HIDDEN VALLEY MIDDLE SCHOOL

ARCHITECTURAL

Hidden Valley Middle School was constructed in 1971-1972. Total facility square footage is 119,824 SF. The building is not sprinkled and loosely complies with any accessibility requirements; however, some spaces do not comply with current standards and yet others have been adapted to comply. The single story structure went through a front entrance renovation in 2014 by RCPS. This has allowed the building to meet accessibility requirements as well as adequate security. The building does allow egress accessibility from the building; however, is limited due to non accessible door hardware in some areas. The building has developed some masonry cracks along the front exterior corners and mostly at every corner of the building (see Structural Narrative).

Exterior Finishes

Exterior Cladding:

Exterior wall material is brick. Cracks are present in several locations. Most cracks, particularly vertical cracks at building corners, are indicative of no provisions for expansion (control joints) built into the brick walls and can be repaired.

Other exterior materials include metal gravel stops and flashings and brick rowlock window sills.

Roof:

All roof areas are a single-ply EPDM membrane system that has an average useful life of 20 years. The existing roof is showing signs of stress such as evident of ponding and the roof is bubbling in some areas. The roof maintenance activities should be increased. The existing flashing appears to low in some areas. The counter flashing is missing in some areas as well as sealant. Transition bar has come loose in some areas over the gymnasium section of the roof. If renovations and additions are done, a totally new roof system should be installed. This should include additional insulation to obtain a more energy efficient building envelope.

Windows:

Windows in the building are hollow metal window frames with single pane (non-insulated) glazing. These windows have fixed frame windows which allow natural light only. The window systems are not energy efficient, and allow significant air infiltration. The windows are equipped with vertical blinds in some areas throughout the school. Window replacement is recommended during next renovation.

Exterior Doors:

Exterior doors in the original building are wood (mainly cafeteria area), likely original to the building. Exterior doors elsewhere are hollow metal, and are also likely original. Doors are in good-poor condition. Door hardware is in good-poor condition and has mostly been replaced since the buildings were built. Door and door hardware replacement is recommended during renovations.

Interior Finishes, Fixtures & Equipment

(See assessment tabulations for interior finish conditions).

Vinyl Composition Tile, Terrazzo and Ceramic Tile are the predominant floor finishes at Hidden Valley Middle School. Other floor finishes include carpet, painted and unpainted concrete, and carpet is present in limited locations (Choral, Media/Library and Main Office) and wood parquet flooring in the Multi-purpose space.

Interior wall finishes are generally exposed brick veneer and painted block. Block walls would be patched and painted during renovations. All new brick infill shall match existing during any renovations.

Window treatments are typically vertical blinds. Most are in poor condition and should be replaced during renovations.

Ceilings are suspended stained spline (tongue and groove) ceiling tile with some gypsum wall board ceilings. Exposed painted tectum roof decking is present in the multi-purpose area. New suspended acoustical tile ceilings are recommended as part of renovations. The acoustical tile ceilings help reduce noise and hide new HVAC, electrical, and data work.

Most interior doors are wood and are original to their respective construction periods. Most doors exhibit wear and do not have handicap accessible door hardware. All interior doors and door hardware would be replaced during a substantial renovation. Some door frames would be replaced to achieve handicap accessibility, or because of reconfigured spaces. Other door frames may be salvaged, patched, and painted.

Marker boards, chalk boards and tack boards are present in classrooms. Most are in poor to good condition. All would be replaced during renovations.

Built-in wooden storage units are present in the original building. All are in poor condition and many would be displaced during renovations because of the need to enlarge and reconfigure spaces.

Casework (cabinets) is generally in good-poor condition. Most casework is not handicap accessible. General casework storage is not sufficient in most classrooms. Classrooms would benefit from new casework with individual student space, sink with bubbler, and

storage to accommodate large format paper, books, manipulatives, etc. All casework should be replaced during any substantial renovation.

Loose furnishings are a mixture of tables and desks of varying ages. The flexibility required of 21st Century classrooms is enabled by flexible, movable furnishings. All furniture and equipment should be replaced during a substantial renovation to provide a uniform appearance, enhance student comfort, and to provide flexibility. Furnishings, fixtures, and equipment design should occur in tandem with building design to achieve proper coordination between building utilities and furniture types and locations. This includes library shelving and furnishings.

Kitchen (food service) equipment is a mixture of equipment original to the building and equipment purchased as the building aged. To ensure maximum efficiency in terms of function and energy, new food service equipment should be provided during a substantial renovation. Significant energy savings can be achieved through more efficient kitchen hoods with energy recovery capabilities, and other equipment. The kitchen should be enlarged and rearranged to increase efficiency of function and serving capacity.

Custodial storage shelving is mostly original to the building. Custodial storage is scattered throughout the building. Consolidated, larger custodial storage is important for efficiency and proper space utilization. Smaller custodial closets throughout the building are also important to efficient custodial function. New metal shelving would be provided in consolidated custodial storage spaces during renovations. Proper floor sink size and locations would be provided during renovations to sufficiently accommodate modern floor machines.

General school storage is scattered throughout the building and consumes spaces intended for other functions. The addition of casework in classrooms will alleviate some of this. But, as part of renovation plans, general school storage should be planned in several strategic areas serving administration, faculty, and staff. Metal shelving units would be provided in dedicated general storage rooms.

Accessibility

At several exterior doors, there are no steps into the building, which will allow for handicap accessible egress out of the building. Paved play areas, play fields, and play equipment are not handicap accessible. As part of any substantial renovation all elements of the site and building entrances would be renovated to be handicap accessible. Obtaining handicap accessibility to areas behind the school will be difficult because of the grade that must be negotiated by ramps and walks. Handicap accessible play areas would be required as part of any substantial renovation and addition project.

Within the building, few components are handicap accessible simply because of their age. All restrooms are not handicap accessible to the latest ADA standard, and will require substantial renovations to achieve full handicap accessibility. The stage is currently not handicap accessible without special accommodation. The ramp and railing in the main

corridors are not handicap accessible; flooring is exposed concrete, needing a slip resistant floor covering. The handrails are pipe railing however balusters and guards are not provided. The ramp does have a curb which meets accessibility. Some doors lack clearances required to be handicap accessible. Handicap accessibility throughout the building would be achieved during any substantial renovation.

Safety and Security

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

Recent renovation work, undertaken by RCPS in 2014, involved the installation of secure entry vestibules at all schools. The vestibule at Hidden Valley Middle School provides visibility from the office and control over the main entry. Door position sensors and locks are provided at all other exterior doors. Entry at these points is limited to staff members with appropriate keys/cards. Due to the nature of entrance renovation, the building is reasonably compartmentalized. Sight lines and distances are reasonably long obstructed in most areas of the building.

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 Hidden Valley Middle School has visibility to the entry of the building. It does not have visibility to the playgrounds and additional parking. A more transparent administration area should be considered as part of renovations and additions.

Hidden Valley Middle 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 main corridor ramps down. The cafeteria floor level is recess from corridor level and yet the bottom portion of windows are wood panels and not glass. Sight lines and distances are long in most areas of the building and obstructed.

End of Hidden Valley Middle School Architectural Narrative

STRUCTURAL

During the Architectural investigation of the Hidden Valley Middle School, a couple issues were discovered warranting additional investigation from a structural standpoint.

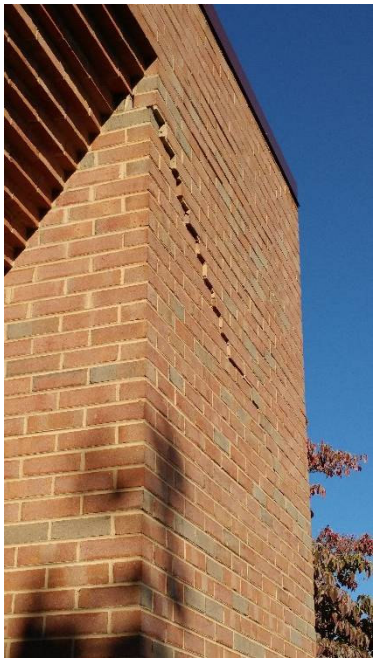
Cracks Near the Corners of the Gym

Stairstep cracks were observed on the exterior face of the gym, high on the walls, in the northeast and southeast corners, near the stage openings. No indication of the cracks was observed in the interior face in the concrete masonry walls. However, upon investigation of the "mezzanine" areas above the stage, some cracking was observed in the "caged" in storage area. The cause of the cracking appears to be minor settlement. This movement is not a threat to the structural integrity of the building. However, should it progress beyond its current condition, it could become an issue that would need to be addressed at some point. It is suggested that the interior cracks be caulked and painted and the exterior cracks be repointed with all cracks monitored for any additional movement. Due to the numerous cracks in this area, it is suggested that crack gages be installed on cracks in a few locations and monitored on a quarterly basis. OWPR, Inc. is happy to assist with setting up this monitoring program if so desired.

Additional minor cracks were observed over the exit doors at the opposite corners of the gym. These cracks were much less severe and should be caulked, painted and monitored for additional movement.

Stairstep Cracks Adjacent to Main Entrance

Cracking at the corner of the building, south of the main entrance was observed. This stairstep crack appears to indicate some type of horizontal movement, perpendicular to the plane of the wall. Around the corner of the building, no similar cracking was observed, however, inside the building in the storage room opposite the cracking on the exterior, some additional cracking was observed. It is unclear at this point, what the source of this movement is. It is recommended that the cracks be repaired as described above and monitored for any additional movement. In order to determine the rate and direction of movement, monitoring these cracks with crack gages is recommended. Again, OWPR, Inc. can assist with setting up the program.



End of Hidden Valley Middle School Structural Narrative

PLUMBING/FIRE PROTECTION

Plumbing Fixtures:

Water Closets: Water closets observed were wall mounted vitreous china with manual type flush valves. The water closets are from 1972 and seemed to be in good working condition. The flush valves are expected to have a useful life of 12 years and the water closets are expected to have a useful life of 30 years.

Urinals: Urinals observed were wall mounted vitreous china with manual type flush valves. The urinals are from 1972 and seemed to be in good working condition. The flush valves are expected to have a useful life of 12 years and the urinals are expected to have a useful life of 30 years.

Lavatories: Lavatories observed were wall mounted vitreous china with manual type faucets. The lavatories are from 2002 and seemed to be in good working condition. The lavatories are expected to have a useful life of 30 years. The lavatory in the men's bathroom off the vestibule is missing a cover on the P-trap.

Sinks: Classroom sinks observed were stainless steel with polished chrome gooseneck faucets and wrist blade handles. The sinks are from 1972 and are expected to have a useful life of 30 years.

Electric Water Coolers: The water coolers are wall mounted, ADA compliant high/low models. The water coolers are from 1972 and some of them have leaking issues. The water coolers are expected to have a useful life of 15 years.

Water Heaters:

Domestic water heating is done by two electric units. Water heater #1 (WH-1) is set at 110°F and WH-2 is set at 160°F. WH-2 serves the kitchen. Water heaters were installed in 1972. The domestic water heaters are expected to have a useful life of 15 years. Two hot water in-line circulation pumps with circulate the hot water loops throughout the building. The circulation pumps are newer.

Piping:

Water:3" and smaller is Copper with fiberglass insulation
3" and above is ductile iron pipe
Sanitary Piping: Cast iron and PVC
Storm Piping: Cast iron
Gas Piping: Black steel

Domestic Water Entrance:

The building is served by a 4" cold water line that is assumed to be from a municipal system.

Fire Protection:

The building is not sprinkled.

The kitchen hood has fire suppression.

Recommendations:

Add a sprinkler system to the building. Most the water closets, urinals, lavatories, sinks, and electric water coolers have passed their expected useful life and should be replaced in the near future. The two electric water heaters have passed their expected useful life and should be replaced in the near future.

End of Hidden Valley Middle School Plumbing/Fire Protection Narrative

MECHANICAL (HVAC)

Heating:

The building is primarily heated with water source heat pumps. The heat pumps in the building were replaced in 2014 and have a useful life expectancy of 18 years. Two boilers (one gas-fired and one electric) provide heat to the building condenser water circulation system. The electric boiler appeared to be original (1972) and is expected to have a useful life of 25 years. The gas boiler is from 2007 and is expected to have a useful life of 30 years. Condenser water is circulated to the building's heating coils with two base mounted pumps, which are believed to have been installed when the building was built in 1972. The pumps are more than 40 years old and are expected to have a useful life of 25 years.

Ventilation:

Ventilation is provided to the building by pulling exhaust air through the building. The roof mounted fans appeared to be original (1972) and have a useful life expectancy of 25 years.

Air Conditioning:

The building is primarily cooled by water source heat pumps, the same units that heat the building. There are two closed circuit coolers or cooling towers which are used to reject heat during cooling mode. The cooling tower was installed in 2014, and has a useful life expectancy of 18 years. The cooling tower appeared to be in good working condition for its age.

Piping:

There is condenser water piping, black steel and copper, both with insulated and non-insulated sections. The piping appears to be original, approximately 1972, and in poor condition due to its age. The average useful life expectancy for an HVAC piping system is 30 years.

Controls:

The building has a combination of pneumatic and digital controls (DDC) are by Andover Controls. The pneumatic controls are assumed to be original.

Recommendations:

The electric boiler, exhaust fans, condenser water pumps, and condenser water piping should be replaced soon. These systems have all passed their useful life expectancy.

End of Hidden Valley Middle School Mechanical Narrative

ELECTRICAL

Main Switch Gear:

Main Switchboard: The main switchboard is a 4000 Amp, 3 phase, 4 wire, 480Y/277 volt General Electric, service entrance rated switchboard. The existing switchboard is original to the building from 1972. The switchboard uses bucket fuses and uses the 6 disconnect rule for disconnecting the service.

Recommendation: In the event of a renovation or addition, existing switchboard can be replaced with current breaker style switchboard with a main disconnect switch. This allows for a single throw to disconnect power to the entire building.

Transformers:

Transformers: The majority of the transformers are original GE and HPS transformer. All of the transformers are currently working condition; however, over time transformers become less energy efficient.

Recommendation: If renovations and additions are pursued, replace existing transformers with new and replace branch circuit panelboards with newer panelboards.

Panelboards:

Distribution and Branch Circuit Panelboards: The majority of panelboards are original General Electric. There are some newer Siemens panelboards installed in 2007; however, the existing panelboards have reached their expected useful life.

Recommendation: If renovations and additions occur, replace the panelboards and locate them in areas to minimize student access and to meet National Electrical Code working clearances. Expand as necessary to accommodate new or modified spaces. The newer panelboards may be reused.

Cabling:

Cabling: Much of the building wiring is original. Some new wiring has been added for the addition of receptacle. All visible wiring appears to be in conduit. Most of the wiring is past its rated useful life and should be replaced.

Recommendation: During a renovation some new wiring may be salvageable, but because of the tedious process of identifying and preserving this wire, it is recommended that all wiring be replaced during renovations.

Conduit/Raceway:

Conduit/Raceway: The conduit and raceway above ceiling is still in good condition. There is not much surface raceway throughout the building, but it could potentially become dislodged from the wall creating a potential shock hazard.

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, and high bay fluorescent lights in the gym with T8 lamps. The T8 lamps are current technology, and meet the current needs of the school. Various emergency wall pack light fixtures are also utilized. Lamps are likely changed as lamps burn out; however, many of the ballasts and optics have likely not been changed and have exceeded their useful life.

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

Lighting Controls:

Lighting Controls: Lighting controls throughout the building consist of toggle switches and keyed switching controlling fixtures within an area, some classrooms have zoned switching.

Recommendation: In the event of a renovation or addition, add automatic lighting controls to each room to comply with building energy codes. Consider providing additional control in the classroom areas for multiple scenes for different types of media.

Public Address System:

Public Address System: The public address system is currently a Bogen headend system with speakers located throughout the school. Teachers and staff use the newer Cisco phone system for communications and announcements. The PA system is currently in the process of being upgraded.

Recommendation: The PA system has reached its expected useful life and should be upgraded with any addition or substantial renovation.

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 system is a Radionics d9124 system with Radionics fire control panel in the front office, along with a silent Knight Honeywell interface. There is also a newer Simplex 4010 fire alarm control panel installed in the office.

Recommendation: Consolidating the fire alarm system to be under a single control panel is recommended. The Simplex 4010 system is a newer system; however, the Honeywell system is also present at other schools.

Generator: None installed.

Site Lighting:

Site Lighting: The site lighting consists of metal halide flood lights that are not full cut off.

Recommendation: Full cut off lights provide a better light cut off on the site. Newer LED fixtures should also be installed when building mounted lights need to be replaced. The instant on characteristic and the energy savings makes LED lights a better alternative for exterior lighting.

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. Some classrooms contain a TV; however, TVs were not consistently present.

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. Each classroom has a phone connected through the PA system. The system is operational.

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

End of Hidden Valley Middle School Electrical Narrative

CIVIL

Traffic Circulation

Buses: School is served by 13 regular buses and 1 special needs bus. There is a large dedicated bus loop on the south side of the building.

Morning: Drop off occurs at the bus loop along the sidewalk smoothly and quickly without backups.

Afternoon: Buses park diagonally in the bus loop to pick up students.

Cars: There is a large parking lot and drop off / pick up area at the main entrance.

Morning: Drop off occurs at the drop off loop smoothly and quickly without significant backups.

Afternoon: Parents park in the main parking lot area and students meet parents at their cars.

Parking: 214 striped parking spaces are provided with 8 designated ADA spaces. Day to day parking is adequate for faculty / staff / visitors. Parking quantities meet Roanoke County requirements and State recommendations. Event parking, particularly for athletic events at the remote athletic fields is inadequate.

Recommendation: Provide additional paved parking areas for athletic events.

Service: The service area located on the west side of the school is large with adequate maneuvering area.

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

Separation: Although all vehicles share a common access drive, there is good separation of vehicular traffic.

Adjacent Roadways: The access drive ends at a traffic light at Route 419. Egress from the site 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 6 spaces at the main entrance with 1 van accessible, and 2 spaces at the faculty parking lot on the west side of the building with 1 van accessible.

Signage: Signs are in fair to poor condition. Signs at the main entrance are leaning as if they had been hit by vehicles.

Recommendation: Replace signs as necessary. Straighten sign posts. Provide parking bumpers to prevent vehicles from hitting signs.

Ramps: There are two ramps at the main entrance in good condition. Curb ramps are located well and in good condition.

Access to all areas: Access to the building is good, access to the athletic facilities is poor. There is no dedicated ADA parking or access routes to the competition fields.

Recommendation: ADA compliant access routes should be planned and constructed to all competition areas.

Parking Areas, Driveways, and Sidewalks

Asphalt Pavement: Access road has many locations with alligator cracking. Emergency egress pavement is in poor condition. Main campus asphalt is relatively new and in good condition.

Recommendation: Repave emergency access and main access road.

Concrete Pavement: Concrete pavement located at dumpster is in poor condition with major cracking.

Recommendation: Replace concrete pavement at dumpster area.

Concrete Walks: Many poor areas of concrete with spalling and cracking. Some areas are still fair condition.

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

Stairs, Ramps, and Railings: Stairs to football field are old but still usable. Some cracking and settling. Railings at stairs to football field are old and do not meet current code. One section at football field is broken and handrail is loose.

Recommendation: Replace handrails at stairs to football field with code compliant handrails.

Concrete Curb and Gutter: Stand-alone curbs at edges of parking areas are nearly buried with the asphalt overlay and are generally useless as barriers. Asphalt overlay has covered much of the curbs along sidewalks creating potential for tripping hazards.

Recommendation: Remove and replace stand-alone curbs.

Concrete / Brick Pavers: Brick paver area at the south side of the school is unfinished and has no walkway leading to it.

Recommendation: Finish brick paver patio and provide access to the adjacent concrete walk.

Guardrail, Parking Bumpers, and Miscellaneous: Guardrail is in good condition. Pipe gates at main entrance and emergency egress are in fair condition. Parking bumpers need to be added to ADA parking area to prevent signs from being hit by vehicles.

Recommendation: Add parking bumpers to the ADA parking spaces.

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

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

Utilities

Fire Lines and Hydrants: Sufficient fire hydrant coverage with no spacing. Only one fire hydrant located near emergency access to site. No paved fire lane around building, but fire truck access is present to three of four sides.

Domestic Water System: The water system is in fair condition. Staff indicated no pressure or water discoloration issues. Water is provided to school via tap into public water main. The water meter is located in a manhole near adjacent neighborhood and emergency access to site.

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. Sewer drains towards Route 419.

Natural Gas System: Gas meter is located at the service area of the school and protected from vehicular traffic. 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: Electric service provided via overhead poles to school property. Service is taken underground to a transformer in the service area and then into the building. The meter is mounted on the building and the transformer is safe from vehicular traffic.

Site Lighting: Large site lights illuminate school parking lots and bus loop and building mounted lights and small site lights illuminate sidewalks and entrances. Site lighting is sufficient to ensure safety and security. No lighting at baseball, softball, football and track or soccer field.

Grading and Drainage

Storm Water System: Majority of water sheet flows to swales along entrance road. Runoff collected from bus loop piped offsite to the east. Structures are in good condition filled with sediment.

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

Slopes, Ponding, and other Drainage Issues: Serious erosion sediment accumulation and ponding issue at track along entrance road to school. Culverts are fully clogged and concentrated runoff has eroded channels along the base of the hill.

Recommendation: Consider planning for storm water redesign to prevent flooding of entrance road.

Site Features

Vegetative Landscaping: Vegetation, including trees and shrubs, are healthy. Shrub beds need mulch.

Recommendation: Continue general maintenance of pruning and mulching.

Lawns: Generally good condition. Minor areas in need of repair.

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

Fencing and Gates: Limited fencing around building. Pole gate at emergency access above school needs maintenance. CLF at chiller/storage yard in poor condition. Fencing at athletic facilities covered under appropriate sections.

Recommendation: Replace CLF at chiller/storage yard.

Signage: Overall condition is poor. Some ADA and fire lane signage is damaged/faded/illegible. Many poles show age, and are leaning or without foundations. Adequate directional signage.

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: Poles are in fair condition. Age is showing.

Recommendation: Monitor condition to replace flag poles in future.

Site Furnishings: Metal benches at parent drop off area in good condition. Picnic tables outside of cafeteria are in excellent condition. Limited wooden furnishings are aging and in fair condition.

Recommendation: Clean and treat wood furnishings to extend useful life.

Accessory Structures: One storage building of CMU construction in good condition.

Physical Education

Practice / PE Fields: Three different areas observed for activities including original competition field with turf in fair condition, shared outfield of baseball/softball complex with turf in good condition, and interior of track field with turf in good condition.

Recommendation: Refer to athletic field assessments for additional information.

Athletics

Track and Field Events: Track is asphalt and is in poor condition. Longitudinal and horizontal seams between asphalt coats have split allowing vegetation to grow. Vinyl CLF in fair condition, minor areas of damage. Segmental block retaining wall in good condition.

Bleachers: Limited bleachers. Good condition.

Accessory Structures: Small storage structures with wood framing and vinyl siding in good condition. Wood pavilion for track judges in good condition.

Recommendation: Existing track requires an asphalt mill and overlay. Recommend action to avoid further deterioration and complete track rebuild.

Competition Softball Field: Outfield turf is in good condition and shared with baseball field. Infield condition is in poor condition due to lack of drainage and maintenance. Fencing in good condition. Scoreboard in good condition.

Bleachers / Stadium: Wooden bleachers and team benches are in poor condition. ADA access not available.

Accessory Structures: Small storage structure with wood framing and vinyl siding in fair condition.

Recommendation: Replace bleachers and team benches with aluminum structures. ADA access is not practical from a parking or fiscal standard point.

Competition Baseball Field: Outfield turf is in good condition and shared with softball field. Infield condition is in poor condition due to lack of drainage and maintenance. Fencing in good condition. Scoreboard in good condition.

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

Accessory Structures: Batting cage is in fair condition. Storage building of CMU construction in fair condition. Dugouts are CMU construction and covered, but require maintenance.

Recommendation: Provide general maintenance and painting of dugouts to extend useful life. ADA access is not practical from a parking or fiscal standard point.

Competition Football Field: School utilizes a shared synthetic turf field and facilities with CSHS, CSMS, and HVHS for competitions. Refer to Shared Athletic Complex identified on Cave Spring Middle School assessment.

End of Hidden Valley Middle School Civil Narrative

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Notes

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

Subject: Hidden Valley Middle School	**Total Pages:**
Date: 9/08/2016	**Location: Roanoke Virginia**
Copies To:	**Report Prepared By: JFH**

General:

The brick facility was constructed in 1971-1972.
The existing facility does provide adequate accessibility to the Main Secure Entrance.
All hardware shall be replaced. The existing door hardware consist of Knobs.
Accessibility issues common at most toilet rooms, drinking fountains, and signage.
Accessibility concrete ramp and railing has been added to the main corridor to access the different floor levels.
All Exterior doors shall have new weather seal kits.
All Interior wood doors shall be refinished or replaced.

Entry Vestibule:

Terrazzo floors, Good condition. Tongue and Groove ceiling. Existing Main Entrance Vestibule meets security and accessibility.

Main Office:

Carpet Flooring, Brick Walls and SATC ceiling.

Corridor:

Tongue and Groove Ceiling, Terrazzo Floors, Brick Walls with Smooth Tile Base.

Boiler Room:

CMU walls, Concrete floors, Exposed ceiling.

Multipurpose:

Parquet Flooring (heavy wax), Brick and CMU walls, Exposed Structure w/Tectum Insulation
Wood Stage Flooring in need of repair
Stage has Storage underneath.

Cafeteria:

Poured flooring with painted base, SATC with CMU walls.
Exterior Window is Single pane non Insulated fixed glass.
Interior Window is Single pane window with HM Frame
Bottom of HM frame is wood panels.

Library:

Carpet Flooring, Brick and GWB walls, Tongue and Groove Ceiling.
The center of the Library has a beautiful raised accent ceiling made of stained wood with a skylight.

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Notes

Room 311 and 310:
Room Separated with w/Folding Partition

Room 309:
Terrazzo Flooring, Folding Partition, SATC and CMU Walls

Room 408:
Terrazzo Flooring, Gypsum Wallboard and CMU

Computer Lab:
Carpeted flooring with Glass, Brick and Wood Panel Walls

Music Lab:
Carpeted flooring with CMU walls and walls with Vinyl Wall Covering
HM windows has Vertical Blinds
SATC

Exterior brick:
Mortar joints are popping out at various places and building has experienced some cracking throughout the years.

Roof:
The flat roof is EPDM with bubbling in areas.
Flashing not high enough and popping up in some areas
Counter flashing missing in some areas and re-caulking is needed.
Transition bar has come loose over gymnasium.

Conclusion:
The facility is in good shape however some maintenance work is required. The existing wood doors need to be refinished and all door hardware and signage needs to be replaced throughout to meet accessible requirements.
Maintenance work is needed on the roof and all mechanical equipment to stop leaks that were evident by ceiling staining. Once all leaks are repaired, the existing ceiling should be replaced throughout with new Suspended Acoustic Tile Ceiling (SATC).
The exterior of the building has developed severe brick cracking especially at the corners. This will require immediate attention. The existing exterior brick requires some repointing as required.

Hidden Valley Middle 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 and Exterior Finishes	3	Life	45 years	Life	Evaluate Crack, Patch, Repair and Repoint Brick
CMU walls	3	Life	45 years	Life	Evaluate Crack, Patch, Repair and Repoint Brick
Wood trim	3	10 years	45 years	0 years	Exist wood trim need refinishing
Interior doors	2	20 years	45 years	0 years	Exist Wood Doors need refinishing
Exterior doors	4	30 years	45 years	0 years	Exterior HM doors need replacing
Door hardware	1	7 years	45 years	0 years	All Door Hardware need to be replaced throughout
Electronic door hardware	5	5 years	2 years	3 years	Security Entrance completed approx 2014
Carpet	5	5 years	2 years	3 years	
Terrazzo	2	50 years	45 years	5 years	Some Cracks throughout
Vinyl floor tile	2	12 years	45 years	0 years	
Ceramic/Porcelain floor tile	3	50 years	45 years	5 years	
Wood gym floor	3	10 years	45 years	0 years	Gym flooring need repairing and refinishing
Other wood floors	1	10 years	45 years	0 years	Stage flooring need replacing
Exposed concrete floors	5	50 years	45 years	5 years	
Curtain Wall, Storefront	5	50 years	45 years	5 years	
Exterior windows	2	30 years	45 years	0 years	Existing Windows need replacing
Interior windows	4	30 years	45 years	0 years	Existing Windows need replacing
Roof (Including flashings, coping, etc.)	3	20 years	N/A	N/A	Repair Roof Flashing (Not sure age of Roof)
Suspended acoustical tile ceilings (lay-in)	2	25 years	45 years	0 years	Ceiling Tiles need replacing
Plaster/GWB ceilings	3	30 years	45 years	0 years	
Sound control panels (wall and ceiling)	5	N/A	N/A	N/A	
Ceiling/exposed structure finish (paint)	5	5 years	45 years	0 years	Painting required
Interior wall finishes (paint)	5	5 years	45 years	0 years	Painting required
Marker boards, chalk boards, Tack Board, Projection Screens	5	N/A	45 years	N/A	
Casework	4	N/A	45 years	N/A	
Window treatments	5	N/A	N/A	N/A	
Toilet partitions	2	20 years	45 years	0 years	
Tolet Accessories	4	N/A	N/A	N/A	Manufacturer Requirements
Exterior railings and Interior Railing	3	30 years	45 years	0 years	Pipe Railing (Need painting)
School sign	4	N/A	45 years	N/A	Room Siganage do not meet ADA Code Compliant
Sprinkler /No Sprinkler	4	N/A	45 years	N/A	Need to be brought up to ADA Code Compliant
ADA Code Compliant	2	N/A	45 years	N/A	Need to be brought up to 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					

Hidden Valley Middle 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					
Gas Boiler	5	30 years	9 years	21 years	
Electric Boiler	2	15 years	44 years	0 years	
Cooling tower	5	18 years	2 years	16 years	
Mechanical piping		30 years	44 years	0 years	
Refrigerant piping	N/A				
Duct		30 years	2 years	28 years	Assuming ductwork was replaced along with heat pumps
Outdoor air units	N/A				
Terminal units	N/A				
Package units (Heat pumps)	5	18 years	2 years	16 years	
Controls	2	20 years	44 years	0 years	
Exhaust fans	2	25 years	44 years	0 years	
Plumbing					
Plumbing fixtures and controls	2	30 years	44 years	0 years	
Floor drains	2	30 years	44 years	0 years	
Water heaters	2	15 years	44 years	0 years	
Pumps	2	15 years	44 years	0 years	
Potable water piping & valves	2	30 years	44 years	0 years	
Sprinkler system	N/A				
Back-flow preventer	N/A				
Service line & meter (size appropriate)	2	30 years	44 years	0 years	
Wall and yard hydrants	2	15 years	44 years	0 years	
Eye wash stations	2	20 years	44 years	0 years	
Emergency showers	2	20 years	44 years	0 years	

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

Hidden Valley Middle 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	45	-5	5	
Panelboards	30	45	-15	5	Some newer panels installed 7 years ago
Cabling	40	45	-5	5	Some newer installed 7 years ago
Conduit/raceway	40	45	-5	5	
Light fixtures	20	45	-25	5	Some light fixtures still have T12 Lamps, some have been upgraded with newere lights
Lighting controls	30	45	-15	5	
Public address system - Headend	30	45	-15	5	
Public address system - Devices	30	45	-15	5	
Security system	10	5	5	5	
Camera system	10	5	5	5	
Data system	15	5	10	5	
Fire alarm system - Headend	30	7	23	5	
Fire alarm system - Devices	30	7	23	5	
Site lighting	20	7	13	2	
Classroom media systems (TV, projector, etc.)	10	5	5	5	
Phone system	10	5	5	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

Hidden Valley Middle 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	2/5	15 years	Unknown	5-14 years	
Asphalt walks	N/A	N/A	N/A	N/A	
Concrete pavement	2	30 years	45 years	0 years	
Concrete walks	3	30 years	45 years	0 years	
Stairs	3	30 years	45 years	0 years	
Ramps	5	30 years	45 years	0 years	
Railings	1/4/5	15 years	45 years	0 years	
Concrete curb and gutter	2/4	30 years	45 years	0 years	
Concrete / Brick Pavers	3	30 years	5 years	25 years	
Guardrail, Parking Bumpers, Misc.	3/5	Varies	Varies	15 years	
Fire lane	4	Varies by Material	Unknown	0 years	
Fire lines and hydrants	4	40 years	45 years	0 years	
Domestic Water system	4	40 years	45 years	0 years	
Sewer system	4	40 years	45 years	0 years	
Natural Gas system	4	40 years	45 years	0 years	
Electrical System	5	25 years	45 years	0 years	
Exterior Lighting	4	25 years	45 years	0 years	
Storm water system	4	40 years	45 years	0 years	
Detention / Retention ponds	N/A	N/A	N/A	N/A	
Stormwater Management BMP's	N/A	N/A	N/A	N/A	
Surface drainage and grading	2	N/A	N/A	N/A	
Vegetative landsaping	4	Life	45 years	Varies	
Lawns	5	Life	45 years	Life	
Fencing and gates	4	20 years	Unknown	2 years	
Signage	3	10 years	Unknown	2+ years	
Flagpoles	5	50 years	45 years	5 years	
Site furnishings	5	15 years	Unknown	10+ 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	Unknown	20+ years	
Practice/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					

Hidden Valley Middle 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)	N/A	N/A	N/A	N/A	
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)	2	10 years	Unknown	0 years	
Lighting	N/A	N/A	N/A	N/A	
Bleachers	5	25 years	Unknown	10+ years	
Accessory structures	5	50 years	Unknown	10+ years	
Competition fields (Softball)	3	25 years	Unknown	5+ years	
Lighting	N/A	N/A	N/A	N/A	
Bleachers / Stadium	2	25 years	Unknown	0 years	
Accessory structures	5	50 years	Unknown	20+ years	
Competition fields (Baseball)	3	25 years	Unknown	5+ years	
Lighting	N/A	N/A	N/A	N/A	
Bleachers / Stadium	5	25 years	Unknown	10+ years	
Accessory structures	4	50 years	Unknown	20+ years	
Competition fields (Football)	N/A	N/A	N/A	N/A	
Competition fields (Soccer)	N/A	N/A	N/A	N/A	
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	
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 12/7/2016
Facility Name **Hidden Valley Middle School**
Client Name Roanoke County Schools

OWPR ARCHITECTS AND ENGINEERS

Quantity	Description	Unit	Cost / unit	Total w/ OH&P
	ARCHITECTURAL			
4	Renovate existing restrooms to provide ADA	EA	$40,000.00	$192,000.00
	accessible toilets			
225	Replace interior doors and hardware	EA	$1,500.00	$405,000.00
28	Replace exterior doors and hardware	EA	$2,500.00	$70,000.00
94	New interior signage-adhesive back /Braille	EA	$42.00	$4,737.60
	ADA compliant			
2,500	Replace windows with energy efficient product	SF	$45.00	$135,000.00
	includes removal of existing.			
119,824	Replace ceilings with suspended acoustical tile	SF	$5.50	$790,838.40
5,000	Carpet	SF	$4.00	$20,000.00
5,000	Terrazzo	SF	$25.00	$125,000.00
5,000	Wood Floor	SF	$11.00	$55,000.00
18	Toilet Partitions and Accessories	EA	$1,215.00	$21,870.00
	CIVIL			
1	Asphalt pavement (parking - athletics)	LS	$300,000.00	$360,000.00
8	ADA signage	EA	$500.00	$4,800.00
85,000	Mill and overlay asphalt pavement	SF	$1.00	$102,000.00
200	Replace concrete pavement	SF	$7.00	$1,680.00
500	Replace handrails	LF	$50.00	$30,000.00
600	Concrete curb	LF	$20.00	$14,400.00
25	Parking bumpers	EA	$150.00	$4,500.00
900	Repaint curbs and fire lanes	LF	$0.10	$108.00
9	Fire lane signage	EA	$500.00	$5,400.00
1	8" Sprinkler System	LS	$30,000.00	$36,000.00
35,500	Mill and overlay asphalt track	SF	$1.50	$63,900.00
4	Bleachers and team benches	EA	$2,500.00	$12,000.00
	MECHANICAL / PLUMBING			
1	Replace Electric Boiler with Gas boiler	PER	$35,000.00	$35,000.00
30	Replace buliding exhaust fans	PER	$2,300.00	$69,000.00
2	Replace Condenser water pumps	PER	$10,000.00	$20,000.00
119,824	Add sprinkler system	SF	$3.00	$359,472.00
119,824	Plumbing Renovation	SF	$10.00	$1,198,240.00
119,824	Replace building automation controls	SF	$5.00	$599,120.00
	ELECTRICAL			
1	Replace Electric Boiler with Gas boiler	EA	$5,000.00	$5,000.00
30	Replace buliding exhaust fans	EA	$200.00	$6,000.00
2	Replace Condenser water pumps	PER	$1,000.00	$2,000.00
119,824	Ceiling Modifications	SF	$1.00	$119,824.00
119,824	Replace Elecctrical Distribution System	SF	$7.00	$838,768.00
119,824	Replace Lighting	SF	$3.00	$359,472.00
119,824	Replace PA System	SF	$1.25	$149,780.00
	TOTAL Budgetary Cost			**$6,215,910**