Moseley

Town of Black Mountain

Public Safety Building Facility Condition Assessment

February 5th, 2026

CONTENTS

Executive Summary 3
- Project Scope 3
- Findings 5
- Next Steps 6

Current Conditions 7
- Building Description 7
- FCI 37

Immediate Recommendations 38
- Architecture, Site, and Interiors 38
- Mechanical 38
- Electrical 39
- Plumbing 39
- Structural 40

Additional Recommendations 41
- Architecture, Site, and Interiors 41
- Mechanical 41
- Electrical 41
- Plumbing 42
- Structural 42

Capital Improvement Plan Matrix 43

Executive Summary

Project Scope

The Town of Black Mountain tasked Moseley with performing a facility condition assessment (FCA) and developing a capital improvement plan (CIP). This summary and subsequent report explain the process and findings of this project.

Facility Condition Assessment

The purpose of the Black Mountain Public Safety Building FCA is to visually evaluate the current condition of the building systems, estimate the remaining useful life of these systems, and develop a 10-year CIP for the facility based on these observations. The assessment results are then used to calculate the facility condition index (FCI) for the facility, which can be used to provide benchmarking and a high-level understanding of the building's condition.

Assessments

This FCA was to assess the architectural and engineering systems for the Town of Black Mountain facility. The FCA team consists of engineers and architects from Moseley. The FCA team assessed exterior envelope, architectural interiors, structural systems, mechanical/electrical/plumbing/fire protection systems, and life safety. This FCA process was comprised of three primary tasks:

1. Perform a visual comprehensive architectural and engineering condition assessment of components and systems for each facility to determine deficiencies and estimated remaining useful life.
2. Prioritize observed deficiencies, develop recommendations for corrective work, and specify schedule for repair or replacement over a 10-year planning window.
3. Develop planned replacement and renewal project solutions for deficiencies, or groups of deficiencies, to be included in a future CIP.

On December 18, 2025, the FCA team performed a visual physical condition assessment of the building. During this assessment we were assisted by Town of Black Mountain staff to provide both access to restricted parts of the building and institutional knowledge of the building system operations and problems.

Based on our FCA for the Black Mountain Public Safety Building, the following deliverables were created:

- Executive Summary – High-level summary of each component of the total report.
- Current Conditions Summaries – A summary of the existing systems at the building and the current FCI.
- Immediate Recommendations – A summary of the replacements, repairs, and actions that need to take place in the next fiscal year.
- Additional Recommendations – A summary of the replacements, repairs, and actions that need to take place in the two to three years after the next fiscal year.
- Capital Improvement Plan Matrix – A list of system replacements and required and recommended system maintenance for the designated planning window.

Priorities

Priorities are used for ranking systems and requirements, and to develop the deferred maintenance program and deficiencies reports. The priorities are as follows:

Priority 1 – Currently High-Priority
Conditions require immediate action to correct a cited safety hazard, return a facility to operation, and/or stop accelerated deterioration.

Priority 2 – Potentially High-Priority
Conditions in this category, if not corrected expeditiously, will become high priority within 1-3 years. Situations in this category include intermittent operations, potential life safety hazards, and rapid deterioration.

Priority 3 – Necessary – Not Yet High-Priority
Conditions in this category require attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further.

Priority 4 – Recommended
Conditions in this category include items that represent a sensible improvement to existing conditions. These are not required for the most basic function of the facility; however, Priority 4 projects will improve overall usability and/or reduce long-term maintenance costs and should be addressed.

Priority 5 – Does Not Meet Current Code/Standards
Conditions in this category include items that do not conform to existing codes but are “exempted” in their current condition. Substantial work should be undertaken, as certain existing conditions may require correction or may be required to be addressed during other replacement or renovation work.

Facility Condition Index

Moseley calculated a Facility Condition Index (FCI) for the Black Mountain Public Safety Building facility, based on the current year, 2025. The FCI is a ratio that defines the relative condition of a facility by comparing the cost of deferred maintenance to the replacement value of the facility. The FCI enables the owner to compare the building's relative condition against other facilities and industry-standard metrics outlined below:

Facility Condition Index Value	Condition
0.00 – 0.04	Good Condition
0.05 – 0.09	Fair Condition
0.10 – 0.30	Poor Condition
> 0.30	High-Priority Condition

A high FCI value indicates the cost of maintenance and repair is a large percentage of the building's current replacement value. This information can be leveraged by the building owner to determine the most prudent areas to allocate their limited resources.

Findings

The total deferred maintenance estimated cost is $2,207,691. The building's replacement value is $1,207,900 as provided from the 2021 Buncombe County appraised value for the building. This value does not include furniture, fixtures, and equipment (FFE) as these items were not in the scope of the FCA. The facility FCI is 0.77, which equates to a condition rating of high-priority.

Facility Condition Assessment

For the immediate future, within the next year, there is approximately $1,851,706 worth of deferred maintenance that the Town of Black Mountain should address. However, the deferred maintenance should be prioritized and aligned with the facility goals to reduce the overall cost and projects to the critical actions while the facility/Town plans and budgets.

With a facility FCI of 0.77, or a "high-priority" rating, significant capital investment will be required to improve the facility and assure both buildings and systems will continue to serve the Town and staff. The existing building (not including the bays) is roughly 12,000 square feet. To demolish and build a new building of similar size would be estimated at $6,600,000 construction costs or roughly $8,000,000 total project costs at the current market conditions.

Based on the assessment, the building has major structural deficiencies that need to be addressed. Additional testing is required to determine the full scope of structural repairs that are necessary. Major deficiencies were noted for mechanical, plumbing, emergency power, and fire alarm systems. Substantial system replacements and/or renovations are needed to improve the facility's condition.

Based on these conditions the Town should proceed with the additional testing described herein to understand the scope and severity of the repairs and building condition. Given the building is currently occupied it should be considered to move to temporary facility until repairs or a better understanding of the cause of the structural failures is determined.

Next Steps

Now that the Town of Black Mountain has the data, results, and recommendations from this project, there are several next steps Moseley recommends.

Prioritization will be key to the facility's success. Deferred maintenance and capital projects must be prioritized in order to meet Black Mountain's long-term goals and align facility spending with the goals.

The prioritization process will take time and most likely have several iterations. Moseley recommends the following actions to take place concurrently with prioritization:

1. Address the specific and known issues in high-priority building systems. This includes items noted as Priority 1- Currently High-Priority and Priority 5 – Does Not Meet Current Code/Standards.
2. Prioritize and plan for items that cannot be accomplished in the next year due to budget or other constraints. Realign these with the next two fiscal years and request budget to accommodate these projects and tasks.

In summary, the Town of Black Mountain Public Safety Building FCA and CIP project resulted in a significant amount of data and an understanding of the current facility and systems, as well as several plans that can be implemented to make progress; however, there are steps for the staff to take in the near future to be most successful in maintaining and managing the facility.

Current Conditions

Building Description

Architecture, Site, And Interiors

The Town of Black Mountain Public Safety Center is located at 106 Montreat Road in Black Mountain, North Carolina. The public safety building contains offices for the police department and the fire department, as well as an apparatus bay for emergency vehicles. There were no construction drawings available for the building, so the assessments are based solely on visible observations. The police department area has been renovated recently, while the fire department does not appear to have been renovated.

The exterior of the building is mainly brick veneer with stone cladding in some areas. The basement walls are concrete masonry unit (CMU) with brick veneer, while the main floor appears to be metal studs with a brick veneer. The east wall has obvious bowing of the brick veneer. There was previous remediation to tie back the veneer to the floor slab. It is unknown whether there has been more bow effect since the ties were installed. The north wall has some settlement in the brick veneer. There is a large horizontal separation in the mortar approximately 4-5 feet from grade. Ties are also installed on the north side veneer to what appears to be the floor slab. The apparatus bay is a prefabricated metal building structure with vertical seam metal panel veneer.



Photo 1: East wall.

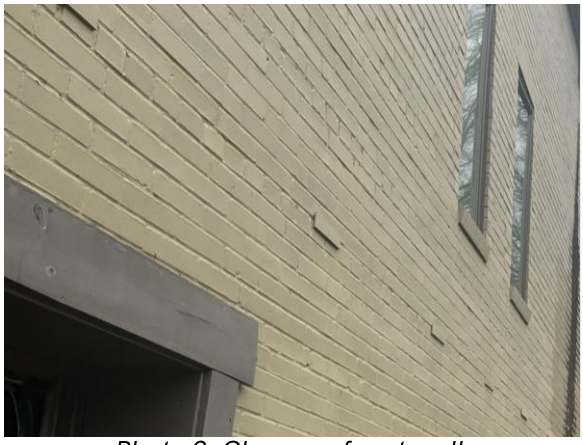


Photo 2: Closeup of east wall.



Photo 3: Mortar separation in north wall.



Photo 4: North wall tie.

The roof was not observed but appears to be a modified bitumen roof on a barrel vault wood truss. The gutters appear to be in good condition, however, the downspouts have been damaged or removed in some locations. There is evidence of wall damage to the brick veneer and peeling paint at the east wall where the downspout was removed.

Exterior windows appear to be original metal windows on the east and north sides, while the south and west look to be aluminum storefront replacements. The east and north metal windows are deteriorating and should be considered for replacement. The west and south aluminum windows appear to be in good condition. The exterior doors are a combination of steel and aluminum storefront. There are areas on the east side of the building that the door frame and wall have separated and should be resealed. Interior doors are steel frame with wood doors and appear to be in overall good condition.



Photo 5: Police department roof.



Photo 6: Missing downspout.



Photo 7: Peeling paint below downspout opening.



Photo 8: Windows on north side of building.



Photo 9: Exterior door on east side of building.

Inside, the fire station living room and kitchen areas have visible roof leaks and evidence of gypsum board repairs. The VCT flooring should be considered for replacement in the near future but is still serviceable. There are visible slab depressions that will need to be corrected and tile replaced. The kitchen casework will need to be replaced. There are unhinged or sagging doors and chipped countertops. There are areas in the bathroom and shower with cracked wall and floor tiles. If these are not corrected, water may intrude into the wall and cause further damage. Toilet and shower partitions are laminate and are starting to delaminate in some areas. These should be considered for replacement.



Photo 10: Water damage in fire station living room.



Photo 11: Fire station kitchen VCT floor.



Photo 12: Fire station kitchen casework.



Photo 13: Cracked tile in shower.



Photo 14: Cracked tile in shower.

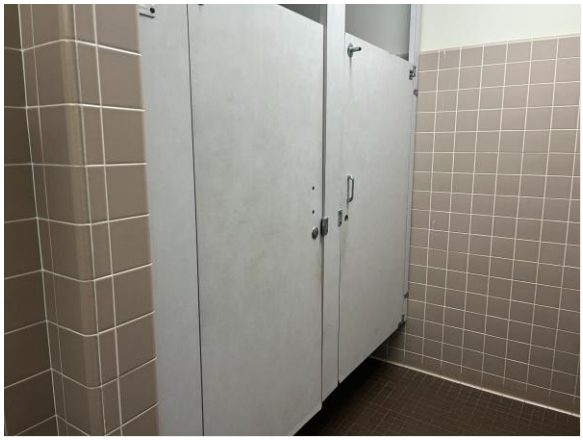


Photo 15: Toilet partitions.

Interior corridors, primarily in the rear fire station areas, have uneven floors and signs of settlement and cracking. There is an area where water has come up through the floor. Further core samples would be needed to investigate subsurface conditions and provide adequate repairs. Any interior door hardware with door knobs should be replaced with levers to meet current accessibility requirements. In other areas of the fire station that have not had water damage, the vinyl composition tile (VCT) floors, painted walls, and gypsum ceilings are in fair to good condition.



Photo 16: Damaged VCT in corridor.



Photo 17: VCT with water intrusion.



Photo 18: Typical door knob.

The community room is overall in good condition. The carpeted floor should be considered for replacement in the near future.

The police department has been renovated at some point. The luxury vinyl tile (LVT) flooring and painted walls and ceilings are in good condition. There are some areas in the bathrooms where roof leaks are visible. In other areas and offices, the LVT and carpeted flooring is in good condition. There is one area near the detective's office where water is coming up under the LVT.



Photo 19: Water damage in police station bathroom.



Photo 20: Water intrusion near detective office.

Site:

The large concrete apron in front of the apparatus bays has been recently replaced. There is a large crack running parallel with the bay. There is some settlement in the second bay. It is reported that during large precipitation events, water backs up into the bay. The asphalt around the building has many cracks and should be considered for replacement, especially on the east side.



Photo 21: Concrete drive.



Photo 22: Apparatus bay.



Photo 23: Settlement near apparatus bay.

Cracking was observed in the pavement along the east side of the building. Based on the CCTV video, a damaged and cracked pipe is located beneath this pavement and is likely contributing to excess subsurface moisture and resulting ground settlement. Pavement along the south side of the building is generally in good condition and slopes downward from the driveway entrance off Montreat Road toward the driveway connection at West Street. During the site inspection, it was observed that roof drains from the Public Safety Building are located within the sidewalk and daylight at the edge of the sidewalk. Roof runoff from the south side of the building likely drains east toward the inlet adjacent to West Street. Pavement along the south side of the building, in front of the fire apparatus bays, is concrete, while the remaining pavement throughout the site is asphalt.

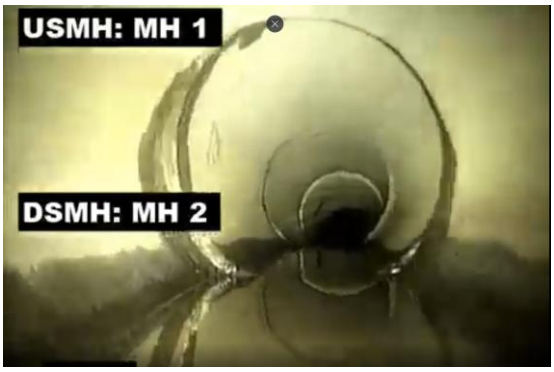
Drainage Observations

The damaged pipe referenced above conveys runoff from the grate inlet (located on the northeast side of the building) southward and ultimately connects to the grate inlet located at the West Street driveway of the Public Safety Facility. Another drainage structure is expected to be located between the inlet adjacent to West Street and the inlet on the northeast side of the building. However, this structure could not be located during the site visit. The presumed location was covered by a dumpster, and no inlet top was observed. Additionally, this area appears to have undergone pavement repairs following Hurricane Helene, which may have covered the inlet structure.

StreamStats (USGS web-based tool) was used to develop a preliminary estimate of the drainage area basin to the grate inlet at West Street. The inlet captures approximately 19.2 acres, of which 41% is impervious. We estimated that the upstream inlet located along the northeast side of the building captures approximately 15 to 16 acres of the total 19.2-acre drainage area that ultimately conveys to the inlet adjacent to West Street.

- The inlet's location along the north side of the building and the existing slope of the adjacent parking lot appear to direct runoff toward the building, which is not ideal.
- The inlet is not located at the lowest point along the northeast wall of the building, which may allow runoff to continue eastward toward the northeast corner of the structure.
- No trench drains or shallow swales were observed along the building that would redirect runoff toward the inlet and away from the building.









Mechanical

Police Department

There is no mechanical equipment or air distribution system in the basement aside from a dehumidifier. The dehumidifier was placed on top of cabinets, and the related wiring and piping were not properly installed.

The first floor of the police department wing is served by three split system air conditioning units with gas furnaces. The condensing units are located outside and the indoor furnaces are installed in mechanical rooms. Two of the condensing units are rusted, past their expected lifespan and should be replaced. All three furnaces are approaching the end of their lifespan and should be replaced.

The IT room is served by a one Ton split system heat pump. The outdoor heat pump and indoor wall units were in good condition; however, the thermostat serving the unit is not working and should be repaired or replaced.



Photo 24: Dehumidifier serving police department basement.



Photo 25: 4 ton condenser.



Photo 26: 3.5 ton condenser.



Photo 27: Typical furnance serving police department.

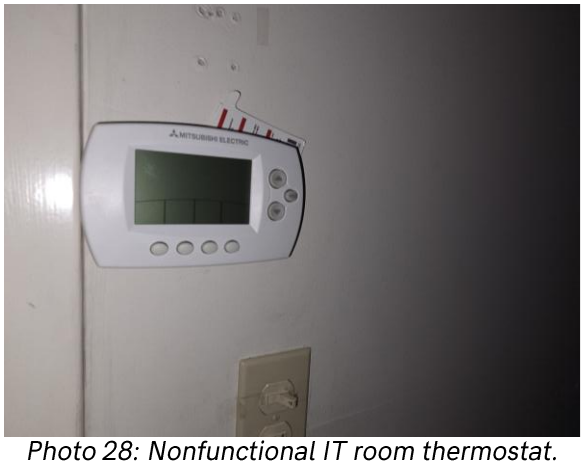


Photo 28: Nonfunctional IT room thermostat.

There are several exhaust fans throughout the building that were not functional. These include the men's restroom toilet exhaust fan, the IT room exhaust fan, breakroom exhaust fan, and the equipment room exhaust fan.

All grilles and diffusers throughout the building were clogged with dirt and should be cleaned.

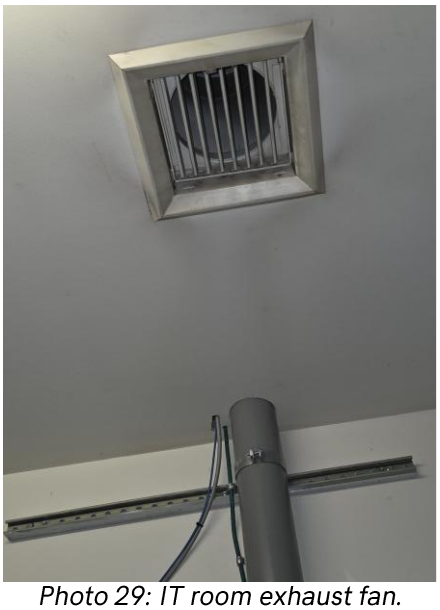


Photo 29: IT room exhaust fan.



Photo 30: Breakroom exhaust fan.



Photo 31: Equipment room exhaust fan.



Photo 32: Typical grille.

Fire Station

The main rooms of the fire department are served by a split system air conditioning unit with a gas furnace. The unit is in fair condition but requires refurbishment. All exhaust fans in the fire station wing were functional except for the men's restroom shower exhaust fan.



Photo 33: Gas furnace serving fire station.

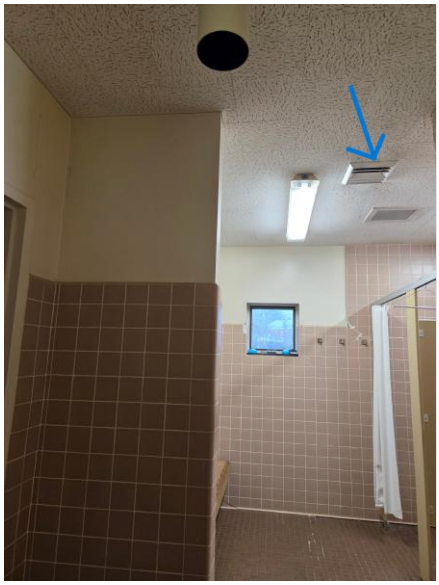


Photo 34: Men's restroom shower exhaust fan.

The fire station bays are served by three exhaust fans, three electric unit heaters, and two vehicle exhaust extraction units. Fire station staff have reported that the electric unit heaters are not operational.



Photo 35: Electric unit heater.



Photo 36: Vehicle exhaust extraction unit.

The maintenance room is served by an exhaust fan and infrared heaters. The exhaust fan was not operational. The infrared heaters do not have any controllers and are likely not functional. The truck repair room is served by a separate ducted gas furnace unit and exhaust fan. The gas furnace has surpassed its expected service life and should be replaced. Fire department staff report that the maintenance and truck repair rooms are being utilized as a garage or as storage.



Photo 37: Maintenance room infrared heater and exhaust fan.



Photo 38: Gas furnace serving truck repair room.

Electrical

Moseley conducted a limited electrical review of the existing Black Mountain Public Safety Building at 106 Montreat Road in Black Mountain, North Carolina. The electrical review of the existing building was limited in nature as no work was performed to uncover the electrical conditions that could not be seen from visual inspection. The findings of this report are based solely on visual observations of the portion of the electrical and low voltage systems which were visible at the time of the assessment. No additional testing was conducted.

Electrical Service

The facility is served by the utility, Duke Energy, via an exterior pole mounted transformer located to the northeast, adjacent to West Street, at the rear of the building from Montreat Road. The utility service is routed into the building from the utility pole through a building mounted weather head. It is then routed in the conduit through the basement ceiling space over the generator room and serves a main disconnect that feeds the building main distribution panel (MDP) in the basement.

The main disconnect is a General Electric 800-Amp, 480/277-Volt, 3-phase, 4-wire, 65 KAIC main circuit breaker. The MDP is a Siemens I-T-E 800A, 480/277V, 3-phase, 4-wire, 65 KAIC without a main circuit breaker. Building ground is established at the service, and visual inspection was per code. The main electrical room has a means of egress and proper clearance. The electrical service provides sufficient power for the building type and the MDP has sufficient space and capacity for future renovations. Prior to adding new loads, it is recommended to conduct a load study per NEC 220.87.

Power is distributed throughout the building through a combination of metal conduit and conduit feed from the main distribution panel and subpanels. The distribution is industry standard and sufficient for the building needs. Existing panelboards could be reused in a light renovation.



Photo 39: Utility power pole.

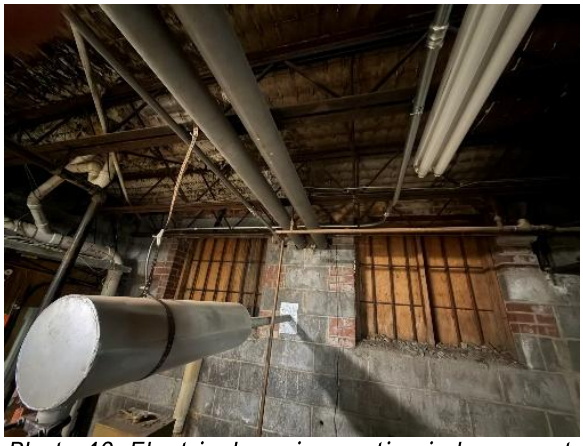


Photo 40: Electrical service routing in basement.



Photo 41: Main disconnect and MDP.



Photo 42: MDP.

Emergency Power

The building is served by an emergency standby gas generator located in the basement of the building. The generator is a Kohler 30kW, 208/120V, 3-phase, 4-wire generator. From visual inspection it appears that flood waters have been in the emergency generator room. It is recommended that emergency generators be located outside potential flood waters.

The emergency power system has a newly installed connection to a portable generator per NEC 700.3 that serves as a back up to the existing emergency standby generator in the case of maintenance or generator failure.

The generator serves a Cummins Power 100A automatic transfer switch that serves the electrical panels that then feed the connected load. The emergency power system serves a handful of circuits that feed low voltage racks and select equipment and receptacles. The generator has been maintained but is approaching the end of its reliable and expected lifetime.

A public safety building should be able to remain operational in the event of a loss of utility power. The existing emergency power system is not sufficient for this. The generator does not have the capacity to support additional loads. It is recommended to update the emergency power system to be able to provide an adequate capacity in the event of utility power loss.



Photo 43: Emergency generator.



Photo 44: Automatic transfer switch.



Photo 45: Portable generator connection.



Photo 46: Generator distribution.

Lighting

Interior lighting fixtures are primarily 1x4 surface mount, 2x4 recessed lens, and basket type fixtures. All fixtures utilize a combination of T-5, T-8, and LED replacement lamps. Exterior fixtures are generally surface-mounted canopy fixtures utilizing fluorescent lamps. All fixtures are approximately the same age as the building and should be replaced with more efficient LED fixtures.

Interior fixtures are controlled primarily by manual switches. Energy code requires lighting to be automatically controlled and requires office spaces to have multiple light level controls for the occupants. Therefore, occupancy sensors, dimming fixtures, and controls will need to be installed during renovation.

Egress lighting is provided by bug eye battery backup lights.



Photo 47: Typical light fixture.

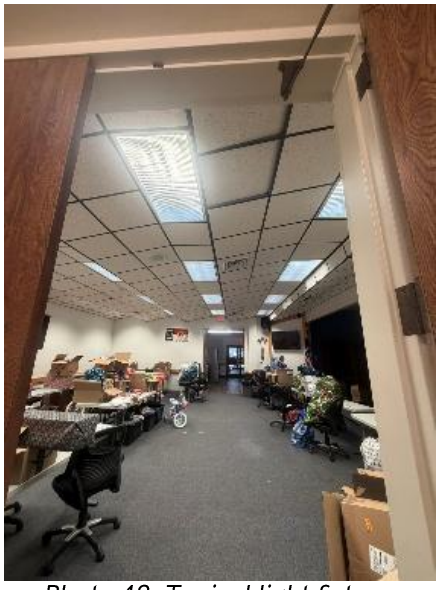


Photo 48: Typical light fixture.

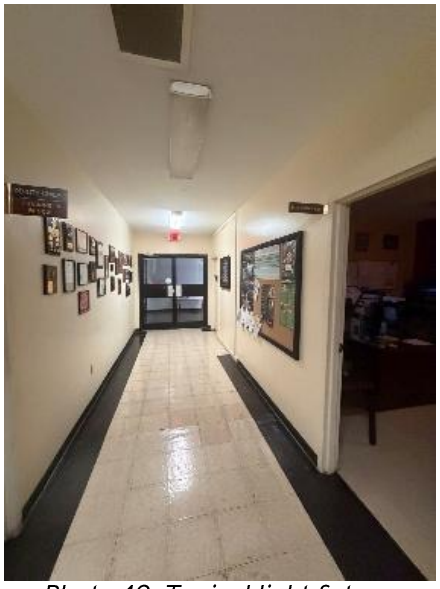


Photo 49: Typical light fixture.



Photo 50: Egress light fixture.

Low Voltage

The building is provided with adequate IT service with a fiber line from ERC Broadband and a backup service from T-Mobile. In the IT area there is a patch panels that serves as a distribution point for IT service in the building. All equipment appears to be in good working condition and should be retained. The owner reports no issues with the IT equipment. Cabling is primarily Category 5e and is distributed loose above the ceiling. Current industry standards for cable is Category 6 and 6a, which provides much greater bandwidth. It is recommended that future modifications use one of the upgraded cables.

Security, camera, speaker, and access control systems are adequately provided for a building of this purpose.

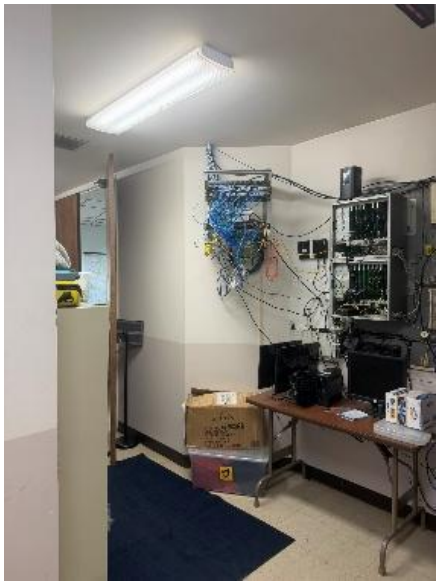


Photo 51: IT room.

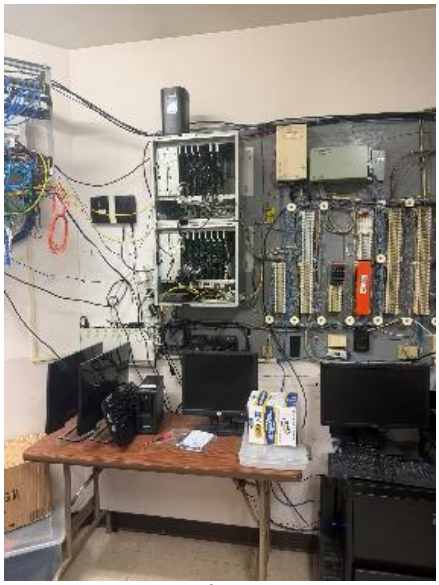


Photo 52: IT room.

Fire Alarm

There is not a central fire alarm system and there are no smoke detectors in the sleeping rooms. Smoke detectors should be added to all sleeping rooms.

A building renovation would require a new and complete fire alarm system for this specific occupancy type.

Solar Photovoltaics

A new solar photovoltaic system has been installed on the roof of the fire station apparatus bay. The system was not assessed but is assumed to be in good working condition.

Emergency Responder Radio Coverage

Currently, the building is not equipped with an emergency responder radio coverage system in accordance with Section 510 of the International Fire Code. A building of this size generally does not require a system, but this is a code requirement because of the occupancy classification. The owner should have tests performed by the local emergency responder agencies to determine if the radio signal strength is adequate at all points in the building. If all portions of the building pass testing, the owner may request a variance from the local Fire Marshall. If a system is required, it will consist of bi-directional amplifiers connected to strategically placed ceiling mounted antennas.

Plumbing

Police Department

The basement of the police department has a mixture of PVC domestic waste and vent piping and cast-iron sanitary waste piping serving fixtures on the floor above. There are several sanitary waste pipes that were patched using pipe tape to address previous leaks. The Ceiling around the P-traps were crumbling in several locations. Most of the sanitary waste piping in the basement appears to be in poor condition and should be replaced. Some of the water piping in the basement is not insulated and, since no heaters are present in the basement, present an increased chance of freezing and bursting. There are several runs of open-ended piping that should be capped if they are verified to not be in use. There are two PVC drain pipes sticking out of the floor that appear to

be abandoned. It is recommended to remove the drain and patch the floor if the drain will not be used. The basement has one gas fired water heater serving the first floor.



Photo 53: Patched sanitary waste piping.

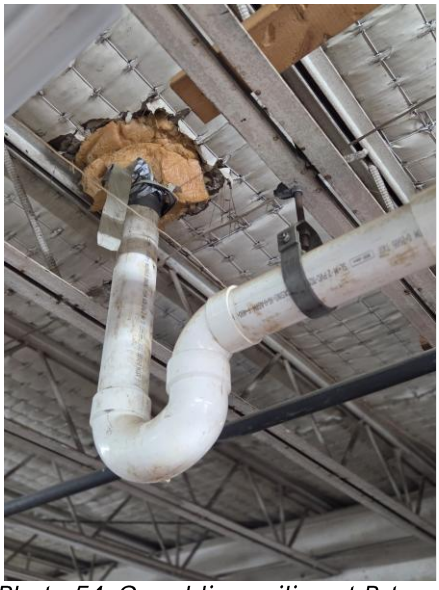


Photo 54: Crumbling ceiling at P-trap.

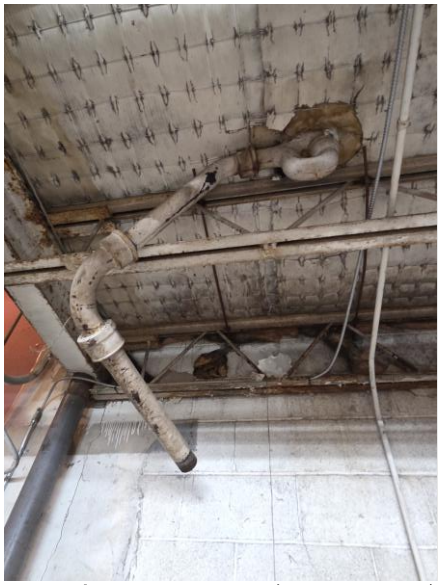


Photo 55: Open-ended sanitary waste piping.



Photo 56: Basement water heater.



Photo 57: Uninsulated water piping.



Photo 58: PVC drain pipes.

There is uninsulated water piping located at the generator in the basement. The piping should be insulated if the generator is still in use, or when it is replaced. Sanitary waste piping is routed above electrical panels in the basement. This is not code compliant: the waste piping should be re-routed.



Photo 59: Generator and uninsulated piping.



Photo 60: Sanitary piping above electrical panels.

All restrooms in the police department have tank type water closets, which is generally not suitable for commercial buildings. Urinals have a mix of sensors and manual flush valves. Lavatories have manual valves. There are two water fountains that are not in working condition. A replacement water fountain was installed at one location; however, the wall was not covered and piping was not capped at the existing water fountain location.



Photo 61: Tank type water closet.



Photo 62: Manual flush valve urinal.



Photo 63: Lavatories.



Photo 64: Water fountain.

The first floor police department wing has three water heaters: one in a mechanical room, one inside a restroom closet, and one above the ceiling. The above-ceiling water heater serves a holding cell and was not accessible at the time of the assessment. Both other water heaters are gas fired and appear to be in good condition; however, water piping by the heaters is not insulated.



Photo 65: Water heater inside restroom closet.



Photo 66: Water heater in mechanical room.

Fire Station

All restrooms in the fire department wing have tank type water closets, which is generally not suitable for commercial buildings. Urinals and lavatories have manual operated flush valves.

The fire station is served by a gas fired water heater located in a storage room. This water heater does not have an expansion tank, has corroded and uninsulated water piping, and the exhaust flue pipe has corrosion and stains. The fire department breakroom sink is served by a mini-tank water heater under the sink.



Photo 67: Tank type water closet.



Photo 68: Manual flush valve urinal.

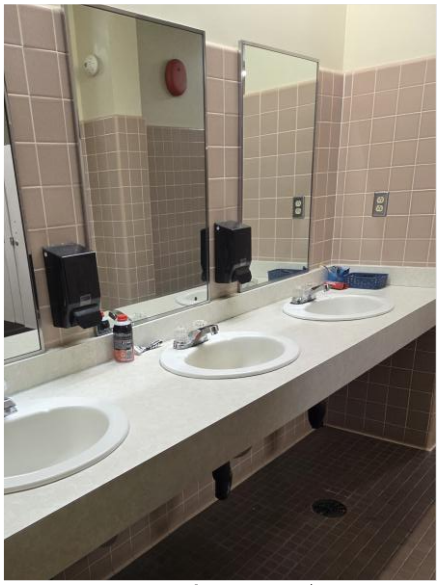


Photo 69: Lavatories.



Photo 70: Storage room water heater.



Photo 71: Mini-tank water heater.



Photo 72: Fire station area water heater.

Fire station washers and mop sink are served by an electric tank water heater. Some of the water piping serving the fire station exterior hose bibbs are disconnected from the main water lines due to previous pipe bursts and have not been reconnected.



Photo 73: Fire station exterior hose bibb.



Photo 74: Disconnected water piping.

Fire Protection

There is no fire protection system present in the building.

Structural

A visual site inspection was conducted for the building on December 18th, 2025 to assess the existing structural systems of the building. Original construction drawings for the building were not available.

Description of Structure

The facility consists of a two-story building with a partial basement under the southeast corner, with offices for both the fire department and police department, and an attached apparatus room consisting of a pre-engineered metal building with bays for emergency vehicles.

The roof structure of the office building consists of steel bowstring trusses with wood joists spanning between them. The roof is supported on exterior CMU bearing walls clad with brick. The floor system over the basement area consists of a concrete slab over steel bar joists. The bar joists are supported on steel wide-flange girders which bear on steel columns and the exterior masonry walls.

A drainage pipe runs under the northeast corner of the building, starting near the men's restrooms and exits under the building between the training room and basement level. After viewing the video of the drainpipe inspection provided by the civil engineering firm McGill Associates, it is apparent that the drainpipe has many cracks. During our visit and during the video, water was actively flowing through this pipe.

The north and west basement walls have had a drain installed on the inside of the wall to help alleviate flooding due to water infiltration. The drain installation involved removing a strip of slab, removing the soil, and backfilling along the wall to catch water seeping through and under the wall and diverting it to the exterior. It is unknown if a drainage pipe was installed.

Structural Observations

Basement Level

Many of the perimeter basement walls within the basement footprint were covered up with storage materials making a thorough inspection of all of them difficult. However, at visible areas, primarily

along the east wall, vertical and step cracks were visible. Additionally, evidence of the east wall moving away from the building was observed.

The existing floor framing appeared to be satisfactory.

Removing continuous strips of floor slabs adjacent to the bottom of the existing retaining walls is not advised for most retaining walls. Normally, basement walls will rely on the slab to restrain the bottom of the walls from sliding. When the slab is removed, this restraint is also removed, and the walls may become unstable.



Photo 75: Step cracking.



Photo 76: Step cracking.

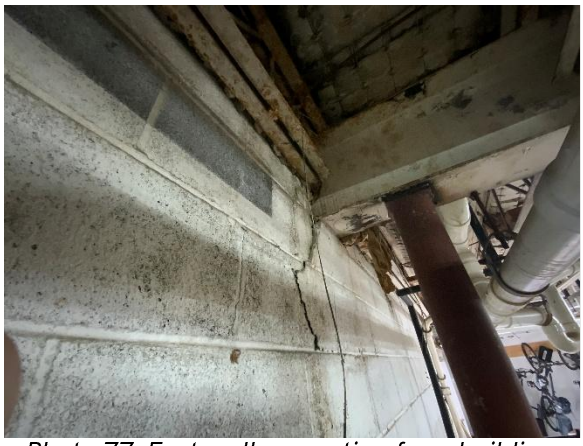


Photo 77: East wall separation from building.



Photo 78: Removed slab.



Photo 79: Removed slab.

Main Floor Level

Along the north side of the building, the building is single-story with a slab on grade. Within the veneer of the north wall, at floor level, there is a 1/4 inch tall horizontal crack running nearly the length of the building. Additionally, the slab along this entire side of the building has experienced large cracks and differential settlements of up to one inch. Cracking in some of the gypsum covered walls is visible, and walls with brittle finishes, such as the tiled walls in the men's bathroom, are showing many cracks throughout the walls and floor areas. Evidence of the slab settlement is apparent where gaps between the top of the slab and bottom of the cove base is more than 1/2 of an inch. At one location, it appears that the wall ties that are attached to the slab are dragging the slab towards the exterior wall as the veneer moves. Distress due to settlement and reported roof leaks during Hurricane Helene are visible in the ceilings as well.



Photo 80: North wall horizontal crack.



Photo 81: Differential settlement in slab.



Photo 82: Differential settlement in slab.



Photo 83: Differential settlemtn in slab.



Photo 84: Crack in slab.



Photo 85: Crack in slab.



Photo 86: Crack in slab.



Photo 87: Cracks in gypsum board.



Photo 88: Cracks in wall tile.



Photo 89: Cracks in wall tile.



Photo 90: Shifting slab.



Photo 91: Gap between slab and cove base.



Photo 92: Gap between slab and cove base.



Photo 93: Gap between slab and cove base.



Photo 94: Crack in gypsum board.

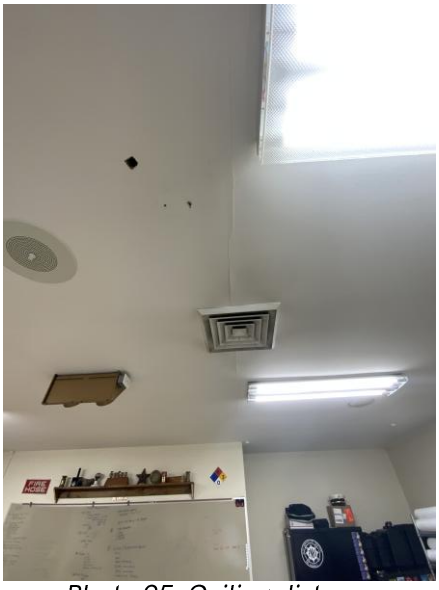


Photo 95: Ceiling distress.



Photo 96: Ceiling distress.



Photo 97: Ceiling distress.

The quarter circle windows at the dispatch office and fire chief office have both cracked, indicating excessive amounts of wall movement. The stone veneer around the door that leads to the apparatus bay has also cracked.



Photo 98: Cracked window.



Photo 99: Cracked window.



Photo 100: Cracked stone veneer.



Photo 101: Cracked stone veneer.

The floor slab in the apparatus bay appears to be in mostly good condition, with an increase in visible slab cracks as you approach the main building. These slab cracks may be due to normal shrinkage of the concrete slab. It is unusual, however, that the instance of cracking increases with the proximity to the main building with known settlement issues. It should be expected that some amount of soil stability issues may be a contributor to these cracks as well. Additionally, a video provided by Deputy Chief James Bingham shows the slab at the door threshold deflecting as the wheels of one of the fire trucks is driven over it, indicating a loss of bearing under the slab at this location.

The concrete apron in front of the apparatus bay appears to be in good condition with minimal cracking.



Photo 102: Apparatus bay slab crack.



Photo 103: Apparatus bay slab crack.



Photo 104: Apron in front of apparatus bay.



Photo 105: Apron in front of apparatus bay.

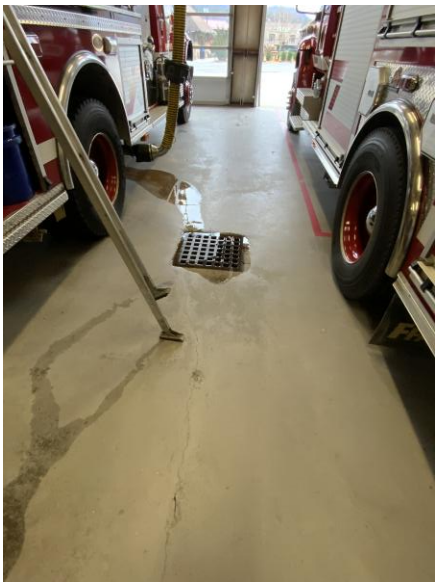


Photo 106: Apparatus bay slab crack.

Conclusions

It is readily apparent that the second-floor slabs and the building foundations have been compromised. In the facilities report that was presented on August 8, 2024 it appears that some of these issues were witnessed in 1985, with new ones being witnessed in the observations performed in both 2012 and 2018. These reports were not provided for our review. However, based on the pictures provided in the facilities report and anecdotal evidence provided during our walkthrough, these issues have steadily worsened and new ones have appeared.

The cracks, settlements, and wall movements are consistent with those caused by loss of bearing under the wall footings and slabs. The precise cause of these is unknown, but rainfall events, groundwater movement, and the cracked drainage pipe are likely contributors. Water movement is known to cause erosion, and broken drain lines can wash soil away, both creating hollow and soft spots under the facility.

Because the extents of these soft soils are unknown, it is recommended to perform borings in and around the facility. To get a realistic view of the soils below the building, borings will need to extend below the elevation of the cracked drain line. Moseley should be contacted to locate the borings and a specialty contractor with expertise in providing borings inside a structure should be contacted to gain insights into how this should be completed. It is also recommended to run a camera down the other drains in the facility to determine if any other drains are broken. After completion of this work, please contact Moseley with the results of these findings for further analysis.

Performing these investigations should be considered an immediate priority. Soft soils and voids below buildings can cause loss of structural stability and put the safety of the building occupants at risk.

FCI

The FCI for the Town of Black Mountain Public Safety Building, based on the 2025 facility condition assessment, is shown below. An FCI of 0.00 – 0.04 means the facility is in good condition. An FCI of 0.05 – 0.09 means the facility is in fair condition. An FCI of 0.10 – 0.30 means the facility is in poor condition. An FCI above 0.30 means the facility is in critical condition.

The Public Safety Building is in high-priority condition.

Town of Black Mountain Public Safety Building Facility Condition Index	Value
2025 Building Deferred Maintenance Cost[1]	$1,256,081
Building Replacement Value[2]	$2,207,691
2025 Facility Condition Index Value	0.77

[1] Deferred maintenance items recommended by Moseley through 2025 with general contractor fees, contingencies, and bonds/insurance fees included in $ amounts.

[2] Estimated building replacement value based on 2021 tax appraised value. Does not include FFE, contingency, or soft costs.

Immediate Recommendations

Immediate recommendations in this section are for the next year (Fiscal Year 2026) to help alleviate deferred maintenance and manage the age of the building systems. While some of these items can be postponed, it is important to plan and budget for them in the near future.

Architecture, Site, and Interiors

Priority 1 – Currently High-Priority

- Integrity: End of life replacement of roof over police department building. Evidence of roof leaks is present throughout facility (FY26).
- Integrity: Replace damaged or missing downspouts (FY26).
- Integrity: Conduct a water intrusion study to investigate the cause of water intrusion in interior corridor floors (FY26).
- Integrity: Conduct a water intrusion study to investigate cause of water intrusion into apparatus bay. Staff report that water backs up into the apparatus bay during large precipitation events (FY26).
- Integrity: Stormwater Pipe Repairs/ Reroute.

Priority 2 – Potentially High-Priority

- No items noted.

Priority 3 – Necessary-Not Yet High-Priority

- No items noted.

Priority 4 – Recommended

- No items noted.

Priority 5 – Does Not Meet Current Codes/Standards

- No items noted.

Mechanical

Priority 1 – Currently High-Priority

- Functionality: Repair or replace IT room thermostat. Current thermostat is not operational (FY26).

Priority 2 – Potentially High-Priority

- Functionality: Repair or replace three unit heaters serving fire department (FY26).

Priority 3 – Necessary-Not Yet High-Priority

- Functionality: End of life replacement of gas furnace and 3.5 ton condenser serving police department (FY26).
- Functionality: Clean grilles, diffusers, and ductwork throughout building (FY26).
- Functionality: Replace 7 nonfunctional exhaust fans throughout building (FY26).
- Functionality: Repair or replace infrared heaters serving fire department maintenance room (FY26).

Priority 4 – Recommended

- Functionality: End of life replacement of gas furnace serving truck repair room (FY26).

Priority 5 – Does Not Meet Current Codes/Standards

- Functionality: Ensure gas furnaces serving fire department are properly vented. Stains on walls and ceilings indicate potential improper furnace venting and/or combustion air in the space (FY26).
- Building Code Compliance: Reinstall dehumidifier in basement. Piping and electrical to dehumidifier does not follow current codes and standards and presents a potential trip hazard when storage is moved (FY26).
- Building Code Compliance: Consider operation of evidence room exhaust fan as a continuous exhaust fan (FY26).

Electrical

Priority 1 – Currently High-Priority

- Life Safety Code Compliance: End of life replacement of generator and emergency power system. The current system is undersized. Recommend relocation of generator outside of potential flood waters (FY26).
- Life Safety Code Compliance: Install smoke detectors in sleeping areas (FY26).

Priority 2 – Potentially High-Priority

- No items noted.

Priority 3 – Necessary-Not Yet High-Priority

- Energy: End of life replacement of interior lighting system. Recommend full upgrade of original fluorescent fixtures to LED and update controls to meet current code (FY26).

Priority 4 – Recommended

- No items noted.

Priority 5 – Does Not Meet Current Codes/Standards

- Building Code Compliance: Upgrade emergency lighting system to provide adequate coverage to maintain building functionality in the event of power loss (FY26).

Plumbing

Priority 1 – Currently High-Priority

- No items noted.

Priority 2 – Potentially High-Priority

- Functionality: Replace sanitary waste piping in basement. Remove or cap abandoned piping that sticks through slab. Reroute future piping to avoid placement over electrical panels (FY26).
- Functionality: Refurbish water heater in fire department storage room. Ensure water heater flue pipe is installed correctly. Provide expansion tank with system (FY26).

Priority 3 – Necessary-Not Yet High-Priority

- Functionality: End of life replacement of water fountain in police department. Existing piping should be capped if it will not be reused or replaced (FY26).

Priority 4 – Recommended

- Functionality: Remove or cap open ended piping/conduit in basement that appears to be abandoned (FY26).
- Functionality: End of life replacement of fire department mop sink faucet. Basement mop sink appears to be abandoned (FY26).

Priority 5 – Does Not Meet Current Codes/Standards

- Building Code Compliance: Insulate all water piping throughout facility to prevent pipe freezing. Repair existing damage to fire station hose bibbs from previous burst pipe (FY26).

Structural

Priority 1 – Currently High-Priority

- Integrity: Perform soil borings in and around facility to determine the extent of the soft soils. Contact Moseley with the results for further analysis (FY26).
- Integrity: Scope drain pipes to identify and repair cracks (FY26).
- Integrity: Repair slab, wall, and ceiling cracks caused by structural movement. The scope of the repairs will depend on the results of the soil bearing study (FY26).

Priority 2 – Potentially High-Priority

- No items noted.

Priority 3 – Necessary-Not Yet High-Priority

- No items noted.

Priority 4 – Recommended

- No items noted.

Priority 5 – Does Not Meet Current Codes/Standards

- No items noted.

Additional Recommendations

Additional recommendations in this section are for the two to three years after the next year (Fiscal Years 2027-2028).

Architecture, Site, and Interiors

Priority 1 – Currently High-Priority

- No items noted.

Priority 2 – Potentially High-Priority

- No items noted.

Priority 3 – Necessary-Not Yet High-Priority

- Functionality: Reseal areas on the east side of the building where the door frame and wall have separated (FY28).

Priority 4 – Recommended

- No items noted.

Priority 5 – Does Not Meet Current Codes/Standards

- No items noted.

Mechanical

Priority 1 – Currently High-Priority

- No items noted.

Priority 2 – Potentially High-Priority

- No items noted.

Priority 3 – Necessary-Not Yet High-Priority

- No items noted.

Priority 4 – Recommended

- Functionality: End of life replacement of 8 exhaust fans throughout building (FY28).

Priority 5 – Does Not Meet Current Codes/Standards

- Building Code Compliance: Consider installing exhaust fans in holding cell and armory room (FY27).

Electrical

Priority 1 – Currently High-Priority

- No items noted.

Priority 2 – Potentially High-Priority

- No items noted.

Priority 3 – Necessary-Not Yet High-Priority

- No items noted.

Priority 4 – Recommended

- No items noted.

Priority 5 – Does Not Meet Current Codes/Standards

- Building Code Compliance: Upgrade emergency lighting system to provide adequate coverage to maintain building functionality in the event of power loss (FY26).
- Building Code Compliance: Conduct a study to determine if an Emergency Responder Radio Coverage System is required (FY26).

Plumbing

Priority 1 – Currently High-Priority

- No items noted.

Priority 2 – Potentially High-Priority

- No items noted.

Priority 3 – Necessary-Not Yet High-Priority

- No items noted.

Priority 4 – Recommended

- Functionality: Staff report fire department breakroom water heater does not have adequate capacity. Consider replacement with instantaneous water heater (FY27).

Priority 5 – Does Not Meet Current Codes/Standards

- No items noted.

Structural

Priority 1 – Currently High-Priority

- No items noted.

Priority 2 – Potentially High-Priority

- No items noted.

Priority 3 – Necessary-Not Yet High-Priority

- No items noted.

Priority 4 – Recommended

- No items noted.

Priority 5 – Does Not Meet Current Codes/Standards

- No items noted.

Capital Improvement Plan Matrix

The following pages contain the list of system replacements and required and/or recommended system maintenance for the designated planning window of 10 years. The first page is the master sheet with the totals for each year, broken down by priority. The subsequent sheets are items denoted by priority.

Each item on the capital improvement plan has a total cost that is comprised of the trade contractor cost (materials and labor), a 12% professional fee for design and review, a 3% permit & fees multiplier, and a 10% owner contingency. This total cost is then placed in the appropriate fiscal year of execution and a 6% inflation rate per year is applied.

For reference, the priorities are as follows:

Priority 1 – Currently High-Priority
Conditions require immediate action to correct a cited safety hazard, return a facility to operation, and/or stop accelerated deterioration.

Priority 2 – Potentially High-Priority
Conditions in this category, if not corrected expeditiously, will become high priority within 1-3 years. Situations in this category include intermittent operations, potential life safety hazards, and rapid deterioration.

Priority 3 – Necessary – Not Yet High-Priority
Conditions in this category require attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further.

Priority 4 – Recommended
Conditions in this category include items that represent a sensible improvement to existing conditions. These are not required for the most basic function of the facility; however, Priority 4 projects will improve overall usability and/or reduce long-term maintenance costs and should be addressed.

Priority 5 – Does Not Meet Current Code/Standards
Conditions in this category include items that do not conform to existing codes but are “exempted” in their current condition. Substantial work should be undertaken, as certain existing conditions may require correction or may be required to be addressed during other replacement or renovation work.