STATE LEVEL HISTORIC DOCUMENTATION
EDWIGHT TRUSS BRIDGE

Location: County Route 3/2, over Marsh Fork of Big Coal River
Edwight, between Stickney and Sundial
Raleigh County
West Virginia

USGS Whitesville Quadrangle

Date of Construction: 1920

Builder: Unknown

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

Present Use: Vehicular Bridge

Significance: The Edwight Truss Bridge is a locally significant example of an early bridge type – the Camelback Steel Through Truss.

Project Information: The project has been undertaken due to the poor condition of the bridge. Any future deterioration of the bridge would result in its closure. Therefore, the existing bridge warrants replacement. This documentation was undertaken in January 2014 in accordance with a Memorandum of Agreement among the West Virginia Department of Transportation and West Virginia State Historic Preservation Office. These measures are required prior to replacement of this National Register eligible structure.

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January 29, 2014

The Edwight Truss Bridge spans the Marsh Fork of Big Coal River and is located in northwestern Raleigh County, West Virginia (WV) on County Route (CR) 3/2, 0.03 miles east of the intersection of WV State Route (SR) 3 and CR 3/2. Just west of bridge is the CSX railroad intersection with CR 3/2. The structure is posted for a weight limit of 12 tons. The average daily traffic (ADT) in 2012 was reported as 100 vehicles per day.

The bridge was built in 1920 by an unknown contractor; no plaques exist on the structure. The structure consists of one, riveted and bolted steel Camelback Parker Through Truss span with a truss length of 150 feet (nine lower panels at 16 feet, eight inches each). A camelback truss bridge is distinguished by sloped, rather than straight, top chords. The span is supported by two reinforced concrete full height abutments. The abutments include a breastwall, backwall and straight wingwalls that slope downward at a 35-degree angle. While each wingwall is “straight”, being continuous and on the same plane with the breastwall side of the abutment, the wingwall tapers from the backwall to have a smaller width at its lower end. The overall length of the structure (from back of backwall to back of backwall) is 155 feet.

The steel superstructure consists of a pair of trusses – each composed of upper and lower chords, end posts, hip verticals, vertical posts and diagonals – that are connected by floor beams below and by portal struts, sway struts and upper lateral bracing above. According to a 2008 inspection report, lower lateral bracing had removed at some point. The width measurement from centerline of north truss to centerline of south truss is 17 feet, three inches. The trusses have a minimum height of 17 feet, one inch and a maximum height of 20 feet, five inches (from top of upper chord to bottom of lower chord).

The original lower chord for each truss is composed of paired lengths of L-shapes. The upper chords and end posts are composed of two channel beams, steel plate on the upper/outer side and lattice bracing at the undersides. The hip verticals – the first post in from each truss end – and diagonals are each composed of two L-shapes with steel plate connectors. The main vertical posts are composed of two channels and two sides of lattice bracing. The portal struts and bracing are composed of L-shapes, and the sway struts are composed of L-shapes with steel plate connectors and lattice bracing. There are eight equally-spaced steel floor beams that are

topped by smaller-profile steel beam stringers. There are seven east/west-aligned stringers per each of the bridge's nine lower panels. The majority of original steel-to-steel connections on the structure are riveted. Railings attached to the inward-facing side of each truss are composed of an upper and lower parallel run of steel L-shape rails that are bolted to the bridge's vertical posts (via steel angle connectors) and to intermediary steel L-shape posts.

The bridge has a timber plank deck with a width of 15 feet, 11 inches (from outside of curb to outside of curb). The timber planks are each eight-inch-wide by three-inch-thick. The deck planks are nailed to timber planks (or nailing strips) that are bolted to the tops of the steel stringers. The structure has curbs composed of a double-thickness of three-inch by eight-inch timber planks that are bolted to the timber decking beneath. There are no sidewalks or approach guardrails. The roadway width is 14 feet, seven inches (from inside of curb to inside of curb), accommodating a single lane of traffic, and the horizontal clearance is 15 feet, five-and-one-half inches (from inside of truss rail to inside of truss rail).

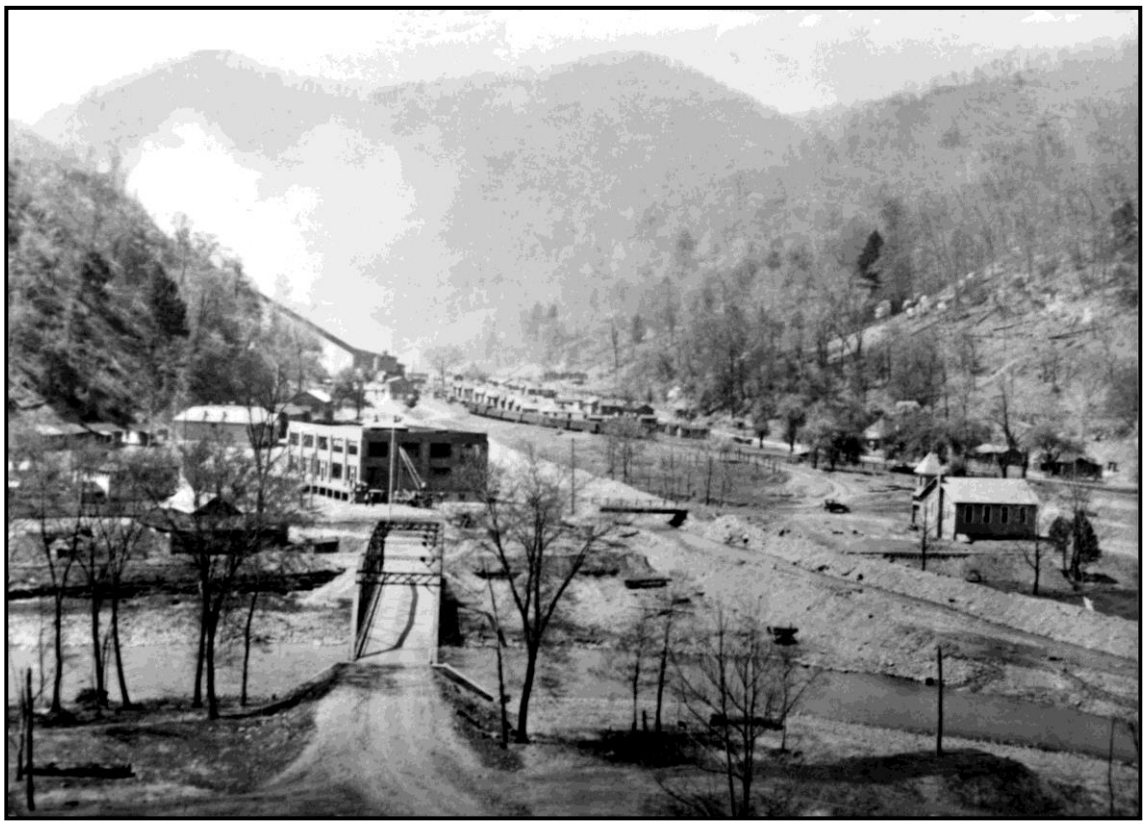
The following maintenance was performed on the Edwight Truss Bridge by the West Virginia Division of Highways District Bridge Repair Crew in 1993: replaced floor beams, stringers and deck; installed supplemental lower chord L-shapes (above the originals) and diaphragms; and repaired the truss bearings, all four end posts and the south truss (or upstream side) lower chord at the west abutment. In 2003 the District Repair Crew replaced 29 deck planks and two sections of curb planks. In 2008 the District Repair Crew replaced several deck planks and sections of curb.

During the most recent inspection in September 2013 it was found that the bridge, in general, is in poor condition. Noted deficiencies include: section loss, by deterioration, on the original lower chords, channel beam truss verticals (main posts) and the lower panel point gusset plates; Some rust through holes developed through these truss members; serious corrosion and section loss on the sway struts and their connections; failure, by deterioration, of two upper laterals (bracing); numerous loose bolts at the upper panel point connections and at least one missing bolt at a south truss (upstream side) vertical post connection at its lower panel point

connection; one cracked gusset plate at south truss (upstream side) due to pack rust between the gusset plate and associated vertical post.

Edwight is a former coal camp located in northwestern Raleigh County along SR 3 in the valley of the Marsh Fork of the Coal River. It is also within the Kanawha-Coal River Coalfield. Commercial mining in the Kanawha-Coal River Coalfield began at Cannelton (Fayette County) by the 1850s. The field includes all or parts of Kanawha, Fayette, Putnam, Mason, Lincoln, Clay, Boone, Raleigh and Nicholas counties. The most important seams in these areas are the medium-volatile Eagle, No. 2 Gas, Cedar Grove, Coalburg, and Winifrede.

Prior to coal activities, the Edwight area was known as Launa. In 1884 Launa was noted not to have been a town or a village, but rather just a place with a population of around twenty. Coal mining was first noted in the area around 1915 when there were many prospecting operations, mainly those of Rowland Land Company, as well as two farm mines in the vicinity. The area's first reported commercial mine was opened in 1916 by the Raleigh-Wyoming Coal Company. This mine – Edwight No. 1 Drift – was located on the ridge slope above Hazy Creek.



Part of the Town of Edwight, Taken from the East Side of the Bridge, Circa 1920s. (Ph2007-056, Coal Towns Photograph Collection, West Virginia State Archives, Charleston)

By 1920 Launa was no longer noted on the state map as the new “town” of Edwight had taken its place, being named after Mr. Edward W. Knight, a prominent Charleston attorney and legal advisor for Raleigh-Wyoming. Raleigh-Wyoming’s Edwight mines and its one Hazy mine site had a 34-year run of documented operation that ended in 1959. Over the company’s tenure, a total of 13,850,251 tons of coal were produced at its sites, with at least 60 individuals killed in service. In 2009 the Sundial (aka Edwight) Refuse and Mine Complex, which encompasses the area of the former Raleigh-Wyoming Edwight mines only, was considered eligible for listing in the National Register of Historic Places (NRHP).

The Chesapeake & Ohio Railway (C&O) built the existing railroad alignment that extends to Edwight, crossing CR 3/2 just about 25 feet west of the truss bridge. C&O purchased the Kanawha Railroad in 1902 and immediately began opening new lines to serve the growing regional coal mining industry. Between 1917 and 1918, the Big Marsh Fork Subdivision was completed to from Jarrold’s Valley (near Whitesville/Packsville) south to Edwight, enabling the area to connect to the main C&O line in St. Albans. The approximately 6.5 mile alignment was graded by Rowland Land Company and tracks laid by C&O. Reportedly, the line was built from Jarrold’s Valley to Hecla (Montcoal) in 1917 and then completed to Edwight by 1918. In 1919 the Hazy Creek Subdivision was built from Edwight to service mines further south along the creek; this line was abandoned in 1972. The Big Marsh Fork Subdivision continues to serve mines in the area and has been operated as part of the CSX Transportation system since the 1980s.

Only about a half dozen residences are all that remains of the town of Edwight. By 1930 the Edwight mining community was reportedly divided into three sections – one area for Appalachian families, one for European immigrants and another for black families. In the 1940s the town included a company store, elementary school, church, gas station, grocery store, movie theater, restaurant/bar, small café, poolroom (doctor’s office in back), barber shop, shoe repair shop, two boarding houses and numerous company houses. The two-story company store was the largest building in town, constructed of red brick and surrounded on three sides by a wooden porch, and included Edwight’s post office. The company houses were of wood frame construction

and painted white or dull gray. The majority of miners' houses were torn down and removed after the mines were shut down. The Edwight Truss Bridge provided important access from SR 3 to cross Marsh Fork into the communities of Edwight and Hazy and the associated mines.

Some miners from Edwight joined the march to the Battle of Blair Mountain, the largest armed confrontation in US labor history between southern WV miners struggling to unionize and coal company operators that enforced low labor costs, often by repressing the rights of their workers. The miners lost the fight, but heightened national awareness of their poor working conditions and the need for industrial organization/unionization and protection of workers' rights. In recent years, the town of Edwight and surrounding communities have been considered "ground zero for the climate battle" due to environmental concerns (i.e., air, water) related to present mountaintop removal mining (MTR) practices in the area. Since 2003, Massey Energy has operated a 1,849-acre MTR site, known as Edwight Surface Mine, adjacent to the former Raleigh-Wyoming Edwight mining area.

The Edwight Truss Bridge has been determined eligible to the NRHP under Criterion A, as an important local transportation link for the town of Edwight and various mining sites, and under Criterion C, as a locally significant example of the Camelback Parker Truss, a rare bridge type in Raleigh County.

BIBLIOGRAPHY

Athey, Lou. “Cannel Coal”. e-WV: The West Virginia Encyclopedia. June 7, 2012. http://www.wvencyclopedia.org/articles/918 (January 2014).

Aurora Lights. Journey Up Coal River: A Community & Strip Mining - Near the Mouth of Hazy. http://auroralights.org/map_project/theme.php?theme=hazy&article=primary (January 2014).

Chesapeake & Ohio Historical Society. *Chesapeake & Ohio Newsletter*. 1975. http://books.google.com/books?id=4xlXAAAAYAAJ&q=%22Jarrolds+Valley+to+Hecla+(Big+Marsh+Fork+Subdivision),+by+1917%22&dq=%22Jarrolds+Valley+to+Hecla+(Big+Marsh+Fork+Subdivision),+by+1917%22&hl=en&sa=X&ei=XfDWUoeOLKKC2wX-oYGgDA&ved=0CDsQ6AEwAA (January 2014).

CoalCampUSA.com. Coalfields of the Appalachian Mountains: Southern West Virginia, Kanawha-Coal River Coalfield. http://www.coalcampusa.com/sowv/kanawha/kanawha.htm (January 2014).

Davis, Jeffrey B. *Project Summary Report: Sundial (Hatfield) Refuse and Mine Complex (Project No. 02-398-RG)*. Prepared by WV State Historic Preservation Office in coordination with WV Dept. of Environmental Protection. Ca. 2003.

Hufford, Mary. *Landscape and History at the Headwaters of the Big Coal River Valley*. Essay. Library of Congress, American Memory Collection: Tending the Commons - Folklife and Landscape in Southern WV. http://memory.loc.gov/ammem/collections/tending/essay5.pdf (January 2014).

KCI Technologies, Inc. and Mead & Hunt, Inc., *Draft West Virginia Statewide Historic Bridge Survey* (February 2013).

Nyden, Paul. J. “Historians Urge Creation of Blair Mountain Park.” *WVGazette.com/Charleston Gazette*, June 25, 2012. http://www.wvgazette.com/News/201206250093 (January 2014).

Preservation Alliance of West Virginia. Blair Mountain: The History of a Confrontation. 2006. http://www.pawv.org/news/blairhist.htm (January 2014).

Raleigh Herald. “C. & O. Will Extend Line.” Feb. 9, 1917, p. 4, col. 4.

Vergis, Johnny M. “Edwight – Recalling a Coal River Company Town. *Goldenseal*, Vol. 19, No. 1, pp. 38-44. Charleston, WV: Mountain Arts Foundation, Spring 1993.

West Virginia Division of Highways. Bridge Files, Maintenance Division, Building 5, Capitol Complex, Charleston, West Virginia, March 2005.

---. Bridge Inspection/Condition Report, Engineering Division, Building 5, Capital Complex, Charleston, West Virginia, September 2008.

---. Bridge Inspection Report, Engineering Division, Building 5, Capital Complex, Charleston, West Virginia, September 2013.

---. Bridge Replacement Recommendation, Engineering Division, Building 5, Capital Complex, Charleston, West Virginia, August 2009.

---. Bridge Replacement Study, Engineering Division, Building 5, Capitol Complex, Charleston, West Virginia, March 2005.

---. *Phase I Cultural Resources Management Report***,** Engineering Division, Building 5, Capitol Complex, Charleston, West Virginia, November 2009.

---. Historic Property Inventory Form – Edwight Truss Bridge, Engineering Division, Building 5, Capitol Complex, Charleston, West Virginia, October 2009.

WVExp.com. Kanawha Coal Field. http://www.wvexp.com/index.php/Kanawha_Coal_Field (January 2014).

STATE LEVEL HISTORIC DOCUMENTATION

INDEX TO PHOTOGRAPHS

Edwight Truss Bridge

County Route 3/2, over Marsh Fork of Big Coal River

Raleigh County, West Virginia

Photographer(s): Tracy Bakic January 13, 2014

EDWIGHT -1	South Elevation, View Northwest, Looking Downstream
EDWIGHT -2	North Elevation, View Southwest; New Bridge under construction to North
EDWIGHT -3	North Elevation & West Entry, View Southeast
EDWIGHT -4	North Elevation & West Entry, View Southwest
EDWIGHT -5	South Elevation, View Northeast, CSX (former C&O) Big Marsh Fork Subdivision Track in foreground
EDWIGHT -6	East Entry, View Southwest
EDWIGHT -7	East Entry, View West
EDWIGHT -8	West Entry, View Northeast
EDWIGHT -9	West Entry, View Northeast
EDWIGHT -10	Mid-Span toward East Entry, View East
EDWIGHT -11	Mid-Span toward East Entry, View Northeast
EDWIGHT -12	South Truss, Highlighting Railing and Curb, View Southwest
EDWIGHT -13	Detail – Lattice Bracing on Truss End Post (South Truss, East End), View SE; End post composed of two steel channels, steel plate on outward side and lattice bracing at underside.
EDWIGHT -14	Detail – Connection of Railings at Vertical Hip Post (South Truss, East End Vertical), View Northeast; Post composed of two steel L-shapes
EDWIGHT -15	Detail – Main Vertical Post/Diagonal Bracing Connections to Lower Chord (So. Truss, 2nd Main Post from E. End), View SE; Post composed of two channels w/ Lattice bracing on both sides; Diagonal Bracing composed of two L-shapes.
EDWIGHT -16	South Truss Showing Lower Chord (part that the vertical posts and diagonal bracing area gusseted to), View Northeast; Lower Chord composed of two original steel L-shapes, each topped by a steel L-shape installed in 1993.
EDWIGHT -17	Underside of Bridge, View Southwest; Composed of steel floor beams, topped by steel stringers w. diaphragms (lateral bracing) between, top with wood nailing strips to which the wood deck boards are attached.

EDWIGHT -18	Underside of Bridge, View West/Southwest; Composed of steel floor beams, topped by steel stringers w. diaphragms (lateral bracing) between, top with wood nailing strips to which the wood deck boards are attached.
EDWIGHT -19	Looking toward East Abutment, Highlighting Truss/Bottom Chord/Floorbeam Gusset Connection, View Southweast
EDWIGHT -20	Looking toward West Abutment, Highlighting Truss/Bottom Chord/Floorbeam Gusset Connections, View Southwest
EDWIGHT -21	East Abutment, View Southeast
EDWIGHT -22	Detail – Truss End/Abutment Connection (North Truss, West End), View Northeast

No original bridge plans exist for this bridge.