

Floodplain Management for West Virginia Highway Projects:

How to work with the WVDOT to protect floodplains

West Virginia Floodplain Management Association
2026 Annual Conference
Pipestem State Park

Doug Kirk, P.E., C.F.M.



Work of the WVDOH and why it can be difficult to manage in floodplains

Mission Statement:
We provide a safe, efficient, and reliable multimodal transportation system to keep West Virginia moving.

Safe, efficient and reliable may be competing rather than complementary.

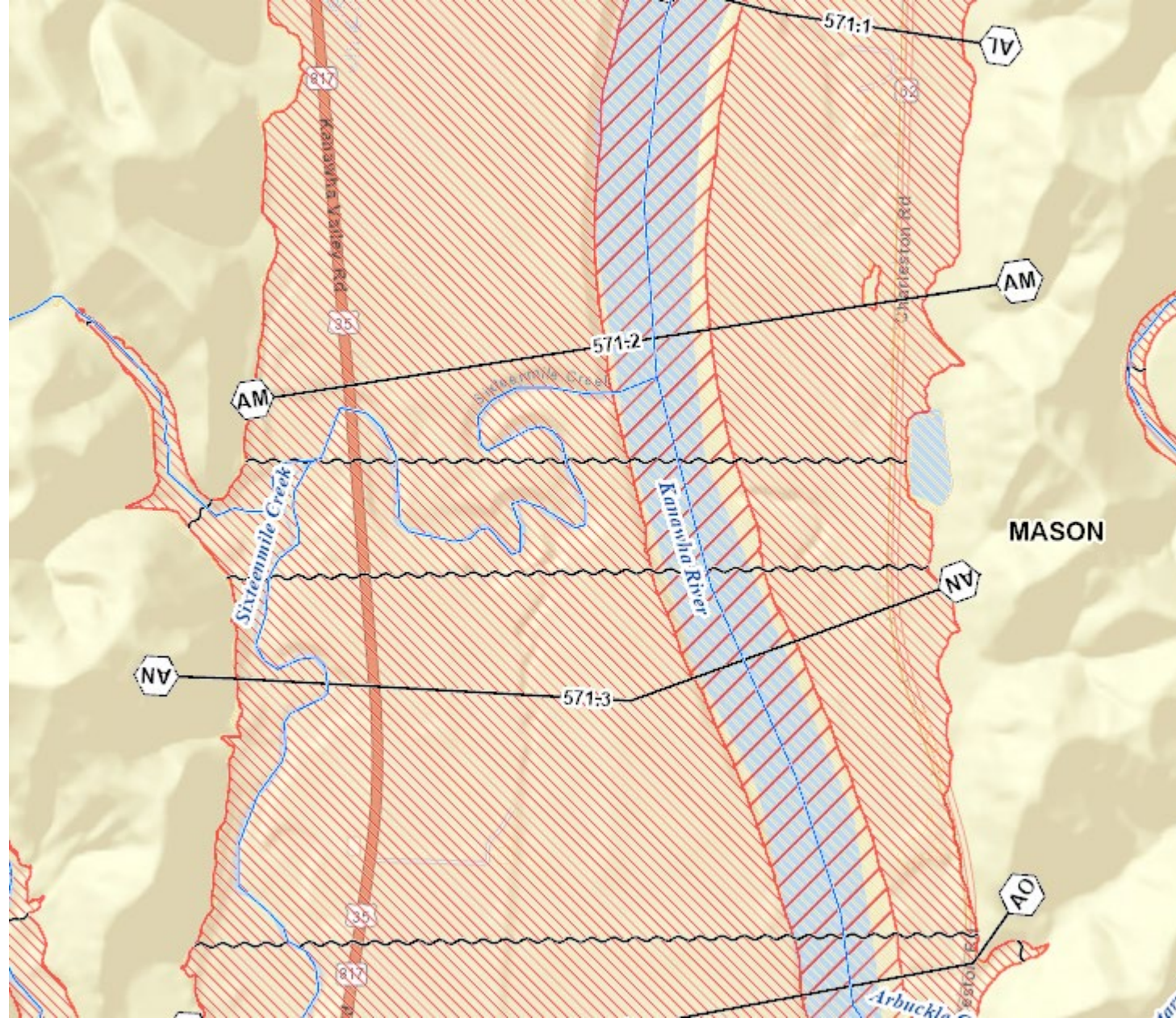


So why is that a problem for floodplains?



Most of our roads and bridges cross or follow streams.

Many of our roads and bridges are in the floodplain.



Efforts and resources of the WVDOT to be better stewards of floodplains

- Rebuilding the Hydraulic & Drainage Unit
 - Darrin, James and David, plus collaboration with Initial Design
- New design standards to require larger culverts on perennial streams
- Upcoming training for District Staff
- Utilizing progressive technology

Local Floodplain Manager interaction with the WVDOH

Letter, No-Rise Certificate, of Local Floodplain Development permit

Hamlin Sidewalk Connector NO-RISE CERTIFICATION

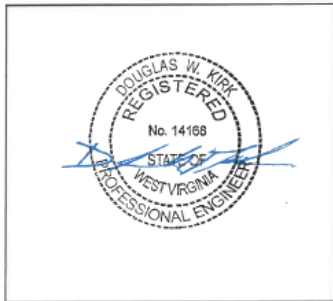
The West Virginia Division of Highways is planning to improve sidewalks along WV Route 3 in Lincoln County. This work will include the construction of a 5-foot wide sidewalk along the north side of WV 3 from County Route 3/11 across from Panther Way to Morton Drive for a distance of approximately 1200 feet. A portion of sidewalk is shown within the Flood Zone AE along the Mud River.

I have evaluated the sidewalk project along WV 3 from Panther Way to Morton Drive to determine whether the work would impact the Base Flood Elevation (BFE). Project cross sections were compared with river cross sections in the HEC-RAS model. One data point (1166.5, 637.3) was added to river station 671 to represent fill at project station 15+00. HEC-RAS results were unaffected.

This project will not raise the BFE.

This document is to certify that I have evaluated the proposed construction work on the Hamlin Sidewalk Connector and have determined that it will not cause an adverse impact to the floodplain along the Mud River.

I presume you have already received plans for the project. Backup data can be provide if you so desire. Let us know if you have any questions.



Seal and Signature

Douglas W. Kirk PE CFM
Name
Chief Engineer of
Environmental Compliance
Title
1900 Kanawha Blvd. E. Bldg 5
Charleston WV 25305
Address
1/22/25
Date

FOR COMMUNITY USE ONLY		
☐ Approved ☐ Disapproved		
Name and Title	Signature	Date



HUNTINGTON
WEST VIRGINIA
Planning & Development

FLOODPLAIN DEVELOPMENT PERMIT APPLICATION (This form to be filled out in duplicate in ink.)

Application
Number

Page 1 of 4

SECTION 1: GENERAL PROVISIONS (Applicant to read and sign)

1. No work may start until a Floodplain Development Permit and Location Improvement Permit have been issued.
2. The permits may be revoked if any false statements are made herein.
3. If revoked, all work must cease until a permit is reissued.
4. Development shall not be used or occupied until a Certificate of Compliance is issued.
5. The permit will expire if no work is commenced within six months of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state and federal regulatory requirements.
7. Applicant hereby gives consent to the Local Administrator or his/her representative to make reasonable inspections required to verify compliance.
8. ***I, THE APPLICANT, CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.***

Applicant's Signature

Date

SECTION 2: PROPOSED DEVELOPMENT (To be completed by APPLICANT)

Name: _____

Address: _____

Phone: (Home) _____ (Bus) _____

(Fax) _____ (Cell) _____

Email Address: _____

Builder: _____

Engineer: _____

Project Location: _____

Floodplain development Permit Application

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DESCRIPTION OF WORK (check all applicable lines):

A. Structural Development

Activity

- ☐ New Structure
- ☐ Addition
- ☐ Alteration
- ☐ Relocation
- ☐ Demolition
- ☐ Replacement

Structure Type

- ☐ Residential (1-4 Family)
- ☐ Residential (more than 4 Family)
- ☐ Non-Residential—Floodproofing: ☐ Yes ☐ No
- ☐ Combined Use (Residential & Commercial)
- ☐ Manufactured (Mobile) Home
- ☐ In Manufactured Home Park? ☐ Yes ☐ No

Estimated Cost of Project: \$ _____

B. Other Development Activities

- ☐ Fill ☐ Mining ☐ Drilling ☐ Grading
- ☐ Excavation (Except for Structural Development Checked Above)
- ☐ Watercourse Alteration (Including Dredging and Channel Modifications)
- ☐ Drainage Improvements (Including Culvert Work)
- ☐ Road, Street or Bridge Construction
- ☐ Subdivision (New or Expansion)
- ☐ Individual Water or Sewer System
- ☐ Other (please specify) _____

Floodplain development Permit Application

SECTION 3: FLOODPLAIN DETERMINATION (To be completed by LOCAL ADMINISTRATOR)

☐ The proposed development is located on FIRM Panel No.: _____ Dated: _____

The proposed development:

☐ Is **NOT** located in a Special Flood Hazard Area (Notify the applicant that the application review is complete and NO FLOODPLAIN DEVELOPMENT PERMIT IS REQUIRED.

☐ IS located in a Special Flood Hazard Area
FIRM zone designation is: _____

Base Flood Elevation at the site is: _____ Ft. NGVD (MSL)

☐ Unavailable

☐ The proposed development IS located in a floodway.

FIRM Panel No.: _____ Dated: _____

☐ See SECTION 4A for additional instructions.

Floodplain development Permit Application

SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by LOCAL ADMINISTRATOR)

Page 3 of 4

The APPLICANT must submit the documents checked below before the application may be processed:

- ☐ A site plan showing the location of all existing structures, water bodies, adjacent roads, lot dimensions and proposed development.
- ☐ Development plans, drawn to scale, and specifications, including where applicable: details for anchoring structures, proposed elevation of lowest floor (including basement), types of water resistant materials used below the first floor, details of floodproofing of utilities located below first floor and details of enclosures below the first floor.
Also: _____
- ☐ Subdivision or other development plans (if the subdivision or other development exceeds 50 lots or 5 acres, whichever is the lesser, the applicant must provide 1% annual chance flood elevations if they are not otherwise available).
- ☐ Plans showing the extent of watercourse relocation and/or landform alterations.
- ☐ Top of new fill elevation _____ Ft. NGVD (MSL).
- ☐ Floodproofing protection level (non-residential only) _____ Ft. NGVD (MSL).
For floodproofed structures, Applicant must attach certification from a registered engineer or architect.
- ☐ Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 1% annual chance flood. A copy of all data and calculations supporting this finding must also be submitted.
- ☐ Other _____

No-Rise Certificate

- Always the goal
- More complete instructions for our project managers
- Complete and concise explanation of project and analysis

TO: All C&H Level Staff
All Divisions Directors
All District Engineers/Managers
All Deputy D.E. - Director of Engineering
All County Maintenance Directors

FROM: Douglas W. Kirk, P.E., C.F.M. *DWK*

SUBJECT: PROJECTS IN THE FLOODPLAIN

All work conducted in a FEMA designated floodplain requires coordination with the local floodplain manager. For several years, we have sent a “no-rise certificate” with the project description and summary of results from the hydraulic analysis report to the floodplain manager. Recently, local floodplain managers have instituted a “Floodplain development permit” and have begun asking the WVDOH to complete their permit form for our projects. However, we have found these forms to be inappropriate for our projects. Therefore, we will continue to submit the no-rise certificate to the local floodplain managers instead of submitting the local floodplain development permit.

Refer to the WV Flood Tool website <https://www.mapwv.gov/flood/map/> to determine whether your project is in a floodplain. Local floodplain managers and their contact information can be found on the WV Emergency Management website <https://emd.wv.gov/MitigationRecovery/Pages/Floodplain-Manager-Contact-Information.aspx>.

Send the “No-Rise Certification” with documentation listed below to the local floodplain manager. Do not use the county building or floodplain development permits. Here is the process for now. Design Directives will be updated in the future.

- Send a “no-rise certification”, by email to the Local Floodplain Manager and the State NFIP representative.

No-Rise Certificate

- More complete instructions for our project managers

- Request a delivery receipt of the email.
- The no-rise certification will require a response within 10 business days.
- Portions of our Hydrology & Hydraulics Report will be attached with the no-rise certification. This will include the signed and stamped cover sheet, and Project Description and Summary of Results as described in WVDOH Drainage Manual section 3.5.3.

A copy of the No-Rise Certification is attached, and can also be found on ProjectWise, No-Rise Certification.

If you have any questions, contact Darrin Holmes of the Hydraulic & Drainage Unit via email to Darrin.A.Holmes@wv.gov or to Doug Kirk, Chief Engineer of Environmental Compliance at Douglas.W.Kirk@wv.gov

**No-Rise Certificate Workflow
(Floodplain Coordination Letter)**

Instructions

- Provide a complete and concise explanation of project and analysis for Floodplain Managers

Email

To: FEMA County Floodplain Manager

cc: Roadway Unit Leader – Hydraulics Unit Leader – Squad Leader

Subject: State Project No: xxxx-xxx/xx-xx.xx xx Name of Project

Attachments

No-Rise Certificate (See attached Sheet for Example)

Project Description and Summary of results from the H&H Report

(These two documents are provided by Hydraulics)

Body of Email

Please see the attached for the following project:

Name of Project

State Project Number

Federal Project Number

This submission will serve as your review and comments. We request a written response within two weeks upon receipt, verifying our compliance so that we may proceed with the project design and construction schedules.

Thanks,

PM Contact Information

No-Rise Certificate



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Michael J. DeMers
Deputy Secretary of Transportation
Deputy Commissioner of Highways

Stephen T. Rumbaugh, P. E.
Secretary of Transportation
Commissioner of Highways

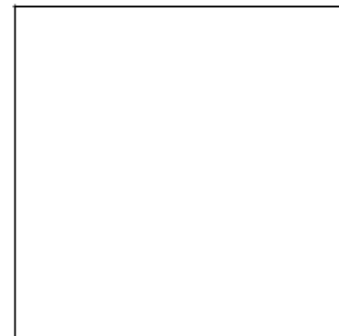
June 15, 2026

NO-RISE CERTIFICATION

This document is to certify that I am a duly qualified registered Professional Engineer licensed to practice in the State of West Virginia.

It is to further certify that the attached technical data supports the fact that the proposed Project Name, Project Number will not increase the 100-year base flood elevations, floodway elevations, or impact the floodway widths on Name of Stream in Name of Community.

The Project Description and Summary of Results from the H&H Report are Attached.



Seal and Signature

Name

Name

Job Title

Title

Address Line 1

Address Line 2

Address

Date

Date

FOR COMMUNITY USE ONLY

☐ Approved ☐ Disapproved

Project Description

Big Tribble Bridge

Bridge No: #26-74-3.72

Hydrology and Hydraulic Report

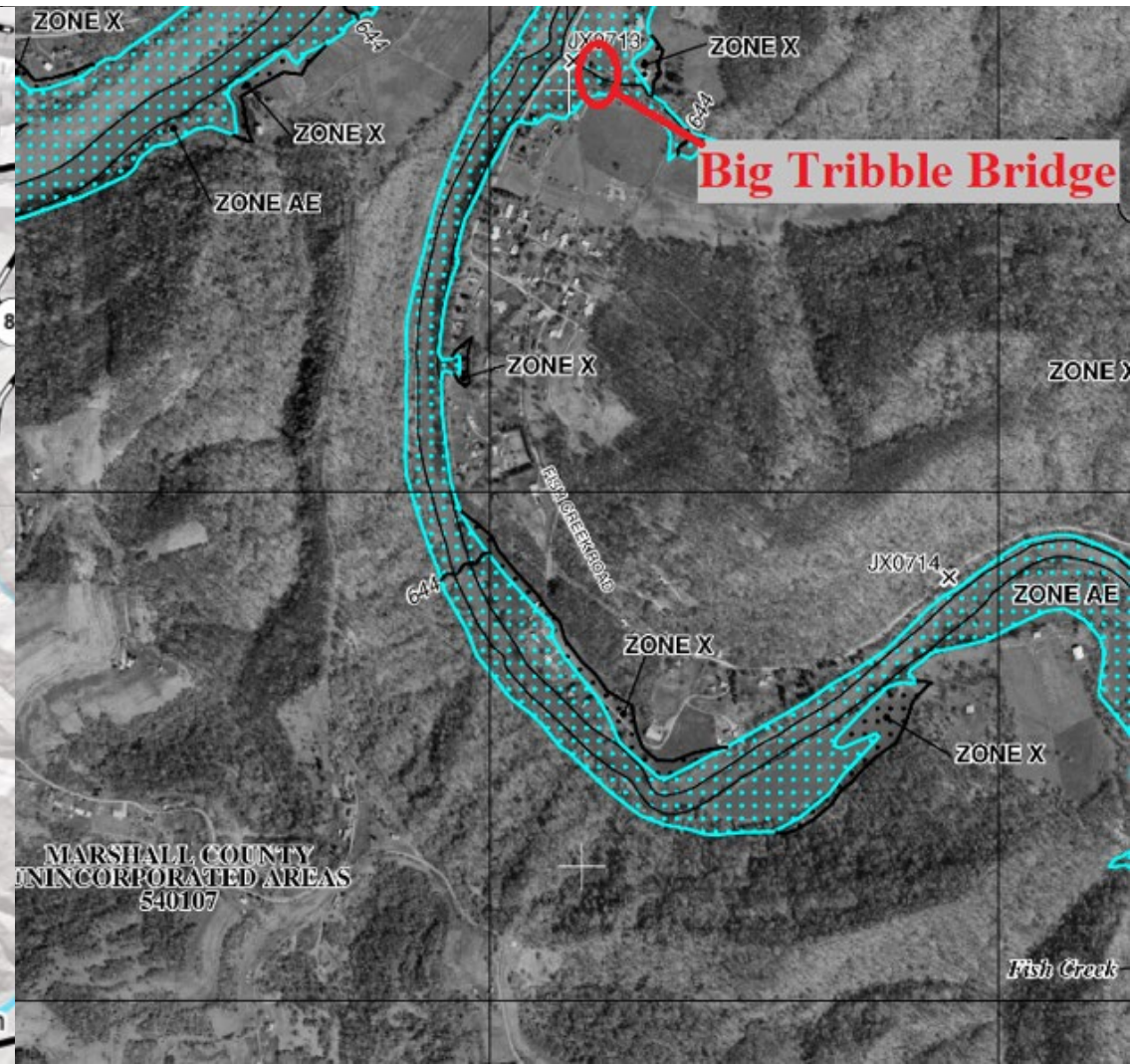
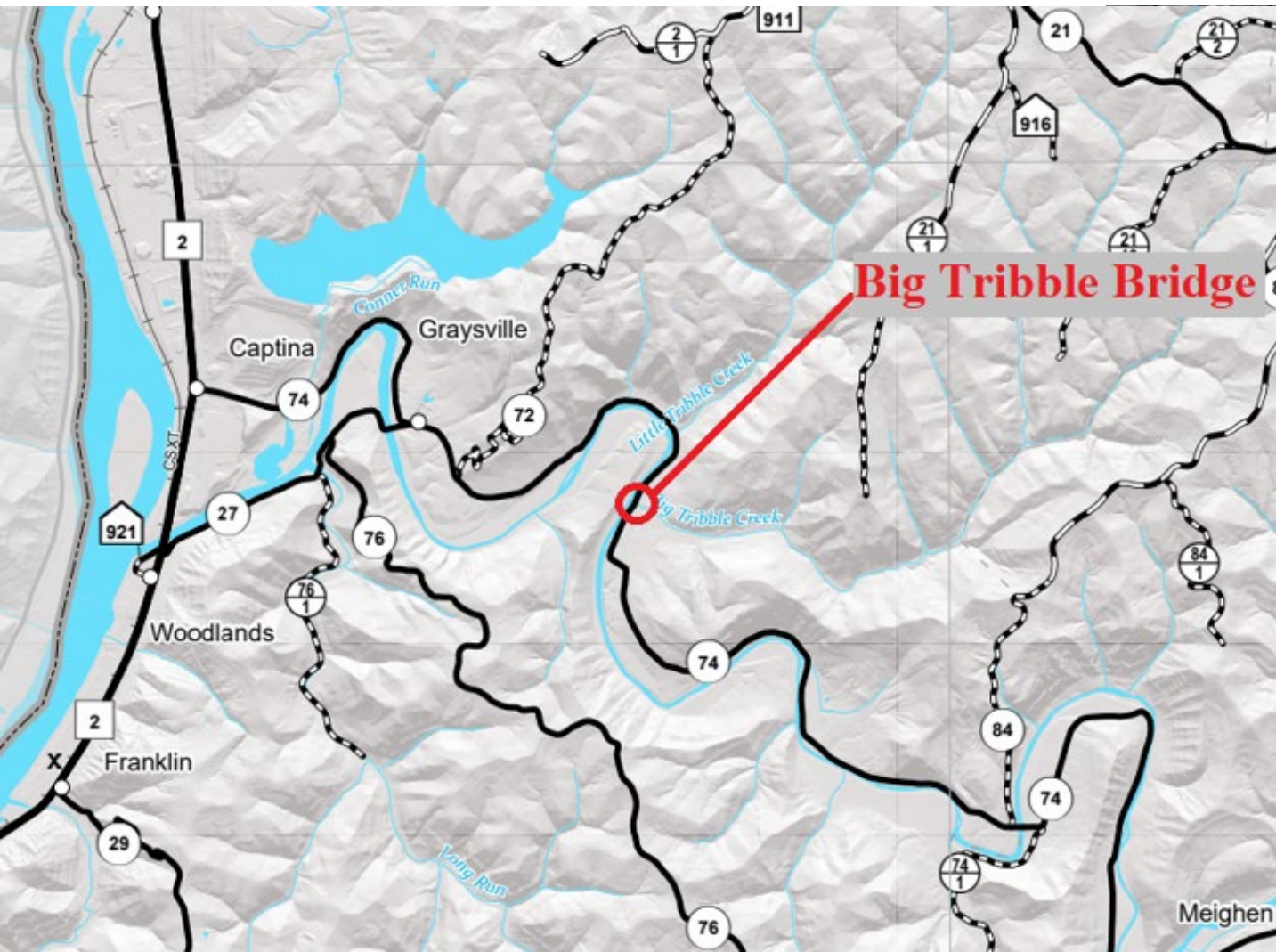
February 2022

I. Project Description

The West Virginia Division of Highways plans to replace Big Tribble Bridge (#26-74-3.72) over Big Tribble Creek in Marshall County. Big Tribble Bridge is located approximately 1.68 miles east of County Route 72. This route is functionally classified as a Rural State Local Service. This report describes the hydrologic and hydraulic analysis performed for this project.

Big Tribble Bridge was built by State Forces in 1961. The bridge was renovated in 1988 adding additional stringers to the outside of the existing girders, replacing the deck and guardrail with salvaged grid deck and new railings and posts. It currently has a sufficiency rating of 40.8 and is structurally deficient and functionally obsolete. The structure is a simple span steel deck girder bridge with floor beams and stringers. The overall length is 41 feet 0 inches. Big Tribble Bridge is straight and not skewed with respect to CR 74.

Maps



Summary of Results

II. Summary of Results

A. Proposed Temporary Conditions

Although multiple alternatives were investigated during the bridge design study, alternative 3 was chosen for the replacement of this bridge. The existing structure will be kept in place for traffic while the new structure is being built upstream. A temporary causeway will be built to support the construction of the new bridge. It is recommended that the deck of the causeway be set at approximately 629.53ft (2 foot above OHW). A HEC-RAS model was built to model OHW with the causeway in place. It was determined that nine two-foot circular culverts with 1 foot of cover above and 0.5 times the diameter of the pipe between could be used. With these recommendations, the causeway should sufficiently span the creek for the duration of the project. These results will be shown in the Hydraulic Modeling section.

Table 2: Water Surface Elevation (Big Tribble Creek – Coincidental Peak) @ Bridge

Water Surface Elevation Comparison				
Recurrence Interval (years)	Discharge (CFS)	Existing WSEL (FT)	Proposed WSEL (FT)	Difference (FT)
10	851.9	634.72	634.71	-0.01
25	1353.3	638.68	638.65	-0.03
100	2324.5	640.37	640.26	-0.09
500	3787.4	641.50	641.27	-0.23

Future contacts at WVDOH

- Darrin.A.Holmes@wv.gov
- James.D.Miller@wv.gov

The reason I am
retiring and moving
to Ohio!

Samuel Charles
Czyzewski
Born 2 days ago.

