GLENVAR HIGH SCHOOL

ARCHITECTURAL

Glenvar High School was built in 2015. The building is a two-story new construction facility that meets and exceeds handicap accessibility requirements. The building entrance meets the accessibility and security requirements of the RCPS. The building was constructed with a fully automatic fire suppression system. Total square footage for the facility is 148,984 SF.

Exterior Finishes

Exterior Cladding:

Exterior wall material is brick veneer and insulated metal panels.

Other exterior materials include metal coping.

Roof:

Building has single ply (Carlisle 60 Mil) EPDM roof system that has an average useful life of 20 years. The roof is under warranty but the area over the janitor closet beside the cafeteria needs to be investigated. This roof area is not draining the water properly and ponding has become a major problem. Water is ponding around the roof hatch location and leaks have been reported. The roof drains need to be cleaned out and all debris removed from the roof.

Windows:

The windows throughout the building have aluminum storefront window systems with insulated glazing. 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 entrance doors are Aluminum Doors and Frame with insulated glazing. All exterior service doors are hollow metal, doors with hollow metal frames. Door hardware meets and exceeds accessibility requirements. The doors and hardware is in new condition.

Interior Finishes, Fixtures & Equipment

(See assessment tabulations for interior finish conditions).

Vinyl Composition Tile, Terrazzo and Ceramic Tile are the predominant floor finishes at Glenvar High 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, Ceramic Tile, and painted gypsum wallboard. Paint and maintain all walls.

Window treatments are typically new and area vinyl roller shades.

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 new wood doors with new hardware to meet and exceed handicap accessibility standards. All interior doors 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/new condition.

Casework (cabinets) is generally in good condition. Most casework is handicap accessible. Student casework is new plastic laminate casework and countertops. All casework is new and must be maintained.

Furnishings, fixtures, and equipment design was updated to meet the design standard of the facility. 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 is new.

Storage and general shelving is new and updated throughout the building.

Handicap Accessibility

Building meets handicap accessibility as per today building code. The signage throughout the building meets handicap accessibility code requirements. The facility has the appropriate handicap accessible toilet rooms, casework and building accessibility. The building also provides handicap accessible emergency egress out of the building.

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 Glenvar High School has a new state of the art camera system for visibility throughout the school building.

Glenvar High School does have a simple circulation network of main corridors that have relatively long sight lines, which are critical to threat identification.

End of Glenvar High School Architectural Narrative

PLUMBING/FIRE PROTECTION

Plumbing Fixtures:

Water Closets: Water closets observed were wall mounted vitreous china with manual type flush valves. There were several water closets that were ADA compliant. The condition of the water closets was excellent.

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

Lavatories: Lavatories observed were wall mounted vitreous china or enamel cast iron with manual type faucets. There were several lavatories that were ADA compliant. Most lavatories observed did have ASSE 1970 mixing valves that are required by today's codes. The condition of lavatories was excellent.

Sinks: Sinks observed were stainless steel with kitchen type faucets with swing spouts. The condition of the sinks was excellent.

Showers: Showers are individual wall showers with stainless steel enclosures with hot and cold mixing valve. Controls for shower valves are single handle with pivoting shower heads. The condition of showers was excellent.

Laboratory Fixtures: Sinks observed in the laboratory areas were chemical resistant type to match countertops, or stainless steel. Supply faucets and gas fittings on laboratory sinks are new and in excellent condition. Emergency solenoid shut off switches are located within the classrooms as required.

Emergency Fixtures: Emergency showers and eyewash observed appeared to be ADA compliant. It was not determined if they were supplied with tepid water. The condition of the emergency fixtures was excellent.

Electric Water Coolers: There were several wall mounted water coolers noted within building. There were several ADA compliant high/low models. All water coolers noted had bottle fillers. The condition of the water coolers was excellent.

Water Heaters:

Domestic water is heated by two PVI model 500L-130A-GCML gas-fired storage tank type water heaters. Each water heater has 130 gallons of storage and 500 MBH gas input firing rate. System has a recirculation system with in-line return pump. Hot water is then mixed by a Lawler 803 mixing valve and distributed throughout the building.

Piping:

Water: Copper
Sanitary Piping: Cast iron / PVC
Storm Piping: Cast iron / PVC
Gas Piping: Black steel
Sprinkler 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 4" cold water line that is assumed to be from a municipal system. There is a RPZ type backflow preventer and a pressure reducing valve observed on the incoming service line. It was also noted that the pressure reducing valve was not functioning which was allowing dangerously high pressure through the building. Pressures up to 140 psi was noted downstream of the pressure reducing valve, which is twice of what the code allows and is detrimental to plumbing equipment and fixtures. It also poses a danger for emergency eyewash users. Suggest immediate repair or replacement of the pressure reducing valve.

Kitchen:

Kitchen is up to date with indirect waste connections through 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:

The building is fully sprinkled, the incoming sprinkler service is 8". Incoming sprinkler has a double check backflow preventer. Riser consists of three wet system risers and one dry system for dock canopy was noted.

Recommendations:

Recommend repair or replacement of the pressure reducing valve on the incoming domestic water service. Excessive pressures as noted could be detrimental to equipment and personal.

End of Glenvar High School Plumbing/Fire Protection Narrative

MECHANICAL (HVAC)

Heating:

The building is primarily heated by water source heat pumps. There are three gas fired boilers that provide heat to the building condenser water circulation system. Condenser water is circulated to the building's heating coils with base mounted pumps. The boilers and pumps were installed in 2014. The boilers have an expected useful life of 30 years. The pumps have an expected useful life of 25 years. The water source heat pumps were installed in 2014 and have a useful life expectancy of 18 years. Some of the classrooms had bard type heat pumps. There are gas-fired rooftop units that provide heating that were installed in 2015. The energy recovery units were installed in 2013 and have an expected useful life of 20 years. The gym is served by two DX split system type rooftop units that are 4 years old that have a useful life expectancy of 20 years.

Ventilation:

Ventilation is provided to the building by rooftop air handler units. There are also louvered penthouse ventilators that induce outside air into the building.

Air Conditioning:

The building is primarily cooled by water source heat pump rooftop units, heat pump terminal units, and DX rooftop units both packaged and "split" type units. These are the same units that provided heat to the building.

Piping:

There is hot water and condenser piping, black steel, insulated.

Controls:

The building's automation controls are the digital type (DDC), Metasys brand by Johnson Controls.

Recommendations: None.

End of Glenvar High School Mechanical Narrative

ELECTRICAL

Main Switch Gear:

Main Switchboard: The main switchboard is a 3000 Amp, 3 phase, 4 wire, 480Y/277 volt Square D, service entrance rated switchboard. The existing switchboard is new to the building with the 2015 major renovations 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.

Transformers:

Transformers: All of the building transformers are Square D and were added/replaced during the 2015 renovation to convert from 480/277V to 208/120V. All of the transformers are currently in good working condition; however, over time transformers become less energy efficient.

Recommendation: If renovations and additions are pursued, maintain the existing transformers.

Panelboards:

Distribution and Branch Circuit Panelboards: All of the panels are new Square D panels that were added with the 2015 renovation. The panels have space and spares available.

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 2015 renovation. All visible wiring appears to be in conduit or raceway.

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 2015 renovation.

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 volumetric lens fixtures with T8 lamps, 1x4 fixtures with T8 lamps, LED can lighting, and some decorative LED 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 keyed 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, digital clock, and a push-to-talk button. 2x2 grid mounted speakers located throughout corridors. 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 Simplex 4100ES fire alarm system that was added during the 2015 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 180 diesel generator. The generator is current technology and appears to have been serviced regularly. The generator feeds emergency egress lighting and optional standby. 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 LED pole mounted lights for parking areas, wall packs around the building, and canopy lighting at exterior doors. The fixtures are new to the 2015 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 Promethean Activeboard, a teacher computer, printer, and a wall mounted phone. Laptops are also provided to all students.

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 Glenvar High School Electrical Narrative

CIVIL

Traffic Circulation

Buses: There is a dedicated bus loop that is shared by the middle school and high school on the west side of the building. There are 16 striped spaces in the bus loop.

Morning: Buses utilize the main entrance road and pass through the student parking area to access the bus loop. Students are dropped off at the end of the bus loop, and buses exit the bus loop and continue to the bus parking area at the top of the hill to the west.

Afternoon: Buses utilize the main entrance road and pass through the student parking area to access the bus loop. Buses park in the designated spaces to load students. There are adequate parking spaces for all buses.

Cars: All cars enter the site from the main entrance road. There is a designated drop off area adjacent to the bus loop drop off area.

Morning: Cars enter the site and proceed to the designated drop off area on the west side of the building adjacent to the bus loop. The drop off works smoothly and quickly with very little backup.

Afternoon: Pick up is in the same location as drop off, and also works smoothly and quickly.

Parking: 497 striped parking spaces are provided at various locations around the site with 23 designated ADA spaces. Day to day parking is adequate for faculty / staff / visitors / students. Parking quantities meet Roanoke County requirements and State recommendations. Event parking is also adequate.

Service: Service area is shared with the bus loop and has adequate maneuvering area for delivery vehicles. Deliveries are scheduled around drop off / pick up times to avoid conflicts.

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

Separation: Faculty parking, student parking are separate from the bus loop and service area, however the bus loop and service area is accessed through the student parking lot. Staff indicates no issues with this situation.

Adjacent Roadways: There is one main two lane entrance road for the elementary school, middle school, and high school. Due to staggered schedules, there are typically no conflicts with elementary school traffic and the middle school / high school traffic. Sight distance is adequate.

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 spaces at the main entrance (none van accessible), 4 spaces at the student entrance, 15 spaces at the football stadium, and 5 spaces at the baseball / softball area.

Recommendation: Provide at least one van accessible space at the main entrance.

Signage: Signage is missing from ADA spaces at the stadium. Other signage is in good condition and code compliant.

Recommendation: Provide code compliant ADA parking signage at stadium.

Ramps: Curb ramps are located appropriately adjacent to ADA parking.

Access to all areas: There is ADA access to all areas and activities on site. The asphalt path to the softball area is too steep.

Parking Areas, Driveways, and Sidewalks

Asphalt Pavement: Good condition.

Asphalt Walks: Good condition.

Concrete Pavement: Good condition.

Concrete Walks: Good condition.

Stairs, Ramps, and Railings: Old concrete stairs to elementary school are in fair condition. Railings on stairs to elementary school do not meet code. One side is missing.

Recommendation: Either demolish stairs to elementary school or replace railings.

Concrete Curb and Gutter: Good condition.

Concrete / Brick Pavers: Good condition.

Guardrail, Parking Bumpers, and Miscellaneous: Good condition.

Fire Lane: Fire lane signs are not turned toward oncoming traffic.

Recommendation: Turn fire lane signs to face oncoming traffic.

Utilities

Fire Lines and Hydrants: Sufficient fire hydrant coverage and spacing with multiple fire hydrants located around the High School portion of the building. No paved fire lane around building, but fire truck access present. Near the mechanical service area, there is a standalone fire department connection and a post indicator valve.

Domestic Water System: The water system is in good condition. Staff indicated no pressure or water discoloration issues. Water is provided to school via public water network.

Sewer System: With the exception of one older brick manhole, possibly carrying waste from the football stadium, observations indicate that the concrete manholes are in good condition and pipes are flowing well with proper invert shaping.

Natural Gas System: Gas meter is located in mechanical service area and protected from vehicular traffic with a lockable gate. The meter is in good condition and shows no sign of deterioration. The gas meter at the football stadium is protected by two small bollards, which need to be replaced for stronger protection.

Recommendation: Replace bollards in front of gas meter at football stadium.

Electric: Electric service provided via overhead poles to school property. Service is taken underground to a transformer in the mechanical service area and then into the building. Electric meter is located at the service area mounted to the side of the building. All equipment is located inside the service area and protected from vehicular traffic. Electric transformer at football stadium is located in asphalt pavement and prone to vehicular traffic.

Recommendation: Install bollards around transformer at football stadium.

Site Lighting: Lighting for the high school parking lots and sidewalks is sufficient for safety and security. There are lights at the football stadium and softball field, but no lights at the baseball field.

Grading and Drainage

Storm Water System: Roof drains and downspouts are piped underground. All storm water is piped off-site to the southwest to a heavily forested area. All storm water inlets, manholes and pipes are in good condition, but filled with sediment and debris due to poor permanent seeding.

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

Stormwater Management BMPs: Filterras treat water quality from parking lot and roof runoff. The faculty parking lot and parts of the student parking lot contain permeable pavers. Sediment is clogging voids between pavers allowing pea gravel to be eroded away.

Recommendation: Establish seeding in all denuded areas to prevent erosion.

Slopes, Ponding, and other Drainage Issues: Due to no grass in parking lot islands and at the front of the school, erosion and sediment accumulation is occurring at inlets and downstream areas. Drop inlet grates clogged with rock and gravel limiting drainage. Minor erosion between the PE field and the football stadium shows a washout of dirt across the access road. There is significant ponding at the soccer field at the top of the hill.

Recommendation: Establish seeding in all denuded areas to prevent erosion and sediment accumulation. Clean out drop inlet grates.

Site Features

Vegetative Landscaping: Vegetation, including trees and shrubs, are healthy. General maintenance needed for islands in the parking lot.

Recommendation: Continue general maintenance of pruning and mulching.

Lawns: Generally good condition. Areas in need of repair including ruts near loading dock, near cafeteria, and front entrance.

Recommendation: Repair and reseed bare areas. Provide fencing and erosion control mat to protect seed in high traffic areas.

Fencing and Gates: Limited fencing for campus. Wrought iron fence against GES in good condition.

Signage: Good condition for existing signage generally. ADA signage not provided at stadium. Minor damage to some signs. No directional signage provided.

Recommendation: Provide ADA signage at stadium. 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 are limited and are generally in excellent condition.

Awnings / Canopies: Canopy at bus yard fueling station in good condition.

Accessory Structures: Bus yard has fencing, furnishings, and small administration building in good condition.

Physical Education

Practice / PE Fields: Shared practice/PE field above school for GMS and GHS use. Turf condition in poor to fair condition due to heavy use. Field drainage largely adequate, however, there is evidence of ponding in some areas.

Recommendation: Site constraints limit improvement of the practice / PE field above the school without significant investment in storm drainage systems.

Athletics

Tennis Courts: Courts are asphalt and are in poor condition. Courts have cracking with one significant crack allowing grass to grow through. Evidence of ponding water was prevalent. Surface finish has reached its life span.

Lighting: None.

Bleachers / Stadium: No spectator facilities were observed.

Accessory Structures: No accessory structures were observed. Fencing is in good condition. Court equipment is in fair condition.

Recommendation: Seal cracks and resurface as soon as possible. Primer and repaint court equipment.

Track and Field Events: Track asphalt and markings are in good condition. Jump tracks and sand pits are in poor condition. High jump area is asphalt and in good condition. Throw event areas are in fair condition and do not have accompanying fencing.

Lighting: Refer to Competition Football Field.

Bleachers / Stadium: Refer to Competition Football Field.

Accessory Structures: Refer to Competition Football Field.

Recommendation: Track was repaved within last 10 years. Monitor for signs of failure and refresh markings as needed. Rebuild jump pit and provide cover to protect it during out of season. Fencing for throw events, while desirable, is not necessary.

Competition Softball Field: Outfield turf is in excellent condition. Infield condition is in excellent condition. All fencing is in excellent condition. Scoreboard is in good condition. Foul poles are in good condition.

Lighting: Poles and luminaires in good condition.

Bleachers / Stadium: Aluminum bleachers are in good condition. ADA access not provided to bleachers.

Accessory Structures: Pressbox/Concessions/Restroom facility of CMU construction provided at competition baseball field. Condition is good. Team dugouts in good condition. Batting cage is in good condition.

Recommendation: Provide ADA access to bleacher areas and pressbox structure.

Competition Baseball Field: Outfield turf is in good condition. Infield condition is in fair condition. Field has poor drainage from stormwater runoff. Drainage and vegetation are prevalent on the third base side. Fencing in fair condition. Scoreboard in good condition.

Lighting: None.

Bleachers / Stadium: Aluminum bleachers are in fair condition. No ADA access provided to bleachers. Poor access to playing field.

Accessory Structures: Pressbox/Concessions/Restroom facility of CMU construction in fair condition. Batting cage in fair condition.

Recommendation: Provide ADA access to bleachers and concessions. Provide paved or gravel path to field. Redo drainage and clear vegetation on third base side.

Competition Football Field: Turf is in poor condition due to high usage by both WBMS and WBHS teams. Poor drainage is evident. Fencing is in fair condition.

Lighting: Lighting system is in fair condition. Showing age.

Bleachers / Stadium: Home stands are concrete and in fair condition. Visitor stands are all aluminum in good condition. ADA access and seating is provided on home side and is wood in fair condition. ADA access not code compliant.

Accessory Structures: Press box is of wood with vinyl siding is provided on home side stands and is in good condition. Concessions/Restroom facility of CMU construction provided and is in good condition.

Recommendation: Due to high usage by both GMS and GHS teams, a synthetic turf should be considered for the stadium with improved drainage. Provide code compliant access to home field bleachers.

Competition Soccer Field: Refer to Competition Football Field.

Lighting: Refer to Competition Football Field.

Bleachers / Stadium: Refer to Competition Football Field.

Accessory Structures: Refer to Competition Football Field.

Recommendation: Refer to Competition Football Field.

End of Glenvar High School Civil Narrative

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Notes

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

Subject: Glenvar High School	**Total Pages:**
Date: 9/20/2016	**Location: Salem, Virginia**
Copies To:	**Report Prepared By: JFH**

General:

The Facility went through a renovation and addition in 2015. The current building meets and exceeds accessibility requirements and needs. The building is constructed out of brick and insulated metal panels with aluminum windows and aluminum storefronts. The flat roof design has a new EPDM membrane roof. The facility is fully sprinkled and air conditioned. The main entrance of the facility provides security and building accessibility.

Mechanical Room

Concrete Flooring
Exposed Structure
Painted CMU and GWB Walls

Main Office:

The flooring is carpeted.
The walls are painted GWB and Alum Storefront.
The ceiling is 24x24 SATC.
Handicap Accessible Drinking Fountain
Tempered Glazing label is shown on Glass Wall panels, Glass door panels, etc.

Main Corridor:

Terrazzo Flooring
The walls are Ceramic tile and GWB.
The ceiling is SATC.

Toilet:

ADA Accessible
Ceiling has had some repairs
Rubber Flooring
Drinking fountain outside of restroom are Hi/Lo Accessible Fountains

Janitor Room off of Cafeteria:

Roof Access
Water is ponding bad at the Roof Access location

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Notes

Kitchen:
- New Construction
- Poured slip resistant flooring
- Painted CMU Walls
- SATC Ceiling
- Wood Doors with Hollow Metal Frames

Cafeteria:
- New Construction
- Polished concrete flooring
- Exposed Ceiling with Clouds
- Brick, Tile, Glass Storefront and Wood Veneer Walls
- (All New Construction)

Library Across from Cafeteria:
- New Construction
- Walls consist of Aluminum Frame Storefront, Brick Veneer and GWB
- Carpeted Flooring
- Exposed Ceiling with Metal Clouds

Gymnasium
- Parquet flooring with areas of damage (need to be replaced)
- Steel Windows at Gym are rusting (need new insulated aluminum windows)
- Painted CMU Walls
- Exposed structure ceiling

Visitors Locker Room:
- New construction and meets ADA accessibility

Laundry Room:
- Painted Concrete Floor
- Painted GWB Walls
- 24x24 SATC
- Electric Washer and Dryer

Science:
- VCT Flooring
- SATC Ceiling
- Painted CMU Walls
- Eyewash is to strong, not tempered water (cold)
- Lab is equipped with Gas, cold water and hot water

Electric Room:
- Painted Concrete flooring
- Painted CMU
- SATC

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Notes

Home Economic:

4 separate kitchen units with painted concrete floors
Painted CMU Walls
SATC Ceiling
(4) Ranges
(4) Refrigerator
(4) Sinks
(1) Dishwasher
(1) Washing machine
(1) Dryer
Electric Appliances throughout

Conclusion:

The building has been renovated in the past year and the handicap accessibility has been addressed throughout the facility. The existing EPDM roof show signs of ponding and the largest area of concern are directly over the janitor room off of the new cafeteria where the roof access is located.

Staff has suggested that there is a problem with keying and that this issue must get addressed.

The existing parquet wood basketball court needs to be replaced, if not at least fixed and refinished. Damaged area is evident to the eye. The existing gym walls to be painted as well.

Glenvar High 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	2 years	Life	
Insulated Metal Panels	5	30 years	2 years	28 years	
CMU walls	5	Life	2 years	Life	
Wood trim	5	15 years	2 years	13 years	
Interior doors	5	20 years	2 years	18 years	
Exterior doors	5	50 years	2 years	48 years	
Door hardware	5	7 years	2 years	5 years	
Electronic door hardware, Security Entrance	5	5 years	2 years	3 years	
Terrazzo	5	50 years	2 years	48 years	
Carpet	5	5 years	2 years	3 years	
Vinyl floor tile	5	12 years	2 years	10 years	
Ceramic/Porcelain floor tile	5	50 years	2 years	48 years	
Wood gym floor	3	10 years	N/A	N/A	Flooring needs repairs, refinish or replace
Other wood floors	5	10 years	2 years	8 years	
Exposed concrete floors	5	50 years	2 years	48 years	
Curtain Wall, Storefront	5	50 years	2 years	48 years	
Exterior windows	5	30 years	2 years	28 years	
Interior windows	5	30 years	2 years	28 years	
Roof (Including flashings, coping, etc.)	5	20 years	2 years	18 years	Roof Ponding Water near cafeteria
Suspended acoustical tile ceilings (lay-in)	5	25 years	2 years	23 years	
Plaster/GWB ceilings	5	30 years	2 years	23 years	
Sound control panels (wall and ceiling)	5	N/A	N/A	N/A	
Ceiling/exposed structure finish (paint)	5	5 years	2 years	3 years	
Interior wall finishes (paint)	5	5 years	2 years	3 years	
Marker boards, chalk boards, tack boards, projection screens	5	N/A	2 years	N/A	
Casework	5	N/A	N/A	N/A	
Window treatments	5	N/A	N/A	N/A	
Toilet partitions	5	20 years	2 years	18 years	
Toilet accessories	5	N/A	N/A	N/A	
Exterior Railings, Interior railings	5	30 years	2 years	28 years	
School sign	5	25 years	2 years	23 years	
ADA Code compliant	5	N/A	N/A	N/A	Meet 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					

Glenvar High 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	5	30 years	2 years	28 years	
Chiller or Cooling tower	N/A				
Mechanical piping	5	30 years	2 years	28 years	
Refrigerant piping	5	30 years	2 years	28 years	
Duct	5	30 years	2 years	28 years	
Outdoor air units	5	20 years	3 years	17 years	
Air terminal units	5	20 years	2 years	18 years	
Controls	5	20 years	2 years	18 years	
Exhaust fans	5	25 years	2 years	23 years	
Air Cooled Condensers	5	20 years	4 years	16 years	
Packaged Rooftop Units	5	20 years	2 years	18 years	
Plumbing					
Plumbing fixtures and controls	5	30 years	1 year	29 years	
Floor drains	5	30 years	1 year	29 years	
Water heaters	5	15 years	1 year	14 years	
Pumps	5	15 years	1 year	14 years	
Potable water piping & valves	5	30 years	1 year	29 years	
Sprinkler system	5	30 years	1 year	29 years	
Back-flow preventer	5	30 years	1 year	29 years	
Service line & meter (size appropriate)	5	30 years	1 year	29 years	
Wall and yard hydrants	5	15 years	1 year	14 years	
Eye wash stations	5	20 years	1 year	19 years	
Emergency showers	5	20 years	1 year	19 years	
Pressure Reducing Valve	1	15 years	1 year	14 years	New but non fuctional
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					

Glenvar High 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	1	39	5	
Transformers	30	1	29	5	
Panelboards	30	1	29	5	
Cabling	40	1	39	5	
Conduit/raceway	40	1	39	5	
Light fixtures	20	1	19	5	
Lighting controls	30	1	29	5	
Public address system	30	1	29	5	
Security system	10	1	9	5	
Camera system	10	1	9	5	
Data system	15	1	14	5	
Fire alarm system	30	1	29	5	
Generator	20	1	19	5	
Site lighting	20	1	19	5	
Classroom media systems (TV, projector, etc.)	10	1	9	5	
Phone system	10	1	9	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					

Glenvar High 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	1 year	14 years	
Asphalt walks	5	20 years	1 year	19 years	
Concrete pavement	5	30 years	1 year	29 years	
Concrete walks	5	30 years	1 year	29 years	
Stairs	3	30 years	1 year	29 years	
Ramps	5	30 years	1 year	29 years	
Railings	1	15 years	1 year	14 years	
Concrete curb and gutter	5	30 years	1 year	29 years	
Concrete / Brick Pavers	5	30 years	1 year	29 years	
Guardrail, Parking Bumpers, Misc.	5	Varies	1 year	15 years	
Fire lane	4	Varies by Material	1 year	15 years	
Fire lines and hydrants	5	40 years	1 year	39 years	
Domestic Water system	5	40 years	1 year	39 years	
Sewer system	5	40 years	1 year	39 years	
Natural Gas system	4	40 years	1 year	Varies	
Electrical System	4	25 years	1 year	Varies	
Exterior Lighting	5	25 years	1 year	24 years	
Storm water system	5	40 years	1 year	39 years	
Detention / Retention ponds	N/A	N/A	N/A	N/A	
Stormwater Management BMP's	5	Varies by BMP	1 year	19 years	
Surface drainage and grading	3	N/A	N/A	N/A	
Vegetative landscaping	5	Life	1 year	Varies	
Lawns	4	Life	1 year	Life	
Fencing and gates	5	20 years	1 year	19 years	
Signage	4	10 years	1 year	9+ years	
Flagpoles	5	50 years	1 year	49 years	
Site furnishings	5	15 years	1 year	14 years	
Awnings / Canopies	5	50 years	Unknown	20+ years	
Site retaining walls	N/A	N/A	N/A	N/A	
Accessory structures	5	50 years	Unknown	20+ years	
Play / PE fields	5	Life	Unknown	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					

Glenvar High 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					
Competition fields (Tennis)	3	10 years	Unknown	1+ years	
Lighting	N/A	N/A	N/A	N/A	
Bleachers / Stadium	N/A	N/A	N/A	N/A	
Accessory structures	N/A	N/A	N/A	N/A	
Competition Fields (Track)	5	10 years	6 years	4 years	
Lighting	N/A	N/A	N/A	N/A	
Bleachers	N/A	N/A	N/A	N/A	
Accessory structures	N/A	N/A	N/A	N/A	
Competition fields (Softball)	5	25 years	Unknown	Life	
Lighting	5	25 years	Unknown	20+ years	
Bleachers / Stadium	5	25 years	Unknown	20+ years	
Accessory structures	5	50 years	Unknown	30+ years	
Competition fields (Baseball)	5	25 years	Unknown	Life	
Lighting	N/A	N/A	N/A	N/A	
Bleachers / Stadium	5	2 years	Unknown	10+ years	
Accessory structures	5	50 years	Unknown	5+ years	
Competition fields (Football)	3	25 years	Unknown	Life	
Lighting	5	25 years	Unknown	10+ years	
Bleachers / Stadium	5	25 years	Unknown	15+ years	
Accessory structures	5	50 years	Unknown	20+ years	
Competition fields (Soccer)	N/A	N/A	N/A	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					

Budgetary Cost Estimate

Estimate Date 11/15/2016
Facility Name **Glenvar High School**
Client Name Roanoke County Schools

OWPR ARCHITECTS AND ENGINEERS

Quantity	Description	Unit	Cost / unit	Total w/ OH&P
	ARCHITECTURAL			
9,570	Refinish gym floor	SF	$4.50	$51,678.00
	CIVIL			
16	ADA signage	EA	$500.00	$9,600.00
5	Install bollards	EA	$650.00	$3,900.00
1	Repair tennis courts	LS	$30,000.00	$36,000.00
1	Provide ADA access to baseball bleachers	LS	$10,000.00	$12,000.00
1	Provide ADA access to softball bleachers	LS	$10,000.00	$12,000.00
8	Directional signage	EA	$1,500.00	$14,400.00
	MECHANICAL / PLUMBING			
1	Replace pressure reducing valve	EA	$3,000.00	$3,000.00
	ELECTRICAL			
	TOTAL Budgetary Cost			**$142,578**