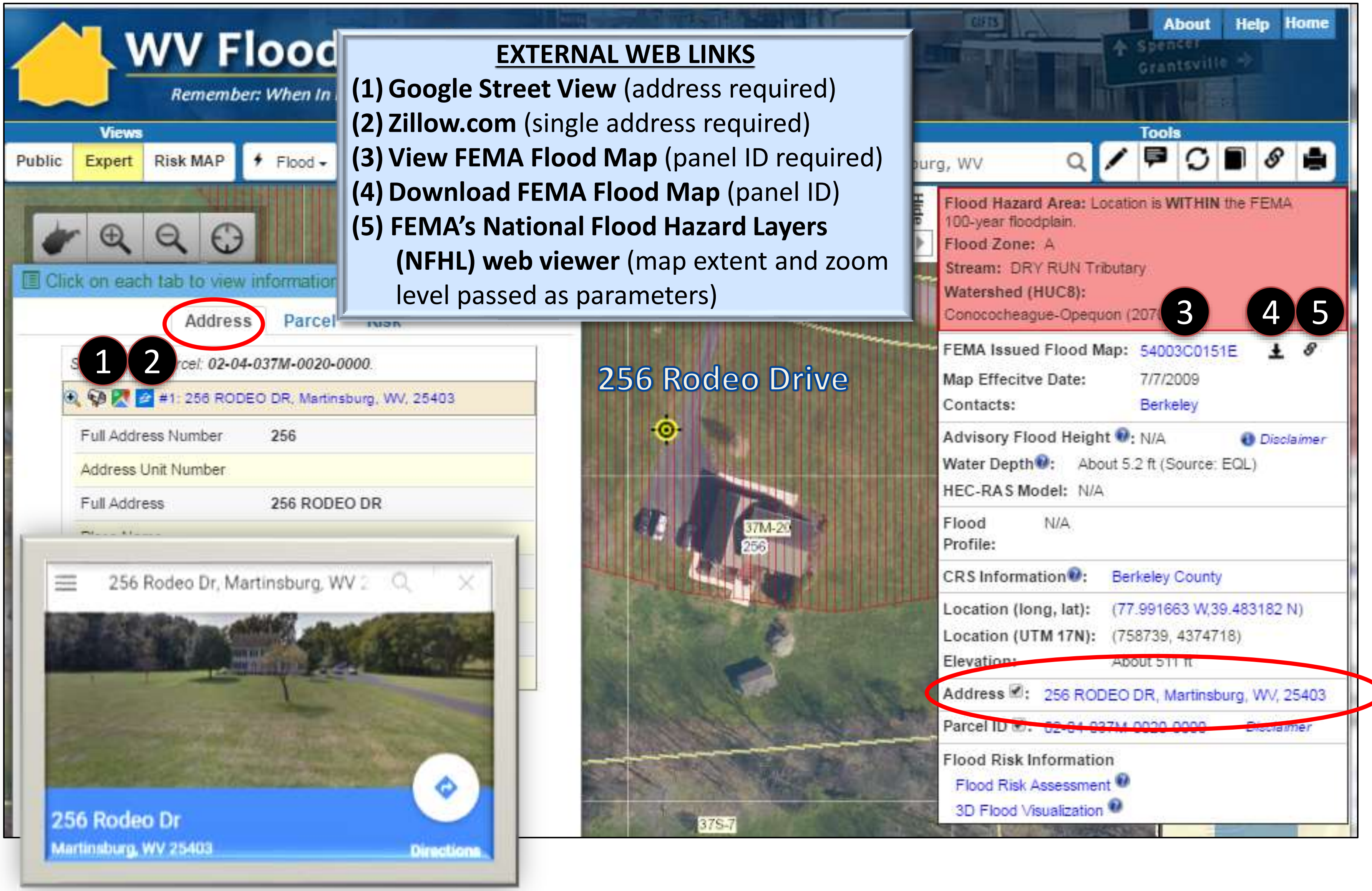
WV Flood Tool Upgrades

www.mapWV.gov/Flood

- External Links
- Shared Links
- Building-Specific Risk Assessments
- 3D Flood Visualizations
- Improved Data Layers
  - Flood Layers
  - Advisory Floodplains
  - Mitigated/Buyout Properties
  - Local Data (parcels, addresses, imagery, elevation)
- Parcel Search
- Other Enhancements
- Future Enhancements

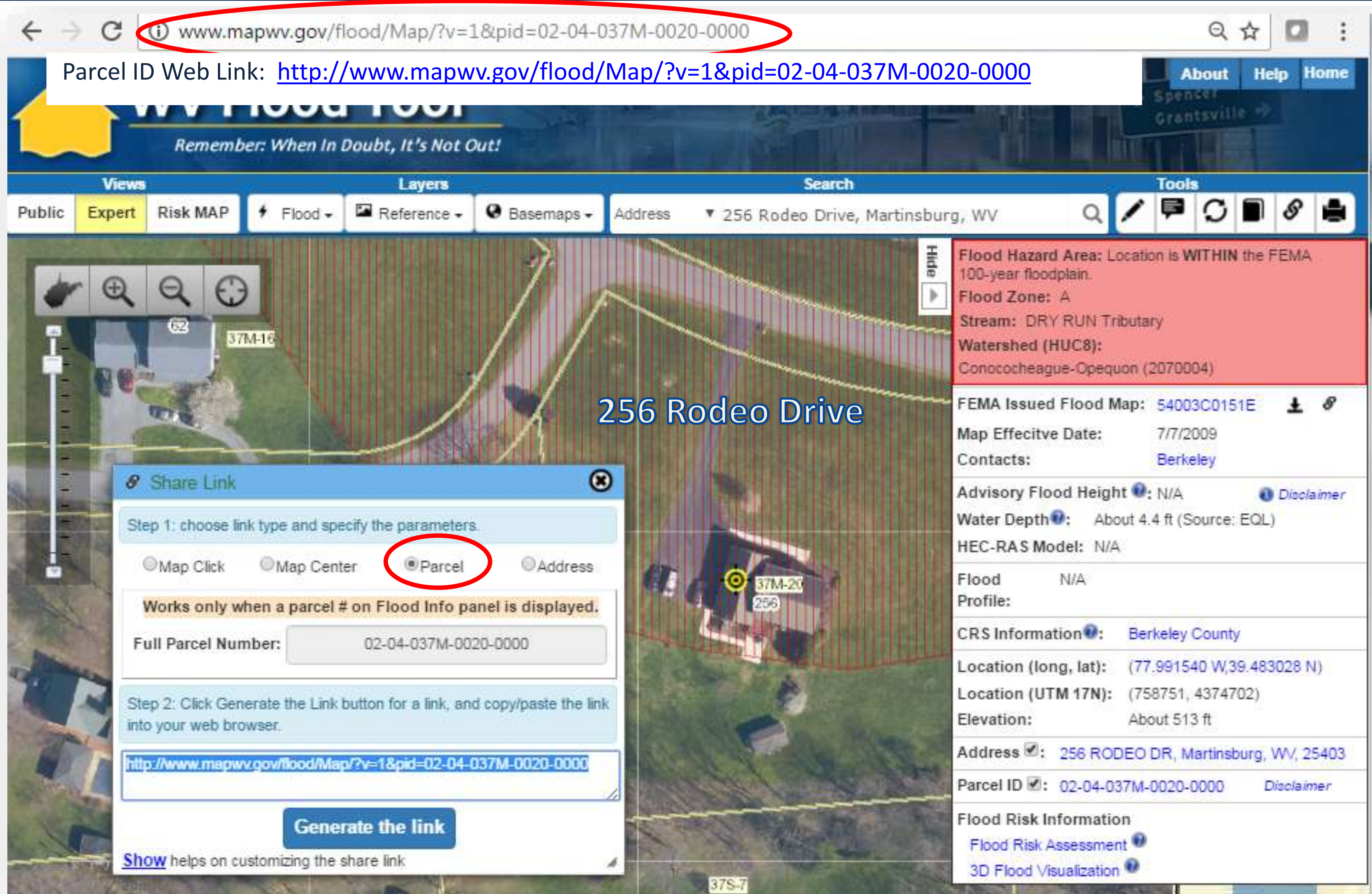
3 April 2017

New External Links



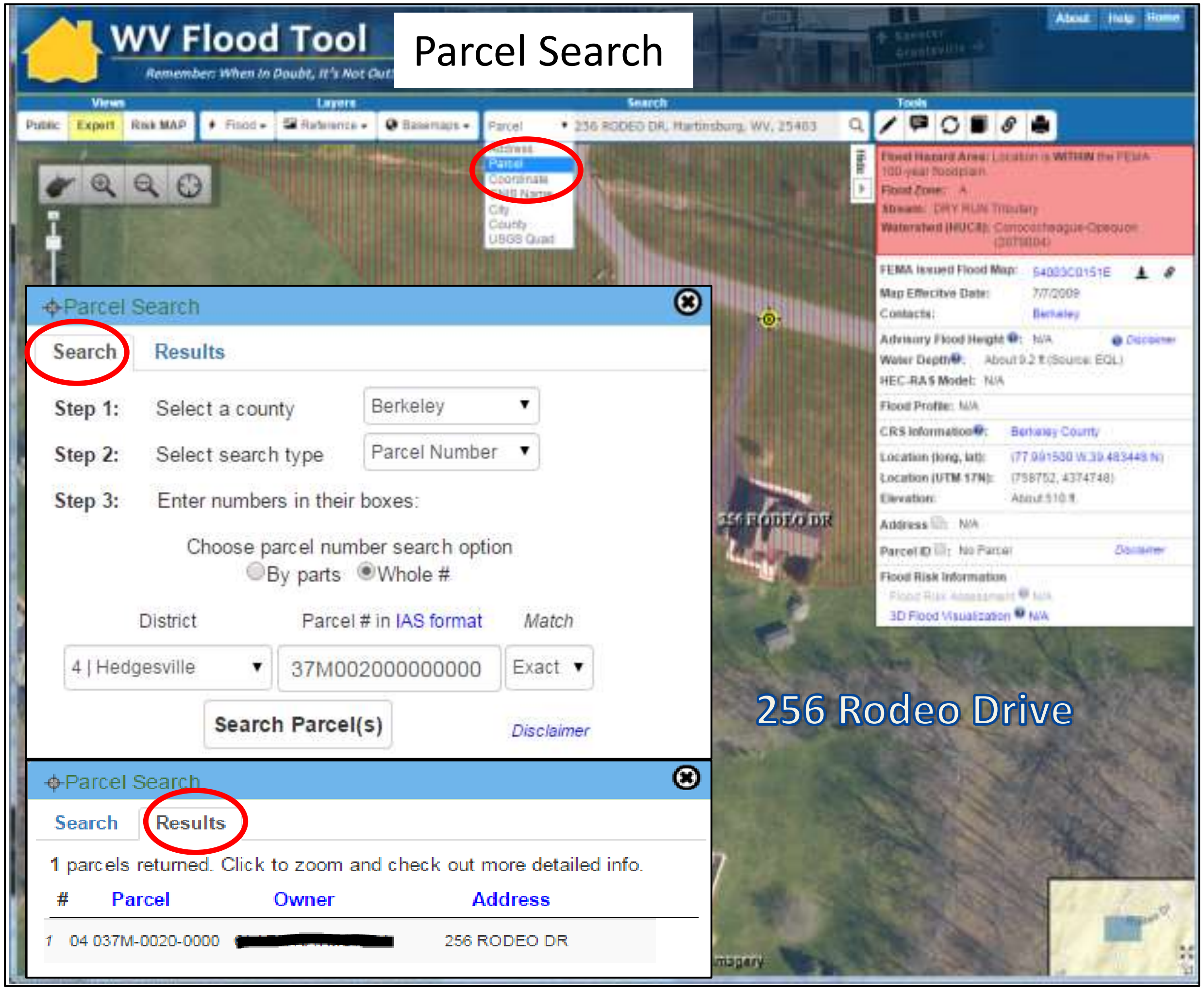
External links launched from WV Flood Tool

More Shared Links



Exchange flood info with others using various link types: (1) Map Click, (2) Map Center, (3) **Parcel ID**, (4) Address

Parcel Search



Parcel Search for 256 Rodeo Drive

Search by:

1. Parcel Owner
2. Parcel Address
3. Parcel Number

Parcel Search Results

IAS Parcel ID:
04 37M002000000000

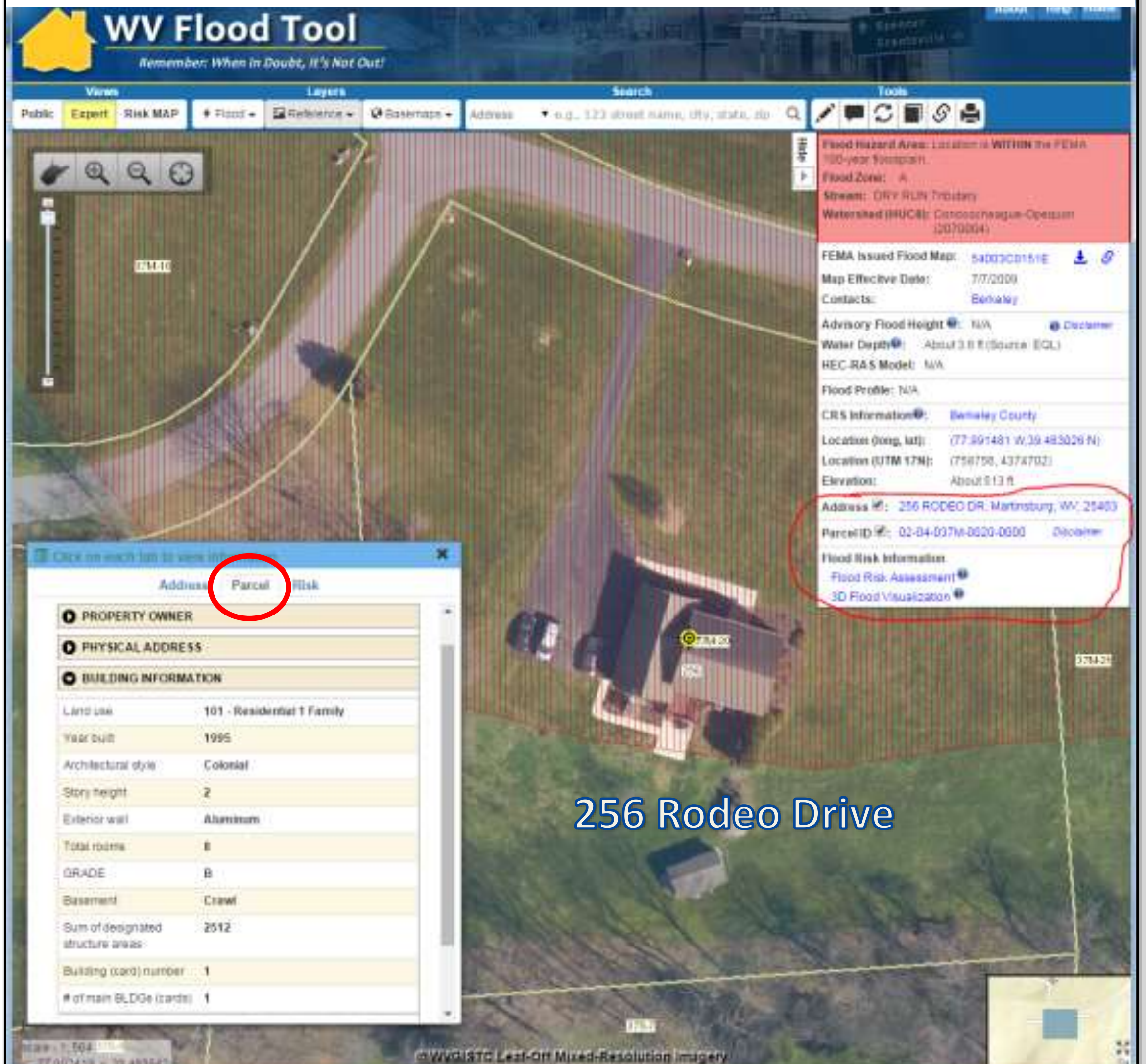
GIS Parcel ID:
02-04-037M-0020-0000

Locate and zoom to parcels using various search parameters

Building-Specific Flood Risk Assessments

(Currently only Berkeley & Morgan Counties)

Web Link: http://www.mapwv.gov/flood/Map/?v=1&pid=02-04-037M-0020-0000



Click on **Parcel ID** (Building Info), **Flood Risk Assessment**, and **3D Flood Visualization** links in bottom right of Flood Query Results Panel

Click on each tab to view information

Address | **Parcel** | Risk

BUILDING INFORMATION

Land use	101 - Residential 1 Family
Year built	1995
Architectural style	Colonial
Story height	2
Exterior wall	Aluminum
Total rooms	8
GRADE	B
Basement	Crawl
Sum of designated structure areas	2512
Building (card) number	1
# of main BLDGs (cards)	1

The tax parcel centroids and associated building characteristic data (YRBLT, STYLE, STORIES, EXTWALL, GRADE, BSMT, AREASUM) from the Integrated Assessment System -- along with RS Means building construction cost values, flood inundation areas, and water depth inputs -- are used by Hazus Flood Model software to estimate flood damages to each structure for a riverine 1% annual flood event.

Flood Risk Assessment (Cont.)

3D Flood Model

3D Visualization | Cost Tool | Related Resources

Depth

0 Foot
1 Foot
2 Feet
3 Feet
4 Feet
5 Feet
6 Feet
7 Feet
8 Feet
9 Feet
10 Feet
11 Feet
12 Feet
13 Feet
14 Feet
15 Feet

Door and Frames - Most doors in residential structures are hollow and are warped and destroyed between 0.0 and 1.0 foot of floodwater. Some would require replacement at 1.5 feet of floodwater. All doors are totaled at 4.0 feet of floodwater. Hollow metal door frames are never a total loss.

Sheetrock/Wall Insulation/Wall Boards - Walls and insulation are damaged at the rate of 25 percent damages at 0.0 foot to 1.5 feet of floodwater, 50 percent damages at 2.0 feet, and total damages at 4.0 feet. In residential and some commercial structures, the ceiling is made of sheetrock and is a total loss at 0.5 feet of floodwater because of the absorption of water from the sheetrock and insulation in the walls. In commercial structures with a suspended ceiling, tiles are damaged at 4.0 feet of flooding, whereas

Web Link: http://www.mapwv.gov/flood/Map/?v=1&pid=02-04-037M-0020-0000

Example **flood risk assessment** information for 256 Rodeo Drive. Includes **3D flood visualization** with water depth-flood damage information for homeowner.

Address | Parcel | Risk

Building Replacement Cost	$319,878
Content Cost	$252,870
Building Area	2,512 sq ft
Hazus Occupancy Code	RES1
Number of Stories	2
Year Built	1995
Building Construction	Wood
Building Condition	Medium
Building Foundation	Crawl
First Floor Ht	3 ft above ground

Damage Estimates (UDF)

Building Damage Pct	12%
Building Loss USD	$37,029
Content Damage Pct	10%
Content Loss USD	$15,559

Structure-specific (called “User-Defined Facilities”, or UDFs, in Hazus) flood risk assessment produce results and loss estimates at the building or structure level, and can often help facilitate flood risk discussions with individual home- or business-owners in a community. Source: “Guidance for Flood Risk Analysis and Mapping, Flood Risk Assessments”

3D Flood Visualizations

Visualizations are easier for non-technical users to understand flood risks to their property in feet of water rather than comprehending the adjacent base flood elevation

3D Flood visualizations are available statewide for locations where flood depth grids exist. The parcel assessment data fields (land use, stories) are necessary to identify the correct property type: residential one- or two-story homes, mobile home, commercial/industrial, etc.

"The 3D visualization is really cool. Our citizen comes to the counter and says 'there is no way there can be a flood like that.' Then we show them how much water you will get in your house and how much it will cost to repair it. The 3d visual is really good! And then we like the way you can click on a parcel ID and it brings up all the information as far as property owner, tax map and parcel number, deed book, page number - everything is right there. And the building information is really good too because it tells what the structure is made of, whether it has a basement - all the information that we would have to go to another system to pull is right there.“ Source: 3D Flood Visualization Comment from Debbie Robinson, Kanawha County Planning and Development Office

New Flood Layers Added

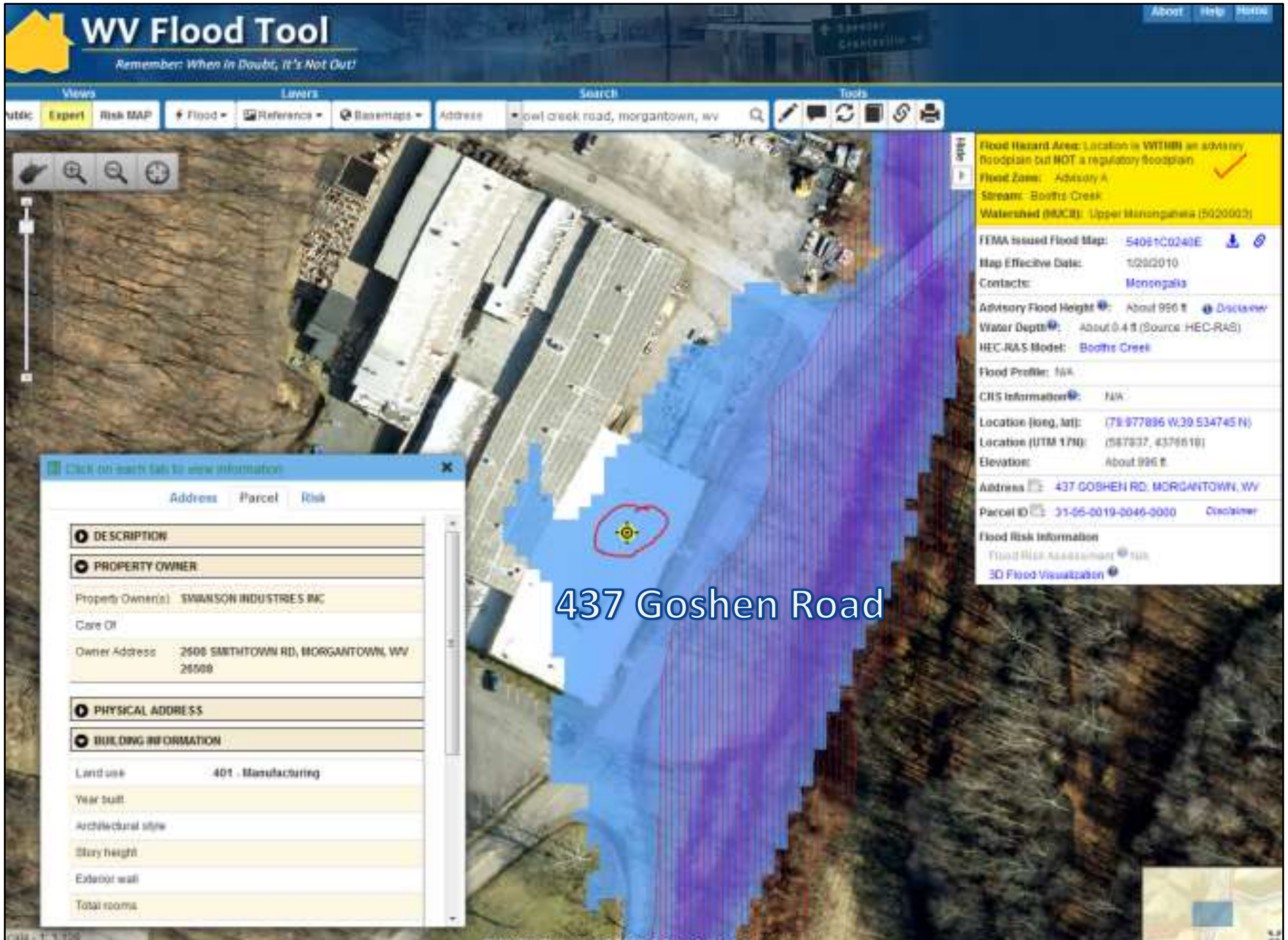
FLOOD LAYERS	Public View *for general public*	Expert View *for floodplain managers*	RiskMAP View *for flood risk planning*
Flood Hazard Layers			
• Flood Hazard Zones	Yes	Yes	Yes
• Panel Index	No	Yes	No
• X-Sections	No	Yes	No
• BFE's / Advisory Flood Heights	No	Yes	No
• LOMAs / *LOMRs**	No	Yes	No
• *Structures, Levees, Mile Markers**	No	Yes	No
Flood Prediction			
• *USGS Real-Time Stream Gages**	No	Yes	No
Flood Mitigation			
• Mitigated/Buyout Properties	No	Yes	Yes
Flood Risk			
• Flood Water Depths	No	Yes	Yes
• *Historical High Water Marks*	No	Yes	Yes
• *Site-Specific Flood Risk Assessment Data*	No	No	Yes
• Flood/Dam Inundation Maps (future)	No	No	Yes

Italics Text = New Layers Added

* External Agency Web Map Services

Advisory Floodplains

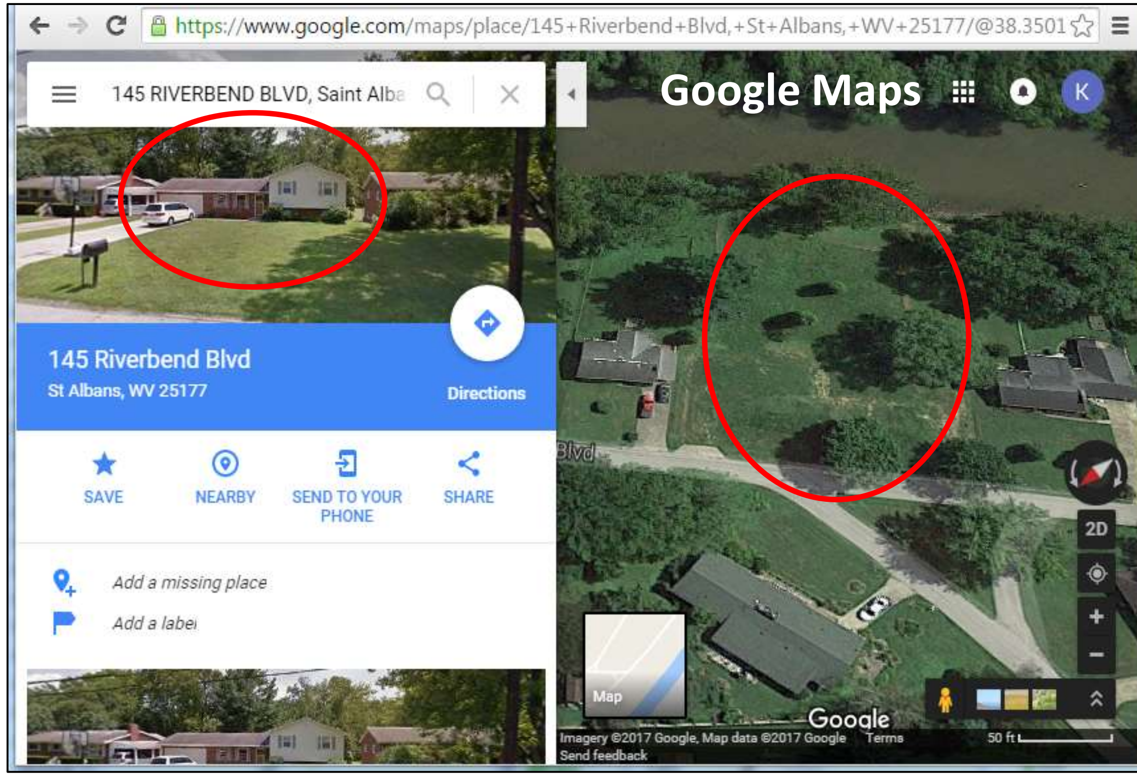
New **advisory** flood heights, depth grids, and floodplain boundaries are being added to the WV Flood Tool and will exist for all counties in the near future



Example: 437 Goshen Road, Morgantown, WV (Swanson Industries Plant)
https://www.mapwv.gov/flood/map/?wkid=102100&x=-8903099&y=4798561&l=12&v=1

A new flood zone status (orange/mango color) has been added to the WV Flood Tool when the **location is WITHIN an advisory floodplain but NOT a regulatory floodplain.** In the example on the left note how a the Swanson Industries building is located in the new model-backed Advisory A Zone (blue water depth grid) but not the effective Approximate A Zone (red vertically hachured polygon). This example represents an **Advisory A Zone** but the same could be done for new **Advisory AE Zones** generated from re-delineated AE Non-Restudy areas using new topography.

Mitigated/Buyout Properties

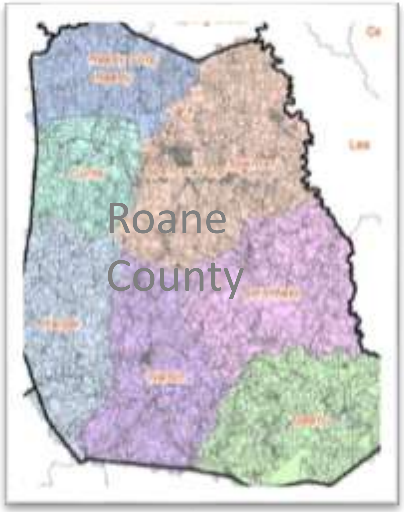
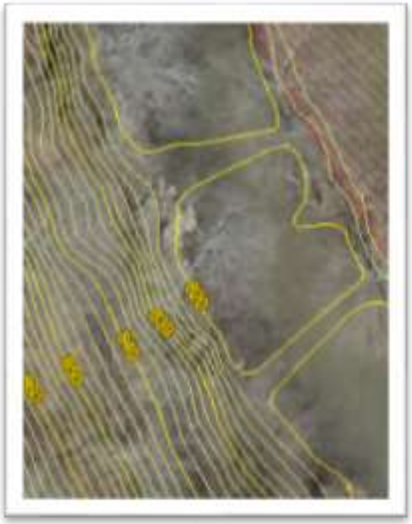


Example: 145 Riverbend Blvd, Saint Albans, WV (adjacent to Coal River)

House still visible in default imagery of WV Flood Tool and Google StreetView; however, in Google Maps oblique view the structure has been removed.

https://www.mapwv.gov/flood/map/?v=0&pid=20-16-012E-0125-0000

Improved Local Data Integration

Site Addresses	Tax Parcels	Aerial Imagery	Elevation Contours
			
41 E-911 offices updated addresses to the Statewide Addressing & Mapping System which links to WV Flood Tool	27 county assessors have given permission to have parcels added to the WV Flood Tool	25 counties have submitted their more current aerial imagery to be included in the WV Flood Tool	3 counties have requested that their 2-foot elevation contours be displayed in the WV Flood Tool

County data reference layers are very important for flood determinations and flood risk products

Other & Future Enhancements

- **Other Enhancements Accomplished**
  - Added Leaf-on USDA NAIP 2016 Statewide Imagery
  - Best Leaf-Off imagery updated with aerial imagery from 25 counties
  - Parcels added for 23 counties, 4 counties in progress of being updated
  - Added Tug Fork Detailed Restudy
  - Improved Parcel ID Search tool
  - Embedded FloodSmart.gov Cost Calculator
  - Link to National Weather Service Advanced Hydrologic Prediction Service (AHPS)
  - Links to Flood Smart and Flood Risk Documents
  - Updated WV Address Locator Services
  - Re-programmed toolbar icons for restrictive settings on federal IE web browsers

- **Future Enhancements**
  - Improve drawing and text markup tools
  - Update statewide mitigated properties flood layer
  - Add Upper Mon. Detailed Restudy (includes BFE grid)
  - Additional info for flood hazard determinations
  - Add new advisory floodplains and depth grids
  - Update statewide elevation grid with new lidar acquisitions
  - Update contact list of Floodplain Managers
  - Acquire digital parcel layer for all counties
  - Improve accuracy of site addresses
  - Add flood risk assessments for all counties
  - Add essential facilities for risk planning
  - Acquire assessment data for commercial/industrial properties
  - Incorporate 3D flood visualization models of communities (requires building footprints)
  - Add Historical Flood Inundation and Dam Break Inundation maps
  - Reclassify statewide water depth grid