Thurmond Bridge
Fayette County, West Virginia

STATE-LEVEL RECORDATION

March 2016

West Virginia
Department of Transportation
Division of Highways
Engineering Division
Environmental Section
(304) 558-2885

HISTORIC RECORDATION
THURMOND BRIDGE
FAYETTE COUNTY 25/2 OVER NEW RIVER
THURMOND, WEST VIRGINIA

Name: Thurmond Bridge

Location: The bridge is located within the geographical area of West Virginia, Fayette County, Town of Thurmond.

USGS *Thurmond, WV* 7.5 Minute Topographic Quadrangle, Universal Transverse Mercator Coordinates:
17S 4200934N 493064 E

Present Owner**:** CSX Corporation (Leased to R.J. Corman Corporation)

West Virginia Department of Transportation
Division of Highways
1900 Kanawha Boulevard, Building 5, Room A-110
Charleston, WV 25305

Present Use**:** Rail and Vehicular Bridge

Significance**:** The Thurmond Bridge contributes to the Dunloup Branch Railroad, which is significant under Criterion A, and to the Thurmond Historic District, which is significant under Criteria A and C. As an individual structure, Thurmond Bridge is significant under Criterion C as a representative example of a skewed Warren through truss and deck plate girder railroad bridge with the uncommon feature of a cantilevered vehicular and pedestrian roadway.

Project Information**:** The Federal Highways Administration (FHWA) in cooperation with the West Virginia Division of Highways (WVDOH) proposes to rehabilitate the Thurmond Bridge. The proposed rehabilitation project involves the stabilization, strengthening, and repair of the Thurmond Bridge. The preferred alternative also incorporates the addition of refuge bays on the upstream (east) side of the bridge to address pedestrian safety concerns identified by the National Park Service. This documentation was undertaken in March 2016 in accordance with a Memorandum of Agreement (November 2015) among the West Virginia Division of Highways, West Virginia State Historic Preservation Officer, the Federal Highway Administration, and the Advisory Council on Historic Preservation. These measures are required prior to the alteration of this National Register of Historic Places (NRHP)-eligible structure.

Qualified Professional**:** Jesse A. Belfast, Historic Preservation Specialist
Michael Baker International, Inc.
100 Airside Drive
Moon Township, PA 15108
March 2016

Part I. Historical Information

A. Physical History

1. **Date of erection:** 1915-1916

2. **Engineer/Builder**
   Chesapeake & Ohio Railway Co., (Loup Creek Branch)

3. **Original and subsequent owners, occupants, uses:**
   Chesapeake & Ohio Railway Co.
   CSX Corporation (Leased to R.J. Corman Corporation)
   West Virginia Department of Transportation

B. Historical Context:

Historical Background

Thurmond

The town of Thurmond is situated on the east side of the New River Gorge along a narrow flood plain (about 100-150 meters wide) that was wide enough to accommodate the main line of the Chesapeake and Ohio (C&O) Railway, its yards, and a single strip of commercial buildings on the northeast side of the tracks; no street lies between the buildings and the railroad. Residences are scattered on the steep hillside immediately above the river flat. Thurmond is accessed by automobile from the south via a ca. 1916 shared vehicular and railroad bridge (the subject Thurmond Bridge), which carries the Dunloup Branch Railroad. The bridge connects with Fayette County Route 25/2, which follows Dunloup Creek to Glen Jean, where one can access U.S. Route 19. The Thurmond Historic District National Register of Historic Places nomination form was prepared in 1983 by R. Eugene Harper, Ph.D., professor of history at the University of Charleston. In the nomination form, 45 buildings, structures, or sites are noted as contributing and 2 buildings are noted as non-contributing. Sixteen buildings, structures, or sites are noted as "pivotal" resources within the district. Among these 16 resources is the subject Thurmond Bridge (it is identified as "Thurmond Railroad Bridge" in the nomination). In addition to minor commercial/industrial buildings and scattered extant hillside dwellings, recent National Park Service literature identifies six (6) major extant resources along Thurmond's river flat commercial strip: Thurmond Depot, a commissary, the Mankin-Cox Building, Goodwin-Kincaid Building, Bank of Thurmond, and a coaling station.

The Thurmond Historic District is significant under Criteria A and C in the areas of archaeology, architecture, commerce, and transportation, and its period of significance is 1884 to 1950. Harper (1983) concludes that:

> Thurmond, West Virginia is significant for "its extraordinary commercial vitality in the early twentieth century in spite of extreme inaccessibility. For thirty-five years, Thurmond, located in the heart of the New River Gorge, was inaccessible except by railroad. Yet, as the chief railroad center on the Chesapeake and Ohio

> Railroad serving portions of the fabled coal fields of Southern West Virginia, Thurmond produced more tonnage and revenue than Cincinnati and Richmond combined. The town had not a single street, yet boasted two banks, two hotels, and a thriving commercial block. Architecturally, the town is significant for its railroad architecture and for its vernacular worker housing and simple commercial buildings, not because they have great style or beauty, but for what they say about the thriving life in the West Virginia coal fields for some sixty years. Archaeology is possible at the hotel sites.

In the form, Mr. Harper describes the bridge as follows:

> Thurmond Railroad Bridge. (circa 1910) [note: built 1915-16] The railroad bridge at Thurmond is a most significant structure. Building the bridge initially in 1888-1889 caused the town to be founded, and the bridge remains the only way in and out of town. The original truss bridge with supporting members that appear lighter and smaller than the present bridge washed away in about 1908. The new bridge was built around 1910 (perhaps as late as 1915 for coal was sent around by way of Sewell for a while). The new bridge is both a truss and a deck [girder] bridge. The truss section spans the main channel of the river, but the longest part of the approximately 840 foot span is a simple deck [girder] bridge on concrete piers. On the eastern or up-river side is a one lane--10 feet--automobile road that gives access to the town. The road was originally built as a walkway from the station across the river to the Dun Glen Hotel, and had to be strengthened when automobiles came into use. The bridge crosses the river at an angle, necessitating that the west end post extend further north than the east one, and that the top lateral braces and the portal braces be diagonal. Piers for the original bridge were quarried just across the river up Arbuckle Creek a quarter mile. Two of these piers are still in use, but the other seven piers are concrete. The roadway is currently undergoing repair [in 1983], and residents must drive on the railroad portion of the bridge on which planks have been laid to make a road at track level. This railroad portion of the bridge is 20 feet from outside to outside of each of the 30 inch main portal beams.

The Dunloup Branch Railroad

The Dunloup Branch Railroad is a single-track freight line that extends from a junction with the C&O main line at Thurmond, WV, to the town of Pax, WV, about 16 miles to the southwest. The line passes through the towns of Glen Jean, WV, and Mt. Hope, WV. The line presently serves three customers: Georgia-Pacific and Austin Powder Company, at Mt. Hope, and Pioneer Fuel Corporation, at Pax. The line began operation in 1892 and continues to utilize its historic route. Since 2005, the RJ Corman Railroad Corporation has leased the line from the CSX Railroad.

The Dunloup Branch Railroad, Loop Creek Branch was surveyed by WVDOH in 2010 as part of a larger railroad improvement project. At that time, the WVDOH determined that the resource was eligible as a linear resource under Criterion A as a transportation link. The WVHPI form described the railroad and its significance as follows:

The Dunloup Branch Railroad was established around 1892 when the branch linked to the Chesapeake & Ohio Railroad [sic.] in the Town of Thurmond. With the completion of the Thurmond Railroad Bridge around 1889, the mining industry was able to open new mines and ship coal more easily. Thomas McKell owned a lot of property around the railroad line and chose to open up the coal lands around Loup Creek instead of at the New River Gorge. McKell wrote to the President of C&O and asked for assistance in getting the rail line built and connecting to the main line at Thurmond. C&O began construction on the branch line in 1892 and by late 1893 the rail line was completed from Thurmond to Glen Jean. On November 7, 1893, the first coal was shipped from the Collins Colliery Company in Glen Jean. By 1894, coal was being hauled and the line was completed to MacDonald. By 1895, McKell established his own railroad called the Kanawha, Glen Jean & Eastern Railroad (KGJ&E), providing passenger trains, hauling coal and freight to the mines, towns and company stores. With growing interest in the area McKell wanted to beat others in building a line from Glen Jean to Deep Water. At the same time another railroad would be started known as the Glen Jean, Lower Loup & Deepwater Railroad (GJLL&D). The area became a battleground between the two railroad crews and it eventually went to court over who had the right to build this section of the rail line. In 1899, the courts ruled against McKell and eventually the C & O bought the GJLL&D and McKell was angered once more. By 1900 C & O began building more rail lines especially between Glen Jean and Oak Hill. McKell sued C & O and the case was not settled until 1915, long after McKell's death in 1904. McKell's heirs won money from C & O and they completed the branch line to Pax in 1910. At Pax the KGJ&E connected with the Virginian Railway. This connection ended C&O's monopoly of the coal mines in the Loup Creek area. Coal was still a big industry in the area up to the 1940's. C & O purchased the KGJ&E in 1941 after the death of William McKell (Thomas's son). After World War II coal was on a decline because now locomotives were fueled with diesel instead of coal. In 1971 the C&O merged with the B&O forming the company Chessie System. Another merger came in 1980 with the merger of Chessie System and Seaboard Coast Line creating CSX Corporation in 1987. By the 1980s most of the coal along the Loup Creek mines had been removed. After this the line remained abandoned for many years. But in 1994 the Georgia-Pacific Company gave the railroad line a new lease on life.

In 2005, R J Corman Railroad Corporation leased the rail line from CSX Railroad. The rail line maintains the same line it did when the branch line began in 1892. Today, the Dunloup Branch Railroad (Loup Creek Branch) serves three companies: Georgia-Pacific at Mt. Hope, Austin Powder Company at Mt. Hope and Pioneer Fuel Corporation at Pax.

The railroad does currently link commercial towns within the county or region. The WVDOH has determined that the Dunloup Branch Railroad line (also known as the C&O's Loup Creek Branch) is eligible for the National Register as a linear resource under Criterion A as a transportation link.

Part I. Architectural Information

Summary Description of Bridge

The Thurmond Bridge was designed and constructed in 1915-1916 by the Chesapeake & Ohio Railway Corporation as part of its Loup Creek Branch to replace a ca. 1890 bridge that was destroyed by flooding in 1908.

The bridge carrying the single-track Dunloup Branch Railroad and Fayette County Route 25/2 over the New River consists of one riveted Warren through truss span and seven riveted deck girder spans. The Warren truss contains a polygonal top chord. The bridge's overall length is 826ft-7in. The through truss span measures 226ft and the longest deck girder span measures 84ft-2in. The substructure consists of two abutments and 7 piers; all are constructed of reinforced concrete except for the abutments and piers 2 and 5, which were reused from the previous ca. 1890 bridge and are stone. The bridge presently carries a single railroad track and an 11ft-11in shared vehicular and pedestrian roadway that is cantilevered from the upstream (east) side of the bridge. The cantilevered roadway contains 35 spans, consisting of steel stringers that rest on brackets attached to the truss and plate girders of the 20ft-wide railroad bridge. The vehicular deck is an open steel grid type deck. The vehicular deck railings consist of rolled steel posts, a steel channel kickplate, steel pipe top rail, with a W-shape steel guard rail in between. On the truss, the roadway brackets have a solid web; the web is open on the plate girder spans. The roadway bridge is not skewed, but the railroad bridge is skewed 45 degrees left forward. Utility conduits are suspended from the guardrail supports on the upstream (east) side of the bridge.

Technological and Historical Significance

As previously noted, the Thurmond Bridge contributes to the Dunloup Branch Railroad, which is significant under Criterion A, and to the Thurmond Historic District, which is significant under Criteria A and C. As an individual structure, Thurmond Bridge is significant under Criterion C as a representative example of a skewed Warren through truss and deck plate girder railroad bridge with the uncommon feature of a cantilevered vehicular and pedestrian roadway. The Warren through truss main span retains its character-defining features such as its inclined end posts, diagonal configuration, floor beams, stringers, riveted connections, and portal bracing. Pre-1920 examples of Warren trusses that retain integrity are generally considered significant examples of this truss design[1]. The seven riveted deck plate girder spans are less significant from an engineering perspective that the Warren truss main span. Riveted plate girders from the early twentieth century are more significant than later, non-riveted plate girder spans, but the design is, in general, only moderately significant.[2] Because the plate girder spans are riveted, they are an example of historic fabrication techniques and contribute to the overall historic feeling of the bridge. The cantilevered roadway support brackets are not of a design that is intrinsically

[1] "A Context for Common Historic Bridge Types." NCHRP Project 25-25, Task 15. Prepared by Parsons Brinckerhoff and Engineering and Industrial Heritage, October 2005, for the National Cooperative Highway Research Program, Transportation Research Council, National Research Council. Page 3-39.
[2] Ibid., 3-110.

notable or rare. Such brackets were commonly used in contemporary bridges to support sidewalks. In the early twentieth century, it was commonplace to have 10ft-wide sidewalks, so the 11ft-11in cantilevered roadway is not unusually wide. What is remarkable about the Thurmond Bridge is the fact that is a railroad bridge with a secondary vehicular roadway. The existence and survival of this roadway is a testament to the isolation and topographic characteristics of its setting. In a more populous or accessible region, such a roadway configuration would have been quickly made obsolete with the dawn of the automobile age. Thus, the Thurmond Bridge's railroad/vehicular-pedestrian configuration is historically significant as a rare survivor of its type.

Part III. Sources of Information

A. Architectural Drawings:

Copies of original engineering drawings are included in this document.

B. Photographs

Current and known historic photographs are included in this document.

C. Bibliography

Belfast, Jesse A.
2014 West Virginia Historic Property Inventory Form for Thurmond Bridge, Fayette County. On file at West Virginia Department of Transportation, Division of Highways, Charleston.

Burgess & Niple, Inc.
2013 *Bridge Renovation Study, Final Phase I Report, Thurmond Bridge over New River,* August 2013. On file at West Virginia Department of Transportation, Division of Highways, Charleston.

Edman, Austin O.
2012 "In-depth Periodic Inspection, Thurmond Bridge over New River," February 2012. Burgess & Niple, Inc., Parkersburg, WV. On file at West Virginia Department of Transportation, Division of Highways, Charleston.

GAI Consultants
2000 *Preliminary Design Report: Thurmond Bridge Replacement Project, Fayette County, West Virginia*. On file at West Virginia Department of Transportation, Division of Highways, Charleston.

Harper, R. Eugene
1983 National Register of Historic Places Inventory-Nomination Form for Thurmond Historic District, Fayette County, West Virginia. Form on file at the West Virginia Department of Culture and History, Charleston.

Mullins, Sondra
2010 West Virginia Historic Property Inventory Form for Dunloup Branch Railroad, Fayette County (Site FA-0429). On file at West Virginia Department of Transportation, Division of Highways, Charleston.

Parsons Brinckerhoff and Engineering and Industrial Heritage.
2005 "A Context for Common Historic Bridge Types." NCHRP Project 25-25, Task 15. October 2005. Prepared for the National Cooperative Highway Research Program, Transportation Research Council, National Research Council. Electronic Document. http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(15)_FR.pdf

U.S. Geological Survey (USGS)
1969 *Thurmond, WV* 7.5' topographic quadrangle, photorevised 1997. USGS, Reston, Virginia.

Figure 1: Early twentieth century photograph of the Thurmond Bridge. Photograph available from the National Park Service.

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City or Vicinity:	Thurmond
County:	Fayette County
State:	West Virginia
Name of Photographer:	Jesse A. Belfast
Date of Photographs:	June 5, 2014
Location of Original Digital Files:	Michael Baker International, Inc. 100 Airside Drive, Moon Township, PA 15108

Photograph List

Photo # 1 (WV_FayetteCounty_ThurmondBridge_0001)
OVERALL VIEW OF EAST ELEVATION OF BRIDGE SHOWING, LEFT TO RIGHT, PIERS SEVEN THROUGH ONE AND SPANS EIGHT THROUGH ONE, FACING NORTHWEST.

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PHOTO 37: FAYETTE COUNTY ROUTE 25/2 AND DUNLOUP BRANCH RAILROAD AT SOUTH END OF BRIDGE, FACING SOUTH.

HISTORIC RECORDATION
ATTACHMENTS

- PROJECT MAPPING
- ORIGINAL DRAWINGS
- MEMORANDUM OF AGREEMENT

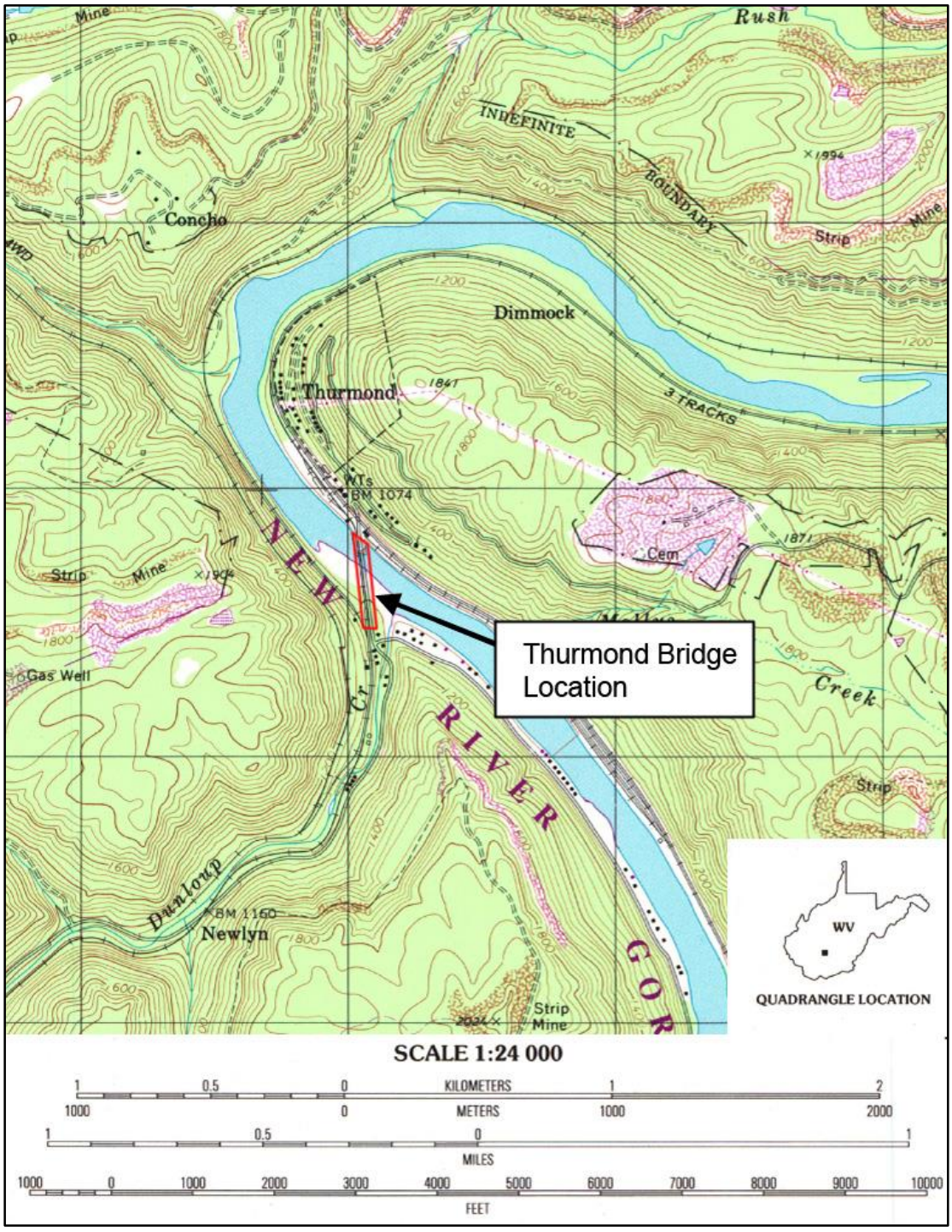

Figure 2: Location of Thurmond Bridge depicted on the 1969 (photorevised 1997) *Thurmond, West Virginia*, United States Geological Survey 7.5 minute topographic map.

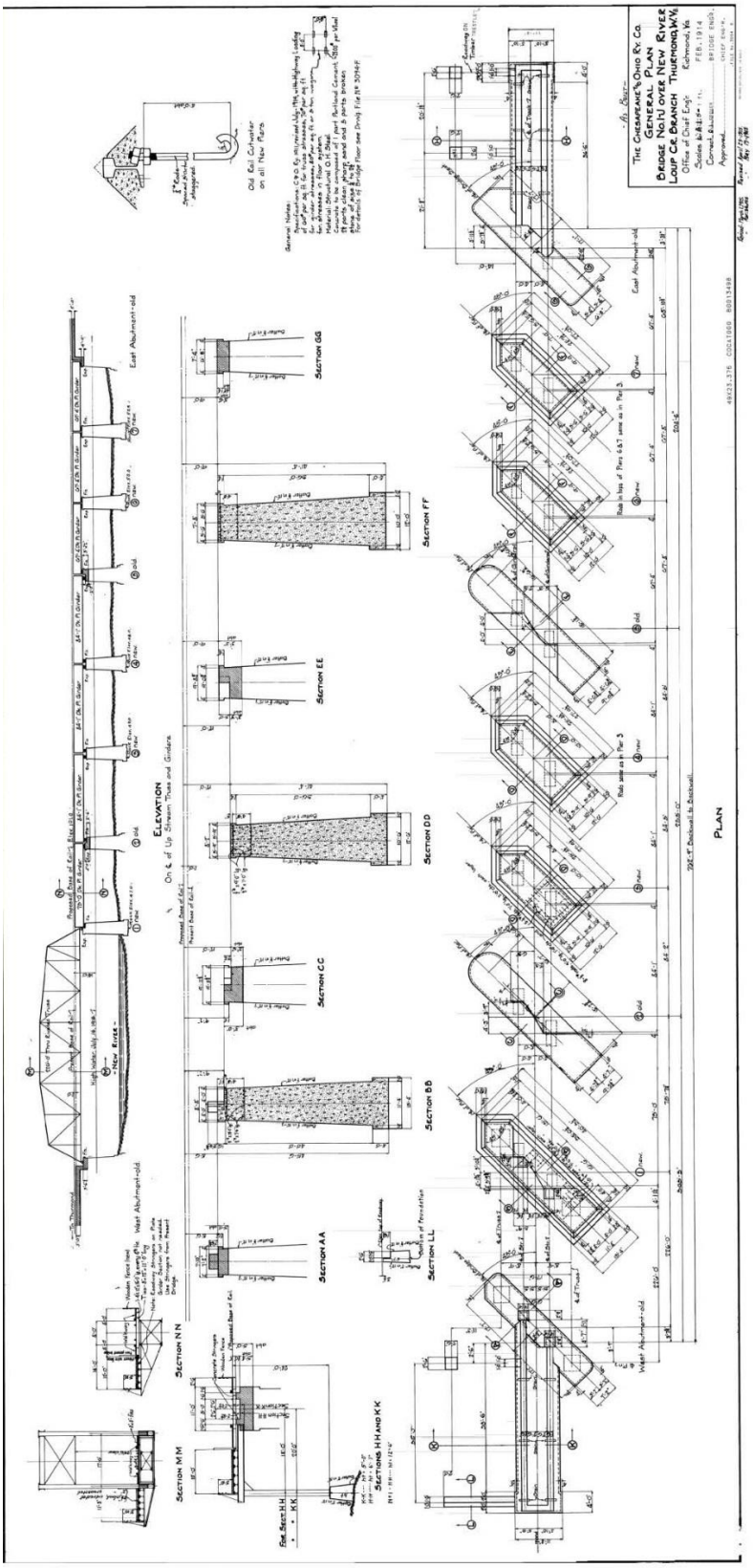

Figure 3: Profile view of bridge from original plans (1914, rev. 1915).

MEMORANDUM OF AGREEMENT
BY AND AMONG
THE WEST VIRGINIA STATE HISTORIC PRESERVATION OFFICER
AND THE WEST VIRGINIA DIVISION OF HIGHWAYS
REGARDING IMPLEMENTATION OF THE THURMOND BRIDGE
REHABILITATION PROJECT
STATE PROJECT #S310-25/2-0.10
FEDERAL PROJECT #BR-0252(001)D
FAYETTE COUNTY, WEST VIRGINIA
NOVEMBER 2015

WHEREAS, the West Virginia Division of Highways (WVDOH) proposes to rehabilitate Thurmond Bridge, which spans the New River in Fayette County, hereinafter referred to as the Project. The improvements involve the stabilization, strengthening, and repair of the bridge; and also incorporates the addition of refuge bays on the upstream side of the bridge; and

WHEREAS, the WVDOH has determined that the Project will have an adverse effect upon the Thurmond Bridge, a property eligible for the National Register of Historic Places (NRHP) under Criterion C; and

WHEREAS, the WVDOH has consulted with the West Virginia State Historic Preservation Officer (WVSHPO) pursuant to West Virginia Code Chapter 29, Article 1 and its implementing regulations (82 CSR 2), as well as 36 CFR Part 800.5 Implementing Section 106 of the National Historic Preservation Act; (16 U.S.C., 470f); and

WHEREAS, the WVDOH has determined that the Project will not affect archaeological properties;

WHEREAS, the WVDOH contacted the Preservation Alliance of West Virginia, and Fayette County Historic Landmark Commission regarding the Project. No response was received from these groups.

NOW, THEREFORE, the WVSHPO and the WVDOH agree that the undertaking will be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

STIPULATIONS

The WVDOH shall ensure that the following stipulations are carried out:

Thurmond Bridge

I. Thurmond Bridge will be documented in its present historic setting. The documentation package will include 5"x7" black and white digital prints in accordance

with the National Register of Historic Places and National Historic Landmarks Survey Photo Policy Expansion of May 2013.

II. The rehabilitation of the bridge is part of the mitigation to save this historic structure. Refuge bays are being added for safety for the public at the request of the National Park Service. Plans have been submitted to the State Historic Preservation Office and have been approved.

III. 500 color brochures of the Thurmond Bridge will be developed by WVDOH and distributed to the National Park Service and the Town of Thurmond. A CD containing the brochure will also be given to the groups to print brochures when the original total has been exhausted. The WVSHPO will be given the opportunity to review all materials developed for this stipulation.

IV. The Thurmond Bridge will be featured on a future website listing historic bridges under rehabilitated bridges.

V. Duration

This MOA will expire if its stipulations are not carried out within five (5) years from the date of its execution. At such time, and prior to work continuing on the undertaking, the WVDOH shall execute a MOA pursuant to 82 CSR 2.5.4.d. Prior to such time, WVDOH may consult with other signatories to reconsider the terms of the MOA and amend it in accordance. WVDOH shall notify the signatories as to the course of action it will pursue.

VI. Post-Review Discoveries

If any unanticipated discoveries of historic properties or archaeological sites, including human burial sites and/or skeletal remains, are encountered during the implementation of this undertaking, work shall be suspended in the area of the discovery until the WVDOH has developed and implemented an appropriate treatment plan in consultation with the WVSHPO pursuant to 36 CFR 800.13 (b).

VII. Monitoring and Reporting

Each year following the execution of this MOA until it expires or is terminated, WVDOH shall provide all parties to this MOA a summary report detailing work carried out pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in WVDOH's efforts to carry out the terms of this MOA.

VIII. Amendments

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the SHPO.

IX. Termination

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation VIII, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, WVDOH must execute a MOA pursuant to 82 CSR 2.5.4.d.

EXECUTION of the Memorandum of Agreement by the WVSHPO and the WVDOH, and implementation of its terms evidence that the WVDOH has afforded the SHPO an opportunity to comment on the Thurmond Bridge Rehabilitation project and its effects on historic properties, and that the WVDOH has taken into account the effects of the undertaking on the historic property.

Signatories Page

Federal Highway Administration — Date

West Virginia Deputy State Historic Preservation Officer — 11/20/15 — Date

APPROVED:

Advisory Council on Historic Preservation — Date

CONCUR:

West Virginia Division of Highways — 11/23/15 — Date

Signatories Page #2

Patricia Hickerson 11-24-2015

National Park Service Date

Signatories Page #3

Melanie L Dragan Mayor — 11/29/15

Town of Thurmond — Date