

# Lotus Bridge

By Bryan Seip - Montour Railroad Historical Society

At trail mile 30, a display shows one of the shortest steel beam bridges used on the Montour Railroad. This 10-foot steel I-beam bridge was last used on Lotus Siding in Robinson Township along Cliff Mine Road. It spanned a small creek which flows under Cliff Mine Road and the railroad/trail at trail mile 5.5. Another identical span was adjacent to it on the main line. The two railroad bridges and a road bridge were replaced with a concrete culvert by Allegheny County in 2010.



**Lotus Bridge display at Trail Mile 30. Bryan Seip photo**

There are a few bridges that are shorter than the Lotus bridge on the trail, but they are mostly concrete slab or concrete arch type bridges. This one is of all steel construction.

An original blueprint for the bridge was recently found – thank you, Ron Rauschart - and it shows the bridge with a 1912 construction date and the note “Required – 2 spans complete”. As larger, heavier locomotives and increased coal loads were coming into use in the early 1900’s, even small bridges needed to be upgraded from the original 1879 construction to safely carry these loads. There is no builders plate on the bridge, but it is believed to have been constructed by the American Bridge Co.

During the 2010 culvert project, one of the bridge spans was recovered by the Montour Trail Council and the Montour Railroad Historical Society completed a display of it along

the trail. It features a cut-away section of ties to show the construction of the bridge. Two parallel I-beams on either side are connected by cross bracing to hold the main beams in place. Ties were laid across the beams and the rails were then laid on top of the ties, running directly above the main support beams. "L" or "J" shaped bolts were drilled through the ties and hooked under the top flange of the I-beams to hold the ties in place. Bridge ties are typically a bit larger than normal ties and spaced closer together to carry the weight of the trains on the bridge.



**Lotus bridge relocated to Mile 30. The main I-beams and cross bracing are evident in this view without deck ties and rails. Bryan Seip photo**

This is the same basic construction design as the much larger steel girder bridges on the Montour, such as the McDonald and Library Viaducts and many of the deck plate girder bridges along the trail. The main support beams were situated directly beneath the rails with cross bracing to keep them in position, but on a much larger scale. A deck of wood timbers was laid on top of the main beams or girders and then the rails topped off the structure. Many of the bridges also had a safety walkway on one or both sides of the railway. These walkways also served a purpose by catching chunks of coal that would fall off loaded hopper cars and prevent them from falling onto traffic using the roadways below the bridges.



**A much larger bridge stripped of its deck shows the same basic construction as the Lotus Bridge. Large beams to carry the load with cross bracing to hold them in place.  
Bryan Seip photo**

While the concrete culvert on Cliff Mine Road was being built, this bridge temporarily carried the trail on Lotus Siding. When the culvert was completed, the trail was moved back onto the main line right-of-way and the siding bridge was removed for preservation by the Montour Trail Council and the Montour Railroad Historical Society. It was brought to the area beside the X1 crane for cleaning, painting and reconstruction to make up the current display.

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