



**FORB – Friends of the Rail Bridge**

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Established 2018 | Burleigh & Morton County | (701)220-4513  
|friendsoftherailbridge@gmail.com

March 4, 2022

Brian L. Dunn  
Chief, Office of Bridge Programs  
Commandant (CG-BRG)  
U.S. Coast Guard STOP 7509  
2703 Martin Luther King Jr. Ave. SE  
Washington, DC 20593-7509

Mr. Rob McCaskey  
U.S. Coast Guard-dwb  
1222 Spruce Street  
Suite 2.102D  
St. Louis MO 63103-2832

Sent by email to: [REDACTED]

Re: Request for Delay and Additional Information and Evidence Regarding the Ordinary High and Low Water Marks of the Northern Pacific Railway Bridge between Bismarck and Mandan When North Dakota Became the 39th State on November 2, 1889

Dear Mr. Dunn and Mr. McCaskey:

FORB has learned that the North Dakota State Historic Preservation Officer has requested an opinion from the North Dakota Attorney General regarding ownership of the 1883 Northern Pacific Railway Bridge and that the North Dakota State Engineer's Office has been requested to assist with factual issues regarding that opinion request. FORB requests that all matters regarding the permit for the bridge be delayed until all legal issues regarding ownership of the bridge are resolved. The first step of the permitting process should have been to determine legal ownership of the bridge before any other step was taken. Failure to do so on an historical property of such significance to North Dakota and the Nation was a significant oversight and error. The U.S. Coast Guard (USCG) should not compound that error by continuing forward with permit proceedings without first addressing the fundamental issue of ownership of this historic property.

FORB has continued and will continue researching the historical record relevant to determining ownership of the riverbed and fixtures below the ordinary highwater mark at the time North Dakota became a State. The *History of the Northern Pacific Railroad* written by Eugene V. Smalley published in 1883 is a comprehensive history of the Northern Pacific Railroad from

early exploration to completion of the Historic Bridge between Bismarck and Mandan<sup>1</sup> as one of the last steps in finishing the transcontinental railroad. Smalley describes in detail how the Historic Bridge was designed and constructed between 1880-82, including the location of all four piers below the ordinary *low-water* mark of the river:

The bridge proper consists of three through spans, each measuring 400 feet between centres [in original] of end pins, and two approach spans, each 113 feet. It is a high bridge, the bottom cord of the three main spans being placed fifty feet above the level of the highest summer flood, thus giving head room to pass steamboats at all navigable stages of the river. The head room above the extreme high water of 1881 is 42 feet; but this water was an exceptional result of an ice gorge, which necessarily put a stop to all navigation. Practically the bridge gives four feet more head room than many of the bridges on the lower river. The variable channel and the high bluff on the east side were alone sufficient reasons for adopting the high bridge plan in preference to a low bridge with a draw. The violent action of the ice and the excessive height of the ice floods were, however, the controlling elements in the selection of the high bridge plan. The east end of the east approach span is supported by a small abutment of granite masonry, founded on the natural ground of the bluff. The west end of the west approach span is supported by an iron bent resting on two Cushing cylinders, which are supported by piles driven into the sand bar. The three long spans are supported on four granite piers. *Pier 1, the easterly pier, rests on a concrete foundation, the base of which is **twenty feet below ordinary low water and sixteen feet below the estimated extreme low water due to ice gorges.*** [italics, underlining, and bold type added for emphasis] Piers 2 and 3, which are in the channel of the river, are founded on pneumatic caissons, sunk into the underlying clay to the depth of about fifty feet below *ordinary low water* [italics added] and ten feet below the surface of the clay.<sup>2</sup> Pier 4 is situated *on the sand bar on the west side of the river below the protection of the dike,* [italics added] and rests on a foundation of 160 piles, which were driven with a Nasmyth steam hammer.<sup>3</sup>

Emphasis in the above paragraph is placed on the language documenting that Pier 1, the easterly pier, rested not only below the ordinary high-water mark but also below the ordinary low-water mark in 1889. While there is less historic photographic evidence documenting spring flood levels on Pier 1 in the North Dakota archives (in part because most historic photos at that time were taken from the eastern bluffs of the river), this paragraph shows all four piers of the historic bridge were not only below the ordinary high-water mark, but also below the ordinary low-water

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<sup>1</sup> Smalley states that the bridge was “formally opened” on October 21, 1882, with four engines crossing from east to west, followed by eight crossing from west to east, after which a passenger train was sent over. Eugene V. Smalley, *History of the Northern Pacific Railroad*, G.P. Putnam’s Son’s (New York 1883), p. 394.

<sup>2</sup> Current State Geologist Edward Murphy in his 1995 article on the history of the construction of the bridge refers in some places in his article to this lower harder clay as bedrock. See previous memoranda recently sent to the USCG on this issue. Likely this is just a terminology or labelling issue referring to the same harder layer of clay and sandstone underneath the eastern side of the river at this location. Since the eastern side of the river at this location is also a documented fossil site, it follows that the underlying harder “clay” is likely a fossil bearing rock of some sort.

<sup>3</sup> Smalley, *History of the Northern Pacific Railroad*, at pp. 392-93.

mark, thus making them unequivocally part of the riverbed transferred to North Dakota on November 2, 1889, under the Equal Footing and Public Trust Doctrines.

The reason all four piers were sunk deep below the ordinary low water marks was to protect them from the erosion and shifting of the river that occurred during spring flooding on the Missouri River floodplain between Bismarck and Mandan before the Missouri River mainstem dams were constructed in the 1930s and 1940s (whose purposes included protecting cities like Bismarck and Mandan from often extreme spring flooding that occurred along the Missouri and Mississippi Rivers all the way to the Gulf of Mexico). Eugene Smalley describes how a dike was built from the west shore of the Missouri River to attempt to confine the river to where the Historic Bridge was to be constructed:

The report of July, 1880, proposed to cross the river with a bridge consisting of three spans of 400 feet each, resting on solid piers of granite masonry. A dike was to be built from the west shore to within 1000 feet of the east shore, which is here a high bluff of extremely hard clay, thus confining the river within a width favorable to the maintenance of a fixed channel. The bridge was to be located about 500 feet below the dike, and, to provide for contingencies, was made 200 feet longer than the width of the confined river. This plan of operations was afterward carried out, and the completed work differs in no essential respect from plans contemplated in the report of July, 1880.

The construction of the dike was begun in the fall of 1880. Unfortunately, while waiting for materials, *the main navigable channel of the river moved over to the west shore, and when work was actually begun it was found necessary to leave this channel open for navigation.*<sup>4</sup>

Thus, as the above example illustrates, the evidence is clear that the bed of the Missouri River up to the ordinary high-water mark was very wide and continually shifting when the Northern Pacific Railway Bridge was constructed and includes not only the four piers of the Northern Pacific Railway Bridge but also the embankment and embedded wooden trestle west of the historic bridge up to the point of the ordinary high-water mark on November 2, 1889, the date North Dakota became a State. North Dakota owns not only the Northern Pacific Railway Bridge and embankment but also the land west of the river and north of the historic bridge and embankment for the same reason: all of it was transferred to North Dakota under the Equal Footing and Public Trust Doctrines as part of the riverbed below the ordinary high-water mark on November 2, 1889.

In previous correspondence FORB asked the USCG to request an opinion from the U.S. Solicitor General on these issues because an opinion from a state attorney general is not binding on a federal agency in the same way it is binding on state officials. It appears that the USCG has not requested an opinion from the Solicitor General. As an alternative, an action could be filed in federal district court like the action Montana successfully filed several years ago under the Equal Footing Doctrine to determine ownership of structures built upon the bed of the Missouri River. If necessary, injunctive relief will be requested to prevent irreparable harm to the Northern

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<sup>4</sup> Smalley, *History of the Northern Pacific Railroad*, at pp. 390-91.

Pacific Railway Bridge while these issues are resolved. For the reasons discussed above, FORB believes that the best course for the USCG to take is to pause the permitting process until these underlying issues of ownership and control of the Historic Bridge are settled. FORB asks that the USCG exercise that option.

Sincerely,



Mark Zimmerman  
President of FORB

cc:

Governor Doug Burgum  
612 East Boulevard Avenue  
Bismarck ND 58505  
[REDACTED]

Attorney General Drew Wrigley  
612 East Boulevard Avenue  
Bismarck ND 58505  
[REDACTED]

William Peterson  
Superintendent and State Historic  
Preservation Officer  
State Historical Society of North Dakota  
612 East Boulevard Avenue  
Bismarck ND 58505  
[REDACTED]

John Paczkowski  
North Dakota State Engineer  
900 East Boulevard Avenue  
Bismarck, ND 58505  
[REDACTED]

Christopher Wilson  
Program Analyst  
Advisory Council on Historic Preservation  
401 F Street NW  
Suite 308  
Washington DC 20001  
[REDACTED]

Reid Nelson  
Executive Director, Acting  
Advisory Council on Historic Preservation  
401 F Street NW  
Suite 308  
Washington DC 20001  
[REDACTED]

Javier Marques  
General Counsel  
Advisory Council on Historic Preservation  
401 F Street NW  
Suite 308  
Washington DC 20001  
[REDACTED]

Kelly Fanizzo  
Associate General Counsel  
Advisory Council on Historic Preservation  
401 F Street NW  
Suite 308  
Washington DC 20001  
[REDACTED]

Betsy Merritt  
National Trust for Historic Preservation  
Watergate Office Building  
2600 Virginia Avenue  
Suite 1100  
Washington DC 20037  
[REDACTED]