



Architecture  
Engineering &  
Consulting

## Union County Bridge No. 13 Hassenplug Covered Bridge North 4th St. Over Buffalo Creek

Rededication and Ribbon Cutting Ceremony  
August 24, 2022 at 1:00 PM

### Project Purpose

The project's purpose was to rehabilitate the covered bridge and the steel bridge deficiencies, replace the bridge deck, repair deteriorated areas of the near abutment, stabilize the channel with rock protection, and repave the bridge approaches. Environmental commitments with the Linn Conservancy included replanting disturbed soils with a conservation seed mix to mitigate the required minor excavations.

### The Hassenplug Covered Bridge



The Hassenplug Covered Bridge was built in 1825 and is one of two that claim to be the oldest covered bridge in America open to the public. The other, the Hyde Hall Covered Bridge in Cooperstown, NY, was built in 1823 but has always been a private bridge crossing.

### Hassenplug Covered Bridge Facts

- Bridge Type: Burr Arch Truss and multiple two span steel I-beam bridge.
- Deck length = 67'-8", curb-to-curb width = 15'-2"
- To preserve the major portion of the covered bridge, Hassenplug was rehabilitated in 1959 to remove the timber deck system and add the steel beam bridge and open steel grid deck.

COUNTY of UNION  
PENNSYLVANIA

Funding Sources for Design Right-of-Way,  
Utility and Construction: **100% LOCAL**



#### CONSTRUCTION COST

Approximately \$755,000



#### PROJECT OWNERS

Union County Commissioners



#### PROJECT COORDINATOR

Shawn McLaughlin,  
Union County Planning Director



#### DESIGN ENGINEER

Larson Design Group



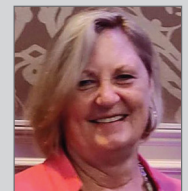
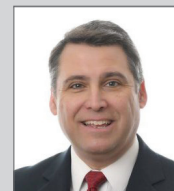
#### CONTRACTOR

Nestlerode Contracting Company



#### CONSTRUCTION INSPECTION

Larson Design Group



Commissioners pictured left to right:  
Preston Boop, Jeff Reber, and Stacy Richards



PRIOR TO THE CURRENT REHABILITATION,  
ALL THE COVERED BRIDGE STRUCTURAL  
**TIMBERS WERE  
ORIGINAL TO 1825!**

### Design & Bidding Phase

- The intent of the rehabilitation was to address the maintenance items that were identified during the annual routine inspections. This included replacing deteriorated timber low chords, verticals, diagonals, and arch members. The existing steel I-beams were to be blast-cleaned and painted.
- The existing steel pier bent cap was to be replaced.
- The bridge rehabilitation was design to extend the service life of the historically significant covered bridge. The existing load posting would remain on the structure.
- Construction restrictions were required from March 1 until June 15 and from October 1 to December 31 due to Buffalo Creek being a trout stream.
- This bridge was included in a local bridge bundle that also included County Bridge 1 and County Bridge 21.

### Pre-Construction Phase

- Immediately following the bridge construction contract award to Nestlerode Contracting Company (NCC), the project design and construction team decided to investigate the full replacement of the 1959 steel beam bridge due to the high bid prices for repainting the steel bridge. Along with this investigation, Union County also supported removing the open steel grid deck and steel bridge railing and replacing it with a timber deck similar to the 1825 construction. Not only would this significantly reduce the County's long-term maintenance, but aesthetically it would restore the interior of the covered bridge to all timber components.
- On June 1st, 2021, Union County approved a change order for \$74, 731.50 to replace the 1959 steel beam bridge with

a new galvanized steel beam bridge including a seven inch thick timber deck, timber curbs and timber railing.

### Construction Phase

- Construction started in early March 2022. The contractors installed temporary access measures and began removing the timber façade and decayed structural members.
- The design included replacement of approximately 30% of all original 1825 timber structural members, but this bridge had a few surprises hiding behind the siding planks. Significant additional decay of the lower chords was revealed that required additional timber replacement. Also discovered was significant deterioration of the covered bridge bearing seats which had to be rebuilt at all four corners. The bearing seat work also required repairs to the wingwall ends closest to the bridge. Luckily, the contractor had ordered some extra timber, so the schedule was not jeopardized for material delivery.
- In mid-June, the new steel bridge was installed, and the new timber deck followed shortly thereafter.
- A couple of additional pieces of decayed structural timber were found during the final assembly but the project remained on schedule.
- The County Historical Society was given several the deteriorated structural timbers for a covered bridge display project.
- Union County maintenance forces completed staining of portions of the new concrete work to closely match the original stone masonry wingwalls.
- The bridge is planned to re-open to traffic on August 24th, 2022 after the Rededication and Ribbon Cutting.



It is terrific to have the Hassenplug Covered Bridge returned to service in a safe, yet historically accurate manner. This bridge serves as a vital asset to the community and I thank everyone involved in its rehabilitation.”

Jeff Reber,  
Commissioner Chairman

