

2745 - Wise County H&H and Flood Modeling Study

Application Details

Funding Opportunity:	2337-Virginia Community Flood Preparedness Fund - Study Grants - CY24 Round 5
Funding Opportunity Due Date:	Jan 24, 2025 11:59 PM
Program Area:	Virginia Community Flood Preparedness Fund
Status:	Under Review
Stage:	Final Application
Initial Submit Date:	Jan 24, 2025 10:12 PM
Initially Submitted By:	Jessica Swinney
Last Submit Date:	
Last Submitted By:	

Contact Information

Primary Contact Information

Active User*:	Yes
Type:	External User
Name*:	Mrs. Jessica Swinney
	Salutation First Name Middle Name Last Name
Title:	
Email*:	gio@wisecounty.org
Address*:	206 E Main St
	Wise Virginia 24293
	City State/Province Postal Code/Zip
Phone*:	276-219-1393 Ext.
	Phone
	###-###-####
Fax:	###-###-####
Comments:	

Organization Information

Status*:	Approved
Name*:	County of Wise, VA
Organization Type*:	Local Government
Tax ID*:	546001688
Unique Entity Identifier (UEI)*:	195
Organization Website:	

Address*: 206 E Main St Rm 210
PO Box 570

Wise Virginia 24293-
City State/Province Postal Code/Zip

Phone*: 276-328-7110 Ext.
###

Fax: ### ###

Benefactor:

Vendor ID:

Comments:

VCFPF Applicant Information

Project Description

Name of Local Government*: County of Wise
Your locality's CID number can be found at the following link: [Community Status Book Report](#)

NFIP/DCR Community Identification Number (CID)*: 510174

If a state or federally recognized Indian tribe,

Name of Tribe:

Authorized Individual*: Michael Hatfield
First Name Last Name

Mailing Address*: 206 E Main St
Address Line 1

PO Box 570
Address Line 2

Wise Virginia 24293
City State Zip Code

Telephone Number*: 276-328-2321

Cell Phone Number*: 276-298-5411

Email*: hatfield_m@wisecounty.org
Is the contact person different than the authorized individual?

Contact Person*: Yes

Contact: Jessica Swinney
First Name Last Name

206 E Main St
Address Line 1

PO Box 570
Address Line 2

Wise Virginia 24293
City State Zip Code

Telephone Number: 276-328-7110

Cell Phone Number: 276-219-1793

Email Address: gio@wisecounty.org

Enter a description of the project for which you are applying to this funding opportunity

Project Description*:

This project will conduct a Hydrologic & Hydraulic study to assess flood risk in three areas within Wise County that have repeatedly experienced

flooding over the past few years. The main objectives of this project are 1) to conduct a comprehensive H&H study using the best available science to understand the root causes of recurrent flooding and assess the cascading risk of flooding, and 2) to develop potential strategies to mitigate the impact of flooding.

Low-income geographic area means any locality, or community within a locality, that has a median household income that is not greater than 80 percent of the local median household income, or any area in the Commonwealth designated as a qualified opportunity zone by the U.S. Secretary of the Treasury via his delegation of authority to the Internal Revenue Service. A project of any size within a low-income geographic area will be considered.

Is the proposal in this application intended to benefit a low-income geographic area as defined above?

Benefit a low-income geographic area*: Yes

Information regarding your census block(s) can be found at [census.gov](https://www.census.gov)

Census Block(s) Where Project will Occur*:

511959309001, 511959314003, 511959308001, 511959308002, 511959307001, 511959314001, 511959315002

Is Project Located in an NFIP Participating Community?* Yes

Is Project Located in a Special Flood Hazard Area?* Yes

**Flood Zone(s)
(if applicable):**

**Flood Insurance Rate Map Number(s)
(if applicable):**

Eligibility - Round 4

Eligibility

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)?

Local Government*: Yes
Yes - Eligible for consideration
No - Not eligible for consideration

If the applicant is not a town, city, or county, are letters of support from all affected local governments included in this application?

Letters of Support*: Yes
Yes - Eligible for consideration
No - Not eligible for consideration

Has this or any portion of this project been included in any application or program previously funded by the Department?

Previously Funded*: No
Yes - Not eligible for consideration
No - Eligible for consideration

Has the applicant provided evidence of an ability to provide the required matching funds?

Evidence of Match Funds*: Yes
Yes - Eligible for consideration
No - Not eligible for consideration
N/A - Match not required

Scope of Work - Studies - Round 4

Scope of Work

Upload your **Scope of Work**

Please refer to Part IV, Section B. of the grant manual for guidance on how to create your scope of work

Scope of Work*: [Scope of Work-2.docx](#)

Comments:

Budget Narrative

Budget Narrative Attachment*: [Budget Narrative-2.docx](#)

Comments:

Budget Narrative

Scoring Criteria for Studies - Round 4

Scoring

Revising floodplain ordinances to maintain compliance with the NFP 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 Floodplain Ordinances*: No
Select

Creating tools or applications to identify, aggregate, or display information on flood risk or creating a crowd-sourced mapping platform that gathers data points about real-time flooding. This could include a locally or regionally based web-based mapping product that allows local residents to better understand their flood risk.

Mapping Platform*: No
Select

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).

Hydrologic and Hydraulic Studies*: Yes
Select

Studies and Data Collection of Statewide and Regional Significance. Funding of studies of statewide and regional significance and proposals will be considered for the following types of studies:

Updating precipitation data and IDF information (rain intensity, duration, frequency estimates) including such data at a sub-state or regional scale on a periodic basis.

Updating Precipitation Data and IDF Information*: No
Select

Regional relative sea level rise projections for use in determining future impacts.

Projections*: No
Select

Vulnerability analysis either statewide or regionally to state transportation, water supply, water treatment, impounding structures, or other significant and vital infrastructure from flooding.

Vulnerability Analysis*: No
Select

Flash flood studies and modeling in riverine regions of the state.

Flash Flood Studies*: Yes
Select

Statewide or regional stream gauge monitoring to include expansion of existing gauge networks.

Stream Gauge Monitoring*: No
Select

New or updated delineations of areas of recurrent flooding, stormwater flooding, and storm surge vulnerability in coastal areas that include projections for future conditions based on sea level rise, more intense rainfall events, or other relevant flood risk factors.

Delineations of Areas of Recurrent Flooding*: No
Select

Regional flood studies in riverine communities that may include watershed-scale evaluation, updated estimates of rainfall intensity, or other information.

Regional Flood Studies*: No
Select

Regional Hydrologic and Hydraulic Studies of Floodplains

Regional Hydrologic and Hydraulic Studies of Floodplains*: No
Select

Studies of potential land use strategies that could be implemented by a local government to reduce or mitigate damage from coastal or riverine flooding.

Potential Land Use Strategies*: Yes
Select

Pluvial Studies

Pluvial Studies*:

Yes
Select

Other proposals that will significantly improve protection from flooding on a statewide or regional basis.

Other Proposals*:

No
Select

Is the project area socially vulnerable? (based on [ADAPT Virginia's Social Vulnerability Index Score](#))

Social Vulnerability Scoring:

Very High Social Vulnerability (More than 1.5)
High Social Vulnerability (1.0 to 1.5)
Moderate Social Vulnerability (0.0 to 1.0)
Low Social Vulnerability (-1.0 to 0.0)
Very Low Social Vulnerability (Less than -1.0)

Socially Vulnerable*:

Very High Social Vulnerability (More than 1.5)

Is the proposed project part of an effort to join or remedy the community's probation or suspension from the NRP?

NFIP*:

No

Is the proposed project in a low-income geographic area as defined below?

"Low-income geographic area" means any locality, or community within a locality, that has a median household income that is not greater than 80 percent of the local median household income, or any area in the Commonwealth designated as a qualified opportunity zone by the U.S. Secretary of the Treasury via his delegation of authority to the Internal Revenue Service. A project of any size within a low-income geographic area will be considered.

Low-Income Geographic Area*:

Yes

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?

**Reduction of Nutrient and Sediment
Pollution*:**

No

Comments:

Scope of Work Supporting Information - Studies

Scope of Work Supporting Information

Is the proposed study a new study or updates on a prior study?

New or Updated Study*:

New Study

Describe the relationship of the study to the local government's needs for flood prevention and protection, equity, community improvement, identification of nature-based solutions or other priorities contained in this manual

**Relationship of Study to Priorities
Contained in this Manual*:**

The relationship of the study to the local government's needs for flood prevention and protection, equity, community improvement, identification of nature-based solutions or other priorities contained in this manual.

As identified in the 2021 LENOWISCO Hazard Mitigation Plan, the mitigation action of Purchasing generators for emergency shelters at Coeburn Middle school and ensure shelters are wired for portable generators.

As identified in the 2021 LENOWISCO Hazard Mitigation Plan, the mitigation action of Purchasing generators for emergency shelters at Wise Elementary school and ensure shelters are wired for portable generators.

Provide study to support the mitigation action identified in the 2021 LENOWISCO Hazard Mitigation Plan, Initiate improvements and repairs to culvert, road damages, and storm drainage infrastructures at Yellow Creek/Railroad Avenue and School Avenue.

As identified in the 2021 LENOWISCO Hazard Mitigation Plan, the mitigation action of Purchasing generators for emergency shelters at JW Adams Combined school and ensure shelters are wired for portable generators.

As identified in the 2021 LENOWISCO Hazard Mitigation Plan, conduct a water study to document the need for improved storm drain infrastructure.

Describe the qualifications of the individuals or organizations charged with conducting the study or the elements of any request for proposal that define those qualifications

Qualifications of Individuals Conducting

Study*:

This proposed Studies project will be conducted by a team of UVA researchers who are well-versed in flood modeling, hydrologic and hydraulic assessments, stormwater management, and resilience planning. The team brings extensive experience in working with rural and underserved communities to address complex flood risks and develop actionable mitigation strategies. Leveraging advanced modeling techniques and stakeholder engagement processes, the team is uniquely positioned to deliver a comprehensive flood risk assessment and tailored solutions that align with the priorities of the study areas. Their expertise will ensure that the project outcomes not only address immediate flood risks but also provide a sustainable framework for long-term resilience planning and implementation.

All four members of the UVA team, Dr. Majid Shafiee-Jood, Dr. Jonathan Goodall, Dr. Teresa Culver, and Dr. Negin Alemazkoo, are faculty members in Department of Civil and Environmental Engineering at the UVA's School of Engineering and Applied Science. The UVA team will be led by Dr. Shafiee-Jood, who is a civil engineer specializing in water resources engineering, sustainability, natural hazards, and decision-making. Dr. Shafiee-Jood co-leads the UVA's Virginia Flood Resilience Initiative and was a co-lead in the CFPF Round 2 LENOWISCO PDC Capacity Planning and Planning project. Over the past one year, Dr. Shafiee-Jood has partnered with Wise County on multiple research grant proposals and has provided technical expertise on several projects. Other UVA Engineering faculty members will support the project as senior technical advisors. Dr. Goodall has extensive experience in developing advanced, high resolution flood models and has led several major projects in coastal Virginia aim at improving flood modeling, flood forecasting, stormwater management, and flood resilience. He is also an expert in integrating Artificial Intelligence with hydrologic models to develop high resolution models that are capable of simulating floods in hyper local resolution Dr. Goodall was recently elected as a member of the Virginia Academy of Science, Engineering, and Medicine. He also recently co-chaired a study on the impacts of climate change in Virginia and presented the results to Virginias Joint Commission on Science and Technology, with several recommendations for infrastructure management at the state level.

Describe the expected use of the study results in the context of the local resilience plan or, in the case of regional plans, how the study improves any regional approach

Expected use of Study Results*:

1. Protect the lives, health, and safety of LENOWISCO residents and visitors, maintain critical societal functions before, during, and after a disaster.
2. Identify and implement mitigation projects that will minimize a hazard's impact on existing and future developments, including reducing risk to NFIP repetitive loss and severe repetitive loss properties.
3. Incorporate mitigation into existing and future policies, plans, regulations, and laws in LENOWISCO.
4. Promote and support a whole community approach to mitigation that encourages residents, businesses, and public entities to become more disaster resilient. residents, businesses, and public entities to become more disaster resilient.
5. These studies will assist with capital improvement programs such as stormwater, floodplain, hazard mitigation plan and including the comprehensive plan.
6. A comprehensive plan will help better identify the areas of risk for potential flooding and development and implementation of plans to mitigate flooding.

If applicable, describe how the study may improve Virginia's flood protection and prevention abilities in a statewide context (type N/A if not applicable)

Statewide Improvements*:

N/A

Provide a list of repetitive and/or severe repetitive loss properties. Do not provide the addresses for the properties, but include an exact number of repetitive and/or severe repetitive loss structures within the project area

Repetitive Loss and/or Severe Repetitive Loss Properties*:

[NFIP Claims Data.docx](#)

Describe the residential and commercial structures impacted by this project, including how they contribute to the community such as historic, economic, or social value. Provide an exact number of these structures in the project area

Residential and/or Commercial Structures*:

Tacoma Area: Residential 355, Commercial 72

Town of Wise: Residential 196, Commercial 32

Town of Pound: Residential 65, Commercial 148

If there are critical facilities/infrastructure within the project area, describe each facility

Critical Facilities/Infrastructure*:

Tel-Com Inc. Cellular tower

Coeburn Mountain water tank and pump

Wise Town Hall

Lake Street Cellular Tower

Pound Post Office

Pound Fire Department

Pound Town Hall

Budget

Budget Summary

Grant Matching Requirement*:

LOW INCOME - Flood Prevention and Protection Studies - Fund 90%/Match 10%

Is a match waiver being requested?

Match Waiver Request

No

Note: Only low-income communities are eligible for a match waiver

*

I certify that my project is in a low-income geographic area:

Yes

Total Project Amount (Request + Match)*:

\$305,287.00

**This amount should equal the sum of your request and match figures

REQUIRED Match Percentage Amount:

\$30,528.70

BUDGET TOTALS

Before submitting your application be sure that you meet the match requirements for your project type.

Match Percentage:

10.00%

Verify that your match percentage matches your required match percentage amount above.

Total Requested Fund Amount:

\$274,749.00

Total Match Amount:

\$30,538.00

TOTAL:

\$305,287.00

Personnel

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Fringe Benefits

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Travel

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Equipment

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Supplies

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Construction

Description	Requested Fund Amount	Match Amount	Match Source
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No Data for Table

Contracts

Description	Requested Fund Amount	Match Amount	Match Source
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UVA Consulting Contract	\$274,749.00	\$30,538.00	UVA In-kind services
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	\$274,749.00	\$30,538.00	
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Pre-Award and Startup Costs

Description	Requested Fund Amount	Match Amount	Match Source
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No Data for Table

Other Direct Costs

Description	Requested Fund Amount	Match Amount	Match Source
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No Data for Table

Supporting Documentation

Supporting Documentation

Named Attachment	Required	Description	File Name	Type	Size	Upload Date
Detailed map of the project area(s) (Projects/Studies)		Detailed Map of Project Area	Appendix C_item1.pdf	pdf	371 KB	01/24/2025 05:04 PM
FIRMette of the project area(s) (Projects/Studies)		FIRMette of Study Area	Appendix C_item2.pdf	pdf	701 KB	01/24/2025 05:04 PM
Historic flood damage data and/or images (Projects/Studies)		Historic Flooding Images	Appendix C_item3.pdf	pdf	5 MB	01/24/2025 05:06 PM
A link to or a copy of the current floodplain ordinance		Floodplain Ordinance Links	Appendix C_item4.pdf	pdf	92 KB	01/24/2025 05:06 PM
Maintenance and management plan for project						
A link to or a copy of the current hazard mitigation plan		Hazard Mitigation Plan	Hazard Mitigation Plan.pdf	pdf	104 KB	01/24/2025 05:07 PM
A link to or a copy of the current comprehensive plan		Comprehensive Plan Links	Appendix C_item6.pdf	pdf	95 KB	01/24/2025 05:07 PM
Social vulnerability index score(s) for the project area		Social Vulnerability Index Score	Wise County Social Vulnerability Index Score.pdf	pdf	181 KB	01/24/2025 05:08 PM
Authorization to request funding from the Fund from governing body or chief executive of the local government		County Administrator Authorization	MMH Signed Wise County VA CFPF Round 5 Study Authorization Letter.pdf	pdf	365 KB	01/24/2025 05:09 PM
Signed pledge agreement from each contributing organization		UVA Pledge Match Letter	FP00425643 Shafiee-Jood-signed_Studies.pdf	pdf	1 MB	01/24/2025 05:09 PM

Maintenance Plan

Benefit-cost analysis must be submitted with project applications over \$2,000,000. in lieu of using the FEMA benefit-cost analysis tool, applicants may submit a narrative to describe in detail the cost benefits and value. The narrative must explicitly indicate the risk reduction benefits of a flood mitigation project and compares those benefits to its cost-effectiveness.

Benefit Cost Analysis

Other Relevant Attachments

Town of Pound
Floodplain Ordinance

[Town of Pound Floodplain Ordinance.pdf](#)

pdf 679 KB 01/24/2025 05:10 PM

Letters of Support

Description	File Name	Type	Size	Upload Date
Detailed Budget	Budget Detail-2.docx	docx	369 KB	01/24/2025 05:12 PM
LENOWISCO Support Letter	Wise_Co_Flood_Study_LOS_Signed_DM.pdf	pdf	58 KB	01/24/2025 05:11 PM

Supporting Documentation

Link to or a copy of the current comprehensive plan

Links to Comprehensive Plans:

Wise County (2020): <https://wisecounty.org/DocumentCenter/View/166/2020-Wise-County-Comprehensive-Plan-PDF>

Town of Pound: N/A

Town of Wise (2022):

https://www.townofwise.net/sites/default/files/fileattachments/planning_and_zoning/page/2474/comprehensive_plan_2022_20230706.pdf

Wise County Board of Supervisors



Office of the County Administrator

TELEPHONE (276) 328-2321
FAX (276) 328-9780

Michael W. Hatfield, P.E.

P.O. BOX 570
WISE, VA 24293

WISE COUNTY COURTHOUSE

Virginia Department of Conservation and Recreation
Attn: Virginia Community Flood Preparedness Fund
600 East Main Street, 24th Floor
Richmond, Virginia 23219

January 24, 2025

Re: Wise County - 2025 Virginia Community Flood Preparedness Fund Round 5 Application Authorization

Dear DCR CFPF Review Committee:

Please accept this letter as authorization of the County of Wise, Virginia's application to the 2025 Virginia Community Flood Preparedness Fund grant opportunity.

The County of Wise submits this application for funding assistance to the Studies category of the CFPF Round 5 for consideration of assistance with hydrologic and hydraulic and flood modeling studies in various flood prone areas across the county, including communities within or near the Towns of Wise and Pound and the Tacoma community outside of the Town of Coeburn.

Wise County is requesting funds in the amount of \$274,749 to accomplish these critical studies. As a low-income geographic area, Wise County is applying to the CFPF for 90% of the expected \$305,287 total cost, with the required 10% match to be provided by our intended contractor, the University of Virginia, in the form of in-kind services. We are grateful and excited by the prospect of addressing recurrent flooding events in our area of Southwest Virginia with information gathered through these proposed studies with support from the Department of Conservation and Recreation's Community Flood Preparedness Fund initiative.

Thank you for consideration of our CFPF Round 5 request. Please direct any questions regarding this application for funding support to Jessica Swinney, Wise County Emergency Management Coordinator, at gjo@wisecounty.org or 276-328-7110.

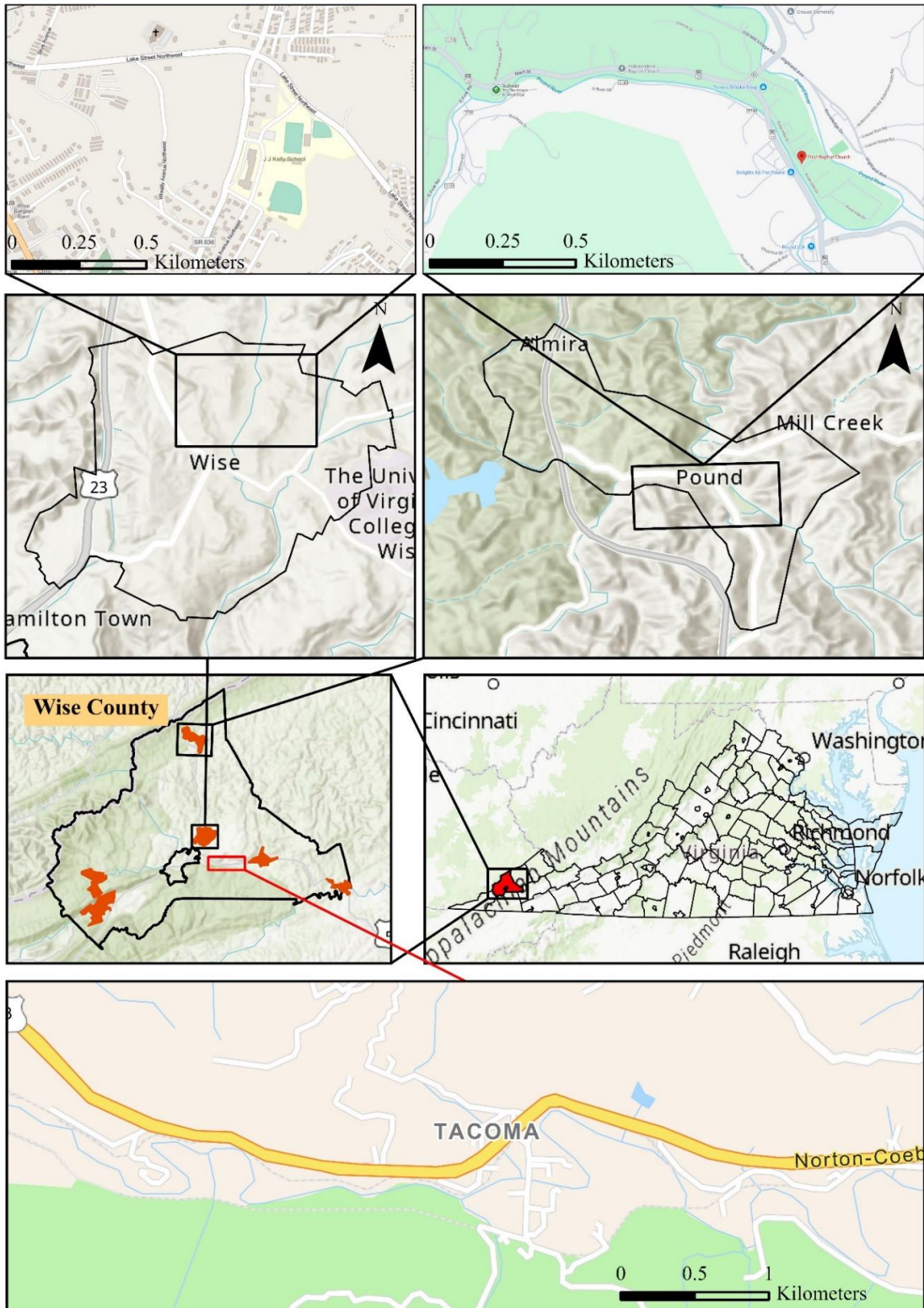
Sincerely,

A handwritten signature in black ink, appearing to read "Michael W. Hatfield", is written over a horizontal line.

Michael W. Hatfield, P.E.
Wise County Administrator

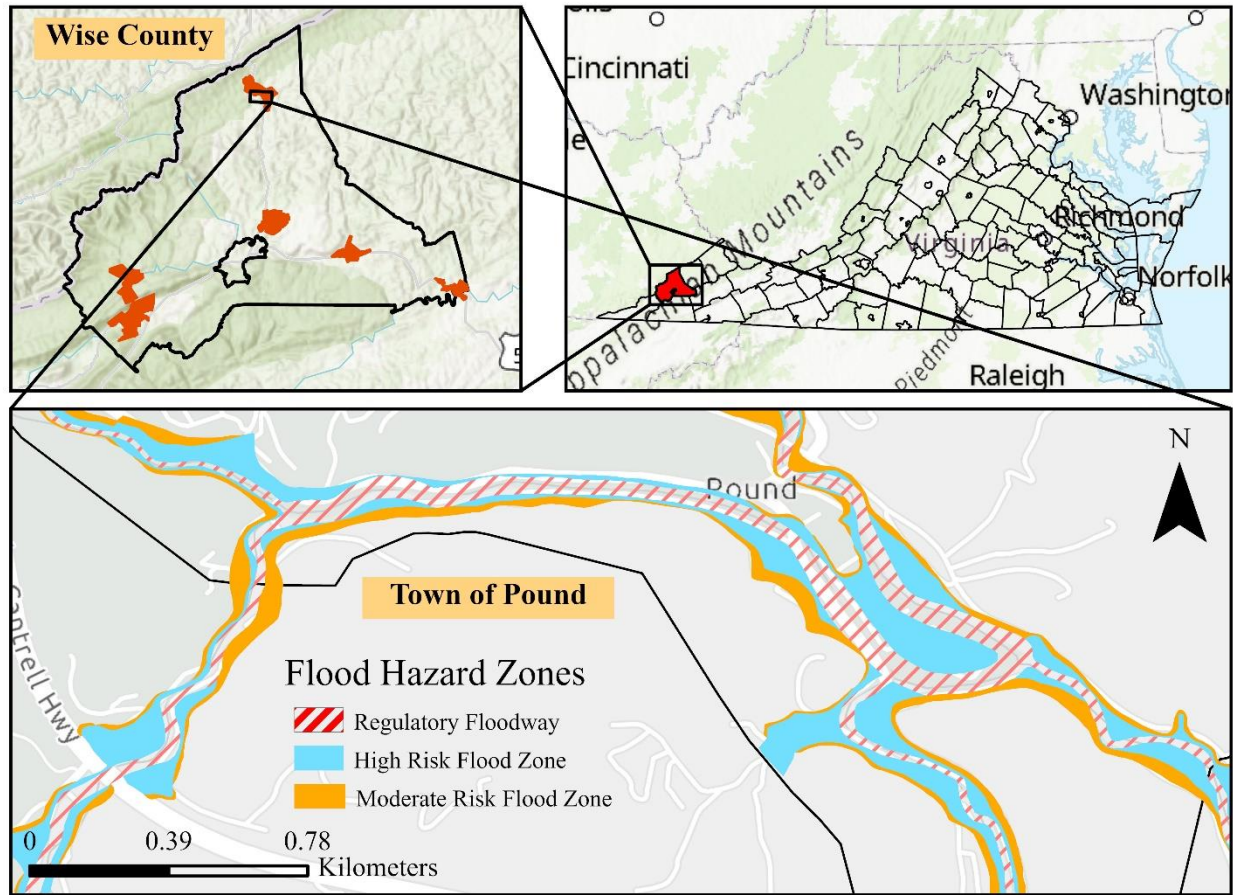
Supporting Documentation

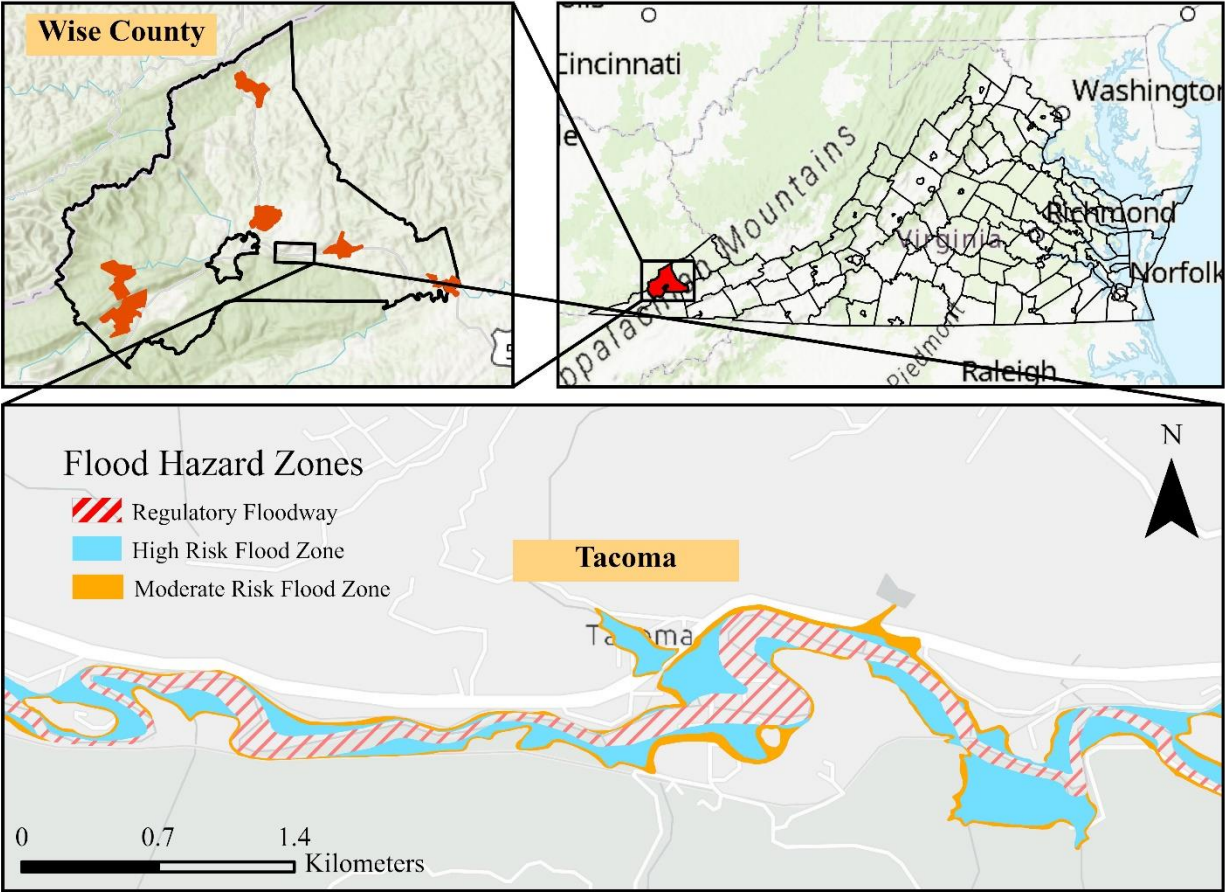
Detailed Map of the Project Area(s)

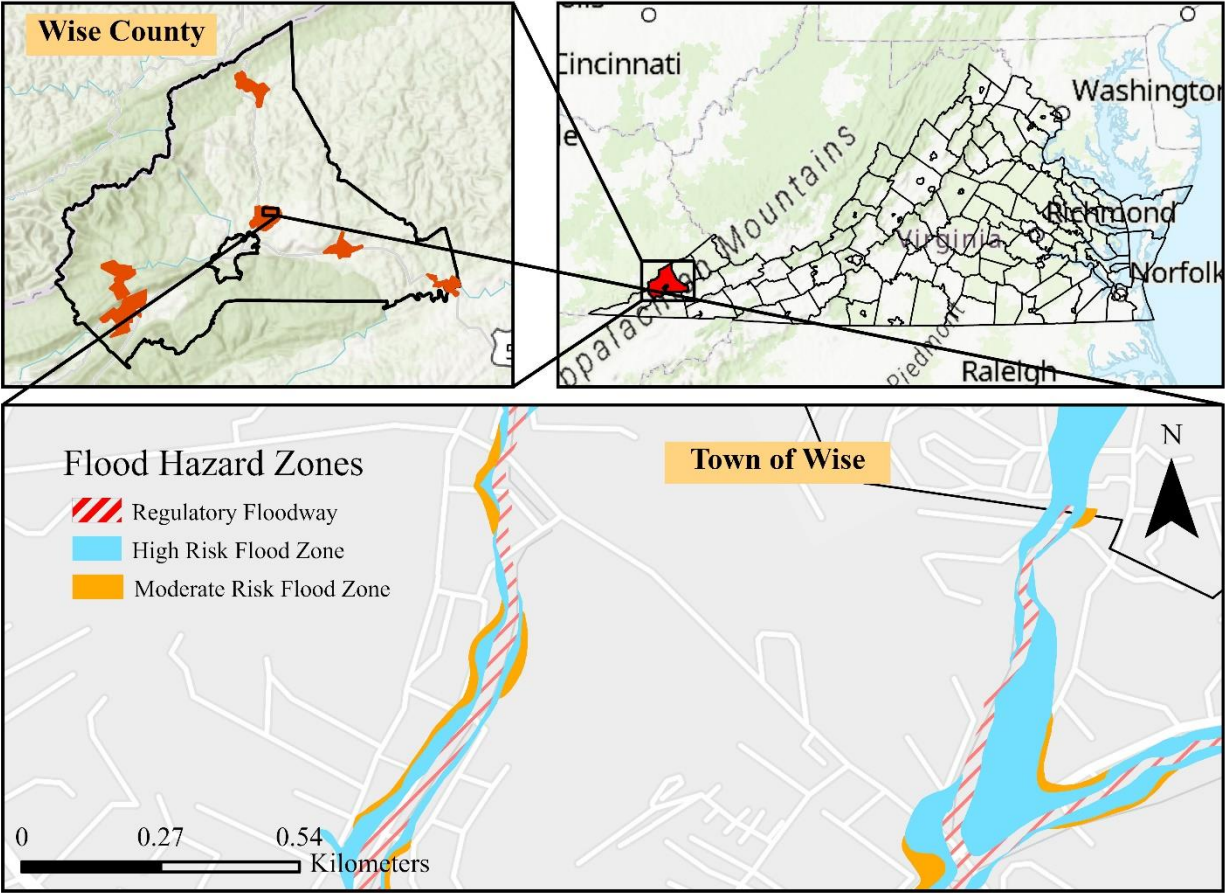


Supporting Documentation

FIRMette of the Project Areas(s)







Supporting Documentation

Link to or a copy of the flood ordinance

Links to Floodplain Ordinances:

Wise County:

https://library.municode.com/va/wise_county/codes/code_of_ordinances?nodeId=COCO_CH8_FLPR_ARTIIIDIPR

Town of Pound: Attached

Town of Wise:

https://www.townofwise.net/sites/default/files/fileattachments/planning_and_zoning/page/2553/2011_floodplain_ordinance.pdf

Supporting Documentation

Link to or a copy of the flood ordinance

Links to Floodplain Ordinances:

Wise County:

https://library.municode.com/va/wise_county/codes/code_of_ordinances?nodeId=COCO_CH8_FLPRTARTIIDIPR

City of Norton:

https://library.municode.com/va/norton/codes/code_of_ordinances?nodeId=CO_CH7STMAER_SECO

https://librarystage.municode.com/va/norton/codes/code_of_ordinances?nodeId=CO_APXASU_OR_ARTXFL

Town of Appalachia: Attached

Town of Big Stone Gap:

https://library.municode.com/va/big_stone_gap/codes/code_of_ordinances?nodeId=CO_CH9FLMA

Town of Coeburn:

https://www.coeburnva.gov/media/Building%20and%20Zoning/zoning_Ordinance.pdf

Town of Pound: Attached

Town of St Paul:

https://library.municode.com/va/st._paul/codes/code_of_ordinances?nodeId=APX1LAUSDE_APXCTOSTPAFLOR

Town of Wise:

https://www.townofwise.net/sites/default/files/fileattachments/planning_and_zoning/page/2553/2011_floodplain_ordinance.pdf

Supporting Documentation

Historic Flood Damage data and/or images

FIRMette #1 was created based on the following image (approximate location):

February 6, 2020, Wise County- Heavy rain pushed the Guest River over its banks and into a farm along US Highway 58 in the Tacoma section of Wise County.



Image source: TimesNews.ne

National Flood Hazard Layer FIRMette 1



82°32'13"W 36°56'34"N



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, X
	With BFE or Depth Zone AE, AO, AH, VE, AR
OTHER AREAS OF FLOOD HAZARD	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee, See Notes, Zone X
OTHER AREAS	Area with Flood Risk due to Levee Zone D
	NO SCREEN Area of Minimal Flood Hazard Zone X
GENERAL STRUCTURES	Effective LOMRs
	Area of Undetermined Flood Hazard Zone D
OTHER FEATURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
MAP PANELS	20.2 Cross Sections with 1% Annual Chance
	17.8 Water Surface Elevation
OTHER FEATURES	Coastal Transect
	Base Flood Elevation Line (BFE)
OTHER FEATURES	Limit of Study
	Jurisdiction Boundary
OTHER FEATURES	Coastal Transect Baseline
	Profile Baseline
OTHER FEATURES	Hydrographic Feature
	Digital Data Available
MAP PANELS	No Digital Data Available
	Unmapped
MAP PANELS	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 10/29/2021 at 9:45 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.

FIRMette #2 was created based on the following two images (approximate location):

February 6, 2020, Wise County- Heavy rains flooded yards of several homes in Town of Wise. Railroad Avenue homeowner said the flood around her home has been a regular occurrence since development around it a decade ago.



Image source: TimesNews.net

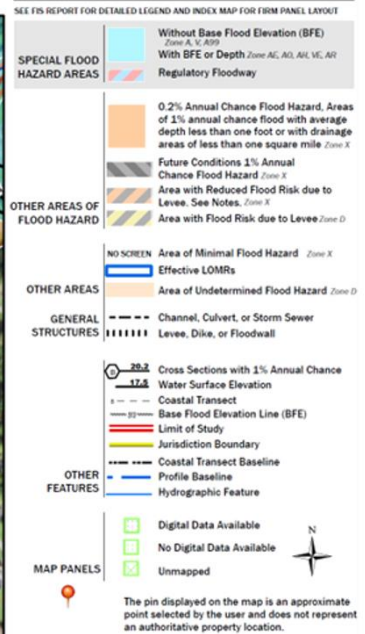


Image source: TimesNews.net

National Flood Hazard Layer FIRMeTte 2



Legend



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 10/29/2021 at 11:08 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.

FIRMette #3 and 4 were created based on the following images (approximate location):

July 28, 2022, Wise county - Emergency evacuations were being conducted in the town of Pound on Thursday, July 28, after thunderstorms resulted in severe flooding in the area.



Flooding in Pound, Va. Photo credit: Wise County Sheriff's Office



Flooding in Pound, Va. Photo credit: Wise County Sheriff's Office



Flooding in Pound, Va. Photo credit: Wise County Sheriff's Office



Flooding in Pound, Va. Photo credit: Wise County Sheriff's Office



Flooding in Pound, Va. Photo credit: Wise County Sheriff's Office



Flooding in Pound, Va. Photo credit: Wise County Sheriff's Office

National Flood Hazard Layer FIRMeTte 3



82°36'9"W 37°27'7"N



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

Basemap Imagery Source: USGS National Map 2023

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, X500
	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	20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
	17.8 Coastal Transect
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary
MAP PANELS	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
MAP PANELS	Digital Data Available
	No Digital Data Available
	Unmapped

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

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 1/23/2025 at 3:47 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

National Flood Hazard Layer FIRMette 4



82°37'8"W 37°7'41"N

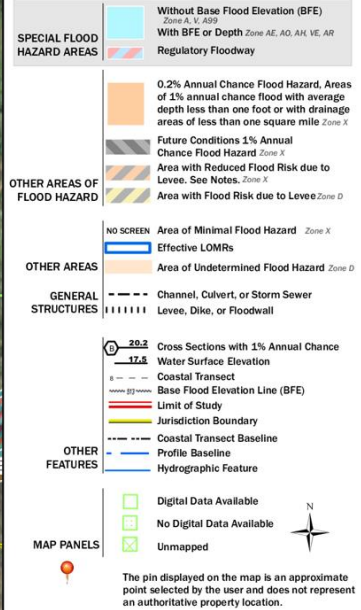


0 250 500 1,000 1,500 2,000 Feet 1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

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



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 3/23/2025 at 3:48 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

FIRMette #5 was created based on the following flood event (approximate location):

Sep 27, 2024, Wise County - Minor flooding occurred south of Pound due to heavy rain from Tropical Storm Helene, with streams nearing the tops of banks.

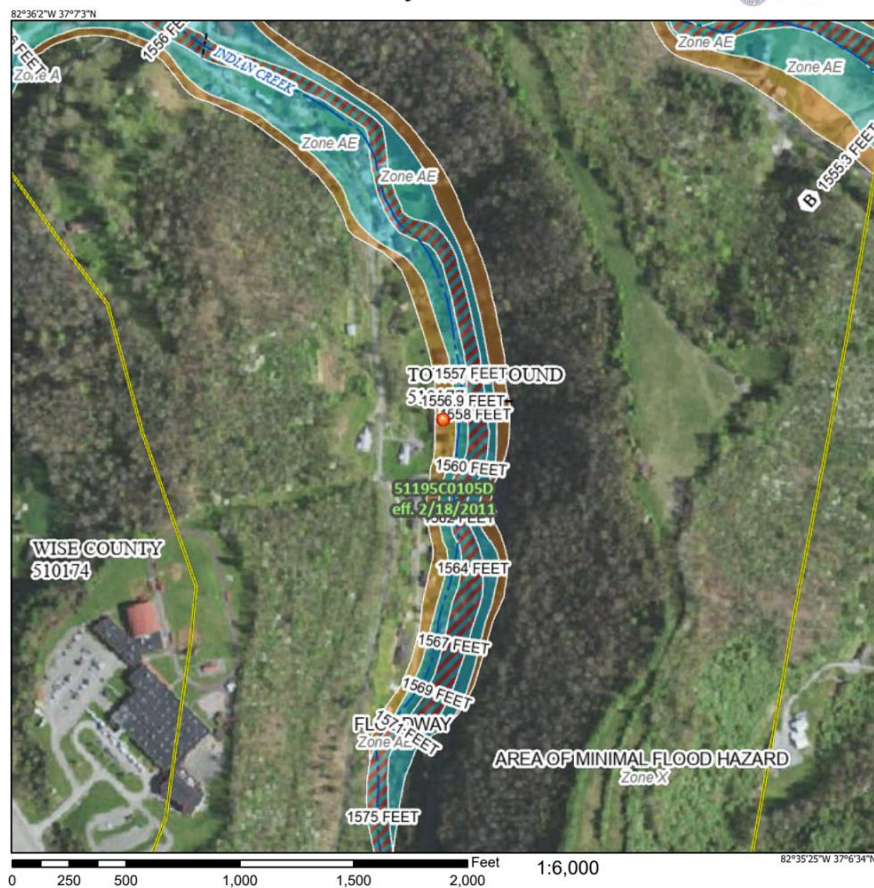
Storm Events Database

Event Details:

Event	Flash Flood
-- Flood Cause	Heavy Rain / Tropical System
State	VIRGINIA
County/Area	WISE
WFO	MRX
Report Source	Public
NCEI Data Source	CSV
Begin Date	2024-09-27 11:16 EST-5
Begin Location	4SSW POUND
End Date	2024-09-27 13:00 EST-5
End Location	2NE DEWEY
Deaths Direct/Indirect	0/0 (fatality details below, when available...)
Injuries Direct/Indirect	0/0
Property Damage	0.00K
Crop Damage	0.00K
Episode Narrative	Tropical Storm Helene caps off a several day heavy rainfall event in association with a stalled closed upper low with additional rain yielding catastrophic flash and river flooding, and significant wind damage as wet soils and strong wind gusts led to forest damage.
Event Narrative	Minor flooding reported south of Pound. Streams nearing top of banks in the area.

Ref. NOAA – Storm Events Database

National Flood Hazard Layer FIRMMette 5



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, APD 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	Cross Sections with 1% Annual Chance Water Surface Elevation 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

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 1/24/2025 at 3:58 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.

Basemap Imagery Source: USGS National Map 2023

FIRMette #6 was created based on the following flood event (approximate location):

Jul 18, 2024, Wise County - Localized flash flooding near Pound occurred due to a humid airmass and stationary front, covering portions of the Orby Cantrell Highway with water.

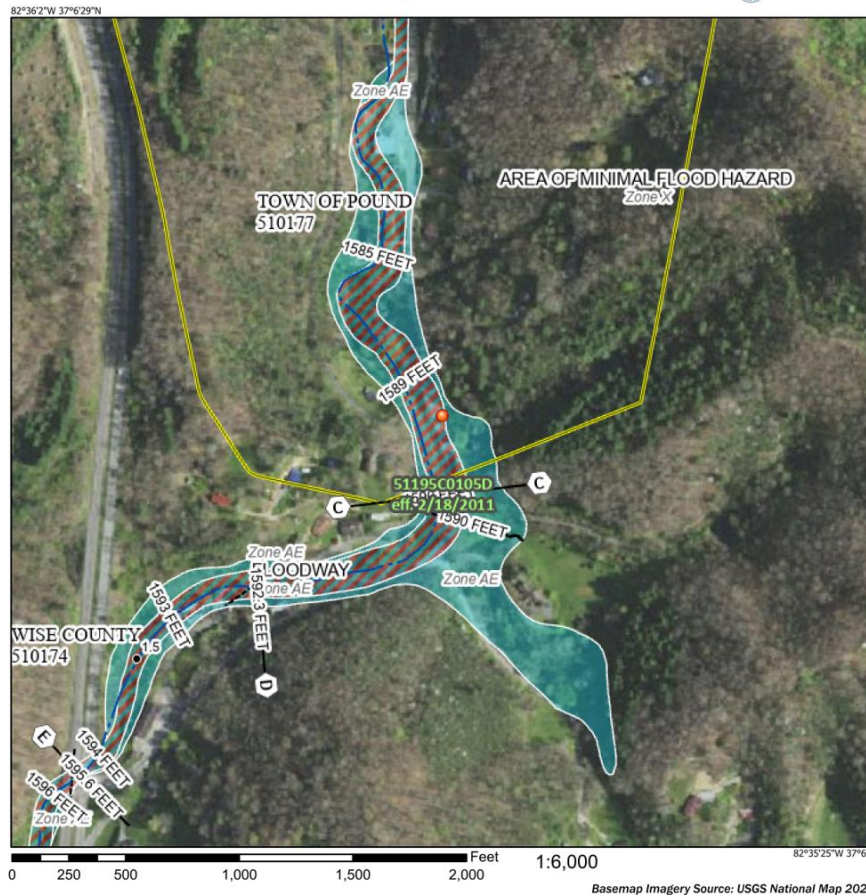
Storm Events Database

Event Details:

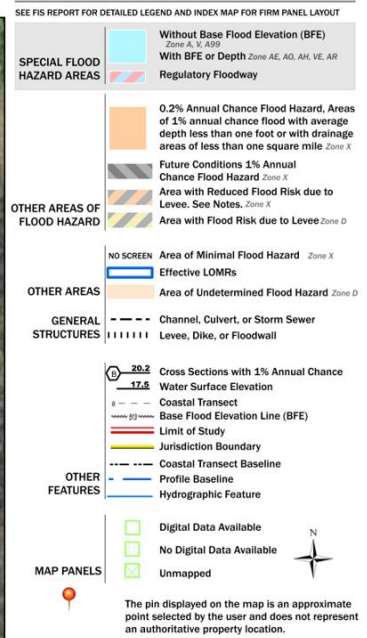
Event	Flood
-- Flood Cause	Heavy Rain
State	VIRGINIA
County/Area	WISE
WFO	MRX
Report Source	911 Call Center
NCEI Data Source	CSV
Begin Date	2024-07-18 06:40 EST-5
Begin Location	1N POUND
Begin Lat/Lon	37.1445/-82.62
End Date	2024-07-18 07:45 EST-5
End Location	1NNW POUND
End Lat/Lon	37.1434/-82.627
Deaths Direct/Indirect	0/0 (fatality details below, when available...)
Injuries Direct/Indirect	0/0
Property Damage	0.00K
Crop Damage	0.00K
Episode Narrative	A humid airmass and a stationary front draped over the area contributed to localized flash flooding near Pound.
Event Narrative	Portions of the Orby Cantrell Hwy were covered with water.

Ref. NOAA – Storm Events Database

National Flood Hazard Layer FIRMeTte 6



Legend



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.

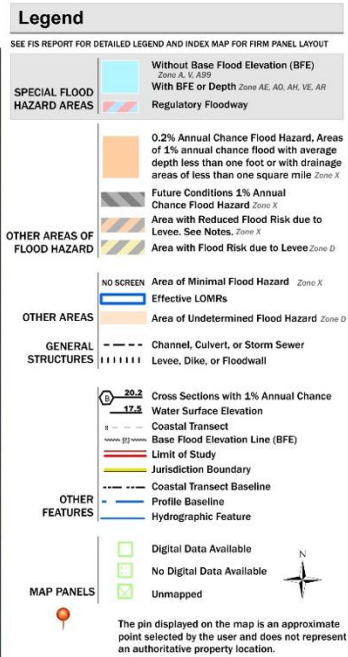
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/23/2025 at 4:39 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

FIRMette #7 was created based on the following images (approximate location):

Apr 13, 2020, Wise County – Heavy rainfall in the town of Pound caused flooding near the First Baptist Church.





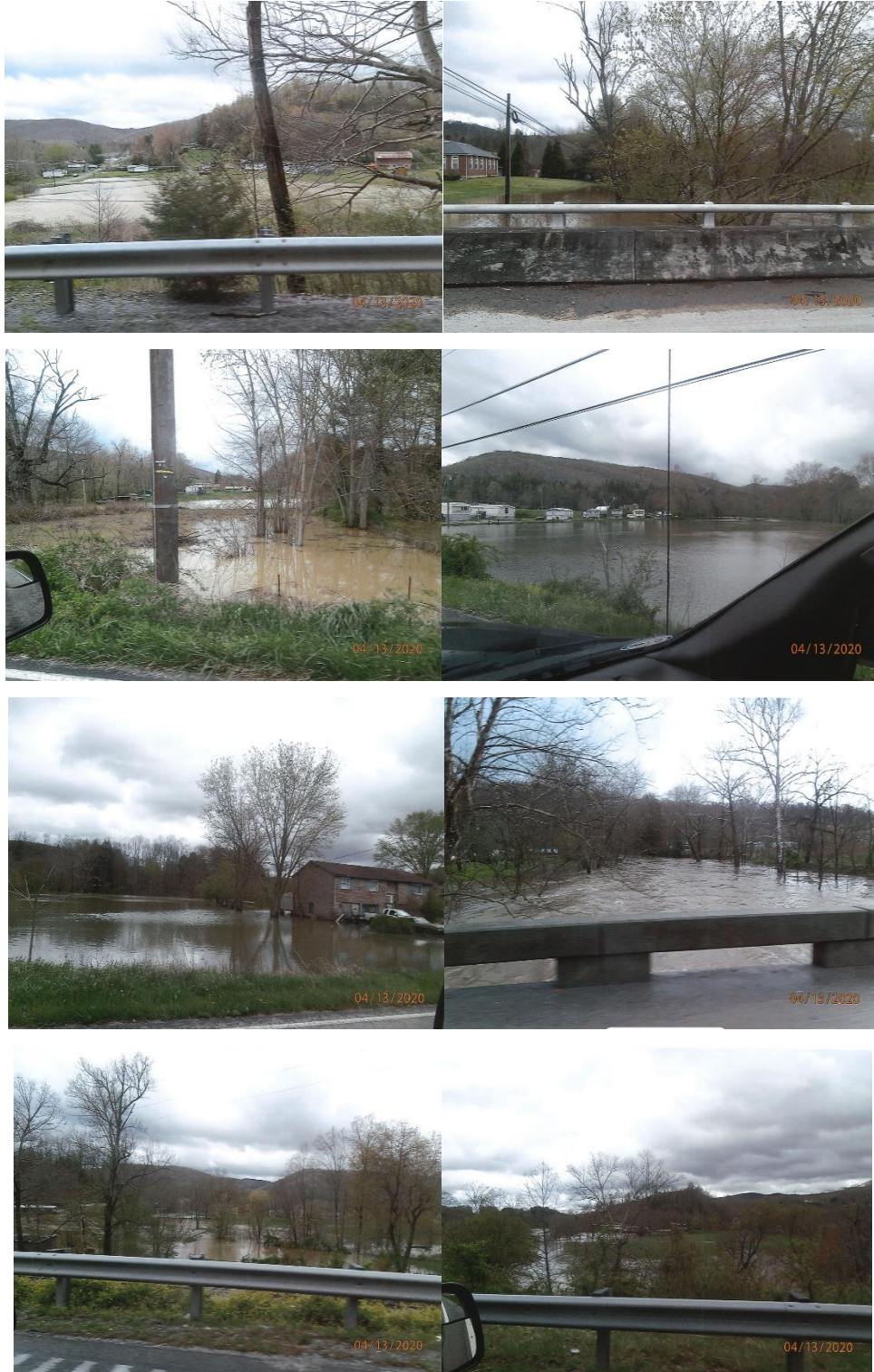
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **1/23/2025 at 7:34 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.

FIRMette #8 was created based on the following images (approximate location):

Apr 13, 2020, Wise County – Heavy rainfall in the Tacoma area caused significant flooding, submerging roads, inundating properties, and impacting nearby homes and infrastructure. The rising waters posed hazards for transportation and local residents.



National Flood Hazard Layer FIRMMette 8



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, AE, AH, VE, AR
 - 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
- CROSS SECTIONS**
- 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
 - 17.5 Coastal Transect
 - Base Flood Elevation Line (BFE)
 - Limit of Study
 - Jurisdiction Boundary
- OTHER FEATURES**
- Coastal Transect Baseline
 - Profile Baseline
 - Hydrographic Feature
- MAP PANELS**
- Digital Data Available
 - No Digital Data Available
 - Unmapped
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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 1/23/2025 at 8:54 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.

Basemap Imagery Source: USGS National Map 2023

FIRMette #9 was created based on the following images (approximate location):

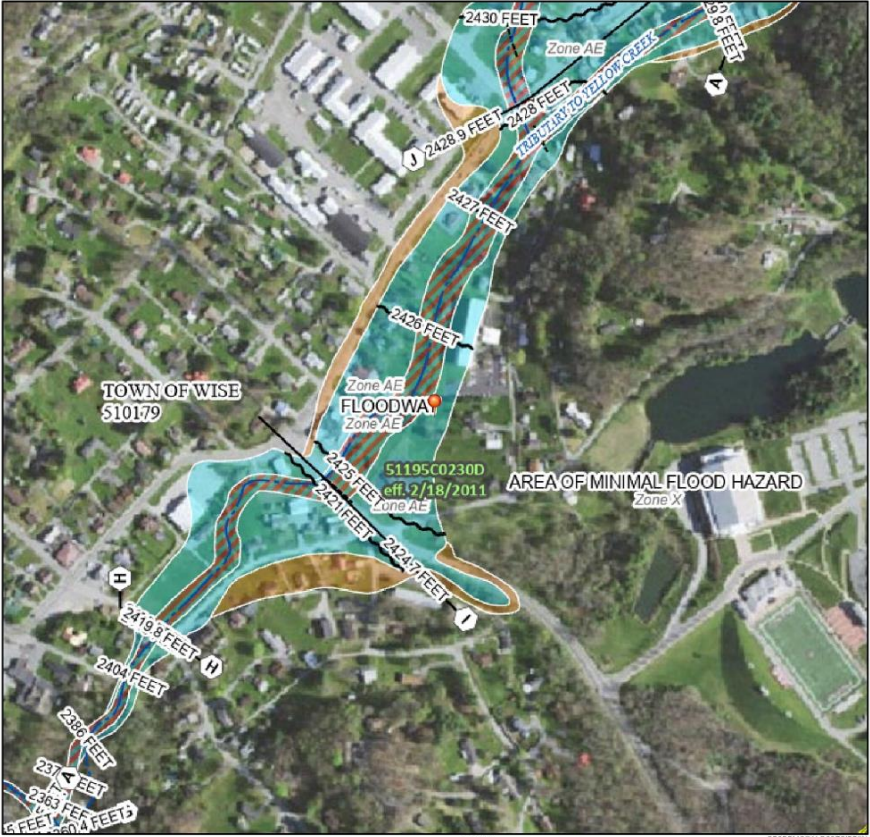
July 2022, Wise County – Heavy rainfall caused flooding in the Town of Wise, impacting areas along Gilliam Road, Hurricane Road, and Darden Road. Homes and roads were submerged, leading to significant disruptions in the community.



National Flood Hazard Layer FIRMette 9



82°34'27"W 36°58'52"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000 82°33'49"W 36°58'23"N
Basemap Imagery Source: USGS National Map 2023

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, A199
- 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

- Cross Sections with 1% Annual Chance Water Surface Elevation
- 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

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 1/23/2025 at 5:08 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.

Virginia Vulnerability Viewer



Getting Started

Locality/Address
Search

Methods

Switch Basemap

Print

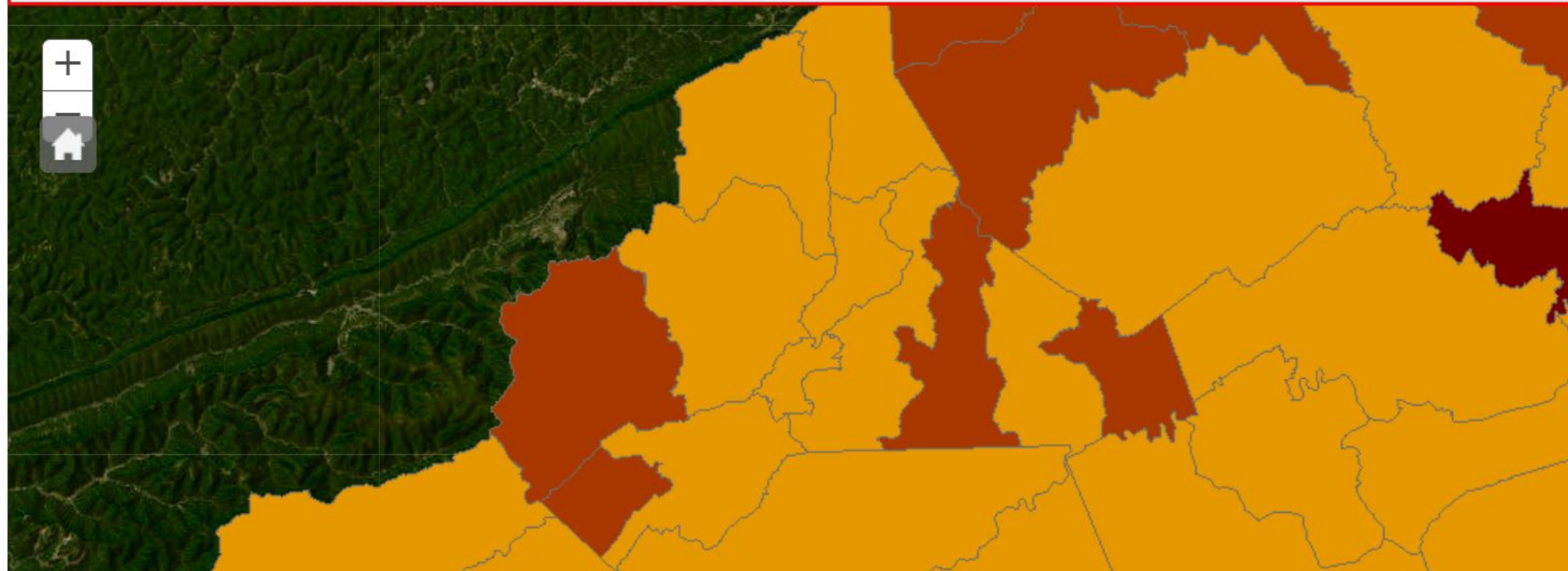







Table of Contents/Legend

-  Vulnerability
-  Low Social Vulnerability
-  Moderate Social Vulnerability
-  High Social Vulnerability
-  Very High Social Vulnerability

Social Vulnerability
Classification - Overview

Vulnerability Index Score -
Overview

Vulnerable Housing - Overview

Hazardous/Toxic Index Score -
Overview

ORDINANCE NO. 2011-1

AN ORDINANCE AMENDING ORDINANCE NO. 1999, THE ZONING ORDINANCE OF WISE COUNTY, VIRGINIA, BY ESTABLISHING FLOODPLAIN DISTRICTS, BY REQUIRING THE ISSUANCE OF PERMITS FOR DEVELOPMENT, AND BY PROVIDING FACTORS AND CONDITIONS FOR VARIANCES TO THE TERMS OF THE ORDINANCES.

BE IT ENACTED AND ORDAINED BY THE TOWN OF POUND, Virginia, as follows:

ARTICLE I - GENERAL PROVISIONS

Section 1.1 – Statutory Authorization and Purpose

This ordinance is adopted pursuant to the authority granted to localities by Va. Code § 15.2 - 2280. The purpose of these provisions is to prevent: the loss of life and property, the creation of health and safety hazards, the disruption of commerce and governmental services, the extraordinary and unnecessary expenditure of public funds for flood protection and relief, and the impairment of the tax base by:

- A. Regulating uses, activities, and development which, alone or in combination with other existing or future uses, activities, and development, will cause unacceptable increases in flood heights, velocities, and frequencies;
- B. Restricting or prohibiting certain uses, activities, and development from locating within districts subject to flooding;
- C. Requiring all those uses, activities, and developments that do occur in flood-prone districts to be protected and/or flood-proofed against flooding and flood damage; and,
- D. Protecting individuals from buying land and structures which are unsuited for intended purposes because of flood hazards.

Section 1.1.2 Applicability

These provisions shall apply to all privately and publicly owned lands within the jurisdiction of the Town of Pound, Virginia and identified as being flood prone.

Section 1.1.3 Compliance and Liability

- A. No land shall hereafter be developed and no structure shall be located, relocated, constructed, reconstructed, enlarged, or structurally altered except in full compliance with the terms and provisions of this ordinance and any other applicable ordinances and regulations which apply to uses within the jurisdiction of this ordinance.
- B. The degree of flood protection sought by the provisions of this ordinance is considered reasonable for regulatory purposes and is based on acceptable engineering methods of study, but does not imply total flood protection. Larger floods may occur on rare occasions. Flood heights may be increased by man-made or natural causes, such as ice jams and bridge openings restricted by debris. This ordinance does not imply that districts outside the floodplain district or land uses permitted within such district will be free from flooding or flood damages.
- C. Records of actions associated with administering this ordinance shall be kept on file and maintained by the Town of Pound Floodplain Administrator.

- D. This ordinance shall not create liability on the part of Town of Pound or any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made thereunder.

Section 1.1.4 Abrogation and Greater Restrictions

This ordinance supersedes any ordinance currently in effect in flood-prone districts. Any ordinance, however, shall remain in full force and effect to the extent that its provisions are more restrictive.

Section 1.1.5 Severability

If any section, subsection, paragraph, sentence, clause, or phrase of this ordinance shall be declared invalid for any reason whatever, such decision shall not affect the remaining portions of this ordinance. The remaining portions shall remain in full force and effect; and for this purpose, the provisions of this ordinance are hereby declared to be severable.

Section 1.1.6 Penalty for Violations

Any person who fails to comply with any of the requirements or provisions of this Section may be subject to penalties for violation of this ordinance, as amended.

In addition to the above referenced penalties, all other actions are hereby reserved, including an action in equity for the proper enforcement of this article. The imposition of a fine or penalty for any violation of, or noncompliance with, this article shall not excuse the violation or noncompliance or permit it to continue; and all such persons shall be required to correct or remedy such violations or noncompliance within a reasonable time. Any structure constructed, reconstructed, enlarged, altered or relocated in noncompliance with this article may be declared by the Town of Pound to be a public nuisance and abatable as such. Flood insurance may be withheld from structures constructed in violation of this section.

Article II Definitions

- A. **Base Flood** – The flood having a one percent chance of being equaled or exceeded in any given year.
- B. **Base Flood Elevation** – The Federal Emergency Management Agency designated one hundred (100) year water surface elevation. The water surface elevation of the base flood in relation to the datum specified on the community's Flood Insurance Rate Map. For the purposes of this ordinance, the one hundred (100) year flood or 1% annual chance of flood.
- C. **Basement** – Any area of the building having its floor sub-grade (below ground level) on all sides.
- D. **Board of Zoning Appeals** – The board appointed to review appeals made by individuals with regard to decisions of the Zoning Administrator in the interpretation of this Ordinance.
- E. **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.
- F. **Elevated Building** – A non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, or columns (posts and piers).
- G. **Encroachment** – The advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

H. 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 paragraph (1) (b) of this definition 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 paragraph 1 (a) of this definition.

- I. Flood Insurance Rate Map (FIRM) –** An official map of a community, on which the Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community. A FIRM that is made available digitally is called a Digital Flood Insurance Rate Map (DFIRM).
- J. 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 and/or flood-related erosion hazards.
- K. Floodplain or Flood-prone Area –** Any land area susceptible to being inundated by water from any source.
- L. 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.
- M. Floodway –** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.
- N. Freeboard –** A factor of safety usually expressed in feet above a flood level for purposes of floodplain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization in the watershed. When a freeboard is included in the height of a structure, the flood insurance premiums will be significantly cheaper.
- O. Highest Adjacent Grade –** The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.
- P. 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 a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or,
 4. individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either
 - a. by an approved state program as determined by the Secretary of the Interior; or,
 - b. directly by the Secretary of the Interior in states without approved programs.
- Q. Lowest Floor** – The lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or storage 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 Federal Code 44CFR §60.3.
- R. Manufactured Home** – A structure, transportable in one or more sections, which 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 the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days, but does not include a recreational vehicle.
- S. Manufactured Home Park or Subdivision** – A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.
- T. New Construction** – For the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after August 17, 1981, and includes any subsequent improvements to such structures. For floodplain management purposes, new construction means 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.
- U. Recreational Vehicle** - A vehicle which is
1. built on a single chassis;
 2. 400 square feet or less when measured at the largest horizontal projection;
 3. designed to be self-propelled or permanently towable by a light duty truck; and,
 4. designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational camping, travel, or seasonal use.
- V. Shallow Flooding Area** – A special flood hazard area with base flood depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.
- W. Special Flood Hazard Area** – The land in the floodplain subject to a one (1%) percent or greater chance of being flooded in any given year as determined in Section.3.2 of Article 3.
- X. Start of Construction** – For other than new construction and substantial improvement, under the Coastal Barriers Resource Act 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 and/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 or not that alteration affects the external dimensions of the building.

- Y. 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.
- Z. Substantial Damage** – Damage of any origin sustained by a structure whereby the cost of restoring the structure to it's before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
- AA. 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. This term includes structures which have incurred substantial damage regardless of the actual repair work performed. The term 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 a historic structure.
- BB. Violation** – the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required is presumed to be in violation until such time as that documentation is provided.
- CC. Watercourse** – A lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

Article III ESTABLISHMENT OF FLOODPLAIN DISTRICTS

Section .3.1 Description of Districts

A. Basis of Districts

The various floodplain districts shall include special flood hazard areas. The basis for the delineation of these districts shall be the Flood Insurance Study (FIS) and the Flood Insurance Rate Maps (FIRM) for the Town of Pound prepared by the Federal Emergency Management Agency, Federal Insurance Administration, dated February 18, 2011, and any subsequent revisions or amendments thereto.

The boundaries of the Special Flood Hazard Area and Floodplain Districts are established as shown on the Flood Insurance Rate Map which is declared to be a part of this ordinance and which shall be kept on file at the Town of Pound offices.

- 1. The Floodway District is delineated, for purposes of this ordinance, using the criterion that certain areas within the floodplain must be capable of carrying the waters of the one hundred (100) year flood without increasing the water surface elevation of that flood more

than one (1) foot at any point. The areas included in this District are specifically defined in the Flood Insurance Study and shown on the accompanying Flood Insurance Rate Map.

2. The Special Floodplain District shall be those areas identified as an AE Zone on the maps accompanying the Flood Insurance Study for which one hundred (100)-year flood elevations have been provided.
3. The Approximated Floodplain District shall be those areas identified as an A or A99 Zone on the maps accompanying the Flood Insurance Study. In these zones, no detailed flood profiles or elevations are provided, but the one hundred (100) year floodplain boundary has been approximated.
4. The Shallow Flooding District shall be those areas identified as Zone AO or AH on the maps accompanying the Flood Insurance Study.

B. Overlay Concept

1. The Floodplain Districts described above shall be overlays to the existing underlying districts as shown on the Official Zoning Ordinance Map, and as such, the provisions for the floodplain districts shall serve as a supplement to the underlying district provisions.
2. If there is any conflict between the provisions or requirements of the Floodplain Districts and those of any underlying district, the more restrictive provisions and/or those pertaining to the floodplain districts shall apply.
3. In the event any provision concerning a Floodplain District is declared inapplicable as a result of any legislative or administrative actions or judicial decision, the basic underlying provisions shall remain applicable.

Section 3.2 District Boundary Changes

The delineation of any of the Floodplain Districts may be revised by the Town of Pound where natural or man-made changes have occurred and/or where more detailed studies have been conducted or undertaken by the U. S. Army Corps of Engineers or other qualified agency, or an individual documents the need for such change. However, prior to any such change, approval must be obtained from the Federal Insurance Administration.

Section 3.3 Interpretation of District Boundaries

Initial interpretations of the boundaries of the Floodplain Districts shall be made by the Zoning Officer. Should a dispute arise concerning the boundaries of any of the Districts, the Board of Zoning Appeals shall make the necessary determination. The person questioning or contesting the location of the District boundary shall be given a reasonable opportunity to present his case to the Board and to submit his own technical evidence if he so desires.

Section 3.4 Submitting Technical Data

A community's 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, a community shall notify the Federal Insurance Administrator of the changes by submitting technical or scientific data. Such a submission is necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and floodplain management requirements will be based upon current data.

Article IV DISTRICT PROVISIONS

Section 4.1 Permit and Application Requirements

A. Permit Requirement

All uses, activities, and development occurring within any floodplain district, including placement of manufactured homes, shall be undertaken only upon the issuance of a zoning permit. Such development shall be undertaken only in strict compliance with the provisions of this Ordinance and with all other applicable codes and ordinances, as amended, such as the Virginia Uniform Statewide Building Code (VA USBC) and the Town of Pound Subdivision Regulations. Prior to the issuance of any such permit, the Town of Pound Floodplain Administrator shall require all applications to include compliance with all applicable state and federal laws and shall review all sites to assure they are reasonably safe from flooding. Under no circumstances shall any use, activity, and/or development adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch, or any other drainage facility or system.

B. Site Plans and Permit Applications

All applications for development within any floodplain district and all building permits issued for the floodplain shall incorporate the following information:

1. The elevation of the Base Flood at the site.
2. The elevation of the lowest floor (including basement).
3. For structures to be flood-proofed (non-residential only), the elevation to which the structure will be flood-proofed.
4. Topographic information showing existing and proposed ground elevations.

Section 4.2 General Standards

The following provisions shall apply to all permits:

- A. New construction and substantial improvements shall be according to the VA USBC, and anchored to prevent flotation, collapse or lateral movement of the structure.
- B. Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state anchoring requirements for resisting wind forces.
- C. New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- D. New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
- E. Electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities, including duct work, shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- F. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- G. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
- H. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.

In addition to provisions A – H above, in all special flood hazard areas, the additional provisions shall apply:

- I. Prior to any proposed alteration or relocation of any channels or of any watercourse, stream, etc., within this jurisdiction a permit shall be obtained from the U. S. Corps of Engineers, the Virginia Department of Environmental Quality, and the Virginia Marine Resources Commission (a joint permit application is available from any of these organizations). Furthermore, in riverine areas, notification of the proposal shall be given by the applicant to all affected adjacent jurisdictions, the Department of Conservation and Recreation (Division of Dam Safety and Floodplain Management) and the Federal Insurance Administrator.
- J. The flood carrying capacity within an altered or relocated portion of any watercourse shall be maintained.

Section 4.3 Specific Standards

In all special flood hazard areas where base flood elevations have been provided in the Flood Insurance Study or generated according to Article IV Section 4.6, the following provisions shall apply:

A. Residential Construction

New construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor, including basement, elevated to one foot above the base flood elevation.

B. Non-Residential Construction

New construction or substantial improvement of any commercial, industrial, or non-residential building (or manufactured home) shall have the lowest floor, including basement, elevated to one foot above the base flood elevation. Buildings located in all A1-30, AE, and AH zones may be flood-proofed in lieu of being elevated provided that all areas of the building components below the elevation corresponding to the BFE plus one foot are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification, including the specific elevation (in relation to mean sea level) to which such structures are floodproofed, shall be maintained by the Floodplain Administrator.

C. Elevated Buildings

Fully enclosed areas, of new construction or substantially improved structures, which are below the regulatory flood protection elevation shall:

- 1. not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator).
- 2. be constructed entirely of flood resistant materials below the regulatory flood protection elevation;
- 3. include, in Zones A, AO, AE, and A1-30, measures to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet the following minimum design criteria:
 - a. Provide a minimum of two openings on different sides of each enclosed area subject to flooding.

- b. The total net area of all openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding.
- c. If a building has more than one enclosed area, each area must have openings to allow floodwaters to automatically enter and exit.
- d. The bottom of all required openings shall be no higher than one (1) foot above the adjacent grade.
- e. Openings may be equipped with screens, louvers, or other opening coverings or devices, provided they permit the automatic flow of floodwaters in both directions.
- f. Foundation enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires openings as outlined above.

D. Standards for Manufactured Homes and Recreational Vehicles

- 1. All manufactured homes placed, or substantially improved, on individual lots or parcels, in expansions to existing manufactured home parks or subdivisions, in a new manufactured home park or subdivision or in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as the result of a flood, must meet all the requirements for new construction, including the elevation and anchoring requirements in this section.
- 2. All recreational vehicles placed on sites must either
 - a. be on the site for fewer than 180 consecutive days;
 - b. be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached additions); or,
 - c. meet all the requirements for manufactured homes in Article 4, sections 4.2 and 4.3.

Section 4.4 Standards for the Floodway District

The following provisions shall apply within the Floodway District:

- A. Encroachments, including fill, new construction, substantial improvements and other developments are prohibited unless certification such as hydrologic and hydraulic analyses (with supporting technical data) is provided demonstrating that encroachments shall not result in any increase in flood levels during occurrence of the base flood. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently-accepted technical concepts. Studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough review by the WISE COUNTY ZONING ADMINISTRATOR.

Development activities which increase the water surface elevation of the base flood may be allowed, provided that the developer and/or applicant first applies – with the Town of Pound’s endorsement – for a conditional Flood Insurance Rate Map and floodway revision, and receives the approval of the Federal Emergency Management Agency.

- B. If Article 4, Section 4.6 is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Article 4.

- C. The placement of manufactured homes (mobile homes) is prohibited, except in an existing manufactured homes (mobile homes) park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring, elevation, and encroachment standards are met.

Section 4.5 Standards for the Special Floodplain District

The following provisions shall apply within the Special Floodplain District:

Until a regulatory floodway is designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within the areas of special flood hazard, designated as Zones A1-30 and AE on the Flood Insurance Rate Map, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the Town of Pound.

Development activities in Zones A1-30, AE, and AH, on the Town of Pound's Flood Insurance Rate Map which increase the water surface elevation of the base flood by more than one foot may be allowed, provided that the developer and/or applicant first applies – with the Town of Pound's endorsement – for a conditional Flood Insurance Rate Map revision, and receives the approval of the Federal Emergency Management Agency.

Section 4.6 Standards for Approximated Floodplain

The following provisions shall apply with the Approximate Floodplain District:

The Approximated Floodplain District shall be that floodplain area for which no detailed flood profiles or elevations are provided, but where a one hundred (100)-year floodplain boundary has been approximated. Such areas are shown as Zone A on the maps accompanying the Flood Insurance Study. For these areas, the one hundred (100)-year flood elevations and floodway information from federal, state, and other acceptable sources shall be used, when available. It is recommended that the applicant refer to FEMA 265, "Managing Floodplain Development in Approximate Zone A Areas, A Guide for Obtaining and Developing Base (100-Year) Flood Elevations."

Where the specific one hundred (100)-year flood elevation cannot be determined for this area using other sources of data, such as the U. S. Army Corps of Engineers Floodplain Information Reports, U. S. Geological Survey Flood-Prone Quadrangles, etc., an applicant for a proposed use, development and/or activity greater than 50 lots or 5 acres, whichever is lesser, shall determine this elevation. For development proposed in the approximate floodplain the applicant must use technical methods that correctly reflect currently accepted technical concepts, such as point on boundary, high water marks, or hydrologic and hydraulic analyses. Studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough review by the Town of Pound's Floodplain Administrator.

The Town of Pound's Floodplain Administrator reserves the right to require a hydrologic and hydraulic analyses for any development.

When such base flood elevation data is utilized, the lowest floor shall be elevated to or above the base flood elevation (recommended equal to or greater than one foot freeboard). During the permitting process, the Town of Pound's Floodplain Administrator shall obtain:

- 1) the elevation of the lowest floor (including the basement) of all new and substantially improved structures; and,
- 2) if the structure has been flood-proofed in accordance with the requirements of this article, the elevation (in relation to mean sea level) to which the structure has been flood-proofed.

Section 4.7 Standards for the Shallow Flooding District

The following provisions shall apply within the Shallow Flooding District:

- A. All new construction and substantial improvements of residential structures shall have the lowest floor, including basement, elevated to or above the flood depth specified on the Flood Insurance Rate Map, above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM. If no flood depth number is specified, the lowest floor, including basement, shall be elevated no less than two feet above the highest adjacent grade. When a freeboard is included in the height of a structure, the flood insurance premiums will be significantly cheaper.
- B. All new construction and substantial improvements of non-residential structures shall
 - 1. have the lowest floor, including basement, elevated to or above the flood depth specified on the Flood Insurance Rate Map, above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM. If no flood depth number is specified, the lowest floor, including basement, shall be elevated at least two feet above the highest adjacent grade; or,
 - 2. together with attendant utility and sanitary facilities be completely flood-proofed to the specified flood level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
- C. Adequate drainage paths around structures on slopes shall be provided to guide floodwaters around and away from proposed structures.

Section 4.8 Standards for Subdivision Proposals

- A. All subdivision proposals shall be consistent with the need to minimize flood damage;
- B. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
- C. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards, and
- D. Base flood elevation data shall be provided for subdivision proposals and other proposed development proposals (including manufactured home parks and subdivisions) that exceed fifty lots or five acres, whichever is the lesser.

ARTICLE V VARIANCES: FACTORS TO BE CONSIDERED

Variances shall be issued only upon a showing of good and sufficient cause; after the Board of Zoning Appeals has determined that failure to grant the variance would result in exceptional hardship to the applicant and after the Board of Zoning Appeals has determined that the granting of such variance will not result in unacceptable or prohibited increases in flood heights, additional threats to public safety, extraordinary public expense; and will not create nuisances, cause fraud or victimization of the public, or conflict with local laws or ordinances.

While the granting of variances generally is limited to a lot size less than one-half acre, deviations from that limitation may occur. However, as the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases. Variances may be issued by the Board of Zoning Appeals for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with the provisions of this section.

Variances may be issued for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that the criteria of this section are

met, and the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

In passing upon applications for variances, the Board of Zoning Appeals shall satisfy all relevant factors and procedures specified in other sections of the zoning ordinance and consider the following additional factors:

- A. The danger to life and property due to increased flood heights or velocities caused by encroachments. No variance shall be granted for any proposed use, development, or activity within any Floodway District that will cause any increase in the one hundred (100)-year flood elevation.
- B. The danger that materials may be swept on to other lands or downstream to the injury of others.
- C. The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination, and unsanitary conditions.
- D. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners.
- E. The importance of the services provided by the proposed facility to the community.
- F. The requirements of the facility for a waterfront location.
- G. The availability of alternative locations not subject to flooding for the proposed use.
- H. The compatibility of the proposed use with existing development and development anticipated in the foreseeable future.
- I. The relationship of the proposed use to the comprehensive plan and floodplain management program for the area.
- J. The safety of access by ordinary and emergency vehicles to the property in time of flood.
- K. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site.
- L. The historic nature of a structure. Variances for repair or rehabilitation of historic structures may be granted upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- M. Such other factors which are relevant to the purposes of this ordinance.

The Board of Zoning Appeals may refer any application and accompanying documentation pertaining to any request for a variance to any engineer or other qualified person or agency for technical assistance in evaluating the proposed project in relation to flood heights and velocities, and the adequacy of the plans for flood protection and other related matters.

Variances shall be issued only after the Board of Zoning Appeals has determined that the granting of such will not result in unacceptable or prohibited increases in flood heights, additional threats to public safety, extraordinary public expense; and will not create nuisances, cause fraud or victimization of the public, or conflict with local laws or ordinances.

Variances shall be issued only after the Board of Zoning Appeals has determined that the variance will be the minimum required to provide relief.

The Board of Zoning Appeals shall notify the applicant for a variance, in writing and signed by the Zoning Administrator, that the issuance of a variance to construct a structure below the one hundred (100) year flood elevation increases the risks to life and property and will result in increased premium rates for flood insurance.

A record shall be maintained of the above notification as well as all variance actions, including justification for the issuance of the variances. Any variances that are issued shall be noted in the annual or biennial report submitted to the Federal Insurance Administrator.

ARTICLE VI EXISTING STRUCTURES IN FLOODPLAIN AREAS

A structure or use of a structure or premises which lawfully existed before the enactment of these provisions, but which is not in conformity with these provisions, may be continued subject to the following conditions:

- A. Existing structures in the Floodway Area shall not be expanded or enlarged unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the proposed expansion would not result in any increase in the base flood elevation.
- B. Any modification, alteration, repair, reconstruction, or improvement of any kind to a structure and/or use located in any floodplain areas to an extent or amount of less than fifty (50) percent of its market value shall conform to the VA USBC.
- C. The modification, alteration, repair, reconstruction, or improvement of any kind to a structure and/or use, regardless of its location in a floodplain area to an extent or amount of fifty (50) percent or more of its market value shall be undertaken only in full compliance with this ordinance and shall require the entire structure to conform to the VA USBC.

ARTICLE VII - ENACTMENT

ENACTED AND ORDAINED THIS 20 DAY OF Jan, 20 11. This ordinance shall become effective upon passage.

Sarah J. Gelliam
Signature

Mayor / Town Mgr.
Title

Linda Meade
Attested

VOTING "AYE"

Glenn Cantrell
Jerry Wolfe
James Peefrey
Joan Fleming

VOTING "NAYE"

ABSTAINING

ABSENT

Larry Wright

ADOPTED ON THIS THE 20 DAY OF Jan, 2011.

TOWN OF POUND, VIRGINIA

Sarah J. Gilliam
MAYOR

ATTEST:

Linda Meade
CLERK

January 24, 2025

Natalie M. Chapman, MBA
Economic Development Supervisor
Wise County, VA
chapman_n@wisecounty.org

Dear Ms. Chapman,
Attached for your review and evaluation is our proposal entitled "Flood modeling and risk assessment for Wise County," submitted by Dr. Majid Shafiee-Jood, School of Engineering and Applied Science, University of Virginia. The appropriate University officials have administratively approved the proposal.

The budget for the University of Virginia project is \$305,287. This includes sponsor funding in the amount of \$274,749 and UVA match in the amount of \$30,538. The inclusive dates are expected to be 05/01/2025 – 04/30/2027.

The University of Virginia is a not-for-profit educational institution of the Commonwealth of Virginia.

The University of Virginia reserves the right to negotiate any terms and conditions as appropriate for a public educational institution conducting research as part of its core mission. For additional assistance or questions on this submission, contact me at e-mail ena-opra@virginia.edu or phone (434) 243-3945. **NOTE: Contractual information and negotiations should be addressed to, Stewart P. Craig, Executive Director, Office of Sponsored Programs, P.O. Box 400195, Charlottesville, Virginia, 22904-4195 or phone (434) 924-4270 or e-mail ospnoa@virginia.edu.**

Sincerely,

Na Ren 10 Digitally signed by Na Ren 10
Date: 2025.01.24 14:12:24 -05'00'

Na Ren
Assistant Director of Research Administration, Pre-Award
UVA Engineering
ena-opra@virginia.edu

Legal Name: The Rector and Visitors of the University of Virginia	
DUNS No. 065391526	Arif Karim, Acting Director
TIN No. 54-6001796	Division of Cost Allocation
CAGE Code: 9B982	7700 Wisconsin Avenue, Suite 2300
District: VA-005	Bethesda, MD 20857
UEI No. JJG6HU8PA4S5	Phone: 301-492-4855

SEAS Proposal #FP00425643

Scope of Work – Flood modeling and risk assessment for Wise County

The University of Virginia team will assist Wise County, the lead applicant, in responding to the Virginia Department of Conservation and Recreation (DCR) Community Flood Preparedness Fund (CFPF) – Round 5 on a Studies project. Our team will serve as the contractor to conduct a Hydrologic & Hydraulic study to assess flood risk in three areas within Wise County that have repeatedly experienced flooding over the past few years. These include areas around Tacoma, VA, northern part of Town of Wise, and southern part of Town of Pound.

The main objectives of this project are 1) to conduct a comprehensive H&H study using best available science to understand the root causes of recurrent flooding and assess the cascading risk of flooding, and 2) to develop potential strategies to mitigate the impact of flooding.

The UVA team includes PI Shafiee-Jood, co-PI Culver, co-PI Goodall, and co-PI Alemazkoor, all from School of Engineering. The project will provide partial support for a Graduate Research Assistant (PhD level) and an Undergraduate Research Assistant for two years.

University of Virginia Budget Detail

F & A rate: 61.50%

		Period 1:				Period:1				Period 2:				Period:2				Total	Costshare Total	
		05/01/2025 04/30/2026				Cost share				05/01/2026 04/30/2027				Cost share						
	Role	% of Effort	Requested salary	Fringes	Persons Month	% of Effort	Requested salary	Fringes	Persons Month	% of Effort	Requested salary	Fringes	Persons Month	% of Effort	Requested salary	Fringes	Persons Month			
1	Majid Shafiee-Jood (9M converted)	C	6.48%	9162	2620	0.78	1.85%	2614	748	0.22	6.50%	9455	2704	0.78	1.84%	2675	765	0.22	18617	5289
2	Teresa Culver (2M)	S	17.50%	5808	430	0.35	0.00%	0	0	0.00	17.50%	5982	443	0.35	0.00%	0	0	0.00	11790	0
3	Teresa Culver (10M)	A	0.00%	0	0	0.00	1.50%	2489	712	0.15	0.00%	0	0	0.00	1.50%	2564	733	0.15	0	5053
4	Jon Goodall	C	2.08%	5766	1649	0.25	0.00%	0	0	0.00	2.08%	5939	1699	0.25	0.00%	0	0	0.00	11705	0
5	Negin Alemazkoor	C	2.92%	5014	1434	0.35	1.25%	2149	615	0.15	2.92%	5164	1477	0.35	1.25%	2213	633	0.15	10178	4362
6	GRA, PhD	GRA	75.00%	27578	0		0.00%	0	0		75.00%	28406	0		0.00%	0	0		55984	0
7	UGRA	GRA	30.00%	4820	0		0.00%	0	0		30.00%	4965	0		0.00%	0	0		9785	0
Subtotal Personnel			58,148				7,252				59,911				7,452			118059	14704	
Subtotal Benefits			6,133				2,074				6,322				2,131			12455	4205	
Materials & Supplies			5,000				0				5,000				0			10000	0	
Workshop Supplies			5,000				0				5,000				0			10000	0	
Travel			2,500				0				2,500				0			5000	0	
Domestic			2,500				0				2,500				0			5000	0	
International			0				0				0				0			0	0	
Other Direct Costs																				
ODC indirect disallowed			14,882				0				15,329				0			30211	0	
3rd party cost share			0				0				0				0			0	0	
Tuition Remission			14,882				0				15,329				0			0	0	
ODC indirect allowed			2,908				0				2,995				0			5903	0	
Health Insurance			2,908				0				2,995				0			5903	0	
ODC detail,indirect allowed			0				0				0				0			0	0	
Total Direct Costs			89,571				9,326				92,057				9,583			181628	18909	
F & A (Indirect) Costs @		61.5%	45,934				5,736				47,188				5,893			93121	11629	
Total			135,505				15,062				139,244				15,476			274749	30538	
Base for Indirect Costs			74,689				9,326				76,728				9,583			151417	18909	

Budget Justification

Personnel – Dr. Majid Shafiee-Jood, PI, (AY@\$102,900 plus increases) will contribute 1.0 summer month per year for years 1 and 2. This effort includes 0.78 months in sponsor funding and 0.22 months contributed as cost share in each year.

Dr. Teresa Culver, Co-PI, (10-months@\$161,100 plus increases) will contribute 0.5 months per year for years 1 and 2. This effort includes 0.35 summer months in sponsor funding and 0.15 academic months contributed as cost share in each year.

Dr. Jonathan Goodall, Co-PI, (CY@\$268,700 plus increases) will contribute 0.25 calendar months years 1-2. This effort includes 0.25 months in sponsor funding each year.

Dr. Negin Alemazkoor, Co-PI, (CY@\$166,900 plus increases) will contribute 0.5 calendar months per year for years 1 and 2. This effort includes 0.35 calendar months in sponsor funding and 0.15 calendar months in cost share each year.

Graduate Research Assistants (GRAs) and Undergraduate Research Assistants (URAs) – Costs are estimated based on the minimum and maximum payments for the academic year established by the University Office of the Vice-President and Provost. All compensation in SEAS proposals are within these guidelines. Per UVa policy, GRAs and URAs are limited in the number of hours they can work while taking classes, therefore to calculate hourly rates conversions are made by applying 1040 (GRA) and variable up to 1040 (URA) hours per calendar year. The support provided for GRAs also includes tuition and health insurance shown below as Other costs. One GRA (PhD level) will contribute 9.0 calendar months per year in years 1-2. One UGRA will contribute 312 hours per year in years 1-2 at \$15/hr.

Personnel Accounting Method – The University accounts for salaried personnel on the basis of percentage-of-effort, not on a per hour basis. Any hours reflected in the proposal for these personnel have been converted solely for the convenience of the Sponsor. These hourly rates are not auditable either as proposed or as incurred hours. Conversions are made by applying a standard 2080 hours per calendar year or 1560 hours per academic year to the cost estimated by using a percentage-of-effort to determine the total salary cost.

Salary Increases – Salary increases of 3% per year (calculated effective July 1st) are from the University's Multi-Year Financial Plan used by the Board of Visitors and administration to guide the University of Virginia in long-term financial planning. The plan is also submitted to the State of Virginia. The projected rate for salary increases is based on available competitive salary surveys with other institutions.

Fringe Benefits – The University of Virginia's fringe benefits rates as they apply to sponsored programs are as follows: 28.6% for faculty, research staff, postdoctoral

fellows, 38.6% for classified staff, university staff and professional staff, 7.4% for faculty summer salary, hourly staff, temporary employees and wage employees. Fringe Benefits can include: FICA/ Medicare, Retirement, Disability Insurance, Life Insurance, TIAA/ CREF, Workers' Compensation, Unemployment Insurance and Health Insurance.

Materials and Supplies - \$5,000 is requested in each year to purchase supplies for meetings with stakeholders, software subscription, lost-cost sensors, and data collection.

Travel - \$2,500 is requested in each year to partially cover the team members' travels to various workshops and community engagement activities to Wise County.

Facilities and Administrative (F&A) (Indirect/Overhead) Costs – The University of Virginia's negotiated (Modified Total Direct Costs (MTDC) F&A rates with DHHS, per agreement of June 03, 2024, is 61.5% "on campus", 26% "off-campus", and 38% for Other Sponsored Activities. (Note: The MTDC base consists of total direct costs less equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs and the portion of each subaward in excess of \$25,000. Includes F&A on the first \$25,000 of subcontracts.)

<https://research.virginia.edu/office-sponsored-programs/fa-rates>

The University defines Fiscal Year as July 1 through June 30.

Matching Funds – The University of Virginia will contribute \$30,538 in matching funds over the life of the project. This consists of faculty effort (\$14,704) plus associated fringe benefits (\$4,205) and indirect costs (\$11,629).

LENOWISCO PLANNING DISTRICT COMMISSION

January 24, 2025

Virginia Department of Recreation and Conservation
Attn: Virginia Community Flood Preparedness Fund
Division of Dam Safety and Floodplain Management
600 East Main Street, 24th Floor
Richmond, Virginia 23219

RE: Virginia Community Flood Preparedness Fund – Wise County Flood Study, CFPF Round 5

To whom it may concern:

Please accept this letter of support for the Wise County Flood Study grant application being submitted in response to the Virginia Community Flood Preparedness Fund (CFPF) Round 5 funding opportunity.

Wise County plans to submit a proposal to Virginia's Department of Conservation and Recreation (DCR) to help conduct a hydrologic/hydraulic/flood modeling study to better understand potential risks, assess potential impacts to roadways, and provide applicable mitigation strategies.

LENOWISCO appreciates Wise County's commitment to assessing risks and developing mitigation strategies to address perceived threats. LENOWISCO has a strong working relationship with Wise County as evidenced in various multijurisdictional planning efforts including participation in the LENOWISCO Planning District Hazard Mitigation Plan.

The LENOWISCO Planning District Commission (PDC) recognizes the importance of resilience planning throughout the Region and wholeheartedly supports Wise County's efforts to conduct risk assessments to support much needed strategic planning.

Please feel free to contact me anytime with questions. Thank you for your time and consideration of this worthwhile project.

Sincerely,



DUANE A. MILLER
Executive Director



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