

Appendix A: Application Form for Grant Requests for All Categories

Virginia Department of Conservation and Recreation
Virginia Community Flood Preparedness Fund Grant Program

Name of Local Government:

Fairfax County

Category of Grant Being Applied for (check one):

Capacity Building/Planning


Project

Study

NFIP/DCR Community Identification Number (CID) 515525

If a state or federally recognized Indian tribe, Name of tribe N/A

Name of Authorized Official: Bryan J. Hill, County Executive

Signature of Authorized Official: 

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 552

City: Fairfax **State:** VA **Zip:** 22035

Telephone Number: (703) 324-2531 **Cell Phone Number:** () N/A

Email Address: cexbryanhill@fairfaxcounty.gov

Contact Person (If different from authorized official): Craig Carinci

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 449

City: Fairfax State: VA Zip: 22035

Telephone Number: (703) 324-5500 Cell Phone Number: () N/A

Email Address: craig.carinci@fairfaxcounty.gov

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes ___ No X

Categories (select applicable project):

Project Grants (Check All that Apply)

- Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
- Wetland restoration.
- Floodplain restoration.
- Construction of swales and settling ponds.
- Living shorelines and vegetated buffers.
- Structural floodwalls, levees, berms, flood gates, structural conveyances.
- Storm water system upgrades.
- Medium and large scale Low Impact Development (LID) in urban areas.
- Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool.
- Dam restoration or removal.
- Stream bank restoration or stabilization.
- Restoration of floodplains to natural and beneficial function.
- Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.

Study Grants (Check All that Apply)

- Studies to aid in updating floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.
- Revising other land use ordinances to incorporate flood protection and mitigation goals, standards and practices.
- Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA). For example, a local government might conduct a hydrologic and hydraulic study for an area that had not been studied because the watershed is less than one square mile. Modeling the floodplain in an area that has numerous letters of map change that suggest the current map might not be fully accurate or doing a detailed flood study for an A Zone is another example.
- Studies and Data Collection of Statewide and Regional Significance.
- Revisions to existing resilience plans and modifications to existing comprehensive and hazard.
- Other relevant flood prevention and protection project or study.

Capacity Building and Planning Grants

- Floodplain Staff Capacity.
- Resilience Plan Development
 - Revisions to existing resilience plans and modifications to existing comprehensive and hazard mitigation plans.
 - Resource assessments, planning, strategies and development.
 - Policy management and/or development.
 - Stakeholder engagement and strategies.

Location of Project (Include Maps): Fairfax County Pimmit Run Watershed - Tucker Avenue Neighborhood

NFIP Community Identification Number (CID#):(See appendix F 515525)

Is Project Located in an NFIP Participating Community? Yes No

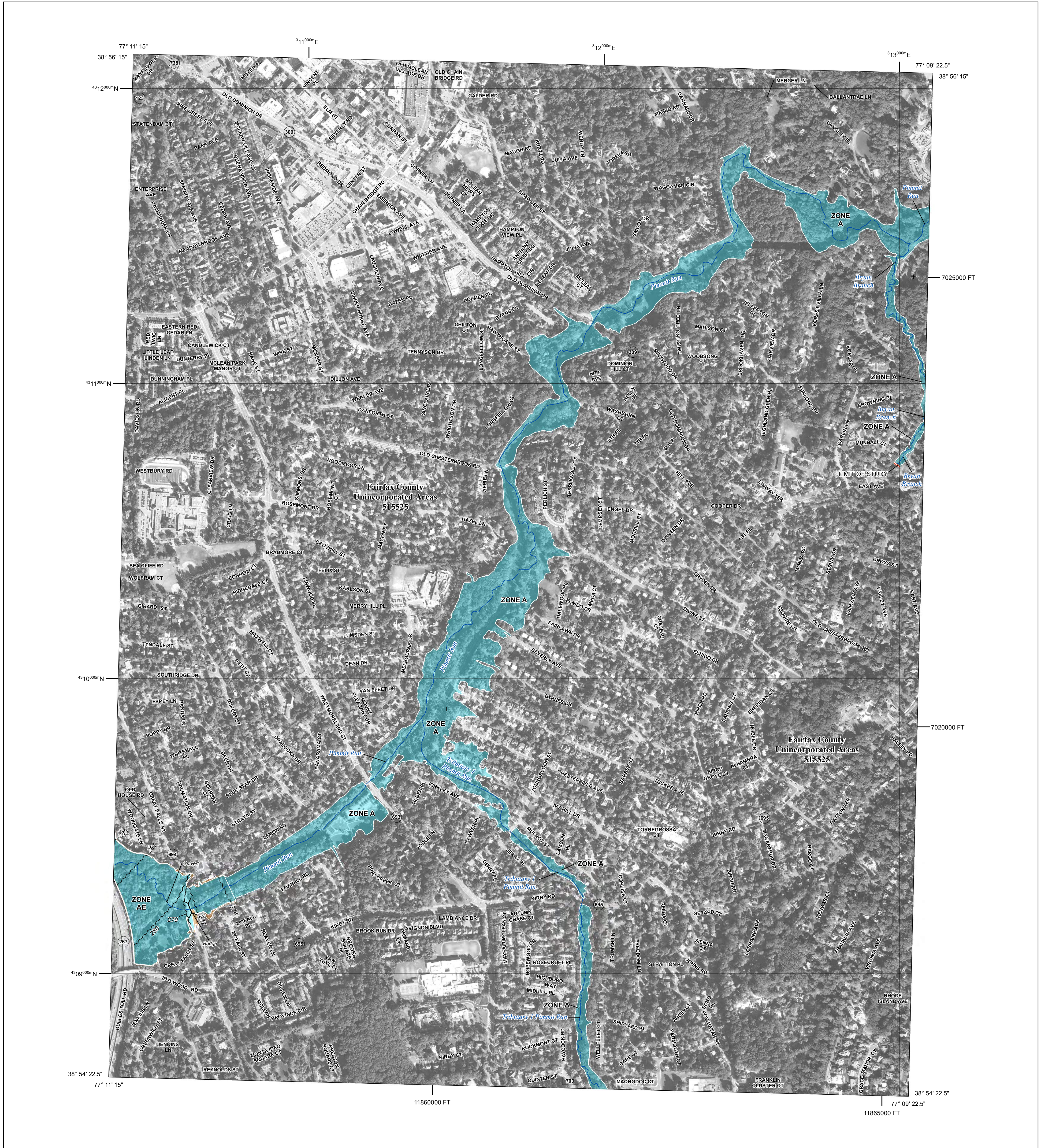
Is Project Located in a Special Flood Hazard Area? Yes No

Flood Zone(s) (If Applicable): SFHA Zone A

Flood Insurance Rate Map Number(s) (If Applicable): 51059C0166F A map is included
in the next page

Total Cost of Project: \$9,834,000

Total Amount Requested \$5,900,000



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)

	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes. Zone X
	Area with Flood Risk due to Levee Zone D
	NO SCREEN Areas of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	18.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

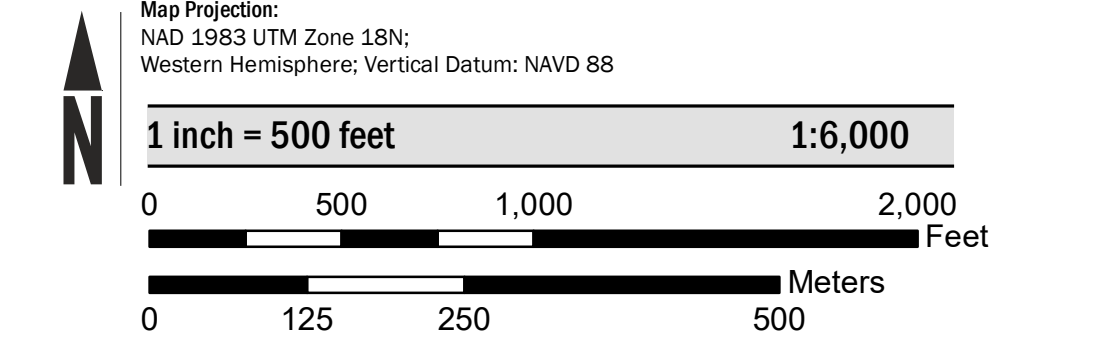
For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at <https://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

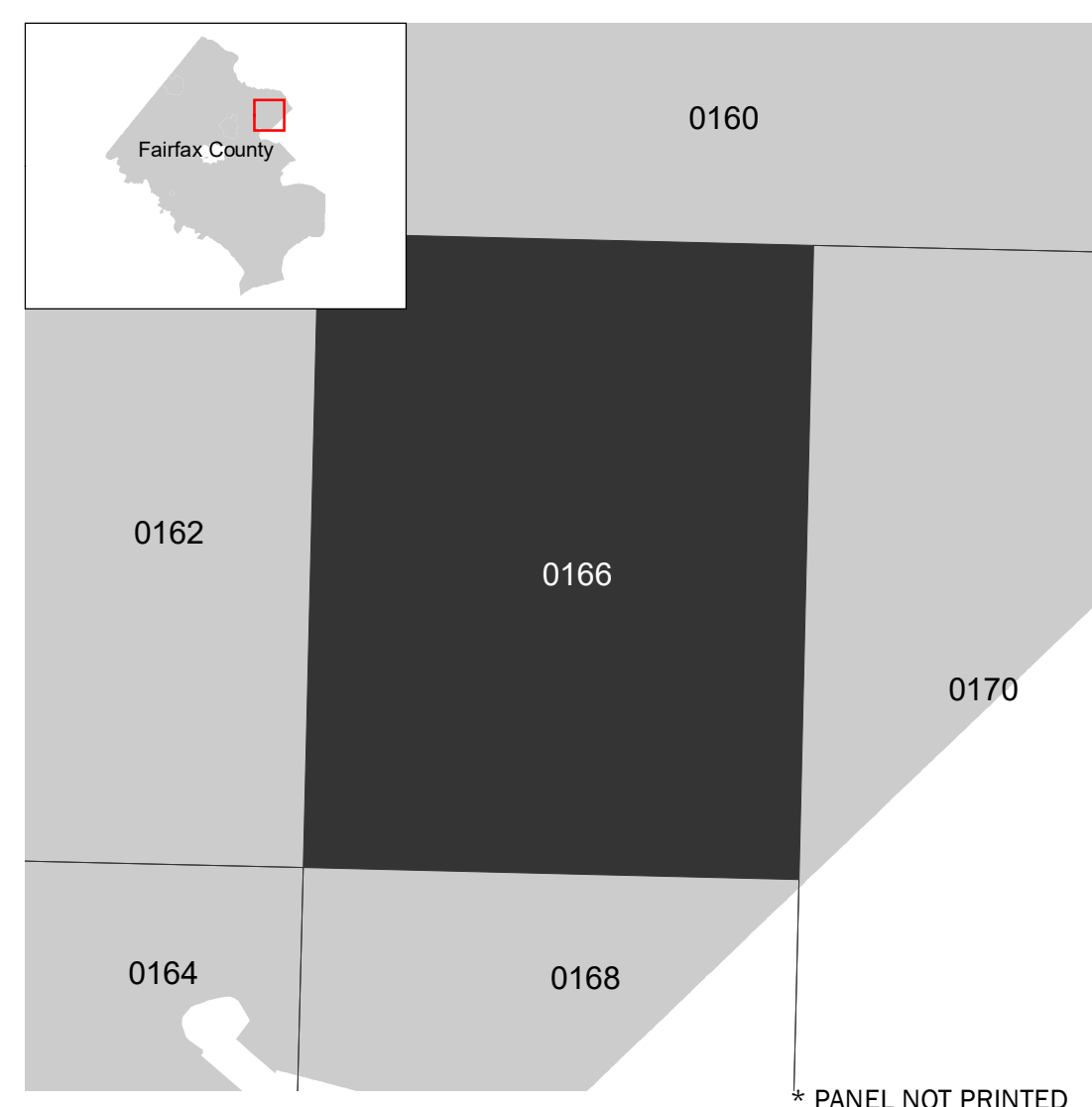
For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction. To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the United States Department of Agriculture - Aerial Photography Field Office (USDA - APFO), National Agriculture Imagery Program (NAIP). This information was derived from digital orthophotography at a 2-foot resolution from photography dated 2019.

SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA
 And Incorporated Areas

PANEL 166 of 450

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
FAIRFAX COUNTY	515525	0166	F

PRELIMINARY
4/30/2021

VERSION NUMBER
2.6.4.6
MAP NUMBER
51059C0166F
MAP REVISED

FEMA

Appendix B: Scoring Criteria for Flood Prevention and Protection Projects

Virginia Department of Conservation and Recreation
 Virginia Community Flood Preparedness Fund Grant Program

Applicant Name:		Fairfax County
Eligibility Information		
Criterion	Description	Check One
1. Is the applicant a local government (including counties, cities, towns, municipal corporations, authorities, districts, commissions, or political subdivisions created by the General Assembly or pursuant to the Constitution or laws of the Commonwealth, or any combination of these)?		
Yes	Eligible for consideration	X
No	Not eligible for consideration	
2. Does the local government have an approved resilience plan and has provided a copy or link to the plan with this application?		
Yes	Eligible for consideration under all categories	X
No	Eligible for consideration for studies, capacity building, and planning only	
3. If the applicant is <u>not a town, city, or county</u>, are letters of support from all affected local governments included in this application?		
Yes	Eligible for consideration	
No	Not eligible for consideration	
4. Has this or any portion of this project been included in any application or program previously funded by the Department?		
Yes	Not eligible for consideration	
No	Eligible for consideration	X
5. Has the applicant provided evidence of an ability to provide the required matching funds?		
Yes	Eligible for consideration	X
No	Not eligible for consideration	
N/A	Match not required	

Project Eligible for Consideration		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Applicant Name:			
Scoring Information			
Criterion	Point Value	Points Awarded	
6. Eligible Projects (Select all that apply)			
Projects may have components of both 1.a. and 1.b. below; however, only one category may be chosen. The category chosen must be the primary project in the application.			
1.a. Acquisition of property consistent with an overall comprehensive local or regional plan for purposes of allowing inundation, retreat, or acquisition of structures.	50		
<input type="checkbox"/> Wetland restoration, floodplain restoration <input type="checkbox"/> Living shorelines and vegetated buffers. <input type="checkbox"/> Permanent conservation of undeveloped lands identified as having flood resilience value by <i>ConserveVirginia</i> Floodplain and Flooding Resilience layer or a similar data driven analytic tool <input type="checkbox"/> Dam removal <input type="checkbox"/> Stream bank restoration or stabilization. <input type="checkbox"/> Restoration of floodplains to natural and beneficial function. <input type="checkbox"/> Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.	45		
1.b. any other nature-based approach	40		
All hybrid approaches whose end result is a nature-based solution	35	X	
All other projects	25		
7. Is the project area socially vulnerable? (Based on ADAPT VA's Social Vulnerability Index Score.)			
Very High Social Vulnerability (More than 1.5)	15		
High Social Vulnerability (1.0 to 1.5)	12		
Moderate Social Vulnerability (0.0 to 1.0)	8		
Low Social Vulnerability (-1.0 to 0.0)	0		
Very Low Social Vulnerability (Less than -1.0)	0		
8. Is the proposed project part of an effort to join or remedy the community's probation or suspension from the NFIP?			

Yes	10	
No	0	
9. Is the proposed project in a low-income geographic area as defined in this manual?		
Yes	10	
No	0	
10. Projects eligible for funding may also reduce nutrient and sediment pollution to local waters and the Chesapeake Bay and assist the Commonwealth in achieving local and/or Chesapeake Bay TMDLs. Does the proposed project include implementation of one or more best management practices with a nitrogen, phosphorus, or sediment reduction efficiency established by the Virginia Department of Environmental Quality or the Chesapeake Bay Program Partnership in support of the Chesapeake Bay TMDL Phase III Watershed Implementation Plan?		
Yes	5	X
No	0	
11. Does this project provide "community scale" benefits?		
Yes	20	X
No	0	
Total Points		60

Appendix D: Checklist All Categories

Virginia Department of Conservation and Recreation

Community Flood Preparedness Fund Grant Program

Scope of Work Narrative	
Supporting Documentation	Included
Detailed map of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
FIRMette of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Historic flood damage data and/or images (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current floodplain ordinance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Non-Fund financed maintenance and management plan for project extending a minimum of 5 years from project close	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current hazard mitigation plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current comprehensive plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
If applicant is not a town, city, or county, letters of support from affected communities	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Completed Scoring Criteria Sheet in Appendix B, C, or D	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Budget Narrative	
Supporting Documentation	Included
Authorization to request funding from the Fund from governing body or chief executive of the local government	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Signed pledge agreement from each contributing organization	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

FAIRFAX COUNTY

Tucker Avenue Neighborhood Stormwater Improvement

Virginia Community Flood Preparedness Fund

FY 2022 ROUND 3 GRANT APPLICATION



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Attachments

Executive Summary

Fairfax County is applying for grant assistance under the Virginia Department of Conservation and Recreation (DCR) Community Flood Preparedness Fund (CFPF) Round 3 ‘Project’ category to help mitigate flooding in the Tucker Avenue Neighborhood in McLean within the Dranesville Magisterial District. The project, *Tucker Avenue Neighborhood Stormwater Improvement*, is focused on implementing a neighborhood-wide conveyance system that can collect stormwater flow that currently overwhelms existing roads and a limited storm drainage system.

Virginia DCR approved the County’s Resilience Plan on January 10, 2022. The County has integrated flood mitigation and resilience goals across areas of the local government, with flood resilience a priority addressed holistically through watershed and countywide comprehensive planning. The County has established requirements for development controls in the floodplain through zoning and the local floodplain ordinance. In order to address recent repetitive floodings, the County has prepared a draft flood response plan. The County is also developing a comprehensive regulated floodplain to assess and implement future projects.

The proposed project addresses the community concerns and supports resilience goals by addressing the entire watershed drainage problem within the project area.

Scope of Work Narrative

The County has participated in regional efforts in the development of several regional strategies and plans to **address resiliency**, mitigation, and impacts of climate change. These are described below.

1. Project Information

Background

Tucker Avenue Stormwater Neighborhood Improvement project is located in the Chesterfield and Chesterbrook Garden neighborhoods in Fairfax County (Map 1 below). These neighborhoods were built prior to the requirements for post construction stormwater management and very little infrastructure exists to carry the runoff from numerous residential lots and roadways. Infill lot development is occurring throughout the neighborhoods and as a result cumulative stormwater impacts are increasing across the drainage area. The existing drainage systems are inadequate. Much of the flow in the project area drains toward Tucker Avenue where no storm sewers or roadside ditches exist (Map 2). Runoff from Chesterfield Avenue and connected roads flows through the back of homes in Tucker Avenue resulting in rear yard flooding.

Population

Fairfax County has a population of about 1.17 million. The proposed project is in the Dranesville Magisterial District in McLean. The project impacts 222 single family homes and approximately 820 residents.

Historic Flooding Data and Hydrologic Studies

The project area has recorded multiple events of flooding in the past, most recently on July 8, 2019. Map 2 below also shows the reported storm drainage issues in the project drainage shed (houses highlighted by yellow color). Fifteen homes reported structural flooding because of the July 8, 2019, event.

Local Government Cost Share

Construction of the project is included in the County's FY23 stormwater capital improvement plan (CIP) and funding for the project is available in Regulatory Program Support under Fund 40100 Stormwater Services in the Fairfax County Fiscal Year 2023 budget (see Attachment 1 for the County's stormwater budget document)

County Floodplain Management Regulations

Fairfax County participates in the National Flood Insurance Program as well as Community Rating System Program (Attachment 2). Floodplains are regulated under article 5104 of the County's Zoning Ordinance. The Zoning Ordinance is included in the link below: <https://online.encodeplus.com/regs/fairfaxcounty-va/doc-viewer.aspx#secid-462>

Fairfax County regulates proposed uses and disturbances in the 100-year flood inundation area associated with all channels or conveyance systems that have a contributing drainage area of 70 acres or more. Currently, existing floodplain boundaries and water surface elevations are available from several sources and a significant portion of regulated floodplain is not mapped. A separate effort of developing a comprehensive regulated floodplain map is currently underway.

Based on the 2010 mapping of the Special Flood Hazard Areas (SFHAs) by FEMA, the floodplain immediately downstream of the project area is classified as SFHA Zone-A.

Project Priority

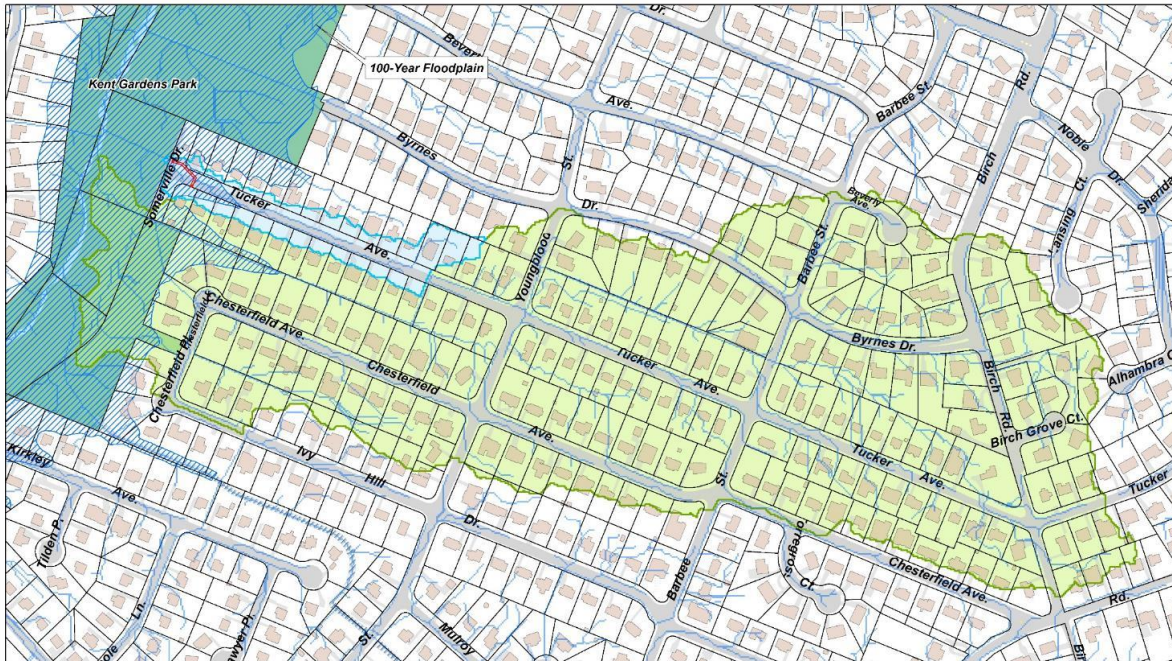
This project was prioritized in the district as a result of numerous structural and yard flooding complaints. The project area is a typical residential neighborhood where homes were built in the 1950's prior to floodplain regulations. There are two properties in this neighborhood which are not in FEMA mapped floodplain but have reported repetitive flooding and multiple homes that report yard flooding. Photos of recent flooding are shown in Figure 1 below.

During a recent extreme event on July 8, 2019, severe storms were recorded by the County's Contrail system. Actual accumulation of over 3.95-inches was recorded in one hour. Weather Underground recorded 3.48" within 45 minutes, and NOAA Atlas predicated 500-year 60-minute rainfall to be 3.98 inches.

Critical Facilities

Youngblood and Barbee Streets, which provide cross neighborhood access to the community, flood severely at the intersection of Tucker Avenue. During the July 8, 2019, event, the intersection was inundated with several feet of water due to an overwhelmed drainage system.

Map 1: Tucker Avenue Neighborhood location



Map 2: Project drainage

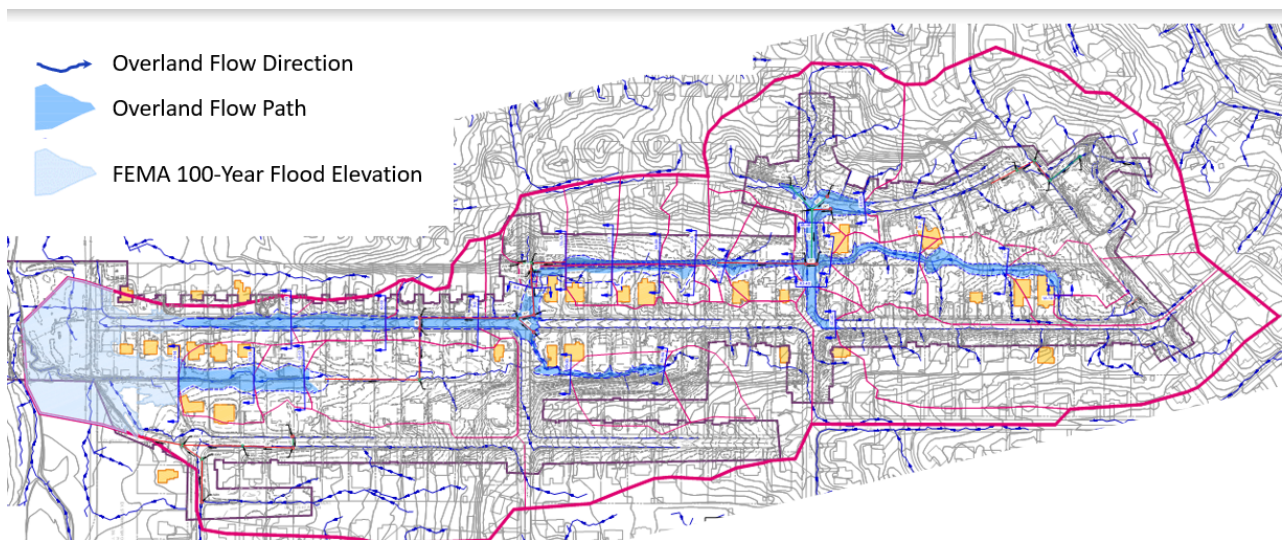
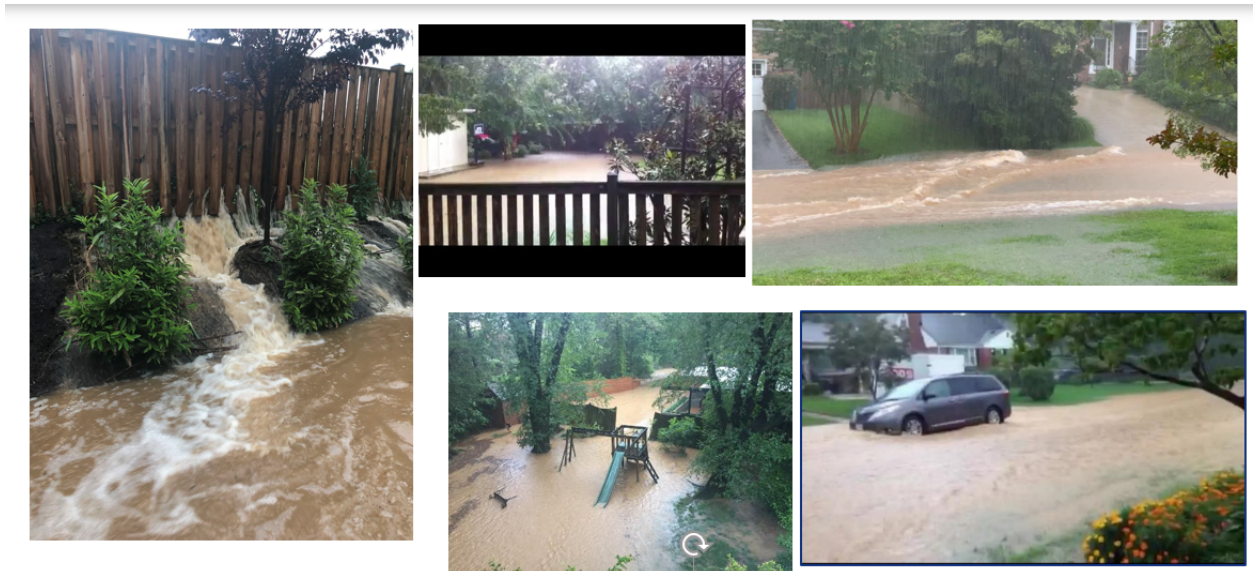


Figure 1: Community flooding July 8, 2019

2. Need for Assistance

Financial and Staff Resources

The Stormwater Services Emergency and Flood Response Projects program supports flood control projects for unanticipated flooding events that impact storm systems and structural flooding. The program provides annual funding for scoping, design, and construction activities related to flood mitigation projects. Fairfax County's advertised Fiscal Year 2023 Stormwater Services budget includes \$7.0 million for emergency and flood response projects, but there is an estimated total cost of \$36.7 million for active flood mitigation projects (see Figure 2). With the increase in the frequency and intensity of storms due to climate change, we expect the number of flood mitigation projects to grow and the associated project design and construction costs will extend well beyond what the County's current emergency and flood response program can support.

Figure 2. Fiscal Year 2023 Advertised Budget- Stormwater Services Summary of Capital Projects

Project	Total Project Estimate	FY 2021 Actual Expenditures	FY 2022 Revised Budget	FY 2023 Advertised Budget Plan
Conveyance System Inspection/Development (2G25-028-000)	\$13,725,000	\$1,547,185.84	\$4,734,379.98	\$2,000,000
Conveyance System Rehabilitation (SD-000034)	65,034,135	6,858,021.91	10,922,648.48	7,000,000
Dam & Facility Maintenance (2G25-031-000)	30,194,841	5,511,833.19	7,422,312.42	5,000,000
Dam Safety and Facility Rehabilitation (SD-000033)	62,576,104	5,838,539.60	12,227,774.80	10,000,000
Debt Service for SW/WW Facility (2G25-117-000)	9,179,000	0.00	5,000,000.00	4,179,000
Emergency and Flood Response Projects (SD-000032)	36,686,091	1,432,074.25	14,457,916.30	7,000,000
Enterprise Asset Management-Work Order System (SD-000044)	2,400,000	0.00	1,000,000.00	1,400,000
Flood Prevention-Huntington Area-2012 (SD-000037)	41,350,000	204,250.20	2,260,024.24	0
Lake Accotink Dredging (SD-000041)	5,000,000	576,187.62	4,423,812.38	0
Laurel Hill Adaptive Reuse Infrastructure (SD-000038)	1,925,000	8,306.59	0.00	0
NVSWCD Contributory (2G25-007-000)	6,530,042	554,811.00	554,811.00	609,346
Occoquan Monitoring Contributory (2G25-008-000)	1,750,641	172,138.00	177,799.00	183,437
Scotts Run Stream Restoration (SD-000043)	151,358	151,357.99	0.00	0
Stormwater Allocation to Towns (2G25-027-000)	7,644,829	816,434.14	1,294,119.92	1,000,000
Stormwater Civil Penalties Fees (2G25-119-000)	185,750	0.00	185,750.00	0
Stormwater Facility (SD-000039)	96,515,000	1,985,385.95	88,412,475.41	0
Stormwater Proffers (2G25-032-000)	56,500	0.00	56,500.01	0
Stormwater Regulatory Program (2G25-006-000)	64,014,584	2,588,925.98	7,420,778.36	4,000,000
Stream & Water Quality Improvements (SD-000031)	255,588,016	22,533,970.99	80,322,038.93	23,507,957
Towns Grant Contribution (2G25-029-000)	4,805,976	176,548.01	906,583.17	0
Tree Preservation and Plantings (2G25-030-000)	308,916	28,427.87	232,993.36	0
Total	\$705,621,783	\$50,984,399.13	\$242,012,717.76	\$65,879,740

Low Income Geographic Areas

The project does not fall in a low-income geographic area.

Vulnerability Index

Based on the Vulnerability Index Mapping (Attachment 3), the project is not in a socially vulnerable area.

Alternatives

The project is a hybrid solution.

3. Goals and Objectives

Following are the primary goals and objectives of the project:

- Improve drainage system and reduce localized flooding and erosion by designing an adequate drainage system as defined in the County codes and Public Facilities Manual. The design will evaluate the cumulative increases in runoff from infill development based on existing and future buildout conditions.
- Address public safety concerns.

- Improve water quality and stream protection. Stormwater runoff from the drainage area to this unnamed tributary to Little Pimmit Run is incised and causing the stream to erode. The downstream Pimmit Run is listed as impaired (does not meet water quality standards) by Virginia Department of Environmental Quality (DEQ).
- Use innovative, sustainable, and functional designs.
- Partner with the Virginia Department of Transportation and Fairfax County Department of Transportation to develop a sound, cost effective solution that can be collaboratively implemented and maintained.

Project details, goals and objectives, and activities are also included in the following project website:

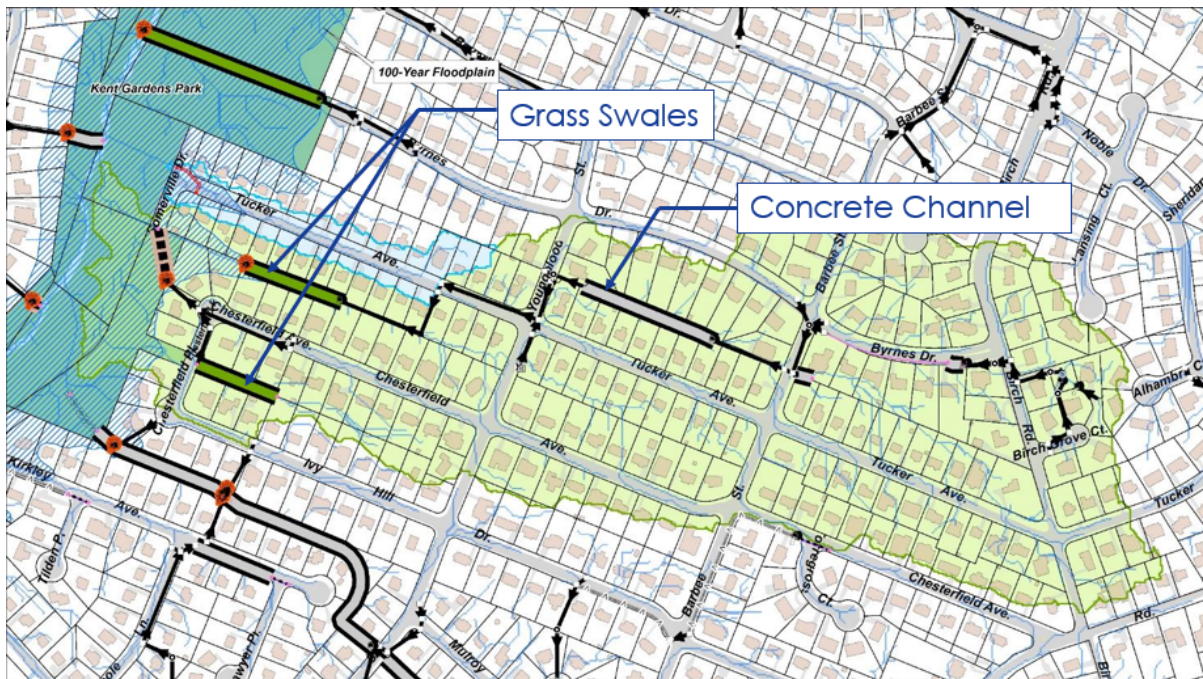
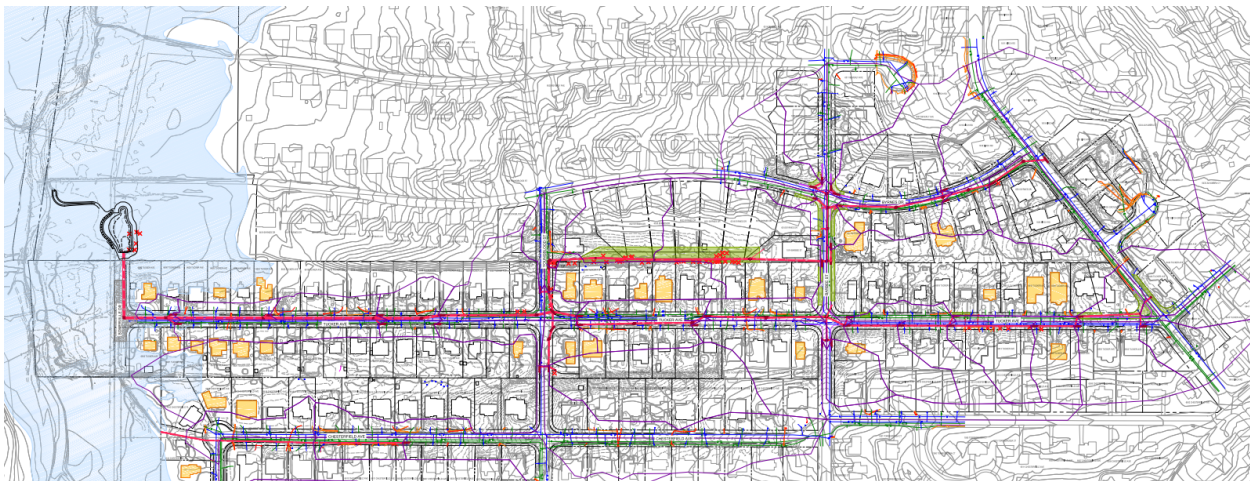
<https://www.fairfaxcounty.gov/publicworks/tucker-ave-stw>

4. Approach, Milestones, and Deliverables

The existing conveyance system in the project drainage area is limited (Map 3 below). During a significant storm event the Tucker Avenue right of way serves as the overland relief path.

This project will design stormwater management facilities and conveyance systems in the neighborhood serving a drainage area of approximately 67 acres. A new storm sewer main will be constructed down Tucker Avenue, as well as improvements to the existing storm sewer system throughout the watershed. Green infrastructure facilities (four) will be constructed in strategic locations to provide water quality, quantity, and overland relief benefits. Map 4 below shows the proposed stormwater infrastructures in the project drainage area.

Typically, closed stormwater conveyance systems are designed to carry the 10-year flow. Due to repeated flooding in this neighborhood and to build resilience, the closed conveyance system is being designed to accommodate the 100-year flow capacity within the pipe.

Map 3: Existing conveyance system**Map 4: Proposed conveyance and green infrastructures system**

A final design for the project is currently under review. Coordination with utility companies is currently underway to relocate their lines within areas of conflicts. The project is currently scheduled to go to construction in Fall of 2022. The construction is estimated to be complete in two (2) years once the contractor has mobilized.

5. Relationship to Other Projects

Fairfax County's Pimmit Run watershed management plan identified PM9814 as a neighborhood project that includes the El Nido, Chesterfield, Chesterbrook Garden, and Grass Ridge neighborhoods. This project was chosen from a portion of the larger project (PM9814) as the most severe flooding occurs in the Chesterfield and Chesterbrook Garden neighborhoods. Another neighborhood project is currently in conceptual design adjacent to this to address flooding. These projects are proposed to address the most severe flooding situations in their respective neighborhoods independent of each other.

The Pimmit Run watershed management plan can be found in the following link for the Middle Potomac Watershed management plan:

<https://www.fairfaxcounty.gov/publicworks/stormwater/middle-potomac-watersheds>

6. Maintenance Plan

Fairfax County has a dedicated maintenance program. The Maintenance and Stormwater Management Division (MSMD) maintains all public stormwater infrastructure and facilities. Since this project will be constructed by the County, it will be maintained by MSMD.

Scoring Criteria

1. Is the applicant a local government (including counties, cities, towns, municipal corporations, authorities, districts, commissions, or political subdivisions created by the General Assembly or pursuant to the Constitution or laws of the Commonwealth, or any combination of these or a recognized state or federal Indian tribe)?
The applicant (Fairfax County) is a local jurisdiction in the Commonwealth of Virginia
2. Does the local government have an approved resilience plan meeting the criteria as established by this grant manual? Has it been attached or a link provided?
The County has an approved resilience plan (see Attachment 4)
3. For local governments that are not towns, cities, or counties, have letters of support been provided from affected local governments?
This criterion is not applicable. The applicant is a local jurisdiction.
4. Has the applicant provided evidence of an ability to provide the required match funds?
The project is included in the FY23 CIP for construction (see Attachment 1).
5. Has the applicant demonstrated to the extent possible, the positive impacts of the project or study on prevention of flooding?
The main objective of this project is to reduce the flooding in the neighborhood. The project has been designed to provide resiliency in the closed system to handle the 100-year storm event. Green infrastructure has been proposed to provide water quality benefits and detention.

SUPPORTING DOCUMENTATION

Scope of Work Narrative	
Documents	Link or Attachment
Detailed map of the project area	Attachment 5
FirMette of the project area	Attachment 6
Historic flood damage data/image	Figure 2 above
Link to the current floodplain ordinance	https://online.encodeplus.com/regs/fairfaxcounty-va/doc-viewer.aspx#secid-462
No-fund maintenance and management plan	Described in maintenance plan above
Copy of the current hazard mitigation plan	https://www.fairfaxcounty.gov/emergencymanagement/sites/emergencymanagement/files/assets/documents/pdf/hazard%20mitigation%20plan%2010.22.19.pdf
Copy of the current comprehensive plan	https://www.fairfaxcounty.gov/planning-development/fairfax-county-comprehensive-plan
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer	Attachment 3
Completed Scoring Criteria Sheet Appendix B, C, D	Included above as Appendix D

Budget Narrative

Estimated total project cost: \$9,834,000

Encumbered: \$1,897,964

Design & Construction Administration: \$1,482,000

Land Acquisition: \$211,465

Utilities: \$204,499

Un-encumbered:

FFX Water relocation: \$540,123

Construction: \$7,395,913

See Attachment 7 for the project encumbrances and Attachment 8 for the construction estimate.

Amount of funds requested from the Fund: \$5,900,000

This is the total amount of any grant assistance sought from the Fund. 100% of this grant will be applied to the construction of the project.

Amount of cash funds available (for construction): \$2,037,000

Fairfax County already encumbered funds for the design task order, land acquisition and utilities designation. Additional funds are available in *Regulatory Program Support* under Fund 40100 Stormwater Services in the Fairfax County Fiscal Year 2023 budget (Attachment 1).

Authorization to request for funding: See Attachment 9 for the Not In Package (NIP) item to the Board of Supervisors authorizing a request for funding through the grant program.

SUPPORTING DOCUMENTATION

Budget Narrative	
Documents	Link or Attachment
Authorization to request funding from the Fund from governing body or chief executive of the local government	Attachment 9

Conclusion

Fairfax County has many older neighborhoods which were built prior to current floodplain regulations. Due to the global influence of climate change, rainfall intensity has changed over time resulting in the flooding of more and more neighborhoods like Tucker. On average, the Tucker Avenue neighborhood experiences structural or yard flooding 5-7 times a year. The implementation of this project, where limited conveyance exists, will provide the greatest relief to the neighborhood. The project not only provides a resilient conveyance system, but also improves water quality for the drainage shed. Fairfax County is therefore requesting funding support for the implementation of the project to reduce flooding threats to the neighborhood.

Attachments

Fund 40100: Stormwater Services

Mission To develop and maintain a comprehensive watershed and infrastructure management program to protect property, health, and safety; to enhance the quality of life; and to preserve and improve the environment for the benefit of the public. To plan, design, construct, operate, maintain, and inspect stormwater infrastructure; perform environmental assessments through coordinated stormwater and maintenance programs in compliance with all government regulations utilizing innovative techniques, customer feedback and program review; and to be responsive and sensitive to the needs of the residents, customers, and public partners.

Focus Stormwater Services are essential to protect public safety, preserve property values and support environmental mandates such as those aimed at protecting the Chesapeake Bay and the water quality of other local jurisdictional waterways. Projects in this fund include repairs to stormwater infrastructure, measures to improve water quality such as stream stabilization, rehabilitation, safety upgrades of state regulated dams, repair and rehabilitation of underground pipe systems, surface channels, flood mitigation, site retrofits and best management practices (BMP), and other stormwater improvements.

The Board of Supervisors approved a special service district to support the Stormwater Management Program as part of the FY 2010 Adopted Budget Plan. This service district provides a dedicated funding source for both operating and capital project requirements by levying a service rate per \$100 of assessed real estate value, as authorized by Code of Virginia Ann. Sections 15.2-2400. Since FY 2010, staff has made significant progress in the implementation of watershed master plans, public outreach efforts, stormwater monitoring activities, water quality and flood mitigation project implementation and operational maintenance programs related to existing storm drainage infrastructure including stormwater conveyance, and regulatory requirements.

A rate of \$0.0400 per \$100 of assessed value has been estimated to be required to fully support the stormwater program in the future; however, staff is currently evaluating the long-term requirements for the program to address the growth in inventory and other community needs. Some of the additional community needs under evaluation include debt service to support the Board's approval of the dredging of Lake Accotink, the anticipation of additional flood mitigation requirements, and strengthening the role and financial support for the implementation of stormwater requirements associated with Fairfax County Public Schools sites under renovation. This enhanced program may require incremental changes to the rate over time and may result in a higher rate to fully support the program. Staff continues to evaluate these requirements, as well as the staffing to support them, and analyze the impact of increased real estate values and revenue projections.

One of the recent initiatives being funded by the Stormwater Fund is the new Public Works complex which will consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions. Stormwater operations are currently conducted from various locations throughout the County, and a new colocation of both Stormwater and Wastewater staff will provide efficiencies and sharing of resources. Another initiative in progress is the planned dredging of Lake Accotink. Lake Accotink is a 55-acre lake surrounded by managed conservation areas, wetlands, deciduous and evergreen forests, and historic and prehistoric sites. Over 300,000 patrons visit the park annually to enjoy a variety of facilities and activities that vary with the season. Sediment from the upstream areas of the watershed has continued to be deposited in Lake Accotink over the years filling in the lake and limiting recreational use. Estimates for the cost of dredging including sediment disposal are still under review. Staff has identified the option of a low interest loan via the Virginia Clean Water Revolving Loan Fund (VCWRLF) as the preferred funding mechanism to fund the dredging project costs. The Stormwater fund will pay the future debt costs.

Fund 40100: Stormwater Services

While staff continues to further evaluate the impact of recent initiatives and the long-term requirements for the Stormwater Program, the FY 2023 rate will remain the same as the FY 2022 Adopted Budget Plan level of \$0.0325 per \$100 of assessed value. However, based on capital project costs and projected revenues, it is anticipated that in the next several years, incremental rate increases will be required based on continued growth of stormwater facilities and infrastructure that must be inspected and maintained by the County, the implementation of flood mitigation projects, and additional requirements in the forthcoming Municipal Separate Storm Sewer System (MS4) Permit. On an annual basis, staff will continue to evaluate the program, analyze future requirements, and develop Stormwater operational and capital resource needs.

The FY 2023 levy of \$0.0325 will generate \$94,393,055, supporting \$27,113,315 for staff and operational costs; \$65,879,740 for capital project implementation including, infrastructure reinvestment, regulatory requirements, dam safety, and contributory funding requirements; and \$1,400,000 transferred to the General Fund to partially offset central support services such as Human Resources, Purchasing, Budget and other administrative services supported by the General Fund, which benefit this fund.

Stormwater Services Operational Support

Stormwater Services operational support includes funding for staff salaries, Fringe Benefits, and Operating Expenses for all stormwater operations. In addition, Fund 40100 includes positions related to transportation operations maintenance provided by the Maintenance and Stormwater Management Division. Beginning in FY 2023, all funding for the transportation related salary expenses and equipment previously supported by Agency 87, Unclassified Administrative Expenses - Public Works Programs will be supported by capital projects in Fund 30010, General Construction and Contributions, as they do not qualify for expenses related to the stormwater service district. The transfer of funding to Fund 30010, General Construction and Contributions, will provide more transparency and the carryforward of balances at year-end.

Fund 40100 also supports the Urban Forestry Management Division (UFMD). The UFMD was established to mitigate tree loss and maximize tree planting during land development, enforce tree conservation requirements and monitor and suppress populations of Gypsy Moth, Emerald Ash Borer, and other forest pests. The division also implements programs needed to sustain the rich level of environmental, ecological, and socio-economic services provided by the County's tree canopy. The UFMD is aligned with the mission of Stormwater Services as it strives to "improve water quality and stormwater management through tree conservation." Tree canopy and forest soils function to mitigate significant levels of water pollution and stormwater runoff.

FY 2023 Stormwater Capital Project Support

Conveyance System Inspections, Development and Rehabilitation

The County owns and operates approximately 1,500 miles of underground stormwater pipes and improved channels with an estimated replacement value of over one billion dollars. The County

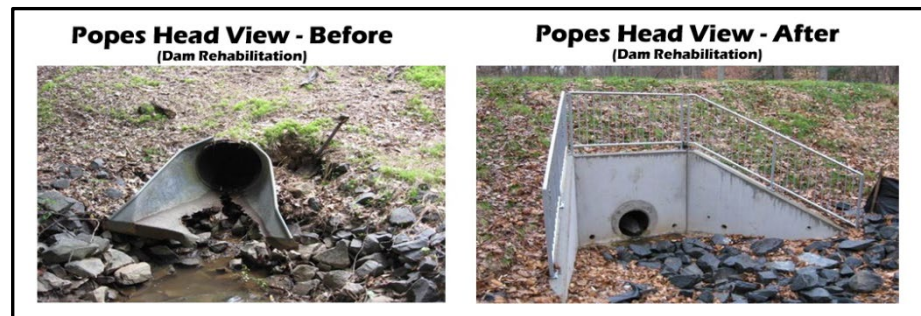


Fund 40100: Stormwater Services

began performing internal inspections of the pipes in FY 2006. The initial results showed that approximately 5 percent of the pipes exhibit conditions of failure, and an additional 5 percent required maintenance or repair. MS4 Permit regulations require inspection and maintenance of these 1,500 miles of existing conveyance systems, 69,000 stormwater structures, and a portion of the immediate downstream channel at the 7,000 regulated pipe outlets. Acceptable industry standards indicate that one dollar reinvested in infrastructure saves seven dollars in the asset's life and 70 dollars if asset failure occurs. Once the initial internal inspections are complete, the goal of this program is to inspect pipes on a 20-year cycle and rehabilitate pipes and improve outfall channels before total failure occurs. Total funding in the amount of \$9.0 million is included for Conveyance System Inspections, Development and Rehabilitation in FY 2023, including \$2.0 million for inspections and development and \$7.0 million for rehabilitation and outfall restoration.

Dam Safety and Facility Rehabilitation

There are approximately 7,900 stormwater management facilities in service that range in size from small rain gardens to large state regulated flood control dams. The County is responsible for inspecting approximately 5,500 privately-owned facilities and maintaining over 2,400 County owned facilities. This inventory increases annually and is projected to continually increase as new development and redevelopment sites occur in the County. This initiative also includes the removal of sediment that occurs in both wet and dry stormwater management facilities to ensure that



adequate capacity is maintained to treat the stormwater. The program results in approximately 50 projects annually that require design and construction management activities as well as contract management and maintenance responsibilities. This program maintains the structures and dams that control and treat the water flowing through County owned facilities. This program improves dam safety by supporting annual inspections of 20 state-regulated dams and the Huntington Levee and by developing Emergency Action Plans required by the state. The Emergency Action Plans are updated annually. In addition, these plans include annual emergency drills and exercises, and flood monitoring for each dam. Total funding in the amount of \$15.0 million is included in FY 2023, including \$5.0 million for maintenance and \$10.0 million for rehabilitation.

Stormwater/Wastewater Facility

This project will provide funding for a Stormwater/Wastewater Facility which will consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions. Currently, Stormwater operations are conducted from various locations throughout the County, with the majority of staff located at the West Drive facility. Facilities for field maintenance operations and for field/office-based staff are inadequate and outdated for the increased scope of the stormwater program, and inadequate to accommodate future operations. This project is currently in design with construction anticipated to begin in early 2022. The facility is financed by EDA bonds with the Stormwater Services Fund and Wastewater Fund supporting the debt service. Funding in the amount of \$4.2 million is included in FY 2023 to support the second year of debt service for the Stormwater/Wastewater Facility.

Fund 40100: Stormwater Services

Emergency and Flood Response Projects

This program supports flood control projects for unanticipated flooding events that impact storm systems and structural flooding. The program provides annual funding for scoping, design, and construction activities related to flood mitigation projects. Funding in the amount of \$7.0 million is included for the Emergency and Flood Response Projects in FY 2023.

Enterprise Asset Management-Work Order System

This project will provide funding for the transition from an Enterprise Asset Management (EAM) system to a more functional Asset Management Program (AMP). This funding will support the acquisition of software, servers and consultant services to migrate asset management and related work order management into the new system. The current system tracks assets, inspections, daily work management and associated contractor costs. Features of the replacement system include geographic information system (GIS) integration and field mobility. The Department of Public Works and Environmental Services (DPWES) Information Technology staff have collaborated with the Stormwater Management and the Wastewater Management staff to promote interagency capabilities, optimize performance, and improve system lifecycle management for the new system. This new system will meet the future expectations for both divisions and optimize service delivery for DPWES. Funding in the amount of \$1.4 million is included in Capital Projects and an amount of \$800,000 is included in Operating Expenses for this project in FY 2023.

Stormwater-Related Contributory Program

Contributory funds are provided to the Northern Virginia Soil and Water Conservation District (NVSWCD) and the Occoquan Watershed Monitoring Program (OWMP). The NVSWCD is an independent subdivision of the Commonwealth of Virginia that provides leadership in the conservation and protection of Fairfax County's soil and water resources. It is governed by a five-member Board of Directors - three members are elected every four years by the voters of Fairfax County and two members are appointed by the Virginia Soil and Water Conservation Board. Accordingly, the work of NVSWCD supports many of the environmental goals established by the Board of Supervisors. The goal of the NVSWCD is to continue to improve the quality of the environment and general welfare of the citizens of Fairfax County by providing them with a means of dealing with soil, water conservation and related natural resource problems. It provides County agencies with comprehensive environmental evaluations for proposed land use changes with particular attention to the properties of soils, erosion potential, drainage, and the impact on the surrounding environment. NVSWCD has consistently been able to create partnerships and leverage state, federal and private resources to benefit natural resources protection in Fairfax County. FY 2023 funding of \$0.6 million is included in Fund 40100 for the County contribution to the NVSWCD.

The OWMP and the Occoquan Watershed Monitoring Laboratory (OWML) were established to ensure that water quality is monitored and protected in the Occoquan Watershed. Given the many diverse uses of the land and water resources in the Occoquan Watershed (agriculture, urban residential development, commercial and industrial activity, water supply, and wastewater disposal), the OWMP plays a critical role as the unbiased interpreter of basin water quality information. FY 2023 funding of \$0.2 million is included in Fund 40100 for the County contribution to the OWMP.

Stormwater Allocation to Towns

On April 18, 2012, the State Legislature passed SB 227, which entitles the Towns of Herndon and Vienna to all revenues collected within their boundaries by Fairfax County's stormwater service district. An agreement was developed for a coordinated program whereby the Towns remain part of the County's service district and the County returns 25 percent of the revenue collected from properties within each town. This allows for the Towns to provide services independently such as

Fund 40100: Stormwater Services

maintenance and operation of stormwater pipes, manholes, and catch basins. The remaining 75 percent remains with the County and the County takes on the responsibility for the Towns' Chesapeake Bay Total Maximum Daily Load (TMDL) requirements as well as other TMDL and MS4 requirements. This provides for an approach that is based on watersheds rather than on jurisdictional lines. Funding in the amount of \$1.0 million is included for the Stormwater Allocations to Towns project in FY 2023.

Regulatory Program

The County is required by federal law to operate under the conditions of a state issued MS4 Permit. Stormwater staff annually evaluates funding required to meet the increasing federal and state regulatory requirements pertaining to the MS4 Permit, and State and Federal mandates associated with controlling water pollution delivered to local streams and the Chesapeake Bay. The MS4 Permit allows the County to discharge stormwater from its stormwater systems into state and federal waters. The County currently owns and/or operates approximately 15,000 outfalls, and 7,000 of these outfalls are regulated outfalls governed by the permit. The current permit was issued to the County in April 2015 and expired in April 2020. The County is operating under an administrative continuance until a new permit is issued. The permit requires the County to document the stormwater management facility inventory, enhance public outreach and education efforts, increase water quality monitoring efforts, provide stormwater management and stormwater control training to all appropriate County employees. The permit requires the County to implement sufficient stormwater projects that will reduce the nutrients and sediment to comply with the Chesapeake Bay and local stream TMDL requirements. Funding in the amount of \$4.0 million is included for the Stormwater Regulatory Program in FY 2023.

Stream and Water Quality Improvements

This program funds water quality improvement projects necessary to mitigate the impacts to local streams and the Chesapeake Bay resulting from urban stormwater runoff. This includes water quality projects such as construction and retrofit of stormwater management ponds, implementation of green stormwater infrastructure facilities, stream restoration, and water quality projects identified in the completed Countywide Watershed Management Plans. These projects will aid in the reduction of

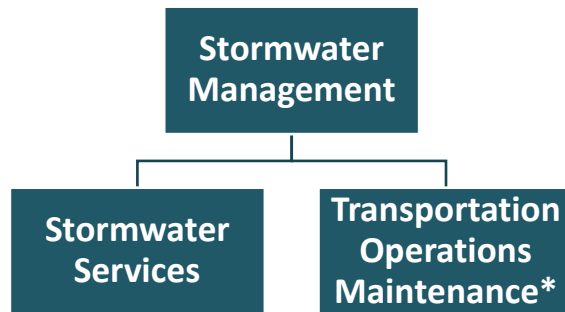


pollutants and improve water quality in county streams that are considered to be in fair to very poor condition and likely do not meet CWA water quality standards. In addition, Total Maximum Daily Load (TMDL) requirements for local streams and the Chesapeake Bay are the regulatory drivers by which pollutants entering impaired water bodies must be reduced. The Chesapeake Bay TMDL was established by the EPA and requires that MS4 communities as well as other dischargers implement measures to significantly reduce the nitrogen, phosphorous and sediment loads in waters that drain to the Chesapeake Bay by 2025. MS4 Permit holders must achieve 35 percent of the required reductions within the current five-year permit cycle and 60 percent of the required reductions in the

Fund 40100: Stormwater Services

next five-year permit cycle. In addition, compliance with the Chesapeake Bay TMDL requires that the County undertake construction of new stormwater facilities and retrofit existing facilities and properties. The EPA continually updates the Chesapeake Bay compliance targets and credits. It is anticipated that the changes to the assigned targets as well as how projects are credited will likely impact future compliance requirements. In addition to being required to meet the Chesapeake Bay TMDL targets, the current MS4 Permit requires the County to develop and implement action plans to address local impairments. Most of the 1,900 watershed management plan projects contribute toward achieving the Chesapeake Bay and local stream TMDL requirements. Funding in the amount of \$23.5 million is included for Stream and Water Quality Improvements in FY 2023.

Organizational Chart



*Denotes functions that are included in both Fund 30010, General Construction and Contributions, and Fund 40100, Stormwater Services.

Budget and Staff Resources

Category	FY 2021 Actual	FY 2022 Adopted	FY 2022 Revised	FY 2023 Advertised
FUNDING				
Expenditures:				
Personnel Services	\$20,448,442	\$22,615,643	\$22,813,269	\$24,580,634
Operating Expenses	3,919,893	3,182,636	3,389,603	4,010,636
Capital Equipment	1,077,511	782,000	1,887,143	652,000
Capital Projects	50,984,399	61,600,414	242,012,718	65,879,740
Subtotal	\$76,430,245	\$88,180,693	\$270,102,733	\$95,123,010
Less:				
Recovered Costs	(\$1,832,157)	(\$2,129,955)	(\$2,129,955)	(\$2,129,955)
Total Expenditures	\$74,598,088	\$86,050,738	\$267,972,778	\$92,993,055
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	202 / 202	200 / 200	200 / 200	208 / 208

FY 2023 Funding Adjustments

The following funding adjustments from the FY 2022 Adopted Budget Plan are necessary to support the FY 2023 program:

Employee Compensation **\$1,214,199**
 An increase of \$ 1,214,199 in Personnel Services includes \$850,684 for a 4.01 percent market rate adjustment (MRA) for all employees and \$363,515 for performance-based and longevity increases for non-uniformed merit employees, both effective July 2022.

Fund 40100: Stormwater Services

Other Post-Employment Benefits **(\$106,403)**

A decrease of \$106,403 in Personnel Services reflects required adjustments associated with providing Other Post-Employment Benefits (OPEBs) to retirees, including the Retiree Health Benefits Subsidy. For more information on Other Post-Employment Benefits, please refer to Fund 73030, OPEB Trust, in Volume 2 of the FY 2023 Advertised Budget Plan.

New Positions **\$885,195**

An increase of \$885,195 including Personnel Services of \$857,195 and Operating Expenses of \$28,000 is necessary to fund requirements associated with 8/8.0 FTE new positions, including 1/1.0 Engineering Technician III, 1/1.0 FTE Planner III, 1/1.0 FTE Project Manager I, 1/1.0 FTE Senior Engineering Inspector, 1/1.0 FTE Senior Engineer III, and 3/3.0 FTE Senior Maintenance Workers. The Engineering Technician III position will support address the increased workload of permit required pond inspections and maintenance. The Planner III position will review and provide needed stormwater expertise, advanced technical analysis, support and recommendations on planning and development efforts during planning, pre-zoning and rezoning processes. The Project Manager I position will support the Tree Preservation and Planting Program and manage projects that support the tree planting goals of Virginia's Final Phase III Watershed Implementation Plan. The projects will be geared towards increasing tree canopy through street and landscape tree plantings, afforestation and reforestation, and assisting with outreach and education programs. The Senior Engineering Inspector position will be responsible for reviewing erosion and sediment control plans, reviewing project designs, understanding job specifications, inspecting County stormwater infrastructure, updating work orders and keeping a daily log of work performed on construction sites. The Senior Engineer III position will initiate flood mitigation projects, coordinate with property owners to address their flooding concerns, and execute flood mitigation project design and implementation services. The three Senior Maintenance Worker positions will form an additional crew that will be deployed into the field to perform maintenance on the storm drainage system throughout the County.

Asset Management Program **\$800,000**

An increase of \$800,000 in Operating Expenses will support a new Asset Management Program (AMP). Funding will support the acquisition of software, servers, and consultant services to migrate asset management and related work order management into the new system. This new system will meet the future expectations for both Stormwater and Wastewater divisions and optimize service delivery for the Department of Public Works and Environmental Services.

Capital Equipment **(\$130,000)**

Funding of \$652,000 in Capital Equipment, a decrease of \$130,000 from the FY 2022 Adopted Budget Plan, is included primarily associated with replacement equipment that has outlived its useful life and is critical to stormwater services activities. Replacement equipment includes: \$390,000 to replace two dump trucks that support all maintenance and emergency response programs and \$40,000 to replace three equipment trailers that support all maintenance and emergency response programs in transporting construction materials, light duty and snow removal equipment. New equipment includes \$222,000 for the purchase of three new pickup trucks and one new utility truck to support the new positions in FY 2023.

Capital Projects **\$4,279,326**

Funding of \$65,879,740 in Capital Projects, an increase of \$4,279,326 from the FY 2022 Adopted Budget Plan, has been included in FY 2023 for priority stormwater capital projects.

**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 \$182,312,873

As part of the *FY 2021 Carryover Review*, the Board of Supervisors approved funding of \$182,312,873 based on the carryover of unexpended project balances in the amount of \$179,413,809 and a net adjustment of \$2,899,064. This adjustment includes the carryover of \$1,312,110 in operating and capital equipment encumbrances, an increase of \$197,626 to Personnel Services to support a one-time compensation adjustment of \$1,000 for merit employees and \$500 for non-merit employees to be paid no later than November 2021, and an increase to capital projects of \$1,389,328. The adjustment to capital projects is based on the appropriation of the remaining operational savings of \$783,662, higher than anticipated revenues of \$304,634, revenues of \$203,600 collected through the land development process that will support tree preservation and planting projects in FY 2022, revenues of \$44,841 associated with dam and facility maintenance projects, miscellaneous revenues in the amount of \$45,652, and the appropriation of \$6,939 from the ending balance that was due to an FY 2021 audit adjustment.

Mid-Year Adjustments (\$1,555)

As part of the *FY 2022 Mid-Year Review*, the Board of Supervisors approved a decrease of \$1,555 due to an FY 2021 audit adjustment.

Position Detail

The FY 2023 Advertised Budget Plan includes the following positions:

STORMWATER SERVICES – 208 Positions			
MSMD Administration (10 positions)			
1	Director, Maintenance and SW	1	Safety Analyst I
1	HR Generalist II	1	Administrative Assistant IV
1	HR Generalist I	4	Administrative Assistants III
1	Safety Analyst II		
IT – Director's Office/Stormwater (1 position)			
1	Network/Telecom. Analyst I		
Finance – Wastewater and Stormwater (4 positions)			
1	Financial Specialist IV	1	Financial Specialist I
1	Financial Specialist II	1	Administrative Assistant III
Contracting Services/Material Support (5 positions)			
1	Material Mgmt. Specialist III	1	Financial Specialist II
2	Contract Analysts I	1	Inventory Manager
Dam Safety and Maintenance Projects/Projects and LID/Inspection and Maintenance (19 positions)			
1	Public Works-Env. Serv. Manager	5	Engineering Technicians III [+1]
1	Engineer IV	2	Engineering Technicians II
1	Senior Engineer III	1	Project Manager II
3	Engineers III	2	Project Managers I
1	Ecologist III	1	Assistant Project Manager
1	Ecologist II		
Field Operations (74 positions)			
2	Env. Services Supervisors	3	Masons
1	Public Works-Env. Serv. Manager	1	Vehicle Maintenance Coordinator
2	Public Works-Env. Bus. Operations	5	Engineering Technicians III
2	Public Works-Env. Serv. Specialists	2	Engineering Technicians II
8	Senior Maintenance Supervisors	1	Carpenter II
5	Maintenance Supervisors	2	Equipment Repairers

Fund 40100: Stormwater Services

FUND STATEMENT

Category	FY 2021 Actual	FY 2022 Adopted Budget Plan	FY 2022 Revised Budget Plan	FY 2023 Advertised Budget Plan
Beginning Balance	\$78,402,156	\$6,939	\$90,244,247	\$0
Revenue:				
Stormwater Service District Levy	\$85,394,610	\$87,175,738	\$87,175,738	\$94,393,055
Sale of Bonds ¹	0	0	88,000,000	0
Stormwater Local Assistance Fund (SLAF) Grant ²	1,876,476	0	3,596,793	0
Tree Preservation/Planting Fund ³	203,600	0	0	0
Miscellaneous	90,493	0	81,000	0
Total Revenue	\$87,565,179	\$87,175,738	\$178,853,531	\$94,393,055
Total Available	\$165,967,335	\$87,182,677	\$269,097,778	\$94,393,055
Expenditures:				
Personnel Services ⁴	\$20,448,442	\$22,615,643	\$22,813,269	\$24,580,634
Operating Expenses	3,919,893	3,182,636	3,389,603	4,010,636
Recovered Costs	(1,832,157)	(2,129,955)	(2,129,955)	(2,129,955)
Capital Equipment	1,077,511	782,000	1,887,143	652,000
Capital Projects ⁴	50,984,399	61,600,414	242,012,718	65,879,740
Total Expenditures	\$74,598,088	\$86,050,738	\$267,972,778	\$92,993,055
Transfers Out:				
General Fund (10001) ⁵	\$1,125,000	\$1,125,000	\$1,125,000	\$1,400,000
Total Transfers Out	\$1,125,000	\$1,125,000	\$1,125,000	\$1,400,000
Total Disbursements	\$75,723,088	\$87,175,738	\$269,097,778	\$94,393,055
Ending Balance^{6,7}	\$90,244,247	\$6,939	\$0	\$0
Tax Rate Per \$100 of Assessed Value	\$0.0325	\$0.0325	\$0.0325	\$0.0325

¹ In FY 2022, Economic Development Authority (EDA) Bonds were issued to support the construction of a Stormwater/Wastewater facility to consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions.

² Represents Virginia Department of Environmental Quality (VDEQ) Stormwater Local Assistance Fund (SLAF) grants which support stream and water quality improvement projects. An amount of \$1,876,476 was received in FY 2021 and an amount of \$3,596,793 is anticipated in FY 2022 and beyond.

³ Reflects revenues collected through the land development process that will support tree preservation and planting projects in FY 2022.

⁴ In order to account for revenues and expenditures in the proper fiscal year, audit adjustments were reflected as an increase of \$1,555.35 to FY 2021 Personnel Services expenditures to record expenditure accruals and an increase of \$389,278.17 to FY 2021 Capital Projects expenditures to record expenditure accruals. This impacted the amount carried forward resulting in a decrease of \$389,278.17 to the *FY 2022 Revised Budget Plan*. The projects affected by this adjustment were 2G25-006-000, Stormwater Regulatory Program, SD-000031, Stream & Water Quality Improvements, and SD-000033, Dam Safety and Facility Rehabilitation. The Annual Comprehensive Financial Report (ACFR) reflects all audit adjustments in FY 2021. Details of the audit adjustments were found in Attachment VI of the *FY 2022 Mid-Year Review*.

⁵ Funding in the amount of \$1,400,000 is transferred to the General Fund to partially offset central support services supported by the General Fund, which benefit Fund 40100. These indirect costs include support services such as Human Resources, Purchasing, Budget and other administrative services.

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.

⁷ The *FY 2022 Adopted Budget Plan* ending balance of \$6,939 was due to an adjustment made to FY 2020, and it was adjusted as part of the *FY 2021 Carryover Review*.

Fund 40100: Stormwater Services

SUMMARY OF CAPITAL PROJECTS

Project	Total Project Estimate	FY 2021 Actual Expenditures	FY 2022 Revised Budget	FY 2023 Advertised Budget Plan
Conveyance System Inspection/Development (2G25-028-000)	\$13,725,000	\$1,547,185.84	\$4,734,379.98	\$2,000,000
Conveyance System Rehabilitation (SD-000034)	65,034,135	6,858,021.91	10,922,648.48	7,000,000
Dam & Facility Maintenance (2G25-031-000)	30,194,841	5,511,833.19	7,422,312.42	5,000,000
Dam Safety and Facility Rehabilitation (SD-000033)	62,576,104	5,838,539.60	12,227,774.80	10,000,000
Debt Service for SW/WW Facility (2G25-117-000)	9,179,000	0.00	5,000,000.00	4,179,000
Emergency and Flood Response Projects (SD-000032)	36,686,091	1,432,074.25	14,457,916.30	7,000,000
Enterprise Asset Management-Work Order System (SD-000044)	2,400,000	0.00	1,000,000.00	1,400,000
Flood Prevention-Huntington Area-2012 (SD-000037)	41,350,000	204,250.20	2,260,024.24	0
Lake Accotink Dredging (SD-000041)	5,000,000	576,187.62	4,423,812.38	0
Laurel Hill Adaptive Reuse Infrastructure (SD-000038)	1,925,000	8,306.59	0.00	0
NVSWCD Contributory (2G25-007-000)	6,530,042	554,811.00	554,811.00	609,346
Occoquan Monitoring Contributory (2G25-008-000)	1,750,641	172,138.00	177,799.00	183,437
Scotts Run Stream Restoration (SD-000043)	151,358	151,357.99	0.00	0
Stormwater Allocation to Towns (2G25-027-000)	7,644,829	816,434.14	1,294,119.92	1,000,000
Stormwater Civil Penalties Fees (2G25-119-000)	185,750	0.00	185,750.00	0
Stormwater Facility (SD-000039)	96,515,000	1,985,385.95	88,412,475.41	0
Stormwater Proffers (2G25-032-000)	56,500	0.00	56,500.01	0
Stormwater Regulatory Program (2G25-006-000)	64,014,584	2,588,925.98	7,420,778.36	4,000,000
Stream & Water Quality Improvements (SD-000031)	255,588,016	22,533,970.99	80,322,038.93	23,507,957
Towns Grant Contribution (2G25-029-000)	4,805,976	176,548.01	906,583.17	0
Tree Preservation and Plantings (2G25-030-000)	308,916	28,427.87	232,993.36	0
Total	\$705,621,783	\$50,984,399.13	\$242,012,717.76	\$65,879,740

U.S. Department of Homeland Security
500 C Street, SW
Washington, DC 20472



October 21, 2020

Mr. Bryan Hill
Fairfax County Executive
12000 Government Center Parkway, Suite 552
Fairfax, Virginia 22035-0066

Dear Mr. Hill:

The purpose of this letter is to provide you with the results of the National Flood Insurance Program (NFIP) Community Rating System (CRS) field verification findings based on your 5-year cycle verification. The field verification report is enclosed for your records.

I am pleased to inform you that the Department of Homeland Security, Federal Emergency Management Agency (FEMA), has determined that Fairfax County will retain its current rating as a Class 6 in the NFIP CRS. The floodplain management activities implemented by your community qualify it for a 20 percent discount on flood insurance premiums for NFIP policies issued or renewed in Special Flood Hazard Areas on or after April 1, 2021. This savings is a tangible result of the flood mitigation activities your community implements to protect lives and reduce property damage.

Please note that Preferred Risk Policies, applicable in Zones B, C, and X on your community's NFIP Flood Insurance Rate Map, are not eligible for the CRS discount. Standard rated flood insurance policies in Zones B, C, X, D, AR, and A99 are limited to a CRS discount of 10 percent in Class 1–6 communities and 5 percent in Class 7–9 communities. The rates for the above-mentioned policies already reflect significant premium reductions.

The CRS rating for your community will automatically be renewed annually as long as there are no NFIP noncompliance actions, so a notification letter will not be sent every year. This annual renewal will take place as long as your community continues to implement the CRS activities you certify in your annual recertification documentation. If no additional modifications or new CRS activities are added, the next verification visit for your community will be in accordance with its established 5-year cycle. In the interim, FEMA will periodically send the *NFIP/CRS Update* newsletter and other notices to your CRS Coordinator to keep your community informed.

I commend you on your community actions and your determination to lead your community to be more disaster resistant. This commitment enhances public safety, property protection, and protects the natural functions of floodplains, and reduces flood insurance premiums.

If you have any questions or need additional information, please contact the FEMA Region III Office, CRS Coordinator Richard Sobota, by telephone at (215) 931-5514.

Sincerely,

A handwritten signature in black ink that reads "William H. Lesser". The signature is written in a cursive, slightly slanted style.

William H. Lesser, CRS Coordinator
Federal Insurance and Mitigation Administration

Enclosure

cc: Craig Carinci, CRS Coordinator



COMMUNITY
RATING
SYSTEM

VERIFICATION
REPORT

Fairfax County, VA

Verified Class 6

NFIP Number: 515525

Cycle

Date of Verification Visit: December 18, 2019

This Verification Report is provided to explain the recommendations of Insurance Services Office, Inc. (ISO) to DHS/FEMA concerning credits under the Community Rating System (CRS) for the above named community.

A total of 2456 credit points are verified which results in a recommendation that the community remain classified as a CRS Class 6. The community has met the Class 6 prerequisite with a Building Code Effectiveness Grading Schedule (BCEGS) Classification of 2/1. The following is a summary of our findings with the total CRS credit points for each activity listed in parenthesis:

Activity 310 – Elevation Certificates: The Environmental Services Division maintains elevation certificates for new and substantially improved buildings. Copies of elevation certificates are made available upon request. (0 points)

Activity 320 – Map Information Service: Credit is provided for furnishing inquirers with basic flood zone information from the community's latest Flood Insurance Rate Map (FIRM). Credit is also provided for the community furnishing flood depth data, historical flood information, and natural floodplain functions. The service is publicized annually, and records are maintained. (90 points)

Activity 330 – Outreach Projects: Credit is provided for informational outreach projects, general outreach projects, and targeted outreach projects. These projects are disseminated annually. Credit is also provided for having a pre-flood plan for public information. (164 points)

Activity 350 – Flood Protection Information: Documents relating to floodplain management are available in the reference section of the Fairfax County Public Library. Credit is also provided for floodplain information displayed on the community's website. (51 points)

Activity 360 – Flood Protection Assistance: Credit is provided for offering one-on-one advice regarding property protection. (25 points)

Activity 410 – Floodplain Mapping: Credit is provided for conducting and adopting flood studies for areas not included on the FIRM and that exceed minimum mapping standards. (90 points)

Activity 420 – Open Space Preservation: Credit is provided for preserving approximately 63 percent of the Special Flood Hazard Area (SFHA) as open space and preserving open space land in a natural state. Credit is also provided for regulations that minimize development in the SFHA. (1036 points)

Activity 430 – Higher Regulatory Standards: Credit is provided for enforcing regulations that require development limitations, freeboard for new and substantial improvement construction, foundation protection, and local drainage protection. Credit is also provided for the enforcement of building codes, a BCEGS Classification of 2/1, state mandated regulatory standards, and regulations administration. (246 points)

Activity 440 – Flood Data Maintenance: Credit is provided for maintaining and using additional map data in the day to day management of the floodplain. Credit is also provided for establishing and maintaining a system of benchmarks and maintaining copies of all previous FIRMs and Flood Insurance Study Reports. (179 points)

Activity 450 – Stormwater Management: The community enforces regulations for stormwater management, soil and erosion control, and water quality. (137 points)

Section 502 – Repetitive Loss Category: Based on the updates made to the NFIP Report of Repetitive Losses as of December 18, 2017, Fairfax County, VA has 76 repetitive loss properties and is a Category C community for CRS purposes. The community is required to submit either a Repetitive Loss Area Analysis or Floodplain Management Plan. (No credit points are applicable to this section)

Activity 510 – Floodplain Management Planning: Credit is provided for the adoption and implementation of the NOVA Hazard Mitigation Plan adopted April 4, 2017. A progress report must be submitted on an annual basis. (50 points)

Activity 520 – Acquisition and Relocation: Credit is provided for acquiring 2 buildings from the community's regulatory floodplain. (12 points)

Activity 540 – Drainage System Maintenance: Credit is provided for listing problem sites that are inspected more frequently and for implementing an ongoing Capital Improvements Program. (80 points)

Activity 610 – Flood Warning and Response: Credit is provided for a program that provides timely identification of impending flood threats, disseminates warnings to appropriate floodplain residents, and coordinates flood response activities. Credit is also provided for the designation as a Storm Ready Community by the National Weather Service. (259 points)

Activity 630 – Dams: Credit is provided for a State Dam Safety Program. (37 points)

Activity 710 – County Growth Adjustment: All credit in the 400 series is multiplied by the growth rate of the county to account for growth pressures. The growth rate for Fairfax County, VA is 1.04.

Attached is the Community Calculations Worksheet that lists the verified credit points for the Community Rating System.

CEO Name / Address:

Bryan Hill
County Executive of Fairfax County
12000 Government Center Parkway
Fairfax, Virginia 22035

CRS Coordinator Name / Address:

Craig Carinci
Director, Stormwater Planning Division
12000 Government Center Parkway
Fairfax, Virginia 22035
(703) 324-5500

Date Report Prepared: July 14, 2020

720 COMMUNITY CREDIT CALCULATIONS (Cycle):

CALCULATION SECTION :

Verified Activity Calculations:	Credit
c310	
c320 <u>90</u>	<u>90</u>
c330 <u>164</u>	<u>164</u>
c340	
c350 <u>51</u>	<u>51</u>
c360 <u>25</u>	<u>25</u>
c370	
c410 <u>87</u> x CGA <u>1.04</u> =	<u>90</u>
c420 <u>996</u> x CGA <u>1.04</u> =	<u>1036</u>
c430 <u>237</u> x CGA <u>1.04</u> =	<u>246</u>
c440 <u>172</u> x CGA <u>1.04</u> =	<u>179</u>
c450 <u>132</u> x CGA <u>1.04</u> =	<u>137</u>
c510 <u>50</u>	<u>50</u>
c520 <u>12</u>	<u>12</u>
c530	
c540 <u>80</u>	<u>80</u>
c610 <u>259</u>	<u>259</u>
c620	
c630 <u>37</u>	<u>37</u>

Community Classification Calculation:

cT = total of above	cT = <u>2456</u>
Community Classification (from Table 110-1):	Class = <u>6</u>

CEO Name/Address:

Bryan Hill
 County Executive of Fairfax County
 12000 Government Center Parkway
 Fairfax, Virginia 22035

CRS Coordinator Name/Address:

Craig Carinci
 Director, Stormwater Planning Division
 12000 Government Center Parkway
 Fairfax, Virginia 22035
 (703) 324-5500










Date Report Prepared: July 14, 2020

Tucker Avenue Project Area




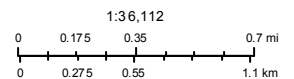
February 24, 2022

Social Vulnerability Classification

- | | | | |
|---|-------------------------------|---|--------------------------------|
|  | High Social Vulnerability |  | Low Social Vulnerability |
|  | Moderate Social Vulnerability |  | Moderate Social Vulnerability |
|  | Not Socially Vulnerable |  | High Social Vulnerability |
|  | Not included in the analysis |  | Very High Social Vulnerability |
| | |  | Not included in the analysis |

Social Vulnerability Index Score

-  Very Low Social Vulnerability



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Created from the Virginia Vulnerability Viewer



Ann Jennings
Secretary of Natural and Historic
Resources and Chief Resilience Officer



Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

January 10, 2022

Joni Calmbacher, PE, CFM
Project Manager II
DPWES, Stormwater Planning Division
Watershed Projects Implementation Branch – South
12000 Government Center Parkway Fairfax, VA 22035

RE: Fairfax County Resilience Plan Submission - CFPPF

Dear Ms. Calmbacher,

Thank you for providing an overview of your Resilience Plan, and informing DCR of the various plans that Fairfax County will be utilizing to fulfill the Resilience Plan submission requirements. After careful review and consideration, the Virginia Department of Conservation and Recreation has deemed the Plan complete and meets all the criteria outlined in the 2021 Community Flood Preparedness Grant Manual. This approval will remain in effect for a period of three years, ending on January 11, 2025.

The following elements were evaluated as part of this review:

1. Element 1: It is project-based with projects focused on flood control and resilience. DCR RESPONSE

Meets criteria as written.

- a. Project-based: Fairfax County is divided into 30 watersheds which have been addressed in 11 major watershed management plans. Each of the watershed management plans contains projects and watershed management area restoration strategies. The 2017 *Northern Virginia Hazard Mitigation Plan* was a regional effort involving nineteen counties, including Fairfax County, and outlines specific mitigation projects for each participating community in order to reduce vulnerability and exposure to future hazards, including flooding events. The *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management* contains projects at various locations throughout Fairfax County. The projects included and described in the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management* align with the established *Comprehensive Plan* objectives. The *Resilient Critical*

600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

*State Parks • Soil and Water Conservation • Outdoor Recreation Planning
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*

Infrastructure Roadmap for Northern Virginia contains a database of resilience projects throughout northern Virginia, including Fairfax County.

2. Element 2: It incorporates nature-based infrastructure to the maximum extent possible. DCR RESPONSE

Meets criteria as written.

- a. The 2020 *Regional Collaboration to Build Community Resilience in Northern Virginia* expanded upon *The Roadmap*, to include maximization of green infrastructure. Nature-based solutions are also presented in the *Fairfax County Watershed Management Plan* and the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management*.

3. Element 3: It includes considerations of all parts of a locality regardless of socioeconomics or race. DCR RESPONSE

Meets criteria as written.

- a. All parts of a locality: The *Northern Virginia Hazard Mitigation Plan* discusses the demographic and economic trends throughout the entirety of Fairfax County.
- b. Social vulnerability: The *Regional Collaboration to Build Community Resilience in Northern Virginia* presents a more comprehensive approach that includes an assessment of the socioeconomic impacts of infrastructure disruptions on vulnerable populations that will be taken into account as well as the socioeconomic benefits of infrastructure investment. This expanded upon objectives contained within *The Roadmap*, to ensure equitable access to resilient critical infrastructure.
- c. Demographic Analysis: Population and demographic characteristics outlined within the *Northern Virginia Hazard Mitigation Plan*. The *Fairfax County Comprehensive Plan* also looks at demographics and social factors and utilizes this information to support the Human Services section of the *Comprehensive Plan*.

4. Element 4: It includes coordination with other local and inter-jurisdictional projects, plans, and activities and has a clearly articulated timeline or phasing for plan implementation. DCR RESPONSE

Meets criteria as written.

- a. Coordination with other local and inter-jurisdictional projects, plans and activities: Objective 4: Strengthen Regional Resilience Through Innovative Partnerships, Programs, and Pilots contained within *Resilient Critical Infrastructure Roadmap for Northern Virginia* focuses on coordination with local and inter-jurisdictional agencies and aligning strategies and programs. The *Comprehensive Plan for Fairfax County, Virginia* was adopted by the Board of Supervisors, Planning Commission, The Department of Planning and Zoning, and the Department of Transportation, and guides all of the plans presented in the Resilience Plan

submission for Fairfax County. The *Northern Virginia Hazard Mitigation Plan* was a collaborative effort that was adopted by all impacted localities.

- b. Clearly articulated timeline or phasing plan for implementation: Timeline for deliverables is presented within the *Regional Collaboration to Build Community Resilience in Northern Virginia*. Timeline presented within the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management*. Phased implementation plans presented in the *Fairfax County Watershed Management Plans*.

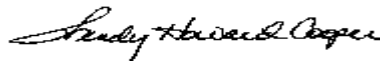
5. Element 5: Is based on the best available science, and incorporates climate change, sea level rise, storm surge (where appropriate), and current flood maps.

Meets criteria as written.

- a. The 2018 *Resilient Critical Infrastructure Roadmap for Northern Virginia (Roadmap)* incorporates best available science and identifies actions to potentially decrease the severity of future consequences emanating from climate and extreme weather, to include sea level rise and storm surge. *Sea Level Rise: Impact on Northern Virginia* is an interactive story map and dashboard that was created in 2019 to convey the impact of sea level rise scenarios. The *Northern Virginia Hazard Mitigation Plan* includes analyses of natural hazards based on best available science to include flooding, sea level rise and land subsidence, tropical and coastal storms, and shoreline erosion.

VA DCR looks forward to working with you as you work to make Fairfax County a more resilient community. If you have questions or need additional assistance, please contact us at cfpf@dcr.virginia.gov. Again, thank you for your interest in the Community Flood Preparedness Fund.

Sincerely,



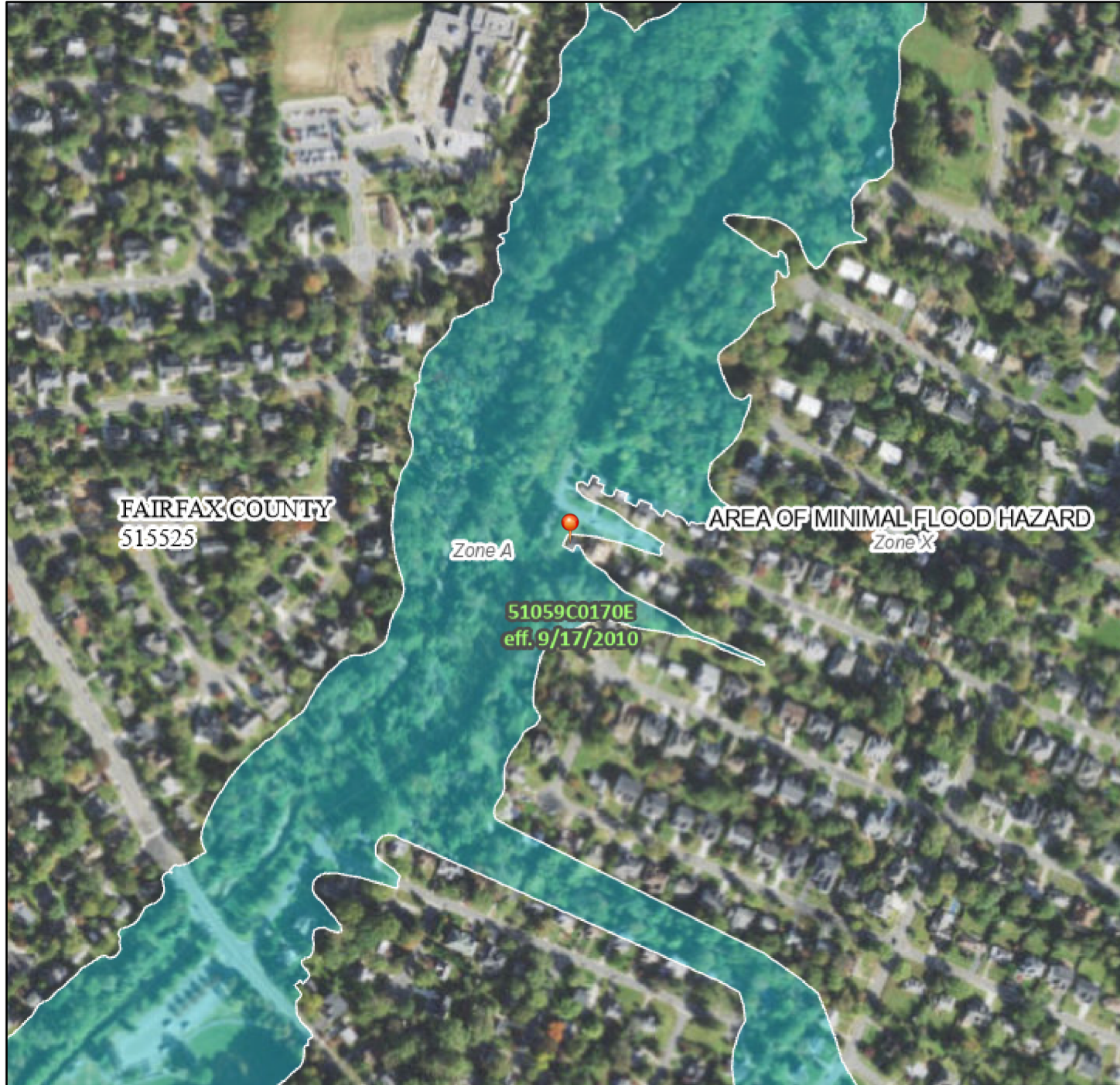
Wendy Howard Cooper, Director
Dam Safety and Floodplain Management

cc: Darryl Glover, DCR

National Flood Hazard Layer FIRMMette



77°10'46"W 38°55'19"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| MAP PANELS | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
| | | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. |



0 250 500 1,000 1,500 2,000 Feet 1:6,000

77°10'9"W 38°54'51"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **2/24/2022 at 8:58 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

SD-000031-234 Encumbrances

Posting Date	Earmarked Funds	Text	Original Amount (LC)	Amount Total (TC)	Amount Total (LC)	Funds Center	Fund	G/L Account	Vendor
6/7/2019	1000065523	AE19125941-01,TuckerAveNeighSTW,Stantec,TOY3-11	179,108.93	199,998.68	199,998.68	G252901001	400-C401C	563040	1000026227
6/7/2019	1000065523	AE19125941-02,TuckerAveNeighSTW,Stantec,TOY3-11	20,891.07	1.32	1.32	G252901001	400-C401C	563040	1000026227
9/23/2019	1000068021	SD-31-224,TuckerAve,MacLeodTitle	15,000.00	15,000.00	15,000.00	G252901001	400-C401C	561050	1500077440
1/9/2020	1000069987	SD-31-224 TUCKER AVE SURVEYING & MAPPING TO#02-024	94,665.22	94,665.22	94,665.22	G252901001	400-C401C	563010	1000038175
4/20/2020	1000071504	SD-31-224, TUCKER AVE IMPROVE, STANTEC, Y4-10	22,307.64	24,635.21	24,635.21	G252901001	400-C401C	563010	1000026227
4/20/2020	1000071504	SD-31-224, TUCKER AVE, STANTEC, Y4-10 CONTINGENCY	2,692.36	364.79	364.79	G252901001	400-C401C	563010	1000026227
7/7/2020	1000072435	SD-31-224 TUCKER AVE STW IMPROV. STANTEC TO#Y5-1	43,940.54	45,566.75	45,566.75	G252901001	400-C401C	563040	1000026227
7/7/2020	1000072435	SD-31-224 TUCKER AVE STANTEC TO#Y5-1 CONTINGENCY	3,059.46	1,433.25	1,433.25	G252901001	400-C401C	563040	1000026227
9/16/2020	1000073013	SD-31-224,TUCKER AVE, JUNJI CHEN, PERMANENT	12,720.00	12,720.00	12,720.00	G252901001	400-C401C	561090	1000044998
9/16/2020	1000073013	SD-31-224,TUCKER AVE, JUNJI CHEN,TEMPORARY	2,410.00	2,410.00	2,410.00	G252901001	400-C401C	561100	1000044998
9/25/2020	1000073057	SD-31-224,TUCKER AVE, SAM03-002,SAM	80,000.00	80,000.00	80,000.00	G252901001	400-C401C	563010	1000038175
10/7/2020	1000073123	SD-31-224 TUCKER AVE PERM. EASEMENT HODA FATEEM	2,760.00	2,760.00	2,760.00	G252901001	400-C401C	561090	1000045124
10/7/2020	1000073123	SD-31-224 TUCKER AVE TEMP. EASEMENT HODA FATEEM	1,540.00	1,540.00	1,540.00	G252901001	400-C401C	561100	1000045124
10/7/2020	1000073124	SD-31-224 TUCKER AVE. PERM. EASEMENT DAVID RULEY	7,070.00	7,070.00	7,070.00	G252901001	400-C401C	561090	1000045092
10/28/2020	1000073225	SD-31-224,TUCKER AVE, HUI WANG,PERMANENT EASEMENT	12,720.00	12,720.00	12,720.00	G252901001	400-C401C	561090	1000045186
10/28/2020	1000073225	SD-31-224,TUCKER AVE, HUI WANG, TEMPORARY EASEMENT	2,410.00	2,410.00	2,410.00	G252901001	400-C401C	561100	1000045186
12/3/2020	1000073408	SD-31-224, TUCKER AVE., PERM EASEMENT, TERESA SHAW	7,890.00	7,890.00	7,890.00	G252901001	400-C401C	561090	1000045422
12/3/2020	1000073408	SD-31-224, TUCKER AVE., TEMP EASEMENT, TERESA SHAW	2,650.00	2,650.00	2,650.00	G252901001	400-C401C	561100	1000045422
12/3/2020	1000073408	SD-31-224, TUCKER AVE., ADMIN STTLMNT, TERESA SHAW	3,950.00	3,950.00	3,950.00	G252901001	400-C401C	561030	1000045422
5/3/2021	1000074265	SD-31-224, TUCKER AVE, ROBERT LOH, PERM EASEMENT	5,480.00	5,480.00	5,480.00	G252901001	400-C401C	561090	1000046246
5/3/2021	1000074265	SD-31-224, TUCKER AVE, ROBERT LOH, TEMP EASEMENT	910.00	910.00	910.00	G252901001	400-C401C	561100	1000046246
5/5/2021	1000074287	SD-31-224, TUCKER AVE, MICHAEL JOHNSHOY, PERM EASE	2,210.00	2,210.00	2,210.00	G252901001	400-C401C	561090	1000046272
8/16/2021	1000075671	SD-31-224, TUCKER AVE, ROBERT LEE, PERM EASEMENT	27,425.00	27,425.00	27,425.00	G252901001	400-C401C	561090	1000046939
9/14/2021	1000075845	SD-31-224, TUCKER AVE, MITZY WHITE, PERM EASEMENT	15,040.00	15,040.00	15,040.00	G252901001	400-C401C	561090	1000047121
			\$ 568,850.22	\$ 568,850.22					

SD-000032-074 Encumbrances

Posting Date	Earmarked Funds	Text	Original Amount (LC)	Amount Total (TC)	Amount Total (LC)	Funds Center	Fund	G/L Account	Vendor
11/5/2020	1000073267	SD-32-074,TUCKER AVENUE NEIGH,0304-08-03-0007,PERM	14,310.00	14,310.00	14,310.00	G252901001	400-C401C	561090	1000045269
11/5/2020	1000073267	SD-32-074,TUCKER AVENUE NEIGH,0304-08-03-0007,TEMP	4,850.00	4,850.00	4,850.00	G252901001	400-C401C	561100	1000045269
11/9/2020	1000073278	SD-32-74 TUCKER AVE. PERM EASEMENT JEANNE INCE	6,980.00	6,980.00	6,980.00	G252901001	400-C401C	561090	1000045280
11/19/2020	1000073351	SD-32-74, TUCKER AVENUE, STANTEC, Y5-07	1,098,274.78	1,113,077.87	1,113,077.87	G252901001	400-C401C	563040	1000026227
11/19/2020	1000073351	SD-32-74, TUCKER AVENUE, STANTEC, Y5-07, CONTIN	111,725.22	96,922.13	96,922.13	G252901001	400-C401C	563040	1000026227
12/16/2020	1000073487	SD-32-074, TUCKER AVENUE NEIGH,040-2-14-0058A,PERM	300.00	300.00	300.00	G252901001	400-C401C	561090	1000040773
3/2/2021	1000073835	SD-32-074, TUCKER AVE,PERM EASEMENT,BARBARA SEMEDO	17,040.00	17,040.00	17,040.00	G252901001	400-C401C	561090	1000045903
3/2/2021	1000073835	SD-32-074, TUCKER AVE,ADMIN STTLMNT,BARBARA SEMEDO	11,360.00	11,360.00	11,360.00	G252901001	400-C401C	561030	1000045903
3/4/2021	1000073873	SD-32-074, TUCKER AVE,PERM EASEMENT,BARBARA SEMEDO	28,400.00	28,400.00	28,400.00	G252901001	400-C401C	561090	1000045903
7/28/2021	1000075491	SD-32-74, TUCKER AVE, LAWYER REV, DINSMORE & SHOHL	1,200.00	1,200.00	1,200.00	G252901001	400-C401C	561030	1000046837
8/16/2021	1000075672	SD-32-074, TUCKER AVE, RAJAN NAIK, PERM EASEMENT	4,840.00	4,840.00	4,840.00	G252901001	400-C401C	561090	1000045990
12/17/2021	1000076545	SD-32-074, TUCKER AVE NEIGHBORHOOD, SAM04-036	29,833.52	29,833.52	29,833.52	G252901001	400-C401C	563030	1000038175
			\$ 1,329,113.52	\$ 1,329,113.52					



OPINION OF PROBABLE COST

10/29/2021

Construction Plan

Tucker Avenue Neighborhood

Stormwater Improvements

ITEM NO	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	BID EXT.
1	MOBILIZATION PER SECTION 1025-2.1 (5%)	1	LS	\$272,480.00	\$272,480.00
2	SURVEY STAKEOUT AND BENCHMARKS	1	LS	\$50,000.00	\$50,000.00
3	TRAFFIC CONTROL PER SECTION 1025-2.2	1	LS	\$236,000.00	\$236,000.00
4	MODERATE CLEARING AND GRUBBING	1	LS	\$15,000.00	\$15,000.00
5	REMOVE TREES, 6"-12" DIAMETER	29	EA	\$570.00	\$16,530.00
6	REMOVE TREES, 13"-24" DIAMETER	27	EA	\$1,215.00	\$32,805.00
7	REMOVE TREES, 25"-36" DIAMETER	4	EA	\$2,535.00	\$10,140.00
8	REMOVE TREES, 37"-45" DIAMETER	1	EA	\$3,000.00	\$3,000.00
9	REMOVE AND DISPOSE OF ASPHALT PAVEMENT	4,700	SY	\$35.00	\$164,500.00
10	REMOVE AND DISPOSE OF CURB AND GUTTER	4,500	LF	\$21.00	\$94,500.00
11	REMOVE AND DISPOSE OF CONCRETE DITCH	500	SY	\$30.00	\$15,000.00
12	PRIVATE LOT RESTORATION ¹	42	EA	\$3,000.00	\$126,000.00
13	REMOVE AND DISPOSE OF STORM STRUCTURE	17	EA	\$2,450.00	\$41,650.00
14	REMOVE AND DISPOSE 15" - 30" DIAMETER PIPES UP TO 8' DEPTH (ALL TYPES)	920	LF	\$50.00	\$46,000.00
15	PLUG STORM SEWER PIPE	10	EA	\$410.00	\$4,059.00
16	WATER SERVICE CONNECTION	54	EA	\$1,500.00	\$81,000.00
17	GAS SERVICE CONNECTION	52	EA	\$2,200.00	\$114,400.00
18	PRE AND POST CONSTRUCTION VIDEO INSPECTION OF STORM SEWER PIPES	3,520	LF	\$5.00	\$17,600.00
19	PAVEMENT TRENCH PATCHING	4,700	SY	\$70.00	\$329,000.00
20	MILL AND OVERLAY	10,500	SY	\$20.00	\$210,000.00
21	REMOVE AND REPLACE VDOT SIGNAGE IN ROW	1	LS	\$5,000.00	\$5,000.00
22	INSTALLATION OF CURB AND GUTTER	4,500	LF	\$29.00	\$130,500.00
23	FURNISH AND INSTALL CONTROLLED FILL ADJACENT TO STORM STRUCTURES	7,900	CY	\$58.00	\$458,200.00
24	PIPE BEDDING MATERIAL (VDOT NO.25/26)	360	CY	\$75.00	\$27,023.33
25	RCP CLASS III TO V, 18"	990	LF	\$42.00	\$41,580.00
26	RCP CLASS III TO V, 24"	1,060	LF	\$78.00	\$82,680.00
27	RCP CLASS III TO V, 30"	1,150	LF	\$93.00	\$106,950.00
28	RCP CLASS III TO V, 36"	1,290	LF	\$124.00	\$159,960.00
29	RCP CLASS III TO V, 42"	300	LF	\$246.00	\$73,800.00
30	RCP CLASS III TO V, 54"	530	LF	\$514.00	\$272,420.00
31	CONCRETE BOX CULVERT, 60" X 48"	970	LF	\$750.00	\$727,500.00
32	ELLIPTICAL, RCP CLASS III, 18 TO 30" EQV	140	LF	\$93.00	\$13,020.00
33	CURB INLET TOP, 8' THROAT LENGTH	2	EA	\$2,500.00	\$5,000.00
34	CURB INLET TOP, 12' THROAT LENGTH	1	EA	\$2,500.00	\$2,500.00
35	CURB INLET TOP, 20' THROAT LENGTH	38	EA	\$2,500.00	\$95,000.00
36	DROP INLET	1	EA	\$5,500.00	\$5,500.00
37	STORM SEWER MANHOLE, 48" DIA	43	EA	\$5,750.00	\$247,250.00
38	STORM SEWER MANHOLE, 60" DIA	11	EA	\$7,500.00	\$82,500.00
39	STORM SEWER MANHOLE, 72" DIA	4	EA	\$8,500.00	\$34,000.00
40	STORM SEWER MANHOLE, 96" DIA	2	EA	\$11,400.00	\$22,800.00
41	DI-1A OR DI-2A INLET FOR GI	3	EA	\$6,500.00	\$19,500.00
42	MH-1A FOR GI	3	EA	\$6,500.00	\$19,500.00

43	JUNCTION BOX (JB-1)	9	EA	\$15,000.00	\$135,000.00
44	FAIRFAX STD YI-1	4	EA	\$7,305.00	\$29,220.00
45	FAIRFAX STD YI-3	2	EA	\$7,305.00	\$14,610.00
46	INSTALL VDOT STANDARD BCW-11	1	EA	\$6,000.00	\$6,000.00
47	ROADWAY REPROFILING	610	SY	\$70.00	\$42,700.00
48	ENGINEERED SOIL MEDIA	370	CY	\$125.00	\$46,250.00
49	VDOT#57 STONE SUMP LAYER	580	CY	\$114.00	\$66,120.00
50	PEA GRAVEL	80	CY	\$122.00	\$9,760.00
51	8" HDPE PIPING WITH CLEANOUT AND FITTINGS	640	LF	\$70.00	\$44,800.00
52	8" DUCTILE IRON PIPE WITH FITTINGS	30	LF	\$177.00	\$5,310.00
53	12" HDPE PIPING WITH FITTINGS	30	LF	\$80.00	\$2,400.00
54	24" HDPE PIPING WITH FITTINGS	50	LF	\$150.00	\$7,500.00
55	ADS-310 CHAMBER	12	EA	\$150.00	\$1,800.00
56	ADS-740 CHAMBER	34	EA	\$295.00	\$10,030.00
57	ADS-310 END CAP	4	EA	\$75.00	\$300.00
58	ADS-740 END CAP	14	EA	\$250.00	\$3,500.00
59	ADS 10" INSPECTION PORT	8	EA	\$1,000.00	\$8,000.00
60	CURB CUT WITH ENERGY DISSIPATER	3	EA	\$3,500.00	\$10,500.00
61	OBSERVATION WELL AND CLEANOUT	3	EA	\$1,000.00	\$3,000.00
62	UNDERDRAIN CONNECTION	8	EA	\$1,500.00	\$11,250.00
63	NON-WOVEN GEOTEXTILE FABRIC	1,030	SY	\$4.00	\$4,120.00
64	IMBRICATED STONE FOR OUTFALL BASIN, CHECK DAMS, AND FLOW SPREADER	230	TON	\$155.00	\$35,650.00
65	VDOT #21 COARSE GRAVEL FOR OUTFALL BASIN ACCESS	170	CY	\$95.00	\$16,150.00
66	INSTALL REMOVABLE LOCKING BOLLARDS	4	EA	\$1,065.00	\$4,260.00
67	REGULAR EXCAVATION (CUT TO HAUL)	15,000	CY	\$45.00	\$675,000.00
68	TEMPORARY CONSTRUCTION ENTRANCE	2	EA	\$2,600.00	\$5,200.00
69	TEMPORARY SAFETY FENCE AND TREE PROTECTION	14,015	LF	\$4.00	\$56,060.00
70	SUPER SILT FENCE	2,250	LF	\$10.00	\$22,500.00
71	INLET PROTECTION	72	EA	\$160.00	\$11,520.00
72	CULVERT INLET PROTECTION	4	EA	\$160.00	\$640.00
73	ACCESS (TIMBER MATS)	220	SY	\$45.00	\$9,900.00
74	OUTLET PROTECTION (CLASS I RIPRAP)	20	SY	\$120.00	\$2,400.00
75	GOOSE PROTECTION FENCE	400	LF	\$4.00	\$1,600.00
76	HARDWOOD MULCH - 3" DEPTH	180	SY	\$6.00	\$1,080.00
77	SOILMATE COMPOST OR EQUAL	1,800	CY	\$57.00	\$102,600.00
78	TURF STABILIZATION SEED MIX	10,800	SY	\$3.00	\$32,400.00
79	TEMPORARY STABILIZATION SEED MIX	2,700	SY	\$2.50	\$6,750.00
80	HERBACEOUS SEEDING, NATIVE SEEDING WITH SUNNY UPLAND AND SHADY MIXES	1,800	SY	\$3.00	\$5,400.00
81	1.5"-2" CALIPER CANOPY TREE	18	EA	\$370.00	\$6,660.00
82	1"-1.5" CALIPER UNDERSTORY TREE	74	EA	\$130.00	\$9,620.00
83	3/4" CALIPER UNDERSTORY TREE	58	EA	\$100.00	\$5,800.00
84	24" SHRUB	34	EA	\$50.00	\$1,700.00
85	18" SHRUB	248	EA	\$22.00	\$5,456.00
86	#1 CONTAINER	116	EA	\$19.00	\$2,204.00
87	QUART CONTAINERS (NATIVE GRASS, PERENNIALS, FERNS)	2,233	EA	\$6.00	\$13,398.00
88	STEEL PLATE (FOR GI-MH-1)	1	EA	\$3,500.00	\$3,500.00
89	LANDSCAPE BLOCK WALL	120	SF	\$85.00	\$10,200.00
90	SANITARY SEWER RELOCATION ²	1	LS	\$700,500.00	\$700,500.00
	TOTAL AMOUNT WITHOUT MATERIALS MANAGEMENT				\$6,722,165.33
91	MATERIALS MANAGEMENT (10% Contingency) ³	1	LS	\$ 673,000.00	\$673,000.00

TOTAL AMOUNT			\$7,395,165.33
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¹Private Lot Restoration represents an average cost per disturbed private property for the removal and replacement of items including, but not limited to, driveway, sidewalk, mailbox, irrigation, landscaping, and lighting features.

²Lump sum is reflected in overall cost estimate, see attached Construction Plan design sanitary sewer relocation estimate for detailed estimate.

³Materials Management includes a 10% contingency for the estimated project cost to account for unforeseen project costs as well as line items that have not been accounted for at the 95% design phase.

Stantec Consulting Services Inc. does not guarantee the accuracy of this opinion of probable cost.
The actual final cost of the project will be determined through the bidding and construction process.





**TUCKER AVE SANITARY SEWER REALIGNMENT
STANTEC ENGINEERS OPINION OF PROBABLE COST**

ITEM NO.
(from District Average Unit Cost
Data, if applicable)

ITEM NO.	ITEM DESCRIPTION	UNITS	QUANTITY	UNIT COST	ITEM TOTAL
BASE BID - SEWER PIPE INSTALLED					
42044	4-INCH SANITARY SERVICE LATERAL CONNECTION W CLEANOUTS	EA	15	\$ 750.00	\$ 11,250.00
40081	8-INCH PVC C900, GREEN	LF	1338	\$ 110.00	\$ 147,180.00
120	EXCAVATION	LF	1338	\$ 36.00	\$ 48,168.00
69014	BACKFILL	LF	1338	\$ 229.00	\$ 306,402.00
42755	4' ID PRE-CAST CONCRETE SEWER MANHOLE (APPROX 8-FT DEPTH, MH COMPLETE IN PLACE)	EA	8	\$ 4,500.00	\$ 36,000.00
	ABANDON 8-INCH SANITARY SEWERLINE	LF	100	\$ 15.00	\$ 1,500.00
	WASTEWATER BYPASS PUMPING	LS	1	\$ 10,000.00	\$ 10,000.00
				SUBTOTAL	\$ 560,500.00
	CLASS VI OPCC CONTINGENCY		25%		\$ 140,000.00

SUMMARY					PROJECT TOTAL
TOTAL BASE BID - TUCKER AVE SANITARY SEWER REALIGNMENT					\$ 700,500.00

NOTES: - Possible construction easements not evaluated

EXCLUSIONS:

- Erosion and sediment control
- Asphalt/driveway restoration
- Tree/grass/etc removal and restoration
- MOT/Traffic management
- OH utility relocation

Disclaimer: This Engineers Estimate reflects the opinion of Stantec of probable construction costs utilizing information available at the time the estimate was prepared. The unit costs are based on 2019 dollars. The unit cost estimates were developed from information provided by material suppliers, previous projects, and standard industry guidelines for construction cost estimating and assumes standard construction practices are utilized. Stantec has no control over future costs of construction labor, materials, equipment, nor of contractors' methods of determining prices, nor of competitive construction industry market conditions. The accuracy of the estimates is not guaranteed, and they are not intended to predict the outcome of the construction bidding.

**FAIRFAX WATER
PLANNING AND ENGINEERING DIVISION
COST ESTIMATE**

Cost Estimate For **P2711-001 Tucker Avenue Stormwater Improvements (SD-000032-0074)**
Water System Adjustments

Computed By **TJG** Checked By **RCC**
 Approved By **RCC** Date **2/18/22**

416 LF - 6" DIP W/M @ \$400/LF	\$166,400
285 LF - 8" DIP W/M @ \$450/LF	\$128,250
8 - 6" Gate Valve & Valve Box @ \$2,000/EA	\$16,000
2 - 8" Gate Valve & Valve Box @ \$2,500/EA	\$5,000
3 - Fire Hydrant Installation @ \$7,500/EA	\$22,500
6 - Relocate Existing Water Meter & Box @ \$1,500/EA	\$9,000
660 LF - 1" Water Service Line @ \$100/LF	\$66,000
Subtotal Construction Cost	\$413,150
Contingencies @ 15%	\$61,973
Total Construction Cost	\$475,123
Fairfax Water Administration, Engineering, Inspection (includes 104% Overhead)	\$65,000
Total	\$540,123
USE	\$550,000



County of Fairfax, Virginia

MEMORANDUM

DATE: *April 5, 2022*

TO: Board of Supervisors

FROM: Bryan J. Hill
County Executive *[Signature]*

SUBJECT: Department of Conservation and Recreation, Virginia Community Flood Preparedness Fund

The Virginia Community Flood Preparedness Fund (CFPF) was “established to provide support for regions and localities across Virginia, to reduce the impacts of flooding, including flooding driven by climate change.” The Department of Conservation and Recreation (DCR) administers loans and grants from the CFPF to local governments. DCR has advertised that approximately \$40,000,000 in matching CFPF funds is available this grant cycle. The minimum grant amount is \$50,000 for project grants and \$1,000 for study grants. Project grants will not be capped and final awards will be determined based on available funds following review by DCR. The grant amount per application will be determined based on scoring, amount requests from eligible applications, and available funds.

DCR is soliciting applications for flood prevention and protection project types including, but not limited to: i) nature-based solutions; ii) flood control solutions; and iii) preservation and creation of open space. DCR is also soliciting applications for the following study types including, but not limited to: i) floodplain ordinance revisions; ii) hydrologic and hydraulic floodplain studies with historic and predicted floods; iii) hydrologic and hydraulic floodplain studies to clarify or update FEMA Flood Insurance Rate Maps; and iv) studies and data collection of statewide and regional significance. Applications must be for discrete projects to be completed after the beginning of the application period and not later than three years from the date of an executed grant agreement or by an extension date approved by DCR. Applications for this grant cycle are due on April 8, 2022.

DCR will review applications and award grant assistance by category (project, study, and capacity building and planning) on a competitive scoring basis. Priority is given to applications that are in concert with local, state, and federal floodplain management standards, local resilience plans, and the Virginia Coastal Resilience Master Plan. Based on that ranking process, DCR will select and approve applications. The approved applications will be

forwarded to the Virginia Resources Authority for the execution of a grant agreement and funding.

For this grant cycle, Fairfax County (County) proposes submitting the following five applications:

Project/Study Title	Project/Study Estimate	Grant Amount Requested
1. Tucker Avenue Neighborhood Stormwater Improvements	\$9,834,000	\$5,900,000
2. Chowan Avenue Flood Mitigation	\$2,000,000	\$1,200,000
3. Little Pimmit Run Tributary at Woodland Terrace	\$4,279,000	\$2,567,000
4. Tripps Run at Barrett Road Flood Mitigation	\$12,836,000	\$8,985,200
5. County Regulated Floodplain Map Updates	\$1,200,000	\$600,000
Total	\$30,149,000	\$19,252,200

The County is under no financial obligation to apply for CFPF grants. If DCR selects one or more of these applications, the grant(s) will be presented to the Board of Supervisors for approval.

cc: Rachel Flynn, Deputy, County Executive
Christopher Herrington, Director, Department of Public Works and Environmental Services (DPWES)
Eleanor Ku Coddling, Deputy Director DPWES, Stormwater and Wastewater Divisions



CFPF, rr <cfpf@dcr.virginia.gov>

CID515525_FairfaxCounty_CFPF Applications

2 messages

Torgersen, Catherine S <Catherine.Torgersen@fairfaxcounty.gov>

Tue, Apr 5, 2022 at 4:31 PM

To: "cfpf@dcr.virginia.gov" <cfpf@dcr.virginia.gov>

Cc: "Pokharel, Sajan" <Sajan.Pokharel@fairfaxcounty.gov>, "Habete, Daniel" <Daniel.Habete@fairfaxcounty.gov>, "Calmbacher, Joni" <Joni.Calmbacher@fairfaxcounty.gov>, "Wilkins, Fred H." <Fred.Wilkins@fairfaxcounty.gov>, "Carinci, Craig A." <Craig.Carinci@fairfaxcounty.gov>, "Ambrose, Heather" <Heather.Ambrose@fairfaxcounty.gov>, "Gutzler, Emma B." <Emma.Gutzler@fairfaxcounty.gov>

Good afternoon,

Fairfax County is pleased to submit the following five applications for grant round 3 of the Virginia Community Flood Preparedness Fund:

1. CID515525_FairfaxCounty_CFPF-1 Tucker Avenue Neighborhood Stormwater Improvement Project Application
2. CID515525_FairfaxCounty_CFPF-2 Chowan Avenue Stormwater Improvement Project Application
3. CID515525_FairfaxCounty_CFPF-3 Little Pimmit Run Tributary at Woodland Terrace Project Application
4. CID515525_FairfaxCounty_CFPF-4 Tripps Run at Barrett Road Flood Mitigation Project Application
5. CID515525_FairfaxCounty_CFPF-5 Regulated Floodplain Map Updates Study Application

The applications are available for download at the following Sharefile link: <https://fairfaxcounty-ent.sharefile.com/d-52b8f9fb46c444d8a5ecbe1f4ad3dd45>

Please let me know if you are unable to download the applications or if you have any questions.

Thank you,

Catie Torgersen

Planner

Stormwater Planning Division, SWPD
Fairfax County DPWES12000 Government Center Parkway
Fairfax, VA 22035
703-639-7664 (cell)

CFPF, rr <cfpf@dcr.virginia.gov>

Wed, Apr 6, 2022 at 10:00 AM

To: "Torgersen, Catherine S" <Catherine.Torgersen@fairfaxcounty.gov>

Cc: "Pokharel, Sajan" <Sajan.Pokharel@fairfaxcounty.gov>, "Habete, Daniel" <Daniel.Habete@fairfaxcounty.gov>, "Calmbacher, Joni" <Joni.Calmbacher@fairfaxcounty.gov>, "Wilkins, Fred H." <Fred.Wilkins@fairfaxcounty.gov>, "Carinci,

Craig A." <Craig.Carinci@fairfaxcounty.gov>, "Ambrose, Heather" <Heather.Ambrose@fairfaxcounty.gov>, "Gutzler, Emma B." <Emma.Gutzler@fairfaxcounty.gov>

Received

On Tue, Apr 5, 2022 at 4:31 PM Torgersen, Catherine S <Catherine.Torgersen@fairfaxcounty.gov> wrote:

Good afternoon,

Fairfax County is pleased to submit the following five applications for grant round 3 of the Virginia Community Flood Preparedness Fund:

1. CID515525_FairfaxCounty_CFPF-1 Tucker Avenue Neighborhood Stormwater Improvement Project Application
2. CID515525_FairfaxCounty_CFPF-2 Chowan Avenue Stormwater Improvement Project Application
3. CID515525_FairfaxCounty_CFPF-3 Little Pimmit Run Tributary at Woodland Terrace Project Application
4. CID515525_FairfaxCounty_CFPF-4 Tripps Run at Barrett Road Flood Mitigation Project Application
5. CID515525_FairfaxCounty_CFPF-5 Regulated Floodplain Map Updates Study Application

The applications are available for download at the following Sharefile link: <https://fairfaxcounty-ent.sharefile.com/d-s52b8f9fb46c444d8a5ecbe1f4ad3dd45>

Please let me know if you are unable to download the applications or if you have any questions.

Thank you,

Catie Torgersen

Planner

Stormwater Planning Division, SWPD
Fairfax County DPWES

12000 Government Center Parkway
Fairfax, VA 22035
703-639-7664 (cell)



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

11/18/2022

Ms. Wendy Howard-Cooper, Director
Dam Safety and Floodplain Management
Department of Conservation and Recreation
East Main Street, 24th Floor
Richmond, VA 23219

Reference: Tucker Avenue Neighborhood Stormwater Improvement Project Application
(CFPF-22-03-14)

Dear Ms. Howard-Cooper:

This letter is in response to your September 30, 2022, (Exhibit 1) letter requesting additional information for the Tucker Avenue Neighborhood Stormwater Improvement Project application (CFPF-22-03-14). The following information was requested:

- Funding reduced to only support a portion of the project to be completed during the grant period
- Applicant must submit a detailed, revised budget that only reflects the project to be completed during the grant period
- Applicant must provide detailed allocation of matches across all grant applications to verify \$7M proposed match is not over allocated.

The application has been revised to support only the unencumbered portion of the fund for the project. Based on the revision, the County requests a total grant assistance of \$4,894,000 for this project. The County's necessary match fund for this project is now \$3,262,700.

The budget narrative of the application has been revised to reflect the project's funding to be used during the grant period. Attachments 7 and 8 of the application provide details of the budget estimate.

The attached letter (Exhibit 2) from the County Executive confirmed the County will provide the necessary match for the project (\$3,262,700) as required by your department, subject to Fairfax County Board of Supervisors approval. In addition, the letter confirmed the County's understanding that the total match for all four County applications could be as much as \$9,184,400. The County match for the Tucker Avenue Neighborhood Stormwater Improvement project will be allocated from the Emergency Flood Response Project funds (approved FY 2023

Department of Public Works and Environmental Services
Director's Office

12000 Government Center Parkway, Suite 448
Fairfax, VA 22035-0052

Phone: 703-324-5033, TTY 711, Fax: 703-653-7145

www.fairfaxcounty.gov/publicworks

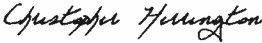


Tucker Avenue Neighborhood Stormwater Improvement Project Application (CFPF-22-03-14)
Ms. Wendy Howard-Cooper, Director
Page 2 of 2

budget of \$7,000,000) and/or the Stream and Water Quality Improvement Project funds (approved FY 2023 budget of \$23,507,957) as provided in Attachment 1 (FY 2023 – FY 2027 Stormwater Management Summary of Capital Projects) of the application.

If you have any questions or need additional assistance, please contact Sajan Pokharel, at 703-324-5687.

Sincerely,

DocuSigned by:

B67971E9F026404

Christopher Herrington, Director

Attachments: As stated

cc: Bryan Hill, County Executive
Rachel Flynn, Deputy County Executive
Christopher Herrington, Director, Department of Public Works and Environmental Services (DPWES)
Eleanor Ku Coddling, Deputy Director, DPWES, Stormwater and Wastewater Division
Craig Carinci, Director, DPWES, Stormwater Planning Division



COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Darryl Glover
Deputy Director for
Dam Safety,
Floodplain Management and
Soil and Water Conservation

Laura Ellis
Interim Deputy Director for
Administration and Finance

September 30, 2022

Bryan J. Hill, County Executive
12000 Government Center Parkway
Suite 552
Fairfax, VA 22035
cexbryanhill@fairfaxcounty.gov

Re: Community Flood Preparedness Fund (CFPF)
CY2022 Round 3 Grant Application: Grant Number: CFPF-22-03-14
Application Category: Projects that will result in hybrid solutions
Community Name: FAIRFAX COUNTY, CID: 515525
Primary Contact: Craig Carinci,
Primary Contact Email Address: craig.carinci@fairfaxcounty.gov
CFPF Amount Requested: \$5,900,400.00
Match Amount Required: \$3,933,600.00
Total Project Cost: \$9,834,000.00

Dear Bryan J. Hill:

Thank you for your interest in Grant Round Three of the Community Flood Preparedness Fund (the Fund). The Department of Conservation and Recreation (DCR, or the Department) advertised that \$40 million would be made available for this Grant Round; we received 64 applications for this Round with Grant requests totaling nearly \$93 million.

We have reviewed your grant application and believe that your proposal may meet the purpose of the Fund and the requirements of the Grant Manual. However, without additional information, we are unable to make a final determination that would lead to a grant award.

Given the importance of addressing flooding and resilience challenges, and the level of interest in this Grant Round, the Department is providing applicants whose projects may meet grant qualifications, but where additional information is required, with a supplemental review period in which to submit information. Further, in order to provide support to as many beneficial projects as possible, the Secretary of Natural and Historic Resources has authorized the Department to release an additional \$30 million in funding for this Grant Round.

For your application to be considered during this supplemental review, please notify the Department of your interest in writing no later than October 14th, 2022 and submit the following information to the Department no later than 5:00 pm on November 30th.

A final determination on awards will be made by December 30th, 2022. Correspondence with the Department in this matter should be directed to cfpf@virginia.gov.

- Funding reduced to only support portion of project to be completed during the grant period.
- Applicant must submit a detailed, revised budget that only reflects the project to be completed during the grant period.
- Applicant must provide detailed allocation of match across all grant applications to verify \$7M proposed match is not over allocated.

Note that this is a request for additional information about the project described in GRANT APPLICATION NUMBER(S). The Department is not accepting applications for new projects or substantial changes to existing project proposals. Submitting the information requested by the Department does not guarantee that your application will be approved; however, without this additional information the Department will not be able to approve your application.

If you have questions or wish to schedule a meeting with the Department to discuss your application prior to the November 30th deadline, we will be happy to meet with you. Please direct these inquiries to Wendy Howard-Cooper at wendy.howard-cooper@dcr.virginia.gov.

Thank you again for your interest in the Community Flood Preparedness Fund, and for your work to address this important issue.

Sincerely,



Wendy Howard Cooper
Director, Dam Safety and Floodplain Management

cc: Darryl M. Glover, Deputy Director, DCR
Kimberly S. Adams, Senior Program Manager, VRA
Angela Davis, Flood Program Planner, DCR



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

Ms. Wendy Howard Cooper, Director
Director, Dam Safety and Floodplain Management
Department of Conservation and Recreation
East Main Street, 24th Floor
Richmond, Virginia 23219

Reference: Community Flood Preparedness Fund, CY2022 Round 3 Grant Application, Tucker Avenue Neighborhood Stormwater Improvement Project Application (CFPF-22-03-14)

Dear Ms. Howard Cooper:

This letter is in response to your September 30, 2022 (attached), letter requesting Fairfax County's (County's) confirmation of further consideration of the Tucker Avenue Neighborhood Stormwater Improvement Project application (CFPF-22-03-14) during the supplemental review period for the Community Flood Preparedness Fund (CFPF). The County is still interested in having this project application considered to receive funding through the CFPF.

If the grant is awarded, the County will provide the necessary match for the project (\$3,933,600.00) as required by your department, subject to Fairfax County Board of Supervisors approval. It is understood that the County's total match amount for all four County applications being considered during the supplemental review may be as much as \$9,184,400.00.

The County will provide the requested information for the Tucker Avenue Neighborhood Stormwater Improvement Project application (CFPF-22-03-14) to your department no later than 5:00 pm on November 30, 2022, as documented in your letter.

If you have any questions or need additional assistance, please contact Craig Carinci, Director Stormwater Planning Division at 703-324-5500.

Sincerely,

Bryan J. Hill
County Executive

Attachment: Community Flood Preparedness Fund (CFPF): Application CFPF-22-03-14

cc: Rachel Flynn, Deputy County Executive
Christopher Herrington, Director, Department of Public Works and Environmental Services (DPWES)
Eleanor Ku Coddling, Deputy Director, DPWES, Stormwater and Wastewater Divisions
Craig Carinci, Director, DPWES, Stormwater Planning Division

Office of the County Executive
12000 Government Center Parkway, Suite 552
Fairfax, VA 22035-0066
703-324-2531, TTY 711, Fax 703-324-3956
www.fairfaxcounty.gov

Appendix A: Application Form for Grant Requests for All Categories

Virginia Department of Conservation and Recreation
Virginia Community Flood Preparedness Fund Grant Program

Name of Local Government:

Fairfax County

Category of Grant Being Applied for (check one):

Capacity Building/Planning

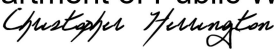
Project

Study

NFIP/DCR Community Identification Number (CID) 515525

If a state or federally recognized Indian tribe, Name of tribe N/A

Name of Authorized Official: Christopher Herrington, Director
Department of Public Works and Environmental Services

Signature of Authorized Official: 
B67971E9E026404

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 448

City: Fairfax State: VA Zip: 22035

Telephone Number: (703) 324-5033 Cell Phone Number: () N/A

Email Address: christopher.herrington@fairfaxcounty.gov

Contact Person (If different from authorized official): Craig Carinci

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 449

City: Fairfax **State:** VA **Zip:** 22035

Telephone Number: (703) 324-5500 **Cell Phone Number:** () N/A

Email Address: craig.carinci@fairfaxcounty.gov

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes No X

Categories (select applicable project):

Project Grants (Check All that Apply)

- Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
- Wetland restoration.
- Floodplain restoration.
- Construction of swales and settling ponds.
- Living shorelines and vegetated buffers.
- Structural floodwalls, levees, berms, flood gates, structural conveyances.
- Storm water system upgrades.
- Medium and large scale Low Impact Development (LID) in urban areas.
- Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool.
- Dam restoration or removal.
- Stream bank restoration or stabilization.
- Restoration of floodplains to natural and beneficial function.
- Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.

Study Grants (Check All that Apply)

- Studies to aid in updating floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.
- Revising other land use ordinances to incorporate flood protection and mitigation goals, standards and practices.
- Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA). For example, a local government might conduct a hydrologic and hydraulic study for an area that had not been studied because the watershed is less than one square mile. Modeling the floodplain in an area that has numerous letters of map change that suggest the current map might not be fully accurate or doing a detailed flood study for an A Zone is another example.
- Studies and Data Collection of Statewide and Regional Significance.
- Revisions to existing resilience plans and modifications to existing comprehensive and hazard.
- Other relevant flood prevention and protection project or study.

Capacity Building and Planning Grants

- Floodplain Staff Capacity.
- Resilience Plan Development
 - Revisions to existing resilience plans and modifications to existing comprehensive and hazard mitigation plans.
 - Resource assessments, planning, strategies and development.
 - Policy management and/or development.
 - Stakeholder engagement and strategies.

Location of Project (Include Maps): Fairfax County Pimmit Run Watershed - Tucker Avenue Neighborhood

NFIP Community Identification Number (CID#):(See appendix F 515525)

Is Project Located in an NFIP Participating Community? Yes No

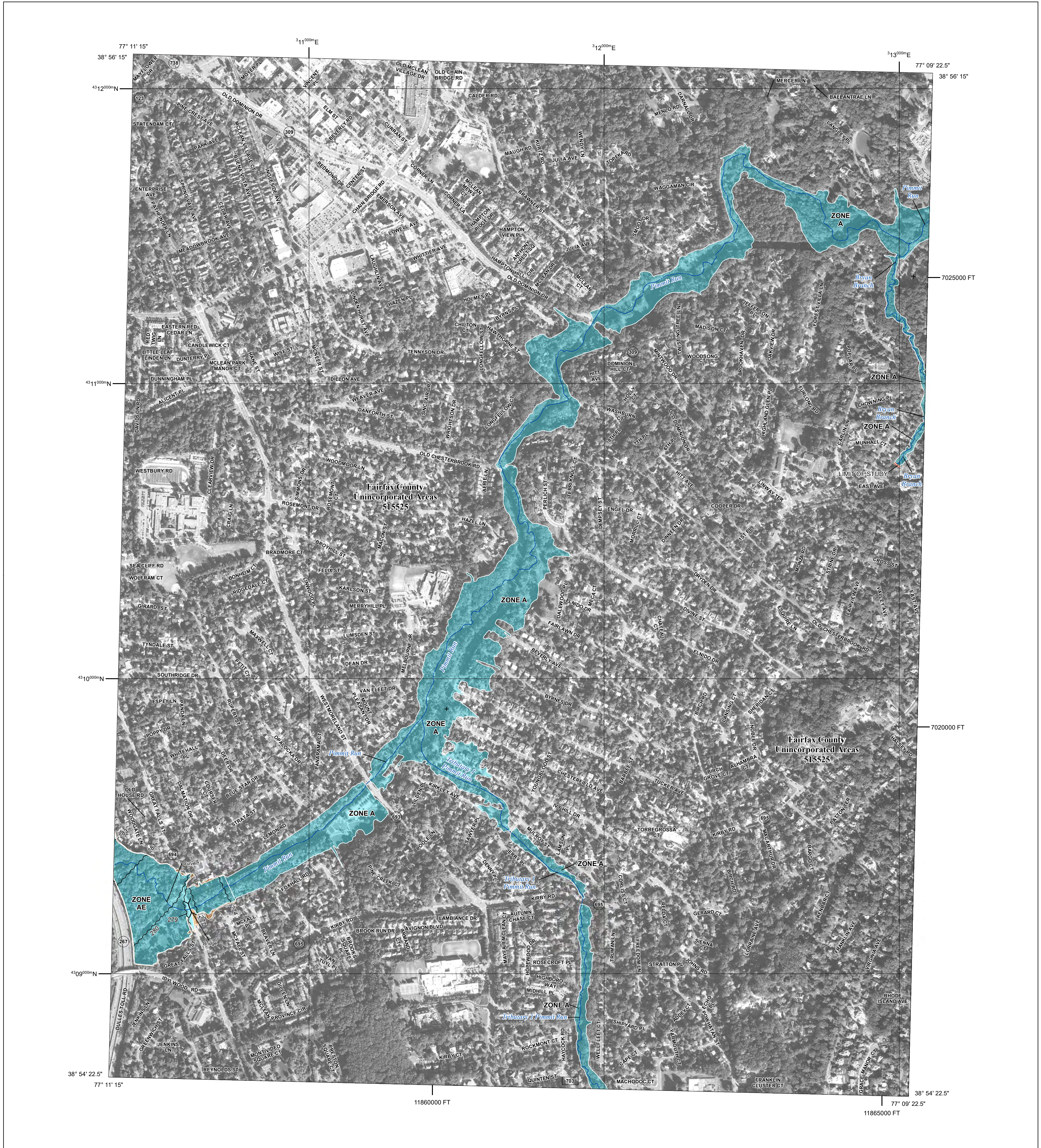
Is Project Located in a Special Flood Hazard Area? Yes No

Flood Zone(s) (If Applicable): SFHA Zone A

Flood Insurance Rate Map Number(s) (If Applicable): 51059C0166F

Total Cost of Project: \$8,156,700

Total Amount Requested \$4,894,000



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)

	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes. Zone X
	Area with Flood Risk due to Levee Zone D
	NO SCREEN Areas of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	18.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

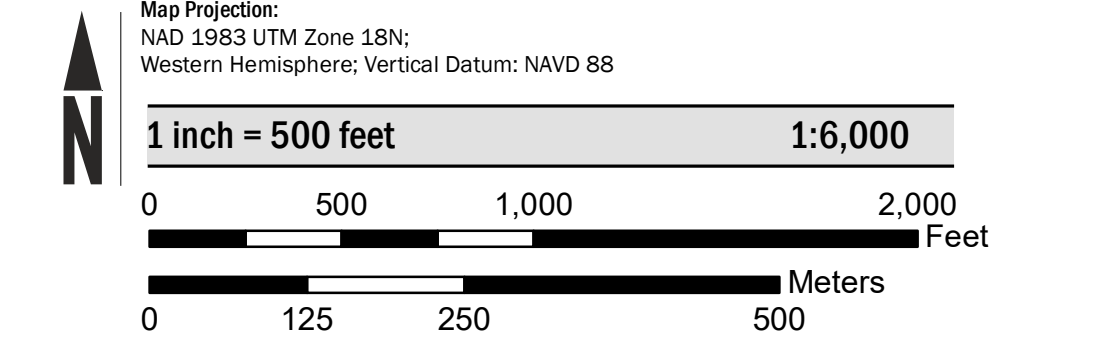
For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at <https://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

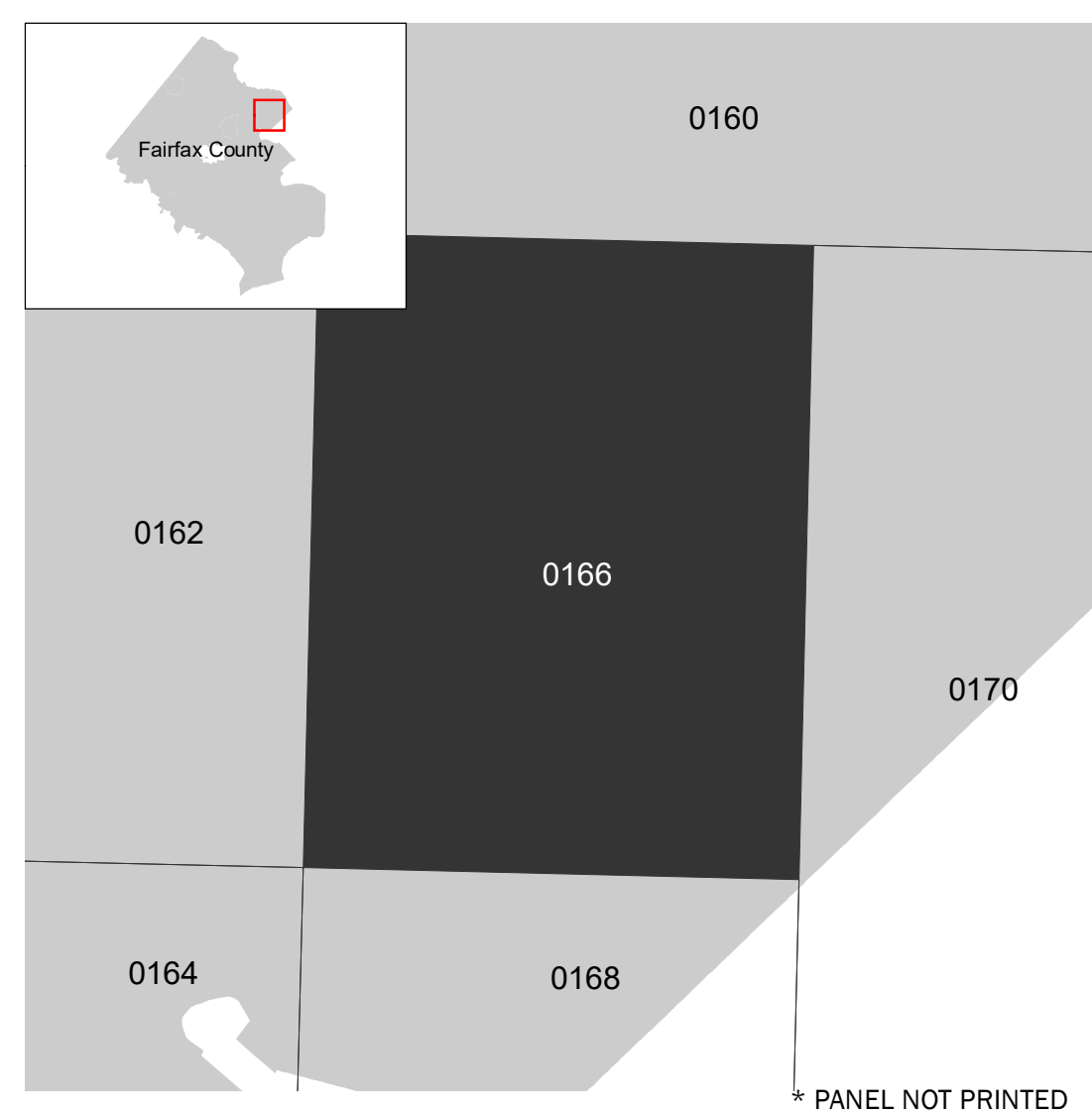
For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction. To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the United States Department of Agriculture - Aerial Photography Field Office (USDA - APFO), National Agriculture Imagery Program (NAIP). This information was derived from digital orthophotography at a 2-foot resolution from photography dated 2019.

SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA
 And Incorporated Areas

PANEL 166 of 450

Panel Contains:

COMMUNITY	NUMBER	PANEL SUFFIX
FAIRFAX COUNTY	515525	0166 F

PRELIMINARY
4/30/2021

VERSION NUMBER
2.6.4.6
MAP NUMBER
51059C0166F
MAP REVISED

FEMA

Appendix B: Scoring Criteria for Flood Prevention and Protection Projects

Virginia Department of Conservation and Recreation
 Virginia Community Flood Preparedness Fund Grant Program

Applicant Name:		Fairfax County
Eligibility Information		
Criterion	Description	Check One
1. Is the applicant a local government (including counties, cities, towns, municipal corporations, authorities, districts, commissions, or political subdivisions created by the General Assembly or pursuant to the Constitution or laws of the Commonwealth, or any combination of these)?		
Yes	Eligible for consideration	X
No	Not eligible for consideration	
2. Does the local government have an approved resilience plan and has provided a copy or link to the plan with this application?		
Yes	Eligible for consideration under all categories	X
No	Eligible for consideration for studies, capacity building, and planning only	
3. If the applicant is <u>not a town, city, or county</u>, are letters of support from all affected local governments included in this application?		
Yes	Eligible for consideration	
No	Not eligible for consideration	
4. Has this or any portion of this project been included in any application or program previously funded by the Department?		
Yes	Not eligible for consideration	
No	Eligible for consideration	X
5. Has the applicant provided evidence of an ability to provide the required matching funds?		
Yes	Eligible for consideration	X
No	Not eligible for consideration	
N/A	Match not required	

Project Eligible for Consideration		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Applicant Name:			
Scoring Information			
Criterion		Point Value	Points Awarded
6. Eligible Projects (Select all that apply)			
Projects may have components of both 1.a. and 1.b. below; however, only one category may be chosen. The category chosen must be the primary project in the application.			
1.a. Acquisition of property consistent with an overall comprehensive local or regional plan for purposes of allowing inundation, retreat, or acquisition of structures.		50	
<input type="checkbox"/> Wetland restoration, floodplain restoration <input type="checkbox"/> Living shorelines and vegetated buffers. <input type="checkbox"/> Permanent conservation of undeveloped lands identified as having flood resilience value by <i>ConserveVirginia</i> Floodplain and Flooding Resilience layer or a similar data driven analytic tool <input type="checkbox"/> Dam removal <input type="checkbox"/> Stream bank restoration or stabilization. <input type="checkbox"/> Restoration of floodplains to natural and beneficial function. <input type="checkbox"/> Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.		45	
1.b. any other nature-based approach		40	
All hybrid approaches whose end result is a nature-based solution		35	X
All other projects		25	
7. Is the project area socially vulnerable? (Based on ADAPT VA's Social Vulnerability Index Score.)			
Very High Social Vulnerability (More than 1.5)		15	
High Social Vulnerability (1.0 to 1.5)		12	
Moderate Social Vulnerability (0.0 to 1.0)		8	
Low Social Vulnerability (-1.0 to 0.0)		0	
Very Low Social Vulnerability (Less than -1.0)		0	
8. Is the proposed project part of an effort to join or remedy the community's probation or suspension from the NFIP?			

Yes	10	
No	0	
9. Is the proposed project in a low-income geographic area as defined in this manual?		
Yes	10	
No	0	
10. Projects eligible for funding may also reduce nutrient and sediment pollution to local waters and the Chesapeake Bay and assist the Commonwealth in achieving local and/or Chesapeake Bay TMDLs. Does the proposed project include implementation of one or more best management practices with a nitrogen, phosphorus, or sediment reduction efficiency established by the Virginia Department of Environmental Quality or the Chesapeake Bay Program Partnership in support of the Chesapeake Bay TMDL Phase III Watershed Implementation Plan?		
Yes	5	X
No	0	
11. Does this project provide "community scale" benefits?		
Yes	20	X
No	0	
Total Points		60

Appendix D: Checklist All Categories

Virginia Department of Conservation and Recreation

Community Flood Preparedness Fund Grant Program

Scope of Work Narrative	
Supporting Documentation	Included
Detailed map of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
FIRMette of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Historic flood damage data and/or images (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current floodplain ordinance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Non-Fund financed maintenance and management plan for project extending a minimum of 5 years from project close	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current hazard mitigation plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current comprehensive plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
If applicant is not a town, city, or county, letters of support from affected communities	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Completed Scoring Criteria Sheet in Appendix B, C, or D	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Budget Narrative	
Supporting Documentation	Included
Authorization to request funding from the Fund from governing body or chief executive of the local government	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Signed pledge agreement from each contributing organization	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

FAIRFAX COUNTY

Tucker Avenue Neighborhood Stormwater Improvement

Virginia Community Flood Preparedness Fund

FY 2022 ROUND 3 GRANT APPLICATION



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Attachments

Executive Summary

Fairfax County is applying for grant assistance under the Virginia Department of Conservation and Recreation (DCR) Community Flood Preparedness Fund (CFPF) Round 3 ‘Project’ category to help mitigate flooding in the Tucker Avenue Neighborhood in McLean within the Dranesville Magisterial District. The project, *Tucker Avenue Neighborhood Stormwater Improvement*, is focused on implementing a neighborhood-wide conveyance system that can collect stormwater flow that currently overwhelms existing roads and a limited storm drainage system.

Virginia DCR approved the County’s Resilience Plan on January 10, 2022. The County has integrated flood mitigation and resilience goals across areas of the local government, with flood resilience a priority addressed holistically through watershed and countywide comprehensive planning. The County has established requirements for development controls in the floodplain through zoning and the local floodplain ordinance. In order to address recent repetitive floodings, the County has prepared a draft flood response plan. The County is also developing a comprehensive regulated floodplain to assess and implement future projects.

The proposed project addresses the community concerns and supports resilience goals by addressing the entire watershed drainage problem within the project area.

Scope of Work Narrative

The County has participated in regional efforts in the development of several regional strategies and plans to **address resiliency**, mitigation, and impacts of climate change. These are described below.

1. Project Information

Background

Tucker Avenue Stormwater Neighborhood Improvement project is located in the Chesterfield and Chesterbrook Garden neighborhoods in Fairfax County (Map 1 below). These neighborhoods were built prior to the requirements for post construction stormwater management and very little infrastructure exists to carry the runoff from numerous residential lots and roadways. Infill lot development is occurring throughout the neighborhoods and as a result cumulative stormwater impacts are increasing across the drainage area. The existing drainage systems are inadequate. Much of the flow in the project area drains toward Tucker Avenue where no storm sewers or roadside ditches exist (Map 2). Runoff from Chesterfield Avenue and connected roads flows through the back of homes in Tucker Avenue resulting in rear yard flooding.

Population

Fairfax County has a population of about 1.17 million. The proposed project is in the Dranesville Magisterial District in McLean. The project impacts 222 single family homes and approximately 820 residents.

Historic Flooding Data and Hydrologic Studies

The project area has recorded multiple events of flooding in the past, most recently on July 8, 2019. Map 2 below also shows the reported storm drainage issues in the project drainage shed (houses highlighted by yellow color). Fifteen homes reported structural flooding because of the July 8, 2019, event.

Local Government Cost Share

Construction of the project is included in the County's FY23 stormwater capital improvement plan (CIP) and funding for the project is available in Regulatory Program Support under Fund 40100 Stormwater Services in the Fairfax County Fiscal Year 2023 budget (see Attachment 1 for the County's stormwater budget document)

County Floodplain Management Regulations

Fairfax County participates in the National Flood Insurance Program as well as Community Rating System Program (Attachment 2). Floodplains are regulated under article 5104 of the County's Zoning Ordinance. The Zoning Ordinance is included in the link below: <https://online.encodeplus.com/regs/fairfaxcounty-va/doc-viewer.aspx#secid-462>

Fairfax County regulates proposed uses and disturbances in the 100-year flood inundation area associated with all channels or conveyance systems that have a contributing drainage area of 70 acres or more. Currently, existing floodplain boundaries and water surface elevations are available from several sources and a significant portion of regulated floodplain is not mapped. A separate effort of developing a comprehensive regulated floodplain map is currently underway.

Based on the 2010 mapping of the Special Flood Hazard Areas (SFHAs) by FEMA, the floodplain immediately downstream of the project area is classified as SFHA Zone-A.

Project Priority

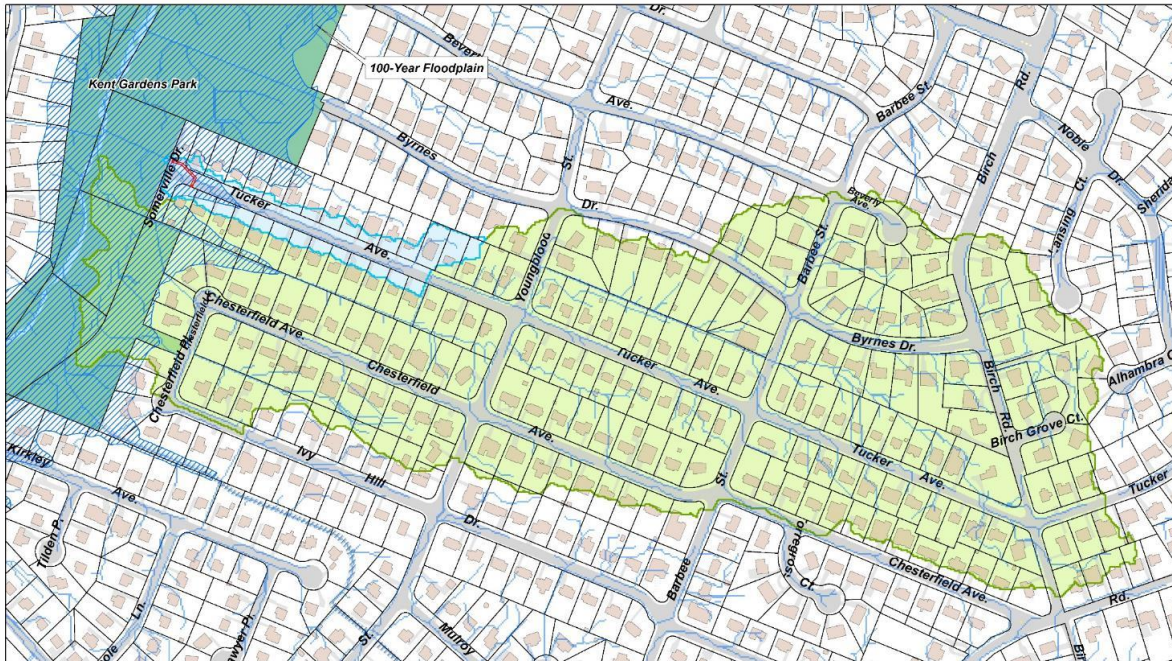
This project was prioritized in the district as a result of numerous structural and yard flooding complaints. The project area is a typical residential neighborhood where homes were built in the 1950's prior to floodplain regulations. There are two properties in this neighborhood which are not in FEMA mapped floodplain but have reported repetitive flooding and multiple homes that report yard flooding. Photos of recent flooding are shown in Figure 1 below.

During a recent extreme event on July 8, 2019, severe storms were recorded by the County's Contrail system. Actual accumulation of over 3.95-inches was recorded in one hour. Weather Underground recorded 3.48" within 45 minutes, and NOAA Atlas predicated 500-year 60-minute rainfall to be 3.98 inches.

Critical Facilities

Youngblood and Barbee Streets, which provide cross neighborhood access to the community, flood severely at the intersection of Tucker Avenue. During the July 8, 2019, event, the intersection was inundated with several feet of water due to an overwhelmed drainage system.

Map 1: Tucker Avenue Neighborhood location



Map 2: Project drainage

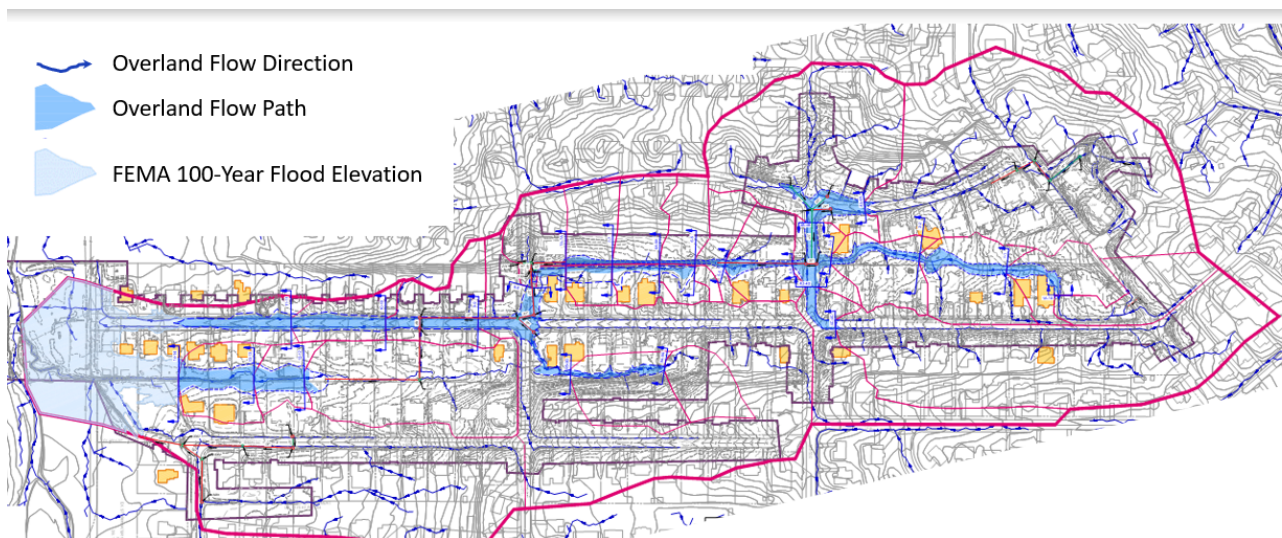
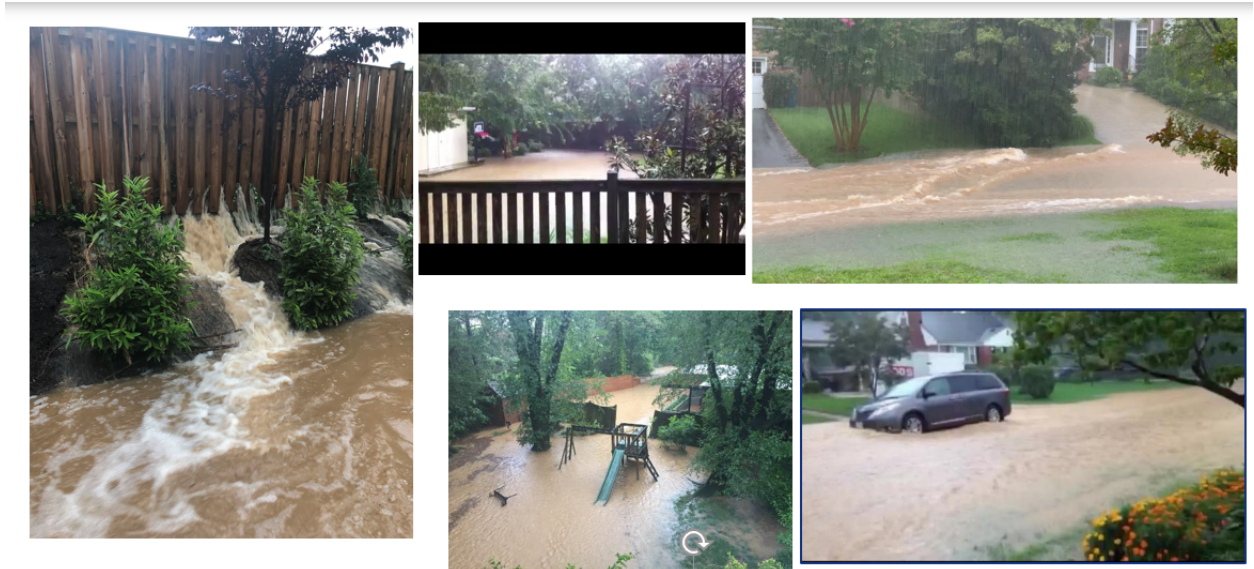


Figure 1: Community flooding July 8, 2019

2. Need for Assistance

Financial and Staff Resources

The Stormwater Services Emergency and Flood Response Projects program supports flood control projects for unanticipated flooding events that impact storm systems and structural flooding. The program provides annual funding for scoping, design, and construction activities related to flood mitigation projects. Fairfax County's advertised Fiscal Year 2023 Stormwater Services budget includes \$7.0 million for emergency and flood response projects, and \$23,508 million for stream and water quality improvement projects), but there is an estimated total cost of \$36.7 million for active flood mitigation projects and \$255.588 million for stream and water quality improvement projects (see Figure 2). With the increase in the frequency and intensity of storms due to climate change, we expect the number of flood mitigation projects to grow, and the associated project design and construction costs will extend well beyond what the County's current emergency and flood response, and stream and water quality improvement programs can support.

Figure 2. Fiscal Year 2023 Advertised Budget- Stormwater Services Summary of Capital Projects

Project	Total Project Estimate	FY 2021 Actual Expenditures	FY 2022 Revised Budget	FY 2023 Advertised Budget Plan
Conveyance System Inspection/Development (2G25-028-000)	\$13,725,000	\$1,547,185.84	\$4,734,379.98	\$2,000,000
Conveyance System Rehabilitation (SD-000034)	65,034,135	6,858,021.91	10,922,648.48	7,000,000
Dam & Facility Maintenance (2G25-031-000)	30,194,841	5,511,833.19	7,422,312.42	5,000,000
Dam Safety and Facility Rehabilitation (SD-000033)	62,576,104	5,838,539.60	12,227,774.80	10,000,000
Debt Service for SWWW Facility (2G25-117-000)	9,179,000	0.00	5,000,000.00	4,179,000
Emergency and Flood Response Projects (SD-000032)	36,686,091	1,432,074.25	14,457,916.30	7,000,000
Enterprise Asset Management-Work Order System (SD-000044)	2,400,000	0.00	1,000,000.00	1,400,000
Flood Prevention-Huntington Area-2012 (SD-000037)	41,350,000	204,250.20	2,260,024.24	0
Lake Accotink Dredging (SD-000041)	5,000,000	576,187.62	4,423,812.38	0
Laurel Hill Adaptive Reuse Infrastructure (SD-000038)	1,925,000	8,306.59	0.00	0
NVSWCD Contributory (2G25-007-000)	6,530,042	554,811.00	554,811.00	609,346
Occoquan Monitoring Contributory (2G25-008-000)	1,750,641	172,138.00	177,799.00	183,437
Scotts Run Stream Restoration (SD-000043)	151,358	151,357.99	0.00	0
Stormwater Allocation to Towns (2G25-027-000)	7,644,829	816,434.14	1,294,119.92	1,000,000
Stormwater Civil Penalties Fees (2G25-119-000)	185,750	0.00	185,750.00	0
Stormwater Facility (SD-000039)	96,515,000	1,985,385.95	88,412,475.41	0
Stormwater Proffers (2G25-032-000)	56,500	0.00	56,500.01	0
Stormwater Regulatory Program (2G25-006-000)	64,014,584	2,588,925.98	7,420,778.36	4,000,000
Stream & Water Quality Improvements (SD-000031)	255,588,016	22,533,970.99	80,322,038.93	23,507,957
Towns Grant Contribution (2G25-029-000)	4,805,976	176,548.01	906,583.17	0
Tree Preservation and Plantings (2G25-030-000)	308,916	28,427.87	232,993.36	0
Total	\$705,621,783	\$50,984,399.13	\$242,012,717.76	\$65,879,740

Low Income Geographic Areas

The project does not fall in a low-income geographic area.

Vulnerability Index

Based on the Vulnerability Index Mapping (Attachment 3), the project is not in a socially vulnerable area.

Alternatives

The project is a hybrid solution.

3. Goals and Objectives

Following are the primary goals and objectives of the project:

- Improve drainage system and reduce localized flooding and erosion by designing an adequate drainage system as defined in the County codes and Public Facilities Manual. The design will evaluate the cumulative increases in runoff from infill development based on existing and future buildout conditions.

- Address public safety concerns.
- Improve water quality and stream protection. Stormwater runoff from the drainage area to this unnamed tributary to Little Pimmit Run is incised and causing the stream to erode. The downstream Pimmit Run is listed as impaired (does not meet water quality standards) by Virginia Department of Environmental Quality (DEQ).
- Use innovative, sustainable, and functional designs.
- Partner with the Virginia Department of Transportation and Fairfax County Department of Transportation to develop a sound, cost effective solution that can be collaboratively implemented and maintained.

Project details, goals and objectives, and activities are also included in the following project website:

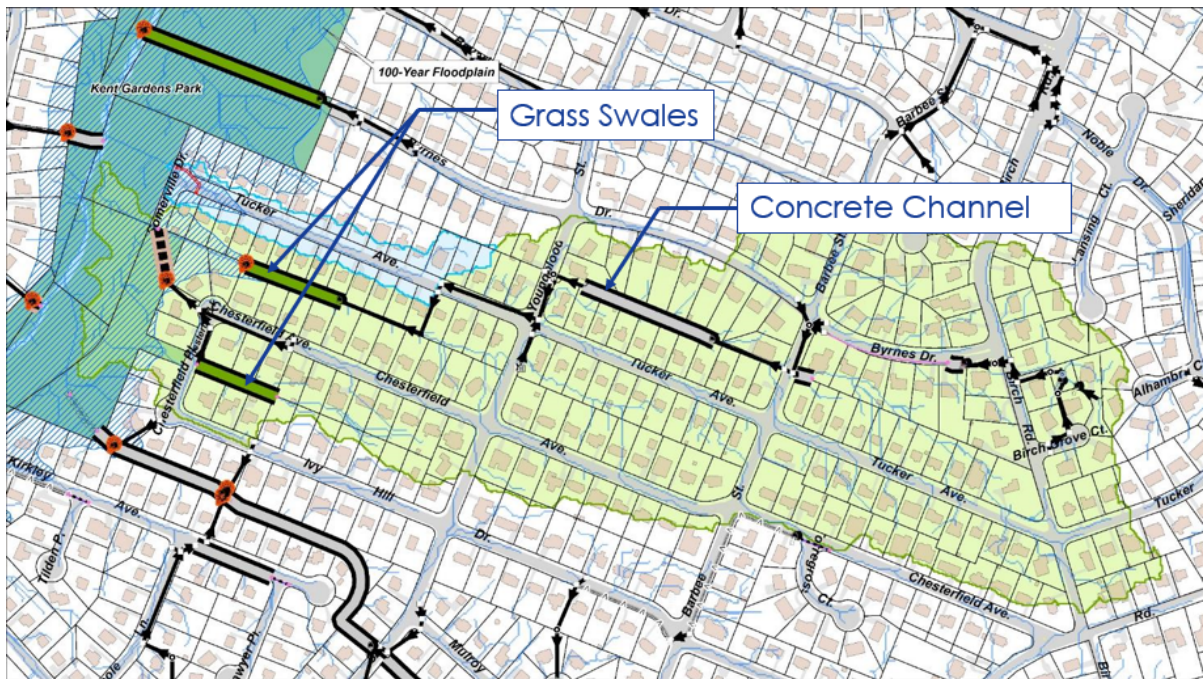
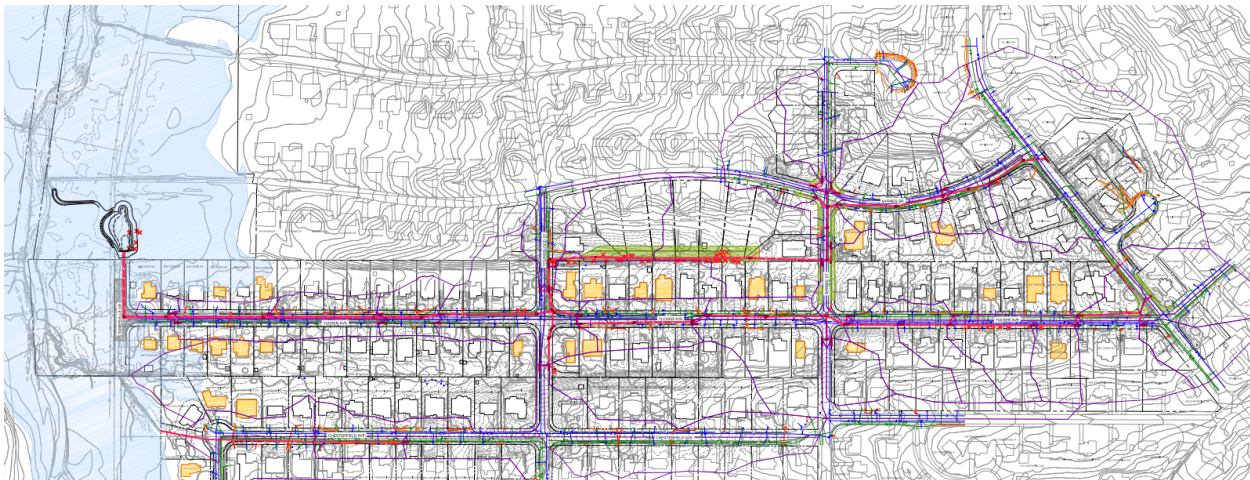
<https://www.fairfaxcounty.gov/publicworks/tucker-ave-stw>

4. Approach, Milestones, and Deliverables

The existing conveyance system in the project drainage area is limited (Map 3 below). During a significant storm event the Tucker Avenue right of way serves as the overland relief path.

This project will design stormwater management facilities and conveyance systems in the neighborhood serving a drainage area of approximately 67 acres. A new storm sewer main will be constructed down Tucker Avenue, as well as improvements to the existing storm sewer system throughout the watershed. Green infrastructure facilities (four) will be constructed in strategic locations to provide water quality, quantity, and overland relief benefits. Map 4 below shows the proposed stormwater infrastructures in the project drainage area.

Typically, closed stormwater conveyance systems are designed to carry the 10-year flow. Due to repeated flooding in this neighborhood and to build resilience, the closed conveyance system is being designed to accommodate the 100-year flow capacity within the pipe.

Map 3: Existing conveyance system**Map 4: Proposed conveyance and green infrastructures system**

A final design for the project is currently under review. Coordination with utility companies is currently underway to relocate their lines within areas of conflicts. The project is currently scheduled to go to construction in Spring of 2023. The construction is estimated to be complete in two (2) years once the contractor has mobilized.

5. Relationship to Other Projects

Fairfax County's Pimmit Run watershed management plan identified PM9814 as a neighborhood project that includes the El Nido, Chesterfield, Chesterbrook Garden, and Grass Ridge neighborhoods. This project was chosen from a portion of the larger project (PM9814) as the most severe flooding occurs in the Chesterfield and Chesterbrook Garden neighborhoods. Another neighborhood project is currently in conceptual design adjacent to this to address flooding. These projects are proposed to address the most severe flooding situations in their respective neighborhoods independent of each other.

The Pimmit Run watershed management plan can be found in the following link for the Middle Potomac Watershed management plan:

<https://www.fairfaxcounty.gov/publicworks/stormwater/middle-potomac-watersheds>

6. Maintenance Plan

Fairfax County has a dedicated maintenance program. The Maintenance and Stormwater Management Division (MSMD) maintains all public stormwater infrastructure and facilities. Since this project will be constructed by the County, it will be maintained by MSMD.

Scoring Criteria

1. Is the applicant a local government (including counties, cities, towns, municipal corporations, authorities, districts, commissions, or political subdivisions created by the General Assembly or pursuant to the Constitution or laws of the Commonwealth, or any combination of these or a recognized state or federal Indian tribe)?
The applicant (Fairfax County) is a local jurisdiction in the Commonwealth of Virginia
2. Does the local government have an approved resilience plan meeting the criteria as established by this grant manual? Has it been attached or a link provided?
The County has an approved resilience plan (see Attachment 4)
3. For local governments that are not towns, cities, or counties, have letters of support been provided from affected local governments?
This criterion is not applicable. The applicant is a local jurisdiction.
4. Has the applicant provided evidence of an ability to provide the required match funds?
The project is included in the FY23 CIP for construction (see Attachment 1).
5. Has the applicant demonstrated to the extent possible, the positive impacts of the project or study on prevention of flooding?
The main objective of this project is to reduce the flooding in the neighborhood. The project has been designed to provide resiliency in the closed system to handle the 100-year storm event. Green infrastructure has been proposed to provide water quality benefits and detention.

SUPPORTING DOCUMENTATION

Scope of Work Narrative	
Documents	Link or Attachment
Detailed map of the project area	Attachment 5
FirMette of the project area	Attachment 6
Historic flood damage data/image	Figure 2 above
Link to the current floodplain ordinance	https://online.encodeplus.com/regs/fairfaxcounty-va/doc-viewer.aspx#secid-462
No-fund maintenance and management plan	Described in maintenance plan above
Copy of the current hazard mitigation plan	https://www.fairfaxcounty.gov/emergencymanagement/sites/emergencymanagement/files/assets/documents/pdf/hazard%20mitigation%20plan%2010.22.19.pdf
Copy of the current comprehensive plan	https://www.fairfaxcounty.gov/planning-development/fairfax-county-comprehensive-plan
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer	Attachment 3
Completed Scoring Criteria Sheet Appendix B, C, D	Included above as Appendix D

Budget Narrative

Estimated total project cost: \$10,054,668

Encumbered: \$1,897,964

Design & Construction Administration: \$1,482,000

Land Acquisition: \$211,465

Utilities Designation and Test Holes: \$204,499

Un-encumbered: \$8,156,704

Construction: \$7,395,166

FFX Water relocation: \$761,538

See Attachment 7 for the project construction estimate and Attachment 8 for Fairfax Water relocation estimate.

Total project budget to complete during grant period: ~ \$8,156,700

Amount of funds requested from the Fund: \$4,894,000

This is the total amount of any grant assistance sought from the Fund. 100% of this grant will be applied to the construction of the project.

Amount of cash funds available (for construction): \$3,262,700

Fairfax County already encumbered funds for the design task order, land acquisition and utilities designation. Additional funds are available in *Regulatory Program Support* under Fund 40100 Stormwater Services in the Fairfax County Fiscal Year 2023 budget (Attachment 1).

Authorization to request for funding: See Attachment 9 for the Not In Package (NIP) item to the Board of Supervisors authorizing a request for funding through the grant program.

SUPPORTING DOCUMENTATION

Budget Narrative	
Documents	Link or Attachment
Authorization to request funding from the Fund from governing body or chief executive of the local government	Attachment 9

Conclusion

Fairfax County has many older neighborhoods which were built prior to current floodplain regulations. Due to the global influence of climate change, rainfall intensity has changed over time resulting in the flooding of more and more neighborhoods like Tucker. On average, the Tucker Avenue neighborhood experiences structural or yard flooding 5-7 times a year. The implementation of this project, where limited conveyance exists, will provide the greatest relief to the neighborhood. The project not only provides a resilient conveyance system, but also improves water quality for the drainage shed. Fairfax County is therefore requesting funding support for the implementation of the project to reduce flooding threats to the neighborhood.

Attachments

Stormwater Management

Program Description

Fairfax County's Stormwater Management program is managed on a comprehensive watershed basis and consists of: Regulatory Compliance, Dam Safety and Facility Rehabilitation, Stream and Water Quality, Emergency and Flood Control, Conveyance System Rehabilitation, contributory funding requirements and Operational Support.

Link to the Comprehensive Plan

The Public Facilities Drainage and Stormwater Management Section and the Environment Section of the Policy Plan within the Fairfax County Comprehensive Plan includes the following established objectives:

- Provide for a comprehensive drainage improvement and stormwater management program to maximize property protection and environmental benefits throughout the watershed.
- Provide a system of drainage facilities that prevents or minimizes structure flooding, stream degradation and traffic disruption in an efficient, cost effective and environmentally sound manner.
- Prevent and reduce pollution of surface and groundwater resources. Protect and restore the ecological integrity of streams in Fairfax County.
- Protect the Potomac Estuary and the Chesapeake Bay from the avoidable impacts of land use activities in Fairfax County.
- Identify, protect and enhance an integrated network of ecologically valuable land and surface waters for present and future residents of Fairfax County.

Source: 2017 Edition of the Fairfax County Comprehensive Plan- Public Facilities, Amended through 4-9-2019; Environment (amended through 12-3-2019)

Program Initiatives

The long-range goal or mission for the stormwater program is dictated by the County's need to preserve and restore the natural environment and water resources, while being in full compliance with all applicable federal and state laws and mandates. Many of the requirements are derived from the State's Chesapeake Bay Initiatives, Municipal Separate Storm Sewer System Permit (MS4), and other Clean Water Act requirements and County ordinance and policies, such as the Water Supply Protection Overlay District. In order to comprehensively address program requirements and strategies for restoring water quality on a holistic basis, updated watershed management plans have been completed. Additionally, an ongoing Stream Physical Assessment program has been developed to identify areas of need and opportunities for targeted watershed improvement projects.

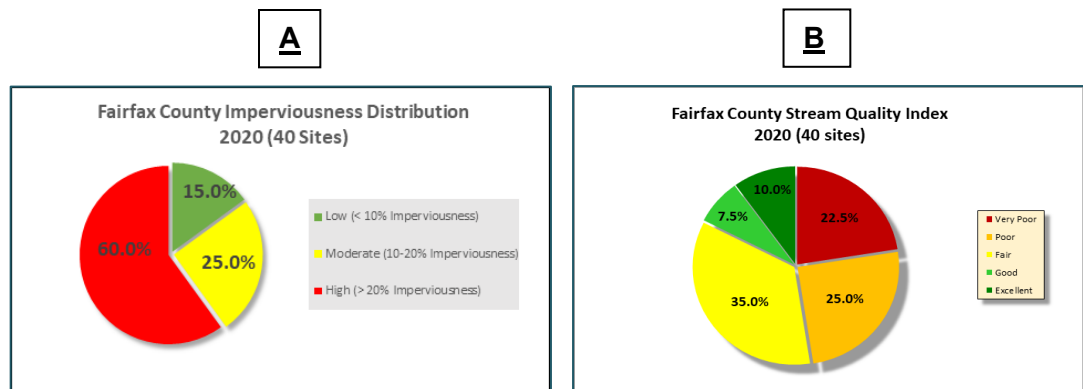
Watershed Planning and Implementation

Plans for all 30 County watersheds have been completed. Previously prepared watershed master plans developed during the 1970s did not reflect changes in stream conditions resulting from land use practices, water quality standards and environmental goals, most of which have evolved over the last 30 years. The watershed plans provide targeted strategies for addressing stream health given current and future land use practices and relative stream conditions.

Stream physical and biological degradation becomes apparent when the extent of impervious surfaces within a watershed area approaches 10 to 20 percent. High levels of degradation occur as imperviousness exceeds 20 percent. During previous decades, prior to implementation of modern stormwater controls, the County's percent of imperviousness increased drastically which contributed

Stormwater Management

to the current degraded conditions of many County streams. As depicted on graph A below, 60 percent of County stream monitoring sites in 2020 had impervious levels at or above 20 percent (high). In addition, 25 percent of the 40 sites monitored were between 10-20 percent impervious (moderate). As depicted on the graph B below, and based on the same 2020 stream monitoring, just 17.5 percent of the County's streams are in good to excellent biological health condition. This condition is determined using an Index of Biological Integrity (IBI) which evaluates stream ecological health based on the community structure of bottom-dwelling aquatic invertebrates inhabiting the streams.



The Federal Clean Water Act and Virginia state laws require Fairfax County to meet water quality standards for surface streams. The County discharges stormwater from its storm drainage network into the waters of the state and must comply with all pertinent water quality standards and conditions established by the MS4 permit. The permit conditions require that the County have a comprehensive stormwater management program that includes inspection of existing stormwater facilities, watershed planning, public outreach, monitoring and implementation of practices to improve stormwater quality.

In response to requirements for a Chesapeake Bay-wide Total Maximum Daily Load (TMDL), established by the EPA in December 2010, states have developed Watershed Improvement Plans (WIP) to set specific targets for reduction and capping of nutrients and sediment pollutants entering the Bay through its various tributaries from both point source (e.g. wastewater treatment plants) and non-point source pollution. The TMDL for the Chesapeake Bay has established a "pollution diet", or pollution load reduction targets needed to remove the Bay from the impaired waters list. The requirements for Bay states and localities are also being driven by a Presidential Executive Order of May 2009 that called for more stringent actions, increased accountability and firm deadlines. The implementation phase of the TMDL is well on the way and Bay states have developed a Phase III WIP which was submitted to EPA in August 2019. The WIP involves increased measures tied to firmly established milestones and an ultimate implementation deadline of 2025. Through the stormwater program and other efforts, the County is doing its part to increase water pollution control measures in order to effectively improve local stream conditions, comply with increasing regulations and help restore the Chesapeake Bay.

While every effort has been made to accurately reflect the 5-year capital improvement plan for the stormwater program, there are currently multiple issues that are in various stages of the regulatory and permitting processes that will possibly have significant funding impacts on the Stormwater program. Increases in regulatory requirements associated with the reissuance of the next 5-year MS4 permit, updates to Chesapeake Bay-wide TMDL requirements as a result of the Phase III WIP,

local stream TMDL's, and the Phase III WIP and State stormwater regulations impact the funding requirements on a continual basis. Mitigation of unforeseen County-wide flooding events require a significant investment to implement corrective actions and improve failing and deficient storm drainage systems that impact county residential and commercial properties. In addition to these funding impacts, the transfer of responsibility for the Fairfax County Public Schools MS4 permit program to the County represents added funding requirements to the stormwater program as well.

Additional, funding impacts to the stormwater program include long term stormwater management maintenance requirements of County facilities that are designed and built using innovative stormwater management systems, called Green Stormwater Infrastructure (GSI). Past stormwater maintenance at County-owned and operated facilities traditionally consisted of maintenance of catch basins, storm pipes and surface ponds. However, to meet current stormwater quality requirements, more extensive and complex stormwater management systems are being implemented for the treatment of stormwater runoff. These water quality systems continue to require more complex operational and maintenance efforts to function properly and comply with the stormwater permit requirements. Without the proper on-going maintenance, the systems will likely fail, requiring more extensive costs to reconstruct the systems to function as designed. As these water quality systems and stormwater facilities come on-line, funding will be needed to meet the recurring maintenance requirements.

Financing the Stormwater Program

The Board of Supervisors approved a special service district to support the Stormwater Management Program as part of the [FY 2010 Adopted Budget Plan](#). This service district provides a dedicated funding source for both operating and capital project requirements by levying a service rate per \$100 of assessed real estate value, as authorized by [Code of Virginia](#) Ann. Sections 15.2-2400. Since FY 2010, staff has made significant progress in the implementation of watershed master plans, public outreach efforts, stormwater monitoring activities, water quality and flood mitigation project implementation and operational maintenance programs related to existing storm drainage infrastructure including stormwater conveyance, and regulatory requirements.

A rate of \$0.0400 per \$100 of assessed value has been estimated to be required to fully support the stormwater program in the future; however, staff is currently evaluating the long-term requirements for the program to address the growth in inventory and other community needs. Some of the additional community needs under evaluation include debt service to support the Board's approval of the dredging of Lake Accotink, the anticipation of additional flood mitigation requirements, and strengthening the role and financial support for the implementation of stormwater requirements associated with Fairfax County Public Schools sites under renovation. This enhanced program may require incremental changes to the rate over time and may result in a higher rate to fully support the program. Staff continues to evaluate these requirements, as well as the staffing to support them, and analyze the impact of increased real estate values and revenue projections.

One of the recent initiatives being funded by the Stormwater Fund is the new Public Works complex which will consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions. Stormwater operations are currently conducted from various locations throughout the County, and a new colocation of both Stormwater and Wastewater staff will provide efficiencies and sharing of resources. Another initiative in progress is the planned dredging of Lake Accotink. Lake Accotink is a 55-acre lake surrounded by managed conservation areas, wetlands, deciduous and evergreen forests, and historic and prehistoric sites. Over 300,000 patrons visit the park annually to enjoy a variety of facilities and activities that vary with the season. Sediment from the upstream areas of the watershed has continued to be deposited in Lake Accotink over the years

filling in the lake and limiting recreational use. Estimates for the cost of dredging including sediment disposal are still under review. Staff has identified the option of a low interest loan via the Virginia Clean Water Revolving Loan Fund (VCWRLF) as the preferred funding mechanism to fund the dredging project costs. The Stormwater fund will pay the future debt costs.

While staff continues to further evaluate the impact of recent initiatives and the long-term requirements for the Stormwater Program, the FY 2023 rate will remain the same as the FY 2022 Adopted Budget Plan level of \$0.0325 per \$100 of assessed value. However, based on capital project costs and projected revenues, it is anticipated that in the next several years, incremental rate increases will be required based on continued growth of stormwater facilities and infrastructure that must be inspected and maintained by the County, the implementation of flood mitigation projects, and additional requirements in the forthcoming Municipal Separate Storm Sewer System (MS4) Permit. On an annual basis, staff will continue to evaluate the program, analyze future requirements, and develop Stormwater operational and capital resource needs.

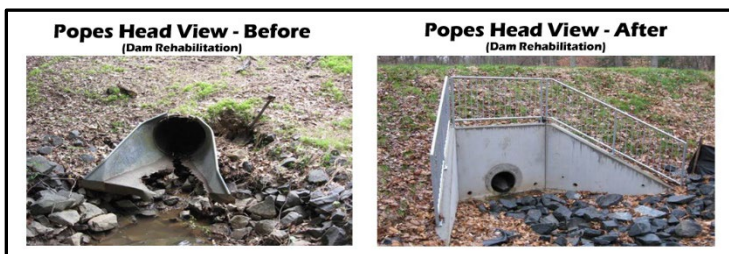
The FY 2023 levy of \$0.0325 will generate \$94,393,055, supporting \$27,113,315 for staff and operational costs; \$65,879,740 for capital project implementation including, infrastructure reinvestment, regulatory requirements, dam safety, and contributory funding requirements; and \$1,400,000 transferred to the General Fund to partially offset central support services such as Human Resources, Purchasing, Budget and other administrative services supported by the General Fund, which benefit this fund.

In summary, Stormwater funding is essential to protect public safety, preserve property values and support environmental mandates such as those aimed at protecting the Chesapeake Bay and the water quality of other local jurisdictional waterways. Projects include repairs to stormwater infrastructure, measures to improve water quality, such as stream stabilization, rehabilitation and safety upgrades of dams, repair and replacement of underground pipe systems and surface channels, structural flood proofing and site retrofits. This funding also supports increased public outreach efforts and stormwater monitoring activities. The approach to capital investment in stormwater management will be to improve infrastructure reinvestment cycles and increase capital project implementation schedules to responsibly manage stormwater runoff within Fairfax County, while maintaining compliance with increasing regulatory requirements and operational requirements. Focus will be provided to balance effectiveness and efficiencies through management of staff resources balanced with delivery of services through outsourced opportunities.

Current Project Descriptions

- 1. Conveyance System Inspection/Development (Countywide):** This program provides inventory inspection and assessment services for storm drainage conveyance systems and stormwater drainage structures in the County. The County owns and operates approximately 1,500 miles of underground stormwater pipes and improved channels with an estimated replacement value of over one billion dollars. The County began performing internal inspections of the pipes in FY 2006. The initial results showed that approximately 5 percent of the pipes exhibit conditions of failure, and an additional 5 percent required maintenance or repair. MS4 Permit regulations require inspection and maintenance of these 1,500 miles of existing conveyance systems, 69,000 stormwater structures, and a portion of the immediate downstream channel at the 7,000 regulated pipe outlets. Once the initial internal inspections are complete, the goal of this program is to inspect pipes on a 20-year cycle and rehabilitate pipes and improve outfall channels before total failure occurs. Funding of \$2,000,000 has been included for inspections and development in FY 2023.

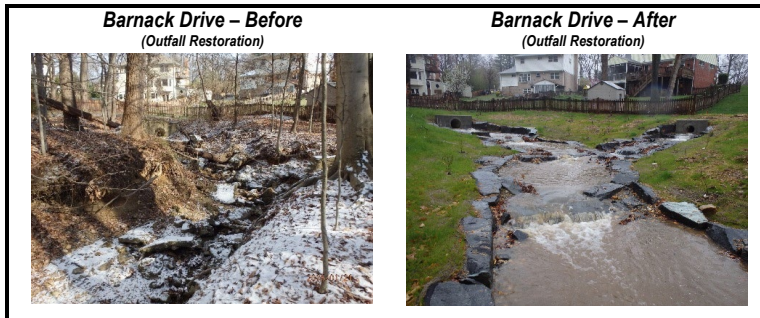
- 2. Conveyance System Rehabilitation (Countywide):** This program provides repair and rehabilitation of storm drainage conveyance systems and stormwater drainage structures in the County. Acceptable industry standards indicate that one dollar re-invested in infrastructure saves seven dollars in the asset's life and \$70 dollars if asset failure occurs. Funding in the amount of \$7,000,000 is included for conveyance system rehabilitation in FY 2023.
- 3. Dam and Facility Maintenance (Countywide):** This program provides for inventory, inspections, operations, and maintenance of all stormwater facilities within the County. There are approximately 7,900 stormwater management facilities in service that range in size from small rain gardens to large state regulated flood control dams. The County is responsible for inspecting approximately 5,500 privately-owned facilities and maintaining over 2,400 County owned facilities. This inventory increases annually and is projected to continually increase as new development and redevelopment sites occur in the County. This initiative also includes the removal of sediment that occurs in both wet and dry stormwater management facilities to ensure that adequate capacity is maintained to treat the stormwater. The program results in approximately 50 projects annually that require design and construction management activities as well as contract management and maintenance responsibilities. This program maintains the structures and dams that control and treat the water flowing through County owned facilities. This program improves dam safety by supporting annual inspections of 20 state-regulated dams and the Huntington Levee and by developing Emergency Action Plans required by the state. The Emergency Action Plans are updated annually. In addition, these plans include annual emergency drills and exercises, and flood monitoring for each dam. Funding in the amount of \$5,000,000 is included for dam maintenance in FY 2023.



- 4. Dam Safety and Facility Rehabilitation (Countywide):** This program provides for capital repair and rehabilitation of stormwater management facilities in the County. The County currently owns and operates dams, green infrastructure facilities, and various types of other facilities such as underground detention and proprietary systems with an estimated replacement value of over \$500 million. Funding in the amount of \$10,000,000 is included for Dam Safety and Facility

Rehabilitation in FY 2023.

- 5. Emergency and Flood Response Projects (Countywide):** This program supports flood control projects for unanticipated flooding events that impact storm systems and structural flooding. The program provides annual funding for scoping, design, and construction activities related to flood mitigation projects. Funding in the amount of \$7,000,000 is included for the Emergency and Flood Response Projects in FY 2023.
- 6. Enterprise Asset Management – Work Order System (Countywide):** This project will provide funding for the transition from an Enterprise Asset Management (EAM) system to a more functional Asset Management Program (AMP). Funding over time will support the acquisition of software, servers, and consultant services to migrate asset management and related work order management into the new system. The current system tracks assets, inspections, daily work management and associated contractor costs. Features of the replacement system include geographic information system (GIS) integration and field mobility. The Department of Public Works and Environmental Services (DPWES) Information Technology staff have collaborated with the Stormwater Management and the Wastewater Management staff to promote interagency capabilities, optimize performance, and improve system lifecycle management for



the new system. This new system will meet the future expectations for both divisions and optimize service delivery for DPWES. Funding in the amount of \$1,400,000 is included for this project in FY 2023.

7. Lake Accotink Dredging (Braddock District): \$5,000,000 has been allocated from stormwater funds to support the design phase of the dredging of Lake Accotink. Lake Accotink is a 55-acre lake surrounded by managed conservation

areas, wetlands, deciduous and evergreen forests, and historic and pre-historic sites. Over 300,000 patrons visit the park annually to enjoy a variety of facilities and activities that vary with the season. Sediment from the upstream areas of the watershed has continued to be deposited in Lake Accotink over the years filling in the lake and limiting recreational use of the lake. Estimates for the cost of dredging including sediment disposal are still under review. Staff has identified the option of a low interest loan via the Virginia Clean Water Revolving Loan Fund (VCWRLF) as the preferred funding mechanism to fund the dredging project costs. Future debt service costs associated with the loan will be funded by the Stormwater Services Fund. For planning purposes, an amount of \$60,500,000 has been estimated to be required in FY 2025.

- 8. Pro Rata Share Drainage Improvements (Countywide):** Pro Rata funds received from developer are used to support watershed planning, regional pond development and other drainage improvement projects. Contributions are received in accordance with the Pro Rata Share Program approved by the Board of Supervisors on December 16, 1991. The Pro Rata Share Program provides a funding source to correct drainage deficiencies by collecting a proportionate share of the total estimated cost of drainage improvements from the developers of the land. As projects are identified and prioritized during scheduled budgetary reviews, Pro Rata funds on deposit are appropriated. This fund has a current budget of \$5,712,821.
- 9. Stormwater Allocation to Towns (Countywide):** This project is a continuing project which provides for allocations to the Towns of Vienna and Herndon. On April 18, 2012, the State Legislature passed SB 227, which entitles the Towns of Herndon and Vienna to all revenues collected within their boundaries by Fairfax County's stormwater service district. An agreement was developed for a coordinated program whereby the Towns remain part of the County's service district and the County returns 25 percent of the revenue collected from properties within each town. This allows for the Towns to provide services independently such as maintenance and operation of stormwater pipes, manholes, and catch basins. The remaining 75 percent remains with the County and the County takes on the responsibility for the Towns' Chesapeake Bay TMDL requirements as well as other TMDL and MS4 requirements. This provides for an approach that is based on watersheds rather than on jurisdictional lines. Funding in the amount of \$1,000,000 is included for the allocations to Vienna and Herndon in FY 2023.
- 10. Stormwater Regulatory Program (Countywide):** This is a continuing program to support County operations to meet the conditions of a state issued MS4 Permit. The County is required by federal law to operate under the conditions of a state issued MS4 Permit. Stormwater staff annually evaluates funding required to meet the increasing federal and state regulatory requirements pertaining to the MS4 Permit, and State and Federal mandates associated with controlling water pollution delivered to local streams and the Chesapeake Bay. The MS4 Permit allows the County to discharge stormwater from its stormwater systems into state and federal waters. The County currently owns and/or operates approximately 15,000 outfalls, and 7,000 of these outfalls are regulated outfalls governed by the permit. The current permit was issued

to the County in April 2015 and expired in April 2020. The County is operating under an administrative continuance until a new permit is issued. The permit requires the County to document the stormwater management facility inventory, enhance public outreach and education efforts, increase water quality monitoring efforts, and provide stormwater management and stormwater control training to all appropriate County employees. The permit also requires the County to implement sufficient stormwater projects that will reduce the nutrients and sediment delivered to the Chesapeake Bay in compliance with the Chesapeake Bay TMDL implementation plan adopted by the State. Funding in the amount of \$4,000,000 is included for the regulatory program in FY 2023.

11. **Stormwater Related Contributories (Countywide):** This project provides funding for contributions associated with the Northern Virginia Soil and Water Conservation District (NVSWCD), and the Occoquan Watershed Monitoring Program (OWMP). The NVSWCD is an independent subdivision of the Commonwealth of Virginia that provides leadership in the conservation and protection of Fairfax County's soil and water resources. It is governed by a five-member Board of Directors - three members are elected every four years by the voters of Fairfax County and two members are appointed by the Virginia Soil and Water Conservation Board. Accordingly, the work of NVSWCD supports many of the environmental goals established by the Board of Supervisors. The goal of the NVSWCD is to continue to improve the quality of the environment and general welfare of the citizens of Fairfax County by providing them with a means of dealing with soil, water conservation and related natural resource problems. It provides County agencies with comprehensive environmental evaluations for proposed land use changes with particular attention to the properties of soils, erosion potential, drainage, and the impact on the surrounding environment. NVSWCD has consistently been able to create partnerships and leverage state, federal and private resources to benefit natural resources protection in Fairfax County. Funding of \$609,346 has been included for the County contribution to the NVSWCD in FY 2023.

The OWMP and the Occoquan Watershed Monitoring Laboratory (OWML) were established to ensure that water quality is monitored and protected in the Occoquan Watershed. Given the many diverse uses of the land and water resources in the Occoquan Watershed (agriculture, urban residential development, commercial and industrial activity, water supply, and wastewater disposal), the OWMP plays a critical role as the unbiased interpreter of basin water quality information. Funding of \$183,437 has been included for the County contribution to the OWMP in FY 2023.

12. **Stormwater/Wastewater Facility (Braddock District):** This project will provide funding for a Stormwater/Wastewater facility to consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions. The Stormwater business area provides essential watershed planning, engineering design, project management, contracting, monitoring, and maintenance services for stormwater management, storm drainage, flood control, snow removal, water quality, commercial revitalization, county-maintained roads and walkways, trails, public street name signs, and other designated county infrastructure. Current program operations are conducted from various locations throughout the County and are inadequate and outdated. The Wastewater Collection Division operates out of the Freds Oak facility and provides for the sewer collection and conveyance system for the County. The new facility will collocate both functions. This project is currently in design with construction anticipated to begin in early 2022. The total cost of the facility is \$102 million with \$93 million financed by EDA bonds and \$9 million supported by the Stormwater Services Fund and Wastewater Fund. These funds will also support the annual debt service associated with the EDA bonds.

13. Stormwater/Wastewater Facility Debt Service (Countywide): \$4,179,000 represents the FY 2023 requirements for debt service payments associated with the Stormwater/Wastewater facility.

14. Stream and Water Quality Improvements (Countywide): This project supports water quality improvement necessary to mitigate the impacts to local streams and the Chesapeake Bay



resulting from urban stormwater runoff. This includes water quality projects such as construction and retrofit of stormwater management ponds, implementation of green stormwater infrastructure facilities, stream restoration, and water quality projects identified in the completed Countywide Watershed Management Plans. These projects will aid in the reduction of pollutants and improve water quality in county streams, that are considered to be in fair to very poor condition and likely do not meet CWA water quality standards. In addition, Total Maximum Daily Load (TMDL) requirements for local streams and the

Chesapeake Bay are the regulatory drivers by which pollutants entering impaired water bodies must be reduced. The Chesapeake Bay TMDL was established by the EPA and requires that MS4 communities as well as other dischargers implement measures to significantly reduce the nitrogen, phosphorous and sediment loads in waters that drain to the Chesapeake Bay by 2025. MS4 Permit holders must achieve 35 percent of the required reductions within the current five-year permit cycle and 60 percent of the required reductions in the next five-year permit cycle. In addition, compliance with the Chesapeake Bay TMDL requires that the County undertake construction of new stormwater facilities and retrofit existing facilities and properties. The EPA continually updates the Chesapeake Bay compliance targets and credits is anticipated that the changes to the assigned targets as well as how projects are credited, will likely impact future compliance requirements. In addition to being required to meet the Chesapeake Bay TMDL targets, the current MS4 Permit requires the County to develop and implement action plans to address local impairments. Most of the 1,900 watershed management plan projects contribute toward achieving the Chesapeake Bay and local stream TMDL requirements. Funding in the amount of \$23,507,957 is included for stream and water quality Improvements in FY 2023.

15. Tree Preservation and Plantings (Countywide): This project provides for tree plantings throughout the County. Revenues collected through the land development process are appropriated at year end to support the tree preservation and planting program. Funding in the amount of \$308,916 has been received to date.

Project Cost Summaries

Stormwater Management

(\$000's)

Project Title Project Number	Source of Funds	Budgeted or Expended Through FY 2022						Total FY 2023 - FY 2027	Total FY 2028 - FY 2032	Total
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027			
1 Conveyance System Inspection/Develop 2G25-028-000	S	C	\$2,000	\$2,000	\$2,000	\$3,000	\$3,000	\$12,000	\$15,000	\$27,000
2 Conveyance System Rehabilitation SD-000034	S	C	\$7,000	\$8,000	\$9,000	\$10,000	\$10,000	\$44,000	\$65,000	\$109,000
3 Dam and Facility Maintenance 2G25-031-000	S	C	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000	\$25,000	\$50,000
4 Dam Safety and Facility Rehabilitation SD-000033	S	C	\$10,000	\$11,000	\$11,000	\$11,000	\$11,000	\$54,000	\$58,000	\$112,000
5 Emergency and Flood Response Projects SD-000032	S	C	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$35,000	\$35,000	\$70,000
6 Enterprise Asset Management - Work Order System SD-000044	S	C	\$1,400	\$1,440	\$288	\$403	\$565	\$4,096	\$4,000	\$8,096
7 Lake Accotink Dredging SD-000041	S	\$5,000			\$60,500			\$60,500		\$65,500
8 Pro Rata Share Drainage Improvements Fund 30090	X	\$5,713						\$0		\$5,713
9 Stormwater Allocation to Towns 2G25-027-000	S	C	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$5,000	\$5,000	\$10,000
10 Stormwater Regulatory Program 2G25-006-000	S	C	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$20,000	\$20,000	\$40,000

Project Cost Summaries

Stormwater Management

(\$000's)

Project Title Project Number	Source of Funds	Budgeted or Expended Through FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total	Total	Total
								FY 2023 - FY 2027	FY 2028 - FY 2032	
11 Stormwater Related Contributories 2G25-007-000, 2G25-008-000	S	C	\$793	\$793	\$793	\$793	\$793	\$3,965	\$3,965	\$7,930
12 Stormwater/Wastewater Facility SD-000039	B, S	\$102,000						\$0		\$102,000
13 Stormwater/Wastewater Facility Debt Service 2G25-117-000	S	\$5,000	\$4,179	\$4,180	\$4,181	\$4,178	\$4,181	\$20,899	\$58,601	\$84,500
14 Stream and Water Quality Improvements SD-000031	S	C	\$23,508	\$23,508	\$23,508	\$23,508	\$23,508	\$117,540	\$117,540	\$235,080
15 Tree Preservation and Plantings 2G25-030-000	X	\$309						\$0		\$309
Total		\$118,022	\$65,880	\$67,921	\$128,270	\$69,882	\$70,047	\$402,000	\$407,106	\$927,128

Notes: Numbers in bold italics represent funded amounts. A "C" in the 'Budgeted or Expended' column denotes a continuing project.

Key: Source of Funds

B	Bonds
G	General Fund
S	State
F	Federal
X	Other
U	Undetermined

CRS Participation Info

U.S. Department of Homeland Security
500 C Street, SW
Washington, DC 20472

**FEMA**

October 21, 2020

Mr. Bryan Hill
Fairfax County Executive
12000 Government Center Parkway, Suite 552
Fairfax, Virginia 22035-0066

Dear Mr. Hill:

The purpose of this letter is to provide you with the results of the National Flood Insurance Program (NFIP) Community Rating System (CRS) field verification findings based on your 5-year cycle verification. The field verification report is enclosed for your records.

I am pleased to inform you that the Department of Homeland Security, Federal Emergency Management Agency (FEMA), has determined that Fairfax County will retain its current rating as a Class 6 in the NFIP CRS. The floodplain management activities implemented by your community qualify it for a 20 percent discount on flood insurance premiums for NFIP policies issued or renewed in Special Flood Hazard Areas on or after April 1, 2021. This savings is a tangible result of the flood mitigation activities your community implements to protect lives and reduce property damage.

Please note that Preferred Risk Policies, applicable in Zones B, C, and X on your community's NFIP Flood Insurance Rate Map, are not eligible for the CRS discount. Standard rated flood insurance policies in Zones B, C, X, D, AR, and A99 are limited to a CRS discount of 10 percent in Class 1–6 communities and 5 percent in Class 7–9 communities. The rates for the above-mentioned policies already reflect significant premium reductions.

The CRS rating for your community will automatically be renewed annually as long as there are no NFIP noncompliance actions, so a notification letter will not be sent every year. This annual renewal will take place as long as your community continues to implement the CRS activities you certify in your annual recertification documentation. If no additional modifications or new CRS activities are added, the next verification visit for your community will be in accordance with its established 5-year cycle. In the interim, FEMA will periodically send the *NFIP/CRS Update* newsletter and other notices to your CRS Coordinator to keep your community informed.

I commend you on your community actions and your determination to lead your community to be more disaster resistant. This commitment enhances public safety, property protection, and protects the natural functions of floodplains, and reduces flood insurance premiums.

If you have any questions or need additional information, please contact the FEMA Region III Office, CRS Coordinator Richard Sobota, by telephone at (215) 931-5514.

Sincerely,

A handwritten signature in black ink that reads "William H. Lesser".

William H. Lesser, CRS Coordinator
Federal Insurance and Mitigation Administration

Enclosure

cc: Craig Carinci, CRS Coordinator



COMMUNITY
RATING
SYSTEM

VERIFICATION
REPORT

Fairfax County, VA

Verified Class 6

NFIP Number: 515525

Cycle

Date of Verification Visit: December 18, 2019

This Verification Report is provided to explain the recommendations of Insurance Services Office, Inc. (ISO) to DHS/FEMA concerning credits under the Community Rating System (CRS) for the above named community.

A total of 2456 credit points are verified which results in a recommendation that the community remain classified as a CRS Class 6. The community has met the Class 6 prerequisite with a Building Code Effectiveness Grading Schedule (BCEGS) Classification of 2/1. The following is a summary of our findings with the total CRS credit points for each activity listed in parenthesis:

Activity 310 – Elevation Certificates: The Environmental Services Division maintains elevation certificates for new and substantially improved buildings. Copies of elevation certificates are made available upon request. (0 points)

Activity 320 – Map Information Service: Credit is provided for furnishing inquirers with basic flood zone information from the community's latest Flood Insurance Rate Map (FIRM). Credit is also provided for the community furnishing flood depth data, historical flood information, and natural floodplain functions. The service is publicized annually, and records are maintained. (90 points)

Activity 330 – Outreach Projects: Credit is provided for informational outreach projects, general outreach projects, and targeted outreach projects. These projects are disseminated annually. Credit is also provided for having a pre-flood plan for public information. (164 points)

Activity 350 – Flood Protection Information: Documents relating to floodplain management are available in the reference section of the Fairfax County Public Library. Credit is also provided for floodplain information displayed on the community's website. (51 points)

Activity 360 – Flood Protection Assistance: Credit is provided for offering one-on-one advice regarding property protection. (25 points)

Activity 410 – Floodplain Mapping: Credit is provided for conducting and adopting flood studies for areas not included on the FIRM and that exceed minimum mapping standards. (90 points)

Activity 420 – Open Space Preservation: Credit is provided for preserving approximately 63 percent of the Special Flood Hazard Area (SFHA) as open space and preserving open space land in a natural state. Credit is also provided for regulations that minimize development in the SFHA. (1036 points)

Activity 430 – Higher Regulatory Standards: Credit is provided for enforcing regulations that require development limitations, freeboard for new and substantial improvement construction, foundation protection, and local drainage protection. Credit is also provided for the enforcement of building codes, a BCEGS Classification of 2/1, state mandated regulatory standards, and regulations administration. (246 points)

Activity 440 – Flood Data Maintenance: Credit is provided for maintaining and using additional map data in the day to day management of the floodplain. Credit is also provided for establishing and maintaining a system of benchmarks and maintaining copies of all previous FIRMs and Flood Insurance Study Reports. (179 points)

Activity 450 – Stormwater Management: The community enforces regulations for stormwater management, soil and erosion control, and water quality. (137 points)

Section 502 – Repetitive Loss Category: Based on the updates made to the NFIP Report of Repetitive Losses as of December 18, 2017, Fairfax County, VA has 76 repetitive loss properties and is a Category C community for CRS purposes. The community is required to submit either a Repetitive Loss Area Analysis or Floodplain Management Plan. (No credit points are applicable to this section)

Activity 510 – Floodplain Management Planning: Credit is provided for the adoption and implementation of the NOVA Hazard Mitigation Plan adopted April 4, 2017. A progress report must be submitted on an annual basis. (50 points)

Activity 520 – Acquisition and Relocation: Credit is provided for acquiring 2 buildings from the community's regulatory floodplain. (12 points)

Activity 540 – Drainage System Maintenance: Credit is provided for listing problem sites that are inspected more frequently and for implementing an ongoing Capital Improvements Program. (80 points)

Activity 610 – Flood Warning and Response: Credit is provided for a program that provides timely identification of impending flood threats, disseminates warnings to appropriate floodplain residents, and coordinates flood response activities. Credit is also provided for the designation as a Storm Ready Community by the National Weather Service. (259 points)

Activity 630 – Dams: Credit is provided for a State Dam Safety Program. (37 points)

Activity 710 – County Growth Adjustment: All credit in the 400 series is multiplied by the growth rate of the county to account for growth pressures. The growth rate for Fairfax County, VA is 1.04.

Attached is the Community Calculations Worksheet that lists the verified credit points for the Community Rating System.

CEO Name / Address:

Bryan Hill
County Executive of Fairfax County
12000 Government Center Parkway
Fairfax, Virginia 22035

CRS Coordinator Name / Address:

Craig Carinci
Director, Stormwater Planning Division
12000 Government Center Parkway
Fairfax, Virginia 22035
(703) 324-5500

Date Report Prepared: July 14, 2020

720 COMMUNITY CREDIT CALCULATIONS (Cycle):

CALCULATION SECTION :

Verified Activity Calculations:	Credit
c310	
c320 <u>90</u>	<u>90</u>
c330 <u>164</u>	<u>164</u>
c340	
c350 <u>51</u>	<u>51</u>
c360 <u>25</u>	<u>25</u>
c370	
c410 <u>87</u> x CGA <u>1.04</u> =	<u>90</u>
c420 <u>996</u> x CGA <u>1.04</u> =	<u>1036</u>
c430 <u>237</u> x CGA <u>1.04</u> =	<u>246</u>
c440 <u>172</u> x CGA <u>1.04</u> =	<u>179</u>
c450 <u>132</u> x CGA <u>1.04</u> =	<u>137</u>
c510 <u>50</u>	<u>50</u>
c520 <u>12</u>	<u>12</u>
c530	
c540 <u>80</u>	<u>80</u>
c610 <u>259</u>	<u>259</u>
c620	
c630 <u>37</u>	<u>37</u>

Community Classification Calculation:

cT = total of above	cT = <u>2456</u>
Community Classification (from Table 110-1):	Class = <u>6</u>

CEO Name/Address:

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 County Executive of Fairfax County
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 Fairfax, Virginia 22035

CRS Coordinator Name/Address:

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 Director, Stormwater Planning Division
 12000 Government Center Parkway
 Fairfax, Virginia 22035
 (703) 324-5500

Date Report Prepared: July 14, 2020

Tucker Avenue Project Area



February 24, 2022

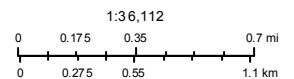
Social Vulnerability Classification

- High Social Vulnerability
- Moderate Social Vulnerability
- Not Socially Vulnerable
- ⊗ Not included in the analysis

- Low Social Vulnerability
- Moderate Social Vulnerability
- High Social Vulnerability
- Very High Social Vulnerability
- ⊗ Not included in the analysis

Social Vulnerability Index Score

- Very Low Social Vulnerability



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Created from the Virginia Vulnerability Viewer



Ann Jennings
Secretary of Natural and Historic
Resources and Chief Resilience Officer



Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

January 10, 2022

Joni Calmbacher, PE, CFM
Project Manager II
DPWES, Stormwater Planning Division
Watershed Projects Implementation Branch – South
12000 Government Center Parkway Fairfax, VA 22035

RE: Fairfax County Resilience Plan Submission - CFPPF

Dear Ms. Calmbacher,

Thank you for providing an overview of your Resilience Plan, and informing DCR of the various plans that Fairfax County will be utilizing to fulfill the Resilience Plan submission requirements. After careful review and consideration, the Virginia Department of Conservation and Recreation has deemed the Plan complete and meets all the criteria outlined in the 2021 Community Flood Preparedness Grant Manual. This approval will remain in effect for a period of three years, ending on January 11, 2025.

The following elements were evaluated as part of this review:

1. Element 1: It is project-based with projects focused on flood control and resilience. DCR RESPONSE

Meets criteria as written.

- a. Project-based: Fairfax County is divided into 30 watersheds which have been addressed in 11 major watershed management plans. Each of the watershed management plans contains projects and watershed management area restoration strategies. The 2017 *Northern Virginia Hazard Mitigation Plan* was a regional effort involving nineteen counties, including Fairfax County, and outlines specific mitigation projects for each participating community in order to reduce vulnerability and exposure to future hazards, including flooding events. The *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management* contains projects at various locations throughout Fairfax County. The projects included and described in the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management* align with the established *Comprehensive Plan* objectives. The *Resilient Critical*

600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

*State Parks • Soil and Water Conservation • Outdoor Recreation Planning
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*

Infrastructure Roadmap for Northern Virginia contains a database of resilience projects throughout northern Virginia, including Fairfax County.

2. Element 2: It incorporates nature-based infrastructure to the maximum extent possible. DCR RESPONSE

Meets criteria as written.

- a. The 2020 *Regional Collaboration to Build Community Resilience in Northern Virginia* expanded upon *The Roadmap*, to include maximization of green infrastructure. Nature-based solutions are also presented in the *Fairfax County Watershed Management Plan* and the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management*.

3. Element 3: It includes considerations of all parts of a locality regardless of socioeconomics or race. DCR RESPONSE

Meets criteria as written.

- a. All parts of a locality: The *Northern Virginia Hazard Mitigation Plan* discusses the demographic and economic trends throughout the entirety of Fairfax County.
- b. Social vulnerability: The *Regional Collaboration to Build Community Resilience in Northern Virginia* presents a more comprehensive approach that includes an assessment of the socioeconomic impacts of infrastructure disruptions on vulnerable populations that will be taken into account as well as the socioeconomic benefits of infrastructure investment. This expanded upon objectives contained within *The Roadmap*, to ensure equitable access to resilient critical infrastructure.
- c. Demographic Analysis: Population and demographic characteristics outlined within the *Northern Virginia Hazard Mitigation Plan*. The *Fairfax County Comprehensive Plan* also looks at demographics and social factors and utilizes this information to support the Human Services section of the *Comprehensive Plan*.

4. Element 4: It includes coordination with other local and inter-jurisdictional projects, plans, and activities and has a clearly articulated timeline or phasing for plan implementation. DCR RESPONSE

Meets criteria as written.

- a. Coordination with other local and inter-jurisdictional projects, plans and activities: Objective 4: Strengthen Regional Resilience Through Innovative Partnerships, Programs, and Pilots contained within *Resilient Critical Infrastructure Roadmap for Northern Virginia* focuses on coordination with local and inter-jurisdictional agencies and aligning strategies and programs. The *Comprehensive Plan for Fairfax County, Virginia* was adopted by the Board of Supervisors, Planning Commission, The Department of Planning and Zoning, and the Department of Transportation, and guides all of the plans presented in the Resilience Plan

submission for Fairfax County. The *Northern Virginia Hazard Mitigation Plan* was a collaborative effort that was adopted by all impacted localities.

- b. Clearly articulated timeline or phasing plan for implementation: Timeline for deliverables is presented within the *Regional Collaboration to Build Community Resilience in Northern Virginia*. Timeline presented within the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management*. Phased implementation plans presented in the *Fairfax County Watershed Management Plans*.

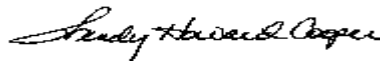
5. Element 5: Is based on the best available science, and incorporates climate change, sea level rise, storm surge (where appropriate), and current flood maps.

Meets criteria as written.

- a. The 2018 *Resilient Critical Infrastructure Roadmap for Northern Virginia (Roadmap)* incorporates best available science and identifies actions to potentially decrease the severity of future consequences emanating from climate and extreme weather, to include sea level rise and storm surge. *Sea Level Rise: Impact on Northern Virginia* is an interactive story map and dashboard that was created in 2019 to convey the impact of sea level rise scenarios. The *Northern Virginia Hazard Mitigation Plan* includes analyses of natural hazards based on best available science to include flooding, sea level rise and land subsidence, tropical and coastal storms, and shoreline erosion.

VA DCR looks forward to working with you as you work to make Fairfax County a more resilient community. If you have questions or need additional assistance, please contact us at cfpf@dcr.virginia.gov. Again, thank you for your interest in the Community Flood Preparedness Fund.

Sincerely,



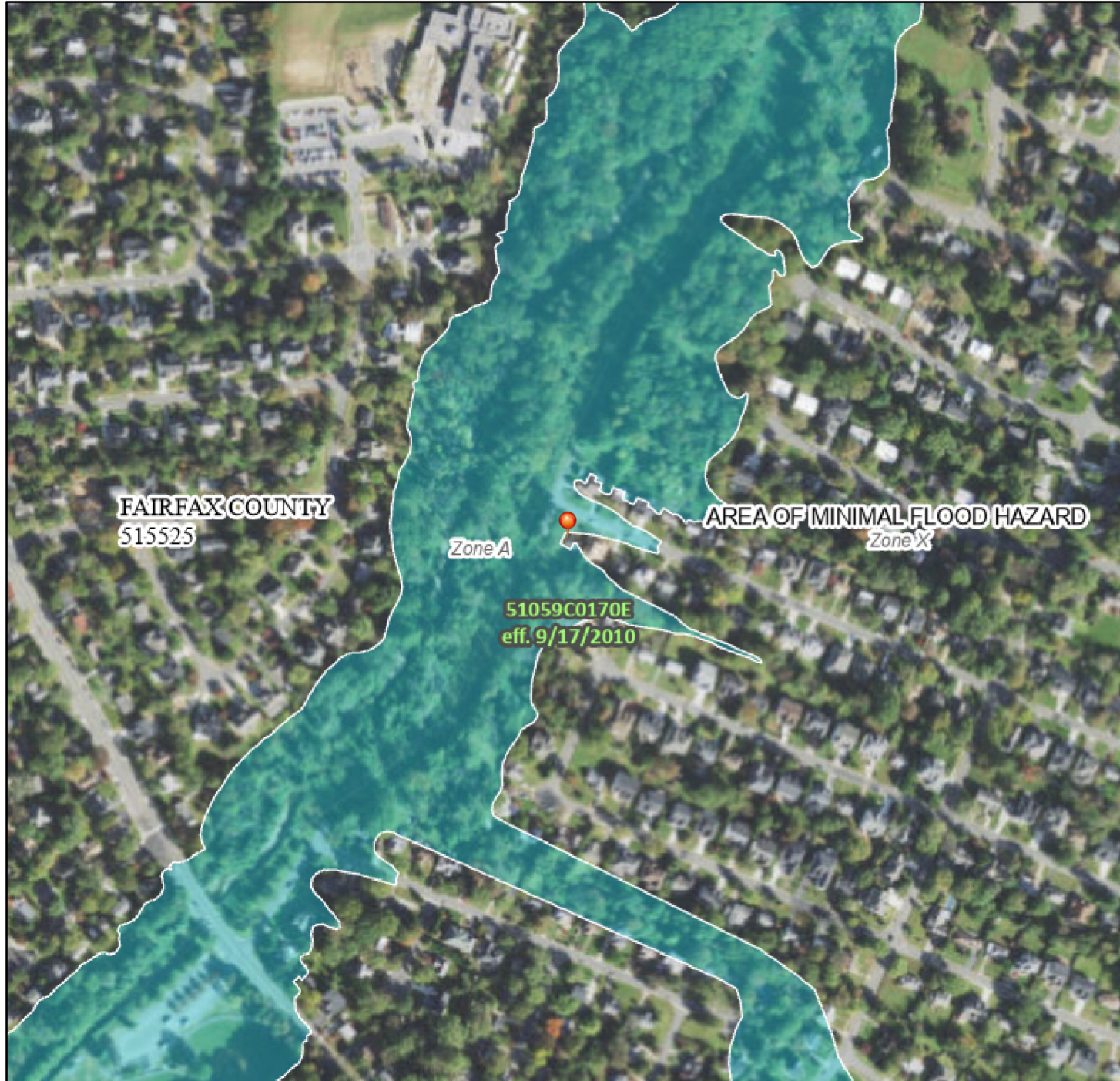
Wendy Howard Cooper, Director
Dam Safety and Floodplain Management

cc: Darryl Glover, DCR

National Flood Hazard Layer FIRMMette



77°10'46"W 38°55'19"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| MAP PANELS | | Profile Baseline |
| | | Hydrographic Feature |
| | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
| | | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. |



0 250 500 1,000 1,500 2,000 Feet 1:6,000

77°10'9"W 38°54'51"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **2/24/2022 at 8:58 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



OPINION OF PROBABLE COST

10/29/2021

Construction Plan

Tucker Avenue Neighborhood

Stormwater Improvements

ITEM NO	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	BID EXT.
1	MOBILIZATION PER SECTION 1025-2.1 (5%)	1	LS	\$272,480.00	\$272,480.00
2	SURVEY STAKEOUT AND BENCHMARKS	1	LS	\$50,000.00	\$50,000.00
3	TRAFFIC CONTROL PER SECTION 1025-2.2	1	LS	\$236,000.00	\$236,000.00
4	MODERATE CLEARING AND GRUBBING	1	LS	\$15,000.00	\$15,000.00
5	REMOVE TREES, 6"-12" DIAMETER	29	EA	\$570.00	\$16,530.00
6	REMOVE TREES, 13"-24" DIAMETER	27	EA	\$1,215.00	\$32,805.00
7	REMOVE TREES, 25"-36" DIAMETER	4	EA	\$2,535.00	\$10,140.00
8	REMOVE TREES, 37"-45" DIAMETER	1	EA	\$3,000.00	\$3,000.00
9	REMOVE AND DISPOSE OF ASPHALT PAVEMENT	4,700	SY	\$35.00	\$164,500.00
10	REMOVE AND DISPOSE OF CURB AND GUTTER	4,500	LF	\$21.00	\$94,500.00
11	REMOVE AND DISPOSE OF CONCRETE DITCH	500	SY	\$30.00	\$15,000.00
12	PRIVATE LOT RESTORATION ¹	42	EA	\$3,000.00	\$126,000.00
13	REMOVE AND DISPOSE OF STORM STRUCTURE	17	EA	\$2,450.00	\$41,650.00
14	REMOVE AND DISPOSE 15" - 30" DIAMETER PIPES UP TO 8' DEPTH (ALL TYPES)	920	LF	\$50.00	\$46,000.00
15	PLUG STORM SEWER PIPE	10	EA	\$410.00	\$4,059.00
16	WATER SERVICE CONNECTION	54	EA	\$1,500.00	\$81,000.00
17	GAS SERVICE CONNECTION	52	EA	\$2,200.00	\$114,400.00
18	PRE AND POST CONSTRUCTION VIDEO INSPECTION OF STORM SEWER PIPES	3,520	LF	\$5.00	\$17,600.00
19	PAVEMENT TRENCH PATCHING	4,700	SY	\$70.00	\$329,000.00
20	MILL AND OVERLAY	10,500	SY	\$20.00	\$210,000.00
21	REMOVE AND REPLACE VDOT SIGNAGE IN ROW	1	LS	\$5,000.00	\$5,000.00
22	INSTALLATION OF CURB AND GUTTER	4,500	LF	\$29.00	\$130,500.00
23	FURNISH AND INSTALL CONTROLLED FILL ADJACENT TO STORM STRUCTURES	7,900	CY	\$58.00	\$458,200.00
24	PIPE BEDDING MATERIAL (VDOT NO.25/26)	360	CY	\$75.00	\$27,023.33
25	RCP CLASS III TO V, 18"	990	LF	\$42.00	\$41,580.00
26	RCP CLASS III TO V, 24"	1,060	LF	\$78.00	\$82,680.00
27	RCP CLASS III TO V, 30"	1,150	LF	\$93.00	\$106,950.00
28	RCP CLASS III TO V, 36"	1,290	LF	\$124.00	\$159,960.00
29	RCP CLASS III TO V, 42"	300	LF	\$246.00	\$73,800.00
30	RCP CLASS III TO V, 54"	530	LF	\$514.00	\$272,420.00
31	CONCRETE BOX CULVERT, 60" X 48"	970	LF	\$750.00	\$727,500.00
32	ELLIPTICAL, RCP CLASS III, 18 TO 30" EQV	140	LF	\$93.00	\$13,020.00
33	CURB INLET TOP, 8' THROAT LENGTH	2	EA	\$2,500.00	\$5,000.00
34	CURB INLET TOP, 12' THROAT LENGTH	1	EA	\$2,500.00	\$2,500.00
35	CURB INLET TOP, 20' THROAT LENGTH	38	EA	\$2,500.00	\$95,000.00
36	DROP INLET	1	EA	\$5,500.00	\$5,500.00
37	STORM SEWER MANHOLE, 48" DIA	43	EA	\$5,750.00	\$247,250.00
38	STORM SEWER MANHOLE, 60" DIA	11	EA	\$7,500.00	\$82,500.00
39	STORM SEWER MANHOLE, 72" DIA	4	EA	\$8,500.00	\$34,000.00
40	STORM SEWER MANHOLE, 96" DIA	2	EA	\$11,400.00	\$22,800.00
41	DI-1A OR DI-2A INLET FOR GI	3	EA	\$6,500.00	\$19,500.00
42	MH-1A FOR GI	3	EA	\$6,500.00	\$19,500.00

43	JUNCTION BOX (JB-1)	9	EA	\$15,000.00	\$135,000.00
44	FAIRFAX STD YI-1	4	EA	\$7,305.00	\$29,220.00
45	FAIRFAX STD YI-3	2	EA	\$7,305.00	\$14,610.00
46	INSTALL VDOT STANDARD BCW-11	1	EA	\$6,000.00	\$6,000.00
47	ROADWAY REPROFILING	610	SY	\$70.00	\$42,700.00
48	ENGINEERED SOIL MEDIA	370	CY	\$125.00	\$46,250.00
49	VDOT#57 STONE SUMP LAYER	580	CY	\$114.00	\$66,120.00
50	PEA GRAVEL	80	CY	\$122.00	\$9,760.00
51	8" HDPE PIPING WITH CLEANOUT AND FITTINGS	640	LF	\$70.00	\$44,800.00
52	8" DUCTILE IRON PIPE WITH FITTINGS	30	LF	\$177.00	\$5,310.00
53	12" HDPE PIPING WITH FITTINGS	30	LF	\$80.00	\$2,400.00
54	24" HDPE PIPING WITH FITTINGS	50	LF	\$150.00	\$7,500.00
55	ADS-310 CHAMBER	12	EA	\$150.00	\$1,800.00
56	ADS-740 CHAMBER	34	EA	\$295.00	\$10,030.00
57	ADS-310 END CAP	4	EA	\$75.00	\$300.00
58	ADS-740 END CAP	14	EA	\$250.00	\$3,500.00
59	ADS 10" INSPECTION PORT	8	EA	\$1,000.00	\$8,000.00
60	CURB CUT WITH ENERGY DISSIPATER	3	EA	\$3,500.00	\$10,500.00
61	OBSERVATION WELL AND CLEANOUT	3	EA	\$1,000.00	\$3,000.00
62	UNDERDRAIN CONNECTION	8	EA	\$1,500.00	\$11,250.00
63	NON-WOVEN GEOTEXTILE FABRIC	1,030	SY	\$4.00	\$4,120.00
64	IMBRICATED STONE FOR OUTFALL BASIN, CHECK DAMS, AND FLOW SPREADER	230	TON	\$155.00	\$35,650.00
65	VDOT #21 COARSE GRAVEL FOR OUTFALL BASIN ACCESS	170	CY	\$95.00	\$16,150.00
66	INSTALL REMOVABLE LOCKING BOLLARDS	4	EA	\$1,065.00	\$4,260.00
67	REGULAR EXCAVATION (CUT TO HAUL)	15,000	CY	\$45.00	\$675,000.00
68	TEMPORARY CONSTRUCTION ENTRANCE	2	EA	\$2,600.00	\$5,200.00
69	TEMPORARY SAFETY FENCE AND TREE PROTECTION	14,015	LF	\$4.00	\$56,060.00
70	SUPER SILT FENCE	2,250	LF	\$10.00	\$22,500.00
71	INLET PROTECTION	72	EA	\$160.00	\$11,520.00
72	CULVERT INLET PROTECTION	4	EA	\$160.00	\$640.00
73	ACCESS (TIMBER MATS)	220	SY	\$45.00	\$9,900.00
74	OUTLET PROTECTION (CLASS I RIPRAP)	20	SY	\$120.00	\$2,400.00
75	GOOSE PROTECTION FENCE	400	LF	\$4.00	\$1,600.00
76	HARDWOOD MULCH - 3" DEPTH	180	SY	\$6.00	\$1,080.00
77	SOILMATE COMPOST OR EQUAL	1,800	CY	\$57.00	\$102,600.00
78	TURF STABILIZATION SEED MIX	10,800	SY	\$3.00	\$32,400.00
79	TEMPORARY STABILIZATION SEED MIX	2,700	SY	\$2.50	\$6,750.00
80	HERBACEOUS SEEDING, NATIVE SEEDING WITH SUNNY UPLAND AND SHADY MIXES	1,800	SY	\$3.00	\$5,400.00
81	1.5"-2" CALIPER CANOPY TREE	18	EA	\$370.00	\$6,660.00
82	1"-1.5" CALIPER UNDERSTORY TREE	74	EA	\$130.00	\$9,620.00
83	3/4" CALIPER UNDERSTORY TREE	58	EA	\$100.00	\$5,800.00
84	24" SHRUB	34	EA	\$50.00	\$1,700.00
85	18" SHRUB	248	EA	\$22.00	\$5,456.00
86	#1 CONTAINER	116	EA	\$19.00	\$2,204.00
87	QUART CONTAINERS (NATIVE GRASS, PERENNIALS, FERNS)	2,233	EA	\$6.00	\$13,398.00
88	STEEL PLATE (FOR GI-MH-1)	1	EA	\$3,500.00	\$3,500.00
89	LANDSCAPE BLOCK WALL	120	SF	\$85.00	\$10,200.00
90	SANITARY SEWER RELOCATION ²	1	LS	\$700,500.00	\$700,500.00
	TOTAL AMOUNT WITHOUT MATERIALS MANAGEMENT				\$6,722,165.33
91	MATERIALS MANAGEMENT (10% Contingency) ³	1	LS	\$ 673,000.00	\$673,000.00

TOTAL AMOUNT			\$7,395,165.33
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¹Private Lot Restoration represents an average cost per disturbed private property for the removal and replacement of items including, but not limited to, driveway, sidewalk, mailbox, irrigation, landscaping, and lighting features.

²Lump sum is reflected in overall cost estimate, see attached Construction Plan design sanitary sewer relocation estimate for detailed estimate.

³Materials Management includes a 10% contingency for the estimated project cost to account for unforeseen project costs as well as line items that have not been accounted for at the 95% design phase.

Stantec Consulting Services Inc. does not guarantee the accuracy of this opinion of probable cost.
The actual final cost of the project will be determined through the bidding and construction process.





**TUCKER AVE SANITARY SEWER REALIGNMENT
STANTEC ENGINEERS OPINION OF PROBABLE COST**

ITEM NO.
(from District Average Unit Cost
Data, if applicable)

ITEM NO.	ITEM DESCRIPTION	UNITS	QUANTITY	UNIT COST	ITEM TOTAL
BASE BID - SEWER PIPE INSTALLED					
42044	4-INCH SANITARY SERVICE LATERAL CONNECTION W CLEANOUTS	EA	15	\$ 750.00	\$ 11,250.00
40081	8-INCH PVC C900, GREEN	LF	1338	\$ 110.00	\$ 147,180.00
120	EXCAVATION	LF	1338	\$ 36.00	\$ 48,168.00
69014	BACKFILL	LF	1338	\$ 229.00	\$ 306,402.00
42755	4' ID PRE-CAST CONCRETE SEWER MANHOLE (APPROX 8-FT DEPTH, MH COMPLETE IN PLACE)	EA	8	\$ 4,500.00	\$ 36,000.00
	ABANDON 8-INCH SANITARY SEWERLINE	LF	100	\$ 15.00	\$ 1,500.00
	WASTEWATER BYPASS PUMPING	LS	1	\$ 10,000.00	\$ 10,000.00
				SUBTOTAL	\$ 560,500.00
	CLASS VI OPCC CONTINGENCY		25%		\$ 140,000.00

SUMMARY					PROJECT TOTAL
TOTAL BASE BID - TUCKER AVE SANITARY SEWER REALIGNMENT					\$ 700,500.00

NOTES: - Possible construction easements not evaluated

- EXCLUSIONS:**
- Erosion and sediment control
 - Asphalt/driveway restoration
 - Tree/grass/etc removal and restoration
 - MOT/Traffic management
 - OH utility relocation

Disclaimer: This Engineers Estimate reflects the opinion of Stantec of probable construction costs utilizing information available at the time the estimate was prepared. The unit costs are based on 2019 dollars. The unit cost estimates were developed from information provided by material suppliers, previous projects, and standard industry guidelines for construction cost estimating and assumes standard construction practices are utilized. Stantec has no control over future costs of construction labor, materials, equipment, nor of contractors' methods of determining prices, nor of competitive construction industry market conditions. The accuracy of the estimates is not guaranteed, and they are not intended to predict the outcome of the construction bidding.

**FAIRFAX WATER
PLANNING AND ENGINEERING DIVISION
COST ESTIMATE**

Cost Estimate For **P2711-001 Tucker Avenue Stormwater Improvements (SD-000032-0074)**
Water System Adjustments

Computed By **TJG** Checked By **PA**
 Approved By **PA** Date **8/11/22**

656 LF - 6" DIP W/M @ \$400/LF	\$262,400	
293 LF - 8" DIP W/M @ \$450/LF	\$131,850	
9 - 6" Gate Valve & Valve Box @ \$2,000/EA	\$18,000	
2 - 8" Gate Valve & Valve Box @ \$2,500/EA	\$5,000	
3 - Fire Hydrant Installation @ \$8,000/EA	\$24,000	
26 - Relocate Existing Water Meter & Box @ \$1,500/EA	\$39,000	
660 LF - 1" Water Service Line @ \$100/LF	\$95,000	
Subtotal Construction Cost	\$575,250	
Contingencies @ 15%	\$86,288	
Total Construction Cost	\$661,538	
Fairfax Water Administration, Engineering, Inspection (includes 103% Overhead)	\$100,000	
Total	\$761,538	
		USE
		\$762,000



County of Fairfax, Virginia

MEMORANDUM

DATE: *April 5, 2022*

TO: Board of Supervisors

FROM: Bryan J. Hill
County Executive *[Signature]*

SUBJECT: Department of Conservation and Recreation, Virginia Community Flood Preparedness Fund

The Virginia Community Flood Preparedness Fund (CFPF) was “established to provide support for regions and localities across Virginia, to reduce the impacts of flooding, including flooding driven by climate change.” The Department of Conservation and Recreation (DCR) administers loans and grants from the CFPF to local governments. DCR has advertised that approximately \$40,000,000 in matching CFPF funds is available this grant cycle. The minimum grant amount is \$50,000 for project grants and \$1,000 for study grants. Project grants will not be capped and final awards will be determined based on available funds following review by DCR. The grant amount per application will be determined based on scoring, amount requests from eligible applications, and available funds.

DCR is soliciting applications for flood prevention and protection project types including, but not limited to: i) nature-based solutions; ii) flood control solutions; and iii) preservation and creation of open space. DCR is also soliciting applications for the following study types including, but not limited to: i) floodplain ordinance revisions; ii) hydrologic and hydraulic floodplain studies with historic and predicted floods; iii) hydrologic and hydraulic floodplain studies to clarify or update FEMA Flood Insurance Rate Maps; and iv) studies and data collection of statewide and regional significance. Applications must be for discrete projects to be completed after the beginning of the application period and not later than three years from the date of an executed grant agreement or by an extension date approved by DCR. Applications for this grant cycle are due on April 8, 2022.

DCR will review applications and award grant assistance by category (project, study, and capacity building and planning) on a competitive scoring basis. Priority is given to applications that are in concert with local, state, and federal floodplain management standards, local resilience plans, and the Virginia Coastal Resilience Master Plan. Based on that ranking process, DCR will select and approve applications. The approved applications will be

forwarded to the Virginia Resources Authority for the execution of a grant agreement and funding.

For this grant cycle, Fairfax County (County) proposes submitting the following five applications:

Project/Study Title	Project/Study Estimate	Grant Amount Requested
1. Tucker Avenue Neighborhood Stormwater Improvements	\$9,834,000	\$5,900,000
2. Chowan Avenue Flood Mitigation	\$2,000,000	\$1,200,000
3. Little Pimmit Run Tributary at Woodland Terrace	\$4,279,000	\$2,567,000
4. Tripps Run at Barrett Road Flood Mitigation	\$12,836,000	\$8,985,200
5. County Regulated Floodplain Map Updates	\$1,200,000	\$600,000
Total	\$30,149,000	\$19,252,200

The County is under no financial obligation to apply for CFPF grants. If DCR selects one or more of these applications, the grant(s) will be presented to the Board of Supervisors for approval.

cc: Rachel Flynn, Deputy, County Executive
Christopher Herrington, Director, Department of Public Works and Environmental Services (DPWES)
Eleanor Ku Coddling, Deputy Director DPWES, Stormwater and Wastewater Divisions



Howard-cooper, Wendy <wendy.howard-cooper@dcr.virginia.gov>

Re: FW: CFPF grant re-applications

1 message

Wells, Matthew <matthew.wells@dcr.virginia.gov>

Mon, Nov 28, 2022 at 3:49 PM

To: "Carinci, Craig A." <Craig.Carinci@fairfaxcounty.gov>

Cc: Wendy Howard-cooper <wendy.howard-cooper@dcr.virginia.gov>, Darryl Glover <darryl.glover@dcr.virginia.gov>, Joni.Calmbacher@fairfaxcounty.gov

Craig,

Thanks for reaching out on this. DCR will accept the County Executive's certification regarding the availability and provision of matching funds for Fairfax's proposed projects when evaluating your applications. However, any grant awards based on this certification would be issued conditionally, with a requirement that the Board of Supervisors vote to specifically approve matching funds for the projects receiving CFPF funds no later than February 1, 2023.

Additionally, we noted that the linked county plan has five year timetables for these two and several other projects. As a reminder, please be advised that all CFPF grants are conditioned on project completion within three years. Applications must reflect only the portion of the project that will be completed during the grant period.

Thanks, and please let me know if you have any additional questions,
Matt

On Fri, Nov 18, 2022 at 4:36 PM Carinci, Craig A. <Craig.Carinci@fairfaxcounty.gov> wrote:

From: Carinci, Craig A.

Sent: Friday, November 18, 2022 4:14 PM

To: Mathew.wells@dcr.virginia.gov

Cc: wendy.howard-cooper@dcr.virginia.gov; Calmbacher, Joni <Joni.Calmbacher@fairfaxcounty.gov>

Subject: CFPF grant re-applications

Matt

Thanks for taking some time to discuss the email that we received from Wendy today, how Fairfax County funds stormwater projects and that with rare exception, specific projects are not identified in our published CIP. I have included a link to the Stormwater CIP below. I also have attached the cover letters for two of the grant applications that also refer to the County Executive's commitment to fund the project subject to County Board approval. We trust that the information in these letters demonstrate our commitment to fund the projects if the grants are approved. Please let Joni Calmbacher (703) 324-2183 and I know if you have any questions or need any additional information.

[Stormwater Management - Adopted Capital Improvement Program \(CIP\) FY 2023- FY 2027 \(fairfaxcounty.gov\)](#)

Thanks again for your quick response and taking the time to discuss our concerns.

Craig

Craig Carinci, Director

Stormwater Planning Division, DPWES

[12000 Government Center Parkway, Suite 449](#)

[Fairfax, VA 22035](#)

Phone: (703) 324-5865

Email: Craig.Carinci@fairfaxcounty.gov



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

11/18/2022

Ms. Wendy Howard-Cooper, Director
Dam Safety and Floodplain Management
Department of Conservation and Recreation
East Main Street, 24th Floor
Richmond, VA 23219

Reference: Tripps Run at Barrett Road Flood Mitigation Project Application (CFPF-22-03-17)

Dear Ms. Howard-Cooper:

This letter is in response to your September 30, 2022, (attached) letter requesting additional information for the Tripps Run at Barrett Road Flood Mitigation Project application (CFPF-22-03-17). The following information was requested:

- Applicant must provide detailed allocation of match across all grant applications to verify \$7M proposed match is not over allocated.
- If a grant is awarded, it will be subject to the following condition: Where land is acquired, it must remain undeveloped, as permanent open space and under ownership by the county in perpetuity.

The attached letter from the County Executive confirmed the County will provide the necessary match for the project (\$3,850,800) as required by your department, subject to Fairfax County Board of Supervisors approval. In addition, the letter confirmed the County's understanding that the total match for all four County applications could be as much as \$9,184,400. The County match for the Tripps Run at Barrett Road project will be allocated from the Emergency Flood Response Project funds (approved FY 2023 budget of \$7,000,000) and/or the Stream and Water Quality Improvement Project funds (approved FY 2023 budget of \$23,507,957) as provided on the attached FY 2023 – FY 2027 Stormwater Management Summary of Capital Projects.

If a grant is awarded and approved, the County will acquire the nine properties to construct the project. The County will place deed restrictions upon the property titles to ensure the properties remain undeveloped and as permanent open/green space in perpetuity. The County will also retain ownership of these parcels in perpetuity and is currently exploring the option for the proposed environmental corridor to be incorporated into the Fairfax County Park Authority public space inventory.

Department of Public Works and Environmental Services

Director's Office

12000 Government Center Parkway, Suite 448

Fairfax, VA 22035-0052

Phone: 703-324-5033, TTY 711, Fax: 703-653-7145


www.fairfaxcounty.gov/publicworks



Tripps Run at Barrett Road Flood Mitigation Project Application (CFPF-22-03-17)
Ms. Wendy Howard-Cooper, Director
Page 2 of 2

If you have any questions or need additional assistance, please contact Joni Calmbacher, at 703-324-2183.

Sincerely,

DocuSigned by:

B67971E9F026404...

Christopher Herrington, Director

Attachments: As stated

cc: Bryan Hill, County Executive
Rachel Flynn, Deputy County Executive
Eleanor Ku Coddling, Deputy Director, Department of Public Works and Environmental Services (DPWES), Stormwater and Wastewater Divisions
Craig Carinci, Director, DPWES, Stormwater Planning Division



COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

September 30, 2022

Bryan J. Hill, County Executive
12000 Government Center Parkway
Suite 552
Fairfax, VA 22035
cexbryanhill@fairfaxcounty.gov

Re: Community Flood Preparedness Fund (CFPF)
CY2022 Round 3 Grant Application: Grant Number: CFPF-22-03-17
Application Category: Projects that will result in nature-based solutions
Community Name: FAIRFAX COUNTY, CID: 515525
Primary Contact: Craig Carinci,
Primary Contact Email Address: craig.carinci@fairfaxcounty.gov
CFPF Amount Requested: \$8,985,200.00
Match Amount Required: \$3,850,800.00
Total Project Cost: \$12,836,000.00

Dear Bryan J. Hill:

Thank you for your interest in Grant Round Three of the Community Flood Preparedness Fund (the Fund). The Department of Conservation and Recreation (DCR, or the Department) advertised that \$40 million would be made available for this Grant Round; we received 64 applications for this Round with Grant requests totaling nearly \$93 million.

We have reviewed your grant application and believe that your proposal may meet the purpose of the Fund and the requirements of the Grant Manual. However, without additional information, we are unable to make a final determination that would lead to a grant award.

Given the importance of addressing flooding and resilience challenges, and the level of interest in this Grant Round, the Department is providing applicants whose projects may meet grant qualifications, but where additional information is required, with a supplemental review period in which to submit information. Further, in order to provide support to as many beneficial projects as possible, the Secretary of Natural and Historic Resources has authorized the Department to release an additional \$30 million in funding for this Grant Round.

ATTACHMENT 1

For your application to be considered during this supplemental review, please notify the Department of your interest in writing no later than October 14th, 2022 and submit the following information to the Department no later than 5:00 pm on November 30th.

A final determination on awards will be made by December 30th, 2022. Correspondence with the Department in this matter should be directed to cfpf@virginia.gov.

- Applicant must provide detailed allocation of match across all grant applications to verify \$7M proposed match is not over allocated.
- If a grant is awarded, it will be subject to the following condition: Where land is acquired, it must remain undeveloped, as permanent open space and under ownership by the county in perpetuity.

Note that this is a request for additional information about the project described in GRANT APPLICATION NUMBER(S). The Department is not accepting applications for new projects or substantial changes to existing project proposals. Submitting the information requested by the Department does not guarantee that your application will be approved; however, without this additional information the Department will not be able to approve your application.

If you have questions or wish to schedule a meeting with the Department to discuss your application prior to the November 30th deadline, we will be happy to meet with you. Please direct these inquiries to Wendy Howard-Cooper at wendy.howard-cooper@dcr.virginia.gov.

Thank you again for your interest in the Community Flood Preparedness Fund, and for your work to address this important issue.

Sincerely,



Wendy Howard Cooper
Director, Dam Safety and Floodplain Management

cc: Darryl M. Glover, Deputy Director, DCR
Kimberly S. Adams, Senior Program Manager, VRA
Angela Davis, Flood Program Planner, DCR



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

Ms. Wendy Howard Cooper, Director
Director, Dam Safety and Floodplain Management
Department of Conservation and Recreation
East Main Street, 24th Floor
Richmond, Virginia 23219

Reference: Community Flood Preparedness Fund, CY2022 Round 3 Grant Application,
Tripps Run at Barrett Road Flood Mitigation Project Application (CFPF-22-03-17)

Dear Ms. Howard Cooper:

This letter is in response to your September 30, 2022 (attached), letter requesting Fairfax County's (County's) confirmation of further consideration of the Tripps Run at Barrett Road Flood Mitigation Project application (CFPF-22-03-17) during the supplemental review period for the Community Flood Preparedness Fund (CFPF). The County is still interested in having this project application considered to receive funding through the CFPF.

If the grant is awarded, the **County will provide the necessary match for the project (\$3,850,800.00)** as required by your department, subject to Fairfax County Board of Supervisors approval. It is understood that the County's total match amount for all four County applications being considered during the supplemental review may be as much as \$9,184,400.00.

The County will provide the requested information for the Tripps Run at Barrett Road Flood Mitigation Project application (CFPF-22-03-17) to your department no later than 5:00 pm on November 30, 2022, as documented in your letter.

If you have any questions or need additional assistance, please contact Craig Carinci, Director Stormwater Planning Division at 703-324-5500.

Sincerely,

Bryan J. Hill
County Executive

Attachment: Community Flood Preparedness Fund (CFPF): Application CFPF-22-03-15

cc: Rachel Flynn, Deputy County Executive
Christopher Herrington, Director, Department of Public Works and Environmental Services (DPWES)
Eleanor Ku Coddling, Deputy Director, DPWES, Stormwater and Wastewater Divisions
Craig Carinci, Director, DPWES, Stormwater Planning Division

Office of the County Executive
12000 Government Center Parkway, Suite 552
Fairfax, VA 22035-0066
703-324-2531, TTY 711, Fax 703-324-3956
www.fairfaxcounty.gov

ATTACHMENT 2

Matthew S. Wells
Director



COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Frank N. Stovall
Deputy Director
for Operations

Darryl Glover
Deputy Director for
Dam Safety,
Floodplain Management and
Soil and Water Conservation

Laura Ellis
Interim Deputy Director for
Administration and Finance

September 30, 2022

Bryan J. Hill, County Executive
12000 Government Center Parkway
Suite 552
Fairfax, VA 22035
cexbryanhill@fairfaxcounty.gov

Re: Community Flood Preparedness Fund (CFPF)
CY2022 Round 3 Grant Application: Grant Number: CFPF-22-03-17
Application Category: Projects that will result in nature-based solutions
Community Name: FAIRFAX COUNTY, CID: 515525
Primary Contact: Craig Carinci,
Primary Contact Email Address: craig.carinci@fairfaxcounty.gov
CFPF Amount Requested: \$8,985,200.00
Match Amount Required: \$3,850,800.00
Total Project Cost: \$12,836,000.00

Dear Bryan J. Hill:

Thank you for your interest in Grant Round Three of the Community Flood Preparedness Fund (the Fund). The Department of Conservation and Recreation (DCR, or the Department) advertised that \$40 million would be made available for this Grant Round; we received 64 applications for this Round with Grant requests totaling nearly \$93 million.

We have reviewed your grant application and believe that your proposal may meet the purpose of the Fund and the requirements of the Grant Manual. However, without additional information, we are unable to make a final determination that would lead to a grant award.

Given the importance of addressing flooding and resilience challenges, and the level of interest in this Grant Round, the Department is providing applicants whose projects may meet grant qualifications, but where additional information is required, with a supplemental review period in which to submit information. Further, in order to provide support to as many beneficial projects as possible, the Secretary of Natural and Historic Resources has authorized the Department to release an additional \$30 million in funding for this Grant Round.

600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

*State Parks • Soil and Water Conservation • Outdoor Recreation Planning
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*

ATTACHMENT 2

For your application to be considered during this supplemental review, please notify the Department of your interest in writing no later than October 14th, 2022 and submit the following information to the Department no later than 5:00 pm on November 30th.

A final determination on awards will be made by December 30th, 2022. Correspondence with the Department in this matter should be directed to cfpf@virginia.gov.

- Applicant must provide detailed allocation of match across all grant applications to verify \$7M proposed match is not over allocated.
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Note that this is a request for additional information about the project described in GRANT APPLICATION NUMBER(S). The Department is not accepting applications for new projects or substantial changes to existing project proposals. Submitting the information requested by the Department does not guarantee that your application will be approved; however, without this additional information the Department will not be able to approve your application.

If you have questions or wish to schedule a meeting with the Department to discuss your application prior to the November 30th deadline, we will be happy to meet with you. Please direct these inquiries to Wendy Howard-Cooper at wendy.howard-cooper@dcr.virginia.gov.

Thank you again for your interest in the Community Flood Preparedness Fund, and for your work to address this important issue.

Sincerely,



Wendy Howard Cooper
Director, Dam Safety and Floodplain Management

cc: Darryl M. Glover, Deputy Director, DCR
Kimberly S. Adams, Senior Program Manager, VRA
Angela Davis, Flood Program Planner, DCR

Stormwater Management

Program Description

Fairfax County's Stormwater Management program is managed on a comprehensive watershed basis and consists of: Regulatory Compliance, Dam Safety and Facility Rehabilitation, Stream and Water Quality, Emergency and Flood Control, Conveyance System Rehabilitation, contributory funding requirements and Operational Support.

Link to the Comprehensive Plan

The Public Facilities Drainage and Stormwater Management Section and the Environment Section of the Policy Plan within the Fairfax County Comprehensive Plan includes the following established objectives:

- Provide for a comprehensive drainage improvement and stormwater management program to maximize property protection and environmental benefits throughout the watershed.
- Provide a system of drainage facilities that prevents or minimizes structure flooding, stream degradation and traffic disruption in an efficient, cost effective and environmentally sound manner.
- Prevent and reduce pollution of surface and groundwater resources. Protect and restore the ecological integrity of streams in Fairfax County.
- Protect the Potomac Estuary and the Chesapeake Bay from the avoidable impacts of land use activities in Fairfax County.
- Identify, protect and enhance an integrated network of ecologically valuable land and surface waters for present and future residents of Fairfax County.

Source: 2017 Edition of the Fairfax County Comprehensive Plan- Public Facilities, Amended through 4-9-2019; Environment (amended through 12-3-2019)

Program Initiatives

The long-range goal or mission for the stormwater program is dictated by the County's need to preserve and restore the natural environment and water resources, while being in full compliance with all applicable federal and state laws and mandates. Many of the requirements are derived from the State's Chesapeake Bay Initiatives, Municipal Separate Storm Sewer System Permit (MS4), and other Clean Water Act requirements and County ordinance and policies, such as the Water Supply Protection Overlay District. In order to comprehensively address program requirements and strategies for restoring water quality on a holistic basis, updated watershed management plans have been completed. Additionally, an ongoing Stream Physical Assessment program has been developed to identify areas of need and opportunities for targeted watershed improvement projects.

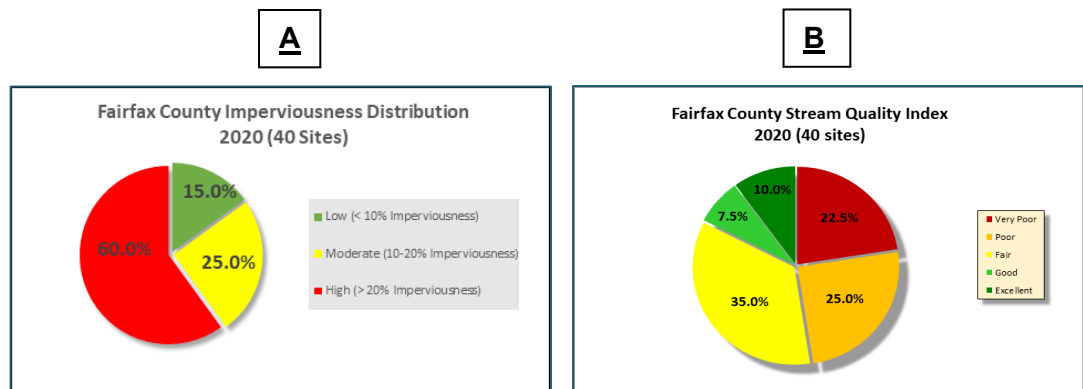
Watershed Planning and Implementation

Plans for all 30 County watersheds have been completed. Previously prepared watershed master plans developed during the 1970s did not reflect changes in stream conditions resulting from land use practices, water quality standards and environmental goals, most of which have evolved over the last 30 years. The watershed plans provide targeted strategies for addressing stream health given current and future land use practices and relative stream conditions.

Stream physical and biological degradation becomes apparent when the extent of impervious surfaces within a watershed area approaches 10 to 20 percent. High levels of degradation occur as imperviousness exceeds 20 percent. During previous decades, prior to implementation of modern stormwater controls, the County's percent of imperviousness increased drastically which contributed

Stormwater Management

to the current degraded conditions of many County streams. As depicted on graph A below, 60 percent of County stream monitoring sites in 2020 had impervious levels at or above 20 percent (high). In addition, 25 percent of the 40 sites monitored were between 10-20 percent impervious (moderate). As depicted on the graph B below, and based on the same 2020 stream monitoring, just 17.5 percent of the County's streams are in good to excellent biological health condition. This condition is determined using an Index of Biological Integrity (IBI) which evaluates stream ecological health based on the community structure of bottom-dwelling aquatic invertebrates inhabiting the streams.



The Federal Clean Water Act and Virginia state laws require Fairfax County to meet water quality standards for surface streams. The County discharges stormwater from its storm drainage network into the waters of the state and must comply with all pertinent water quality standards and conditions established by the MS4 permit. The permit conditions require that the County have a comprehensive stormwater management program that includes inspection of existing stormwater facilities, watershed planning, public outreach, monitoring and implementation of practices to improve stormwater quality.

In response to requirements for a Chesapeake Bay-wide Total Maximum Daily Load (TMDL), established by the EPA in December 2010, states have developed Watershed Improvement Plans (WIP) to set specific targets for reduction and capping of nutrients and sediment pollutants entering the Bay through its various tributaries from both point source (e.g. wastewater treatment plants) and non-point source pollution. The TMDL for the Chesapeake Bay has established a "pollution diet", or pollution load reduction targets needed to remove the Bay from the impaired waters list. The requirements for Bay states and localities are also being driven by a Presidential Executive Order of May 2009 that called for more stringent actions, increased accountability and firm deadlines. The implementation phase of the TMDL is well on the way and Bay states have developed a Phase III WIP which was submitted to EPA in August 2019. The WIP involves increased measures tied to firmly established milestones and an ultimate implementation deadline of 2025. Through the stormwater program and other efforts, the County is doing its part to increase water pollution control measures in order to effectively improve local stream conditions, comply with increasing regulations and help restore the Chesapeake Bay.

While every effort has been made to accurately reflect the 5-year capital improvement plan for the stormwater program, there are currently multiple issues that are in various stages of the regulatory and permitting processes that will possibly have significant funding impacts on the Stormwater program. Increases in regulatory requirements associated with the reissuance of the next 5-year MS4 permit, updates to Chesapeake Bay-wide TMDL requirements as a result of the Phase III WIP,

Stormwater Management

local stream TMDL's, and the Phase III WIP and State stormwater regulations impact the funding requirements on a continual basis. Mitigation of unforeseen County-wide flooding events require a significant investment to implement corrective actions and improve failing and deficient storm drainage systems that impact county residential and commercial properties. In addition to these funding impacts, the transfer of responsibility for the Fairfax County Public Schools MS4 permit program to the County represents added funding requirements to the stormwater program as well.

Additional, funding impacts to the stormwater program include long term stormwater management maintenance requirements of County facilities that are designed and built using innovative stormwater management systems, called Green Stormwater Infrastructure (GSI). Past stormwater maintenance at County-owned and operated facilities traditionally consisted of maintenance of catch basins, storm pipes and surface ponds. However, to meet current stormwater quality requirements, more extensive and complex stormwater management systems are being implemented for the treatment of stormwater runoff. These water quality systems continue to require more complex operational and maintenance efforts to function properly and comply with the stormwater permit requirements. Without the proper on-going maintenance, the systems will likely fail, requiring more extensive costs to reconstruct the systems to function as designed. As these water quality systems and stormwater facilities come on-line, funding will be needed to meet the recurring maintenance requirements.

Financing the Stormwater Program

The Board of Supervisors approved a special service district to support the Stormwater Management Program as part of the [FY 2010 Adopted Budget Plan](#). This service district provides a dedicated funding source for both operating and capital project requirements by levying a service rate per \$100 of assessed real estate value, as authorized by [Code of Virginia](#) Ann. Sections 15.2-2400. Since FY 2010, staff has made significant progress in the implementation of watershed master plans, public outreach efforts, stormwater monitoring activities, water quality and flood mitigation project implementation and operational maintenance programs related to existing storm drainage infrastructure including stormwater conveyance, and regulatory requirements.

A rate of \$0.0400 per \$100 of assessed value has been estimated to be required to fully support the stormwater program in the future; however, staff is currently evaluating the long-term requirements for the program to address the growth in inventory and other community needs. Some of the additional community needs under evaluation include debt service to support the Board's approval of the dredging of Lake Accotink, the anticipation of additional flood mitigation requirements, and strengthening the role and financial support for the implementation of stormwater requirements associated with Fairfax County Public Schools sites under renovation. This enhanced program may require incremental changes to the rate over time and may result in a higher rate to fully support the program. Staff continues to evaluate these requirements, as well as the staffing to support them, and analyze the impact of increased real estate values and revenue projections.

One of the recent initiatives being funded by the Stormwater Fund is the new Public Works complex which will consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions. Stormwater operations are currently conducted from various locations throughout the County, and a new colocation of both Stormwater and Wastewater staff will provide efficiencies and sharing of resources. Another initiative in progress is the planned dredging of Lake Accotink. Lake Accotink is a 55-acre lake surrounded by managed conservation areas, wetlands, deciduous and evergreen forests, and historic and prehistoric sites. Over 300,000 patrons visit the park annually to enjoy a variety of facilities and activities that vary with the season. Sediment from the upstream areas of the watershed has continued to be deposited in Lake Accotink over the years

Stormwater Management

filling in the lake and limiting recreational use. Estimates for the cost of dredging including sediment disposal are still under review. Staff has identified the option of a low interest loan via the Virginia Clean Water Revolving Loan Fund (VCWRLF) as the preferred funding mechanism to fund the dredging project costs. The Stormwater fund will pay the future debt costs.

While staff continues to further evaluate the impact of recent initiatives and the long-term requirements for the Stormwater Program, the FY 2023 rate will remain the same as the FY 2022 Adopted Budget Plan level of \$0.0325 per \$100 of assessed value. However, based on capital project costs and projected revenues, it is anticipated that in the next several years, incremental rate increases will be required based on continued growth of stormwater facilities and infrastructure that must be inspected and maintained by the County, the implementation of flood mitigation projects, and additional requirements in the forthcoming Municipal Separate Storm Sewer System (MS4) Permit. On an annual basis, staff will continue to evaluate the program, analyze future requirements, and develop Stormwater operational and capital resource needs.

The FY 2023 levy of \$0.0325 will generate \$94,393,055, supporting \$27,113,315 for staff and operational costs; \$65,879,740 for capital project implementation including, infrastructure reinvestment, regulatory requirements, dam safety, and contributory funding requirements; and \$1,400,000 transferred to the General Fund to partially offset central support services such as Human Resources, Purchasing, Budget and other administrative services supported by the General Fund, which benefit this fund.

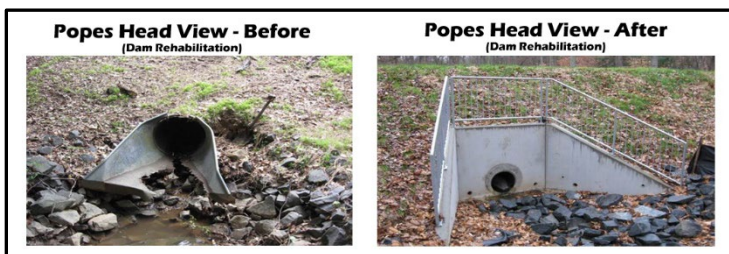
In summary, Stormwater funding is essential to protect public safety, preserve property values and support environmental mandates such as those aimed at protecting the Chesapeake Bay and the water quality of other local jurisdictional waterways. Projects include repairs to stormwater infrastructure, measures to improve water quality, such as stream stabilization, rehabilitation and safety upgrades of dams, repair and replacement of underground pipe systems and surface channels, structural flood proofing and site retrofits. This funding also supports increased public outreach efforts and stormwater monitoring activities. The approach to capital investment in stormwater management will be to improve infrastructure reinvestment cycles and increase capital project implementation schedules to responsibly manage stormwater runoff within Fairfax County, while maintaining compliance with increasing regulatory requirements and operational requirements. Focus will be provided to balance effectiveness and efficiencies through management of staff resources balanced with delivery of services through outsourced opportunities.

Current Project Descriptions

1. **Conveyance System Inspection/Development (Countywide):** This program provides inventory inspection and assessment services for storm drainage conveyance systems and stormwater drainage structures in the County. The County owns and operates approximately 1,500 miles of underground stormwater pipes and improved channels with an estimated replacement value of over one billion dollars. The County began performing internal inspections of the pipes in FY 2006. The initial results showed that approximately 5 percent of the pipes exhibit conditions of failure, and an additional 5 percent required maintenance or repair. MS4 Permit regulations require inspection and maintenance of these 1,500 miles of existing conveyance systems, 69,000 stormwater structures, and a portion of the immediate downstream channel at the 7,000 regulated pipe outlets. Once the initial internal inspections are complete, the goal of this program is to inspect pipes on a 20-year cycle and rehabilitate pipes and improve outfall channels before total failure occurs. Funding of \$2,000,000 has been included for inspections and development in FY 2023.

Stormwater Management

2. **Conveyance System Rehabilitation (Countywide):** This program provides repair and rehabilitation of storm drainage conveyance systems and stormwater drainage structures in the County. Acceptable industry standards indicate that one dollar re-invested in infrastructure saves seven dollars in the asset's life and \$70 dollars if asset failure occurs. Funding in the amount of \$7,000,000 is included for conveyance system rehabilitation in FY 2023.
3. **Dam and Facility Maintenance (Countywide):** This program provides for inventory, inspections, operations, and maintenance of all stormwater facilities within the County. There are approximately 7,900 stormwater management facilities in service that range in size from small rain gardens to large state regulated flood control dams. The County is responsible for inspecting approximately 5,500 privately-owned facilities and maintaining over 2,400 County owned facilities. This inventory increases annually and is projected to continually increase as new development and redevelopment sites occur in the County. This initiative also includes the removal of sediment that occurs in both wet and dry stormwater management facilities to ensure that adequate capacity is maintained to treat the stormwater. The program results in approximately 50 projects annually that require design and construction management activities as well as contract management and maintenance responsibilities. This program maintains the structures and dams that control and treat the water flowing through County owned facilities. This program improves dam safety by supporting annual inspections of 20 state-regulated dams and the Huntington Levee and by developing Emergency Action Plans required by the state. The Emergency Action Plans are updated annually. In addition, these plans include annual emergency drills and exercises, and flood monitoring for each dam. Funding in the amount of \$5,000,000 is included for dam maintenance in FY 2023.

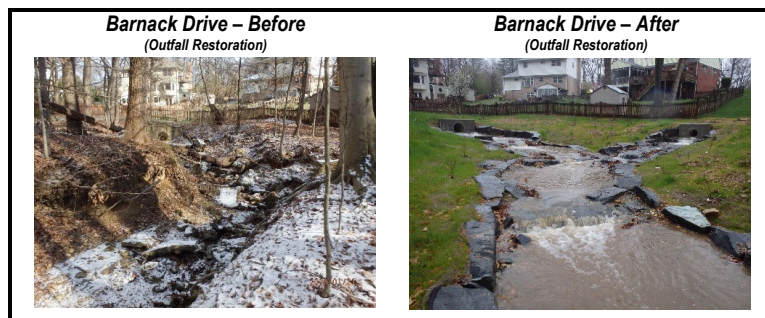


4. **Dam Safety and Facility Rehabilitation (Countywide):** This program provides for capital repair and rehabilitation of stormwater management facilities in the County. The County currently owns and operates dams, green infrastructure facilities, and various types of other facilities such as underground detention and proprietary systems with an estimated replacement value of over \$500 million. Funding in the amount of \$10,000,000 is included for Dam Safety and Facility

Rehabilitation in FY 2023.

5. **Emergency and Flood Response Projects (Countywide):** This program supports flood control projects for unanticipated flooding events that impact storm systems and structural flooding. The program provides annual funding for scoping, design, and construction activities related to flood mitigation projects. Funding in the amount of \$7,000,000 is included for the Emergency and Flood Response Projects in FY 2023.
6. **Enterprise Asset Management – Work Order System (Countywide):** This project will provide funding for the transition from an Enterprise Asset Management (EAM) system to a more functional Asset Management Program (AMP). Funding over time will support the acquisition of software, servers, and consultant services to migrate asset management and related work order management into the new system. The current system tracks assets, inspections, daily work management and associated contractor costs. Features of the replacement system include geographic information system (GIS) integration and field mobility. The Department of Public Works and Environmental Services (DPWES) Information Technology staff have collaborated with the Stormwater Management and the Wastewater Management staff to promote interagency capabilities, optimize performance, and improve system lifecycle management for

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the new system. This new system will meet the future expectations for both divisions and optimize service delivery for DPWES. Funding in the amount of \$1,400,000 is included for this project in FY 2023.

7. Lake Accotink Dredging (Braddock District): \$5,000,000 has been allocated from stormwater funds to support the design phase of the dredging of Lake Accotink. Lake Accotink is a 55-acre lake surrounded by managed conservation

areas, wetlands, deciduous and evergreen forests, and historic and pre-historic sites. Over 300,000 patrons visit the park annually to enjoy a variety of facilities and activities that vary with the season. Sediment from the upstream areas of the watershed has continued to be deposited in Lake Accotink over the years filling in the lake and limiting recreational use of the lake. Estimates for the cost of dredging including sediment disposal are still under review. Staff has identified the option of a low interest loan via the Virginia Clean Water Revolving Loan Fund (VCWRLF) as the preferred funding mechanism to fund the dredging project costs. Future debt service costs associated with the loan will be funded by the Stormwater Services Fund. For planning purposes, an amount of \$60,500,000 has been estimated to be required in FY 2025.

- 8. Pro Rata Share Drainage Improvements (Countywide):** Pro Rata funds received from developer are used to support watershed planning, regional pond development and other drainage improvement projects. Contributions are received in accordance with the Pro Rata Share Program approved by the Board of Supervisors on December 16, 1991. The Pro Rata Share Program provides a funding source to correct drainage deficiencies by collecting a proportionate share of the total estimated cost of drainage improvements from the developers of the land. As projects are identified and prioritized during scheduled budgetary reviews, Pro Rata funds on deposit are appropriated. This fund has a current budget of \$5,712,821.
- 9. Stormwater Allocation to Towns (Countywide):** This project is a continuing project which provides for allocations to the Towns of Vienna and Herndon. On April 18, 2012, the State Legislature passed SB 227, which entitles the Towns of Herndon and Vienna to all revenues collected within their boundaries by Fairfax County's stormwater service district. An agreement was developed for a coordinated program whereby the Towns remain part of the County's service district and the County returns 25 percent of the revenue collected from properties within each town. This allows for the Towns to provide services independently such as maintenance and operation of stormwater pipes, manholes, and catch basins. The remaining 75 percent remains with the County and the County takes on the responsibility for the Towns' Chesapeake Bay TMDL requirements as well as other TMDL and MS4 requirements. This provides for an approach that is based on watersheds rather than on jurisdictional lines. Funding in the amount of \$1,000,000 is included for the allocations to Vienna and Herndon in FY 2023.
- 10. Stormwater Regulatory Program (Countywide):** This is a continuing program to support County operations to meet the conditions of a state issued MS4 Permit. The County is required by federal law to operate under the conditions of a state issued MS4 Permit. Stormwater staff annually evaluates funding required to meet the increasing federal and state regulatory requirements pertaining to the MS4 Permit, and State and Federal mandates associated with controlling water pollution delivered to local streams and the Chesapeake Bay. The MS4 Permit allows the County to discharge stormwater from its stormwater systems into state and federal waters. The County currently owns and/or operates approximately 15,000 outfalls, and 7,000 of these outfalls are regulated outfalls governed by the permit. The current permit was issued

Stormwater Management

to the County in April 2015 and expired in April 2020. The County is operating under an administrative continuance until a new permit is issued. The permit requires the County to document the stormwater management facility inventory, enhance public outreach and education efforts, increase water quality monitoring efforts, and provide stormwater management and stormwater control training to all appropriate County employees. The permit also requires the County to implement sufficient stormwater projects that will reduce the nutrients and sediment delivered to the Chesapeake Bay in compliance with the Chesapeake Bay TMDL implementation plan adopted by the State. Funding in the amount of \$4,000,000 is included for the regulatory program in FY 2023.

11. **Stormwater Related Contributories (Countywide):** This project provides funding for contributions associated with the Northern Virginia Soil and Water Conservation District (NVSWCD), and the Occoquan Watershed Monitoring Program (OWMP). The NVSWCD is an independent subdivision of the Commonwealth of Virginia that provides leadership in the conservation and protection of Fairfax County's soil and water resources. It is governed by a five-member Board of Directors - three members are elected every four years by the voters of Fairfax County and two members are appointed by the Virginia Soil and Water Conservation Board. Accordingly, the work of NVSWCD supports many of the environmental goals established by the Board of Supervisors. The goal of the NVSWCD is to continue to improve the quality of the environment and general welfare of the citizens of Fairfax County by providing them with a means of dealing with soil, water conservation and related natural resource problems. It provides County agencies with comprehensive environmental evaluations for proposed land use changes with particular attention to the properties of soils, erosion potential, drainage, and the impact on the surrounding environment. NVSWCD has consistently been able to create partnerships and leverage state, federal and private resources to benefit natural resources protection in Fairfax County. Funding of \$609,346 has been included for the County contribution to the NVSWCD in FY 2023.

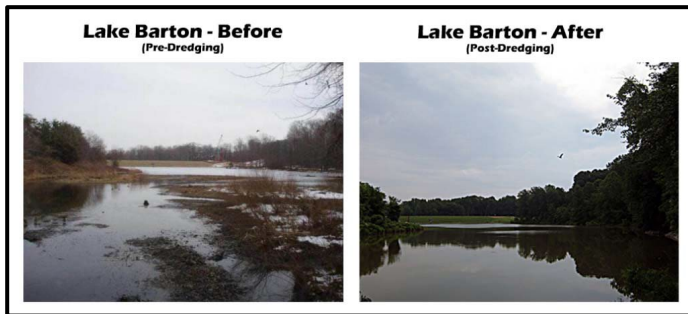
The OWMP and the Occoquan Watershed Monitoring Laboratory (OWML) were established to ensure that water quality is monitored and protected in the Occoquan Watershed. Given the many diverse uses of the land and water resources in the Occoquan Watershed (agriculture, urban residential development, commercial and industrial activity, water supply, and wastewater disposal), the OWMP plays a critical role as the unbiased interpreter of basin water quality information. Funding of \$183,437 has been included for the County contribution to the OWMP in FY 2023.

12. **Stormwater/Wastewater Facility (Braddock District):** This project will provide funding for a Stormwater/Wastewater facility to consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions. The Stormwater business area provides essential watershed planning, engineering design, project management, contracting, monitoring, and maintenance services for stormwater management, storm drainage, flood control, snow removal, water quality, commercial revitalization, county-maintained roads and walkways, trails, public street name signs, and other designated county infrastructure. Current program operations are conducted from various locations throughout the County and are inadequate and outdated. The Wastewater Collection Division operates out of the Freds Oak facility and provides for the sewer collection and conveyance system for the County. The new facility will collocate both functions. This project is currently in design with construction anticipated to begin in early 2022. The total cost of the facility is \$102 million with \$93 million financed by EDA bonds and \$9 million supported by the Stormwater Services Fund and Wastewater Fund. These funds will also support the annual debt service associated with the EDA bonds.

Stormwater Management

13. **Stormwater/Wastewater Facility Debt Service (Countywide):** \$4,179,000 represents the FY 2023 requirements for debt service payments associated with the Stormwater/Wastewater facility.

14. **Stream and Water Quality Improvements (Countywide):** This project supports water quality improvement necessary to mitigate the impacts to local streams and the Chesapeake Bay



resulting from urban stormwater runoff. This includes water quality projects such as construction and retrofit of stormwater management ponds, implementation of green stormwater infrastructure facilities, stream restoration, and water quality projects identified in the completed Countywide Watershed Management Plans. These projects will aid in the reduction of pollutants and improve water quality in county streams, that are considered to be in fair to very poor condition and likely do not meet CWA water quality standards. In addition, Total Maximum Daily Load (TMDL) requirements for local streams and the

Chesapeake Bay are the regulatory drivers by which pollutants entering impaired water bodies must be reduced. The Chesapeake Bay TMDL was established by the EPA and requires that MS4 communities as well as other dischargers implement measures to significantly reduce the nitrogen, phosphorous and sediment loads in waters that drain to the Chesapeake Bay by 2025. MS4 Permit holders must achieve 35 percent of the required reductions within the current five-year permit cycle and 60 percent of the required reductions in the next five-year permit cycle. In addition, compliance with the Chesapeake Bay TMDL requires that the County undertake construction of new stormwater facilities and retrofit existing facilities and properties. The EPA continually updates the Chesapeake Bay compliance targets and credits is anticipated that the changes to the assigned targets as well as how projects are credited, will likely impact future compliance requirements. In addition to being required to meet the Chesapeake Bay TMDL targets, the current MS4 Permit requires the County to develop and implement action plans to address local impairments. Most of the 1,900 watershed management plan projects contribute toward achieving the Chesapeake Bay and local stream TMDL requirements. Funding in the amount of \$23,507,957 is included for stream and water quality Improvements in FY 2023.

15. **Tree Preservation and Plantings (Countywide):** This project provides for tree plantings throughout the County. Revenues collected through the land development process are appropriated at year end to support the tree preservation and planting program. Funding in the amount of \$308,916 has been received to date.

ATTACHMENT 3
Project Cost Summaries
Stormwater Management
(\$000's)

Project Title Project Number	Source of Funds	Budgeted or Expended Through FY 2022						Total FY 2023 - FY 2027	Total FY 2028 - FY 2032	Total
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027			
1 Conveyance System Inspection/Develop 2G25-028-000	S	C	\$2,000	\$2,000	\$2,000	\$3,000	\$3,000	\$12,000	\$15,000	\$27,000
2 Conveyance System Rehabilitation SD-000034	S	C	\$7,000	\$8,000	\$9,000	\$10,000	\$10,000	\$44,000	\$65,000	\$109,000
3 Dam and Facility Maintenance 2G25-031-000	S	C	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000	\$25,000	\$50,000
4 Dam Safety and Facility Rehabilitation SD-000033	S	C	\$10,000	\$11,000	\$11,000	\$11,000	\$11,000	\$54,000	\$58,000	\$112,000
5 Emergency and Flood Response Projects SD-000032	S	C	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$35,000	\$35,000	\$70,000
6 Enterprise Asset Management - Work Order System SD-000044	S	C	\$1,400	\$1,440	\$288	\$403	\$565	\$4,096	\$4,000	\$8,096
7 Lake Accotink Dredging SD-000041	S	\$5,000			\$60,500			\$60,500		\$65,500
8 Pro Rata Share Drainage Improvements Fund 30090	X	\$5,713						\$0		\$5,713
9 Stormwater Allocation to Towns 2G25-027-000	S	C	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$5,000	\$5,000	\$10,000
10 Stormwater Regulatory Program 2G25-006-000	S	C	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$20,000	\$20,000	\$40,000

ATTACHMENT 3
Project Cost Summaries
Stormwater Management
(\$000's)

Project Title Project Number	Source of Funds	Budgeted or Expended Through FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total FY 2023 - FY 2027	Total FY 2028 - FY 2032	Total
11 Stormwater Related Contributories 2G25-007-000, 2G25-008-000	S	C	\$793	\$793	\$793	\$793	\$793	\$3,965	\$3,965	\$7,930
12 Stormwater/Wastewater Facility SD-000039	B, S	\$102,000						\$0		\$102,000
13 Stormwater/Wastewater Facility Debt Service 2G25-117-000	S	\$5,000	\$4,179	\$4,180	\$4,181	\$4,178	\$4,181	\$20,899	\$58,601	\$84,500
14 Stream and Water Quality Improvements SD-000031	S	C	\$23,508	\$23,508	\$23,508	\$23,508	\$23,508	\$117,540	\$117,540	\$235,080
15 Tree Preservation and Plantings 2G25-030-000	X	\$309						\$0		\$309
Total		\$118,022	\$65,880	\$67,921	\$128,270	\$69,882	\$70,047	\$402,000	\$407,106	\$927,128

Notes: Numbers in bold italics represent funded amounts. A "C" in the 'Budgeted or Expended' column denotes a continuing project.

Key: Source of Funds

B	Bonds
G	General Fund
S	State
F	Federal
X	Other
U	Undetermined