. Each boiler is fired with natural gas and has a capacity of 11,074 mbh output. Each boiler is served by a boiler pump.

The pumping system consists of two circuits each with a stand-by pump (four pumps in total). If the primary pump fails, the secondary (stand-by pump) will provide hot water circulation to the system.

Observations

- According to information obtained by the Owner, the boiler plants have no reserve capacity at this point, as all boilers are brought online during periods of colder weather.
- The boilers are in fair condition and have exceeded the estimated life expectancy of 25 years.
- The pumps are in fair condition and have exceeded the estimated life expectancy of 20 years.
- Boiler water chemical systems are in place and appear to function as intended.
- Insulation at most piping is of adequate thickness and in fair condition.
- The Owner has indicated that there are no current concerns or issues with the heating supply system.

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Recommendations

- Continue preventative maintenance on the system.
- Any future additions or construction may require the addition of boiler capacity to serve the additional spaces.
- Plans should be made to replace the boilers and pumps.

Ventilation and Air Conditioning Systems

Existing Data

Air conditioning is provided to the entire facility by two air cooled chillers and multiple rooftop units.

The western air cooled chiller serves air handling units AC-1, AC-2, AC-3, AC-4 and AC-5. The unit has a capacity of 300 tons and utilizes a 50% propylene glycol mix.

The northern air cooled chiller serves air handling units AC-6, AC-7, AC-8 and fan coil FC-1. The unit has a capacity of 215 tons and utilizes a 50% propylene glycol mix.

Each chiller has a primary/secondary pumping arrangement.

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The metals shop, the auto shop and the wood shop are each served by a CVSZ heating and ventilating unit. Each unit consists of a supply fan and hot water heating coil.

The welding in the metals shop is served by a roof mounted utility exhaust fan and each welding station has a welding hood on a flexible duct.

The auto shop has multiple vehicle exhaust hose connections served by a roof mounted utility exhaust fan.

The wood shop equipment is served by a cyclone style dust collector.

The classrooms and music rooms are served by a VAV air handling system (AC-1, AC-2 and AC-3). Each air handling unit consists of a variable speed supply fan, hot water heating coil and chilled water cooling coil. Hot water VAV boxes are installed in the ductwork to provide individual temperature control. The air handling units also utilize a cabinet return fan.

The auditorium, commons, kitchen, gymnasium and LGI are each served by a CVSZ air handling system (AC-5, AC-6, AC-7 and AC-8). Each air handling unit consists of a supply fan, hot water heating coil and chilled water cooling coil.

The wrestling room and lockers are each served by a CVSZ heating and ventilating unit. Each unit consists of a supply fan and hot water heating coil.

The administration offices, unit E classrooms and school offices are each served by a CV rooftop unit. Each unit consists of a supply fan and packaged DX cooling section. Hot water booster coils are installed in the ductwork to provide individual temperature control.

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The LMC is served by a VAV rooftop unit. The unit consists of a supply fan and packaged DX cooling section. Hot water VAV boxes are installed in the ductwork to provide individual temperature control.

The pool is served by a CVSZ heating and ventilating unit and energy recovery unit. The heating and ventilating unit consists of a supply fan, hot water heating coil, glycol runaround loop and return fan. An energy recovery unit, consisting of a energy recovery wheel, supply fan and return fan, pulls exhaust air from the pool system to preheat the outside air being brought into the system.

Observations

- The air cooled chillers were installed in 1997 and are in fair condition. The units have exceeded the estimated life expectancy of 20 years.
- The pumps serving the chiller were installed in 1997 and are in fair condition. The units have exceeded the estimated life expectancy of 20 years.
- The heating and ventilating units were installed in 1997 and are in fair condition. The units have exceeded the estimated life expectancy of 25 years.
- The dust collector was installed in 1997 and is in fair condition. The unit has exceeded the estimated life expectancy of 20 years.

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- The air handling units were installed in 1997 and are in fair condition. The units have exceeded the estimated life expectancy of 25 years.
- The rooftop unit serving unit E classrooms currently is not operational. Plans have been made to replace the unit in 2024.
- The rooftop unit serving the administration offices was installed in 2022 and is in good condition. The unit has an estimated life expectancy of 15 years.
- The rooftop unit serving the school offices was installed in 1997 and is in poor condition. The unit has exceeded the estimated life expectancy of 15 years. Plans have been made to replace the unit in 2024.
- The rooftop unit serving the LMC was installed in 1997 and is in fair condition. The unit has exceeded the estimated life expectancy of 15 years.
- The heating and ventilating unit serving the pool was installed in 1997 and in poor condition. The unit has exceeded the estimated life expectancy of 20 years. While it is not known when the energy recovery unit was installed, it doesn't appear to be sized accurately and many parts have rusted out and been replaced.
- There are portions of ductwork that have insulation that is failing.
- The Owner indicated the pool boilers and heat exchangers are in need of replacement.
- The Owner indicated the variable frequency drives (15 total) are in need of replacement.

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Recommendations

- Plans should be made for the replacement of the air handling units, rooftop units, two heat exchangers and boilers serving the pool, variable frequency drives, heating and ventilating units, dust collector, chillers and associated pumps.
- Plans should be made to replace ductwork insulation in areas of failure.

Control Systems

Existing Data

There is a combination of a pneumatic control system and a digital control system.

The supplemental heat (cabinet heaters, unit heaters, etc.) are controlled by the pneumatic control system.

The remainder of the HVAC system is served by a Johnson Controls digital control system.

Observations

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The digital control system is in good condition. The pneumatic control system is in poor condition. The limitations of the pneumatic system do result in comfort complaints. Pneumatic systems require frequent calibration to maintain accuracy. The newer digital controls are more accurate and more flexible. In addition, the industry has made such a complete changeover to digital controls that it is becoming difficult to find good pneumatic service technicians.

The Owner indicated they would like all four schools tied into the same control system.

Recommendations

- Continue to maintain and operate the pneumatic control system as long as the current mechanical equipment remains. When any renovations to the existing equipment are made, a changeover to digital controls is strongly recommended.
- Plans should be made to provide an open protocol, Tridium/Niagara N4 system at each school and tied together into the same control access program. With a new control system, plans should be made to commission the HVAC systems.

Electrical Systems

Main Electrical Service

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Observations

The facility is served by Shawano Municipal Utilities via a 1,500kVA pad mounted transformer located off the northwest corner of the building near to pool wing. The service lateral travels underground from the transformer into a current transformer compartment of the main switchboard located within the Boiler room. The meter socket and meter are located on the exterior wall of the Boiler room.



Service Transformer

The main switchboard contains a 3,000A main, bolt-loc fused switch with ground fault protection and two distribution sections. It is rated at 480Y/277V, 3-phase, 4-wire and manufactured by Square D, QED type. It is original to the building and in fair condition. There is a surge protective device installed external to the switchboard enclosure.



Main Switchboard

Recommendations

The main switchboard equipment is in fair condition and can likely continue to be maintained and serve current and future needs of the building. However, due to age and knowing that replacement

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compontnets will be increasingly difficult to find as time goes on, consideration should be given to replacing equipment. This is a low priority.

Panelboards



Distribution Panel

Observations

- Panels observed throughout the building are all Square D. There are I-line distribution panelboard, NEHB appliance panels and NQOD appliance panelboards located throughout the building. These are all original to the building and in fair condition.
- In general, there is a lack of additional circuit capacity on most panelboards. Additional circuits required for renovations or additions will likely require new panelboards.

Recommendations



NEHB Panelboard

- Consideration should be given to replacing equipment that is original to the building. This is a medium/low priority. However, due to the age of this equipment, finding replacement components will be increasingly difficult as time goes on. Replacement panels are recommended to be provided with additional spaces for future renovations or expansions.
- Electrical equipment within the metals shop is in a very dirty environment. The room that it is within has no ceiling and it's open to the welding shop. It is recommended to add a ceiling to this room to completely isolate it from the metals shop. It is also recommended that equipment be de-energized and thoroughly cleaned (inside and out). Transformer TS-5 should be replaced. It is open and ventilated using the dirty air from the surrounding space. This deteriorates the coils of the transformer and significantly reduces its life expectancy.
- It was noted by facility staff that an arch flash study has never been performed for the high school electrical system. It is recommended that this study be completed to ensure proper equipment short circuit current ratings as well as to establish a proper electrical safety program as required by OSHA.

Emergency Systems

Observations

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- There is an emergency standby generator located off in the second-floor mechanical room area on the northeast end of the building. It is a Kohler generator and is 60kW/75kVA, 480Y/277V, 3-phase, 4-wire. Fuel source is natural gas. The run-time gauge indicates 104 hours of total run-time. It appears to be in fair condition and original to the building.



Standby Generator

- The generator output feeder goes to a single transfer switch located within the adjacent room. The automatic transfer switch is Kohler. It is 3-pole, 4-wire, 480Y/277V and rated at 104 amps. This then feeds panel "HE" which ultimately feeds emergency loads throughout the building.

Recommendations

- Consideration should be given to replacing the generator and transfer switch. This equipment is nearing the end of its life expectancy.

Lighting Fixtures and Controls

Observations

- Lighting throughout the building consists of fluorescent T-8 lamping and compact fluorescent lamping. There are plans in place to replace lamping throughout with LED retrofit type lamps.


Classroom Lighting

- Classroom lighting is mainly 2'x4' lay-in lensed or parabolic troffers. These are controlled via two zones. The teaching wall area is controlled separately on/off and the rest of the classroom is controlled as a zone with inboard/outboard switching.
- It appears that Gym lighting has been upgraded from the original lighting. Lighting appears to be fluorescent high-bay type fixtures. Fixtures are suspended from the ceiling with aircraft cabling. Lighting controls consist of a gym relay panel for group control.
- Auditorium lighting appears to be tungsten halogen and other incandescent type. This includes theatrical lighting as well as house lighting. There is a theatrical dimming system installed with an ETC Element control board.


Auditorium House Lighting

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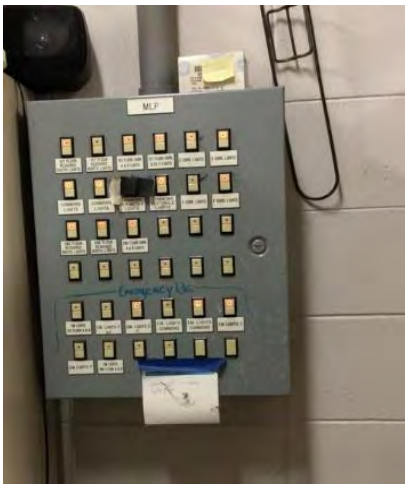
- Hallway lighting is 2'x4' lay-in lensed troffers. These are controlled by a manual pushbutton panel labeled "MLP" located in the custodial office area. This manual lighting panel controls both normal and emergency lights.
- In general – there are no means of automatic shutoff controls installed throughout the building.
- Exit signs throughout the building are LED type.
- Exterior building mounted lighting was noted to be LED wall packs. Exterior lighting appears to be controlled via photocell on and timeclock off.



Theatrical Control Board

Recommendations

- Reconsider replacement of existing T-8 fluorescent lamps with LED retrofit lamps. Instead, consider replacement of existing T-8 fixtures throughout the original building footprint with LED flat-panel type fixtures.
- It is recommended that lighting controls in the classroom be upgraded in conjunction with fixture upgrades to provide dimming functionality. This will allow educators better control of their classroom to create an ideal learning environment based on student task/activity.
- Additionally, consider adding occupancy sensors to all spaces for automatic-off functionality. This includes hallways, and the elimination of the manual lighting control system that is currently in place.
- Within the auditorium it is recommended that at a minimum the house and in-seat lights be replaced with LED. As part of this, controls would require upgrading as well as re-wiring to ensure proper segregation. Additionally, consider replacement of theatrical lighting and upgrading theatrical controls. Existing tungsten halogen lamps that are in place today will no longer be available after 2023.



Hallway Controls

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Wiring Devices

Observations

Classrooms appear to have mostly adequate quantity of power receptacles and data jacks. Access points are installed in the ceiling throughout the hallways and other spaces for full wireless access coverage. Data cabling was noted to be Cate 6 and routed free air within J-hooks.

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Recommendations

- Replace all receptacles and switches that are older than 10 years. This will ensure that receptacle pulling tensions are adequate to hold plugs, fully engaged, into devices.
- Receptacle locations should be reviewed within classrooms and spaces and devices added where determined to be inadequate. Data outlet locations should also be reviewed throughout, and outlets should be added to accommodate the increased needs for technology.

Fire Alarm System

Observations

The existing fire alarm system is an addressable system with horn-based notification devices. The fire alarm control panel is a Simplex 4100ES and located in the Mechanical Boiler room. Pull stations are located at egress doors for manual alarm initiation. Smoke detection was observed within storage rooms, technology closets, and electrical rooms.



Fire Alarm Control

Recommendations

- Continue to maintain existing fire alarm system and expand/extend system to accommodate future additions or renovations. If there are future plans for a large assembly addition with 300 or more spectators, it is recommended that the existing system be upgraded to a speaker-based system. This would require head end equipment upgrades, the addition of amplifiers and new signaling circuit wiring.

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Clock System

Observations

The clocks within the building are digital and on a centralized Primex wireless clock system for synchronization. It was noted by facility staff that there are issues with clocks functioning and synching properly.



Primex Clock

Recommendations

- Troubleshoot existing clock system to determine root problem of synching issue and replace/repair as needed. After system is operating properly maintain existing system add clocks as necessary for any future building additions or renovations.

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Public Address System



PA System Head End

Observations

The public address system head end is located within the MDF room C102. There is a TOA series digital matrix mixer fed from a network controller and additional amplifiers for other building zones. Equipment appears to be in good condition. Wiring was noted to be free-air routed.

Recommendations

- Extend and modify the system as necessary to accommodate any building renovation or addition.

Phone System



VoIP Handset

Observations

Existing phone system is a VoIP system. Each teacher workstation and office work area contains a Cisco IP Phone 7942 handset.

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Recommendations

- Existing system is in good condition and shall be expanded as necessary to accommodate any building addition or renovation.

Data System



MDF Equipment

Observations

- The MDF room is Server Room C102. There are 12-Strands of single mode fiber between the MDF and each IDF room. There are a total five other IDF rooms throughout the building.
- There are rack mounted uninterruptible power supplies (UPS) to backup rack equipment. Each of these UPS units are fed from a generator sourced receptacle. The MDF and IDF rooms contain 4-post racks and data cabinets with switches and patch panels. Horizontal cabling is done via Cat 6 cabling. All appear to be in good condition. There are wireless access points located throughout the facility.
- There are rack mounted uninterruptible power supplies (UPS) to backup rack equipment. Each of these UPS units are fed from a generator sourced receptacle. The MDF and IDF rooms contain 4-post racks and data cabinets

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with switches and patch panels. Horizontal cabling is done via Cat 6 cabling. All appear to be in good condition. There are wireless access points located throughout the facility.

Recommendations

- Existing equipment and cabling appear to be in good condition and has room for expansion. Minor modifications to rack mounted equipment and cable management are recommended.
- Exsting abandoned data cabling is recommended to be demolished and removed throughout the building.

CCTV System

Observations

There is an IP camera-based video surveillance system located throughout the building. Head end equipment is located within MDF C102. Cameras are located at the building entrances, around the building exterior and throughout the hallways.

Recommendations

Maintain existing system and add/modify/replace cameras as needed. Consider a detailed walk-thru of facility to survey camera coverage and identify dead zones and add additional cameras where necessary.

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Door Power Wiring



Entry Door Intercom

Access Control/Security System

Observations

- Building entrances were noted to contain motion sensors for building security with TECC security system touch pads for arming and disarming the system.
- Many entry doors are equipped with HID proximity readers.
- Aiphone intercom is installed at the main entry door with master station located within main office.

Recommendations

- Maintain existing system and add/modify devices as needed for any future renovations or additions.

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