

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 2022 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Many County facilities have outdated HVAC and electrical systems that are susceptible to failure or are highly inefficient energy users.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

<u>Electrical</u>		<u>Plumbing</u>	
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		
<u>HVAC</u>		<u>Finishes</u>	
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
<u>Conveying Systems</u>		<u>Site</u>	
Elevator	25 years	Paving	15 years
Escalator	25 years		
		<u>Roofs</u>	
		Replacement	20 years

Fund 30020: Infrastructure Replacement and Upgrades

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.

The Board of Supervisors approved the establishment of the Capital Sinking Fund as part of the *FY 2014 Carryover Review*. To date, a total of \$64,767,161 has been dedicated to capital sinking funds and allocated for infrastructure replacement and upgrades to the following areas: \$35,621,941 for FMD, \$12,953,433 for Parks, \$7,831,140 for Walkways, \$5,703,864 for County-owned Roads and \$2,656,783 for Revitalization. Projects have been initiated in all of these program areas from the sinking fund allocation. FMD has initiated several larger scale projects with the \$35,621,941 allocated to the Sinking Fund, including storm pipe and drains replacement at the Pennino Building Parking Garage and Herrity Building Parking Garage and replacement of the storm drainage piping, fittings and hangers at the Judicial Employee Parking Garage; HVAC system component replacement at the Chantilly Library, McLean Fire Station and Government Center; emergency back-up generator replacement at the Kingstowne Fire Station; fire alarm system replacement at the Hollin Hall Senior Center, Oakton Library and Burke Center Library; and replacement of the main entrance doors at the Pennino Building.

As discussed with the IFC, 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 would be a good funding goal.

Due to budget constraints, there is no funding included in FY 2022 in this fund. However, an amount of \$5,282,000 was funded as part of the *FY 2021 Third Quarter Review*. Additional funding of \$1,000,000 will also be required to address the remaining FY 2022 project requirements. 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 repairs and waterproofing. The table on the following pages provides specific project details of the projects that were funded already and the project that is proposed to be funded as part of a future quarterly review.

Fund 30020: Infrastructure Replacement and Upgrades

FY 2022 Infrastructure Replacement and Upgrade Program

Priority	Project Type	Facility	Category	Existing Conditions/Deficiencies	Estimate
Projects funded as part of the FY 2021 Third Quarter Review:					
1	Fire Suppression	Pennino Building	F	<ul style="list-style-type: none"> • Increased maintenance required to keep system operational • System has exceeded its useful life • Unreliable critical building life safety equipment 	\$200,000
2	Fire Alarm	Reston Human Services Center	F	<ul style="list-style-type: none"> • Maintenance and repairs no longer feasible • Parts difficult to obtain • Disruption to building operations/end users 	\$302,000
3	Generator	Juvenile Detention Center	F	<ul style="list-style-type: none"> • Increased equipment failure • Old technology • Parts difficult to obtain • Disruption to building operations/end users 	\$550,000
4	Plumbing	Courthouse and Courthouse Expansion	F	<ul style="list-style-type: none"> • Imminent failure • Unreliable equipment • Disruption to building operations/end users 	\$150,000
5	Roof	North Point Fire Station	F	<ul style="list-style-type: none"> • Maintenance and repairs no longer feasible • Disruption to building operations/end users • Increased utilities costs • Water leaks 	\$500,000
6	Roof	Gartland Mental Health Center	F	<ul style="list-style-type: none"> • Maintenance and repairs no longer feasible • Water leaks • Disruption to building operations/end users • Increased utilities costs 	\$100,000
7	HVAC/Plumbing (Two rooftop units, a water heater and a kitchen exhaust will be replaced.)	Bailey's Community Center	F	<ul style="list-style-type: none"> • Imminent failure • Unreliable equipment • Disruption to building operations/end users • Increased costs and limited availability of parts 	\$775,000

Fund 30020: Infrastructure Replacement and Upgrades

Priority	Project Type	Facility	Category	Existing Conditions/Deficiencies	Estimate
8	Building Automation System (The BAS system will be upgraded/replaced, and the HVAC system will be retro-commissioned.)	Gerry Hyland Government Center (South County Human Services Center)	F	<ul style="list-style-type: none"> Parts difficult to obtain Unreliable equipment Disruption to building operations/end users Increased utilities costs 	\$1,500,000
9	HVAC	Southgate Community Center	F	<ul style="list-style-type: none"> Increased maintenance costs Imminent failure Unreliable equipment Disruption to building operations/end users Increased costs and limited availability of parts 	\$550,000
10	Roof	McLean Fire Station	F	<ul style="list-style-type: none"> Maintenance and repairs no longer feasible Water leaks Disruption to building operations/end users 	\$535,000
11	Generator	Clifton Fire Station	F	<ul style="list-style-type: none"> System has reached its useful life System no longer meets Virginia Department of Environmental Quality's requirements Disruption to building operations/end users 	\$120,000
Project proposed to be funded as part of a future quarterly review:					
12	Site Work (Re-caulk and seal building, windows, and doors' joints; repair exterior steel staircase; replace windows and doors; address loose wires; and clean, paint, and seal exterior façade.)	Annandale Center	F	<ul style="list-style-type: none"> Maintenance and repairs no longer feasible Disruption to building operations/end users Unsafe conditions for program participants and staff 	\$1,000,000
Total					\$6,282,000

In addition to the above projects identified as part of the FY 2022 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.

Fund 30020: Infrastructure Replacement and Upgrades

Pandemic Response and Impact

All capital projects are being reviewed as they move into the various stages of development, including land acquisition, design, and construction. It is anticipated that most projects will continue to move forward as planned; however, some projects, such as occupied renovations, will be delayed for safety reasons and some projects may be delayed if it is determined that the General Fund cannot support the future debt service requirements. Staffing constraints may also delay the schedules for upcoming design and construction projects.

Changes to FY 2021 Adopted Budget Plan

The following funding adjustments reflect all approved changes in the FY 2021 Revised Budget Plan since passage of the FY 2021 Adopted Budget Plan. Included are all adjustments made as part of the FY 2020 Carryover Review, FY 2021 Mid-Year Review, FY 2021 Third Quarter Review, and all other approved changes through April 30, 2021.

Carryover Adjustments **\$46,211,582**

As part of the *FY 2020 Carryover Review*, the Board of Supervisors approved an increase of \$46,211,582 due to the carryover of unexpended project balances in the amount of \$40,174,899 and an adjustment of \$6,036,683. This adjustment includes an increase to the General Fund transfer of \$12,315,375, including: \$2,414,007 to partially support infrastructure replacement and upgrades at County facilities in FY 2021, \$1,400,000 to support emergency systems failures that occur at aging County facilities throughout the year, and \$8,501,368 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 \$444,620 received in FY 2020 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. These increases are partially offset by a Transfer Out of \$6,723,312 to Fund 30015, Environmental and Energy Program, to consolidate energy and environmental projects.

Third Quarter Adjustments **\$5,282,000**

As part of the *FY 2021 Third Quarter Review*, the Board of Supervisors approved funding of \$5,282,000 to support infrastructure replacement and upgrades at County facilities. Funding of one-time capital improvements as part of a quarterly review is consistent with actions taken by the Board of Supervisors in previous years.

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).

Fund 30020: Infrastructure Replacement and Upgrades

FUND STATEMENT

Category	FY 2020 Actual	FY 2021 Adopted Budget Plan	FY 2021 Revised Budget Plan	FY 2022 Advertised Budget Plan	FY 2022 Adopted Budget Plan
Beginning Balance	\$42,561,490	\$0	\$40,619,519	\$0	\$0
Revenue:					
MPSTOC Reimbursement ¹	\$444,620	\$0	\$0	\$0	\$0
Total Revenue	\$444,620	\$0	\$0	\$0	\$0
Transfers In:					
General Fund (10001)	\$11,251,187	\$0	\$12,315,375	\$0	\$0
Consolidated County and Schools Debt Service Fund (20000) ²	0	0	5,282,000	0	0
General Construction and Contributions (30010) ³	500,000	0	0	0	0
Public Safety Construction (30070) ⁴	2,000,000	0	0	0	0
Total Transfers In	\$13,751,187	\$0	\$17,597,375	\$0	\$0
Total Available	\$56,757,297	\$0	\$58,216,894	\$0	\$0
Total Expenditures	\$16,137,778	\$0	\$51,493,582	\$0	\$0
Transfers Out:					
Environmental and Energy Program (30015) ⁵	\$0	\$0	\$6,723,312	\$0	\$0
Total Transfers Out	\$0	\$0	\$6,723,312	\$0	\$0
Total Disbursements	\$16,137,778	\$0	\$58,216,894	\$0	\$0
Ending Balance⁶	\$40,619,519	\$0	\$0	\$0	\$0

¹ A total of \$444,620 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.

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

³ Represents a transfer from Fund 30010, General Construction and Contributions, to support minor repairs and miscellaneous improvements required throughout the year.

⁴ Represents a transfer from Fund 30070, Public Safety Construction, to support emergency systems failures that occur at aging County facilities throughout the year.

⁵ Represents a transfer to Fund 30015, Environmental and Energy Program, to consolidate energy and environmental projects.

⁶ 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.

Fund 30020: Infrastructure Replacement and Upgrades

SUMMARY OF CAPITAL PROJECTS

Project	Total Project Estimate	FY 2020 Actual Expenditures	FY 2021 Revised Budget	FY 2022 Advertised Budget Plan	FY 2022 Adopted Budget Plan
Capital Sinking Fund for Facilities (GF-000029)	\$35,621,942	\$5,196,518.68	\$21,178,083.71	\$0	\$0
Electrical System Upgrades and Replacements (GF-000017)		428,556.87	971,658.13	0	0
Elevator/Escalator Replacement (GF-000013)		95,347.93	4,398,960.67	0	0
Emergency Building Repairs (GF-000008)		610,595.59	1,126,543.21	0	0
Emergency Generator Replacement (GF-000012)		898,976.45	1,749,983.15	0	0
Emergency Systems Failures (2G08-005-000)		1,954,682.25	5,221,196.15	0	0
Energy Strategy - CECAP (2G02-026-000)	174,260	174,260.42	0.00	0	0
Energy Strategy Program - FMD (GF-000048)	2,518,824	1,020,661.94	0.00	0	0
Energy Strategy Program - Parks (PR-000123)	1,579,099	64,492.72	0.00	0	0
Energy Strategy Program-LED Streetlights (GF-000050)	1,304,504	1,277,269.88	0.00	0	0
Fire Alarm System Replacements (GF-000009)		368,608.94	2,817,066.25	0	0
HVAC System Upgrades and Replacement (GF-000011)		2,740,362.51	7,650,892.84	0	0
MPSTOC County Support For Renewal (2G08-008-000)		0.00	2,529,403.20	0	0
MPSTOC State Support For Renewal (2G08-007-000)		0.00	835,017.00	0	0
Parking Lot and Garage Improvements (GF-000041)		40,596.00	289,512.31	0	0
Roof Repairs and Waterproofing (GF-000010)		1,266,848.22	2,725,265.16	0	0
Total	\$41,198,629	\$16,137,778.40	\$51,493,581.78	\$0	\$0