OFFICE OF FACILITIES

FY2024 Resource Conservation Plan

MONTGOMERY COLLEGE

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Revision History

Revision #	Description	Date
1	Issued for Use	03/01/2022
2	Issued for Use	5/1/2023

Owner’s Sustainability Statement

As good stewards, it is Montgomery College’s goal to furnish and maintain sustainable facilities, which are safe, reliable, life cycle cost effective, environmentally friendly, resilient and conform to Owner’s Project Requirements (OPR). These facilities exist to provide a quality-built environment which enhances the learning experience and contributes to student success. To achieve this goal Montgomery College embraces a total quality process which relies on the vision, talents, and collaboration of all individuals involved or affected by this project.

Executive Summary

The Resource Conservation Plan (RCP) has been prepared by Montgomery College's Office of Facilities to support the College's Fiscal Year (FY) 2024 Energy Conservation Capital Improvements Program (CIP) and Utility Operating Budget requests for funding. Published annually, this plan provides historical background and discusses FY2022-FY2023 accomplishments and FY2023-2024 plans as mandated by Montgomery County Code Section 18A-9 Interagency Committee on Energy and Utility Management (ICEUM).

This document describes Montgomery College's Resource Conservation Program that includes master planning, utility management, benchmarking, sustainable building design, energy conservation activities, waste stream management, climate change activities, and program outreach and awareness. Included are the following descriptions:

- Resource conservation organization.
- Discussion of current and historical utility consumption and costs
- Resource conservation program accomplishments, and plans.

Tables and graphs present information on historical utility consumption and utility budget estimates, while (CIP) Project Description Forms (PDF) that relate to the College's Resource Conservation efforts are discussed and included in the appendix section of this document.

Historically, all buildings regardless of function have been optimized to meet the project requirements while minimizing environmental impacts. The College attempts to achieve the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Gold certification that exceeds the County Legislated LEED Silver as well as surpassing the requirements of the SEC 8-14.A Energy Performance Standards for County Buildings. Currently, the College is meeting the city of Rockville and Montgomery County International Green Construction Code (IgCC).

The College continues to implement recommendations in the college-wide Master Plans and Utility Master Plans on all three campuses, while at the same time preparing new and expanded master plans for the out-years. Master planning is an important tool using Integrated Lifecycle Management (ILM) practices to ensure that sustainability issues are fully examined and properly integrated into the fabric of the institution.

In FY 2022 the College began purchasing its electricity in the wholesale market to obtain

more competitive prices as compared to the retail market. The College participates in the joint agency procurement of natural gas, and wind-generated renewable energy certificates (REC).

The College continues to participate as a member of various County-sponsored sustainability, climate change, energy, and national engineering and professional society committees. In our mission to enrich the lives of our community, the College encourages faculty, staff, student, and public participation in our sustainability efforts via social media, and electronic newsletter articles. The College's sustainability committee, MC Green Team, represents the College stakeholders and addresses green issues. Specifically, MC Green Team's goals are to address climate change, conserve resources, and share stewardship values. The team holds monthly meetings where topics related to energy, sustainability, economics, and community outreach are discussed. The MC Green Team representatives are students, faculty, and staff members that bring a vast amount of knowledge and ideas to the team. The College offers credit and non-credit academic and continuing education courses in subjects related to green jobs, sustainable design, green business practices, solar trades training, and the LEED Rating System.

Montgomery College is requesting $300,000 for the FY 2024 Energy Conservation Capital Improvements Program (CIP) which funds the Utility Analyst, the Energy Engineer position, and various energy projects. The FY 2024 College operating budget includes funding for one Energy Manager position. Energy and sustainability opportunities are also integrated into various building renovation and equipment replacement projects which are funded by various capital and operating budgets. The FY2024 utility operating budget request is $10,031,715, a 12.83% increase from the FY2023 request. The budget increase will cover rate increases and the additions of the new East County Education Center, and the Catherine and Isiah Leggett Math and Science Building.

General Information

Montgomery College founded in 1946 established its first campus in Takoma Park in 1950. In 1965 and 1978 The College added the Rockville and the Germantown campuses, respectively. In the year 2000 the Takoma Park Campus expanded into the city of Silver Spring. Currently, the College owns and maintains approximately 333 acres of property on three campuses and operates 55 buildings in excess of 2.9 million gross square feet (GSF), which includes three parking garages and four leased sites. Central Services (CT) is an off-campus building with an area equal to 126,801 GSF. This building consolidated central administrative functions that were previously scattered throughout various owned or leased spaces. Campus maps and summaries of space allocations can be found in Appendix A.

Buildings

The College buildings consist of classrooms, computer laboratories, offices, science and engineering laboratories, libraries, meeting rooms, gymnasiums, automobile shops, shipping and receiving areas, childcare centers, swimming pools, and greenhouses.

Schedule

The hours of use are from 7:00 a.m. until 11:00 p.m. on weekdays, and at different times of the day on weekends. Summer and winter session classes are offered at all three campuses and The College's administrative and academic offices are open year-round. There are frequent activities in the Physical Education (PE) building, as well as community use (rental) of PE and other spaces on the weekends. In addition to the programs offered at each campus, the College offers regular college credit programs and non-credit courses in off-campus locations throughout the County.

RCPs

Montgomery College, which began its resource conservation program prior to 1973, is a charter member of the Interagency Committee on Energy and Utility Management (ICEUM) and has submitted a Resource Conservation Plan in support of the utility operating budget since January 1976.

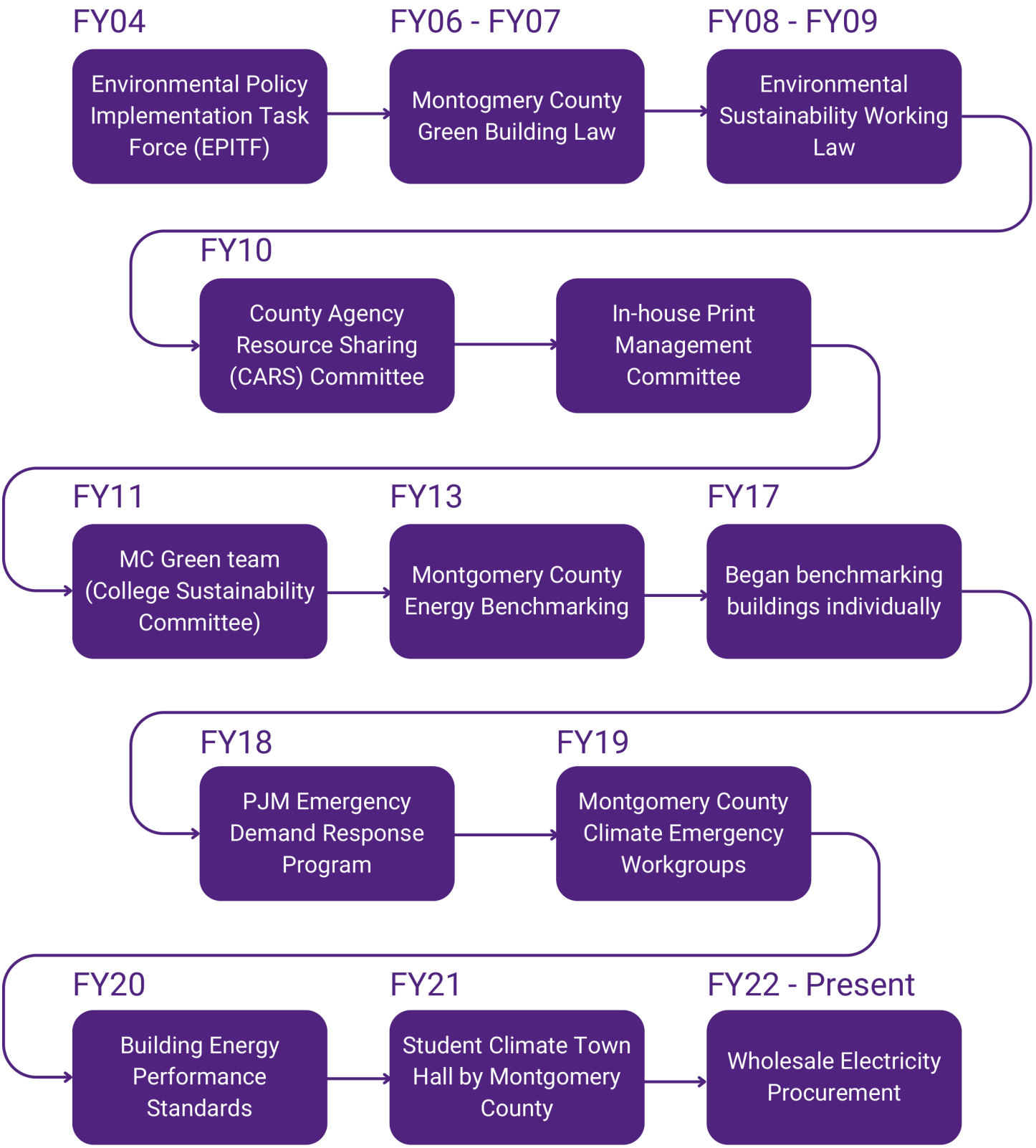
ITOC

The College's Information Technology Operations Center (ITOC) is a 4,000 GSF space located in the Cafritz Arts Center on the Takoma Park/Silver Spring Campus, operating 24 hours a day. ITOC accounts on redundant systems and high-density servers which support cloud-based computing. The College provides backup systems to the ITOC infrastructure in the Computer Science Building on the Rockville Campus. Currently, ITOC provides server space to the Maryland-National Capital Parks and Planning Commission (MNCPPC).

Environmental Stewardship

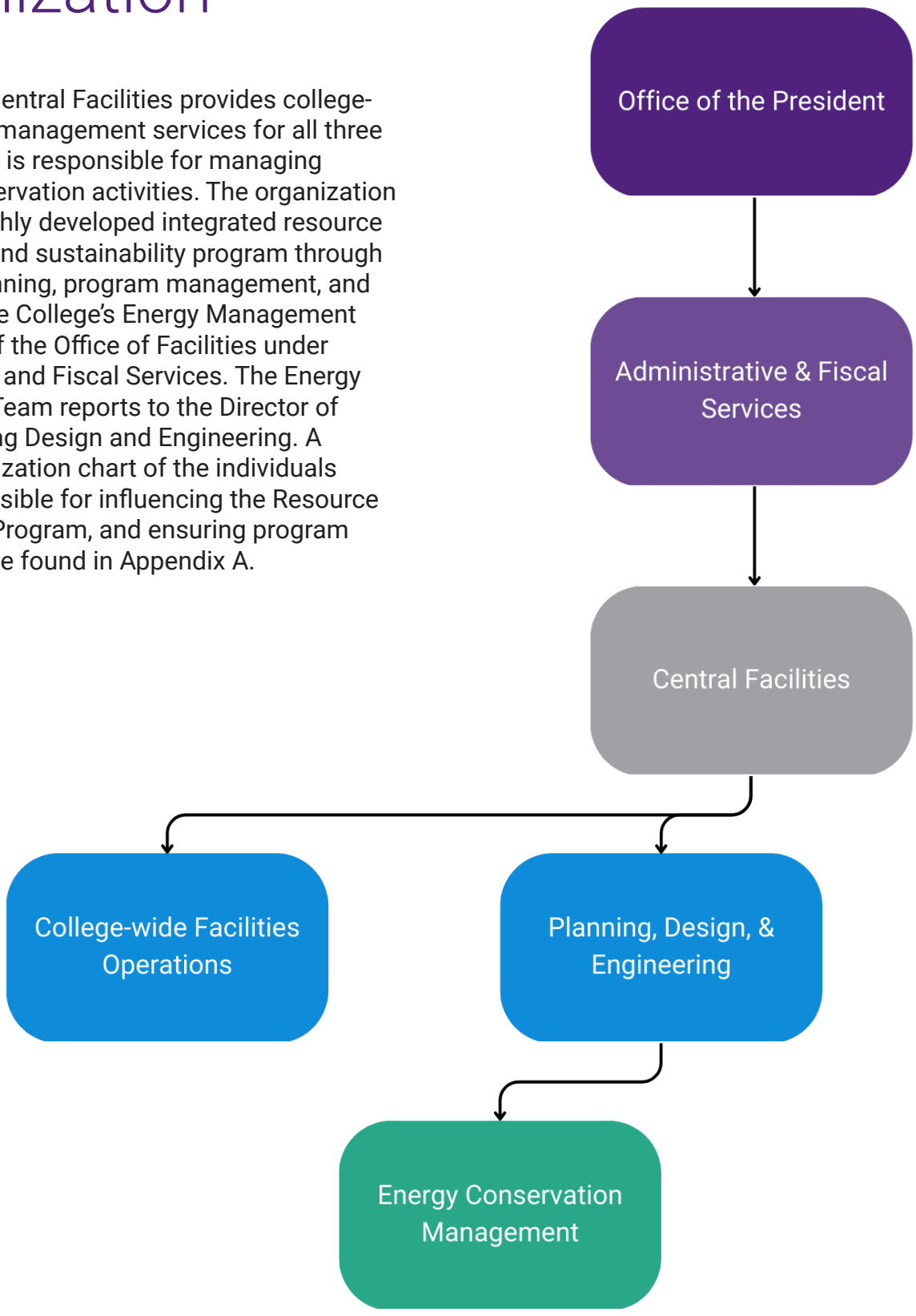
Since the late 1970s, the College has been a leader in environmental stewardship by implementing energy-efficient, environmentally friendly, green, award-winning building designs, and creating an award-winning recycling program. The College has an active occupational safety and health program which ensures occupant environmental quality and a hazardous waste management and recycling program which minimizes its hazardous solid waste stream. In FY 2016, the College was awarded a green seal certification for cleaning services, on the Takoma Park/Silver Spring campus.

Involvement in Energy & Sustainability



Resource Conservation Program Organization

The Office of Central Facilities provides college-wide facilities management services for all three campuses and is responsible for managing resource conservation activities. The organization manages a highly developed integrated resource conservation and sustainability program through integrated planning, program management, and operations. The College's Energy Management Team is part of the Office of Facilities under Administrative and Fiscal Services. The Energy Management Team reports to the Director of Capital Planning Design and Engineering. A detailed organization chart of the individuals directly responsible for influencing the Resource Conservation Program, and ensuring program success, can be found in Appendix A.



Energy Management Team

Energy Conservation Manager
Daniel Dalgo, Ph.D., CEM, CC-P

The Energy Manager is responsible for implementing the energy and sustainability components of the Resource Conservation Program and is the College's representative on ICEUM. The energy manager coordinates:

- Utility Master Plans
- Sustainable Design of new and renovated buildings
- Utility management
- Utility Procurement
- Oversees utility bills and utility accounting database
- Energy audits and retrofits
- Building Operations Data Management
- Outreach of the sustainability program
- Co-chair MC Green Team
- Represents The College on ICEUM and other committees on isues related to Resource Conservation and Sustainability

Energy Engineer
Vacant

The Energy Engineer, a capital position since FY20, provides engineering support to the Energy Manager and Utility Analyst; as well as projects related to Benchmarking. Specific projects associated with the new energy engineer position are the integration of building sub-metering with the building automation system and EnergyCAP, and building energy audits and retrofits that are critically needed infrastructure improvements. The engineer provides support for the development of College-wide Master Plans, Utility Master plans and data analytics for energy performance evaluation of buildings.

Utility Analyst
Brittny Woods

The Utility Analyst, a capital position since FY 2015, is responsible for assisting the Energy Manager with utility management duties related to the capital energy program. The Utility Analyst assists in implementing various legislatively mandated capital programs such as Benchmarking. Likewise, the utility analyst manages the College's utility accounting database, EnergyCAP.

Utility Consultant
Charles E. Boone

The College contracts with Mr. Boone's consulting services to aid with utility bill management, utility billing issues, and utility projection. Mr. Boone and the Energy Management Team have identified billing issues and recovered approximately $270,000 during FY21-22 that would have otherwise been paid to the utilities.

Utility Procurement Consultant
EnelX

The College contracts with EnelX to advise the College in its transition to electricity wholesale procurement and the procurement of natural gas.

Contact Us

Daniel Dalgo, Ph.D., CEM, CC-P
daniel.dalgo@montgomerycollege.edu
(240) 567-9172

Brittny Woods
brittny.woods@montgomerycollege.edu
(240) 567-9183

Other Experts

Director of Capital Planning, Design, and Engineering

Integrates planning and design to the College facilities to ensure that environmental measures are integrated into the life cycle of the College infrastructure.

Director of Facilities

Operate and maintain safe, reliable and economical facilities, which contribute to the wellbeing of the College occupants. Likewise, managing the operations and maintenance aspects of their campus sustainability programs including energy efficient operations of facilities and implementing best practices with respect to recycling, building cleaning, and landscape management. In addition, the Director of the Germantown campus coordinates the recycling program for the three campuses as well as the maintenance of the college's vehicle fleet.

Director of Project Management

Responsible for construction of new and renovated facilities. Building performance is ensured through persistent quality supervision of building and infrastructure during construction.

Facilities Administrative & Operations Manager

Manages the facilities operating budget accounts including the college-wide Utility Operating budget. Utility bills are received, reviewed and approved for payment. Utility bill data is entered automatically into EnergyCAP database through BillCAPture, an optical character recognition (OCR) program. Audit routines review the data and automatically identify inaccurate bills that need investigated and corrected by the utility analyst.

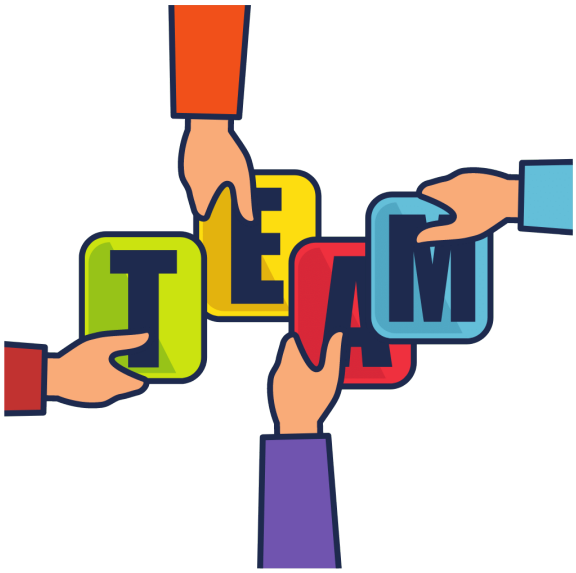
Parking and Transportation Manager

Manages issues related to college-wide parking and transportation. Transportation management is tasked with providing sustainable transportation solutions for the College community.

Public Safety, Health, and Emergency Management (PSHEM)

Ensures safety of the College and its preparedness to respond to emergency events in order to safeguard the well-being of the College community, preserve College property, communicate promptly and clearly, and restore College operations after an emergency event.

Additionally, PSHEM manages the college-wide occupational and environmental safety issues, including Occupational Safety and Health Organization (OSHA), asbestos abatement, hazardous waste stream management, occupant awareness, and indoor environmental quality (IEQ).



Resource Conservation Activities

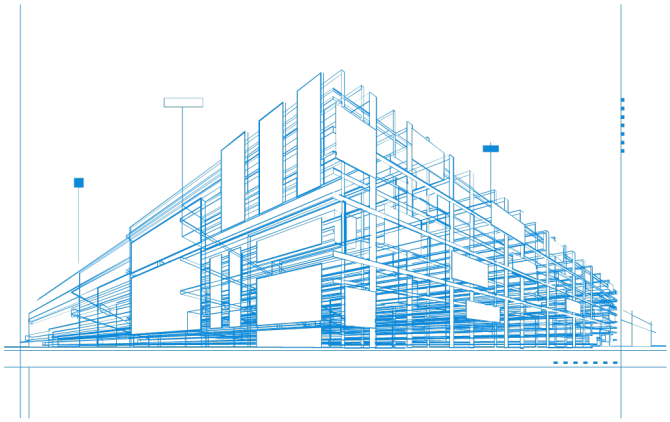
The following activities summarize the College's Conservation and Sustainability Program.

Master Planning

Facilities Master Planning is the legislatively mandated process of examining current and future academic programs to determine the space required for these programs and their support services. The master plan establishes the quantity and types of space, where it will be located, and the cost of converting existing or adding new space. Since facility master planning establishes the owner's project requirements (OPR) and is used to support capital budget funding, it is the ideal place to integrate resource conservation opportunities. The College is in the process of updating its Facilities Master Plan for 2024 through 2034.

Utility Master Planning

Utility master planning is an extension of the facility master planning process, which examines, on a life cycle cost basis, the current and future requirements for utility infrastructure. The utility master planning process examines electrical, natural gas, central hot water and chilled water plants, water, sewer, storm water, and telecommunications systems that are affected by campus buildings.The current Utility Master Plan is avaible on the Energy Management website. The college-wide Facility Planning CIP



Click the links below to access the current UMP for each campus

Germantown UMP

Rockville UMP

Takoma Park/Silver Spring UMP

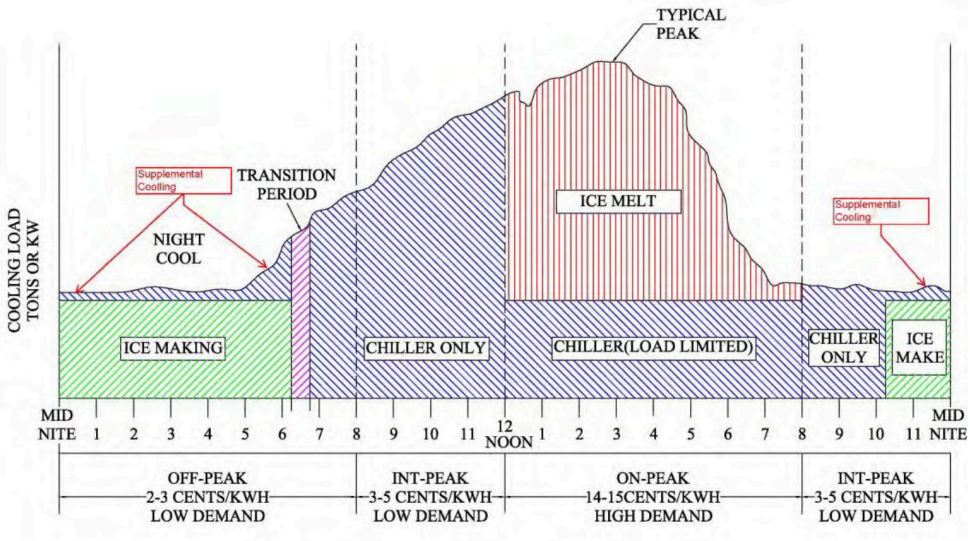
No. 886686 is the primary funding source for all College planning activities.

Central Plants

The College uses high efficiency, environmentally friendly central plant technology that allows consolidation of major heating and cooling equipment into a more life cycle cost effective central plant rather than individual plants in each building Consolidation of equipment realizes economies of scale, allows higher diversity, which reduces total equipment costs, provides redundancy, and allows use of smart-grid technologies such as ice thermal storage and co-generation. These environmentally friendly plants use high efficiency, variable speed open drive chillers. The chillers use Ammonia (R-717), a highly efficient, naturally occurring refrigerant that minimizes the Total Equivalent Warming Impact (TEWI) in that it has no Ozone Depletion Potential (ODP) and No Direct Global Warming Potential (GWP)The chiller and refrigerant cycle is enhanced by using high efficiency plate and frame heat exchangers, and ice thermal storage. The heat exchangers improve refrigerant heat transfer while the ice storage stores cold energy at night when the electricity rates are low for use during the day when electricity rates are high.

Electricity Demand Response Program (EDRP)

The College participates in the PJM's Emergency Load Response Program. The objective of this program is to maintain a reliable grid during extreme weather events when the electric supply would otherwise not be sufficient to meet demand. During the summer of 2022, the college reduced its electricity demand on average by 22% during peak hours. In FY22, this program generated $24,476,67 in payments to the College from the electricity grid operator (PJM).



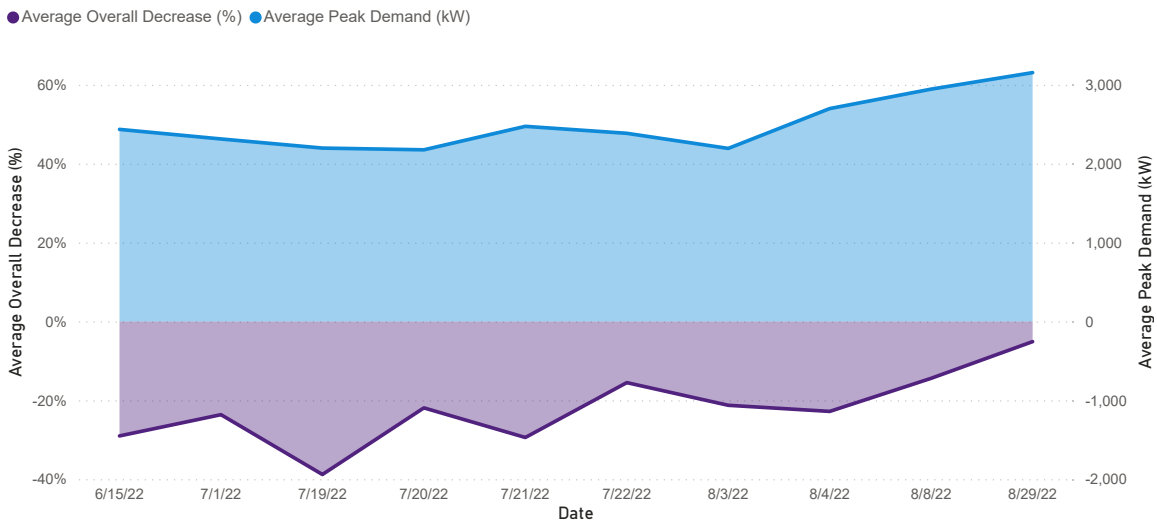
Typical Central Plant Load Profile

Incentive Programs

The Maryland General Assembly (MGA) passed the EmPOWER Maryland Energy Effciency Act in 2008, which established a goal to reduce electricity use and peak demand by 15% per capita by 2015. The MGA updated the act in 2017 to include new cost-effectiveness requirements of 2% in energy savings for all gross energy sales. This required that Maryland's five largest electric utilities provide savings programs to encourage and promote efficient use and energy conservation.

As Montgomery College continues to expand and upgrade existing facilities, we utlilize incentive programs through EmPOWER Maryland in our continued procurement of energy efficient equipment. To date, the College has recieved upward if $179,000 in rebates for equipment upgrades. More information on our incetive earnings can be found in Appendix B.

Summer 2022 EDRP Average Peak Demand and Reduction



10
# of Peak Days

4
Average Peak Hours

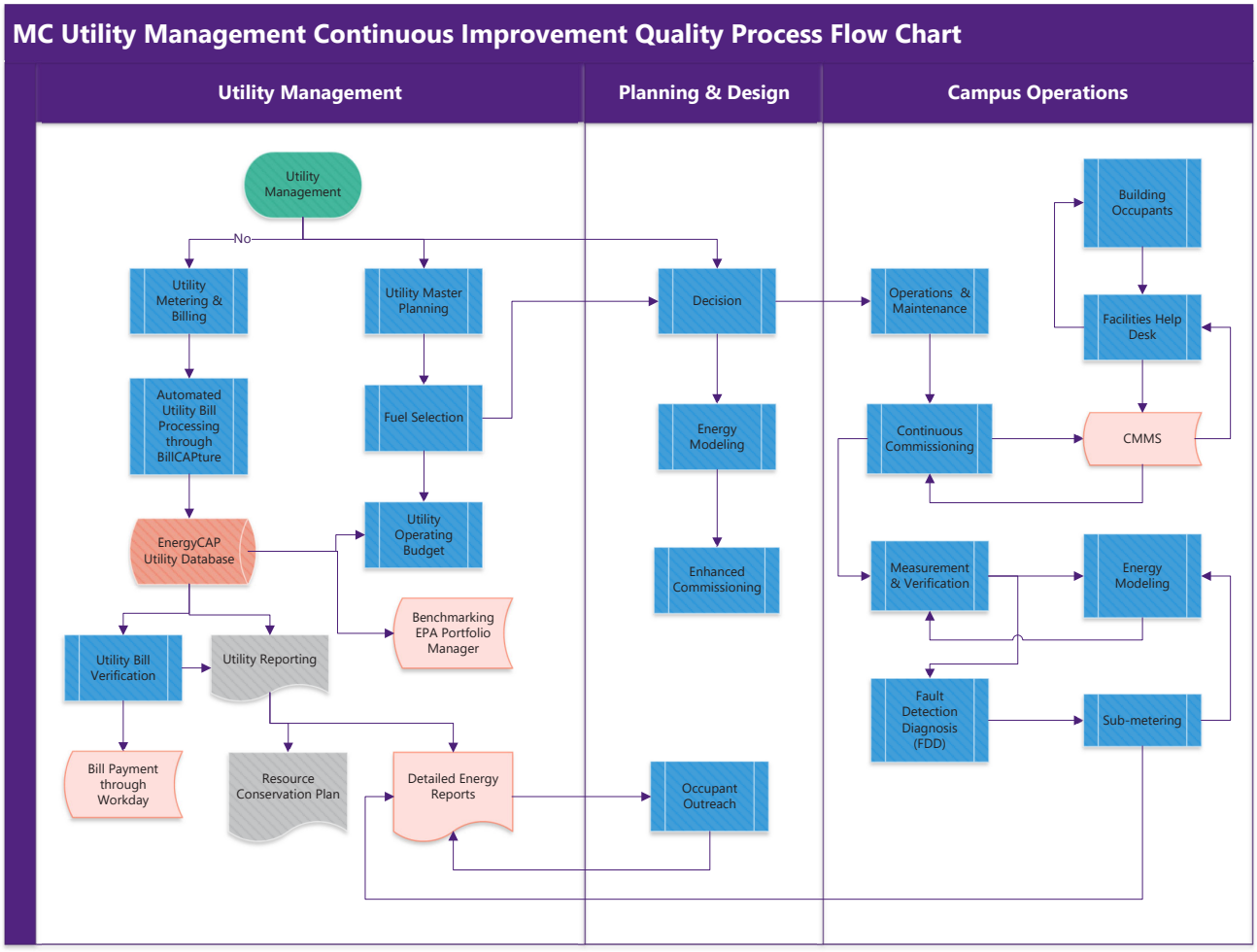
Utility Management

Utility management is one of the fundamentals of energy management and resource conservation and is influenced by all aspects of college operations. The figure below shows the activities that contribute to utility management. Energy data management is a priority to the College in the near term future to enhance its annual energy benchmarking. In FY21, the College installed thermal energy sub-meters on every building connected to the campuses distribution loops. The sub-meting project will allow the college to optimize building performance using real-time data.

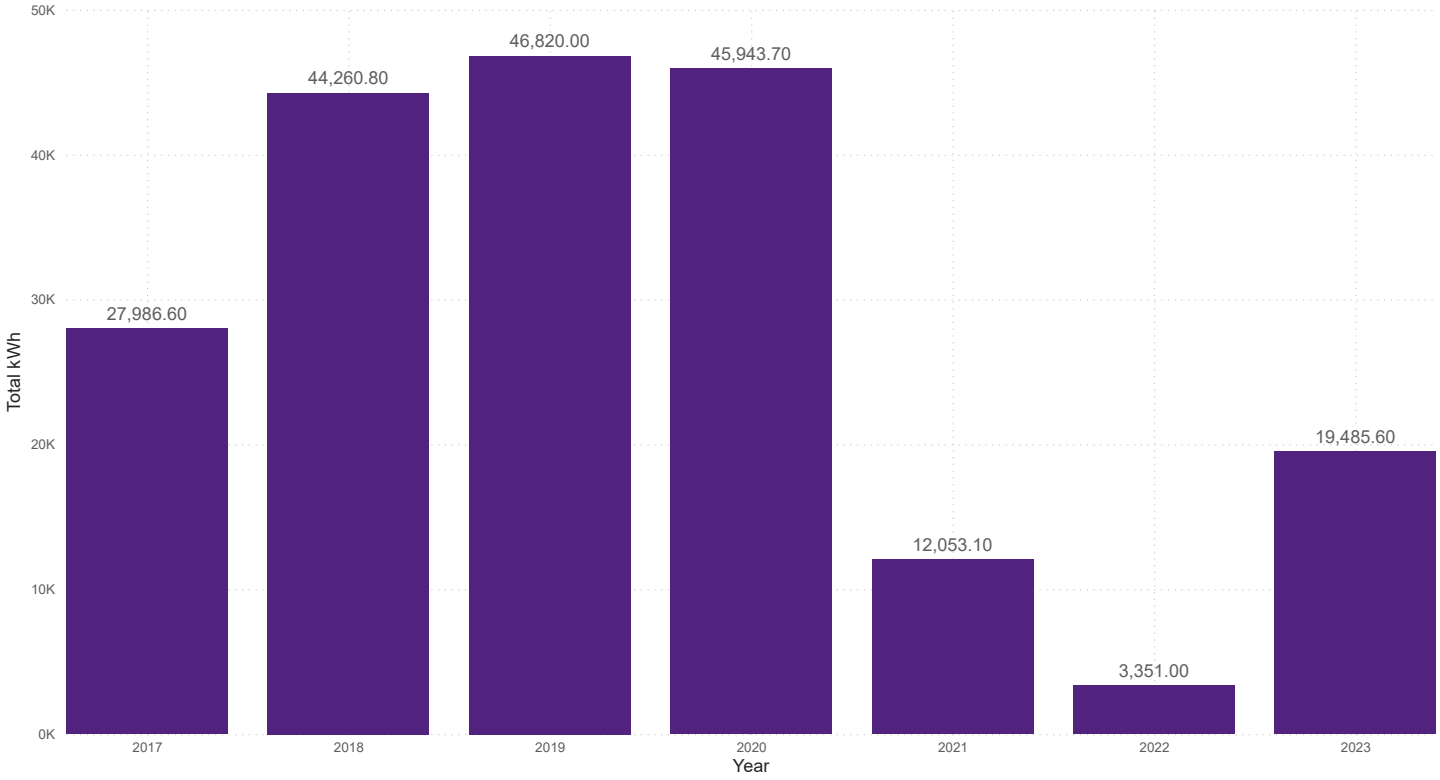
Energy and Fuel Selection

Energy and fuel selections influence our utility distribution systems, building design, and type of equipment we select, and impacts both first and operating cost. The College obtains LEED certification credits based upon energy cost savings and credits onsite renewable energy generation and offsite purchase of RECs. The College has eliminated fuel oil heating applications and all underground fuel oil tanks have been removed.

The College's energy team and utility consultant participate in aggregated procurement with other county agencies and coordinate the periodic renewal of deregulated supply contracts for Natural Gas, Propane, and Renewable Energy Credits (RECs). In FY22 The College entered the wholesale electricity market as a strategy to enhance reliability, mitigate higher prices, and explore new and more efficient generation



Solar kWh Generated Yearly at Science West



technologies. The College mitigates the risks associated with the wholesale market by working with an experienced consultant, EnelX. The College reviews wholesale energy market prices and procures blocks of electricity to fulfill our electric load using a hedge strategy developed with EnelX.

Montgomery College Energy Supply Contracts

Electricity is purchased from a deregulated supplier who generates and transmits power via PJM, the regional transmission organization (RTO) to Potomac Electric Power Company (PEPCO), the regulated public utility and local distribution company (LDC). The College also generates a small portion of its electricity from College owned and operated onsite solar photovoltaics (PV). The College consumes fossil fuels in the form of deregulated natural gas and propane. High efficiency central plants on the Rockville, Germantown, and Takoma Park/Silver Spring campuses generate and distribute hot and cold water to the buildings for heating and cooling of the occupied spaces. A detailed list of the current open energy contracts can be found in Appendix B.

Solar Energy

Montgomery College currently has operational solar panels on five buildings across the main campuses, with a total solar capacity of 148kW. The chart above details the total kWh generated yearly at the Science West building. The Science Center and Science West buildings at the Rockville campus, and the Student Affairs building and Bioscience Education Center at the Germantown campus have additional space and infrastructure to add more photovaltic panels in the future.

FY22 Utility Cost Distributiion

In comparison to FY21, the College saw an increase of approximately $1,598,913 in total utility cost. This is driven by increased occupancy on campus as the College re-opened post the COVID-19 lockdown.

The College's priorities are improvements in

electricity efficiency since it represents nearly 78% of the total utility consumption. Lighting design is an important tool in ensuring that electricity consumption is minimized, the proper use of lighting and daylighting controls, and the ice-storage plant for cooling electric peak load shifting.

The college's overall utility costs have not significantly changed over the past 10 years, despite its increased infrastructure, academic programs, and students. The stable utility cost is attributed to market prices and more importantly the application of the resource conservation program throughout each campus by the College's staff. For the past 10 years, the college has maintained a surplus in its utility budget due to its constant effort in resource and utility management.

Detailed cost breakdown and estimated projections can be found in the Utility Projection Report in Appendix B.

Unit Cost

After FY03, standard offer price caps were removed and prices steadily increased until the 2007-2008 market recession. Commitments to multi-year supply contracts delayed unit cost reductions until after FY12 when the College's unit cost decreased approximately by 3 cents/kWh. From FY19 and FY20 the electricity unit cost trended down due to a favorable market. Due to the development of the COVID19 pandemic and the worldwide events, FY22 saw an increase in electricity unit cost. Weather changes have also contributed to continued cost increase during the warmer months that drive prices up in the power market. However, mid-year electricity and natural gas demands have decreased due to milder winter weather, which allows the College to take advantage of more favorable market prices.

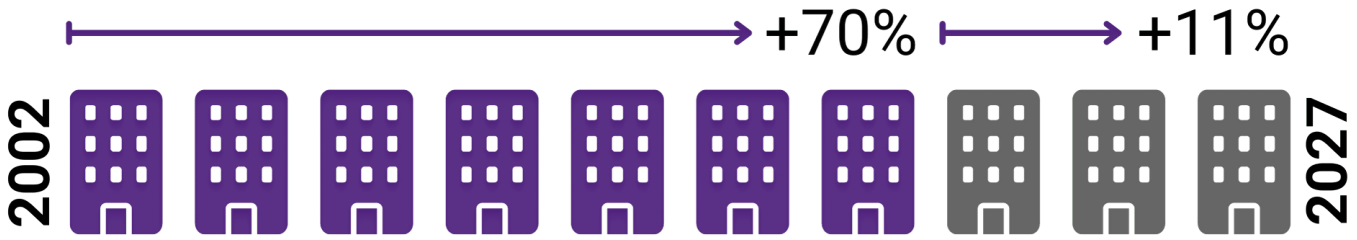
College Expansion

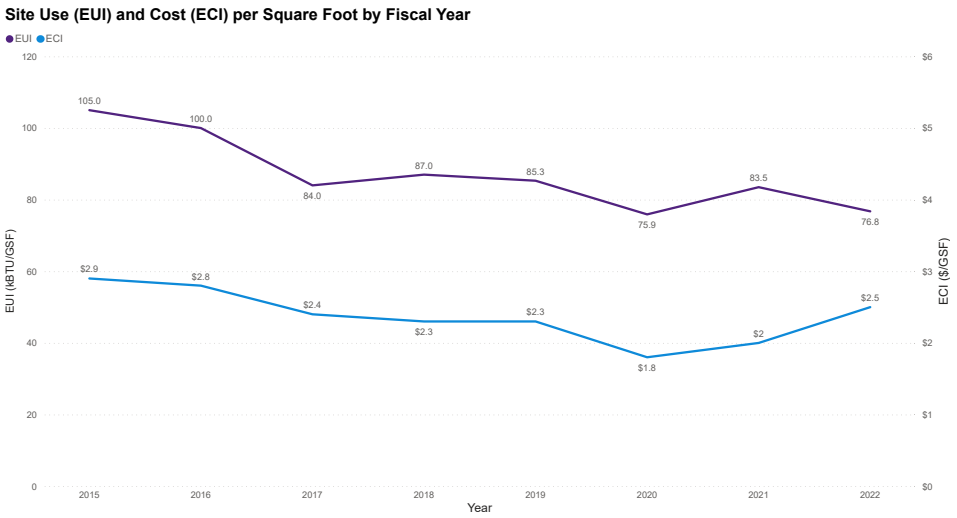
Two factors that influence changes in utility expenses are the addition of new buildings and changes in unit costs for each utility. The addition of building space increases energy consumption and therefore cost of utilities. A comparison of the overall gross square feet (GSF) indicates the College has increased 70% from 2002 to 2021 with a new Student Services Building in the Rockville Campus open in spring of 2021.The total GSF is projected to grow an additional 11% by 2027, with the openings of the East County Education Center (ECEC) in fall of 2023, the Catherine and Isiah Legget Math and Science building at Takoma Park Silver Spring campus in 2024, as well as a new Student Services Center at the Germantown campus by end of 2027. Therefore, appropriate planning and electricity hedging strategies will take place to limit the cost impact of the space increase.

Benchmarking

Benchmarking became a legislatively mandated requirement with the passage of Benchmarking Bill 2-14 in May 2014. The College was recognized as an early bird benchmarker, reporting the Campuses' energy use and cost a year earlier than legislatively mandated. Benchmarking is the presentation of energy consumption and cost data in the form of Energy

Expansion of Overall GSF Since 2002





Use Intensity (EUI), expressed in kBtu/GSF, and as Energy Cost Intensity (ECI), expressed in $/GSF. These metrics of simplify the comparison among other/similar buildings by converting all energy consumed into common unit of Kilo British Thermal Units (kBtu) and to a cost unit of dollars ($) and normalizing it by the total area of the building.

The EUI trend indicates that, even as the College expanded, the site EUI and ECI are maintained with low variability. A sharp decrease from FY16-17 can be attributed to the addition of buildings such, Science-West, and Central Services which opened mid-year and contributed 18% of the total GSF. The Covid-19 pandemic and the limited occupancy of buildings lead to a sharp decrease in both site EUI and ECI. The College began to slowly return to full operations in FY22, with most staff returning in Fall 2022, and the College re-opening in-person classes in Spring 2022.

Sub-metering & Smart Grid

Detailed monthly utility billing verification is warranted and benchmarking has become a legislative mandate. Implementation of Smart Electrical meters helps improve monthly electrical meter data verification and provide more detailed hourly consumption data. Sub-metering for Chilled and Hot water as well as net metering will also prove valuable as smart grid and demand response practices are introduced.

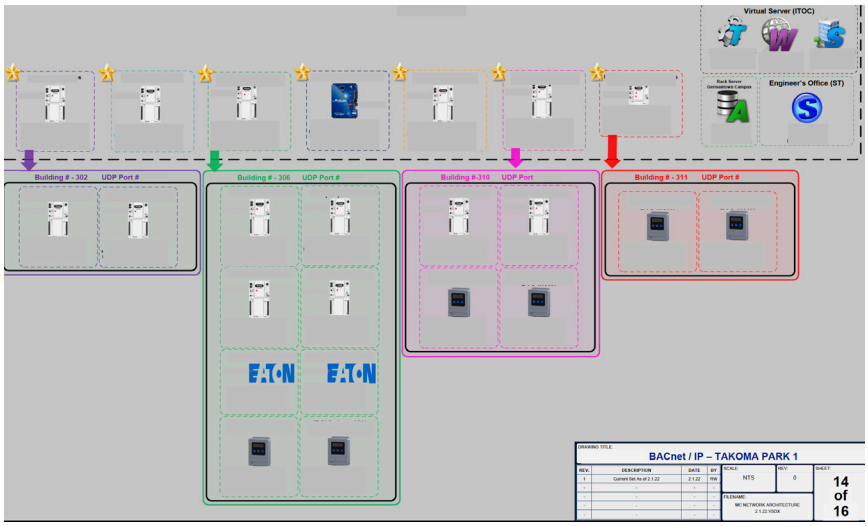
The College uses Direct Digital Controls (DDC) and Building Automation and Control (BAC) with the BACnet communication protocol to enhance the building controls integration. DDC devices orchestrate the operations of the Heating, Refrigeration and Air Conditioning (HVAC) systems, controls the chilled and hot water plants an provides building operator with a user interface to monitor all systems. These systems also provide sub- metering that supports the College's Benchmarking efforts.

Detailed hot and chilled water plant data can be found in Appendix B.

BACnet Network

The College invested in re-organizing its Building Automation System Network. The objective of this project is to enhance the controls and operations of buildings by providing the operator with a secure, and reliable network. This project also allows the College to implement

Overview of the Building Automation System (BAS)



Yearly Operating Budget Overview

Category	2022	2023	2024	Consumption Change FY2023-2024	Unit Change FY2023-2024	Percent Inc./(Decr.)
Budget	$7,155,720	$8,073,607	$10,031,715			FY 2022-2023 12.83%
Actual	$6,891,448	-	-			
Projected	-	$7,541,804	$10,031,715	$1,092,452	$1,170,294	FY 2023-2024 33.01%
Surplus/(Deficit)	$264,272	$531,803	-	-	-	-

a standardization process to add Building Automation Systems to the network during future projects. Enhancing the architecture of the BAS system will allow our buildings to efficiently and effectively serve the College's community.

Wind Energy Procurement

The College collaborates with other County agencies and procures all of its electricity from renewables as legislatively mandated by Montgomery County. In FY20 and FY21, the College purchased 208% and 203%, respectively, of its electricity in the form of wind RECs exceeding the county mandate of 100%. For FY23, the College has purchased 43,000 MWhs worth of RECs, which expected to exceed the total electric load for this fiscal year.

Even though the College continues to grow in the number of people, gross square feet, and equipment, it has maintained a stable CO2 footprint due to efficient energy management, operations, and equipment. As the College has been able to net offset more than double its CO2 footprint in past fiscal years, MC is showing its commitment towards a carbon-neutral environment and to comply with County's GHG mandate.

CIP and Capital Budget

The College's Resource Conservation Program is funded by various capital improvement projects (CIP) and operating budget sources.

The Energy Conservation CIP, No.816611 is the original capital program for which the College is requesting $300,000 in funding allocation. The College's operating budget includes funding for the Energy Conservation Manager position, while the Energy CIP includes funding for the Utility Analyst and Energy Engineer positions. Other CIPs such as Planned Lifecycle Asset Replacement (PLAR), No. 926659 and College Capital Renewal, No. 096600, also contributes to increased efficiency during equipment and infrastructure replacements. See Appendix C for RCP related CIPs. For the full adopted FY24 Capital Budget Request, visit the MC Budget Office website.

Utility Operating Budget

Utility budget preparation generally begins a year in advance of budget approval taking into account the following:

- Historical records
- Current supply contracts
- Rate increases or fee adjustments
- Space adjustments
- Assumptions of unknown factors
- Energy Market trends

Utility projections may be adjusted periodically as assumptions change or budget discussions influence them. Final utility budgets are approved by County Council by May of the current fiscal

year. The Utility Projection Report (Appendix B) shows historic and projected unit costs and assumptions. The table above shows the budget information for FY22-24. Budget requests for FY23 and FY24 are approximately 12.8% and 40% more than FY22. The increase in utility budget is due to higher utility rates, and the additions of the East County Education Center and the Math and Science Building at the Takoma Park Silver Spring campus.

Printing Management

The College's print management committee has implemented a pay for print program, reducing the quantity, and cost of print and mailing of material. Other efforts such as digital distribution of materials have reduced paper, distribution cost, and postage. Waste stream reduction is also part of the College's occupant awareness and outreach programs with availability of recycle bins throughout each campus.

Parking & Transportation

Montgomery College manages parking and transportation to support its students, faculty, and staff. Each campus provides parking and public transportation facilities. Parking regulations are enforced by the Office of Public Safety and Emergency Management.

The College subsides free Montgomery County Ride-on Bus access for College students and participates in the bike share program with installed bike share stations on the Rockville and Takoma Park/Silver Spring Campuses. Since August of 2014, the College has had its own shuttle buses that travel between campuses to allow students, faculty, and staff direct access to all campuses. More information can be found on the Parking & Transportation website.

Recyling & Hazardous Waste Disposal

The College has a long-standing, proactive recycling and hazardous waste disposal program, and have received numerous Smart Organizations Reduce and Recycle Tons (SORRT) awards from the Montgomery County Government for exceeding the 50% recycling goal.

Detailed data, available in Appendix B, highlights the College's volunatry and required recycling, and solid waste output for 2022. Hazardous waste is managed by the Environmental Health and Safety (EHS) team who ensure that hazardous chemicals are minimized and properly disposed. The College attempts to reduce the chemical stream by monitoring chemical inventories. More information on hazardous waste disposal and communication can be found the the EHS website.

Information Technology

Similar to other agencies, the College continues to expand its information technology (IT) capabilities. Classrooms have been retrofitted with Smart Instructor Work-Stations (SIWS) that include computers to control electronic audio and video multi-media presentation devices. The College continues to respond to this growth by purchasing new computer equipment that is more efficient and complies with the EPA's Energy Star requirements. IT infrastructure supports telecommuting which allows faculty, staff, and students to work and study remotely, reducing commuting miles and the potential need for additional building space.

The Information Technology Operations Center (ITOC) is located in the Cafritz Foundation Arts Center on the Takoma Park/Silver Spring Campus. This 4,000 GSF facility provides needed expansion space for the central network computer equipment, IT operations, and the IT Help Desk activities. Primary cooling of the computer equipment is provided by chilled water from the high efficiency West Campus Central Plant which is also located in this building. Redundant cooling is provided by high efficiency cooling systems which are supported by standby emergency generators.

Conclusion

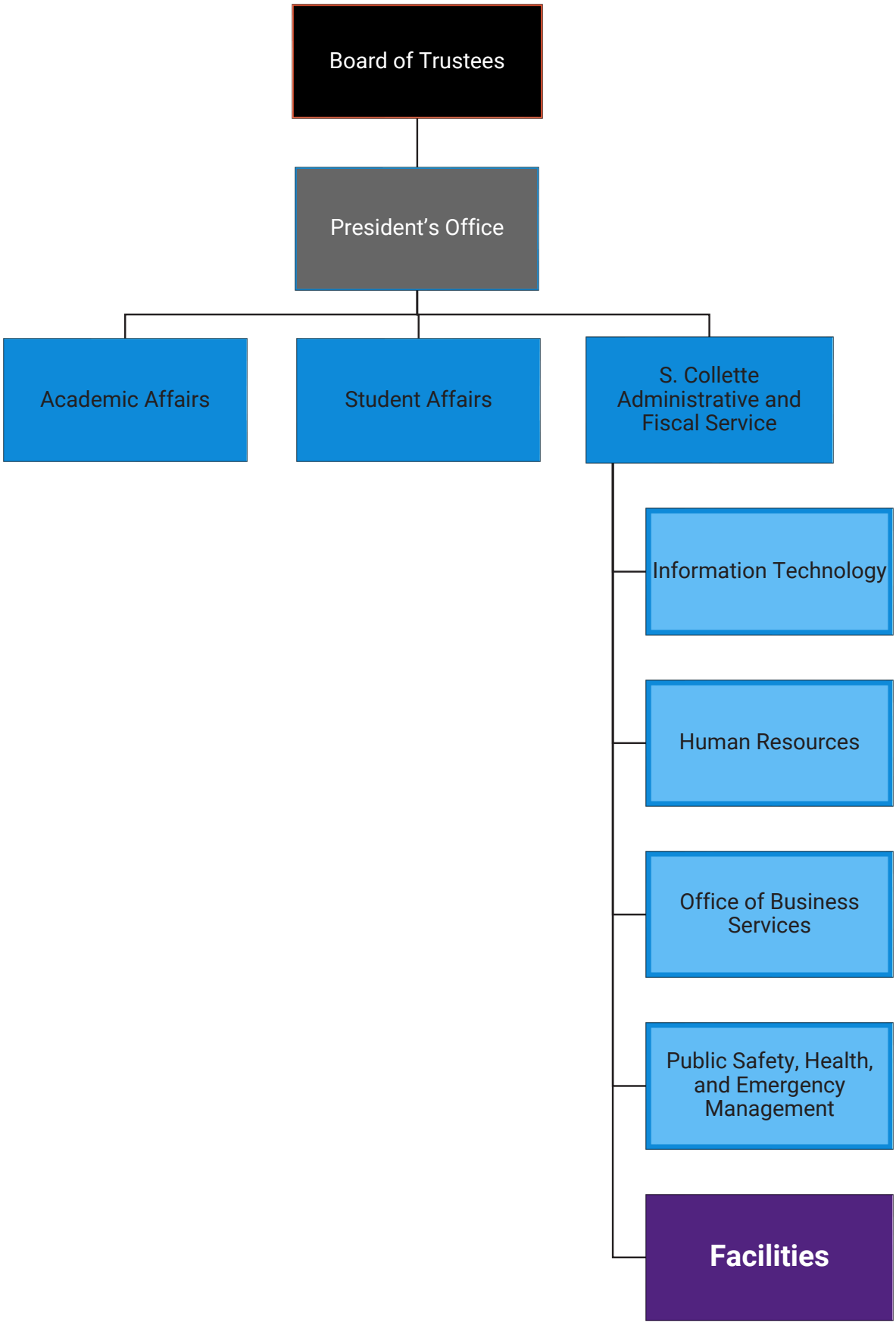
The FY2024 Montgomery College Resource Conservation Program is a well-balanced, environmentally friendly, low risk, high return on investment program, based upon results of Master Planning and Best Practice Resource/ Energy Conservation efforts. All investments are selected based upon their life cycle cost-effectiveness and on their high probability for success. Utility consumption figures indicate that energy conservation measures implemented have had a positive, cost-effective impact. This report identifies the potential for savings in lighting, controls, and good design.

All new or renovated buildings undergo rigorous analysis to determine the optimum life cycle cost-effective systems and meet or exceed the requirements of the Montgomery County Green Buildings Law. It is the College's goal to comply with current construction codes such as IgCC 2018 in Montgomery County in all our current and future building de-signs. In addition, the College is closely monitoring the development of BEPS and CAP to determine the College's path towards meeting environmental goals.

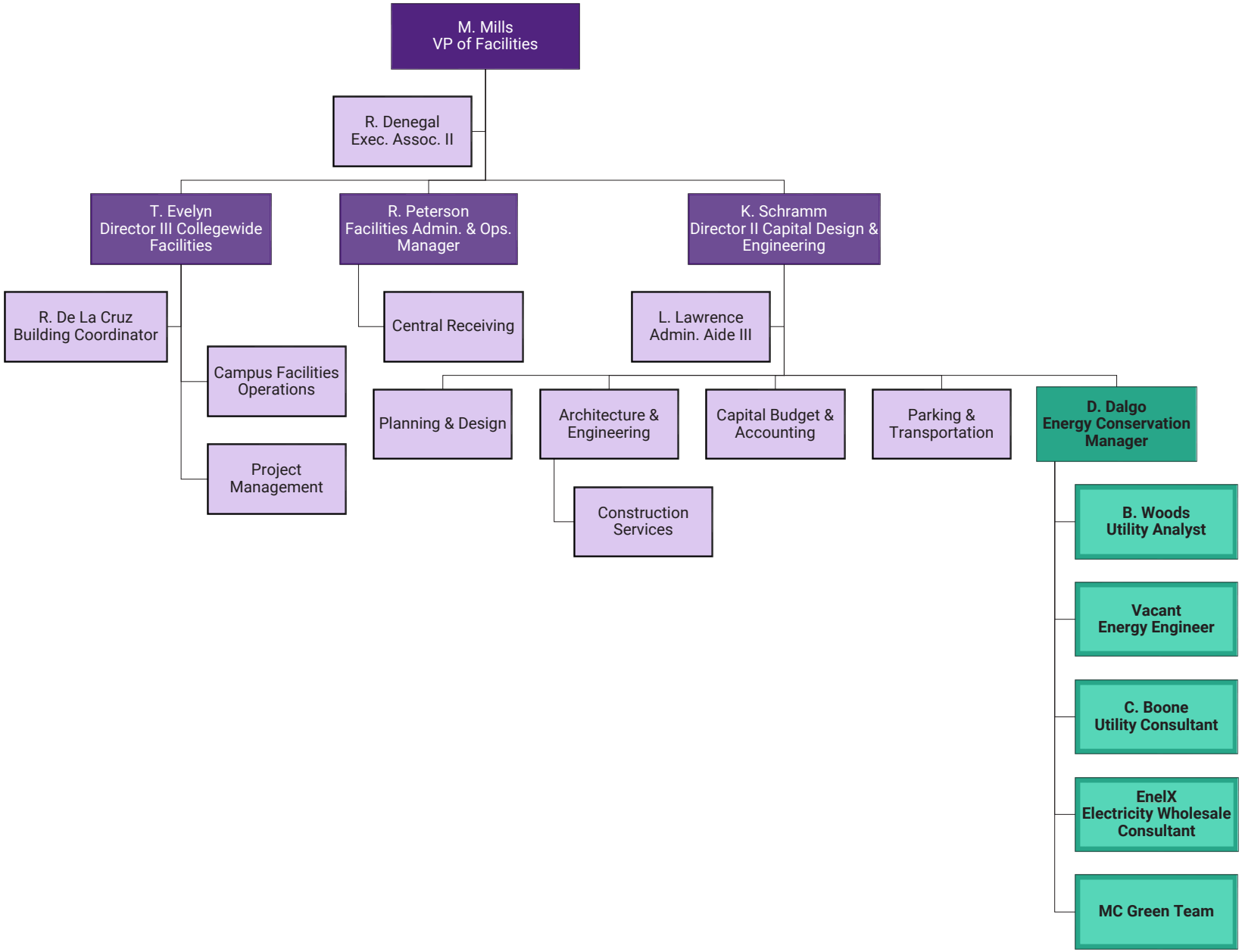
To ensure that the Resource Conservation Program is proceeding as predicted, various databases have been developed to provide accountability for the energy dollars spent. Montgomery College is confident that during FY24 our Resource Conservation Program will meet the goal of providing safe, reliable, environmentally friendly, and economical facilities which enhance the learning environment at Montgomery College and contribute to student success and excellent stewardship.

Appendix A: Staff Organization and Space Allocation

A-1: College-wide Organization



A-2: Facilities Organization



A-3: College-wide Space Allocation

SPACE SUMMARY
TOTAL COLLEGE
FALL 2021

Acres	**332.80**
Owned Buildings	**50**
Leased Buildings	**4**
Gross Square Feet (GSF)	**2,986,233.00**
Rentable Square Feet (RSF)	**103,564.00**
Net Assignable Square Feet (NASF)	**1,506,635.00**

Existing Building Square Foot

Code	Campus Name	Ownership	Gross (SF)	Rentable (SF)	Net Assignable (SF)
GT	GERMANTOWN	OWNED	479,718.00		330,781.00
OC	OFF CAMPUS	LEASED		103,564.00	30,945.00
OC	OFF CAMPUS	OWNED	126,801.00		80,983.00
RV	ROCKVILLE	OWNED	1,417,966.00		721,541.00
TP	TAKOMA PARK/SILVER SPRING	OWNED	961,748.00		342,385.00
			2,986,233.00	**103,564.00**	**1,506,635.00**

Projected Building Square Foot

Code	Campus Name	Ownership	Gross (SF)	Net Assignable (SF)
GT	GERMANTOWN	OWNED	153,660.00	83,425.00
TP	TAKOMA PARK/SILVER SPRING	OWNED	108,238.00	67,489.00
Total			**261,898.00**	**150,914.00**

SPACE SUMMARY
GERMANTOWN CAMPUS
FALL 2021

Acres (Includes 20271 Goldenrod Lane Property)	**228.7**
Owned Buildings	**11**
Leased Buildings	**0**
Gross Square Feet (GSF)	**479,718.00**
Net Assignable Square Feet (NASF)	**330,781.00**

Existing Buildings

Bldg Code	Building Name	Built	Renovated	GSF	NASF
BS	BASEBALL SHED	1991		210.00	170.00
BE	BIOSCIENCE EDUCATION CENTER	2014		139,985.00	80,543.00
CG	CHILD CARE CENTER	2012		5,535.00	3,565.00
SA	DR. DERIONNE P. POLLARD STUDENT AFFAIRS AND SCIENCE BUILDING	1978	2019	65,146.00	57,575.00
GN	GREENHOUSE	2012		4,562.00	4,390.00
GS	GROUNDS AND AUTO STORAGE	1983		7,202.00	6,977.00
HT	HIGH TECHNOLOGY AND SCIENCE CENTER	1995		75,542.00	42,251.00
HS	HUMANITIES AND SOCIAL SCIENCES BUILDING	1978		75,700.00	52,233.00
PK	PAUL PECK ACADEMIC AND INNOVATION BUILDING	1985	2008	68,826.00	53,537.00
PG	PHYSICAL EDUCATION BUILDING	1980		36,770.00	29,339.00
TS	TENNIS STORAGE SHED	1991		240.00	201.00

Projected Buildings

Bldg Code	Building Name	Built	Renovated	GSF	NASF
SD	STUDENT SERVICES CENTER			153,660.00	83,425.00

SPACE SUMMARY
ROCKVILLE CAMPUS
FALL 2021

Acres	**84.6**
Owned Buildings	**23**
Leased Buildings	**0**
Gross Square Feet (GSF)	**1,417,966.00**
Net Assignable Square Feet (NASF)	**721,541.00**

Existing Buildings

Bldg Code	Building Name	GSF	NASF
CC	CAMPUS CENTER	74,302.00	50,620.00
CN	CANOE TRAILER SHED	420.00	377.00
CH	CHILD CARE CENTER	2,498.00	2,350.00
CS	COMPUTER SCIENCE	20,862.00	14,582.00
CB	COUNSELING AND ADVISING BUILDING	17,696.00	9,891.00
MT	GORDON AND MARILYN MACKLIN TOWER	117,282.00	80,393.00
GU	HOMER S. GUDELSKY INSTITUTE FOR TECHNICAL EDUCATION	64,000.00	41,629.00
HU	HUMANITIES BUILDING	73,912.00	48,805.00
TT	INTERIM TECHNICAL TRAINING CENTER	9,360.00	7,871.00
SV	LONG NGUYEN KIMMY DUONG STUDENT SERVICES CENTER	127,275.00	82,127.00
MS	MAINTENANCE SHOP	4,720.00	4,220.00
MK	MANNAKEE BUILDING	42,102.00	33,057.00
MU	MUSIC BUILDING	21,050.00	10,527.00
NG	NORTH GARAGE	308,400.00	829.00
AR	PAUL PECK ART BUILDING	25,594.00	15,810.00
PE	PHYSICAL EDUCATION CENTER	84,949.00	62,408.00
PA	ROBERT E. PARILLA PERFORMING ARTS CENTER	28,000.00	16,492.00
SC	SCIENCE CENTER	201,493.00	117,711.00
SW	SCIENCE CENTER WEST	70,508.00	42,153.00
SF	SOCCER FIELD CONCESSION BUILDING	2,703.00	1,472.00
SB	SOUTH CAMPUS INSTRUCTION BUILDING	29,900.00	18,054.00
TC	TECHNICAL CENTER	55,908.00	39,014.00
TA	THEATRE ARTS BUILDING	35,032.00	21,149.00

SPACE SUMMARY
TAKOMA PARK/SILVER SPRING CAMPUS
FALL 2021

Acres	**19.5**
Owned Buildings	**15**
Leased Spaces	**0**
Gross Square Feet (GSF)	**961,748.00**
Net Assignable Square Feet (NASF)	**342,385.00**

Existing Buildings

Bldg Code	Building Name	Built	Renovated	GSF	NASF
CM	CATHERINE F. SCOTT COMMONS	1978	2010	30,354.00	16,599.00
ST	CHARLENE R. NUNLEY STUDENT SERVICES CENTER	2006		110,504.00	65,497.00
CU	CULTURAL ARTS CENTER	2009		57,243.00	28,389.00
EG	EAST GARAGE	1980		224,310.00	1,787.00
HC	HEALTH SCIENCES CENTER	2003		98,038.00	63,679.00
MP	MATHEMATICS PAVILION	1975		6,942.00	4,255.00
CF	MORRIS & GWENDOLYN CAFRITZ FOUNDATION ARTS CENTER	1947	2007	134,748.00	66,171.00
NP	NORTH PAVILION	1975		6,942.00	4,337.00
P4	PAVILION FOUR	1980	2013	15,873.00	8,550.00
P1	PAVILION ONE	1975	1993	7,386.00	4,469.00
P3	PAVILION THREE	1975		17,372.00	10,901.00
P2	PAVILION TWO	1975	1993	7,385.00	5,158.00
RC	RESOURCE CENTER	1960	1978	44,906.00	34,801.00
SN	SCIENCE NORTH	1978		39,950.00	26,423.00
WG	WEST GARAGE	2010		159,795.00	1,369.00

Projected Buildings

Bldg Code	Building Name	Built	Renovated	GSF	NASF
LB	CATHERINE AND ISIAH LEGGETT MATH AND SCIENCE BUILDING			108,238.00	67,489.00

SPACE SUMMARY
LEASED ON-CAMPUS OVERFLOW
FALL 2021

Existing Buildings	**5**
Gross Square Feet (GSF)	**126,801.00**
Rentable Square Feet (RSF)	**103,564.00**
Net Assignable Square Feet (NASF)	**111,928.00**

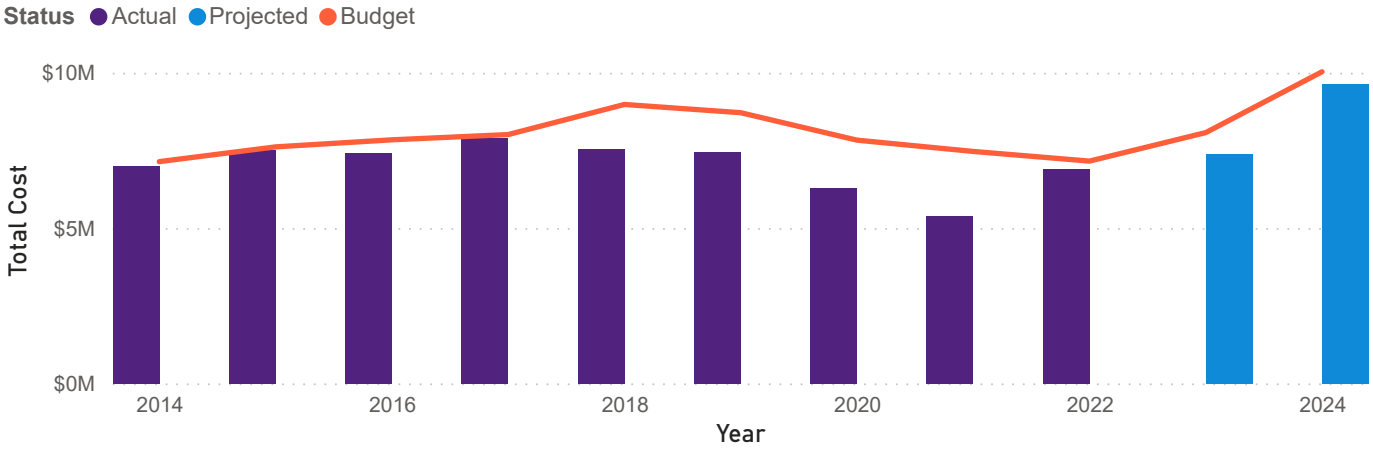
Existing Buildings

Bldg Code	Building Name	Leased	Renovated	GSF	RSF	NASF
14FR	14 FIRSTFIELD ROAD				64,273.00	0.00
CT	CENTRAL SERVICES	1987	2017	126,801.00		80,983.00
WARE	CENTRAL WAREHOUSE	2019-2029			10,866.00	9,766.00
GBTC	GAITHERSBURG BUSINESS TRAINING CENTER	2019-2027			14,747.00	11,293.00
WHPL	WESTFIELD SOUTH	1999-2022			13,678.00	9,886.00

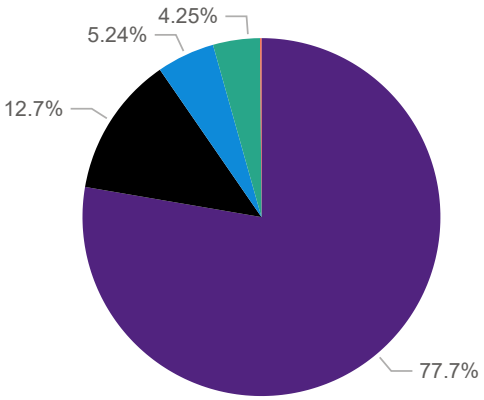
Appendix B:
Figures and Tables

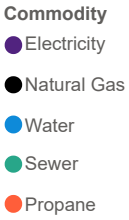
B-1: Cost & Consumption for FY22

Total Cost vs Budget by Fiscal Year



Cost by Commodity



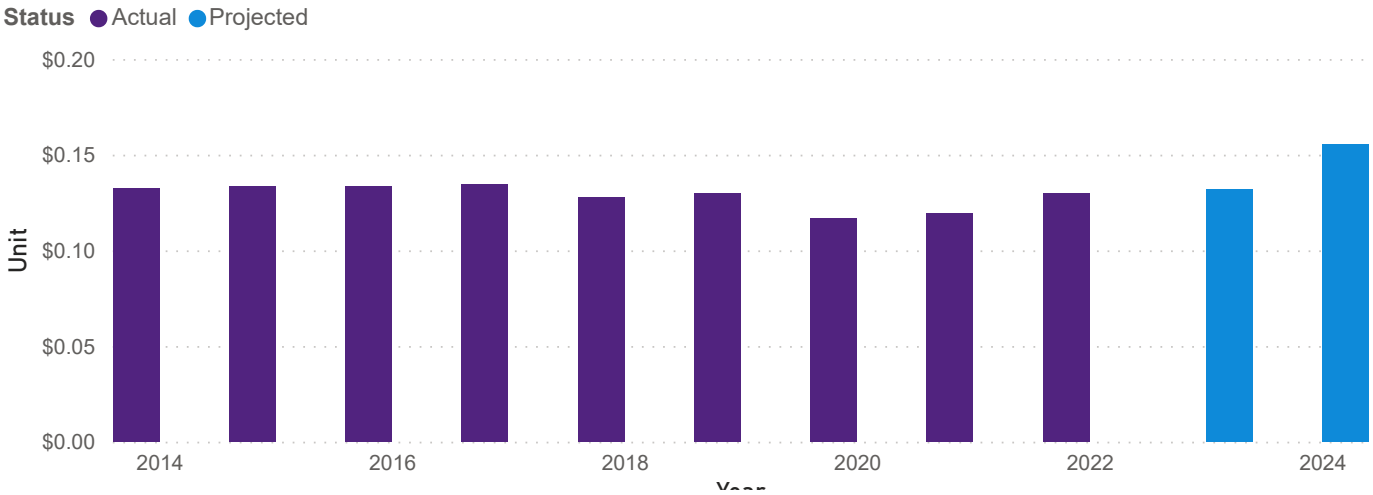


$7,155,720

Budget

Commodity	Cost	Unit	%GT Cost
Electricity	$5,354,484	$0.13	77.70%
Natural Gas	$875,015	$0.86	12.70%
Water	$360,934	$9.72	5.24%
Sewer	$293,029	$10.45	4.25%
Propane	$7,986	$3.67	0.12%
Total	**$6,891,448**		**100.00%**

Electricity Unit Cost by Fiscal Year



B-2: Ranking Report

Building Code	KBTU	Cost	KBTU/GSF	$/GSF
CS	3,809,624.49	$109,761.15	182.61	$5.26
BE	22,470,744.71	$536,561.73	160.52	$3.83
CC	11,340,611.26	$307,465.04	152.63	$4.14
CG	804,477.73	$18,593.89	145.34	$3.36
MP	970,165.73	$37,156.50	139.75	$5.35
NP	970,165.73	$37,156.50	139.75	$5.35
SA	13,786,715.22	$294,135.38	138.35	$2.95
SN	5,268,784.62	$220,904.00	131.88	$5.53
SC	17,678,287.92	$1,298,520.50	123.39	$9.06
P2	887,438.02	$32,419.00	120.17	$4.39
P1	887,438.02	$32,419.00	120.15	$4.39
HS	8,831,636.33	$244,403.99	116.67	$3.23
SV	13,868,645.82	$337,595.09	108.97	$2.65
ST	11,354,528.44	$275,620.71	102.75	$2.49
RC	4,560,184.06	$111,805.05	101.55	$2.49
MT	11,686,544.55	$266,466.60	99.64	$2.27
P3	1,699,640.21	$41,063.69	97.84	$2.36
SW	6,889,722.70	$572,012.75	97.72	$8.11
P4	1,539,280.20	$37,403.67	96.97	$2.36
SE	5,866,333.72	$491,544.59	96.15	$8.06
CM	2,875,220.60	$68,139.87	94.72	$2.24
PK	3,185,777.80	$90,306.00	94.58	$2.68
HC	9,241,182.97	$252,965.69	94.26	$2.58
PG	3,464,828.50	$86,940.76	94.23	$2.36
PA	2,627,736.89	$59,789.45	93.85	$2.14
TA	3,128,289.61	$67,873.29	89.30	$1.94
TC	4,969,976.02	$106,025.65	88.90	$1.90
MS	417,910.88	$17,007.00	88.54	$3.60
MK	3,723,135.90	$137,683.00	88.43	$3.27
CF	11,871,148.73	$314,973.60	88.10	$2.34
MU	1,851,700.15	$39,435.25	87.97	$1.87
AR	2,251,421.07	$47,948.02	87.97	$1.87
HT	6,625,430.51	$178,983.73	87.71	$2.37
PE	7,424,542.00	$156,037.24	87.40	$1.84
GU	5,558,627.70	$117,615.99	86.85	$1.84
CB	1,510,021.93	$31,445.66	85.33	$1.78
HU	6,047,235.22	$119,551.76	81.82	$1.62
SB	2,361,600.01	$46,361.73	78.98	$1.55
CU	4,425,275.89	$115,409.72	77.31	$2.02
CT	8,584,927.09	$329,007.00	67.70	$2.59
Warehouse	726,864.85	$18,875.00	66.89	$1.74
SF	164,199.43	$11,060.00	60.75	$4.09
TT	512,209.39	$19,503.00	54.72	$2.08
GN	156,180.00	$2,311.00	34.23	$0.51
GS	175,757.79	$4,789.00	24.41	$0.67
CH	33,338.18	$1,571.00	13.35	$0.63
WG	1,138,344.72	$42,739.00	7.12	$0.27
NG	2,069,179.03	$76,650.00	6.71	$0.25
EG	606,223.89	$22,987.00	2.70	$0.10
LOT13	84,673.12	$3,849.00	0.50	$0.02

Collegewide

76.69
kBTU/GSF (EUI)

$2.49
$/GSF (ECI)

242,983,929.33
KBTU

$7,890,843.24
Cost

GT

124.20
kBTU/GSF (EUI)

$3.04
$/GSF (ECI)

59,501,548.58
KBTU

$1,457,025.48
Cost

RV

72.88
kBTU/GSF (EUI)

$2.79
$/GSF (ECI)

115,875,566.99
KBTU

$4,442,772.76
Cost

TP/SS

60.61
kBTU/GSF (EUI)

$1.71
$/GSF (ECI)

58,295,021.82
KBTU

$1,643,163.00
Cost

Off Campus

67.64
kBTU/GSF (EUI)

$2.53
$/GSF (ECI)

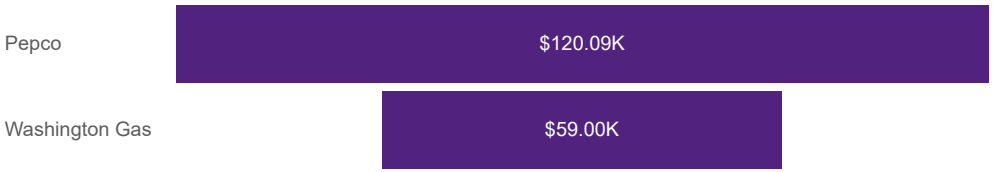
9,311,791.95
KBTU

$347,882.00
Cost

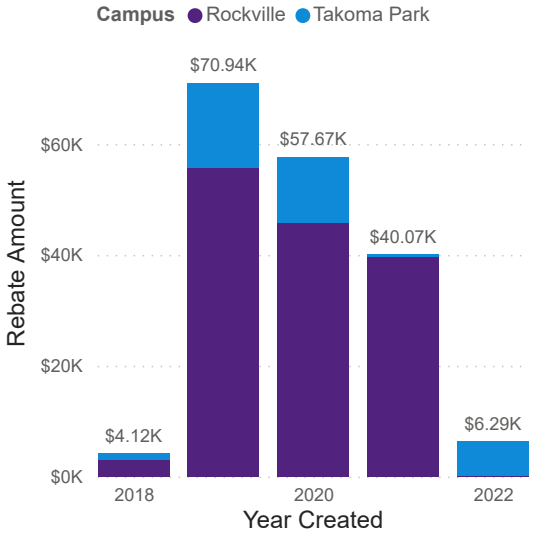
B-3: ICF Incentives

Utility incentive programs are one of the many ways Montgomery College is active in the stewardship of reducing our environmental impact on the changing climate. The rebates received through these programs help us make our buildings more energy efficient and sustainable.

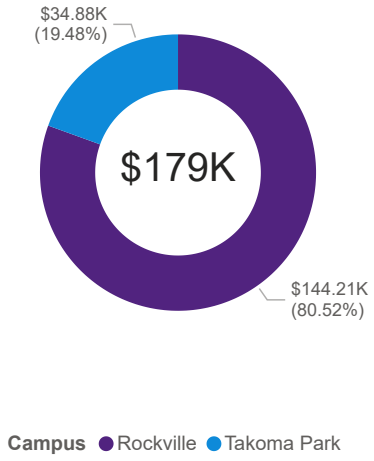
Incentives by Utility



Utility Incentives by Year



Utility Incentives by Campus



Number of Project Applications

58

Year Created	Premise City	Application Type	Rebate Amount
2018	Rockville	C&I Business Instant Discounts	$200.00
2018	Rockville	C&I Existing Buildings - Retrofit Lighting	$2,800.00
2018	Takoma Park	C&I Business Instant Discounts	$120.00
2018	Takoma Park	C&I Custom - New Construction Design Support	$1,000.00
2019	Rockville	C&I Building Tune-up - O&M Training	$4,480.00
2019	Rockville	C&I Business Instant Discounts	$13,158.00
2019	Rockville	C&I New Business Construction	$38,000.00
2019	Takoma Park	C&I Business Instant Discounts	$300.00
2019	Takoma Park	C&I Existing Business	$15,000.00
2020	Rockville	C&I Building Tune-up - O&M Training	$1,990.00
2020	Rockville	C&I Business Instant Discounts	$43,856.00
2020	Takoma Park	C&I Building Tune-up - O&M Training	$4,134.00
2020	Takoma Park	C&I Business Instant Discounts	$150.00
2020	Takoma Park	C&I Custom - New Construction Design Support	$7,538.00
2021	Rockville	C&I Business Instant Discounts	$9,083.00
2021	Rockville	C&I Existing Buildings - Retrofit Lighting	$25,600.00
2021	Rockville	Communities Efficiency Kits	$4,901.00
2021	Takoma Park	C&I Business Instant Discounts	$489.50
2022	Rockville	C&I Business Instant Discounts	$138.00
2022	Takoma Park	C&I Business Instant Discounts	$150.00
Total			**$179,087.50**

B-4: District Hot Water & Chilled Water Plant Use

Germantown Campus

BE Plant

Building	Hot Water	Chilled Water	Distribution
BE	10,559.64	4,329.13	57%
CG	417.53	171.17	2%
SA	7,516.85	3,081.68	41%
Total	**18,494.02**	**7,581.98**	**100%**

HS Plant

Building	Hot Water	Distribution
HS	30,923.12	67%
PG	15,020.38	33%
Total	**45,943.50**	**100%**

HT Plant

Building	Chilled Water	Distribution
HS	497,639.33	50%
HT	496,600.67	50%
Total	**994,240.00**	**100%**

Rockville Campus

HU Plant

Building	Chilled Water	Distribution
AR	61,737.48	4%
CB	42,686.04	3%
CC	179,230.21	11%
CS	50,323.02	3%
GU	154,379.88	10%
HU	178,289.46	11%
MT	282,905.95	18%
MU	50,776.51	3%
PA	67,541.20	4%
PE	204,912.75	13%
SB	72,124.35	5%
TA	84,503.69	5%
TC	134,860.47	9%
Total	**1,564,271.00**	**100%**

SV Plant

Building	Hot Water	Distribution
AR	12,753.18	3%
CB	8,817.70	2%
CC	37,023.79	10%
GU	31,890.43	8%
HU	36,829.46	10%
MT	58,440.21	16%
MU	10,488.96	3%
PA	13,952.06	4%
PE	42,329.07	11%
SB	14,898.81	4%
SV	63,419.60	17%
TA	17,456.02	5%
TC	27,858.28	7%
Total	**376,157.60**	**100%**

SC Plant (Hot Water)

Building	Hot Water	Distribution
CS	1,138.85	7%
SC	7,820.84	48%
SE	3,330.57	21%
SW	3,849.01	24%
Total	**16,139.27**	**100%**

SC Plant (Chilled Water)

Building	Chilled Water	Distribution
SC	3,378.14	52%
SE	1,438.61	22%
SW	1,662.55	26%
Total	**6,479.30**	**100%**

Takoma Park/Silver Spring Campus

ST Plant

Building	Hot Water	Chilled Water	Distribution
CM	1,459.91	566.58	14%
P3	835.53	324.26	8%
P4	763.43	296.28	7%
RC	2,159.81	838.21	21%
ST	5,314.82	2,062.65	50%
Total	**10,533.49**	**4,087.98**	**100%**

CF Plant (Hot Water)

Building	Hot Water	Distribution
CF	4,730.82	70%
CU	2,009.73	30%
Total	**6,740.55**	**100%**

CF Plant (Chilled Water)

Building	Chilled Water	Distribution
CF	2,815.71	46%
CU	1,196.16	20%
HC	2,048.61	34%
Total	**6,060.48**	**100%**

B-5: Utility Projection Report

	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Actual 2021	Actual 2022	Projected 2023	Cons.Chng. FY23-24	Unit Chng. FY23-24	Projected 2024
ELECTRICITY													
kWh	43,235,645	45,311,646	43,841,396	45,666,695	45,591,123	44,840,029	39,813,319	32,171,696	41,188,834	42,378,311	5,909,027	42,378,311	48,287,338
Cost($)	$5,713,949	$5,988,363	$5,810,952	$6,099,757	$5,770,653	$5,777,722	$4,558,511	$3,753,111	$5,354,484	$5,593,937	$920,357	$1,006,673	$7,520,967
Unit($/kWh)	$0.1322	$0.1322	$0.1325	$0.1336	$0.1266	$0.1289	$0.1145	$0.1167	$0.1300	$0.1320	$0.1558	$0.0238	$0.1558
N.GAS (FIRM)													
Therm	540,878	623,522	578,337	901,391	984,484	978,263	966,161	742,274	1,020,921	1,069,633	42,555	1,069,633	1,112,188
Cost($)	$518,208	$634,288	$595,355	$841,973	$878,158	$803,071	$865,624	$649,815	$875,015	$864,691	$37,448	$76,586	$978,725
Unit($/Therm)	$0.9581	$1.0173	$1.0294	$0.9341	$0.8920	$0.8209	$0.8959	$0.8754	$0.8571	$0.8084	$0.8800	$0.0716	$0.8800
N.GAS (IRATE)													
Therm	358,797	406,849	349,637	0	0	0	0	0	0	0	0	0	0
Cost($)	$278,361	$348,925	$296,594	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unit($/Therm)	$0.7758	$0.8576	$0.8483	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
WATER													
kGal	30,903	31,565	39,857	51,634	44,572	41,442	36,762	35,972	37,137	41,301	5,661	41,301	46,962
Cost($)	$226,908	$253,787	$373,231	$524,694	$454,548	$449,454	$398,076	$445,320	$360,934	$506,756	$73,872	$32,223	$612,851
Unit($/kGal)	$7.3426	$8.0401	$9.3643	$10.1618	$10.1981	$10.8454	$10.8285	$12.3796	$9.7190	$12.2698	$13.0500	$0.7802	$13.0500
SEWER													
kGal	22,133	22,488	30,708	38,081	33,308	32,734	31,190	29,640	28,040	32,623	4,234	32,623	36,857
Cost($)	$201,888	$208,906	$293,011	$390,213	$368,591	$375,309	$375,831	$445,320	$293,029	$400,274	$59,070	$54,813	$514,157
Unit($/kGal)	$9.1216	$9.2897	$9.5418	$10.2469	$11.0661	$11.4654	$12.0497	$15.0243	$10.4504	$12.2698	$13.9500	$1.6802	$13.9500
NO.2 FUEL OIL													
Gal	9,563	0	0	0	0	0	0	0	0	0	0	0	0
Cost($)	$33,850	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unit($/Gal)	$3.5397	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
PROPANE													
Gal	2,926	3,495	2,597	1,465	3,365	1,980	1,278	1,722	2,177	1,456	394	1,456	1,850
Cost($)	$10,279	$10,558	$7,137	$4,661	$13,197	$7,829	$5,190	$6,428	$7,986	$6,295	$1,705	$0	$8,000
Unit($/Gal)	$3.5130	$3.0209	$2.7482	$3.1816	$3.9218	$3.9540	$4.0610	$3.7329	$3.6684	$4.3236	$4.3236	$0.0000	$4.3236
Other Charges													
East Campus	-	-	-	-	-	-	-	-	-	-	-	-	$200,000
Total Cost ($)	$6,983,443	$7,444,827	$7,376,280	$7,861,298	$7,485,147	$7,413,385	$6,203,232	$5,299,994	$6,891,448	$7,371,954	$1,092,452	$1,170,294	$9,634,700
Wind Power	$9,545	$55,350	$40,200	$46,150	$48,000	$48,000	$84,550	$84,550	$0	$169,850	-	-	$197,015
Final Cost ($)	**$6,992,988**	**$7,500,177**	**$7,416,480**	**$7,907,448**	**$7,533,147**	**$7,461,385**	**$6,287,782**	**$5,384,544**	**$6,891,448**	**$7,541,804**	**$1,092,452**	**$1,170,294**	**$10,031,715**
Cost Recovery	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	$79,229	$98,126	-	-	-
Total Expenditure	**$6,992,988**	**$7,500,177**	**$7,416,480**	**$7,907,448**	**$7,533,147**	**$7,461,385**	**$6,287,782**	**$5,384,544**	**$6,812,219**	**$7,443,677**	-	-	**$10,031,715**
Incentives	$0	$0	$0	$0	$0	$15,000	$87,820	$0	$50,077	$11,499	-	-	-
Approved Budget	$7,139,046	$7,613,648	$7,840,755	$8,009,945	$8,978,960	$8,714,025	$7,830,311	$7,467,066	$7,155,720	$8,073,607	-	-	$10,031,715
Surplus/(Deficit)	$146,058	$113,471	$424,275	$102,497	$1,445,813	$1,252,640	$1,542,529	$2,082,522	$343,501	$629,930	-	-	$0

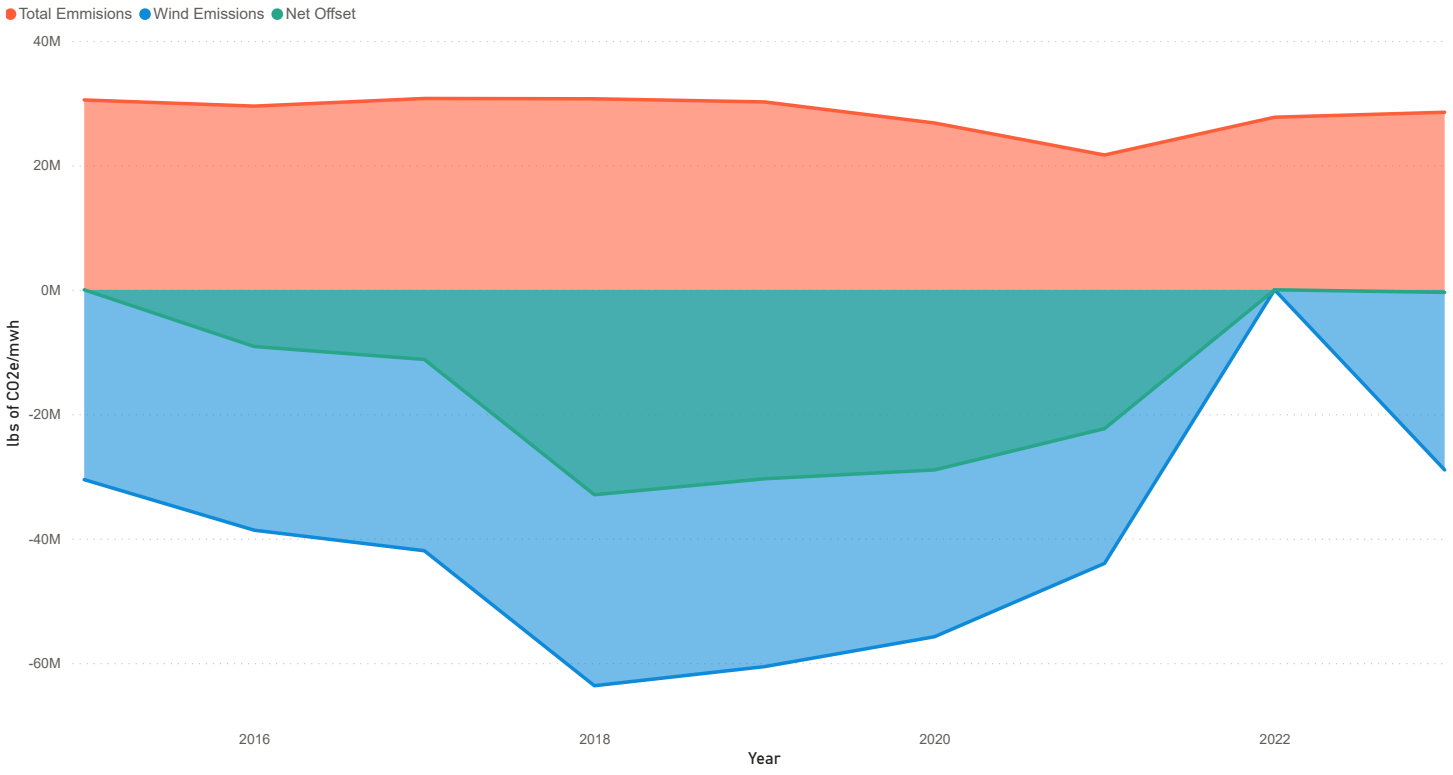
a. Cost recovery pre-deducted from total cost of each commodity

B-6: Energy Supply Contracts and Carbon Footprint

Current Montgomery College Energy Contracts

Utility Supply	Vendor	Signed	Start	End	Unit Cost
Electricity (Wholesale)	WGL Energy	5/5/21	Jun-21	Jun-23	$30.82/MWh
Electricity (Wholesale)	WGL Energy	5/5/21	Jun-21	Jun-24	$30.43/MWh
Electricity (Wholesale)	WGL Energy	5/5/21	Jun-21	Jun-24	$35.74/MWh
Electricity (Wholesale)	WGL Energy	10/27/21	Jul-22	Jun-24	$44.79/MWh
Electricity (Wholesale)	WGL Energy	5/24/22	Jul-22	Aug-22	$131.25/MWh
Electricity (Wholesale)	WGL Energy	11/2/22	Jul-23	Jun-25	$63.57/MWh
Electricity (Wholesale)	WGL Energy	1/25/23	Jul-23	Sep-23	$66.35/MWh
Wind Power (RECs)	Schneider Electric	4/6/23	Jul-22	Jun-23	3.95/MWh

Total Emissions and Wind Power Offset by Fiscal Year



B-7: Site Generated Renewable Energy

Montgomery College
Renewable Energy
Site Generation Facilities

Campus	Building	Year Installed	Solar Array Type	Building Load	Status	Comments
Germantown	Science and Applied Studies	1978	224 Flat Plate Thermal Panels	Thermal Source for WSHP & DHW	Decommissioned 1998	See 1998 Comment
Germantown	Humanities & Social Sciences	1978	282 Flat Plate Thermal Panels	Thermal Source for WSHP, DHW, & Swimming Pool	Decommissioned 2000	See 2000 Comment
Germantown	Science and Applied Studies	1998	26 kW Photovoltaic	Building Electrical Grid	Decommissioned 2016	Building has infrastructure for new PV installation
Germantown	Humanities & Social Sciences	2000	24 kW Photovoltaic & 900 Evacuated Tube Thermal	Building Electrical Grid, Thermal Source for WSHP, DHW, & Swimming Pool	Electrical System Operational, Thermal System Awaiting Balance of Plant Repairs	Replaced 3/4 of original thermal array with PV & converted remainder to evaucated tube.
Takoma Park /Silver Spring	Heath Sciences	2004	33 kW Photovoltaic	Building Electrical Grid	Operational	
Rockville	Science Center	2012	25 kW Photovoltaic	Building Electrical Grid	Operational	Building Under Construction
Rockville	Science East	2013	20 kW Photovoltaic	Building Electrical Grid	Operational	Building Under Design
Germantown	Biosciences Education Center	2014	35 kW Potovoltaic & 6 kW Wind	Building Electrical Grid	Operational	Building Under Design
Rockville	Science West	2017	20 kW Photovoltaic	building Electrical Grid	Operational	Building Under Design

B-8: Annual Recycling and Waste Data

Montgomery College - 2022 Annual Business Recycling and Solid Waste Summary
Calendar Year 2022

	CAMPUS			
Summary:	**GT**	**RV**	**TPSS**	**TOTAL**
Required Recycling	2,879,250	1,000,215	350,060	4,236,425
Voluntary Recycling	3,622,559	30,573	21,539	3,674,670
Solid Waste	142,453	175,696	85,058	403,207
% Recycled	**97.9%**	**85.4%**	**81.4%**	**95.2%**

Required Recycling (lbs)	**GT**	**RV**	**TP**	**TOTAL**
Campus Commingled Containers	133,018	99,763	133,018	365,799
Total Commingled Containers	**133,018**	**99,763**	**133,018**	**365,799**
Mixed Paper and Cardboard	71,912	151,152	103,542	326,606
Shredded Paper				
Total Mixed Paper and Cardboard	**71,912**	**151,152**	**103,542**	**326,606**
Procurement as Surplus - Vehicles etc	2,300	4,600	2,300	9,200
Ferrous - Sheet Iron - Campuses	11,960	3,560	20,780	36,300
Autoshop Component Cores	60			60
Total Scrap Metal	**14,320**	**3,560**	**20,780**	**45,560**
Yard Waste taken to Transfer Station		73,900		73,900
Yard Waste from Campus Dumpster		33,440		33,440
Yard Waste Self-Composted on Campus	2,660,000	638,400	92,720	3,391,120
Total Yard Waste - Note 1	**2,660,000**	**745,740**	**92,720**	**3,498,460**
Total Required Recycling - Note 2	**2,879,250**	**1,000,215**	**350,060**	**4,236,425**
Total % Required Recycling	**43.3%**	**82.9%**	**76.7%**	**51.0%**
% Required Recycling Per Cty	**95%**	**85%**	**80%**	**91%**

Note 1: Campus self composting acerage - GT 175, RV 42, TPSS 6.1

Note 2: M/County excludes voluntary recycling items from Total Recycled and Total Solid Waste

Note 3: Data allocated across campuses where appropriate

Note 4: Percentage recycled excluding yard waste and regulated wastes per LEED guidance

Recycled Material (Adjusted):	3,838,039	279,743	276,439	4,401,120
Recycled and Solid Waste (Adjusted):	6,644,262	1,206,484	456,657	4,804,327
% Recycled per LEED guidance:	**58%**	**23%**	**61%**	**92%**

Prepared by Maurice McCambley Feb. 2023

Appendix C:
Capital Improvents

Energy Conservation: College
(P816611)

Category	Montgomery College	**Date Last Modified**	10/05/22
SubCategory	Higher Education	**Administering Agency**	Montgomery College
Planning Area	Countywide	**Status**	Ongoing

	Total	Thru FY22	Rem FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
EXPENDITURE SCHEDULE ($000s)											
Planning, Design and Supervision	3,966	2,656	230	1,080	180	180	180	180	180	180	-
Site Improvements and Utilities	26	26	-	-	-	-	-	-	-	-	-
Construction	3,563	2,708	135	720	120	120	120	120	120	120	-
Other	163	163	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	**7,718**	**5,553**	**365**	**1,800**	**300**	**300**	**300**	**300**	**300**	**300**	**-**
FUNDING SCHEDULE ($000s)											
Current Revenue: General	3,102	2,182	224	696	116	116	116	116	116	116	-
Federal Aid	49	49	-	-	-	-	-	-	-	-	-
G.O. Bonds	4,516	3,271	141	1,104	184	184	184	184	184	184	-
State Aid	51	51	-	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	**7,718**	**5,553**	**365**	**1,800**	**300**	**300**	**300**	**300**	**300**	**300**	**-**

OPERATING BUDGET IMPACT ($000s)							
Maintenance	(3,100)	(500)	(520)	(520)	(520)	(520)	(520)
Energy	(8,110)	(1,310)	(1,360)	(1,360)	(1,360)	(1,360)	(1,360)
NET IMPACT	**(11,210)**	**(1,810)**	**(1,880)**	**(1,880)**	**(1,880)**	**(1,880)**	**(1,880)**
FULL TIME EQUIVALENT (FTE)		**2**	**2**	**2**	**2**	**-**	**-**

APPROPRIATION AND EXPENDITURE DATA ($000s)			
Appropriation FY 24 Request	300	Year First Appropriation	FY81
Cumulative Appropriation	6,218	Last FY's Cost Estimate	7,718
Expenditure / Encumbrances	5,630		
Unencumbered Balance	588		

PROJECT DESCRIPTION

This project provides funding to (1) continue development of a Collegewide energy management program, (2) implement life-cycle cost effective energy conservation measures based upon energy audits, and (3) review new building/renovation designs for compliance with Montgomery County Code, Ch. 8 Building Energy Performance Standards. Typical project activities include retrofits and modifications of lighting, controls, and HVAC equipment; building envelope modifications; solar energy retrofits; computer equipment for equipment control and energy-use monitoring; HVAC system evaluation/balancing studies; long-range energy/utility planning studies; central plant design plans (Germantown, Rockville, Takoma Park/Silver Spring); and waste management studies. Typical payback on lighting, controls, HVAC and solar energy modifications is five to six years. This project includes two staff positions for a utility analyst, and mechanical engineer, which is in response to increased workload associated with the energy and utility functions, but also the design reviews of major projects, planned lifecycle asset replacements, and capital renewals, as well as complying with laws.

LOCATION

Collegewide

PROJECT JUSTIFICATION

As mandated by Ch. 8 of the County Code and supported by the College, County Council, the Interagency Committee on Energy & Utility Management (ICEUM), and the Citizens Energy Conservation Advisory Committee (ECAC), an energy cost reduction program has been developed. This program consists of energy audits performed by College staff to identify life cycle cost effective retrofits, including a lighting retrofit program, LEED certification, etc.

OTHER

FY23 Appropriation: Total - $300,000; $184,000 (G.O. Bonds), and $116,000 (Current Revenue: General). FY24 Appropriation: Total - $300,000; $184,000 (G.O. Bonds), and $116,000 (Current Revenue: General). The following fund transfers have been made from this project: $21,420 to Central Plant Distribution System project (#P886676) (BOT Resolution #90-102, 6/18/90); $70,000 to Fine Arts Renovation (#P906601) (BOT Resolution #94-114, 9/19/94), $7,000 to Planning, Design & Construction project (#P906605) (BOT Resolution #01-153, 10/15/01), and $200,000 to Germantown Bioscience Education Center Project (#P056603)(BOT Resol. #12-06-036, 6/11/12). Beginning in FY98, the portion of this project funded by County Current Revenues migrated to the College's Operating Budget. It is anticipated that migration of this portion of the project will promote a desirable consistency with County budgeting practices and encourage greater competition in an environment of scarce resources. Reflecting the migration of this portion of the project, the College's Operating Budget includes funds for

this effort. New construction and building renovation projects under review during FY19-20 include planning for new buildings on the Rockville and Takoma Park/Silver Spring campuses. Campus utilities master plans are currently being updated to conform to the approved Collegewide Facilities Master Plan Update (2/21).

DISCLOSURES

Expenditures will continue indefinitely. Montgomery College asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

COORDINATION

This project is coordinated with the scheduled building renovations, and the planned construction of new buildings, on the Rockville, Germantown, and Takoma Park/Silver Spring Campuses., ICEUM & ECAC, Montgomery College 2025 Strategic Plan, Facility Planning: College (CIP No. P886686), Planned Lifecycle Asset Replacement: College (CIP No. P926659), Roof Replacement: College (CIP No. P876664)

Capital Renewal: College
(P096600)

Category	Montgomery College	**Date Last Modified**	10/05/22
SubCategory	Higher Education	**Administering Agency**	Montgomery College
Planning Area	Countywide	**Status**	Ongoing

	Total	Thru FY22	Rem FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
EXPENDITURE SCHEDULE ($000s)											
Planning, Design and Supervision	5,486	2,684	1,002	1,800	300	300	300	300	300	300	-
Construction	27,772	14,970	2,102	10,700	700	3,200	1,700	1,700	1,700	1,700	-
Other	1,688	1,069	619	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	**34,946**	**18,723**	**3,723**	**12,500**	**1,000**	**3,500**	**2,000**	**2,000**	**2,000**	**2,000**	**-**
FUNDING SCHEDULE ($000s)											
G.O. Bonds	34,946	18,723	3,723	12,500	1,000	3,500	2,000	2,000	2,000	2,000	-
TOTAL FUNDING SOURCES	**34,946**	**18,723**	**3,723**	**12,500**	**1,000**	**3,500**	**2,000**	**2,000**	**2,000**	**2,000**	**-**

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 24 Request	3,500	Year First Appropriation	FY09
Cumulative Appropriation	23,446	Last FY's Cost Estimate	34,946
Expenditure / Encumbrances	18,814		
Unencumbered Balance	4,632		

PROJECT DESCRIPTION

This project provides funding for the capital renewal and major renovation of College facilities for new and changing College academic programs and student service operations. The major focus of this project is to support programmatic changes to College facilities and operations by allowing the College to continue an on-going building modernization effort where State aid is lacking. With this project, the College will selectively focus State aid requests on high cost projects utilizing these County funds to support an on-going renovation effort on each campus. In conjunction with programmatic improvements and modifications, this project will replace aging building systems, such as heating, air conditioning, electrical, plumbing, etc., provide furniture, fixtures, and equipment; and update facilities to current building codes and regulations.

LOCATION

Collegewide

PROJECT JUSTIFICATION

Starting FY2009, the County approved funding several renovation projects from the Capital Renewal project. These renovation projects were less likely to receive funding from the State, and as a result five projects at that time were merged into the Capital Renewal project. In November 2007, the College updated a comprehensive building system/equipment assessment, including site utilities and improvements, that identified deficiencies, prioritized replacements and upgrades, and provides the framework for implementing a systematic capital renewal program to complement on-going preventive maintenance efforts. The College continues to have a significant backlog of major building systems and equipment renovations and/or replacements due to the age of the Campuses and deferral of major equipment replacement. Key components of the HVAC, mechanical and electrical systems are outdated, energy inefficient, and costly to continue to repair. The renovation and/or replacement of major building systems, building components and equipment, and site improvements will significantly extend the useful life of the College's buildings and correct safety and environmental problems. The Collegewide Facilities Condition Assessment identified a $188 million deferred maintenance backlog for the three campuses. If additional financial resources are not directed at this problem, College facilities will continue to deteriorate leading to higher cost renovations or building replacements. Related studies include the Montgomery College 2025 Strategic Plan, Collegewide Facilities Condition Assessment Update (12/13), and Collegewide Facilities Master Plan Update (2/21), and Collegewide Utilities Master Plan (Pending 2021).

OTHER

FY23 Appropriation: $1,000,000 (G.O. Bonds). FY24 Appropriation: $3,500,000 (G.O. Bonds).

DISCLOSURES

Expenditures will continue indefinitely.

COORDINATION

Energy Conservation: College (CIP No. P816611), Facility Planning: College (CIP No. P886686), Planned Lifecycle Asset Replacement: College (CIP No. P926659), Roof Replacement: College (CIP No. P876664), Site Improvements: College (CIP No. P076601)

Facility Planning: College
(P886686)

Category	Montgomery College	**Date Last Modified**	10/05/22
SubCategory	Higher Education	**Administering Agency**	Montgomery College
Planning Area	Countywide	**Status**	Ongoing

	Total	Thru FY22	Rem FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
EXPENDITURE SCHEDULE ($000s)											
Planning, Design and Supervision	9,577	6,871	1,086	1,620	270	270	270	270	270	270	-
TOTAL EXPENDITURES	**9,577**	**6,871**	**1,086**	**1,620**	**270**	**270**	**270**	**270**	**270**	**270**	**-**
FUNDING SCHEDULE ($000s)											
Current Revenue: General	9,577	6,871	1,086	1,620	270	270	270	270	270	270	-
TOTAL FUNDING SOURCES	**9,577**	**6,871**	**1,086**	**1,620**	**270**	**270**	**270**	**270**	**270**	**270**	**-**

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 24 Request	270	Year First Appropriation	FY88
Cumulative Appropriation	8,227	Last FY's Cost Estimate	8,977
Expenditure / Encumbrances	7,320		
Unencumbered Balance	907		

PROJECT DESCRIPTION

This project provides funding for campus master plans, and facility planning studies for projects being considered for possible inclusion in the CIP. In addition, facility planning serves as a transition stage for a project between the master plan or conceptual stage, and its inclusion as a stand-alone project, or subproject, in the CIP. Prior to the establishment of a stand-alone project, the College develops a Facility Program/Program of Requirements (POR) that outlines the general facility purpose and need and specific features required on the project. Facility planning is a decision-making process to determine the purpose and need of a candidate project through a rigorous investigation of the following critical project elements: usage forecasts; academic requirements; investigation of non-County sources of funding; and detailed project cost estimates. This project provides for project planning and preliminary design, and allows for the development of a program of requirements in advance of the full programming of a project in the CIP, including the preparation of Part I and II documentation to meet State requirements. Depending upon the results of a facility planning determination of purpose and need, a project may or may not proceed to construction.

PROJECT JUSTIFICATION

There is a continuing need for the development of accurate cost estimates and an exploration of alternatives for proposed projects. Facility planning costs for all projects which ultimately become stand-alone PDFs are included here. These costs will not be reflected in the resulting individual project. Future individual CIP projects which result from facility planning may each reflect reduced planning and design costs. Relevant studies include the Montgomery College 2025 Strategic Plan, Collegewide Facilities Condition Assessment Update (12/13), and the Collegewide Facilities Master Plan Update(2/21). The East County Feasibility study was completed June 2021.

OTHER

FY23 Appropriation: $270,000 (Current Revenue: General). FY24 Appropriation: $270,000 (Current Revenue: General). The following fund transfers have been made from this project: $25,000 to the Information Technology: College project (CIP No. P856509) (BOT Resol. #91-56 - 5/20/91); $7,000 to Planning, Design & Construction (CIP No. P906605) (BOT Resol. #01-153 - 10/15/01); $25,000 to Planning, Design and Construction (CIP No. P804064) (BOT Resol. #02-62 - 6/17/02). The following fund transfers has been made to this project: $28,000 from the South Silver Spring Property Acquisition (CIP No. P016602) (BOT Resol. # 03-28 - 4/21/03); $600,000 from the Planning, Design, and Construction project (CIP No. P906605) (BOT Resol. #22-06-103, 6/22/22). By County Council Resol. No. 12-6333, the cumulative project appropriation was reduced by $187,500 in FY92. By County Council Resolution No. 16-1261, the cumulative appropriation was reduced by $171,000 (Current Revenue: General) as part of the FY10 savings plan.

DISCLOSURES

Expenditures will continue indefinitely.

COORDINATION

Collegewide Facilities Master Plan Update (Annual Update), FY23 - Utilities Master Plan Update, FY23 -Facilities Condition Assessment, FY23 - Theatre Arts Building Renovation Part I/II, FY23 - Facilities Master Plan undertaking, East County Campus.

Collegewide Central Plant and Distribution Systems
(P662001)

Category	Montgomery College	**Date Last Modified**	10/05/22
SubCategory	Higher Education	**Administering Agency**	Montgomery College
Planning Area	Countywide	**Status**	Preliminary Design Stage

	Total	Thru FY22	Rem FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
EXPENDITURE SCHEDULE ($000s)											
Planning, Design and Supervision	900	216	84	600	100	100	100	100	100	100	-
Construction	10,512	1,454	1,221	7,837	1,837	1,400	900	1,400	900	1,400	-
TOTAL EXPENDITURES	**11,412**	**1,670**	**1,305**	**8,437**	**1,937**	**1,500**	**1,000**	**1,500**	**1,000**	**1,500**	**-**
FUNDING SCHEDULE ($000s)											
G.O. Bonds	8,000	695	1,305	6,000	1,000	1,000	1,000	1,000	1,000	1,000	-
State Aid	3,412	975	-	2,437	937	500	-	500	-	500	-
TOTAL FUNDING SOURCES	**11,412**	**1,670**	**1,305**	**8,437**	**1,937**	**1,500**	**1,000**	**1,500**	**1,000**	**1,500**	**-**

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 24 Request	1,500	Year First Appropriation	FY20
Cumulative Appropriation	4,912	Last FY's Cost Estimate	11,412
Expenditure / Encumbrances	1,685		
Unencumbered Balance	3,227		

PROJECT DESCRIPTION

This project provides for the design and construction of new and renovation and expansion of existing central heating and cooling plants on the College's three campuses as recommended in the College's campus utilities master plan (12/12, and 2/13). The plan for a campus central plant, and distribution systems was included in the campus facilities master plan update (6/18). The project includes installation of boilers and chillers with associated equipment, the provision of natural gas service, and the construction of a hot water and chilled water distribution piping system to new and existing campus buildings.

PROJECT JUSTIFICATION

This project implements the recommendations of the campus utilities master plan (12/12, and 2/13) and campus facilities master plan update (6/18). The campus' existing heating and cooling equipment is typically 20-30 years old and beyond its useful economic life. Due to the age of the equipment and increasing maintenance problems and costs, each campus is experiencing a significant increase in mechanical system problems and heating/cooling outages. Based on a life cycle cost analysis, the installation of a central heating/cooling plant offers significant equipment replacement, energy and maintenance savings to the College. Collegewide Utilities Master Plan (Pending 2021), Montgomery College 2025 Strategic Plan, Collegewide Facilities Master Plan Update (6/18), VFA Facilities Condition Assessment (12/13).

OTHER

FY23 Appropriation: $1,937,000; ($1,000,000 (G.O. Bonds) and $937,000 (State Aid)). FY24 Appropriation: $1,500,000; ($1,000,0000 (G.O. Bonds), and $500,000 (State Aid)). The need to provide new systems for heating and cooling campus buildings was articulated in the utilities master plan and satisfying this requirement is critical to new building construction and the planned renovation of the existing campus buildings.

DISCLOSURES

Montgomery College asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

Planned Lifecycle Asset Replacement: College
(P926659)

Category	Montgomery College	**Date Last Modified**	10/05/22
SubCategory	Higher Education	**Administering Agency**	Montgomery College
Planning Area	Countywide	**Status**	Ongoing

	Total	Thru FY22	Rem FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
EXPENDITURE SCHEDULE ($000s)											
Planning, Design and Supervision	9,902	7,068	434	2,400	400	400	400	400	400	400	-
Construction	78,133	54,600	396	23,137	3,600	5,137	3,600	3,600	3,600	3,600	-
Other	635	121	514	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	**88,670**	**61,789**	**1,344**	**25,537**	**4,000**	**5,537**	**4,000**	**4,000**	**4,000**	**4,000**	**-**
FUNDING SCHEDULE ($000s)											
Current Revenue: General	1,940	1,940	-	-	-	-	-	-	-	-	-
G.O. Bonds	86,730	59,849	1,344	25,537	4,000	5,537	4,000	4,000	4,000	4,000	-
TOTAL FUNDING SOURCES	**88,670**	**61,789**	**1,344**	**25,537**	**4,000**	**5,537**	**4,000**	**4,000**	**4,000**	**4,000**	**-**

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 24 Request	5,537	Year First Appropriation	FY93
Cumulative Appropriation	67,133	Last FY's Cost Estimate	88,670
Expenditure / Encumbrances	62,714		
Unencumbered Balance	4,419		

PROJECT DESCRIPTION

This project provides funding for a comprehensive lifecycle renewal and replacement program to protect the investment in College facilities and equipment and to meet current safety and environmental requirements. Funding also provides for project management contract services. This collegewide project is targeted at deteriorating facilities and deferred maintenance of major building systems. This project includes: (1) HVAC system renovation/replacement; (2) major mechanical/plumbing equipment renovation/replacement; (3) interior and exterior lighting system renovation/replacements; (4) electrical service/switchgear renovation/replacement; (5) building structural and exterior envelope refurbishment; (6) asbestos removals not tied to building renovations; (7) major carpet replacement; (8) underground petroleum tank upgrades; and (9) site utility, and site infrastructure replacement/ improvements. Note: The Life Safety Systems project, (CIP No. P046601), has been merged into this project. This project also provides design and construction funding for the correction of life safety and fire code deficiencies identified in the Collegewide Facilities Condition Audit. The scope of this project includes the installation and/or replacement of fire alarm systems, fire sprinkler systems, smoke control systems, emergency power systems, emergency lighting systems, public address systems, and similar equipment and operations.

LOCATION

Collegewide

PROJECT JUSTIFICATION

In November 2007 (December 2013 update), the College updated a comprehensive building system/equipment assessment, including site utilities and improvements, that identified deficiencies, prioritized replacements and upgrades, and provided the framework for implementing a systematic capital renewal program to complement on-going preventive maintenance efforts. The College continues to have a significant backlog of major building systems and equipment renovations and/or replacements due to the age of the Campuses and deferral of major equipment replacement. Key components of the HVAC, mechanical and electrical systems are outdated, energy inefficient, and costly to continue to repair. The renovation and/or replacement of major building systems, building components and equipment, and site improvements will significantly extend the useful life of the College's buildings and correct safety and environmental problems. The Collegewide Facilities Condition Assessment Update (12/13) identified a $188 million deferred maintenance backlog for the three campuses. If additional financial resources are not directed at this problem, facilities will continue to deteriorate leading to higher cost renovations or building replacements. The Collegewide Facilities Condition Audit identified various life safety concerns on all three campuses. This project allows the College to address the concerns, replacing and/or installing appropriate life safety or fire code measures, and ensuring compliance with applicable life safety, fire, and building codes. Other relevant plans and studies include the Montgomery College 2025 Strategic Plan, Collegewide Facilities Master Plan Update (2/21), and the County Council Report of the Infrastructure Maintenance Task Force (3/16).

OTHER

FY23 Appropriation: $4,000,000 (G.O. Bonds). FY24 Appropriation: $5,537,000 (G.O. Bonds).The following fund transfers have been made from this project: $47,685 to Takoma Park Child Care Center (CIP No. P946657) (BOT Resol. #93-106, #94-26 & #941-28); $185,000 to Rockville Surge Building (CIP No. P966665) (BOT Resol. #11-2291 - 1/21/97); $7,000 to Planning, Design & Construction (CIP No. P906605) (BOT Resol. #01-153); $91,175 to the Art Building Renovation Project (CIP No. P906608) (BOT Resol. # 06-09-106 - 9/18/06); $250,000 to the Takoma Park Expansion Project (CIP No. P996662) (BOT Resol. #07-01-005 - 1/16/07); and $1,400,000 to the Roof Replacement Project (#P876664)(BOT Resol. #19-041,05/13/19). The following fund transfers have been made into this project: $15,000 from Central Plant Distribution System (CIP No. P886676) (BOT Resol. #98-82 - 6/15/98), $25,000 from Clean Air

Act (CIP No. P956643) (BOT Resol. # 98-82 - 6/15/98), $24,000 from the Rockville Campus Science Center Project (CIP No. P036600) (BOT Resol. # 15-03-025 - 03/23/15); and $1,861,000 in G.O. Bonds from Science West Building Renovation (#P076622). Beginning in FY98, the portion of this project funded by County Current Revenues migrated to the College's Operating Budget. Reflecting the migration of this portion of the project, the College's Operating Budget includes funds for this effort. The following fund transfer has been made from this project: $67,000 to the Commons Building Renovation Project (CIP No. P056601) (BOT Resolution #10-08-057, 07/31/10). In FY19, $1,861,000 in G.O. Bonds were transferred from the Science West Building Renovation project (#P076622). In FY20, $31,000 was transferred from the Macklin Towers Alteration project (P036603) to the Planned Lifecycle Asset Replacement project (BOT Resol.# 20-06-065, 6/22/20).

DISCLOSURES

Expenditures will continue indefinitely.

COORDINATION

This project is coordinated with Utility Master Plans and building renovations on the Rockville, Germantown, and Takoma Park/Silver Spring Campuses; and the following projects:, Capital Renewal: College (CIP No. P096600), Elevator Modernization: College (CIP No. P046600), Energy Conservation: College (CIP No. P816611), Facility Planning: College (CIP No. P886686), Roof Replacement: College (CIP No. P876664).