CAROLINE COUNTY PUBLIC SCHOOLS

COMPREHENSIVE MAINTENANCE PLAN FOR EDUCATIONAL FACILITIES

Fiscal Year 2022

Caroline County Public Schools
Growing the Essentials for Learning
CAROLINE COUNTY PUBLIC SCHOOLS
204 Franklin Street
Denton, Maryland 21629

With the assistance of:

Milton E. Nagel, CPA, Retired Assistant Superintendent
David Lever, AIA D.Arch, Principal, Educational Facilities Planning, LLC
Andrew Onukwubiri, CDT, Managing Director, Ainah Group, LLC
Maurice Ngwaba, AIA AICP CCS, Principal, Chyke Maurice & Assoc., Inc.
# TABLE OF CONTENTS

## SECTION A: INTRODUCTION AND SUPPORTING INFORMATION
1. Guiding Principles of the Maintenance Program .......................... 1
2. Our Vision ............................................................................ 2
3. Our Mission .......................................................................... 2
4. Interrelationship of Comprehensive Maintenance Plan with Educational Facilities Master Plan and Other Documents .......................... 2
5. Strategic Long-Term Focus ....................................................... 3
6. Near-Term Focus ................................................................. 4
7. Maintenance Work Order System .............................................. 4
8. Facilities Condition Assessment Program and Process .................. 4

## SECTION B: FACILITY OUTCOMES
1. Facility Usability ..................................................................... 5
2. Facilities & Maintenance Department Programs ......................... 5

## SECTION C: RESOURCES AND INPUTS
1. Maintenance Staffing and Organization .................................... 8
2. Funding, Budgets and Expenditures .......................................... 8

## SECTION D: Planned Actions
1. General Considerations ....................................................... 8
2. Changes in Recent Years ....................................................... 9
3. Planned Improvements ....................................................... 10
4. Professional Development ................................................... 10

## SECTION E: Obstacles and Missing Resources ......................... 10

## SECTION F: Attachments .......................................................... 11
  A-0 Board of Education CMP Approval ....................................... 13
  A-1 Organizational Charts: 
    A-1a Board of Education ...................................................... 14
    A-1b Plant Operations ....................................................... 15
  A-2 Maintenance Organization Staff ....................................... 16
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-3</td>
<td>Position Descriptions of Maintenance Personnel</td>
<td>17</td>
</tr>
<tr>
<td>A-4</td>
<td>Maintenance Personnel</td>
<td>25</td>
</tr>
<tr>
<td>B-0</td>
<td>Preventative Maintenance Chart</td>
<td>27</td>
</tr>
<tr>
<td>B-1</td>
<td>Tentative Replacement Schedule</td>
<td>29</td>
</tr>
<tr>
<td>B-2</td>
<td>Boiler/Burner Inspection and Repair</td>
<td>31</td>
</tr>
<tr>
<td>B-3</td>
<td>Painting</td>
<td>32</td>
</tr>
<tr>
<td>B-4</td>
<td>Roof Replacement and Repair Schedule</td>
<td>33</td>
</tr>
<tr>
<td>B-5</td>
<td>Sewage Treatment Plants</td>
<td>34</td>
</tr>
<tr>
<td>B-6</td>
<td>Ceiling and Tile Replacement</td>
<td>35</td>
</tr>
<tr>
<td>B-7</td>
<td>Asbestos Management</td>
<td>36</td>
</tr>
<tr>
<td>B-8</td>
<td>Carpet Replacement</td>
<td>37</td>
</tr>
<tr>
<td>B-9</td>
<td>Driveway and Parking Lot Resurfacing</td>
<td>38</td>
</tr>
<tr>
<td>B-11</td>
<td>Maintenance Vehicle Replacement Schedule</td>
<td>39</td>
</tr>
<tr>
<td>B-11</td>
<td>Environmental Issues</td>
<td>40</td>
</tr>
<tr>
<td>C-1</td>
<td>Long-Term Capital Improvements</td>
<td>42</td>
</tr>
<tr>
<td>C-2</td>
<td>Facility Metrics: Outcomes, Maintenance, and Custodial</td>
<td></td>
</tr>
<tr>
<td>C-2a</td>
<td>Facility Outcomes</td>
<td>43</td>
</tr>
<tr>
<td>C-2b</td>
<td>Summary of Current Staffing vs. Industry Standards</td>
<td>45</td>
</tr>
<tr>
<td>C-2c</td>
<td>Budget Narrative</td>
<td>46</td>
</tr>
</tbody>
</table>
CAROLINE COUNTY PUBLIC SCHOOLS
COMPREHENSIVE MAINTENANCE PLAN FOR EDUCATIONAL FACILITIES

A. INTRODUCTION AND SUPPORTING INFORMATION

Maintenance is an essential component of school facility management. Timely, thorough, and professional maintenance ensures that the school facility will support educators, administrators, and students throughout the school year in an environment that is safe, healthy, and conducive to learning. Moreover, good maintenance is cost-effective: it reduces operating expenses and defers the time when buildings, building systems, and components must be replaced or substantially upgraded. Accordingly, the Comprehensive Maintenance Plan (CMP) has essential inter-connections with the Caroline County Public Schools annual Educational Facilities Master Plan (EFMP) and the annual Capital Improvement Program (CIP).

The Caroline County Public Schools maintenance program is recognized for its economy, efficiency, and effectiveness. This CMP is established to maintain and/or improve the maintenance program and to preserve the school system investment through the use of the most efficient and economical means available. It is also intended to complement the educational programs of the school system and assure a safe, secure and healthy environment for students and staff. In partnership with families and community, we prepare all students to achieve college, career, and life readiness through a challenging and progressive educational experience.

This report outlines the structure of the maintenance program, describes its accomplishments, and discusses the challenges it faces. The report is developed in compliance with the regulations of the Interagency Commission on School Construction (IAC) and in accordance with the "FY 2022 Comprehensive Maintenance Instructions," issued by the IAC on July 30, 2021.

1. Guiding Principles of the Maintenance Program

The Facilities and Maintenance Department researches, coordinates, and supervises all aspects of the building maintenance, upgrade, renovation, and construction phases for the Caroline County Public Schools (CCPS) system. The Board of Education currently maintains 10 schools, a Family Support Center, two Judy Hoyer Centers, a Culinary Arts Center, a Central Office, Central Office Annex, and a Support Services Center, totaling over 1,200,000 square feet valued at approximately 112 million dollars.

The guiding principles of the Comprehensive Maintenance Plan are as follows:

1. Operate CCPS buildings to function at top efficiency.
2. Eliminate or reduce accidents, safety hazards, and fires.
3. Provide continuous use of facilities without disruptions to the educational program.
4. Protect public property by preventative and predictive maintenance.
5. Achieve efficient energy management.
6. Produce the maximum level of maintenance for the minimum dollars expended.

The maintenance staff of the school system provide services to the County Government on an informal basis, correcting maintenance items that lie within the skill sets of the staff members
and assistance in procuring outside vendors for more complex problems. These services are provided on a no-cost basis, representing an important aspect of the strong culture of cooperation that exists between the Board of Education and the County Commissioners.

2. Our Vision

We envision that every student will be prepared, empowered and inspired to thrive in an ever-changing and diverse world:

- Students will be educated to succeed in the world of the future.
- Students learn best in an empathetic, safe and healthy environment.
- All students are entitled to equitable resources, services and opportunities to learn.
- Efficient and effective school system operations have an important impact on student learning.
- School buildings will be the pride of our county, giving physical expression to the value our community places on neighborliness, on the integrity of our towns, communities and farmlands, and above all, on the welfare and education of our children.

3. Our Mission

The Maintenance Department of Caroline County Public Schools will keep the educational and support facilities of the school system in a condition that supports the educational programs of the school system while operating in a safe, efficient, and fiscally sound manner.

4. Interrelationship of Comprehensive Maintenance Plan with Educational Facilities Master Plan and Other Documents

The Comprehensive Maintenance Plan is fully integrated with the Educational Facilities Master Plan (EFMP) and the Capital Improvement Program (CIP). Facility maintenance ensures that the assets constructed and improved with capital funds will operate safely, efficiently, and economically, and that the life of the asset will extend beyond industry standards. Maintenance and capital renewal are interrelated: good maintenance extends the life of costly capital assets and postpones the date for replacement or major upgrade, while timely capital investment reduces the maintenance burden on staff and other resources, and allows all systems to operate efficiently and effectively.

Rightfully, both the County Government and the State Interagency Commission on School Facilities (IAC) have an interest in ensuring that the capital improvements that they fund are well maintained. This ensures that costly capital improvements are neither premature nor unnecessarily expensive. Modernizations and alterations have been performed as a result of aging building systems and components, but also to address new educational requirements, code changes, safety requirements, building functions, and changes in technology. Long-term capital improvements take into account life cycle analyses of buildings and their major components. Additions are called for when student enrollments exceed State Rated Capacities (SRC) or to meet educational program requirements. These changes are intended to enhance the operation and utility of the facilities.

CCPS has used its capital funds with great care. Major projects include the renovation/addition projects at North Caroline High School (2002), Colonel Richardson Middle School (2007),
Colonel Richardson High School (2011), and Preston Elementary School (2016), and the replacement of Greensboro Elementary School (2020). All ten CCPS schools have security vestibules at the front entrance and have been wired for voice, video, and data through either the Technology in Maryland Schools (TIMS) program funds or by means of a renovation project. In addition, participation in the Look of the Future Science program has allowed us to modernize science classrooms and labs in both of our high schools.

5. **Strategic Long-Term Focus**

Based on the stability of its student population and its dispersed geography of towns and rural locations, CCPS will maintain its current inventory of school facilities into the foreseeable future. While it would be desirable to renovate or replace our aged elementary school facilities and replace the Career and Technical Education center, local fiscal constraints preclude these options for the immediate future. Consequently, the focus remains on maintenance projects and smaller capital renewal projects to ensure that the facilities are healthy, safe and operational at all times, and that they support the educational programs of the school system.

The Caroline County Public Schools Long-Term Capital Improvement Program is shown in Attachment C-1. With respect to the periodic assessment of building systems, Caroline County Public Schools is in the process of developing a comprehensive and detailed long-term plan. Pending funding to conduct a full facility condition assessment, CCPS will develop a near- and long-term list of projects in every category. We anticipate that this list will be fully populated in the 2022 CMP.

The long-term maintenance strategy includes the following key programs and approaches:

a. **Energy management system:** The CCPS energy management strategy addresses three key objectives:
   - Minimize the cost to operate and maintain our facilities.
   - Create a positive environment for student learning.
   - Minimize our environmental impact whenever possible.

b. **Building & Controls Data**

CCPS uses a variety of building controls to automatically adjust lighting and HVAC systems as needed. This ensures energy use matches actual demand. Real-time data lets us confirm and adjust our settings as needed. We also compare our energy usage across multiple days with similar conditions (temperature, rain, cloudiness, etc.) to identify outliers that may indicate a problem. This enables us to take a proactive approach to maintenance and energy management, resulting in significant savings over time.

c. **Geothermal Systems**

CCPS uses ground source heating and cooling geothermal systems in three of our buildings: Colonel Richardson Middle School, Colonel Richardson High School, and Preston Elementary School. These systems are extremely efficient and offer significant operational savings, including reduced maintenance costs. Annual energy savings are estimated at $210,000.
d. Solar Fields

Photovoltaic (PV) solar fields are installed at six school and three non-school sites in Caroline County. These systems provide the majority of the electrical power for the six schools and three non-schools, with annual energy savings estimated at $159,000.

6. Near-term Focus

With the completion of the Greensboro Elementary School replacement project, the CCPS near-term focus will be on a program of preventive and predictive maintenance, and on smaller, targeted capital renewal projects that will ensure operational continuity, improve efficiency, and reduce the maintenance burden on staff.

Annually, the school system will update its list of smaller maintenance and capital projects based on:

1. Direct observation of conditions;
2. Work orders generated through its maintenance software program;
3. Periodic assessment of the age of building systems and components, anticipating replacement or upgrade needs;
4. Incidence of work orders; and
5. Notifications from principals and administrators of emergent issues.

7. Maintenance Work Order System

CCPS uses a Maintenance Work Order System (MWOS) that was developed internally by the Information Technologies department of the school system a number of years ago. The Work Order System was built using off-the-shelf software. This database system generates work orders and allows for a minimum level of data collection. The system has served the system well, complementing the on-site knowledge and observation of staff.

In the balance of FY 2022, the staff of the Maintenance Department will assess the benefits and costs of translating to "School Dude", the Computerized Maintenance Management System (CMMS) that is used by a majority of Maryland school systems. Cost and staff time will be major factors to be considered in this analysis. Pending the decision, the school system will continue to use its long-standing Maintenance Work Order System.

8. Facilities Condition Assessment Program and Process

a. Caroline County Public Schools Assessment Process

CCPS assesses facility conditions in whole before the beginning of each school year. The school system assesses particular building systems and components according to the inspection schedules shown in Attachment B-0 of this CMP. In addition, CCPS identifies facility needs through the methods described in Item 6 above.

b. Current CCPS facility condition assessment status

CCPS has the intention to undertake a system wide-facility condition assessment within the next five years. Local funding is not currently available for this initiative. In the interim, CCPS will use the methods outlined in Items 6 and 7 to assess the conditions of the facilities and their maintenance needs.
SECTION B: FACILITY OUTCOMES

1. Facility Usability

CCPS school facilities have not experienced a single closure due to a failed building system or component within at least the last five decades.

In addition to their primary educational purposes, CCPS facilities are available for public use. An approved Building Use Request is required to use any CCPS facilities. Fees may be assessed for use of CCPS facilities to cover custodians, cafeteria personnel, stage lighting and sound system operator, parking lot lighting, and air conditioning, as appropriate.

2. Facilities and Maintenance Department Programs

The following sections discuss the range of maintenance activities performed by the Department. Work orders generated through the MWOS are a primary method to identify deficiencies and schedule corrective actions. Attachment C-2a lists a number of metrics requested by the IAC to assess the status of the maintenance program. Since the Maintenance Work Order System used by CCPS does not currently provide the data needed to populate this matrix, the process to collect appropriate information will begin in the balance of FY 2022 and will likely continue into FY 2023. See Section A.7 above for further information on the CCPS Maintenance Work Order System.

a. Preventive Maintenance (PM)

(i) Routine PM is performed primarily by school system employees. Certain daily and weekly tasks are handled by the Head Custodians. Less frequent tasks are scheduled and assigned to the central maintenance staff. Service maintenance agreements are obtained for some of the more sophisticated and complex equipment and systems such as chillers, burners and temperature control systems, or where law or special licensing or certification is required (See Attachment B-0).

(ii) Integrated Pest Management Program (IPM). The IPM program employed by CCPS is a proactive rather than a reactive approach to pest control on school property. The IPM program includes routine inspections or surveys of all school facilities to identify conditions conducive to pest invasion, to ensure early detection of pest presence and to monitor infestation levels. As a first step in pest control, the IPM approach employs a number of preventative strategies and alternatives to pesticide application, such as: employee education, source reduction, inspection and identification of potential problem areas and improved sanitation. Each approach is monitored and evaluated, and modifications are made if necessary. Pesticides are used only as a last resort.

b. Scheduled Maintenance

The intent is to schedule repairs/replacement while taking into consideration factors that include the date of construction or installation, the condition of the equipment, the type and amount of use, and exposure to the elements. Maintenance work orders are generated by the MWOS. In addition, periodic inspections are performed by the Superintendent of Schools, Assistant Superintendent for Administrative Services, Director of Operations, Supervisor of School Construction, Supervisor of Plant
Operations, Safety Officer, maintenance staff, building administrators, specialized consultants, and State inspectors. Based on their input, it is determined if and when major repair/replacement is necessary. In addition:

- A walk-through inspection of all schools is performed before the beginning of each school year.
- Infrared testing of all electrical panel boxes has been performed using services supported by the MABE insurance program.
- Annual boiler inspections are performed by Chubb through the MABE insurance program.

Caroline County Public Schools has developed a self-generated system that is used to plan and execute scheduled maintenance (preventive, predictive) and to record unscheduled work (corrective maintenance, customer service requests, emergency). At this time, the Maintenance Department is not funded to implement a more robust CMMS program that can be integrated with those of other school systems or the IAC.

For the schedules for Repairs and Replacement see the following Attachments:

B-2 Boiler/Burner Inspection and Repair
B-3 Painting
B-4 Roof Repair and Replacement Schedule
B-5 Sewage Treatment Plants
B-6 Ceiling and Floor Tile Replacement
B-7 Asbestos Management
B-8 Carpet Replacement
B-9 Driveway and Parking Lot Resurfacing
B-10 Maintenance Vehicle Replacement Schedule

c. Unscheduled Maintenance

Unscheduled maintenance includes repair activities which cannot be programmed or forecasted. It includes corrections of day-to-day breakdowns or equipment failures and emergency repairs.

(i) Unscheduled Repairs and Corrective Maintenance. This category includes routine corrective repairs of items such as lighting failure, electric motor failure, pipe breakage and burner failure. It also includes emergency repairs resulting from vandalism, weather-related events, security-related items, or fire. To minimize damage during emergencies, system shut-off valves are clearly labeled and every school has a plan showing the locations of the shut-offs.

Unscheduled repair work requests are initiated by the school principal, his/her designee or the Maintenance Coordinator. These repair requests are electronically submitted and tracked as part of our school system’s wide area network (WAN). Our ability to efficiently track and monitor work requests enables us to accurately estimate future funding needs in the area of unscheduled repairs.

When immediate action is necessary such as lack of heat, broken windows, pipes, etc., a call to the maintenance office will initiate the dispatch of a maintenance
employee to the site. All unscheduled verbal orders must be followed up with a written request to assure that any required additional work is not missed.

Attachment C-2a lists a number of metrics requested by the IAC to assess the incidence of unscheduled repairs and the ability of CCPS to respond to them. As noted above, the CCPS Maintenance Work Order System does not currently provide the level of data needed to populate this matrix.

(ii) Asbestos Abatement Plans. In October 1986, Congress enacted the Asbestos Hazard Emergency Response Act (AHERA). Under this law, comprehensive regulations were developed to address asbestos problems in public and private elementary and secondary schools. These regulations require most schools to be inspected for friable and non-friable asbestos. School systems must develop asbestos management plans that address asbestos hazards in school buildings and implement response actions in a timely manner. These regulations assign schools many new responsibilities related to asbestos containing materials (ACM).

Our program for fulfilling these responsibilities is outlined in our asbestos management plan. This plan contains information on our inspections, re-inspections, response actions and post-response activities, including periodic surveillance activities that are planned or are in progress.

d. Deferred Maintenance

Deferred maintenance includes any maintenance or repair activities outlined above that have been delayed or postponed because of lack of funds or personnel, or are pending some future decision regarding building use or capital investment.

Most deferred maintenance items result from a lack of funds. Although the majority of deferred maintenance items do not affect occupant wellbeing or building performance, every effort is made to obtain supplemental funding to reduce the deferred maintenance list. A close working relationship exists between the County Administrator, County Commissioners, and the Board of Education, all of whom are genuinely committed, within their means, to maintaining our schools. On occasion, additional funding has been allocated for maintenance projects of extreme importance. Projects previously listed under “Modernization and Alterations” in the capital plan were proposed and then deferred until supplemental funding was acquired through the cooperation of the Board of Education and County officials.

e. Equipment Maintenance

Maintenance equipment replacement is budgeted annually on an as-needed basis. Vehicles, which are scheduled for replacement, are indicated on Attachment B-10. Some of these vehicles have not been replaced in the past because of budget constraints and/or cuts.
SECTION C: RESOURCES AND INPUTS

1. Maintenance Staffing and Organization

The Maintenance Department is comprised of 6.7 employees on the central maintenance staff and nine Head Custodians assigned to the schools. See Attachment A-1a for the organization chart of the Board of Education of Caroline County.

Central Maintenance organizational information, specific duties, and job descriptions for each position can be found in the following attachments:

- Attachment A-1b Plant Operations Organization Chart
- Attachment A-2 Maintenance Organization Staff
- Attachment A-3 Position Descriptions of Maintenance Personnel
- Attachment A-4 Maintenance Personnel Data

2. Funding, Budgets and Expenditures

The Maintenance Department achieves a high level of maintenance quality within a highly restricted operational budget. Attachment C-2c provides information on the funding for maintenance and operations. CCPS does not currently have a breakdown of information on the maintenance categories described under Section B.2 above. The intention is to begin to gather this information in order to populate the 2022 CMP in the fall of 2022.

As an instance of the cooperation that exists between the Board of Education and the County Commissioners, the Board is permitted to retain its fund balance every year. It uses these funds to address unforeseen maintenance and capital items.

SECTION D: PLANNED ACTIONS

1. General Considerations

a. Discussions with the school principals and the Assistant Superintendent during budget preparation for FY 2022, and priorities established in prior years, indicated a continuing need for additional maintenance and building improvements. Some of these needs had been deferred pending the receipt of adequate funds to correct deficiencies. The Covid-19 pandemic has also had an impact on the ability of CCPS to address its needs, as delays in the supply chain have been experienced by vendors. Fortunately, none of the maintenance personnel of the school system were directly affected by the Covid-19 illness.

b. A major expenditure in the past several years has been for re-roofing projects. 100% of the school system’s roofing surface contains built-up single ply roofing. The overall performance of completed roofing projects has been average. The causes of this average performance are under investigation to ensure that future roof installations will perform better.

c. A survey of all school system facilities has been conducted to determine the accessibility needs required under the Americans with Disabilities Act (ADA). Our annual maintenance / small capital project proposal includes a request for funds to initiate ADA
improvements. The State Aging Schools Program (ASP) has been a useful source of funds in satisfying these requirements.

d. There is considerable concern about the age and condition of the HVAC systems. To ensure that the schools remain operational under all weather conditions, CCPS will engage an engineering company to review the HVAC systems of the six schools that have not been renovated or replaced in the past 15 years. This review will lead to a prioritized list of systems or components that will require replacement or upgrade.

e. Other major concerns are:

(i) The renovation or replacement of aging existing facilities will be necessary to increase the building life and to raise the quality of the interior environment. Although two major projects are listed in the FY 2023 CIP, it is projected that funds may not be available within the next five to ten years for these large and expensive projects.

(ii) It is not envisioned that building additions will be needed to accommodate projected student enrollments or for programmatic purposes. However, renovations and/or additions may be needed to accommodate small-group instruction and/or universal full-day prekindergarten, as required under the Maryland Blueprint legislation of 2021. CCPS currently offers full-day prekindergarten to the groups that are eligible under the Maryland Blueprint parameters.

(iii) Renovations that may be needed to ensure that the CCPS instructional spaces meet the minimum educational sufficiency standards defined by the Interagency Commission. However, with the exception of the lack of small instructional spaces noted under item (ii) above, there are no indications that the instructional spaces in the schools deviate significantly from the sufficiency standards.

(vi) Asbestos abatement will be needed where the potential for disturbance exists, or when interior renovations are carried out in older facilities.

(vii) An increased number of security measures may be needed to help ensure safe schools.

2. Changes in Recent Years

Since the 2020-2021 school year, CCPS added a journeyman electrician position to the maintenance staff.

CCPS recently added a warehouse to the inventory of central office buildings. This facility allows the school system to purchase repair parts in bulk and to catalog and inventory them, improving both the economical use of funds and the staff efficiency. The facility concentrates maintenance functions in a single facility in a central location.

To ensure that all maintenance items are addressed as quickly and reliably as possible, CCPS has replaced four vehicles in the last two years under a lease arrangement.

CCPS has effectively used funds provided through the federal CARES program to upgrade HVAC controls in three schools (Ridgely Elementary, Denton Elementary, and Lockerman Middle), and to replace carpet with LVT (luxury vinyl tile) at Lockerman Middle, Ridgely Elementary, and Federalsburg Elementary.
3. **Planned improvements**

   Caroline County Public Schools will:
   
a. Collect data to complete the IAC CMP checklist in areas where the data is weak or non-existent.
   
b. Develop a list of anticipated maintenance and capital projects based on an assessment of the age of facilities, building systems, and components.
   
c. Conduct an assessment of the HVAC systems at six schools.
   
d. Conduct formalized staff training in specific areas of plant operations and maintenance, with the assistance of the Maryland Association of Boards of Education (MABE).

4. **Professional Development**

   With a very small staff of central office personnel and Head Custodians, CCPS undertakes professional development (PD) largely through on-site communication rather than through formal coursework. As funds become available, more formal training will be initiated in specific repair and maintenance fields, including HVAC, electrical, roofing, and grounds.

   a. **Accomplishments**
      
      (i) Forklift training and certification was carried out in the last year.
      
      (ii) Custodians have been trained in protocols for active-shooter and similar emergency situations; all custodians are equipped with radios to communicate with first responders.
      
      (iii) New custodians are trained on-site and in person. This has produced very effective results.

   b. **Challenges**
      
      (i) With a small staff, it is extremely difficult for members to undertake formal professional training activities. However, it is anticipated that training services provided by MABE will be provided for specific areas of maintenance activity (e.g. use of ladders, safety while working on roofs, etc.)

**SECTION E: OBSTACLES AND MISSING RESOURCES**

The following have been identified as obstacles to the efficient and effective maintenance of the CCPS school facilities:

1. Collecting data to complete the IAC CMP checklists.
2. Obtaining local funding at levels that more nearly approach industry standards.
3. Obtaining State and local funding for capital renewal projects.
4. Local fiscal constraints that make it difficult to engage adequate staffing.
5. Constraints on local and State capital funding, leading to an increasingly aging building plant, with implications for an increasing maintenance burden in the future.
SECTION F: ATTACHMENTS

A-0  Board of Education CMP Approval
A-1  Organizational Charts:
   A-1a  Board of Education
   A-1b  Plant Operations
A-2  Maintenance Organization Staff
A-3  Position Descriptions of Maintenance Personnel
A-4  Maintenance Personnel
B-0  Preventative Maintenance Chart
B-1  Tentative Replacement Schedule
B-2  Boiler/Burner Inspection and Repair
B-2  Boiler/Chiller/
B-3  Painting
B-4  Roof Replacement and Repair Schedule
B-5  Sewage Treatment Plants
B-6  Ceiling and Floor Tile Replacement
B-7  Asbestos Management
B-8  Carpet Replacement
B-9  Driveway and Parking Lot Resurfacing
B-10  Maintenance Vehicle Replacement Schedule
B-11  Environmental Issues
C-1  Long-Term Capital Improvements
C-2  Facility Metrics: Outcomes, Maintenance, and Custodial
   C-2a  Facility Outcomes
   C-2b  Summary of Current Staffing vs. Industry Standards
   C-2c  Budget Narrative
A

ATTACHMENTS
Caroline County Public Schools: Board of Education CMP Approval

TO: Caroline County Board of Education
FROM: Interim Superintendent of Schools
SUBJECT: Comprehensive Maintenance Plan for FY22

Recommendation: That the Caroline County Board of Education approve the FY22 Comprehensive Maintenance Plan (CMP) as required prior to its submittal to the Interagency Committee on School Construction (IAC).

Explanation: The IAC requires an annual update of the Comprehensive Maintenance Plan. This plan represents one of several activities enabling the IAC to monitor and evaluate how well Maryland's school systems are systematically and comprehensively protecting the state's capital investment. Caroline County's specific objectives for its CMP are to:

1. Provide the most effective environment possible for teaching and learning.
2. Minimize potential disruptions to the educational program.
3. Preserve and protect the asset value of school property and facilities.
4. Maximize the effectiveness and efficiency of facility functions and systems.
5. Provide the foundation for effective risk management and preventative maintenance programs.

PROPOSED BY: Bill Mengel
Director of Operations

RECOMMENDED BY: Derek Simmons, Ed.D
Interim Superintendent of Schools
Caroline County Public Schools: Board of Education Organizational Chart
Caroline County Public Schools: Plant Operations Organizational Chart

CCPS Plant Operations

Supervisor - Brett Morton

Risk Management
Michael Gestole

HVAC
Sheldon Neil
Randy Stannahan

Electrical
Scott Pepper
Ryan Walls

Plumbing
Kenny Breeding
Chris Waters

Energy Management
Josh Rein

Building Custodians Managers / STAFF
Harry Webb
Caroline County Public Schools: Maintenance Organization Staff

<table>
<thead>
<tr>
<th>Name</th>
<th>FTE</th>
<th>Position Title</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randy Stranahan</td>
<td>1.00</td>
<td>Maintenance II</td>
<td>HVAC</td>
</tr>
<tr>
<td>Scott Pepper</td>
<td>1.00</td>
<td>Maintenance II</td>
<td>Electrical</td>
</tr>
<tr>
<td>Chris Waters</td>
<td>1.00</td>
<td>Maintenance I</td>
<td>Plumbing</td>
</tr>
<tr>
<td>Kenny Breeding</td>
<td>1.00</td>
<td>Maintenance II</td>
<td>Plumbing</td>
</tr>
<tr>
<td>Sheldon Neal</td>
<td>1.00</td>
<td>Maintenance II</td>
<td>HVAC</td>
</tr>
<tr>
<td>Leon Bivens</td>
<td>0.70</td>
<td>Head Custodian I</td>
<td>Dispatcher, General</td>
</tr>
<tr>
<td>Ryan Walls</td>
<td>1.00</td>
<td>Maintenance II</td>
<td>Electrical</td>
</tr>
<tr>
<td>Vacant</td>
<td>0.00</td>
<td>Secretary II</td>
<td>Secretarial</td>
</tr>
<tr>
<td>Total FTE</td>
<td>6.70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Caroline County Public Schools: Position Descriptions of Maintenance Personnel

Title: MAINTENANCE WORKER II

General Purpose of Position
Under the supervision of the Supervisor of School Construction, the Maintenance Worker II is responsible for the routine maintenance and preventative maintenance of the energy management systems of all school and county facilities and provides leadership and direction in area of expertise.

Minimum Requirements of the Position
1. Holds High School Diploma or G.E.D.
2. Stationary engineer or HVAC license, preferred.
3. Trained in energy management systems.
4. Specialized knowledge of low voltage control systems.
5. Technical expertise in large commercial chiller and heating systems.
6. Ability to perform general building and grounds maintenance tasks.
7. Demonstrated ability to operate and care for maintenance materials, tools, and equipment.
8. Available for occasional irregular working hours including short-notice call in.
9. Possesses a valid Maryland Class "B" driver's license or eligible to obtain one.
10. Has good interpersonal communication skills.
11. Ability to work independently and productively.

Essential Duties and Responsibilities of Position
1. Repairs pneumatic and electrical thermostats and controls.
2. Performs summer/winter seasonal change over.
3. Performs troubleshooting on electric motor starters and components.
4. Responsible for ordering parts as needed using computer.
5. General grounds maintenance.
6. General maintenance in all building trades.
7. Repair and maintenance of equipment and tools.
8. Repairs and maintains to operating manual's and manufacturer's recommendations/specifications.
9. Maintains a clean and organized work area, keeps tools and equipment in good working order and in place.
10. Considerate and responsive to school building personnel, explains situations, problems, solutions.
11. Can accept instruction and direction and willingness to provide input into decision-making.
12. Self-starter – ability to identify and respond correctly to problems.
13. Is able to lift 50 pounds.
14. Assumes willingness to work beyond an 8 hour day and responds to after hours emergency calls.
15. Maintains regular, on-time attendance.
16. Reacts to change productively and performs other duties as assigned.
Salary: Based on experience according to the pay scale for Maintenance II personnel.

The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to successfully perform the job.
Title: MAINTENANCE WORKER I

General Purpose of Position
Under the supervision of the Supervisor of School Construction, the Maintenance Worker I is responsible for the general maintenance of school facilities and provides leadership and direction in area of expertise.

Minimum Requirements of the Position
1. Holds High School Diploma or G.E.D.
2. Journeyman's card or equivalent experience in specific trade -- plumbing, electrical, carpentry, etc. preferred.
3. Ability to perform general building and grounds maintenance tasks.
4. Demonstrated ability to operate and care for maintenance materials, tools, and equipment.
5. Available for occasional irregular working hours including short-notice call in.
6. Possesses a valid Maryland Class "B" driver's license or eligible to obtain one.
7. Has good interpersonal communication skills.
8. Ability to work independently and productively.

Essential Duties and Responsibilities of Position
1. General grounds maintenance
2. General maintenance in all building trades, telecommunications installation and repair
3. Repair and maintenance of equipment and tools
4. Repairs and maintains to operating manual's and manufacturer's recommendations/specifications
5. Maintains a clean and organized work area, keeps tools and equipment in good working order and in place
6. Considerate and responsive to school building personnel, explains situations, problems, solutions
7. Can accept instruction and direction and willingness to provide input into decision-making
8. Self-starter; can identify and respond correctly to problems
9. Is able to lift 50 pounds
10. Assumes willingness to work beyond an 8 hour day and responds to after hours emergency calls
11. Maintains regular, on-time attendance
12. Reacts to change productively and performs other duties as assigned

Salary: Based on experience according to the pay scale for Maintenance I personnel.

The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to successfully perform the job.
**Title:** MAINTENANCE WORKER – HVAC TECHNICIAN (HVAC TECH)

**General Purpose of Position**
Under the supervision of the Maintenance Coordinator and Supervisor of School Construction, the HVAC Tech is responsible for the routine maintenance and preventative maintenance of the HVAC mechanical systems of all school and county facilities and provides leadership and direction in area of expertise.

**Minimum Requirements of the Position**
1. Holds High School Diploma or G.E.D.
2. Journeyman's card or equivalent experience in HVAC.
3. Maintains refrigerant license.
4. Ability to perform general building and grounds maintenance tasks.
5. Demonstrated ability to operate and care for maintenance materials, tools, and equipment.
6. Available for occasional irregular working hours including short-notice call in.
7. Possesses a valid Maryland Class "B" driver's license or eligible to obtain one.
8. Maintains good physical and mental health.
9. Has good interpersonal communication skills.
10. Ability to work independently and productively.

**Essential Duties and Responsibilities of Position**
1. Perform routine maintenance of all air handling and air conditioning equipment.
2. Performs preventative maintenance of all air handling and air conditioning equipment.
3. General grounds maintenance.
4. General maintenance in all building trades.
5. Repair and maintenance of equipment and tools.
6. Repairs and maintains to operating manual's and manufacturer's recommendations/specifications.
7. Neat and organized, keeps tools and equipment in good working order and in place.
8. Considerate and responsive to school building personnel, explains situations, problems, solutions.
9. Can accept instruction and direction and willingness to provide input into decision-making.
10. Self-starter – ability to identify and respond correctly to problems.
11. Is able to lift 50 pounds.
12. Assumes willingness to work beyond an 8 hour day and responds to after hours emergency calls.
13. Maintains regular, on-time attendance.
14. Reacts to change productively and performs other duties as assigned.

**Salary:** Based on experience according to the pay scale for Maintenance personnel.

*The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to successfully perform the job.*
Title: MAIL COURIER

General Purpose of Position
Under the supervision of the Supervisor of Plant Operations, the Mail Courier is responsible for delivering mail and other materials/supplies. Also responsible for packaging, loading and distributing custodial and food service materials/supplies. Other delivery sites may be identified on a regular or varied schedule as needed.

Minimum Requirements of the Position
1. Has good interpersonal communication skills.
2. Is able to read and interpret directions.
3. Has graduated from high school or has equivalent reading and mathematics skills.
4. Has a valid driver’s license.
5. Available for occasional irregular working hours including short-notice call in.
6. Ability to work independently and productively.

Essential Duties and Responsibilities
1. Picks up and delivers mail.
2. Picks up and delivers materials/supplies as needed.
3. Picks up mail and other materials/supplies at other sites as appropriate.
4. Receives supplies and unloads trucks.
5. Cleans the Support Services offices daily, vacuums, empties trash, cleans restrooms, cuts grass and trims.
6. Polices grounds daily, picks up trash.
7. Acts as a substitute custodian.
8. Able to lift 50 lbs.
9. Assists Maintenance Staff.
10. Maintains regular, on-time attendance.
11. Reacts to change productively and performs other duties as assigned.

Salary: Based on experience according to the pay scale for Head Custodian I personnel.
Title: HEAD CUSTODIAN II

General Purpose of Position:
Head Custodian II employees provide supervision of more than four employees and/or assume other special responsibilities. The Head Custodian II is responsible for the routine safety, security, upkeep, general cleanliness, and healthful environment of buildings and grounds owned by the Caroline County Public Schools.

Minimum Requirements of the Position:
1. Has graduated from high school.
2. Prefer three (3) years of successful experience as a school custodian or Head Custodian I or the equivalent in other institutions or firms.
3. Demonstrated aptitude and competence for assigned responsibilities.
4. Has good interpersonal communication skills.

Essential Duties and Responsibilities of Position:
1. Selects appropriate equipment and supplies and sweeps and cleans floors, walls and partitions in all areas of buildings including classrooms, offices, corridors, gymnasiums, mechanical rooms, locker rooms, and lavatories.
2. Uses brooms, brushes, mops, power-operated scrubbing machines, vacuum cleaners, buffers, carpet sweepers, liquid floor finishers, dust absorbers, and other custodial equipment and supplies.
3. Washes and cleans windows, light fixtures, ventilators, and other items which may require climbing in excess of eight feet.
4. Cleans and polishes desks, chairs, tables, cabinets, and other office or classroom equipment.
5. Collects and disposes of trash, scrap, and garbage.
6. Maintains lavatories in clean and sanitary condition.
7. Unloads supplies and delivers to proper storage areas.
8. Performs grounds work as assigned including grass cutting, snow removal, etc.
10. Is able to lift 50 pounds.
11. Supervises and directs the work of more than four employees.
12. Assumes additional responsibilities due to special circumstances.
13. Makes minor repairs to equipment as required.
15. Arranges rooms for meetings and conferences.
16. Maintains regular, on-time attendance.
17. Reacts to change productively and performs other duties as assigned.

Salary: Based on experience according to the pay scale for Head Custodian II personnel.

The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to successfully perform the job.
Title: HEAD CUSTODIAN I

General Purpose of Position:
Head Custodian I employees provide supervision of four or less employees and/or assume other special responsibilities. The Head Custodian I is responsible for the routine safety, security, upkeep, general cleanliness, and healthful environment of buildings and grounds owned by the Caroline County Public Schools.

Minimum Requirements of the Position:
1. Has graduated from high school.
2. Prefer three (3) years of successful experience as a custodian.
3. Demonstrative aptitude and competence for assigned responsibilities.
4. Has good interpersonal communication skills.

Essential Duties and Responsibilities of Position:
1. Selects appropriate equipment and supplies and sweeps and cleans floors, walls and partitions in all areas of buildings including classrooms, offices, corridors, gymnasiums, mechanical rooms, locker rooms, and lavatories.
2. Uses brooms, brushes, mops, power-operated scrubbing machines, vacuum cleaners, buffers, carpet sweepers, liquid floor finishers, dust absorbers, and other custodial equipment and supplies.
3. Washes and cleans windows, light fixtures, ventilators, and other items which may require climbing in excess of eight feet.
4. Cleans and polishes desks, chairs, tables, cabinets, and other office or classroom equipment.
5. Collects and disposes of trash, scrap, and garbage.
6. Maintains lavatories in clean and sanitary condition.
7. Unloads supplies and delivers to proper storage areas.
8. Performs grounds work as assigned including grass cutting, snow removal, etc.
10. Is able to lift 50 pounds.
11. Supervises and directs the work of four or less employees.
12. Assumes additional responsibilities due to special circumstances.
13. Makes minor repairs to equipment as required.
15. Arranges rooms for meetings and conferences.
16. Maintains regular, on-time attendance.
17. Reacts to change productively and performs other duties as assigned.

Salary: Based on experience according to the pay scale for Head Custodian I personnel.

The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to successfully perform the job.
Title: CUSTODIAN

General Purpose of Position:
Custodians are responsible for the routine safety, security, upkeep, general cleanliness, and healthful environment of buildings and grounds owned by the Caroline County Public Schools.

Minimum Requirements of the Position:
1. Maintains good physical and mental health
2. Has ability to read and write
3. Has regular transportation available to and from work
4. Has general skills to perform job functions

Essential Duties and Responsibilities of Position:
1. Selects appropriate equipment and supplies and sweeps and cleans floors, walls and partitions in all areas of buildings including classrooms, offices, corridors, gymnasiums, mechanical rooms, locker rooms, and lavatories.
2. Uses brooms, brushes, mops, power-operated scrubbing machines, vacuum cleaners, buffers, carpet sweepers, liquid floor finish, and other custodial equipment and supplies.
3. Assists in the operation of the heating and ventilating system and observes building conditions and makes adjustments in heating, lighting and ventilating as required.
4. Washes and cleans windows, light fixtures, ventilators, and other items which may require climbing in excess of eight feet.
5. Cleans and polishes desks, chairs, tables, cabinets, and other office or classroom equipment.
6. Collects and disposes of trash, scrap, and garbage.
7. Maintains lavatories in clean and sanitary condition.
8. Unloads supplies and delivers to proper storage areas.
9. Performs grounds work as assigned including grass cutting, snow removal, etc.
11. Is able to lift 50 pounds.
12. Makes minor repairs to equipment as required.
13. Assists organizations using school facilities.
14. Maintains regular, on-time attendance.
15. Reacts to change productively and performs other duties as assigned.

Salary: Based on experience according to the pay scale for Custodian personnel.

The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to successfully perform the job.
CAROLINE COUNTY PUBLIC SCHOOLS

Maintenance Personnel Data (FTE, full-time equivalent)

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>2016 (a)</th>
<th>2017 (b)</th>
<th>2018 (c)</th>
<th>2019 (d)</th>
<th>2020 (e)</th>
<th>2021 (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant Superintendent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Director</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinator</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Office Administrators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drivers of Vehicles</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Technical Personnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Workers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skilled Crafts Personnel</td>
<td>5.0</td>
<td>4.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Laborers - Unskilled</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Secretaries and Clerks</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other (specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Manager</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>5.7</td>
<td>4.7</td>
<td>5.7</td>
<td>5.7</td>
<td>5.7</td>
<td>6.7</td>
</tr>
</tbody>
</table>

NOTATIONS

(a) 5th prior year ending June 30, 2016
(b) 4th prior year ending June 30, 2017
(c) 3rd prior year ending June 30, 2018
(d) 2nd prior year ending June 30, 2019
(e) Prior year ending June 30, 2020
(f) Budget year beginning July 1, 2021
ATTACHMENTS
## CAROLINE COUNTY PUBLIC SCHOOLS

### Preventative Maintenance Inspection Chart

<table>
<thead>
<tr>
<th>Item</th>
<th>Procedure</th>
<th>Maint. Dept.</th>
<th>Custodians</th>
<th>Other</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Burners</td>
<td>Check Operations</td>
<td></td>
<td>X</td>
<td></td>
<td>D-A</td>
</tr>
<tr>
<td>Air Compressors</td>
<td>Check Operations and Standard Maintenance</td>
<td>X</td>
<td>X</td>
<td></td>
<td>D-Q</td>
</tr>
<tr>
<td>HVAC</td>
<td>Check Operations</td>
<td>X</td>
<td>X</td>
<td></td>
<td>D-M</td>
</tr>
<tr>
<td>Air handling units and unit ventilators</td>
<td>Standard Maintenance</td>
<td>X</td>
<td>X</td>
<td></td>
<td>D-Q</td>
</tr>
<tr>
<td>Refrigerators, freezers and water coolers</td>
<td>Standard Maintenance</td>
<td></td>
<td>X</td>
<td></td>
<td>S-A</td>
</tr>
<tr>
<td>Return grills and louvers</td>
<td>Clean</td>
<td></td>
<td>X</td>
<td></td>
<td>S-A</td>
</tr>
<tr>
<td>Motors</td>
<td>Check belt tension, grease/oil</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Q</td>
</tr>
<tr>
<td>Kitchen Hood Inspection</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Emergency Generator Test – ½ hour</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>W</td>
</tr>
<tr>
<td>Health Inspections Health Department</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>S-A</td>
</tr>
<tr>
<td>MOSH Inspections MOSH</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>S-A</td>
</tr>
<tr>
<td>Oil Burner Standard Maintenance</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>M-AN</td>
</tr>
<tr>
<td>Boiler Tube Brush Clean</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Pest Control Integrated Pest Mgmt.</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>A-N</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td>Frequency</td>
<td>Notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------</td>
<td>-----------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof</td>
<td>Roof Inspect., Maint.</td>
<td>X</td>
<td>X</td>
<td>A-M</td>
<td></td>
</tr>
<tr>
<td>Venetian Blinds</td>
<td>Check, Repair</td>
<td>X</td>
<td></td>
<td>A-N</td>
<td></td>
</tr>
<tr>
<td>Boiler relief valves</td>
<td>Inspection</td>
<td>X</td>
<td></td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Pumps</td>
<td>Standard Maintenance</td>
<td>X</td>
<td></td>
<td>S-A</td>
<td></td>
</tr>
<tr>
<td>Cooling Towers</td>
<td>Standard Maintenance</td>
<td>X</td>
<td>X</td>
<td>W-M</td>
<td></td>
</tr>
<tr>
<td>Oil Tanks</td>
<td>Stick Level</td>
<td>X</td>
<td></td>
<td>W</td>
<td></td>
</tr>
<tr>
<td>Fire Extinguishers</td>
<td>Check, Charge, and check location</td>
<td>X</td>
<td>X</td>
<td>D-A</td>
<td></td>
</tr>
<tr>
<td>Sprinklers</td>
<td>Inspections, Test flows, and Bells</td>
<td>X</td>
<td>X</td>
<td>Q-A</td>
<td></td>
</tr>
<tr>
<td>Elevators</td>
<td>Inspections, Maintenance</td>
<td>X</td>
<td></td>
<td>SA - AN</td>
<td></td>
</tr>
<tr>
<td>Vehicles</td>
<td>Maintenance, Oil change, Tune-ups</td>
<td>X</td>
<td></td>
<td>A-N</td>
<td></td>
</tr>
</tbody>
</table>

**Frequency:**

- D Daily
- W Weekly
- M Monthly
- Q Quarterly
- SA Semi-Annually
- A Annually
- AN As Needed
CAROLINE COUNTY PUBLIC SCHOOLS
Tentative Replacement Schedule

Note: The dates shown are based on industry standards and LEA experience

<table>
<thead>
<tr>
<th>Component</th>
<th>GES</th>
<th>RES</th>
<th>DES</th>
<th>PES</th>
<th>FES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation and basement structure</td>
<td>2121</td>
<td>2085</td>
<td>2076</td>
<td>2085</td>
<td>2052</td>
</tr>
<tr>
<td>Exterior walls</td>
<td>2061</td>
<td>2085</td>
<td>2076</td>
<td>2085</td>
<td>2059</td>
</tr>
<tr>
<td>Windows</td>
<td>2051</td>
<td>2047</td>
<td>2036</td>
<td>2046</td>
<td>2031</td>
</tr>
<tr>
<td>Doors</td>
<td>2051</td>
<td>2052</td>
<td>2041</td>
<td>2056</td>
<td>2041</td>
</tr>
<tr>
<td>Roof</td>
<td>2061</td>
<td>2024</td>
<td>2028</td>
<td>2023</td>
<td>2026</td>
</tr>
<tr>
<td>Interior finishes -</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor</td>
<td>2061</td>
<td>2041</td>
<td>2031</td>
<td>2031</td>
<td>2041</td>
</tr>
<tr>
<td>Walls</td>
<td>2071</td>
<td>2041</td>
<td>2041</td>
<td>2041</td>
<td>2046</td>
</tr>
<tr>
<td>Ceilings</td>
<td>2071</td>
<td>2047</td>
<td>2025</td>
<td>2066</td>
<td>2051</td>
</tr>
<tr>
<td>Equipment -</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td>2036</td>
<td>2031</td>
<td>2026</td>
<td>2031</td>
<td>2028</td>
</tr>
<tr>
<td>Gym</td>
<td>2036</td>
<td>2031</td>
<td>2031</td>
<td>2026</td>
<td>2026</td>
</tr>
<tr>
<td>Plumbing fixtures</td>
<td>2061</td>
<td>2026</td>
<td>2024</td>
<td>2056</td>
<td>2041</td>
</tr>
<tr>
<td>Domestic water distribution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanitary sewer</td>
<td>2061</td>
<td>2026</td>
<td>2024</td>
<td>2056</td>
<td>2041</td>
</tr>
<tr>
<td>Heat generating systems</td>
<td>2051</td>
<td>2024</td>
<td>2025</td>
<td>2036</td>
<td>2038</td>
</tr>
<tr>
<td>Cooling generating systems</td>
<td>2046</td>
<td>2030</td>
<td>2025</td>
<td>2036</td>
<td>2026</td>
</tr>
<tr>
<td>Distribution systems</td>
<td>2061</td>
<td>2028</td>
<td>2056</td>
<td>2026</td>
<td>2026</td>
</tr>
<tr>
<td>Terminal and Package unit</td>
<td>2043</td>
<td>2032</td>
<td>2023</td>
<td>2040</td>
<td>2033</td>
</tr>
<tr>
<td>Controls</td>
<td>2046</td>
<td>2037</td>
<td>2040</td>
<td>2056</td>
<td>2029</td>
</tr>
<tr>
<td>Fire Sprinkler System</td>
<td>2061</td>
<td>2031</td>
<td>2031</td>
<td>2056</td>
<td>2041</td>
</tr>
<tr>
<td>Fire alarm</td>
<td>2041</td>
<td>2036</td>
<td>2036</td>
<td>2036</td>
<td>2034</td>
</tr>
<tr>
<td>Lighting systems</td>
<td>2041</td>
<td>2024</td>
<td>2026</td>
<td>2036</td>
<td>2029</td>
</tr>
<tr>
<td>Door Access and Security systems, etc.</td>
<td>2026</td>
<td>2028</td>
<td>2031</td>
<td>2031</td>
<td>2039</td>
</tr>
<tr>
<td>Asphalt Pavement - Vehicular</td>
<td>2046</td>
<td>2033</td>
<td>2036</td>
<td>2036</td>
<td>2026</td>
</tr>
<tr>
<td>Concrete Pavement - Pedestrian</td>
<td>2071</td>
<td>2028</td>
<td>2041</td>
<td>2066</td>
<td>2030</td>
</tr>
</tbody>
</table>

Legend:
GES  Greensboro Elementary School
RES  Ridgely Elementary School
DES  Denton Elementary School
PES  Preston Elementary School
FES  Federalsburg Elementary School
CAROLINE COUNTY PUBLIC SCHOOLS

Tentative Replacement Schedule

Note: The dates shown are based on industry standards and LEA experience

<table>
<thead>
<tr>
<th>Component</th>
<th>LMS</th>
<th>CRMS</th>
<th>NCHS</th>
<th>CRHS</th>
<th>CCTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation and basement structure</td>
<td>2067</td>
<td>2071</td>
<td>2080</td>
<td>2061</td>
<td>2075</td>
</tr>
<tr>
<td>Exterior walls</td>
<td>2067</td>
<td>2062</td>
<td>2080</td>
<td>2069</td>
<td>2075</td>
</tr>
<tr>
<td>Windows</td>
<td>2039</td>
<td>2037</td>
<td>2032</td>
<td>2041</td>
<td>2031</td>
</tr>
<tr>
<td>Doors</td>
<td>2026</td>
<td>2047</td>
<td>2042</td>
<td>2041</td>
<td>2043</td>
</tr>
<tr>
<td>Roof</td>
<td>2030</td>
<td>2025</td>
<td>2027</td>
<td>2038</td>
<td>2025</td>
</tr>
<tr>
<td>Interior finishes -</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor</td>
<td>2041</td>
<td>2041</td>
<td>2041</td>
<td>2042</td>
<td>2041</td>
</tr>
<tr>
<td>Walls</td>
<td>2046</td>
<td>2041</td>
<td>2041</td>
<td>2041</td>
<td>2041</td>
</tr>
<tr>
<td>Ceilings</td>
<td>2043</td>
<td>2050</td>
<td>2051</td>
<td>2048</td>
<td>2031</td>
</tr>
<tr>
<td>Equipment -</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td>2028</td>
<td>2026</td>
<td>2031</td>
<td>2027</td>
<td>N/A</td>
</tr>
<tr>
<td>Gym</td>
<td>2029</td>
<td>2037</td>
<td>2026</td>
<td>2031</td>
<td>N/A</td>
</tr>
<tr>
<td>Plumbing fixtures</td>
<td>2033</td>
<td>2047</td>
<td>2042</td>
<td>2051</td>
<td>2035</td>
</tr>
<tr>
<td>Domestic water distribution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanitary sewer</td>
<td>2033</td>
<td>2047</td>
<td>2042</td>
<td>2051</td>
<td>2035</td>
</tr>
<tr>
<td>Heat generating systems</td>
<td>2040</td>
<td>2027</td>
<td>2032</td>
<td>2031</td>
<td>2024</td>
</tr>
<tr>
<td>Cooling generating systems</td>
<td>2027</td>
<td>2025</td>
<td>2027</td>
<td>2031</td>
<td>2035</td>
</tr>
<tr>
<td>Distribution systems</td>
<td>2042</td>
<td>2037</td>
<td>2042</td>
<td>2031</td>
<td>2031</td>
</tr>
<tr>
<td>Terminal and Package unit</td>
<td>2034</td>
<td>2047</td>
<td>2031</td>
<td>2030</td>
<td>2029</td>
</tr>
<tr>
<td>Controls</td>
<td>2035</td>
<td>2036</td>
<td>2036</td>
<td>2041</td>
<td>2031</td>
</tr>
<tr>
<td>Fire Sprinkler System</td>
<td>2026</td>
<td>2047</td>
<td>2042</td>
<td>2051</td>
<td>2031</td>
</tr>
<tr>
<td>Fire alarm</td>
<td>2036</td>
<td>2027</td>
<td>2030</td>
<td>2031</td>
<td>2024</td>
</tr>
<tr>
<td>Lighting systems</td>
<td>2028</td>
<td>2027</td>
<td>2026</td>
<td>2031</td>
<td>2024</td>
</tr>
<tr>
<td>Door Access and Security systems, etc.</td>
<td>2029</td>
<td>2029</td>
<td>2029</td>
<td>2026</td>
<td>2029</td>
</tr>
<tr>
<td>Asphalt Pavement - Vehicular</td>
<td>2043</td>
<td>2032</td>
<td>2027</td>
<td>2036</td>
<td>2045</td>
</tr>
<tr>
<td>Concrete Pavement - Pedestrian</td>
<td>2042</td>
<td>2031</td>
<td>2030</td>
<td>2061</td>
<td>2050</td>
</tr>
</tbody>
</table>

Legend:
- LMS    Lockerman Middle School
- CRMS   Colonel Richardson Middle School
- NCHS   North Caroline High School
- CRHS   Colonel Richardson High School
- CCTS   Caroline Career and Technology Center
CAROLINE COUNTY PUBLIC SCHOOLS
Boiler/Burner Inspection and Repair

- All Boilers are inspected, cleaned and repairs made on fireside as needed but no less than every two years.
- Inspections on water and steam side are performed as required to maintain Maryland Department of Licensing and Regulation Certifications. All pressure vessels are also inspected as required by an insurance underwriter retained by MABE.
- All oil burners are of the air atomizing high efficiency type.
- All fuel tanks have been replaced within the last several years and are in compliance with State of Maryland standards. Note: We still have two schools (Federalsburg Elementary, and North Caroline High) that have underground fuel tanks. These tanks are in compliance with State specifications and inspections.
- All boiler relief valves are inspected monthly by licensed maintenance personnel.
- All boilers have been EPA registered per regulation 40 cfr part G3.
- All boilers have been efficiency tested and adjusted per specifications.
CAROLINE COUNTY PUBLIC SCHOOLS

Painting

Our approach is to survey the schools and principals for areas that need painting, and then budget accordingly. An amount for miscellaneous painting is added for unforeseen needs during the year.

Proposed expenditures for painting are as follows:

- FY 23 – Paint buildings at all locations $15,000
- FY 24 – Paint buildings at all locations $15,000

Painting Completed – FY 2022

Denton Elementary School – Cafeteria and touch-up all corridor walls
Federalsburg Elementary School – Cafeteria and Gymnasium walls
Ridgely Elementary School – Corridor and metal walls
Lockerman Middle School – Classrooms near Library
Colonel Richardson High School – Back corridor near Gymnasium, locker room side
North Caroline High School – Exterior front door
Caroline Career & Technology Center – Automotive Lab and Criminal Justice classroom walls
All school parking lots - Curb painting

Projected Painting – FY 2023

Federalsburg Elementary School – Corridor walls and metal doorways
Colonel Richardson Middle School – Touch-up corridors and metal doorways
Lockerman Middle – Touch-up corridors and metal doorways
Colonel Richardson High School – Touch-up corridors and metal doorways
North Caroline High School – Touch-up corridors and metal doorways
Preston Elementary School – Touch-up corridors and metal doorways
### CAROLINE COUNTY PUBLIC SCHOOLS

#### Roof Replacement and Repair Schedule

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>SECTION/YEAR</th>
<th>FY23</th>
<th>FY24</th>
<th>FY25</th>
<th>FY26</th>
<th>FY27</th>
<th>FY28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greensboro Elementary</td>
<td>2003</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ridgely Elementary</td>
<td>1997</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RR-T</td>
<td></td>
</tr>
<tr>
<td>Denton Elementary</td>
<td>2004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Renov/Add</td>
</tr>
<tr>
<td>Preston Elementary</td>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1985</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federalsburg Elementary</td>
<td>2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lockerman Middle</td>
<td>2019</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RR-T</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RR-T</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RR-T</td>
<td></td>
</tr>
<tr>
<td>Colonel Richardson Middle</td>
<td>1999</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RR-T</td>
<td></td>
</tr>
<tr>
<td>North Caroline High</td>
<td>2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RR-T</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RR-T</td>
<td></td>
</tr>
<tr>
<td>Colonel Richardson High</td>
<td>2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caroline Career and Tech</td>
<td>1990</td>
<td>New</td>
<td>New</td>
<td>New</td>
<td>New</td>
<td>New</td>
<td>New</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>New</td>
<td>New</td>
<td>New</td>
<td>New</td>
<td>New</td>
<td>New</td>
</tr>
</tbody>
</table>

#### Legend:

- **RR**: Re-roof
- **RC**: Re-coat/Re-saturate
- **FC**: Foam and coating
- **T**: Total
- **P**: Partial
CAROLINE COUNTY PUBLIC SCHOOLS

Sewage Treatment Plants

There are two treatment plants in our system, one each serving the following complexes:

- North Caroline High School and Caroline Career and Technology Center
- Colonel Richardson Middle and High Schools

In 1999 we installed new ultraviolet treatment and flow controls at both treatment plants. New test equipment has been purchased and is in operation.

The following modifications, due to the successful implementation of the ultraviolet treatment system, have taken place:

1. Lab equipment including a dissolved oxygen meter; a ph meter and related products have been installed; chlorine meters, microscopes and slides, centrifuge and related products, and sludge measuring devices have been purchased. We have also installed new metering equipment for testing at both facilities.

2. Modification of the existing storage/flow equalization tank.

3. Installation of an ultra-violet disinfection system.

4. Installation of thermometers, facility log books and maintenance schedules.

5. Modification of monthly operating reports and standard operating procedures were made at each facility.

During the summer of 2001, both sewage treatment plants underwent major renovations to meet updated MDE requirements. During the summer of 2003, sewage lines and lift stations from Colonel Richardson Middle School to the treatment plant were upgraded. During the summer of 2009 additional renovations were done to the sewage treatment plant and associated lift station at Colonel Richardson High School. An exterior storage tank was added to the sewage treatment plant at North Caroline High School during the summer of 2009. During the summer of 2012 a lift station was replaced at North Caroline High School and both systems received new filter systems. During the summer of 2015 a lift station was replaced at the Caroline Career and Technology Center. During the summer of 2021 a lift station was replaced at North Caroline High School.
CAROLINE COUNTY PUBLIC SCHOOLS

Ceiling and Floor Tile Replacement

- All ceiling and floor tile is inspected on a regular basis and replaced as required. Ceilings are monitored continuously for stained or damaged tiles that need to be replaced. No wholesale replacement is scheduled at this time.
- At present an adequate estimate for replacement materials is $5,000 per year.
- During FY09, some hallway tile at Federalsburg Elementary School was replaced due to adhesive failure.
- Hallway carpet was removed and replaced with VCT at Greensboro Elementary, Ridgely Elementary and Denton Elementary Schools during the summer of 2012.
- Carpet in six classrooms was removed and replaced with VCT at Federalsburg Elementary School during the summer of 2012.
- Carpet in a four-classroom pod area and two classrooms was replaced with VCT at Federalsburg Elementary School during the summer of 2015.
- Carpet in twelve classrooms was replaced with VCT at Denton Elementary School during the summer of 2016.
- Carpet in one classroom and one hallway was replaced with VCT at Federalsburg Elementary School during the summer of 2016.
- Carpet in three classrooms was replaced with LVT and partial new carpet at North Caroline High School during the summer of 2018.
- The health room suite, main office and one pre-k classroom at Ridgely Elementary School were replaced with a combination of new carpet, LVT and ceiling tiles during the summer of 2020.
- Carpet in a science classroom at North Caroline High School was removed and replaced with LVT during the summer of 2020.
- Carpet was removed from all classrooms and replaced with LVT at Ridgely Elementary School, Denton Elementary School and Lockerman Middle School during the summer of 2021.
CAROLINE COUNTY PUBLIC SCHOOLS

Asbestos Management

All asbestos inspections and analysis samples were completed in August 1988. The Asbestos Management Plan as required by AHERA, was completed and submitted to the Maryland Department of the Environment on October 11, 1988. Budget estimates to implement the plan were submitted in our FY 1990 request. An operations and maintenance program has been implemented to the extent that present funds will allow. The required AHERA 3-year reinspection was completed in February 2016. A comprehensive walk-through of all buildings is scheduled for the autumn of 2021. In addition, every six months, a qualified independent company conducts a less intensive inspection of all of our facilities in an effort to ensure that there are no asbestos issues.

Major asbestos abatements have been completed at Federalsburg Elementary School, Colonel Richardson High School, North Caroline High School, Colonel Richardson Middle School, Preston Elementary School and Greensboro Elementary School as part of their respective renovation or replacement projects. Most of the existing asbestos was located in the floor tile.

A minor asbestos abatement was completed at Lockerman Middle School in conjunction with a boiler replacement program through an energy performance contract with Johnson Controls, Inc.
CAROLINE COUNTY PUBLIC SCHOOLS

Carpet Replacement

The life expectancy of the majority of carpeting in our schools has been most favorable. As an example, Greensboro Elementary School (until the recent replacement project) had the carpeting which was installed during building construction in 1973. This is attributed to:

1. Good grade of carpeting
2. Good installation
3. Excellent daily and annual maintenance and cleaning

There have been occasions in which carpeting has been replaced within ten years of installation. The cause has generally been unusually heavy traffic.

Recent carpeting replacements include:

- Colonel Richardson Middle School – all areas during renovation
- Denton Elementary School – hallways, fourteen classrooms (replaced with VCT)
- Federalsburg Elementary School – twelve classrooms (replaced with VCT)
- North Caroline High School – all areas during renovation
- Ridgely Elementary School – Office, hallways (replaced with VCT)
- Caroline Career and Technology Center – Office
- Greensboro Elementary School – Office, hallways (replaced with VCT)
- Colonel Richardson High School – all areas during renovation
- Preston Richardson School – all areas during renovation

Additional carpet replacements have not been possible due to budget constraints. We are in the process of removing carpet on an "as-needed" basis from many high traffic and classroom areas and replacing with LVT, as it is easier to clean and more durable.
CAROLINE COUNTY PUBLIC SCHOOLS

Driveway and Parking Lot Resurfacing

- Resurfacing is normally required after twenty (20) years on hardtop and fifteen (15) on tar and chip.

- Recent projects have included resurfacing at Ridgely Elementary School, Preston Elementary School, Federalsburg Elementary School, North Caroline High School, the Career and Tech Center, and construction of additional parking lots at both Ridgely and Federalsburg Elementary Schools and Lockerman Middle School.

- During the summer of 2009 the entire parking complex at Colonel Richardson High School was demolished and reconstructed using a new layout to include a separate bus lot located between the high school and Colonel Richardson Middle School to serve both schools. Traffic patterns were greatly improved to help reduce the risk of pedestrian and vehicular accidents. This project was done in conjunction with the high school renovation and addition project.

- During the summer of 2011 the bus loops at Greensboro Elementary School and Denton Elementary School were resurfaced and Ridgely Elementary School in was resurfaced 2012.

- During the summer of 2015 the bus loop and parent drop off loop at Preston Elementary School were redesigned and resurfaced.

- During the summer of 2017 the bus/gym parking lot at North Caroline High School was recoated and re-lined and all cracks were filled.

- The Greensboro Elementary School was newly installed with the school replacement, completed in 2021.

- The bus loop at Federalsburg Elementary School was resurfaced and cracks were sealed during the summer of 2021.

- Every summer, school parking lots are re-striped and appropriate curbs are repainted. Selected school parking lots will be re-striped in FY 2023.
CAROLINE COUNTY PUBLIC SCHOOLS

Maintenance Vehicle Replacement Schedule

CCPS utilizes the Enterprise Fleet Management division to supply maintenance staff with service vehicles. These vehicles are leased for 8 - 10 years depending on the usage of the vehicle. This ensures that the maintenance staff will have reliable vehicles, especially during times of emergency when they need to be onsite at a moment’s notice.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MAKE AND MODEL (tag #)</th>
<th>DRIVER</th>
<th>FY22</th>
<th>FY23</th>
<th>FY24</th>
<th>FY25</th>
<th>FY26</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>F250 Ford Truck (LG20014)</td>
<td>Maintenance</td>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>F250 Ford Truck (LG7667)</td>
<td>Maintenance</td>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>F150 Ford Truck (LG81793)</td>
<td>Supt. of Constrn.</td>
<td>K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>Ford Transit (LG89388)</td>
<td>Delivery</td>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>Ford Edge (04923MO)</td>
<td>Energy Educator</td>
<td>K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>F250 Ford Truck (LG86091)</td>
<td>Maintenance</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>F250 Ford Truck (LG73377)</td>
<td>Plumbing</td>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>F250 Ford Truck (LG77868)</td>
<td>Electrical</td>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>Centreville Trailer (LG78175)</td>
<td>Mower &amp; Lift Trailer</td>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>Dodge Ram 1500 Trk (LG81794)</td>
<td>Supervisor of Operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>E350 Ford Truck (LG98849)</td>
<td>HVAC Technician</td>
<td>K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>F250 Ford Truck (LG20417)</td>
<td>Electrical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Legend:**

- **T**  Trade-in for replacement vehicle
- **R**  Replace but keep old vehicle
- **K**  Keep old vehicle
CAROLINE COUNTY PUBLIC SCHOOLS

Environmental Issues

- Six of our ten schools obtain their water from the local municipality. Each municipality routinely monitors and tests the water for a variety of contaminants.
- The other four schools have their own wells, and as such the Board of Education contracts with Water Testing Laboratories of Maryland, Inc. in order to meet the Maryland Department of the Environment’s schedule of monitoring requirements for public water supply.
- All facilities are routinely tested for Lead in Water as well as several other contaminants.
- New wells and pumps have been installed at North Caroline High School, Colonel Richardson Middle School and Colonel Richardson High School to serve as a backup to existing well systems.
- Denton Elementary School and Greensboro Elementary School were connected to the local municipality, with the funding being provided by the Aging Schools Program.
ATTACHMENTS
CAROLINE COUNTY PUBLIC SCHOOLS:
Long-Term Capital Improvements

FY 2023 Capital Improvement Program: Summary of Current and Future Funding Requests

- Ridgely Elementary Roof Replacement: FY23
- Colonel Middle Roof Replacement: FY24
- North Caroline Roof Replacement: FY25
- Lockerman Middle Roof Replacement: FY25
- New Career and Technology Center: FY25 LP FY26, FY27 F
- Denton Elementary Renovation & Addition: FY28 LP FY29, FY30 F

Legend:
LP  Local planning approval
F   Approval of funding
CAROLINE COUNTY PUBLIC SCHOOLS

Facility Metrics: Outcomes, Maintenance, and Custodial

As noted in Section 2 above, the CCPS Maintenance Work Order System does not have the capacity at present to provide the data needed for this chart requested by the IAC in the Instructions of July 30, 2021. CCPS will investigate the costs and benefits of implementing a CMMS system like School Dude. If found to be desirable, implementation will depend on the allocation of operational funds by the County government.

<table>
<thead>
<tr>
<th>Facility Outcomes</th>
<th>Previous FY Goal</th>
<th>Previous FY Actual</th>
<th>Current FY Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Facility Usability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.a No. facility-days could not support ed. program/services</td>
<td>0 days not supported</td>
<td>0 days not supported</td>
<td>0 days not supported</td>
</tr>
<tr>
<td><strong>2 Maintenance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.a Work Orders (WOs)</td>
<td>None set</td>
<td>Not available</td>
<td>None set</td>
</tr>
<tr>
<td>2.a.i Preventive Maintenance (PM)</td>
<td>None set</td>
<td>Not available</td>
<td>None set</td>
</tr>
<tr>
<td>2.a.i.1 No. of PM WOs opened</td>
<td>None set</td>
<td>Not available</td>
<td>None set</td>
</tr>
<tr>
<td>2.a.i.2 % of PM WOs closed within 30 days</td>
<td>None set</td>
<td>Not available</td>
<td>None set</td>
</tr>
<tr>
<td>2.a.i.3 No. staff hours spent on PM work</td>
<td>None set</td>
<td>Not available</td>
<td>None set</td>
</tr>
<tr>
<td>2.a.i.4 No. contractor hours spent on PM work</td>
<td>None set</td>
<td>Not available</td>
<td>None set</td>
</tr>
<tr>
<td>2.a.i.5 Dollars spent on PM work by staff</td>
<td>None set</td>
<td>Not available</td>
<td>None set</td>
</tr>
<tr>
<td>2.a.i.6 Dollars spent on PM work by contractors</td>
<td>None set</td>
<td>Not available</td>
<td>None set</td>
</tr>
<tr>
<td>2.a.i.7 % of all maintenance work hours spent on PM</td>
<td>None set</td>
<td>Not available</td>
<td>None set</td>
</tr>
<tr>
<td>2.a.ii Corrective Maintenance (CM)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.a.ii.1 No. of CM WOs opened</td>
<td>None set</td>
<td>Not available</td>
<td>None set</td>
</tr>
<tr>
<td>2.a.ii.2 % of PM WOs closed within 30 days</td>
<td>None set</td>
<td>Not available</td>
<td>None set</td>
</tr>
<tr>
<td>2.a.ii.3</td>
<td>% of PM WOs marked Emergency or High Priority</td>
<td>None set</td>
<td>Not available</td>
</tr>
<tr>
<td>---------</td>
<td>---------------------------------------------</td>
<td>----------</td>
<td>---------------</td>
</tr>
<tr>
<td>2.a.ii.4</td>
<td>No. staff hours spent on PM work</td>
<td>None set</td>
<td>Not available</td>
</tr>
<tr>
<td>2.a.ii.5</td>
<td>No. contractor hours spent on PM work</td>
<td>None set</td>
<td>Not available</td>
</tr>
<tr>
<td>2.a.ii.6</td>
<td>Dollars spent on CM work by staff</td>
<td>None set</td>
<td>Not available</td>
</tr>
<tr>
<td>2.a.ii.7</td>
<td>Dollars spent on CM work by contractors</td>
<td>None set</td>
<td>Not available</td>
</tr>
<tr>
<td>2.a.ii.8</td>
<td>Mean time to repair MC WOs</td>
<td>None set</td>
<td>Not available</td>
</tr>
<tr>
<td>2.a.ii.9</td>
<td>% CM WOs entered by central-admin/non-bldg staff</td>
<td>None set</td>
<td>Not available</td>
</tr>
<tr>
<td>2.a.ii.10</td>
<td>% CM WOs entered by bldg.-level staff</td>
<td>None set</td>
<td>Not available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3</th>
<th><strong>Custodial</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>3.a</td>
<td>% custodians trained in LEA Custodial SOW, last 2 FYs</td>
</tr>
<tr>
<td>3.b</td>
<td>% custodial duties completed adequately</td>
</tr>
</tbody>
</table>
CAROLINE COUNTY PUBLIC SCHOOLS

Facility Metrics: Outcomes, Maintenance, and Custodial

Summary of Current Staffing vs. Industry Standards

<table>
<thead>
<tr>
<th>Metric</th>
<th>Industry Standard</th>
<th>Previous FY Budgeted</th>
<th>Previous FY Actual</th>
<th>Current FY Budgeted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance staffing (FTEs for Total GSF)</td>
<td>APPA Level 2 (Comprehensive Stewardship): 14.1 FTEs for 952,622 Total GSF</td>
<td>5.7</td>
<td>5.7</td>
<td>6.7</td>
</tr>
<tr>
<td>Maintenance Load (GSF per FTE)</td>
<td>APPA Level 2 (Comprehensive Stewardship): 67,456 GSF/FTE</td>
<td>167,127 GSF/FTE</td>
<td>167,127 GSF/FTE</td>
<td>142,182 GSF/FTE</td>
</tr>
<tr>
<td>% of Maint. Staff delivering bldg. services</td>
<td>N/A</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Custodial Staffing (FTEs for Total GSF)</td>
<td>APPA Level 2 (Ordinary Tidiness): 56.7 FTEs for 952,622 Total GSF.</td>
<td>51*</td>
<td>51</td>
<td>51**</td>
</tr>
<tr>
<td>Custodial Load (GSF/FTE)</td>
<td>APPA Level 2 (Ordinary Tidiness): 16,799 GSF/FTE</td>
<td>18,679 GSF/FTE</td>
<td>18,679 GSF/FTE</td>
<td>18,679 GSF/FTE</td>
</tr>
</tbody>
</table>

* FY21 Budgeted and actual: 43 Custodians, 9 Head Custodians
** FY22 Actual: 36.5 Custodians, 9 Head Custodians
Attachment C-2c

CAROLINE COUNTY PUBLIC SCHOOLS

Facility Metrics: Outcomes, Maintenance, and Custodial - Budget Narrative

Current Replacement Cost (CRV):
Facility Area: 952,622 sf (per IAC FY21 Maint. Report)
Cost of Construction: $358.00/sf
Total building cost: $341,039,000
Sitework: 19%
Total building + sitework: $64,797,000
Contingency (local): 2.5%
Total building + sitework + contingency: $415,982,000
Project development costs: 18%
Total CRV: $490,859,000

<table>
<thead>
<tr>
<th>Budget Narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal Summary</td>
</tr>
<tr>
<td>PM</td>
</tr>
<tr>
<td>CM</td>
</tr>
<tr>
<td>Deferred Maintenance (if applicable)</td>
</tr>
<tr>
<td>All Maintenance, per GSF</td>
</tr>
</tbody>
</table>

* Does not include capital renewal expenditure on Greensboro ES replacement.