

FLOOD RISK VISUALIZATION TOOLS

A collection of **movies, animations, story maps, and other flood visualization tools** available at the **building and community levels** for communicating and understanding flood risk in West Virginia.

- a) Visualization Content
- Flood Frequency Probability & Magnitude
- ii) Damage Assessments
- iii) Mitigated and unmitigated properties

Visualization Products (select products include narrations). A **map index** provides a **spatial gateway to flood visualizations** and videos.

- i) **Building-Level** Visualizations
 - (1) Building Flood Profiles for different sized storms
 - (2) Building Flood Depth and Damage Assessment (WV Flood Tool)
- ii) **Community-Level** Visualizations (graphic or narrated movies at community or watershed levels)
- iii) Story Maps
- iv) Other video or visualization products

Frequency: Probability that a flood of a specific size will be equaled or exceeded in any given year.



FEMA			
Flood Recurrence Interval and Flood Size	Annual Probability	Cumulative Probability - Flooding at least once over 30 years	FEMA Risk Description
500 yr (1 in 500)	0.2%	6%	Moderate Risk
100 yr (1 in 100) Plus confidence error	1%+		
100 yr (1 in 100)	1%	26%	High Risk
50 yr (1 in 50)	2%	45%	High Risk
25 yr (1 in 25)	4%	71%	High Risk
10 yr (1 in 10)	10%	96%	High Risk

Relationship between flood recurrence intervals and the probability of an event occurring within a given period.

Rainelle

182 Seventh Street, Rainelle, WV, 25962

BUILDING	HEIGHT (ft.)
First Floor Height	9
Freeboard (FBD)	2
FLOOD DEPTH	
FEMA 10% (10-Yr)	NA
FEMA 4% (25-Yr)	NA
FEMA 2% (50-Yr)	1.9
2016 Flood HWM	7.5
FEMA 1% (100-Yr)	3.1
FEMA 100-Yr + FBD	5.1
FEMA 1%+ (84% CL)	9.9
FEMA 0.2% (500-Yr)	9.9
FSF 0.2% (500-Yr) Climate	12.2



Richwood

113 Valley Ave, Richwood, WV

BUILDING	HEIGHT (ft.)
First Floor Height	8
Freeboard (FBD)	2
FLOOD DEPTH	
FEMA 10% (10-Yr)	0
FEMA 4% (25-Yr)	0
FEMA 2% (50-Yr)	2.8
2016 Flood HWM	1.0
FEMA 1% (100-Yr)	3.5
FEMA 100-Yr + FBD	5.5
FEMA 1%+ (84% CL)	9.0
FEMA 0.2% (500-Yr)	8.3
FSF 0.2% (500-Yr)	6.7



White Sulphur Springs

138 Mill Street, White Sulphur Springs, WV, 24986

BUILDING	HEIGHT (ft.)
First Floor Height	6.4
Freeboard (FBD)	2.0
FLOOD DEPTH	
FEMA 10% (10-Yr)	0.7
FEMA 4% (25-Yr)	2.0
FEMA 2% (50-Yr)	3.4
2016 Flood HWM	6.5
FEMA 1% (100-Yr)	5.4
FEMA 100-Yr + FBD	7.4
FEMA 1%+ (84% CL)	6.4
FEMA 0.2% (500-Yr)	7.2
FSF 0.2% (500-Yr)	7.4



Clendenin

306 Maywood Ave., Clendenin, WV, 25045

BUILDING	HEIGHT (ft.)
First Floor Height	12.0
Freeboard (FBD)	2.0
FLOOD DEPTH	
FEMA 10% (10-Yr)	2.0
FEMA 4% (25-Yr)	6.0
FEMA 2% (50-Yr)	9.5
2016 Flood HWM	10.5
FEMA 1% (100-Yr)	12.3
FEMA 100-Yr + FBD	14.3
FEMA 1%+ (84% CL)	16.5
FEMA 0.2% (500-Yr)	20.5
FSF 0.2% (500-Yr)	24.6



91 RIVERSIDE DR, Camden On Gauley, WV, 26208

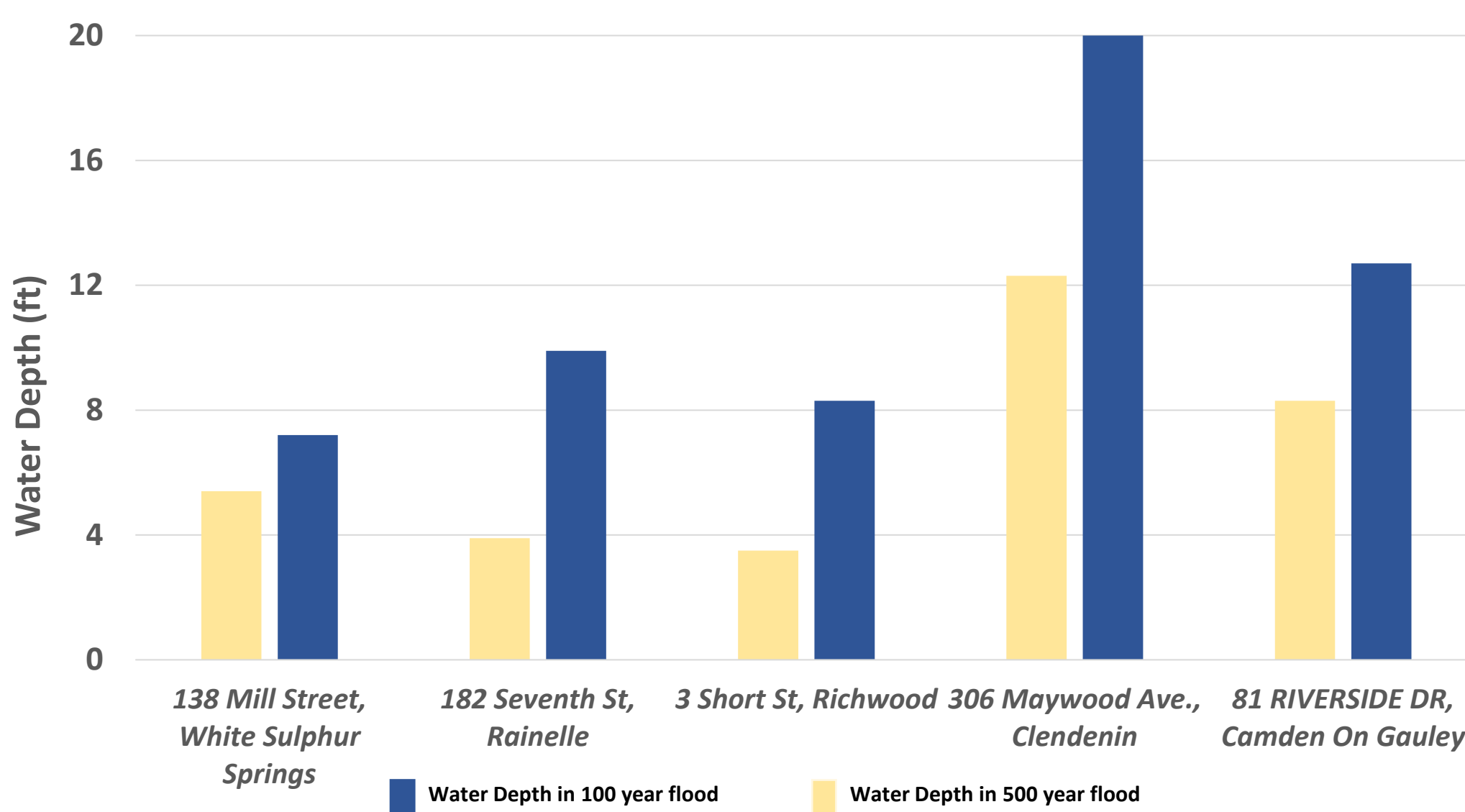
Camden on Gauley

BUILDING	HEIGHT (ft.)
First Floor Height	4
Freeboard (FBD)	2
FLOOD DEPTH	
FEMA 10% (10-Yr)	1.9
FEMA 4% (25-Yr)	4.4
FEMA 2% (50-Yr)	6.7
2016 Flood HWM	9.1
FEMA 1% (100-Yr)	8.3
FEMA 100-Yr + FBD	10.3
FEMA 1%+ (84% CL)	10.7
FEMA 0.2% (500-Yr)	12.7
FSF 0.2% (500-Yr) Climate	14.8

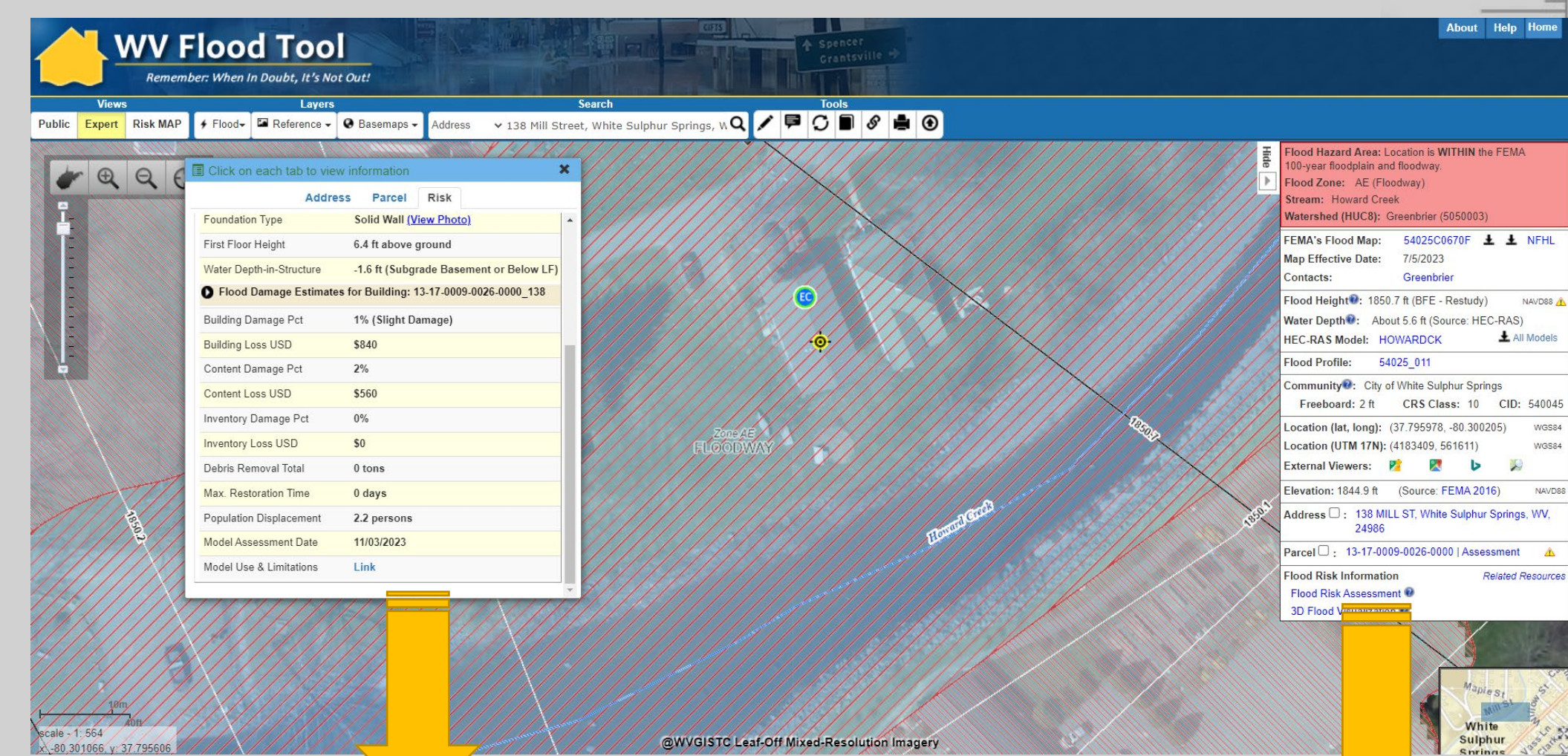


Flood Profile

Comparing Flood Depths in Five Pilot Communities



Building Flood Depth and Damage Assessment (WV Flood Tool)



First Floor Height	6.4 ft above ground
Water Depth-in-Structure	-1.6 ft (Subgrade Basement or Below LF)
Flood Damage Estimates for Building: 13-17-0009-0026-0000_138	
Building Damage Pct	1% (Slight Damage)
Building Loss USD	\$840
Content Damage Pct	2%
Content Loss USD	\$560

Flood Height: 1850.7 ft (BFE - Restudy) NAVD88

Water Depth: About 5.6 ft (Source: HEC-RAS)

HEC-RAS Model: HOWARDCK

All Models

Community	Physical Address	Effective Date	Flood Depth in Ft (Current Study)					100 year Plus(1%+)	500 year (0.2%)
			10 year (10%)	25 year (4%)	50 year (2%)	100 year (1%)			
White Sulphur Springs	138 Mill Street, White Sulphur Springs, WV, 24986	Effective: 2023	0.2	2.0	3.4	5.4	6.4	7.2	
Rainelle	182 SEVENTH ST, Rainelle, WV, 25962	Effective: 2023	NA	0.1	1.9	3.9	9.9	9.9	
Richwood	3 Short St, Richwood, WV, 26261	Effective: 2021	NA	NA	2.8	3.5	9.0	8.3	
Clendenin	306 Maywood Ave., Clendenin, WV, 25045	Effective: 2023	2.0	6.0	9.5	12.3	16.5	20.5	
Camden	81 RIVERSIDE DR, Camden On Gauley, WV, 26208	Effective: 2022	1.9	4.4	6.7	8.3	10.7	12.7	