West Virginia Risk Explorer

Localized risk assessment tools for analysis and visualization

West Virginia Flood Resiliency Framework (WVFRF)

June 12, 2025

WV GIS Technical Center
West Virginia University

WVFRF

Flood Risk in WV

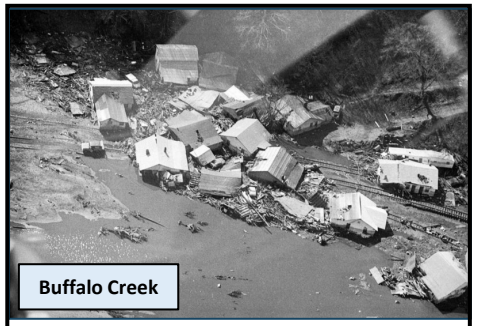
64 Federally-Declared Flood Disasters since 1953

220 Loss of Lives

About 98,000 Buildings (9%) in 1%-annual-chance (100-yr) Floodplain

About 199,000 Persons (11%) Reside in 100-yr Floodplain

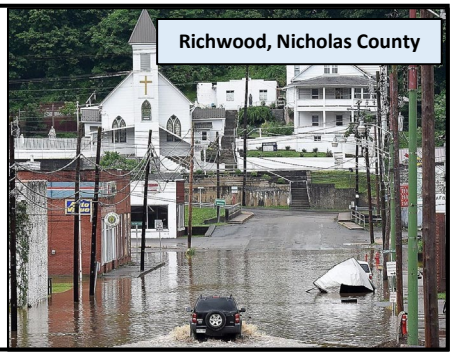
July 1961
(22 + 2 landslide fatalities)



February 1972
(123 fatalities including 4 missing)

November 1985
(49 fatalities)

June 2016
(23 fatalities)



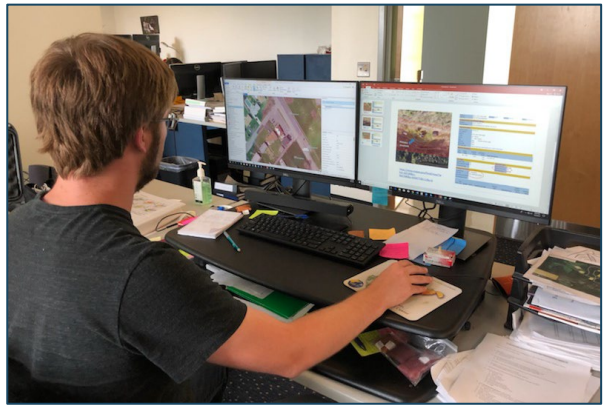
February 2025
(3 fatalities)

WV Floodplain Building Inventory (BI)

Flood Exposure Assessment (Building-Level)

Funded by: FEMA Hazard Mitigation Grant Program (HMGP) and State Hazard Mitigation Office

- All primary (insurable) structures in the 1%-annual-chance (100-yr) floodplain
- Community Assets (Historical & Non-Historical) in the 100-yr floodplain
- Essential Facilities in the 100-yr and 500-yr floodplains



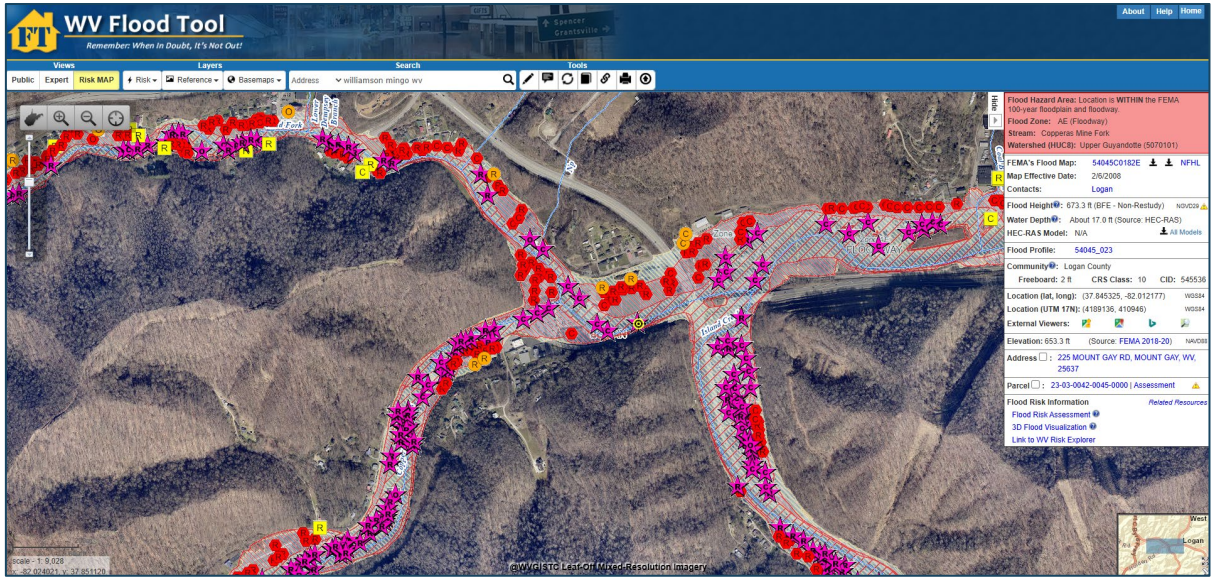
Essential Facilities

Community Assets

Detailed building characteristics from tax assessment
+
Population exposure and displacement estimates (100-yr flood)

Manual process of identification using Arc GIS
+
Programmed scripts to extract and process data

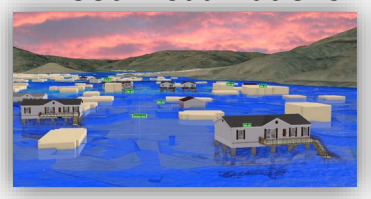
Product: **WV Flood Tool** mapwv.gov/flood



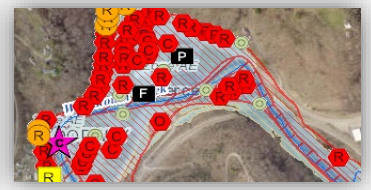
WV Flood Resiliency Framework (WVFRF)

A virtual hub of risk assessment, visualization, planning, and training resources for building community flood resiliency in WV

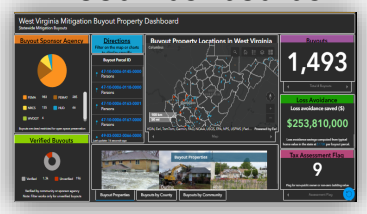
Flood Visualizations



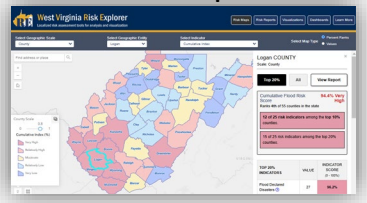
WV Flood Tool



Flood Dashboards



WV Risk Explorer



Example Tools

RISK TOOLS

- WV Risk Explorer
- WV Flood Tool
- Visualizations
- Dashboards

9 Geographic Scales

COMMUNITY ENGAGEMENT

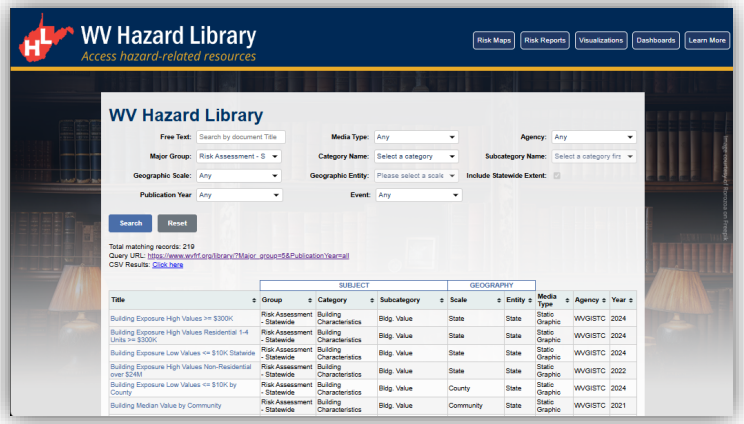
- Focused Outreach Meetings
- Flood Symposium
- Resiliency Tools & Products
- Learning Resources & Reports

HAZARD LIBRARY

Search online hazard resources by title, subject, media, event, geography, data, etc.

STAKEHOLDERS

- Risk Reduction Associates
- Emergency Responders
- Floodplain Managers
- Local Officials
- Volunteers
- Public

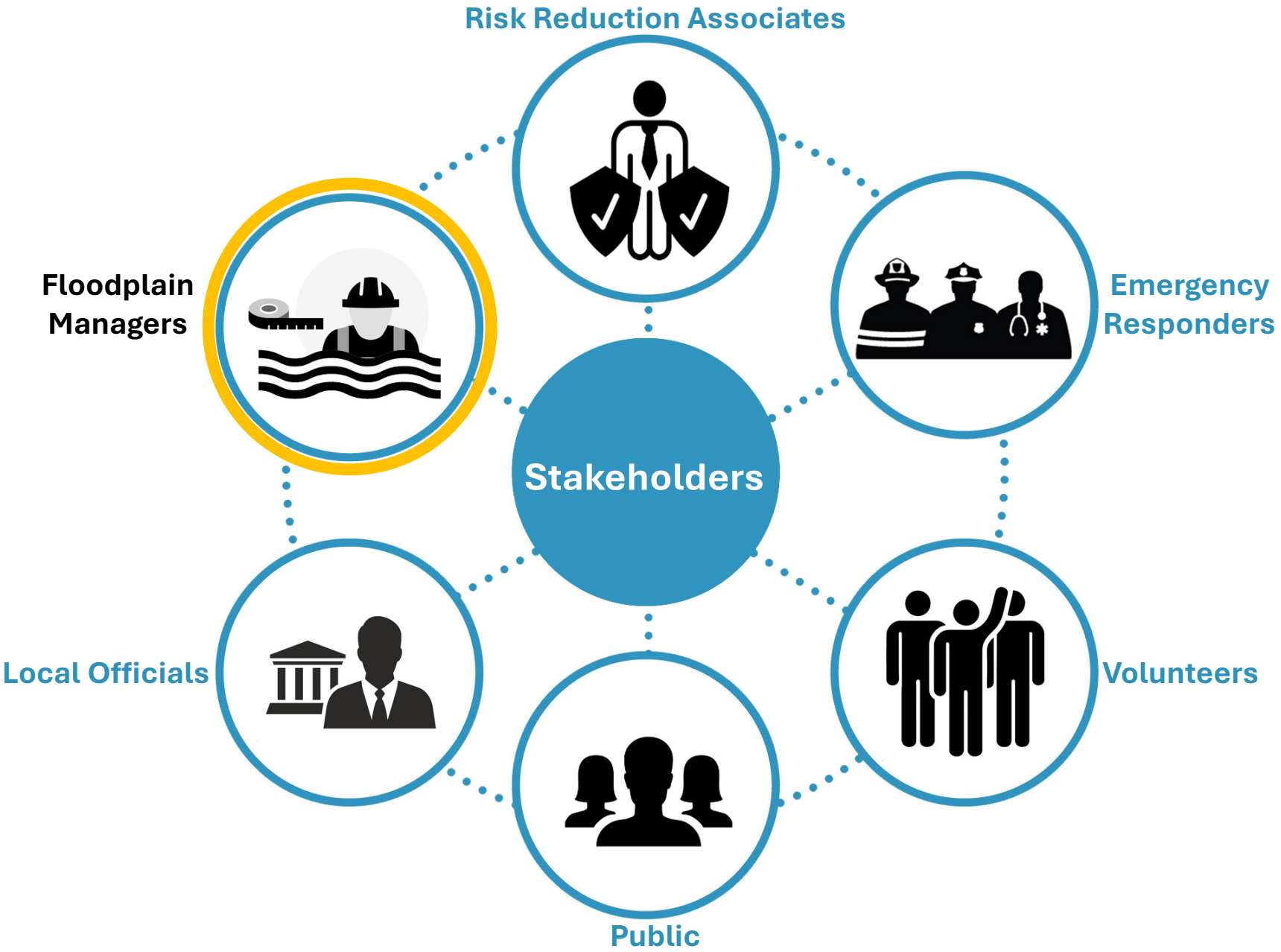


Hazard Library

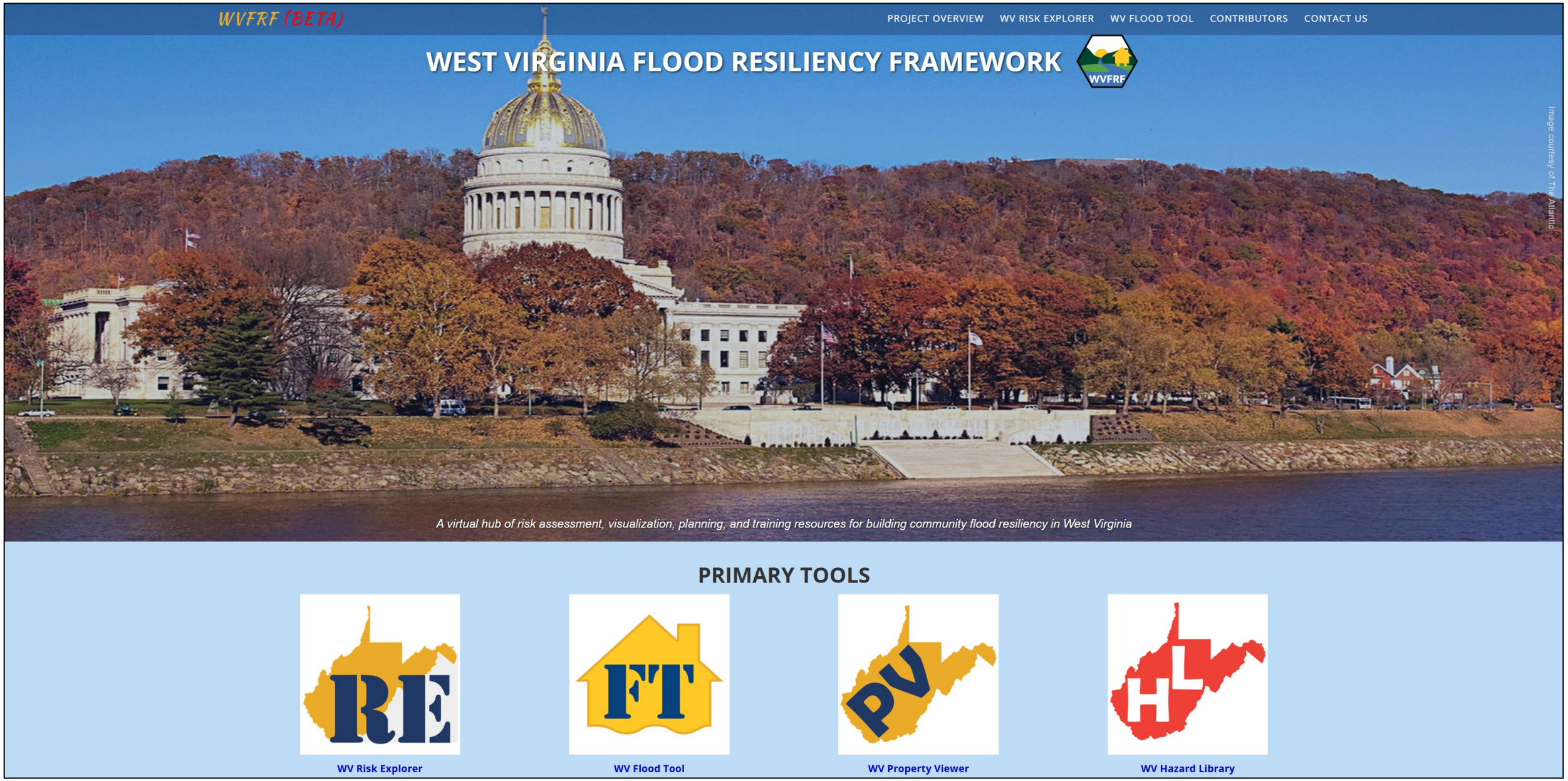
Community Engagement Meeting

Flood Symposium **Stakeholders**

Stakeholders



WVFRF Tools


WVFRF (BETA)
PROJECT OVERVIEW
WV RISK EXPLORER
WV FLOOD TOOL
CONTRIBUTORS
CONTACT US
WEST VIRGINIA FLOOD RESILIENCY FRAMEWORK
WVFRF
Image courtesy of The Atlantic
A virtual hub of risk assessment, visualization, planning, and training resources for building community flood resiliency in West Virginia
PRIMARY TOOLS
RE
WV Risk Explorer
FT
WV Flood Tool
PV
WV Property Viewer
HL
WV Hazard Library

WV Flood Risk Index

Overall Flood Risk

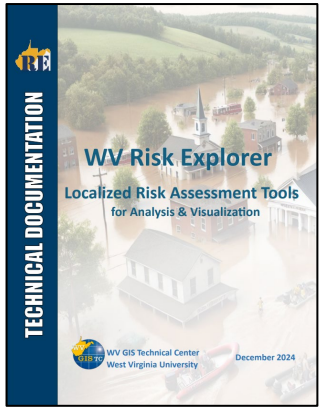
(1) FLOODPLAIN CHARACTERISTICS	(2) BUILDING EXPOSURE	(3) BUILDING CHARACTERISTICS	(4) CRITICAL INFRASTRUCTURE	(5) COMMUNITY ASSETS	(6) BUILDING DAMAGE LOSS	(7) PEOPLE / SOCIAL VULNERABILITIES	(8) OTHER HAZARDS
Floodplain Area	Building Floodplain Count[1 2]	Building Value[1 2]	Essential Facilities	Historical Assets	Substantial Damage Estimates*[1 2]	Population in Floodplain	Landslides
Floodplain Length[1 2]	Building Floodway Count[1 2]	Mobile Homes	Roads Inundated	Non-Historical Assets	Previous Claims	Population Displaced	Karst**
Floodplain Depth[1 2]	Building Floodplain Ratio[2]	Basement			Repetitive Losses	WV Social Vulnerability Index	Dam/Levee Failure**
Flood Disaster Frequency	Building Density[1 2]	One Story					
		Building Year*					

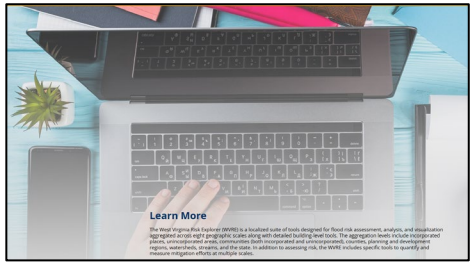
* Multiple Indicators

** In Progress

[1] River/Stream Indicator

[2] Watershed Indicator



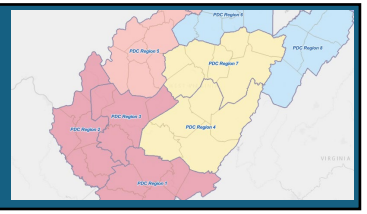


Analytical & Visualization Tools at Multiple Scales

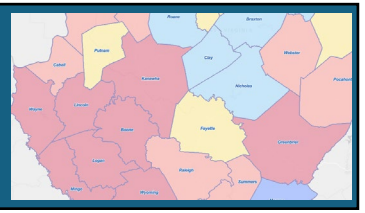
Political Boundaries

State

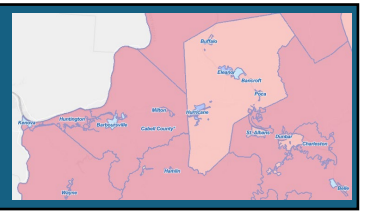
PDC Regions (11)



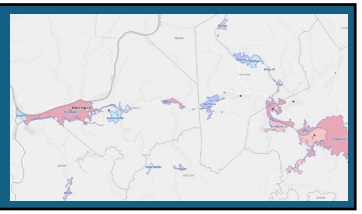
Counties (55)



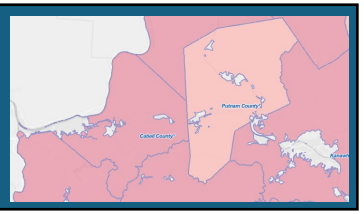
Communities (284)



Incorporated Places (229)

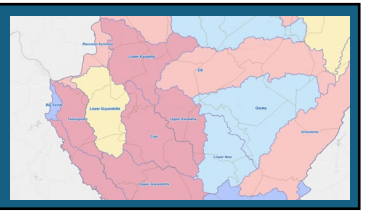


Unincorporated Areas (55)

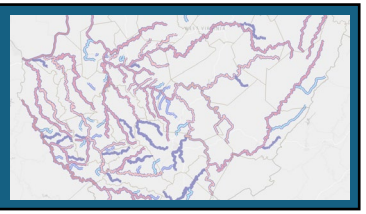


Drainage Areas / Streams

Watersheds (33)



Streams/Rivers (156)



Property Levels

Parcels

Buildings

Geographic Entities at VERY HIGH Risk (Top 10%)

RANK	All Communities	Index Score
1	New Martinsville - Incorporated	100.0%
2	Boone County* - Unincorporated	99.6%
3	Clendenin - Incorporated	99.2%
4	Marlinton - Incorporated	98.9%
5	Wheeling** - Incorporated	98.5%
6	McDowell County* - Unincorporated	98.2%
7	Alderson** - Incorporated	97.8%
8	Wayne County* - Unincorporated	97.5%
9	Parsons - Incorporated	97.1%
10	Kanawha County* - Unincorporated	96.8%
11	Madison - Incorporated	96.4%
12	Kimball - Incorporated	96.1%
13	Lincoln County* - Unincorporated	95.7%
14	Milton - Incorporated	95.4%
15	Mingo County* - Unincorporated	95.0%
16	Logan County* - Unincorporated	94.6%
17	Danville - Incorporated	94.3%
18	Wellsburg - Incorporated	93.9%
19	Oceana - Incorporated	93.6%
20	Rowlesburg - Incorporated	93.2%
21	Northfork - Incorporated	92.9%
22	Gary - Incorporated	92.5%
23	Wyoming County* - Unincorporated	92.2%
24	Welch - Incorporated	91.8%
25	Summers County* - Unincorporated	91.5%
26	Buckhannon - Incorporated	91.1%
27	Richwood - Incorporated	90.8%
28	Ceredo - Incorporated	90.4%
29	Mannington - Incorporated	90.1%

Incorporated Places	Index Score
Clendenin - Incorporated	100.0%
New Martinsville - Incorporated	99.5%
Alderson** - Incorporated	99.1%
Marlinton - Incorporated	98.6%
Kimball - Incorporated	98.2%
Parsons - Incorporated	97.8%
Wheeling** - Incorporated	97.3%
Northfork - Incorporated	96.9%
Danville - Incorporated	96.4%
Madison - Incorporated	96.0%
Milton - Incorporated	95.6%
Oceana - Incorporated	95.1%
Keystone - Incorporated	94.7%
Wellsburg - Incorporated	94.2%
Gary - Incorporated	93.8%
Rowlesburg - Incorporated	93.4%
Grantsville - Incorporated	92.9%
Richwood - Incorporated	92.5%
Rainelle - Incorporated	92.1%
Mannington - Incorporated	91.6%
Spencer - Incorporated	91.2%
Welch - Incorporated	90.7%
Buckhannon - Incorporated	90.3%

Unincorporated Areas	Index Score
Kanawha County* - Unincorporated	100.0%
Boone County* - Unincorporated	98.1%
Wayne County* - Unincorporated	96.2%
McDowell County* - Unincorporated	94.4%
Mingo County* - Unincorporated	92.5%
Logan County* - Unincorporated	90.7%

Counties	Index Score
Kanawha	100.0%
Boone	98.1%
McDowell	96.2%
Logan	94.4%
Mingo	92.5%
Wyoming	90.7%

Regions	Index Score
PDC Region 2	100%
PDC Region 3	90%

RANK	Streams	Index Score
1	Coal River	100.0%
2	Ohio River	99.3%
3	Greenbrier River	98.7%
4	Island Creek	98.0%
5	Little Coal River	97.4%
6	Cacapon River	96.7%
7	Kanawha River	96.1%
8	Campbells Creek	94.8%
9	South Branch Potomac River	94.8%
10	Mud River	94.1%
11	Pocatalico River	93.5%
12	Davis Creek	92.9%
13	Cabin Creek	92.2%
14	Wheeling Creek	91.6%
15	Big Coal River	90.9%
16	Pond Fork	90.3%

Watersheds	Index Score
Lower Kanawha	100.0%
Coal	96.8%
Tug	93.7%
Upper Kanawha	90.6%

Last update: Aug. 2024

Colors:
Black --> Incorporated places
Black on yellow** --> Split communities
Black on blue: Incorporated communities included in the detailed risk report (Camden-on-Gauley, Clendenin, Marlinton, Rainelle, Richwood, and White Sulphur Springs)
Brown on gray --> Unincorporated areas
Green --> Counties (Total)

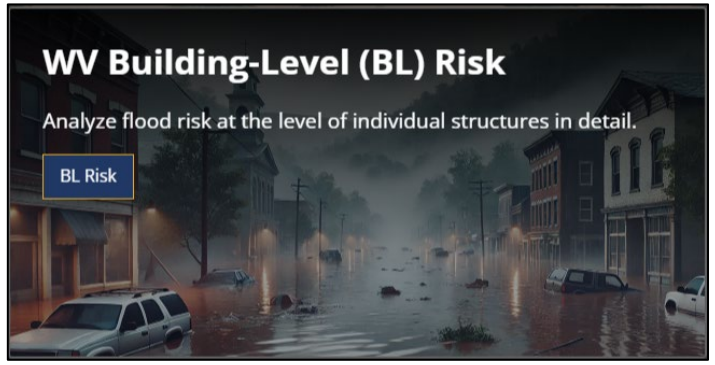
Risk Tools Comparison

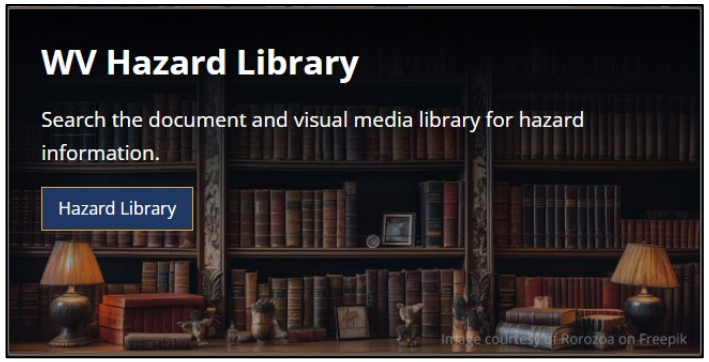
WV Flood Tool	WV Risk Explorer
Determine the degree of flood risk for a *specific area or property* using the Public and Expert Views. View building risk assessments and mitigation measures using the Risk Map View.	View and analyze riverine flood risk at the *aggregate level* for community, county, region, watershed, and stream scales. *Compare risk* among different geographic entities, complete with risk scores and rankings, from the building level to state scales.
Primary Components: • Public View • Expert View (Floodplain Management) • RiskMap View (Risk Reduction) • Reference Layers & Basemaps • Property Search Tools • Links to External Viewers & Resources	**Primary Components:** • Risk Maps Tool • Risk Reports Tool • Risk & Mitigation Dashboard Tools • Building Level Risk Tools • Flood Visualization Tools • Data linkages WV Flood Tool & Hazard Library
Applications: • Flood Risk Determinations at Property Level • Floodplain Management • Mitigation Measures • Damage Assessments • Property Identification • Flood Visualizations & Risk Communications • CRS Map Credits • Other Hazards	**Applications:** • Plans (Resiliency, Emergency Operations, Hazard Mitigation) • Risk Studies (Risk MAP, Risk Reduction, Community Focused) • Mitigation Measures, Tracking & Monitoring • Flood Visualizations & Risk Communications • CRS Programming Variables • Other Hazards

West Virginia Risk Explorer (WVRE)

Risk Assessment Tools: Localized risk assessment tools for analysis

WVRE Landing Page: wvfrf.org/wvre





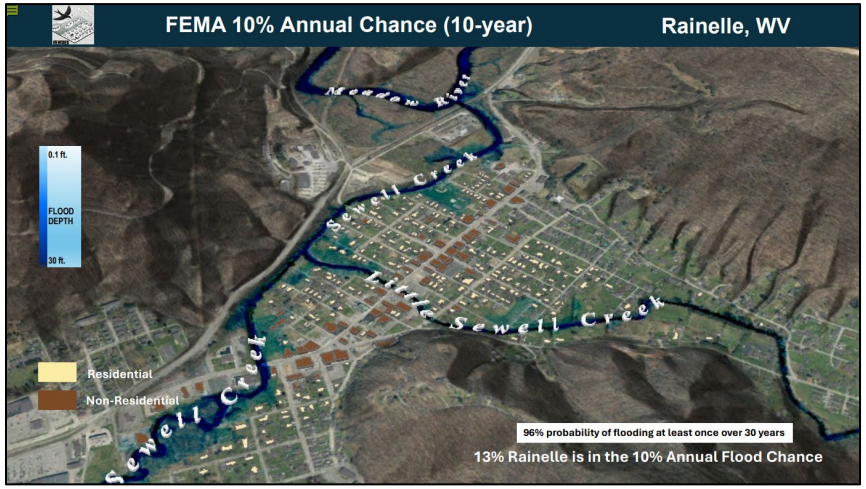
West Virginia Risk Explorer (WVRE)…

Risk Communication Tools:

Facilitating risk comprehension for different groups of stakeholders

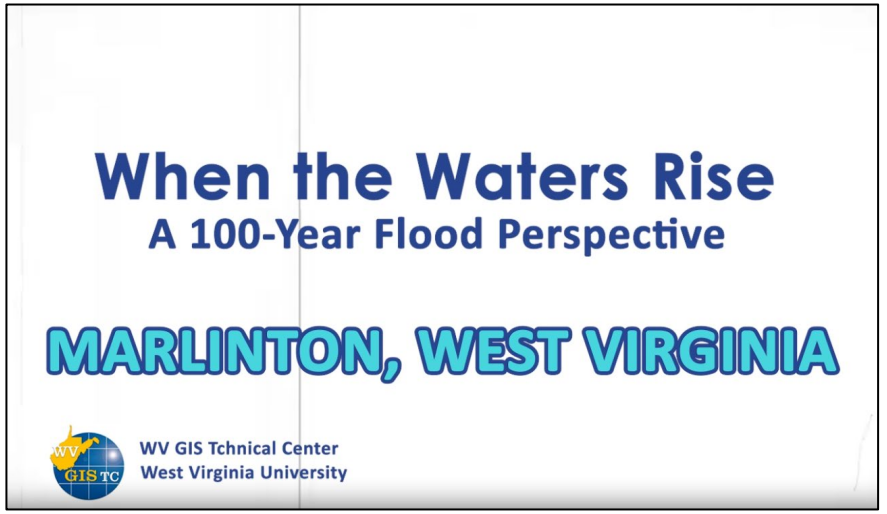
West Virginia Risk Explorer (WVRE)…

Visualization Examples:



Viewshed for Rainelle

Building Profile in Clendenin

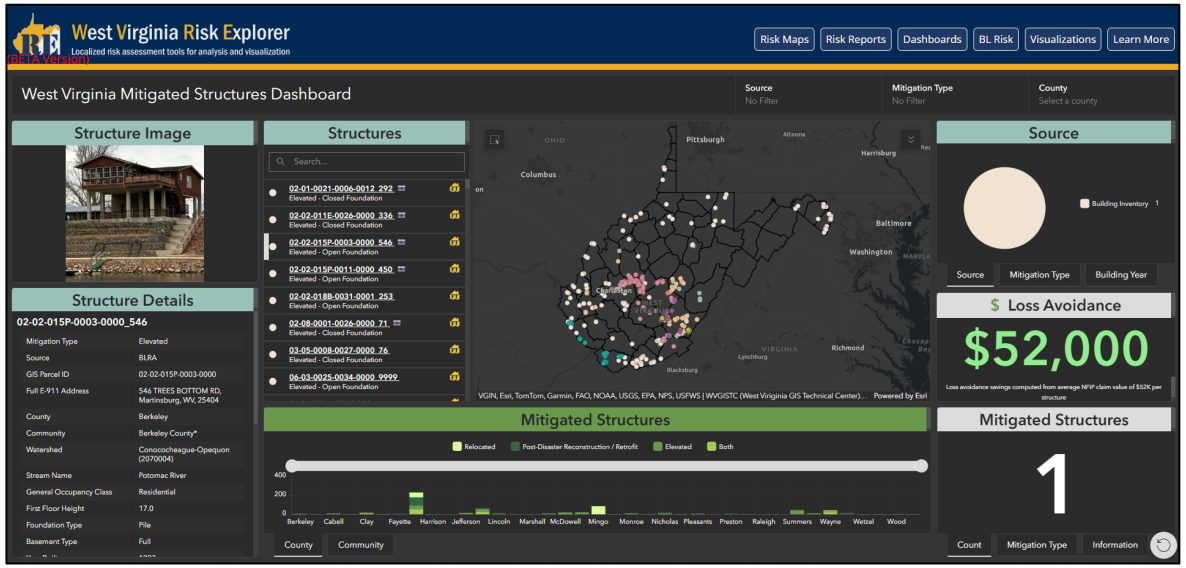


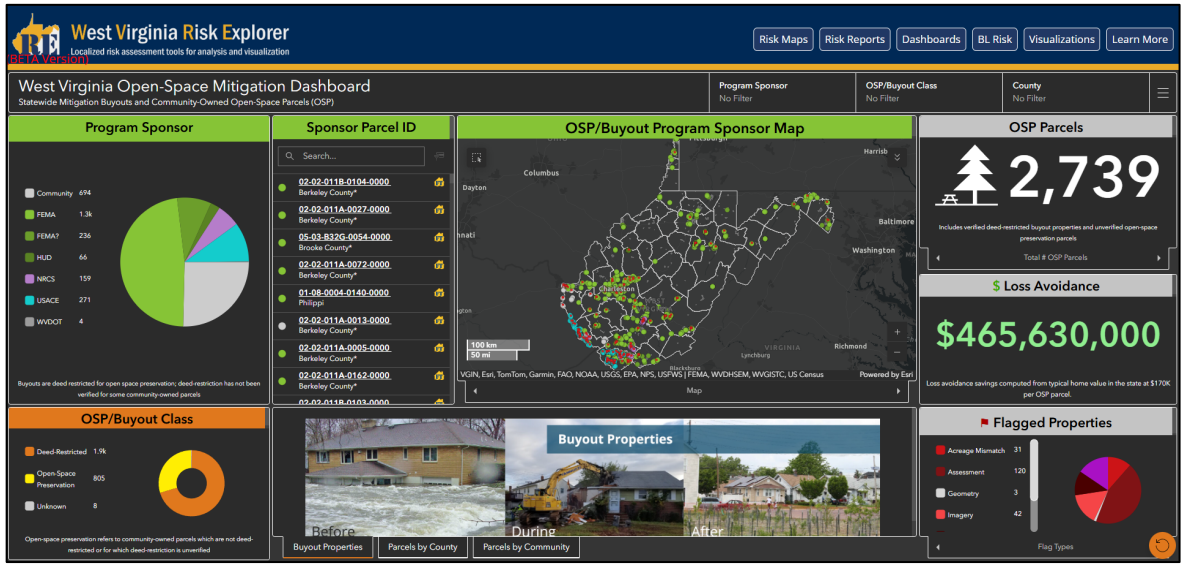
3D Movie for Marlinton

West Virginia Risk Explorer (WVRE)…

Mitigation Assessment Tools:

- Mitigated Structures Dashboard
- Open-Space Mitigation Dashboard





Future Direction

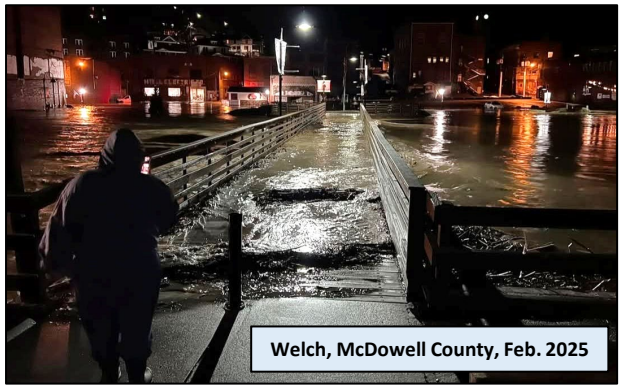
Finalizing the Hazard Library (soon)

Future Maintenance and data updates?

Training?

Please start using the new tools!

Recent Flood, Feb. 2025


Welch, McDowell County, Feb. 2025


Welch, McDowell County, Feb. 2025

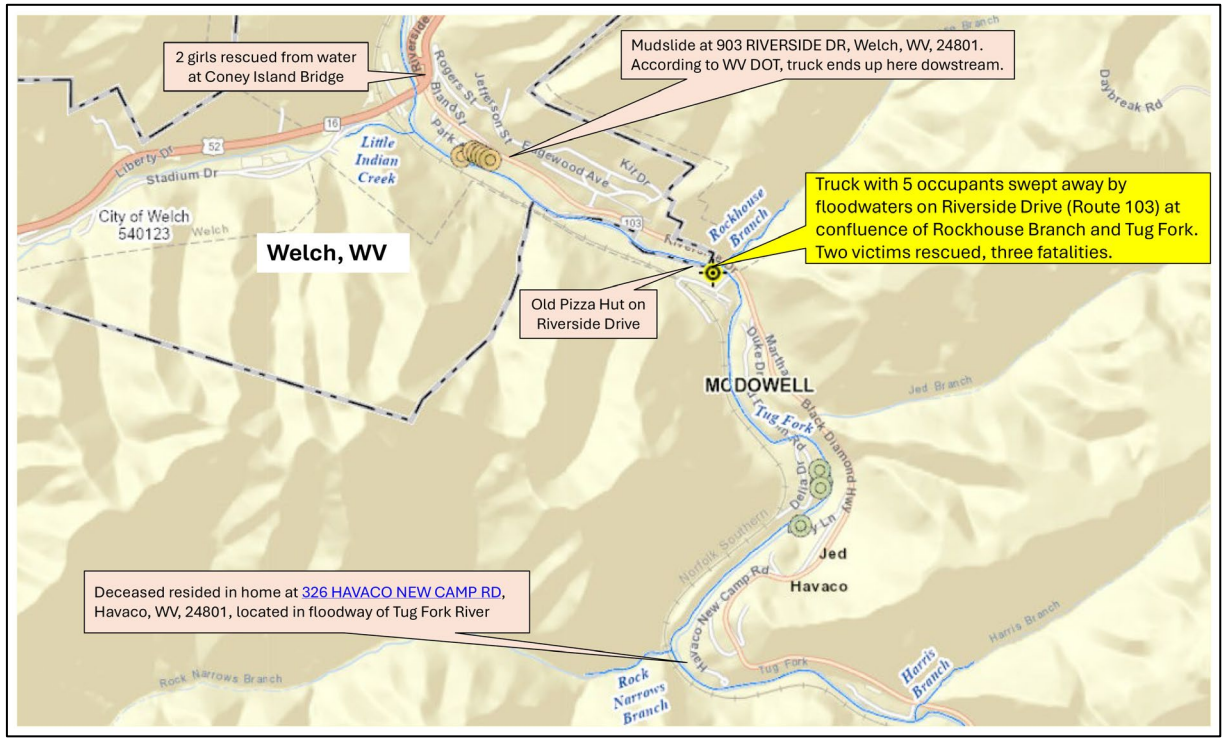

McDowell County, Feb. 2025

Highlights:

Mobile Homes, vulnerable and challenging to manage

Significant Structures flooded

Mitigation Efforts, building to higher protection levels




Mingo County, Feb. 2025

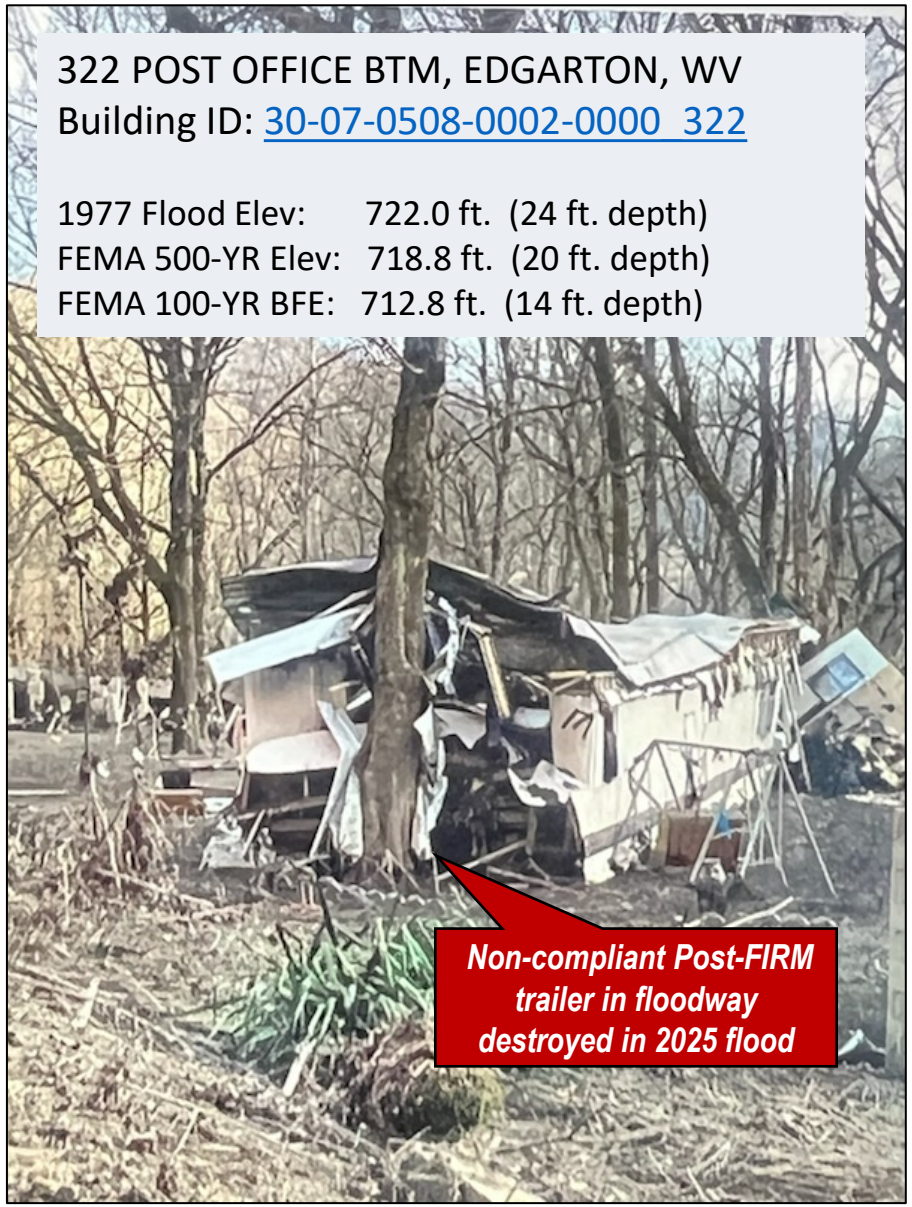

Mingo County, Feb. 2025


Williamson, Mingo County, Feb. 2025

Mobile Home in Floodway Destroyed (Edgarton, Mingo)

322 POST OFFICE BTM, EDGARTON, WV
Building ID: 30-07-0508-0002-0000_322

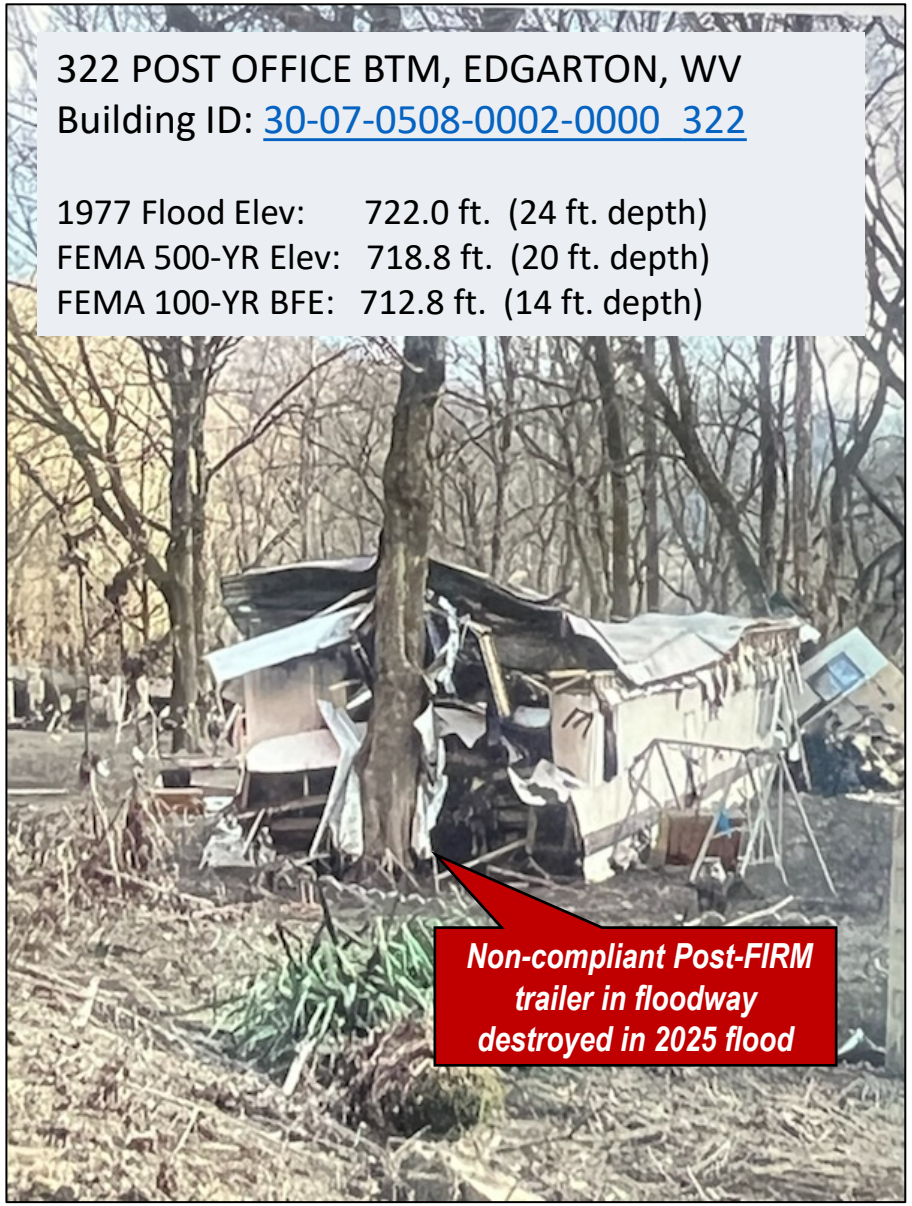
1977 Flood Elev: 722.0 ft. (24 ft. depth)
FEMA 500-YR Elev: 718.8 ft. (20 ft. depth)
FEMA 100-YR BFE: 712.8 ft. (14 ft. depth)

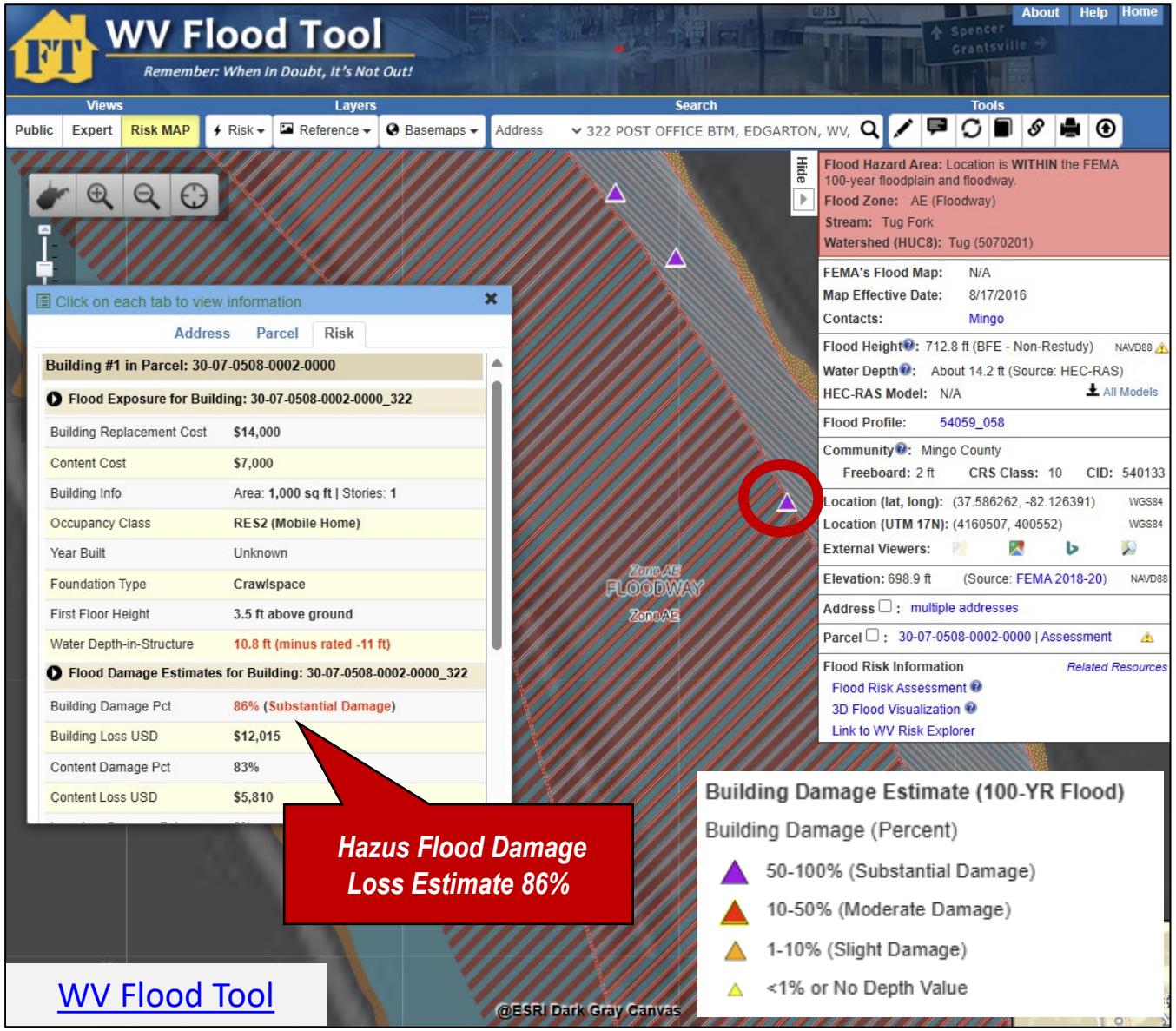


Mobile Home in Floodway Destroyed (Edgarton, Mingo)…

322 POST OFFICE BTM, EDGARTON, WV
Building ID: 30-07-0508-0002-0000_322

1977 Flood Elev: 722.0 ft. (24 ft. depth)
FEMA 500-YR Elev: 718.8 ft. (20 ft. depth)
FEMA 100-YR BFE: 712.8 ft. (14 ft. depth)

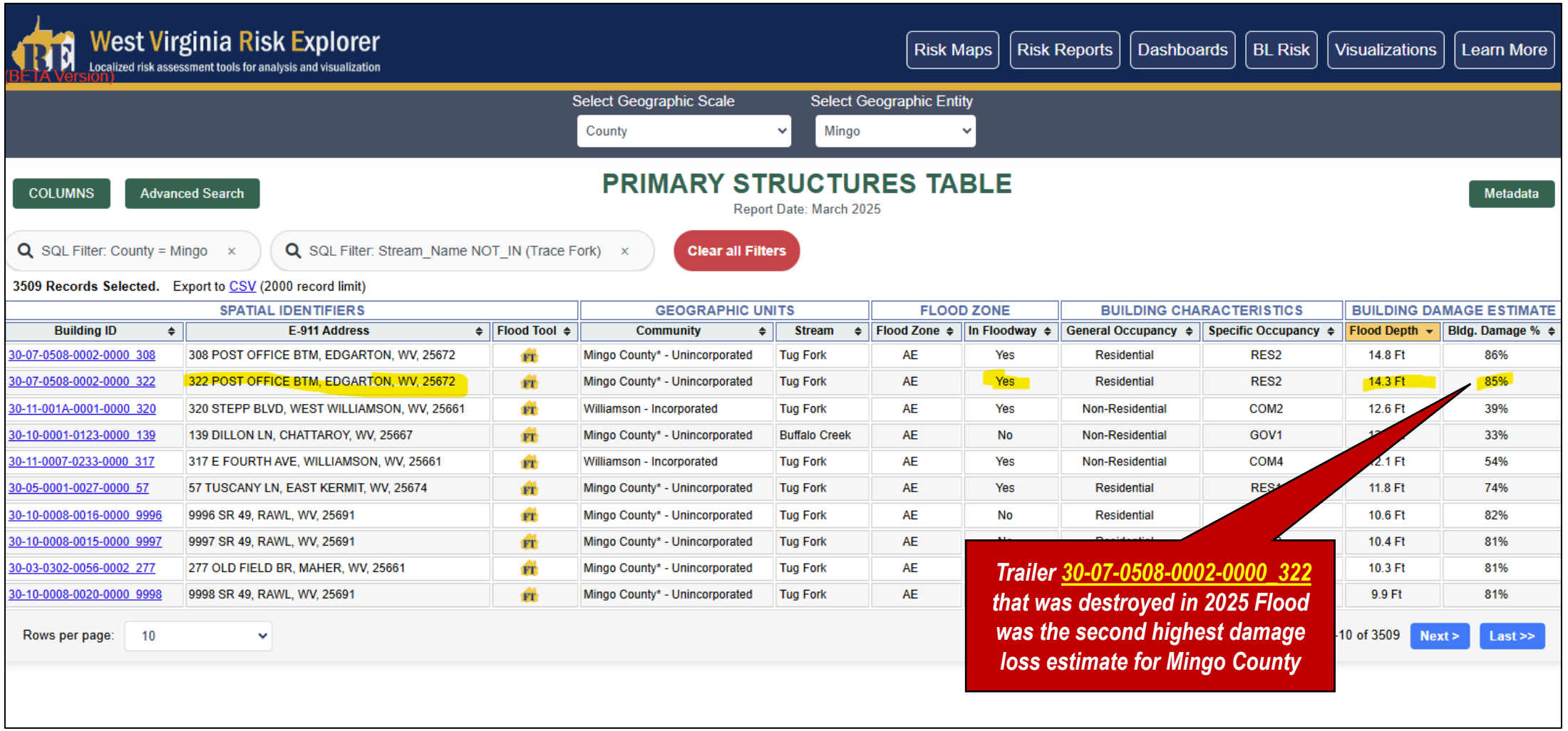




WV Flood Tool

Mobile Home in Floodway Destroyed (Edgarton, Mingo)…

WV Risk Explorer's BL Risk Tool for Primary Structures in Floodplain
<< Mingo County Query on highest estimated Flood Depths >>



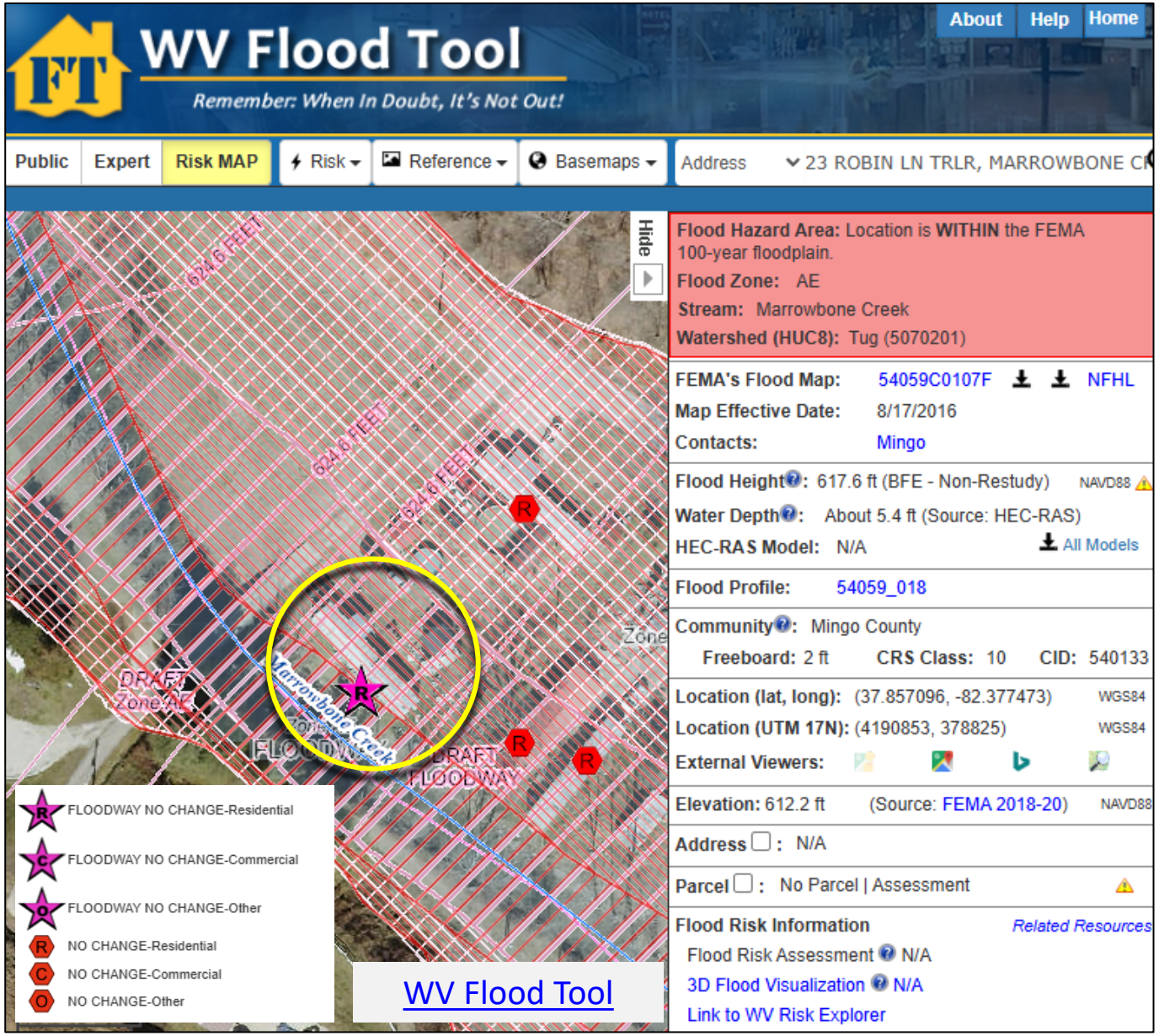
322 POST OFFICE BTM, EDGARTON, WV
Building ID: 30-07-0508-0002-0000_322

Mobile Home in Floodway Destroyed (Mingo County)

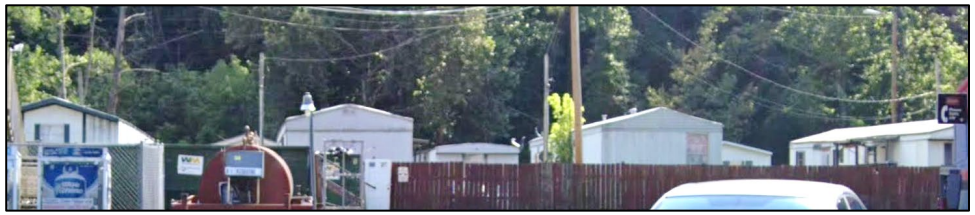
23 ROBIN LN TRLR, MARROWBONE CREEK, WV
Building ID: [30-05-0221-0065-0001_23]

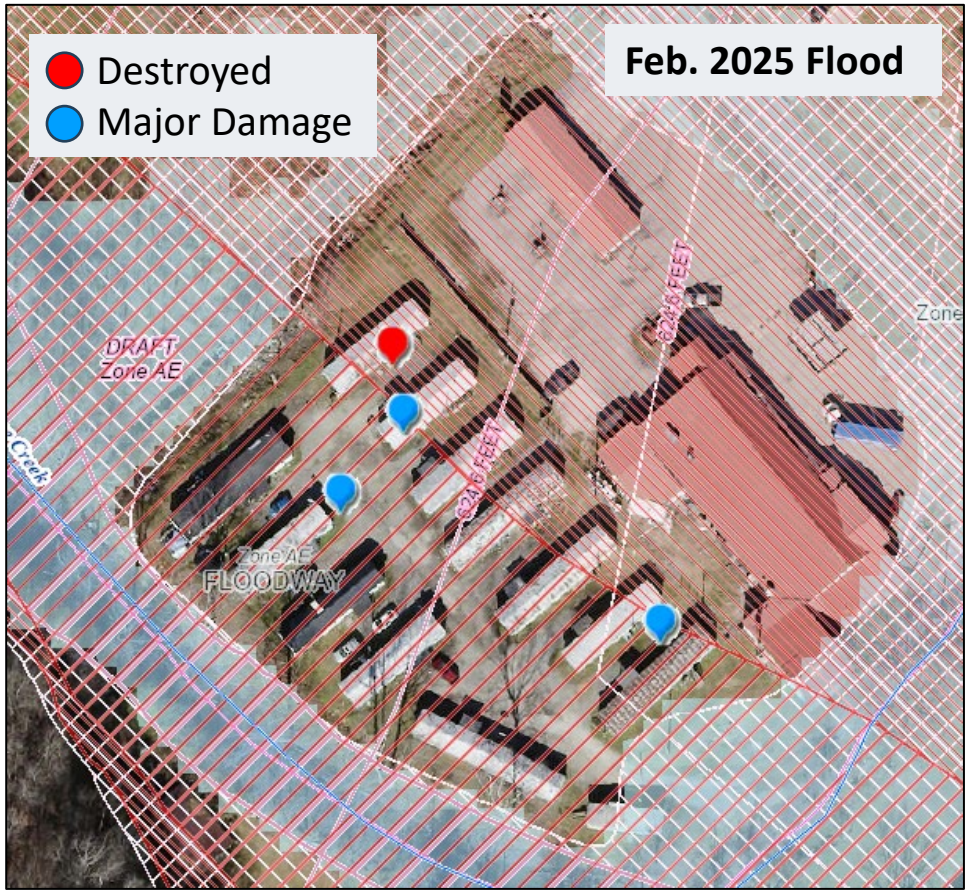
WCHS Eyewitness News

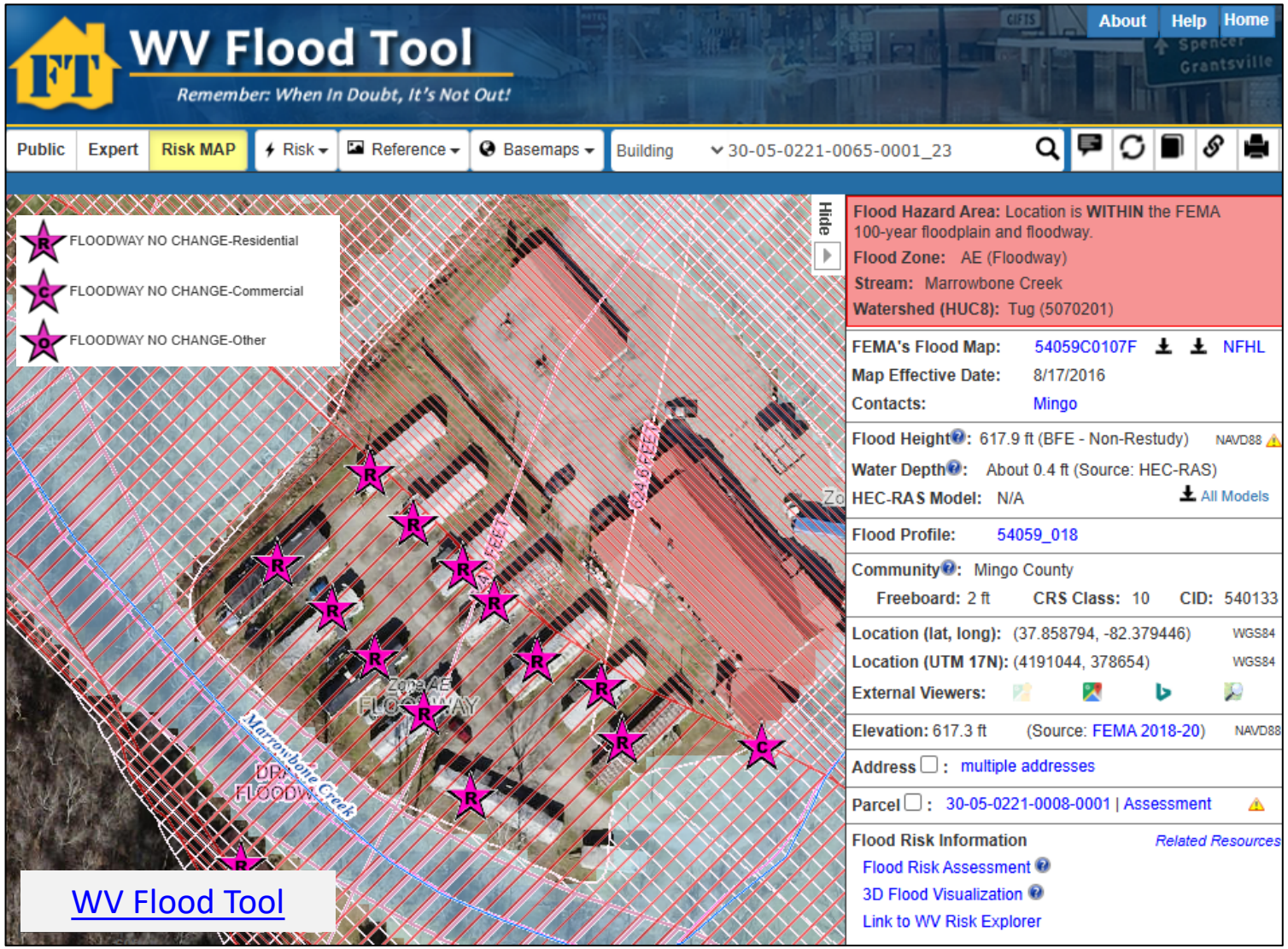
EYEWITNESS NEWS
WCHS abc 8
FOX 11



Mobile Home Park in Floodway (Mingo County)

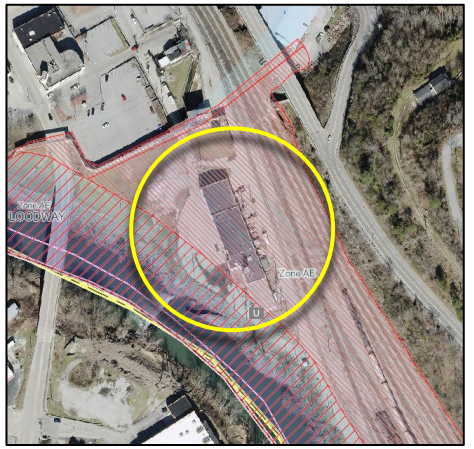


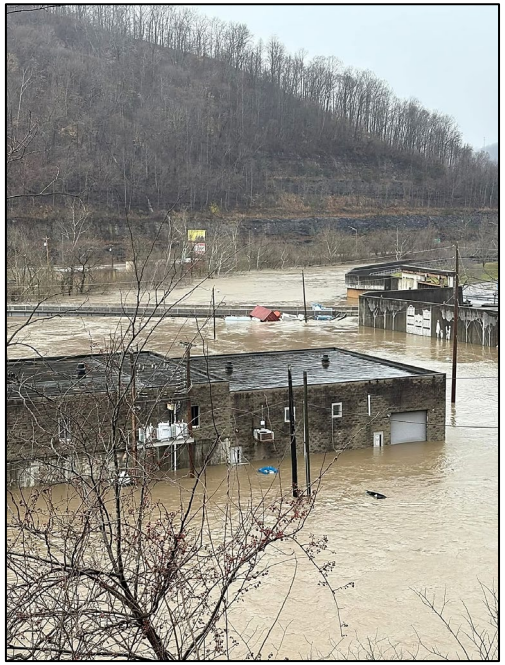




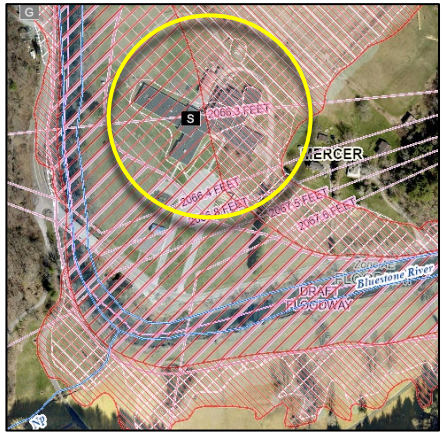
Flooded Significant Structures, Feb. 2025

Jan-Care of Guardian Angel (EMS)
Welch, McDowell County
Inundated, Feb. 2025
Building ID: 27-15-0002-0247-0000_58



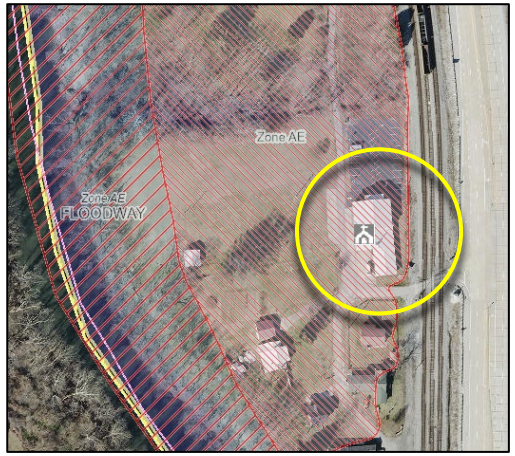


Williamson Water Plant (Veolia Water)
Williamson, Mingo County
Inundated, Feb. 2025
Building ID: 30-11-0007-0233-0000_317

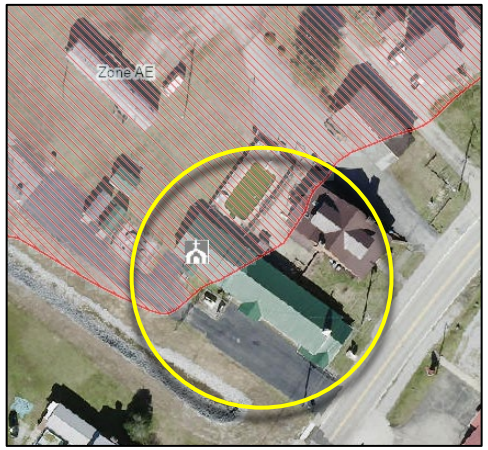


Spanishburg Elementary School
Mercer County
Inundated, Feb. 2025
Building ID: 28-11-0026-0075-0000_8544

Flooded Significant Structures, Feb. 2025…

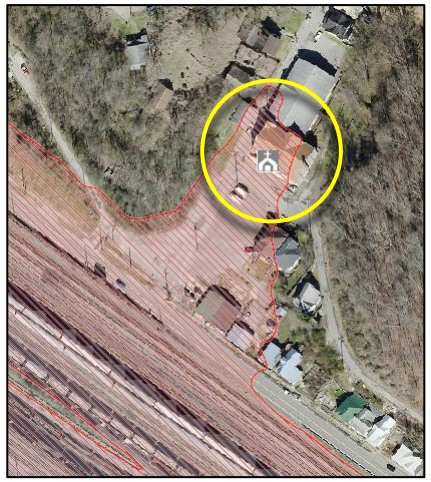


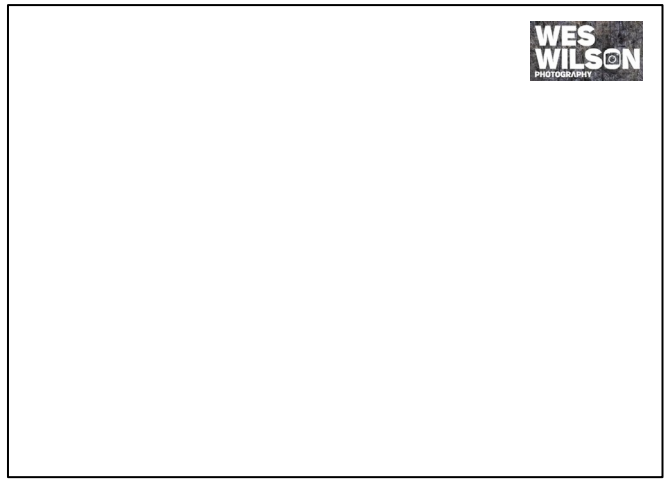
Borderland Baptist Church
Mingo County
Inundated, Feb. 2025
Building ID: 30-10-362K-0010-0000_46



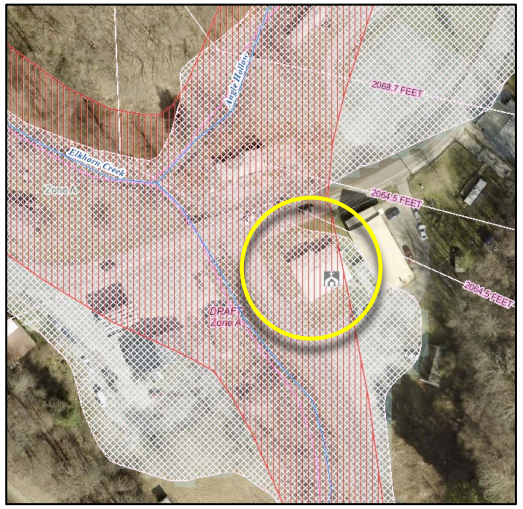
Cornerstone Church
Matewan, Mingo County
Inundated, Feb. 2025
Building ID: 30-08-0009-0071-0000_1028

East Williamson Baptist Church
Williamson, Mingo County
Inundated, Feb. 2025
Building ID: 30-11-0010-0098-0000_9999





Query: Mingo County, Significant Structures, Religious



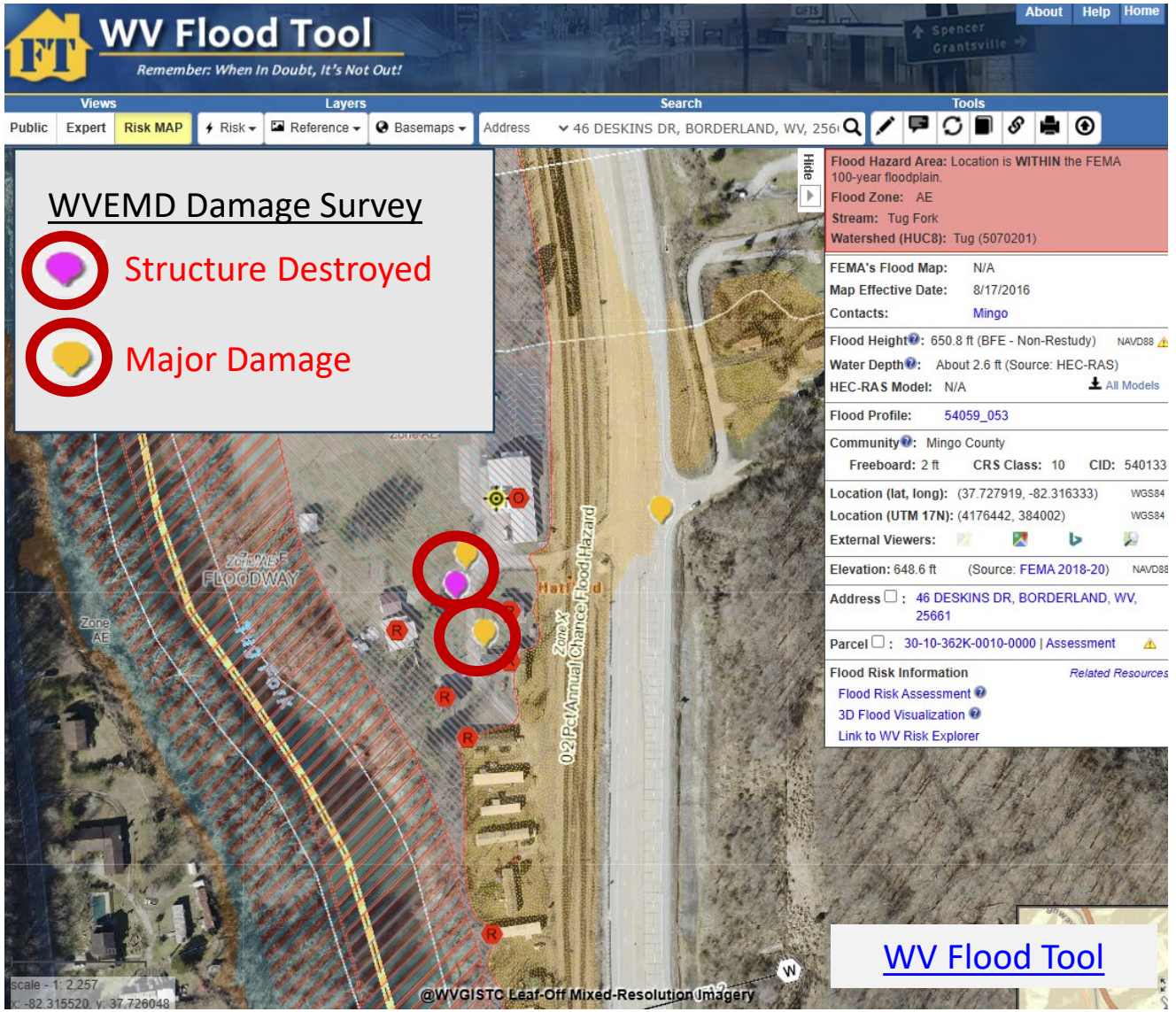
Church Of God Ennis & Maybeury
McDowell County
6 inches of water in basement, Feb. 2025
Building ID: 27-06-0011-0019-0000_40150

Mingo County – Borderland Church (Borderland, WV)

Borderland Church Flood Elevations

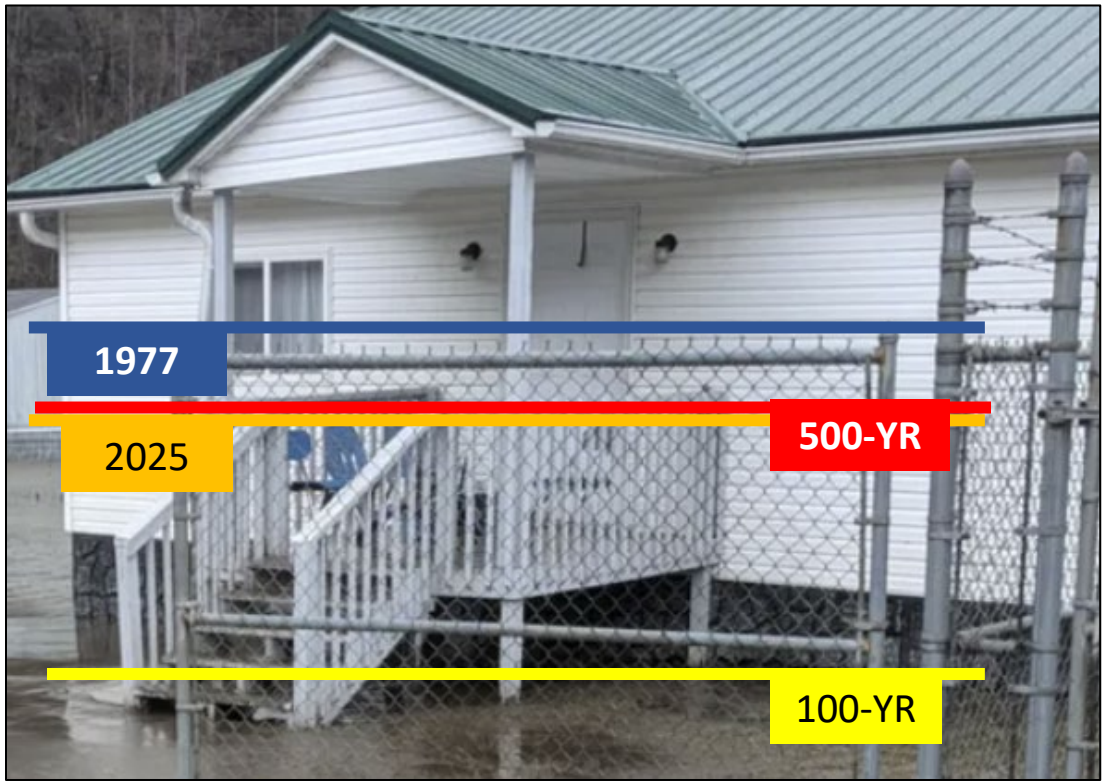
46 DESKINS DR, BORDERLAND, WV, 25661
Building ID: [30-10-362K-0010-0000_46]

1977 Flood Elev: 659.8 ft. (9 ft. depth)
FEMA 500-YR Elev: 659.8 ft. (9 ft. depth)
2025 Flood Elev: 655.8 ft. (5 ft.; [4 to 5 feet in sanctuary])
FEMA 100-YR BFE: 650.8 ft. (2.6 ft. depth)



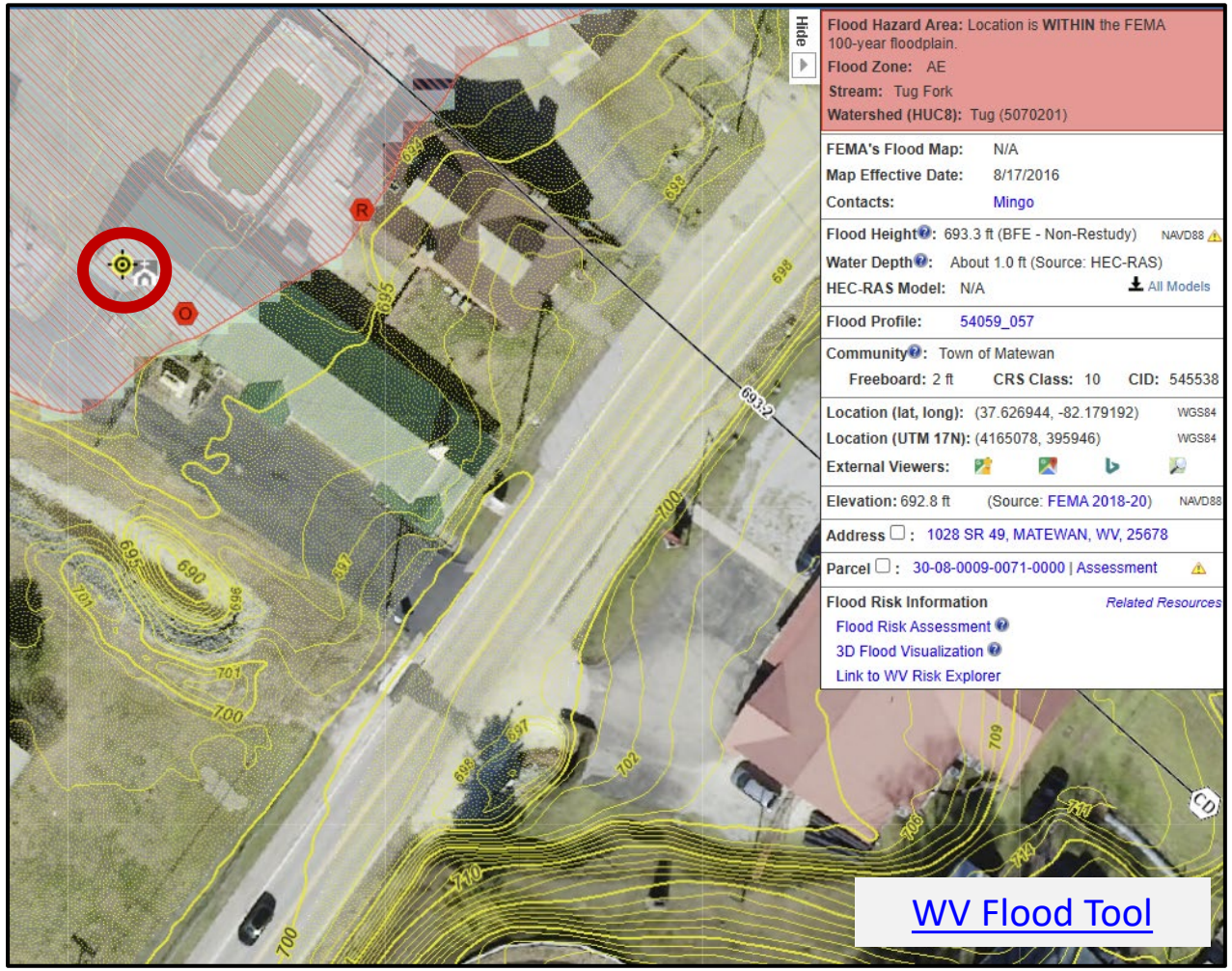
Mingo County – Cornerstone Church (Matewan, WV)

Cornerstone Church Flood Elevations



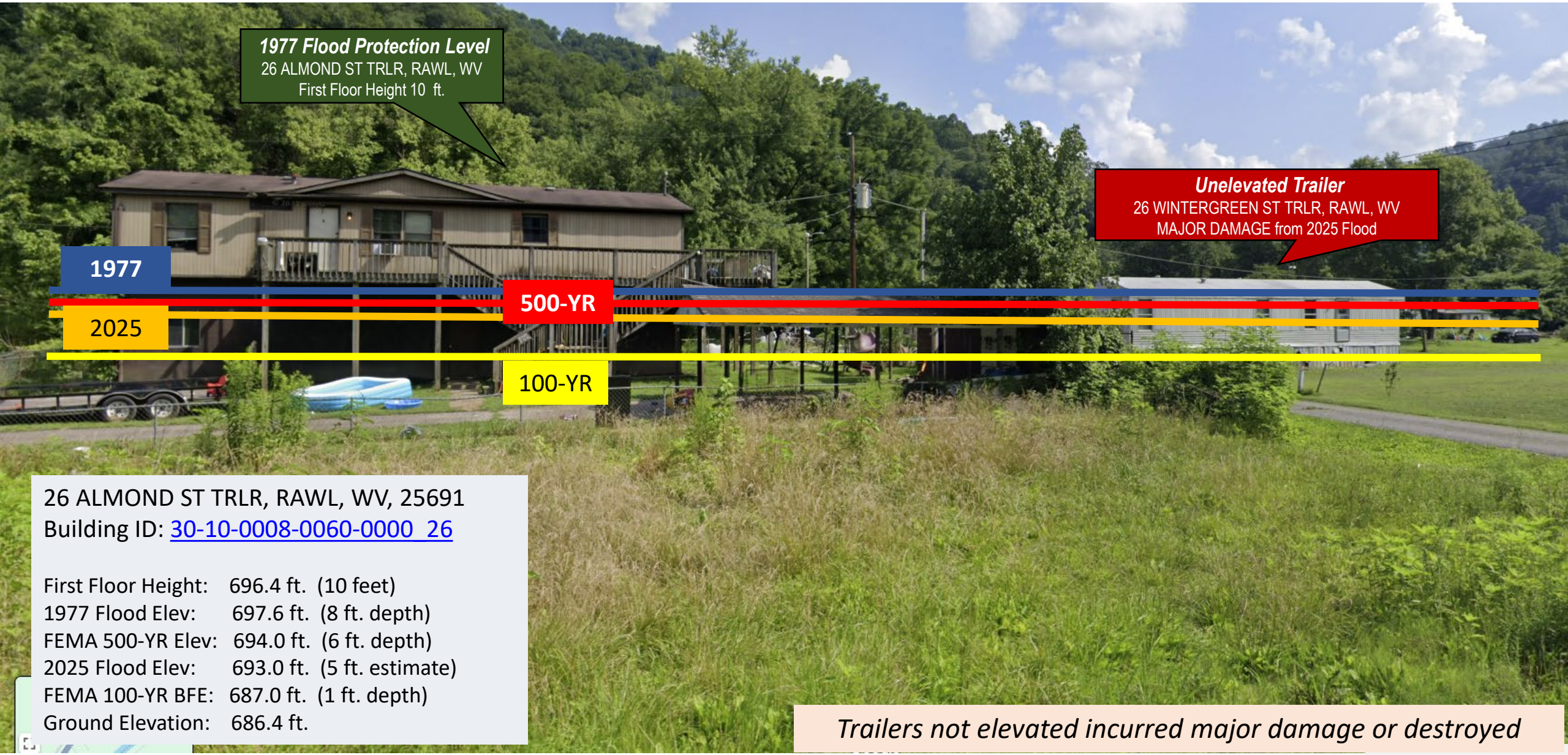
1028 SR 49, MATEWAN, WV, 25678
Building ID: 30-08-0009-0071-0000_1028

1977 Flood Elev: 701.3 ft. (8 ft. depth)
FEMA 500-YR Elev: 699.5 ft. (6 ft. depth)
2025 Flood Elev: 699.5 ft. (6 ft.; 2 ft. reported in sanctuary)
FEMA 100-YR BFE: 693.3 ft. (1 ft. depth)



Preliminary damage assessment reveals 2025 Flood for this location similar magnitude of FEMA 500-yr Flood Model

Mingo County – Trailers at Rawl, WV



26 ALMOND ST TRLR, RAWL, WV, 25691
Building ID: 30-10-0008-0060-0000 26

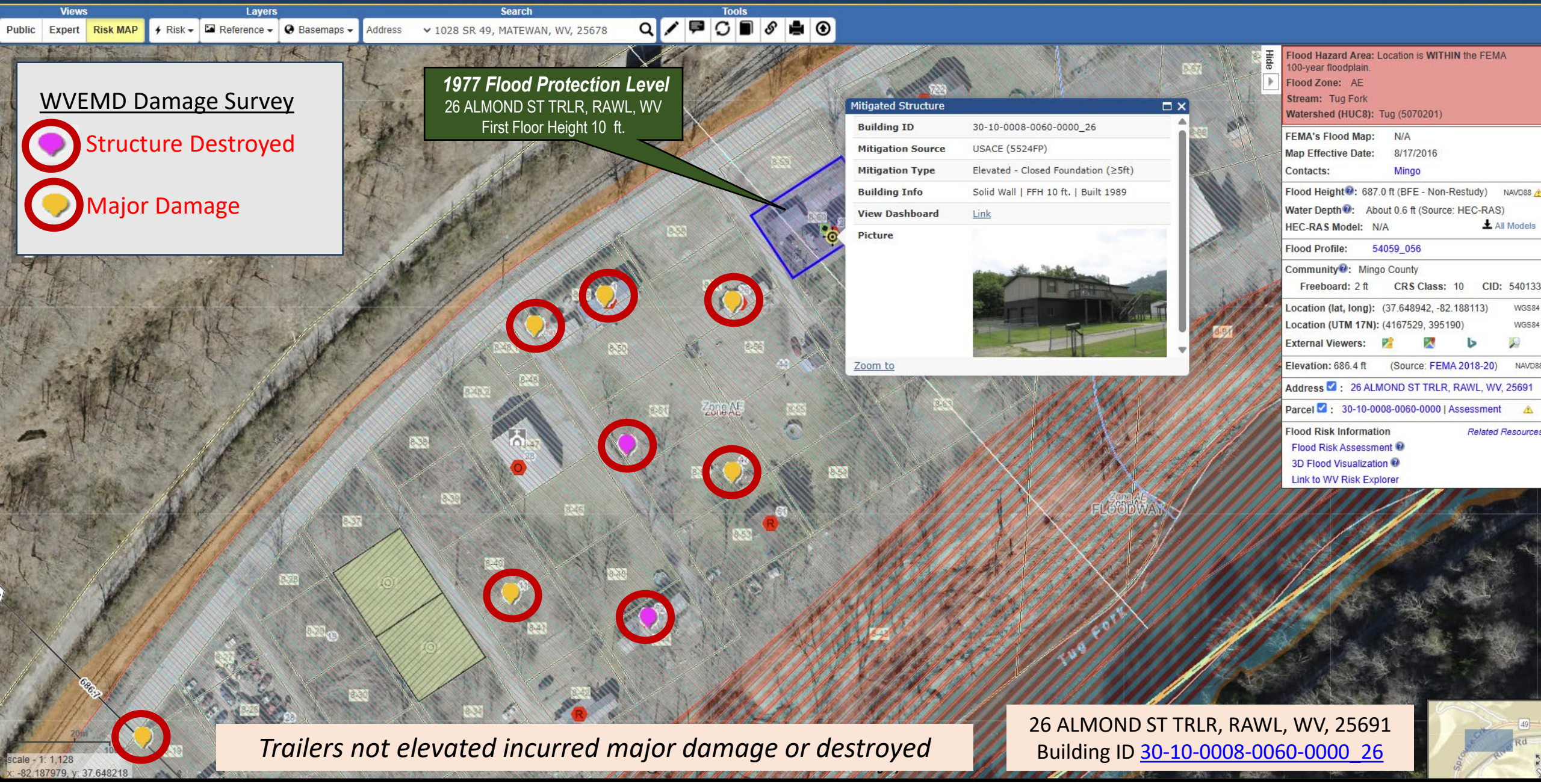
First Floor Height: 696.4 ft. (10 feet)
1977 Flood Elev: 697.6 ft. (8 ft. depth)
FEMA 500-YR Elev: 694.0 ft. (6 ft. depth)
2025 Flood Elev: 693.0 ft. (5 ft. estimate)
FEMA 100-YR BFE: 687.0 ft. (1 ft. depth)
Ground Elevation: 686.4 ft.

Trailers not elevated incurred major damage or destroyed

WV Flood Tool

Mingo County – Trailers at Rawl, WV

WV Flood Tool



Trailers not elevated incurred major damage or destroyed

26 ALMOND ST TRLR, RAWL, WV, 25691
Building ID 30-10-0008-0060-0000_26

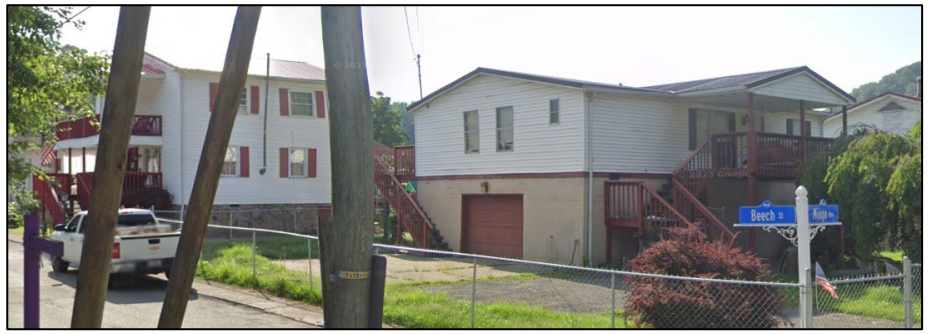
Mingo County – New 2024 Cabin (Matewan, WV)

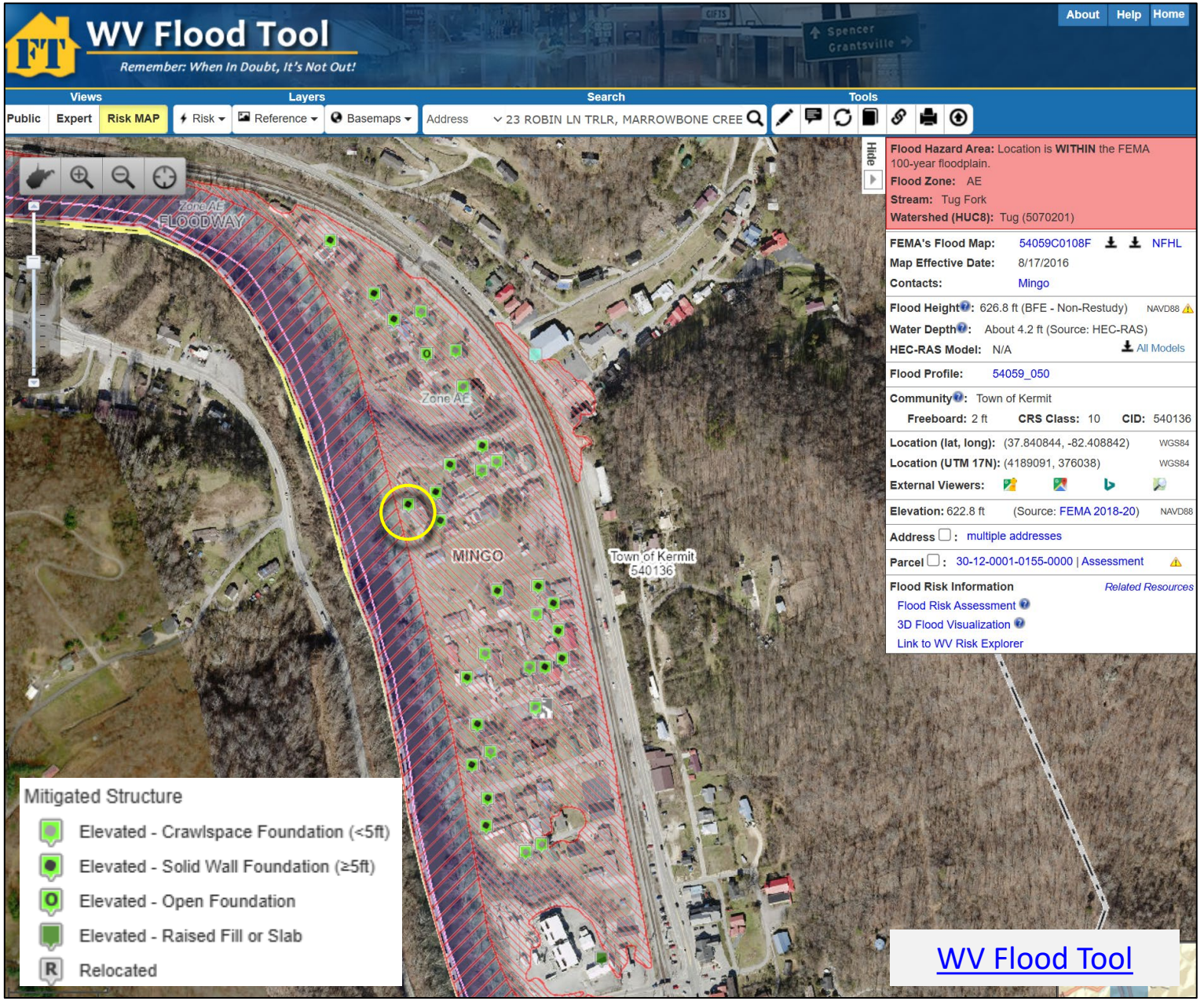
29 Hatfield Bottom Trail (Built in July 2024)
Building ID: 30-08-0008-0016-0000_29

FEMA 500-YR Elev: 699.0 ft. (6.6 ft. depth)
1977 Flood Elev: 698.3 ft. (5.9 ft. depth)
2025 Flood Elev: 697.7 ft. (5.4 ft.; 2 feet reported in cabin)
First Floor Height: 695.7 ft. (3.4 feet above ground)
FEMA 100-YR BFE: 693.0 ft. (0.8 ft. depth)
LAG from EC: 692.4 ft. (Finished Grade)

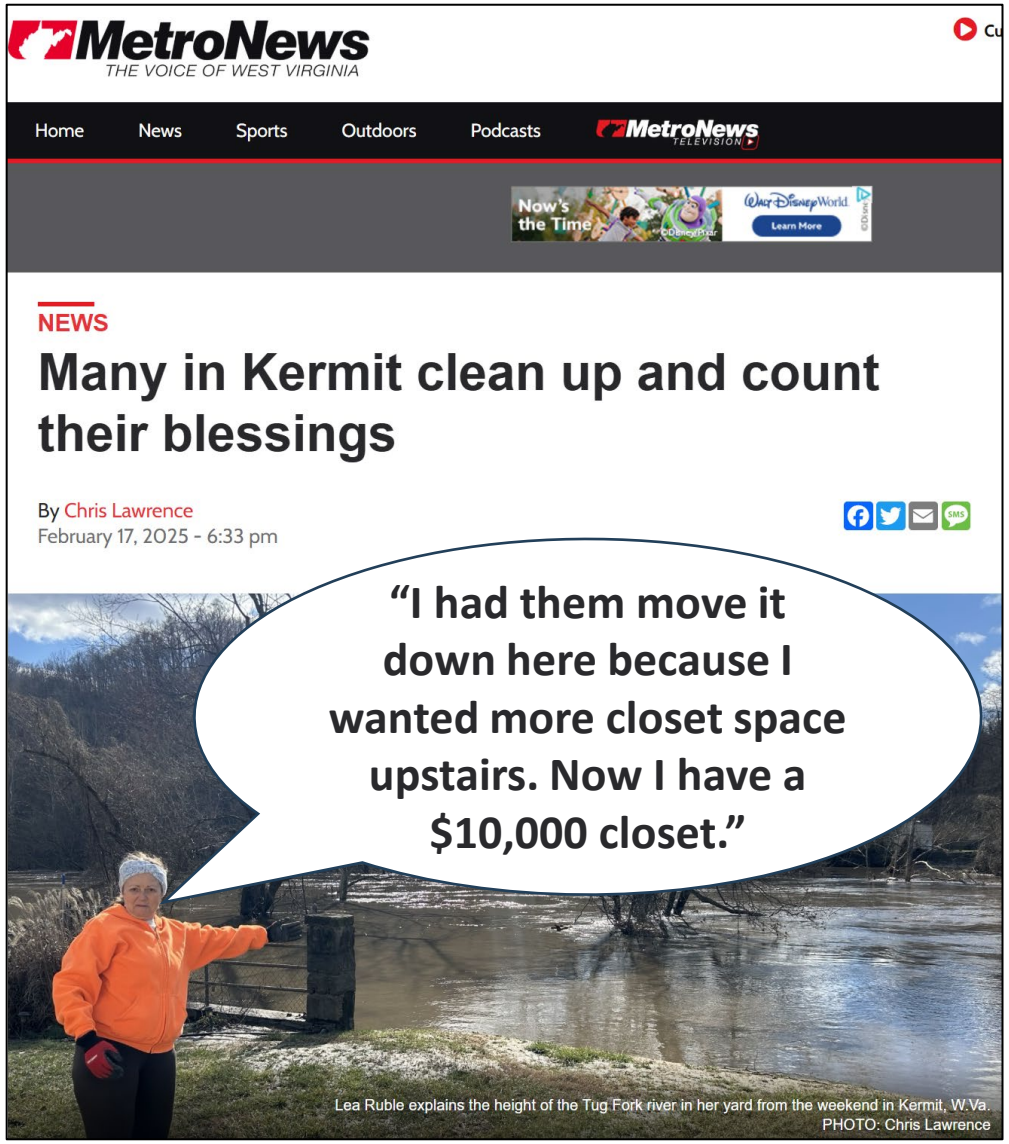
Mitigated Structures in Kermit, Mingo County

The town of Kermit has one of the highest percentages in the state of mitigated structures in high-risk flood areas





Kermit, Mingo County

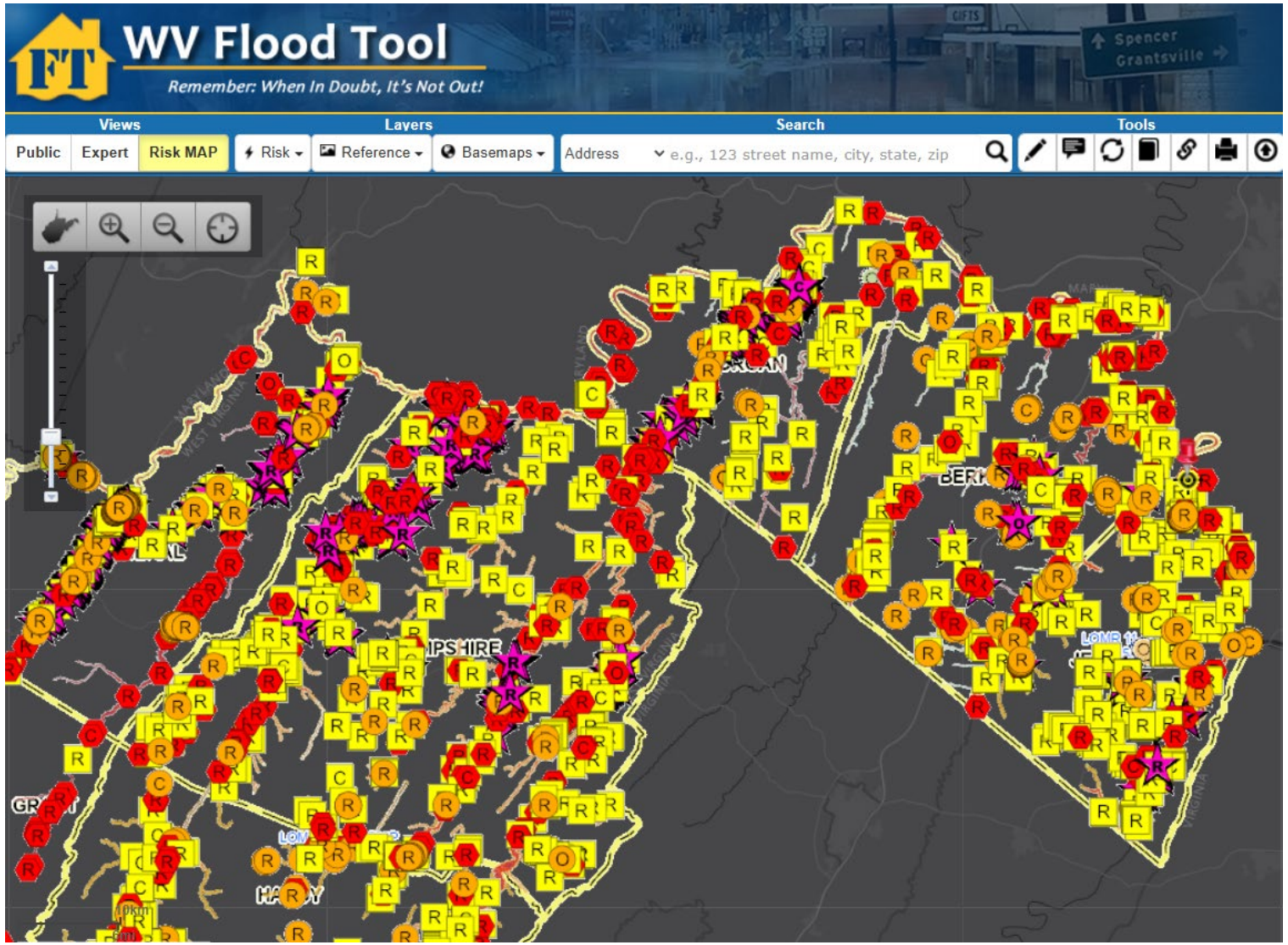


No living spaces below the mitigation level

No utility equipment below the mitigation level

85 BLANKENSHIP ST, KERMIT, WV
Building ID: 30-12-0001-0261-0000_85

New Flood Maps



Difference between FEMA's 2009 and 2024 flood studies

Future Map Condition

- Mapped Out SFHA
- Mapped In SFHA
- Remains Same
- Floodway

Land Use Category

- (R) Residential
- (C) Commercial
- (O) Other

Kurt Donaldson

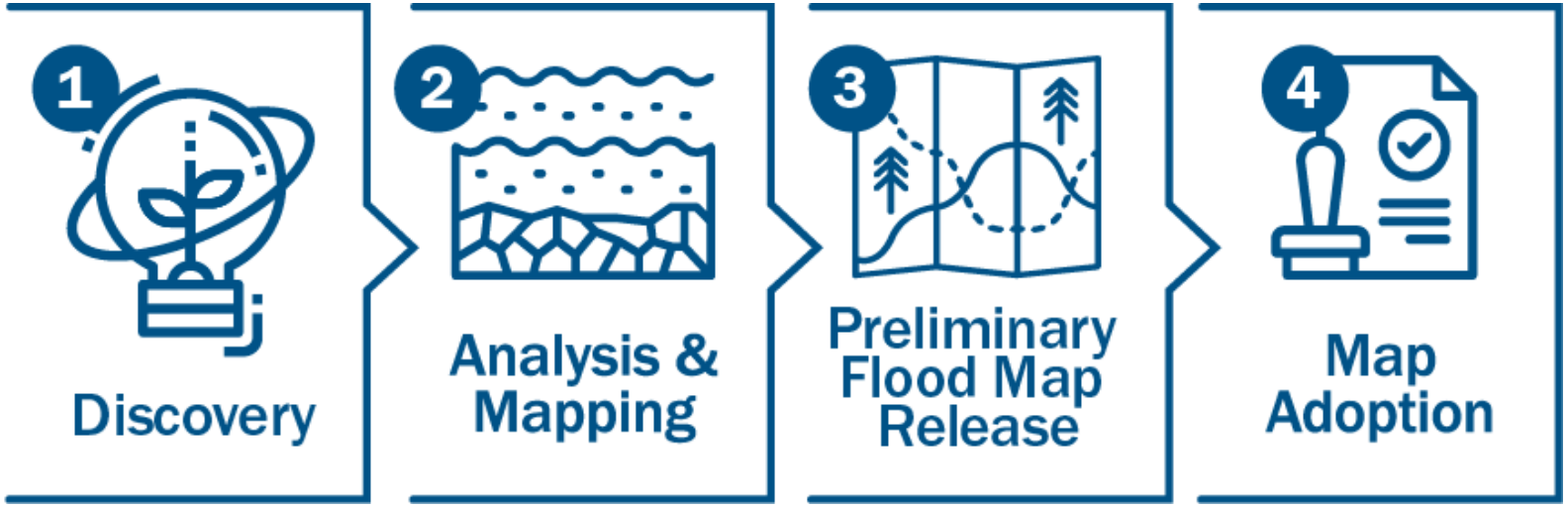
WV GIS Technical Center

West Virginia University

kdonalds@wvu.edu

Mapping: Risk MAP Process

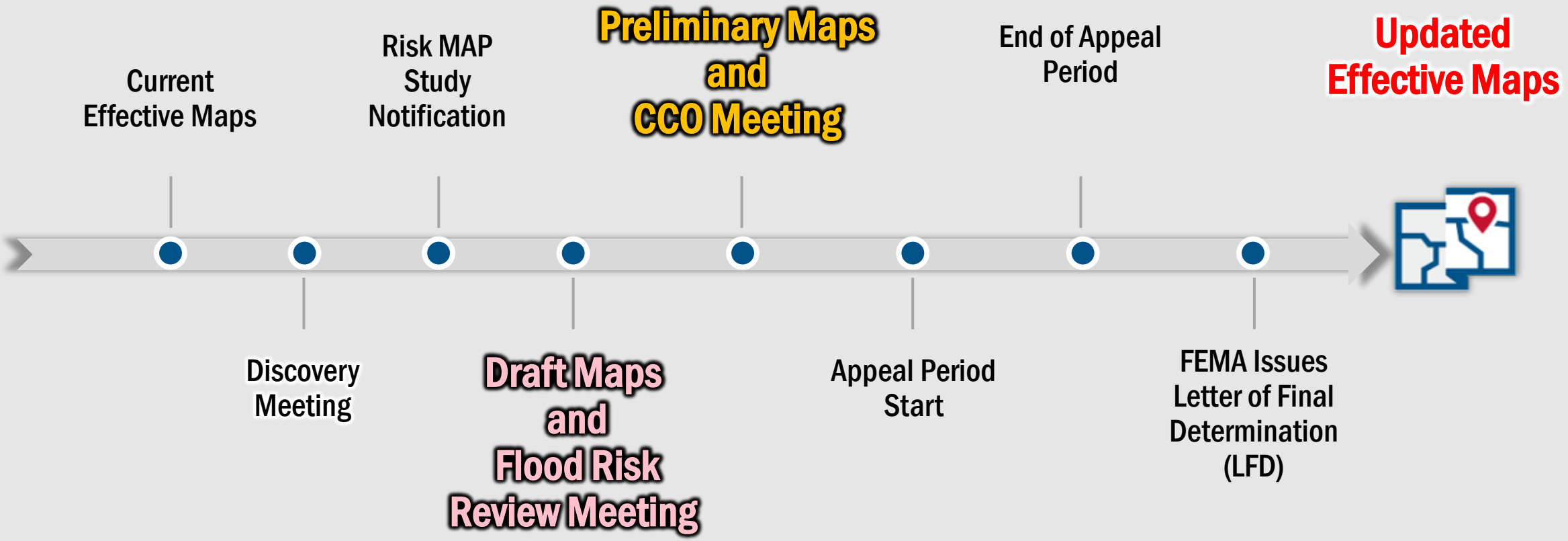
- FEMA is responsible for mapping our country's flood risk. The agency and its partners do this by making Flood Insurance Rate Maps, or flood maps.
- Risk Mapping, Assessment and Planning, Risk MAP, is the process used to make these maps.



Risk MAP Process

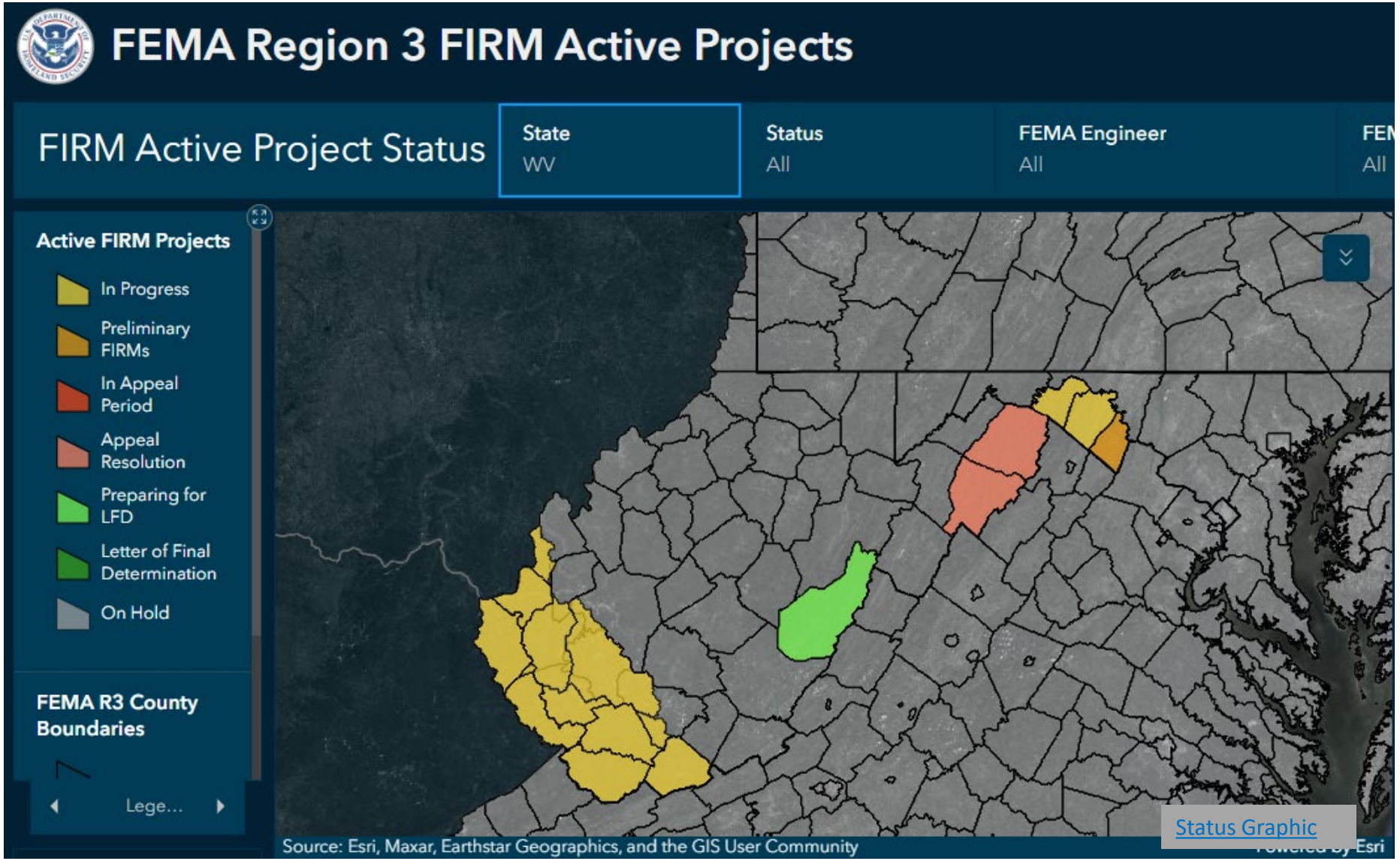
1) **Discovery**: Initial meetings to assess needs and scope the flood map project.
2) **Analysis & Mapping**: Data collection, modeling, and creating the draft and preliminary maps.
3) **Preliminary Flood Map Release**: Sharing the preliminary maps with communities and the public, followed by a 90-day appeal period.
4) **Map Adoption**: Communities adopt the new maps into their floodplain management ordinances, which happens after all appeals are resolved and a six-month compliance period has passed.

Risk MAP Timeline



A Risk MAP project, from start to finish, can take up to 5 or more years to complete

Risk MAP: In Progress



Status Graphic

New flood maps are currently being created for 27% of counties in state

In Progress

Counties

- Berkeley
- **Cabell**
- *Lincoln* (Partial)
- *Logan* (Partial)
- **McDowell**
- **Mercer**
- **Mingo**
- Morgan
- Raleigh (Partial)
- **Wayne**
- **Wyoming**

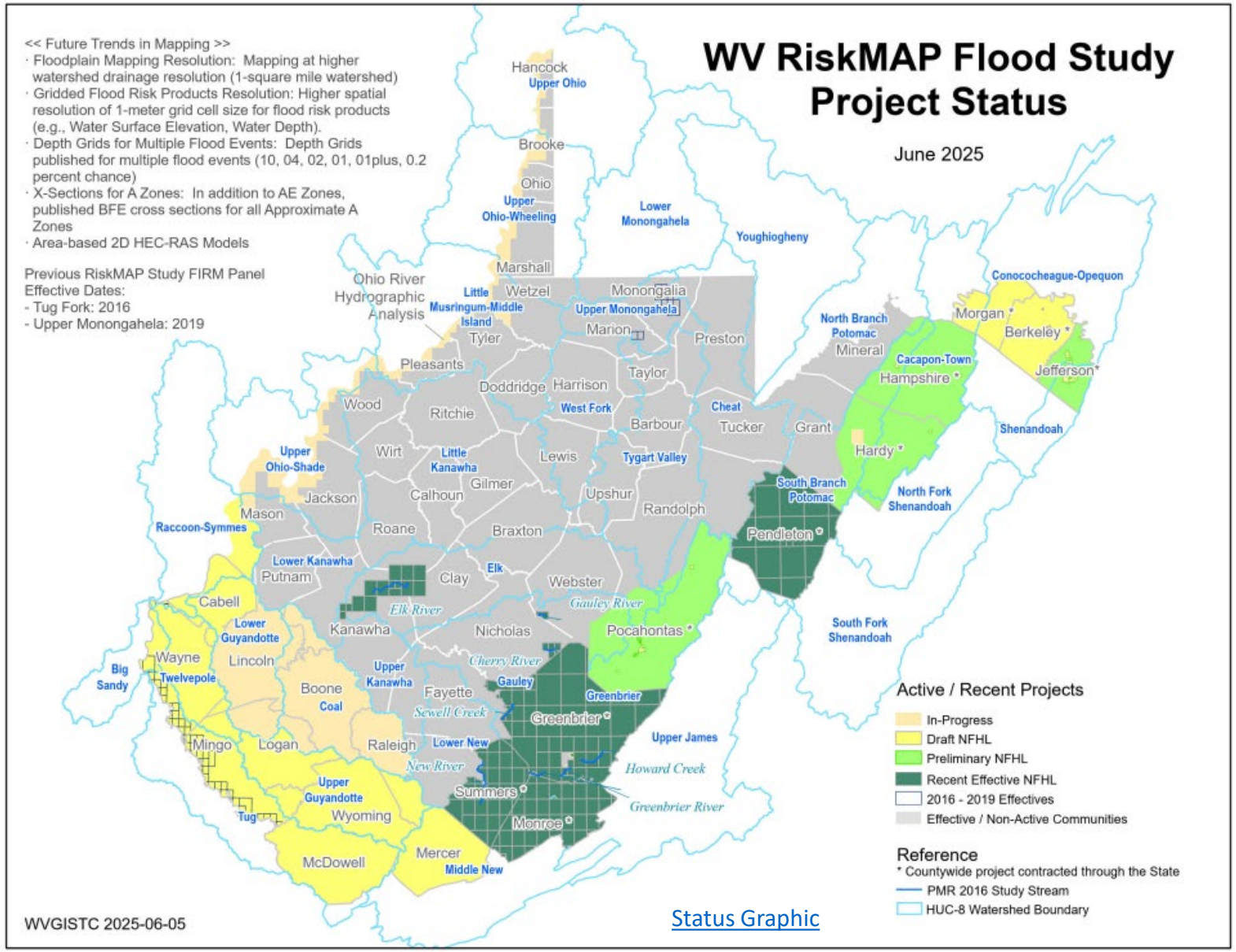
Watershed

- Coal

Preliminary

- Hampshire
- Hardy
- Jefferson
- Pocahontas

Risk MAP: In Progress & Recent Effective



[Status Graphic]

In Progress

Counties

- Berkeley
- Cabell
- *Lincoln* (Partial)
- *Logan* (Partial)
- McDowell
- Mercer
- Mingo
- Morgan
- Raleigh (Partial)
- Wayne
- Wyoming

Watershed

- Coal

Preliminary

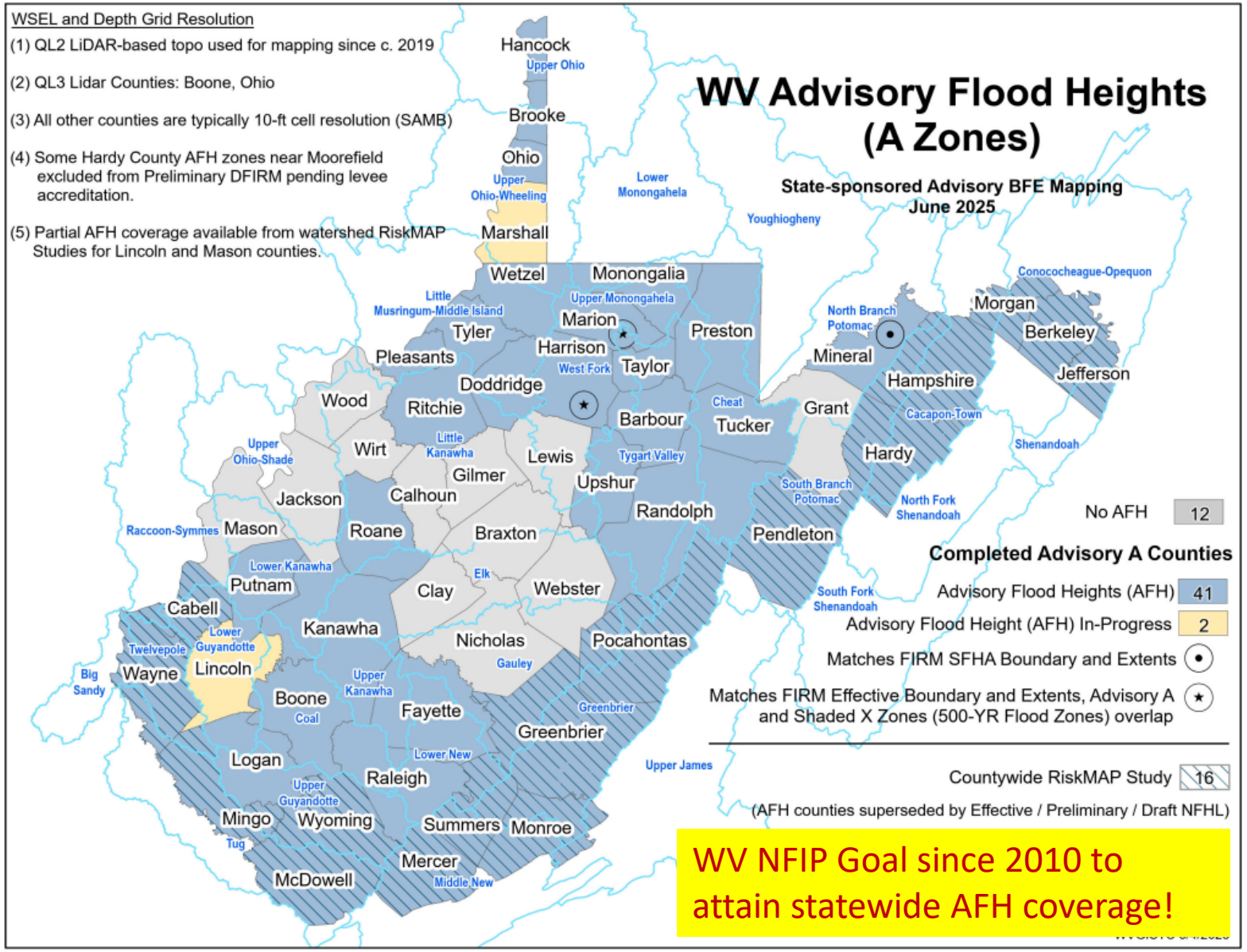
- Hampshire
- Hardy
- Jefferson
- Pocahontas

2021-25 Effective

- Greenbrier
- Kanawha (Elk River)
- Monroe
- Nicholas (Cherry R.)
- Pendleton
- Summers
- Webster (Gauley R.)

Risk MAP Status

Mapping Advisory Flood Heights (AFH)

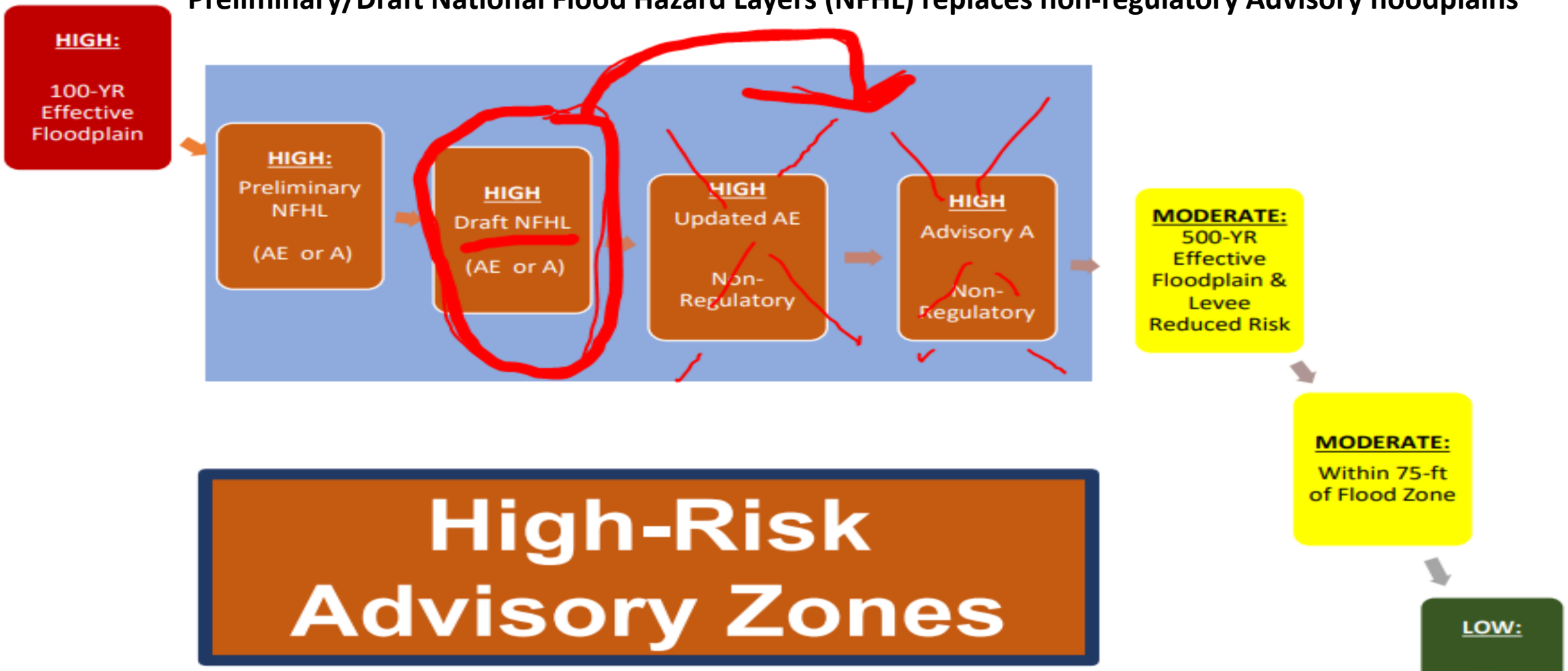


County	Stream Length (mi)- Zone A	Approx. Zone A %	MAS Funded	Target AFH Completion
BRAXTON	250	**87%**	Pending	2028
CALHOUN	111	**79%**	Pending	2028
CLAY	87	**54%**	Pending	2028
GILMER	146	**69%**	Pending	2028
GRANT	127	**90%**	Pending	2029
JACKSON	292	**73%**	Pending	2028
LEWIS	271	**91%**	Pending	2028
LINCOLN	273	**71%**	**Yes**	2027
MARSHALL	92	**59%**	**Soon?**	2025
MASON	85	**29%**	Pending	2028
NICHOLAS	387	**94%**	Pending	2028
WEBSTER	190	**60%**	Pending	2028
WIRT	179	**98%**	Pending	2028
WOOD	230	**57%**	Pending	2028
	2,720			

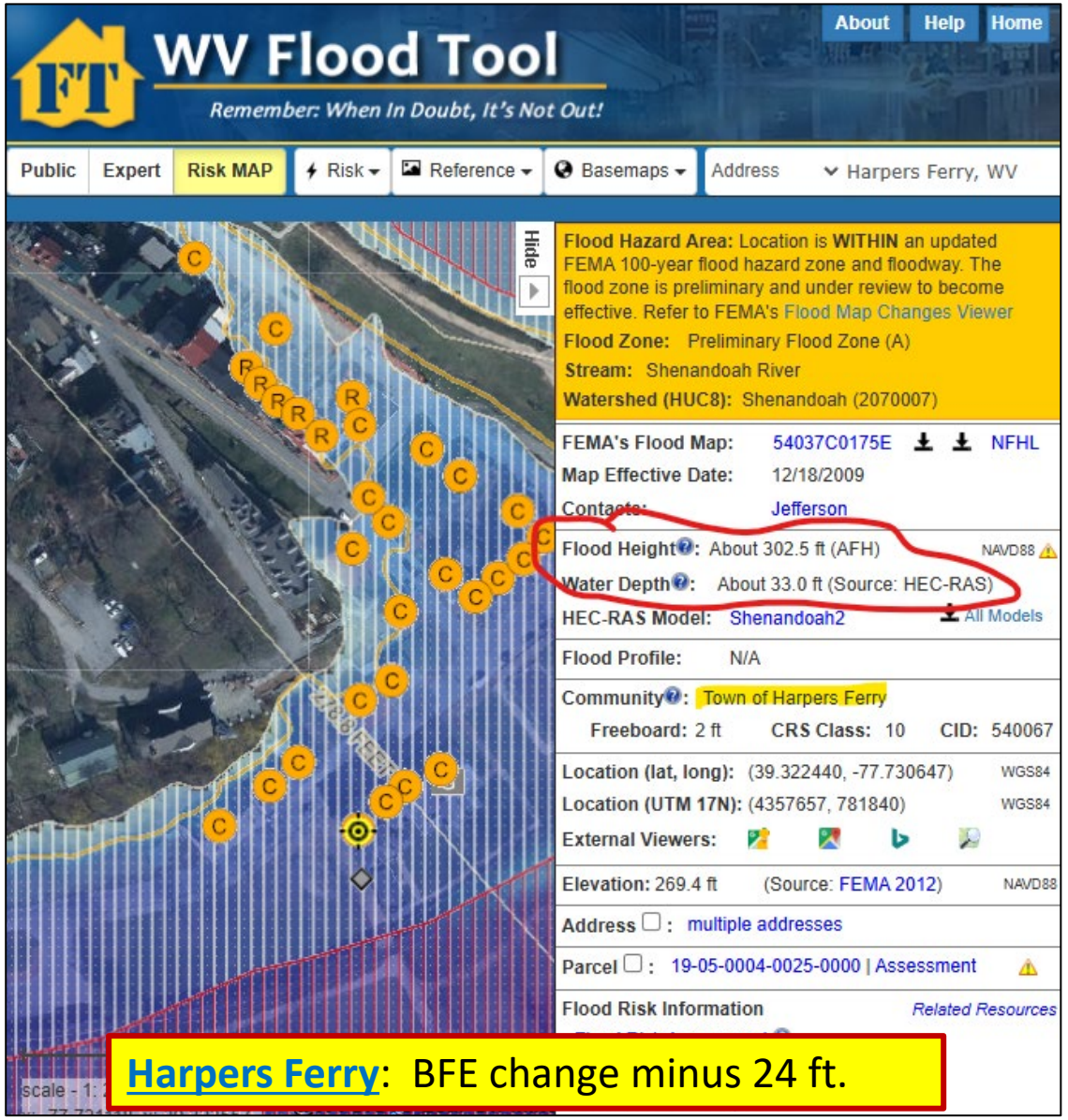
14 counties with no AFH

Flood Zone Determination Sequence

Preliminary/Draft National Flood Hazard Layers (NFHL) replaces non-regulatory Advisory floodplains

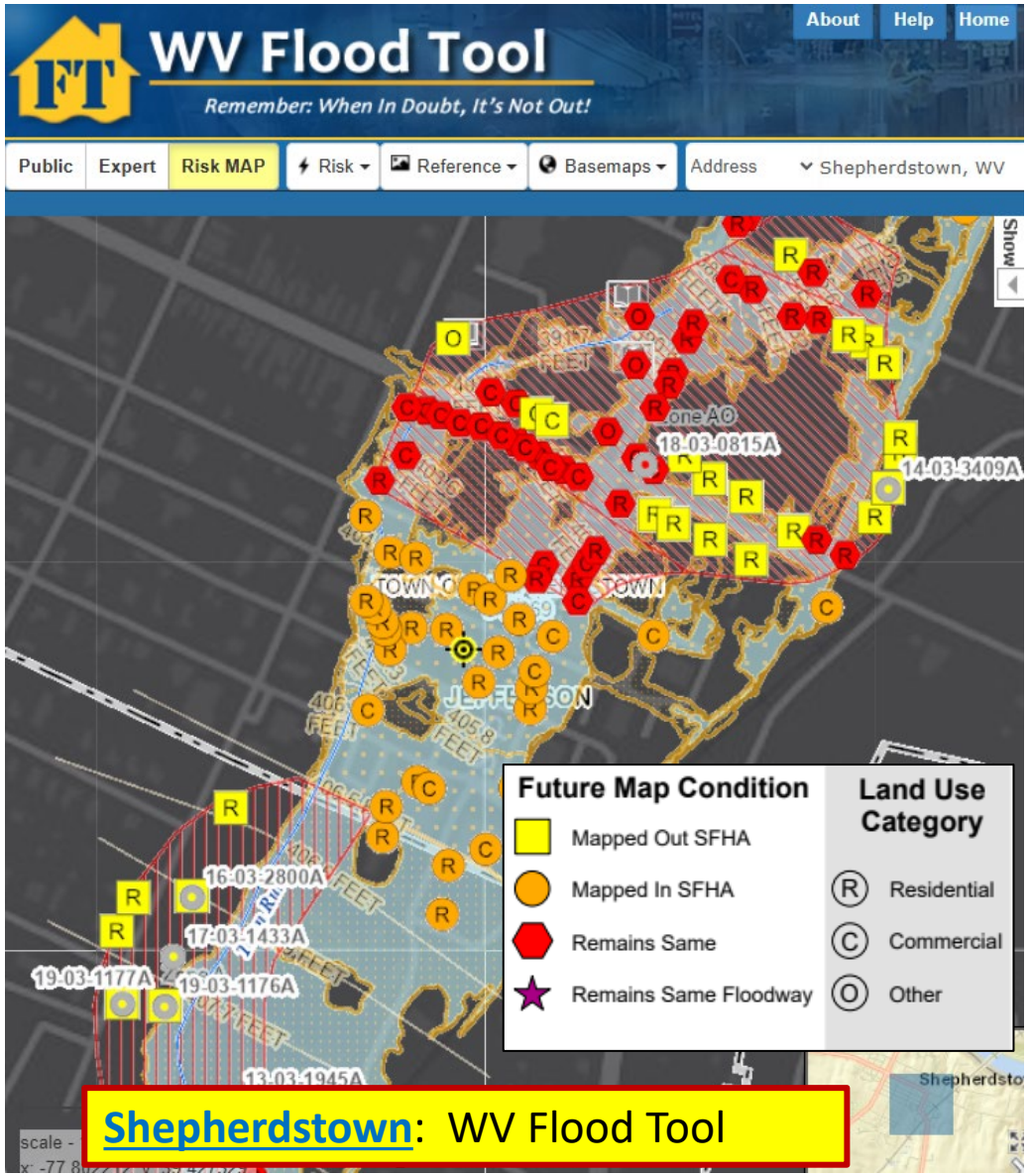


Map Changes – Harpers Ferry

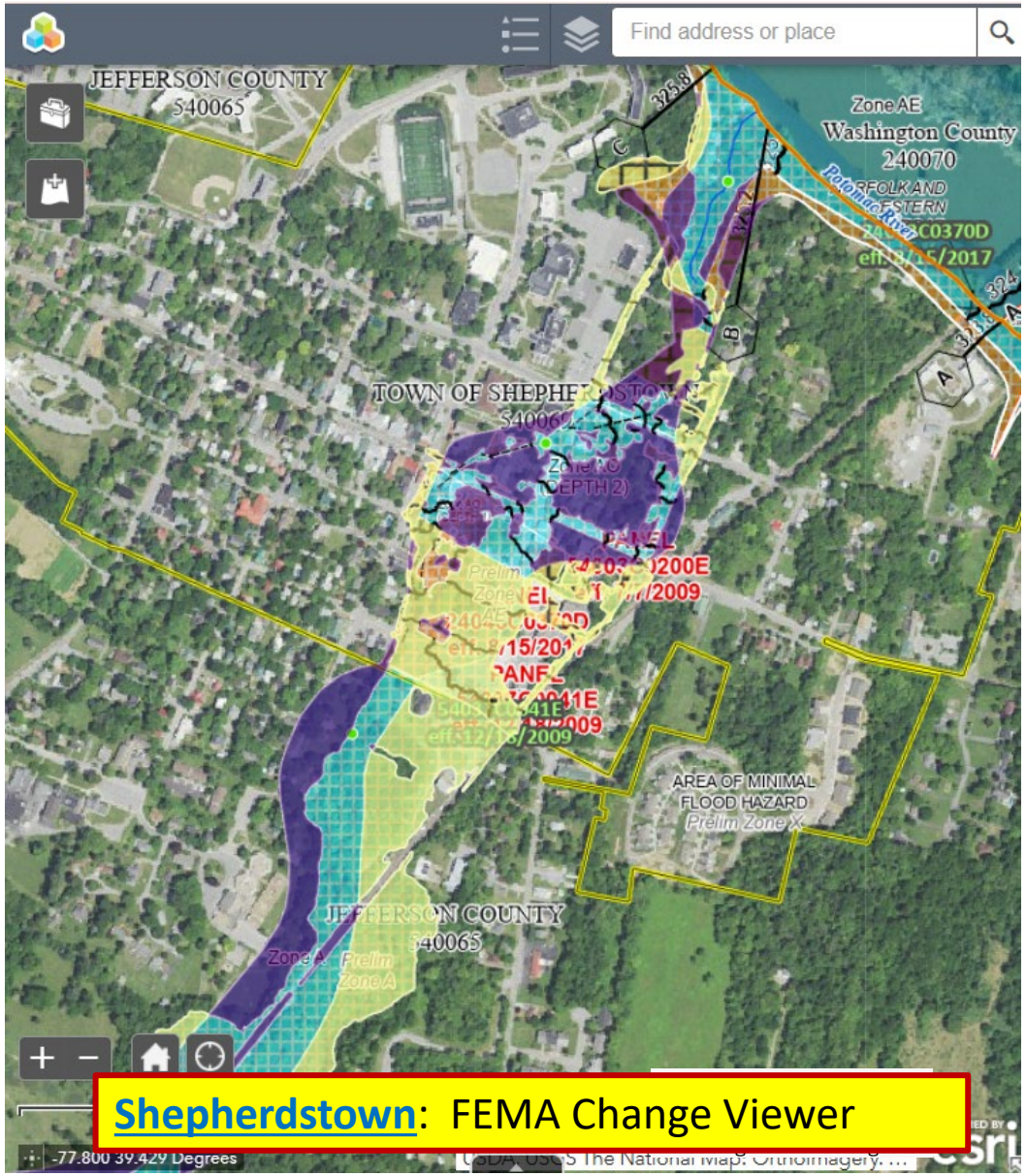


RiskMAP
Increasing Resilience Together

Map Changes - Shepherdstown

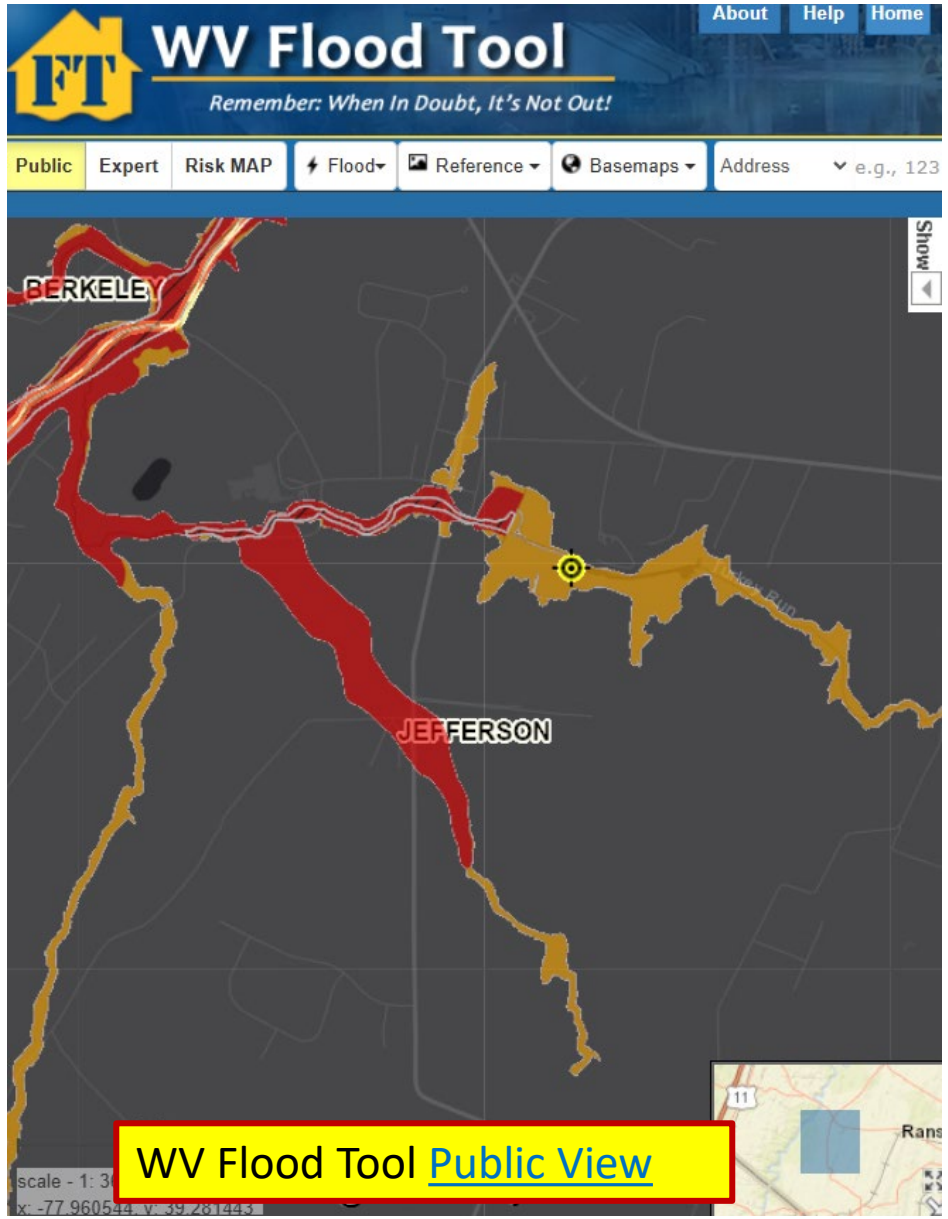


[Shepherdstown](): WV Flood Tool

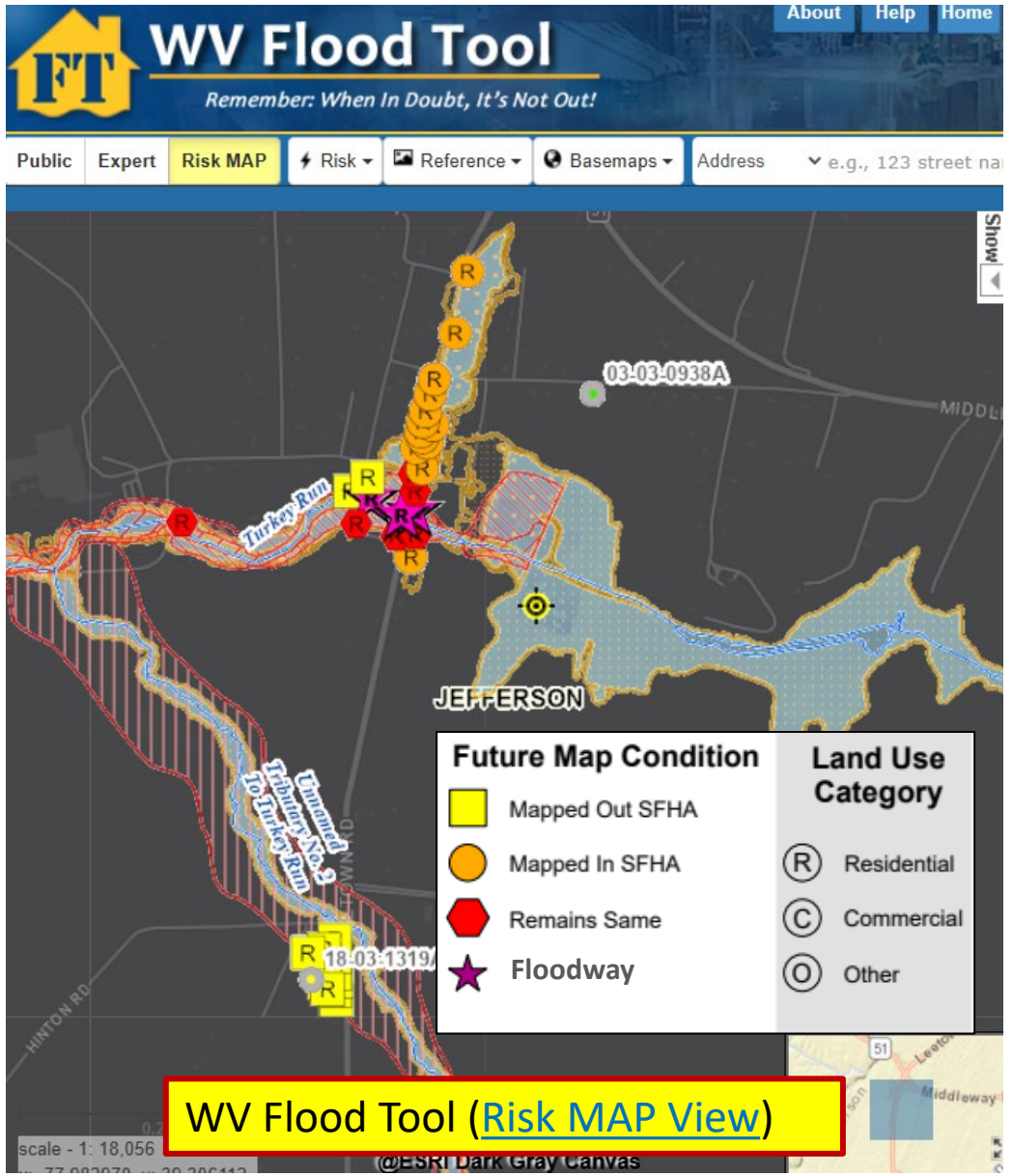


[Shepherdstown](): FEMA Change Viewer

Map Changes – Jefferson County



WV Flood Tool [Public View]

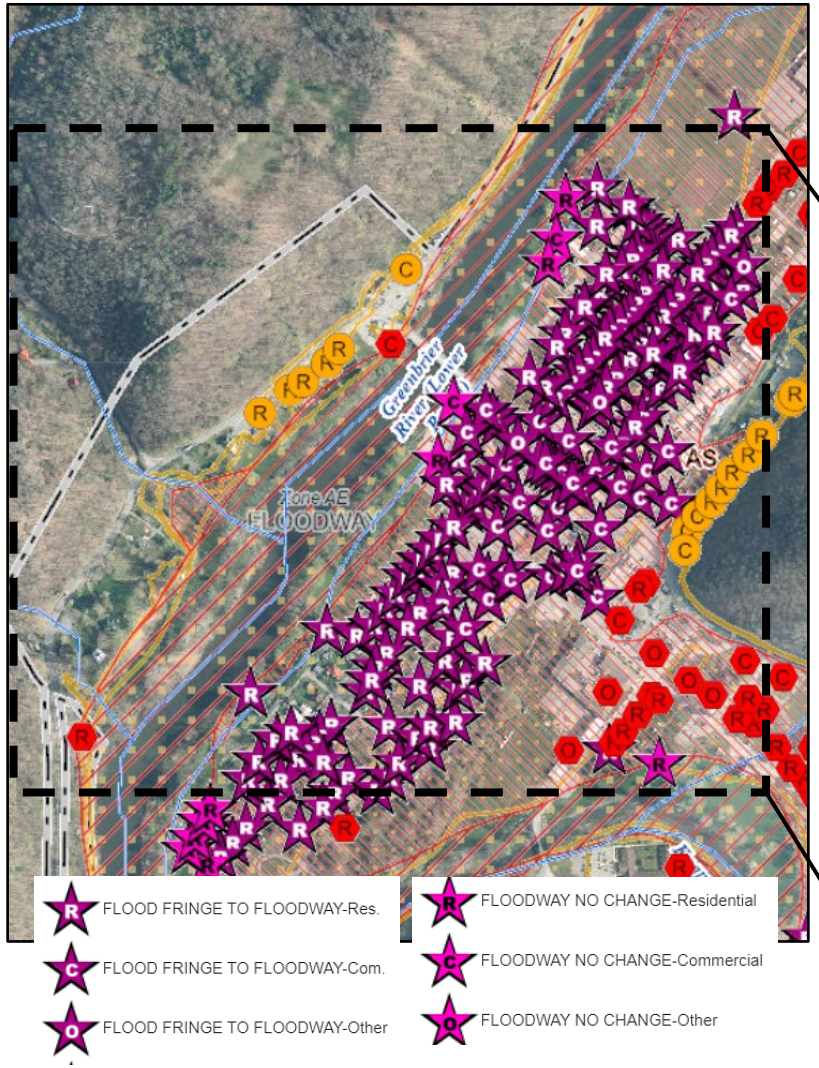


WV Flood Tool (Risk MAP View)

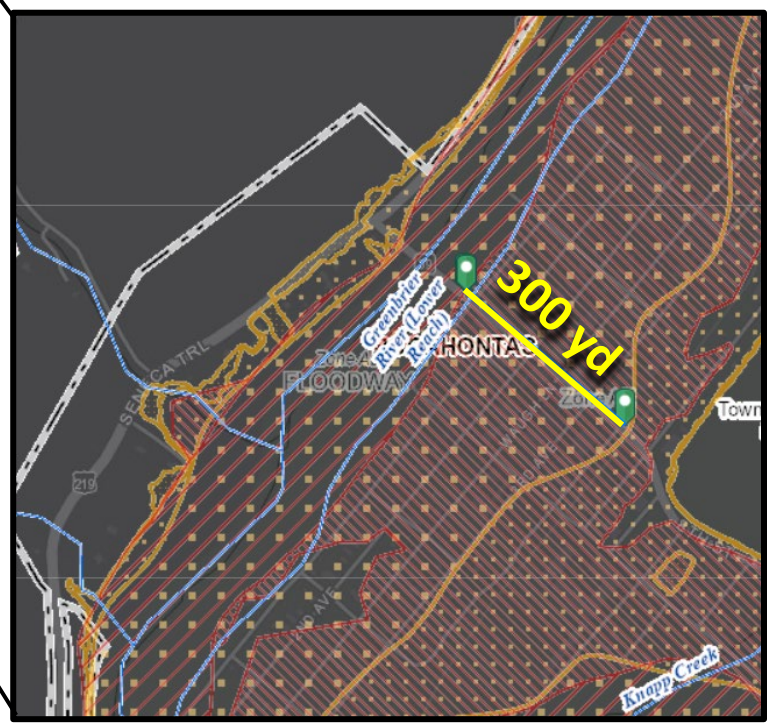
Buildings in Preliminary Floodway
Floodway Increase in Marlinton

Buildings in the floodway channel of a stream or close to the flood source, will be subject to the greatest flood depths, highest velocities, and greatest debris potential.

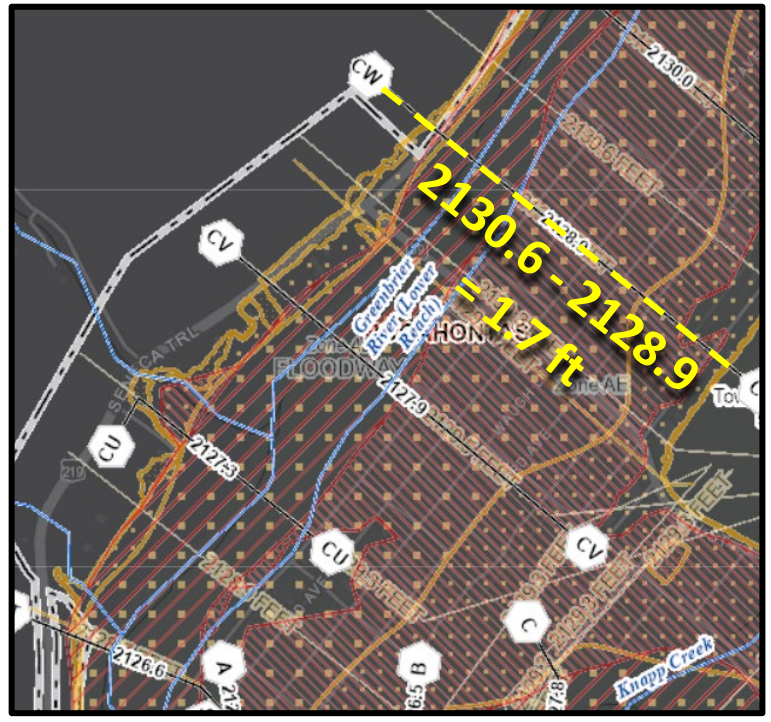
Community	Buildings in Preliminary Floodway	Buildings in Effective Floodway	Net Change in Floodway
Marlinton	190	14	+ 176



Floodway width expanded significantly up to 300 yards (900 ft)



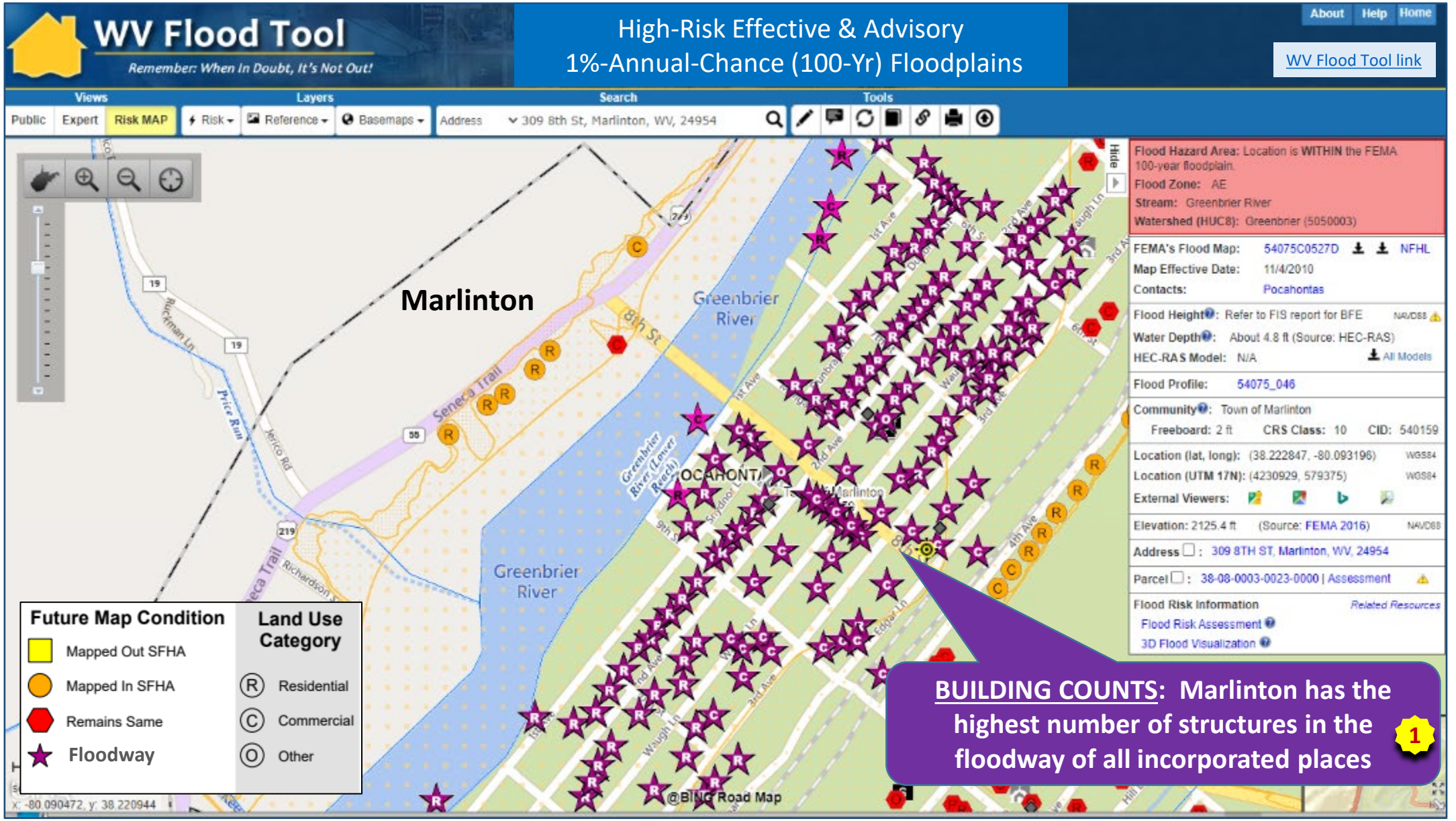
Base Flood Elevation increased to about 2 feet



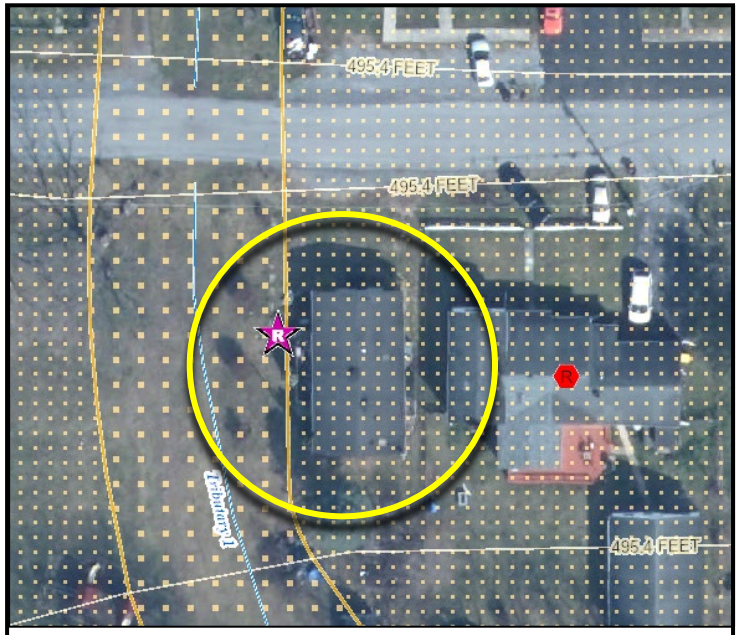
Flood Tool Link

Risk Indicators: (Marlinton)

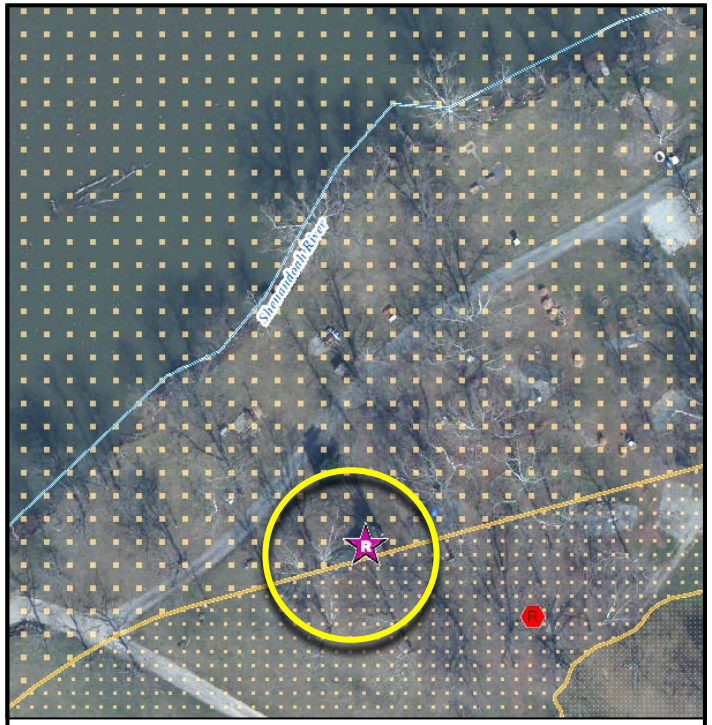
Top 10% rankings among 229 incorporated places

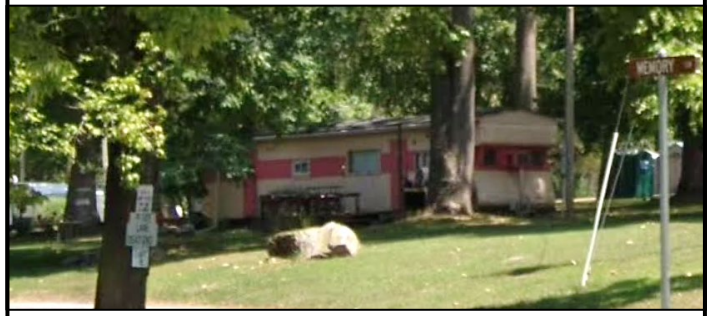


Buildings Mapped into Floodway



Double-wide Mobile Home in Ranson (FD: 2.2 ft)
$33K; Year Built: 1993 (Post-FIRM)
(Building ID: 19-08-0006-0019-0001_407)





Single-wide Mobile Home in Jefferson County* (FD: 7.0 ft)
$25K; Minus Rated: 3.5 ft; Year Built: Unknown
(Building ID: 19-02-0020-0031-0000_30)

Single Family Dwelling in Jefferson County* (FD: 14.0 ft)
$8K; Minus Rated: 10.3 ft; Year Built: 1979 (Pre-FIRM)
(Building ID: 19-06-008F-0007-0000_457)

Structures mapped from Floodplain Fringe into Floodway

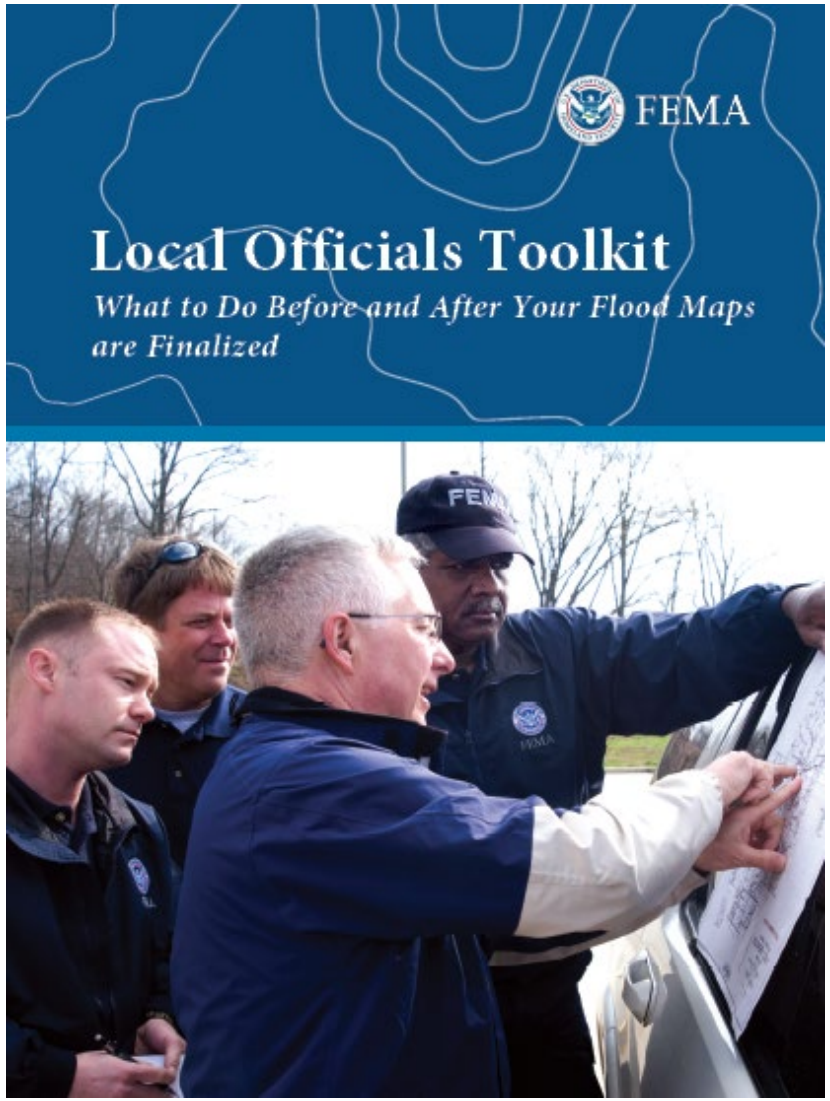
R FLOOD FRINGE TO FLOODWAY-Res.

C FLOOD FRINGE TO FLOODWAY-Com.

O FLOOD FRINGE TO FLOODWAY-Other

Risk Communications: SFHA Map Change Letters

*Incorporate 1% Floodplain Building Risk Assessment Inventory into **Mitigation** and **NFIP/CRS Management** Activities*



[FEMA Region 3 Toolkit for New Flood Studies]

City of White Sulphur Springs

Date: 10/14/2021

Dear SMITH JOHN:

This letter is a test to show the use of mail merge and the data we can retrieve for it. I copied the first two paragraphs from the Local Officials Toolkit template and added the last two paragraphs for demonstration purposes.

A multi-year project to re-examine City of White Sulphur Springs's flood zones and develop detailed digital flood hazard maps has been completed. The new maps, also known as Flood Insurance Rate Maps (FIRMs), were just released for public view. The new maps reflect current flood risk based on the latest data and a more accurate understanding of our area's topography. As a result, you and other property owners throughout GREENBRIER COUNTY will have up-to-date, Internet-accessible information about flood risk to your property.

How will these changes affect you?

Based on the new maps, your property is being mapped into a higher risk flood zone, known as the Special Flood Hazard Area (SFHA). If you have a mortgage from a federally regulated lender and your property is in the SFHA, you are required by Federal law to carry flood insurance when these flood maps are put into effect. We recommend that you use this time to contact your insurance agent to get the most favorable rate and learn about options offered by the National Flood Insurance Program (NFIP) for properties being mapped into higher risk areas for the first time.

You can find your property on the WV Flood tool in one of two ways: first, you can go to the following link in a web browser: https://mapwv.gov/flood/map/?wkid=102100&x=-8939196.678447664&y=4550352.316266677&l=13&v=2. Or, you can go to https://mapwv.gov/ map and enter your address, 177 PATTERSON ST, WHITE SULPHUR SPRINGS, WV, 24986, in the search bar.

Your property is within the Howard Creek flood zone and has a flood depth of 1.0 feet. Its FIRM status is Pre-FIRM.

[Mail Merge Template for SFHA Mapped-in Structures]

Counties which recently sent outreach letters to homeowners:

- Hardy County Risk MAP
- Kanawha County - Elk River PMR
- Greenbrier County Risk MAP

***Jefferson County** and **Shepherdstown** have 55 and 29 buildings, respectfully, mapped into the SFHA*

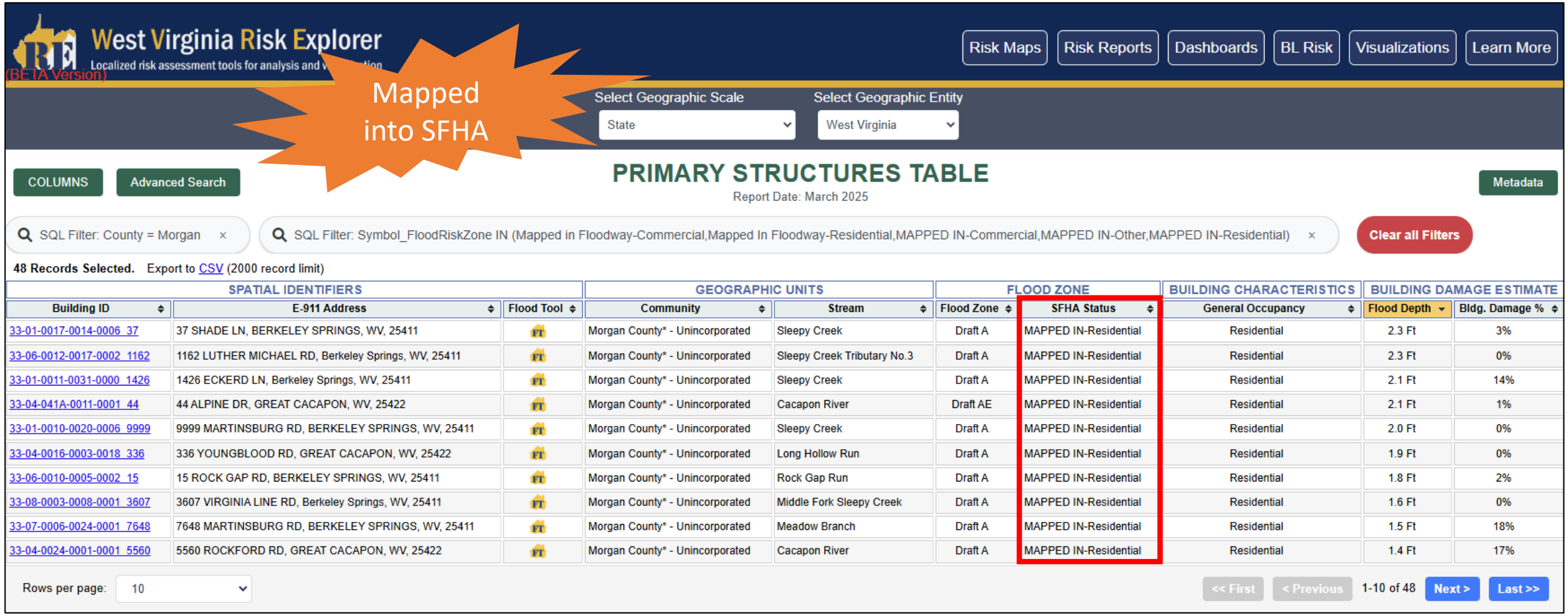
West Virginia Risk Explorer

New Building-Level Risk Tools enable further exploration of impacted buildings:

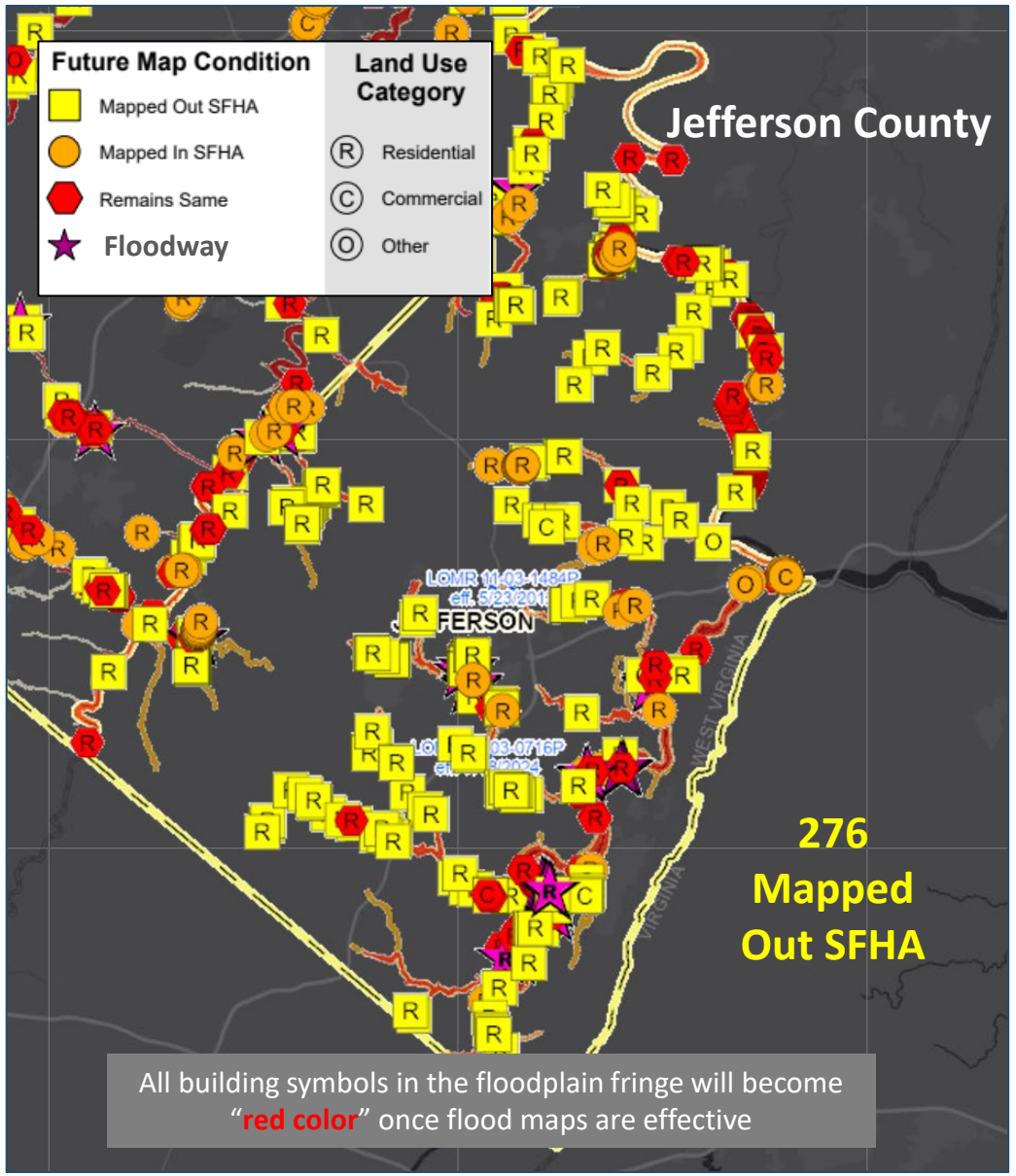
[Morgan Mapped-In Structures]

[Morgan Mapped-Out Structures]

[Morgan Risk Index (incl. Top 20% Risk Indicators Report)]



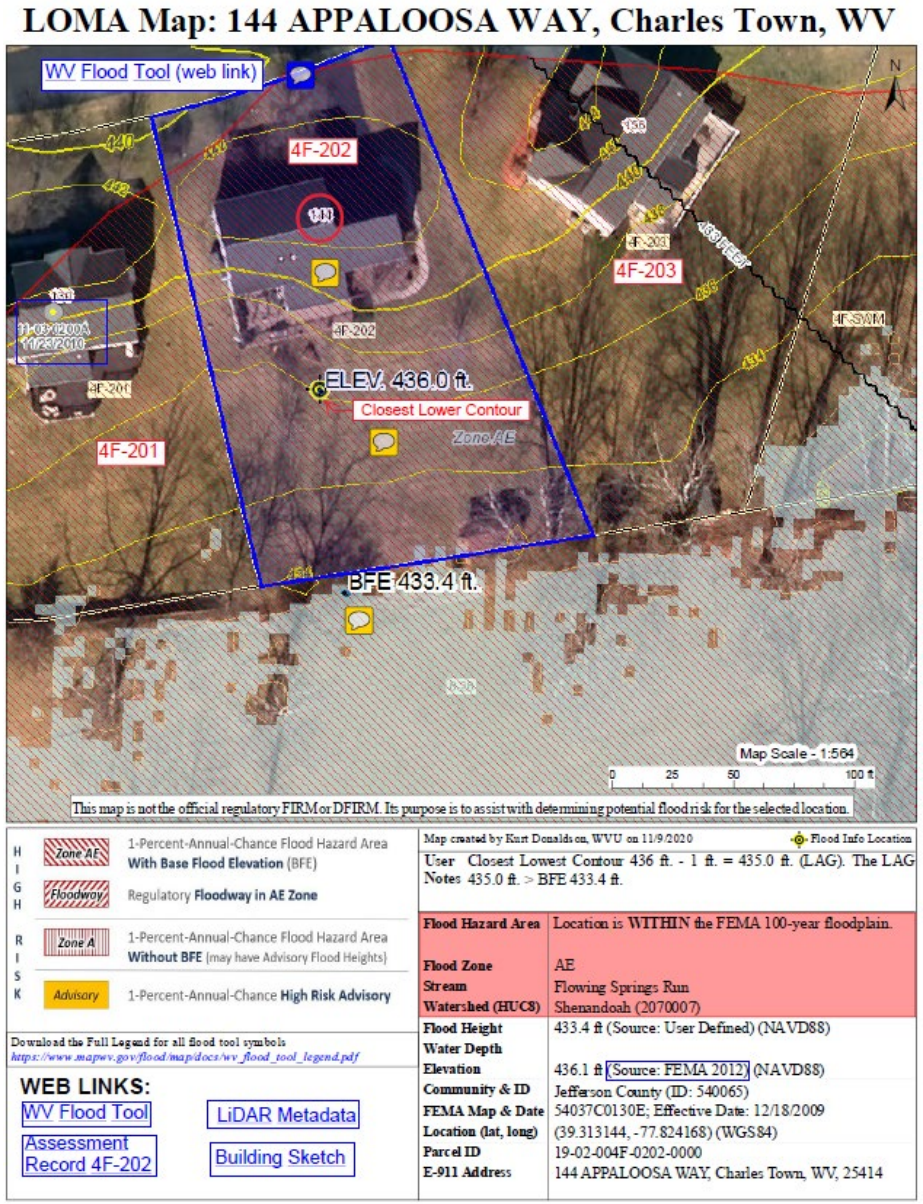
SFHA Buildings Changes: LOMAs for Mapped Out



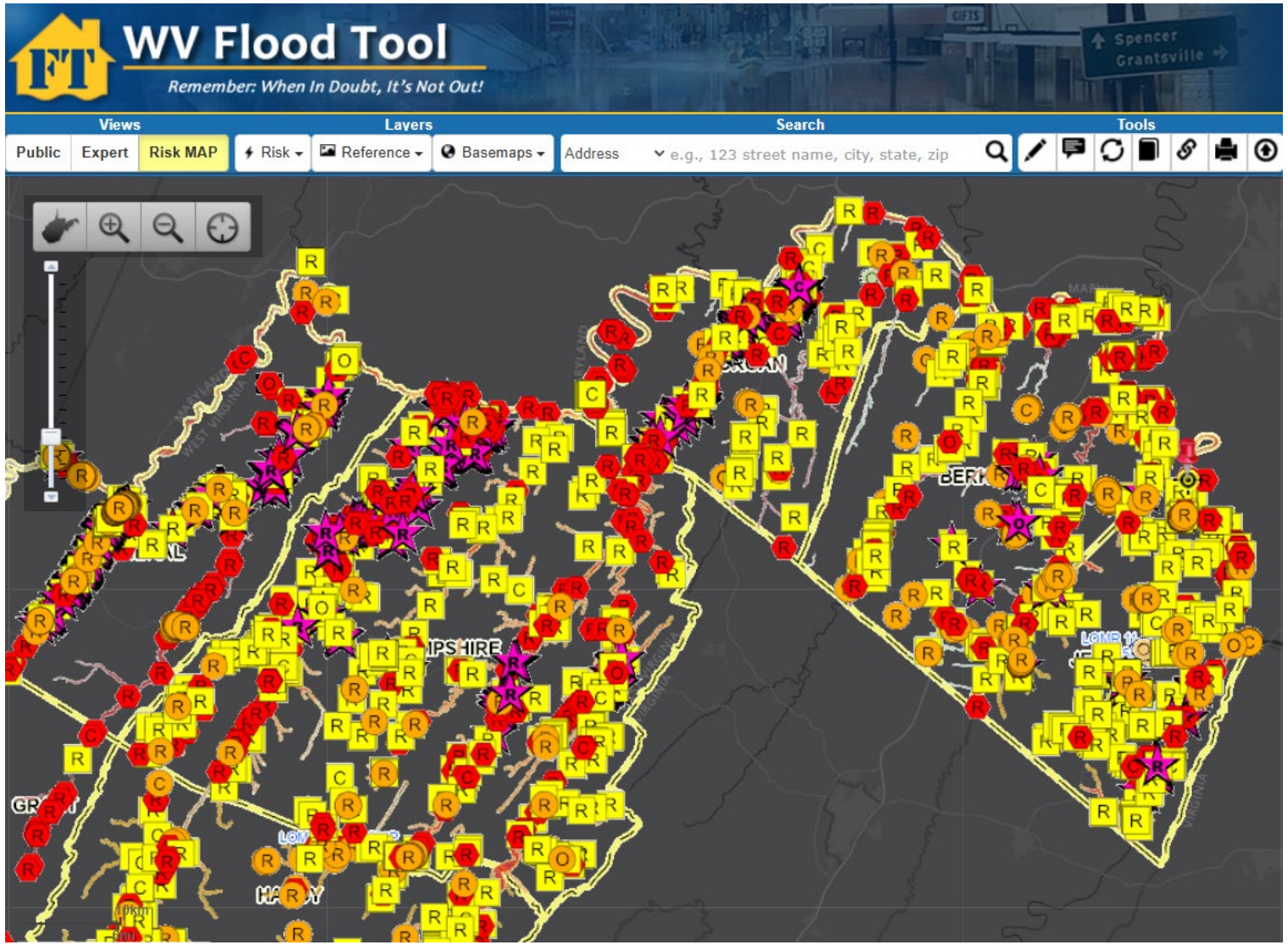
Mapped-out structures of the SFHA may qualify for LOMAs

WV Flood Tool LiDAR LOMA:

Instructions | Guide



Buildings **Mapped-In** / **Out** of Preliminary SFHA



Future Map Condition

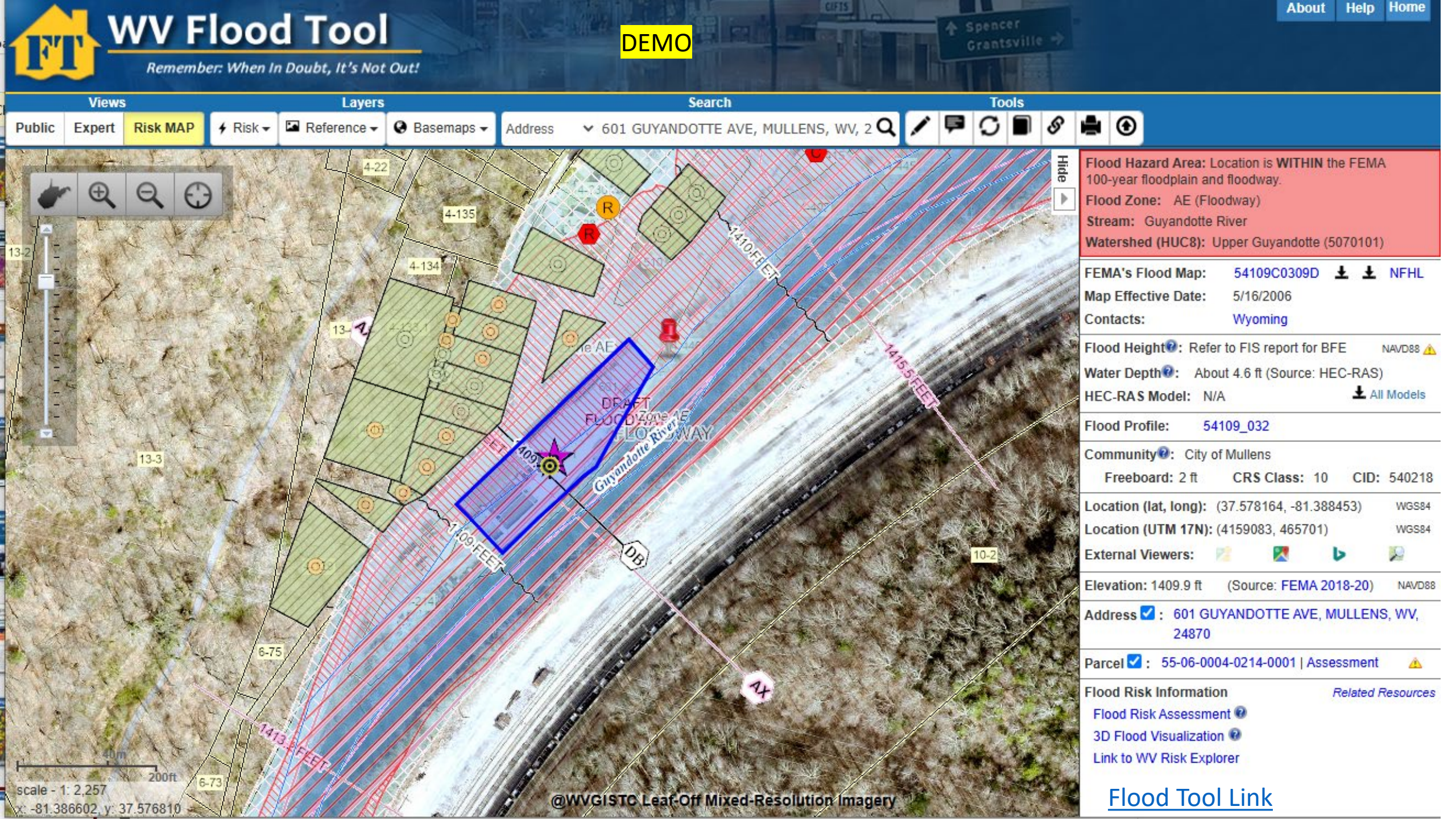
- Mapped Out SFHA
- Mapped In SFHA
- Remains Same
- Floodway

Land Use Category

- (R) Residential
- (C) Commercial
- (O) Other

Difference between FEMA's 2009 and 2024 flood studies

RiskMAP
Increasing Resilience Together



Flood Tool Link

Thank you!

Questions?

Framework website: www.wvfrf.org
WV Risk Explorer web tools: www.wvfrf.org/wvre
Email:
kurt.donaldson@mail.wvu.edu
behrang.bidadian@mail.wvu.edu