

= Sonestown Covered Bridge =

The Sonestown Covered Bridge is a Burr arch truss covered bridge over Muncy Creek in Davidson Township , Sullivan County , in the U.S. state of Pennsylvania . Built c . 1850 , the bridge is 110 feet (34 m) long , and was placed on the National Register of Historic Places (NRHP) in 1980 . The bridge is named for the nearby unincorporated village of Sonestown in Davidson Township , and is also known as the Davidson Covered Bridge . It was built to provide access to a gristmill , which operated until the early 20th century .

Pennsylvania had the first covered bridge in the United States and the most such bridges in the 19th , 20th , and 21st centuries . In most places in the state they were a transition between stone and metal bridges , with the roof and sides protecting the wooden structure from weather . The Sonestown bridge is a Burr arch truss type , with a load @-@ bearing arch sandwiching multiple vertical king posts , for strength and rigidity . The bridge construction is cruder than the other two surviving covered bridges in Sullivan County , with each Burr arch formed from six straight beams set at angles instead of a smooth curve .

The bridge was repaired c . 1969 , and after flood damage in 1996 , 2005 , and 2013 . It was also restored in 2001 . Despite the repairs and restoration , as of 2012 the bridge structure 's sufficiency rating on the National Bridge Inventory was only 19 @. @ 0 percent and its condition was deemed " Structurally deficient " (the bridge was also closed in 2012 , awaiting repair) . It is the shortest covered bridge in the county and as of 2015 is still in use , with average daily traffic of 50 vehicles in 2010 .

= = Overview = =

The covered bridge crosses Muncy Creek in Davidson Township on Champion Hill Road (Township Road 310) , just east of U.S. Route 220 . The village of Sonestown is 1 mile (1 @. @ 6 km) north of the bridge on Route 220 and has given the Sonestown Covered Bridge its name . The bridge is also 1 mile (1 @. @ 6 km) east of the village of Muncy Valley along Route 220 . Its official name on the NRHP is Sonestown Covered Bridge . It is also known as the Davidson Covered Bridge , for its township . Sullivan County is located in north central Pennsylvania , about 123 miles (198 km) northwest of Philadelphia and 195 miles (314 km) east @-@ northeast of Pittsburgh .

The area that became Davidson Township was first settled in 1806 and was incorporated as a township in 1833 . Within the township , George Sones built a sawmill and founded the unincorporated village of Sonestown in 1843 . All of these events occurred before Sullivan County was formed from part of Lycoming County on March 14 , 1847 . The bridge was built in 1850 , and in the late 19th century Sonestown " boomed like crazy " as the lumber industry grew in Sullivan County . The village was then home to a plant that manufactured the staves for making barrels . It had a clothespin factory from 1903 to 1929 but lost almost all industry by the 1930s . As of 1996 , Sonestown had a population of about 200 , most of whom commuted to work in Muncy , Montoursville , and Williamsport . In 1996 the village had a few stores , an inn with a restaurant , and attracted tourists and hunters .

= = History = =

= = = Background = = =

The first covered bridge in the United States was built in 1800 over the Schuylkill River in Philadelphia . According to Susan M. Zacher , author of *The Covered Bridges of Pennsylvania : A Guide* , the first covered bridges of the Burr arch truss design were also built in the state . Pennsylvania is estimated to have once had at least 1 @, @ 500 covered bridges and is believed to have had the most in the country between 1830 and 1875 . In 2001 , Pennsylvania had more surviving historic covered bridges than any other state , with 221 remaining in 40 of its 67 counties .

Covered bridges were a transition between stone and metal bridges , the latter made of cast @-@ iron or steel . In 19th @-@ century Pennsylvania , lumber was an abundant resource for bridge construction , but wood did not last long when exposed to the elements . The roof and enclosed sides of covered bridges protected the structural elements , allowing some of these bridges to survive for well over a century . A Burr arch truss consists of a load @-@ bearing arch sandwiching multiple king posts , resulting in a stronger and more rigid structure than one made of either element alone . Although there were 30 covered bridges in Sullivan County in 1890 , only five were left by 1954 , and as of 2015 only three remain : Forksville , Hillsgrove , and Sonestown .

= = = Construction and description = = =

All three Sullivan County covered bridges were built in or c . 1850 with Burr arch trusses . At the time of its construction , the Sonestown bridge was the fifth covered bridge in Sullivan County . The bridge crossed Muncy Creek to provide access to Johnny Hazen 's gristmill , which was also built in 1850 . Although most sources do not list the builder of the Sonestown bridge , two newspaper articles on the remaining Sullivan County covered bridges reported that Sadler Rodgers had designed or possibly built it as well . Rogers , a native of Forksville , built both the Forksville and Hillsgrove bridges in 1850 , when he was 18 years old .

On July 24 , 1980 , the Sonestown bridge was listed on the NRHP in a Multiple Property Submission of seven Covered Bridges of Bradford , Sullivan and Lycoming Counties . The Sonestown bridge is also on the 2012 National Bridge Inventory (NBI) , which lists the covered bridge as 110 feet (33 @.@ 5 m) long , with a roadway 13 feet 6 inches (4 @.@ 11 m) wide , and a maximum load of 5 @.@ 0 short tons (4 @.@ 5 t) . However , the maximum load posted beside the bridge itself is only 3 @.@ 0 short tons (2 @.@ 7 t) . According to the NRHP , the bridge 's " road surface width " is 15 feet (4 @.@ 6 m) , which is only sufficient for a single lane of traffic .

According to the NRHP form , the Sonestown bridge " is of lighter construction than similar bridges in south @-@ eastern Pennsylvania " . The covered bridge rests on abutments of stone and mortar , which have been reinforced with concrete . The portals are flanked by wing walls below the level of the road ; these extend out from the abutments at an angle and " retain the soil of the approach embankment " .

The bridge deck is made of wide boards laid perpendicular to the axis of the bridge , with two runners on top of the deck which run the length of the bridge . The Burr arches which support the bridge are cruder than those in the other two Sullivan County covered bridges ; they are not smooth " continuous arcs , but several straight segments joined at an angle " . The top of the Burr arch on the south (downstream) side of the bridge is noticeably lower than the top of the arch on the north (upstream) side .

Vertical boards cover the sides and portals of the bridge and are painted red . The bridge has a small window in the center of each side (it had no windows before the 2013 restoration) , and openings between the eaves and the siding which run the length of the bridge on both sides . The gable roof is covered with wooden shake shingles . A sign listing the vertical clearance as 10 feet 0 inches (3 @.@ 05 m) is posted above each portal . The bridge has no steel reinforcements .

Attitudes towards covered bridges in Sullivan County changed considerably in the last half of the 20th century . Two of the five bridges that remained in 1954 were razed by 1970 , when the Pennsylvania Department of Transportation considered tearing down the Forksville bridge (but renovated it because of its historic nature and appeal to tourists) . The Hillsgrove Covered Bridge was added to the NRHP in 1973 , and the two other bridges were added in 1980 . The Pennsylvania Historical and Museum Commission requires its approval for renovation work on NRHP bridges in the state , and forbids the destruction of these bridges .

= = = Use and restoration = = =

In the 19th century the Sonestown Covered Bridge survived major floods on March 1 , 1865 and June 1 , 1889 , that destroyed other bridges in the West Branch Susquehanna River valley . The

latter flood was caused by the same storm system that caused the Johnstown Flood , which killed over 2 @, @ 200 people . In 1885 , the Williamsport and North Branch Railroad line along Muncy Creek reached Sonestown , passing just east of the bridge . The railroad carried lumber , coal , and passengers until it closed in 1938 .

The covered bridge was built to provide access to a gristmill , and the 1915 state highway map of Sullivan County shows a mill just downstream of the bridge on the east bank of Muncy Creek . The 1941 map (using data from 1939) no longer shows a water @-@ powered mill there , although it does show two buildings on the east bank of the creek , with one just upstream and one just downstream of the bridge . Both of these buildings had disappeared by 1999 . The NRHP form states that the bridge had been recently repaired in 1969 , and that additional maintenance work was needed . The repairs done at that time included replacing some of the siding panels , reinforcing the abutments with concrete , and " very minor addition of steel to the truss structure " .

In January 1996 , there was major flooding throughout Pennsylvania . A blizzard from January 6 ? 8 produced up to 40 inches (100 cm) of snow , which was followed on January 19 ? 21 by more than 3 inches (76 mm) of rain with temperatures as high as 62 ° F (17 ° C) and winds up to 38 miles per hour (61 km / h) . The rain and snowmelt caused flooding throughout Pennsylvania , and ice jams made the flooding worse on many streams . In neighboring Lycoming County , flooding on Lycoming Creek in and near Williamsport killed six and caused millions of dollars in damage , and an ice jam on Plunketts Creek destroyed a mid @-@ 19th century stone arch bridge which was also on the NRHP .

The pressure of the flood on the Sonestown Covered Bridge moved the center of the structure almost 1 foot (0 @. @ 30 m) downstream . This and other major damage closed the bridge from January until late December , 1996 . It was one of 69 publicly owned bridges in Pennsylvania destroyed or closed by the flooding . Sullivan County owns the bridge and paid for its repair , which was mandated by the state since it is listed on the NRHP . The original bid was for \$ 93 @, @ 000 , and the repair was done by Lycoming Supply Inc. of Williamsport for \$ 89 @, @ 000 over 60 days between mid @-@ November and Christmas . The bridge 's closure caused a 5 @-@ mile (8 km) detour for those who normally used the bridge to reach their homes and businesses .

Even after the repair was completed , vehicles that were heavier or larger than the bridge ? s original limits could not use it . Since beer trucks could not cross it , deliveries to the American Legion Post southeast of the bridge were made with a hand cart instead . On November 12 , 2000 , a new " Veterans Memorial Bridge " just downstream of the covered bridge was dedicated . The new bridge is also part of Champion Hill Road (Township Road 310) , and allows all vehicles to cross Muncy Creek .

According to NBI data , the covered bridge was restored in 2001 . In September 2004 , flooding from Hurricane Ivan followed by heavy rains in April 2005 made a hole in one of the covered bridge 's abutments and weakened a structural support . Repair work took six weeks and was done by mid @-@ August 2005 . August of that same year saw placement of riprap and fill in the creek to further protect the abutments , with the work done by Rexer 's Drilling and Concrete of Dushore for \$ 9 @, @ 250 . Erosion in September 2004 had destroyed a house 200 feet (61 m) upstream of the bridge , so the Sullivan County Commissioners planned additional work to stabilize the creek bed and prevent further erosion damage . The work , on private property and requiring permission from the Pennsylvania Department of Environmental Protection , was done in the summer of 2006 .

The NRHP form describes the bridge 's condition as " fair " in 1969 and " good " in 1980 . Zacher 's 1994 book and the Evans 2001 book also listed it as in " good " condition . Despite this and the repairs and restoration , the 2006 Federal Highway Administration National Bridge Inventory found the sufficiency rating of the bridge structure to be only 18 @. @ 6 percent . It found that the bridge 's foundations were stable for scour conditions (the potential for the stream washing them out) , but that the railing " does not meet currently acceptable standards " . Its overall condition was deemed " basically intolerable requiring high priority of corrective action " , with an estimated cost to improve the bridge of \$ 108 @, @ 000 .

In 1996 there was a tradition of decorating and lighting the Sonestown bridge for Christmas . The average daily traffic on the bridge was 50 vehicles in 2006 . As of 2016 , it was still used and was

the only remaining covered bridge over Muncy Creek , although the Muncy Creek watershed also had the Lairdsville Covered Bridge , which spanned Little Muncy Creek in Lycoming County . According to Zacher , the " Sullivan County bridges , because of their settings , are some of the most attractive in the state " .

The bridge was damaged when Muncy Creek flooded from over 12 inches (300 mm) of rainfall caused by Tropical Storm Lee on September 7 , 2011 .

= = Dimensions = =

The following table is a comparison of published measurements of length , width and load recorded in different sources using different methods , as well as the name or names cited . The NBI measures bridge length between the " backwalls of abutments " or the pavement grooves at the opposite ends of the bridge . It defines the roadway width as " the most restrictive minimum distance between curbs or rails " . The NRHP form was prepared by the Pennsylvania Historical and Museum Commission (PHMC) , which surveyed county engineers , historical and covered bridge societies , and others for all the covered bridges in the commonwealth . The Evans visited every covered bridge in Pennsylvania in 2001 and measured each bridge 's length (portal to portal) and width (at the portal) for their book . The data in Zacher 's book was based on a 1991 survey of all covered bridges in Pennsylvania by the PHMC and the Pennsylvania Department of Transportation , aided by local government and private agencies . The article uses primarily the NBI and NRHP data , as they are national programs .