

# Fund 30020: Infrastructure Replacement and Upgrades

## Focus

Fund 30020, Infrastructure Replacement and Upgrades, supports the long-term needs of the County’s capital assets to maximize the life of County facilities, avoid their obsolescence, and provide for planned repairs, improvements, and restorations to make them suitable for organizational needs. Infrastructure replacement and upgrade is the planned replacement of building subsystems such as roofs, electrical systems, heating, ventilation, and air conditioning (HVAC), plumbing systems, elevators, windows, carpets, parking lot resurfacing, fire alarms, fire suppression, building automation systems, and emergency generators that have reached the end of their useful life. Without significant reinvestment in building subsystems, older facilities can fall into a state of ever-decreasing condition and functionality, and the maintenance and repair costs necessary to operate the facilities increase. Fairfax County will have a projected FY 2023 facility inventory of over 12 million square feet of space (excluding schools, parks, and housing facilities). This inventory continues to expand with the addition of newly constructed facilities, the renovation and expansion of existing facilities, and the acquisition of additional property. With such a large inventory, it is critical that a planned program of repairs and restorations be maintained. In addition, the age of a large portion of this inventory of facilities is reaching a point where major reinvestments are required in the building subsystems.

Many County facilities have outdated HVAC and electrical systems that are susceptible to failure or are highly inefficient energy users. Projects are prioritized based on maintenance reports and availability of parts. Roof replacement, repairs, and waterproofing are conducted in priority order based on an evaluation of maintenance and performance history. Repairs and replacement of facility roofs are considered critical to avoid the serious structural deterioration that occurs from roof leaks. By addressing this problem in a comprehensive manner, a major backlog of roof problems can be avoided. In addition, emergency generators and fire alarm systems are replaced based on equipment age, coupled with maintenance and performance history. Critical emergency repairs and renovations are accomplished under the category of emergency building repairs. These small projects abate building obsolescence and improve the efficiency and effectiveness of facilities and facility systems. The following table outlines, in general, the expected service life of building subsystems used to project infrastructure replacement and upgrade requirements, coupled with the actual condition of the subsystem component:

### General Guidelines for Expected Service Life of Building Subsystems

<b><u>Electrical</u></b>		<b><u>Plumbing</u></b>	
Lighting	20 years	Pumps	15 years
Generators	25 years	Pipes and fittings	30 years
Service/Power	25 years	Fixtures	30 years
Fire Alarms	15 years		
<b><u>HVAC</u></b>		<b><u>Finishes</u></b>	
Equipment	20 years	Broadloom Carpet	7 years
Boilers	15 to 30 years	Carpet Tiles	15 years
Building Control Systems	7 years	Systems Furniture	20 to 25 years
<b><u>Conveying Systems</u></b>		<b><u>Site</u></b>	
Elevator	15 to 25 years	Paving	15 years
Escalator	15 to 25 years		
		<b><u>Roofs</u></b>	
		Replacement	20 years

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Each year, the Facilities Management Department (FMD) prioritizes and classifies infrastructure replacement and upgrade projects into five categories. Projects are classified as Category F: urgent/safety related, or endangering life and/or property; Category D: critical systems beyond their useful life or in danger of possible failure; Category C: life-cycle repairs/replacements where repairs are no longer cost effective; Category B: repairs needed for improvements if funding is available, and Category A: good condition.

In April 2013, the County and School Board formed a joint committee, the Infrastructure Financing Committee (IFC), to collaborate and review both the County and School's Capital Improvement Program (CIP) and infrastructure upgrade requirements. One of the goals of the Committee was to develop long-term maintenance plans for both the County and Schools, including annual requirements and reserves. The committee conducted a comprehensive review of critical needs and approved recommendations to support the development of a sustainable financing plan to begin to address current and future capital requirements. The Committee found the analysis of financial policy, the review of the condition of hundreds of facilities, and the scarce options for financing to be challenging. A Final Report was developed and approved by the Board of Supervisors on March 25, 2014, and the School Board on April 10, 2014. The Report included support for conducting capital needs assessments, new policy recommendations for capital financing, including a capital sinking fund and increased annual General Fund supported funding, the adoption of common definitions related to all types of maintenance, support for County and School joint use opportunities for facilities, and continued support for evaluating ways to further reduce capital costs.

In February 2020, the Board of Supervisors and the School Board established a joint CIP working group to allow for information sharing, prioritizations, and planning by both the County and Fairfax County Public Schools. The Committee spent its time reviewing the County's existing Financial Policies, considering the financing options available for capital projects, understanding the capital project requirements identified for both the County and Schools, and evaluating the current CIP Plan and processes. Following these discussions, the Committee arrived at a series of recommendations, which include gradually increasing General Obligation Bond Sale limits from \$300 million to \$400 million annually; dedicating the equivalent value of one penny on the Real Estate tax to the County and School capital program to support both infrastructure replacement and upgrade projects and debt on the increased annual sales; and increasing the percentage allocated to the Capital Sinking Fund at year-end, as well as including Schools in the allocation. Based on resource constraints, the Committee's recommendation to dedicate the value of one penny has not been included in the [FY 2023 Advertised Budget Plan](#). An investment totaling \$5 million, split equally between the County and Schools, has been included, with the anticipation that this investment will grow in the coming fiscal years. When fully implemented, these recommendations will provide significant funding for infrastructure replacement and upgrades in the future.

The Board of Supervisors approved the establishment of the Capital Sinking Fund as part of the *FY 2014 Carryover Review*. To date, a total \$49,128,260 has been allocated to FMD for critical infrastructure replacement and upgrade projects. FMD has initiated several larger scale projects with funding from the Sinking Fund, including roof replacement at the Gerry Hyland South County Government Center and Juvenile Detention Center; HVAC system component replacement at the Herry Building and Gerry Hyland South County Government Center; plaza deck drainage and concrete improvements at the Government Center; fire alarm system replacement at the Government Center and Fairfax County Courthouse; and elevator modernization at the Adult Detention Center.

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The requirement for County infrastructure replacement and upgrades is estimated at \$26 million per year. This estimate is based on current assessment data, as well as industry standards (2 percent of the current replacement value). Based on current staffing levels, the complexity of many of the projects, and the timeline for completing replacement and upgrade projects, it is estimated that approximately \$15 million per year is a good funding goal.

Due to budget constraints, in FY 2023, an amount of \$1,500,000 is included to address three of the top priority F projects. In addition, an amount of \$8,385,000 is proposed to be funded as part of a future quarterly review for a total of \$9,885,000 to support the most critical FY 2023 identified projects. In recent years, it has been the Board of Supervisors' practice to fund some or all of the infrastructure replacement and upgrade projects using one-time funding as available as part of quarterly reviews. These projects, all Category F, will address generator replacement, site work, fire alarm system replacement, HVAC system upgrades and building automation, and roof replacement. The table below provides specific project details of the projects that are proposed in the FY 2023 Advertised Budget Plan and the projects that are proposed to be funded as part of a future quarterly review.

### FY 2023 Infrastructure Replacement and Upgrade Program

Priority	Project Type	Facility	Category	Existing Conditions/Deficiencies	Estimate
<b>Projects proposed to be funded as part of the <u>FY 2023 Advertised Budget Plan</u>:</b>					
1	Fire Alarm (design only)	Pennino Building	F	<ul style="list-style-type: none"> <li>• Old legacy technology</li> <li>• Parts difficult to obtain</li> <li>• Proprietary system</li> <li>• Imminent failure</li> </ul>	\$250,000
2	HVAC	Fair Oaks Fire Station	F	<ul style="list-style-type: none"> <li>• Maintenance intensive</li> <li>• System is nearing the end of its useful life</li> <li>• Imminent failure</li> </ul>	\$350,000
3	Building Envelope	Herrity Building	F	<ul style="list-style-type: none"> <li>• Maintenance and repairs no longer feasible</li> <li>• Water leaks and air infiltration</li> <li>• Increased utilities costs</li> </ul>	\$900,000
<b>Projects proposed to be funded as part of a future quarterly review:</b>					
4	Plumbing	Pennino Building	F	<ul style="list-style-type: none"> <li>• Increased equipment failures</li> <li>• Reduced efficiency</li> <li>• Maintenance intensive</li> <li>• System is past the end of its useful life</li> </ul>	\$215,000
5	Building Envelope	Pennino Building	F	<ul style="list-style-type: none"> <li>• Maintenance and repairs no longer feasible</li> <li>• Increased utilities costs</li> <li>• Water leaks and air infiltration</li> </ul>	\$1,650,000
6	HVAC	Fire Training Academy	F	<ul style="list-style-type: none"> <li>• Increased equipment failures</li> <li>• Refrigerant not code compliant</li> <li>• Parts difficult to obtain</li> <li>• Imminent failure</li> </ul>	\$575,000

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Priority	Project Type	Facility	Category	Existing Conditions/Deficiencies	Estimate
7	HVAC	Juvenile Detention Center	F	<ul style="list-style-type: none"> <li>Frequent failures impacting building occupants</li> <li>Reduced energy efficiency</li> <li>Maintenance intensive</li> <li>System has reached the end of its useful life</li> </ul>	\$850,000
8	HVAC	Juvenile Court Shelter Care II	F	<ul style="list-style-type: none"> <li>Parts difficult to obtain</li> <li>Reduced energy efficiency</li> <li>Maintenance intensive</li> </ul>	\$300,000
9	Roof	Kingstowne Fire Station	F	<ul style="list-style-type: none"> <li>Maintenance and repairs no longer feasible</li> <li>System is past its useful life</li> <li>Frequent water leaks damaging interior finishes and impacting program operations</li> </ul>	\$1,150,000
10	Building Automation System	Fair Oaks Police and Fire Station	F	<ul style="list-style-type: none"> <li>Maintenance intensive</li> <li>Old legacy technology</li> <li>Reduced energy efficiency</li> <li>Increased equipment failures</li> </ul>	\$275,000
11	Generator	Gartlan Center	F	<ul style="list-style-type: none"> <li>System has reached the end of its useful life</li> <li>Maintenance intensive</li> <li>Increased equipment failures</li> <li>Unreliable emergency system</li> </ul>	\$125,000
12	Miscellaneous (Develop a condition assessment and a 10-year renewal plan)	Fairfax County Courthouse and Expansion	F	<ul style="list-style-type: none"> <li>Maintenance intensive</li> </ul>	\$200,000
13	Miscellaneous (Gate repairs, hot water heater replacements, roof repairs and replacement compressors)	Various Facilities	F	<ul style="list-style-type: none"> <li>Critical operations and maintenance deficiencies</li> <li>Maintenance intensive</li> <li>Increased equipment failures</li> <li>Unreliable emergency system</li> </ul>	\$225,000
14	Building Automation System	Centreville Regional Library	F	<ul style="list-style-type: none"> <li>Maintenance intensive</li> <li>Old legacy technology</li> <li>Reduced energy efficiency</li> <li>Increased equipment failures</li> </ul>	\$125,000
15	Building Automation System	Springfield Warehouse	F	<ul style="list-style-type: none"> <li>Maintenance intensive</li> <li>Old legacy technology</li> <li>Increased equipment failures</li> </ul>	\$150,000
16	Building Automation System	Fairfax County Courthouse and Expansion	F	<ul style="list-style-type: none"> <li>Maintenance intensive</li> <li>Old legacy technology</li> <li>Reduced energy efficiency</li> <li>Increased equipment failures</li> </ul>	\$1,500,000

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Priority	Project Type	Facility	Category	Existing Conditions/Deficiencies	Estimate
17	Building Envelope	Gum Springs Community Center	F	<ul style="list-style-type: none"> <li>Maintenance intensive</li> <li>Water leaks and air infiltration</li> <li>Reduced energy efficiency</li> <li>Damage to interior finishes and program elements</li> </ul>	\$870,000
18	Site Work	Michael R. Frey Animal Shelter	F	<ul style="list-style-type: none"> <li>Site drainage issues at rear of building</li> <li>Rear building canopy structural beams have premature rusting</li> <li>The rear exterior stair rails do not meet ADA standards</li> </ul>	\$175,000
<b>Total</b>					<b>\$9,885,000</b>

In addition to the above projects identified as part of the FY 2023 plan, FMD has identified additional Category F projects. Analysis of these requirements is conducted annually, and projects may shift categories, become an emergency and be funded by the emergency systems failures project, or be eliminated based on other changes, such as a proposed renovation project.

## Changes to FY 2022 Adopted Budget Plan

*The following funding adjustments reflect all approved changes in the FY 2022 Revised Budget Plan since passage of the FY 2022 Adopted Budget Plan. Included are all adjustments made as part of the FY 2021 Carryover Review, FY 2022 Mid-Year Review, and all other approved changes through December 31, 2021:*

### **Carryover Adjustments \$63,611,179**

As part of the *FY 2021 Carryover Review*, the Board of Supervisors approved an increase of \$63,611,179 due to the carryover of unexpended project balances in the amount of \$43,284,912 and an adjustment of \$20,326,267. This adjustment includes an increase to the General Fund transfer of \$19,906,318, including: \$1,000,000 to support the remaining infrastructure replacement and upgrades requirements at County facilities in FY 2022, \$5,400,000 to support emergency systems failures that occur at aging County facilities throughout the year, and \$13,506,318 for the Capital Sinking Fund for Facilities in accordance with recommendations of the Infrastructure Financing Committee (IFC). The Infrastructure Sinking Fund is funded as part of the Carryover Review by committing 20 percent of the unencumbered Carryover balances not needed for critical requirements. In addition, the adjustment includes the appropriation of revenues in the amount of \$419,949 received in FY 2021 associated with reimbursements from the Virginia Department of Transportation (VDOT) and the Virginia State Police for their share of the operational costs at the McConnell Public Safety and Transportation Operations Center (MPSTOC) as well as the state share of future projected capital renewal requirements at this facility.

A Fund Statement and a Summary of Capital Projects are provided on the following pages. The Summary of Capital Projects may include some projects without a Total Project Estimate amount. These projects are considered "continuing" projects or projects for which funding is necessary on an ongoing basis (e.g., a contingency or planning project).

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## FUND STATEMENT

Category	FY 2021 Actual	FY 2022 Adopted Budget Plan	FY 2022 Revised Budget Plan	FY 2023 Advertised Budget Plan
<b>Beginning Balance</b>	<b>\$40,619,519</b>	<b>\$0</b>	<b>\$43,704,861</b>	<b>\$0</b>
<b>Revenue:</b>				
MPSTOC Reimbursement <sup>1</sup>	\$419,949	\$0	\$0	\$0
<b>Total Revenue</b>	<b>\$419,949</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Transfers In:</b>				
General Fund (10001)	\$12,315,375	\$0	\$19,906,318	\$1,500,000
Consolidated County and Schools Debt Service Fund (20000) <sup>2</sup>	5,282,000	0	0	0
<b>Total Transfers In</b>	<b>\$17,597,375</b>	<b>\$0</b>	<b>\$19,906,318</b>	<b>\$1,500,000</b>
<b>Total Available</b>	<b>\$58,636,843</b>	<b>\$0</b>	<b>\$63,611,179</b>	<b>\$1,500,000</b>
<b>Total Expenditures</b>	<b>\$8,208,670</b>	<b>\$0</b>	<b>\$63,611,179</b>	<b>\$1,500,000</b>
<b>Transfers Out:</b>				
Environmental and Energy Program (30015) <sup>3</sup>	\$6,723,312	\$0	\$0	\$0
<b>Total Transfers Out</b>	<b>\$6,723,312</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Disbursements</b>	<b>\$14,931,982</b>	<b>\$0</b>	<b>\$63,611,179</b>	<b>\$1,500,000</b>
<b>Ending Balance<sup>4</sup></b>	<b>\$43,704,861</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

<sup>1</sup> A total of \$419,949 represents revenue received from the Virginia Department of Transportation (VDOT) and Virginia State Police associated with the state share of operating costs at the McConnell Public Safety and Transportation Operations Center (MPSTOC). These funding reimbursements will be held in projects for future infrastructure replacement and upgrade requirements. State reimbursement is based on actual operational expenditures, eliminating the need to reconcile estimates and actuals each year.

<sup>2</sup> Represents a transfer from Fund 20000, Consolidated County and Schools Debt Service Fund, to support infrastructure replacement and upgrades.

<sup>3</sup> Represents a transfer to Fund 30015, Environmental and Energy Program, to consolidate energy and environmental projects.

<sup>4</sup> Capital projects are budgeted based on the total project costs. Most projects span multiple years, from design to construction completion. Therefore, funding for capital projects is carried forward each fiscal year, and ending balances fluctuate, reflecting the carryover of these funds.

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### SUMMARY OF CAPITAL PROJECTS

Project	Total Project Estimate	FY 2021 Actual Expenditures	FY 2022 Revised Budget	FY 2023 Advertised Budget Plan
Capital Sinking Fund for Facilities (GF-000029)	\$49,128,260	\$4,073,546.21	\$30,610,855.50	\$0
Electrical System Upgrades and Replacements (GF-000017)		0.00	971,658.13	0
Elevator/Escalator Replacement (GF-000013)		53,053.86	4,345,906.81	0
Emergency Building Repairs (GF-000008)		867,699.86	1,258,843.35	900,000
Emergency Generator Replacement (GF-000012)		5,226.44	1,744,756.71	0
Emergency Systems Failures (2G08-005-000)		946,523.09	9,674,673.06	0
Fire Alarm System Replacements (GF-000009)		0.00	2,817,066.25	250,000
HVAC System Upgrades and Replacement (GF-000011)		2,044,938.71	5,605,954.13	350,000
MPSTOC County Support For Renewal (2G08-008-000)		40,064.00	2,856,004.20	0
MPSTOC State Support For Renewal (2G08-007-000)		0.00	888,301.00	0
Parking Lot and Garage Improvements (GF-000041)		0.00	289,512.31	0
Roof Repairs and Waterproofing (GF-000010)		177,617.58	2,547,647.58	0
<b>Total</b>	<b>\$49,128,260</b>	<b>\$8,208,669.75</b>	<b>\$63,611,179.03</b>	<b>\$1,500,000</b>