



Annual Report on State and Local Capital Improvement Plan Projects Implementation, Fiscal Year 2021



Department of Design and Construction
ST. MARY'S COUNTY PUBLIC SCHOOLS



St. Mary's County Public Schools

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EXECUTIVE SUMMARY

The 2020-2021 Annual Report on State and Local Capital Projects provides an update on the progress of the execution of St. Mary's County Public Schools' Capital Improvement Program. This report provides the status of all capital improvement projects managed by the Department of Design and Construction that were completed in fiscal year 2021 and active projects that have approved budgets and are in design or construction phases as of June 30, 2021.

Completed Projects: Projects included new security stations, a relocatable classroom complex unit, roof replacements, HVAC and roof replacements, theatrical lighting and audiovisual replacements, and a bus loop and parking expansion. Security stations at one middle school and at six elementary schools were completed. A new relocatable classroom complex unit with two classrooms was acquired and installed at one elementary school. Partial roof replacements were done at a high school and at an elementary school. HVAC and roof replacements were completed at two elementary schools. A new complete theatrical lighting and audiovisual system was installed at all three high school auditoriums. A new bus loop and additional parking was completed at an elementary school.

The quality of projects completed last year remains exceptional by many measures, including innovative design to support our academic programs, augmenting school capacities with increase of square footage, strict security measures to access facilities, and high user satisfaction levels, while helping SMCPs to make long-term strategic alignments.

Active Projects: FY21 reflected a decrease in the number of active projects, but an increase on budget expenditure. There were seven (7) active projects as of June 30, 2021. Security stations, HVAC and complete roof replacement, HVAC and switchgear replacement, window and exterior door replacement, septic system replacement, and soil erosion control were among the projects.

Security stations continue at elementary schools and will continue through FY23. HVAC and roof replacements have begun and will continue to advance

through the 2022 summer break. Window and exterior door replacements are in construction progress at one elementary school and design progress at two other elementary schools. A septic system replacement is ongoing at an elementary school, and a soil erosion control project is in progress at a high school. A complete limited renovation is ongoing in the design phase at an elementary school. A new pressbox for the stadium is in development stages in a high school. Finally, a new playground is in the design for an elementary school.

As of June 30, 2021, schedules needed to be adjusted in three projects in order to stay operational during the completion of the projects. Adjustments occurred as a result of an unpredictable wet season that extended the time for substantial completion.

Active projects in execution during last year were able to bring benefits to users even when in progress. Active projects offered energy savings, temperature comfort, water tightness and increased safety to students and staff members.

COMPLETED PROJECTS

Fourteen (14) capital projects with a cumulative budget of approximately \$21.6M were completed in fiscal year 2021. "Completed" is defined by the issuance of the Notice of Substantial Completion and/or Certificate of Occupancy. Table 1 shows the entire list of capital projects completed in FY21. Photographs and information are presented on pages 5-13.

New construction comprised 4% of the cumulative budget for completed projects. Scope for new construction includes the acquisition and installation of one new relocatable complex unit at one elementary school (Greenview Knolls Elementary Schools), and a Parking Expansion and New Bus loop for an elementary school (Lettie Marshall Dent Elementary School). Renovation projects include security vestibules at one middle school (Esperanza Middle School) and at six elementary schools (Green Holly, Lexington Park, George Washington Carver, Greenview Knolls, Piney Point and Park Hall Elementary Schools), as well as two partial roof replacement projects (Great Mills High School and Green Holly Elementary School). Renovation projects also include two HVAC and Roof Replacement projects (Park Hall and Hollywood Elementary Schools), and a Theatrical Lighting and Audiovisual System Replacement at all three High School Auditorium buildings.

The majority of the projects were completed on time and on budget, with the exception the roof replacement projects at Great Mills High School and Green Holly Elementary School, as well as the parking expansion and new bus loop at Lettie Marshall Dent Elementary School where an unpredictable wet season extended the performance of all three projects by 206 additional days.

Completed Project FY21

Location	Project Description	Type	Original Budget	Revised Budget	Expenditures as of 6/30/2020	Days Delayed	Reason for Delay
All PROJECTS			\$ 22,842,990.69	\$ 22,289,841.26	\$ 21,593,820.24	206	
Esperanza MS	Security Vestibule	Renovation	\$ 37,196.48	\$ 37,196.48	\$ 37,196.48	0	
Green Holly ES	Security Vestibule	Renovation	\$ 37,366.12	\$ 37,366.12	\$ 37,366.12	0	
Lexington Park ES	Security Vestibule	Renovation	\$ 66,499.05	\$ 66,499.05	\$ 66,499.05	0	
George Washington Carver ES	Security Vestibule	Renovation	\$ 38,120.12	\$ 38,120.12	\$ 38,120.12	0	
Greenview Knolls ES	Security Vestibule	Renovation	\$ 67,147.87	\$ 67,147.87	\$ 67,147.87	0	
Piney Point ES	Security Vestibule	Renovation	\$ 32,821.94	\$ 32,821.94	\$ 32,821.94	0	
Park Hall ES	Security Vestibule	Renovation	\$ 33,476.71	\$ 33,476.71	\$ 33,476.71	0	
Greenview Knolls ES	Relocatable Classrooms	Addition	\$ 302,094.00	\$ 288,890.50	\$ 288,890.50	0	
Great Mills HS	Roof Replacement	Renovation	\$ 3,516,000.00	\$ 2,074,135.00	\$ 2,005,758.20	77	Unpredictable wet season
Green Holly ES	Roof Replacement	Renovation	\$ 2,012,000.00	\$ 1,827,808.00	\$ 1,827,808.00	116	Unpredictable wet season
Park Hall ES	HVAC and Roof Replacement	Systemic	\$ 6,917,000.00	\$ 7,855,057.00	\$ 7,527,854.15	0	
Hollywood ES	HVAC and Roof Replacement	Systemic	\$ 7,414,421.00	\$ 7,414,421.00	\$ 7,375,115.92	0	
Chopticon, Great Mills and Leonardtown HS	Theatrical Lighting and Audiovisual System	Building Infrastructure	\$ 1,471,847.40	\$ 1,619,901.47	\$ 1,619,901.47	0	
Lettie Marshall Dent ES	Parking Expansion and New Bus Loop	Building Infrastructure	\$ 897,000.00	\$ 897,000.00	\$ 635,863.71	90	Unpredictable wet season

Table 1- Completed Capital Projects 2020-2021

Security Vestibules

Provided additional protection by adding a secured space while minimizing risk. These security vestibules serve as extra doors to keep visitors from entering the building without being cleared and approved for access. The security vestibules are electronically locked and controlled from the main office, which maintain a full vantage of the space through laminated glazing, security cameras, a door monitoring system and a transaction counter with a drawer and speak-through.

SMCPS completed the security upgrades at one middle school and at six elementary schools. At some locations, existing windows were used to include a speak-through and drawer, while other schools required additional storefront enclosures to create a separate vestibule.



Esperanza Middle School



Green Holly
Elementary School



Lexington Park
Elementary School



George Washington Carver Elementary School



Greenview Knolls Elementary School



Piney Point Elementary School



Park Hall Elementary School

Relocatable Classroom Modular Unit Complexes

Modular classrooms are necessary for providing additional classroom space when capacity of a school is limited or when a new program is added to an existing building. With the Head Start Program consolidated from three to two locations, additional space was needed at Greenview Knolls Elementary School.

The project consisted of purchasing and installing a two-classroom unit complex with accessible restrooms accessible from a central vestibule. Also, included aluminum gutters and downspouts to grade, a 200 amp single-phase 120/240-volt feeder from main electric switchboard, 100sf of deck and canopy to existing modular complex, NFPA approved fire sprinkler system tied into the existing wet pipe sprinkler system, data and PA system tied into the school system.



GreenView Knolls Elementary School

Roof Replacements

Partial roof tear-off of existing built-up roof or shingles and installation of new 4-ply membranes or aluminum standing seam to enhance energy efficiency, code compliance, and water tightness.

Scope for Great Mills High School included replacement of approximately 71,500 sf of existing roof with 4-ply built-up bituminous roof system, replacement of flashing, metal coping, gutters and downspouts, while modifying existing mechanical curbs and penetrations.

Scope for Green Holly Elementary School included removal of existing asphalt shingles and associated flashings on a portion of the B-Side roof and replacing it with a new standing seam metal roofing system, associated flashings for all mechanical fans and penetrations, metal coping gutters and downspouts.



Great Mills High School



Green Holly Elementary School

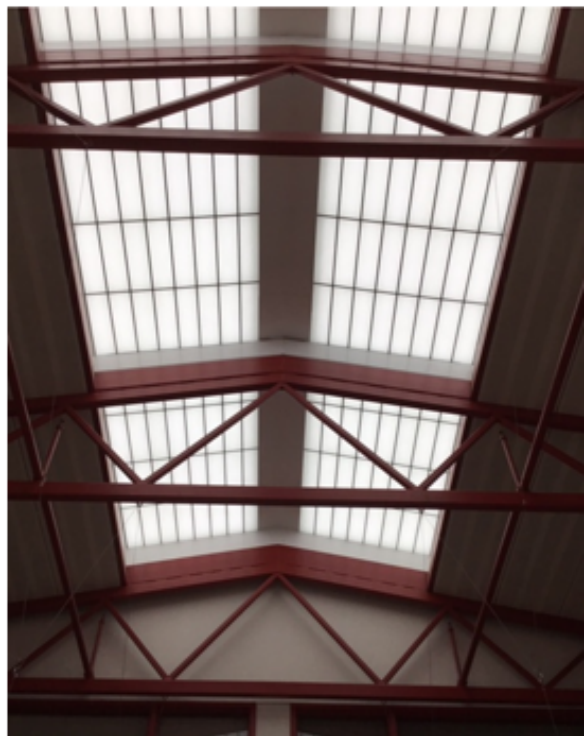
HVAC and Roof Replacements

Complete roof tear-off of existing built-up roof or shingles and installation of new 3-ply membranes or aluminum standing seam to enhance energy efficiency, code compliance, and water tightness. Roof replacement included installation of new insulation to achieve the required R-30 average thermal resistance, replacement of sheet metal flashings with new prefinished aluminum flashings, installation of overflow scuppers, new overflow drains with drainage lines that meet code requirements, and replacement of gutters and downspouts.

HVAC replacement included replacing existing pneumatic control with direct digital control, electric/electronic actuation type to be interlocked with the central energy management system; replacement of existing exhaust fans with energy efficient electronically commutated motors, main entry vestibules to be upgraded with heating units, updating air distribution system to meet today's energy code requirements, replacement of boilers with primary constant volume circulating pumps and modulating control valves such that boilers can be staged on and off based on load and have supply water temperatures reset based on load, as per current State of Maryland energy code requirements. Chiller replacement of a high efficiency unit utilizing approved refrigerant and dual temperature distribution to meet State of Maryland energy code.



Park Hall Elementary School



Hollywood Elementary School

Theatrical Lighting and Audiovisual System Replacements

Existing conditions at the three high school auditoriums required sunsetting of equipment on all areas of audio, video, lighting and rigging.

Replacement of equipment included: new audio amplification and mixer; new video screen, projector and control; new LED house lights; new theatrical LED fixtures and control; new LED moving lights; and, replacement and/or addition of rigging.



Leonardtown High School



Great Mills High School



Chopticon High School

Parking Expansion and New Bus Loop

Project included the expansion and reconfiguration of the existing bus and passenger parking lot as well as grading of raw property for new bus parking, new asphalt and sidewalk installation, milling and asphalt overlay of existing parking lot, stripping and storm drainage improvements. Benefits of this project was the elimination of end-to-end parking and instead creating a designated area for buses to park side-by-side, while eliminating pedestrian traffic through school bus traffic. Also an increase in parking spots and sidewalks.



Lettie Marshall Dent Elementary School

ACTIVE PROJECTS

Security Vestibules

SMCPS continues to provide additional protection and started the construction of two additional security vestibules, with the continuation of the elementary schools and including the Virtual Academy. Major alterations to these areas are in effect in order to provide adequate space for the security officers and visitors, while complying with Life Safety and ADA standards.



Virtual Academy



Town Creek Elementary School

HVAC and Switchgear Replacement

Replacement of the electrical switchgear in the 1973 portion of Building A of Green Holly Elementary School as well as the HVAC system. The building systems and equipment are original and well beyond their useful life. Project scope also includes the replacement of generator, oil tank, heating water piping, new water service and fire sprinklers, complete replacement of ceiling tiles and patch roof for associated roof top units, and abatement of duct sealant.



Green Holly Elementary School

HVAC and Roof Replacement

At Dynard Elementary School, the project consists of the replacement of approximately 41,050 sq ft of existing roofing which was constructed in 1992 as well as replacement of the HVAC system, also original from 1992. The scope of work also includes the replacement of the fuel oil storage tank and transfer pump, installation of an emergency generator, and upgrades to several low voltage systems which will provide electrical power for egress lighting and life safety systems.



Dynard Elementary School

Window and External Door Replacement

The Department of Design and Construction is coordinating on behalf of the Department of Safety and Security a replacement of windows and exterior doors at Ridge Elementary School as a part of the security initiatives implemented at all other schools. The scope of the projects includes:

- Engineering and control of asbestos containing material (ACM)
- Abatement of interior and exterior caulk and window glazing compound
- Removal and replacement of exterior hollow metal doors and hardware
- Removal and replacement of aluminum windows

The goal with this project is to enhance the safety and security of all the staff and students with new windows that will accept the safety film, in addition to including fire escape options to classrooms with only one way of egress. Also, an improved comfort and energy efficiency while replacing windows and exterior doors with well-sealed glass and frames, using dual pane glass to prevent heat transfer and to reduce the amount of ultraviolet rays that enter the building. With new windows and exterior doors, a cost reduction of operating funds is expected, lowering utility costs.



Ridge Elementary School

Septic System Replacement

The existing sewage drain field at Town Creek Elementary School was installed at the facility in 1964. With a 57-year old system, having surpassed the life expectancy, and a notable rise in the amount of liquid back flowing from the distribution piping, a replacement system was a need.

The scope of the project includes:

- Installation of a new low-pressure distribution system
- Installation of new septic drain fields and associated pumps, plumbing
- interior grease trap in the kitchen

The system is designed so that gravity flow will run from the building to and through the septic tank to the pump chamber.



Town Creek Elementary School

Soil Erosion Project

A soil erosion project for washout repairs was required at Chopticon High School field. The combination of existing topography on the back of the property and the existing piped outfall runoff contributed over many years to washout damage. Upcaptured portions of the runoff from less permeable areas on the parking lot and ballfield likely created separate pathways down the steep slopes and undercut the existing erosive protection. This uncontrolled runoff during large events of rainfall contributed to the extent of the erosion.

New inlets, berms and underground smooth-lined corrugated polyethylene pipes were used to collect the roof and surface runoff from the washout area drainageways. The pipe alignment follows the highest to lowest point to collect almost all of the runoff and direct it to a lower elevation area near the receiving stream that would provide either a structure or rip-rap protection to dissipate energy from the runoff coming down the slopes, before flowing into the receiving stream. A path was cleared and minor contouring done to the grading to direct the pipe down the slope, as well as direct runoff on the path into the forested areas to reduce flow rates.



Chopticon High School

Active Projects in Design Phase

The following is a list of all projects that are in the design phase as of June 30th, 2021:

- Mechanicsville Elementary School Limited Renovation
- White Marsh Elementary School Window Replacement
- Town Creek Elementary School Window Replacement
- Chesapeake Charter Public School Security Vestibule
- Chopticon High School Stadium Pressbox Replacement
- Lexington Park Elementary Playground Replacement

BEST PRACTICES

Design and Construction Best Management Practices for managing capital projects includes:

- Following the Four Primary Stages of the Project Process

