

BALTIMORE COUNTY PUBLIC SCHOOLS

Dr. Joe A. Hairston ♦ Superintendent ♦ 6901 Charles Street ♦ Towson, MD ♦ 21204

October 15, 2010

David Lever, Ph.D., R.A., Executive Director
Maryland Public School Construction Program
200 West Baltimore Street, Second Floor
Baltimore, Maryland 21201

Dear Dr. Lever:

As required by the *Public School Construction Program's Administrative Procedures Guide*, I am submitting Baltimore County Public Schools' *2011 Comprehensive Maintenance Plan*, which has been approved by the Board of Education of Baltimore County. The appropriate signatures are contained on the following page. Individual mission statements, and performance goals and objectives are listed and linked to the Superintendent's goals and challenges. The Department of Physical Facilities' *Comprehensive Maintenance Plan* contains the goals and objectives with operational plans to structure short-and long-range strategies for enhancement of service delivery to manage human, material, and fiscal resources, and provide effective communication.

This year's Comprehensive Maintenance Plan is an integral part of the Department's Strategic Planning. The leadership team of the Department of Physical Facilities is committed to establishing and maintaining accountability for all of the work carried out to improve the physical facilities for Baltimore County Public Schools.

Your support, assistance, and cooperation throughout the year have been appreciated.

Sincerely,

Dennis N. Elkins, Administrator
Office of Maintenance and Grounds

DNE/gad

c Dr. Joe A. Hairston, Superintendent of Schools
J. Robert Haines, Esq., Deputy Superintendent
Mr. Michael G. Sines, Executive Director of Physical Facilities
Ms. Barbara Burnopp, Chief Financial Officer

COMPREHENSIVE MAINTENANCE PLAN
BALTIMORE COUNTY PUBLIC SCHOOLS

OCTOBER 2010

APPROVED:

Ms. JoAnn Murphy, President of the Board of Education Date

Dr. Joe A. Hairston, Superintendent of Schools Date

J. Robert Haines, Esquire, Deputy Superintendent Date

Michael G. Sines, Executive Director, Physical Facilities Date

Barbara Burnopp, Chief Financial Officer, Fiscal Services Date

Dennis N. Elkins, Administrator, Office of Maintenance and Grounds Date

BOARD OF EDUCATION OF BALTIMORE COUNTY
Towson, Maryland 21204

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Superintendent of Schools

Submitted By: Dennis N. Elkins, Administrator
Department of Physical Facilities
Office of Maintenance and Grounds

Prepared By: Glenn Patrick, Special Assistant
Department of Physical Facilities
Office of Maintenance and Grounds

Comprehensive Maintenance Plan FY11

**Department of Physical Facilities
Baltimore County Public Schools**



October 15, 2010

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Introduction

The FY11 Comprehensive Maintenance Plan (CMP) contains an overview, as well as a detailed description of the work being completed and organizational adjustment that were implemented within the Department of Physical Facilities, during the 2010 school year. The Department of Physical Facilities includes the Offices of Engineering and Construction, Maintenance and Grounds, and Operations. Under the Strategic Initiative Section, approved programs for FY11 have been included. We believe a successful facilities program is one that is customer oriented, cost effective, and current with technological advances.

The Department of Physical Facilities is responsible for the facilities management of 160 schools and eleven centers housing approximately 104,000 students and sixteen administrative, maintenance, grounds, warehouse and transportation buildings. The personnel of the Department of Physical Facilities have an unwavering commitment to delivering quality service in construction, maintenance, operations, and grounds, as well as to address environmental areas. Adequate facilities designed to accommodate the educational needs of students are essential for continuous improvement of student learning. Securing adequate funding and qualified personnel to deliver these services remain a top priority.

The mission of the Division of Physical Facilities is to provide support services needed for a safe, clean, and productive educational environment. The leadership team is dedicated to be responsive, while establishing budgetary priorities. The entire staff strives for excellence, individual responsibility, and caring about others with the belief that they are an integral part of the educational process for the students of the Baltimore County Public Schools.

The Baltimore County Public Schools *Blueprint for Progress* goals are:

- To improve achievement for all students
- To maintain a safe and orderly learning environment in every school
- To use resources effectively and efficiently

The Department of Physical Facilities has identified objectives for the CMP to support the above system goals.



Administration



OFFICE LISTINGS

- Engineering and Construction
- Operations
- Maintenance and Grounds
- DPF Home

Department of Physical Facilities

The Department of Physical Facilities is responsible for the physical management of Schools and Centers, housing over 104,000 students, along with 16 administrative, maintenance, grounds, warehouse and transportation buildings. The mission of the Department of Physical Facilities is to provide support services to maintain safe, clean, and productive educational environments that are conducive to high student achievement. The staff is committed to delivering quality service in construction, maintenance, operations, and grounds with the understanding that we are an integral part of the educational process for students attending the Baltimore County Public Schools.

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OFFICE LISTINGS

- Engineering and Construction
- Operations
- Maintenance and Grounds
- DPF Home

Office of Engineering and Construction

The Office of Engineering and Construction, with its staff of professional engineers, architects, designers, and construction personnel, acts as consultant, design team, and manager to the school system for a variety of projects. This office assists the school system in design and implementation of complex engineered systems, practices, and procedures in new construction, renovations, and site improvements. The staff is committed to providing quality engineering and construction services while following the Board of Education *Blueprint for Progress*, goals, and vision.

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Secretary



OFFICE LISTINGS

- Engineering and Construction
- Operations
- Maintenance and Grounds
- DPF Home

Office of Operations

The Office of Operations is responsible for the daily operation of the physical plants of all schools and offices. This office directs the activities of over 900 custodial staff members who provide housekeeping services, perform basic preventative maintenance, and monitor the operations of all heating, ventilating, and air conditioning systems. The Office of Operations is committed to providing quality, timely services to all schools and offices by encouraging employees to work as a team, take pride in their work, strive for excellence, and become life-long learners. Through these endeavors, the Office of Operations strives to provide a safe, clean, and attractive learning environment that promotes quality education.

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OFFICE LISTINGS

- Maintenance and Grounds
 - Maintenance
 - Safety and Security
 - Grounds
- DPF Home

Maintenance and Grounds

The Office of Maintenance and Grounds is responsible for providing essential services to Baltimore County's Schools and Centers. The focus of this office is timely customer service which includes, but is not limited to, electrical, mechanical, plumbing, relocatable repairs, environmental repairs, contract management, grounds beautification, snow removal, and blacktop and concrete repairs. This office focuses on providing services that support the Superintendent's *Blueprint For Progress* and mission statement. This office is responsible for maintaining 15,500,000 square feet of building space and approximately 4,000 acres of school and office grounds. An average of 20,000 requests for service are received yearly.

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Nancy L. Rothwell
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Secretary



OFFICE LISTINGS

- Maintenance and Grounds
 - Maintenance
 - Safety and Security
 - Grounds
- DPF Home

Maintenance and Grounds

Safety and Security

Safety and Security is a 24-hour, seven days a week operation.

It is the responsibility of Safety and Security to patrol and monitor the entire BCPS system.

The mission of Safety and Security is to ensure safe and productive learning environments for all students. Safety and Security provides a critical communication link between all departments in cases of emergency. Some examples of the various types of emergencies are:

- Plumbing, mechanical, and /or electrical problems
- Hazardous material spills in buildings or general vicinity
- Weather-related situations, downed trees, power outages, water problems, etc.

Safety and Security also operates, maintains, and repairs security alarm systems, closed circuit television systems, card access systems, and door monitoring entry systems and fire alarm systems.

Gregory DeLong
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Senior Operations Supervisor

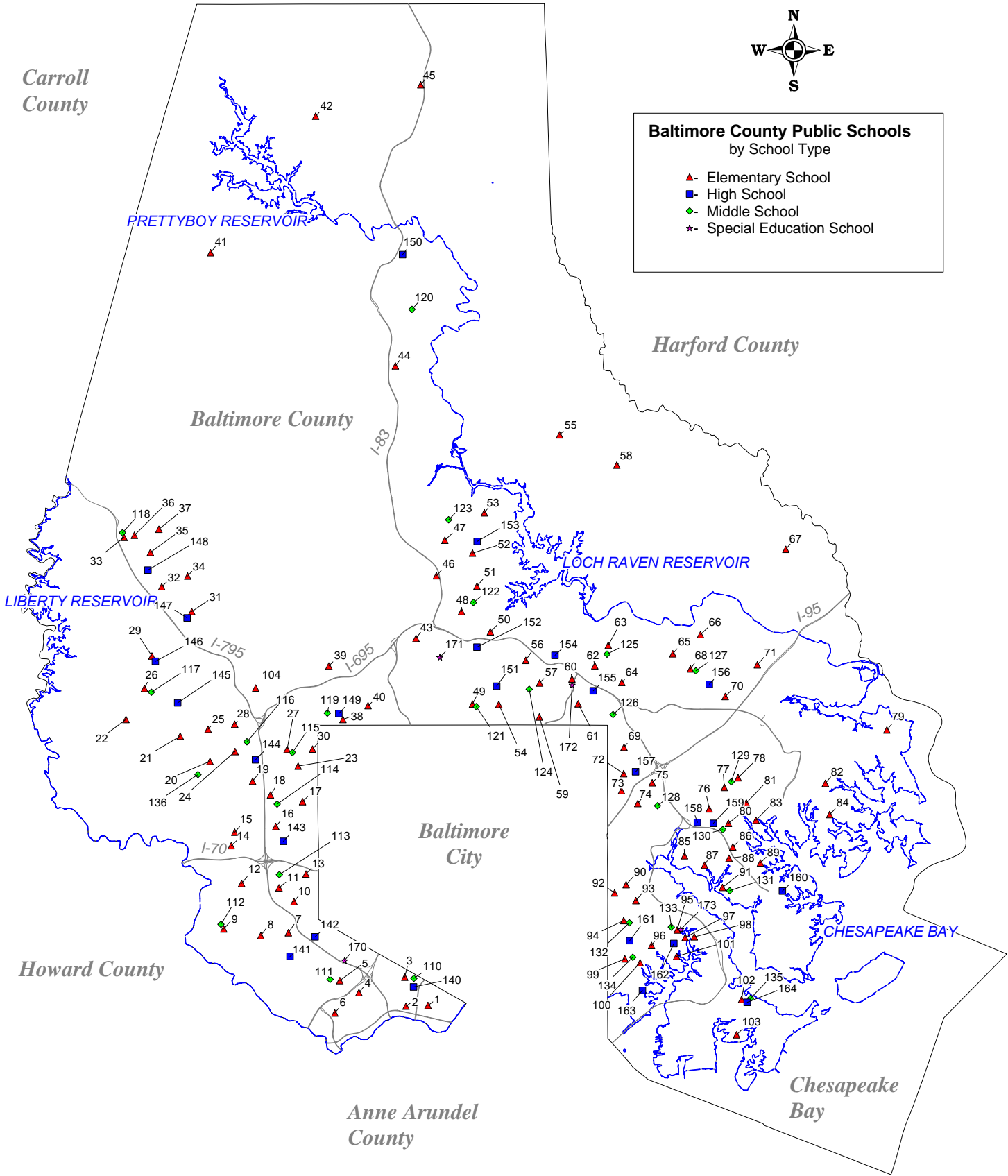
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Secretary

24-Hour Security Monitoring
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Baltimore County Public Schools

"Focused on Quality; Committed to Excellence"



Turn over page for listing of school names

Elementary Schools		Elementary Schools		Middle Schools		High Schools	
5	Arbutus ES	48	Lutherville ES	111	Arbutus MS	152	Carver Center
1	Baltimore Highlands ES	86	Mars Estates ES	112	Catonsville MS	141	Catonsville HS
98	Battle Grove ES	81	Martin Boulevard ES	123	Cockeysville MS	160	Chesapeake HS
97	Bear Creek ES	73	McCormick ES	131	Deep Creek MS	153	Dulaney HS
27	Bedford ES	89	Middleborough ES	117	Deer Park MS	161	Dundalk HS
93	Berkshire ES	80	Middlesex ES	121	Dumbarton MS	158	Eastern Tech
23	Campfield Center	30	Milbrook ES	134	Dundalk MS	148	Franklin HS
64	Carney ES	29	New Town ES	118	Franklin MS	150	Hereford HS
58	Carroll Manor ES	94	Norwood ES	133	General John Stricker MS	159	Kenwood HS
7	Catonsville ES	60	Oakleigh ES	128	Golden Ring MS	140	Lansdowne HS
32	Cedarmere ES	79	Oliver Beach ES	120	Hereford MS	154	Loch Raven HS
14	Chadwick ES	76	Orems ES	132	Holabird MS	144	Milford Mill Academy HS
71	Chapel Hill ES	31	Owings Mills ES	110	Lansdowne MS	146	New Town HS
95	Charlesmont ES	47	Padonia ES	124	Loch Raven Academy MS	157	Overlea HS
82	Chase ES	68	Perry Hall ES	129	Middle River MS	147	Owings Mills HS
36	Chatsworth School	63	Pine Grove ES	116	Old Court MS	155	Parkville HS
103	Chesapeake Terrace ES	46	Pinewood ES	126	Parkville MS	162	Patapsco HS
25	Church Lane ES	57	Pleasant Plains ES	127	Perry Hall MS	156	Perry Hall HS
90	Colgate ES	52	Pot Spring ES	119	Pikesville MS	149	Pikesville HS
56	Cromwell Valley ES	17	Powhatan ES	125	Pine Grove MS	145	Randallstown HS
88	Deep Creek ES	42	Prettyboy ES	122	Ridgely MS	163	Sollers Point Tech
26	Deer Park ES	21	Randallstown ES	113	Southwest Academy MS	164	Sparrows Point HS
15	Dogwood ES	74	Red House Run ES	135	Sparrows Point MS	151	Towson HS
99	Dundalk ES	35	Reisterstown ES	130	Stemmers Run MS	142	Western Tech
92	Eastwood Center	6	Relay ES	115	Sudbrook Magnet MS	143	Woodlawn HS
102	Edgemere ES	43	Riderwood ES	136	Windsor Mill MS		
13	Edmondson Heights ES	2	Riverview ES	114	Woodlawn MS		Special Education Schools
72	Elmwood ES	49	Rodgers Forge ES			173	Battle Monument School
85	Essex ES	91	Sandalwood ES			170	Maiden Choice Center
16	Featherbed Lane ES	101	Sandy Plains ES			171	Ridge Ruxton School
41	Fifth District ES	24	Scotts Branch ES			172	White Oak School
39	Fort Garrison ES	84	Seneca ES				
33	Franklin ES	65	Seven Oaks ES				
69	Fullerton ES	45	Seventh District ES				
78	Glenmar ES	75	Shady Spring ES				
37	Glyndon ES	44	Sparks ES				
96	Grange ES	54	Stoneleigh ES				
66	Gunpowder ES	40	Summit Park ES				
4	Halethorpe ES	87	Sussex ES				
59	Halstead Academy ES	34	Timber Grove ES				
50	Hampton ES	51	Timonium ES				
62	Harford Hills ES	77	Victory Villa ES				
83	Hawthorne ES	61	Villa Cresta ES				
19	Hebbsville ES	53	Warren ES				
22	Hernwood ES	38	Wellwood ES				
8	Hillcrest ES	9	Westchester ES				
55	Jacksonville ES	10	Westowne ES				
11	Johnnycake ES	28	Winand ES				
70	Joppa View ES	20	Winfield ES				
67	Kingsville ES	12	Woodbridge ES				
3	Lansdowne ES	104	Woodholme ES				
100	Logan ES	18	Woodmoor ES				

Updated January 2007

Department of Physical Facilities

MISSION

The mission of the Department of Physical Facilities is to provide support services to maintain safe, clean, and productive educational environments that are conducive to high student achievement. The entire Facilities' staff is committed to delivering quality service in construction, maintenance, operations, and grounds with the belief that we are an integral part of the educational process for all Baltimore County Public Schools students.

Performance Goal 4

All students will be educated in school environments that are safe and conducive to learning.

- 4.1 All schools and school communities will maintain safe, orderly, nurturing environments (BCPS standard).

Key Strategies for Goal 4

- a) Provide attractive, clean, caring, and secure learning environments.
- e) Continue inter-department and inter-agency teams to implement schoolwide Safety and Emergency Plans, the Countywide Critical Response Plan, and Emergency Safety Management Guide.
- g) Continue the fingerprinting and criminal background checks for all employees.
- h) Continue the annual Safe Schools Conference.

Performance Goal 6

Engage parents/guardians, business, and community members in the educational process.

Key Strategies for Goal 6

- e) Expand recognition opportunities for students, parents/guardians, community, and business partners.
- h) Encourage business partnerships that support and compliment the educational program.

Performance Goal 8

All students will receive a quality education through the efficient and effective use of resources and the delivery of business services.

- 8.11 The Capital Improvement Program will align with the distribution of instructional programs (BCPS standard).
- 8.13 Administrative appointments will be made in a timely manner (BCPS standard).
- 8.17 All Baltimore County facilities will be operational in the school year at a level that meets or exceeds the 2002-2003 baseline.
- 8.18 The number of schools that exceed current student capacity standards will be reduced.
- 8.19 The Wide Area Network, Enterprise Systems, and the telephone system will operate effectively 98% of the time.

Key Strategies for Goal 8

- e) Develop systemwide 5-, 10-, and 15-year comprehensive maintenance plans based on the condition of the individual facility's profile and establish short-, mid-, and long-range solutions.
- i) Develop, modify, and monitor business operations to ensure efficient and effective use of resources.



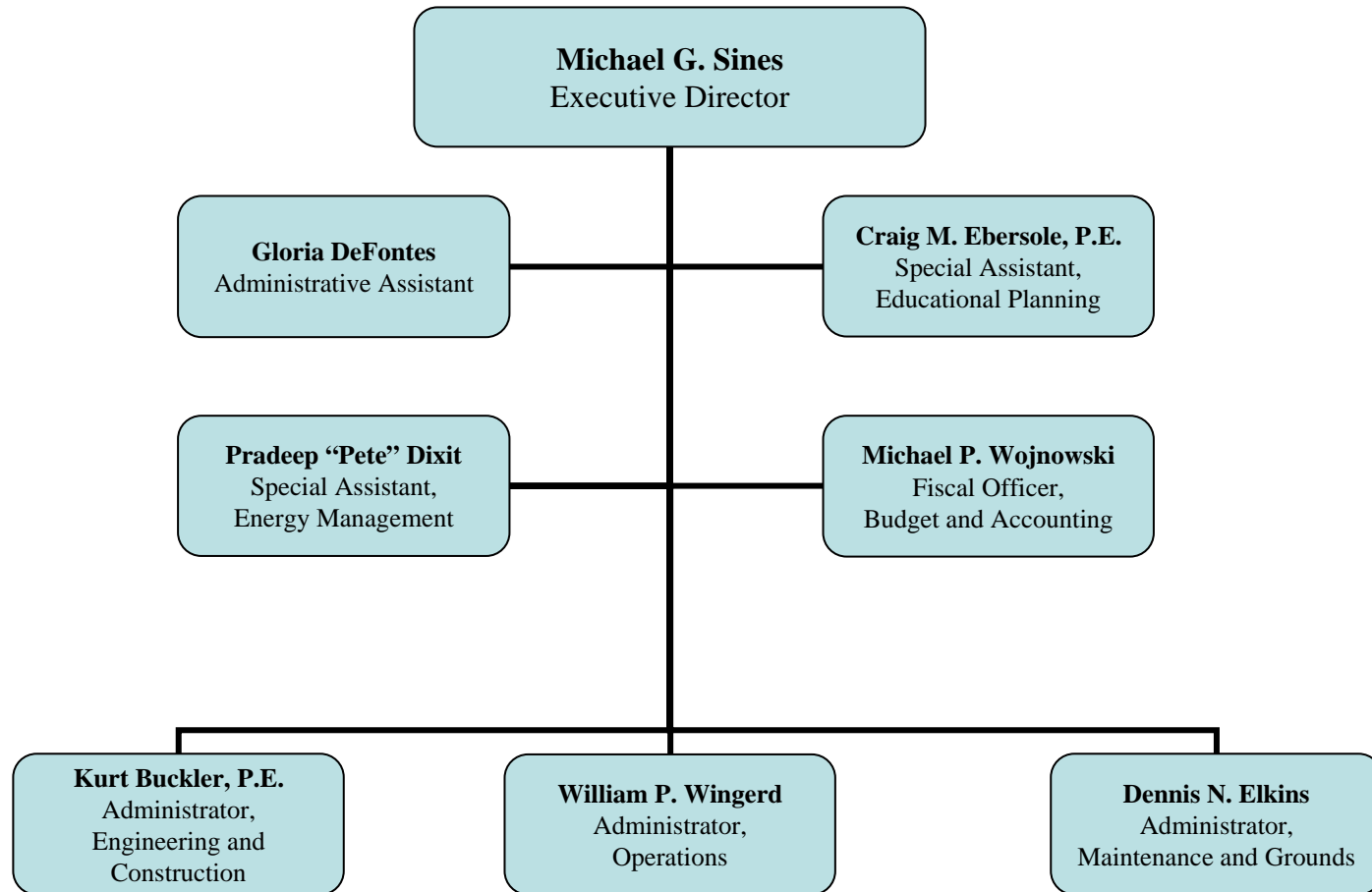
Personnel

EXECUTIVE DIRECTOR OF PHYSICAL FACILITIES

The Executive Director of Physical Facilities is responsible for the coordination of all offices involved in the Comprehensive Maintenance Plan and for a wide variety of functions that impact all facilities throughout the Baltimore County Public Schools. The four areas of responsibilities that report directly to the Executive Director include the Offices of Budget and Accounting, Engineering and Construction, Maintenance and Grounds, and Operations.

All additional duties and obligations assigned by the Executive Director are addressed by the Administrative Assistant; Special Assistant, Educational Planning; and Special Assistant, Energy Management. The above positions are assigned a myriad of duties which include preparing educational specifications, conducting research, gathering data regarding facilities, contract construction law, energy management, and coordinating daily personnel issues and concerns.

Department of Physical Facilities



ENERGY MANAGEMENT

The Special Assistant of Energy Management, reporting to the Executive Director of Physical Facilities, is responsible for coordinating energy management and conservation work with technicians who address and resolve emergency building automation situations while monitoring and adjusting BCPS building automation systems associated with building heating and cooling systems.

The Special Assistant of Energy Management manages the BCPS utility budget exceeding \$30 million, utilizing utility tracking software, and interfacing with maintenance, operations, environmental, and construction areas to develop and implement energy conservation policies and procedures. In addition, this position provides assistance to schools that participate in energy conservation efforts.

The work performed by Energy Management includes:

- Developing and maintaining an energy conservation database for BCPS
- Representing BCPS at the Baltimore Regional Cooperative Purchasing Committee (BRCPC) to purchase energy commodities (heating oil, natural gas and electricity) at optimum prices
- Continuously monitoring energy commodity prices and energy conservation to maximize BCPS' energy and cost efficiency
- Inspecting and auditing schools during occupied and unoccupied periods in an attempt to improve energy efficiency of the buildings
- Supporting design efforts by identifying and incorporating energy efficient equipment, controls and control strategies
- Identifying buildings with poor energy efficiency and energy conservation measures for implementation subject to the availability of funds
- Managing an operating budget of \$30 million and preparing cost projections on a monthly basis to forecast savings or deficits in a timely manner
- Coordinating delivery of heating oil to various schools
- Implementing energy conservation outreach programs and exploring participation in federal and state energy conservation programs
- Preparing an annual budget and multi-year plan to upgrade and maintain building automation systems

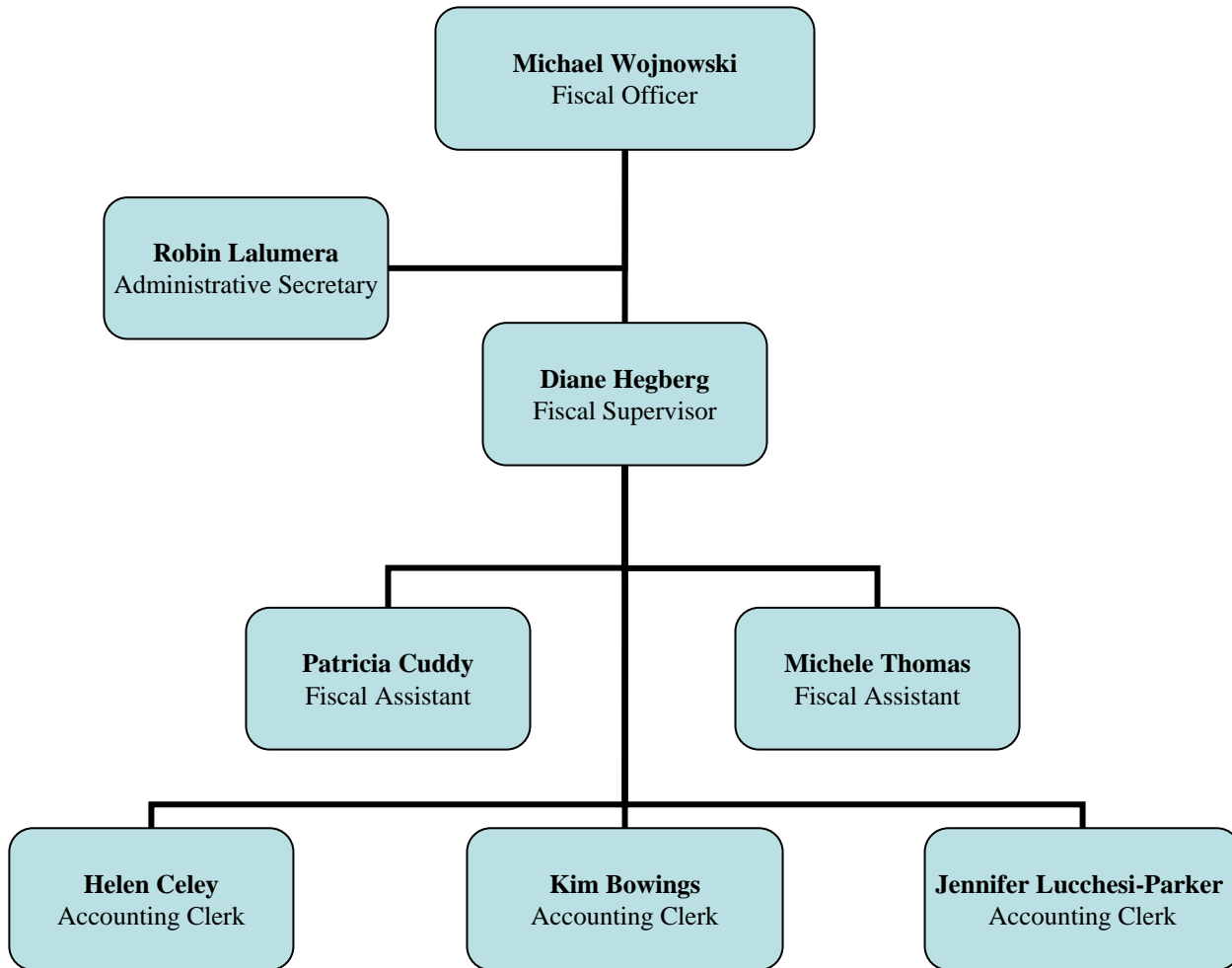
The Special Assistant of Energy Management is supported by an Energy Management Systems Technician who is responsible for conducting energy audits and implementing building automation systems on a regular basis, making adjustments to provide a compatible learning environment, optimizing energy efficiency, and providing support when needed to improve overall energy efficiency of the system.

OFFICE OF BUDGET AND ACCOUNTING

The Office of Budget and Accounting is responsible for assisting with the development of both the Capital and Operating budgets as they relate to facilities management activities within the Department of Physical Facilities. These responsibilities include the maintenance of various accounting systems for the accurate tracking and monitoring of funding allocated for the various programs and projects being managed by the Department of Physical Facilities personnel. The Office of Budget and Accounting serves to effectively reconcile ongoing expenditures with current BCPS accounting systems (currently Advantage Financial) while accurately processing budget transactions, allotments, purchase orders, change orders, invoices, etc. Reporting to the Fiscal Officer for the Office of Budget and Accounting is a Fiscal Supervisor, an Administrative Secretary, two Fiscal Analysts, and three Accounting Clerks. This office is responsible for the day-to-day coordination efforts with supervisors, engineers, project managers and representatives of each office responsible for the Capital and Operating budgets, while functioning as the liaison between the Department of Physical Facilities and the Department of Fiscal Services.

Department of Physical Facilities

Office of Budget and Accounting



OFFICE OF ENGINEERING AND CONSTRUCTION

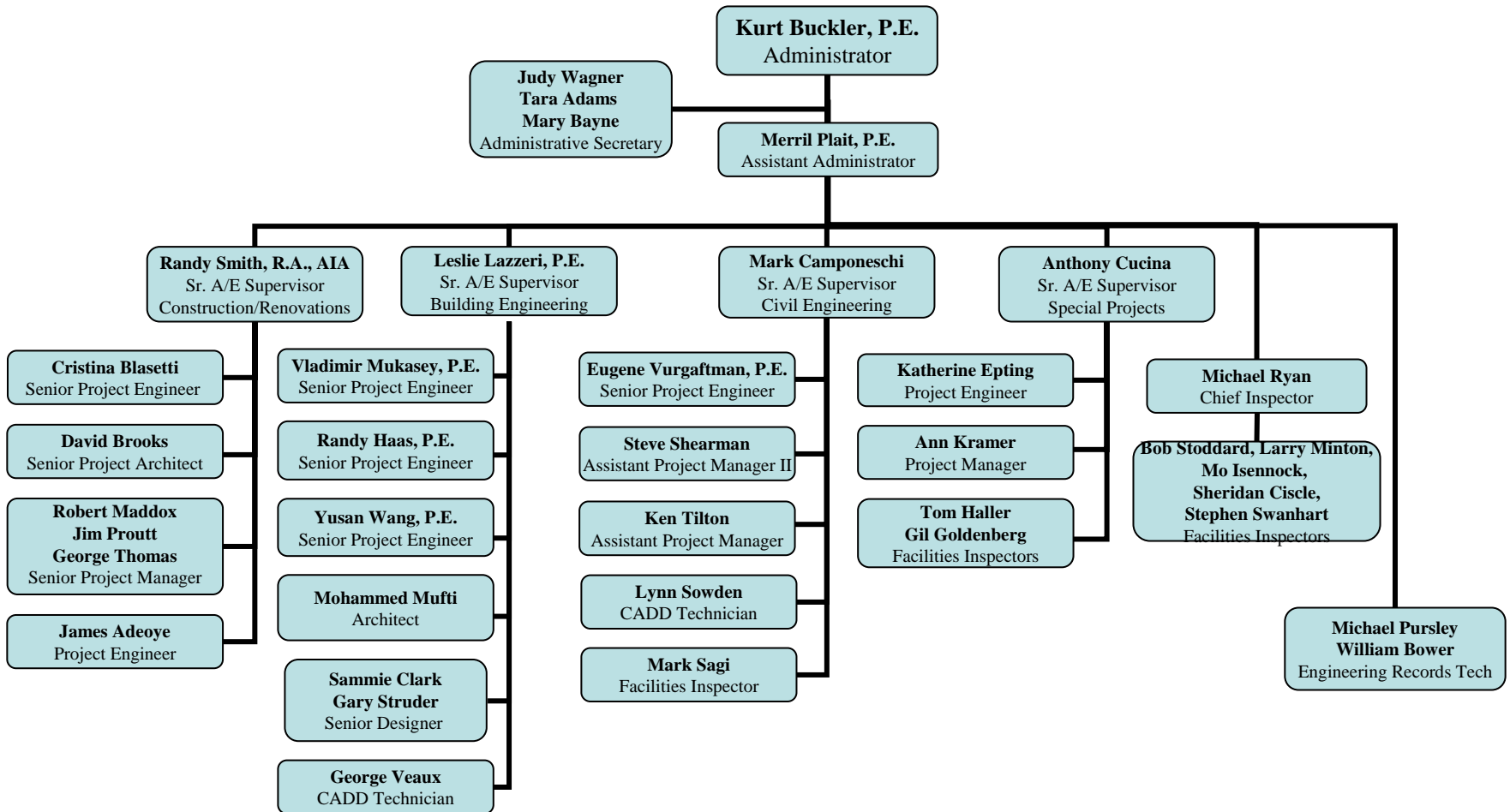
The Administrator of the Office of Engineering and Construction is responsible for preparing and managing the Capital Budget for all facilities-related repairs, replacements and improvements for Baltimore County Public Schools (BCPS). These responsibilities include overseeing all Capital improvements being engineered and constructed. The Office of Engineering and Construction is responsible for the selection of architectural/engineering consultants and construction managers required to design all construction, renovation, and modification projects as outlined in the BCPS Capital Improvement Program. This office provides professional quality review of all designs and project management services through construction completion. The Office of Engineering and Construction is also responsible for budget development and the management of all fiscal efforts related to the Capital Program. Within the Office of Engineering and Construction are various divisions including:

- New Construction
- Renovation – Project Management
- Architectural Design and Project Management
- Mechanical, Electrical and Plumbing Design and Project Management
- Civil/Site Design, Inspection and Project Management
- Building Envelope Design and Project Management

Reporting to the Administrator of the Office of Engineering and Construction are the Assistant Administrator along with four (4) Senior A/E Supervisors.

Department of Physical Facilities

Office of Engineering and Construction



OFFICE OF OPERATIONS

The Administrator of the Office of Operations is responsible for the oversight of the daily operation of the physical plants of all schools and offices of the Baltimore County Public Schools. The Administrator, along with six Senior Operations Supervisors (one allotted to each of the five administrative areas and one assigned for special services), directs the activities of over 900 custodial staff members who provide housekeeping services, perform basic preventive maintenance duties, and monitor all heating, ventilating and air conditioning systems to ensure safe operations. The Office of Operations provides direct support to the housekeeping program by furnishing schools and offices with cleaning supplies and materials, and cleaning equipment, as well as providing training for custodial staff members. In addition, the Office of Operations repairs commercial cleaning equipment, provides light bulbs and lamps for all schools and offices, and oversees the contracted trash removal services and the mixed paper recycling program.

In addition to the Senior Operations Supervisors, this office consists of one Energy Management Systems Technician who is responsible for managing building automation systems on a regular basis, making adjustments to provide a compatible learning environment, optimizing energy efficiency, and providing support when needed to improve overall energy efficiency of the system.

A Building Operations Supervisor is assigned to each school facility to oversee the operations program. The typical housekeeping services provided by our custodial staffs include, but are not limited to:

Daily Duties

- Dust mop and/or sweep all floors.
- Vacuum all carpeted areas.
- Dust all areas including furniture, office equipment, file cabinets, doors, door frames, window ledges, shelving, and fire extinguishers.
- Clean and sanitize all restrooms to include, but not be limited to, floors, ceilings, walls, doors, toilet partitions, and plumbing fixtures. Refill soap, paper towel, toilet tissue, and sanitary napkin dispensers. Empty and sanitize all trash receptacles.
- Wet mop floors in the Health Suite and restrooms.
- Clean and sanitize drinking fountains, sinks, and public phones.
- Collect and dispose of trash (regular and recycled waste).
- Empty pencil sharpeners and clean chalk ledges.
- Perform security checks to ensure that all doors and windows are closed and locked.
- Activate Security System.

Weekly Duties

- Dust pictures, high ledges, door vents, clocks, bells, exit lights, and other wall-mounted fixtures.
- Wet mop classrooms, offices, hallways, etc.

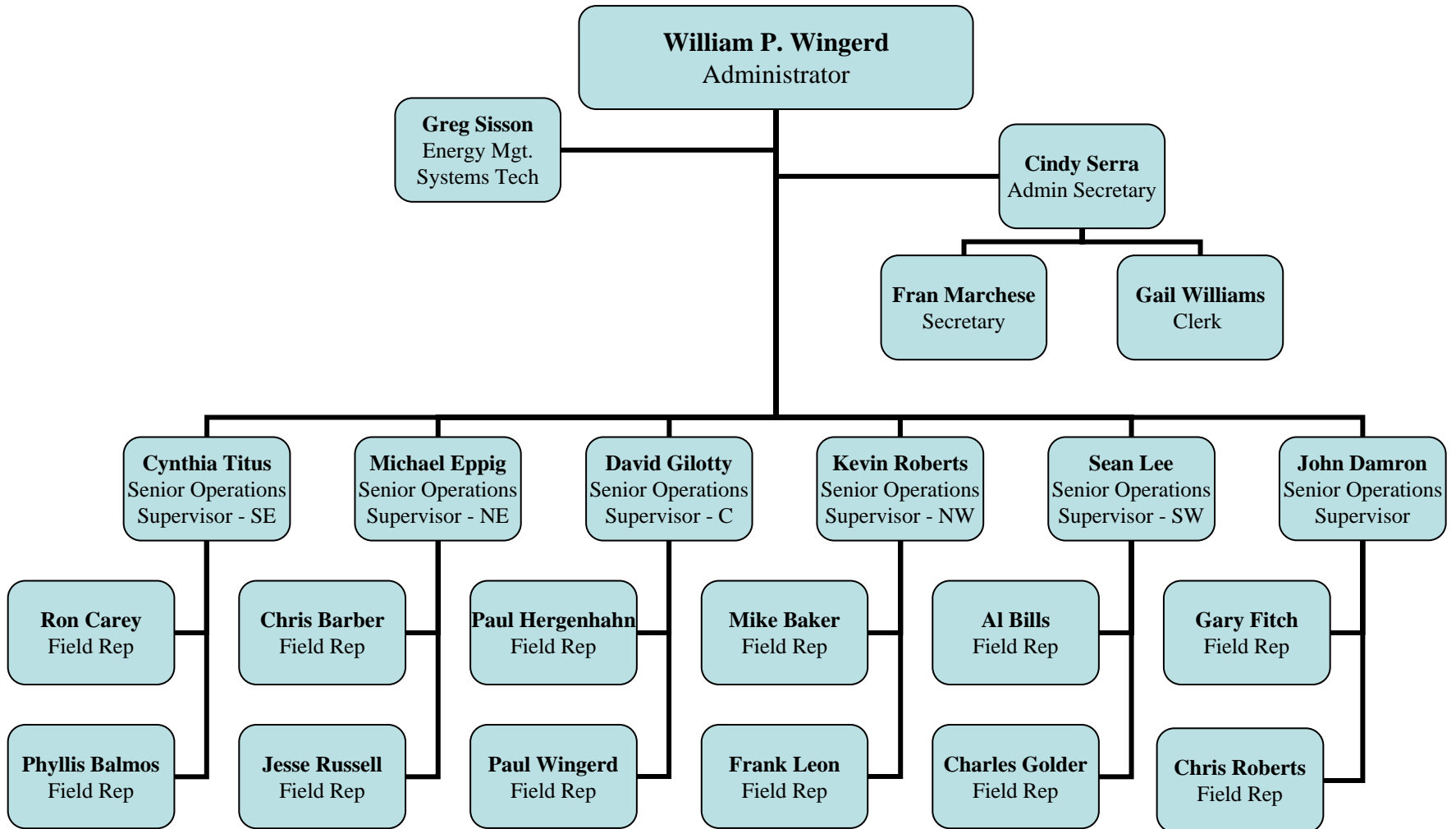
As Required

- Wax and buff floors.
- Clean and polish desks, chairs, tables, cabinets, and other classroom and office furnishings.
- Replace burned out light bulbs and tubes.
- Board up broken windows.
- Move furniture and office equipment.
- Set up and pick up chairs, tables, etc. for meetings.
- Clean light fixtures.
- Clean and sanitize handrails.
- Clean windows and window frames.
- Participate in summer cleaning program.
- Participate in snow removal program.
- Perform other duties of similar scope and complexity.

The Building Operations Supervisor also serves as the site-based representative for the Department of Physical Facilities. In this role, the Building Operations Supervisor is the vital point of contact for all outside contractors and in-house maintenance personnel. A number of Building Operations Supervisors within the Baltimore County Public Schools have obtained a Stationary Engineers License demonstrating their knowledge and ability in boiler plant operations.

Department of Physical Facilities

Office of Operations

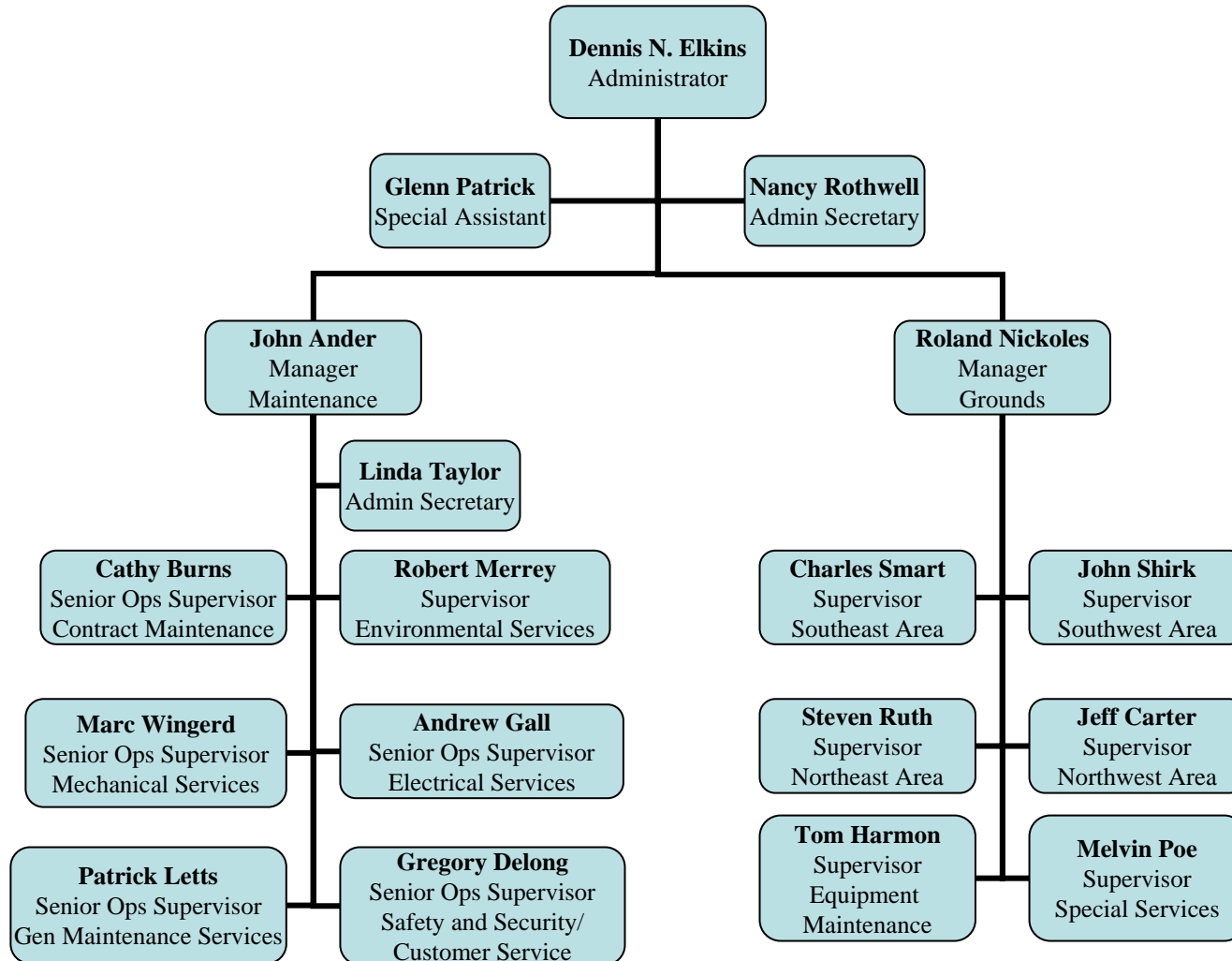


OFFICE OF MAINTENANCE AND GROUNDS

The Administrator of the Office of Maintenance and Grounds is responsible for the fiscal oversight and planning of both interior and exterior maintenance involving both buildings and grounds for all schools, offices, and centers throughout Baltimore County Public Schools. The two sections that report directly to the Administrator include the Maintenance Section and the Grounds Section. Reporting directly to the Administrator are two managers, two administrative secretaries, one for each of the primary offices and one special assistant.

Specific office responsibilities will be provided individually.

Department of Physical Facilities Office of Maintenance and Grounds



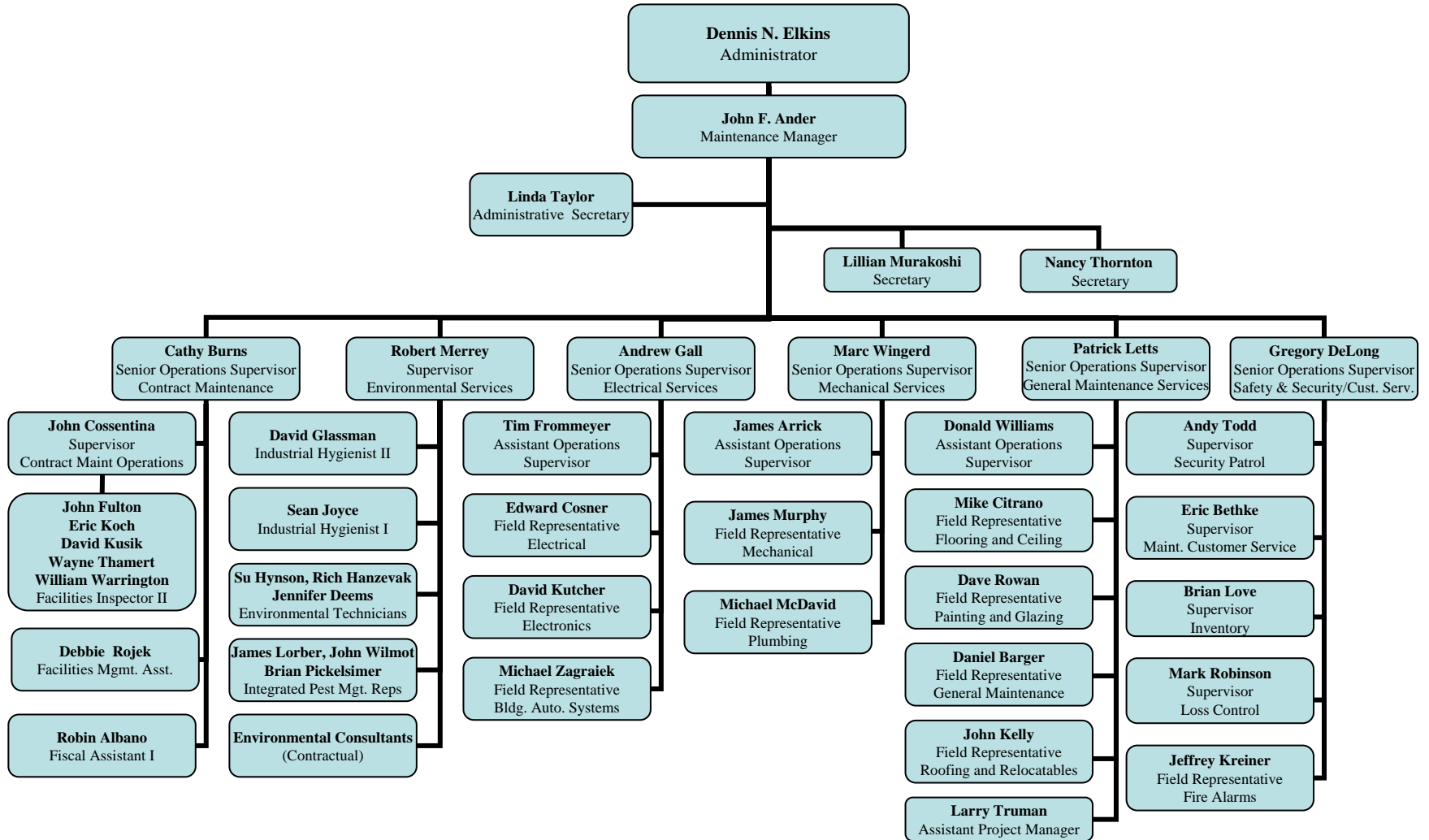
MAINTENANCE SECTION

Reporting to the Manager of Maintenance are six senior operations supervisors and approximately 180 employees. The Manager of Maintenance is responsible for the day-to-day operation of Electrical Services, Mechanical Services, Contract Maintenance Services, Environmental Services, General Maintenance Services, and Safety/Security/Customer Services. The Maintenance Section services the mechanical and building infrastructure which directly impacts the building environment.

The specific responsibilities of each section are provided individually.

Department of Physical Facilities

Office of Maintenance and Grounds/Maintenance Section



CONTRACT MAINTENANCE

Contract Maintenance is responsible for the management of various preventive maintenance contracts and services. This section manages a network of contractors that provide services that focus on the maintenance and improvement of a facility's performance.

The technical services provided by contractors include the maintenance of air conditioning and heating systems, electrical systems and emergency generator systems, sanitary and storm water systems, vertical transportation systems, and fire protection systems. In-house staff supervises and coordinates activities such as painting, waterproofing, bleacher and gym equipment inspections, carpet and tile work, equipment installation, and emergency repairs.

The expanded maintenance program is focused on reducing energy and operating costs through tracking critical equipment history, life-cycle equipment costs, equipment reliability, and preventive/predictive maintenance tasks.

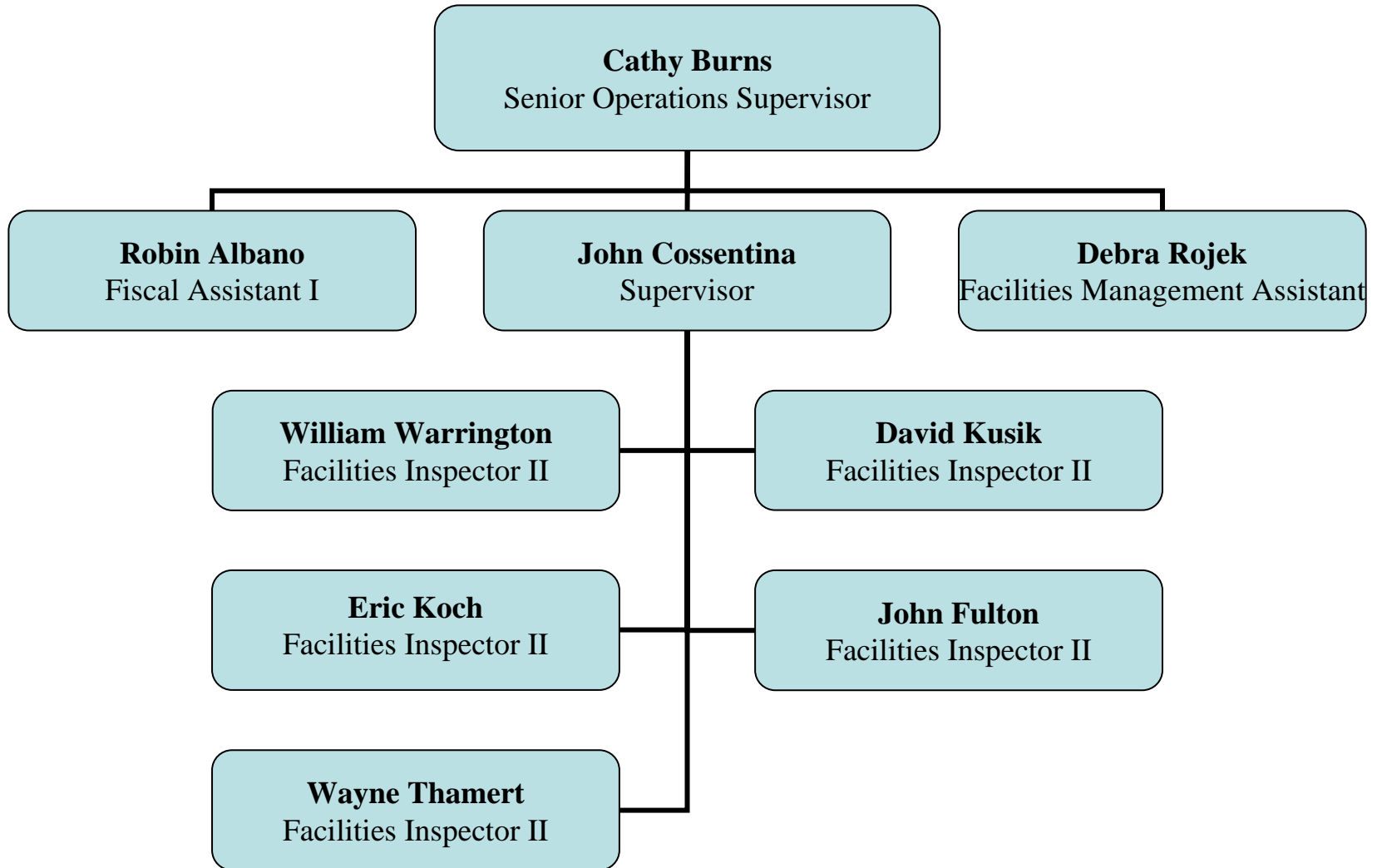
Other responsibilities and duties include:

- Developing scope of work and specifications for quote or bid
- Reviewing and evaluating work products, methods, and procedures
- Participating in demonstrations and training programs
- Investigating complaints and recommending corrective actions
- Forecasting funding needs for equipment replacement
- Recommending capital equipment replacement for the CIP
- Serve as Project Managers for major repairs
- Maintaining fixed asset inventory
- Conducting periodic inspections and evaluations of our fixed assets
- Reviewing work requests

Staff positions and general duties include:

- One Senior Operations Supervisor – manages day-to-day operation of the section; monitors performance of contractors and staff; maintains budget levels; develops plans for and implements special programs; and develops and modifies specifications for various maintenance contracts
- One Supervisor – schedules and coordinates special projects; ensures reporting staff are meeting requirements; assists in developing budget and special programs, ensures compliance with schedules associated with the preventive maintenance program, oversees Facilities Inspectors; conducts site surveys and inspections
- One Fiscal Assistant – provides all financial support for the section.
- One Facilities Maintenance Assistant – analyzes and troubleshoots data problems associated with work orders; generates weekly work order reports; assists in developing and implementing special programs
- Five Facilities Inspectors – assists in the project management of major mechanical system repairs; directly oversees day-to-day work performance of HVAC contractors

Office of Maintenance and Grounds – Maintenance Section
Contract Maintenance



ENVIRONMENTAL SERVICES

The Supervisor of Environmental Services reports to the Manager of Maintenance. Environmental Services is responsible for preventing adverse affects from environmental sources and responding to, and remediating all, environmental issues that affect the BCPS community. These include:

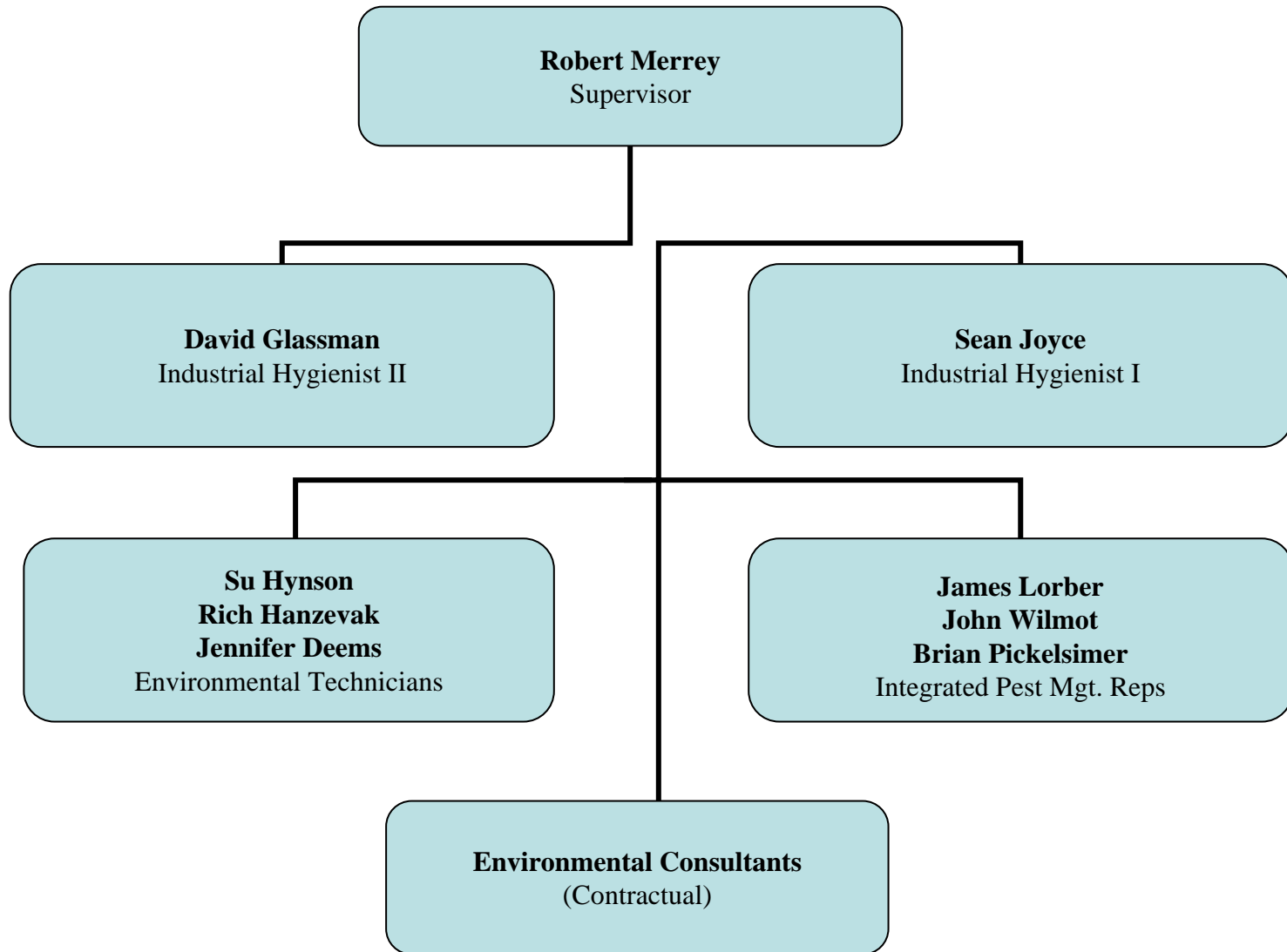
- Asbestos
- Indoor air quality
- Lead paint
- Water quality
- Hazardous materials
- Above ground and underground storage tanks
- Hazardous materials spills
- Radon
- Noise
- Integrated Pest Management

The Environmental Services staff consists of the following:

- One Senior Operations Supervisor
- One Industrial Hygienist II
- One Industrial Hygienist I
- Three Environmental Technicians
- Three Integrated Pest Management Representatives

Office of Maintenance and Grounds – Maintenance Section

Environmental Services



SAFETY AND SECURITY/CUSTOMER SERVICE

The Senior Operations Supervisor for the Safety and Security/Customer Service Section reports to the Manager of Maintenance and is responsible for providing a safe and secure learning environment for students and staff in every school. These responsibilities include developing policies, procedures, goals, and operating standards while supervising the day-to-day operation of the Safety and Security/Customer Service Section. The Safety and Security/Customer Service Section further serves to effectively provide various security services to protect the building occupants, physical plant, furnishings, equipment, stored material, etc., within all schools, associated offices, and support facilities. The Safety and Security/Customer Service Section inspects and evaluates all facilities for *Life Safety* compliance with Maryland Occupational Safety and Health (MOSH), Occupational Safety and Health Administration (OSHA) and National Fire Protection Association (NFPA) code and regulations. This section is also responsible for lighting/security surveys, central monitoring of all electronic security systems, surveillance/fire alarm systems, investigation of all security/fire alarms, and timely responses to all after-hours emergency related calls. The Senior Operations Supervisor for the Safety and Security/Customer Service Section is responsible for the Computerized Maintenance Management System (CMMS) software that manages the receiving, recording, and closing of all facilities customer service calls and work orders, as well as informing facilities personnel of various maintenance service requests. Through the efforts of staff operating the Maintenance Customer Service Desk (MCSD), the appropriate Facilities staff is notified of all routine and emergency situations affecting BCPS facilities.

The following personnel report to the Senior Operations Supervisor for the Safety and Security/Customer Service Section:

- Secretary II & Secretary I

Safety/Security/Customer Service:

- Loss Control Supervisor
- Security Assessment Technician
- Security Systems Technician
- Security Repair Assistant
- Field Rep, Fire Alarm
 - Fire Alarm Technician I
 - Fire Alarm Technician II
- Security Patrol Supervisor
 - Security Patrol Officers (9)
- Supervisor Maintenance/Customer Service
 - Customer Service Representatives (Preventive Maintenance) (7)
- Security Monitors (2)
- Lead Security Patrol Officer (2)
- Inventory Supervisor
 - Customer Service Representatives (Inventory)(3)
- Central Monitoring Support Technician
- Assistant Central Monitoring Support Technician

Position Responsibilities for Safety/Security/Customer Service Personnel:

Supervisor, Maintenance/Customer Service

- Schedules the insurance inspector to inspect pressure vessels to make sure they meet state code.
- Maintains and processes required records and reports.
- Works in conjunction with the Senior Operations Supervisor for Safety and Security/Customer Service to ensure the scheduled inspection and certification of all pressure vessels.
- Receives and responds to service calls from schools and offices. Supervises the operation of the CMMS. Ensures that emergency and regular maintenance requests are being managed in a timely manner. Tracks and reports on the status of work orders.
- Works with Physical Facilities departmental staff and school based employees to coordinate and prioritize work order requests. Conducts and coordinates meetings between the Department of Physical Facilities and school based administrators, office heads and others.
- Works closely with various offices of the Department of Physical Facilities to coordinate facilities repair and maintenance activities.
- Performs site inspections of schools, offices and facilities. Performs quality control inspections. Conducts assessments to identify building safety, health and maintenance concerns.

Customer Service Field Reps (Preventative Maintenance)

- Act as a first line response to mechanical, electrical, and plumbing problems to investigate preventive maintenance tasks at various school locations according to work orders in the school system, including inspections of roof, wall, ceiling, and structure of buildings for leaks and deterioration.
- Perform inspections as required by the National Fire Protection Association and local authorities.
- Act as liaison between the schools and the Department of Physical Facilities.
- Assist with training the Building Operations Supervisors (BOS') about the mechanical systems in their schools. Responds to emergencies when required. Meet with Principals and/or their designee.
- Maintain knowledge of the mechanical systems to assist with problem solving.
- Deliver materials in their vehicles to assist with the timely completion of maintenance tasks. Maintain knowledge and history of their respective schools.
- Ability to troubleshoot problems over the telephone and resolve or to send the proper technician/mechanic as needed.
- Assist with the changeover from winter/summer cooling and from summer/winter heating systems. Assist Contract Maintenance Section with assessing problems prior to their assigning issues to a contractor.
- Assist in the fire alarm testing.
- Monitor tests of emergency lighting systems.
- Assist in boiler, elevator, loss control, and other inspections as necessary.
- Ensure that boilers, chillers, cooling towers, roof-top air conditioning units, univents, air handling units, and other heating/cooling units are inspected as necessary.
- Check well pumps and septic systems at various sites.

- Meet with maintenance personnel and school administrators to review work.
- Perform other duties of a similar scope and complexity.

Inventory Supervisor

- Establishes a commodity based inventory system coordinated with an existing work order system.
- Maintains necessary records.
- Coordinates with Maintenance Senior Operations Supervisors to order and distribute materials needed for the performance of maintenance tasks.
- Prepares and distributes reports of inventory data and information.
- Coordinates and maintains a constant flow of inventory aligned with required usage.
- Coordinates and facilitates supplies for special projects.
- Informs shop supervisors of depleted inventories.
- Keeps track of larger tools, (locations on site) and inventory needed for specific jobs.
- Organizes and individually marks pre-manufactured windows and load onto trucks on a daily basis.
- Receives and ships material requests from schools.
- Groups and stores summer project materials.
- Assists contractors with necessary material for job completion.
- Receives and distributes mail and packages for the entire office suite.
- Maintains an inventory coding system based on the National Institute of Governmental Purchasing (NIGP) codes.

Customer Service Representatives (Inventory)

- Work primarily in inventory, but also fill in when short-staffed at the Customer Service Desk.
- Participates in the operation and maintenance of an inventory storage facility. Receives, stores, picks-up, and delivers supplies, materials, and equipment. Organizes, maintains, and rotates stock. Assists in conducting physical inventories of stock.
- Keeps storage areas and goods clean and orderly.
- Maintains an automated inventory system. Inputs and retrieves data in an automated system. Monitors inventory levels. Contacts vendors to locate and purchase required items. Maintains records of materials received and issued.
- Receives delivered items. Unloads vans, trucks and trailers. Ensures the accurate receipt of items. Operates material handling equipment such as forklifts and electric pallet movers.
- Fills work orders. Pulls, organizes, and prepares requisitioned items for delivery. Loads items onto vans, trucks, and trailers. Operates automobiles, vans and light trucks.

Security Monitors, Lead Security Patrol Officer

- Serve as liaisons to school-based administrators, office heads, and others regarding facility maintenance and repair matters. Facilitate and coordinate building maintenance and repair services from 7:30 a.m. – 12:00 a.m. by receiving, investigating, and resolving customer concerns regarding work orders and disseminating them to the proper department. Areas of responsibility include documenting fire drills and dispatching the Baltimore County Police and Fire Department regarding problems within our schools.
- Customer Service Monitoring Operators working from 12:00 a.m. – 7:30 a.m. monitor for security/fire alarms and dispatching/notifying the appropriate emergency response personnel.

- Coordinates the day-to-day operation and monitoring of centralized, automated security and fire alarm systems.
- Coordinates the security repair contractor activities including assignment of work, quality control of the work and the payment of contractor invoices.
- Controls the badge picture taking activities for facilities employees.

Central Monitoring Support Technician

- Maintains and operates a web-based CMMS to manage the physical assets and facility maintenance operations for Baltimore County Public Schools.
- Troubleshoots, provides technical support for CMMS to staff, administers system security and inputs process required to manage the work flow from the planning stages to completion of the job with the capability to measure and benchmark efficiencies in both cost and time.
- Serves as a liaison to the Department of Technology, vendors and other agencies regarding CMMS and related automation matters.
- Provides technical support, guidance, and training to agency CMMS users. Develops and documents system procedures and protocols. Develops system manuals and training materials.
- Analyzes user and departmental needs and requests. Develops and modifies reports and programs.
- Provides advice and guidance to departmental management regarding CMMS related issues.

Areas of Responsibility for Safety and Security

The work being performed by the Safety and Security Section includes:

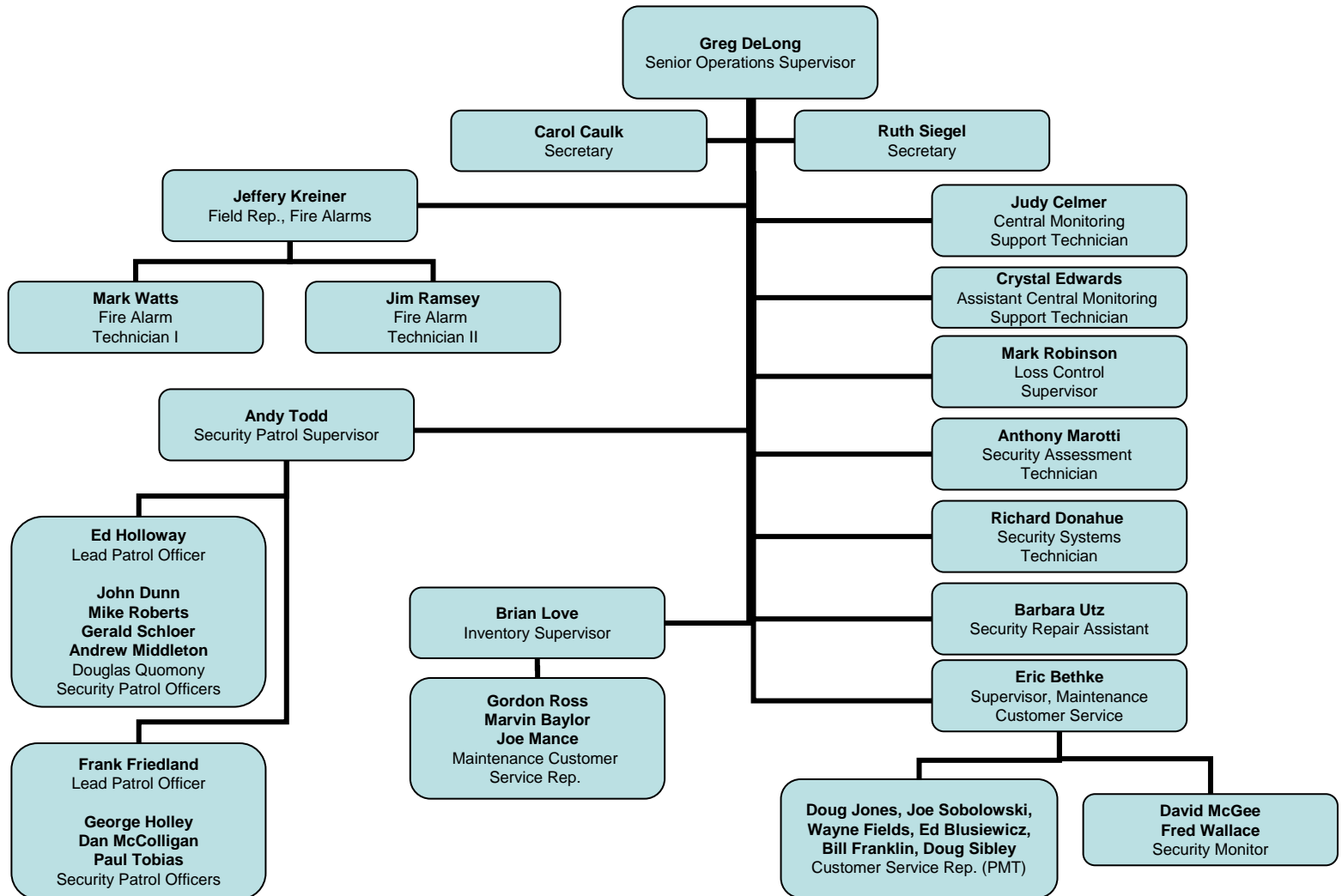
- Upgrading and maintaining central station alarm receiver and monitoring fire and security alarm systems for all schools and offices – 24 hours per day, 365 days per year.
- Dispatching fire department for fire alarms and police or security patrol officers for security alarms.
- Provides maintenance, repair and service of fire alarm systems in all schools, offices and other facilities. Manages fire alarm projects assuring that work is performed in accordance with established standards, procedures, and schedules.
- Provides maintenance, repair and service of security and video surveillance systems in all schools, offices and other facilities. Manages security and video surveillance system projects assuring that work is performed in accordance with established standards, procedures, and schedules.
- Providing and installing closed circuit television surveillance, card reader, and door buzzer monitor systems.
- Coordinating with various other departments to develop security policy.
- Providing input to specifications for engineering and construction projects.
- Identifying applications for new and existing security technology in schools with greatest need taking priority.
- Identifying operation/equipment needs, repairs, and upgrades associated with construction/renovation projects, including lighting and security surveys.
- Directing school staff in proper operation of alarm systems and coordinating repairs with technicians or subcontractors.

- Training staff in all procedures of the *Critical Response and Emergency Safety Management Guide*.
- Providing *Life Safety* and *Workplace Hazard* inspections based on *NFPA 101 Life Safety Code*, *NFPA 1 Fire Prevention Code* and *29 CFR 1910 OSHA Regulations*.
- Receiving health and safety citations and coordinating resources necessary to resolve violations within the required time.
- Coordinating and providing regulatory *Life Safety* training.
- Investigating and reporting on major incidents involving property related issues.
- Coordinating property insurance claims.
- Responding to requests to open buildings after hours to allow access for contractors and directing activities related to equipment repairs.
- Responding to requests from schools to improve security in buildings through procedures and application of advanced technology.
- Issuing photo identification badges to Baltimore County Public School employees, contracted services employees, and substitutes.

Department of Physical Facilities

Office of Maintenance and Grounds

Safety and Security/Customer Service Section



GENERAL MAINTENANCE SERVICES

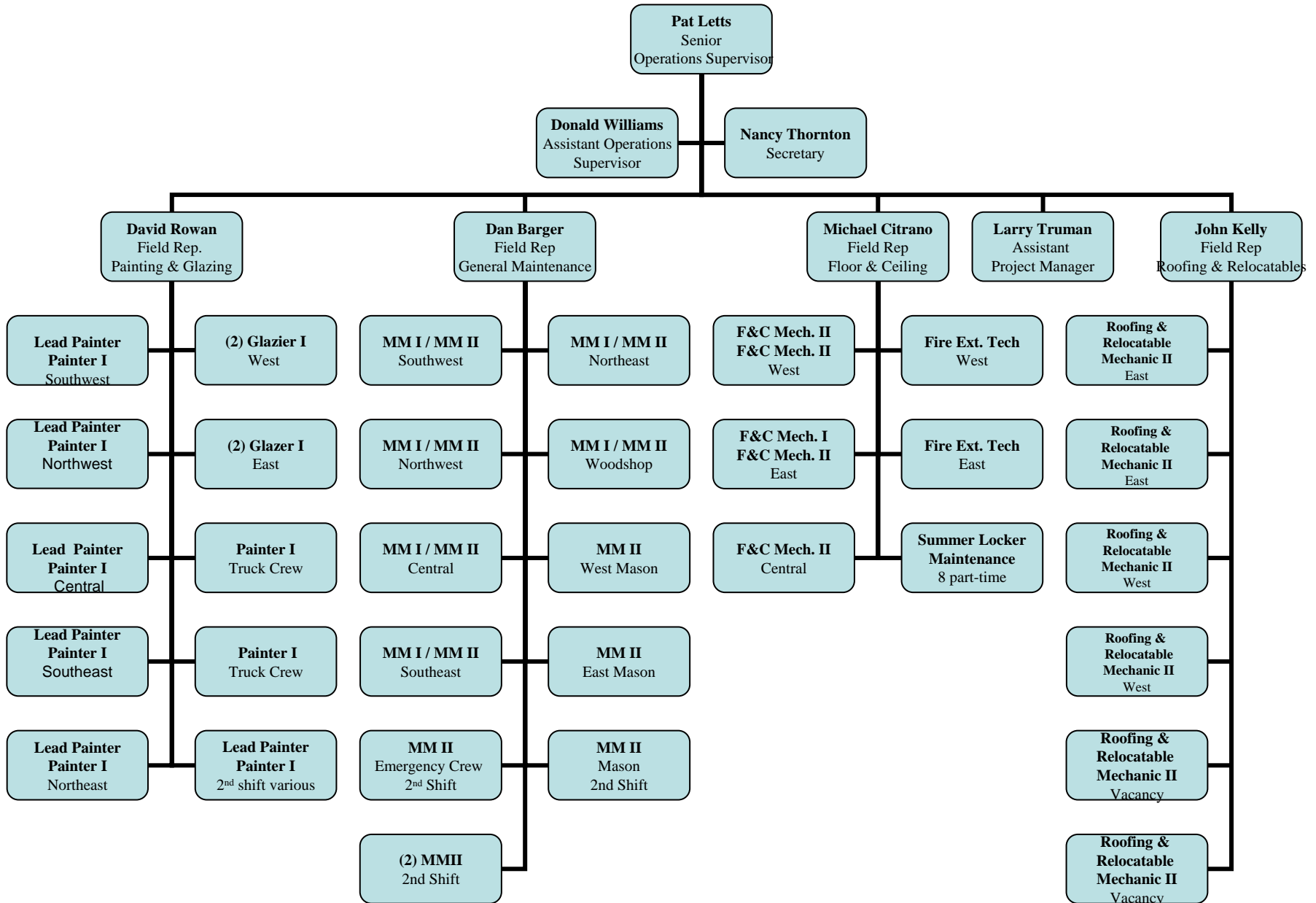
The Senior Operations Supervisor of General Maintenance Services reports to the Manager of Maintenance and is responsible for a wide variety of functions related to building repair and aesthetics, as well as relocatable repairs and roof leak repairs. General Maintenance Services is responsible for floors, ceilings, locks, doors, door hardware, masonry, partitions, lavatory stalls, handrails, built-in casework, minor welding, general carpentry, locker repairs, window repairs, painting, portable fire extinguishers, flagpole hardware repairs, roof repairs, and all relocatable repairs. General Maintenance Services oversees Contracted Services for overhead door repair, locksmith services, relocatable partial renovations, lavatory stall partitions, inspection and adjustment of folding walls and roof repairs.

General Maintenance Services consists of the following:

- One Assistant Operations Supervisor who manages the shop activities, orders materials, and assists the Senior Operations Supervisor with the daily operation of General Maintenance Services.
- Four Field Representatives who coordinate the day-to-day operation of general maintenance, floor and ceiling services, painting and glazing, roofing and relocatable repair program and prioritizing and assigning work, as well as meeting with school administrators to discuss and schedule projects.
- One Assistant Project Manager who coordinates and completes projects such as individual door frame replacement, construction of walls, and projects that require coordination with Mechanical Services and Electrical Services.
- Floor and Ceiling Mechanics
- Maintenance Mechanics
- Wood Shop mechanics
- Masons
- Fire Extinguisher Technicians
- Painters
- Glaziers
- Roofing and Relocatable Mechanics

Office of Maintenance and Grounds – Maintenance Section

General Maintenance Services



ELECTRICAL SERVICES

The Senior Operations Supervisor of Electrical Services reports to the Manager of Maintenance. Electrical Services is responsible for repairing and replacing electrical equipment; HVAC equipment, including motors, starters and controls; and interior and exterior lighting repairs, including replacement and upgrades. Electrical Services also comprises of the Electronics Section which is responsible for intercom, media retrieval, public address, and clock systems maintenance; and Building Automation which has a computerized central monitoring station to support technical and mechanical repairs to HVAC equipment throughout the Baltimore County Public School system.

Electrical Services staff consists of licensed and journeymen electricians, electronic technicians, building automation technicians, and stationary engineers.

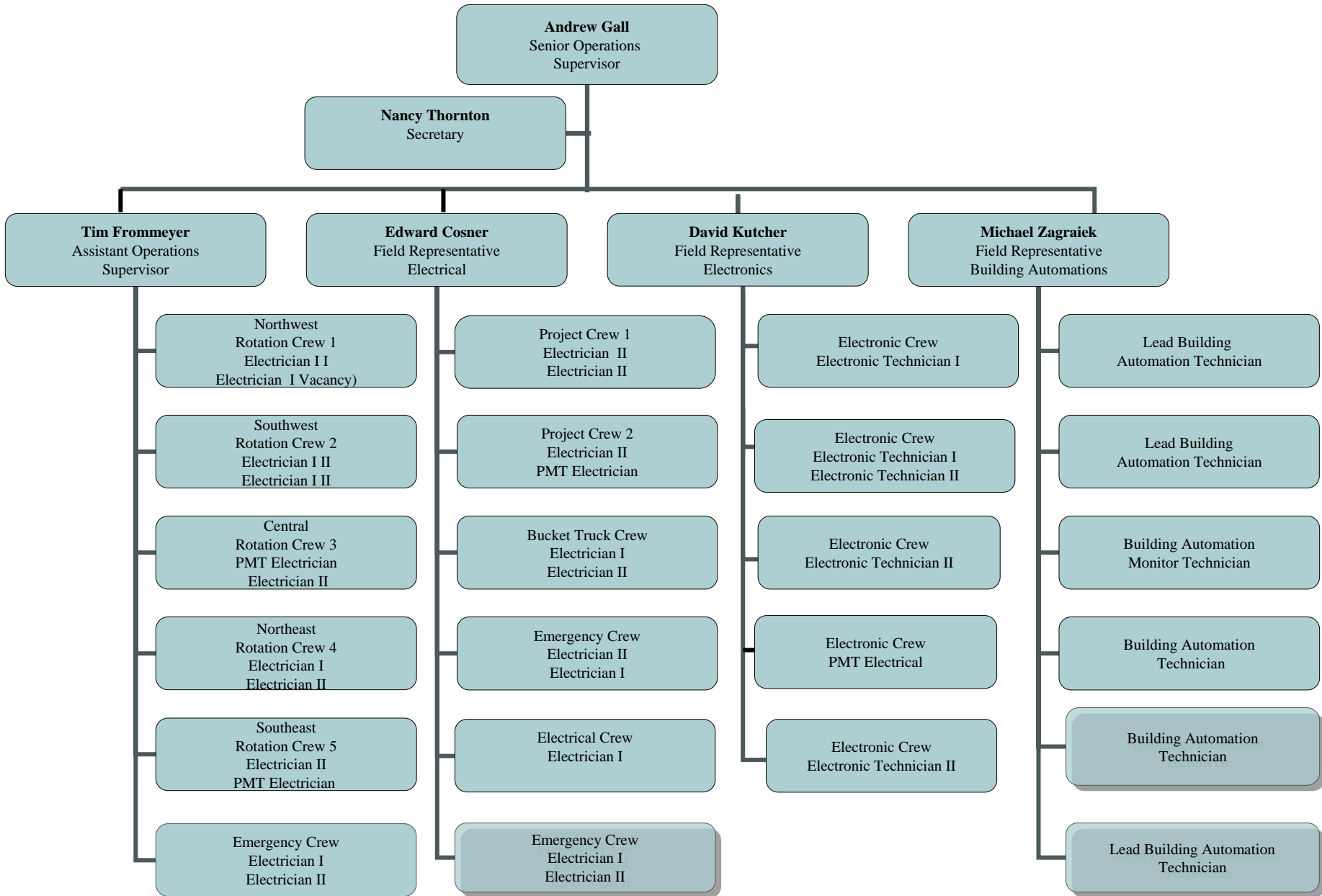
Electrical Services consists of the following:

- One Assistant Operations Supervisor who reviews work order requests, manages, assigns and opens work orders, orders electrical supplies, materials, parts, and equipment; reviews work requests; assists with the day-to-day operation of Electrical Services; and coordinates projects with Mechanical and General Maintenance Services.
- One Field Representative for electrical who directs the day-to-day operation of the electrical program to include site surveys for large and small projects and new electrical service (high voltage)
- One Field Representative for electronics who directs the day-to-day operation of the electronics program to include intercom communication, cable TV, media retrieval, master clocks, and school schedules (low voltage wiring)
- One Field Representative for Building Automation who directs the day-to-day operation of the building automation software and systems to provide heat and comfort cooling to promote energy conservation and reduce energy costs with the assistance of the newly established preventative maintenance program.
- Nineteen Electricians and five PMT Electricians who execute repairs to electrical systems, interior and exterior lighting, panels, exit and emergency lighting, feeders, wiring, receptacles, computer labs, relocatable classroom services, HVAC equipment, etc.
- Six Electronic Technicians and one PMT Electrician who execute repairs to intercoms, master clocks, media retrieval, and CATV systems, clocks, etc. They also provide temporary sound systems for Board meetings, school openings, ground breakings, etc.
- Six Building Automation Technicians, one Building Automation Monitoring Technician, and one PMT Building Automation Technician who monitor the software and building automation systems at the Pulaski Park Office and execute the repairs to the HVAC equipment.

Note: If a project is of such a scope, or manpower is limited, that it cannot be accomplished by in-house Electricians or Technicians within Electrical Services, it is assigned to Contract Maintenance.

Office of Maintenance and Grounds - Maintenance Section

Electrical Services



MECHANICAL SERVICES

The Senior Operations Supervisor of Mechanical Services reports to the Manager of Maintenance. Mechanical Services is responsible for a variety of services and activities that includes plumbing, automatic temperature control, heating and ventilating, and air conditioning (HVAC) maintenance at all schools and offices throughout Baltimore County Public Schools.

The Mechanical Services staff consists of licensed and journeymen plumbers, HVAC mechanics, and stationary engineers. The Senior Operations Supervisor directs and supervises the Mechanical Services program for all schools and offices. There are two Field Representatives and one Shop Supervisor who report directly to the Senior Operations Supervisor.

Mechanical Services consists of the following:

- One Field Representative for plumbing who directs the day-to-day operation of the plumbing program; and coordinates, prioritizes, estimates and assigns all work
- One Field Representative for mechanical who directs the day-to-day operation of the mechanical program; and coordinates, prioritizes, estimates, and assigns all work
- One Assistant Operations Supervisor who manages and orders supplies, materials, parts, and equipment; reviews work requests; and assists the Field Representatives and Senior Operations Supervisor with the day-to-day operation of Mechanical Services.
- Three Heating and Ventilating Technicians who repair/replaces bearings, shafts, blowers, fans, ATC compressors, gauges and calibration of heating and ventilating systems and safety controls.
- Four PMT- Automatic Temperature Control Technicians who execute pneumatic control repairs as needed to address ATC concerns and calibrate heating controls.
- Five HVAC Mechanics who execute repairs and modification of oil and gas fired hot water and low pressure steam boiler and burners and pneumatic temperature control systems. Repairs to univents, chillers, spilt systems, air handling units, hot water heater burners, etc.
- Sixteen Plumbers who perform installation, repairs and maintenance for all pipes, fixtures and other plumbing equipment used for water distribution and wastewater disposal, gas piping and associated equipment.
- One Welder who does layout, fabrication and repairs, installs and maintains pipe systems, pipe supports and related components of plumbing and heating systems.

The work performed by Mechanical Services includes:

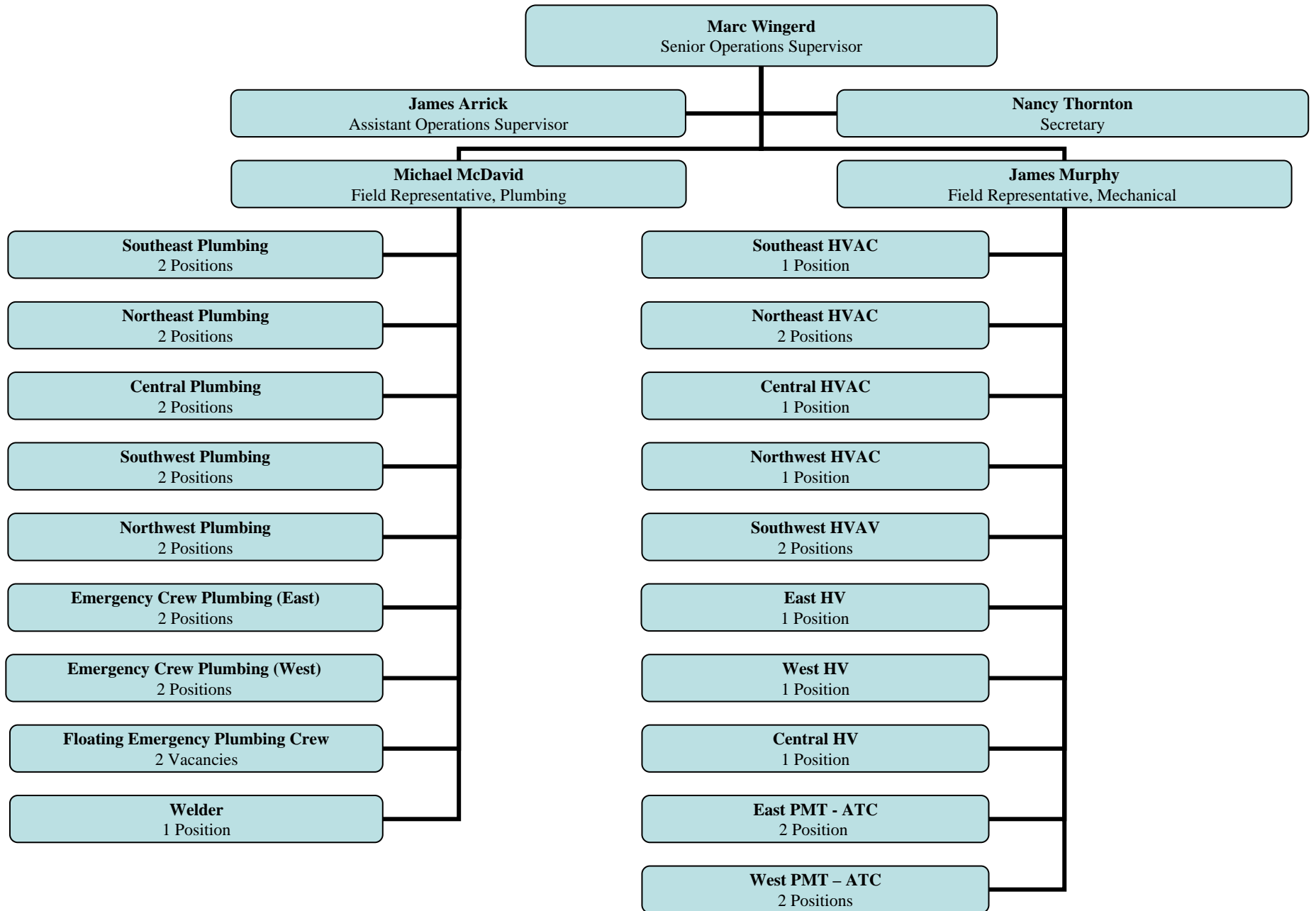
- Repairing/replacing plumbing fixtures, faucets, flush-valves, valves, piping, water heaters, etc.
- Maintaining underground utilities.
- Automatically replacing pressure temperature relief valves for safety considerations when a water heater is serviced
- Servicing/replacing all in-line pumps and installing mechanical seals on base-mounted pumps
- Repacking pumps and valves
- Servicing/replacing boiler feed/vacuum pumps and condensate return pumps

- Replacing pressure relief valves on boilers, and servicing/replacing low water and operating controls (wiring by electrical crew), sight glass, and gauge cocks
- Repairing or replacing hot water heating/cooling coils in air handling and terminal units because of freeze ups
- Insulating equipment/piping after repair or replacement
- Replacing steam trap elements (thermostatic) or complete F & T traps
- Oil/gas burner servicing and preventive maintenance
- Troubleshooting automatic temperature control systems
- Servicing dust collection systems
- Providing replacement of belts, lubrications, etc.
- Evaluating the condition of equipment
- Cleaning and repairing/replacing HVAC equipment
- Installing and testing Automatic Temperature Controls
- Adjusting, tightening, replacing, and repairing equipment as needed on a timely basis
- Inspecting chillers
- Servicing fire suppression systems

Note: If a project is of such a scope, or manpower is limited, that it cannot be accomplished by in-house plumber/mechanics within Mechanical Services, it is assigned to Contract Maintenance.

Office of Maintenance and Grounds - Maintenance Section

Mechanical Services



GROUNDS SECTION

Reporting directly to the Manager of Grounds are six Supervisors, and indirectly approximately 160 full-time employees. Reporting to each of the Supervisors is seven Crew Foreman who are responsible for day-to-day field activities for individual grounds crews. The Office is divided into four geographic areas of responsibility with each Supervisor assigned to a specific geographic area. The fifth Supervisor is responsible for any special service needs and serves the entire county. Reporting to the sixth Supervisor are eight equipment mechanics and three inventory control employees. The Grounds Section is responsible for a wide variety of regular and emergency functions that, if not resolved expeditiously, could result in the delayed opening of schools. All employees within this Office are considered essential personnel and work during any weather or other emergencies. This includes snow removal on all Baltimore County Public School owned properties. Additionally, this Office provides assistance by lending manpower and trucks to Baltimore County Government to clear roads during winter weather events.

The breakdown of each of the four respective areas is as follows:

- A Supervisor who is responsible for overseeing the daily activities occurring within their geographic area with regard to schedules, payroll, supervision, evaluation and quality control
- Four to five routine maintenance crews, (five to seven employees per crew depending on the number of schools), who perform the similar types of work such as mowing, edging, spraying, mulching and weeding, tree and scrub care, exterior sign replacement, field lining for school athletics, ball diamond grooming and sport goal install and takedown, playground safety inspections, drain cleaning, and debris removal.
- One construction maintenance crew (three to four employees depending on the number of schools), responsible for all other types of non-routine maintenance issues excluding concrete. Some of these issues are: blacktop repair, ball diamond reconstruction, tree removal, storm drain repair and rebuilding, multi-use and tennis court repair and maintenance, carpentry issues including but not limited to dumpster steps and barriers.
- One concrete crew (three to four employees depending on the number of schools), responsible for any concrete repair to sidewalks, steps, curbs, drains, and any other type of concrete repair. Additionally, this crew assists the construction crew as needed for large scale work.

The breakdown of the fifth area which is responsible for all the specialty work performed across the entire county.

- A Supervisor who is responsible for overseeing the daily activities occurring within the entire county for special services with regard to schedules, payroll, supervision, evaluation and quality control
- A fence crew (three employees) who maintain any fence within Baltimore County Public Schools including property, tennis and multi-use court, athletic field, and player bench safety fences.
- A line marking crew (two employees) who maintain all traffic lines on all parking lots and driveways. Additionally, this crew performs complete sign replacement by site to maintain a consistent appearance for all properties of Baltimore County Public Schools.
- A turf maintenance and management crew (six employees) who perform the preventative maintenance to school athletic fields including sod installation, and hydro-seed applications, aerification, fertilizer and weed control, field restoration, and irrigation system installation and maintenance.

- A utility crew who is responsible for bulk trash removal, graffiti clean up and removal, power washing, and a training program for Certified Driver License (CDL) for all new employees.

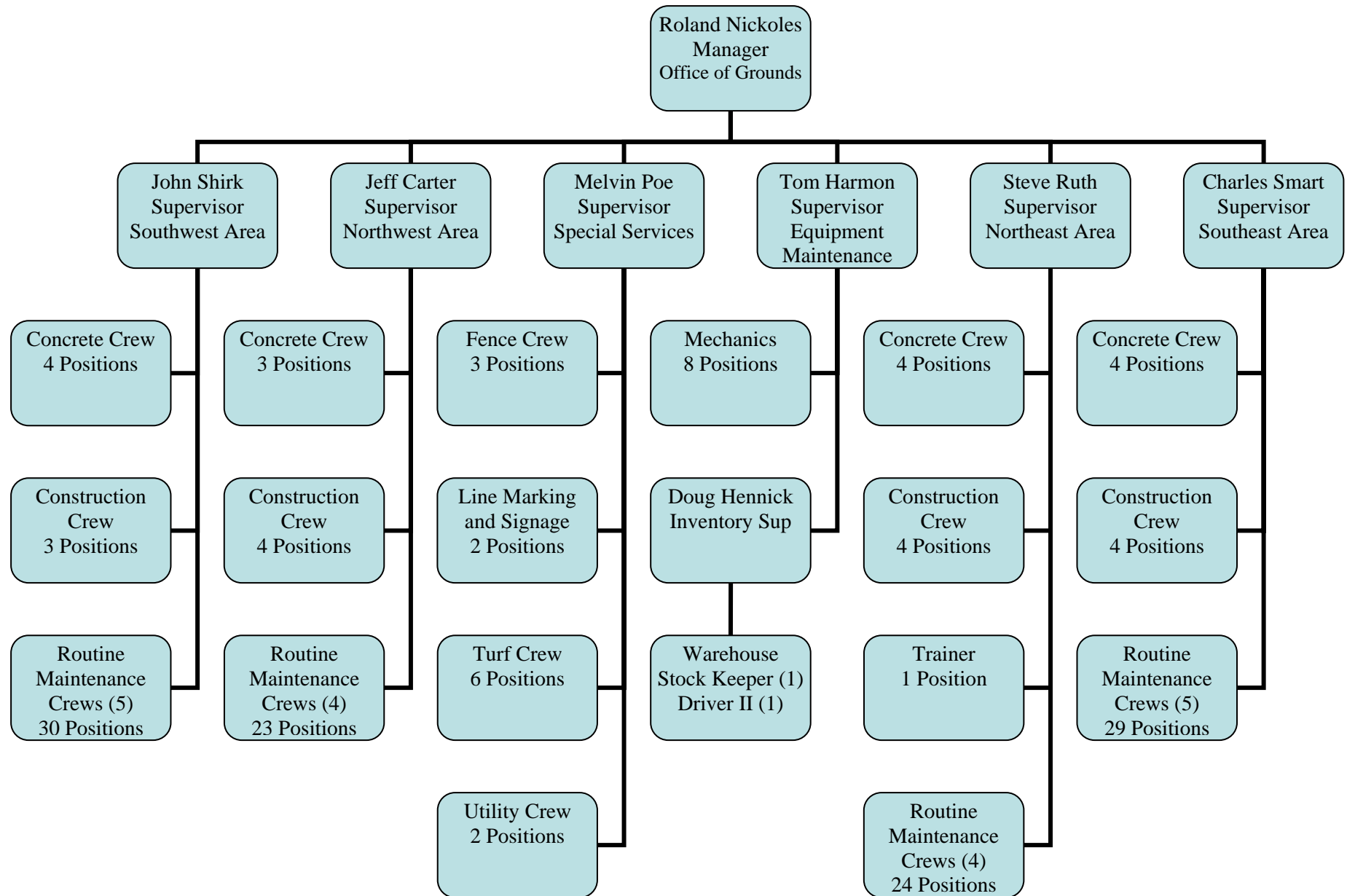
A breakdown of the last area of responsibility is the equipment maintenance and warehousing group.

- A Supervisor who is responsible for overseeing the daily activities occurring within the entire county for equipment maintenance services and material supplies with regard to schedules, payroll, supervision, evaluation and quality control.
- Eight mechanics; four of which address service calls to repair equipment breakdowns occurring in the field; the other four mechanics are shop based and perform large scale work which cannot be completed in the field as well as maintain the preventative maintenance program for large equipment within the responsibilities of the Office of Grounds and Maintenance.
- One warehouse supervisor responsible for maintaining a balance of supplies and materials inventory to support the daily activities; one stock clerk; and one driver to deliver parts and supplies as well as transport equipment during maintenance procedures.

Note: If a project is of such a scope, or manpower is limited, that it cannot be accomplished by in-house staff, it is assigned to Contract Maintenance or Engineering and Construction.

Department of Physical Facilities

Office of Maintenance and Grounds/Grounds Section





Scheduled Maintenance

PREVENTIVE MAINTENANCE

Baltimore County Public Schools' Preventive Maintenance (PM) program is designed to extend the life of facilities, building systems, and equipment. It ensures that the equipment and systems operate at optimum efficiency, and that potential problems are identified at an early stage before they become expensive emergencies and disrupt the learning environment. Due to the number of building systems and equipment involved, performance of PM involves participation of all the sections in the maintenance and operating offices. The in-house efforts are supplemented by contractual services whenever it is either more cost effective to do so, or the resources are not available within the departments.

A matrix showing the equipment covered under the preventive maintenance program, responsible section, method of providing PM services, along with the PM functions and frequencies follow this page.

PREVENTIVE MAINTENANCE

EQUIPMENT	RESPONSIBILITY	IN-HOUSE	CONTRACT
Air Handling Units	Operations	x	
ATC Compressor	Operations	x	
Boiler (change gaskets)	Mechanical and Contract Maintenance	x	x
Boiler Cleaning	Contract Maintenance		x
Boilers F.T. Hydronic	Operations Safety Valve Only	x	
Boilers W.T.	Operations Safety Valve Only	x	
Burners	Mechanical and Contract Maintenance	x	x
Condensing Units	Mechanical, Operations and Contract Maintenance	x	x
Cooling Towers	Contract Maintenance and Environmental Service		x
DDC Controls	Building Automator	x	x
Distribution Panels	Electrical and Contract Maintenance	x	x
Domestic Hot Water Heaters	Operations	x	
Electrical Service/Switch Gear	Contract Maintenance		x
Elevators and Chair Lifts	Contract Maintenance		x
Emergency Lighting	Electrical and Operations	x	
Exit Lights	Operations	x	
Exterior Lighting	Electrical and Security	x	
Fan Coil Units	Mechanical and Operations	x	x
Fire Alarm and Sprinklers	Contract Maintenance		x
Fire Extinguisher Maintenance (Monthly)	Operations	x	
Fire Extinguisher Maintenance (Yearly)	General Maintenance	x	x
Fire Pump Maintenance	Safety/Security/Customer Service	x	x
H V Exhaust Fan	Mechanical and Operations	x	x
Kitchen Hood and Exhaust Systems	Contract Maintenance		x
Lockers (5 yr. rotating schedule)	General Maintenance	x	
Pumps	Operations	x	x
PVI Water Heaters	Contract Maintenance		x
Roofs	Operations and Engineering and Construction	x	
Unit Ventilators	Operations, Electrical and Mechanical	x	
Water Tanks	Operations	x	

PREVENTIVE MAINTENANCE – OFFICE OF OPERATIONS

The preventive maintenance duties addressed through the personnel of the Office of Operations are documented on each of the following six separate schedules:

- Daily Boiler Room Log
- Daily Preventive Maintenance Schedule
- Weekly Preventive Maintenance Schedule
- Monthly Preventive Maintenance Schedule
- Quarterly Preventive Maintenance Schedule
- Semiannual Preventive Maintenance Schedule

Daily Boiler Room Log

A Daily Boiler Room Log must be maintained for each boiler room. The name of the school/office should be printed at the top of each sheet along with the week (month/initial date of work week/year) for which the log is completed, and the appropriate boxes checked for each of the daily status and tasks completed. In addition, the required pressures and temperature readings should be recorded in the appropriate boxes. The person completing the daily items must print and sign their name for each day. At the end of each week, copies of the completed log sheets should be mailed or faxed to the Office of Operations.

Daily Preventive Maintenance Schedule

The Daily Boiler Room Log concentrates on equipment found within a boiler room, while the Daily Preventive Maintenance Schedule focuses on non-boiler room equipment found throughout a building. The name of the school/office should be printed on the top of each sheet along with the month and year for which the schedule is completed. The individual completing each preventive maintenance (PM) task must initial the appropriate “Yes” or “No” box on the daily PM chart. An “X” should be entered in the boxes for weekends and holidays. At the end of each month, copies of the completed daily PM chart should be mailed or faxed to the attention of the Office of Operations. Original PM charts should be maintained in a binder at the school/office for future reference and inspection.

Weekly Preventive Maintenance Schedule

The name of the school/office should be printed on the top of each sheet along with the month and year for which the schedule is completed. The actual date for which the PM task was completed should be entered at the top of each column. The individual completing each PM task should initial the appropriate box on the weekly PM chart.

Schools and offices with cooling towers and/or condensing units should complete the appropriate sections of this PM chart during the normal air conditioning season (approximately April 15 through October 15). At the end of each month, copies of the completed weekly PM charts should be mailed or faxed to the attention of the Office of Operations. Original weekly PM charts should be maintained in a binder at the school/office for future reference and inspection.

Monthly Preventive Maintenance Schedule

The name of the school/office should be printed on the top of each sheet along with the year for which the schedule is completed. The actual date for which the monthly PM task was completed should be entered in the box at the top of each column. The individual completing each monthly PM task should initial the appropriate box. At the end of each year, copies of the completed monthly PM charts should be mailed or faxed to the attention of the Office of Operations. Original monthly PM charts should be maintained in a binder at the school/office for future reference and inspection.

Quarterly Preventive Maintenance Schedule

The name of the school/office should be printed on the top of each sheet along with the year for which the schedule is completed. The actual date for which the quarterly PM task was completed should be entered in the appropriate date box. The individual completing each quarterly PM task should initial the appropriate box. For “Change Filters,” initial the appropriate box to indicate whether all filters were replaced (complete) or if some were not replaced (partial). At the end of each year, copies of the completed quarterly PM charts should be mailed or faxed to the attention of the Office of Operations. Original quarterly PM charts should be maintained in a binder at the school/office for future reference and inspection.

Semiannual Preventive Maintenance Schedule

The name of the school/office should be printed on the top of each sheet along with the year for which the schedule is completed. The actual date for which the semiannual PM task was completed should be entered in the appropriate date box. Due to the nature of the semiannual PM tasks, most should be completed in conjunction with the quarterly PM tasks. The individual completing each semiannual PM task should initial the appropriate box. At the end of each year, copies of the completed semiannual PM charts should be mailed or faxed to the attention of the Office of Operations. Original semiannual PM charts should be maintained in a binder at the school/office for future reference and inspection.

FACILITY: _____

DAILY BOILER ROOM LOG

WEEK OF: ___ / ___ / ___

DAY OF WEEK	BOILER INFORMATION			STEAM BOILERS				HOT WATER BOILERS					
	Maryland State Identification Number	Operational Status		Test Low Water Cut-off <i>Does Burner Shut Off?</i>		Steam Pressure	Stack Temperature	Test Low Water Cut-off <i>Does Burner Shut Off?</i>		Boiler Pressure	Heating Water Supply Temperature	Heating Water Return Temperature	Stack Temperature
		On-Line	Off-Line	YES	NO			YES	NO				
Monday													
Boiler #1	MD					psi	°			psi	°	°	°
Boiler #2	MD					psi	°			psi	°	°	°
Boiler #3	MD					psi	°			psi	°	°	°
Boiler #4	MD					psi	°			psi	°	°	°
Print Name: _____								Signature: _____					
Tuesday													
Boiler #1	MD					psi	°			psi	°	°	°
Boiler #2	MD					psi	°			psi	°	°	°
Boiler #3	MD					psi	°			psi	°	°	°
Boiler #4	MD					psi	°			psi	°	°	°
Print Name: _____								Signature: _____					
Wednesday													
Boiler #1	MD					psi	°			psi	°	°	°
Boiler #2	MD					psi	°			psi	°	°	°
Boiler #3	MD					psi	°			psi	°	°	°
Boiler #4	MD					psi	°			psi	°	°	°
Print Name: _____								Signature: _____					
Thursday													
Boiler #1	MD					psi	°			psi	°	°	°
Boiler #2	MD					psi	°			psi	°	°	°
Boiler #3	MD					psi	°			psi	°	°	°
Boiler #4	MD					psi	°			psi	°	°	°
Print Name: _____								Signature: _____					
Friday													
Boiler #1	MD					psi	°			psi	°	°	°
Boiler #2	MD					psi	°			psi	°	°	°
Boiler #3	MD					psi	°			psi	°	°	°
Boiler #4	MD					psi	°			psi	°	°	°
Print Name: _____								Signature: _____					

**DAILY PREVENTIVE MAINTENANCE SCHEDULE
OFFICE OF OPERATIONS**

Facility: _____

Month/Year: ____/____

Dates		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	28	30	31
Equipment																																
Air Handling Units		Number of Units: _____																														
All Units Operating	Yes																															
	No																															
Water Leaks	Yes																															
	No																															
Unit Ventilators		Number of Units: _____																														
All Units Operating	Yes																															
	No																															
Water Leaks	Yes																															
	No																															
Fan Coil Units		Number of Units: _____																														
All Units Operating	Yes																															
	No																															
Water Leaks	Yes																															
	No																															

REMARKS: _____

**WEEKLY PREVENTIVE MAINTENANCE SCHEDULE
OFFICE OF OPERATIONS**

Facility: _____

Month/Year: ____/____/____

Equipment		Date Performed: ____/____/____	Date Performed: ____/____/____	Date Performed: ____/____/____	Date Performed: ____/____/____	Date Performed: ____/____/____
Steam Boilers						
Blow Down Mud Drums						
Test Safety Valves						
Burners						
Visually Inspect for Leaks						
Cooling Tower (Seasonal)						
Unit Operating Properly	YES					
	NO					
Water Leaks	YES					
	NO					
Condensing Unit (Seasonal)						
Water Leaks	YES					
	NO					
		Date Performed: ____/____/____	Date Performed: ____/____/____	Date Performed: ____/____/____	Date Performed: ____/____/____	Date Performed: ____/____/____
Exit Lights						
Check for Proper Operation						
REMARKS: _____						

**MONTHLY PREVENTIVE MAINTENANCE SCHEDULE
OFFICE OF OPERATIONS**

Facility: _____

Year: _____

Equipment		/ / January	/ / February	/ / March	/ / April	/ / May	/ / June	/ / July	/ / August	/ / September	/ / October	/ / November	/ / December
Hot Water Boilers													
Test Safety Valves													
Water Heater													
Test Safety Valves													
Fire Extinguishers													
Visually Inspect and Initial Tags													
Emergency Lights													
Test Operation of Lights													
Roofs													
Ensure Roof Drains are Clear													
Remove Any Debris on Roof													
Check for Damage													
Exhaust Fans													
All Units Operating	Yes												
	No												

REMARKS: _____

**QUARTERLY PREVENTIVE MAINTENANCE SCHEDULE
OFFICE OF OPERATIONS**

Facility: _____

Year: _____

Equipment	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Air Handling Units	Date: ____/____/____		Date: ____/____/____		Date: ____/____/____		Date: ____/____/____	
Change Filters	<u>Complete</u>	<u>Partial</u>	<u>Complete</u>	<u>Partial</u>	<u>Complete</u>	<u>Partial</u>	<u>Complete</u>	<u>Partial</u>
Clean Inside of Cabinets								
Clean Condensate Pan								
Check Belts and Alignment								
Unit Ventilators	Date: ____/____/____		Date: ____/____/____		Date: ____/____/____		Date: ____/____/____	
Change Filters	<u>Complete</u>	<u>Partial</u>	<u>Complete</u>	<u>Partial</u>	<u>Complete</u>	<u>Partial</u>	<u>Complete</u>	<u>Partial</u>
Clean Inside of Cabinets								
Clean Condensate Pan								
Check Belts and Alignment								
Fan Coil Units	Date: ____/____/____		Date: ____/____/____		Date: ____/____/____		Date: ____/____/____	
Change Filters	<u>Complete</u>	<u>Partial</u>	<u>Complete</u>	<u>Partial</u>	<u>Complete</u>	<u>Partial</u>	<u>Complete</u>	<u>Partial</u>
Clean Inside of Cabinets								
Clean Condensate Pan								
Check Belts and Alignment								
REMARKS: _____								

**SEMIANNUAL PREVENTIVE MAINTENANCE SCHEDULE
OFFICE OF OPERATIONS**

Facility: _____

Year: _____

EQUIPMENT	Initial Time Per Year	Second Time Per Year
Air Handling Units	Date: ____/____/____	Date: ____/____/____
Oil/Grease Motor		
Oil/Grease Shaft Bearings		
Unit Ventilators	Date: ____/____/____	Date: ____/____/____
Oil/Grease Motor		
Oil/Grease Shaft Bearings		
Clean Fan Wheels		
Fan Coil Units	Date: ____/____/____	Date: ____/____/____
Oil/Grease Motor		
Oil/Grease Shaft Bearings		
Exhaust Fans	Date: ____/____/____	Date: ____/____/____
Oil/Grease Motor		
Oil/Grease Shaft Bearings		
ATC Compressor	Date: ____/____/____	Date: ____/____/____
Oil/Grease Motor		
Test Safety Value		
Pumps	Date: ____/____/____	Date: ____/____/____
Oil/Grease Motor and Pumps		

Mail/Fax Completed Form to the Office of Operations, Attention Ms. Fran Marchese

PREVENTIVE MAINTENANCE – GROUNDS SECTION

All schools and office sites are inspected biweekly; additionally BCPS owned playgrounds are inspected biweekly by our trained playground inspectors for defects. Inspection records are kept in each school file and respective Grounds shops. The preventative maintenance program is designed to promote a safe learning environment while maintaining the natural integrity of the area. The purpose of the program is to identify and repair problems before they create a public concern or physical injury. The Office of Grounds functions and responsibilities are all classified as preventive maintenance and considered routine; i.e., performed daily, weekly, biweekly, monthly, quarterly, or yearly.

MAINTENANCE CONTRACTS

The attached spreadsheet reflects the status of the service contracts program:

Scheduled Maintenance

This category includes scheduled maintenance for specific areas; i.e., chillers, boilers, septic/grease traps, fire suppression, elevators/chairlifts, kitchen hoods, portable toilet cleaning, etc.

Preventive Maintenance (PM)

This category illustrates the PM scheduled for chillers.

Time and Materials (T&M) Repairs

These categories depict those projects that require T&M contracts with various contractors. Bid specifications were prepared to identify the maintenance areas where T&M contracts were needed.

MODIFICATIONS AND ALTERATIONS

Modifications and alterations are actions where labor and material are expended to improve the building's configuration or functions. It includes code corrections, renovations, and repair work, but does not include construction of new building additions or adapting buildings to major changes in use.

SCHEDULED REPLACEMENTS

Most large maintenance projects are scheduled as “Summer Projects” since school buildings are primarily vacant. Since the timeframe is only approximately nine weeks, it is one of the most challenging times of the year for the Office of Maintenance.

Following this page, is a document that has been prepared and is revised weekly in order to provide a status of “Summer Projects” to the Superintendent’s Cabinet.

WORK ORDERS

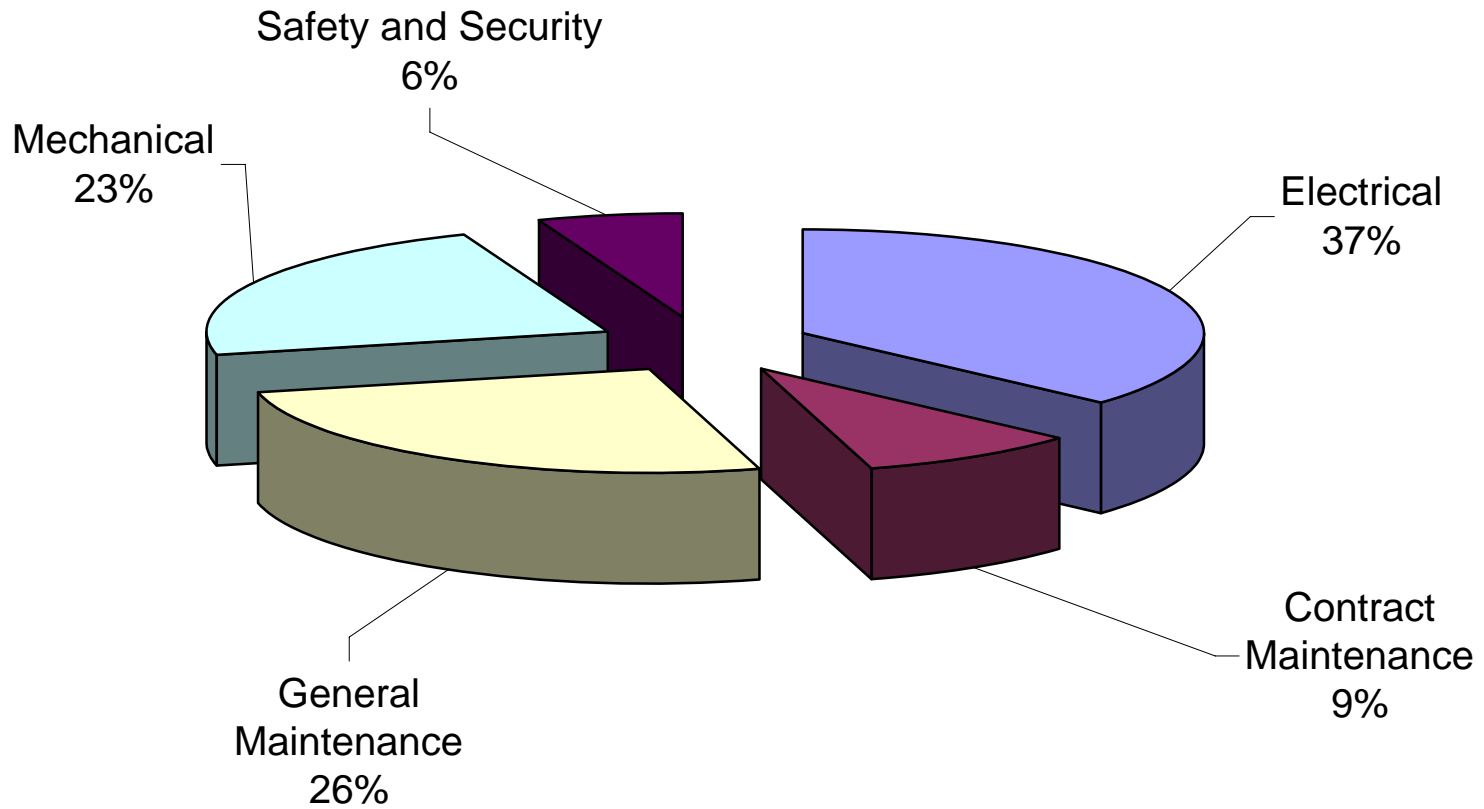
During FY10, specifically July 1, 2009 through March 2, 2010, the Maintenance Section, which includes Building Automation, Contract Maintenance, Customer Services, Electrical Services, General Maintenance Services, and Mechanical Services, received 19,696 work orders. As of March 2, 2010, 14,365 were closed and 5,331 were open.

One spreadsheet and two graphic reports are prepared monthly and shared with the Manager of Maintenance, Manager of Grounds and the Administrator, Office of Maintenance and Grounds.

The graphic reports that follow this document represent the partial school year from July 1, 2009 to March 2, 2010.

Work Orders by Section and Percentage FY 09 - 10

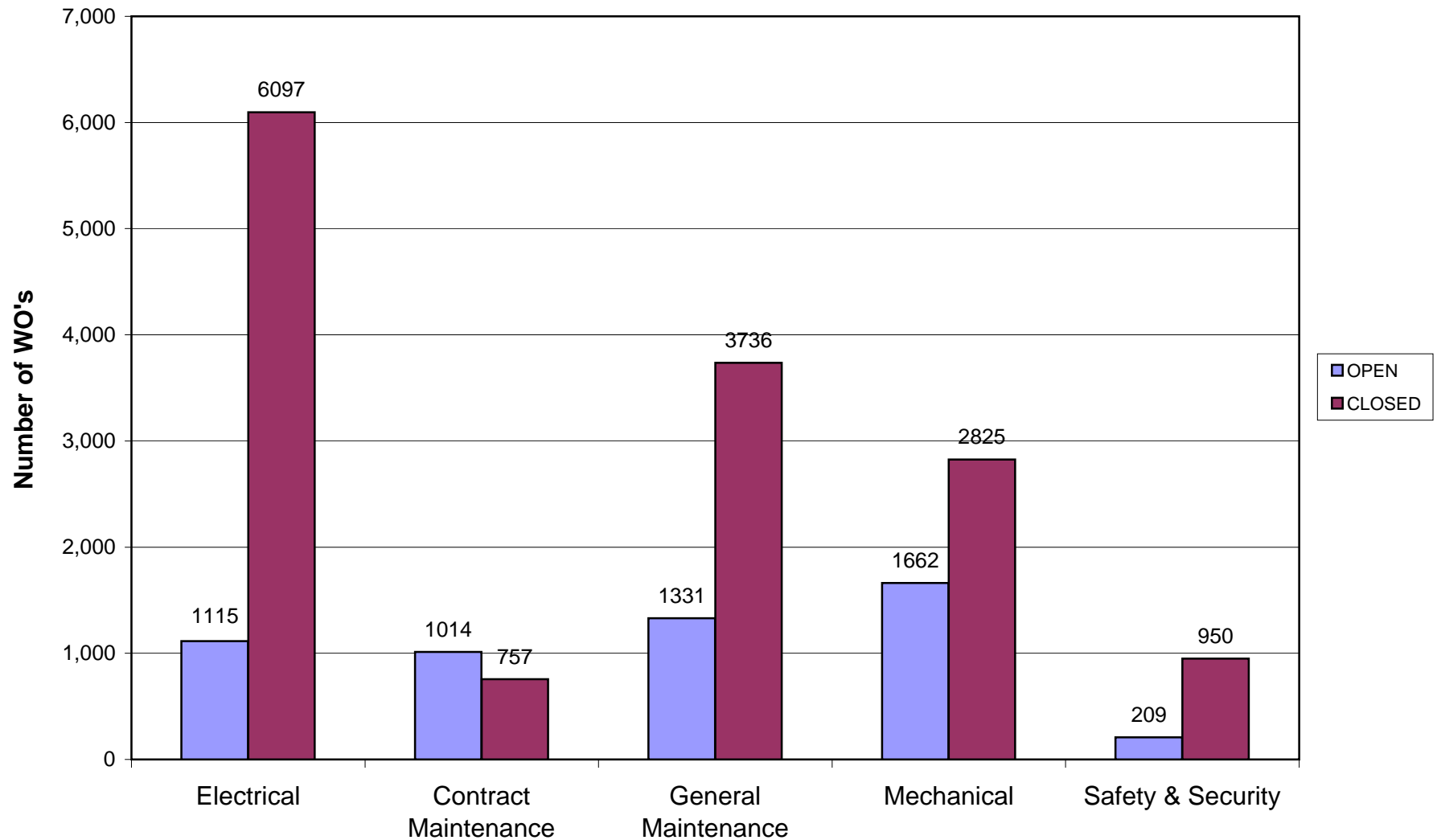
7-1-09 through 3-2-10



<i>SECTIONS</i>	<i>OPEN</i>	<i>CLOSED</i>	<i>TOTAL WORK ORDERS</i>
Electrical	1,115	6,097	7,212
Contract Maintenance	1,014	757	1,771
General Maintenance	1,331	3,736	5,067
Mechanical	1,662	2,825	4,487
Safety and Security	209	950	1,159
Total	5,331	14,365	19,696

Electrical	37%
Contract Maintenance	9%
General Maintenance	26%
Mechanical	23%
Safety and Security	6%

Open/Closed Work Orders FY 09 - 10 7-1-09 through 3-2-10



<i>SECTIONS</i>	<i>OPEN</i>	<i>CLOSED</i>	<i>TOTAL WORK</i>
Electrical	1,115	6,097	7,212
Contract Maintenance	1,014	757	1,771
General Maintenance	1,331	3,736	5,067
Mechanical	1,662	2,825	4,487
Safety & Security	209	950	1,159
Total	5,331	14,365	19,696

Data for Work Orders for CMP

	Requested	Open	Hold	Total Open	Complete	Canceled	Total Open & Complete
Building Automation	59	107	0	166	1,280	58	1,446
Electrical	27	758	2	787	3,941	141	4,728
Electronics	9	141	12	162	876	121	1,038
Sub Total	95	1,006	14	1,115	6,097	320	7,212
Contract Maintenance	28	493	493	1,014	757	106	1,771
Sub Total	28	493	493	1,014	757	106	1,771
Floor & Ceiling	26	287	0	313	304	12	617
General Maintenance	4	382	23	409	2,568	209	2,977
Painting & Glazing	8	320	5	333	468	54	801
Roofing & Relocatables	16	257	3	276	396	61	672
Sub Total	54	1,246	31	1,331	3,736	336	5,067
HVAC	0	0	0	0	0	0	0
Mechanical	17	374	1	392	1,245	96	1,637
Plumbing	216	1,053	1	1,270	1,580	114	2,850
Sub Total	233	1,427	2	1,662	2,825	210	4,487
Fire Alarm	1	52	97	150	515	8	665
Loss Control	0	0	0	0	0	1	0
Safety & Security	4	48	7	59	435	63	494
Sub Total	5	100	104	209	950	72	1,159
Grand Total	415	4,272	644	5,331	14,365	1,044	19,696
* Requested = Work Orders yet to be Reviewed							
* Hold = Work Orders Pending Funding or PM's yet to be Closed							
* Canceled = Duplicate Work Orders							



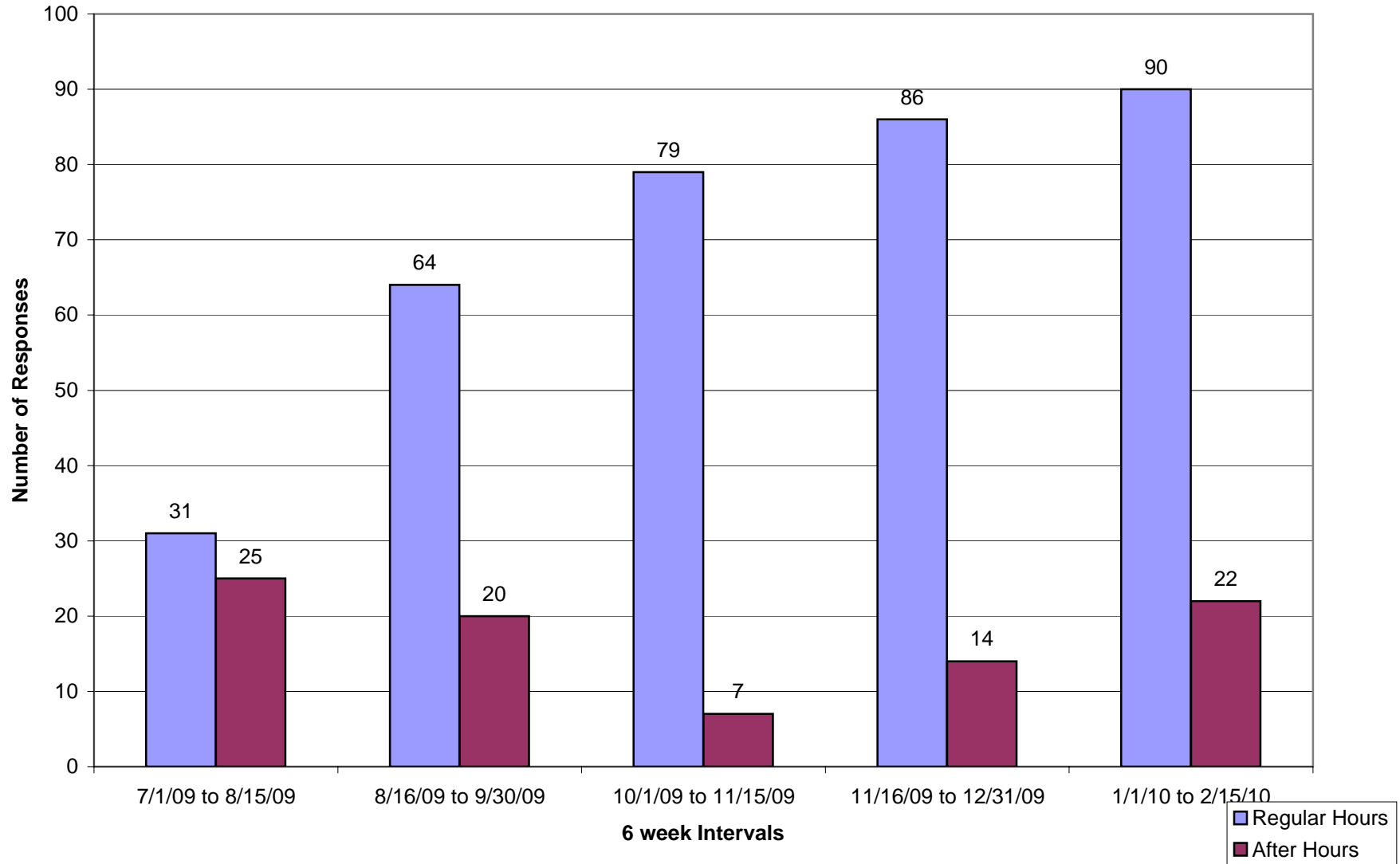
Unscheduled Maintenance

UNSCHEDULED MAINTENANCE

Unscheduled maintenance includes repair activities that cannot be programmed or forecast. It includes corrections of day-to-day routine breakdowns or failures and emergency repairs. It is usually based on reports or work requests received from principals, custodians, or other building-based personnel. The subcategories of unscheduled maintenance are as follows:

- Emergency Repairs
Emergency repairs are actions to correct unforeseen breakdowns or failures of integral building systems or equipment. They include repairs related to safety and security, electrical, plumbing, water, and mechanical system failures.
- Vandalism and Security Related Repairs
A vandalism and security related repair item is one that requires the expenditure of labor and material to restore the item to its original condition after it has been damaged by vandals. It does not generally include extensive modifications of facilities for the purpose of improving building security, such as installation or enlargement of intrusion systems. Adjustments in Safety and Security reporting structure has allowed a more effective management of responsibilities associated with facilities-related life safety, loss prevention, and risk management issues.
- Temporary Repairs to Prevent Vandalism
At times, temporary repairs are needed to prevent vandalism. One example would be that a board is placed in the opening of a broken window until the window can be ordered and then replaced.

Emergency Work Orders FY10





Deferred Maintenance



Energy Conservation

ENERGY CONSERVATION

Baltimore County Public Schools (BCPS) energy expenditures are in excess of \$30 million; therefore, it is necessary to maintain and achieve an energy conservation and energy cost management program. Key elements of this program are:

- A system of energy cost monitoring and acquisition of energy commodities at the lowest possible cost. BCPS has been participating with BRCPC to obtain lower prices in electricity and heating oil, and has utilized the state contract to minimize natural gas costs.
- Implementation of energy conservation guidelines to reduce energy consumption. These guidelines consist of:
 - Scheduling and monitoring occupancy schedules on a regular basis
 - Implementing setback space temperatures during unoccupied period
 - Monitoring air conditioning usage during summertime
 - Increasing safety and efficiency of mechanical equipment by an effective preventive maintenance program
 - Turning off lights during unoccupied periods
 - Identifying inefficient buildings, and investigating and correcting the cause of inefficiency
 - Address demand limiting when bringing equipment online
 - Manage demand during critical periods in the summer months
 - Identifying potential projects that would have positive results for a building
- Introduction of new technology to improve energy efficiency of buildings. BCPS has 156 schools equipped with Direct Digital Controls (DDC). A Preventive Maintenance program to check DDC Systems periodically and update the software on a regular basis is underway at 100 schools and additional schools will be included as the funding becomes available.

Energy Conservation

ENERGY CONSERVATION GUIDELINES

- Turn off all lights when you leave at the end of the day
- Turn off lights if the space is going to be unoccupied for more than 15 minutes
- Turn off lights in storage, kitchen, and conference rooms when not in use
- Maintain an occupied temperature for heating between 68° - 70° F
- Maintain an occupied temperature for cooling between 76 – 78 F
- Maintain domestic hot water temperature between 110 – 120 F
- Monitor hot water loop temperatures for correct controllability
- Turn off electric hot water heater during unoccupied setting
- Maintain an unoccupied temperature for heating between 55° - 58° F
- Use of portable electric heaters, refrigerators and microwave ovens is prohibited unless authorized in advance
- Scale back operation of HVAC equipment run time during major holidays
- Do not reset thermostats from the setting established by the operating staff
- Report malfunctioning thermostats and drafty windows to the building operating staff immediately
- Do not open windows, including gymnasium windows, when the building is being heated. Uneven distribution of heat should be reported immediately to the building operating staff
- Keep exterior doors, vents, and overhead doors closed

- Reduce the use of decorative or accent lights, especially during the day
- Turn off all building exterior lights, parking lot lights, pathway lights, and athletic field lights during the day
- Replace filters as recommended by the manufacturer
- Maintain computers in “sleep” mode when not in active use
- Do not block the airflow around vents
- Encourage participation of students and staff in promoting energy conservation
- Consideration of life cycle cost and energy efficiency when purchasing new or replacement equipment.
- Immediately report leaky faucets to the Customer Service section
- Utilize natural light in halls, lobbies and non instructional areas whenever possible.



ENERGY CONSERVATION INITIATIVES

- Created a database to identify energy efficiency index of all schools
- Conducted an energy audit of 77 energy inefficient schools that resulted in a list of low cost/no cost energy conservation measures and major projects for inclusion in capital and other major maintenance programs
- Developed and disseminated energy conservation guidelines to all schools with increased emphasis for a “Turn Off” campaign
- Developing a user-participation program for energy conservation by behavior modification of occupants
- On-going attendance in LEED training of several employees
- Incorporated state-of-the-art DDC controls in the construction/renovation of approximately 125 schools to maximize energy efficiency of schools by centralized controls
- Expanding the current preventive maintenance program to include additional equipment and increase the frequency of preventive maintenance
- Incorporated a geothermal system in a recently completed elementary school.
- Working with environmental groups including but not limited to Chesapeake Bay Reforestation Program in an effort to identify properties that can be easily enhanced and redeveloped as buffers providing outdoor classroom learning experiences and contributing to the protection of watershed and conserving energy
- Reduced energy cost by utilizing joint procurement efforts with other school systems and Baltimore Regional Cooperative Purchasing Committee (BRCPC)
- Initiated a program to prioritize window replacements for improving energy efficiency of the buildings
- Implemented a strategy to centrally monitor and adjust occupancy schedules, depending on the needs of occupants and weather conditions, whenever feasible
- Initiated a program of installing programmable electronic controls in relocatables.
- Completed a BGE tariff audit of 366 BGE accounts and adjusted tariffs for 52 accounts to a more cost effective tariff structure or a lower price supplier for energy commodity.

- Completed energy conservation projects totaling \$300,000 to improve energy efficiency of various buildings.
- Initiated an electrical demand control program at all schools.

ENERGY AUDITS

Baltimore County Public Schools has initiated a systemwide initiative to identify buildings, on an annual basis, that have the maximum potential for improvements in energy efficiency. The process entails compiling energy consumption data including heating oil, natural gas, and electricity for individual buildings and converting total energy consumption into therms to obtain an energy efficiency index for all buildings in the system.

After a priority list of buildings is established based on the energy efficiency index, an energy audit is conducted for buildings included in the list. The energy audit results in detailing low cost/no cost energy conservation strategies and energy conservation measures with short term return on investments. The energy conservation strategies are being implemented, utilizing in-house forces and maintenance contracts, as funds become available.

It is our intent to assign higher priority to energy conservation measures for inclusion in future capital improvement, Aging Schools, QZAB, and major maintenance programs.



Strategic Initiatives

WINDOW BLIND REPLACEMENTS

BCPS assessed the window blinds in each of the schools and offices. The assessments compiled a list of deficiencies in window blinds to include overall condition, broken pull cords, missing slats, blinds that do not operate correctly and the year the blinds were replaced if known.

The manufacturer's life expectancy of 2" metal horizontal blinds is 20 – 25 years. The average estimated cost to replace window blinds at elementary schools is \$15,000, middle schools \$25,000, and high schools \$30,000.

The replacement cycle will start in FY11 and will end in FY41. The window blinds scheduled for replacement in FY11 are as follows:

- Joppa View Elementary
- Seven Oaks Elementary
- Hereford Middle
- Jacksonville Elementary
- Essex Elementary
- Sparks Elementary

CAPITAL IMPROVEMENT PROJECTS, QZAB, AND AGING SCHOOL PROGRAM

In an effort to improve the learning environment and extend the life of facilities to maximize their potential use, all offices within the Department of Physical Facilities work in a cooperative manner to obtain funds from various sources. The Office of Maintenance and Grounds provides input to the Office of Engineering and Construction regarding maintenance needs. The Office of Engineering and Construction formulates the projects to include priorities, costs, and schedules for inclusion in Capital and various grant-related funding requests. After the needs are compiled, the list is submitted to the Superintendent's Cabinet for review, analysis, and final selections.

The State and County provide funding for new construction, renovations, maintenance, and site projects. The basic types of projects and their funding sources are as follows:

1. New Construction
 - a. State and County Funds

2. Renovations Projects
 - a. State and County Funds

3. Maintenance/Replacement Projects
 - a. County Funds – part of the Capital Improvement Program and County Budget
 - b. Aging School Program (ASP) – projects are subsidized by the State with time-related performance limitation (usually one year). The State funds a varying percentage of the construction and design, and the County funds the construction and design, and the County funds the construction management cost.

4. Qualified Zone Academy Bonds (QZAB)
 - a. 100% State subsidized program for construction work at schools receiving over 50% free and reduced lunches. These projects have completion limits (usually 18 months) and the County funds the design and construction management cost.

5. Site Projects
 - a. County Funds

A list of projects completed during FY10 has been provided in the Scheduled Maintenance Section. In FY11, funding was received for the Capital Improvement Plan and for Aging School projects. Those documents follow this page.

PREVENTIVE MAINTENANCE PROGRAM

The largest strategic initiative for maintenance has been the funding of preventive maintenance to provide reliable operation and consistent building environmental control. These measures include the first two phases of the Building Automation System – Preventive Maintenance Program. The third phase of the Building Automation System – Preventive Maintenance Program will be requested in our FY 2011 budget request. At this time our BAS Program is fully funded for the first two phases.

In Baltimore County Public Schools, 140 schools have been equipped on some level with Direct Digital Control (DDC) Systems of varying capability to improve energy efficiency and enhance the learning environment in classrooms. During the installation of the systems, no preventive maintenance was performed or contracted on these highly proprietary and sophisticated computer systems. The actual need for maintenance and repairing of DDC Systems, including upgrading of software, is estimated to be in excess of \$1 million for DDC systems with an estimated installation cost of \$35 million.

In order to protect over three billion dollars in building assets, improve energy efficiency, and improve the learning environment for all students, BCPS approved funding in FY06 and FY07 for a preventive maintenance program to include DDC systems at 100 schools that were renovated in the BCPS Phase I and Phase II renovations program. We will continue to seek funding to incorporate and enhance the preventive maintenance of the DDC systems from Phase III. The funding will give us the ability to address Direct Digital Control Systems needs by staff and contractual services. The projected plan is to incorporate all DDC within the next five years subject to the availability of funds.

Future requirements will be requested in the budget for full funding of these vital requirements, as well as a full HVAC preventive maintenance program to save energy and provide a safe and healthy environment conducive to learning.

CYCLIC PROGRAMS

Stage Curtain Replacement

This is a fifteen year program that uses both physical inspection and age assessment to determine the priorities.

Interior Painting

The funding provided to support this program allows for the painting of approximately eight schools per year, (seventeen year rotation). Future requests will be to fund the program to paint the schools on a fifteen year rotation.

Bleacher Inspections

This program allows for the inspection and repair of the systems interior and exterior bleacher systems. Currently, 50% of the interior and exterior bleachers are inspected each year. Additional funding will be requested in the future to enhance current funding to inspect all interior and exterior bleachers on an annual basis.

SCHOOL PAINTING PROGRAM

A fifteen-year school painting program is in place to enhance the environment of the school buildings. The program will provide funding for painting to be completed at the following locations during the summer of 2010:

Deer Park Elementary
Pinewood Elementary
Lansdowne Elementary
Oliver Beach Elementary
Cockeysville Middle
Perry Hall Middle
Perry Hall High
Towson High
Patapsco High
Chesapeake High
Franklin High

The following eight targeted schools were completed during the summer of 2009:

Campfield Elementary
Charlesmont Elementary
Fullerton Elementary
Halethorpe Elementary
Halstead Elementary
Harford Hills Elementary
Rodgers Forge Elementary
Scotts Branch Elementary

RESTROOM PARTITIONS AND ACCESSORIES

Deterioration of the facilities in our aging buildings will be addressed by this program. Schools over fifteen years in age were reviewed for inclusion in the program. Student hygiene and privacy concerns will be addressed by this program.

Stall replacements are scheduled at 50 restroom locations for FY11, utilizing in-house personnel and contract services. The replacements will consist of the following:

- 30 lavatories at 9 elementary schools
- 5 lavatories at 2 middle schools
- 15 lavatories at 3 high schools

INDOOR AIR QUALITY PROGRAM

The Department of Physical Facilities has committed to implement the initiatives of the Environmental Assessment Advisory Committee.

Proposed Initiatives of the Environmental Assessment Advisory Committee

- Provide a proactive program at each school for environmental communication through the “Indoor Air Quality - Tools for Schools” program. All schools are now participating.
- Increase funding for preventive maintenance including air filters and effective housekeeping practices.
- Provide watertight buildings in renovations or modernizations through capital programs, and upgrade ventilation systems to meet current standards of the American Society of Heating Refrigerating and Air Conditioning Engineers.

Attached is a copy of the Program Overview

Indoor Air Quality Program Overview

The Baltimore County Public Schools (BCPS) has developed the Indoor Air Quality Program (IAQP) in response to increasing concerns about the quality of the environment within our schools and support facilities. The IAQP will ensure that the environment provided in our facilities will be conducive to learning and comfort while working.

The IAQP is divided into five parts. The first section addresses the guidelines being used in the engineering and construction of new schools, and in air handling system renovations to ensure that schools have good air quality. The second section addresses the actions that are being taken to ensure a quality indoor environment through the *Comprehensive Maintenance Plan*. These actions include the proper maintenance of mechanical and electrical systems which are vital to providing good air quality, proper housekeeping and cleaning activities, and the integrated pest management program. The third section addresses how these activities are being monitored and the effectiveness of these activities in providing good air quality. The monitoring is done through the implementation of the EPA *Tools for Schools* program in each building, audits by the Environmental Services Section, and through proactive measures taken by the Environmental Action Team. The fourth section addresses how occupants with air quality concerns should report their concerns most effectively. The fifth section addresses how the Department of Physical Facilities will address these concerns.

These efforts will provide the best possible environments within BCPS facilities. It is also recognized that procedures can always be upgraded; therefore, the Department of Physical Facilities will continue to evaluate and improve this plan as the needs of our system evolve.



Conclusion

CONCLUSION

Baltimore County Public Schools (BCPS) is the 26^h largest school system in the nation with approximately 104,000 students. BCPS has an inventory of: 160 school buildings, 10 centers, 16 administrative, maintenance, grounds, warehouse and transportation buildings, with over 15.6 million square feet and an average age per school building of greater than 46 years. This makes BCPS the second oldest school system in the State of Maryland. The aging facilities, combined with limited resources, make balancing priorities a continuing challenge, especially since BCPS strives for a high quality educational environment for its students.

Research conducted regarding school facilities clearly indicates a strong correlation between the school environment and student achievement. The improvement of the school environment requires adequate funding and the efficient use of these funds. The goals of the maintenance program are to:

- Preserve building assets
- Optimize the productivity of maintenance personnel
- Implement cost effective methods
- Reduce energy costs
- Ensure safety and security of buildings and its occupants

The strategy to meet goals requires:

- Exploration of all available avenues for funding,
- Implementation of an active preventive maintenance program,
- Compilation of information to plan and manage maintenance operations,
- Application of state-of-the-art technology for a work order system, and
- A continuous feedback mechanism for monitoring the impact of maintenance service level to enable adjustments and modifications.

The approach this year was to provide details related to each maintenance area. The contents of this Comprehensive Maintenance Plan have been updated and presented in an effort to demonstrate a commitment to meet the goals and application of strategies. The process of improving maintenance is a dynamic phenomena and BCPS remains committed to steer the course.