

Flood Risk Reduction in Fairfax County

Learning from the Past and Preparing for the Future

Department of Public Works and Environmental Services
Working for You!



A Fairfax County, VA, publication
September 14, 2022

What Flooding Looks Like in Fairfax County

Belle View, Mount Vernon



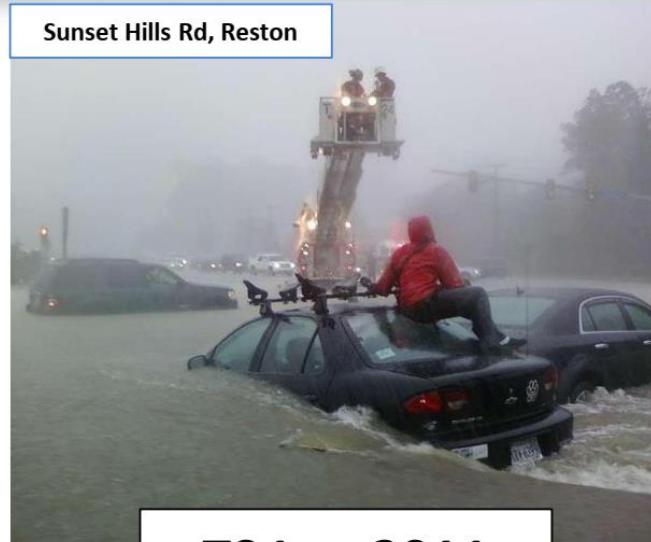
Hurricane Isabel 2003

Dearborn Dr, Falls Church



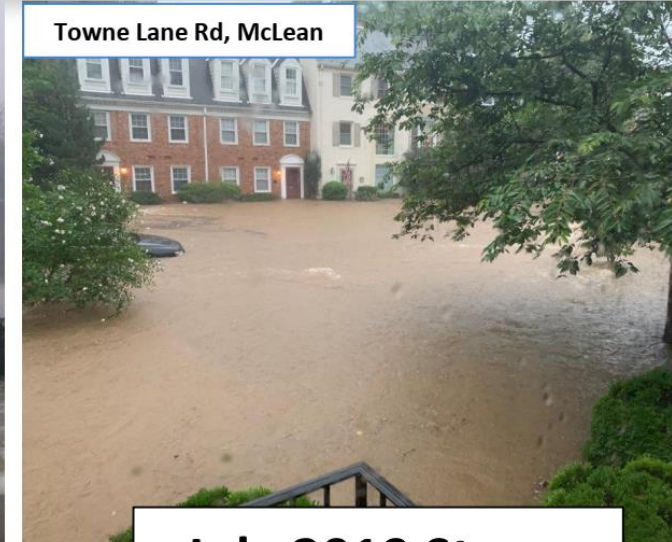
TS Hanna 2008

Sunset Hills Rd, Reston



TS Lee 2011

Towne Lane Rd, McLean



July 2019 Storm

Belle View, Mount Vernon



Byron Ave Park, Springfield



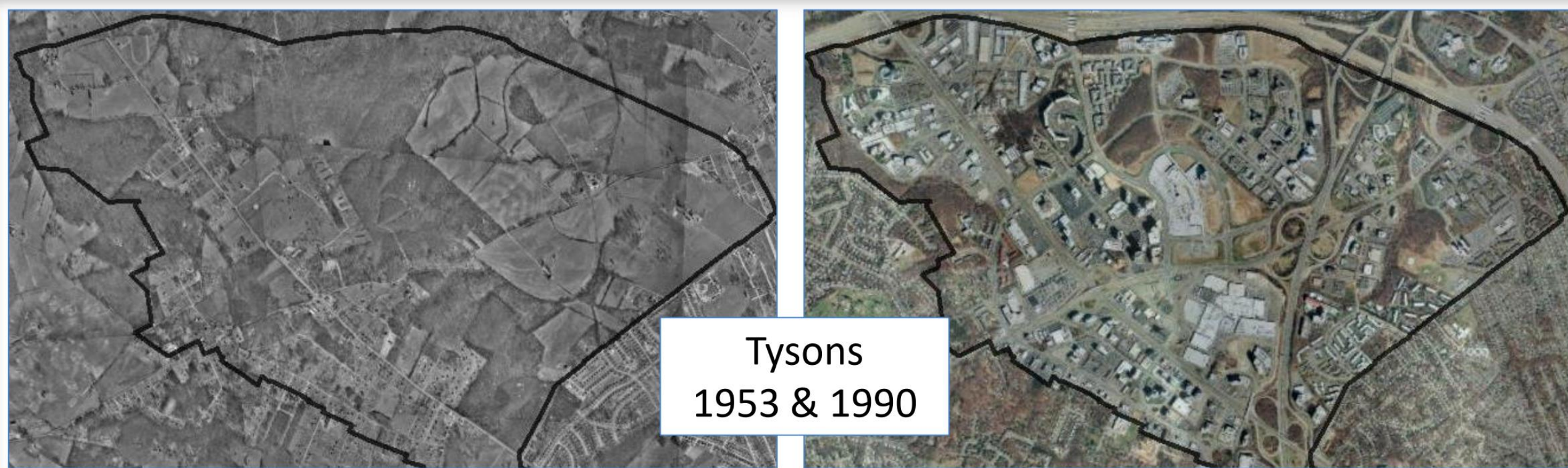
Greeley Blvd, Springfield



Forest Villa Ln, McLean



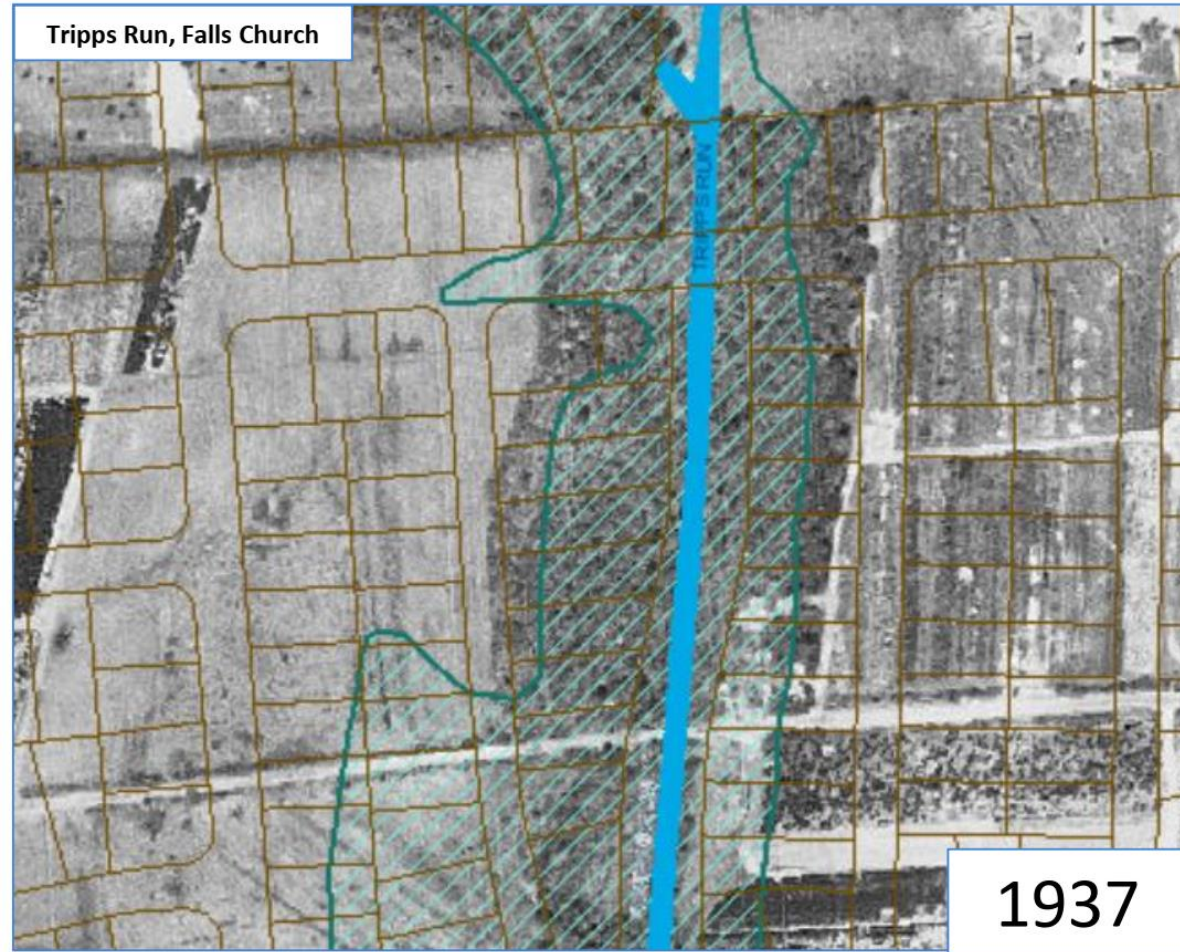
Flooding is Due to Changing Land Use Conditions



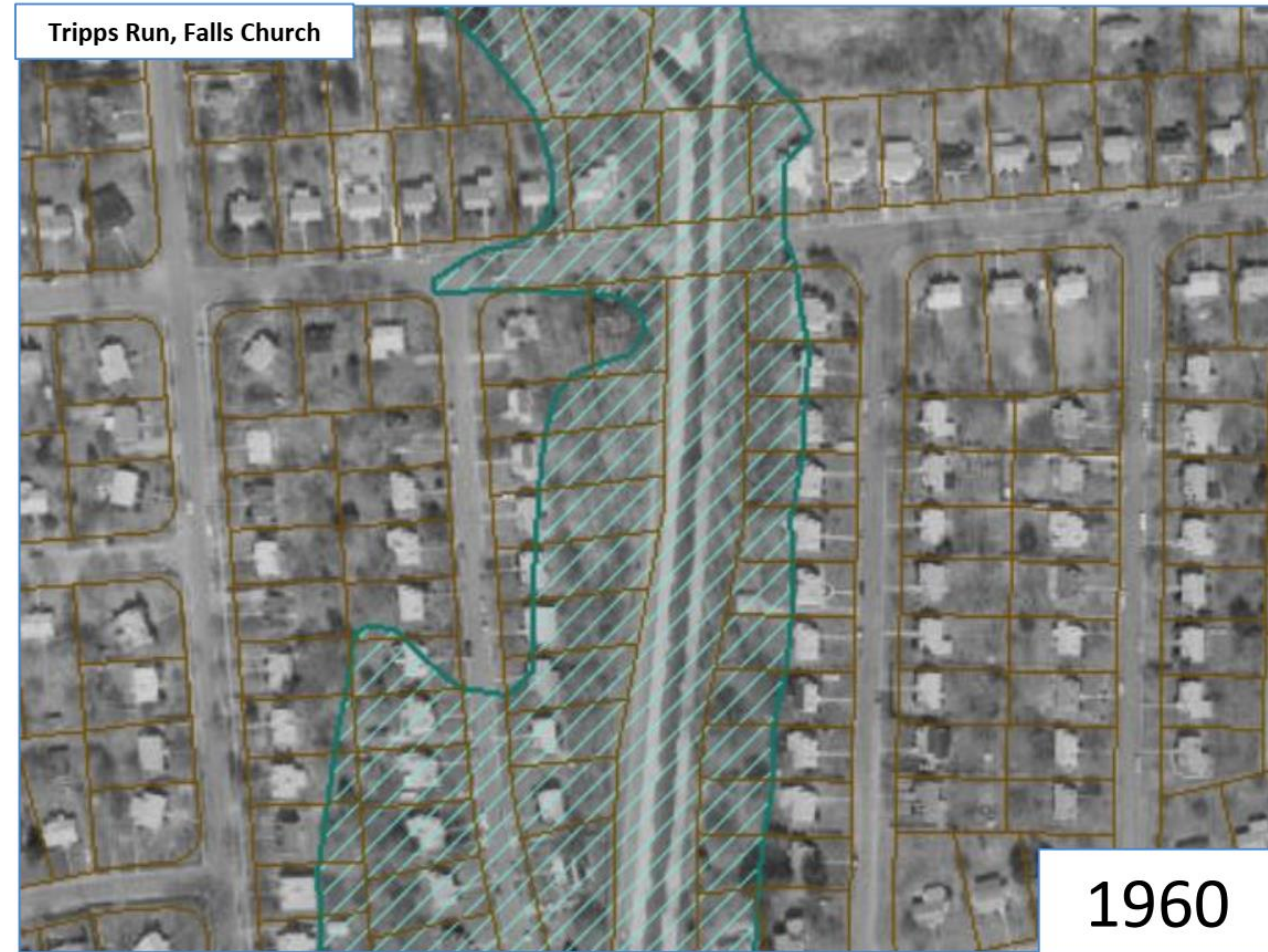
Increased impervious cover, loss of trees, changes in slope, and soil compaction generates more runoff, if not properly managed, impacts downstream properties

Building in the Floodplain Increases Flood Risk

Trippls Run, Falls Church



Trippls Run, Falls Church



Inadequate Overland Flow Increases Flood Risk

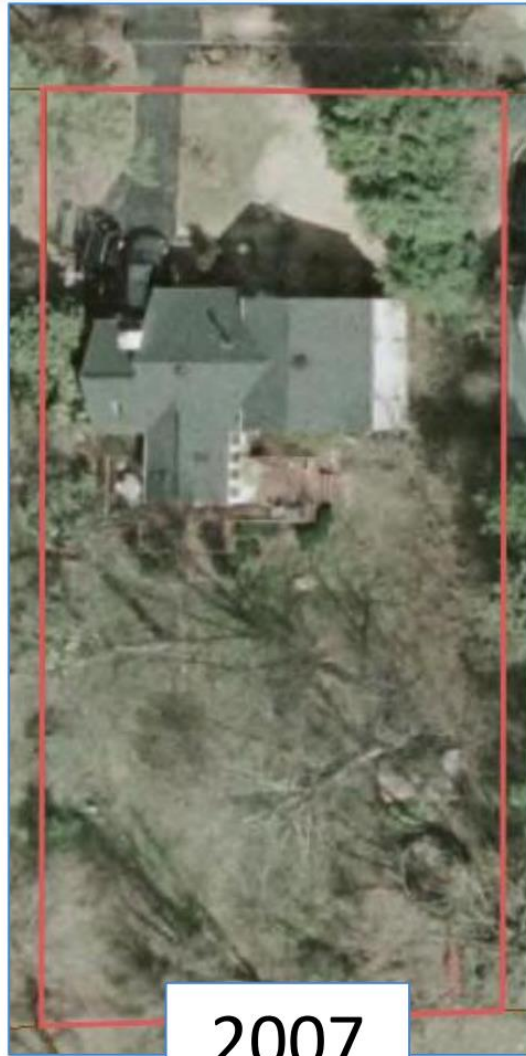


Houses sit in a “sump” or bowl and water cannot get out

Increases in Impervious Area Contribute to Flooding



1972



2007



2017



2019

Climate Change Will Make Flooding Worse

Q

Sections

The Washington Post

Democracy Dies in Darkness

Local

Flash flooding in Alexandria and the region overnight damages homes, roadways

npr

WAMU 88.5

AMERICAN UNIVERSITY RADIO

SIGN IN

NPR SHOP

NEWS

CULTURE

MUSIC

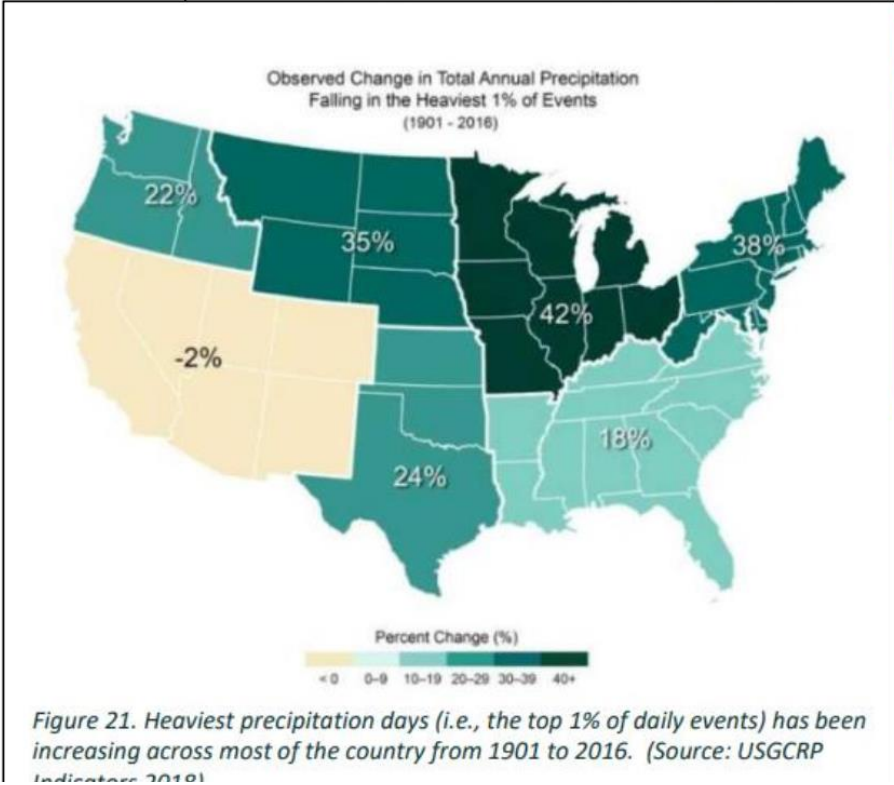
PODCASTS & SHOWS

SEARCH

CLIMATE

Zombie ice will raise sea levels more than twice as much as previously forecast

August 30, 2022 · 5:15 AM ET



WUSA9

News Weather Near Me VERIFY

Watch Live

CORONAVIRUS

CAPITOL RIOTS

EQUALITY MATTERS

ORIGINALS

STILL STANDING

WEATHER

July 8, 2019: The day DC saw nearly a month's worth of rain in one hour

Capital Weather Gang

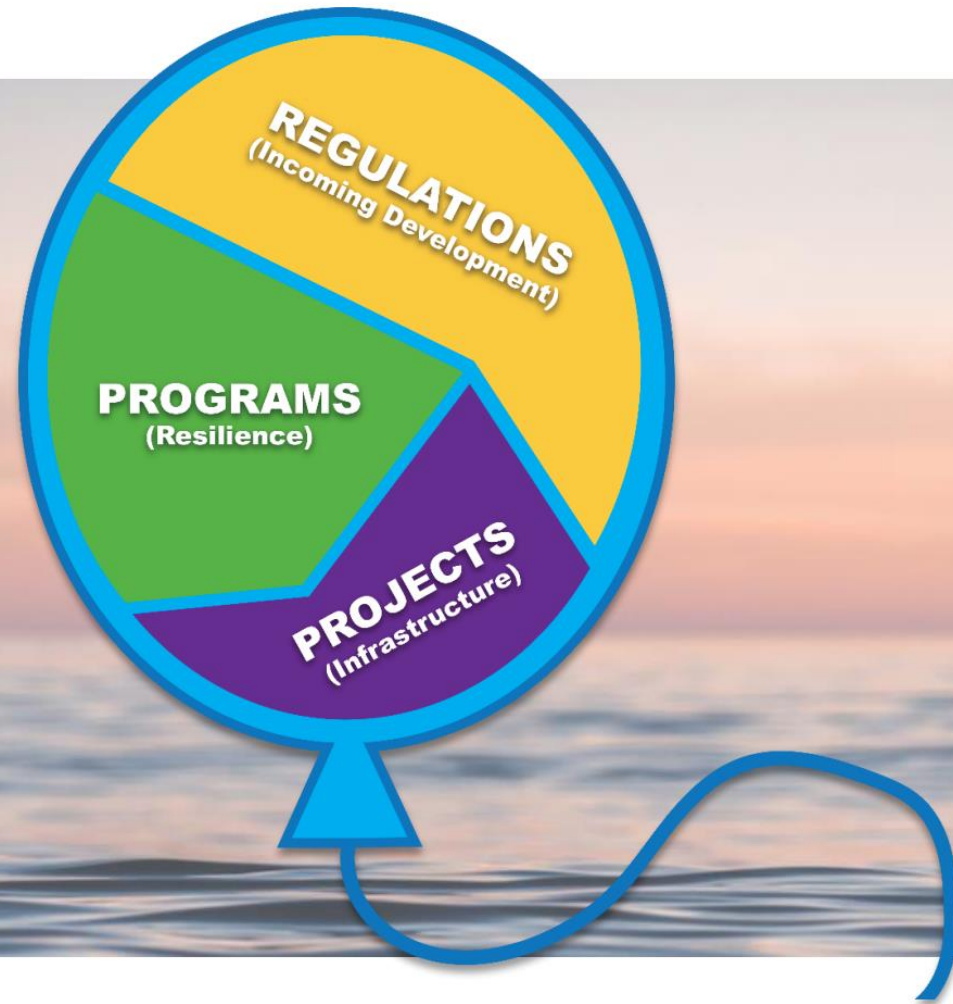
How torrential rain flooded parts of the District and Arlington and Fairfax counties Thursday



**The County can't eliminate
flood risk, but it can reduce risk
to life and property**



Three Strategies for Flood Risk Reduction



The Three Strategies Are Interconnected



Flood Mitigation Projects Range in Size, Complexity, and Cost

- Enhance overland flow path for the 100-year storm without flooding homes
- Improve or upsize the stormwater conveyance system
- Floodproofing measures
- Voluntary acquisition of homes with repetitive flood loss and conversion to open space



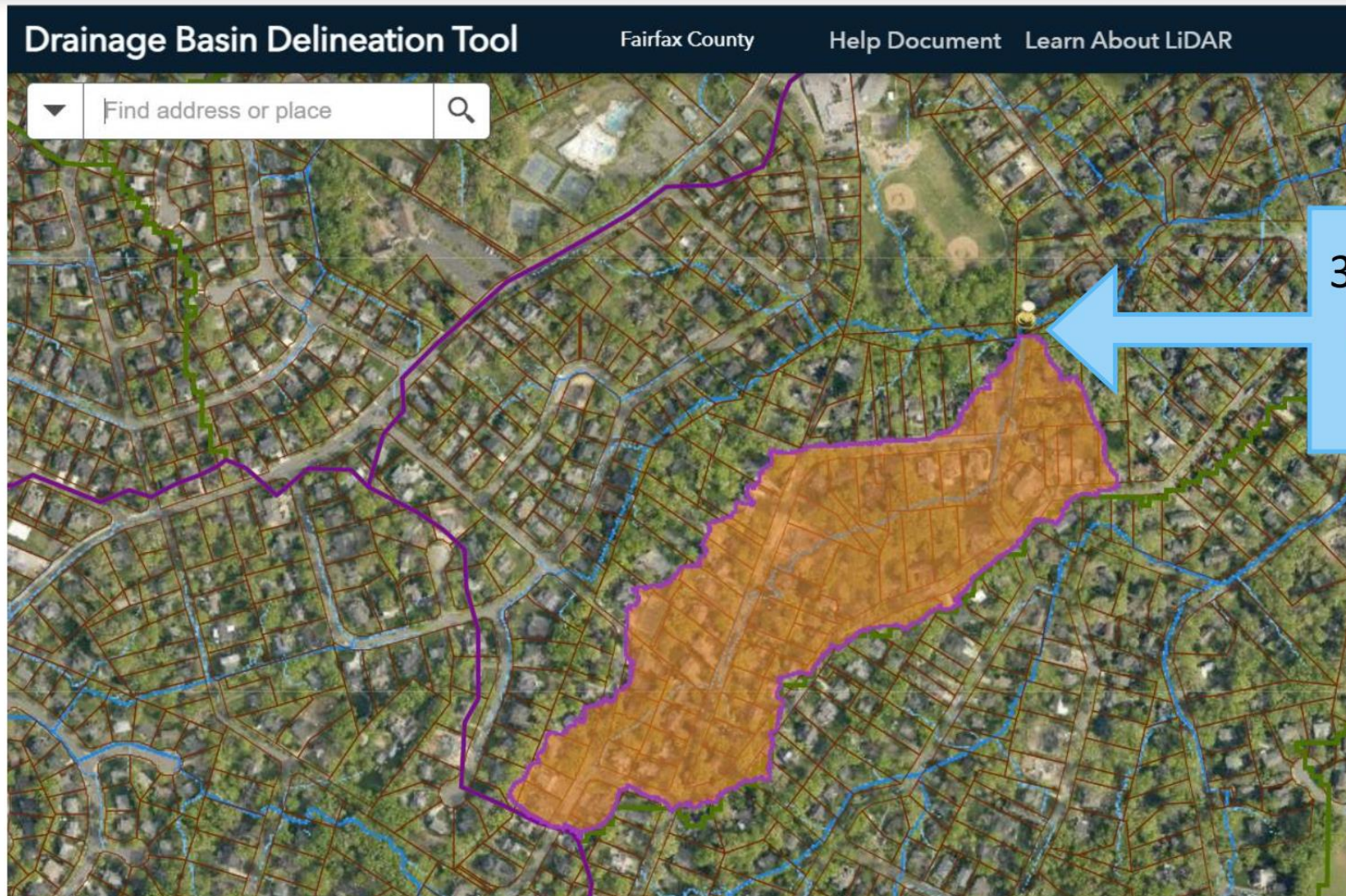
Tucker Ave



Dearborn Dr

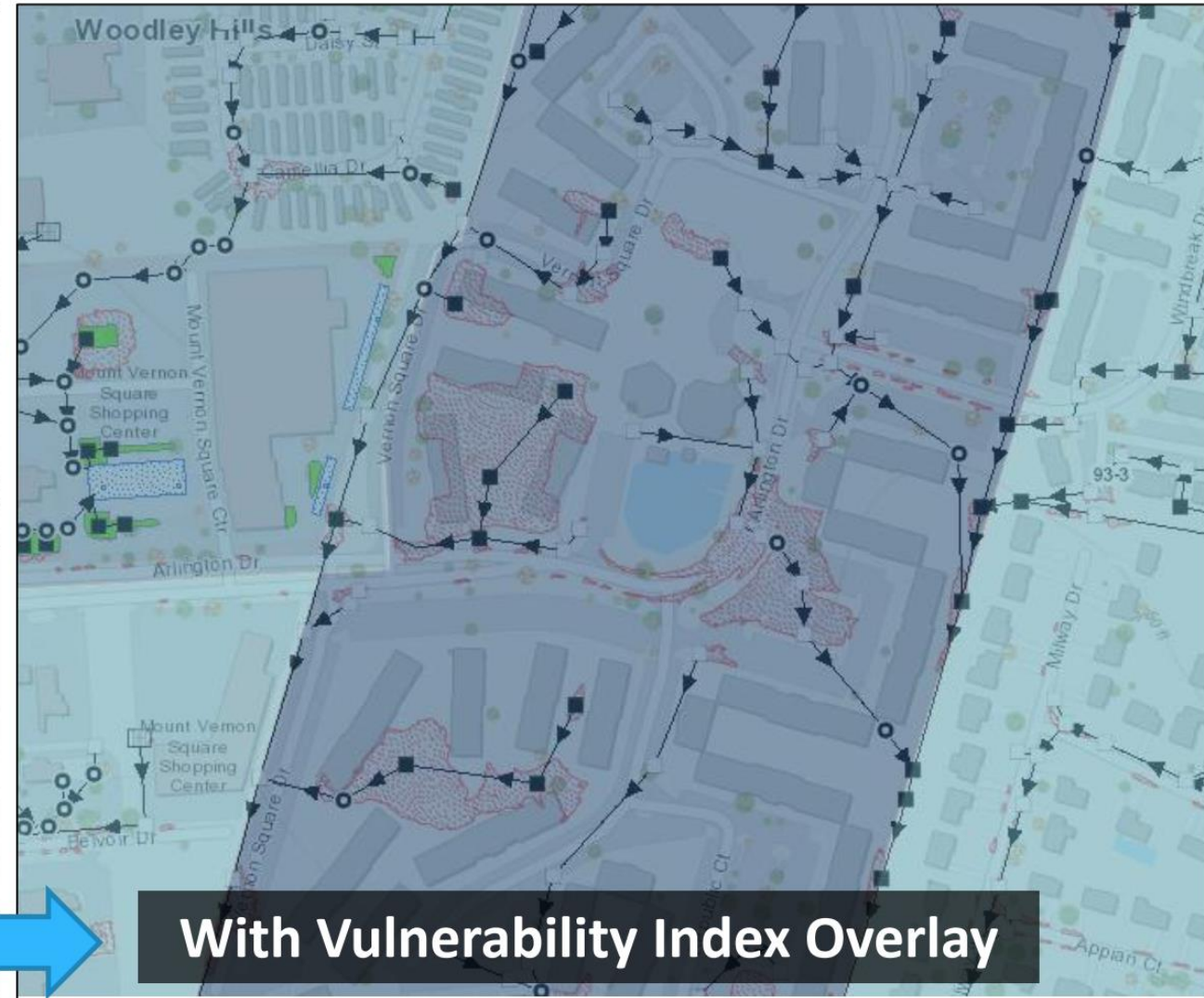


Technology Helps Assess Drainage Patterns

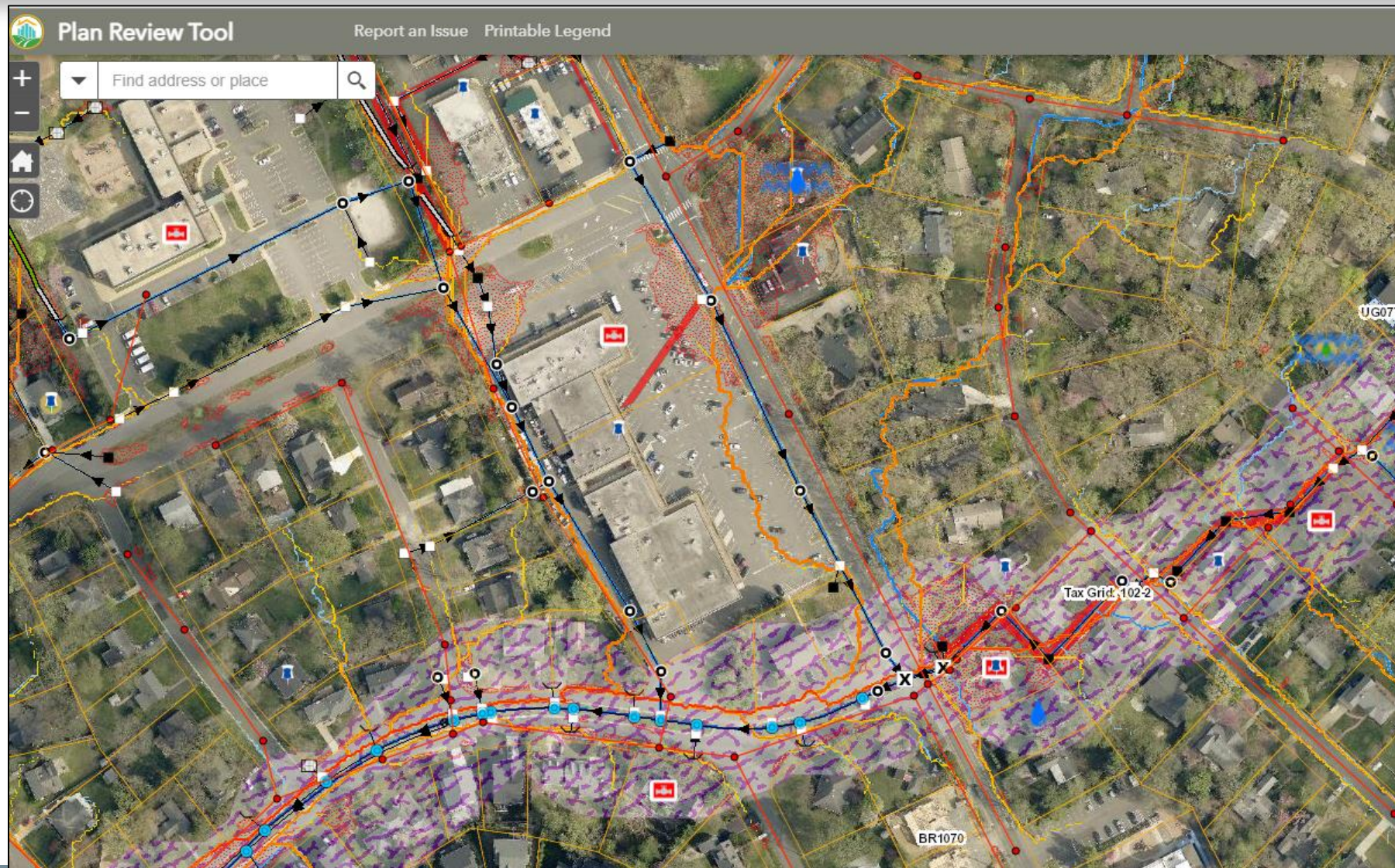


31 acres drains largely uncontrolled to this downstream point

Use GIS to Evaluate Flood Risk and Equity



Use GIS Data to Inform Plan Review



Create a Consolidated County Regulated Floodplain Map

County regulated floodplain map updates will:

- Provide a comprehensive regulated floodplain map with clear and consistent base flood elevations
- Include unmapped portions of the regulated floodplain
- Increase community flood risk awareness
- Allow for the incorporation of future climate projection conditions



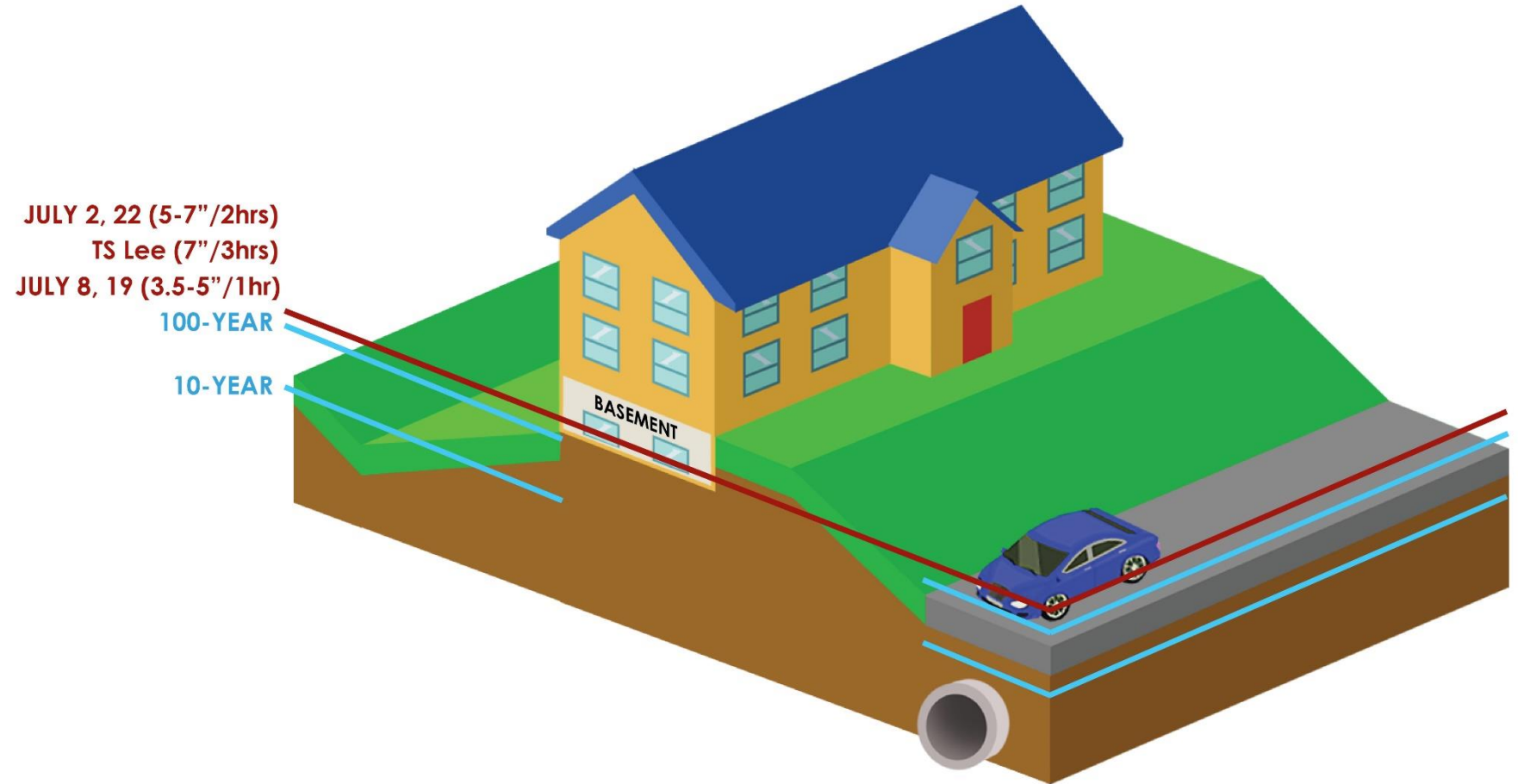
Proposed Service Levels for Existing and Future Development

- Mitigate the risk of damage to existing structures from flooding during a **100-year storm event adjusted for climate change**
- Require future development to provide adequate drainage and safely convey the **100-year storm event adjusted for climate change**, for both individual lot and larger developments
- Modify design criteria to account for future changes to rainfall amount and sea level rise due to climate change



What is an Acceptable Level of Flood Risk?

Current Flood Risk Level of Service



In Summary

The County:



Recognizes flooding is largely due to land use change



Has and continues to do a lot to reduce flood risk



Will incorporate resiliency and equity in projects, regulations and programs



Following Board approval of the proposed level of service, will initiate the countywide flood risk reduction plan



For additional information, please contact

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