

Countywide Flood Risk Reduction Policy

Update and Recommendation

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Recommendation needed: What Level of Service?

- The County can't eliminate flood risk, but it can reduce risk to life and property
- Flood Risk Reduction Policy: Protect structures against 100-year storm
- Include margin of safety in 100-year storm definition to account for climate change

Three Interconnected Strategies for Flood Risk Reduction



Level of Service in Proposed Policy

- No habitable structure is flooded during the 100-year storm event.
- Future development will provide adequate drainage control to safely convey the 100-year storm event using a safety factor established by the county to mitigate the effects of climate change.

Managing flood risk is a shared responsibility among the County, residents, and businesses.

Tropical Storm Lee, 2011

Source: National Weather Service



Regulatory Background: Highlighted Current Regulations

- Floodplain regulations – Fairfax County Zoning Ordinance Section 5105
  - What can happen in areas designated as floodplains.
- Chapter 124.1 - Erosion and Stormwater Management Ordinance
  - Mandates and specifies stormwater quality and quantity control
- Public Facilities Manual (PFM)
  - The "how to" manual
  - Atlas 14 (NOAA)
- Technical Bulletin 22-06
  "Localized Flood Mitigation Policy for Residential Infill Development"
  - Criteria to mitigate increased runoff from residential infill development
  - Provided a simple methodology to do so.

Regulatory Background: Adverse Flood Impacts

Adverse flood impacts are defined by the following criteria:

1. Causes or exacerbates structural flooding during a 100-year storm event.
2. Creates or worsens erosive velocities during a 2-year storm event as defined by Chapter 124.1.
3. Designated channels, pipes, and related appurtenances do not contain the 10-year storm event or the exceedance worsens.
4. Post-development flows for 2-year and 10-year storm events exceed pre-development flows.



Regulatory Policy: Land Development Regulation Objectives

Regulations on the development and redevelopment of land will, to the extent permissible by law:

1. Ensure that the **obstruction of waterways** is prohibited unless expressly authorized (i.e., roadway culverts and bridges).
2. Provide for the **determination of the 100-year floodplain** to the stated level of service.
3. Require demonstration of sufficient capacity to **safely convey the design flood** up to the stated level of service.
4. Not result in additional **adverse flooding impacts on other property**.
5. Not result in additional **erosion impacts on other property**.
6. Ensure that structures erected in areas prone to flooding are designed and constructed **to resist the effects of flood hazards** to include flood-proofing as appropriate.
7. Provide for **safe direct access to structures above the 100-year storm elevation**. In the case of existing roads that do not meet this criteria, provide for safe direct access to structures, within County control.
8. Preserve the **natural character and function of land** within the 100-year floodplain.



Proposed Policy	Focus	Focused Storm Event	Existing Requirement
1. Ensure that the obstruction of waterways is prohibited unless expressly authorized (i.e., roadway culverts and bridges).	Waterway Obstructions	Various but includes 100-year storm event	Yes, no change except that the base event (100-year flow) will be adjusted for a changing climate.
2. Provide for the determination of the 100-year floodplain to the stated level of service.	Floodplains	100-year storm event	Yes, no change except that the base event (100-year flow) will be adjusted for a changing climate.
3. Require demonstration of sufficient capacity to safely convey the design flood up to the stated level of service.	Conveyance	100-year storm event	Yes, no change except that the base event (100-year flow) will be adjusted for a changing climate.
4. Not result in additional adverse flooding impacts on other property.	Flooding Impacts	Various but focused on 100-year storm event	Yes.
5. Not result in additional erosion impacts on other property.	Erosion	2-year storm event	Yes.
6. Ensure that structures erected in areas prone to flooding are designed and constructed to resist the effects of flood hazards to include flood-proofing as appropriate.	Flood Damage	100-year storm event but also various storm events as identified in the County's sump layer.	Expands floodproofing to include structures outside of regulated floodplains.
7. Provide for safe direct access to structures above the 100-year storm elevation. In the case of existing roads that do not meet this criteria, provide for safe direct access to structures, within County control.	Access	100-year storm event	Current policy allows 1-foot inundation of driveways. This would change. To note, the policy will not be addressed in situations where egress beyond the property is inundated (i.e., VDOT roadway is below the 100-year water surface elevation).
8. Preserve the natural character and function of land within the 100-year floodplain.	Floodplains	100-year storm event	Yes, no change except that the base event (100-year flow) will be adjusted for a changing climate.

Regulatory Policy: In Summary

Three Regulatory Changes from Current

1) Addresses the 100-year event for an adjusting climate

2) Leverages flood protection/flood proofing in known areas prone to flooding

3) Prohibits inundation of safe access to properties.

Prioritization for Capital Projects :

1. Legal mandate or to address critical safety issue
2. Reduce flood impacts to existing, habitable structures up to the stated level of service
3. Reduce flood impacts on roads within County control
4. Reduce yard flooding



Programs Update



Update

- July 2024: Flood Mitigation Assistance Program Grant launched, $250k current funding
- Flood Related Outreach
  - May 2024 DPWES Flood Info Webpages
  - May 2025 Coastal Flooding Open House
- Jan 2025: Grant Application for Staff
- May 2025: Adopted Repetitive Loss Area Analysis
  - No Severe Repetitive Loss (after demolitions)

Recommendations and Future

- Summer 2025: National Flood Insurance Program Community Ratings System – Verification, insurance discounts
- Continue existing and expand grant programs – Voluntary Acquisition
- “Above and beyond” stormwater quantity controls for County projects
- Continued Community Outreach
- Solutions for staffing and support



Projects Update

TEN YEARS: to complete $95 Million flood-related projects in current CIP at current staffing and budget levels

70 YEARS: to complete $600 Million projects to address confirmed structural flooding at current staffing and budget levels (non-coastal)







Board Recommendation Needed



- Adopt Flood Risk Reduction Policy

Next Steps:

- LDS reports out on flood regulation options in early 2026
- DPWES applies Flood Risk Reduction Policy to CIP prioritization
- DPWES continues implementing and developing flood programs