MOUNT PLEASANT ELEMENTARY SCHOOL

ARCHITECTURAL

Mount Pleasant Elementary School was originally built in 1934. The building had a major renovation and addition completed in 2010, bringing total square footage to 64,660 SF. The building security entrance renovation was completed in 2014 by RCPS. The 2014 renovation provided an accessible entrance with security controlled by the Administration Office. The building is a two-story structure, with a mechanical room / boiler room located in the basement level with an exterior access. The building is not equipped with an automatic sprinkler system; however, the 2010 renovation and addition brought the building up to state and local building code and did provide handicap accessibility throughout.

Exterior Finishes

Exterior Cladding:

Exterior wall material is brick veneer and exterior insulation finish system (EIFS) that matches up well with the original brick and precast concrete.

Other exterior materials include concrete, terracotta coping along with metal gravel stops and flashings.

Roof:

The Thermoplastic Polyolefin (TPO) membrane roof was installed in 2010 and is in great shape. EPDM roof pads provide access path to roof top units. None of the existing roof is more than 6 years old and should still be under warranty. Sealant along coping, roof edges, etc should be regularly monitored and replace as needed.

Windows:

The windows throughout the building were replaced with aluminum storefront window system in 2010. These windows have operable vents with screens, which allow natural ventilation. Glazing consists of tinted, insulated glass, and translucent, insulated panels. These windows are generally in very good condition.

Exterior Doors:

The building main entrance doors are aluminum doors and frames with insulated glazing. All other exterior doors elsewhere are hollow metal, with hollow metal frames. These doors are likely representing the original doors and are in great condition. Door hardware has been replaced during the past renovation projects and meets today's

building code accessibility requirements. The existing doors and frames are in excellent shape.

Interior Finishes, Fixtures & Equipment

(See assessment tabulations for interior finish conditions).

Vinyl Composition Tile and Ceramic Tile are the predominant floor finishes at Mountain Pleasant Elementary School. Other floor finishes include carpet, painted and unpainted concrete, and wood flooring. Carpet is present in limited locations.

Interior wall finishes are generally painted concrete block, glazed tile, and painted gypsum wallboard. Paint and maintain walls that are in good condition.

Window treatments are typically vinyl roller shades. These were replaced and added during the 2010 renovation and addition and are in good condition.

Ceilings are 2'x4' suspended acoustical tile (lay-in) with some gypsum wall board ceilings. Exposed painted roof structure is present in the multi-purpose area. The acoustical tile ceilings help reduce noise and hide new HVAC, electrical, and data work.

Most interior doors are wood and have been refinished and/or replaced during the 2010 renovation and addition. All interior doors and door hardware meets and exceeds the most recent handicap accessibility building code requirements. Doors and door hardware is in excellent shape.

Marker boards, chalk boards and tack boards are present in classrooms. Most are in good condition.

Built-in wooden storage units are present and have been updated in the previous renovations.

Casework (cabinets) is generally in good condition. Most casework is handicap accessible. Student plastic laminate casework with individual student cubbies, sink and storage was provided during the latest renovation and addition.

Furnishings, fixtures, and equipment design was updated during the latest renovation and addition project. The building design achieved proper coordination between building utilities and furniture types and locations. This also includes library shelving and furnishings.

Kitchen (food service) equipment has been updated during the 2010 renovation and addition.

Storage and general shelving has been updated throughout the facility during the 2010 renovation and addition.

Accessibility

Building meets handicap accessibility as per today's building code. The signage throughout the building meets handicap accessibility code requirements. The facility was upgraded during the 2010 renovation and addition. This provided handicap accessible toilet rooms, casework and building accessibility. The building also provides handicap accessible emergency egress out of the building. The stage is currently not handicap accessible without special accommodation.

Safety and Security

This section addresses passive security measures, such as how entrances function, visibility within the building, etc.

The Administration Area is the first line of defense in passive school security. Visibility to the exterior and interior of the building are critical to early threat identification and intervention. The Administration Area at Mount Pleasant Elementary School has almost no visibility to the interior of the building. It does have good visibility of the visitor parking area and front drive, but no visibility where the playgrounds and additional parking are located. A more transparent administration area should be considered as part of any future renovations and additions.

Mount Pleasant Elementary School does have a simple circulation network of main corridors that have relatively long sight lines, which are critical to threat identification. Sight lines are partially interrupted by the change in elevation as one progresses from the front side of the building toward the back through the main corridors containing ramps and stairs. Future renovations and additions should enhance long sight lines as a passive security measure.

End of Mount Pleasant Elementary School Architectural Narrative

PLUMBING/FIRE PROTECTION

Plumbing Fixtures:

Water Closets: Water closets observed were floor mounted vitreous china with manual type flush valves. There were several water closets that were ADA compliant. The condition of the water closets ranged from good to excellent.

Urinals: Urinals observed were wall mounted vitreous china with manual type flush valves. There were some ADA compliant urinals observed. The condition of the urinals and flush valves was good.

Lavatories: Lavatories observed were wall mounted vitreous china or enamel cast iron with manual type faucets. There were several lavatories that appeared to be ADA compliant. Most lavatories observed did have hot water supply and ASSE 1970 mixing valves that are required by today's codes. The condition of lavatories and faucets ranged from good to excellent.

Sinks: Classroom sinks observed were stainless steel with gooseneck faucets and bubblers. There were several stainless steel double bowl sinks observed with gooseneck swing type faucets. The condition of the sinks and fittings was good.

Showers: No showers were observed.

Laboratory Fixtures: No laboratory fixtures observed.

Emergency Fixtures: No emergency fixtures observed.

Electric Water Coolers: There were several ADA compliant high/low models. The condition of the water coolers ranged from good to very good.

Water Heaters:

Domestic hot water is generated through two 225 gallon PVI model 500 P 225A-TP gas fired storage type water heaters. Hot water is mixed through two mixing valves at water heaters (assume one for kitchen, one for school). Both systems have recirculation systems with return pumps near the water heaters.

Piping:

Water: Copper, some old galvanized observed from old system, not determined if it is still active.

Sanitary Piping: Cast iron / PVC
Storm Piping: Cast iron / PVC
Gas Piping: Black steel

Pipe Insulation:

Hot water, cold water, hot water return and horizontal storm drain piping is insulated with fiberglass insulation.

Water Entrance:

The building is served by a 2 1/2" cold water line that is assumed to be from a municipal system. There is a RPZ type backflow preventer on the incoming service. The water is then run through two water softeners with two brine tanks then to a duplex type pressure booster system. Booster pumps are TEC FLO / TLA model VS2B1S05ASXX, 5 HP, 208 V.

Kitchen:

Kitchen has been updated with indirect waste and floor sinks. The grease interceptor is the large type located outside the building with manhole access (assume 1000 gallon concrete type). All kitchen equipment is electric with no gas-fired equipment.

Sprinklers:

Building is not sprinkled.

Recommendations:

This school appears to be very good as far as plumbing conditions go. The only deficiency is some lavatories are not supplied with hot water and proper mixing valves.

End of Mount Pleasant Elementary School Plumbing/Fire Protection Narrative

MECHANICAL (HVAC)

Heating:

The school is primarily heated by water source heat pump units. Classrooms typically have a Bard type unit exposed on the exterior wall. The larger spaces like the cafeteria typically have rooftop unit heat pump units. The heat pump units are 6 years old and are expected to have a useful life of 18 years. There are electric cabinet heaters in the hallways and the bathrooms. The age of the electric cabinet heaters is assumed to be 6 years.

Ventilation:

Ventilation is provided to the building by rooftop air handling units. The kitchen hood and dishwasher each have dedicated exhaust fans on the roof.

Air Conditioning:

The building is primarily cooled by water source heat pumps units, the same units that heat the building. There is a closed-circuit cooling tower which is used to reject heat during cooling season. The cooling tower is 7 years old and has a useful life expectancy of 18 years. There are two distribution pumps that circulate condenser water to all the heat pumps in the building. The pumps are 7 years old and are expected to have a useful life of 25 years.

Piping:

There is condenser water piping, black steel, insulated. The piping is 7 years old and should have a useful life expectancy of 30 years.

Controls: The building automation controls are digital type (DDC).

Recommendations:

Pump #2 was making a lot of noise from a loose bearing and needs to be serviced soon. The exterior casing of the cooling tower is cracking and is in bad shape.

End of Mount Pleasant Elementary School Mechanical Narrative

ELECTRICAL

Main Switch Gear:

Main Switchboard: The main switchboard is a 2500 Amp, 3 phase, 4 wire, 208Y/120 volt Eaton, service entrance rated switchboard. The existing switchboard is new to the building with the 2010 major addition/renovation and has space and spares available.

Recommendation: In the event of a substantial renovation or addition, existing switchboard can be reused and expanded as necessary.

Panelboards:

Distribution and Branch Circuit Panelboards: All of the panels are new Eaton/Cutler-Hammer panels that were added with the 2010 renovation. The panels have space and spares available. Many of the branch circuit panelboards are flush mounted within the corridors.

Recommendation: If renovations and additions occur, reuse the existing panelboards and space available. Expand as necessary to accommodate new or modified spaces and locate any new panels in areas to minimize student access and to meet National Electrical Code working clearances.

Cabling:

Cabling: All of the building wiring is new to the 2010 renovation. All visible wiring appears to be in conduit.

Recommendation: If renovations and additions occur, inspect and reuse existing wiring as appropriate.

Conduit/Raceway:

Conduit/Raceway: All new conduit and raceway was used for the 2010 renovation. Classrooms in older sections of the building have had original outlets capped off and are now provided power and data through surface raceway.

Recommendation: All surface raceway should be evaluated regularly and securely reattached to the wall if it becomes loose. All raceway would be reused if the building were renovated. Conduit would be salvaged where practical.

Light Fixtures:

Light Fixtures: The light fixtures consist of primarily 2x4 flat lens fixtures with T8 lamps, 1x4 fixtures with T8 lamps, fluorescent can lighting, and some decorative fluorescent

pendants. The T8 lamps are current technology, and meet the current needs of the school.

Recommendation: To accommodate a new addition or renovation, provide a new lighting design and reuse existing fixtures. Consider LED fixtures where practical.

Lighting Controls:

Lighting Controls: Lighting controls throughout the building consist of pushbutton corridor switching, classroom zoned switching, and toggle switches controlling fixtures within an area. All areas utilize motion lighting control.

Recommendation: In the event of a renovation or addition, reuse switching devices and expand system to match current.

Public Address System:

Public Address System: The public address system is currently a Valcom headend system with speakers located throughout the school. Each classroom has a PA speaker and an unused push-to-talk button. Teachers and staff use the Cisco phone system to call in to the PA for most communications and announcements.

Recommendation: The PA system is current technology. In the event of a renovation or addition, the system could be reused and expanded as necessary.

Security System:

Security System: Security system consists of electronic locks and motion sensors at exterior doors, keypads, and AI phone/Lobbyguard system at entrance. The current system meets the needs of the school and utilizes current technology.

Recommendation: Upgrade, expand, and reconfigure zones of the system as necessary if renovations and additions are pursued.

Camera System:

Camera System: A building wide IP based camera system is installed. It is current technology that meets the current needs of the school.

Recommendation: In renovations and additions, provide additional cameras and Digital video recorders as required for additional areas with desired coverage.

Data System:

Data System: The Data system consists of newer Category 6 and 5e cable. The building is equipped with wireless internet through Cisco access points throughout. Teacher and student computers are provided with access to a local area network.

Recommendation: The current system meets the needs of the building and switches and patch panels could be reused in any renovation or new construction

Fire Alarm System:

Fire Alarm System: The fire alarm control panel is a GE EST-3 fire alarm system that was added during the 2010 renovations. The current system consists of limited area manual pull stations, smoke detectors, and horn/strobe alarms throughout the school and classrooms.

Recommendation: If renovations and additions are pursued, expand existing fire alarm system and reconfigure as necessary for renovations.

Generator:

Generator: The generator is a Kohler Power Systems, model 50 natural gas generator. The generator is current technology and appears to have been serviced regularly. The generator feeds emergency egress lighting. No duel fuel source was identified.

Recommendation: Reuse the existing generator and transfer switches. Reconfigure circuits as necessary for renovations. The generator may need to be replaced, or an additional generator added if additions require more capacity than is currently available.

Site Lighting:

Site Lighting: The site lighting consists of pole mounted lights for parking areas, wall packs around the building, and wall sconce lighting at exterior doors. The fixtures appear to be new to the 2010 renovation and the site is well covered.

Recommendation: To accommodate renovations, maintain existing lighting fixtures around exit doors or lighting areas of egress. For any new addition, provide new general site lighting to maximize energy efficiency and minimize light contamination on neighboring properties and to the sky, connect any new lights to an emergency circuit.

Classroom Media (TV, Projector, ETC):

Classroom Media: Classroom media typically consists of an Activeboard with attached projector, a teacher computer, printer, and a wall mounted phone. Laptop and iPad carts are also in use.

Recommendation: Periodic upgrade of equipment will maintain a strong inventory of new equipment and keep students aware of current technology.

Phone System:

Phone System: The phone system consists of a new Cisco IP phone system. Phones are provided in all offices and classrooms as required to access outside lines. Push-to-talk buttons with the PA system are included in all classrooms, but the phone system is used for communication with the front office. The system is operational and meets the current needs of the school.

Recommendation: It is possible to retain and expand the existing phone system through additions and renovations.

End of Mount Pleasant Elementary School Electrical Narrative

CIVIL

Traffic Circulation

Buses: School is served by 7 regular buses, 3 special needs buses, and 3 daycare vans. There is a dedicated bus loop on the north side of the building.

Morning: Buses enter the bus loop and unload at the sidewalk 2-3 buses at a time. Some buses may have to wait in the road to enter the bus loop due to the short stacking area. Special needs buses drop off on the west side of the building.

Afternoon: Buses line up in parking spaces for loading. No buses move until all is clear. Special needs buses line up in the first row. Daycare vans wait along the curb.

Cars: There is a drop off at the main entrance on the south side of the building.

Drop off: Parents enter the main parking lot and loop around to the main entrance. Drop off moves quickly with no significant backup.

Pick up: Parents park in the parking lot and enter the building to sign out their students. Parking occurs everywhere. Staff indicates that it works relatively well.

Parking: 92 striped parking spaces are provided with 6 designated ADA spaces. Day to day parking is adequate for faculty / staff / visitors. Parking quantities meet Roanoke County requirements and State recommendations. Event parking is an issue with parents parking wherever possible. The adjacent churches allow overflow parking in their parking lots.

Service: The service area on the east side of the school has adequate maneuvering area for all deliveries.

Fire Access: Fire apparatus have adequate access around the building.

Separation: Good separation with service area accessed from bus loop.

Adjacent Roadways: The adjacent roadway is a small 2 lane rural road. Traffic will back up into the road at pick up times. Sight distance is good.

Pedestrian: Generally there are not many pedestrians who access the school. There are no sidewalks adjacent to the school.

ADA Accessibility

Parking: There are 4 ADA spaces at the main parking lot on the south side of the building. There are 2 ADA spaces on the west side of the building. All spaces are designated as van accessible.

Signage: Signage is good.

Ramps: Curb ramps are in correct locations. There is a ramp on the west side which needs a handrail.

Recommendation: Provide handrail at ramp.

Access to all areas: Access is good except for courtyard area there is no connection to the playground.

Parking Areas, Driveways, and Sidewalks

Asphalt Pavement: Good condition.

Asphalt Walks: Good condition.

Concrete Pavement: Good condition.

Concrete Walks: Concrete at courtyard is old, cracked and spalling. Other concrete is relatively new.

Recommendation: Replace sections as necessary when cracking and deterioration become hazardous.

Stairs, Ramps, and Railings: ADA ramp at west entrance does not have a handrail, but edge drops off 12" to 18".

Recommendation: Provide code compliant handrail at ramp.

Concrete Curb and Gutter: Good condition.

Concrete / Brick Pavers: Good condition

Fire Lane: Paint on curbs and asphalt is faded. Some fire lane signs are faded and illegible. Fire lane signs are not turned toward oncoming traffic.

Recommendation: Re-paint curbs and asphalt at fire lanes. Replace fire lane signs as necessary. Ensure that fire lane signs are turned toward oncoming traffic.

Utilities

Fire Lines and Hydrants: Sufficient fire hydrant coverage and spacing with three fire hydrants and fire water storage tank located around the school. No paved fire lane around building, but fire truck access is present around half the building.

Domestic Water System: The water system is in good condition. Staff indicated no pressure or water discoloration issues. Water is provided to school via tap into public water main. Meter is located in vault along the street at the bus parking lot. Above ground water tank and service seems to be abandoned.

Sewer System: The sanitary sewer system consists of concrete manholes and pipes in fair condition. System is functional with proper invert shaping. Staff indicated no issues with stoppages since recent renovation, but observations show signs of stagnant waste.

Recommendation: Sewer system should be flushed to clear and prevent blockages.

Natural Gas System: Gas meter is located at the service yard of the school and not located in a vehicular traffic area. The meter is in fair condition and functional, but shows signs of rust and deterioration.

Recommendation: Contact gas company to inspect condition of meter.

Electric: Electrical service to the school is provided via overhead poles to school property. Transformers mounted on service pole and service is overhead to the building with lots of electrical cabinets.

Site Lighting: Large lights illuminate the parking lots and small lights and building mounted lights illuminate sidewalks and entrances. Lighting is sufficient for safety and security.

Grading and Drainage

Storm Water System: Roof drains and down spouts are piped underground into the storm water network and routed to the underground detention and carried off site. Storm water inlets, manholes and pipes are in fair condition, but full of sediment.

Recommendation: Underground piping system should be flushed and pipe outlets should be cleaned out and inspected for sediment.

Detention / Retention Ponds: Underground detention appears to be in good condition.

Stormwater Management BMPs: Two Filterras treat runoff from parking lot. Both structures and trees are in good condition.

Slopes, Ponding, and other Drainage Issues: Major ponding and accumulation of sediment in bus loop parking lot and erosion and sediment accumulation at roadside swale in front of school.

Site Features

Vegetative Landscaping: Site is a mixture of original mature trees and shrubs and newer vegetation with 2010 renovation/addition. Vegetation, including trees and shrubs, are healthy.

Recommendation: Stakes and tiedowns on newer trees need to be removed from trees by water tank. All trees and shrub beds need mulch. Cleanup at stone benches near play area is needed. Provide general maintenance and pruning as indicated.

Lawns: Original lawn in good condition. Multiple bare spots and erosion noted in areas of new construction that require repair. Near the water tank, the slope shows significant signs of erosion. Other areas impacted by the renovation/addition have been heavily compacted and require repairs.

Recommendation: Provide topsoil and grade slope. Protect slope with heavy duty erosion control matting until grass is firmly established. Bare areas due to construction activity should be scarified to loosen soil and reseeded.

Fencing and Gates: Limited site fencing. Wood split rail in front of school in good condition. Chain link fence at chiller and generator in good condition.

Signage: No directional signage provided despite multiple entrances. Older fire lane signage is faded and damaged. Many poles are rusting, leaning, or lack foundations.

Recommendation: Repair or replace damaged or leaning signs. Future signs should utilize 2"x2" square posts in sleeves with concrete foundations. Provide directional signage.

Flagpoles: Excellent condition.

Site Furnishings: Site furnishings including benches and tables are in good to excellent condition. Cleanup of overgrown vegetation at stone benches needed to make them useful.

Recommendation: Clean up overgrown vegetation at stone benches.

Accessory Structures: Wood pavilion at playground in good condition. Wood trash enclosure in good condition. Three storage structures with wood framing and vinyl siding in good condition. One storage building of CMU construction in good condition.

Play Areas and Physical Education

Play / PE Areas (General):

Playgrounds / Stationary Play Equipment: Playgrounds in fair to good condition. Some equipment has thinning vinyl coating that while structurally sound shows signs of significant aging. Mulch in all areas is good to excellent.

Recommendation: Monitor equipment and plan for replacement.

Paved Play Areas: One small area asphalt area is in bus loop by the grade PreK-1 playground in good condition. Paved walking track in good condition.

Recommendation: The limited paved play area is far from meeting state guidelines and is located in a vehicular traffic area. It is recommended to provide an additional area in the large Play/PE field area. This will ensure that students have a safer and larger place to utilize when needed.

Play / PE Fields: A large PE field is provided. Turf is in good condition away from school, but it is evident that the area closer to the school was not fully compacted and seeded to establish a firm grass surface prior to use. This has resulted in bare spots and an uneven surface used by PE classes.

Recommendation: Rotate PE activities on different areas of the field to allow grass to be established and/or recover. Refer to the Paved Play Area recommendation regarding alternative uses.

End of Mount Pleasant Elementary School Civil Narrative

OWPR
ARCHITECTS AND ENGINEERS

Notes

Project Name: RCPS Facilities Assessment	**Comm. #: 1637**

Subject: Mount Pleasant Elementary School	**Total Pages:**
Date: 9/14/2016	**Location: Roanoke, Virginia**
Copies To:	**Report Prepared By: JFH**

General:

Mount Pleasant Elementary School is a multi level brick structure. The original building was constructed in 1934 and the latest renovation and addition occurred in 2010. The updated facility provided adequate accessibility and Security to the Main Entrance along with ADA accessible toilet rooms as required throughout. The overall facility has a flat TPO roof with EPDM walking pads for accessing the Rooftop Mech Units.

Entry Vestibule:

Vinyl Composition Tile (VCT) and Base
Painted CMU Walls with Tile Walls accents
SATC
Aluminum Door and Frame with Insulated Glazing at Entrance

Main Office:

Carpeted flooring
Painted CMU Walls and GWB Walls
Suspended Acoustical Tile Ceiling (SATC)
Painted HM Frames and Wood Doors (Accessible hardware throughout)
The room casework in the Main Office area has Plastic Laminate Casework and Countertops.

Resource 130:

VCT Flooring
Painted CMU Walls
24” x 24” SATC

Art Classroom 125:

VCT Flooring
Painted CMU Walls
24” x 24” SATC
Oversize Windows 3’11” x 7’-6 ½” (Typical of 5)

Elevator beside Resource 130:

Meets ADA accessibility requirements
(Last serviced July 16, 2016

OWPR
ARCHITECTS AND ENGINEERS

Notes

Life Skills Classroom 146:
- VCT Flooring
- Painted CMU Walls
- SATC Ceiling
- Room has Kitchen, HC Toilet, HC Shower, Panic Room and Laundry Facility

Mechanical:
- Geo Thermal
- Mechanical Room has Exterior Entrance and is located in the Basement

Roof:
- Thermoplastic polyolefin (TPO)
- (4) Mechanical Equipment on Roof
- 24" X 24" EPDM walking Pads to Roof Top Units

Gymnasium:
- Wood Flooring looks good
- HM Frames with Wood Doors and Lever Handles
- Glazed Brick (top of Glazed Brick = 69" AFF)
- Painted CMU above Glazed Brick
- Windows are Polycarbonate with thermal break insulated glazing
- Exposed Ceiling Structure
- Stage has wood flooring

Kitchen:
- Vinyl Slip Resist Flooring
- Quarry Tile Base
- 71" AFF Wainscot Glazed title
- SATC
- Wood Door with Lever Handle
- Painted HM Frames with sidelights (sidelights has wire glass)
- Classrooms have Video Board, Television, Marker Boards and Bulletin Board
- Plastic Laminate Casework and Sink

Cafeteria:
- VCT Flooring
- Painted CMU Walls
- SATC Ceiling
- Aluminum Windows with Insulated Glazing and Thermal Break
- Wood Casework with sink and a Plastic Laminate Countertop

Exterior:
- The Brick and Ext Finish System matches up well with the original Brick and Precast Concrete. The coping above is Concrete and Terracotta along with some metal edging.
- The windows are thermal break insulated glazing Aluminum Windows and Frame

Conclusion:
- The facility is in great shape and the main entrance and throughout the building meets accessibility standards and security requirements.

Mount Pleasant Elementary School Architectural Condition Assessment

Reference Building Owners and Managers Association International (BOMA)

Preventative Maintenance Guidebook

System/Components	Condition Category	Expected Useful Life	Current Age	Expected Life Remaining	Notes
Architectural					
Brick	5	Life	16 years	Life	
CMU walls	5	Life	Life	Life	
Exterior Insulation Finish System	5	10 years	6 years	24 years	
Exterior Precast Concrete	5	100 years	84 years	16 years	
Wood trim	2	15 years	6 years	9 years	
Interior doors	5	20 years	6 years	14 years	
Exterior doors	5	50 years	6 years	44 years	
Door hardware	5	7 years	6 years	N/A	Repair as required
Carpet	5	5 years	6 years	N/A	
Electronic door hardware	5	5 years	2 years	3 years	Entrance Security was added and completed 2014
Vinyl floor tile	3	12 years	6 years	6 years	Repair as required
Ceramic/Porcelain floor tile	5	50 years	6 years	44 years	
Wood gym floor	3	10 years	6 yrs to 84 yrs	4 years	Refinish Wood Flooring
Other wood floors	3	10 years	6 yrs to 84 yrs	4 years	Refinish Wood Flooring
Curtain wall, Storefront	5	50 years	6 years	44 years	
Exterior windows (Insulated Glazing w/thermal break)	5	30 years	6 years	24 years	
Interior windows	5	30 years	6 years	24 years	
Roof (Including flashings, coping, etc.)	5	20 years	6 years	14 years	
Suspended acoustical tile ceilings (lay-in)	5	25 years	6 years	19 years	
Plaster/GWB ceilings	5	30 years	6 years	24 years	
Sound control panels (wall and ceiling)	5	N/A	6 years	N/A	
Ceiling/exposed structure finish (paint)	2	5 years	6 years	N/A	Paint as required
Interior wall finishes (paint)	2	5 years	6 years	N/A	Paint as required
Marker boards, chalk boards, tack boards, projection screens	5	N/A	6 years	N/A	
Casework	5	N/A	6 years	N/A	
Window treatments	5	N/A	6 years	N/A	
Toilet partitions	5	20 years	6 years	14 years	Solid Plastic
Toilet accessories	5	N/A	6 years	N/A	
Exterior and Interior railings	5	30 years	6 years	24 years	
School sign	5	N/A	6 yrs to 84 yrs	N/A	Meets ADA Code Compliant
Sprinkler/No Sprinkler	5	N/A	6yrs to 84 yrs	N/A	Not Sprinkled
ADA Code Compliant	5	N/A	6 yrs to 84 yrs	N/A	Meets ADA Code Compliant
Condition Categories					
1 Immediate replacement required, life saftey concern					
2 System has reached it's useful life					
3 Major repair or modifications required, useful life remaining					
4 Minor repair required					
5 General maintenance required					

Mount Pleasant Elementary School Mechanical Plumbing Condition Assessment

Reference Building Owners and Managers Association International (BOMA)

Preventative Maintenance Guidebook

System/Components	Condition Category	Expected Useful Life	Current Age	Expected Life Remaining	Notes
Mechanical					
Boiler	N/A				
Chiller or Cooling tower	5	18 years	7 years	11 years	
Mechanical piping	5	30 years	7 years	23 years	
Refrigerant piping	5	30 years	7 years	23 years	
Duct	5	30 years	6 years	24 years	
Outdoor air units	N/A				
Terminal units	5	30 years	6 years	24 years	
Package units (Heat Pumps)	5	18 years	6 years	12 years	
Controls	5	20 years	7 years	13 years	
Exhaust fans	5	25 years	6 years	19 years	
Science fume hoods	N/A				
Kitchen hood	5	30 years	7 years	23 years	
Plumbing					
Plumbing fixtures and controls	5	30 years	6 years	24 years	
Floor drains	5	30 years	6 years	24 years	
Water heaters	5	15 years	6 years	9 years	
Pumps	5	15 years	6 years	9 years	
Potable water piping & valves	5	30 years	6 years	24 years	
Sprinkler system	N/A				
Back-flow preventer	5	30 years	6 years	24 years	
Service line & meter (size appropriate)	5	30 years	6 years	24 years	
Wall and yard hydrants	5	15 years	6 years	9 years	
Eye wash stations	N/A				
Emergency showers	N/A				
Condition Categories					
1 Immediate replacement required, life saftey concern					
2 System has reached it's useful life					
3 Major repair or modifications required, useful life remaining					
4 Minor repair required					
5 General maintenance required					

Mount Pleasant Elementary School Electrical Condition Assessment

Reference Building Owners and Managers Association International (BOMA)
Preventative Maintenance Guidebook

System/Components	Average Useful Life	Current Age	Expected Life Remaining	Condition Category	Notes
Electrical					
Main switch gear	40	6	34	5	
Panelboards	30	6	24	5	
Cabling	40	6	34	5	
Conduit/raceway	40	6	34	5	
Light fixtures	20	6	14	5	
Lighting controls	30	6	24	5	
Public address system	30	6	24	5	
Security system	10	6	4	5	
Camera system	10	6	4	5	
Data system	15	6	9	5	
Fire alarm system	30	6	24	5	
Generator	20	6	14	5	
Site lighting	20	6	14	5	
Classroom media systems (TV, projector, etc.)	10	6	4	5	
Phone system	10	6	4	5	

Condition Categories

1 Immediate replacement required, life safety concern

2 System has reached it's useful life

3 Major repair or modifications required, useful life remaining

4 Minor repair required

5 General maintenance required

Mount Pleasant Elementary School Civil Condition Assessment

Reference Building Owners and Managers Association International (BOMA)

Preventative Maintenance Guidebook

System/Components	Condition Category	Expected Useful Life	Current Age	Expected Life Remaining	Notes
Civil					
Asphalt pavement	5	15 years	6 years	9 years	
Asphalt walks	5	20 years	6 years	14 years	
Concrete pavement	5	30 years	6 years	24 years	
Concrete walks	3/5	30 years	6-82 years	0-24 years	
Stairs	5	30 years	6 years	24 years	
Ramps	1/5	30 years	6 years	24 years	
Railings	5	15 years	6 years	9 years	
Concrete curb and gutter	5	30 years	6 years	24 years	
Concrete / Brick Pavers	5	30 years	6 years	24 years	
Guardrail, Parking Bumpers, Misc.	N/A	N/A	N/A	N/A	
Fire lane	4	Varies by Material	6 years	0 years	
Fire lines and hydrants	5	40 years	6 years	34 years	
Domestic Water system	5	40 years	6 years	34 years	
Sewer system	4	40 years	6+ years	0-34 years	
Natural Gas system	5	40 years	6 years	34 years	
Electrical System	4	25 years	Unknown		
Exterior Lighting	5	25 years	6 years	19 years	
Storm water system	5	40 years	6 years	19 years	
Detention / Retention ponds	5	Life	6 years	30 years	
Stormwater Management BMP's	5	Varies by BMP	6 years	25 years	
Surface drainage and grading	3	N/A	N/A	N/A	
Vegetative landsaping	4	Life	6-82 years	Varies	
Lawns	4	Life	6 years	Life	
Fencing and gates	5	20 years	6 years	14 years	
Signage	4	10 years	6+ years	4+ years	
Flagpoles	5	50 years	6 years	44 years	
Site furnishings	4	15 years	6 years	9+ years	
Awnings / Canopies	N/A	N/A	N/A	N/A	
Site retaining walls	N/A	N/A	N/A	N/A	
Accessory structures	5	50 years	6 years	44 years	
Playgrounds	5	10 years	6+ years	4+ years	
Paved play areas	5	20 years	Unknown	9 years	
Play / PE fields	4	Life	6 years	Life	
Condition Categories					
1 Immediate replacement required, life saftey concern					
2 System has reached it's useful life					
3 Major repair or modifications required, useful life remaining					
4 Minor repair required					
5 General maintenance required					

Budgetary Cost Estimate

Estimate Date 11/15/2016
Facility Name **Mount Pleasant Elementary School**
Client Name Roanoke County Schools

OWPR ARCHITECTS AND ENGINEERS

Quantity	Description	Unit	Cost / unit	Total w/ OH&P
	ARCHITECTURAL			
1	Install handrail at ADA ramp west entrance	EA	$3,500.00	$3,500.00
	CIVIL			
6	Directional signage	EA	$1,500.00	$10,800.00
30	Provide handrails	LF	$50.00	$1,800.00
600	Repaint curbs and fire lanes	LF	$0.10	$72.00
6	Fire lane signage	EA	$500.00	$3,600.00
1	Repair eroded slope	LS	$2,500.00	$3,000.00
12,000	Paved play area to state recommendations	SF	$1.00	$14,400.00
	MECHANICAL / PLUMBING			
	ELECTRICAL			
	TOTAL Budgetary Cost			**$37,172**