FAIRFAX COUNTY

Chowan Avenue Stormwater Improvement

Virginia Community Flood Preparedness Fund

FY 2022 Round 3 Grant Application
April 8, 2022

Overtopping at 8th Street (May 16, 2014) (image from VDOT)

Overtopping at Chowan Avenue (September 08, 2011) (image from VDOT)

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**

_X_**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: [signature]

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.
- **X** 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.
- **X** 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.

<u>Capacity Building and Planning Grants</u>

- ☐ 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): Near the intersection of Chowan Avenue and 8th Street, Fairfax County

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): Discharged to Zone A

Flood Insurance Rate Map Number(s) (If Applicable): 51059C0285E

Total Cost of Project: $2,000,000

Total Amount Requested $1,200,000

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	N/A
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	☐ Yes ☐ No
Applicant Name:	Fairfax County

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**	
☐ Wetland restoration, floodplain restoration ☐ Living shorelines and vegetated buffers. ☐ 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 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.	**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**	X
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**	**X**
9. Is the proposed project in a low-income geographic area as defined in this manual?		
Yes	**10**	
No	**0**	**X**
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) Attachment 1	☒ Yes ☐ No ☐ N/A
FIRMette of the project area(s) (Projects/Studies) Attachment 2	☒ Yes ☐ No ☐ N/A
Historic flood damage data and/or images (Projects/Studies) Attachment 3	☒ Yes ☐ No ☐ N/A
A link to or a copy of the current floodplain ordinance Attachment 4	☒ Yes ☐ No ☐ N/A
Non-Fund financed maintenance and management plan for project extending a minimum of 5 years from project close See Maintenance Plan Section	☒ Yes ☐ No ☐ N/A
A link to or a copy of the current hazard mitigation plan Attachment 5	☒ Yes ☐ No ☐ N/A
A link to or a copy of the current comprehensive plan Attachment 6	☒ Yes ☐ No ☐ N/A
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer Attachment 7	☒ Yes ☐ No ☐ N/A
If applicant is not a town, city, or county, letters of support from affected communities	☐ Yes ☐ No ☒ N/A
Completed Scoring Criteria Sheet in Appendix B, C, or D Attachment 8	☒ Yes ☐ No ☐ N/A
Budget Narrative	
Supporting Documentation	**Included**
Authorization to request funding from the Fund from governing body or chief executive of the local government Attachment 9	☒ Yes ☐ No ☐ N/A
Signed pledge agreement from each contributing organization	☐ Yes ☐ No ☒ N/A

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A. Executive Summary

Fairfax County is pleased to submit the Chowan Avenue Stormwater Improvement project, here after referred to as the Project, for consideration under Community Flood Preparedness Fund (CFPF) Round 3 'Project' category to help mitigate flooding in the Chowan Avenue Neighborhood in Mason Magisterial District. The Project is focused on implementing a conveyance system and a channel stabilization using natural channel design method to convey runoff that currently overwhelms existing roads and culverts.

Virginia Department of Conservation and Recreation (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 is in the process of preparing a draft flood risk reduction plan. The County is also developing a comprehensive regulated floodplain map to assess and implement future projects.

The Project will address the community concerns and supports resilience goals by designing and constructing a conveyance system to contain the 100-year storm and integrating stream restoration through natural channel design.

B. Scope of Work Narrative

1. Project Information

The Project is located in the Cameron Run watershed (Figure 1) and conveys runoff from approximately 185 acres of land and enters the Turkeycock Run. The Project is near the intersection of Chowan Avenue and 8th Street (Figure 2a or attachment 1). Residents of Fairfax County, Virginia, living near the Project area, experience frequent flooding due to the overtopping of Chowan Avenue and 8th Street during storm events. These are public streets and avenues that residents frequently use; therefore, flooding can significantly impact society and the economy. As a result, Fairfax County's Capital Improvement Projects (CIP) included the Project to mitigate flooding in the neighborhood. The existing stormwater conveyance system in the neighborhood is inadequate. Therefore, the County plans to implement a hybrid solution (Figure 2a &2b or attachment 1). The Project will contain an additional conveyance system to convey up to 100-year in a non-erosive manner to the existing floodplain, enhance existing infrastructure, stabilize stream channel based on natural channel design methodology. The proposed project will mitigate residential flooding, improve stream ecology, address public safety, and improve resiliency.

Figure 1. Cameron Run Watershed

Figure 2a. Location of the Project

Figure 2b. Photo looking downstream toward the 8th street culvert

Population

Fairfax County has a population of about 1.17 million as of 2021. The Project is located in census blocks 1000,1002, and 1006 (Census Block group 1), as shown in Figure 3. The Project is located in Mason District and directly impacts 15 residential homes in addition to other residents who use Chowan Avenue and 8th Street for daily activities.

Figure 3. Census Block near the Project

Historic Flooding Data and Hydrologic Studies

Flooding along Chowan Avenue is a long-standing concern. As shown in Figure 4, the 1977 Cameron Run Watershed Immediate Action Plan recommended the construction of a floodwall to address flooding at 5103 and 5105 Chowan Avenue. The floodwall was not constructed.

Figure 4. Cameron Run Watershed Immediate Action Plan recommended projects (December 1977)

The Fairfax County Maintenance and Stormwater Management Division (MSMD) maintains records of complaints and has several reports of frequent flooding and erosion problems in the Project area (see Table 1). The project area is located near the Federal Emergency Management Agency (FEMA) Special Flood Hazard Area (SFHA) Zone A. The effective date of the Flood Insurance Rate Map (FIRM) is September 17, 2010. A copy of the FIRMette is included as Attachment 2.

Table 1. Complaints near the Project area

ADDRESS	Complaint Type	Complaint Date
at CHEROKEE AV	EROSION	9/28/1999
at CHOWAN AV	EROSION	6/26/2006
at 8TH ST	EROSION	7/5/2006
at 8TH ST	EROSION	8/29/2006
at CHEROKEE AVE	EROSION	10/1/2018
at 8TH ST	EROSION	4/2/2020
at CHOWAN AV	FLOODING	8/13/2004
at CHOWAN AV	FLOODING	7/27/2005
at CHOWAN AV	FLOODING	6/26/2006
at 8TH ST	FLOODING	7/27/2006
at CHOWAN AVE	FLOODING	6/14/2013
at CHOWAN AV	INFRASTRUCTURE	4/9/1991
at CHOWAN AV	INFRASTRUCTURE	3/19/2001
at 8TH ST	INFRASTRUCTURE	12/7/2006
at CHOWAN AVE	INFRASTRUCTURE	6/17/2013
at 8TH ST	EROSION	3/18/2016
at 8TH ST	BLOCKAGE/CLOG TREE FALLING	11/18/2003
at 8TH ST	TREE/VEGETATION	3/25/2016
at 8TH ST	TREE/VEGETATION	9/12/2018
at 8TH ST	TREE/VEGETATION	8/11/2021

Residents near Chowan Avenue and 8th Street have reported that the unnamed tributary to Turkeycock Run overtops the roads and floods adjacent properties with multiple storm events. Examples of the previous flooding in the neighborhood are shown in Figure 5, and more pictures with the dates of past flood events are included in Attachment 3.

Figure 5. Examples of past flooding

In 2015 Virginia Department of Transportation (VDOT) conducted preliminary hydrologic and hydraulic analyses of the unnamed Tributary to Turkeycock Run and discussed a potential solution. The report also identified the adverse conditions of the neighborhood:

- Overtopping of 8th Street and Chowan Avenue at the existing culvert crossing;
- Backflow through private driveway culvert during high water conditions;
- Overflow from 8th Street channelizing and flowing over the private property driveway;
- Overflow from 8th Street increases the flow to the culvert crossing north of the intersection of Chowan Avenue and 8th Street;
- Flow from the culvert traveling across the private property driveway and through the open segment of the garage;
- Ponding at the private property driveway grate inlet;
- Overflow from Chowan Avenue traveling across the private property front yards, driveway, and through the open segment of the garage;
- Eroded slopes along the stream.

Local Government Cost Share

The total project cost for design and construction is estimated to be $2,000,000. The Project will be completed under the framework established by the Flood Mitigation and Monitoring & Dam Safety Program Services, Basic Ordering Agreement, Contract Award Basic Ordering Agreement (BOA). The County's cost share would be provided from the stormwater capital improvement program fund through the Emergency and Flood Response Project (SD-000032) under Fund 40100 Stormwater Services. A summary of Stormwater Services Capital Projects under Fund 40100 is shown in Table 2. The County's Stormwater Services Adopted Budget Plan can be accessed at:

Fund 40100: Stormwater Services - FY 2023 Advertised Budget Plan (fairfaxCounty.gov)

Table 2. Summary of Capital Project under 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**

County Floodplain Management Regulations

Fairfax County participates in the National Flood Insurance Program (NFIP) and in the Community Rating System (CRS) administrated by Federal Emergency Management Agency (FEMA). Currently, Fairfax County maintains a class 6 CRS rating by demonstrating to FEMA that the County goes beyond the minimum requirements of the NFIP requirements. In addition, FEMA conducted a Community Assistance Visit (CAV) and determined the County is in good standing with NFIP.

Construction in a floodplain is not allowed under most circumstances. Therefore, before building, filling, or excavating in a floodplain, it is advised to get more information on the floodplain management requirements. Below are some of the important links regarding floodplain developments/permits:

- The Fairfax County Land Development Services web page: https://www.fairfaxcounty.gov/landdevelopment/

Section 5105 Floodplain Regulations of the Fairfax County Zoning Ordinance: https://online.encodeplus.com/regs/fairfaxcounty-va/doc-viewer.aspx#secid-251

- Fairfax County's Flood Information webpage: https://www.fairfaxcounty.gov/publicworks/stormwater/flood-information

- Fairfax County's Digital Flood Insurance Rate Map webpage: https://www.fairfaxcounty.gov/publicworks/dfirm

Project Priority

The project was prioritized in the district as a result of several neighborhood resident reports of flooding issues. Fairfax County participated in the development of the Northern Virginia Hazard Mitigation Plan, and this plan identified flooding as one of the highest-ranked hazards for the County. Table 3 shows the hazard rankings for Fairfax County from the current 2017 Northern Virginia Hazard Mitigation Plan. A copy of the hazard mitigation plan is included as Attachment 5 or can be found at https://www.fairfaxcounty.gov/emergencymanagement/sites/emergencymanagement/files/assets/documents/pdf/hazard%20mitigation%20plan%2010.22.19.pdf

Table 3. Hazard ranking for Fairfax County from Northern Virginia Hazard Mitigation Plan

Table 7.3: Hazard Ranking for Fairfax County											
Hazard	Flood	Wind	Tornado	Winter Weather	Drought	Earthquake	Landslide	Wildfire	Karst	Extreme Temp.	Dam Failure
Ranking	High	High	High	High	Med-High	Med	Med-Low	Med	Med-Low	Med-Low	Med-Low

The Project is located in Mason District and directly impacts 15 residential homes and several residents who use these roads for daily activities. The residents report that Chowan Avenue and 8th Street are frequently overtopped during rainfall events, which means it impacts anyone who uses these roads for access.

There is no repetitive loss property, severe repetitive loss property, or critical facility located within the vicinity of the project area.

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 Table 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.

Low Income Geographic Areas

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

Vulnerability Index

Based on the Vulnerability Index Mapping (Attachment 7), the project is not in a socially vulnerable area.

Alternatives

The project is a hybrid solution.

3. Goals and Objectives

The objective of the Project is to mitigate the flooding and erosion problems discussed in the previous sections of this application. Therefore, the primary goals of the Project are to:

- Improve the drainage system and reduce localized flooding and erosion by designing adequate drainage systems in accordance with Fairfax County code, Fairfax County Public Facilities Manual (PFM), and VDOT requirements.
- Convey the peak flow for the 100-year, 24-hour storm within the conveyance system, if possible, and provide adequate overland relief.
- Stabilize the eroded natural channel and improve the stream ecology.
- Address public safety concerns.
- Partner with the community to develop sound, cost-effective solutions that can be collaboratively implemented and maintained.
- Use innovative, sustainable, and functional designs.

The expected results of the completed project are to reduce the risk of structural and road flooding problems in the neighborhood, reduce the flood damage repair cost, and improve water quality.

4. Approach, Milestones, and Deliverables

The County submitted a request for proposal (RFP) to the design consultant firm on February 15, 2022. The County anticipates a proposal for the design services by April 15, 2022. Upon grant approval, the County would issue Notice to Proceed (NIP) and the consultant would immediately begin project activities. The design plan is expected to be completed within 12 to 15 months from NTP. While the design plans are being developed, the County would concurrently conduct the property acquisition process. The County anticipates that the construction of the Project will take from 12 months to 15 months. Table 4 summarizes the approach deliverables. The milestones for the Project include the completion of final design plans and completion of the construction work. See Table 4 for a more detailed summary of the Project approach and deliverables.

Table 4. Project Deliverables

Activity	Description	Deliverables
Design		
Survey	The consultant will provide a field run topographic survey	CAD file of field survey and mapping data; survey information needed to perform the hydrologic & hydraulic analyses, and other data for the design & construction purposes
Soil characterization	The consultant will provide geotechnical services	A report of findings
Assessment of adequate drainage and capacity analysis	The consultant will perform hydrologic and hydraulic (H&H) analyses of the existing and proposed conditions to determine whether the project goals are feasible	A drainage report in the form of a PDF to include drainage area map and model links used for the hydrologic analysis; Storm pipe and channel capacity and max hydraulic grade line (HGL) tables for existing and proposed conditions; HGL profiles in pipe and channel segments for the 100-year, 24-hour storm events for the existing and proposed conditions; Top 3 rated design recommendations to convey the peak flow rate for the 100 year, 24-hour storm; H&H files
Concepts design & analysis (35%)	The consultant will evaluate the three (3) approaches within the project area to achieve the project goals	A concept layout plan will be provided including several information such as: existing conditions; proposed improvements; preliminary grading; limits of disturbance; staging Area; access entrances; etc.

65% design plan	Based upon concept design decision review and comments, the consultant will prepare a 65% design plan	65% design report will include information such as: design narrative, all computations, preliminary engineer's cost estimate; overall site plan of proposed improvements; H&H models; stormwater narrative; adequate outfall narrative; tree condition and preservation plan; and preliminary erosion and sediment control plan
95% final design	Based on the 65% design review comments and meeting, the consultant will prepare the 95% final design	A complete package for construction such as: 95% final design plans; final design report; and engineer's cost estimate
Final design plan	Based on the 95% design review meeting and input provided, the consultant will develop final design plan	Final Design plan. All copies of final plans shall be signed and sealed by a professional engineer registered in the Commonwealth of Virginia
Construction		
Construction	Construction consultant firm selection	Substantial completion of the project

5. Relationship to Other Projects

The Project is located in the Cameron Run Watershed. Fairfax County has developed comprehensive watershed management plans for each of the County's 30 watersheds. The plans identify issues affecting our environment and guide protecting and restoring the County's stream corridors. The Cameron Run watershed management plan identified two neighborhood projects along Turkeycock Creek (Turkeycock Creek @ Fran PL (CA82-0018) and Turkeycock Creek @ 8th St (CA82-0015)). Though the Project is not identified in the Cameron Run watershed management plan, it will address the most frequent flooding situations near the Chowan Avenue neighborhood. Detailed information about the Cameron Run watershed management plan can be found at Cameron Run Watershed | Public Works and Environmental Services (fairfaxCounty.gov)

6. Maintenance Plan

The Fairfax County MSMD inspects stormwater management facilities and infrastructure assets to ensure proper maintenance is performed and facilities are functioning according to the approved design plan. Since the owner of the Project will be Fairfax County, the Project will be added to the MSMD's maintenance inventory and MSMD will perform maintenance inspections to meet regulatory requirements and practice good environmental stewardship.

Additional information about the Fairfax County MSMD can be accessed at:
https://www.fairfaxcounty.gov/publicworks/stormwater/maintenance-and-inspections

C. Scoring Criteria

Through this application and Table 5 below, Fairfax County has demonstrated that the grant criteria for the Project are met.

Appendix B is completed and included in the Supporting Document Section Attachment 8.

Table 5. Summary of criterion

Number	Criterion	Meet?
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?	**Yes**. Fairfax County is the applicant and is a local government.
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?	**Yes**. It was approved on **January 10, 2022**. A copy of the DCR approval in included in Attachment 10.
3	For local governments that are not towns, cities, or counties, have letters of support been provided from affected local governments?	Not Applicable
4	Has the applicant provided evidence of an ability to provide the required match funds?	**Yes.** Please refer to Section "The ability of the local government to provide its share of the cost" of this document.
5	Has the applicant demonstrated to the extent possible, the positive impacts of the project or study on prevention of flooding?	**Yes,** please refer to Section A of this document "Scope of Work Narrative – Project"

D. Budget Narrative

Table 6 shows the budget narratives and the estimated project expenditures.
The estimated total project cost is **$2,000,000.**

Estimated total project cost:

Table 6 summarizes the estimated detailed breakdown of the Project cost. The cost is based on the pre-design concept level estimate.

Table 6. Summary of Expenditures

Number	Item	Estimated Cost
1	Land Acquisition	$ 43,000
2	Design	$ 304,000
3	Construction	$ 1,257,730
4	Construction Contingency (25%)	$ 395,270
Total Project Cost		**$ 2,000,000**

Amount of funds requested from the Fund

The total amount of the grant assistance sought from the Fund is **$1,200,000** (60% of the total project cost). The County will use the grant funding the design of the proposed project and construction as appropriate.

Amount of cash funds available

The Project is included in the five-year stormwater workplan with grant matching funds available for the Project in the Emergency and Flood Response Project under Fund 40100 Stormwater Services (Table 2). The County has $800,000 contained within the Emergency and Flood Response Project fund. With the potential grant funding, the County will have the necessary funds to complete the design and construction of the Project.

Authorization to request for funding

The signed documentation authorizing the request for funding is included in the Supporting Document Section. Please refer to Attachment 9.

E. Supporting Documents/Attachments

Attachment 1: Project area map

Attachment 2: FEMA FIRMette

Attachment 3: Historic flood damage Pictures (from VDOT report)

Attachment 4: Floodplain Zoning Ordinance

Attachment 5: Northern Virginia Hazard Mitigation Plan

Attachment 6: Fairfax County Comprehensive Plan

Attachment 7: Social Vulnerability Index score

Attachment 8: Appendices A, B, & D

Attachment 9: Authorization to request Funding

Attachment 10: Fairfax County Resilience Plan

Attachment 1_Project Area map

Attachment 2_FEMA FIRMette

National Flood Hazard Layer FIRMette

FEMA

77°9'33"W 38°49'6"N

77°8'56"W 38°48'38"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

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

Legend

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

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- 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 *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*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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 3/5/2022 at 2:03 PM 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.

Attachment 3_ Historic flood damage Pictures

(images from VDOT)

Chowan Avenue overtopping and flooding Askaryar property. (taken 2013-06-10)

Flooding in Cheatham property front yard. (taken 2013-06-10)

Overtopping at 8th Street. (taken 2014-05-16)

Overtopping at Cherokee Avenue. (taken 2013-06-28)

Overtopping at Chowan Avenue. Note that downstream channel is not at capacity. (taken 2011-09-08)

Overtopping at Chowan Avenue, looking upstream. (taken 2011-09-08)

Overtopping at Chowan Avenue, impacting private properties (taken 2011-09-08)

Overtopping at Chowan Avenue, impacting private properties (taken 2011-09-08)

Overflow from Chowan Avenue, channelized between private properties (taken 2011-09-08)

Flooding at private property (taken 2013-06-10)

All following photographs were taken during the field visit on 2014-10-15.

Channel downstream of Chowan Avenue.

Chowan Avenue crossing outlet.

Chowan Avenue crossing inlet.

Channel upstream of Chowan Avenue.

Channel slope erosion

Channel flow

Channel downstream of 8th Street.

8th Street crossing outlet.

8th Street crossing inlet.

Channel upstream of 8th Street.

Drive way culvert

Drive way culvert

Private property driveway damage

Private property driveway damage

Channel downstream of Cherokee Avenue.

Cherokee Avenue crossing outlet.

Cherokee Avenue crossing inlet.

Channel upstream of Cherokee Avenue.

Ditch upstream of 8th Street and Chowan Avenue.

8th Street and Chowan Avenue crossing inlet.

8th Street and Chowan avenue crossing outlet.

Channel downstream of 8th Street and Chowan Avenue.

Junction of Tributary and Turkeycock Run

Access to channel from private property

Attachment 4_ Floodplain Zoning Ordinance

5105. Floodplain Regulations

These regulations are intended to further the County's participation in the National Flood Insurance Program authorized under the National Flood Insurance Act of 1968, as amended (42 U.S.C. § 4001 et seq.); provide for safety from flood and other dangers; protect against loss of life, health, or property from flood or other dangers; and preserve and protect floodplains in as natural a state as possible to preserve wildlife habitats, to maintain the natural integrity and function of the streams, to protect water quality, and to promote ground water recharge.

1. Applicability and Disclaimer

A. The floodplain regulations apply to all land within a floodplain as defined in Article 9. In addition, in accordance with subsections 5105.5 and 5105.6.B, these regulations apply to land outside the floodplain on lots that contain floodplain and on lots that abut a lot containing floodplain.

B. The degree of flood protection required by these regulations, the USBC, and the Public Facilities Manual is considered reasonable for regulatory purposes. Larger floods may occur on rare occasions or flood heights may be increased by man-made or natural causes, such as bridge openings restricted by debris. These regulations do not imply that areas outside the floodplain, or land uses permitted within such areas, will be free from flooding and flood damages under all conditions. The granting of a permit or approval of a site, subdivision, or land development plan in an identified floodplain area does not constitute a representation, guarantee, or warranty of any kind by any official or employee of the County of the practicability or safety of the proposed use, and does not create any liability upon the County, its officials, or employees.

2. Administration of the Floodplain Regulations

A. Director Determination

The Director is responsible for the administration of the floodplain regulations. The Director must review all proposed uses and development to determine whether the land on which the proposed use or development is located is within a floodplain. The Director may require additional information from the applicant, including an engineering study of the floodplain. The Director will determine whether the proposed use or development may be permitted in accordance with subsection 3 or if it requires the approval of a special exception in accordance with subsection 4 below. Any approval by the Director must be in writing and must specify conditions deemed necessary to ensure that the proposed construction and use conform to these regulations.

B. Review Criteria

Any decision of the Director or Board regarding a use in a floodplain must be based on consideration of the following:

(1) Type and location of proposed structure and use;

(2) Site access;

(3) Frequency and nature of flooding;

(4) Nature and extent of any proposed grading or fill;

(5) Impact of proposal on the floodplain on properties upstream and downstream;

(6) Potential of proposal to cause or increase flooding or to jeopardize human life;

(7) Impact of the proposed use on the natural environment and on water quality; and

(8) Other site-specific factors deemed relevant for consideration by the Director or the Board.

C. Compliance with National Flood Insurance Program

The Director of the Department of Public Works and Environmental Services (DPWES) must collect and maintain records necessary for the County's participation in the National Flood Insurance Program. Base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, the Director of DPWES or designee must notify the Federal Insurance Administrator or require the applicant to notify the Federal Insurance Administrator of any change in base flood elevation in any Special Flood Hazard Area (SFHA) depicted on the County's Flood Insurance Rate Map (FIRM) by submitting technical and scientific data to the Federal Emergency Management Agency (FEMA) for a Letter of Map Revision.

3. Permitted Uses

A. Except as provided in subsection (10) below for cluster subdivisions, the uses and changes to topography identified below may be permitted in a floodplain upon a determination by the Director that the use is permitted in the zoning district in which it is located, and the use or change to topography is in accordance with these floodplain regulations and the Public Facilities Manual. Any use or change to topography not meeting the qualifications below may be permitted by the Board with the approval of a special exception.

(1) Changes to topography that do not require major fill. For the purpose of this subsection, major fill includes any fill, regardless of amount, in an area greater than 5,000 square feet, or any fill in excess of 278 cubic yards below the existing 100-year flood elevation in an area of 5,000 square feet or less. The cumulative area of any fill and pavement permitted under (1) through (6) may not exceed an area of 5,000 square feet for all uses on a lot.

(2) Any use or change to topography within a minor floodplain. A minor floodplain, as established in the floodplain definition in Article 9, is a floodplain with a drainage area greater than 70 acres but less than 360 acres.

(3) Agricultural operations if the use does not require the approval of a building permit or require major fill. Such uses must be operated in accordance with a conservation plan prepared in accordance with the standards of the Northern Virginia Soil and Water Conservation District.

(4) Uses and structures accessory to single-family detached, attached, and stacked townhouse dwellings and manufactured homes, such as play areas, lawns, paved tennis or play courts, trails, gardens, patios, decks, and docks, that do not require major fill; and accessory structures such as children's playhouses, doghouses, storage structures, and other similar structures that do not require approval of a building permit or require major fill. All structures must be anchored to prevent flotation.

(5) Community, commercial, and public recreational uses such as golf courses, driving ranges, picnic grounds, boat launching ramps, parks, wildlife and nature preserves, hunting and fishing areas, and hiking, bicycle, and equestrian trails. This provision does not permit a paved tennis or play court exceeding 5,000 square feet in area, swimming pool, or any use requiring the approval of a building permit or requiring major fill.

(6) Off-street parking and loading areas including aisles and driveways that do not exceed 5,000 square feet in area, that will have one foot or less depth of flooding and that will not require major fill.

(7) Metrorail, railroad track, and roadway floodplain crossings meeting applicable WMATA, VDOT, and Fairfax County design requirements and where any additional rise in water surface will not have an adverse effect upon the floodplain or will be set aside in an easement. A stream channel relocation proposed in conjunction with a crossing is subject to the provisions of the Public Facilities Manual.

(8) Public and private utility lines, and all public uses and public improvements performed by or at the direction of the County, including channel improvements and erosion control, reservoirs, storm water management, and best management practice facilities and similar uses. The installation of such facilities must be accomplished with appropriate easements or agreements and with the minimum necessary disruption to the floodplain. Ponds, reservoirs, storm water management, and best

management practice (BMP) facilities in floodplains with a drainage area of 360 acres or greater that are designed to serve a specific private development may be permitted only with Board approval of a special exception in accordance with these floodplain regulations.

(9) Permitted accessory structures, other than those specified in subsection (4) above, and additions to single-family detached and attached dwellings constructed before August 14, 1978, subject to the following conditions:

(a) The estimated cost of the addition or accessory structure is less than 50 percent of the market value as determined by the Department of Tax Administration of the existing structure.

(b) The lowest part (i.e., the bottom of the floor joists or top of a concrete slab on grade) of the lowest floor including the basement of any such structure may be constructed less than 18 inches above the 100-year flood level if it is determined that there is less than one percent chance of flooding the structure in any given year, i.e., the structure is higher than the 100-year flood level.

(c) The lowest part of the lowest floor of any accessory structure not meeting the requirements of subsection (9)(b) above may be constructed below the base flood elevation provided the following standards are met:

1. The size of the accessory structure does not exceed 1,000 square feet of gross floor area.

2. The accessory structure will only be used for parking or storage purposes.

3. The accessory structure will be constructed using flood-damage resistant materials and all interior walls and floors constructed using unfinished material.

4. The accessory structure will be anchored and floodproofed in accordance with the USBC.

5. Any mechanical, electrical, and utility equipment in the accessory structure must be elevated to or above the base flood elevation.

(d) The Director may require the applicant and owners to sign an agreement holding Fairfax County harmless from all adverse effects that may arise from the construction and establishment of the proposed use within the floodplain. Such hold harmless agreement must be recorded with the land records of Fairfax County.

(10) For all cluster subdivisions in the R-2 District, and cluster subdivisions in the R-3 and R-4 Districts with a minimum district size of three and one-half acres or greater, only the following uses and improvements may be permitted by the Director, if the encroachments for those uses and improvements are the minimum necessary and minimize disturbance to the floodplain to the greatest practical extent:

(a) No residential lot may extend into a floodplain and adjacent slopes in excess of 15 percent grade or Resource Protection Area, except to accommodate driveways when it is determined by the Director that there is no other option available to provide driveway access to the lot. The fill and pavement for driveway access may not exceed 5,000 square feet in area and may not be major fill;

(b) Extension of or connection to existing public and private utilities;

(c) Trails depicted on the Comprehensive Plan trails map or trails connecting to trails depicted on the Comprehensive Plan trails map;

(d) Channel improvements and erosion control measures performed by or at the direction of, or as required by the County;

(e) Regional stormwater management facilities included in the regional stormwater management plan; or

(f) Roadway floodplain crossings, as qualified by (7) above.

B. The provisions above that exclude uses requiring a building permit do not apply when a building permit is required for structures such as retaining walls, fences, ramps, or trail bridges.

4. Special Exception Uses

A. All uses permitted by right, special exception, or special permit that are not approved by the Director under subsection 3 above may be permitted in the floodplain with the approval of a special exception by the Board. The special exception is subject to conformance with the provisions of these floodplain regulations, the applicable special exception or special permit standards, and the standards and criteria set forth in the Public Facilities Manual.

B. In addition to the submission requirements for all special exception uses set forth in Section 8101, the following information must be submitted for all special exception applications for uses in a floodplain:

(1) The following must be shown and certified on the plat provided with the application:

(a) Delineation of the floodplain and the source of floodplain information, such as Federal Emergency Management Agency, United States Geological Survey, Fairfax County, or other;

(b) Existing and proposed topography with a maximum contour interval of two feet;

(c) Both normal and emergency ingress and egress from highway or street;

(d) Nature and extent of any proposed fill and any proposed compensatory cut areas with quantities;

(e) The location and dimensions of any structure or part of any structure that is proposed to be located in the floodplain;

(f) Elevation of the nearest 100-year floodplain, and the exact distance from the structure to the floodplain line at the nearest point; and

(g) Lowest floor elevation, including basement, of all existing and proposed buildings, and information relative to compliance with Federal and State floodproofing requirements.

(2) A written statement providing the following information:

(a) Any existing or anticipated problems of flooding or erosion in the area of the application, including upstream and downstream from the application property; and

(b) Whether additional Federal or State permits are required.

(3) When structures are proposed, the following information must be provided:

(a) The proposed use of the structure;

(b) A statement certifying all floodproofing proposed and indicating compliance with all County, State, and Federal requirements. This certification must be signed, sealed, and indicate the address of the certifying professional and it must cover all structural, electrical, mechanical, plumbing, water, and sanitary facilities connected with the use; and

(c) A signed affidavit acknowledging that the applicant is aware that flood insurance may be required by the applicant's lending institution and that the flood insurance rates may increase because of increases in risks to life and property.

(4) Any additional information as may be deemed necessary by the Director, including engineering studies or detailed calculations for any proposed drainage improvement.

C. The BZA may approve a special permit or the Board may approve, only in conjunction with the approval of a rezoning or special exception for another use, a special exception for the modification of grade as it applies to the height measurement of a single-family detached dwelling that is located within or in proximity to a floodplain and when that structure must be elevated to meet all applicable floodplain regulations. In those cases the Board may approve a special exception that allows a grade elevation to be established that permits a dwelling to be constructed in compliance with all applicable floodplain regulations. Any applicant seeking grade modification approval must demonstrate that the requested increase in grade is the minimum amount required to meet the floodplain regulations.

5. Setbacks from the Floodplain

A. No dwelling or portion of a dwelling may be located within 15 feet of the edge of a floodplain, unless it is allowed under subsection 5100.2.D(5). The location of a property line between the floodplain and a dwelling does not eliminate the need to meet this minimum 15-foot setback. The Director may approve the following additional exceptions:

(1) The location of dwellings within 15 feet of a permanent water surface of any appropriately designed impoundment; or

(2) The location of additions within 15 feet of the edge of a floodplain for single-family detached and attached dwellings constructed before August 14, 1978, based on consideration of the following factors:

(a) Type and location of proposed structure;

(b) Nature and extent of any proposed grading or fill;

(c) Impact of proposal on the floodplain on properties upstream and downstream;

(d) Potential of proposal to cause or increase flooding or to jeopardize human life;

(e) Impact of the proposed use on the natural environment and on water quality; and

(f) Other site-specific factors deemed relevant for consideration by the Director.

B. For the purpose of this section, 15 feet is considered the minimum setback from the floodplain. However, dwellings and additions proposed within a floodplain under subsections 5105.3.A(9) and 5105.4 may be permitted without this 15-foot setback.

6. Use Limitations

All permitted and special exception uses in a floodplain must comply with the following use limitations:

A. Any new construction, substantial improvements, or other development, including fill, when combined with all other existing, anticipated, and planned development, may not increase the water surface elevation above the 100-year flood level upstream and downstream, calculated in accordance with the Public Facilities Manual, unless it is permitted under subsections 5105.3.A(7) and 5105.3.A(8) above.

B. The lowest part (i.e., the bottom of the floor joists or top of a concrete slab on grade) of the lowest floor, including any basement must be at least 18 inches above the water-surface elevation of the 100-year flood level calculated in accordance with the Public Facilities Manual. This requirement for an 18-inch vertical separation applies to development within a floodplain, any lot where a floodplain is located, or on any lot that abuts a lot where a floodplain is located, for the following:

(1) Any new or substantially improved dwelling or manufactured home.

(2) Any proposed addition to an existing dwelling, unless it is permitted under subsection 3.A(9)(b) above.

For development on land outside the floodplain, this subsection B may be modified by the Director in accordance with the standards set forth in the Public Facilities Manual.

C. No structure or substantial improvement to any existing structure may be allowed unless adequate floodproofing is provided in accordance with this section or under the USBC.

D. Stable vegetation must be protected and maintained in the floodplain to the extent possible.

E. Storage of herbicides, pesticides, or toxic or hazardous substances as set forth in Title 40, Code of Federal Regulations, Parts 116.4 and 261.30 et seq., is prohibited in a floodplain.

F. For uses located in a floodplain, other than those specified in subsections 3.A(3) and 3.A(4) above, the applicant must demonstrate the extent to which:

(1) There are no other feasible options available to achieve the proposed use;

(2) The proposal is the option that is least disruptive to the floodplain; and

(3) The proposal meets the environmental goals and objectives of the Comprehensive Plan for the property.

G. Nothing in these floodplain regulations is deemed to prohibit the refurbishing, refinishing, repair, reconstruction, or other similar improvements of the structure for an existing use provided such improvements are done in conformance with the USBC, Section 8104 of this Ordinance, and the requirements of subsection 5105.6.F above.

H. All uses and activities are subject to the provisions of Chapter 118 of the County Code.

I. As-built floor elevations must be submitted to the Land Development Services Department on a standard Federal Emergency Management Agency (FEMA) Elevation Certificate upon placement of the lowest floor, including basement, and before further vertical construction if they are required by federal regulations or the USBC. A FEMA Floodproofing Certificate must be completed in addition to the Elevation Certificate for a nonresidential building that is being floodproofed. In the case of special exception uses, the Elevation Certificate must demonstrate compliance with the approved special exception elevations.

J. The construction of all buildings and structures are subject to the requirements of the USBC.

K. All recreational vehicles within a floodplain must either:

(1) Be on-site for fewer than 180 consecutive days;

(2) Meet the requirements of this section and the USBC for anchoring and elevation of manufactured homes; or

(3) Be fully licensed and ready for highway use. A recreational vehicle is deemed ready for highway use if it is on wheels or a jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached additions.

L. All necessary permits required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, as amended, 33 U.S.C. § 1334, must be obtained.

M. Areas designated as floodplains by FEMA must not have their base flood elevations altered without approval from FEMA. If any new construction, substantial improvements, or other development, including fill, when combined with all other existing, anticipated, and planned development, results in change in the base flood elevation in any Special Flood Hazard Area (SFHA) depicted on the County's Flood Insurance Rate Map (FIRM), the applicant must notify the Federal Insurance Administrator of the changes by submitting technical or scientific data to FEMA for a Letter of Map Revision, as soon as practicable but, not later than 6 months after the date such information becomes available or the placement of fill, whichever comes first. If the projected increase in the base flood elevation is greater than one foot, the applicant must also obtain approval of a Conditional Letter of Map Revision from the Federal Insurance Administrator before the approval of construction.

N. In riverine situations, adjacent communities and the Virginia Department of Conservation and Recreation must be notified before any alteration or relocation of a watercourse depicted on the Flood Insurance Rate Map (FIRM) and copies of such notifications must be submitted to the Federal Insurance Administrator. The flood carrying capacity within the altered or relocated portion of any watercourse must be maintained.

7. Definitions

Definitions pertaining to the interpretation and administration of these floodplain regulations are in Section 9104.

Attachment 5 **: Northern Virginia Hazard Mitigation Plan**

https://www.fairfaxcounty.gov/emergencymanagement/sites/emergencymanagement/files/assets/documents/pdf/hazard%20mitigation%20plan%2010.22.19.pdf

Attachment 6 **: A link to the Fairfax County Comprehensive Plan:**

https://www.fairfaxcounty.gov/planning-development/fairfax-county-comprehensive-plan

Attachment 7 _ Social Vulnerable Index Score

March 5, 2022

Social Vulnerability Classification

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

1:2,257

0 0.01 0.02 0.04 mi

0 0.0175 0.035 0.07 km

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

Created from the Virginia Vulnerability Viewer

Attachment 8_ Appendices A, B & D

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**

_X_**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: [signature]

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.
- **X** 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.
- **X** 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.

<u>Capacity Building and Planning Grants</u>

- ☐ 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): Near the intersection of Chowan Avenue and 8th Street, Fairfax County

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): Discharged to Zone A

Flood Insurance Rate Map Number(s) (If Applicable): 51059C0285E

Total Cost of Project: $2,000,000

Total Amount Requested $1,200,000

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	N/A
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	☐ Yes ☐ No
Applicant Name:	Fairfax County

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**	
☐ Wetland restoration, floodplain restoration ☐ Living shorelines and vegetated buffers. ☐ 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 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.	**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**	X
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**	**X**
9. Is the proposed project in a low-income geographic area as defined in this manual?		
Yes	**10**	
No	**0**	**X**
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) **Attachment 1_Project Area map**	☒ Yes ☐ No ☐ N/A
FIRMette of the project area(s) (Projects/Studies) **Attachment 2_FEMA FIRMette**	☒ Yes ☐ No ☐ N/A
Historic flood damage data and/or images (Projects/Studies) **Attachment 3_Historic flood damage Pictures**	☒ Yes ☐ No ☐ N/A
A link to or a copy of the current floodplain ordinance **Attachment 4_ Floodplain zoning ordinance**	☒ Yes ☐ No ☐ N/A
Non-Fund financed maintenance and management plan for project extending a minimum of 5 years from project close **See Maintenance Plan Section**	☒ Yes ☐ No ☐ N/A
A link to or a copy of the current hazard mitigation plan **Attachment 5_ Hazard mitigation plan**	☒ Yes ☐ No ☐ N/A
A link to or a copy of the current comprehensive plan **Attachment 6_Comprehensive plan**	☒ Yes ☐ No ☐ N/A
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer **Attachment 7 _ Social vulnerable index**	☒ Yes ☐ No ☐ N/A
If applicant is not a town, city, or county, letters of support from affected communities	☐ Yes ☐ No ☒ N/A
Completed Scoring Criteria Sheet in Appendix B, C, or D **Attachment 8_ Appendices B & D**	☒ Yes ☐ No ☐ N/A
Budget Narrative	
Supporting Documentation	**Included**
Authorization to request funding from the Fund from governing body or chief executive of the local government **Attachment 9 _ Authorization to request fund**	☒ Yes ☐ No ☐ N/A
Signed pledge agreement from each contributing organization	☐ Yes ☐ No ☒ N/A

Attachment 9_ Authorization to request Funding

County of Fairfax, Virginia

MEMORANDUM

DATE: April 5, 2022

TO: Board of Supervisors

FROM: Bryan J. Hill
County Executive

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

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

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 Codding, Deputy Director DPWES, Stormwater and Wastewater Divisions

Attachment 10_Fairfax County Resilience Plan

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 - CFPF

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*

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 R*egional 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 R*egional 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: <u>Objective 4: Strengthen Regional Resilience Through Innovative Partnerships, Programs, and Pilots</u> 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 Commision, 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 R*egional Collaboration to Build Community Resilience in Northern Virginia*. Timeline presented within the F*airfax 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

Commonwealth of Virginia

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-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)

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

November 29, 2022

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

Reference: Supplemental Document, Community Flood Preparedness Fund, CY2022 Round 3 Grant Application, Chowan Avenue Stormwater Improvement Project Application (CFPF-22-03-15)

This supplemental document is in response to your September 30, 2022 (attached), letter requesting a detailed contractor budget and a detailed match allocation across all Fairfax County applications (attached). Please note that the actual contractor's budget will vary from what is estimated below and will be determined based on the final design and construction bidding process. Additionally, Table S-1 and S-3 below provides information you requested during our October 4, 2022, email conversation.

Table S-1. Project phase, milestone, deliverable and timeline

Phase	Milestone	Deliverable	Calendar Year
Design Phase*	Proposal negotiation	Completed Task Order	2023
	Executed design task order	Notice to proceed	2023
	Engineering A/E and Land Acquisition	Construction documents	2024
Construction Phase**	Construction Advertisement	Received Proposal	2025
	Construction Contractor Selection	Construction Contract	2025
	Construction Phase	Completed project	2026
Post Construction Phase	Post Construction	Maintenance	Ongoing

*Detailed information was provided with the original application request.
**Table S-3 below shows the detailed information

Department of Public Works and Environmental Services
Stormwater Planning Division
12000 Government Center Parkway, Suite 449
Fairfax, VA 22035-0052
Phone: 703-324-5500, TTY 711, Fax: 703-802-5955
www.fairfaxcounty.gov/publicworks

Table S-2. Probable Estimated Contractor Budget

Category		Cost
Estimated Design Services Cost	**$**	**347,000.00**
Survey	$	28,318.10
Soil characterization	$	5,480.09
Assessment of adequate drainage and capacity analysis	$	31,368.66
Concepts design & analysis (35%)	$	58,683.77
65% design plan	$	58,356.02
95% final design	$	60,523.70
Final design plan	$	39,087.60
Permits, easement plate	$	22,182.05
Land Acquisition	$	43,000.00
Estimated Construction Total	**$**	**1,257,730.00**
Demolition and clearing	$	75,093.00
Erosion and Sediment Controls	$	113,170.00
Landscaping & Planting	$	167,168.75
Mobilization	$	57,416.25
Pipe Work	$	351,630.50
Sanitary Sewer CCTV	$	8,250.00
Seeding & Stabilization	$	42,930.00
Stream Work	$	141,443.5
Survey & Stake Out	$	50,000.00
Temporary Safety fence and Tree protection	$	9,428.00
Temporary Construction Entrance	$	5,200.00
Traffic Control	$	236,000.00
Contingency (25%)	**$**	**395,270.00**
Total Project Cost	**$**	**2,000,000.00**

Table S-3. Detailed **Construction** Milestone and Deliverables

Milestone	Deliverable
Preliminary Activities	Notice To Proceed issuance Pardon our dust meeting Construction stakeout Limit of Disturbance (LOD) walk
Site Preparation	Mobilization Clearing and Grubbing Remove Trees
Perimeter Erosion & Sediment Controls (E&S)	LOD/Tree Preservation (TP) fencing installation Access/traffic control setup Install inlet protections Install construction entrance Access clearing & grubbing Access install Set diversion dike, super silt fence Staging area
Temporary Construction Access	Access path & E&S control installation Clearing and Grubbing
Construction work	Clearing and Grubbing Restoration of the stream Installing the pipe system Remove and restore staging area and access road
Landscaping & Planting	Overstory, understory,& shrub planting Live stake planting
Completion Activities	Project substantial completion (SC) walk Punch list generation and completion Remove E&S controls Traffic control breakdown Project final completion

If you have any questions or need additional assistance, please contact me at 703-324-5005.

Sincerely,

Daniel Habete, Project Manager II
Watershed Projects Implementation Branch–South
Stormwater Planning Division

Enclosures: As stated

cc: Rachel Flynn, Deputy County Executive
Christopher Herrington, Director, Department of Public Works and Environmental Services (DPWES)
Eleanor Ku Codding, Deputy Director, DPWES, Stormwater and Wastewater Divisions
Craig Carinci, Director, Stormwater Planning Division (SWPDDPWES
Emma Gutzler, Chief, Watershed Projects Implementation Branch - South, SWPD, DPWES

Attachment 1

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, Chowan Avenue Stormwater Improvement Project Application (CFPF-22-03-15)

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 Chowan Avenue Stormwater Improvement Project application (CFPF-22-03-15) 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 ($800,000.00) 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 Chowan Avenue Stormwater Improvement Project application (CFPF-22-03-15) 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 Codding, 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

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

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-22-03-15
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: $1,200,000.00
Match Amount Required: $800,000.00
Total Project Cost: $2,000,000.00

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 <u>may</u> 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 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 submit a detail contractor budget.
- 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

Attachment 3

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

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.

A

B

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

Barnack Drive – Before
(Outfall Restoration)

Barnack Drive – After
(Outfall Restoration)

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.

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

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	S	***C***	***$793***	$793	$793	$793	$793	$3,965	$3,965	$7,930
	2G25-007-000, 2G25-008-000										
12	Stormwater/Wastewater Facility	B, S	***$102,000***						$0		$102,000
	SD-000039										
13	Stormwater/Wastewater Facility Debt Service	S	***$5,000***	***$4,179***	$4,180	$4,181	$4,178	$4,181	$20,899	$58,601	$84,500
	2G25-117-000										
14	Stream and Water Quality Improvements	S	***C***	***$23,508***	$23,508	$23,508	$23,508	$23,508	$117,540	$117,540	$235,080
	SD-000031										
15	Tree Preservation and Plantings	X	***$309***						$0		$309
	2G25-030-000										
	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

County of Fairfax, Virginia

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

October , 2022

Ms. Wendy Howard Cooper, Director
Dam Safety and Floodplain Management
Department of Conservation and Recreation
East Main Street, 24th Floor
Richmond, Virginia 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
Stormwater Planning Division
12000 Government Center Parkway, Suite 449
Fairfax, VA 22035-0052
Phone: 703-324-5500, TTY 711, Fax: 703-802-5955
www.fairfaxcounty.gov/publicworks

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

Sincerely,

Craig Carinci, Director
Stormwater Planning Division

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 Codding, Deputy Director, DPWES, Stormwater and Wastewater Division

ATTACHMENT 1

Matthew S. Wells
Director

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

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 suject 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

ATTACHMENT 2

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 Codding, 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

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

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 <u>may</u> 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.

- 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 suject 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

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

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.

A

B

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

Barnack Drive – Before
(Outfall Restoration)

Barnack Drive – After
(Outfall Restoration)

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.

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

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 FY 2023 - FY 2027	Total FY 2028 - FY 2032	Total
11	Stormwater Related Contributories	S	***C***	***$793***	$793	$793	$793	$793	$3,965	$3,965	$7,930
	2G25-007-000, 2G25-008-000										
12	Stormwater/Wastewater Facility	B, S	***$102,000***						$0		$102,000
	SD-000039										
13	Stormwater/Wastewater Facility Debt Service	S	***$5,000***	***$4,179***	$4,180	$4,181	$4,178	$4,181	$20,899	$58,601	$84,500
	2G25-117-000										
14	Stream and Water Quality Improvements	S	***C***	***$23,508***	$23,508	$23,508	$23,508	$23,508	$117,540	$117,540	$235,080
	SD-000031										
15	Tree Preservation and Plantings	X	***$309***						$0		$309
	2G25-030-000										
	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

County of Fairfax, Virginia

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

November 15, 2022

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

Reference : Supplemental Document, Community Flood Preparedness Fund, CY2022 Round 3 Grant Application, Chowan Avenue Stormwater Improvement Project Application (CFPF-22-03-15)

This supplemental document is in response to your September 30, 2022, letter requesting a detailed contractor budget and a detailed match allocation across all Fairfax County applications. Please note that the actual contractor's budget will vary from what is estimated below and will be determined based on the final design and construction bidding process. Additionally, Table S-1 and S-3 below provides information you requested during our October 4, 2022, email conversation.

Table S-1. Project phase, milestone, deliverable and timeline

Phase	Milestone	Deliverable	Calendar Year
Design Phase*	Proposal negotiation	Completed Task Order	2023
	Executed design task order	Notice to proceed	2023
	Engineering A/E and Land Acquisition	Construction documents	2024
Construction Phase**	Construction Advertisement	Received Proposal	2025
	Construction Contractor Selection	Construction Contract	2025
	Construction Phase	Completed project	2026
Post Construction Phase	Post Construction	Maintenance	Ongoing

*Detailed information was provided with the original application request.
**Table S-3 below shows the detailed information

DRAFT

Department of Public Works and Environmental Services
Stormwater Planning Division
12000 Government Center Parkway, Suite 449
Fairfax, VA 22035-0052
Telephone: 703-324-5500, TTY 711, Fax: 703-802-5955
www.fairfaxcounty.gov/publicworks

Table S-2. Probable Estimated Contractor Budget

Category	Cost	
Estimated Design Services Cost	**$**	**347,000.00**
Survey	$	28,318.10
Soil characterization	$	5,480.09
Assessment of adequate drainage and capacity analysis	$	31,368.66
Concepts design & analysis (35%)	$	58,683.77
65% design plan	$	58,356.02
95% final design	$	60,523.70
Final design plan	$	39,087.60
Permits, easement plate	$	22,182.05
Land Acquisition	$	43,000.00
Estimated Construction Total	**$**	**1,257,730.00**
Demolition and clearing	$	75,093.00
Erosion and Sediment Controls	$	113,170.00
Landscaping & Planting	$	167,168.75
Mobilization	$	57,416.25
Pipe Work	$	351,630.50
Sanitary Sewer CCTV	$	8,250.00
Seeding & Stabilization	$	42,930.00
Stream Work	$	141,443.5
Survey & Stake Out	$	50,000.00
Temporary Safety fence and Tree protection	$	9,428.00
Temporary Construction Entrance	$	5,200.00
Traffic Control	$	236,000.00
Contingency (25%)	**$**	**395,270.00**
Total Project Cost	**$**	**2,000,000.00**

DRAFT

Table S-3. Detailed **Construction** Milestone and Deliverables

Milestone	**Deliverable**
Preliminary Activities	Notice To Proceed issuance Pardon our dust meeting Construction stakeout Limit of Disturbance (LOD) walk
Site Preparation	Mobilization Clearing and Grubbing Remove Trees
Perimeter Erosion & Sediment Controls (E&S)	LOD/Tree Preservation (TP) fencing installation Access/traffic control setup Install inlet protections Install construction entrance Access clearing & grubbing Access install Set diversion dike, super silt fence Staging area
Temporary Construction Access	Access path & E&S control installation Clearing and Grubbing
Construction work	Clearing and Grubbing Restoration of the stream Installing the pipe system Remove and restore staging area and access road
Landscaping & Planting	Overstory, understory,& shrub planting Live stake planting
Completion Activities	Project substantial completion (SC) walk Punch list generation and completion Remove E&S controls Traffic control breakdown Project final completion

Sincerely,

Daniel Habete, Project Manager II
Watershed Projects Implementation Branch–South
Stormwater Planning Division

DRAFT

Department of Public Works and Environmental Services
Stormwater Planning Division
12000 Government Center Parkway, Suite 449
Fairfax, VA 22035-0052
Telephone: 703-324-5500, TTY 711, Fax: 703-802-5955
www.fairfaxcounty.gov/publicworks

Enclosures: As stated

cc: Rachel Flynn, Deputy County Executive
Christopher Herrington, Director, Department of Public Works and Environmental Services (DPWES)
Eleanor Ku Codding, Deputy Director, DPWES, Stormwater and Wastewater Divisions
Craig Carinci, Director, Stormwater Planning Division (SWPDDPWES
Emma Gutzler, Chief, Watershed Projects Implementation Branch - South, SWPD, DPWES

DRAFT

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www.fairfaxcounty.gov/publicworks

Detailed match allocation

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, Chowan Avenue Stormwater Improvement Project Application (CFPF-22-03-15)

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 Chowan Avenue Stormwater Improvement Project application (CFPF-22-03-15) 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 ($800,000.00) 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 Chowan Avenue Stormwater Improvement Project application (CFPF-22-03-15) 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 Codding, 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
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Matthew S. Wells
Director

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

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-22-03-15
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: $1,200,000.00
Match Amount Required: $800,000.00
Total Project Cost: $2,000,000.00

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 <u>may</u> 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.

- Applicant must submit a detail contractor budget.
- 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

FEMA

Privacy Data Cover Sheet

To be used on all documents containing Personal information

DOCUMENT(S) ENCLOSED MAY BE SUBJECT TO THE PRIVACY ACT OF 1974

Contents shall not be disclosed, discussed, or shared with individuals unless they have a direct need-to-know in the performance of their official duties. Deliver this/these document(s) directly to the intended recipient.
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The enclosed document(s) may contain personal or privileged information and should be treated as "For Official Use Only". Unauthorized disclosure of this information may result in **PERSONAL LIABILITY** with **CIVIL** and **CRIMINAL** penalties. If you are not the intended recipient or believe that you have received this document(s) in error, do not copy, disseminate or otherwise use the information and contact the owner/creator or your Privacy Officer regarding the document(s).

Privacy Data Cover Sheet

FEMA Form 9109.1, JUL 2007

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WHEN NOT UNDER THE CONTINUING CONTROL AND SUPERVISION OF A PERSON AUTHORIZED ACCESS TO SUCH MATERIAL, IT MUST BE, AS A MINIMUM, MAINTAINED UNDER LOCKED CONDITIONS.

!!WARNING – CRIMINAL PENALTIES!!

Disclosure of Agency records which contain individually identifiable information is prohibited. Any officer, employee or contractor of the Agency, who by virtue of his/her official position, has possession of, or access to, Agency records which contain personal data subject to the Privacy Act who willfully discloses it in any manner to any person or agency NOT entitled to receive it, shall be guilty of a misdemeanor and fined not more than $5,000. (5 USC 552a(i)(1))

Any officer, employee, or contractor of the Agency who willfully maintains a system of records without meeting the Notice Requirements of Subsection (e)(4) of the Privacy Act shall be guilty of a misdemeanor and fined not more than $5000. (5 USC 552a(i)(2))

Any person who knowingly and willfully requests or obtains any record concerning an individual from an Agency under false pretenses shall be guilty of a misdemeanor And fined not more than $5,000. (5 USC 552a(i)(3))

No record which is contained in a system of records may be disclosed to a recipient Agency or non-Federal Agency for use in a computer matching program except pursuant to a written agreement between the source Agency and recipient Agency or non-Federal Agency. (5 USC 552a(o))

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**

__X__**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, Suite 552

Mailing Address (2): _____

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, Suite 449

Mailing Address (2): _____

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 Grant

Project Grants (Check All that Apply)

X 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.
X Floodplain restoration.
☐ Construction of swales and settling ponds.
X 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.
X Stream bank restoration or stabilization.
X 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.

<u>Capacity Building and Planning Grants</u>

- ☐ 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): 6640, 6642, 6644, 6646, 6648, 6650, 6652, 6654, 6656 Barrett Road, Falls Church, VA 22042

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

Is Project Located in an NFIP Participating Community? X Yes ☐ No

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

Flood Zone(s) (If Applicable): Zone AE

Flood Insurance Rate Map Number(s) (If Applicable): 51059C0285E

Total Cost of Project: $12,836,000

Total Amount Requested $8,985,200

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?		N/A
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	☒ Yes ☐ No
Applicant Name:	FAIRFAX COUNTY

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**	X
X Wetland restoration, floodplain restoration ☐ Living shorelines and vegetated buffers. ☐ 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 removal X Stream bank restoration or stabilization. X 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.	**45**	
1.b. any other nature-based approach	**40**	
All hybrid approaches whose end result is a nature-based solution	**35**	
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**	X
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**	X
9. Is the proposed project in a low-income geographic area as defined in this manual?		
Yes	**10**	
No	**0**	X
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		**75**

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) See Figure 1	X Yes ☐ No ☐ N/A
FIRMette of the project area(s) (Projects/Studies) See Appendix Item A.1	X Yes ☐ No ☐ N/A
Historic flood damage data and/or images (Projects/Studies) See Historic Flooding and Flooding Damage Sections, and Appendix A.2	X Yes ☐ No ☐ N/A
A link to or a copy of the current floodplain ordinance See Floodplain Regulations Section and Appendix Items A.6, A.7	X Yes ☐ No ☐ N/A
Non-Fund financed maintenance and management plan for project extending a minimum of 5 years from project close See Maintenance Plan Section	X Yes ☐ No ☐ N/A
A link to or a copy of the current hazard mitigation plan See CFPF Resilience Plan and Links Section	X Yes ☐ No ☐ N/A
A link to or a copy of the current comprehensive plan See CFPF Resilience Plan and Links Section	X Yes ☐ No ☐ N/A
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer See Appendix Item B.1	X Yes ☐ No ☐ N/A
If applicant is not a town, city, or county, letters of support from affected communities	☐ Yes ☐ No X N/A
Completed Scoring Criteria Sheet in Appendix B, C, or D	X Yes ☐ No ☐ N/A
Budget Narrative	
Supporting Documentation	**Included**
Authorization to request funding from the Fund from governing body or chief executive of the local government See Appendix Item C.3	X Yes ☐ No ☐ N/A
Signed pledge agreement from each contributing organization	☐ Yes ☐ No X N/A

FAIRFAX COUNTY

Tripps Run at Barrett Road Flood Mitigation

Virginia Community Flood Preparedness Fund

FY 2022 ROUND 3 GRANT APPLICATION

CID515525_FairfaxCounty_CFPF-4 (Tripps)

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Appendices

Appendix A – Project Information Supporting Documentation
Appendix B – Scoring Criteria Supporting Documentation
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Executive Summary

The Tripps Run at Barrett Road Community Flood Mitigation Project incorporates a nature-based solution through the creation of a connected floodplain at the current location of nine homes, many of which have been subject to repeated damage during storm events. Allowing floodwaters to slow and spread out, dissipate energy, and be stored is imperative to mitigating flooding in the surrounding community. The project results in a reduced flood risk to 83 homes, including thirteen homes that will no longer be within the 1%-annual-chance floodplain. To be able to complete the design and construct the project, the County is requesting 70% of the total cost of the project ($12,836,000) or $8,985,200. If the grant is awarded and the project moves forward, significant flood reductions of up to four feet will be realized in addition to the community having a new greenspace that will have environmental, aesthetic, and recreational benefits.

A. Scope of Work Narrative

1. Project Information

The project is located in the Falls Church area of Fairfax County along the Tripps Run stream corridor adjacent to a section of Barrett Road, south of Annandale Road.

The proposed flood mitigation project includes two key components. The first component includes the acquisition and demolition of nine residential properties that have an established history of flooding issues. The second component includes approximately 2,460 feet of stream channel improvements, the creation of an environmental corridor with connected floodplain and overflow channel, and removal of the existing bridge at Holloway Road. The enhanced floodplain corridor will reduce the impact of flood and storm events through the use of environmental processes and the natural system. In addition, this area may serve as recreational space for the community to enjoy. The stream channel improvements will stabilize the existing channel, incorporate restoration features, create flow diversity, and improve water quality. The project is a nature-based solution that will reduce impact of flood events by protecting, restoring, and emulating the natural channel and floodplain.

Figure 1: Project Area

The nine properties to be acquired are along Barrett Road (6640, 6642, 6644, 6646, 6648, 6650, 6652, 6654, and 6656 Barrett Road).

The nine properties proposed to be purchased as part of this grant, will be from voluntary sellers for fair

market value. Appraisals will be conducted to determine fair market prices at the time of purchase. After closing, the property will be demolished, and deed restrictions will be placed upon the property's titles to ensure the properties remain as green space in perpetuity. This will ensure future flooding at the sites will no longer impact homeowners or insured structures.

Concurrent with the purchase and demolition of the acquired properties, construction level engineering plans will be developed to create a connected floodplain and stream restoration enhancements for Tripps Run.

The connected floodplain and environmental corridor will provide social benefit to the community by establishing a recreational park area while also providing environmental benefits by way of improved ecosystem services.

Currently, the flood waters from Tripps Run not only impact the properties to be purchased but also other structures in the project area. Purchasing, demolishing the structures, and placing a deed restriction on the nine properties which are subject to repetitive flooding will eliminate all future flood risks to those properties. The floodplain regrading and stream restoration enhancements will reduce 1% -annual-chance water surface elevations by up to four feet, reducing flooding risk to the area. The preliminary modeling indicates that thirteen homes will no longer be within the mapped 1%-annual-chance floodplain boundary and a total of 83 homes will see a reduction of flooding risk upon project completion.

Population and Impact

Fairfax County has a population of about 1.17 million. The proposed project is in the Mason District in Falls Church, Virginia. The mitigation project will impact the entire area downstream of Annandale Road to Sleepy Hollow Park.

Nine homes will be acquired and demolished, so their corresponding flood risk will be eliminated. Thirteen homes will no longer be mapped within the 1%-annual-chance floodplain (upon completion or LOMR process, as needed). Project implementation will result in 83 homes currently located in the 0.2%-annual-chance floodplain seeing a decreased flood risk. Assuming 2.86 persons per household, as documented by the U.S. Census for Fairfax County, 83 homes would equate to approximately 237 people impacted by the project.

Historic Flooding Data and Studies

In the project area, the Tripps Run floodplain is currently designated by FEMA as "Zone AE", whereby the base flood elevations have been determined (FIRM 51059C0285E, Panel 285 of 450, September 17, 2010). See Items A.1 for the Firmette for the project area.

Figure 2: Flooding During 2020 Storm Event

The project area has been identified as one of the County's 21 repetitive loss areas. Most recently, several of the nine structures that have been identified for proposed acquisition and demolition have experienced flooding during the July 8, 2019, July 7, 2020, and August 15, 2021 storm events. Based on repetitive loss data from September 2019, several of the structures proposed for acquisition are considered repetitive loss.

Readily available information results in flooding damages to this area of over $1.7 million and actual costs are likely significantly higher.

See Appendix Item A.2 for photos from the July 2020 storm event.

Local Government Cost Share

The total project cost is estimated at $12,836,000 with the acquisition costs estimated to be $5,932,700 and the remaining cost related to the development of environmental corridor with connected floodplain. This nature-based solution requires a local government match of 30% of the total project cost or $3,850,800. It is currently anticipated that the County's cost share would be provided through the stormwater capital improvement program (CIP) fund.

Figure 3: Rendering of Proposed Environmental Corridor

See Appendix Item A.3 in for the County's FY2023 Stormwater Services Advertised Budget Plan, which is expected to be adopted in May 2022. This project may use funds allocated to Emergency and Flood Response Projects or Stream & Water Quality Improvement Projects.

County Floodplain Management Regulations

Fairfax County, CID #515525 is listed in FEMA's Community Status Book Report as a community participating in the National Flood Insurance Program (NFIP). In addition, Fairfax County participates in the Community Rating System (CRS) and received a Class 6 rating in the most recent verification process. See Appendix Items A.4 and A.5.

The County's Floodplain Ordinance can be found in Section 5105 of the Zoning Ordinance with Section 9104 including the Floodplain Definitions. See link below and Appendix Items A.6 and A.7.

https://online.encodeplus.com/regs/fairfaxcounty-va/index.aspx

Study and Conceptual Design

The County contracted with Stantec Consulting Services, Inc. (Stantec) to complete a study to assess the feasibility of various flood mitigation scenarios, quantify the associated flood reduction benefits, prepare conceptual design, and develop planning level cost estimates. The study was completed in December 2020 (Tripps at Barrett Study) and included hydraulic modeling using HEC-RAS and the latest FEMA model as base conditions.

The Tripps at Barrett Study recommended moving forward with Scenario 3, the acquisition of nine properties, the creation of an environmental corridor, and restorative stream enhancements, as outlined in this grant application.

The Tripps at Barrett Study can be found at the following link:
https://www.fairfaxcounty.gov/publicworks/stormwater/plans-projects/tripps-run-barrett-road-flood-mitigation-study-sd-000032-069

Project Priority

Flooding Damage and Repetitive Loss Properties

Readily available information results in flooding damages to this area of over $1.7 million and actual costs are likely significantly higher as the County has not yet received data associated with the latest storm events in 2020 and 2021. If the project moves forward, the known repetitive loss properties would either be acquired or be associated with 1%-annual-chance flood reductions in excess of 3.5-feet.

Table 1: Flood Related Damages in Project Area

Storm Date	Known Damage Amounts
8/15/2021	$ 159,552.22
7/7/2020	$ 351,326.46
7/8/2019	$ 652,272.02
9/8/2011	$ 386,258.99
6/25/2006	$ 160,678.06
5/5/1989	$ 8,495.52
TOTAL	**$ 1,718,583.27**

Based on repetitive loss data from September 2019, eight of the structures within the project area are repetitive loss properties; however, there have been at least two additional significant storm events (July 7, 2019 and August 15, 2021) since this data was provided to the County. The County requested the updated repetitive loss data in June 2021 but has yet to receive it. It is anticipated that several other properties would now be considered repetitive loss and others may enter the severe repetitive loss category.

Project Area Structures

The project area is primarily comprised of residential structures with two commercial structures. The Tripps at Barrett Study documents 62 residential structures located within the 1%-chance annual storm event floodplain boundary. After project implementation, only 40 residential structures will remain with the mapped floodplain and those remaining will have their flood risk significantly reduced. See Appendix Item A.7 A for HEC-RAS Modeling Results.

The commercial structures consist of a restaurant and a gas station at the upstream end of the project area. The commercial structures would see a reduction of 0.2 feet during the 1%-chance annual storm event, if the project were implemented.

There are no critical facilities such as hospitals, fire stations, police stations, storage facilities for critical records, power plants, and wastewater treatment plants located within the project area.

Virginia Coastal Resilience Master Plan

In December 2021, the Virginia Coastal Resilience Master Plan was published which included the development of locally driven resilience projects that address regional needs. This effort identified over 500 projects and initiatives to increase resilience. The Tripps Run at Barrett Road Flood Mitigation project is one of the projects identified in this list.

2. Need for Assistance

The homes in this project area along Barrett Road were constructed in the 1950, before regulations prohibiting development near waterways and in floodplains. The area has a history of flooding and is categorized as one of the County's repetitive loss areas. The increase in short duration and high intensity rainfall events have exacerbated the problems and homes within the project area have been flooded the past three years (2019, 2020, and 2021).

Financial and Staff Resources

The County 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 requirement by levying a service rate per $100 of assessed real estate value.

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 4). 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.

Project	Total Project Estimate	FY 2021 Actual Expenditures	FY 2022 Revised Budget	FY 2023 Advertised Budget Plan
Conveyance System Inspection/Development (2G25-020-000)	$13,726,000	$1,647,166.84	$4,734,379.90	$2,000,000
Conveyance System Rehabilitation (SD-000034)	65,034,136	6,858,021.91	10,922,648.48	7,000,000
Dam & Facility Maintenance (2G25-031-000)	30,194,841	5,611,833.19	7,422,312.42	5,000,000
Dam Safety and Facility Rehabilitation (SD-000033)	62,676,104	6,838,639.60	12,227,774.80	10,000,000
Debt Service for SWMW 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	234,250.20	2,280,024.24	0
Lake Accotink Dredging (SD-000041)	5,000,000	576,157.62	4,423,842.38	0
Laurel Hill Adaptive Reuse Infrastructure (SD-000038)	1,925,000	8,306.59	0.00	0
NVSWCD Contributory (2G25-007-000)	6,630,042	654,811.00	564,811.00	809,346
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	1,956,356.95	88,412,475.41	0
Stormwater Proffers (2G25-032-000)	56,500	0.00	56,500.01	0
Stormwater Regulatory Program (2G25-006-000)	64,014,594	2,588,926.98	7,420,778.36	4,000,000
Stream & Water Quality Improvements (SD-000031)	256,688,016	22,633,970.99	80,322,038.90	23,507,967
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	232,983.36	0
Total	**$705,621,783**	**$50,984,399.13**	**$242,012,717.76**	**565,879,740**

Figure 4: Fiscal Year 2023 Advertised Budget- Stormwater Services Summary of Capital Projects

As the most populous county in Virginia, the County employs several floodplain administrators, engineers, planners, and emergency managers. County staff conduct business through the use of various software applications that enable staff to serve the community effectively and efficiently.

Low Income Areas and Vulnerability Index

The project area is not in a low-income geographic area or a qualified opportunity zone.

The project area falls within Census Tract 4504 and this tract is characterized as having "Low Social Vulnerability" with a score of -1.0 based on ADAPT Virginia's Vulnerability Viewer.

Alternatives

The project employs nature-based solutions, so listing alternatives is not a requirement of the application; however, the Tripps at Barrett Study did consider the "do nothing" option as well as investigating and analyzing four other potential alternatives to address flooding. These scenarios are listed below, and additional details can be found in the Tripps at Barrett Study.

Figure 5: Proposed Acquisition Parcels

If nothing was done to mitigation the flooding, homes and accessory structures will continue to flood, and it is likely that the flooding will become more frequent as storms become more intense and severe with climate change. The Tripps Run watershed is highly developed and flash flooding is typical in this area. Most recently, flooding of some structures in the project area has been occurring on a yearly basis. The NFIP will continue to be responsible for providing funds to insure these homes so that their expensive finishes and content can be repaired and/or replaced after each significant storm event.

Scenarios investigated and assessed in the study include:

1. Scenario 1 – Removal of the Holloway Road Bridge (only marginal benefit and estimated costs were not developed)
2. Scenario 2 – No property acquisitions, some stream restoration components, limited flood risk reduction benefit when compared to Scenario 3 and 4. (Estimated cost $1.5 - 2 million)
3. Scenario 3 – Project being proposed under this grant application.
4. Scenario 4 – Acquisition of 16 properties and stream restoration elements in addition to Scenario 3 project. (Estimated cost $18 – 20 million)

The Tripps at Barrett Study recommended moving forward with Scenario 3, as outlined in this grant application. The other assessed flood mitigation alternatives did not provide an adequate level or flood reduction, the benefits did not justify the corresponding cost and impact, or the issues would just be transferred downstream.

3. Goals and Objectives

The primary goal of the project is to mitigate flooding and reduce flood risk to the community. As mentioned above, the associated flood damages exceed $1.7 million. The community has seen flood waters reach their homes in each of the last three years and this frequency is likely to continue because of climate change. The flood reduction benefits associated with the acquisition properties are estimated at almost $11 million, while the benefits associated with the remaining properties is estimated at over $6 million, for a total of $17 million in benefits.

Figure 6: Conceptual Plan from Tripps at Barrett Study

Ancillary benefits include improved water quality, a community recreational area, enhanced habitat and vegetated areas, and increased awareness of the importance of floodplains. The creation of the environmental corridor will provide social benefit to the community by establishing a recreational park area while also providing environmental benefits by way of improved ecosystem services. The County will also explore the opportunity for educational signing in the environmental corridor to increase awareness of flooding risk.

The acquisition of these properties and creation of a reconnected floodplain will provide the long-term solutions by reducing claims, mitigating flooding, and alleviating stress and improving emotional health of the owners whose homes are acquired and those whose homes will remain, but with greatly reduced risk.

The project will fully address the flooding risk for the nine properties that will be acquired. The 83 homes located in the existing conditions 0.2%-annual-chance floodplain will see a decreased risk with the implementation of the project, with thirteen homes will no longer being mapped within the 1%-annual-chance floodplain boundary.

4. Approach, Milestones, and Deliverables

The Tripps at Barrett Study was completed in December 2020, which included preliminary conceptual design plans. Upon grant approval, project activities will begin immediately. First, a task order with a consultant to provide final design plans for the stream restoration and environmental corridor with connected floodplain would be authorized. While the design plans are being developed, the County would concurrently conduct the property acquisition process. See Table 2 for a more detailed outline of the tasks and anticipated durations.

Table 2: Project Schedule

DURATION	TASK DESCRIPTION
Begin to Month 3	Complete Refined Conceptual Design for stream enhancements and reconnected floodplain
Month 3 to 6	Begin 95% Design, obtain appraisals for 9 properties
Month 6 to 9	Complete 95% Design, start negotiations to purchase 9 properties
Month 9 to 12	Begin Final Design, continue negotiations for 9 properties
Month 12 to 15*	Complete Final Design, complete negotiation for 9 properties
Month 15 to 18	Start permitting and start procurement for structure demolition
Month 18 to 21	Complete permitting and continue procurement for structure demolition
Month 21 to 24	Start procurement for construction of stream enhancements and connected floodplain, select contractor for structure demolition
Month 24 to 27	Complete procurement for stream and floodplain, provide NTP to contractor for structure demolition
Month 27 to 30*	Select contractor for stream and floodplain construction and begin work
Month 30 to 33	Continue construction of stream enhancements and floodplain construction
Month 33 to 36*	Complete Construction of stream enhancements and floodplain construction

*Milestone

The milestones for the project include: (1) the completion of the final design plans and the completion of the negotiation for the nine properties; (2) the stream and floodplain construction work to begin; and (3) completion of the stream and floodplain construction work.

Project deliverables include but are not limited to interim and final design plans; acquisition of the nine flood prone properties and demolition of any associated structures; and completed construction of the stream enhancements and floodplain construction.

A public community meeting was held in February 2021 to discuss the results of the study and conceptual designs. Another public meeting was held in September 2021 for the nine property owners whose properties are proposed to be acquired as part of the grant application to provide an update and request information necessary for grant applications. The community (possibly civic and community associations) will continue to be included in the process to obtain feedback for the project.

The County has met with the Virginia Department of Transportation and will continue to keep them informed of the project status. Other applicable state and federal agencies will be involved to ensure all regulatory requirement are met in addition to requesting their corresponding expertise. If the grant is

awarded, Fairfax County Park Authority (FCPA) will be contacted to discuss the transfer of the land to FCPA after the properties are acquired and the environmental corridor is constructed as the tentative plan is for this area to serve as a County park.

5. Relationship to Other Projects

In September 2018, the County developed a "Repetitive Loss Area Analysis" using Section 510, Floodplain Management Planning, of the "2013 CRS Coordinator's Manual." This analysis documented 77 repetitive loss properties and 21 repetitive loss areas in the County. The project area is one of the identified repetitive loss areas, which continues to be impacted and damaged by flooding events.

Figure 7: Tripps Run

No County supported flood mitigation projects have been completed previously or are identified for future implementation in the project area.

6. Maintenance Plan

An official post construction maintenance plan will be developed during the final design phase of the project. The Maintenance and Stormwater Management Division (MSMD) within the County's Stormwater line of business maintains the County's stream restoration projects and will conduct periodic inspections of the site and perform any necessary maintenance activity including, but not limited to, trash removal and restoration of trees and shrubs that will be planted after structure demolition. After construction, if the environmental corridor is to be designated as a County park, maintenance would transfer to FCPA who currently manages and maintains over 400 parks.

B. Scoring Criteria

The Appendix B form from the grant Application can be found as Appendix Item B.1.

1. Project Type (50 pts)

The project includes acquisition of property which is consistent with the County's Resiliency Plan. The project includes floodplain restoration, stream stabilization/restoration and the creation and connection of a floodplain to the stream channel to re-establish its natural and beneficial function.

2. Social Vulnerability

The project area falls within Census Tract 4504 and this tract is characterized as being a "Low Social Vulnerability" area with a score of -1.0 based on ADAPT Virginia's Vulnerability Viewer. See Appendix Item B.1.

3. National Flood Insurance Program

The County is an active participant in the NFIP. The project is not part of an effort to join or remedy the community's probation or suspension from the NFIP.

4. Low-Income Geographic Area

The project area is not in a low-income geographic area or a qualified opportunity zone.

5. Chesapeake Bay (5 pts)

The project includes implementation of stream restoration, which is recognized by the Chesapeake Bay Program Expert Panel as a practice to reduce nitrogen, phosphorus, and sediment in support of the Chesapeake Bay Total Maximum Daily Load (TMDL) Phase III Watershed Implementation Plan. Conceptual Design Plans can be found in the Tripps at Barrett Study.

6. Community Scale Benefits (20 pts)

In the 2022 Grant Manual, a community scale project is defined as a project that provides demonstrable flood reduction benefits at the United States census block level or greater. The project includes areas from Census Block 2000, 2001, 2002, 2003, and 2011. See Appendix Item B.2.

Figure 8: Modeled Flooding after Project Implementation

7. Total Score

The Appendix B Scoring information results in a total score of 75 points for the project.

8. CFPF Resilience Plan and Links

The County received notification from the Virginia Department of Conservation and Recreation on January 10, 2022 that the submitted CFPF Resilience Plan met the all criteria outlined in the 2021 Community Flood Preparedness Grant Manual. The approval will end on January 11, 2025. The approval enables the County to submit project-based grant applications for consideration. See Appendix Item. B.4.

The CFPF Resilience Plan for Fairfax County is comprised of a compilation of county adopted documents that meet the requirements outlined in the 2021 Grant Manual for the Virginia CFPF. Both regional and county specific documents have been included with most of the documents readily available through organizational websites. Links found in the CFPF Resilience Plan can also be found below.

- Northern Virginia Hazard Mitigation Plan
- Resilient Critical Infrastructure: A Roadmap for Northern Virginia
- Regional Collaboration to Build Community Resilience in Northern Virginia
- Sea Level Rise: Impact on Northern Virginia
- Fairfax County Watershed Management Plans
- Fairfax County Pre-Disaster Recovery Plan
- Fairfax County Floodplain Management Plan Progress Report

- Fairfax County Environmental Vision
- Resilient Fairfax Webpage

C. Budget Narrative

The sections below outline the anticipated expenditures for the project including the estimated total project cost, the grant funds requested, and the corresponding match to be provided by the County.

1. Estimated Total Project Cost

The project includes acquisition of nine properties which will be purchased at fair market values, at the time of purchase, from voluntary sellers. The estimated costs of individual properties were obtained from using Zillow.com (Zestimate). Following award of the grant, a formal appraisal of the properties would be completed, to establish current fair market value. This budget also includes anticipated costs associated with the previously mentioned appraisal along with closing costs, legal fees, building demolition, and fees associated with placing a deed restriction upon the property's title. The source of cost estimate information was developed using publicly available demolition and fee estimates with an allowance for additional requirements.

Following acquisition and demolition of the nine subject properties, Tripps Run will be restored/enhanced from Annandale Road downstream to the upstream limit of Sleepy Hollow Park, approximately 2,460 linear feet. In addition, the environmental corridor with creation of a connected floodplain will be constructed in the location of the previous homes. The costs associated with this portion of the project include engineering design fees, construction of stream restoration elements, geotechnical services, and utility relocation. Construction cost estimates were derived using unit price lists from ecosystem restoration contractors and designers' knowledge of local pricing for these types of projects via an internal database.

Additionally, the project budget includes a 5% contingency for unforeseen design or construction circumstances which could impact the project budget. It is possible that prior to grant award, the current anticipated construction costs and/or fair market value of the subject properties may increase due to market forces and/or inflation.

The estimated total project cost is **$12,836,000**. See Appendix Items C.1 and C.2 for details regarding the estimated total project cost and estimated construction costs.

2. Funds Requested and Match

The project includes the creation of a connected floodplain to include an environmental corridor and restorative stream enhancements to provide a nature-based solution to mitigate flooding in the community. This type of project is funded at 70% of the total project cost, which corresponds to a value of **$8,985,200** and the County is requesting the full amount for this project.

Nature-based projects requires a local government match of 30%, which corresponds to a value of **$3,850,800**. It is currently anticipated that the County's cost share would be provided through the stormwater CIP fund, using either Emergency and Flood Response Projects or Stream & Water Quality Improvement Projects. See Appendix Item A.3 for additional information.

Signed documentation from the County Executive acknowledging the request for funding can be found as Appendix Item C.3.

D. Conclusion

There is an immediate need for funding to implement the Tripps Run at Barrett Road Flood Mitigation project. The previous study thoroughly evaluated several different scenarios for flood mitigation in an area which has historically seen devastation from previous storm events and will continue to be impacted as these flashy/intense storms become more frequent. At a minimum, implementation will directly impact at least 83 properties and the extended project area by providing flood reduction and a recreational area. The County of Fairfax and our residents request grant support for this valuable project.

Appendix A
Project Information Supporting Documentation

A.1 FEMA Firmette

A.2 Flooding Photos from June 2020 Storm Event

A.3 County FY2023 Advertised Budget

A.4 FEMA NFIP Community Participation Documentation

A.5 FEMA NFIP CRS Rating Notification

A.6 Zoning Ordinance 5105 – Floodplain

A.7 Zoning Ordinance 9104 – Floodplain Definitions

A.8 HEC-RAS Mapping and WSEL Comparison Table

National Flood Hazard Layer FIRMette

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

1:6,000

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- 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 *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*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- B 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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 12/13/2019 at 3:59:58 PM 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.

FLOODING PHOTOS - JULY 2020

Photo 1: July 2020 Storm Event, Corner of Barrett and Cofer

Photo 2: July 2020 Storm Event, Corner of Barrett and Dashiell

FLOODING PHOTOS - JULY 2020

Photo 3: July 2020 Storm Event, Corner of Barrett and Dashiell

Photo 4: July 2020 Storm Event, Tripps Run at Holloway Rd

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

Barnack Drive – Before
(Outfall Restoration)

Barnack Drive – After
(Outfall Restoration)

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.

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

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

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.

Fund 40100: Stormwater Services

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

Field Operations			
2	Maintenance Crew Chiefs	1	Welder II
15	Senior Maintenance Workers [+3]	1	Welder I
10	Heavy Equipment Operators	1	Trades Supervisor
10	Motor Equipment Operators		
Stormwater Infrastructure Branch (16 positions)			
1	Public Works-Env. Serv. Manager	1	Senior Engineering Inspector [+1]
3	Engineers IV	2	Engineering Technicians II
2	Senior Engineers III [+1]	2	Engineering Technicians I
4	Engineers III	1	Project Manager I
Transportation Infrastructure Branch (7 positions)			
1	Engineer V	3	Project Managers I
1	Engineer IV	1	Engineering Technician II
1	Project Manager II		
Stormwater Planning Division (56 positions)			
1	Director, Stormwater Planning	1	Emergency Mgmt. Specialist III
1	Engineer V	1	Planner IV
4	Engineers IV	1	Planner III [+1]
1	Senior Engineer III	2	Landscape Architects III
8	Engineers III	1	Engineering Technician III
5	Project Managers II	1	Management Analyst II
2	Project Managers I	2	Code Specialists II
4	Ecologists IV	1	Financial Specialist II
5	Ecologists III	1	Financial Specialist I
3	Ecologists II	1	Contract Specialist II
2	Ecologists I	1	Assistant Contract Specialist
3	Project Coordinators	3	Administrative Assistants III
1	Public Works-Env. Serv. Manager		
Urban Forestry (16 positions)			
1	Director, Urban Forestry Division	3	Urban Foresters I
1	Urban Forester IV	1	Project Manager I [+1]
4	Urban Foresters III	1	Administrative Assistant II
5	Urban Foresters II		
+	**Denotes New Position(s)**		

Performance Measurement Results

The objective to receive no MS4 Permit violations related to inspection and maintenance of public and private stormwater management facilities was met in FY 2019, FY 2020, and FY 2021. It is expected that this objective will also be met in FY 2022 and FY 2023. The objective to update 100 percent of the Stormwater emergency action plans was met in prior years. It is expected that this trend will continue in both FY 2022 and FY 2023. Lastly, the objective to keep 100 percent of the commuter facilities operational for 365 days was met in prior years. It is expected that this goal will be met in FY 2022 and FY 2023.

Indicator	FY 2019 Actual	FY 2020 Actual	FY 2021 Estimate	FY 2021 Actual	FY 2022 Estimate	FY 2023 Estimate
MS4 permit violations received	0	0	0	0	0	0
Percent of Emergency Action Plans current	100%	100%	100%	100%	100%	100%
Percent of commuter facilities available 365 days per year	100%	100%	100%	100%	100%	100%

A complete list of performance measures can be viewed at
https://www.fairfaxcounty.gov/budget/fy-2023-advertised-performance-measures-pm

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**

Community Status Book Report

Communities Participating in the National Flood Program

VIRGINIA

Click here for not participating

CID	Community Name	County	Init FHBM Identified	Init FIRM Identified	Curr Eff Map Date	Reg-Emer Date	Tribal	CRS Entry Date	Curr Eff Date	Curr Class	% Disc SFHA	% Disc Non SFHA
510169#	ABINGDON, TOWN OF	WASHINGTON COUNTY	06/14/74	03/16/88	09/29/10	03/16/88	No					
510050B	ACCOMAC, TOWN OF	ACCOMACK COUNTY		03/16/09	05/18/15	08/23/17	No					
510001B	ACCOMACK COUNTY *	ACCOMACK COUNTY	12/13/74	06/01/84	05/18/15	06/01/84	No	10/01/92	05/01/18	6	20%	10%
510006C	ALBEMARLE COUNTY *	ALBEMARLE COUNTY	08/25/78	12/16/80	05/16/16	12/16/80	No					
510260#	ALBERTA, TOWN OF	BRUNSWICK COUNTY	02/25/77	07/07/09	07/07/09	06/30/05	No					
	Community annexed property in Brunswick County, Virginia. Therefore, map for Brunswick County, Virginia, 510236 0075B, dated 2/6/1991 was also adopted and applicable to this community as well as their FHBM dated 2/25/1977.											
515519#	ALEXANDRIA, CITY OF	ALEXANDRIA CITY	08/22/69	08/22/69	06/16/11	05/08/70	No	10/01/92	10/01/13	6	20%	10%
510009#	ALLEGHANY COUNTY*	ALLEGHANY COUNTY	07/18/75	07/16/87	12/17/10	07/16/87	No					
510029#	ALTAVISTA, TOWN OF	CAMPBELL COUNTY	06/07/74	08/01/78	08/28/08	08/01/78	No					
510314B	AMELIA COUNTY*	AMELIA COUNTY	07/25/75	09/01/87	10/07/21	09/01/87	No					
510010#	AMHERST COUNTY *	AMHERST COUNTY	11/22/74	07/17/78	09/19/07	07/17/78	No					
510193#	AMHERST, TOWN OF	AMHERST COUNTY	01/31/75	11/02/77	09/19/07	11/02/77	No					
510319#	APPALACHIA, TOWN OF	WISE COUNTY	05/10/74	09/17/80	02/18/11	09/17/80	No					
510011#	APPOMATTOX COUNTY *	APPOMATTOX COUNTY	08/02/74	07/17/78	01/02/08	07/17/78	No					
510194#	APPOMATTOX, TOWN OF	APPOMATTOX COUNTY	05/06/77	05/25/84	01/02/08(M)	05/25/84	No					
515520#	ARLINGTON COUNTY*	ARLINGTON COUNTY		10/01/69	08/19/13	12/31/76	No	10/01/92	10/01/08	8	10%	05%
510075#	ASHLAND, TOWN OF	HANOVER COUNTY	05/24/74	12/02/08	12/02/08	05/26/78	No	10/01/16	10/01/16	9	05%	05%
510013D	AUGUSTA COUNTY *	AUGUSTA COUNTY	08/11/78	05/17/90	08/03/15	05/17/90	No					
510196#	BATH COUNTY *	BATH COUNTY	03/21/75	09/10/84	04/02/09(M)	09/10/84	No					
510016#	BEDFORD COUNTY *	BEDFORD COUNTY	04/25/75	09/29/78	09/29/10	09/29/78	No					
510015#	BEDFORD, TOWN OF	BEDFORD COUNTY	06/28/74	06/01/78	09/29/10	06/01/78	No					
510242B	BELLE HAVEN, TOWN OF	ACCOMACK COUNTY	11/01/74	12/15/81	05/18/15	02/08/01	No					
510037#	BERRYVILLE, TOWN OF	CLARKE COUNTY	04/08/77	04/01/88	09/28/07	04/01/88	No					
515521#	BIG STONE GAP, TOWN OF	WISE COUNTY	12/15/70	09/30/88	02/18/11	12/11/70	No					
510100#	BLACKSBURG, TOWN OF	MONTGOMERY COUNTY	06/07/74	05/15/80	09/25/09	05/15/80	No					
510074#	BLACKSTONE, TOWN OF	NOTTOWAY COUNTY		06/02/09	(NSFHA)	11/03/08	No					
510017#	BLAND COUNTY *	BLAND COUNTY	02/07/75	01/05/89	04/02/08	01/05/89	No					
510256B	BLOXOM, TOWN OF	ACCOMACK COUNTY	02/11/77	03/16/09	05/18/15	10/16/12	No					
510161#	BLUEFIELD, TOWN OF	TAZEWELL COUNTY	08/09/74	07/17/78	02/18/11	07/17/78	No					
510062#	BOONES MILL, TOWN OF	FRANKLIN COUNTY	08/16/74	09/01/78	12/16/08	09/01/78	No					
510018#	BOTETOURT COUNTY *	BOTETOURT COUNTY	09/06/74	05/16/78	12/17/10	06/15/78	No					
510175	BOYCE, TOWN OF	CLARKE COUNTY				02/11/13(E)	No					
510269#	BOYDTON, TOWN OF	MECKLENBURG COUNTY	02/11/77	12/03/82	09/11/09(M)	12/03/82	No					
510151#	BOYKINS, TOWN OF	SOUTHAMPTON COUNTY	05/31/74	04/01/82	09/04/02	04/01/82	No					
510296#	BRANCHVILLE, TOWN OF	SOUTHAMPTON COUNTY	11/15/74	09/04/02	09/04/02(M)	03/30/79	No					
510134#	BRIDGEWATER, TOWN OF	ROCKINGHAM COUNTY	06/28/74	12/15/83	08/18/14	12/15/83	No	10/01/96	05/01/06	8	10%	05%
510022#	BRISTOL, CITY OF	BRISTOL CITY	03/08/74	04/15/82	02/04/04	04/15/82	No					
510135#	BROADWAY, TOWN OF	ROCKINGHAM COUNTY	05/17/74	06/05/85	02/06/08	06/05/85	No					
510030#	BROOKNEAL, TOWN OF	CAMPBELL COUNTY	05/17/74	03/01/78	08/28/08	03/01/78	No					
510236#	BRUNSWICK COUNTY *	BRUNSWICK COUNTY	04/11/75	02/06/91	07/07/09	02/06/91	No					
510024#	BUCHANAN COUNTY*	BUCHANAN COUNTY	07/07/78	09/16/88	08/19/97	09/16/88	No					
510019#	BUCHANAN, TOWN OF	BOTETOURT COUNTY	02/01/74	11/02/77	12/17/10	11/02/77	No					
510026#	BUCKINGHAM COUNTY *	BUCKINGHAM COUNTY	11/01/74	07/17/78	06/17/08	07/17/78	No					
510027#	BUENA VISTA, CITY OF	BUENA VISTA CITY	11/12/76	08/01/78	04/06/00	08/01/78	No					
510140#	BURKEVILLE, TOWN OF	NOTTOWAY COUNTY		06/02/09	(NSFHA)	02/13/09	No					
510028#	CAMPBELL COUNTY *	CAMPBELL COUNTY	11/22/74	10/17/78	08/28/08(M)	10/17/78	No					
510106#	CAPE CHARLES, TOWN OF	NORTHAMPTON COUNTY	05/31/74	02/02/83	03/02/15	02/02/83	No	05/01/10	05/01/19	8	10%	05%
510249#	CAROLINE COUNTY *	CAROLINE COUNTY	04/25/75	08/15/89	03/02/09	08/15/89	No					
510197#	CARROLL COUNTY *	CARROLL COUNTY	04/25/75	02/18/83	08/28/08(M)	02/18/83	No					
510162#	CEDAR BLUFF, TOWN OF	TAZEWELL COUNTY	05/10/74	04/04/83	02/18/11	04/04/83	No					

Community Status Book Report

Communities Participating in the National Flood Program

VIRGINIA

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CID	Community Name	County	Init FHBM Identified	Init FIRM Identified	Curr Eff Map Date	Reg-Emer Date	Tribal	CRS Entry Date	Curr Eff Date	Curr Class	% Disc SFHA	% Disc Non SFHA
510198B	CHARLES CITY COUNTY *	CHARLES CITY COUNTY	01/17/75	09/05/09	07/06/15	09/05/90	No					
510333#	CHARLOTTE COUNTY *	CHARLOTTE COUNTY	07/07/78	11/01/97	07/20/09(M)	11/01/97	No					
510318#	CHARLOTTE COURT HOUSE, TOWN OF	CHARLOTTE COUNTY	02/04/77	07/20/09	(NSFHA)	05/13/09	No					
	NSFHA community.											
510033#	CHARLOTTESVILLE, CITY OF	CHARLOTTESVILLE CITY	05/24/75	06/15/79	02/04/05	06/15/79	No					
510297#	CHASE CITY, TOWN OF	MECKLENBURG COUNTY	11/22/74	06/18/82	09/11/09(M)	06/18/82	No					
510114#	CHATHAM, TOWN OF	PITTSYLVANIA COUNTY	05/31/74	02/01/79	09/29/10	02/01/79	No					
510178B	CHERITON, TOWN OF	NORTHAMPTON COUNTY	09/06/74	08/28/08	03/02/15	07/08/20	No					
510034#	CHESAPEAKE, CITY OF	CHESAPEAKE CITY	06/18/70	07/17/70	12/16/14	02/02/77	No	05/01/15	10/01/21	7	15%	05%
510035#	CHESTERFIELD COUNTY *	CHESTERFIELD COUNTY	01/10/75	03/16/83	12/18/12	03/16/83	No					
510185#	CHILHOWIE, TOWN OF	SMYTH COUNTY	05/10/74	06/15/78	08/02/12	06/15/78	No					
510002B	CHINCOTEAGUE, TOWN OF	ACCOMACK COUNTY	05/31/74	03/01/77	05/18/15	03/01/77	No	10/01/00	10/01/03	8	10%	05%
510101#	CHRISTIANSBURG, TOWN OF	MONTGOMERY COUNTY	05/31/74	08/15/80	09/25/09	08/15/80	No					
510158C	CLAREMONT, TOWN OF	SURRY COUNTY	04/04/75	11/02/90	04/06/22(~)	10/16/90	No					
510036#	CLARKE COUNTY *	CLARKE COUNTY	01/17/75	09/24/84	09/28/07	09/24/84	No					
510209#	CLARKSVILLE, TOWN OF	MECKLENBURG COUNTY	11/01/74	08/06/82	09/11/09(M)	08/06/82	No					
515522	CLEVELAND, TOWN OF	RUSSELL COUNTY	07/01/70	05/14/76	09/29/10	02/19/71	No					
510038#	CLIFTON FORGE, TOWN OF	ALLEGHANY COUNTY	02/08/74	09/01/78	12/17/10	09/01/78	No					
510186#	CLIFTON, TOWN OF	FAIRFAX COUNTY	03/28/75	05/02/77	09/17/10	05/02/77	No					
510384#	CLINCHCO, TOWN OF	DICKENSON COUNTY		09/29/10	09/29/10	11/08/11	No					
510143#	CLINCHPORT, TOWN OF	SCOTT COUNTY	03/08/74	09/29/78	01/07/15	09/29/78	No					
510176#	COEBURN, TOWN OF	WISE COUNTY	05/10/74	07/02/80	02/18/11	07/02/80	No					
510172B	COLONIAL BEACH, TOWN OF	WESTMORELAND COUNTY	08/09/74	09/18/87	04/16/15	09/18/87	No					
510039#	COLONIAL HEIGHTS, CITY OF	COLONIAL HEIGHTS CITY	06/14/74	09/02/81	08/02/12	09/02/81	No					
510152#	COURTLAND, TOWN OF	SOUTHAMPTON COUNTY	03/15/74	07/05/82	09/04/02	07/05/82	No					
510040#	COVINGTON, CITY OF	COVINGTON CITY	05/17/74	01/03/79	12/17/10	01/03/79	No					
510313#	CRAIG COUNTY *	CRAIG COUNTY	02/14/75	02/02/90	04/02/09	02/02/90	No					
510014#	CRAIGSVILLE, TOWN OF	AUGUSTA COUNTY	05/31/74	11/03/89	09/29/07	04/15/86	No					
510264#	CREWE, TOWN OF	NOTTOWAY COUNTY	02/11/77	06/02/09	06/02/09	06/02/09	No					
510041B	CULPEPER COUNTY*	CULPEPER COUNTY	07/07/78	07/01/87	02/26/21	07/01/87	No					
510042B	CULPEPER, TOWN OF	CULPEPER COUNTY	06/28/74	03/02/89	02/26/21	03/02/89	No					
510043#	CUMBERLAND COUNTY *	CUMBERLAND COUNTY	10/18/74	02/15/79	06/16/09	02/15/79	No					
510170#	DAMASCUS, TOWN OF	WASHINGTON COUNTY	03/08/74	03/16/88	09/29/10	03/16/88	No					
510044#	DANVILLE, CITY OF	DANVILLE CITY	05/31/74	03/16/81	09/29/10	03/16/81	No					
510136#	DAYTON, TOWN OF	ROCKINGHAM COUNTY	05/31/74	10/15/85	02/06/08	10/15/85	No					
510253#	DICKENSON COUNTY *	DICKENSON COUNTY	06/02/78	02/06/91	09/29/10	02/06/91	No					
510335#	DILLWYN, TOWN OF	BUCKINGHAM COUNTY		06/17/08	(NSFHA)	12/03/08	No					
510187#	DINWIDDIE COUNTY *	DINWIDDIE COUNTY	11/15/74	01/17/79	06/16/11	01/17/79	No					
510032#	DRAKES BRANCH, TOWN OF	CHARLOTTE COUNTY	08/09/74	06/11/82	07/20/09(M)	06/11/82	No					
510211#	DUBLIN, TOWN OF	PULASKI COUNTY		09/26/08	(NSFHA)	11/03/08	No					
510240#	DUFFIELD, TOWN OF	SCOTT COUNTY	07/02/76	01/07/15	01/07/15	05/25/78	No					
510120A	DUMFRIES, TOWN OF	PRINCE WILLIAM COUNTY	06/18/76	05/15/80	08/03/15	05/15/80	No					
510144#	DUNGANNON, TOWN OF	SCOTT COUNTY	03/22/74	07/16/79	01/07/15	07/16/79	No					
510132B	EASTVILLE, TOWN OF	NORTHAMPTON COUNTY		08/28/08	03/02/15	05/08/07	No					
510213#	EDINBURG, TOWN OF	SHENANDOAH COUNTY	03/28/75	09/24/84	07/16/03(M)	09/24/84	No					
510137#	ELKTON, TOWN OF	ROCKINGHAM COUNTY	06/28/74	06/15/78	02/06/08	06/15/78	No					
510047#	EMPORIA, CITY OF	GREENSVILLE COUNTY/EMPORIA CITY	07/23/76	02/02/89	07/07/09	09/30/77	No					
510048C	ESSEX COUNTY *	ESSEX COUNTY	11/29/74	12/16/88	10/21/21	12/16/88	No					
510364B	EXMORE, TOWN OF	NORTHAMPTON COUNTY		08/28/08	03/02/15	09/04/08	No					
515525#	FAIRFAX COUNTY *	FAIRFAX COUNTY	05/05/70	03/05/90	09/17/10	01/07/72	No	10/01/93	10/01/14	6	20%	10%
515524#	FAIRFAX, CITY OF	FAIRFAX CITY	05/05/70	12/23/71	06/02/06	12/17/71	No					
510054#	FALLS CHURCH, CITY OF	FALLS CHURCH CITY	09/06/74	02/03/82	07/16/04	02/03/82	No	05/01/07	10/01/16	6	20%	10%
510118#	FARMVILLE, TOWN OF	PRINCE EDWARD COUNTY/CUMBERLAND COUNTY	04/05/74	09/01/78	10/02/09	09/01/78	No					

Community Status Book Report

Communities Participating in the National Flood Program

VIRGINIA

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| CID | Community Name | County | Init FHBM Identified | Init FIRM Identified | Curr Eff Map Date | Reg-Emer Date | Tribal | CRS Entry Date | Curr Eff Date | Curr Class | % Disc SFHA | % Disc Non SFHA |

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,

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

Enclosure
cc: Craig Carinci, CRS Coordinator

NFIP/CRS

COMMUNITY
RATING
SYSTEM

VERIFICATION REPORT

Fairfax County, VA

NFIP Number: 515525

Date of Verification Visit: December 18, 2019

Verified Class 6

Cycle

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

Community : Fairfax County, VA **NFIP Number :** 515525

720 COMMUNITY CREDIT CALCULATIONS (Cycle):

CALCULATION SECTION :

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

Community Classification Calculation:

cT = total of above cT = 2456

Community Classification (from Table 110-1): Class = 6

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

5105. Floodplain Regulations

These regulations are intended to further the County's participation in the National Flood Insurance Program authorized under the National Flood Insurance Act of 1968, as amended (42 U.S.C. § 4001 et seq.); provide for safety from flood and other dangers; protect against loss of life, health, or property from flood or other dangers; and preserve and protect floodplains in as natural a state as possible to preserve wildlife habitats, to maintain the natural integrity and function of the streams, to protect water quality, and to promote ground water recharge.

1. Applicability and Disclaimer

A. The floodplain regulations apply to all land within a floodplain as defined in Article 9. In addition, in accordance with subsections 5105.5 and 5105.6.B, these regulations apply to land outside the floodplain on lots that contain floodplain and on lots that abut a lot containing floodplain.

B. The degree of flood protection required by these regulations, the USBC, and the Public Facilities Manual is considered reasonable for regulatory purposes. Larger floods may occur on rare occasions or flood heights may be increased by man-made or natural causes, such as bridge openings restricted by debris. These regulations do not imply that areas outside the floodplain, or land uses permitted within such areas, will be free from flooding and flood damages under all conditions. The granting of a permit or approval of a site, subdivision, or land development plan in an identified floodplain area does not constitute a representation, guarantee, or warranty of any kind by any official or employee of the County of the practicability or safety of the proposed use, and does not create any liability upon the County, its officials, or employees.

2. Administration of the Floodplain Regulations

A. Director Determination

The Director is responsible for the administration of the floodplain regulations. The Director must review all proposed uses and development to determine whether the land on which the proposed use or development is located is within a floodplain. The Director may require additional information from the applicant, including an engineering study of the floodplain. The Director will determine whether the proposed use or development may be permitted in accordance with subsection 3 or if it requires the approval of a special exception in accordance with subsection 4 below. Any approval by the Director must be in writing and must specify conditions deemed necessary to ensure that the proposed construction and use conform to these regulations.

B. Review Criteria

Any decision of the Director or Board regarding a use in a floodplain must be based on consideration of the following:

(1) Type and location of proposed structure and use;

(2) Site access;

(3) Frequency and nature of flooding;

(4) Nature and extent of any proposed grading or fill;

(5) Impact of proposal on the floodplain on properties upstream and downstream;

(6) Potential of proposal to cause or increase flooding or to jeopardize human life;

(7) Impact of the proposed use on the natural environment and on water quality; and

(8) Other site-specific factors deemed relevant for consideration by the Director or the Board.

C. Compliance with National Flood Insurance Program

The Director of the Department of Public Works and Environmental Services (DPWES) must collect and maintain records necessary for the County's participation in the National Flood Insurance Program. Base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, the Director of DPWES or designee must notify the Federal Insurance Administrator or require the applicant to notify the Federal Insurance Administrator of any change in base flood elevation in any Special Flood Hazard Area (SFHA) depicted on the County's Flood Insurance Rate Map (FIRM) by submitting technical and scientific data to the Federal Emergency Management Agency (FEMA) for a Letter of Map Revision.

3. Permitted Uses

A. Except as provided in subsection (10) below for cluster subdivisions, the uses and changes to topography identified below may be permitted in a floodplain upon a determination by the Director that the use is permitted in the zoning district in which it is located, and the use or change to topography is in accordance with these floodplain regulations and the Public Facilities Manual. Any use or change to topography not meeting the qualifications below may be permitted by the Board with the approval of a special exception.

(1) Changes to topography that do not require major fill. For the purpose of this subsection, major fill includes any fill, regardless of amount, in an area greater than 5,000 square feet, or any fill in excess of 278 cubic yards below the existing 100-year flood elevation in an area of 5,000 square feet or less. The cumulative area of any fill and pavement permitted under (1) through (6) may not exceed an area of 5,000 square feet for all uses on a lot.

(2) Any use or change to topography within a minor floodplain. A minor floodplain, as established in the floodplain definition in Article 9, is a floodplain with a drainage area greater than 70 acres but less than 360 acres.

(3) Agricultural operations if the use does not require the approval of a building permit or require major fill. Such uses must be operated in accordance with a conservation plan prepared in accordance with the standards of the Northern Virginia Soil and Water Conservation District.

(4) Uses and structures accessory to single-family detached, attached, and stacked townhouse dwellings and manufactured homes, such as play areas, lawns, paved tennis or play courts, trails, gardens, patios, decks, and docks, that do not require major fill; and accessory structures such as children's playhouses, doghouses, storage structures, and other similar structures that do not require approval of a building permit or require major fill. All structures must be anchored to prevent flotation.

(5) Community, commercial, and public recreational uses such as golf courses, driving ranges, picnic grounds, boat launching ramps, parks, wildlife and nature preserves, hunting and fishing areas, and hiking, bicycle, and equestrian trails. This provision does not permit a paved tennis or play court exceeding 5,000 square feet in area, swimming pool, or any use requiring the approval of a building permit or requiring major fill.

(6) Off-street parking and loading areas including aisles and driveways that do not exceed 5,000 square feet in area, that will have one foot or less depth of flooding and that will not require major fill.

(7) Metrorail, railroad track, and roadway floodplain crossings meeting applicable WMATA, VDOT, and Fairfax County design requirements and where any additional rise in water surface will not have an adverse effect upon the floodplain or will be set aside in an easement. A stream channel relocation proposed in conjunction with a crossing is subject to the provisions of the Public Facilities Manual.

(8) Public and private utility lines, and all public uses and public improvements performed by or at the

direction of the County, including channel improvements and erosion control, reservoirs, storm water management, and best management practice facilities and similar uses. The installation of such facilities must be accomplished with appropriate easements or agreements and with the minimum necessary disruption to the floodplain. Ponds, reservoirs, storm water management, and best management practice (BMP) facilities in floodplains with a drainage area of 360 acres or greater that are designed to serve a specific private development may be permitted only with Board approval of a special exception in accordance with these floodplain regulations.

(9) Permitted accessory structures, other than those specified in subsection (4) above, and additions to single-family detached and attached dwellings constructed before August 14, 1978, subject to the following conditions:

(a) The estimated cost of the addition or accessory structure is less than 50 percent of the market value as determined by the Department of Tax Administration of the existing structure.

(b) The lowest part (i.e., the bottom of the floor joists or top of a concrete slab on grade) of the lowest floor including the basement of any such structure may be constructed less than 18 inches above the 100-year flood level if it is determined that there is less than one percent chance of flooding the structure in any given year, i.e., the structure is higher than the 100-year flood level.

(c) The lowest part of the lowest floor of any accessory structure not meeting the requirements of subsection (9)(b) above may be constructed below the base flood elevation provided the following standards are met:

1. The size of the accessory structure does not exceed 1,000 square feet of gross floor area.

2. The accessory structure will only be used for parking or storage purposes.

3. The accessory structure will be constructed using flood-damage resistant materials and all interior walls and floors constructed using unfinished material.

4. The accessory structure will be anchored and floodproofed in accordance with the USBC.

5. Any mechanical, electrical, and utility equipment in the accessory structure must be elevated to or above the base flood elevation.

(d) The Director may require the applicant and owners to sign an agreement holding Fairfax County harmless from all adverse effects that may arise from the construction and establishment of the proposed use within the floodplain. Such hold harmless agreement must be recorded with the land records of Fairfax County.

(10) For all cluster subdivisions in the R-2 District, and cluster subdivisions in the R-3 and R-4 Districts with a minimum district size of three and one-half acres or greater, only the following uses and improvements may be permitted by the Director, if the encroachments for those uses and improvements are the minimum necessary and minimize disturbance to the floodplain to the greatest practical extent:

(a) No residential lot may extend into a floodplain and adjacent slopes in excess of 15 percent grade or Resource Protection Area, except to accommodate driveways when it is determined by the Director that there is no other option available to provide driveway access to the lot. The fill and pavement for driveway access may not exceed 5,000 square feet in area and may not be major fill;

(b) Extension of or connection to existing public and private utilities;

(c) Trails depicted on the Comprehensive Plan trails map or trails connecting to trails depicted on the Comprehensive Plan trails map;

(d) Channel improvements and erosion control measures performed by or at the direction of, or as required by the County;

(e) Regional stormwater management facilities included in the regional stormwater management plan; or

(f) Roadway floodplain crossings, as qualified by (7) above.

B. The provisions above that exclude uses requiring a building permit do not apply when a building permit is required for structures such as retaining walls, fences, ramps, or trail bridges.

4. Special Exception Uses

A. All uses permitted by right, special exception, or special permit that are not approved by the Director under subsection 3 above may be permitted in the floodplain with the approval of a special exception by the Board. The special exception is subject to conformance with the provisions of these floodplain regulations, the applicable special exception or special permit standards, and the standards and criteria set forth in the Public Facilities Manual.

B. In addition to the submission requirements for all special exception uses set forth in Section 8101, the following information must be submitted for all special exception applications for uses in a floodplain:

(1) The following must be shown and certified on the plat provided with the application:

(a) Delineation of the floodplain and the source of floodplain information, such as Federal Emergency Management Agency, United States Geological Survey, Fairfax County, or other;

(b) Existing and proposed topography with a maximum contour interval of two feet;

(c) Both normal and emergency ingress and egress from highway or street;

(d) Nature and extent of any proposed fill and any proposed compensatory cut areas with quantities;

(e) The location and dimensions of any structure or part of any structure that is proposed to be located in the floodplain;

(f) Elevation of the nearest 100-year floodplain, and the exact distance from the structure to the floodplain line at the nearest point; and

(g) Lowest floor elevation, including basement, of all existing and proposed buildings, and information relative to compliance with Federal and State floodproofing requirements.

(2) A written statement providing the following information:

(a) Any existing or anticipated problems of flooding or erosion in the area of the application, including upstream and downstream from the application property; and

(b) Whether additional Federal or State permits are required.

(3) When structures are proposed, the following information must be provided:

(a) The proposed use of the structure;

(b) A statement certifying all floodproofing proposed and indicating compliance with all County, State, and Federal requirements. This certification must be signed, sealed, and indicate the address of the certifying professional and it must cover all structural, electrical, mechanical, plumbing, water, and sanitary facilities connected with the use; and

(c) A signed affidavit acknowledging that the applicant is aware that flood insurance may be required by the applicant's lending institution and that the flood insurance rates may increase because of increases in risks to life and property.

(4) Any additional information as may be deemed necessary by the Director, including engineering studies or detailed calculations for any proposed drainage improvement.

C. The BZA may approve a special permit or the Board may approve, only in conjunction with the approval of

a rezoning or special exception for another use, a special exception for the modification of grade as it applies to the height measurement of a single-family detached dwelling that is located within or in proximity to a floodplain and when that structure must be elevated to meet all applicable floodplain regulations. In those cases the Board may approve a special exception that allows a grade elevation to be established that permits a dwelling to be constructed in compliance with all applicable floodplain regulations. Any applicant seeking grade modification approval must demonstrate that the requested increase in grade is the minimum amount required to meet the floodplain regulations.

5. Setbacks from the Floodplain

A. No dwelling or portion of a dwelling may be located within 15 feet of the edge of a floodplain, unless it is allowed under subsection 5100.2.D(5). The location of a property line between the floodplain and a dwelling does not eliminate the need to meet this minimum 15-foot setback. The Director may approve the following additional exceptions:

(1) The location of dwellings within 15 feet of a permanent water surface of any appropriately designed impoundment; or

(2) The location of additions within 15 feet of the edge of a floodplain for single-family detached and attached dwellings constructed before August 14, 1978, based on consideration of the following factors:

(a) Type and location of proposed structure;

(b) Nature and extent of any proposed grading or fill;

(c) Impact of proposal on the floodplain on properties upstream and downstream;

(d) Potential of proposal to cause or increase flooding or to jeopardize human life;

(e) Impact of the proposed use on the natural environment and on water quality; and

(f) Other site-specific factors deemed relevant for consideration by the Director.

B. For the purpose of this section, 15 feet is considered the minimum setback from the floodplain. However, dwellings and additions proposed within a floodplain under subsections 5105.3.A(9) and 5105.4 may be permitted without this 15-foot setback.

6. Use Limitations

All permitted and special exception uses in a floodplain must comply with the following use limitations:

A. Any new construction, substantial improvements, or other development, including fill, when combined with all other existing, anticipated, and planned development, may not increase the water surface elevation above the 100-year flood level upstream and downstream, calculated in accordance with the Public Facilities Manual, unless it is permitted under subsections 5105.3.A(7) and 5105.3.A(8) above.

B. The lowest part (i.e., the bottom of the floor joists or top of a concrete slab on grade) of the lowest floor, including any basement must be at least 18 inches above the water-surface elevation of the 100-year flood level calculated in accordance with the Public Facilities Manual. This requirement for an 18-inch vertical separation applies to development within a floodplain, any lot where a floodplain is located, or on any lot that abuts a lot where a floodplain is located, for the following:

(1) Any new or substantially improved dwelling or manufactured home.

(2) Any proposed addition to an existing dwelling, unless it is permitted under subsection 3.A(9)(b) above.

For development on land outside the floodplain, this subsection B may be modified by the Director in accordance with the standards set forth in the Public Facilities Manual.

C. No structure or substantial improvement to any existing structure may be allowed unless adequate floodproofing is provided in accordance with this section or under the USBC.

D. Stable vegetation must be protected and maintained in the floodplain to the extent possible.

E. Storage of herbicides, pesticides, or toxic or hazardous substances as set forth in Title 40, Code of Federal Regulations, Parts 116.4 and 261.30 et seq., is prohibited in a floodplain.

F. For uses located in a floodplain, other than those specified in subsections 3.A(3) and 3.A(4) above, the applicant must demonstrate the extent to which:

(1) There are no other feasible options available to achieve the proposed use;

(2) The proposal is the option that is least disruptive to the floodplain; and

(3) The proposal meets the environmental goals and objectives of the Comprehensive Plan for the property.

G. Nothing in these floodplain regulations is deemed to prohibit the refurbishing, refinishing, repair, reconstruction, or other similar improvements of the structure for an existing use provided such improvements are done in conformance with the USBC, Section 8104 of this Ordinance, and the requirements of subsection 5105.6.F above.

H. All uses and activities are subject to the provisions of Chapter 118 of the County Code.

I. As-built floor elevations must be submitted to the Land Development Services Department on a standard Federal Emergency Management Agency (FEMA) Elevation Certificate upon placement of the lowest floor, including basement, and before further vertical construction if they are required by federal regulations or the USBC. A FEMA Floodproofing Certificate must be completed in addition to the Elevation Certificate for a nonresidential building that is being floodproofed. In the case of special exception uses, the Elevation Certificate must demonstrate compliance with the approved special exception elevations.

J. The construction of all buildings and structures are subject to the requirements of the USBC.

K. All recreational vehicles within a floodplain must either:

(1) Be on-site for fewer than 180 consecutive days;

(2) Meet the requirements of this section and the USBC for anchoring and elevation of manufactured homes; or

(3) Be fully licensed and ready for highway use. A recreational vehicle is deemed ready for highway use if it is on wheels or a jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached additions.

L. All necessary permits required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, as amended, 33 U.S.C. § 1334, must be obtained.

M. Areas designated as floodplains by FEMA must not have their base flood elevations altered without approval from FEMA. If any new construction, substantial improvements, or other development, including fill, when combined with all other existing, anticipated, and planned development, results in change in the base flood elevation in any Special Flood Hazard Area (SFHA) depicted on the County's Flood Insurance Rate Map (FIRM), the applicant must notify the Federal Insurance Administrator of the changes by submitting technical or scientific data to FEMA for a Letter of Map Revision, as soon as practicable but, not later than 6 months after the date such information becomes available or the placement of fill, whichever comes first. If the projected increase in the base flood elevation is greater than one foot, the applicant must also obtain approval of a Conditional Letter of Map Revision from the Federal Insurance Administrator before the approval of construction.

N. In riverine situations, adjacent communities and the Virginia Department of Conservation and Recreation must be notified before any alteration or relocation of a watercourse depicted on the Flood Insurance Rate Map (FIRM) and copies of such notifications must be submitted to the Federal Insurance

Administrator. The flood carrying capacity within the altered or relocated portion of any watercourse must be maintained.

7. **Definitions**

Definitions pertaining to the interpretation and administration of these floodplain regulations are in Section 9104.

9104. Floodplain Definitions

The following definitions are only to be used in the interpretation and administration of the floodplain regulations in Section 5105.

Base Flood

A flood having a one percent chance of being equaled or exceeded in any given year.

Base Flood Elevation

The Federal Emergency Management Agency designated water surface elevation of a flood having a one percent chance of being equaled or exceeded in any given year shown on the Flood Insurance Rate Map (FIRM).

Basement

Any area of the building having its floor below grade (below ground level) on all sides.

Development

Any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

Floodplain

Those land areas in and adjacent to streams and watercourses subject to continuous or periodic inundation from flood events with a one percent chance of occurrence in any given year (i.e., the 100-year flood frequency event also known as the base flood) and having a drainage area greater than 70 acres. For the purpose of administering Section 5105 Floodplain Regulations, minor floodplains are those floodplains which have a drainage area greater than 70 acres but less than 360 acres and major floodplains are those floodplains which have a drainage area equal to or greater than 360 acres.

Floodplains include all areas of the County that are designated as a floodplain by the Federal Emergency Management Agency (FEMA), by the United States Geological Survey, or by Fairfax County. The basis for the floodplains designated by FEMA are the Flood Insurance Study (FIS) and the Flood Insurance Rate Map (FIRM) for Fairfax County prepared by the FEMA, Federal Insurance Administration, dated September 17, 2010, as amended. Floodplains designated by FEMA on the FIRM are referred to as special flood hazard areas.

Flood or Flooding

1. A general or temporary condition of partial or complete inundation of normally dry land areas from:
   a. The overflow of inland or tidal waters; or
   b. The unusual and rapid accumulation or runoff of surface waters from any source.
   c. Mudflows which are proximately caused by flooding as defined in 1.b. above and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.
2. The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in 1.a. above.

Flood Insurance Rate Map (FIRM)

An official map of a community, on which the Federal Insurance Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community. A FIRM that has been produced and made available digitally is also commonly called a Digital Flood Insurance Rate Map (DFIRM). The official FIRM for Fairfax County is the FIRM/DFIRM prepared by the Federal Emergency Management Agency, Federal Insurance Administration, dated September 17, 2010, as amended.

Flood Insurance Study (FIS)

An examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudflow or flood-related erosion hazards. The official FIS for Fairfax County is the FIS prepared by the Federal Emergency Management Agency, Federal Insurance Administration, dated September 17, 2010, as amended.

Flood Proofing

Any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Historic Structure

Any structure that is:

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
3. Individually listed on the Virginia Landmarks Register; or
4. Listed on the Fairfax County Inventory of Historic Sites.

Lowest Floor

The lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for building access in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of 44 CFR §60.3.

Manufactured Home

A structure, transportable in one or more sections, that is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes a manufactured home also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days. A manufactured home does not include a recreational vehicle.

New Construction

For the purposes of determining insurance rates, new construction includes structures for which the start of construction commenced on or after the effective date of an initial Flood Insurance Rate Map or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, new construction includes structures for which the start of construction commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

Recreational Vehicle

A vehicle that:

1. Is built on a single chassis;
2. Contains 400 square feet or less when measured at the largest horizontal projection;
3. Is designed to be self-propelled or permanently towable by a light duty truck; and
4. Is designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational camping, travel, or seasonal use.

Special Flood Hazard Area

The land in the floodplain subject to a one percent or greater chance of being flooded in any given year as designated on the official Flood Insurance Rate Map for Fairfax County.

Start of Construction

For other than new construction and substantial improvement, under the Coastal Barriers Resource Act (P.L. – 97-348), start of construction means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, substantial improvement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of the construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether that alteration affects the external dimensions of the building.

Structure

For floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home or other structure as defined in this Article. structure for insurance coverage purposes, means:

1. A building with two or more outside rigid walls and a fully secured roof, that is affixed to a permanent site;
2. A manufactured home; or
3. A travel trailer without wheels, built on a chassis and affixed to a permanent foundation, that is regulated under the community's floodplain management and building ordinances or laws.

For insurance coverage purposes, structure includes a recreational vehicle, a park trailer or other similar vehicle, except as described in subsection 3 of this definition, or a gas or liquid storage tank.

Substantial Damage

Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial Improvement

Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement. substantial improvement includes structures that have incurred substantial damage regardless of the actual repair work performed. substantial improvement does not, however, include either:

1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or
2. Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as an historic structure.

Violation

See subsection 8106.1.A. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in 44 CFR § 60.3(b)(5), (c)(4), or (c)(10) is presumed to be in violation until such time as that documentation is provided.

Tripps Run - Barrett Road Mitigation
Existing Conditions
US Route 50
12846
12372
11973
11868
11570
11353
11210
10763
10563
10398
10277
10170
9982
9727
9454
9055
8630
8410
8199
8103
7960
Annandale Rd
Holloway Road
Sleepy Hollow Road
N
0
250
500
1,000
Feet
Project Area Impacts
Structures Located in the
1-Percent AC* Floodplain: 62
Legend
Elevation Certificates
Model Cross-Sections
Bridges
Stream Centerline
Structures Impacted by the
1-Percent AC* Floodplain
Buildings
Parcels
1-Percent AC* Floodplain
0.2-Percent AC* Floodplain
The 1-percent and 0.2-percent annual chance floodplains shown here were developed with the results from this study and are not part of an official FEMA study. They should not be used for regulatory purposes. This is not an official FEMA flood insurance study and these data should not be used as such.
*AC - Annual Chance

Tripps Run - Barrett Road Mitigation
Scenario 3
US Route 50
Annandale Rd
Sleepy Hollow Road
N
0
250
500
1,000
Feet
12372
11973
11868
11570
11353
11210
10763
10563
10398
10170
9982
9727
9454
9055
8630
8410
8199
8103
7960
7586
Holloway Road
Bridge Removed
Project Area Impacts
Structures Located in the
1-Percent AC* Floodplain Boundary: 40
(13 structures removed from the
1-Percent AC* Floodplain Boundary)
(9 structures acquired by the County)
Legend
Elevation Certificates
Model Cross-Sections
Bridges
Stream Centerline
Propsed Conditions
Limits of Grading
Structures Acquired by the County
Structures Inundated by the
1-Percent AC* Floodplain
Buildings
Parcels
1-Percent AC* Floodplain
0.2-Percent AC* Floodplain
The 1-percent and 0.2-percent annual chance floodplains shown here were developed with the results from this study and are not part of an official FEMA study. They should not be used for regulatory purposes. This is not an official FEMA flood insurance study and these data should not be used as such.
*AC - Annual Chance

Barrett Road Project Area Water Surface Elevation Comparisons at Select Cross-Sections			
Cross-Section		1-Percent Annual Chance WSEL (feet NAVD 88)	
Letter	HEC-RAS Station	Existing Conditions	Scenario 3
	12106	249.7	249.5
	11973	249.7	249.5
	11868	249.8	249.6
Annandale Road			
	11749	246.3	245.9
I	11570	244.7	244.6
	11570	244.7	244.6
	11353	243.5	241.1
	11210	243.1	241.0
	11032	242.8	240.0
	10853	242.0	238.1
	10763	241.9	238.0
	10563	240.7	237.8
H	10398	240.3	237.8
	10277	239.8	237.7
Holloway Road			
	10170	238.2	237.7
	10099	237.9	237.6
	9982	237.8	237.6
G	9727	236.4	236.3
	9454	235.9	235.9
	9055	235.4	235.4
	8630	235.2	235.2
F	8410	235.2	235.2
	8199	234.7	234.7
Sleepy Hollow Road			
	8103	228.9	228.9
	7690	227.0	227.0

Appendix B
Scoring Criteria Supporting Documentation

B.1 Vulnerability Score

B.2 Census Block Map

Tripps at Barrett Rd Social Vulnerability Index Score

Social Vulnerability Index Score

- Very Low Social Vulnerability
- Low Social Vulnerability
- Moderate Social Vulnerability
- High Social Vulnerability
- Very High Social Vulnerability
- Not inlcuded in the analysis

March 8, 2022

1:9,028

0 0.05 0.1 0.2 mi

0 0.075 0.15 0.3 km

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

https://cmap2.vims.edu/SocialVulnerability/SocioVul_SS.html

Created from the Virginia Vulnerability Viewer

Tripps at Barrett - 2020 Census Block

March 9, 2022

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Source: U.S. Census Bureau, Sources: Esri, USGS, NOAA

Counties	Areal Hydrography	Census Block Groups	Secondary Roads 72_1k scale	Census Blocks
States	Linear Hydrography	Railroads	Interstates and US Highways	Census Block Groups
Glaciers	Census Blocks	Local Roads	Other Roads	Glaciers
			Primary Roads	Areal Hydrography

Created with: TIGERweb

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Appendix C
Project Budget Supporting Documentation

C.1 Estimate of Total Costs

C.2 Construction Costs

C.3 Authorization to Request Funding

#	Description	Qty	Unit price	Total	Sub-Totals
1	Acquisition - 6656 Barrett Road	1	576,100.00	576,100.00	
2	Acquisition - 6654 Barrett Road	1	650,600.00	650,600.00	
3	Acquisition - 6652 Barrett Road	1	639,700.00	639,700.00	
4	Acquisition - 6650 Barrett Road	1	670,000.00	670,000.00	
5	Acquisition - 6648 Barrett Road	1	724,600.00	724,600.00	
6	Acquisition - 6646 Barrett Road	1	543,000.00	543,000.00	
7	Acquisition - 6644 Barrett Road	1	797,000.00	797,000.00	
8	Acquisition - 6642 Barrett Road	1	562,600.00	562,600.00	
9	Acquisition - 6640 Barrett Road	1	607,100.00	607,100.00	
10	Appraisal	9	500.00	4,500.00	
11	Closing Costs	9	2,750.00	24,750.00	
12	Deed Restriction	9	250.00	2,250.00	
13	Demo/Disposal	9	14,500.00	130,500.00	
				Acquisition Subtotal	5,932,700.00
14	Engineering Design/Permitting/Survey	1	786,000.00	786,000.00	
15	Geotechnical Services	1	50,000.00	50,000.00	
16	Utility Relocation	1	50,000.00	50,000.00	
17	Construction Management/Oversight	1	600,000.00	600,000.00	
18	Stream Restoration/Flood Mitigation Construction	1	4,805,996.00	4,805,996.00	
				Sub-Total - Stream Restoration	6,291,996.00
	Contingency %		5.0%		
19	Contingency - 5% Subtotal	1	611,234.80	611,234.80	
				Contingency Subtotal	611,234.80
	Project Total				**12,836,000.00**

	Total	CFPF	County Match	Total Project
Cost Share $	**12,836,000.00**	**8,985,200.00**	**3,850,800.00**	**12,836,000.00**
Cost Share %		**70.00%**	**30.00%**	**100.00%**

Stream Enhancements/Restoration and Floodplain/Environmental Corridor Construction Costs

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	BID EXT.
1	MOBILIZATION PER SECTION 1025-2.1	1	LS	$ 184,846.00	$ 184,846.00
2	DEMOLITION OF HOLLOWAY BRIDGE	1	LS	$ 85,000.00	$ 85,000.00
3	SURVEY STAKEOUT AND BENCHMARKS	1	LS	$ 55,000.00	$ 55,000.00
4	TRAFFIC CONTROL PER SECTION 1025-2.2	1	LS	$ 50,000.00	$ 50,000.00
5	CLEARING & GRUBBING	7.0	AC	$ 17,500.00	$ 122,500.00
6	CHANNEL DEBRIS REMOVAL AND DISPOSAL	1	LS	$ 15,000.00	$ 15,000.00
7	FURNISH AND INSTALL REINFORCED BED MIX - RECONNECTION WEIR	473	TON	$ 160.00	$ 75,680.00
8	ROCK STRUCTURES, ALL TYPES PER SECTION 2960, FOR GRADE CONTROL OR FLOW DEFLECTION IN STREAMS	190	TON	$ 155.00	$ 29,450.00
9	FURNISH AND INSTALL REINFORCED BED MIX - STREAM BED	4,250	TON	$ 160.00	$ 680,000.00
10	REGULAR EXCAVATION	41,990	CY	$ 21.00	$ 881,790.00
11	CUT TO HAUL	41,990	CY	$ 40.00	$ 1,679,600.00
12	PLACING SALVAGED AND/OR FURNISHED TOPSOIL/COMPOST MIX (3:1)	4,420	CY	$ 58.00	$ 256,360.00
13	LOG VANE WITH ROOT WAD	1	EA	$ 3,020.00	$ 3,020.00
14	WOOD TOE WITH COIR LIFTS	80	LF	$ 175.00	$ 14,000.00
15	CONSTRUCTED RIFFLE WITH LOG ROLLERS (PER LOG)	30	EA	$ 2,090.00	$ 62,700.00
16	CONSTRUCTED LOG GRADE CONTROL (LOG SILL)	6	EA	$ 2,700.00	$ 16,200.00
17	PRE AND POST CONSTRUCTION VIDEO INSPECTION OF EXISTING SANITARY SEWER PIPES	3,270	LF	$ 4.02	$ 13,145.40
18	TEMPORARY SAFETY FENCE AND TREE PROTECTION	4,640	LF	$ 4.00	$ 18,560.00
19	SUPER SILT FENCE	4,640	LF	$ 10.50	$ 48,720.00
20	STREAM PUMP AROUND	1	LS	$ 55,000.00	$ 55,000.00
21	TEMPORARY CONSTRUCTION ENTRANCE (WITH WASH RACK)	4	EA	$ 5,000.00	$ 20,000.00
22	NATURAL COIR FIBER MATTING	7,950	SY	$ 8.03	$ 63,838.50
23	TEMPORARY STABILIZATION (SEED, MULCH, LIME & FERTILIZER)	34,020	SY	$ 1.25	$ 42,525.00
24	HERBACEOUS SEEDING, NATIVE SEEDING WITH WETLAND, SUNNY UPLAND AND SHADY MIXES. THE MIXES AND APPLICATION RATE TO BE ERNST SEED MIX OR EQUAL AS PER SECTION 2960 (SECTION 24)	34,020	SY	$ 2.00	$ 68,040.00
25	FURNISH AND PLANT TREES (3 GALLON)/SHRUBS (1 GALLON)	1,510	EA	$ 37.76	$ 57,017.60
26	FURNISH AND INSTALL LIVE STAKES	7,100	EA	$ 7.16	$ 50,836.00
27	PUBLIC USE TRAIL (ASSUMED ASPHALT)	2,510	SY	$ 54.25	$ 136,167.50
28	SELECTIVE CHEMICAL SPRAYING ON VEGETATION TO KILL INVASIVE SPECIES	7.0	AC	$ 3,000.00	$ 21,000.00
	CONSTRUCTION ESTIMATE TOTAL AMOUNT				**$ 4,805,996.00**

County of Fairfax, Virginia

MEMORANDUM

DATE: April 5, 2022

TO: Board of Supervisors

FROM: Bryan J. Hill
County Executive

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

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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 Codding, Deputy Director DPWES, Stormwater and Wastewater Divisions