

**CONNECTICUT RIVER BRIDGE  
09 CORNISH – WINDSOR**

**NH Bridge ID: Cornish 064/108**

**CARRYING:** Cornish Toll Bridge Road  
**PRESENT NAME:** Cornish-Windsor Covered Bridge  
**DATE BUILT:** 1866  
**LAT/LONG:** 43.473711,-72.384002

**CROSSING CHRONOLOGY**

- 1784 Ferry established
- 1796 First toll bridge opened
- 1824 Bridge destroyed by freshet, second bridge built
- 1849 Flood ruins bridge, third bridge constructed, a covered bridge
- 1866 Freshet wrecks bridge, fourth bridge erected as a Town truss covered bridge
- 1936 Bridge transferred to state ownership, followed by overhaul
- 1943 Toll removed
- 1954 Major rehabilitation
- 1970 Designated as National Historic Civil Engineering Landmark
- 1976 Listed on National Register of Historic Places
- 1989 Major 3-year rehabilitation completed



FIGURE 1: Cornish-Windsor Covered Bridge. Upstream side and New Hampshire end (Historic Documentation Company Inc. 2013)

## CROSSING HISTORY

**Ferry crossing and first bridge:** In 1784 a ferry was established by Jonathan Chase. In 1796, Chase obtained a charter from the legislature for himself and some fellow investors from Cornish and Windsor to form a company and build a toll bridge. The Proprietors of the Cornish Bridge built a timber bridge supported by three stone piers, completed in that year. A spring freshet washed the bridge away in 1824.

**Second bridge:** The Proprietors soon constructed a replacement bridge. A flood carried away that structure in 1849. Livestock raising was a principal agricultural occupation in the upper Connecticut Valley in this era. The toll record for the year 1825 noted the passage over the bridge of droves totaling about 9,500 sheep and 2,600 cattle. Since the activity was concentrated in a few weeks in mid-autumn, daily totals could rise as high as nearly 1,000 sheep and 200-300 or more cattle. Over the following two decades, the annual totals rose higher.

**Third bridge:** The third bridge erected for the Proprietors circa 1849 was a two-span covered bridge of latticework construction. William Brown of Claremont oversaw the project. In March 1866, a spring freshet combined with an ice jam to carry the bridge away.

**Fourth bridge:** The present impressive span, erected in 1866, is especially significant in the nation's array of historic bridges as it is the longest covered bridge surviving in the U.S. as well as the second longest two-span covered bridge in the world. A fine example of the Town truss design for covered bridges patented by the Connecticut architect Ithiel Town in 1820, its construction was supervised by noted timber bridge contractors James F. Tasker and Bela J. Fletcher. Tasker and Fletcher erected numerous covered bridges and other timber bridges in the region during the mid-19<sup>th</sup> century. Most of their covered bridges represented the Town truss with its latticework design of two layers of overlapping planks. The Town truss form was popular because it used relatively small-sized lumber that was easier to obtain, it involved a minimal extent of complex framing, so that the bridge could be built largely with unskilled labor, and the bridge would begin to reveal serious evidence of stress well before a collapse would occur. The Cornish-Windsor bridge, a two-span structure 445 feet in length and 19 feet in height, is much longer and taller than typical for a Town truss bridge and diverges somewhat from the usual construction in that it is designed with a much stronger frame to meet the structural requirements. The builders used 6 by 8 inch timbers, notched at their intersections and fastened with iron bolts, in place of the usual Town method of 3 by 11 inch planks pegged with wooden treenails. The bridge rests on granite abutments and pier.

The unusual bridge required close monitoring by the early years of the 20<sup>th</sup> century. An engineering survey of 1912 addressed problems of sagging and racking, which became persistent problems. Extensive repair by the state during the late 1930s could not permanently resolve the condition. This crossing operated as a toll bridge owned by a private corporation until 1936, when the state acquired the bridge. In 1943, the state lifted the toll requirement. In 1954 the bridge underwent a major rehabilitation. In 1986, the state had to close the bridge for further repairs which spanned three years. Engineers devised a restoration plan that would preserve the original configuration of the truss while increasing its strength. The project inserted prefabricated, industrial grade laminated timber chords and floor beams in areas of high tensile stress. Solid timbers were not available in the size and quality required for true "replacement in kind." In addition, the number of overhead tie beams and knee braces was doubled. While the project was underway, a temporary suspension bridge extended across the river above the historic span, supporting the old bridge and lifting it to positive camber.



FIGURE 2: Cornish-Windsor Covered Bridge in 1941 (NHDOT 1941).



FIGURE 3: Vermont approach to bridge in 1941. Note vertically operated gate (NHDOT 1941).

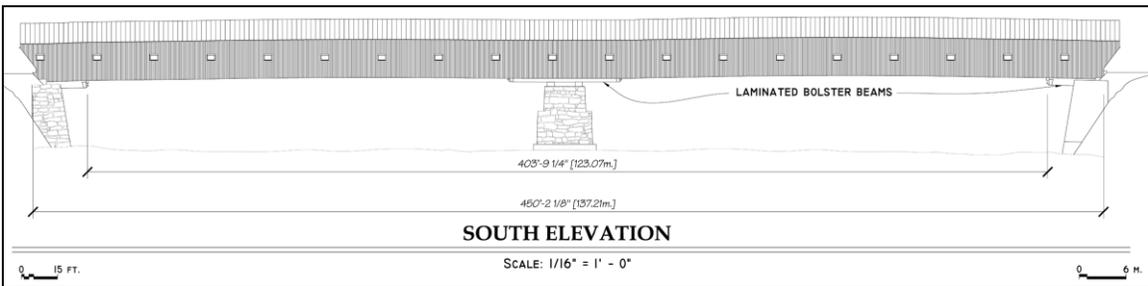


FIGURE 4: Elevation drawing from HAER NH-8 measured drawings, sheet No. 2 of 5. See online HAER documentation for additional drawings (HAER 2004).



FIGURE 5: Cornish-Windsor Covered Bridge in 1954, photo from Howard E. Wheelock Covered Bridge Collection (Cheshire County Historical Society).



FIGURE 6: Another 1954 view from Howard E. Wheelock Covered Bridge Collection (Cheshire County Historical Society).



FIGURE 7: The Cornish-Windsor Bridge in 1984; view of New Hampshire end looking west. From HAER NH-8, photo 3 of 10. See online HAER documentation for additional drawings (HAER 1984).



FIGURE 8: Bridge interior, view from New Hampshire end in 1984. From HAER NH-8, photo 10 of 10. See online HAER documentation for additional drawings (HAER 1984).

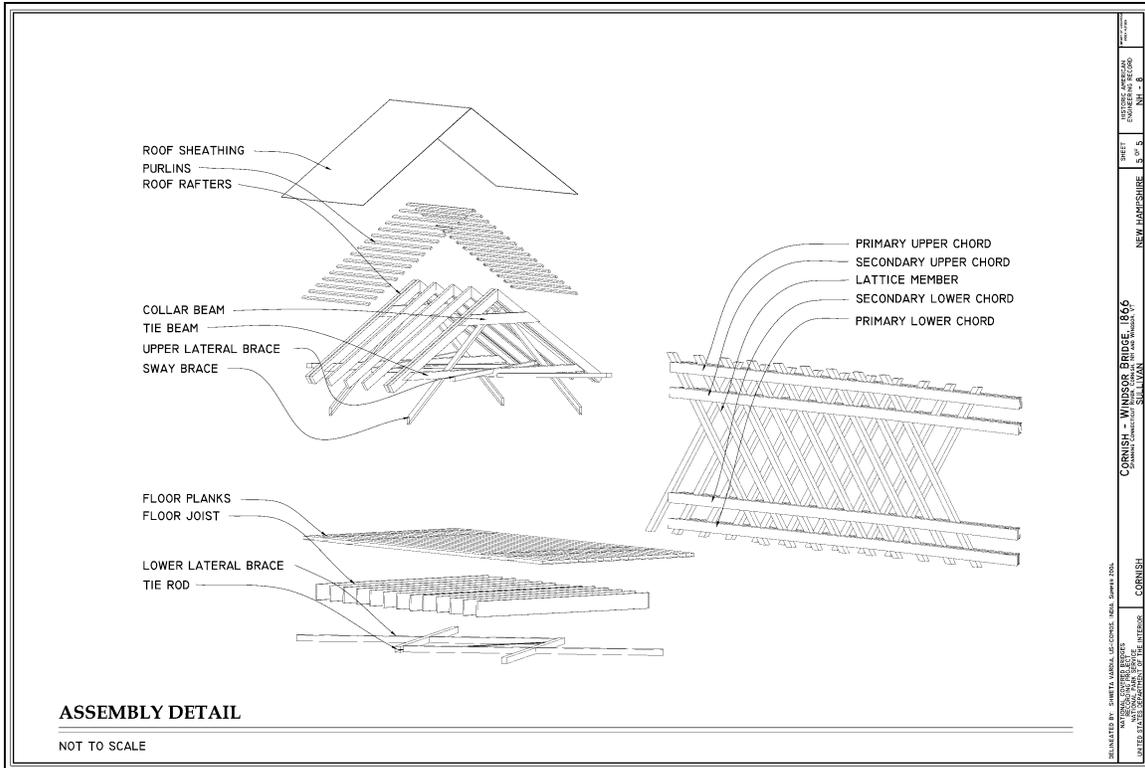


FIGURE 9: Details of bridge construction, from HAER NH-8 measured drawings, sheet No. 5 of 5. See online HAER documentation for additional drawings (HAER 2004).

## BIBLIOGRAPHY

- Bacon, Edwin Monroe. *The Connecticut River and the Valley of the Connecticut: Three Hundred and Fifty Miles from Mountain to Sea*. New York: G.P. Putnam's Sons, 1906.
- Cheshire County Historical Society, Keene, NH. Howard E. Wheelock Covered Bridge Collection.
- Child, William H. *History of the Town of Cornish, New Hampshire*. Vol. 1: Narrative. Concord: Rumford Press, 1911.
- Historic American Engineering Record (HAER) *Cornish-Windsor Covered Bridge, Cornish, NH*. HAER No. NH-8, 1984, Addendum 2004. Library of Congress, Digital collection:<http://www.loc.gov/pictures/item/nh0177/>
- Knoblock, Glenn A. *New Hampshire Covered Bridges*. Charleston, SC: Arcadia Publishing, 2002.
- McCullough, Robert. *Crossings: A History of Vermont Bridges*. Barre: Vermont Historical Society, 2005.
- New Hampshire DOT Bridge Card, Cornish-Windsor 064/108, 1941.
- Report of the Bridge Commissioners of the State of New Hampshire. Manchester: State of New Hampshire, 1906.
- Wade, Hugh M. *A Brief History of Cornish, 1763-1974*. Hanover: University Press of New England, 1976.