

Town of Maynard, Massachusetts Building Observation Report



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Executive Summary

The Town of Maynard retained AECOM to perform a visual building assessment for several of the Towns existing buildings and related site conditions with the objective of identifying any deficiencies based on the observations. This report will also be used to assist the Town of Maynard in preparing a proactive capital improvements program for maintaining the existing buildings.

It is important to note that existing drawings are not available for all Town buildings and therefore were not provided for review; this assessment does not include the review of existing drawings. It also did not include any demolition or invasive testing/exploration.

The Town properties observed includes (18 buildings total):

- Town Hall and Police Department
- Town Fire Department
- Town Library
- Coolidge Administration Building
- Fowler Middle School
- Green Meadow Elementary School
- Art Space Building & Memorial Gym
- Department of Public Works Facility including the Administration Building, Salt Garage, and Water Building
- Pumping Stations including the Powder Mill Road Pump Station and Mockingbird Lane Pump Station.
- Water Pollution Control Facility including the Administration Building, Head Works Building, and Electric Building.
- Water Treatment Plants including the Rockland Avenue Water Treatment Plant, Old Marlborough Road Water Treatment Plant, and Well 4 Water Treatment Plant

The Town properties not observed and not included in the report includes:

- Maynard High School (as it is scheduled to be replaced)

- Some of the smaller Pump House Structures throughout the Town.

This report is organized by building and/or facility with general observations related to Architecture, Structure, HVAC, Plumbing, Electrical, Fire Protection, and Site conditions and their corresponding deficiencies noted.

Code deficiencies observed have been noted to preliminary level based on the assumed use/occupancy of the buildings. The Massachusetts State Building Code Seventh Edition 780 CMR and Massachusetts Architectural Access Board 521 CMR are referenced where applicable. Further review of specific compliance issues specific to a location may require additional study and analysis to resolve; that work may occur in the future as prioritized by the Town of Maynard.

Town Hall and Police Station Exterior

The Town Hall and Police Department are co-located at 195-197 Main Street. The building contains approximately 12,400 square feet on two floors, one above grade and one partially below grade. The building is divided into two halves; one half is being used for the Town of Maynard Offices (figure 2.01);



Figure 2.01 – Town Hall

The other half of the building is being used for the Maynard Police Department Headquarters (figure 2.02).



Figure 2.02 – Police Department Headquarters

The building was formally the Town Library and originally constructed in 1962. The building went through a significant renovation in 2009, when it was adapted for re-use as the Town of Maynard Offices and Police Department Headquarters.

The exterior walls appear to be cavity walls constructed of 4-inch standard brick over 8-

inch concrete masonry units (CMU) supported on a cast-in-place concrete foundation.

There are several different types of exterior doors and frames systems visible. The Town Hall doors are painted wood doors (some with raised panels) within painted wood frames and appear to be original to the building (figure 2.03).



Figure 2.03 – Town Hall Main Entrance

The Police Department doors are painted insulated metal doors within painted metal frames with glass vision panels, and appear to have been replaced during the recent renovation.

The Police Department also has insulated metal sectional overhead doors at the vehicle bays / sally port (figure 2.04).



Figure 2.04 – Sectional Overhead Doors

The windows are metal double hung windows with insulating glass within an existing painted wood frame, and appear to have been replaced during the renovation (figure 2.05)



Figure 2.05 – Exterior Windows

There are two different types of roof systems. The main hipped roof is an asphalt shingle roof with aluminum gutters and downspouts (figure 2.06).



Figure 2.06 – Asphalt Shingles

There is also an EPDM membrane flat roof at the Police Department section of the building. At the time of the site visit, AECOM could not gain access to the roof areas. Further investigation may be required to confirm the exact type and condition of the roof.

The roof at the Police Department canopy is an EPDM membrane system (figure 2.07) roof with aluminum gutters and downspouts, which appears to have been replaced during the renovation.



Figure 2.07 – EPDM Membrane Roof at Canopy

The main front entrances have raised concrete platforms with concrete stairs and access ramps with painted steel handrails (figure 2.08).



Figure 2.08 – Accessible Ramp

The Police Department has a galvanized metal stair (figure 2.09) and a concrete stair located at the rear entrances.



Figure 2.09 – Galvanized Stair

The Town Hall has a lower concrete stair and a painted metal stair located at the rear entrances, which do not currently have

balusters within the guardrail system (figure 2.10).



Figure 2.10 – Painted Metal Stair

Adjacent to the building is a parking area paved with bituminous concrete (asphalt). Also adjacent to the building is a communications tower surrounded by a wood stockade fence and a generator enclosed with a chain link fence. The facility has minimal open space, including some small areas of grass, planters, shrubs, and a few trees.

The site and parking lots are illuminated by post mounted exterior light fixtures located throughout the site. The building entrances appear to be well lit by exterior wall mounted fluorescent light fixtures, which appear to be relatively new and in good condition.

Observations:

The foundation walls appear to be in overall good condition. There are a few areas, mostly at the building corners, that display some cracks (figure 2.11).



Figure 2.11 – Foundation Corner Cracks

There is an area with cracks and spalling concrete at the foundation wall adjacent to one of the exterior concrete stairs. This area is where the concrete foundation abuts a CMU wall (figure 2.12). Further investigation is required to confirm if the cracks are due to building settlement or water penetration.



Figure 2.12 – Foundation Crack at CMU

The exterior brick walls appear to be in overall good condition. Several areas of the brick veneer have been re-pointed recently. There are additional areas where the mortar joints appear to be deteriorated and cracked. These deteriorated joints may allow water to penetrate the brick veneer and enter into the wall cavity. Further investigation may be required (figure 2.13).



Figure 2.13 – Brick Mortar Joints

There are also sections of the brick near the roof line where it appeared that sections of flashing have been removed and the mortar joint was not repaired (figure 2.14).



Figure 2.14 – Brick Mortar Joints

The metal flashing at the cornice trim was in fair condition. Some areas appear to be damaged and/or loose; which may allow water to penetrate into the wall cavity. Further investigation may be required (figure 2.15).



Figure 2.15 – Metal Flashing

The brick at the chimney showed visible areas of deteriorated and/or loose mortar joints. The metal chimney cap appears to be old and worn (figure 2.16).



Figure 2.16 – Chimney

The paint finish at the wooden roof cupola (steeple) appears to be weathered and sections are currently peeling (figure 2.17).



Figure 2.17 – Roof Cupola

The paint finish at the wood soffit and gable trim also appears to be weathered and sections are currently peeling (figure 2.18)



Figure 2.18 – Exterior Trim

There are sections of sealant missing at some of the exterior windows (figure 2.19).



Figure 2.19 – Window Sealant

A back portion of the Town Hall roof does not currently have gutters and downspouts to capture the water run-off. There is evidence of water/moisture issues below the lower-level windows, along the building perimeter, and at the partial below grade floor in this area. Above grade staining of the concrete foundation wall is evident; and there appears to be mold/moss growth in this area (figure 2.19a).

At the back portion of Town Hall there are some wires run along the exterior of the building, near the windows. These wires are assumed to be either telephone and/or cable wires, and it was not confirmed if these lines are in active service. It is noted that if these are active wires, their current location and installation methods do not make for a secure installation.



Figure 2.19a – Signs of Roof Rain/Water Run-Off

The sealant along the edges of the Town Hall main entrance stairs has deteriorated, and may allow water to penetrate below the concrete surface (figure 2.20).



Figure 2.20 – Concrete Stair Sealant

The sealant between the edge of the Town Hall main entrance stairs and the edge of the access ramp has deteriorated, and may allow water to penetrate below the concrete surface. There is also a deviation between the two walking surfaces that may exceed the maximum elevation change limit allow by the building code. This area may create a tripping hazard at the top of the ramp. Further investigation may be required (figure 2.21).



Figure 2.21 – Ramp Sealant

The accessible entrance ramp appears to have some code compliance issues; the handrails do not have code compliant extensions at the top and bottom levels; and there is no level platform area at the bottom of the ramp. The maximum slope of the ramp was not confirmed. Further

investigation and study may be required in this area (figure 2.22).



Figure 2.22 – Accessible Ramp

Interior

The superstructure of the building was observed to consist of painted tube steel columns supporting steel wide flange beams with pre-cast concrete floor panels (figure 2.23). The beams appear to be encased in sprayed fire retardant material, which may have been painted over time. Further investigation may be required to confirm the properties and characteristics of the building materials in these areas.



Figure 2.23 – Building Structure

The Town Hall section of building had several different types of floor finish systems. There are 9" x 9" floor tiles located in the basement corridors and in one of the first floor storage rooms (figure 2.24), which appear to be original to the building; this floor tile and/or mastic may include asbestos containing materials (ACMs).



Figure 2.24 – Floor Tile - May contain Asbestos

There is carpet flooring on both floor levels in most of the offices, conference rooms, and the Town Meeting room with transition strips to adjacent flooring systems (figure 2.25).



Figure 2.25 – Carpet

The main first floor lobby consists of 24" x 24" terrazzo flooring (figure 2.26), which appears to be original to the building.



Figure 2.26 – Terrazzo Flooring

There are areas on the first floor with 12" x 12" inch vinyl composite tile flooring system (VCT). These areas appear to have been

recently replaced and are currently in good condition (figure 2.27).



Figure 2.27 – VCT Floor Tile

The toilet rooms and janitor closet have 1" x 1" ceramic floor tiles, which appear to be original to the building (figure 2.28).



Figure 2.28 – Ceramic Floor Tile

On the lower floor level the interior walls consist primarily of painted CMU walls, with some rooms having movable partition wall systems and others having painted gypsum board partitions (figure 2.29).



Figure 2.29 – First Floor Interior Walls

The interior walls on the main floor level primarily consist of painted gypsum board partitions, with painted CMU walls in the corridors. There are also some walls in the lobby area with stained wood panels (figure 2.30) and painted wainscot paneling at the Town Meeting Room.



Figure 2.30 – Second Floor Interior Walls

The Police Department section of building also has several different types of floor finish systems. The vehicle bays consist of exposed concrete slab with no paint and/or sealing products visible (figure 2.31).



Figure 2.31 – Vehicle Bay Slab

The Police Department section of the building also has areas of VCT, carpet, ceramic floor tiles, paver tiles, and epoxy flooring.

The building has several types of finish ceiling systems. The Town Hall section of the building consists of 12" x 12" acoustic ceiling tiles within a concealed grid system located on both floor levels (figure 2.32).



Figure 2.32 – 1x1 Acoustic Ceiling

There are 2' x 2' acoustic ceiling tiles within a suspended metal grid system located at both the Town Hall and Police Department sections of the building (figure 2.33).



Figure 2.33 – 2x2 Acoustic Ceilings

There are also areas of painted gypsum board ceiling systems located throughout both sections of the building (figure 2.34).



Figure 2.34 – Painted Gypsum Board Ceilings

There are several types of interior doors throughout the building. The Town Hall has painted metal doors within painted metal

frames throughout both floors. Some of the doors have vision panels. The door hardware does not appear to be ADA compliant in some locations (figure 2.35).



Figure 2.35 – Painted Metal Doors

The Police Department section of the building has painted metal doors within painted metal frames (figure 2.36).



Figure 2.36 – Painted Metal Doors

There are also clear-finished flush wood doors within painted metal frames (figure 2.37).



Figure 2.37 – Flush Wood Doors

Additional study/investigation may be required to verify ADA compliance of the public spaces and common employee work areas within each side of the building.

There are several sections of built-in casework located throughout Town Hall section of the building. There is a clear-finished wood countertop with wood base cabinets below located at the DPW Office (figure 2.38).



Figure 2.38 – DPW Counter

There are public transaction counters with plastic laminate countertops and wood trim, which appear to be ADA compliant (figure 2.39).



Figure 2.39 – Assessor's Counter

The Town Clerk and Treasurer/Collector transaction counters are also plastic laminate countertops with wood trim; but did not appear to be ADA compliant (figure 2.40).



Figure 2.40 – Town Clerk's Counter

The Police Department also has several sections of casework. The majority of the casework consisted of plastic laminate countertops with wood base cabinets below and wood wall cabinets above (figure 2.41).



Figure 2.41 – Police Department Counter

There is also a section of countertop in the lock-up area that consists of a solid surface countertop with wood base cabinets below (figure 2.42).



Figure 2.42 – Lock-up Counter

Observations:

It was reported to AECOM that the remaining original floor tiles at both floor levels are currently being scheduled for removal / abatement (figure 2.43).



Figure 2.43 – Floor Tile - Scheduled for Abatement

There are several areas where the 12" x 12" acoustic ceiling tiles appear to be damaged, stained or missing. Further investigation may be required to determine if the ceiling tile damage is caused by previous or active plumbing problems and/or roof leaks (figure 2.44 and 2.45).



Figure 2.44 – 12" x 12" Acoustic Ceiling at Men's Room



Figure 2.45 – 12" x 12" Acoustic Ceiling at Janitor Closet

The transaction window at the Police Department displayed a significant amount of cracks. Further investigation may be required to determine if the glass needs replacement and/or the frame system needs adjustment (figure 2.46).



Figure 2.46 – Police Transaction Windows

Building Systems

The electrical service is provided by overhead wires located at the back of the building.

The Town Hall electrical system panels could not be accessed due to a significant amount of items temporarily stored in front of the panels (figure 2.47).



Figure 2.47 – Town Hall Main Electrical Panel

The Police Department's main electrical panel indicated 600A/208V/3-phase power. No photo was taken.

The building has several different types of light fixtures. The Town Hall lights include surface mounted 4-foot and 8-foot dual lamp strip fluorescent lights mounted to the underside of the concrete floor panels above (figure 2.48).



Figure 2.48 – Strip Fluorescent Lights

There are also pendant mounted 4-foot dual lamp strip fluorescent lights (figure 2.49).



Figure 2.49 – Pendant Strip Fluorescent Lights

The office areas have recessed 2' x 2' recessed fluorescent light fixtures (figure 2.50).



Figure 2.50 – Recessed Light Fixture

Most of the lights appear to be in good condition and functioning well. There are a few fixtures that appear to have lamps (bulbs) in need of replacement.

The Town Hall heating system consists of wall mounted fin tube radiators connected to a gas fired hot water boiler (figure 2.51).



Figure 2.51 – Main Boiler

There are also gas fired roof top units located on the flat roof sections; which provide forced air heating and cooling throughout both sections the building. The size and quantities of roof top units could not be observed at the time of the visit due to limited roof access.

There is a ventilation system located in the main boiler room, which appears old and possibly original to the building. The system could not be observed due to a significant amount items stored in front of the system (figure 2.52).



Figure 2.52 – Air Handling Unit

The Town Hall section of the building does not appear to have a fire suppression sprinkler system. The Police Department section of the building has a wet sprinkler system with semi-recessed sprinkler heads at the suspended ceilings and exposed heads at gypsum board ceilings. The system appears to be relatively new and well maintained (figure 2.53).



Figure 2.53 – Sprinkler Heads

The building fire alarm system consists of control panels, exit signs, emergency lights,

pull stations, and horn/strobe devices (figure 2.54 and 2.55).



Figure 2.54 – Town Hall Fire Alarm Panel

The devices appear to be relatively new and in good condition.



Figure 2.55 – Police Department Fire Alarm Panel

The Town Hall has two toilet rooms on each floor; a men's room that has a toilet, urinals, lavatories, and toilet accessories; and a women's room that has toilets, lavatories, and toilet accessories (figure 2.56).



Figure 2.56 – Town Hall First Floor Men's Room

The plumbing fixtures on the lower floor appear to consist of a combination of both original and replacement fixtures. The fixtures appear to be in good condition and are functioning properly, however the older fixtures may not be water-conserving. Further investigation may be required at

these rooms to determine if the configuration is compliant with accessibility regulations (figure 2.57).



Figure 2.57 – Town Hall Second Floor Men's Room

The toilet rooms on the upper floor of the Town Hall appear to be ADA compliant.

The Police Department toilet rooms appear to be relatively new and are in good condition, but may need to be reviewed for ADA compliance (figure 2.58).



Figure 2.58 – Police Department First Floor Men's Room

The building hot water is provided by two different systems. The Town Hall has a gas fired hot water heater (capacity could not be confirmed) system located in the boiler room. This water heater appears to be older but functioning.

The Police Department has a relatively new 100-gallon gas fired water heater located on the first floor, which was reported to have been installed a few days prior to visit and appears to be functioning.

End of section

Town Fire Department

Exterior

The Fire Department is located at 1 Summer Street. The building contains approximately 10,000 square feet on three levels, with two stories above grade and one story below grade, plus a taller hose-drying tower. The building was constructed in 1955 (figure 3.01). The first floor houses vehicle storage, a dispatch center, general storage, and a fitness area. The second floor includes sleeping quarters, administrative offices, storage, and an eating area. The basement floor level houses equipment/supply storage, utility rooms, and separate police department storage.



Figure 3.01 – Fire Department

The building previously co-housed the Maynard Police Department until 2009 when the Police Department moved to its current location at 197 Main Street.

The exterior walls appears to be cavity wall construction of 4-inch standard brick veneer and cast stone head/sill/banding over 8-inch concrete masonry units (CMU) supported on a cast-in-place concrete foundation.

The building has different types of exterior doors and frames systems. The main entrance on the first floor has painted insulated metal doors within painted metal frames (figure 3.02).



Figure 3.02– Exterior Painted Metal Doors

The first floor also has insulated metal sectional overhead doors within painted metal frames at the vehicle bays (figure 3.03).



Figure 3.03 – Sectional Overhead Doors

The basement floor entrance has a painted wood door within a painted wood frame. All of the doors appeared to be original to the building.

The building has various types of exterior windows; the majority of the windows are aluminum double hung windows with insect screens (figure 3.04)



Figure 3.04 – Double hung Windows

The building also has aluminum windows with horizontal sliding sash (figure 3.05)



Figure 3.05 – Sliding Windows

It was reported that the windows are replacements of the original windows and are approximately 15-years old.

The roof appears to be EPDM membrane roof system; note that the roof could only be observed from the adjacent fire escape. Further investigation may be required to confirm the exact type and condition of the roof (figure 3.06).



Figure 3.06 – EPDM Membrane Roof

An aluminum fascia is evident at the roof's perimeter. It is estimated that the roofing system is approximately 20-years old.

The main entrance door has a concrete stair with painted metal guardrails (figure 3.07). The two other entrance doors are raised above grade by approximately 6-inches in height. There are no accessible entrances that were observed.



Figure 3.07 – Concrete Stair

The building is centrally located at the corner of Summer Street and Acton Street, with the drive-thru vehicle bays opening onto both streets. The front entrance to the building is located at the corner with a driveway connecting both streets. There are a few parking spaces located on the site, but none that appeared to be dedicated for accessible parking. As the building footprint and driveways take up most of the site area, there is minimal landscaping, which consists of a few planting areas located at the front of the building with some shrubs and plants adjacent to the main door. The facility is primarily surrounded by Town streets and sidewalks.

The exterior lighting for the building entrances and parking lots is provided by wall mounted fluorescent lights and appeared to be adequate. The exterior light levels were not confirmed during the site visit. Further investigation may be required to confirm that the lights are functioning properly and that there are sufficient lighting levels and distribution patterns.

Observations:

The exterior brick walls appear to be in generally adequate condition with specific deficiency items noted in the comments below. There are a few areas where the mortar appeared to be aging and weathered. The mortar at some of the masonry opening lintels appeared to be in poor condition; the mortar was deteriorated, loose, and/or missing (figure 3.08). Further investigation may be required to verify if and

where water is penetrating into the wall cavity.



Figure 3.08 – Mortar at Lintel

The mortar joints at the cast stone jambs around the main entrance door are deteriorated and there were sections of the joints where the mortar was missing (figure 3.09).

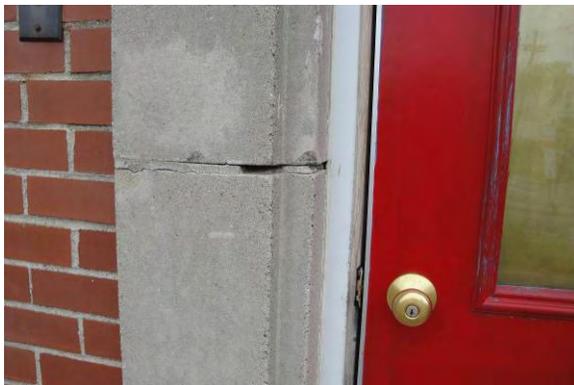


Figure 3.09 – Cast Stone at Main Entrance

The exterior brick wall above the main entrance door's cast stone surround was in poor condition. The mortar was deteriorated, loose, and in some areas missing (figure 3.10). Further investigation may be required to verify if and where water is penetrating into the wall cavity.



Figure 3.10 – Brick above Main Entrance

There are a few holes in the exterior brick veneer which appear to be from abandoned conduit (figure 3.11). Further investigation may be required to verify if and where water is penetrating into the wall cavity at these holes.



Figure 3.11 – Holes in the Brick

The metal supports for the window AC units appear to be rusting, with rusty water dripping down and staining the face of the brick veneer. Further investigation may be required to confirm if the water has damaged the mortar joints or has just left surface staining (figure 3.12).



Figure 3.12 – Rust on Brick

The painted wood door and frame at the basement entrance is in poor condition. The paint finish appears weathered and some sections of the paint are peeling off. Also, there is a section of the glazing trim missing from the door (figure 3.13).



Figure 3.12 – Basement Door

The paint finish on the exterior metal doors and frames appears to be weathered and faded (figure 3.13).



Figure 3.13 – Main Entrance Door

The fire escape/ladder system appears rusty and there are sections of the paint finish that are peeling off (figure 3.14).



Figure 3.14 – Fire Escape

Interior

The superstructure of the building is not readily visible. The building columns are concealed within the partitions/enclosures and the floor framing system is also concealed by the finish ceiling assemblies of the spaces below. Further investigation may be required to confirm superstructure components and condition if needed.

The basement floor mostly consists of an exposed concrete slab on grade, which is showing deterioration consistent with its age. The first floor consists of several types of floor finish systems: there is an exposed concrete slab on grade at the vehicle storage bays; 12" x 12" vinyl composite tile (VCT) at the fitness and storage rooms; and ceramic tile at the toilet rooms (figure 3.15).



Figure 3.15 – Toilet Room Tile Floor

The second floor has mostly clear finished wood flooring throughout; it is noted that some areas appear to have the original finish and other areas appear to have been refinished. There is carpet in the rooms of the sleeping quarters, and it is assumed that there is wood flooring below of similar condition. The eating area has a VCT flooring system.

The interior walls consist of a combination of 8-inch painted CMU walls and painted gypsum wall board partitions. There is gypsum board finish at the interior of most of the exterior building perimeter. Some of the walls on the second floor have wood paneling/trim over the gypsum board.

There are several types of ceiling systems throughout the building. The basement floor has painted plaster ceilings (figure 3.16).



Figure 3.16 – Painted Plaster Ceiling

The first floor has painted plaster ceilings in the vehicle storage bays and 2'x4' acoustic ceiling tiles with a suspended metal grid system throughout the rest of the floor (figure 3.17).



Figure 3.17 – First Floor 2x4 Acoustic Ceilings

The second floor has painted plaster ceilings in the eating area and at the top of the stairs. There are 2'x4' acoustic ceiling tiles with a suspended metal grid system throughout the rest of the floor area (figure 3.18).



Figure 3.18 – Second Floor 2x2 Acoustic Ceiling

There are several types of interior doors throughout the building; the basement has painted metal doors within painted metal frames, which appear to be original fire doors (figure 3.19).



Figure 3.19 – Basement Metal Doors

The first floor has painted flush wood doors within both painted hollow metal frames and painted wood frames (figure 3.20).



Figure 3.20 – First Floor Door

The first floor dispatch area has an aluminum and glass storefront transom/sidelight assembly (figure 3.21).



Figure 3.21 – Dispatch Area Door Assembly

The second floor has painted and clear finished flush wood doors within painted hollow metal frames (figure 3.22).



Figure 3.22 – Second Floor Doors

The majority of the doors and door hardware does not appear to be ADA compliant. Further investigation may be required to determine which specific doors do not comply and to what level compliance is required at public spaces and common-use areas within employee work spaces.

The building has one interior stairs located in the center of the building, connecting all floor levels from the basement through the second floor (figure 3.23). The stair is constructed with winders (triangular stair treads), open guardrails and other features not in compliance with current code requirements.



Figure 3.23 – Interior Stair

There is a partial stair that leads from the exterior down to the basement level below (figure 3.24).



Figure 3.24 – Basement Stair

There is another partial stair connecting the vehicle bays to the first floor level.

There is a tower section of the building that is utilized for hanging fire hoses and related equipment for air-drying. There is a steel grate floor walkway system around the perimeter of the space with an area of open space and access ladders at each floor level (figure 3.25).



Figure 3.25 – Hose Drying Tower

There is an exterior fire escape which provides access to the top of the tower above and to the finish grade below (figure 3.26). It was reported during our initial walk-thru that the structural capacity of the fire escape may be questionable. Further study/analysis may be required to determine the capacity and structural characteristics of the existing fire escape.



Figure 3.26 – Fire Escape

There is a small section of built-in casework located in the eating/cooking area with a plastic laminate countertop and wood cabinets (figure 3.27).



Figure 3.27 – Lunchroom Casework

Observations:

There are cracks in the CMU walls surrounding the basement stair. Further investigation may be required to determine if these cracks are related to stress cracking and/or settlement cracking (figure 3.28).



Figure 3.28 – Cracks in CMU Wall

The plaster ceilings within the building appear to be in overall good condition, however, there are some areas in the basement stair that appear to be damaged from previous roof leaks. Further investigation may be required to determine the cause of the damage and if there is any non-visible damage to the structure (figure 3.29).



Figure 3.29 – Plaster Ceiling Damage

There are sections of the vehicle storage bay plaster ceiling that have been patched with plywood panels mounted to the underside of the ceiling. These appear to be areas with water damage, which may have been caused by a leaking pipe above. Further investigation may be required to determine the cause of the damage and if there is any non-visible damage to the structure (figure 3.30).



Figure 3.30 – Vehicle Storage Bay Ceiling

There are sections of the plaster ceiling missing at the vehicle storage bay ceiling (figure 3.31)



Figure 3.31 – Vehicle Storage Bay Ceiling

The plaster ceiling around the skylight at the interior stair displays signs of water damage, which may have been caused by previous leaks in the roof. Further investigation may be required to determine the cause of the damage and if there is any non-visible damage to the structure (figure 3.32).



Figure 3.32 – Stair Skylight

The plaster ceiling in the second floor eating area also displays evidence of previous water damage (figure 3.33).



Figure 3.33 – Lunchroom Ceiling

There are missing tiles in sections of the first floor acoustic ceiling system that appear to have been dismantled and/or removed during the relocation of the police department equipment during the recent relocation (figure 3.34).



Figure 3.34 – Dismantled 2x4 Ceiling

The majority of the floor finishes, including the VCT, ceramic tiles, and carpet appear old and worn. The wood floors were in overall good condition; some of the areas have the original finish and other areas display areas of worn surface finish. Other sections of the floor appear to have been recently refinished and/or replaced.

The paint on some of the interior doors and frames appears old and worn.

The basement stairs do not have handrails, as required by current codes. The treads are painted concrete, which creates a slippery walking surface even under dry conditions (figure 3.35 & 3.36).



Figure 3.35 – Basement Stair



Figure 3.36 – Interior Basement Stair

The interior stair does not appear to conform to current building code and ADA requirements. The stair winders, open guardrail system and low handrail heights appear to be not compliant with current codes (figure 3.37 & 3.38). The paint appears to be peeling and worn throughout.



Figure 3.37 – Interior Stair



Figure 3.38 – Interior Stair

The sink base cabinet in the eating area displays evidence of water damage, which may have been caused by previous leaking plumbing fixtures/pipes (figure 3.39).



Figure 3.39 – Lunchroom Casework

Building Systems

The electrical service is provided by overhead wires. The main electrical panel indicates 225A/240V/single phase power (figure 3.40). The electrical panels appear to be original to the building.



Figure 3.40– Main Electrical Panel

The building has several different types of light fixtures. The basement floor has pendant mounted 4-foot dual lamp strip fluorescent lights, which appear to be old but functioning.

The stairs have wall mounted incandescent lights with exposed bulbs, which appear to be older but are currently functioning (figure 3.41).



Figure 3.41– Stair Light

The first and second floors have 2'x4' recessed fluorescent light fixtures with prismatic lens. These lights appeared to be relatively new, in good condition and are currently functioning (figure 3.42).



Figure 3.42– 2x4 Fluorescent Lights

The vehicle storage bays have pendant mounted 2'x4' fluorescent light fixtures with prismatic lens. These lights appear to be relatively new, in good condition and are currently functioning (figure 3.43).



Figure 3.43 – Pendant Mounted 2x4 Fluorescent Lights

The building heating system consists of wall mounted fin tube radiators connected to a gas fired hot water boiler (figure 3.44).



Figure 3.44 - Fin Tube Radiator

The building has four newer gas fired hot water boilers, which are reported to be just over 1-year old. The capacity of the current boilers could not be confirmed at the time of this visit. The boilers appear to be functioning and well maintained (figure 3.45).



Figure 3.45 – Boilers

The vehicle storage bays have pendant ceiling hung gas fired unit heaters, which appear to be functioning properly (figure 3.46).



Figure 3.46 – Unit Heater

The building does not appear to have a fire suppression system.

The building fire alarm system consists of control panels, exit signs, pull stations, and horn/strobe devices. The system appears to be relatively new, well maintained, and functioning properly (figure 3.47). There does not appear to be any emergency light fixtures; however some of the light fixtures within the building do not appear to be switched and may be tied to an un-switched emergency circuit or may have emergency ballasts. Further investigation may be required to confirm if the building has code compliant emergency lighting.



Figure 3.47 – Fire Alarm Panel

The building has several toilet rooms. The first floor has a men's room, which consists of a toilet, urinal, and sink (figure 3.48); and a women's room, which consists of a toilet and sink. The fixtures appear old and dated, and likely are not water-conserving fixtures, but they appear to be functioning properly.



Figure 3.48 – First Floor Men's Room

The second floor has one toilet room, which consists of a toilet, urinal, sink, and shower (figure 3.49). The fixtures appear to be relatively new and functioning well.



Figure 3.49 – Second Floor Toilet Room

None of the toilet rooms appear to be ADA compliant.

The second floor toilet room also has a utility sink, which appears to be relatively new and functioning properly (3.50).



Figure 3.50 – Utility Sink

The building hot water is provided by a gas fired water heater (capacity could not be

confirmed) located in the boiler room. The water heater appears to be relatively new and functioning well (figure 3.51).



Figure 3.51 - Hot Water Heater

The building also has a gas fired emergency generator located on the exterior of the building, enclosed by chain-link fence/gate system (figure 3.52).



Figure 3.52 – Emergency Generator

The building does not have an elevator or lift providing access to the basement and second floors.

End of section

Town Library

Exterior

The Town Library is located at 77 Nason Street. The building is approximately 25,000 square feet and has three floors -- two floors above grade and one floor partially below grade. The building was formally the Roosevelt Elementary School originally constructed in 1918 (figure 4.01).



Figure 4.01 – Town Library

The building recently went through a significant renovation in 2006, which is when it was transformed into the new Town Library.

The building is constructed of approximately 12-inch thick solid brick /stone/cast stone exterior walls supported by a stone foundation wall system (figure 4.02)



Figure 4.02 – Exterior Walls

The side and rear exterior doors and frames are insulated painted metal doors and frames with varying amounts of glazing (figure 4.03).



Figure 4.03 – Rear Exterior Doors

The front entrance doors are clear finished glazed wood doors within a painted metal frame and there is a glass panel transom window above (figure 4.04).



Figure 4.04 – Front Exterior Doors

The exterior windows are double hung wood windows with aluminum cladding on the outside, insulated glass, and exterior insect screens. The windows were replaced as part of the 2006 renovation and are approximately 4-years old. The windows have either cast stone sills - at the higher levels, or stone sills - at the lower levels (figure 4.05).



Figure 4.05 – Exterior Windows

The ends of the building also have modern two-story protruding bay elements (of 45-degree angles) over the egress stair doors constructed from aluminum storefront/curtain wall assemblies (figure 4.06).



Figure 4.06 – Two-Story Protruding Bay

The building has an EPDM membrane roof system with a continuous perimeter parapet wall of varying height, and an aluminum parapet cap (figure 4.07).



Figure 4.07 – EPDM Membrane Roof

There is an aluminum and glass sloped glazing skylight assembly located at the

center of the roof, providing natural light into the interior of the building (figure 4.08).



Figure 4.08 – Roof Skylight

The building has three separate interior stairs. An open (unenclosed) stair is located at the center of the building, connecting the first and second floors (figure 4.09).



Figure 4.09 – Center Stair

The other two egress stairs are located on the north and south sides of the building. These enclosed stairs connect all three stories of the building, and the south stair extends up to the roof (figure 4.10).



Figure 4.10 – Side Stair

The site has an asphalt parking lot and asphalt walkways to each of the building's entrances/exits. There appears to be adequate parking and sufficient access to the road. The rear entrance of the building is accessible from grade, but the other entrances have raised platforms with stairs.

The site is landscaped around the perimeter of the building with a variety of grasses, shrubs, trees, and planters.

The exterior lighting for the building entrances and parking lot is provided by post mounted fluorescent light fixtures. The building entrances also have wall mounted wall fixtures located above the doors. The light levels could not be observed at the time of visit. Further investigation may be required to verify if the lights are functioning and providing adequate light levels.

Observations:

The exterior of the building appears to be in generally good condition. The mortar at the brick, stone, and cast stone appears to be solid and in good shape. There is visible evidence that some areas have been previously repointed (figure 4.11).



Figure 4.11 – Exterior Brick

There are a few areas in the stone foundation where the mortar was loose and sections are missing (figure 4.12).



Figure 4.12 – Foundation Stone

The roof appears to be in generally good condition with no areas of standing water and/or malfunctioning roof drains visible. The EPDM membrane system appears to be intact and there are no signs of damage. The aluminum cap at the building perimeter also appears to be intact and in good condition.

The windows and exterior doors all appear to be in generally good condition. The finishes were in good condition, well maintained, and the exterior sealant appears to be intact.

The parking surfaces and landscaping are in good condition. There are a few minor cracks in the asphalt surfaces and there does not appear to be any visible drainage issues on the site.

Interior

The superstructure of the building was observed to consist of wide flange steel beams and columns.

The lower floor level is constructed of a concrete slab on grade; the flooring system on the upper floors consists of a composite floor assembly of concrete over structural metal floor deck (figure 4.13).



Figure 4.13 – Floor Framing

The building floor finishes consist of primarily carpeted areas throughout all three levels, vinyl composite tiles (VCT) in the stairs and kitchenette area, and ceramic floor tiles in the toilet rooms (figure 4.14 & 4.15).



Figure 4.14 – Carpet



Figure 4.15 – Ceramic Tile

The interior walls are constructed primarily of painted gypsum board partitions. There are some walls in the “open” library functional spaces that have clear finished wood paneling; and the toilet rooms have ceramic tile wall finish.

The ceilings are primarily 2’x2’ acoustic ceiling tiles with a metal grid system (figure 4.16). There are a few areas that have an exposed structure (painted) with no ceilings.



Figure 4.16 – 2x2 Suspended Ceilings

There are two types of interior doors: clear finished flush wood doors within painted hollow metal frames, some with glass panels and integral sidelights; and painted flush wood doors within painted hollow metal frames (figures 4.17 & 4.18). The doors and door hardware appear to be relatively new and ADA compliant.



Figure 4.17 – Clear Finished Wood Door



Figure 4.18 – Painted Wood Door

There are several sections of built-in casework throughout the building. The main help desk consists of wood cabinets with granite countertop (figure 4.19)



Figure 4.19 – Main Help Desk Counter

There is casework in the office area which consists of plastic laminate cabinets and countertop (figure 4.20).



Figure 4.20 – Office Casework

There is casework located in the kitchenette area which consists of plastic laminate cabinets and countertop (figure 4.21).



Figure 4.21 – Kitchenette Casework

Observations:

The majority of the interior was in very good condition. There are a few areas where ceiling tiles are water stained; which may have been caused by prior roof leaks and/or leaking plumbing fixtures. Further investigation may be required to determine if the ceiling tile damage is caused by previous or active plumbing problems and/or roof leaks (figure 4.22).



Figure 4.22 – Damaged Ceiling Tiles

The paint on the gypsum board walls and some of the wood trim around the skylight appears water damaged, which may have been caused by leaks in the skylight assembly at the roof level. Further investigation may be required to determine the cause of the leaks (figure 4.23).



Figure 4.23 – Damaged Wall Paint

There are sections of the gypsum board ceiling assembly at the south stair (above the two-story protruding bay element) where the gypsum board appears damaged and missing, which may have been caused by water penetrating from the exterior masonry wall above. Further investigation may be required to determine the cause of this damage (figure 4.24).



Figure 4.24 – Damaged Gypsum Ceiling

The VCT at the south stair appears to be stained and worn, which may have been caused from water from the roof. Further investigation may be required (figure 4.25).



Figure 4.25 – VCT Tile at South Stair

Building Systems

The electrical service appears to be provided via underground wires. The main electrical panel indicates 800A/480V/3-phase power (figure 4.26). The building also has supplemental panels located throughout the building.



Figure 4.26 – Main Electrical Panel

The building has several different types of light fixtures. There are 4-foot dual lamp strip indirect fluorescent lights, pendant-mounted below the suspended ceiling system (figure 4.27). There are also pendant mounted 4-foot strip fluorescent fixtures with exposed bulbs located in the utility rooms.



Figure 4.27 – Strip Fluorescent Lights

The building also has recessed 2'x4' fluorescent light fixtures within the

suspended ceiling grids (figure 4.28). There are a few fixtures with burned out lamps.



Figure 4.28 – Recessed Indirect Light Fixture

There are also wall mounted fluorescent wall sconces located in the stairs. All of the lights appear to be relatively new and in good condition.

The HVAC system consists of 14 gas fired roof top units, which provide forced air heating and cooling throughout the building. The units appear to be relatively new, in good condition and functioning well (figure 4.29).



Figure 4.29 – Roof Top Unit

The building has a wet sprinkler system with fully recessed sprinkler heads at the suspended ceiling systems and exposed heads at gypsum board surfaces. The system appears to be relatively new, well maintained, and functioning well (figure 4.30).



Figure 4.30 – Sprinkler Main

The toilet fixtures appear to be relatively new and are likely low-flow/water conserving fixtures. The toilet accessories also appear to be in good condition and functioning properly. The toilet rooms all appear to be ADA compliant.

The building hot water is provided by an electric water heater (capacity could not be confirmed) located in the sprinkler room. The water heater appeared to be relatively new and functioning well (figure 4.33).

The building fire alarm system consists of control panels, exit signs, emergency lights, pull stations, and horn/strobe devices. The system components appear to be relatively new and in good condition (figure 4.31).



Figure 4.33 – Hot Water Heater



Figure 4.31 – Fire Alarm Panel

End of section

The building has two toilet rooms on each floor: a men's room that has a toilet, urinal, lavatory, and toilet accessories; and a women's room that has a toilet, lavatory, and toilet accessories (figure 4.32).



Figure 4.32 – Typical Toilet Room

Coolidge Administration Building

Exterior

The Coolidge Administration Building is located at 12 Bancroft Street and was constructed in 1906, with a second floor added in 1909. The building originally housed the Bancroft Street School, later renamed the Calvin Coolidge School (figure 5.01).



Figure 5.01 – Coolidge Administration Building

The building contains approximately 12,000 square feet on three floor levels: two floors above grade and one floor partially below grade. The first floor is currently being used by the Maynard School Department and the second floor is currently being used by the Maynard Adult Learning Center. The basement floor consists of storage, utility rooms, and a space being used by the local food pantry.

The building is constructed of approximately 12-inch thick solid brick exterior walls with cast stone sills/headers supported by stone foundation walls (figure 5.02)



Figure 5.02 – Typical Exterior Wall

The interior floor and roof framing and their supporting columns are concealed and could not be observed.

There are several different types of exterior doors and frames. The main entrance door consists of an aluminum and glass storefront assembly system, which appears to approximately 25-years old (figure 5.03). The basement doors consist of painted insulated metal doors within painted metal frames. The second floor exterior doors and frames at the fire escape are painted wood doors and frames.



Figure 5.03 – Main Entrance Door

The exterior windows are aluminum double-hung windows with insulated glass and insulated opaque metal transom panels. The windows have cast stone sills and heads with decorative keystones. The windows appear to be approximately 25-years old (figure 5.04).



Figure 5.04 – Aluminum Windows

The building has a slate shingle roof with a perimeter snow fence (figure 5.05). The roof appears to be original to the building.



Figure 5.05 – Slate Shingle Roof

The main entrance has a raised wood framed platform accessed by a wood framed stair with painted wood guardrails and painted wood balusters with a painted wood handrail assembly. The stairs and platform have pressure treated wood treads with painted wood risers. The platform is also accessed by a wood ramp of similar construction (figure 5.06). Access to the basement level was directly from grade.



Figure 5.06 – Front Entrance Accessible Ramp

The second floor is provided with exterior egress via two painted steel framed fire escape stairs, one located on either side of the building (figure 5.07). Both fire escape stairs lead directly to grade.



Figure 5.07 – Fire Escape Stair Assembly

The site has an asphalt parking lot with asphalt walkways leading to the street. At the rear of the building, the grade slopes down to the playfields at the rear of the site (figure 5.08).



Figure 5.08 – Parking Lot and Walkway

The landscape is mostly grass and there is a small playground and basketball court located at the rear of the building.

The site and parking lots do not appear to have dedicated lighting. There are street lights located at the front of the building, which appear to be adequate, however the light level at the building front entrance could not be confirmed. There are no lights at the basement or second floor entrances.

There is a perimeter chain-link fence located at the rear and on the two sides of the property. There is a wood post and rail fence located at the front of the building. The site and parking area appear to have sufficient drainage and there were no visible signs of areas that may have standing water.

Observations:

The accessible ramp appears to have several code compliance issues: the handrails do not have extensions at either end; the handrails do not conform to the profiles and minimum clearances (figure 5.09); the tread condition at the bottom of the ramp does not conform to the change in level requirements; and there is no level platform at the bottom of the ramp (figure 5.10). The maximum slope of the ramp was not confirmed. Further investigation may be required.



Figure 5.09 – Top of Accessible Ramp



Figure 5.10 – Bottom of Accessible Ramp

The exterior brick walls appear to be in fair condition. The mortar appears to be aging and weathered. There are several areas where the mortar appears deteriorated, loose, and/or cracked (figure 5.11). The brick at the corners display significant amount of deterioration as well.



Figure 5.11 – Brick Mortar Joints

There are several areas where the mortar joints appear cracked (figure 5.12).



Figure 5.12 – Cracks in Brick Mortar Joints

There are also areas in the exterior brick that display efflorescence (white chalky

patches), which indicates water penetration through the exterior wall (figure 5.12). Further investigation may be required to confirm where/how the water is penetrating the wall.



Figure 5.12 – Efflorescence in the Brick

There appears to be remnants of a previous canopy construction at the rear of the building. At the brick wall there are visible pieces of metal flashing inserted into the mortar joints where this canopy once was located. There are also several holes in the brick, which appear to form abandoned beam pockets. The mortar joints at the flashing have deteriorated and the beam pockets have not been filled. This may allow water to penetrate into the masonry wall. Further investigation may be required (figure 5.13).



Figure 5.13 – Flashing and Beam Pockets in Brick

The mortar joints in the stone archway around the main entrance door have deteriorated and sections of mortar are missing (figure 5.14).



Figure 5.14 – Main Entrance Archway Stone

The pediment assembly over the main entrance doors displays visible signs of deterioration and corrosion on the right side (figure 5.15).



Figure 5.15 – Main Entrance Pediment Assembly

There is a pipe protruding out of the brick wall near the rear of the building and the opening was not sealed which may allow water to penetrate into the masonry wall. Further investigation may be required (figure 5.16). Several of the basement windows have been removed and the openings covered with plywood. The plywood displays numerous areas of rotting and bowing out. The paint is weathered and there are visible signs of sealant failure around the openings.



Figure 5.16 – Pipe Penetrating the Brick Wall

The slate roof shingles appear to be in fair condition. Based on observations on the interior of the building; there appears to be several previous or current leaks in the roof assembly. The snow fence appears rusty and detached in some locations (figure 5.17). The brick at the chimney displays evidence of deteriorated and loose mortar joints and the metal chimney cap appears worn and damaged.



Figure 5.17 – Slate Shingle Roof

The brick at the decorative gable parapet wall at the roof line near the main entrance displays signs of deteriorated and loose mortar joints (figure 5.18).



Figure 5.18 – Roof Gable Parapet Wall Brick

The underside of the roof overhang is painted wood, and the paint finish appears weathered and sections are peeling. Further investigation may be required to determine if there are any rotted and/or loose sections of wood, molding, or trim (figure 5.19).



Figure 5.19 – Roof Overhang

The paint finish on the fire escape stair, handrails, gates, and supporting structure is severely deteriorated, and the underlying metal structure appears rusted. The paint is chipped off and peeling at several areas (figure 2.20). One of the gates is missing at one of the fire escapes, a condition which might allow unwanted access to the second floor from the grade below.



Figure 5.20 – Fire Escape Stair

Several of the cast stone window sills and heads display signs of deterioration and are currently spalling. Several of the mortar joints are cracked and/or missing mortar (figure 2.21).



Figure 5.21 – Windows Sills

Some of the exterior windows are difficult to open and the gaskets and seals in the insulating glass sash have failed at several of the windows causing clouding of the glass (figure 5.22).



Figure 5.22 –Exterior Windows

Interior

The superstructure of the building was not visible. The building columns are concealed by wood trim or are located within the partitions. The floor framing was also concealed by the finish ceiling assemblies. Further investigation may be required to confirm superstructure components and condition.

The basement floor is a painted concrete slab on grade. The first floor consists of clear finished hardwood flooring assemblies throughout, some of which have been refinished (figure 5.23).



Figure 5.23 – Wood Flooring

The second floor also has clear finished hardwood flooring, and appears to have an older finish. There are a few areas that display water damage, possibly due to roof leaks above.

The toilet rooms had 12”x12” vinyl composite tile (VCT) floors (figure 5.24).



Figure 5.24 – VCT Tile

The interior walls consist of primarily painted plaster and gypsum wall board partitions.

There are several types of ceilings systems throughout the building. The majority of the rooms have plaster ceilings. The basement has plaster ceilings throughout that were in overall good condition (figure 5.25).



Figure 5.25 – Painted Plaster Ceiling

There are several rooms, mainly within the first floor offices and meeting areas that have 2'x4' acoustic ceiling tiles with a suspended metal grid system (figure 5.26).



Figure 5.26 – 2x4 Acoustic Ceilings

The main lobby and corridor on the first floor have 1'x1' acoustic ceiling tiles within a concealed grid system (figure 5.37).



Figure 5.27 – 1x1 Acoustic Ceiling

There are several types of interior doors throughout the building. The basement has painted wood panel doors within painted metal frames, and older painted metal fire doors within painted metal frames (figure 5.28).



Figure 5.28 – Basement Metal Doors

The first floor offices and meeting rooms have clear finished wood flush doors and panel doors within clear finished wood frames (figure 5.29).



Figure 5.29 – First Floor Office Doors

The first floor lobby has clear finished wood and glass panel doors within a wood transom/sidelight assembly (figure 5.30).



Figure 5.30 – First Floor Lobby Doors

The second floor doors are mostly painted wood panel doors with wire glass vision panels within painted wood frames (figure 5.31).



Figure 5.31 – Second Floor Doors

The building has three interior stairs; two adjacent straight runs stairs located near the front entrance that merge at a common landing at the second floor; and a multi-landing stair located at the rear of the building. The wood stair treads are covered with vinyl and metal tread finishes.

There is a small section of built-in casework located at the second floor with plastic laminate cabinets and countertop with wood accent strips. The casework also has a double bowl stainless steel sink.

Observations:

The basement floor has some areas where the slab appears to be stained and rusted; most likely as a result of maintenance of adjacent equipment. The slab has a few areas with isolated cracking, but overall it appears to be in good condition.

The wood flooring on the first floor has some areas where the wood floors appear

to have been recently refinished and in good condition (figure 5.32). There are other areas that appear to have an older finish and in fair condition. There are some areas that display some minor buckling of the hardwood; but overall the wood floors appear to be in sound condition.



Figure 5.32 – First Floor Wood Flooring

The second floor wood flooring appears to have an older finish. There are a few areas that display water damage; possibly resulting from previous or current roof leaks above (figure 5.33).

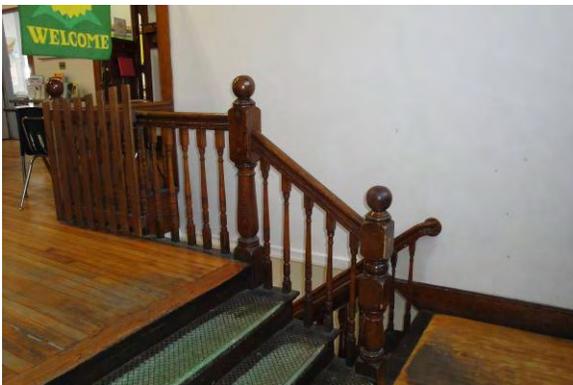


Figure 5.33 – Second Floor Wood Flooring

The stair treads are in poor condition. The vinyl treads and the metal plates are old and their surfaces are worn (figure 5.34).



Figure 5.34 – Stair Treads

The interior walls display several areas where the paint finish on the walls is peeling (figure 5.35).



Figure 5.35 – Peeling Paint

There are other plaster walls where the paint finish has chipped of and sections of paint are missing (figure 5.36).



Figure 5.36 – Chipped Paint

The basement has plaster ceilings throughout that were in overall good condition. There are a few areas with some minor cracks and areas where the paint appears worn.

The boiler room ceiling displays an area that appears to be damaged from the steam relief valve below (figure 5.37).



Figure 5.37 – Boiler Room Ceiling

The plaster ceilings on the first floor appear to be in overall good condition. There are a few areas with some minor cracking and areas where the paint appears worn.

The plaster ceilings on the second floor display several areas that appear to be damaged from roof leaks above. There are also a few areas where the ceilings are water stained, plaster was missing and/or deteriorated. Sections of the paint are peeling off (figure 5.38).



Figure 5.38 – Plaster Ceiling Damage

There is one area located in the second floor corridor where a large section of the plaster was missing (figure 5.39). This area appears to have been previously repaired, but the existing condition appears to be deteriorating further. Additional investigation may be required at this location.



Figure 5.39 – Plaster Ceiling Damage

There are several rooms, mainly within the first floor offices and meeting areas that have 2'x4' acoustic ceiling tiles with a suspended metal grid system. Overall the 2'x4' ceilings are in good condition with no visible evidence of water damage (figure 5.40).



Figure 5.40 – 2x4 Acoustic Ceilings

The main lobby and corridor on the first floor have 12" x 12" acoustic ceiling tiles within a concealed grid system. Overall these ceilings appear to be in good condition with no visible evidence of water damage (figure 5.41).

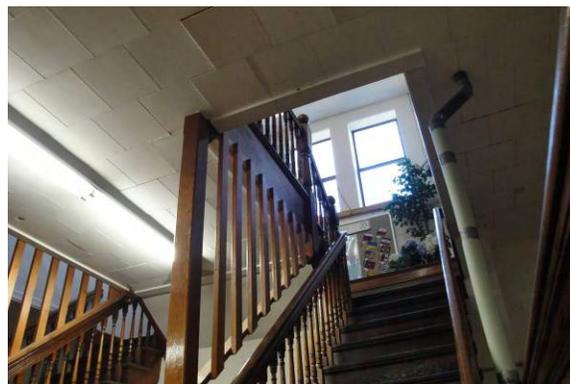


Figure 5.41 – 1x1 Acoustic Ceiling

The ceiling in the first floor electrical closet adjacent to the main entrance displays signs of water damage and there are several ceiling tiles that are missing. The original wood lath and plaster is also damaged at this location (figure 5.42).



Figure 5.42 – Electrical Closet Ceiling

Further investigation may be required to determine the cause of the water damage and if there is any significant damage to the roof and/or building structure.

The basement wood doors and frame surfaces are worn and the paint is deteriorated. The door hardware is old but appears to be functioning properly (figure 5.43).



Figure 5.43 – Basement Wood Doors

The basement painted metal fire doors also appear worn. The door hardware is old but appears to be functioning properly (figure 5.44).



Figure 5.44 – Basement Metal Doors

The first floor flush wood doors and frames are in good condition. The door hardware is old but appears to be functioning properly (figure 5.45).



Figure 5.45 – First Floor Office Doors

The clear finished wood panel doors and frames in the first floor lobby are in good condition. The door hardware is old but appears to be functioning properly (figure 5.46).



Figure 5.46 – First Floor Lobby Doors

The second floor wood panel doors and frames are worn and the paint finish is old. The door hardware is old but appears to be functioning properly (figure 5.47).



Figure 5.47 – Second Floor Doors

The majority of the door hardware does not appear to be ADA compliant. Further investigation may be required to determine which doors do not comply.

The interior stairs do not appear to conform to current building code and/or ADA requirements. The guardrail and handrail heights appear lower than current code requirements, and the handrails do not extend beyond the top and bottom nosing (figure 5.40). The tread nosing appears to exceed the current code allowed maximum projections.



Figure 5.48 – Interior Stairs at Main Entrance Lobby

. Further investigation may be required to determine which code requirements are applicable to this stair (figure 5.48).



Figure 5.48 – Multi-level stair at Rear

The small section of built-in casework located at the second floor is in overall good condition; however the countertop height and cabinet hardware do not appear to be ADA compliant (figure 5.49).



Figure 5.49 – Second Floor Casework

Building Systems

The electrical service is provided by overhead wires adjacent to the main building entrance. The main electrical panel indicates 200A/240V/single phase power (figure 5.43). The electrical panels appear to be over 30 years old.



Figure 5.43 – Main Electrical Panel

There are three sub-panels; one on each floor. The panels and wiring appear to be old and there is some wiring that was exposed and visible. There are several electrical disconnect switches located throughout the building related to the associated equipment (figure 5.44). Further investigation may be required to confirm if electrical distribution is adequate to meet the building needs, and to evaluate the code compliance of the electrical system.



Figure 5.44 – Boiler Room Electrical Devices

The building has two different types of light fixtures. The basement and second floors have surface mounted 4-foot dual lamp strip fluorescent lights, which appear to be relatively new and are functioning.



Figure 5.45 – Strip Fluorescent Lights

The first floor has 2'x4' recessed fluorescent light fixtures with prismatic lenses. These lights appear relatively new, in good condition and functioning. There are also several incandescent light fixtures located throughout the building.

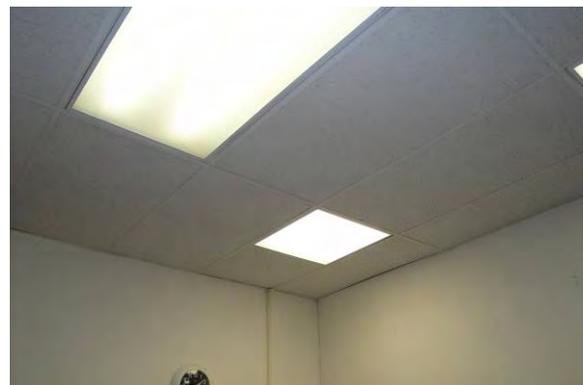


Figure 5.46 – 2x4 Fluorescent Lights

The building heating system is comprised of wall mounted unit heaters, fin tube radiators, and cast iron radiators connected to a gas fired hot water and steam boiler (figure 5.47).



Figure 5.47 – Cast Iron Radiator

The boiler is approximately 10 years old, in good condition, and appears to be functioning. The capacity of the boiler could not be confirmed (figure 5.48). There are some minor rust spots on the piping and surface of the boiler. There are also some rust stains around the perimeter of the boiler pad; most likely from the general maintenance related to the piping system.



Figure 5.48 – Main Boiler

The fin tube radiators located throughout the building have painted steel covers. Some of the covers have broken louvers and some scratches and dents (figure 5.49).



Figure 5.49 – Fin Tube Radiation

The building does not appear to have a fire suppression system.

The building fire alarm system consists of control panels, exit signs, emergency lights, pull stations, and horn/strobe devices. Some of the system components appear old and may not be up to current code. Further investigation may be required to confirm if fire alarm system is adequate and code compliant.

The building has three toilet rooms; one unisex toilet room on the first floor consisting of a toilet, sink, grab bars and accessories (figure 5.50); and two smaller toilet rooms on the second floor, one for men and one for women. The fixtures for the first floor appeared to be relatively new. The fixtures on the second floor appear old and likely not water-conserving fixtures, but appear to be functioning properly. The toilet rooms do not appear to be fully ADA compliant.



Figure 5.50 – First Floor Toilet Room

The building hot water is provided by a 40 gallon electric water heater located in the boiler room. The water heater appears to be relatively new and functioning properly (figure 5.51).



Figure 5.51 – Hot Water Heater

There are a few utility sinks located in the basement that appear to be old and are not currently functioning.



Figure 5.52 – Utility Sink

The building does not have an elevator or lift providing access to any of the three floors.

End of section

Fowler Middle School

Exterior

The Fowler Middle School is located at 3 Tiger Drive and was originally constructed in 2000 (figure 6.01).



Figure 6.01 – Fowler Middle School

The building contains approximately 180,000 square feet on two floor levels, with a mechanical mezzanine space within the sloping roofing structure. There are approximately 500 students enrolled at the school and it serves grades 4 through 8. The school includes classrooms, a library, cafeteria, kitchen, gymnasium, auditorium, administration offices, and utility rooms. The rooms in the building are arranged around an internal courtyard. An elevator provides access to spaces on the first and second floors.

The exterior walls are cavity wall construction of 4-inch thick standard brick and split-face concrete masonry units (CMU) over an 8-inch CMU backup, supported on a cast-in-place concrete foundation (figure 6.02).



Figure 6.02 – Exterior Walls

The building has several types of exterior door systems. There are insulated painted metal doors within painted metal frames, some with glass sidelights and transoms above (figure 6.03).



Figure 6.03 – Exterior Painted Metal Doors

The building also has aluminum and glass storefront assemblies located at the main entrance, and insulated metal sectional overhead doors at the loading dock areas.

The building has three different types of exterior window systems. There are insulated aluminum window assemblies with operable awning sashes in individual punched openings in the masonry wall. There are insulated aluminum and glass storefront windows with operable awning sashes in larger openings in the masonry wall. There is also a two-story high section of insulated aluminum and glass curtain wall located at the library section of the building (figure 6.04).



Figure 6.04 – Exterior Fenestration

The building has two different types of roof systems. The majority of the roof is a sloped asphalt shingle roof system with aluminum gutters and (figure 6.05).



Figure 6.05 – Asphalt Shingles

There are other sections of the building that have an EPDM membrane roof system with some sections that are sloped and other sections that are flat. Roof drains are visible at the flat sections of roof (figure 6.06). Both roofing systems appear to be in very good condition and well maintained.



Figure 6.06 – EPDM Membrane Roof

The parking areas appear to have adequate spaces, including designated accessible parking spaces, signage, and an accessible path to the building entrance. The drive and parking surfaces appear to be in good condition. The parking/drive surface striping and exterior signage appear to be sufficient to identify the paths of travel. The main entrance is covered at the drop-off area and there is a concrete walkway that appears to be accessible and in good condition.

The driveways and parking areas appear to have adequate lighting; the fixtures are relatively new and it is reported that they function properly. The building entrance lighting appears to be adequate; however the light levels were not confirmed at this visit.

The landscaping is mostly grass and there are some ball fields located to the left of the main entrance. It was noted that there are a few vernal pools (retention areas) located throughout the site.

Observations:

The concrete foundation appears to be in overall good condition with a few deficiencies noted below. There are two areas at the library where the exterior column base concrete infill is cracked and pieces of the concrete are missing (figure 6.07).



Figure 6.07 – Column Base Concrete Infill

There are some corners of the building's foundation wall where the concrete is chipped off (figure 6.08 and 6.09).



Figure 6.08 – Chipped Foundation Corner

The paint on some of the exterior doors and frames appear to be weathered and faded. The frames also display visible signs of rusting in some locations. There are also sections of the door's weather stripping where daylight shows through.



Figure 6.09 – Chipped Foundation Corner

The exterior masonry walls are in overall good condition. There are a few areas where there is cracking in the block (figure 6.10). Further investigation may be required to confirm the cause of this cracking.



Figure 6.10 – Cracks in CMU Block

There are areas where the mortar joints appear to be cracked (figure 6.11 and 6.12).

Further investigation may be required to confirm the cause of the cracks.



Figure 6.11 – Cracks in Mortar Joints



Figure 6.12 – Cracks in Mortar Joints

There was a pipe protruding out of the brick veneer near the rear of the building and the opening was not sealed. This may allow water to penetrate into the wall cavity (figure 6.14).



Figure 6.13–

It is noted that at some of the exterior light fixtures, the lenses have captured dead insects (6.14). There was also evidence of the removal of old bee's nests at the exterior of the building.



Figure 6.14 – Exterior Light

There are several areas where the interior glazing gaskets appear to be loose and detached from the frame (figure 6.15).



Figure 6.15 – Interior Window Gasket

There are sections of storefront trim missing near the main entrance, which could allow water to penetrate into the wall cavity. Further investigation may be required (figure 6.16).



Figure 6.16 – Missing Storefront Trim

The surface of some of the steel lintels above some of the windows had remnants of mortar which does not appear to have

been cleaned off during construction (figure 6.17).



Figure 6.17 – Steel Lintel

Some of the steel lintels over the larger storefront/windows openings appear to sag. Further investigation may be required to determine the structural capacity of the steel lintel (figure 6.18).



Figure 6.18 – Sagging Lintel

There are sections of the wall flashing along the roof line where the mortar joints appear to be deteriorated and there are sections of the mortar missing. Further investigation may be required to confirm where/if water is penetrating into the wall cavity (figure 6.19).

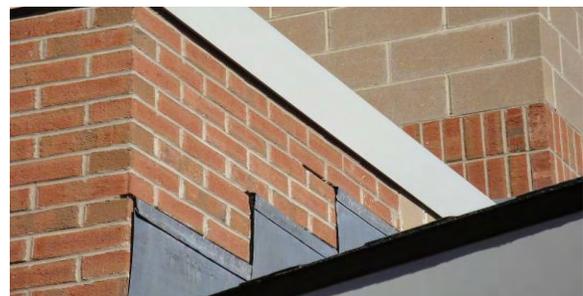


Figure 6.19 – Wall Flashing

There are some mortar joints at the exterior wall openings where the mortar was loose and sections are missing. Further

investigation may be required to confirm where/if water is penetrating into the wall cavity (figure 6.20).



Figure 6.20 – Loose Mortar

There is a recessed frost proof wall hydrant (hose bib) at the rear of the building which displays evidence of staining on the brick veneer. The brick in that area also displays visible signs of efflorescence (white chalky patches) which indicates that water has penetrated behind the brick (figure 6.21). This may be related to the installation of this plumbing fixture. Further investigation may be required to confirm if water is penetrating into the wall cavity and damaging non-visible portions of the exterior wall.



Figure 6.21 – Hose Bibb

There are sections of the metal fascia trim along the roof line that appear loose and detached (figure 6.22).



Figure 6.22 – Fascia Trim

There are also sections of the metal gable trim along the roof line that appear loose and detached (figure 6.23).



Figure 6.23 – Gable Trim

There are a few roof drains that displayed areas of vegetation and moss growth, which may be a sign that the roof drain is not functioning properly (figure 6.24).



Figure 6.24 – Roof Drain

Interior

The superstructure of the building consists of steel tube and wide flange columns

supporting steel wide flange beams with open web steel floor and roof joists with metal roof deck. The gable roof over the mechanical mezzanine is framed with wide flange steel joists and metal deck (figure 6.25)



Figure 6.25 – Building Structure at Mechanical Mezz.

The first floor structure is a concrete slab on grade and the second floor structure consists of a concrete floor slab over metal deck.

The building has several different types of floor finish systems. There is 12"x12" vinyl composite tiles (VCT) located primarily in the corridors and cafeteria areas (figure 6.26)



Figure 6.26 – VCT Tile Floor

There is carpet in the administration offices, auditorium, and library. There are paver tiles in the main entrance lobby (figure 6.27) and ceramic floor tiles in the toilet rooms and kitchen areas.



Figure 6.27 – Paver Tiles

The interior walls are primarily 8-inch painted CMU walls on both the first and second floors; with painted gypsum board partitions located throughout the building.

The building ceiling systems primarily consist of 2'x2' and 2'x4' acoustic ceiling tiles within a suspended metal grid system (figure 6.28).



Figure 6.28 – Acoustic Ceilings

There are also sections of painted gypsum board ceilings located throughout the building, and at some of the stairs (figure 2.29).



Figure 6.29 – Gypsum Board Ceilings

There are several types of interior doors throughout the building. There are clear finished flush wood doors within painted metal frames at most of the classrooms and office areas. Some of the doors have vision panels. The majority of the door hardware appears to be ADA compliant hardware (figure 6.30).



Figure 6.30 – Clear Finished Wood Doors

There are also painted metal doors within painted metal frames located at the utility rooms.

Observations:

At the time of the site visit, the courtyard doors were chained and locked with a padlock on the inside of the building to prevent access to the building after hours from the courtyard. Further investigation / analysis may be required to provide an alternate method of securing the building since chaining doors typically is prohibited by the building code (figure 6.31)



Figure 6.31 – Chained Doors

The courtyard doors also have a few areas where the interior glazing gaskets appear to be loose and detached (figure 6.32).



Figure 6.32 – Interior Gasket

The ceramic floor tiles have a few areas with cracked tiles and there are some locations that do not have metal transition strips installed (figure 6.33).



Figure 6.33 – Cracked Ceramic Tiles

There are areas where the grout was missing between the ceramic tile joints and the exterior door thresholds, which may allow water to penetrate into the building below the tiles causing potential failure (figure 6.34).



Figure 6.34 – Missing Grout

There are some areas where the VCT tiles are cracked and warped (figure 6.35).



Figure 6.35 – Cracked VCT Tile

The VCT tiles at the floor expansion joints also appear to be cracked and warped (figure 6.36).



Figure 6.36 – VCT at Expansion Joint

There are several areas where the acoustic ceilings were damaged, tiles missing, and tiles stained. The staining may be an indication of prior roof leaks. Further investigation may be required to determine the cause of the roof leaks and if there is

any further damage to the structure that is not visible (figure 6.37 and 6.38).



Figure 6.37 – Stained 2x4 Ceiling Tiles



Figure 6.38 – Stained 2x2 Ceiling Tiles

There are a few areas where cut ceiling tiles appear to have been improperly installed and are sagging from the grid (figure 6.39).



Figure 6.40 – Sagging Ceiling Tiles

There is an area adjacent to the main entrances where the ceiling tiles are stained and displaying areas of mold growth. Further investigation may be required to determine the cause and the extent of the mold growth (figure 6.41).



Figure 6.41 – Ceiling Tiles at Auditorium Entrance

There are a few areas located at the Mechanical Mezzanine where empty conduit is capped and protruding from the floor creating a potential trip hazard (figure 6.42).



Figure 6.42 – Conduit in Floor

Building Systems

The electrical service is provided by underground wires. The main electrical panel indicates 1600A/480V/three phase power source. There are several electrical panels scattered throughout the building.

The building has several different types of lighting fixtures. There are recessed 2'x4' fluorescent light fixtures with prismatic acrylic lenses within the suspended ceiling grids (figure 6.43). Several of the lenses have captured dead insects



Figure 6.43 – 2x4 Recessed Fluorescent Light

There are 4-foot dual lamp strip fluorescent lights, mounted to the underside of the suspended ceilings (figure 6.44).



Figure 6.44 – 4' Fluorescent Strip Light

There are pendant mounted 4-foot strip fluorescent with exposed bulbs located in the utility rooms (figure 6.45).



Figure 6.45 – Strip Fluorescent Lights in Utility Rooms

There are a few areas that have recessed fluorescent downlights.

Most of the lights appear to be in good condition and functioning. Some of the light fixtures throughout the building appear to have burned out bulbs.

The HVAC system consists of several gas fired roof top units and air handling units located in the Mechanical Mezzanine, which provide forced air cooling and ventilation throughout the building. The units appear to be relatively new, in good condition and appear to be functioning (figure 6.46).



Figure 6.46 – Roof Top Unit

The HVAC system also includes three gas fired hot water boilers, which provide heat to fin tube radiators located throughout the building. The boilers appear to be approximately 10-years old. Two of the units are in good condition and functioning; the third boiler was leaking and did not appear to be functioning at the time of the visit (figure 6.47).



Figure 6.47 - Boilers

The building has a wet sprinkler system throughout with semi-recessed sprinkler heads at the suspended ceilings and

exposed heads at gypsum board surfaces. The system appears to be in good condition, well maintained, and functioning.

The building has a fire alarm system, which consists of control panels, exit signs, emergency lights, pull stations, and horn/strobe devices. The system components appear to be in good condition and functioning properly (figure 6.48).



Figure 6.48 – Fire Alarm Panel

The building has several toilet rooms located on each floor throughout the building, including separate student and faculty toilet rooms of multiple arrangements and configurations. Most of the toilet rooms appear to be in good condition and ADA compliant.

The building hot water is provided by a large gas fired water heater (capacity could not be confirmed) located in the boiler room. The water heater appears to be in good condition and functioning well (figure 6.49).



Figure 6.49 – Hot Water Heater

A passenger elevator provides access to both floor levels of the building. Details of elevator type, size, capacity and ADA compliance were not observed at the time of the site visit.

End of section

Green Meadow Elementary School

Exterior

The Green Meadow Elementary School is located at 5 Tiger Drive and was originally constructed in 1954, with additions added in 1974 and 1988 (figure 7.01).



Figure 7.01 – Green Meadow Elementary School

The single story building contains approximately 84,000 square feet. There are approximately 450 students enrolled at the school serving grades Pre-K through 3rd grade. The school includes classrooms, a library, cafeteria, kitchen, gymnasium, administration offices, and utility rooms.

The exterior walls are constructed of 4-inch thick standard brick and split-face concrete masonry units (CMU) over an 8-inch CMU backup supported on a cast-in-place concrete foundation (figure 7.02). The wall construction from the original building appears to be of solid masonry construction, and the newer walls of cavity wall construction. There are also sections at the upper walls of the gymnasium where the exterior walls have painted wood clapboard siding.



Figure 7.02 – Exterior Walls

The building has several types of exterior doors. There are insulated painted metal doors within painted metal frames, some opaque and some with glass vision panels (figures 7.03 and 7.04).



Figure 7.03 – Exterior Painted Metal Doors



Figure 7.04 – Exterior Painted Metal Doors

The building also has a metal roll-up overhead door within a painted metal frame at the vehicle storage area (figure 7.05).



Figure 7.05 – Roll-up Overhead Doors

The building has three different types of exterior window systems. The main entrance area has single pane glass within

a painted wood framed storefront system (figure 7.06).



Figure 7.06 – Main Entrance Windows

There are wood awning windows inset in a similar wood framed storefront system at some of the older sections of the building (figure 7.07).



Figure 7.07 – Awning Windows

The newer sections of the building include insulated aluminum window assemblies in individual punched openings in the masonry wall (figure 7.10)



Figure 7.10 – Aluminum Windows in Punched Openings

The building has two different types of roof systems. The majority of the roof consists of a sloped asphalt shingle roof, with aluminum gutters and downspouts (figure 7.09).



Figure 7.09 – Asphalt Shingles

There are other sections of the building that have an EPDM membrane roof system; some sections are sloped to gutters and other sections are flat with roof drains (figure 7.10). Both roofing systems appear to be in good condition.



Figure 7.10 – EPDM Membrane Roof

The main entrance canopy has a painted corrugated metal roofing system with aluminum gutters and downspouts (figure 7.11). The downspouts appear to be integral with the aluminum columns that support the roof structure.



Figure 7.11 – Main Entrance Canopy

There is a raised section of stairs located at the gym with painted metal guardrails (figure 7.12).



Figure 7.12 – Exterior Stairs at Gym

The parking areas appear to have adequate spaces, with designated accessible parking spaces and signage provided. The drive and parking surfaces are in fair condition. There are several large cracks in the asphalt paving. The striping and exterior signage appears to be sufficient. The main entrance has a covered drop-off area and the concrete walkway appears to be in fair condition. Some of the concrete walkways have several large cracks and do not appear to be level or ADA compliant.

The driveways and parking areas appear to have adequate lighting and the fixtures appear to be relatively new, well maintained, and functioning properly. The building entrance lighting appears to be adequate; however the light levels could not be confirmed.

The landscape consists mostly of grass and there is a small playground area at the front of the building near the main entrance. Throughout the site, there appear to be some vernal pools (retention areas) which relate to the site drainage system. There are also smaller playfields located to the west of the building.

Observations:

The concrete foundation and exterior walls were generally in overall good condition. There are areas where the brick mortar joints were deteriorated, which may be caused by the downspouts spraying excess water run-off onto the surface of the bricks (7.13).



Figure 7.13 – Deteriorated Brick at Downspout

There are also sections of the steel structure that are exposed to the exterior weather and the steel base plates and columns display areas of rusting (figure 7.14).



Figure 7.14 – Exposed Steel Column

The EPDM membrane roof system could not be observed at the time of the visit due

to access limitations. Further investigation may be required to confirm the current condition of the roof system.

The asphalt shingle sections of the sloped roof system appear to be in good condition; however there are a few sections that display areas of moss/algae growth. Further investigation may be required to confirm the condition of the asphalt shingles at those areas (7.15).



Figure 7.15– Asphalt Shingles

There are sections of the metal fascia trim along the roof line that appear loose and detached (figure 7.16).



Figure 7.16 – Fascia Trim

There are also sections of the metal gable trim along the roof line that appeared loose and detached, causing the wood below to be exposed to weather (figure 7.17).



Figure 7.17 – Gable Trim

There are sections of the wall flashing along the roof line where the flashing appears torn and some of the mortar joints are deteriorated. Further investigation may be required to confirm where/if water is currently penetrating the brick wall (figure 7.18).



Figure 7.18 – Metal Flashing

There are sections of the roof overhang with painted wood soffits; the paint finish appears to be weathered with sections of the paint peeling away and exposing the wood. Further investigation may be required to determine if there are any rotted and/or loose sections of wood, molding, and trim (figure 7.19).



Figure 7.19 – Roof Overhang with Painted Wood Soffit

There are sections of the metal roof edge fascia system that display areas of rust, and there are sections that appear to be loose and detached (figure 7.20).



Figure 7.20 – Metal Roof Edge

There are sections of the plywood fascia board that appear warped, and sections where the paint finish appears to be weathered and faded (figure 7.21).



Figure 7.21 – Plywood Fascia Trim

The paint on some of the exterior doors and frames appears weathered and faded. The frames display some areas of rust. At some doors there is daylight showing through the weatherstripping (figure 7.22 and 7.23).



Figure 7.22 – Exterior Painted Metal Doors



Figure 7.23 – Exterior Painted Metal Doors

The paint finish on the wood windows and wood storefront systems appears to be in poor condition. There are several areas where the paint has peeled off. There are a few areas where the glazing sealant was missing and sections of the wood appear to be deteriorated and rotting. Further investigation may be required to confirm if water is infiltrating into the building's interior (figure 7.24).



Figure 7.24 – Wood Storefront

There are sections of the wood storefront glazing system that have been replaced with plywood panels and wall mounted AC (figure 7.25).



Figure 7.25 – AC unit in Plywood Panel

Some of the aluminum columns that support the entry canopy appear to be dented and damaged. Further investigation may be required to verify the structural integrity of the columns (figure 7.26).



Figure 7.26 – Damaged Canopy Column

Several of the exposed concrete column bases at the canopy appear to be severely deteriorated. There are sections of the

metal rebar exposed and sections of concrete missing (figure 7.27 and 7.28).



Figure 7.27 – Concrete Column Base



Figure 7.28 – Concrete Column Base

The vegetation around the gas main appears to be overgrown (7.28)



Figure 7.29 – Gas Main

Interior

The superstructure of the original section of the building consists of steel tube columns supporting steel wide flange beams with open web steel roof joists and a metal roof deck. The cafeteria section of the building has a glu-lam wood rigid frame with wood

purlins and a wood plank roof deck (figure 7.30).



Figure 7.30 – Cafeteria Framing

The newer section of the building consists of steel tube and wide flange columns supporting steel framed roof trusses and a metal roof deck (7.31).



Figure 7.31 – Gymnasium Framing

The building has several different types of floor finish systems. There is carpet located in some of the corridors and in the administration offices (figure 7.32).



Figure 7.32 – Carpet

There is terrazzo flooring at the main entrance lobby and in some of the corridors (figure 7.33).



Figure 7.33 – Terrazzo Floor

The gymnasium has a rubber floor; the cafeteria has 12”x12” vinyl composite tiles (VCT); and the toilet rooms have ceramic tile floors.

The interior walls in the original building are primarily CMU walls and the walls in the newer building are painted gypsum board partitions (figure 7.34).



Figure 7.34 – CMU Corridor Walls

Some of the interior CMU walls have a decorative ground-face finish (figure 7.35).



Figure 7.35 – Decorative Ground-Face Block Walls

The building has several different ceiling systems. The original section of the building has tectum ceiling panels.

The building also has 2'x2' and 2'x4' acoustic ceiling tiles within a suspended metal grid system located throughout the building. There are also 1'x1' acoustic ceiling tiles within a concealed grid system (figure 7.36). There are also a few areas that have painted gypsum board ceilings.



Figure 7.36 – 1x1 Acoustic Ceiling

The building has two types of interior doors. There are clear finished flush wood doors within painted metal frames at most of the classrooms and office areas. Some of the doors have vision panels. The majority of the door hardware appears to be ADA compliant (figure 7.37).



Figure 7.37 – Clear Finished Flush Wood Door

There are also painted metal doors within painted metal frames located at the utility rooms.

Observations:

The building structure and interior walls generally appear to be in overall good condition. There are a few areas where the paint finish appears old and there are scratches and cracks at some of the walls.

The interior doors and frames generally appear to be in overall good condition. There are a few doors with scratches and areas where the door finish appears worn. The door hardware appears to be ADA compliant.

The terrazzo and ceramic tile floors appear to be original to the building and are in good condition. The rubber floor in the gymnasium and the VCT in the cafeteria area also appear to be in good condition.

The majority of the carpet appears to be worn and in overall poor condition. There are several areas where the seams are lifting and there are sections of the carpet

missing. It was reported that there are areas of the building where the carpet is installed over asbestos floor tiles (figure 7.38). Further investigation may be required to confirm locations and verify presence of asbestos containing materials.



Figure 7.38 – Worn Carpet

The gypsum board at the skylight shows evidence of water damage; which may be caused by leaks in the skylight on the roof. Further investigation may be required to determine the cause of the water damage (figure 7.39).



Figure 7.39 – Damaged Soffit at Skylight Opening

The majority of the suspended ceilings appear to be in generally good condition. There are a few areas where ceiling tiles display water staining, which may have been caused by roof leaks. Further investigation may be required to determine the cause of the leaks (figure 7.40).



Figure 7.40 – Damaged Ceiling Tiles

There are sections of exposed communication wiring and equipment in some of the corridors and classrooms (figure 7.41).



Figure 7.41 – Exposed Communication Wiring

Building Systems

The electrical service appears to be provided by underground wires. The main electrical panel indicates 1200A/208V/3-phase power (figure 7.42). The building also has supplemental panels located throughout the building.



Figure 7.42 – Main Electrical Panel

The building has several different types of light fixtures. There are 2'x2' surface

mounted fluorescent lights with wrap around lenses, mounted to the underside of the suspended ceilings (figure 7.43).



Figure 7.43 – 2x2 Fluorescent Lights

There are pendant mounted 2'x4' strip fluorescent lights with parabolic lenses located in the cafeteria (figure 7.43).



Figure 7.43 – 2x4 Fluorescent Lights

There are wall mounted strip fluorescent light fixtures located in the corridors (figure 7.44). The corridor lighting levels appear to be insufficient. Further investigation may be required to confirm current lighting levels.



Figure 7.44 – Wall Mounted Fluorescent Lights

There are pendant mounted 4-foot strip fluorescent with exposed bulbs located in the utility rooms.

The building heating system is comprised of wall mounted fin tube radiators connected to two oil fired hot water boilers (figure 7.45).



Figure 7.45 – Main Boilers

There are two 275-gallon oil tanks located in the main boiler room, which provide fuel to the two boilers (figure 7.46).



Figure 7.46 – Oil Tanks

The building has a ventilation system located in the main boiler room, which appears old. The system type and capacity could not be confirmed at the time of this visit (figure 7.47).



Figure 7.47 – Ventilation System

The building has a wet sprinkler system, which serves some areas of the building with exposed piping and sprinkler heads. The system appears to be in good condition, well maintained, and functioning properly (figure 7.48).



Figure 7.48 – Sprinkler System

The building has a fire alarm system, which consists of control panels, exit signs, emergency lights, pull stations, and horn/strobe devices. The system components appear to be in good condition and functioning properly (figure 7.49).



Figure 7.49 – Fire Alarm Panel

The building has several toilet rooms located on each floor which include separate student and faculty toilet rooms of multiple configurations and arrangements. Most of the toilet rooms appear to be old and are generally in poor condition. Some of the fixtures do not appear to be water-conserving or ADA compliant (figure 7.50 and 7.51)



Figure 7.50 – Typical Toilet Stalls



Figure 7.51 – Typical Sinks

The building hot water system is provided by a large gas fired water heater (capacity could not be confirmed) located in the boiler room. The water heater appears to be in good condition, well maintained, and functioning properly (figure 7.52).



Figure 7.52 – Hot Water Heater

End of section

Art Space Building and Memorial Gym

The Art Space and Memorial Gym are located at 63 Summer Street. The building contains approximately 55,000 square feet and has three floors, two above grade and one partially below grade. The building is divided into two sections and currently has two different users. One section is being used by ArtSpace Inc, a non-profit community art studio, consisting of 43 artist's studios that house approximately 80 artists (figure 8.1).



Figure 8.1 – Art Space

The other section of the building is being used by the Maynard Recreation Department for local youth sports teams, with some storage rooms being used by the Maynard Police Department (figure 8.2).



Figure 8.2 – Memorial Gym

The building was originally constructed in 1924 with the Memorial Gym Addition dating from 1956. The building formerly housed the Maynard High School. Since 2001,

ArtSpace Inc has leased space in the building from the Maynard School Department, and has created one of the largest art centers in New England. The ArtSpace also has a large exhibition hall in the former school library, where the artists display their work.

Art Space Section

Exterior

The ArtSpace section of the building is constructed of 12-inch thick solid brick exterior walls with cast stone accents, supported on a cast-in-place concrete foundation (figure 8.3).



Figure 8.3 – Typical Exterior Wall

There are two different types of exterior doors and frames. There are painted insulated metal doors within painted metal frames (8.4). Some of the doors have vision panels and some of the door frames have integral sidelights.



Figure 8.4 – Exterior Doors

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There are also painted insulated metal doors within painted wood frames (8.5). The main entrance doors have the original painted wood surrounds intact.



Figure 8.5 – Exterior Door

The exterior windows are aluminum double-hung windows with insulated glass. There are matching awning windows located at some of the toilet rooms. The windows appear to be approximately 30-years old (figure 8.6).



Figure 8.6 – Exterior Door

The building has a membrane roof surrounded by a continuous parapet wall with an aluminum parapet cap. The roof is primarily flat with roof drains and aluminum gutters and downspouts at sloped sections (8.7)

Art Space Building and Memorial Gym



Figure 8.7 – Membrane Roof

The main building entrances consist of raised concrete platforms with stone steps and painted handrails (figure 8.8).



Figure 8.8 – Main Entrance Stairs

There is a section of concrete ramp with painted handrails located at the rear of the building (8.9).

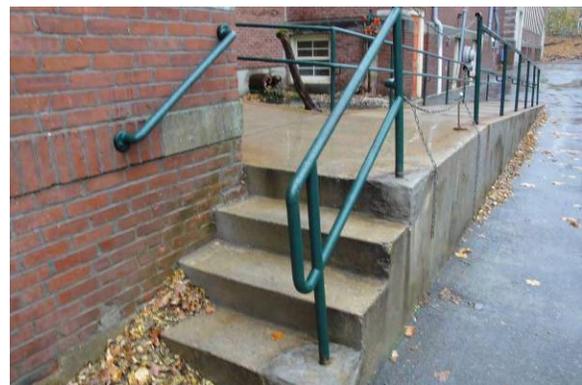


Figure 8.9 – Concrete Ramps

The parking areas do not appear to have adequate spaces or signage. The drive and parking surfaces are in fair condition. There are several large cracks in the asphalt paving. The striping and exterior signage

appear deficient. The main entrance does not have a covered drop-off area. The concrete walkways are in fair condition, with several large cracks, and do not appear to be level or ADA compliant.

The driveways and parking areas do not appear to have adequate lighting. There are street lights located at the front of the building, which provide light for the front of the building. The main entrances appear to have adequate lighting; however the rear entrances do not appear to have adequate lighting.

The landscape consists of primarily grass, which is in poor condition, and a few trees which are in need of trimming (figure 8.10). There are also a few sections of chain-link and wooden picket fence around the perimeter, which are in fair condition.



Figure 8.10 – Rear Parking Area

The building manager reported that the storm drainage system is undersized and the basement floods during rain storms. Further investigation is required.

Observations:

The exterior brick walls appear to be in fair condition. The mortar appears to be aging and weathered. There are several areas where the mortar appears deteriorated, loose, and cracked (figure 8.11).



Figure 8.11 – Brick Mortar Joints

The brick at the corners displays a significant amount of deterioration as well. There are a few corners of the building where the brick is roughly chipped off (figure 8.12).



Figure 8.12 – Chipped Brick Corner

There are also areas in the brick that displayed efflorescence (chalky white patches), which indicates that water has penetrated behind the brick. Further investigation is required to confirm where water is penetrating the wall.

The cover to one of the exhaust vents is also in poor condition and the fan is exposed (figure 8.13).



Figure 8.13 – Efflorescence in the Brick and Damaged Exhaust

There are several sections of cast stone accent bands in the exterior walls that display signs of deterioration with surface spalling (Figure 8.14).



Figure 8.14 – Cast Stone Accent Band

The sealant at some of the exterior joints was cracked and the joints open. Further investigation is required to confirm if the joint separation is due to the building settling or if the sealant has failed, and also to confirm if water is penetrating the wall (figure 8.15).



Figure 8.15 – Exterior Expansion Joint

The mortar joints at the main entrance stairs are in poor condition. There are several areas where the mortar is cracked or missing. Further investigation is required (figure 8.16).



Figure 8.16 – Main Entrance Stairs

The stone pediment assemblies over the main entrance doors are in poor condition. There are sections where the stone has deteriorated and some of the mortar joints are cracked (figure 8.17 and 8.18).



Figure 8.17 – Main Entrance Pediment Assembly



Figure 8.18 – Main Entrance Pediment Assembly

The paint finish on most of the exterior doors and frames appears weathered and faded. There is also daylight showing through the weather stripping. The majority of the door hardware appears to be ADA compliant (figure 8.19).



Figure 8.19 – Exterior Doors

The guardrails at the rear entrance are in fair condition. There is a section of guardrail that appears to have been removed and replaced with a chain to create a loading dock. The paint finish on

the guardrails is weathered and peeling (figure 8.20).



Figure 8.20 – Guardrails

There are a few locations located on the exterior brick walls where it appears that louvers have been removed and replaced with sections of foil faced rigid insulation, which may not be an acceptable application. The perimeter of the insulation is also not sealed, which may allow water to penetrate into the wall. Further investigation may be required (figure 8.21).



Figure 8.21 – Exposed Rigid Insulation

The chimney located at the roof is in poor condition. The mortar is severely deteriorated and several of the bricks are loose (figure 8.22).



Figure 8.22 – Roof Chimney

The membrane roof at the elevator penthouse appears to have insufficient slope, with water ponding observed on the roof at the time of the site visit, and no overflow scupper provided (figure 8.23).



Figure 8.23 – Elevator Shaft Roof

The bolts that attach one of the roof access ladders are loose, making the ladder unstable (figure 8.24)



Figure 8.24 – Roof Access Ladder

There is another roof access ladder where a section of the ladder is missing, also making the ladder unstable (figure 8.25).



Figure 8.25 – Roof Access Ladder

The main roof appears to be in overall fair condition. The roof was reported to be over 30-years old. There are sections where the seams were starting to separate, which may allow water to penetrate into the building (figure 8.26). Further investigation is required to confirm condition of the roof.



Figure 8.26 – Membrane Roof Seam

There are also patches that were installed where the seams were starting to separate, which may allow water to penetrate into the building (figure 8.27).



Figure 8.27 – Membrane Roof Patch

The metal flashing at the cornice trim is in poor condition. There are several areas where the flashing is rusted and the seam separated, which may allow water to penetrate into the wall. Further investigation is required (figure 8.28).



Figure 8.28 – Metal Flashing

The wooden roof cupola is in poor condition. The paint finish is weathered and peeling and some of the wood is exposed. Further investigation is required to determine if there are any rotted or loose sections of wood or molding (figure 8.29).

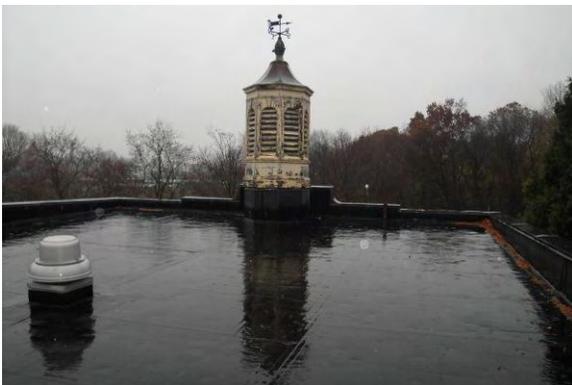


Figure 8.29 – Cupola

Interior

The superstructure of the building is not exposed to view. The building columns are concealed within the walls. The floor framing is also concealed by the finish ceiling assemblies. Further investigation is required to confirm superstructure components and condition.

The floor structure is most likely a wood plank subfloor, based on the springiness observed in the floor structure.

The building has several different types of floor finishes. The basement floor is a painted concrete slab on grade. The first floor has carpet in some of the gallery areas and in the administration offices.

The majority of the first and second floor corridor floors are 12"x12" vinyl composite tiles (VCT), and the toilet rooms have ceramic tile floors (figure 8.30).



Figure 8.30 – VCT Floor

The building has several different types of interior walls. The basement floor has primarily painted brick and CMU walls.



Figure 8.31 – Painted Brick Walls

The first and second floors have painted brick walls and painted plaster and gypsum wall board partitions at the corridors and in the art studios.

There are several types of ceilings throughout the building. The majority of the

rooms have 2'x4' acoustic ceiling tiles with a suspended metal grid system (figure 8.32).



Figure 8.32 – Suspended Ceilings

There are also areas that have painted plaster ceilings (figure 8.33).



Figure 8.33 – Painted Plaster Ceilings

The building has several types of interior doors. There are painted flush wood doors within painted metal frames at most of the studios and office areas. Some of the doors have vision panels and integral sidelights and transoms. The majority of the door hardware appears to be ADA compliant (figure 78.34).



Figure 8.34 – Painted Wood Door and Frames

There are several rooms that have clear finished wood panel doors within wood frames (figure 8.35).



Figure 8.35 – Clear Finished Wood Door and Frames

The basement floor also has painted metal doors within painted metal frames at some of the utility rooms.

There is a small section of built-in casework located at the first floor lunchroom with plastic laminate cabinets and countertop with a stainless steel sink.



Figure 8.40 – Casework

The majority of the art studios were not accessible at the time of visit.

Observations:

The majority of the VCT throughout the building is in poor condition. The tiles are worn and peeling up in several areas (figure 8.41).



Figure 8.41 – VCT Floor Tiles

There are sections of VCT floor missing in several of the corridors where the lockers were removed, and the original hardwood flooring is exposed (figure 8.42).



Figure 8.42 – Missing VCT Floor Tiles

There is a section of the basement floor where the concrete slab was removed and a section of steam pipe installed and covered by a piece of plywood (figure 8.43).



Figure 8.43 – Plywood at Concrete Slab

There is a section of steam pipe installed within the tread area at one of the basement stairs; the stairs also lack handrails (figure 8.44).



Figure 8.44 – Steam Pipe at Basement Stairs

The paint finish on the interior brick and CMU walls is in poor condition. There are several areas where the paint finish is missing or peeling off (figure 8.45).



Figure 8.45 – Peeling Paint

The painted plaster ceilings are in overall fair condition. There are several areas where the paint finish is missing or peeling

off, which may be caused by roof leaks. Further investigation is required to determine the cause of the leaks (figure 8.46).



Figure 8.46 – Plaster Ceilings

The majority of the suspended ceilings appear to be in good condition. There are a few areas where ceiling tiles appear water stained, which may have been caused by roof leaks. Further investigation is required to determine the cause of the water damage (figure 8.47).



Figure 8.47 – Damaged Ceiling Tiles

The hardware at some of the awning windows is broken and the windows are difficult to open (figure 8.48).



Figure 8.48 – Broken Window Hardware

Building Systems

The electrical service appears to be provided by underground wires. The main electrical panel indicates 800A/208V/3-phase power (figure 8.49). The building also has supplemental panels located throughout the building.



Figure 8.49 – Main Electric Panel

The building has several different types of light fixtures. There are 2'x2' pendant mounted fluorescent lights with wrap around lens, suspended from the underside of the plaster ceilings (figure 8.50).

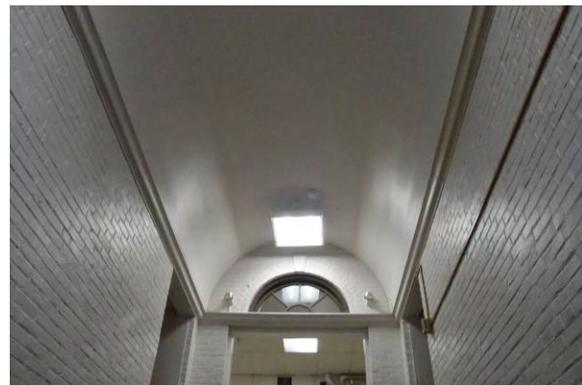


Figure 8.50 – Pendant 2x2 Fluorescent Lights

There are recessed 2x4 fluorescent light fixtures with prismatic acrylic lenses within the suspended ceiling grids (figure 8.51).



Figure 8.51 – 2x4 Fluorescent Light Fixtures

There are surface mounted fluorescent track light fixtures, mounted to the underside of the suspended ceiling grids (figure 8.52).



Figure 8.52 – Track Lighting

There are also pendant mounted 4-foot strip fluorescent with exposed bulbs located in the utility rooms. The light fixtures appear to be in overall good condition and functioning.

The building heating system is comprised of wall mounted fin tube radiators connected to the main gas fired steam boiler. The boiler capacity could not be confirmed (figure 8.53).



Figure 8.53 – Main Boiler

There are two additional boilers: one is original to the building and not operational; the other boiler is operational, but apparently is only used as a backup when the main boiler is being serviced.

The HVAC system also includes several gas fired roof top units, which provided force air ventilation and cooling throughout the building. The units appear to be old, but functioning (figure 8.54).



Figure 8.54 – Roof Top Unit

The building does not appear to have a fire suppression system.

The building has a fire alarm system, which consists of control panels, exit signs, emergency lights, pull stations, and horn/strobe devices. The system components appear to be in good condition and functioning, but there are a few devices that appear to be old and likely not code compliant (figure 8.55).



Figure 8.55 – Fire Alarm Panel

The building has several toilet rooms located on each floor, which include previous student and faculty toilet rooms of multiple configurations. Most of the toilet rooms appear to be old and in poor condition. Some of the fixtures are likely not water-conserving or ADA compliant (figure 8.56 and 8.57)

The water heater appears to be in good condition and functioning (figure 8.58).



Figure 8.58 – Hot Water Heater



Figure 8.56 – Typical Toilet Stalls



Figure 8.57 – Typical Sinks

The building hot water is provided by a large gas fired water heater (capacity could not be confirmed) located in the boiler room.

Memorial Gym Section

Exterior

The exterior walls of the Memorial Gym are 12-inch thick walls constructed of 4-inch standard brick over 8-inch concrete masonry units (CMU) supported on a cast-in-place concrete foundation, with painted wide flange steel columns embedded into the exterior brick walls (figure 8.59).



Figure 8.59 – Exterior Walls

There are two different types of exterior doors and frames. The office area entrance doors are aluminum and glass storefront assemblies, which appear to have replaced the original painted wood framing system. The doors have glass sidelights and transoms above, however the sidelight glass has been removed and replaced with painted plywood (figure 8.60).



Figure 8.60 – Office Exterior Doors

The main gym entrance doors are painted insulated metal doors within a painted wooden storefront assembly (figure 8.61).

The door hardware does not appear to be ADA compliant.



Figure 8.61 – Gym Exterior Doors

The gym exterior windows are high-bay single pane glass panels within a painted metal framing system with painted metal trim (figure 8.62). Some of the glass panels appear to have been replaced with lexan or a similar plastic material.



Figure 8.62 – High-bay Windows

The office area exterior windows appear to be a painted metal strip window assembly; however the glass panels have been removed and replaced with painted plywood (figure 8.63).



Figure 8.63 – Strip Windows

The gym has three sections of roof – the main roof over the gymnasium and two lower roof sections. All roofs have a membrane roof system with roof drains (8.64)



Figure 8.64 – Gym High Membrane Roof

The building entrances have raised concrete platforms approximately 6-inches high. There are no accessible entrances present (figure 8.65).



Figure 8.65 – Raised Entrance Platform

The exterior of the building has a concrete retaining wall with asphalt paving below and

landscaping above. There are a few trees and sections of chain-link fence around the perimeter (figure 8.66).



Figure 8.66 – Rear Landscaping

The building has wall mounted exterior light fixtures at the main entrances. The main entrance canopies also have soffit mounted recessed downlights.

Observations:

The exterior brick walls appear to be in good condition. There are some areas where the mortar appears to be aging and weathered. There are a few corners of the foundation wall where the concrete is cracked or chipped off (figure 8.67).



Figure 8.67 – Chipped Foundation Corner

There are also areas in the brick that display efflorescence (chalky white patches), which indicate that water has penetrated behind the brick. Further investigation is required to confirm where water is penetrating the wall cavity (figure 8.68).



Figure 8.68 – Efflorescence in the Brick

The exterior columns display areas of rust and the paint finish is weathered and peeling (8.69).



Figure 8.698 – Exterior Columns

The gaskets at some of the exterior glazing are failing and some of the lexan replacement window panels are frosted (8.70).



Figure 8.70 – Exterior Glazing

The wood frames at the entrance doors and storefront are in poor condition. The paint finish is weathered and peeling and some of

the wood is exposed. Further investigation is required to determine if there are any rotted or loose sections of wood or molding (figure 8.71 and 8.72).



Figure 8.71 – Wood Storefront Assembly



Figure 8.72 – Wood Storefront Assembly Sill

There are sections of the metal roof edge that display areas of rust and sections that appear loose and detached. There are also sections of the plywood fascia board that appear warped and sections where the paint finish appears weathered and faded (figure 8.73 and 8.74).



Figure 8.73 – Plywood Fascia Trim at Front Roof



Figure 8.74 – Plywood Fascia Trim at Rear Roof

There is a roof drain at the gym vestibule roof that does not appear to be functioning. Further investigation is required to determine the cause of the malfunction (figure 8.75).



Figure 8.75 – Roof Drain

There are a few other areas on the lower roofs where water was observed ponding, and there are no overflow scuppers (figure 8.76 and 8.77).



Figure 8.76 – Gym Vestibule Roof



Figure 8.77 – Office Area Roof

Interior

The superstructure of the gym consists of a metal framed truss system which is supported on the steel columns in the exterior brick walls (figure 8.78).



Figure 8.79 – Gym Structure

The gym entrance vestibule and office area structure is not exposed to view. The roof framing is concealed by the finish ceiling assemblies. Further investigation may be required to confirm superstructure components and condition.

The gym floor is a clear finished wood floor over a concrete slab on grade, which has been recently refinished (figure 8.80).



Figure 8.80 – Gym Wood Floor

The gym entrance and toilet rooms have terrazzo flooring (figure 8.81). The office area and storage rooms have painted concrete floors.



Figure 8.81 – Terrazzo Floor

The interior walls are primarily painted CMU with a few areas of exposed brick walls and ceramic tile wall finishes in the toilet rooms and entrance vestibule (figure 8.82).

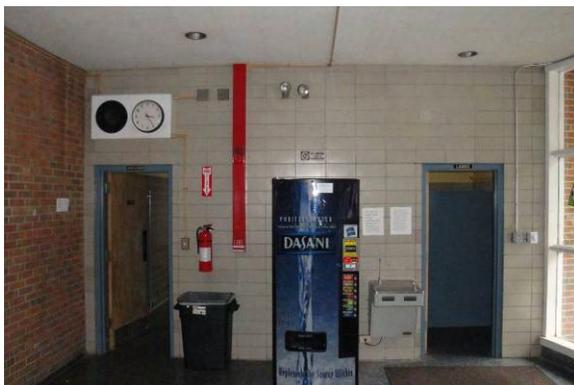


Figure 8.81 – Entrance Vestibule

There are two types of ceiling systems: 1'x1' acoustic ceiling tiles within a concealed grid system (figure 8.82) and

there are a few areas that have painted gypsum board ceilings (figure 8.83).



Figure 8.82 – 1x1 Acoustic Ceiling



Figure 8.83 – Painted Gypsum Board Ceilings

The interior doors are painted flush wood doors within painted metal frames. The door hardware does not appear to be ADA compliant (figure 8.84).



Figure 8.84 – Interior Doors

Observations:

There is a section of the interior wall at the gym vestibule section where the plaster finish is damaged, which may have been caused by window leaks above. Further investigation is required to confirm if water is penetrating the wall cavity (figure 8.85).



Figure 8.85 – Interior Doors

The paint finish on the interior wood window sills is faded and peeling and some of the wood is exposed. Further investigation is required to confirm if water is penetrating the wall system (figure 8.86).



Figure 8.86 – Wood Sills

There are several areas where sections of the 1'x1' acoustic ceiling tiles are missing and display evidence of water damage, which may be caused by roof leaks above (figure 8.87). Further investigation is required to confirm the cause of the roof leaks and if there is any further damage to the structure.



Figure 8.87 – Damaged 1x1 Acoustic Ceiling Tiles

The plaster ceilings also include several areas that appear damaged from roof leaks. There are a few areas where ceilings are water stained, plaster is missing or deteriorated, and sections of the paint is peeling off (figure 8.88).



Figure 8.88 – Damaged Plaster Ceilings

Building Systems

The building electrical system for the gym appears to be connected to the ArtSpace electrical system. There are no visible electrical panels observed. Further investigation is required to confirm.

The building has recessed incandescent downlights at the 1'x1' suspended ceilings and high bay style HID fixtures pendant mounted to the underside of the gym roof structure.

The building heating system is comprised of wall mounted fin tube radiators, which appear to be connected to the ArtSpace heating system. There are no visible boilers that were observed. Further investigation is required to confirm (figure 8.89).



Figure 8.89 – Fin Tube Radiation

The building does not appear to have a fire suppression system.

The building has a fire alarm system, which consists of control panels, exit signs, emergency lights, pull stations, and horn/strobe devices. The system components appear to be in good condition and functioning, but there are a few devices that appear old and likely not code compliant.

The building has two toilet rooms: a men's room that has 2 toilets, 2 urinals, 2 lavatories, and accessories; and a women's room that has 3 toilets, 2 lavatories, and accessories (figure 8.90).



Figure 8.90 – Typical Toilet Stalls

The fixtures appear to be original to the building and are in fair condition and functioning. The toilet rooms do not appear to be ADA compliant.

End of section

Department of Public Works Complex

The Department of Public Works Facility (DPW) is located at 38 Winter Street and consists of three separate buildings: the DPW Garage, the Water Building, and the Salt Building. The facility is located on Winter Street and the three buildings were constructed at different times.

Garage Building

Exterior

The single story Garage Building was constructed in 1973 and contains approximately 12,000 square feet. The building has two sections: a 2,000 SF section currently being used for vehicle repair, including an office, toilet room, lunchroom, storage room, and a storage mezzanine above; and a 10,000 SF section that is currently being used for vehicle and parts storage.

The exterior walls are constructed of standard and scored concrete masonry units (CMU) supported on a cast-in-place concrete foundation (figure 9.1).



Figure 9.1 – DPW Garage

The exterior doors are insulated painted metal within painted metal frames, which appear to be original to the building (figure 9.2).

The building also has painted metal roll-up overhead doors at each vehicle bay, which also appear to be original to the building.



Figure 9.2 – Exterior Door

There is one exterior window located at the office, which appears to be original to the building. The window is an insulated aluminum sliding window within a painted wood frame. There are also a few wall mounted painted metal louvers and exhaust fans.

The roof could not be observed at the time of the visit due to access limitations. However, the Town Engineer stated that the roof is believed to be a membrane roof original to the building. The roof has an aluminum gravel stop around the perimeter with matching vertical aluminum siding panels above the overhead doors and main entrance door (figure 9.2). Further investigation is required to confirm the exact type and condition of the roof.



Figure 9.2 – Exterior Overhead Doors

The roof slopes to drain towards the back of the building where there are aluminum scuppers and downspouts.

The main entrance has a raised concrete platform approximately 8-inches high. There are no accessible entrances present.

The site has an asphalt parking lot with asphalt walkways leading to the street and to other areas of the complex (figure 9.3).



Figure 9.3 – Parking Lot and Walkway

There is a fuel station located on the site which provides gasoline and diesel fuel for the Town vehicles (figure 9.2).



Figure 9.4 – Fuel Island

The site has minimal landscaping, consisting of some small areas of grass and shrubs. The site is primarily surrounded by wooded areas.

The site and parking lots have light fixtures mounted to utility poles. The main entrance and the garage bays appear to have adequate lighting; however the light levels could not be observed at the time of visit. Further investigation is required to confirm if the lights are functioning and if the light levels are adequate.

There is a chain-link fence located around portions of the facility.

Observations:

There are a few areas where the exterior CMU walls are cracked at the mortar joints and through some of the blocks (figure 9.5). Further investigation is required to determine if these cracks are stress cracks or settlement cracks, and to verify if water is penetrating into the wall.



Figure 9.5 – Wall Cracks

There are a few locations where the sealant at the joints is cracked and missing. Further investigation is required to verify if the joint separation is due to building settling or sealant failure, and also to verify if water is penetrating the wall (figure 9.6).

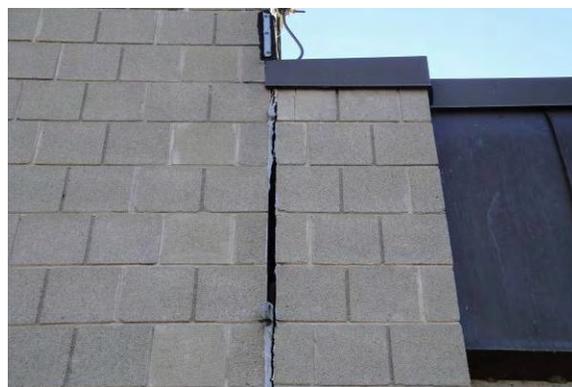


Figure 9.6 – Open Exterior Joint

The paint finish on the exterior doors and frames appears weathered and there are areas of rust.



Figure 9.7 – Exterior Doors

There are sections of the aluminum wall panels that are damaged. Some of the siding panels appear torn, and others loose, warped, or detached (figures 9.8 and 9.9).



Figure 9.8 – Damaged Aluminum Siding



Figure 9.9 – Detached Aluminum Siding

The aluminum scuppers and downspouts appear to be old and in fair condition. The CMU wall behind the downspouts appears water damaged (figure 9.10). Further investigation is required to determine if the CMU wall needs repair.



Figure 9.10 – Aluminum Scupper and Downspout

The weatherstripping at the overhead doors is deteriorated, with some sections loose and other sections missing (figure 9.11). Further investigation is required to determine if the damaged weatherstripping is allowing water infiltration.



Figure 9.11 – Overhead Door Weather Stripping

The paving surfaces appear to have been patched over the years and are uneven in several areas with significant cracking. The paving appears to have sufficient pitch to allow for proper drainage (figure 9.12).



Figure 9.12 – Asphalt Paving

Interior

The superstructure of the building consists of painted round steel columns supporting steel wide flange beams with open web steel roof joists (figure 9.13).



Figure 9.13 – Building Structure

The floor structure is a concrete slab on grade.

The interior walls are painted 8-inch CMU throughout.

The building floor finishes consist of exposed concrete throughout with vinyl composite tiles (VCT) in the lunch room and 1"x1" ceramic tiles in the toilet room.

The majority of the building has exposed structure with no ceilings. The office, lunchroom, and toilet rooms have painted gypsum board ceilings.

The interior doors are painted hollow metal doors within painted metal frames.

Observations:

The concrete floor slab has several areas where the slab appears to be stained and chipped, most likely due to maintenance to the adjacent vehicles and equipment. The slab has a few areas with isolated cracks, but overall it appears to be in good condition (figure 9.14).



Figure 9.14 – Concrete Floor Slab

The CMU walls appear to be in good condition with minimal cracking visible. The paint finish appears worn and stained in several areas (figure 9.15).



Figure 9.15 – Interior CMU Walls

The VCT in the lunch room and 1"x1" ceramic tile floor in the toilet room are old and in poor condition.

The interior doors are old and appear to be original to the building, but are in overall fair condition. The door hardware is old but functioning. Some of the doors display areas of rust and corrosion (figure 9.16).



Figure 9.16 – Interior Doors

The majority of the door hardware does not appear to be ADA compliant. Further investigation is required to determine which doors do not comply at public spaces and at common-use areas within employee work areas.

There is a small section of built-in casework located in the lunchroom with a plastic laminate countertop and wood cabinets. The countertop height cabinet door hardware and cooktop are not ADA compliant (figure 9.17). The casework is old and in overall poor condition.



Figure 9.17 – Lunchroom Casework

Building Systems

The electrical service is provided by overhead wires adjacent to the main entrance. The main electrical panel indicates 225A/240V/single phase power (figure 9.18).



Figure 9.18 – Main Electrical Panel

The building has two different types of light fixtures: surface mounted 4-foot and 8-foot dual lamp strip fluorescent lights, mounted to the underside of the roof joists (figure 9.19). Most of the lights appear to be in good condition and functioning. There are a few fixtures with burned out lamps.

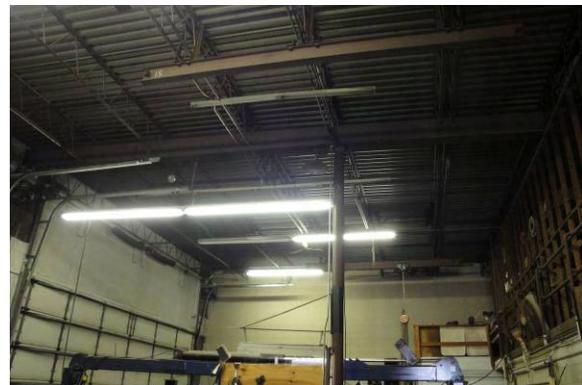


Figure 9.19 – Strip Fluorescent Lights

The main building heating system is comprised of several ceiling hung gas fired unit heaters located throughout the building, that appear to be functioning (figure 9.20).



Figure 9.20 – Gas Fired Unit Heaters

The office and toilet room have supplemental heating provided by wall mounted electrical unit heaters (figure 9.21). The units appear to be original to the building and are rusted, but appear to be functioning.



Figure 9.21 – Electric Cabinet Unit Heaters

The building does not appear to have an air conditioning or ventilation system, although some exhaust is provided.

The building does not appear to have a fire suppression system.

The building does not appear to have a fire alarm system. There are a few fire extinguishers located throughout the building.

The building has one toilet room, which consists of two toilets, a urinal, lavatory, utility sink, and a shower. The fixtures appear original to the building and are likely not water-conserving, but appear to be functioning (figure 9.22). The toilet room does not appear to be ADA compliant. Current plumbing codes would likely require separate toilet room facilities for men and women.



Figure 9.22 – Plumbing Fixtures

Water Building

Exterior

The Water Building contains approximately 1,950 square feet in a single story with a partial storage loft. The building is currently being used for vehicle repair and tool storage, and also includes an office. The date of construction is unknown, but the building is assumed to be more than 50 years old.



Figure 9.23 – Water Building

The building is constructed of 12-inch thick solid brick exterior walls which extend below grade (9.24). Due to the existing grade conditions, the foundation type could not be confirmed.



Figure 9.24 – Exterior brick Walls

The exterior doors and frames are painted wood panel doors within painted wood frames, which appear to be original to the building (figure 9.25).

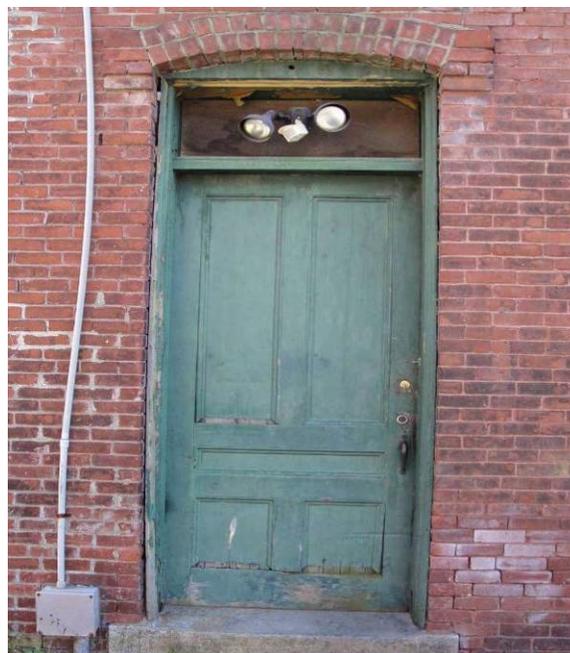


Figure 9.25 – Wood Door and Frame

The building also has painted wood overhead doors, which appear to be original to the building (figure 9.26).

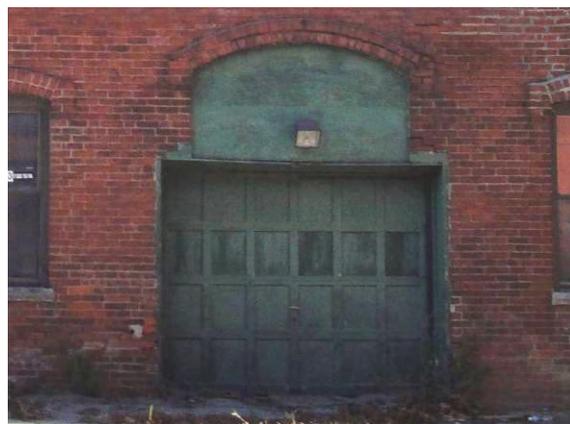


Figure 9.26 – Wood Overhead Door

The exterior windows appear to be vinyl double hung replacement windows within the existing painted wood frames (figure 9.27). The frames appear to be original to the building and the windows appear to be approximately 20-years old.



Figure 9.27 – Window

The hipped roof has asphalt shingles with a continuous metal gutter with downspouts, and a decorative cornice trim, which appears to be original to the building (figure 9.28).



Figure 9.28 – Asphalt Shingles

The exterior lighting consists of two wall mounted light fixtures located on the front side of the building (figure 9.29).



Figure 9.29 – Exterior Lighting

There is a chain-link fence on the left side which wraps around the rear of the building.

Observations:

The exterior brick walls appear to be in very poor condition. The mortar appears to be aging and weathered. There are several areas where the mortar is deteriorated, missing, loose, or cracked (figure 9.30).



Figure 9.30 – Brick Wall at Grade

There is a section of brick that appears to be water-damaged at a location of a missing downspout (figure 9.31).



Figure 9.31 – Water Damage at Brick

The brick at the corners displays a significant amount of deterioration as well. Several bricks appear loose and some bricks are missing (figure 9.32).



Figure 9.32 – Brick at Corner

The brick over the windows also displays a significant amount of deterioration. The brick is bowing out, and several bricks are loose or missing (figure 9.32).



Figure 9.33 – Brick over Windows

There are also areas in the brick that display efflorescence (chalky white patches), which indicates that water has penetrated behind the face brick (figure 9.34). Further investigation is required to verify where water is penetrating the wall.

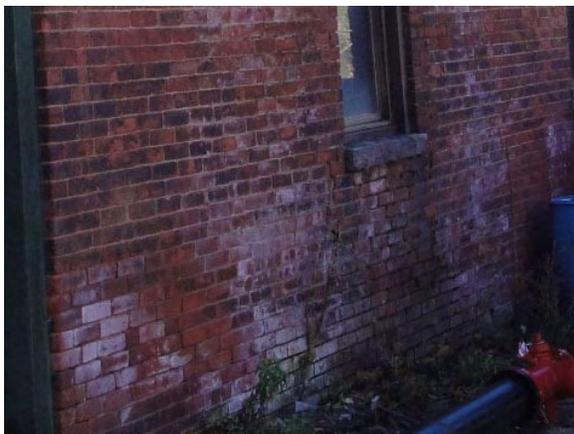


Figure 9.34 – Efflorescence on the Brick

There are sections of the brick wall where the mortar appears to have been replaced.

The asphalt roof shingles appear to be in very poor condition. The shingles display areas of tearing and warping. The granular surface of the shingles appears to have worn off, and the shingles appear brittle (figure 9.35).



Figure 9.35 – Roof Shingles

The metal gutter and downspouts appear to be in poor condition. There are several downspouts missing causing rain water to run down the face of the brick wall. Some of the joints between the metal cornice sections are open, which might allow water to penetrate into the wall. Further investigation is required (figure 9.36).



Figure 9.36 – Gutter and Cornice at Roof

The main entrance door has a raised sill with a stone step, which does not appear to conform to current building code or ADA requirements.

Interior

The building columns are 6x6 wood timbers. The floor framing of the partial storage loft consists of 2x8 wood joists at 16-inches O.C. bearing on a central 8x4 wood beam that is supported on the ends by the exterior brick walls (figure 9.37).



Figure 9.37 – Wood Floor Framing at Storage Loft

The roof framing consists of a galvanized metal truss system bearing on the exterior brick walls with 8-inch wide wood roof decking (figure 9.38).



Figure 9.38 – Metal Roof Trusses

The vehicle maintenance area of the building has a plywood sub-flooring material covering the slab on grade (figure 9.39).

The storage area has a brick paver floor over a concrete slab on grade and the office area has an exposed concrete slab (figure 9.40 & 9.41).



Figure 9.40 – Wood Sub-floor at Vehicle Maintenance



Figure 9.41 – Brick Pavers at Storage Area

There is a partial-floor storage loft located above the storage and offices areas. The floor in this loft is the exposed 4-inch wide wood floor boards (figure 9.42).



Figure 9.42 – Mezzanine Floor

The interior walls consist of 12-inch thick brick walls. Some of the brick walls are painted and others exposed natural brick (figure 9.43). The wall around the stair is a wood framed partition wall with painted vertical bead board.



Figure 9.43 – Painted Brick Walls

The vehicle maintenance area has acoustic tiles mounted to the underside of structure above. The storage and office area do not have finished ceilings (exposed wood structure).

The interior doors are painted wood panel doors within painted wood frames.

Observations:

The windows are in poor condition. In the vehicle maintenance area, the window assembly appears to be separated from the masonry wall and is tipping into the building (figure 9.44).



Figure 9.44 – Dislodged Window Assembly

The roof decking appears to be wet and displays areas of water damage (figure 9.45). Further investigation is required.



Figure 9.45 – Roof Decking

There is a single interior wood stair to the storage loft, which does not appear to conform to current building code or ADA requirements. The guardrail and handrail heights appear lower than the heights allowable by code (figure 5.46), and they do not extend beyond the top and bottom nosing as required by code. Further investigation is required to determine other code deficiencies (figure 5.47).



Figure 9.46 – Mezzanine Stair



Figure 9.47 – Wood Guardrails

Building Systems

The electrical service is provided by overhead wires adjacent to the vehicle maintenance area entrance. The main electrical panel indicates 225A/600V/single phase power. The electrical panels appear to be original to the building and are old. Further investigation is required to verify if the electrical distribution is adequate and code compliant.

The light fixtures are pendant mounted 4-foot dual lamp strip fluorescent lights with prismatic lens (figure 9.48). Most of the lights appear to be in good condition and functioning. There are a few fixtures with burned out lamps.

The building has an oil fired forced hot air heating system with exposed ductwork that provides heat and ventilation to the office and storage rooms (figure 9.49). The ductwork appears to be original to the installation and is severely rusted. Further investigation is required to verify if the heating system is adequate and code compliant.

The building does not appear to have a fire suppression system.

The building does not appear to have a fire alarm system

The building does not appear to have any toilet facilities, but does have a 40-gallon electric water heater that connects to a small hand sink. Both the water heater and the sink appear to be old and in poor condition (figure 9.50).



Figure 9.50 – Water Heater



Figure 9.48 – Oil Fired Furnace



Figure 9.49 – Ductwork

Salt Building

Exterior

The single story Salt Building contains approximately 2,880 square feet single story building. The building is currently being used for storing road salt and sand that will be used by the DPW to sand the roads during the winter. The date of the construction is unknown, but assumed to be at least 20 years old.



Figure 9.51 – Salt Building

The exterior walls are constructed of 1/2-inch exterior grooved plywood, on timber framing, which appears to be original to the building. The foundation consists of 18-inch diameter cast-in-place concrete piers at approximately 10-feet O.C. that extend below grade (figure 9.52).



Figure 9.52 – Concrete Footings

The roof is a corrugated galvanized metal roof system with aluminum trim at the gable and an aluminum ridge vent, which appears to be original to the building (figure 9.53). The edges of the roof overhang the walls by

approximately 12-inches and the eaves have open soffits. The building does not have any gutters or downspouts.



Figure 9.53 – Metal Roof

The building does not have any exterior doors or windows, but has a large opening on the front for vehicular access to the shed.

The exterior lighting consists of wall mounted light fixtures. There are five lights: one located over the main opening, and four more on the side facing the DPW Garage building (figure 9.54).



Figure 9.54– Exterior Lights

Observations:

There are several sections of the exterior plywood panels that appear to be rotted and water damaged (figure 9.55).

The floor structure is an exposed concrete slab on grade.

The building does not have interior walls, floor finishes, wall finishes, ceilings, interior doors, or any casework.

Observations:

There are no interior observations noted.

Building Systems

The building does not have an electrical distribution system; however there is an electrical disconnect located to the right of the main opening that appears to be fed underground from one of the adjacent buildings, providing power to the interior and exterior light fixtures and a convenience receptacle.

The light fixtures are pendant mounted fluorescent lights with prismatic lens (figure 9.59). Most of the lights appear to be in good condition and functioning. There are a few fixtures with burned out lamps.



Figure 9.59 – Interior Light Fixture

The building does not appear to have a heating system, air conditioning or ventilation system, fire suppression system, or fire alarm system.

The building does not appear to have a plumbing system or toilet room facilities.

End of section

Water Pollution Control Facility

The Water Pollution Control Facility is located at the end of Pine Hill Road and consists of three buildings: the Administration Building, constructed in 1974; the Head Works Building, constructed in 1986; and the Electric Building, constructed in 1996.

Administration Building

Exterior

The Administration Building is approximately 5,300 square feet and has two floors; one floor above grade and a basement partially below grade. The first floor consists of an office, lab, lunchroom, toilet rooms, vehicle storage, and equipment control room. The basement floor consists of storage, utility rooms, and a pump truck garage. The building was constructed in 1974.



Figure 10.1 – Administration Building

The exterior walls are constructed of 8-inch cast-in-place concrete supported on a cast-in-place concrete foundation (figure 10.2).



Figure 10.2 – Exterior Walls

The pump truck section of the building is constructed of 4-inch thick standard and split-face concrete masonry units (CMU) over an 8-inch standard CMU backup supported on a cast-in-place concrete foundation (figure 10.3).



Figure 10.3 – Pump Truck Section

There are sections of the exterior walls where former large wall openings were later in-filled with 8-inch thick standard and split-face concrete masonry units (figure 10.4).



Figure 10.4 – Exterior Block In-fill

The building has three different types of exterior doors and frames. The main office area has aluminum and glass storefront assemblies (figure 10.5).



Figure 10.5 – Exterior Aluminum Storefront

The building has painted metal doors within painted metal frames with glass sidelights and transoms above (figure 10.6).



Figure 10.6 – Exterior Painted Metal Doors

The building also has metal roll-up overhead doors within painted metal frames at the vehicle storage areas (figure 10.7).



Figure 10.7 – Roll-up Overhead Doors

The building has three different types of exterior windows. The main office area has insulated aluminum and glass assemblies with operable casement sash in punched wall openings (figure 10.8).



Figure 10.8 – Aluminum Punch-out Windows

The building has aluminum and glass strip windows within larger wall openings (figure 10.9).



Figure 10.9 – Aluminum Strip Windows

The building also has aluminum and glass sloped glazing windows (figure 10.10).



Figure 10.10 – Aluminum Sloped Glazing

All of the doors and windows appear to be original to the building.

The roof is a stone ballasted membrane that is reported to be original to the building

(figure 10.11). The main roof has a 16-inch high concrete parapet wall around the perimeter, and the pump truck garage roof has an aluminum gravel stop around the perimeter.



Figure 10.11 – Stone Ballasted Membrane Roof

There is an exterior site stair constructed of railroad ties located at the back of the building (figure 10.12).



Figure 10.12 – Railroad Tie Stairs

The building entrance has a raised concrete platform approximately 6-inches high. There are no accessible entrances present (figure 10.13).



Figure 10.13 – Raised Concrete Platform

The front of the building has an asphalt parking lot with an access road leading to other areas of the facility (figure 10.14).



Figure 10.14 – Asphalt Parking Lot

The site has minimal landscaping consisting of some small areas of grass and a few trees. The site location is primarily surrounded by wooded areas.

The site and parking lots have pole mounted light fixtures located throughout the site. The first floor entrances do not have any light fixtures, but the main basement floor entrance and pump truck overhead door have wall mounted light fixtures which appear to be relatively new and functioning.

Observations:

The exterior concrete walls have some minor surface cracks. Further investigation is required to confirm if the cracking is due to the building settling, and also to verify if water is penetrating into the wall (figure 10.15).



Figure 10.15 – Pre-cast Concrete Walls

There is a section of the split-face CMU wall to the left of the front entrance that appears to have been damaged by a vehicle. Further investigation is required to verify if water is penetrating the wall at this area (figure 10.16).



Figure 10.16 – Damaged CMU Wall

The sealant at the exterior joints is cracked and the backer rod exposed. Further investigation is required to verify if the joint separation is due to building settling or sealant failure, and also to verify if water is penetrating the wall (figure 10.17).



Figure 10.17 – Exterior Joint

The painted metal doors are in poor condition. The paint finish on the doors and frames appears weathered and faded, with areas of rust visible. The caulking around the perimeter of the door frames is missing in some areas and in overall poor condition. There is also daylight showing through the weather stripping at some of the doors. The door hardware appears old and not ADA compliant (figure 10.18).



Figure 10.18 – Exterior Doors at Rear of Building

There is a rusted piece of former steel framing embedded into the concrete slab at one of the overhead door openings at the vehicle storage bays. The steel piece is rusty and there are several concrete cracks around it (figure 10.19).



Figure 10.19 – Exterior Doors at Rear of Building

There is daylight showing at the sill seal of one of the overhead doors, which could allow water to infiltrate the building (figure 10.20).



Figure 10.20 – Overhead Sill Seal

The paint finish on the pump truck garage overhead door frame is in poor condition. The paint is peeling and the frame displays areas of rust (figure 10.21).



Figure 10.21 – Overhead Door Header

The caulking around the windows is missing in some areas and in overall poor condition (figure 10.22).



Figure 10.22 – Sill Seal

The sloped glazing windows appear to be in fair condition. The finish on the framing is worn and the sealant around the perimeter is in poor condition (figure 10.23).



Figure 10.23 – Sloped Glazing

The roof appears to be in fair condition. The age of the roof is not known; however, it appears to be approximately 15 years old (figure 10.24).



Figure 10.24 – Stone Ballasted Roof

There is one roof drain that does not appear to be functioning; at the time of the site visit,

ponding water and accumulated debris was observed at the drain. Further investigation is required to determine cause of the malfunction (figure 10.25).



Figure 10.25 – Roof Drain

The sealant at the counter flashing along the roof is in poor condition. There are areas where the sealant is cracked, which may allow water to penetrate behind the membrane. Further investigation is required (figure 10.26).



Figure 10.26 – Counter Flashing

The roof access door is in poor condition. The paint finish appears weathered and faded, and there is a significant amount of rust visible on the door and the frame. The door hardware is also in poor condition, and the door was being held shut with a wire (figure 10.27).



Figure 10.27 – Roof Access Door

The railroad tie stairs at the rear of the building are in poor condition. The ties are loose and several appear rotted (figure 10.28).



Figure 10.28 – Railroad Tie Stair

Interior

The superstructure of the building consists of painted cast-in-place concrete columns and beams (figure 10.29).



Figure 10.29 – Interior Column

The floor structure is a cast-in-place concrete slab approximately 5-inches thick which spans between beams (figure 10.30).



Figure 10.30 – Concrete Floor Slab

The building floor finishes consist of exposed concrete throughout the basement floor and some areas on the first floor, with vinyl composite tiles (VCT) on the majority of the first floor (figure 10.31).



Figure 10.31 – VCT at Office

The toilet rooms have 6-inch ceramic floor tile (figure 10.32).



Figure 10.32 – Ceramic Tile at Toilet Rooms

The interior walls primarily are painted 8-inch CMU walls. The walls in the toilet rooms have 1"x2" tile finish (figure 10.33).



Figure 10.33 – Toilet Room Walls

There is gypsum board furred wall finish over some of the exterior concrete walls.

The basement floor has exposed structure with no ceilings. The first floor has primarily 2x4 acoustic ceiling tiles with a metal grid system (figure 10.34). There are a few areas with exposed structure that are painted, and other areas that have 12"x12" acoustic ceiling tiles adhered to the underside of the floor slab.



Figure 10.34 – Acoustic Ceiling Tiles

The interior doors are painted metal doors within painted metal frames. The doors do not have ADA compliant hardware (figure 10.35).



Figure 10.35 –Interior Doors

An interior stair connects the two floor levels of the building, each of which can egress directly at grade level. The stairs are concrete-filled metal pan stairs with painted metal handrails and guardrails (figure 10.35.1).



Figure 10.35.1 –Interior Stair

There are sections of built-in casework located in the lunchroom and lab areas, with wood cabinets, a solid surface countertop, and a sink. The countertop height and sink configuration are not ADA compliant (figure 10.36).



Figure 10.36 – Lunchroom Casework

Observations:

There are areas where the paint on the exposed structure appears water damaged (figure 10.37).



Figure 10.37 – Damaged Paint at Ceiling

The VCT floors appear to be original to the building and are in poor condition. Several areas are stained and worn, with a few tiles missing in some areas (figure 10.38).



Figure 10.38 – VCT at Front Vestibule

The toilet room ceramic tile appears to be original to the building and in fair condition. There are a few areas where tiles are cracked and the grout missing or stained.

There are several areas where the acoustic ceiling tiles are water stained, which may have been caused by roof leaks above. Further investigation is required to determine the cause of the water damage (figure 10.39).



Figure 10.39 – Damaged 2'x4' Tiles

The 12"x12" ceiling tiles in one of the vehicle storage bays appear to be water damaged and several of the tiles are missing (figure 10.40).



Figure 10.40 – Damaged 12"x12" Tiles

At the time of the site visit, there was a puddle of water below the damaged ceiling tiles, which appears to be caused by a leaking roof drain above. Further investigation is required to determine the cause of the leaks (figure 10.41).



Figure 10.41 – Puddle of Water

Building Systems

The electrical service is provided by underground wires from a transformer located beside the pump truck bay. The main electrical panel indicates 600A/480V/three phase power (figure 10.42).



Figure 10.42 – Main Electrical Panel

The building has two different types of light fixtures. The basement floor has pendant mounted 4-foot dual lamp strip fluorescent lights, which are in good condition and functioning (figure 10.43).



Figure 10.43 – Pendant Mounted Strip Fluorescent Light

The first floor has 1'x4' dual lamp strip fluorescent lights that are surface mounted to the suspended ceilings (figure 10.44).



Figure 10.44 – Surface Mounted Strip Fluorescent Light

The building heating system is comprised of fin tube radiators mounted high on the wall, connected to a gas fired hot water boiler (figure 10.45). Further investigation is required to verify if the high wall installation meets ADA requirements for protruding objects.



Figure 10.45 – Fin Tube Radiation

There are also pendent mounted hot water unit heaters throughout the building, connected to a gas fired hot water boiler (figure 10.46).).



Figure 10.46 – Hot Water Unit Heaters

The boiler is approximately 25 years old, and appears to be in good condition and functioning. The capacity of the boiler could not be confirmed. There is some rust on the piping and surface of the boiler. There are also some rust stains around the perimeter of the boiler pad, most likely from maintenance of the piping (figure 10.47).



Figure 10.47 – Main Boiler

The building also has an air conditioning system, which appears to be original to the building. The AC unit is old and in poor condition (figure 10.48).



Figure 10.48 – AC Unit

The building does not appear to have a fire suppression system.

The building fire alarm system consists of control panels, exit signs, emergency lights, pull stations, and horn/strobe devices. Some of the system components appear old and may not be up to current code. Further investigation is required to confirm if the fire

alarm system is adequate and code compliant.

The building has two toilet rooms on the first floor; a men's room that has a toilet, urinal, lavatory, shower, and accessories (figure 10.50); and a women's room that has a toilet, lavatory, and accessories (figure 10.51). The women's room also has a washer and dryer. The fixtures appear to be in good condition and functioning. The toilet rooms do not appear to be ADA compliant.



Figure 10.50 – Men's Toilet Room



Figure 10.51 – Women's Toilet Room

The building hot water is provided by an electric water heater (capacity could not be confirmed) located in the boiler room. The water heater is old and the bottom of the heater displays a significant amount of rust (figure 10.52).



Figure 10.52 – Hot Water Heater

The building does not have an elevator or lift providing access to the basement and first floor.

Headworks Building

Exterior

The single story building constructed in 1986 contains approximately 1,100 square feet, and is currently being used for part of the water treatment process (figure 10.53).



Figure 10.53 – Headworks Building

The exterior walls are constructed of 4-inch thick standard and split-face concrete masonry units (CMU) over an 8-inch standard CMU backup supported on a cast-in-place concrete foundation (figure 10.54).



Figure 10.54 – Exterior Walls

The building has two painted insulated metal doors within painted metal frames with stainless steel hardware. One door provides access to the inside of the main building, and the other door provides access to the stair that leads to the equipment below. The building entrances share a raised concrete platform that is approximately 4-inches high. There are no accessible entrances present (figure 10.55).



Figure 10.55 – Exterior Doors

The building also has an aluminum roll-up overhead door on the front side (figure 10.56).



Figure 10.56 – Overhead Door

There are several aluminum windows with insulated glass and operable awning sash in punched wall openings (figure 10.57).



Figure 10.57 – Exterior Windows

All of the doors and windows appear to be original to the building.

The roof could not be observed at the time of the visit due to access limitations. However, the roof was observed from the Administration Building and it appears to be a stone ballasted membrane roof, likely original to the building. The roof has an aluminum gravel stop around the perimeter. There is no evidence on the interior of the building of any roof leaks. Further investigation is required to verify the exact type and condition of the roof (figure 10.57).



Figure 10.57 – Stone Ballasted Membrane Roof

The building has two sets of stairs. There is an exterior concrete stair adjacent to the building entrance (figure 10.59). The other stair extends down to the equipment located below grade (figure 10.60).



Figure 10.59 – Exterior Stair



Figure 10.60 – Interior Stair

The exterior lighting consists of wall mounted fluorescent lights over the entrance and overhead door, and a wall-mounted light on the right side of the building. The lights appeared to be relatively new and are functioning (figure 10.61).



Figure 10.61 – Exterior Lighting

Observations:

The paint finish on the exterior door and frame appears weathered and faded (figure 10.62).

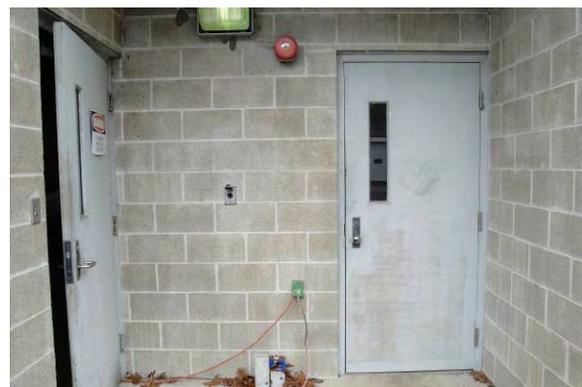


Figure 10.62 – Exterior Doors

The steel lintel above the window openings displays areas of rust, and the window screen appears to be detached (figure 10.63).



Figure 10.63 – Window Lintel

Interior

The roof structure of the building consists of painted pre-cast concrete roof panels that vary in size, supported on the exterior masonry walls (figure 10.64).



Figure 10.64 – Pre-cast Concrete Roof Panels

The floor structure is an exposed concrete slab on grade with metal grates that cover troughs below (figure 10.65).



Figure 10.65 – Concrete Slab

The interior walls are painted 8-inch CMU throughout (figure 10.66).



Figure 10.66 – Painted CMU Walls

The building has exposed structure with no ceilings.

Observations:

There is a section of wood framing between the aluminum windows that is exposed. The metal lintels are rusted (figure 10.67).



Figure 10.67 – Exposed Framing

The exposed concrete slab is severely stained from the water treatment process (figure 10.68), but otherwise appears to be in good condition.

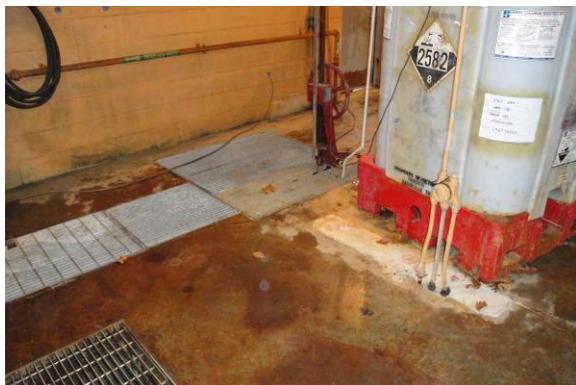


Figure 10.68 – Stained Concrete

The paint finish on a section of HVAC ductwork in the stair leading to the equipment below is deteriorated and peeling off (figure 10.69).



Figure 10.69 – Peeling Paint

Building Systems

The building does not appear to have any electrical panels. The electricity appears to be fed from an adjacent building. Further investigation is required to determine the capacity and source of the power feed.

The building has pendant mounted fluorescent fixtures which appear to be in good condition and functioning (figure 10.70)



Figure 10.70 – Pendant Light Fixtures

The building heating system is comprised of two pendant mounted electric unit heaters; one unit appears old and rusted; the other unit appears to be newer. Both units have exposed wiring and do not appear to be functioning (figure 10.71).



Figure 10.71 – Electric Unit Heaters

The building does not appear to have a fire suppression system, fire alarm system or a plumbing system.

Electric Building

Exterior

The single story building constructed in 1996 contains approximately 350 square feet, and serves as the electrical distribution center for a majority of the facility's treatment equipment (figure 10.72).



Figure 10.72 – Electric Building

The exterior walls are constructed of 4-inch thick standard and split-face concrete masonry units (CMU) over an 8-inch standard CMU backup supported on a cast-in-place concrete foundation (figure 10.73).



Figure 10.73 – Exterior Walls

The building has one painted insulated metal door within a painted metal frame with stainless steel hardware.

The roof could not be observed at the time of the visit due to access limitations. However, the roof was observed from the Administration Building and it appears to be a stone ballasted membrane roof, likely

original to the building. The roof has an aluminum gravel stop around the perimeter. There is no evidence on the interior of the building of any roof leaks. Further investigation is required to verify the exact type and condition of the roof (figure 10.74).



Figure 10.74 – Stone Ballasted Membrane Roof

The building has an exterior concrete stair located at the entrance with aluminum hand/guardrails and aluminum tread nosings (figure 10.75). There are no accessible entrances present.

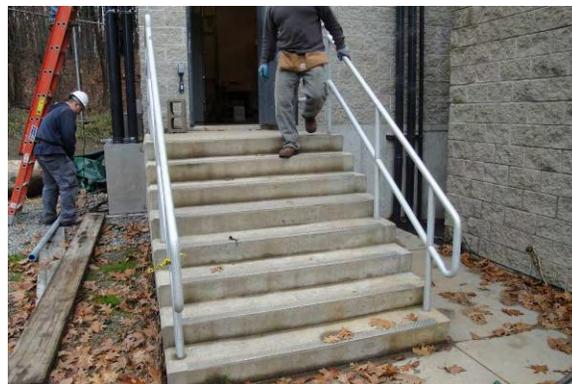


Figure 10.75 – Concrete Stairs

The exterior lighting consists of a wall mounted fluorescent light over the entrance. The light appears to be relatively new and functioning.

Observations:

The paint finish on the exterior door and frame appears weathered and faded (figure 10.76).

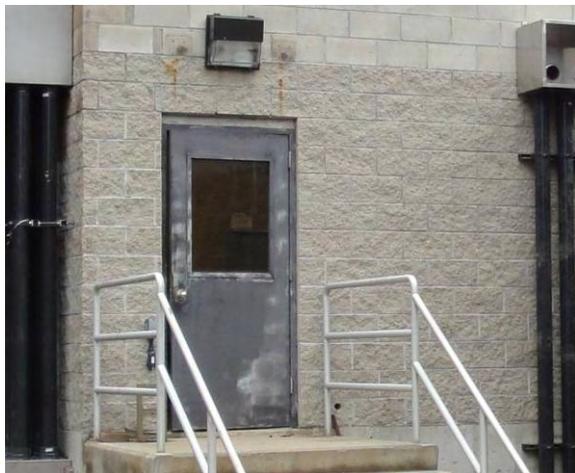


Figure 10.76 – Exterior Door

The top of the concrete stair is not level with the top of the interior slab, and the deviation between the top of the slabs does not fall between the acceptable ranges allowed by the building code (less than 1/2-inch or greater than 4-inches).

Interior:

The roof structure of the building consists of painted pre-cast concrete roof panels that vary in size, supported on the exterior masonry walls (figure 10.77).



Figure 10.77 – Pre-cast Concrete Roof Panels

The floor structure is an exposed concrete slab on grade (figure 10.78).



Figure 10.78 – Concrete Slab

The interior walls are painted 8-inch CMU walls throughout (figure 10.79).



Figure 10.79 – Painted CMU Walls

The building has exposed structure with no ceilings.

Observations:

The interior of the building is currently under renovation, which includes installation of new electrical equipment. There are a few holes in the CMU walls and there is a section of the concrete slab that appears to be recently repaired. Further investigation is required to confirm the extent of the work currently being performed to confirm if these items are to be repaired as part of the current scope of work.

Building Systems

The electrical system is currently being reconfigured and could not be confirmed at the time of visit.

The building has surface mounted fluorescent fixtures mounted to the

underside of the concrete roof panels, which appear to be in good condition and functioning (figure 10.80).



Figure 10.80 – Surface Mounted Strip Fluorescent Light

The building fire alarm system consists of an exit sign and an emergency light unit. Further investigation is required to confirm if the fire alarm system is adequate and code compliant (figure 10.81).



Figure 10.81 – Exit Sign

The building does not appear to have a fire suppression system, HVAC system or a plumbing system.

There is a new building adjacent to the Administration Building currently under construction; this new building was not included in the scope of this investigation.

End of section

Water Treatment Plants

There are three water treatment plants located throughout the town: Well 4 treatment plant constructed in 2002; Old Marlborough Road treatment plant constructed in 1998; and Rockland Avenue treatment plant constructed in 2002.

Well 4 Water Treatment Plant

Exterior

The building is located behind the Fowler Middle School off of Tiger Drive and contains approximately 4,000 square feet in a single story. The building was constructed in 2002 and is used as a water treatment plant (figure 11.1).



Figure 11.1 – Well 4 Water Treatment Plant

The exterior walls are constructed of 4-inch thick standard and split-face concrete masonry units (CMU) over an 8-inch standard CMU backup supported on a cast-in-place concrete foundation (figure 11.2).



Figure 11.2 – Exterior Walls

The building has painted insulated metal doors within painted metal frames with stainless steel hardware. There is a single door located at the front of the building, and two pairs of doors located on either side near the rear of the building. The building entrances have concrete platforms level with the interior slab and approximately 4” above the adjacent grade (figure 11.3).



Figure 11.3 – Exterior Doors

The building does not have any exterior windows. There are a few aluminum louvers (with galvanized anti-vandalism covers) and exhaust hoods located within the exterior walls (figure 11.4).



Figure 11.4 – Exterior Louvers

The roof could not be observed at the time of the visit due to access limitations. However, the Town Engineer stated that the roof was believed to be a stone ballasted membrane roof original to the building. The roof has an aluminum gravel stop around the perimeter. There is no evidence on the interior of the building of any roof leaks. Further investigation is required to confirm the exact type and condition of the roof.

The site consists of an asphalt driveway that leads from the building back to Tiger Drive and parking for a few vehicles.

The exterior lighting for the building entrances and parking lot is provided by wall mounted fluorescent lights and appears to be adequate. The light levels could not be observed at the time of visit. Further investigation may be required to verify that the lights are functioning and that the light levels are adequate (figure 11.5).



Figure 11.5 – Exterior Lighting

There are two backwash lagoons located behind the building that are surrounded by an 8-foot high galvanized chain-link fence with a gate and barbed-wire that prevented access to the lagoons (figure 11.6).



Figure 11.6 – Backwash Lagoons

Observations:

The sealant at the exterior joints is cracked and the backer rod exposed. Further investigation is required to verify if the joint separation is due to building settling or

sealant failure, and also to verify if water is penetrating into the wall (figure 11.7).



Figure 11.7 – Exterior Joint

There are several holes in the exterior block walls that appear to be from abandoned conduit (figure 11.8). Further investigation is required to verify if water is penetrating into the wall.



Figure 11.8 – Holes in the Brick

The paint finish on the exterior doors and frames appears weathered and faded. There is also daylight showing through the weather stripping (figure 11.9).



Figure 11.9 – Exterior Doors

Interior

The roof structure of the building consists of painted 48-inch wide pre-cast concrete roof panels bearing on the exterior masonry walls (figure 11.10).



Figure 11.10 – Pre-cast Concrete Roof Panels

The floor structure is an exposed concrete slab on grade (figure 11.11).



Figure 11.11 – Concrete Slab

The interior walls are painted 8-inch CMU throughout (figure 11.12).

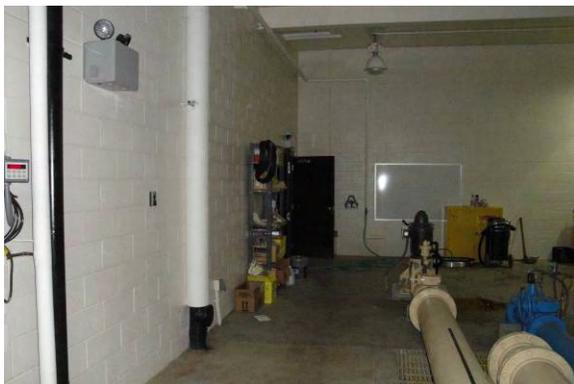


Figure 11.12 – Painted CMU Walls

The building floor finishes consist of exposed concrete throughout with vinyl composite tiles (VCT) in the toilet room and in the office.

The majority of the building has exposed structure with no ceilings. The toilet room and office have 2'x2' acoustic ceiling tiles with a suspended metal grid system.



Figure 11.13 – Suspended Ceilings

The interior doors are painted metal doors within painted metal frames. The doors appear to have ADA compliant hardware.

There is a section of built-in casework located in the office with wood cabinets and a solid surface countertop. The casework has a corner sink. The countertop height and cabinet door hardware appear to be ADA compliant, although the sink configuration is non-compliant (figure 11.14).



Figure 11.14 – Casework

Observations:

The concrete slab has several cracks located near the center CMU wall, and extending towards the treatment equipment. Further investigation is required to verify if the cracks are due building settling or if they are shrinkage cracks from the concrete curing process (figure 11.15).



Figure 11.15 – Cracks in Concrete Slab

The acoustic ceiling in the toilet room displays areas of mold. Further investigation is required to determine the cause and type of the mold (figure 11.16).



Figure 11.16 – Moldy Ceiling Tiles

At the time of the site visit, there was standing water on the floor of the Boiler Room, likely infiltrating the building through the make-up air vent in the roof. Further investigation is required to determine the exact cause of the water infiltration (figure 11.17).



Figure 11.17 – Water in Boiler Room

The VCT floors in the office and toilet room are stained and worn (figure 11.18).



Figure 11.18 – VCT Floor in Toilet Room

Building Systems

The electrical service appears to be provided by underground wires. The main electrical panel indicates 600A/480V/three phase power (figure 11.19).



Figure 11.19 – Main Electrical Panel

The building has three different types of light fixtures. There are high bay style HID fixtures pendant mounted to the underside

of the pre-cast concrete roof panels (figure 11.20).



Figure 11.20 – HID Light Fixtures

The office and toilet room areas have recessed 2'x4' triple lamp fluorescent light fixtures with parabolic lens (figure 11.21).



Figure 11.21 – Recessed Parabolic Light Fixture

There are also 4-foot dual lamp strip fluorescent lights, pendant mounted to the underside of the pre-cast concrete roof panels (figure 11.22).

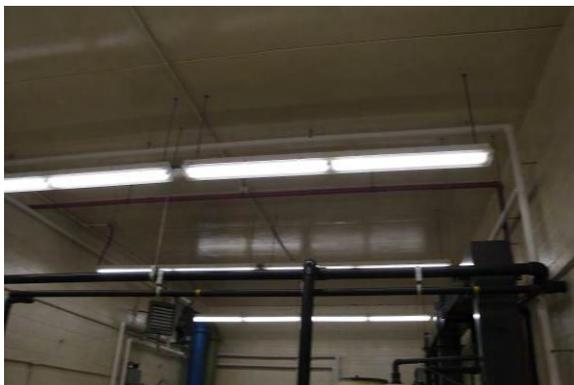


Figure 11.22 – Strip Fluorescent Lights

Most of the lights appear to be in good condition and functioning. There are a few fixtures with burned out lamps.

The building heating system is comprised of pendant mounted hot water unit heaters throughout the building, connected to a gas fired hot water boiler (figure 11.23). There are also fin tube radiators located the in the office and toilet room.



Figure 11.23 – Hot Water Unit Heaters

The boiler appears original to the building and is approximately 8 years old; it appears to be in good condition and functioning. The capacity of the boiler could not be confirmed (figure 11.24).



Figure 11.24 – Main Boiler

The building does not appear to have an air conditioning or ventilation system. There is a roof mounted make-up air intake in the boiler which provides fresh air to the Boiler Room only. There is also a large pendant mounted dehumidifier adjacent to the treatment equipment.

The building does not appear to have a fire suppression system.

The building fire alarm system consists of control panels, exit signs, emergency lights, pull stations, and horn/strobe devices. The system components appear modern and in good condition (figure 11.25).



Figure 11.25 – Main Fire Alarm Panel

The building has one toilet room, which consists of a toilet and lavatory. The fixtures appear to be original to the building and functioning (figure 11.26). The toilet room appears to be ADA compliant. Current plumbing codes would likely require separate toilet rooms for men and women.



Figure 11.26 – Toilet Room

The building hot water is provided by a gas fired water heater (capacity could not be confirmed) located in the boiler room. The water heater appears to be original to the building and functioning (figure 11.27).



Figure 11.27 – Hot Water Heater

Old Marlborough Road Water Treatment Plant

Exterior

The building is located off of Old Marlborough Road and is approximately 3,500 square feet in a single story. The building was constructed in 1998 and is used as a water treatment plant (figure 11.28).



Figure 11.28 – Well 4 Water Treatment Plant

The exterior walls are constructed of 4-inch thick standard and split-face concrete masonry units (CMU) over an 8-inch standard CMU backup supported on a cast-in-place concrete foundation (figure 11.29).



Figure 11.29 – Exterior Walls

The building has painted insulated metal doors within painted hollow metal frames with stainless steel hardware. There is a single door located at the front of the building, a pair of doors located on the left side near the rear of the building, and another single door on the right side also

near the rear of the building (figure 11.30). The building entrances have raised concrete platforms varying in height from 6 to 8-inches high. There are no accessible entrances present.



Figure 11.30 – Exterior Doors

The building does not have any exterior windows. There are a few aluminum louvers (with galvanized anti-vandalism covers) and exhaust hoods located within the exterior walls (figure 11.31).



Figure 11.31 – Exterior Louver Covers

The roof could not be observed at the time of the visit due to access limitations. However, the Town Engineer stated that the roof was believed to be a stone ballasted membrane roof original to the building. The roof also has an aluminum gravel stop around the perimeter. There is no evidence on the interior of the building of any roof leaks. Further investigation is required to confirm the exact type and condition of the roof.

The site consists of an asphalt driveway that leads from the building back to Old

Marlborough Road and parking for a few vehicles. The building does not appear to have any exterior lighting, including site lighting or building entrance lighting.

Observations:

The sealant at the exterior joints is cracked and the backer rod exposed. Further investigation is required to verify if the expansion joint separation is due to building settling or sealant failure, and also to verify if water is penetrating into the wall (figure 11.32).



Figure 11.32 – Exterior Joint

The paint finish on the exterior doors and frames appears weathered and faded. The frames also display areas of rust. There is also daylight showing through the weather stripping (figure 11.33).



Figure 11.33 – Exterior Doors

Interior

The roof structure of the building consists of painted 48-inch wide pre-cast concrete roof panels bearing on the exterior masonry walls (figure 11.34).



Figure 11.34 – Pre-cast Concrete Roof Panels

The floor structure is an exposed concrete slab on grade (figure 11.35).



Figure 11.35 – Concrete Slab

The interior walls are painted 8-inch CMU throughout (figure 11.36).

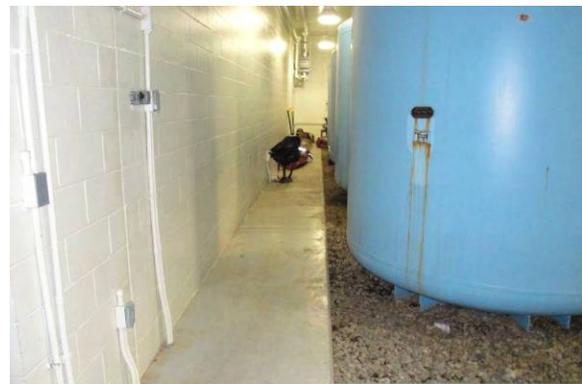


Figure 11.36 – Painted CMU Walls

The building floor finishes consist of painted and exposed concrete throughout, with vinyl composite tiles (VCT) in the toilet room and in the office.

The majority of the building has exposed structure with no ceilings. The toilet room and office have 2'x4' acoustic ceiling tiles with a metal grid system.

The interior doors are painted metal doors within painted metal frames. The doors appear to have ADA compliant hardware.

There is a section of built-in casework located in the office with a wood cabinets and a solid surface countertop. The casework had a corner sink. The countertop height and the cabinet hardware appear to be ADA compliant; however the sink configuration is non-compliant (figure 11.37).



Figure 11.37 – Casework

Observations:

The concrete slab has several cracks located near the center CMU wall, and extending towards the treatment equipment. Further investigation is required to confirm if the cracks are due to building settling or if they are shrinkage cracks from the concrete curing process (figure 11.38).



Figure 11.38 – Cracks in Concrete Slab

The VCT floors in the office and toilet room are stained and worn (figure 11.39).



Figure 11.39 – VCT Floor in Office

Building Systems

The electrical service appears to be provided by underground wires. The main electrical panel indicates 225A/480V/three phase power (figure 11.40).



Figure 11.40 – Main Electrical Panel

The building has three different types of light fixtures. There are high bay style HID fixtures pendant mounted to the underside of the pre-cast concrete roof panels (figure 11.41).



Figure 11.41 – HID Light Fixtures

The office and toilet room areas have recessed 2'x4' triple lamp fluorescent light fixtures with parabolic lens.

There are also 4-foot dual lamp strip fluorescent lights, pendant mounted to the underside of the pre-cast concrete roof panels (figure 11.42).



Figure 11.42 – Strip Fluorescent Lights

Most of the lights appear to be in good condition and functioning. There are a few fixtures with burned out lamps.

The building heating system is comprised of pendant mounted hot water unit heaters throughout the building, connected to a gas fired hot water boiler (figure 11.43). There are also fin tube radiators located the in the office and toilet room.



Figure 11.43 – Hot Water Unit Heaters

The boiler appears original to the building, is approximately 12 years old, in good condition, and appears to be functioning. The capacity of the boiler could not be confirmed (figure 11.44). There is also a large pendant mounted dehumidifier adjacent to the treatment equipment.



Figure 11.44 – Main Boiler

The building also has an emergency generator located in the boiler room (figure 11.45).



Figure 11.45 – Generator

The building does not appear to have an air conditioning or ventilation system or fire suppression system.

The building fire alarm system consists of exit signs, emergency lights, pull stations, and horn/strobe devices. The system components appear to be relatively new and in good condition.

The building does not appear to have a plumbing system or toilet room facilities.

Rockland Avenue Water Treatment Plant

Exterior

The building is located on Rockland Avenue and is approximately 4,400 square feet in a single story. The building was constructed in 2002 and is used as a water treatment plant (figure 11.46).



Figure 11.46 – Rockland Avenue Water Treatment Plant

The exterior walls are constructed of 4-inch thick standard and split-face concrete masonry units (CMU) over an 8-inch standard CMU backup supported on a cast-in-place concrete foundation. The gable ends walls are wood framed with horizontal vinyl clapboard style siding (figure 11.47).



Figure 11.47 – Exterior Walls

The building has painted insulated metal doors within painted metal frames with stainless steel hardware. There is a single door located at the front of the building, and two pairs of doors located on either side near the rear of the building. The building

entrances have concrete platforms level with the interior slab that are approximately 4" above the adjacent grade (figure 11.48).



Figure 11.48 – Exterior Louver Covers

There is an aluminum window system with insulated glass and operable awning sash located at the office.



Figure 11.49 – Exterior Window

The sloped roof has asphalt shingles without any gutters or downspouts (figure 11.50). There are two dormers on the left side and a small canopy roof at the main entrance supported by brick piers. The shingle roof appears to be in good condition and there is no evidence of leaks on the inside of the building.



Figure 11.50 – Asphalt Shingles

The site consists of an asphalt driveway that leads from the building back to Rockland Avenue, with parking for a few vehicles. Behind the building is a tall circular radon silo.

The exterior lighting for the building entrances and parking lot is provided by wall mounted fluorescent lights and appears to be adequate. The light levels could not be observed at the time of visit. Further investigation is required to confirm if the lights are functioning and if the light levels are adequate (figure 11.51).



Figure 11.51 –Exterior Lighting

Observations:

The sealant at the exterior joints is cracked and the backer rod exposed. Further investigation is required to verify if the joint separation is due to building settling or sealant failure, and also to verify if water is penetrating into the wall (figure 11.52).



Figure 11.52 – Exterior Joint

There is an exterior louver at the rear of the building adjacent to radon silo, which appears to be detached from the CMU wall and exposing the wall cavity. Further investigation is required to verify if water is penetrating into the wall cavity (figure 11.53).



Figure 11.53 – Exterior Louver

The paint finish on the exterior doors and frames appears weathered and faded. There is also daylight showing through the weather stripping (figure 11.54).



Figure 11.54 – Exterior Doors

At the time of the site visit, the exterior doors at the rear of the building displayed water condensation at the door head, which was also traveling down the face of the doors. Further investigation is required to determine the cause of the condensation and if there is any damage to the wall cavity (figure 11.55).



Figure 11.55 – Condensation at Exterior Doors

There is a section of the wooden gable vent that appears to be damaged, and may be allowing vermin to enter the building (figure 11.56).



Figure 11.56 – Gable Louvers and Trim

There are a few sections of the roof trim that appear rotted with the metal drip edge detached (figure 11.57).



Figure 11.57 – Roof Edge Trim

There are a few other sections where the wood trim appears rotted (figure 11.58).



Figure 11.58 – Wood Trim

The condition of the painted wood trim appears to be good overall, but the paint is weathered and faded.

Interior

The roof structure of the building consists of painted 48-inch wide pre-cast concrete roof panels bearing on the exterior masonry walls (figure 11.59).

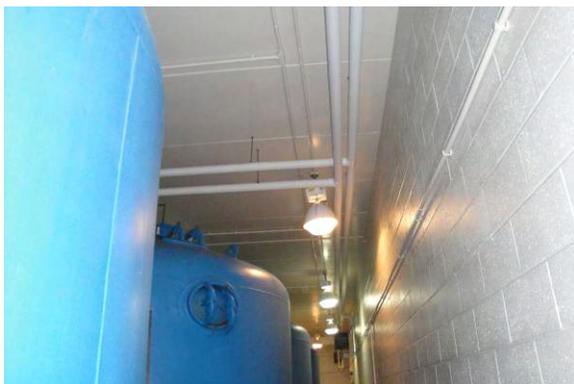


Figure 11.59 – Pre-cast Concrete Roof Panels

The floor structure is an exposed concrete slab on grade (figure 11.60).



Figure 11.60 – Concrete Slab

The interior walls are painted 8-inch CMU throughout.

The building floor finishes consist of painted and exposed concrete throughout, with vinyl composite tiles (VCT) in the in office. The toilet room appears to have formerly included a VCT floor finish that has been removed (figure 11.67).

The majority of the building has exposed structure with no ceilings. The toilet room and office have 2'x4' acoustic ceiling tiles with a metal grid system (figure 11.61).



Figure 11.61 – Suspended Ceilings

The interior doors are painted metal doors within painted metal frames. The doors appear to have ADA compliant hardware (figure 11.62).

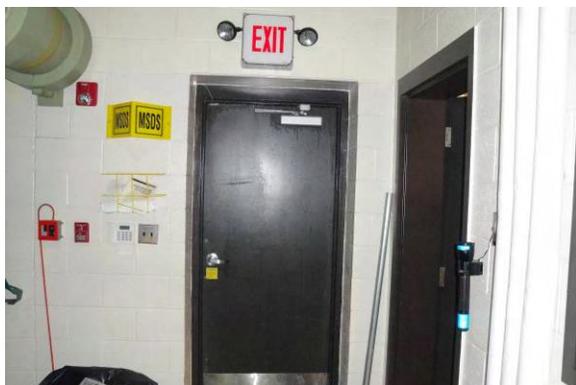


Figure 11.62 – Interior Doors

There is a section of built-in casework located in the office with a wood cabinets and a solid surface countertop. The casework has a corner sink. The countertop height and the door hardware appear to be ADA compliant; however the sink configuration is non-compliant (figure 11.63).



Figure 11.63 – Casework

Observations:

The concrete slab has several cracks located near the center CMU wall, extending towards the treatment equipment. Further investigation is required to verify if the cracks are due to building settling or if they are shrinkage cracks from the concrete curing process (figure 11.64).



Figure 11.64 – Cracks in Concrete Slab

There is also a crack in the CMU wall at the office window sill. Further investigation is required (figure 11.65).



Figure 11.65 – Crack in CMU Window Sill

The VCT floor in the office area is stained and worn (figure 11.66).



Figure 11.66 – VCT Floor in Office

The VCT floor in the toilet room appears to have been removed and currently there is no floor finish (figure 11.67).



Figure 11.67 – Missing VCT Floor in Toilet Room

Building Systems

The electrical service appears to be provided by underground wires. The main electrical panel indicates 250A/208V/three phase power (figure 11.68).



Figure 11.68 – Main Electrical Panel

The building has three different types of light fixtures. There are high bay style HID fixtures pendant mounted to the underside of the pre-cast concrete roof panels (figure 11.69).

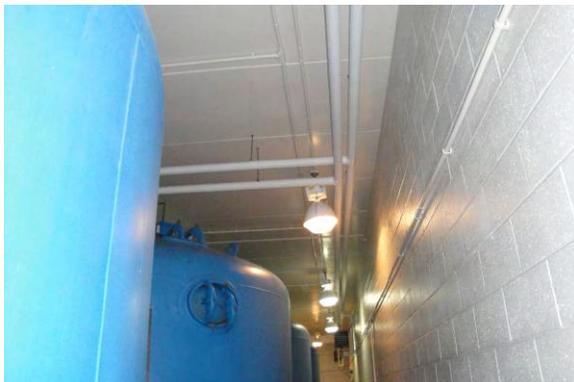


Figure 11.69 – HID Light Fixtures

The office and toilet room areas have recessed 2'x4' triple lamp fluorescent light fixtures with parabolic lens (figure 11.70).



Figure 11.70 – Parabolic Light Fixture

There are also 4-foot dual lamp strip fluorescent lights, pendant mounted to the underside of the pre-cast concrete roof panels (figure 11.71).



Figure 11.71 – Strip Fluorescent Lights

Most of the lights appear to be in good condition and functioning. There are a few fixtures with burned out lamps.

The building heating system is comprised of pendant mounted hot water unit heaters throughout the building, connected to a gas fired hot water boiler. There are also fin tube radiators located the in the office and toilet room.

The boiler appears original to the building, approximately 8 years old, and appears to be in good condition and functioning. The capacity of the boiler could not be confirmed (figure 11.72). There is also a large

pendant mounted dehumidifier adjacent to the treatment equipment.



Figure 11.72 – Main Boiler

The building does not appear to have an air conditioning or ventilation system or fire suppression system.

The building fire alarm system consists of exit signs, emergency lights, pull stations, and horn/strobe devices. The system components appear to be relatively new and in good condition.

The building has one toilet room, which consists of a toilet and lavatory. The fixtures appear to be original to the building and functioning (figure 11.73). The toilet room appears to be ADA compliant. Current plumbing codes would likely require separate toilet rooms for men and women.



Figure 11.73 – Toilet Room

The building hot water is provided by a gas fired water heater (capacity could not be confirmed) located in the boiler room. The

water heater appears to be original to the building and functioning (figure 11.74).



Figure 11.74 – Hot Water Heater

End of section

Pump Stations

There are two waste water pump stations observed as part of this report.

Powder Hill Road Pump Station

The Powder Hill Road Pump Station (figure 12.1) is located behind the current Middlesex Savings Bank at 72 Powder Hill Road.



Figure 12.1 – Powder Mill Road Pump Station

The pump station is approximately 300 square feet in size and was built in 2002. The building is constructed of a pre-fabricated reinforced concrete exterior wall panel system with a “thin-set” face brick veneer and a pre-cast concrete roof. The roof is shed sloped (front to back) and has an exhaust vent located in the center of the roof. The building is set on a cast-in-place concrete slab on grade.

The building has one pair of painted insulated metal doors within a painted metal frame with stainless steel hardware. The door and hardware appear to be functioning. There are several vents and louvers located on the exterior walls that appear to provide air for the service the equipment on the inside of the structure.

The walls and ceiling appear to be painted plaster in good condition. There are no signs and/or visible evidence of roof/wall leaks and/or penetration of water inside the building.

The building has one gas fired ceiling mounted unit heater which is used to provide heat for the building (capacity was not observed). The unit was not operating at the time of the visit (figure 12.2).



Figure 12.2 – Gas Fired Unit Heater

There is electrical switchgear located on one side of the building that provides power for the building, pumping equipment, and other systems. The building power panel indicates that the building has 600V/600A/3P power (figure 12.3).



Figure 12.3 – Switchgear

The lighting consists of two ceiling mounted 4-foot dual lamp fluorescent fixtures that appear to provide sufficient light levels for the building. These light fixtures appear to be in good condition and functioning properly (figure 12.4).



Figure 12.4 – Interior Lighting

There is one exterior fluorescent light fixture mounted over the double doors. The light appears to be in good condition; however, operation of the light was not confirmed.

The site consists of an asphalt driveway that leads from the building back to Powder Hill Road including parking spaces for a few vehicles. The area around the building is enclosed with a 6-foot high galvanized chain-link fence system with an access gate and barbed-wire to prevent unauthorized access to the pump house and related equipment. The driveway and fence are both in good condition (figure 12.5).



Figure 12.5 – Exterior Fence

Observations:

The brick veneer appears to be in generally good condition overall with no signs of cracking and/or loose mortar. It is noted that the brick appears to have an excessive

amount of staining from the roof run-off of the concrete roof above (figure 12.6).



Figure 12.6 – Exterior Brick Veneer

The staining does not appear to be the result of efflorescence; however, further investigation may be required to determine if there is any water infiltration into the wall.

The end walls below the sloping roof also display evidence of roof run-off staining from what appears to be an asphalt sealant likely used to seal the joints between the roof panels and the wall panels (figure 12.7). Further investigation may be required to determine the source and cause of the staining.



Figure 12.7 – Wash-off/Staining from Roof

The gas meter is located to the right of the entrance doors and is protected by two 4-inch concrete filled galvanized steel bollards. Some of the gas meter piping appears to be rusting (figure 12.8).



Figure 12.8 – Gas Meter Piping

The paint finish on the entrance doors and frame appears to be weathered and worn. The rain deflector located over the double door appears to be directing the run-off from the roof onto the adjacent brick wall panels (figure 12.9).



Figure 12.9 – Entrance Door Assembly

Mockingbird Lane Pump Station

The Mockingbird Lane Pump Station is located adjacent to 25 Mockingbird Lane (figure 12.10).



Figure 12.10 – Mockingbird Lane Pump Station

The pump station is approximately 30 square feet in size and was built in the early 1980's. The building is constructed of a brick veneer and was built into a cylindrical shaped footprint. The backup wall material was not visible and could not be confirmed at the time of this visit. The foundation system consists of cast-in-place concrete wall, extending approximately 20 feet below grade to the pumping equipment.

The roof appears to be an exposed cast-in-place concrete slab with no apparent flashing of the roof to wall transition (figure 12.11).



Figure 12.11 – Exposed Concrete Roof

The building has a single painted insulated metal door within a painted metal frame and has stainless steel door hardware. The door and hardware appear to be functioning. The door has two metal louvers; one at the top of the door and the other at the bottom of the door (figure 12.12).



Figure 12.12 – Entrance Door

The floor is a 1"x1" ceramic tile floor over a wood floor substrate and wood floor framing. The tiles are old and dirty; but generally appear in overall good condition.

The building has one wall mounted electric unit heater to provide heat for the building (capacity was not observed). The unit was not operating at the time of the visit (figure 12.13).



Figure 12.13 – Wall Light and Unit Heater

There are no electrical panels or switchgear present at the building. The only electrical devices observed were a few wall mounted disconnects for the pumping equipment. The electric meter is located on the exterior of the building (figure 12.12).

The lighting consists of a single wall mounted incandescent light fixture with a metal safety cage, which was functioning at the time of visit. There is no exterior lighting present (figure 12.13).

The site consists of an asphalt driveway that leads from the building back to Mockingbird Lane. The area around the building is enclosed with a 6-foot galvanized chain-link fence with a gate and barbed-wire that prevents unauthorized access to the pumping equipment. The driveway and fence are both in good condition.

Observations:

The brick veneer in general is in poor condition. There are several areas where the mortar has deteriorated and the bricks are on the verge of separating from and falling off the back-up wall (figure 12.14 and 12.15).



Figure 12.14 – Brick over Door



Figure 12.16 – Brick Veneer at Rear



Figure 12.15 – Brick at Roof

The absence of top wall flashing between the veneer brick and the concrete roof may have allowed water to collect at the joint along the top of the wall between the concrete and the brick, forcing the brick outwards through freeze/thaw cycles. Further investigation is required.

There are also several areas where the brick has deteriorated and sections of the bricks appear chipped off (figure 12.16).

The interior walls and ceiling appear to be painted and in fair condition. The ceiling shows several areas with leaks and damage to the plaster (figure 12.17).



Figure 12.17 – Wall Light and Unit Heater

The concrete sill at the door threshold is damaged and pieces have chipped off (figure 12.18).



Figure 12.18 – Entrance Door

End of section.