

Fund 317

Capital Renewal Construction

Focus

This fund 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. Capital renewal is the planned replacement of building subsystems such as roofs, electrical systems, HVAC, plumbing systems, window replacement, carpet replacement, parking lot resurfacing, fire alarm replacement and emergency generator replacement 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 2013 facility inventory of over 8.6 million square feet of space throughout the County (excluding schools, parks, housing and human services residential 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 major 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Many County facilities have outdated HVAC and electrical systems that are susceptible to failure or are highly inefficient energy users. Sites are identified and each individual project involves a two-step process to complete both design and construction. Roof repairs and waterproofing are conducted in priority order after all roofs at County facilities are evaluated. Based upon the results of that evaluation, critical requirements are prioritized and a five-year plan is established. 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. Carpet replacement and parking lot resurfacing are evaluated annually and prioritized based on the most critical requirements for high traffic areas. 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 capital renewal 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	10 years	Systems Furniture	20 to 25 years

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Conveying Systems

Elevator	25 years
Escalator	25 years

Site

Paving	15 years
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Roofs

Replacement	20 years
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Each year, the Facilities Management Department (FMD) prioritizes and classifies capital renewal 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.

For several years staff has identified an estimated requirement of \$22 to \$26 million in capital renewal investment annually for the current building inventory. This estimate was based on two factors:

- In 2004, a comprehensive facilities condition assessment was conducted on 92 selected Fairfax County facilities (approximately 4.2 million square feet of space), representative of older facilities anticipated to have the most immediate capital renewal requirements. The assessment included a complete visual inspection of roofs and all mechanical and electrical components for each facility. Maintenance and repair deficiencies were identified and funding requirements estimated. Results from the survey indicated that approximately \$13 million per year would be required to repair and meet expected equipment replacement needs for these 92 facilities. The number of facilities evaluated represented approximately 50 percent of the inventory, indicating a total level of approximately \$25 million annually.
- The industry standard for capital renewal investment is currently 2 percent of replacement value. Based on average replacement values of \$150 per square foot, 2 percent equates to capital renewal requirements of \$3.00 per square foot. Budgeted renewal funds in the County have not reached this level. This may be due to the fact that much of the square footage added in the early 1990s was in the form of new facilities and thus has not yet required major capital renewal and subsystem replacement. However, this infrastructure is now aging and appropriate action must be taken to avoid system failures leading to potential disruptions in County services. Applying a \$3.00 per square foot industry standard to the 8.6 million of square feet currently maintained would result in approximately \$25.8 million required annually for capital renewal expenses.

In September 2009, a staff analysis indicated that a backlog of approximately \$35 million in capital renewal projects existed. In order to address this backlog and to plan for a more sustainable and reasonable annual funding level, as part of the FY 2011 Adopted Budget Plan, the Board of Supervisors approved a 3-year plan of short-term borrowing. FY 2013 is the third and final appropriation for capital renewal projects supported by short-term borrowing. In FY 2011, \$5 million was appropriated and in FY 2012 \$15 million was appropriated, leaving an additional \$15 million to be appropriated in FY 2013. Eliminating this \$35 million backlog will allow for a more preventative and proactive maintenance program, increase the life cycle of County buildings, and enable the renewal program to reach a fairly consistent level of annual funding requirements. Borrowing will be based on actual project completion schedules and cash flow requirements and will be achieved through the establishment of a variable rate line of credit in order to take advantage of very low short-term interest rates. The payback of both principle and interest on the short-term borrowing program will be provided by the General Fund in the County's debt service fund. Staff will maintain an even level of General Fund support by increasing debt

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service funding and decreasing General Fund transfers to Fund 317 during the next 10 years. Short-term borrowing for capital renewal is included in the debt capacity estimates in the Capital Improvement Program (CIP) and can be accommodated within established debt limits for General Fund supported debt.

The Facilities Management Department (FMD) continues to prioritize workload and address the most critical renewal projects each year; however, based on current staffing levels as well as additional Americans with Disability Act (ADA) retrofits and American Recovery and Reinvestment Act (ARRA) energy projects, completion of renewal projects has been hindered. During FY 2012, FMD will redirect operational funding identified based on custodial contract savings and the expiration of lease agreements to support temporary project management support to help complete renewal projects in a more timely manner. Additional funding for project management support is also being implemented in FY 2013 within FMD.

The FY 2013 capital renewal plan by category is outlined below:

Category	Amount
Category F Projects	\$8,710,000
Category D Projects	6,575,000
FY 2013 Funded	\$15,285,000

This identified level of funding does not include significant estimated requirements at several County facilities which are under review for replacement or any green building initiatives such as green roofs, enhanced lighting software, Americans with Disability Act (ADA) retrofits, or energy grant work. FY 2013 funding, as detailed below, will provide for the entire category F (urgent/safety related, or endangering life and/or property) projects and 18 category D projects. Specific funding levels in FY 2013 include:

HVAC/Electrical Systems

This project provides for the planned replacement of HVAC systems at prioritized County facilities, based on the severity of problems including overloaded systems, fire hazards, and costly repairs. In general, the useful life of HVAC/Electrical systems is 20 years; however, some systems fail earlier due to wear and tear, and often emergency repairs are costly based on difficulty obtaining parts and additional code requirements.

FY 2013 funding of \$4,800,000 is included for HVAC system component replacements at the following facilities: \$3,200,000 for the Government Center, \$500,000 for Crossroads Rehabilitation Center, \$300,000 for Clifton Fire Station, \$200,000 for the Burkeholder Building (which houses the Fire Marshall Office), and \$100,000 for the Adult Detention Center East Wing. These systems are beyond their useful life and consistently at risk of failure. They are requiring increased maintenance efforts due to age and stress on the systems and replacement components such as automatic transfer switches, emergency switch boards, emergency panels and an underground fuel tank are required to be upgraded to meet current code requirements.

Lastly, funding in the amount of \$200,000 is included to replace the entire electrical distribution system at the Merrifield Fire Station which is aged, obsolete and creating a safety hazard, \$200,000 to replace the electrical main distribution panel board, all non-emergency sub panels, transformers and lighting system

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at the West Ox Department of Vehicle Services (DVS) Garage which are well beyond their useful life; and \$100,000 to replace the entire plumbing component including the water booster pumps for the Adult Detention Center West Wing. All of these repairs have been classified as safety risks in need of imminent repairs or critical systems beyond their useful life and in risk of failure.

Emergency Generator Replacement

This project provides for the planned replacement of emergency generators at mission critical County facilities that have outlived their useful life of approximately 25 years. Generators are critical to the mission and operation of County facilities by providing backup power when power outages occur. Generators are maintained at police stations, fire stations and other operationally critical County facilities. FY 2013 funding of \$1,200,000 includes: \$400,000 for the Old Courthouse, \$250,000 for the original building generator at the Government Center, \$250,000 for the Alban Garage, \$150,000 for the Centreville Fire Station; and \$150,000 for the Lorton Radio Tower which supports Public Safety operations. Although the generator at the Lorton Radio Tower is not beyond its projected useful life, this generator is deficient and showing signs of imminent failure. Generators are critical at these facilities due to potential power outages and a disruption in critical operations for staff and the public. In general, these systems last 25 years, but replacement requirements can vary based on wear and tear, frequency of repair requirements, and other signs of imminent failure.

Elevator/Escalator Replacement

This project provides for planned elevator or escalator replacement and upgrades for systems that have outlived their useful life and are experiencing frequent breakdowns. FY 2013 funding in the amount of \$6,025,000 includes funding of \$5,400,000 to address elevator replacement at the Pennino and Herry Buildings. These elevators are heavily used by both employees and the public. The electrical panels and mechanical systems are beyond their useful life and are beginning to fail resulting in breakdowns and entrapments. Elevators are requiring weekly operational maintenance due to the high levels of humidity which have caused corrosion to the system and component parts. Design funding was included in the FY 2012 budget and construction funding is now required to complete the project. In general, the useful life of elevators is 25 years; however, based on the number of maintenance calls, shutdowns and the difficulty in obtaining replacement parts, both building elevators are recommended for replacement. This replacement project will satisfy all current code requirements, provide humidity control equipment to prevent future corrosion and provide for the safety of users.

In addition, an amount of \$625,000 is required for elevator replacement at the Herry and Pennino parking garages. During winter weather events, salt and snow drain down the elevator shaft and corrode mechanical elements resulting in frequent maintenance and replacement part requirements. These elevators are not equipped with heating elements to mitigate humidity levels and corrosion from weather events, resulting in daily shutdowns as well as entrapments for staff and patrons. This elevator replacement project will satisfy all current code requirements, provide humidity control equipment to prevent future corrosion, and provide for the safety of users in these garages.

Fire Alarm Systems

This project provides for the planned replacement of fire alarm systems throughout the County. Fire alarm systems are replaced based on age and difficulty in obtaining replacement parts and service. FY 2013 funding in the amount of \$500,000 is included for the replacement of the obsolete and aged fire alarm systems at the following County facilities: Crossroads Rehabilitation Center, Clifton Fire Station, Baileys Homeless Shelter and Chantilly Fire Station.

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Roof Repair and Replacement

This project provides for the planned replacement or repair of facility roofs and waterproofing systems in County buildings. Maintenance and repairs are required to stop rapid deterioration and damage due to water penetration. As roofs age, repairs are no longer cost effective and replacement is required. Roofs at County facilities range in warranty periods from 10 to 20 years. The warranties on all of the roofs slated for replacement in FY 2013 have expired. In FY 2013, funding in the amount of \$435,000 is included for roof repairs and replacement including: \$150,000 for the Lillian Carey Human Services Building, \$100,000 for Baileys Homeless Shelter; \$100,000 for Patrick Henry Library and \$85,000 for the Jermantown DVS Garage Radio Shop. In general, roof replacement is required every 20 years; however, leaking and damage caused by water infiltration to facilities can require more immediate attention.

Carpet Replacement

Funding in the amount of \$500,000 is included for carpet replacement at County facilities in which carpet has deteriorated and is in unserviceable condition. The project also includes new carpet installation where existing composition tile flooring requires replacement, and it is cost beneficial to install carpet as a replacement floor finish. In general, the useful life of carpet tiles is 15 years; all of the carpeting at these facilities has outlived its useful life due to the high volume of staff and patrons who utilize these facilities. FY 2013 funding is included for carpet replacement projects at various County libraries which include \$215,000 for Sherwood Regional Library, \$198,000 for Centreville Regional Library; and \$87,000 for the Patrick Henry Community Library. These library carpet tiles are severely worn from weather events which can result in health issues from the growth of mold and mildew, as well as tears and ripples which can cause safety issues for library staff and patrons in these high traffic areas.

Parking Lot and Garage Repairs

This project provides for the planned repair and maintenance of facility parking lots and garages throughout the County. In FY 2013, funding in the amount of \$160,000 is required to repave the Pohick Regional Library parking lot based on rapid deterioration of asphalt. In general, paving will last 15 years; however, temperature changes, water penetration, chemicals used for snow removal, and fuel leaks from vehicles can cause the asphalt to deteriorate more rapidly.

Window Replacement

This project provides for the planned repair and replacement of windows that have outlived their useful life. FY 2013 funding in the amount of \$65,000 is included for improvements to the Sherwood Library including the elimination of window pit wells and dormers, reframing smaller windows and resloping of the roof to eliminate drainage problems and water infiltration into the building.

Emergency Building Repairs

This project provides for emergency repairs, minor renovations, and critical upgrading at various buildings and facilities throughout the County. Projects include emergency repairs to buildings and building equipment, plumbing repairs, minor upgrades to electrical and mechanical systems, structural repairs, vandalism abatement, and other non-recurring construction and repair projects. A total of \$1,600,000 is included in FY 2013.

Funding in the amount of \$825,000 is included for critical emergency repairs at the Adult Detention Center. Of this amount, \$400,000 is included for the removal and replacement of the Concrete Terrazzo walkway based on rapid concrete deterioration. This is attributed to water infiltration, weather conditions, chemicals, debris and other contamination. The cement has become warped and uneven which has resulted in tripping and slippery conditions. This is a critical safety concern for staff and

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inmates who utilize this main walkway daily. In addition, funding in the amount of \$350,000 is included to recaulk all windows and expansion joints in the North Wing of the Adult Detention Center. Much of the original caulking has failed and water continues to leak into the building presenting an imminent safety hazard. Lastly, an amount of \$75,000 is included to replace wooden countertops at security stations throughout the facility. These countertops are original to the facility and have deteriorated due to age, chemicals and other contamination. This replacement will provide a more durable surface for Sheriff Deputies and improve overall health conditions.

Funding in the amount of \$250,000 is included for the Burke Station Road Facilities Management Maintenance Building to replace the concrete retaining wall and perform associated slope work. The support structure is cracked due to soil pressure, tree roots and moisture from weather events. This has resulted in a safety hazard from debris spillage onto the roadway. This replacement will provide structural stability and a reduction in erosion issues at the facility.

Funding in the amount of \$285,000 is included for the replacement of the Government Center auditorium seating and carpeting. Auditorium seating is original to the facility, is beyond its useful life and has deteriorated to the point that seats have been removed, arms rails are broken and the upholstery is worn. This has resulted in increased maintenance and a safety hazard for the public and staff who regularly attend meetings in the auditorium. FY 2013 funding will provide for a complete replacement of auditorium seating to prevent further deterioration and potential safety concerns. In addition, the original carpet is in advanced state of deterioration from wear and tear from staff and patrons who enter and exit the seating area. This carpet replacement will be completed simultaneously with the auditorium seating for optimal life. The Government Center auditorium is supported by the Communications Productions Division within Fund 105, Cable Communications. This Division is responsible for Channel 16 programming including an estimated 330 live meetings of the Board of Supervisors, Planning Commission, Board of Zoning Appeals, County Executive projects, Board-directed special programming, town meetings, and monthly video newsletters for members of the Board of Supervisors. Therefore, funding is transferred from Fund 105, Cable Communications to support the required replacement project within the auditorium.

Lastly, \$240,000 is included to continue a second facility assessment which began in FY 2012. The last facility assessment was conducted in 2004 on 92 selected facilities (approximately 4.2 million square feet of space), representative of the oldest facilities at the time. The assessment included a complete visual inspection of roofs and all mechanical and electrical components for each facility. Maintenance and repair deficiencies were identified and funding requirements estimated. These 92 facilities represented approximately 50 percent of the inventory. In FY 2012, funding in the amount of \$215,000 was provided to conduct a facility assessment on 40 additional buildings, not previously evaluated. These assessments allow inspectors to evaluate major building systems, identify cost estimates associated with repair and replacement and plan for future renewal requirements. The continuation of this study in FY 2013 will allow for the evaluation of an additional 30 facilities not evaluated in 2004 or 2012 which are now aging and require a comprehensive review.

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Changes to FY 2012 Adopted Budget Plan

The following funding adjustments reflect all approved changes in the FY 2012 Revised Budget Plan since passage of the FY 2012 Adopted Budget Plan. Included are all adjustments made as part of the FY 2011 Carryover Review, and all other approved changes through December 31, 2011:

- ◆ As part of the *FY 2011 Carryover Review*, the Board of Supervisors approved an increase of \$32,461,662 due to the carryover of unexpended project balances in the amount of \$32,074,160 and an adjustment of \$387,502. This adjustment was due to the appropriation of \$387,502 in revenues received in FY 2011 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. The MPSTOC is a high-security, state-of-the-art facility which houses the County's 911 Center and Emergency Operations Center as well as VDOT's Smart Traffic and Signal Centers and the State Police Communications Center. This multi-use facility allows for the cost-effective provision of services through the sharing of land, buildings and technology resources at various levels of state and local government. The County pays for all operational requirements such as utilities, security, custodial, landscaping, maintenance, parking lot repairs and snow removal and the State reimburses the County for their share of these costs. In addition, the state has begun providing annual funding for future repair and renewal costs to avoid large budget increases for required capital renewal costs in the future. Funding received from the state is appropriated annually at the Carryover Review.

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

Fund Type G30, Capital Project Funds

Fund 317, Capital Renewal Construction

	FY 2011 Actual	FY 2012 Adopted Budget Plan	FY 2012 Revised Budget Plan	FY 2013 Advertised Budget Plan
Beginning Balance	\$23,519,520	\$0	\$18,461,662	\$0
Revenue:				
Sale of Bonds ¹	\$0	\$0	\$9,000,000	\$0
Short Term Borrowing ²	0	15,000,000	20,000,000	15,000,000
MPSTOC Reimbursement ³	387,502	0	0	0
Total Revenue	\$387,502	\$15,000,000	\$29,000,000	\$15,000,000
Transfer In:				
General Fund (001) ⁴	\$3,000,000	\$0	\$0	\$0
Cable Communications (105) ⁵	0	0	0	285,000
Total Transfers In	\$3,000,000	\$0	\$0	\$285,000
Total Available	\$26,907,022	\$15,000,000	\$47,461,662	\$15,285,000
Total Expenditures	\$8,445,360	\$15,000,000	\$47,461,662	\$15,285,000
Total Disbursements	\$8,445,360	\$15,000,000	\$47,461,662	\$15,285,000
Ending Balance⁶	\$18,461,662	\$0	\$0	\$0

¹ The sale of bonds is presented here for planning purposes only. Actual bond sales are based on cash needs in accordance with Board policy. On November 7, 2006, the voters approved a \$125 million Public Safety Bond Referendum, of which \$14 million was designated for capital renewal purposes. An amount of \$9.0 million remains in authorized but unissued bonds for capital renewal work primarily at the Old Courthouse.

² In FY 2013, an amount of \$15,000,000 is provided using the County's short-term borrowing tools in order to reduce existing capital renewal backlogs.

³ A total of \$387,502 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 capital renewal projects for future replacement requirements.

⁴ The FY 2011 General Fund transfer of \$3,000,000 supported emergency renewal projects at County facilities.

⁵ The FY 2013 Cable Communications transfer of \$285,000 supports the replacement of auditorium seating and carpeting at the Government Center.

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.

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FY 2013 Summary of Capital Projects

Fund: 317, Capital Renewal Construction

Project #	Description	Total Project Estimate	FY 2011 Actual Expenditures	FY 2012 Revised Budget	FY 2013 Advertised Budget Plan
003099	Emergency Building Repairs		\$269,646.30	\$3,634,411.63	\$1,600,000
003100	Fire Alarm Systems		34,231.07	1,347,465.48	500,000
009132	Roof Repairs and Replacement		738,575.33	1,356,424.67	435,000
009133	Carpet Replacement		16,983.79	0.00	500,000
009136	Parking Lot and Garage Repairs		351,610.38	4,337,597.62	160,000
009145	Emergency Systems Failures		165,266.66	6,177,728.21	0
009151	HVAC/Electrical Systems		4,126,634.20	10,213,496.04	4,800,000
009431	Emergency Generator Replacement		974,275.04	1,856,930.15	1,200,000
009600	Elevator/Escalator Replacement		429,443.10	9,364,760.72	6,025,000
009601	Public Safety Capital Renewal		1,254,694.57	8,099,482.22	0
009602	Window Replacement		84,000.00	146,000.00	65,000
009703	State Support for MPSTOC Renewal		0.00	355,461.00	0
009704	County Support for MPSTOC Renewal		0.00	571,904.00	0
Total		\$0	\$8,445,360.44	\$47,461,661.74	\$15,285,000