

The Saga of the Stillwater Lift Bridge: *A Preservation Case Study*

Stillwater Bridge, 1942 (Florence Parlin, artist; Minnesota Historical Society)

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A Preservation Case Study

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Hess, Roise and Company

Sponsors:

Minnesota Department of Transportation
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This Lift Bridge publication fulfills a portion of the environmental mitigation required of the St. Croix Crossing Project.

Contents

1. The Lift Bridge: A Community Icon	1
2. Lake Saint Croix: Asset and Obstacle.....	5
3. Floating Innovation	8
4. Upgrading to Steel.....	22
<i>The Corps, the Crossing, and the Controversy.....</i>	<i>26</i>
<i>The Setting: Planning the Parks</i>	<i>29</i>
<i>Designing Engineers.....</i>	<i>34</i>
<i>Grading Gets Going.....</i>	<i>38</i>
<i>The Big Bid</i>	<i>40</i>
<i>Maintaining the Crossing.....</i>	<i>42</i>
<i>Construction.....</i>	<i>44</i>
<i>Open at Last.....</i>	<i>50</i>
5. River vs. Road	56
6. Beginning of the End?	63
7. Round 1 of Alternatives	66
<i>To Build or Not to Build: The Draft EIS.....</i>	<i>66</i>
<i>1990 Draft EIS to 1995 Final EIS.....</i>	<i>72</i>
<i>Another Perspective: Section 106.....</i>	<i>72</i>
<i>Conclusion without a Conclusion</i>	<i>74</i>
8. Bridge over Troubled Waters.....	75
<i>A New Route.....</i>	<i>78</i>
<i>On the Homefront.....</i>	<i>82</i>
<i>Hope for the Historic Bridge</i>	<i>83</i>

**9. New Players, A New Process,
and New Perspectives85**

Mediation Momentum85

Highway 36 Partnership Study.....89

Lift Bridge Limbo90

Courts and Congress.....98

10. Constructing the New Crossing100

11. History for the Future.....112

12. Passing the Torch: August 2, 2017114

Acknowledgments124

Selected Bibliography125

Abbreviations130

Index.....132

Endnotes.....138

1. The Lift Bridge: A Community Icon

Stillwater rises up a bluff on the west side of Lake Saint Croix, a widening in the river of the same name. The waterway is an ever-changing constant—from spring floods to winter’s icy beauty. It is busiest in the summer when fishermen, tourists, and partiers parade by in boats and festivals bring logrolling contests and fireworks.

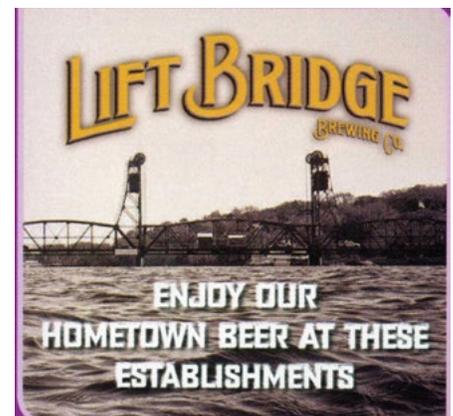
The bridge has crossed the waterway since 1931 and has remained much the same season in, season out. While performing a utilitarian service of carrying vehicular, pedestrian, and other traffic between western Wisconsin and eastern Minnesota, it has won the hearts of many residents and visitors and earned a top place in Stillwater’s iconography. The bridge has inspired artists to sketch, paint, take photographs, and write poetry. Images of the bridge have appeared on mugs, bumper stickers, baseball caps, police cars and letterheads. A local group proclaimed, “The Lift Bridge is the logo and trademark of historic Stillwater. It is to Stillwater what the Eiffel Tower is to Paris, the Golden Gate Bridge [is] to San Francisco, the Brooklyn Bridge [is] to New York, and the Gateway Arch [is] to St. Louis.” As fans of the bridge have observed, “In a town filled with antiques, the bridge itself is a prominent antique.”¹



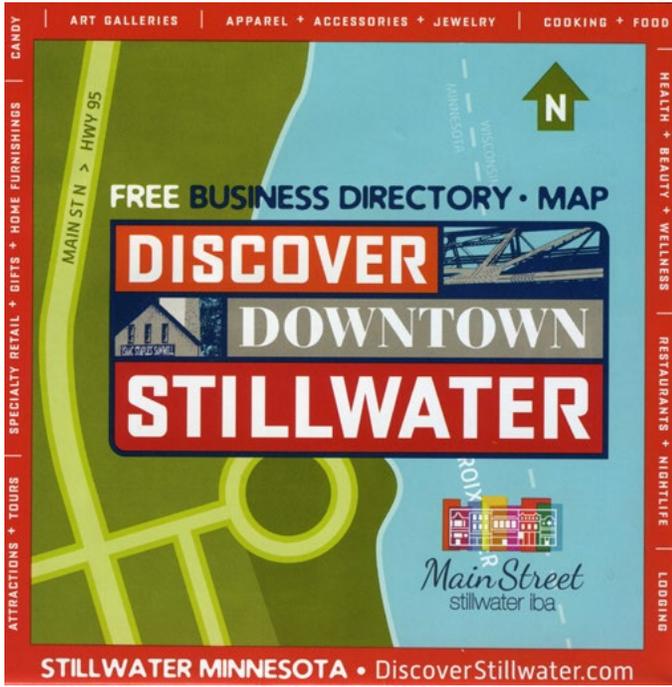
Courtesy of discoverstillwater.com

The bridge has also had detractors, including drivers stuck in daily traffic jams as they approached it. When it was built, the structure could easily handle the volume and types of vehicles it was designed to carry. Minimal river traffic meant the lift span was rarely operated. Each passing decade, though, brought greater demands on every front. Some began calling for the bridge’s replacement after World War II. The chorus had grown loud enough to prompt action by the 1980s, when planning for a new structure began in earnest.

The fate of the 1931 bridge, which was listed in the National Register of Historic Places in 1989, complicated the process, as did the natural setting. Congress had designated the Saint Croix River north of Stillwater a Wild and Scenic River in 1968. Four years later, the boundary was extended south to the river’s mouth in the Mississippi, which added Lake Saint Croix to the designated area.



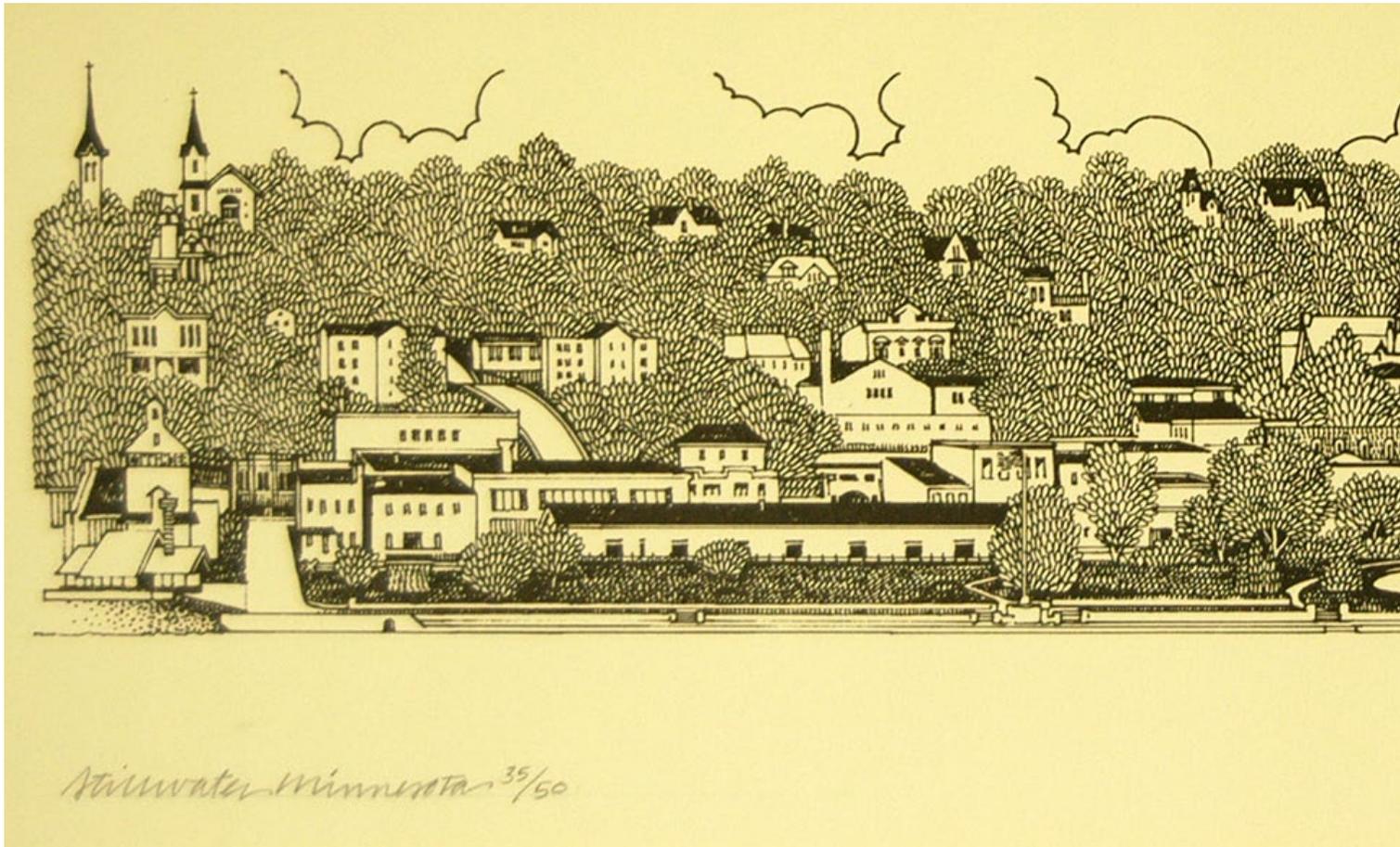
Courtesy of Lift Bridge Brewing Company



Courtesy of DiscoverStillwater.com

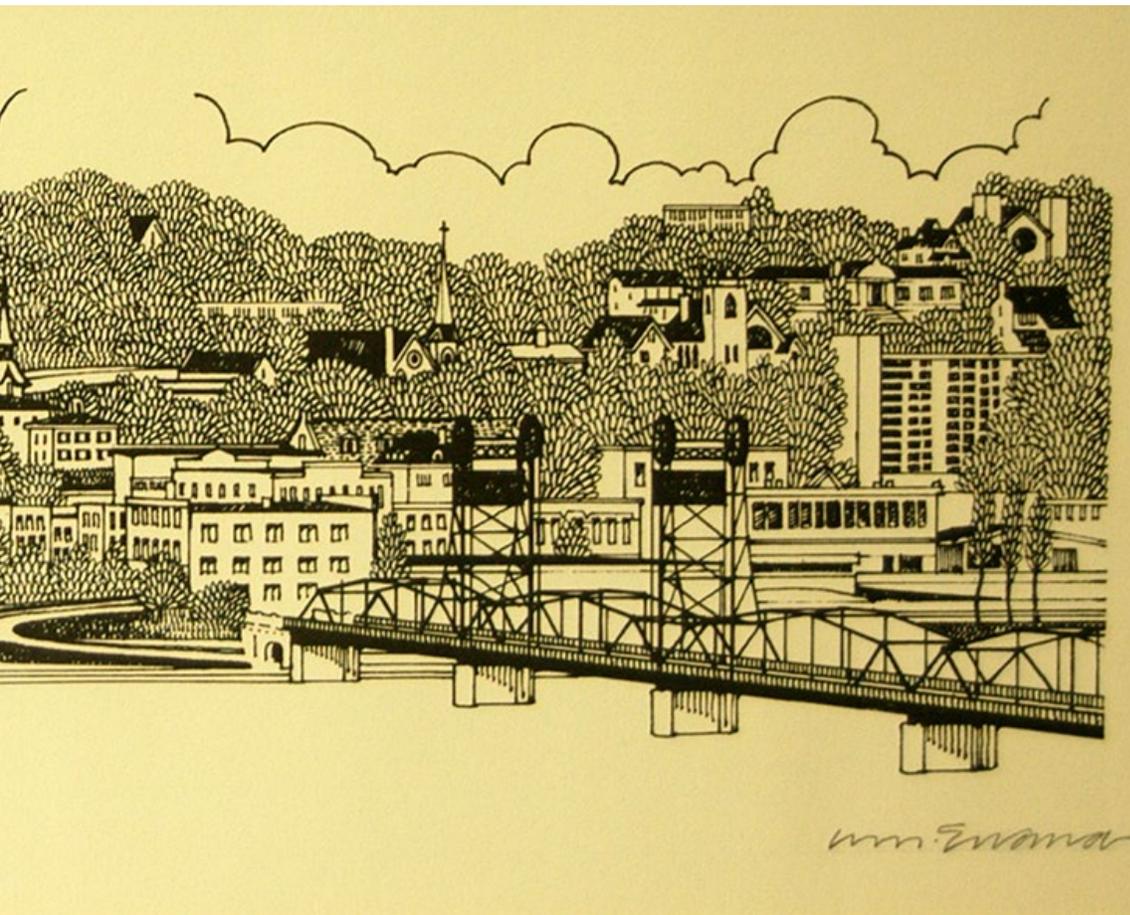


Charlene Roise, photographer





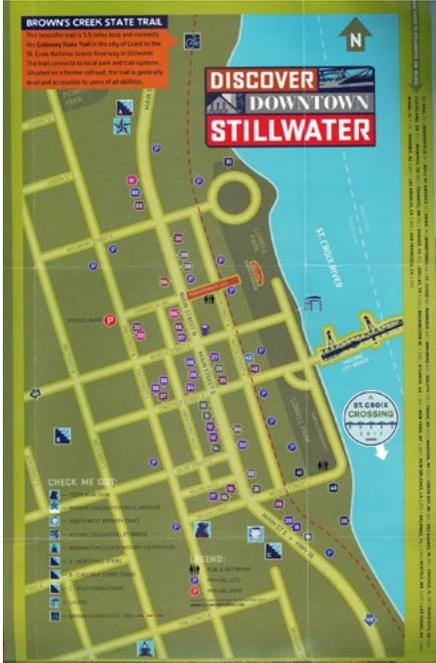
Charlene Roise, photographer



William Ersland, artist;
courtesy of William Ersland

Although a new crossing was eventually built, the process leading to the ribbon cutting on August 2, 2017, was long, complex and contentious. There were stops and starts, lawsuits and mediation, studies and more studies. As an interstate project involving two states and a number of federal agencies, there were inherent conflicts. As one writer observed: “The intersection of three important but competing goals of public policy—enhancement of transportation services, preservation of historic resources and protection of a wild and scenic river—gradually produced gridlock between seven federal and six state agencies, including the Federal Highway

Administration, U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. Environmental Protection Agency, National Park Service, U.S. Fish and Wildlife Service, Advisory Council on Historic Preservation, and the Departments of Transportation, Departments of Natural Resources, and State Historic Preservation Offices of both Minnesota and Wisconsin.”²² Various levels of politicians also influenced the process. Add to the mix a collection of local, state, and national advocacy groups, as well as the citizens of several communities in the immediate area who would be directly affected by the outcome, and it is not surprising the process took decades.



Mark Raney, illustrator; courtesy of DiscoverStillwater.com

The following chapters tell the tale of the historic lift bridge, the crossings that preceded it, and the efforts to save it and build a new bridge.



Charlene Roise, photographer

2. Lake Saint Croix: Asset and Obstacle

People have been drawn to the Saint Croix River for millennia. The steep bluffs, verdant valley, and sparkling waterway create a dramatic and bountiful landscape. The river's headwaters are in northern Wisconsin. The section where the river widens by Stillwater, Minnesota, and Houlton, Wisconsin, is known as Lake Saint Croix. Twenty-five miles south of these communities, the Saint Croix empties into the Mississippi River by Prescott, Wisconsin.

The Dakota and Ojibwa were in the region before French explorers arrived in the late eighteenth century and began establishing trading posts. Interactions between the Dakota and the Ojibwa were often contentious, with each having ties to the valley. Ultimately, it was the U.S. government that determined the fate of the land. Native American claims to the area were ceded by treaties crafted in 1837 and ratified by the federal government the following year.³

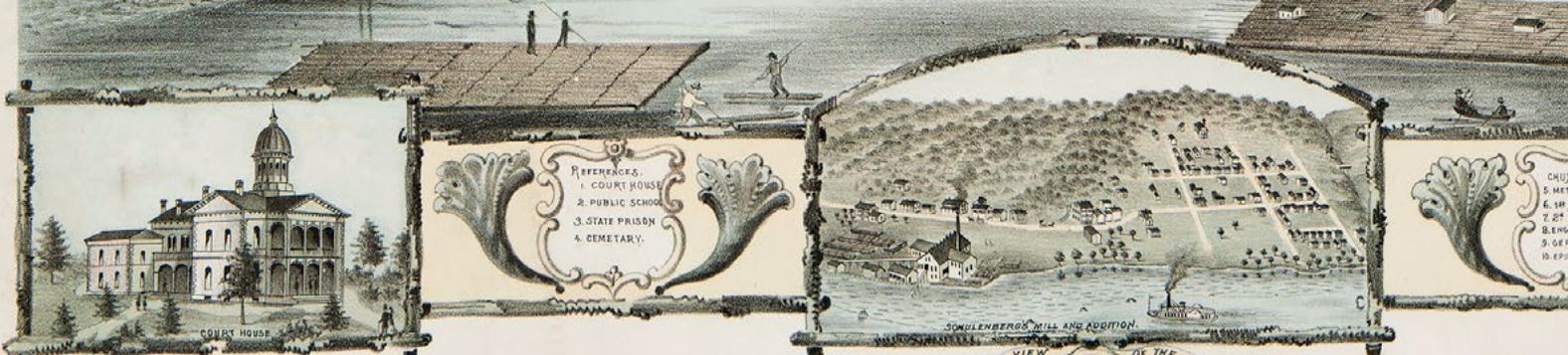
Lumbermen swarmed to the area to harvest vast forests upstream. "The Upper Saint Croix region is diversified by plains, rolling land and lakes," a nineteenth-century writer observed. Loggers dammed boggy areas to create ponds, which they filled with logs harvested from nearby forests in the winter. When melting snow raised the water level in the spring, the loggers breached the dams and the logs floated downstream, feeding the sawmills that sprang up along the Saint Croix. In 1844, John McKusick and Company established the first sawmill in Stillwater. Another sawmill opened in 1850 and two more followed in 1854. The Saint Croix Boom Corporation was founded in 1851 to manage the deluge of logs on the river. The annual volume of logs the boom company rafted jumped from less than 50 million feet before 1865 to 105 million feet in that year, reaching 200 million feet by the 1880s.⁴

In addition to erecting the first mill, McKusick is credited with giving the fledgling settlement its name, borrowed from a town in his home state of Maine and inspired by "the stillness of the water in the lake."

In the early 1840s, "no one thought of a town here, only a sawmill site was anticipated." A hotel and general store appeared in 1844. With the construction of more shops, residences, and in 1847, a saloon, a community began to emerge. The town was incorporated in 1854, four years before Minnesota statehood. "It became evident that an active town was to spring up here," a historian wrote several decades later. "In 1855, business was conducted in seventeen stores and shops; in 1857, the number was increased to thirty-eight. In 1855, two churches existed; . . . in 1857, we find six churches. . . . At the latter year, five large mills were running day and night, cutting an aggregate of 200,000 feet of lumber every twenty-four hours, and the town claimed approximately 2,500 residents." The population had more than doubled by 1875. Stillwater was becoming a regional center but was held back from reaching its full potential by a major impediment: the Saint Croix.⁵



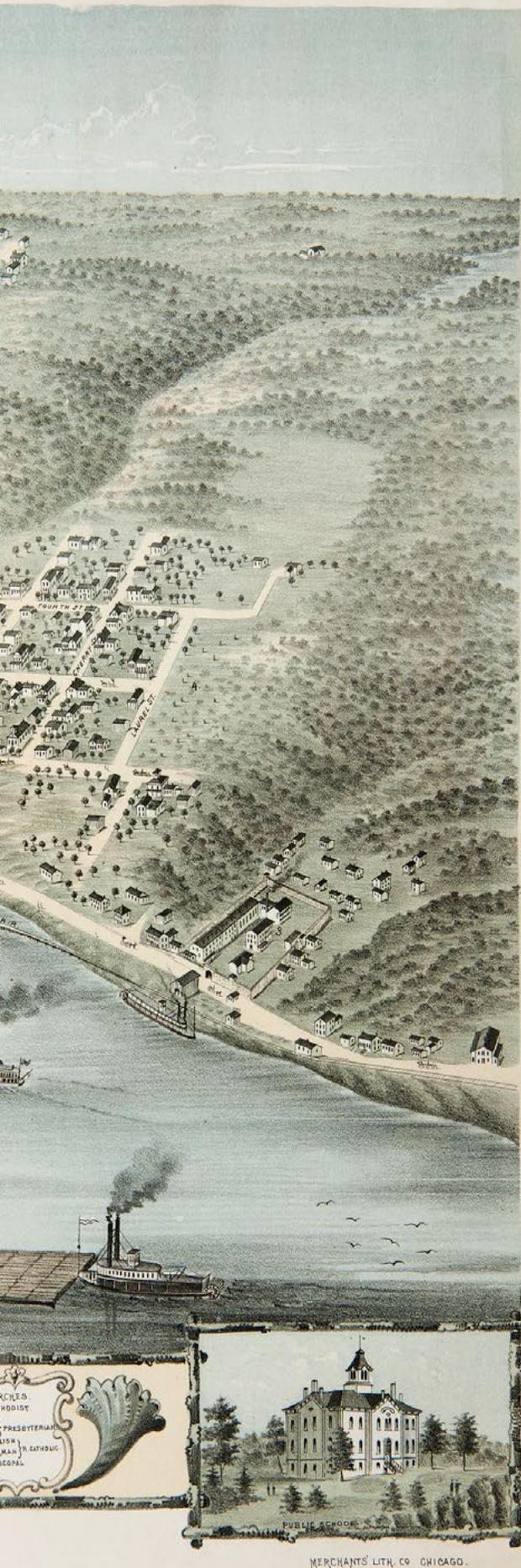
Main Street looking north, 1874 (William Henry Illingworth, photographer; Minnesota Historical Society)



BIRDS EYE VIEW OF THE CITY OF
STILLWATER
 WASHINGTON COUNTY MINNESOTA 1870.

DRAWN BY A. RUGER.

*Bird's-eye view,
1870 (A. Ruger,
artist; Minnesota
Historical Society)*



While Lake Saint Croix was an aesthetic asset and had economic value, enabling the lumber boom that induced Stillwater's initial settlement, it was also an obstacle. Measuring some 1,800 feet wide and erratic with winter ice and spring floods, the waterway was a barrier to economic and social interaction between the residents of Stillwater, the hamlet of Houlton on the Wisconsin side, and the regions beyond.

The Saint Croix River formed part of the western border of Wisconsin, which achieved statehood in 1848. The Wisconsin county opposite Stillwater was named for the river. It soon tackled the challenge of the crossing by chartering ferries. In January 1849, the Saint Croix County commissioners gave Philip Aldrich a license to operate a ferry across Lake Saint Croix "at a point any place of the north-west half of section twenty-five, south of Walnut street"—apparently in present day Hudson. A local history listed the rates: "Footman 25 cents, horse and rider 75 cents, horse, driver and single buggy \$1.00, one span of horses with wagon or buggy \$1.25, wagon with four horses or wagon with four oxen and driver \$1.50, horned cattle, mules or horses 25 cents each, sheep or swine 12-1/2 cents each, lumber per 1000 feet 37-1/2 cents, all kinds of freight 8c per 100 pounds." The county issued a three-year license for a Lake Saint Croix ferry to W. H. Moses in June. Both meetings of the commissioners were held at Aldrich's house, as he served as a local justice of the peace.⁶

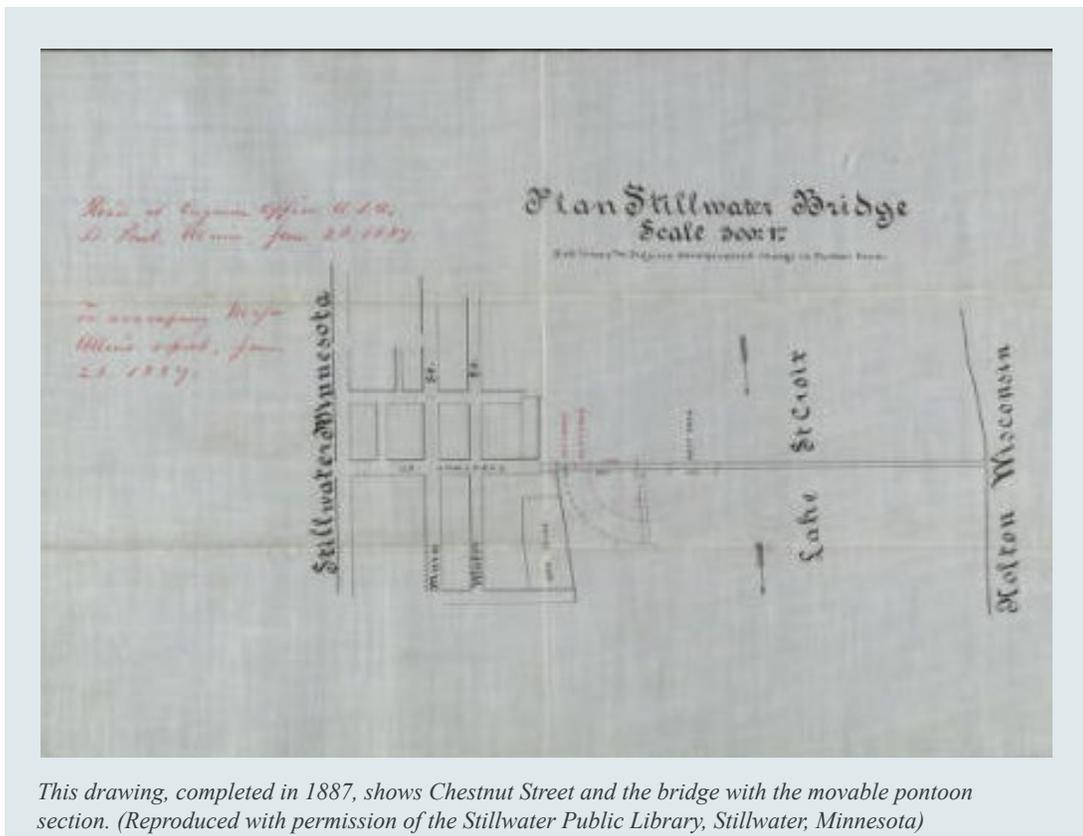
Wilhelm Dreschler, a German immigrant who arrived in the area in 1857, ran a ferry between Stillwater and Saint Joseph, the township opposite the river from Stillwater, for five years. He became so enamored of Saint Joseph that he bought 46 acres of land there in 1878 and built a hotel, Wilhelm Heights.⁷

3. Floating Innovation

A ferry, though, did not adequately serve the valley’s increasing population and the commerce it stimulated. On March 9, 1875, the Minnesota legislature authorized Stillwater to hold a referendum on the construction of a bridge across the Saint Croix. A private company had proposed to develop the bridge and charge users a toll, a common practice at the time, but Stillwater decided to take on the project on its own. When the vote was held in April, it passed with the support of 693 voters.⁸

Because the bridge would be situated in two states and bisect a river heavily used for commercial purposes, the city contacted the U.S. Army Corps of Engineers, a unit of the War Department, to see if it needed permission from the federal government for the project. The chief of the Corps clarified that agency’s role: “It is to be understood that the Secretary of War has no authority to authorize or forbid the construction of this bridge as he has not been empowered to do so by any act of Congress.” The War Department could go to court to stop the project if it would interfere with commerce and navigation.⁹

While this issue had been relatively easy to resolve, another key decision—the bridge’s alignment—divided the community for weeks. Downtown business interests wanted the western terminus to be Chestnut Street while property owners upstream near Myrtle Street lobbied for that location. A proponent for the Chestnut location called a meeting on April 26 to discuss the merits of each site. The meeting, which “has since invariably been designated as the ‘bridge burlesque,’” according to one account, “finally degenerated into a roaring farce.” The city council held a more deliberative meeting on May 4 and opted for the Myrtle Street terminus. The matter was not settled, however. On July 6, a colonel from the Corps “made a professional visit to the city” and presented a persuasive argument for Chestnut Street. That evening, the city council reversed its earlier decision, adopted the colonel’s recommendation, and authorized the city engineer to conduct tests and soundings in preparation for the bridge’s construction at Chestnut Street.¹⁰



This drawing, completed in 1887, shows Chestnut Street and the bridge with the movable pontoon section. (Reproduced with permission of the Stillwater Public Library, Stillwater, Minnesota)



This 1879 photograph illustrates the types of spans used for the bridge—from left to right: stringers (the simple trestles), pony trusses (the four low trusses), through truss (the large truss), and movable pontoon. (John Runk Photograph Collection, Minnesota Historical Society)

John Lawlor of Prairie du Chien, Wisconsin, received the contract to erect the structure for \$24,400. He began driving the first of some five hundred piles on September 20, 1875. Within a few weeks crews had placed all the 50-to 80-foot piles, which were driven 30 to 45 feet into the riverbed. By January, Lawlor was at work on the final section, a 300-foot-long pontoon span that could open as needed for river commerce. An article in the *Stillwater Messenger* on Friday, May 12, 1876, described the final steps to complete the structure: “Last week everything being in readiness the pontoon was placed in position and fitted, and on Tuesday of this week the first team was crossed.”¹¹

The structure was 20 feet wide and 2,005 feet long, including the 300-foot pontoon span. The article explained that “for the accommodation of our rafting business a large number of openings have been left, these being a principal opening of 300 feet for the draw, one of 200 feet, and some 60 others ranging from 100 to 20 feet in length. The principal openings (except that of 300 feet) are covered by substantial spans constructed by the King Bridge Company of Cleveland, Ohio.”¹²

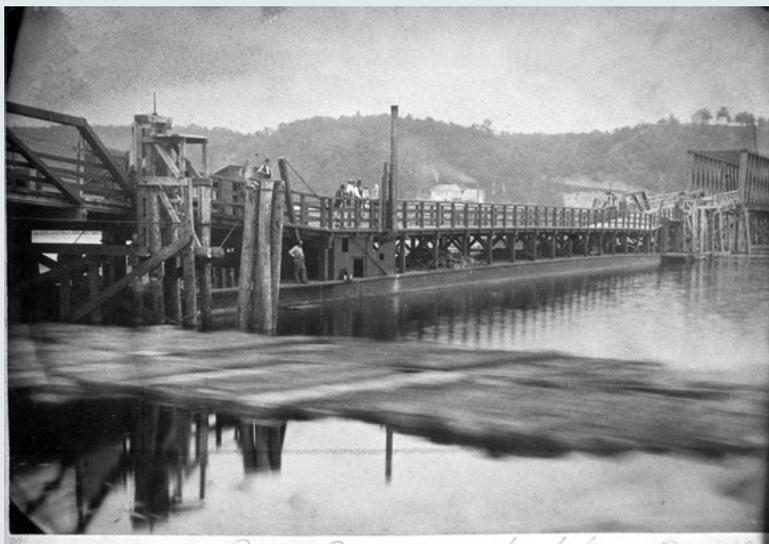
Stillwater claimed to have one of only two pontoon bridges in the country. The other, designed to carry trains, was in Prairie du Chien and had been built by Lawlor who called himself the structure’s “originator, constructor, sole proprietor, and patentee.”

The *Messenger* explained that the pontoon “is constructed much as barges are, except that the sides and ends are square, and possesses much greater strength, so that notwithstanding its great length it will not be affected by the most violent storm.” The pontoon was divided into several chambers to ensure it would remain afloat even if one section sprang a leak. The deck was caulked to prohibit water penetration from above. “Four or five feet above the lower deck is an upper deck, floored with 3-inch plank, on which passengers and teams will cross. At each end are ponderous spans some 40 feet in length, provided with heavy screws for raising and lowering them accordingly as the water is low or high.” Adjustable aprons provided a transition between the movable and fixed spans.¹³



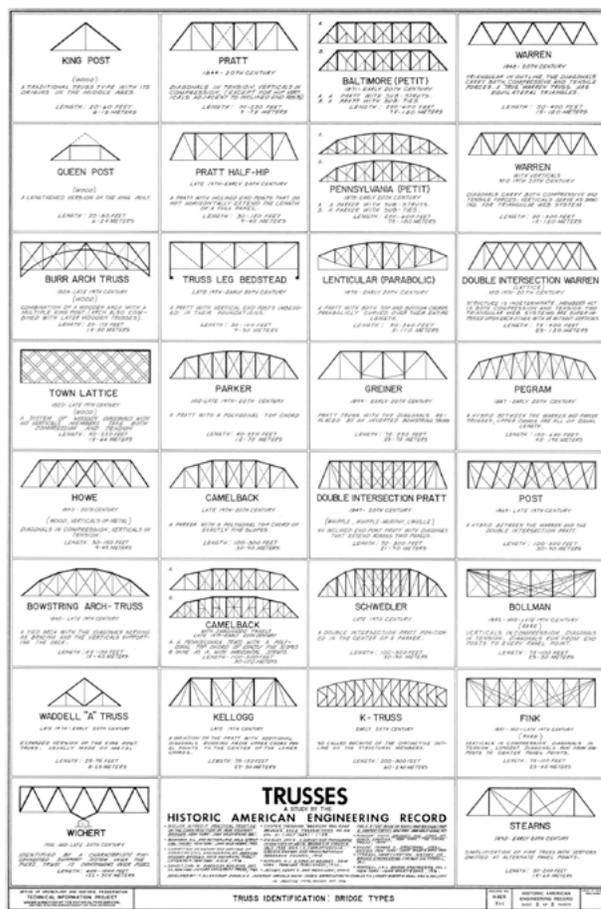
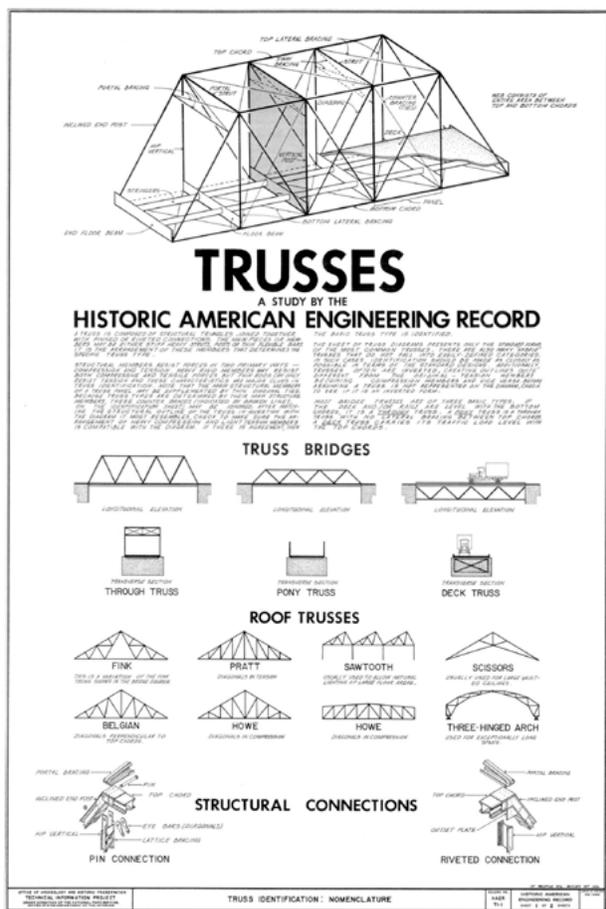
Stillwater Wagon Bridge over St Croix River
1878

The largest span in the bridge, a Warren double-intersection truss, is featured in this 1878 photograph. (Minnesota Historical Society)



The pontoon span in 1878. Because this section is lower than the other spans, the roadway descends from the through truss (in the background right) to the pontoon. (Minnesota Historical Society)

Truss bridges come in many shapes and sizes. The substantial Stillwater span photographed in 1878 was made of iron. Some trusses of this era contained both wood and iron members and were known as "combination" spans. By the late nineteenth century a stronger material, steel, had become more widely available and economical. Bridge designers quickly adopted it for truss bridge construction.



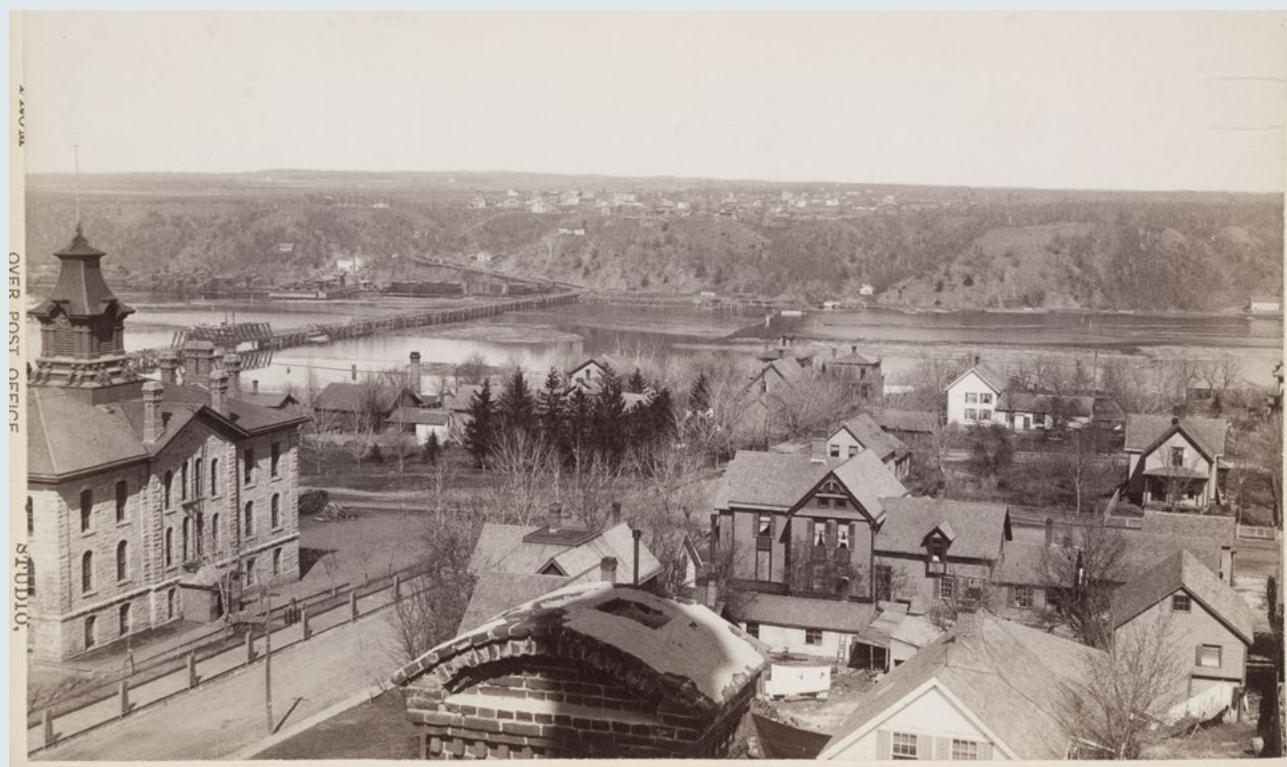
Trusses — A Study by the Historic American Engineering Record (National Park Service, HAER No. T1-1, Sheet 2)

The pontoon was operated with the assistance of a steam engine “on the west end which turns a reel around which passes a large cable chain firmly fastened at a point just above the west end of the opening and some 340 feet below the east end of the opening. When a steamer or a raft signifies a desire to pass through the opening[,] the engineer on the pontoon responds by a short blast from the whistle, hoists the small aprons, turns on steam, and the west end rapidly . . . swings down the lake, a strong arm attached to the lower corner of the east end and connected with an adjacent pile holding the pontoon in a firm grasp.” This process took just under two minutes. It required only a little more time to close the span: “The engine is reversed and the pontoon glides quickly into position again.”¹⁴

To pay for the construction, Stillwater issued twenty-year bonds yielding 10 percent interest. To cover interest payments, the city decided to charge a toll when the bridge opened, even though the state legislature had anticipated that the bridge would be free to users. The fees for foot passengers were five cents; “each horse, mare or mule, with or without rider” was 10 cents; a single horse, carriage, and driver was 15 cents; a team of two horses, mules, or oxen, with a driver and a wagon, empty or full, was 25 cents; hogs and sheep were two cents each; and cows, heifers, steers, or ox were 10 cents. Frequent travelers could get reduced rates by buying “commutation tickets.” Twenty-five tickets for a traveler on foot, for example, went for a dollar.¹⁵



Bridge toll tickets (City of Stillwater)



The view from Pine Street in Stillwater across the Saint Croix to Houlton, Wisconsin, around 1880 (Laurentz Wiklund, photographer; John Runk Photograph Collection, Minnesota Historical Society)

During the first year of operation, mid-May to the end of December, the city anticipated collecting \$2,400, at an average of about \$10 per day. With expenses budgeted at \$1,800, it projected a net income of \$600. “The hope is entertained that by the time the bonds mature the net revenues will have paid the interest and provided a fund for paying a portion at least of the principal.” The bridge performed above expectations in 1876, bringing in \$2,766.¹⁶

Stillwater’s population jumped from 5,749 in 1875 to 9,061 in 1880. While it is not known how much credit the bridge deserves for this surge, the improved passage across the river undoubtedly benefitted residents old and new and it was heavily used.¹⁷

Operation of the movable section proved challenging. It was difficult to adjust the spans next to the pontoon to compensate for the river’s fluctuations. Then, in 1884, Congress passed the River and Harbor Act, which expanded the role of the Corps by allowing the Secretary of War to remove unauthorized obstructions to navigation. The pontoon span was, arguably, such an obstruction, so the Corps was generally supportive when Stillwater’s city council contacted them in early

in 1887 with a plan to reduce the pontoon’s length to 200 feet. “The proposed change would greatly improve the working of the pontoon as its present length makes it very unwieldy.” Major Charles Allen at the Saint Paul district reviewed the request, and passed it on to headquarters in Washington, DC, on January 28 with a recommendation for approval, “provided that the space between the wharf line and the west end of the pontoon draw were left . . . practically open for the passage of logs and small boats.” This was not the case in the initial plan Stillwater’s city engineer had submitted on January 14. Revised plans, provided soon thereafter, proposed to leave the east end of the new pontoon span in the same location as the earlier pontoon and build two new fixed spans, one 60 feet and one 70 feet, to fill in the gap to the west.

The revised design was approved and by the following year the modification was accomplished. In addition, the original piling was cut at the waterline and new posts were installed above, and the deck received new timbers. The renovation, estimated to cost around \$20,000, represented a major investment in the bridge, indicating the crossing’s importance to the community.¹⁸

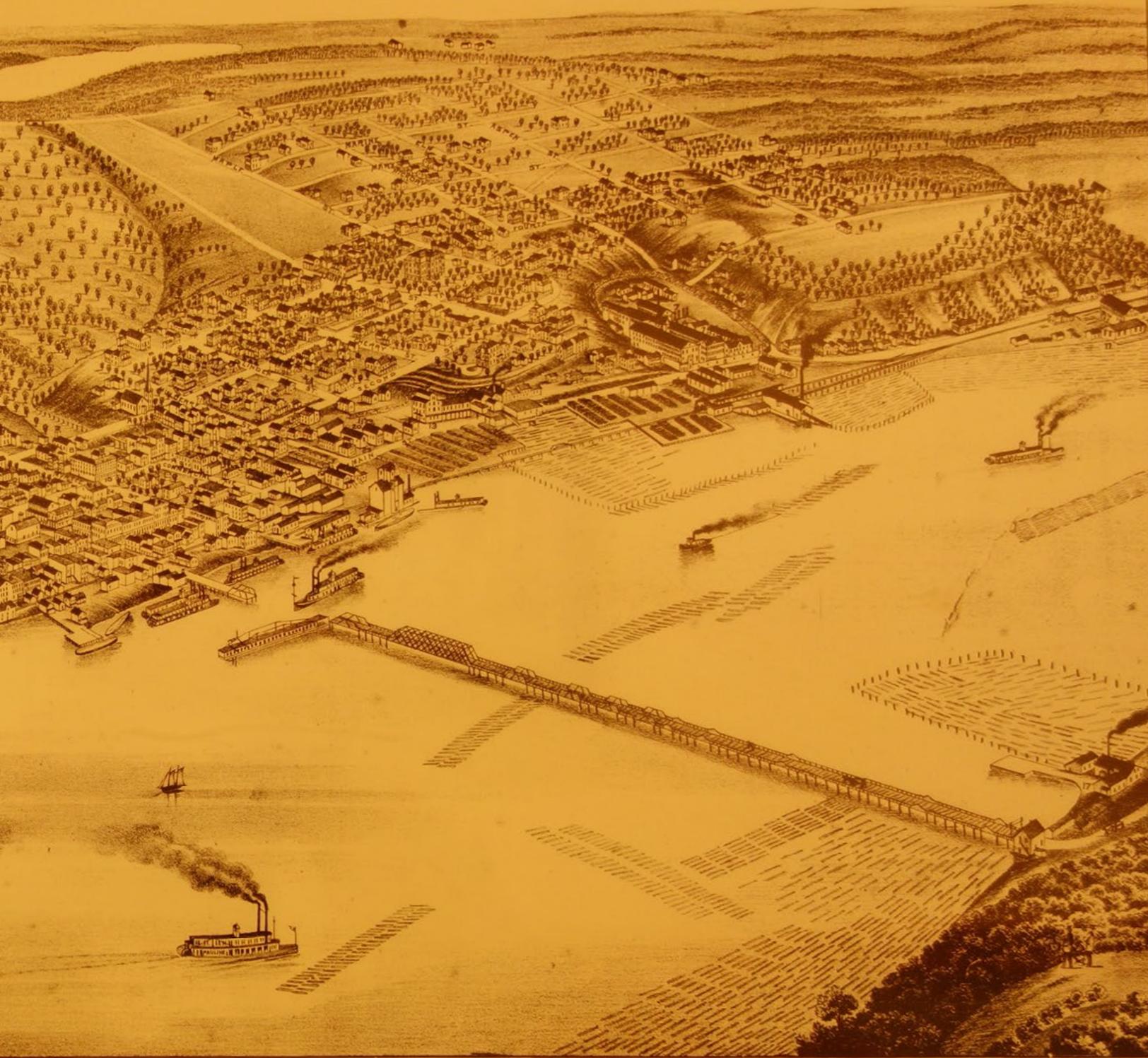


- 1. Green House
- 2. Jail
- 3. Public Schools
- 4. Catholic Church
- 5. Fire Engine House
- 6. New Opera House
- 7. Water Prison
- 8. St. P. & T. F. Rail Road Station
- 9. St. P. & Duluth
- 10. Sawyer House - Albert Lowell, Prop.
- 11. Scholtenberg, Bookbinder & Co.
- 12. Reynolds, Rubin & Co.
- 13. Isaac Siglin
- 14. Florence Mills - Townsend & Proctor, Prop.
- 15. Stillwater Mills
- 16. Hervey, Bean & Brown
- 17. Mc Kusick, Anderson & Co.
- 18. D. M. Swain's Machine Shop
- 19. Novelty Carriage Works, Dew & Cannon

Photo Print by John Ibarra, Stillwater, MN
 Printed by Bayport Printing House, Inc., Bayport, MN

PANORAMIC VIEW OF THE
 STILLWATER
 WASHINGTON CO
 MINN. LOOKING

Bird's-eye view, 1879. The pontoon section of the bridge is open and a steamboat is passing through. (A. Ruger, artist; reproduced with permission of the Stillwater Public Library, Stillwater, Minnesota; original at Washington County Historical Society; reproduction by Empson Archives)



CITY OF
STILLWATER
 MINNESOTA 1879
 NORTH WEST

- 20. W. Müller, Wagon and Blacksmith Shop.
- 21. Michael Moffat, "
- 22. C. M. Hathaway, "
- 23. Scherer & Orton
- 24. Orr's Livery Stable.
- 25. Minnesota House, Otto Walber, Prop.
- 26. Farmers' Home, Henry Goeck, "
- 27. Stillwater Steam Brewery, Joseph Wolf & Co.
- 28. Pacific Hotel, Joe Wolf, Prop.

CHURCHES

- A. Episcopal.
- B. Methodist.
- C. Lutheran.
- D. Scandinavian.
- E. First Presbyterian.
- F. Second "
- G. St. Michael's R. Catholic.
- H. German "
- K. Universalist.

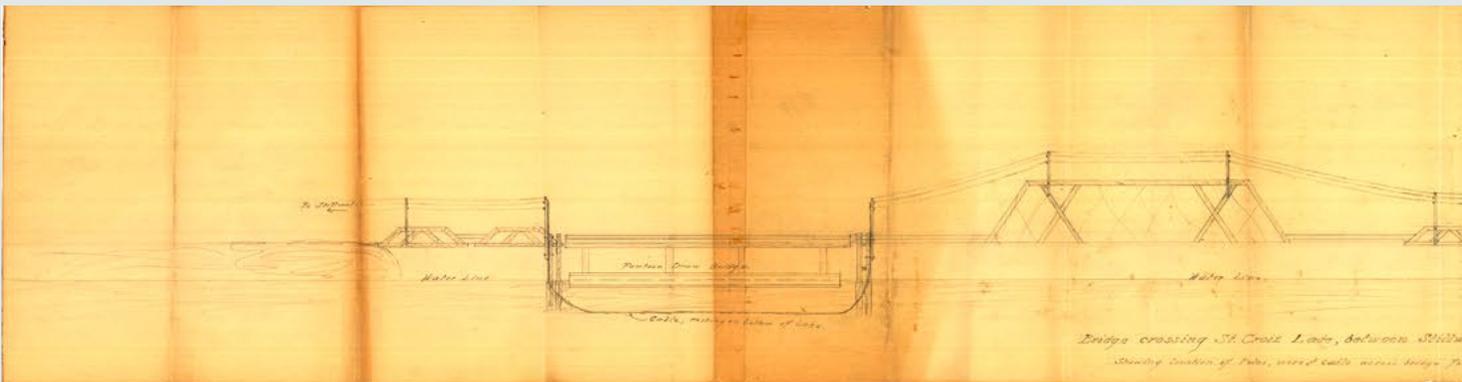
Original Map Courtesy Washington County Historical Society
 Published by Empson Archives, P.O. Box 791, Stillwater, MN

STILLWATER

AUG. 11, 1902.



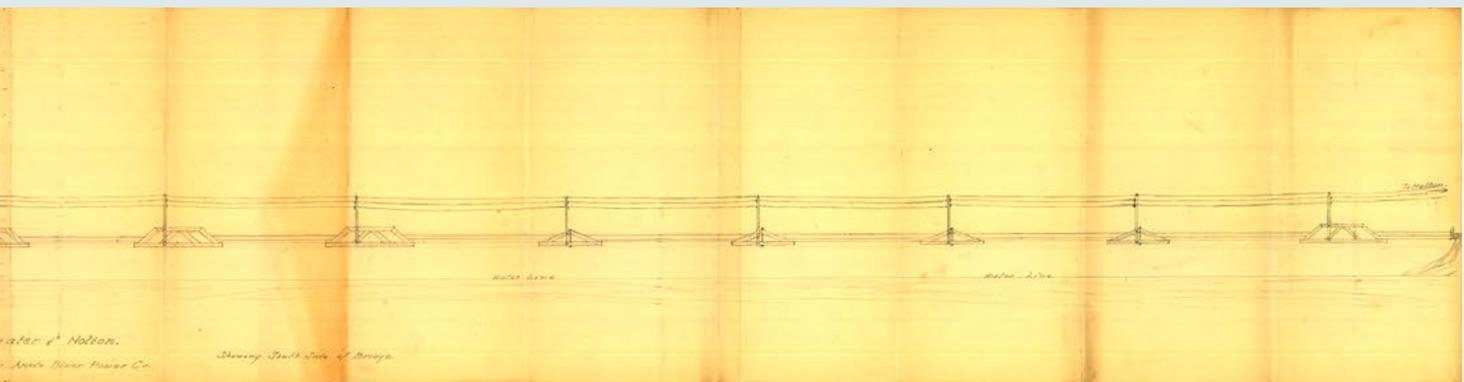
The bridge serves as the central axis of this panoramic photograph of Stillwater taken in 1902. (John Runk Photograph Collection, Minnesota Historical Society)



This 1904 sketch shows how Wisconsin's Apple River Power Company threaded its electric lines across the various spans of the bridge to transmit electricity to Minnesota. (City of Stillwater, Minnesota)

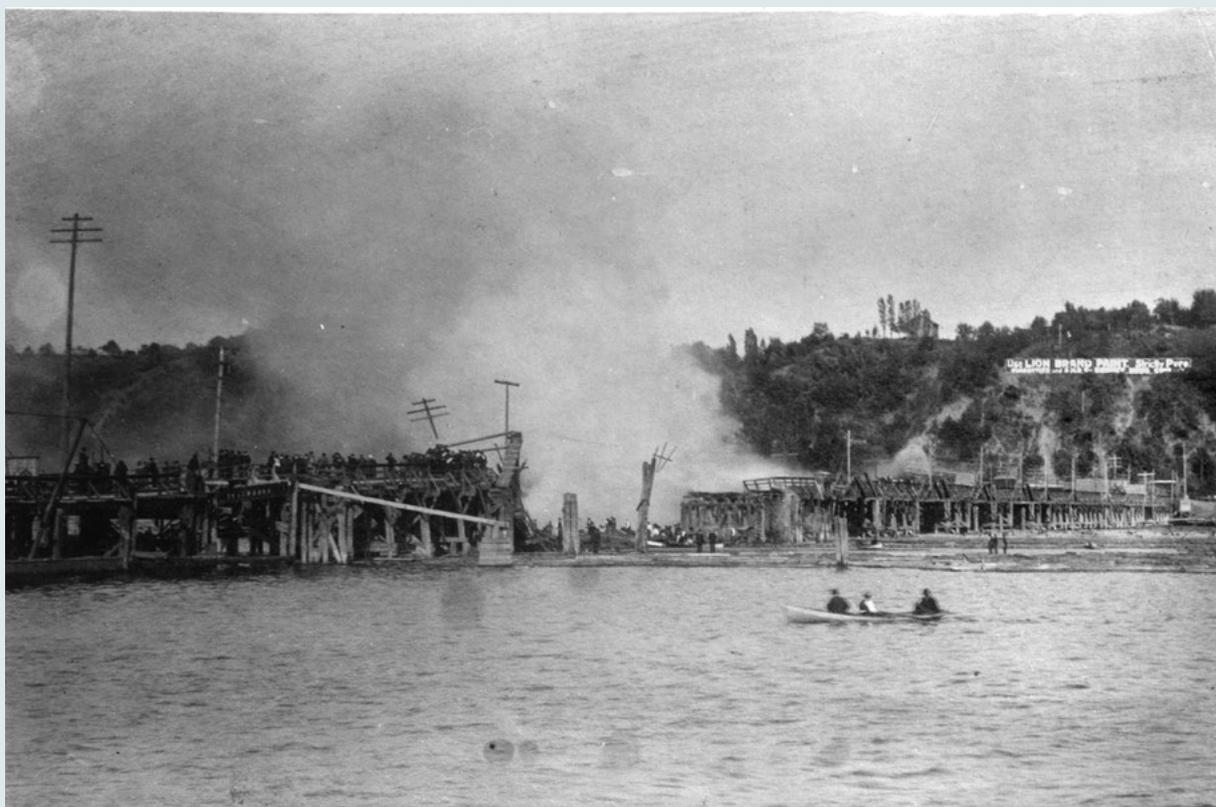


While tolls helped pay maintenance and operating expenses, they started to fall out of favor during the 1890s. G. A. Sheils, the mayor of Stillwater in the 1920s, explained that the city council began voting year-to-year on whether to charge a toll. The practice was eliminated in 1906. “The administration decided that it was not fair to exact toll at one entrance of the city unless they build a barricade around it and exact toll from everyone who entered the city. This seeming to be unwise and not a business proposition, they voted away the toll for once and for all.” This decision might also have been influenced by a federal law passed that year that required the Secretary of War and Chief of the Corps to approve plans for bridges constructed over navigable waters. It also gave the secretary the right to “prescribe the reasonable rates of toll” for such bridges. While this did not seem to apply to existing structures, it foreshadowed growing federal oversight of bridge operations.¹⁹



With, or without a toll, the bridge remained popular, and this was part of its undoing. Both the volume and the nature of the traffic, which included horses, carriages, wagons and herds of animals, put the structure to hard use and occasionally caused spans to collapse. In 1897, for example, timbers cracked when a group of fifty cattle passed over the bridge and about thirty “plunged with the broken timber into the lake below, a distance of over 20 feet. A scene of wildest confusion followed.” More tragically on September 15, 1904, the 200-foot raft span that extended east from the pontoon section caught on fire. A horse-drawn fire truck went to fight the blaze followed by a gaggle of spectators. The truck, along with some thirty to forty spectators, plunged into the water when the span collapsed. Despite valiant efforts by community members, who raced to the scene in boats to rescue the victims, two people and one of the horses died. Many others were injured. Stillwater invested around \$2,500 to reconstruct the damaged span so the bridge could go back into service. The city borrowed a ferry boat from Hudson to carry people across the river while the work was being done. Lumber companies used rafts to transport teams and lumber.²⁰

In addition to fires, ice movement and spring floods periodically put the bridge’s survival in question. Wear and tear from nature and use finally forced a major overhaul of the structure from 1910 to 1911. Stillwater took on the task at a cost of around \$22,400. Piles from the existing bridge were cut off at the waterline. The lower sections were retained to support new sills and the structure above. As a result the overall configuration of the bridge was essentially the same before and after the renovation, containing sixty-nine frame bents ranging from 14 to 60 feet in length. A simple wood stringer structure was used for spans 20 feet or less in length, while longer spans “are carried by Howe or Pony trusses,” a city official later explained. “Timbers in the old trusses were replaced with new and a new pontoon built. . . . The pontoon is 201 feet in length and swings out on a pivot pile, being operated by electric equipment.” A 22-horsepower motor opened and closed the pontoon; a one-horsepower motor operated a pump. The equipment belonged to an electric utility, Northern States Power, which charged the city a minimum fee of \$27 a month for rent and power during the navigation season.²¹



Two people and one horse died when the bridge caught on fire in 1904. (A. F. Raymond, photographer; Minnesota Historical Society)

Two full-time tenders each received \$90 a month to handle bridge operations. “One [is] on duty during the day and one at night,” according to the mayor. “This expense is warranted by reason of the necessity to protect the bridge and safeguard the traffic. There is constant work to be done on and about the pontoon and the entire bridge must be watched for minor repairs that must be cared for at once.” In addition, “these men are deputized as police officers and sometime are of service in that capacity.” To reduce damage in the winter, ice was cut away from the pontoon and low-lying structural members on the upstream side several times a season. Even so, the mayor noted, “renewing of braces is generally an annual affair as the ice in going out most always destroys and carries away some of them.”²²

By 1917 the bridge deck had seriously decayed. Stillwater considered installing a new plank floor but balked at the price tag of more than \$8,000. Instead, the city spent about \$500 to cover the deck with tar and gravel, a novel approach, that was written about in a national engineering magazine. It attracted attention from highway departments and bridge companies around the country.²³

Stillwater became increasingly concerned about the condition of the aging bridge and took the first step toward replacing it in October 1918. John Abercrombie, who had recently been named city engineer, contacted the Corps to find out about federal requirements, requesting an on-site meeting with someone from the agency’s Saint Paul office. The “city does not, at this time, contemplate taking immediate steps towards reconstruction, further than to work out a plan upon which the improvement can be carried out.” The following week, a Corps engineer visited the bridge. His office followed-up later that day by sending Abercrombie instructions for submitting an application, noting that the project would require an act of Congress, and giving the required minimum horizontal and vertical clearances for fixed, lift, and draw spans at that location.²⁴

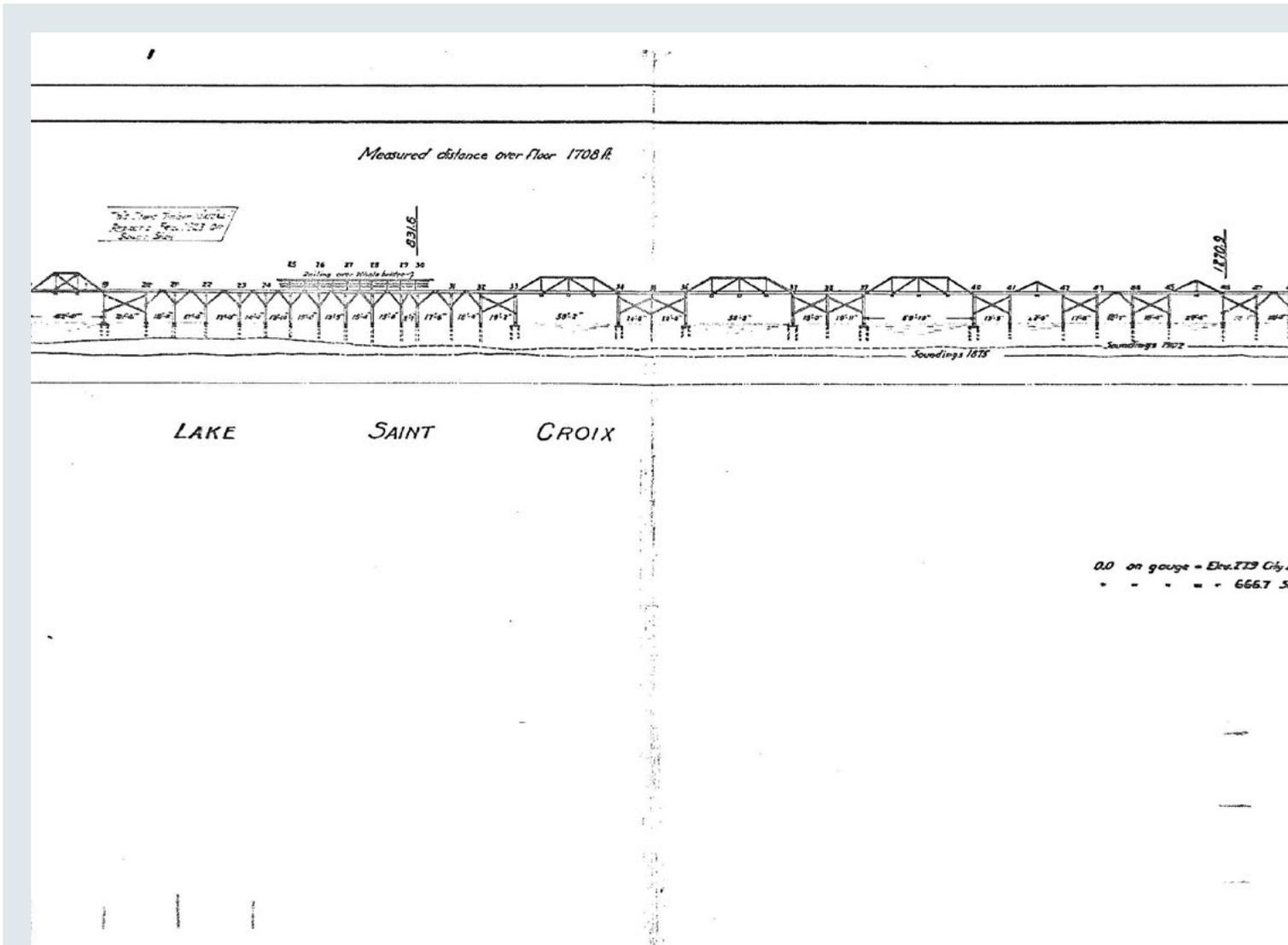
The issue gained more urgency during spring flooding in 1922 when “hundreds of loads of sand were hauled upon the floorway and cables were attached to telephone poles to hold the bridge in place against the force of the ice flow, and it was by the merest chance and good fortune that the bridge was saved at that time.”²⁵

With additional repairs in 1924, Stillwater’s mayor reported that, “the floor today is still giving satisfactory service. Posts, stringers, floor joists, truss members, bracing[,] in fact any and all timbers have been replaced with new when and wherever necessary, and the bridge today, excepting for a few minor repairs, is in as good condition as is possible to make it.”²⁶

He warned, though, “that this bridge is becoming old, its serviceable life is now being stretched and that its safe maximum loads are going to decrease while the cost of maintenance is naturally going to increase at a rapid rate.” Stillwater had posted a maximum speed of six miles an hour, and limited gross loads to six tons, based on an inspection of the structure by Abercrombie and a Minnesota state engineer in January 1923. During the site visit the engineers agreed on needed repairs—“replacing certain caps, sills, stringers, etc.”—that would enable the bridge to function for “at least five more years.” The city had completed that work by year’s end.²⁷



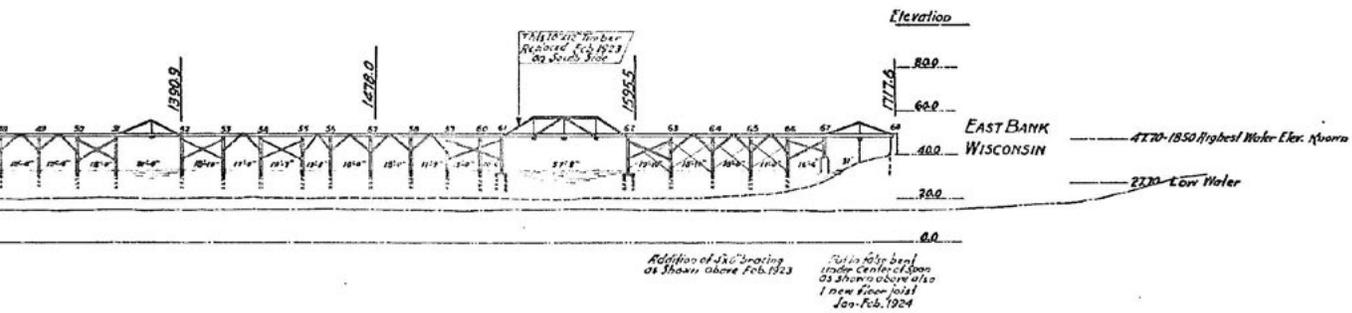
A crew took a break from repairing the bridge in March 1922 (John Runk Photograph Collection, Minnesota Historical Society)



The bridge was made up of many small spans that demanded maintenance. Stillwater spent over \$22,000 to rebuild the bridge in 1910-1911 and an average more than a decade after that, investing almost \$50,000 on the bridge between 1910 and 1924. Adjusting for inflation, that is more than \$730,000 in today (Minnesota Department of Transportation)

Increasing traffic, though, was straining the bridge's capacity. Edwin Buffington, Stillwater's city attorney, called the volume "immense": "In the seasons of 1923 and 1924, the daily average was 1,250 vehicles. There are times when there is a steady stream of vehicles passing over the bridge." Daily volume had jumped to 1,400 by 1928 when Abercrombie asserted, "Inspection discloses all timbers in this bridge to be far too old for dependable use. While some have deteriorated more than others it might be likened unto that proverbial chain 'It is only as strong as its weakest span.' And there are some weak spans. . . . It is my firm conviction that Providence alone can be depended upon to spare this structure without attending serious calamity."²⁸

Timber was a common material for bridge construction when the bridge was originally built as there were few alternatives. Iron was far more expensive; hydraulic cement was not only more costly but hard to obtain. The structural limitations of wood were becoming apparent as the bridge aged. At the same time, steel had surpassed iron as the material of choice for major bridges. Changes in technology in the late nineteenth century had made steel relatively easy to produce, economical, and of consistent quality. A network of companies specializing in fabricating steel and steel bridges quickly evolved. City streets and county roads throughout the country were soon served by simple steel stringer structures for shorter crossings and steel trusses for long spans.



BR. EST.

age of \$2,100 annually for
s dollars.

Another factor was a change in the traffic the structure carried. Horses and carriages had been eclipsed by cars and trucks within a remarkably short time in the first decades of the twentieth century. States responded by establishing highway departments to improve infrastructure for the new vehicles. Today's Minnesota Department of Transportation (MnDOT) had its genesis in the Minnesota State Highway Commission, which came into being in 1906. It was replaced by a more powerful agency, the Minnesota Department of Highways (MDH), in 1917. MDH's first commissioner, Charles Babcock, was a strong promoter of good roads.

With his encouragement the state immediately began collaborating with county and local governments to upgrade farm-to-market roads. In 1921 the legislature authorized the construction of a desperately needed trunk highway system. Minnesota had 920 licensed vehicles in 1903; by 1920 there were over 300,000. Speed and vehicular weight increased pushing the limits of older infrastructure.²⁹

Stillwater's timber bridge was a deteriorating relic from an earlier time. Twentieth-century traffic demanded a twentieth-century bridge.

4. Upgrading to Steel

There was consensus on the need for a new bridge. Most people also felt that Stillwater, which had spent some \$29,000 maintaining the bridge since its reconstruction in 1911, should no longer be responsible for this critical link between trunk highways in two states. A three-day survey in late July 1924 revealed an average daily traffic of 1,184 cars, 43 trucks, 30 motorcycles, and 260 pedestrians, along with 37 teams. Horses remained an important mode of transportation in this agricultural area.³⁰

On October 2, 1924, Stillwater's city council passed a resolution formally asking the Minnesota highway commissioner to take over "that part of the bridge . . . situated within the limits of the State of Minnesota, and make it part of Trunk Highway 45," which was just being developed to—and through—Stillwater. State Senator George Sullivan introduced a joint resolution of the Minnesota House and Senate to establish a committee with five representatives from Minnesota and others from Wisconsin, South Dakota, and North Dakota to address issues associated with interstate bridges. It passed on January 8, 1925.³¹

One impediment was a lack of authority. While MDH had a mandate to oversee the trunk highway system the legislation had not addressed interstate bridges. On March 25 Senators Sullivan, Haagenon, Larson, Rockne, Carley, Sorenson, Buckler, and Frisch introduced a bill (SF 1139—44th sess.) to "provide for connecting the highway system of the State of Minnesota, including the trunk highway system, with the highway systems of adjoining states by means of inter-state bridges." It authorized the MDH commissioner to work cooperatively with adjoining states to "construct, re-construct, maintain and repair" such bridges. It also gave the commissioner the power to accept interstate bridges that cities owned and wanted to convey to the state. The bill was immediately referred to the Committee on Public Highways. It had a second reading on March 28 in the Senate, where, after some minor revisions, it passed unanimously on April 14. The House approved the legislation on April 17. It went into effect as of that date. On April 1, with passage of the legislation imminent, Commissioner Babcock had committed to taking over the part of the bridge that was in Minnesota.³²

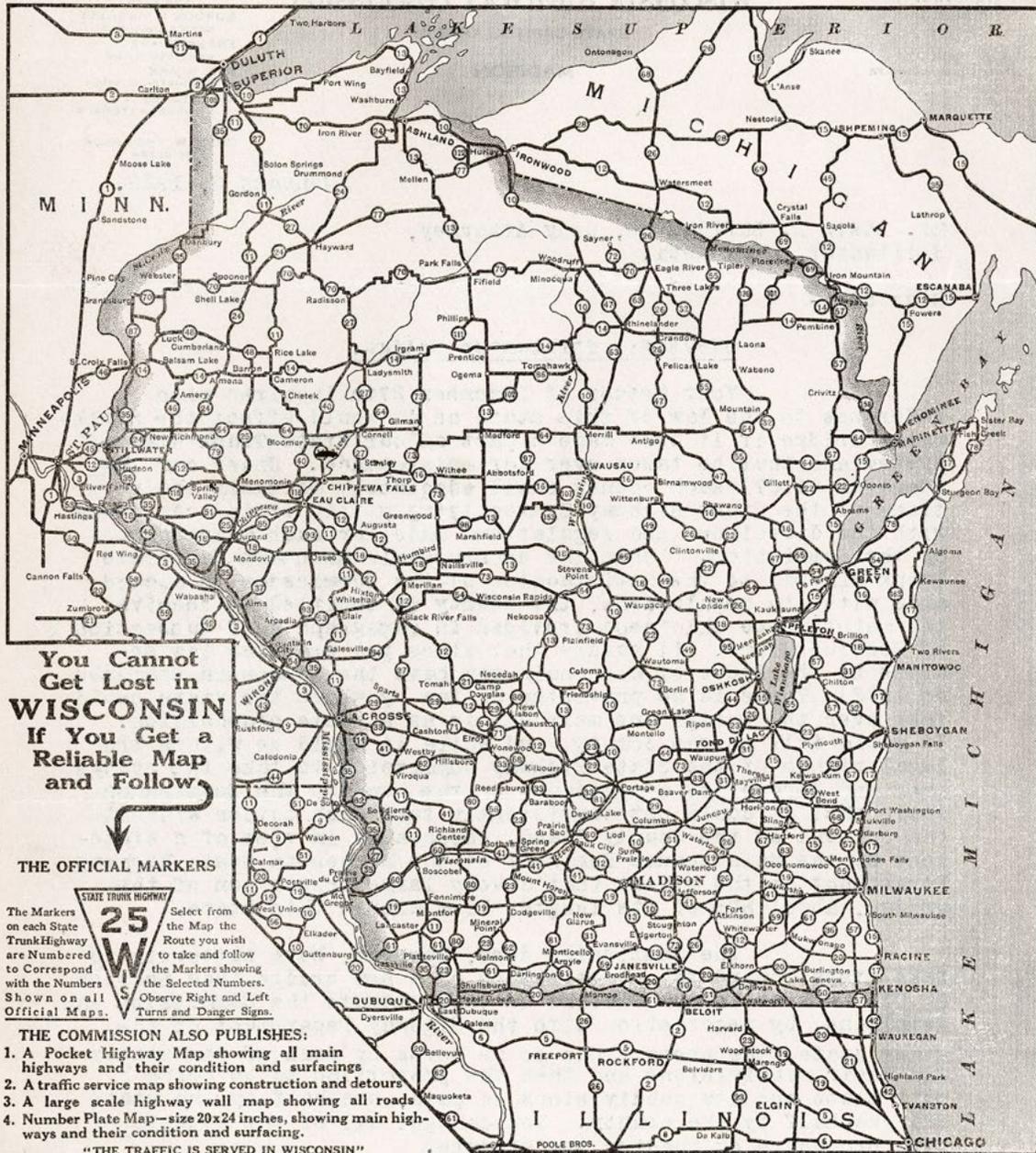
Despite this, Stillwater remained responsible for the Wisconsin end. Buffington had been trying to get Wisconsin to adopt this section as he developed the arrangement with Minnesota. On December 27, 1924, he wrote to MDH's counterpart, the Wisconsin Highway Commission (WHC), "Are you authorized under any law of the State of Wisconsin to take over the part of the bridge at Stillwater crossing the St Croix Lake, which lies within the limits of the State and operate it in conjunction with the State of Minnesota as an interstate bridge? I was informed some time ago that under your law . . . the county in which the bridge was located would have to take the initial step and that later the State would take over the bridge and maintain it."³³

The situation turned out to be more complicated. State laws worked against a collaborative arrangement for maintaining the existing bridge. WHC engineer M. W. Torkelson explained that Wisconsin counties were responsible for maintaining trunk highways within their boundaries. While they could request funds from the state to cover some costs, "there is no provision of law by which the state could take over the bridge and maintain it as a state proposition. It would fall on the county." The state could take ownership of its share of the bridge and require Saint Croix County, at its east end, to take on the burden of maintenance. This option was politically unacceptable without the agreement of the county board, which seemed unlikely. On the other hand, WHC could work with Minnesota to build a new bridge, in which case it would pay half of the state's share. The county remained responsible for the other half.³⁴

Wisconsin and Saint Croix County representatives were also concerned about how much of a bridge, old or new, might end up in their domain because of confusion about the location of the state boundary. In 1924 an engineer at MDH had asserted that 87 percent of the existing bridge was in Wisconsin, which alarmed officials in that state. Buffington countered those fears in a letter dated January 9, 1925, explaining that the engineer "may not have known that the so-called St. Croix River at Stillwater is in reality St. Croix Lake. I have examined [at] the office of the Secretary of State of Minnesota the original survey map of St. Croix Lake and field notes of the Government, showing that the stream is a lake and not a river and, therefore, the middle of the stream would be the dividing line between the State of Wisconsin and the State of Minnesota."³⁵

MAP OF WISCONSIN—"The Playground of the Middle West" SHOWING THE PRINCIPAL STATE TRUNK HIGHWAYS

AND
THE LARGER CITIES AND VILLAGES
Issued by the WISCONSIN HIGHWAY COMMISSION, Madison, Wisconsin



This 1920s map shows Wisconsin's extensive trunk highway system and claims: "You cannot get lost in Wisconsin if you get a reliable map and follow the official markers." (Wisconsin Highway Commission, reproduced with permission of the Stillwater Public Library, Stillwater, Minnesota)

In the same letter Buffington continued his campaign to rid Stillwater of its bridge albatross: "It seems to me, in view of the amount of inter-state travel over this bridge, that the two states ought to devise some means to take over the bridge and maintain it or build a new bridge." With the funding conundrum, this proved to be easier said than done, and years passed. Proponents of the bridge had a glimmer of hope in August 1927 when highway commissioners and engineers from Minnesota and Wisconsin visited Stillwater. Afterwards, MDH construction engineer O. L. Kipp reported that "nothing definite has been decided."³⁶

The following spring Saint Joseph Township, situated at the bridge's east end, held a public meeting to discuss the issue. The chair of the county's highway commission explained that the state, county, or township could initiate the process for a new bridge. If it cost \$600,000, for example, the state would have to pay half and could then pass on one-third of that cost, in this instance, \$100,000, to the county. While better than 50 percent, as asserted earlier, this was still a huge sum for the county. The county could, in turn, assess 40 percent to the even less well-endowed township. Members of the community attending the meeting, Buffington observed, "were of the opinion that it would be out of the question" for the county and township "to bear the burden."³⁷

With the situation in Wisconsin at an impasse, Buffington turned to the federal government. He wrote to Minnesota's U.S. Senator Henrik Shipstead in March 1928. "May I ask if you know of any law of Congress by which Federal aid could be furnished for the building of the bridge here at Stillwater?" Shipstead contacted Thomas MacDonald, the chief of the U.S. Bureau of Public Roads, who responded to Buffington. It was not good news, as Buffington reported to Shipstead in May: "I am afraid that we may not be able to get Federal Aid because a part of the bridge is located within the corporate limits of the City of Stillwater, and the Highway Act restricts expenditure of Federal Funds within municipalities of 2,500 or more population except where, within a distance of a mile, the houses average more than 200 feet apart." He added, "Do you not think it would be a good plan to introduce a bill amending the Highway Act so that it would conform to the situation we have at Stillwater?" He noted that Representative August Andresen had introduced a bill authorizing the construction of the bridge in the House and there were signs of progress across the river. "The Wisconsin

Highway Commission has apparently changed front and it is now taking the initiative to consider ways and means for a new bridge across St. Croix Lake."³⁸

This led WHC commissioners to hold a hearing in Hudson, Wisconsin, on May 16, 1928. Stillwater Mayor G. A. Sheils led a delegation from the city to the meeting. His testimony presented both rational and emotional arguments for the state's involvement. For one thing, roads and bridges were no longer a local issue: "Traffic [has] become nation wide [*sic*] in its ramblings today instead of community wide as it was in the past." There were also structural concerns. "The bridge has now reached the point where it is no longer safe for this heavy load of traffic." To bring the danger to a human scale, he painted a dire picture. "A high wind, a heavy flow of ice or an excessive load may wipe this structure out of existence at any time. Who is going to be responsible should anything happen at a time when fifty or sixty people or perhaps twice that many are on the bridge? Maybe some will be gone beyond recall; some maimed for life. We shudder to think of this kind of thing but every day the old bridge is in use, there are possibilities. Think of trusting those human lives and those loads of produce to wooden pilings which were driven into that river fifty-two years ago. Heaved, twisted, and torn by the freezing of fifty-two springs and falls and a like number of ice flows."³⁹

Buffington also highlighted economic and social reasons for Wisconsin to shoulder its fair share for the bridge. "Heavy trucks carrying milk and the products of the farms of western Wisconsin pass over the bridge on their way to the Twin Cities. . . . There is a Wisconsin highway from the eastern boundary of the State that leads directly to the Stillwater Bridge. . . . Many of the people on the Wisconsin side adjacent to Stillwater send their children to the high school in Stillwater and attend our churches. They find an outlet for the products of their farms by using the bridge." He concluded, "The people of Stillwater have borne the burden of the cost and maintenance of this bridge from 1875 to 1925, when a part of it was turned over to the Minnesota Highway Department. The governing body of the City of Stillwater has felt since 1906 and now feels that the bridge should be free, and that the States of Minnesota and Wisconsin should now build and maintain a modern bridge that will properly take care of the ever increasing traffic. The urgent need of a new bridge is obvious."⁴⁰

The hearing in Hudson did not result in quick action by WHC, and summer months rolled into autumn. Behind the scenes Stillwater and MDH officials began considering other options. At a meeting on October 31 that included chief engineer J. T. Ellison, bridge engineer M. Joseph Hoffmann, and assistant bridge engineer E. J. Miller, Commissioner Babcock indicated he was open to building a toll bridge as a “last resort” and “would cooperate, if no other means is found.” He added that he “wants more time for [an]other solution.” Specifically, he would be attending a meeting in Chicago in November with Bureau of Public Roads Chief MacDonald who “thinks he has [a] plan to force [Wisconsin] in line.”⁴¹

In the end, modifications to federal aid rules, introduced by the Oddie-Colton Bill, were key. As *Badger Highway* reported in December 1928, “under certain restrictions as to population and percentage of nontaxable land are hereafter permitted to use Federal Aid up to 100 per cent on certain projects provided the State uses the amount of State funds released from those projects on other projects on the Federal Aid System, during the same fiscal year.” With this change, WHC required Saint Croix County to pay its share for the new Stillwater bridge. In November 1928, the county commissioners finally agreed to comply. The law also brought a change that cheered Stillwater. The policy that had restricted the use of federal aid in towns with populations over 2,500 was reversed. Although the law contained “a proviso . . . that limits Federal funds for bridges to municipalities having a population of less than 30,000, . . . an exception is made for interstate bridges connecting a larger municipality in one State with a municipality of less than 10,000 in an adjoining State”—an exception tailor-made for the Saint Croix crossing.⁴²

Wisconsinites who had resisted involvement with the bridge under the previous rules had been active in Washington, DC, blocking necessary federal approval for the bridge’s construction. When the funding roadblock was cleared, the Seventieth Congress took action. HR 13502 was introduced in the Senate on January 7, 1929, and referred to the Committee on Commerce. On February 13, Congress approved Public Law 740, which authorized Minnesota and Wisconsin “to construct, maintain, and operate a free highway bridge across the Saint Croix River at or near Stillwater, Minnesota.”⁴³

The Corps, the Crossing, and the Controversy

While political issues were being worked through, the highway departments were busy developing plans. Because the bridge would be over a navigable waterway, the Corps had to approve the plans to ensure the structure would not impede river traffic. In the early days of the area's settlement, the lumber industry had demanded the pontoon span. It was also prudent to keep options open to see how the waterway developed. By the early twentieth century, the Saint Croix's use as a navigable river was being transformed from commercial—log drives and boats transporting passengers and freight—to recreational. The recreational traffic was primarily small craft that could slip under the bridge's fixed spans. In 1931, MDH reported, "Our records over a period of years show that the old pontoon bridge . . . was not required to be opened for navigation purposes more than once or twice per year."⁴⁴

It would take an act of Congress to change the river's navigable status. Regardless, MDH and WHC decided to test the waters and propose a new bridge that did not have a movable span. That would reduce maintenance and operating expenses and eliminate traffic delays on both the road and river. The west end of the 700-foot structure would be at Chestnut Street following the alignment of the existing bridge. On the bridge's east end, fill would be installed to create an embankment carrying the roadway almost 2,000 feet to the shore. MDH submitted the application to the U.S. Secretary of War and the Corps in 1928. The Corps held a public hearing on the application in Stillwater on September 6. Based on the testimony at the hearing, the Corps denied the application. The main objection was "the fact that the plans did not make provision for the inclusion of the movable span as part of the initial structure." MDH and WHC went back to the drawing board.⁴⁵

Other minds were also at work on design issues. By the end of 1928 city engineer John Abercrombie had proposed, with private encouragement from MDH, an upstream alignment at Mulberry Street, where a point of land stretched into the water. The city council endorsed this location, passing a resolution affirming the preference on January 8, 1929. The Chestnut Street plans for a 700-foot structure and a long east embankment "would greatly tend to destroy, for all time, the wide expanse of water that is now, and should be for all time, Stillwater's lake front." The Mulberry Street location, on the other hand, "is

physically much more adaptable and if chosen . . . the necessity for destroying the water front will be eliminated and traffic conditions for Stillwater and the country side generally would be better served."⁴⁶

The initial reaction from a reviewer at the Corps was positive: "The lake at this point is 400 feet narrower than at the present location; this alone would eliminate 40 per cent of the big fill" in Wisconsin, and "the grade connecting with the Houlton hill would be lessened." He had worried that the embankment in the 1928 plan would, as it had at a similar bridge downstream at Hudson, Wisconsin, raise the level of silt in the river above the crossing, exposing "the deposits of all time—mud, logs, dead animal matter, etc."⁴⁷

Changing the western terminus was not universally favored in Stillwater, however. A petition circulated by downtown businessmen opposing the move had drawn approximately three hundred signatures by the end of January 1929. Residents on the east end of the bridge also had concerns about changing the location. A letter to the *Stillwater Gazette* editor, titled "Bridge Delay Costly to Wisconsin Farmers," fumed: "For years this bridge has been under consideration and in the proposed plans Chestnut street has always been the accepted site. . . . Stillwater surely had knowledge of the bridge situation. . . . But now ten months too late, the city engineer would have us believe that the Minnesota highway engineers are making a 'colossal blunder' by locating the bridge at Chestnut street. If the blunder, if any, was so colossal, surely it should have been apparent months ago."⁴⁸

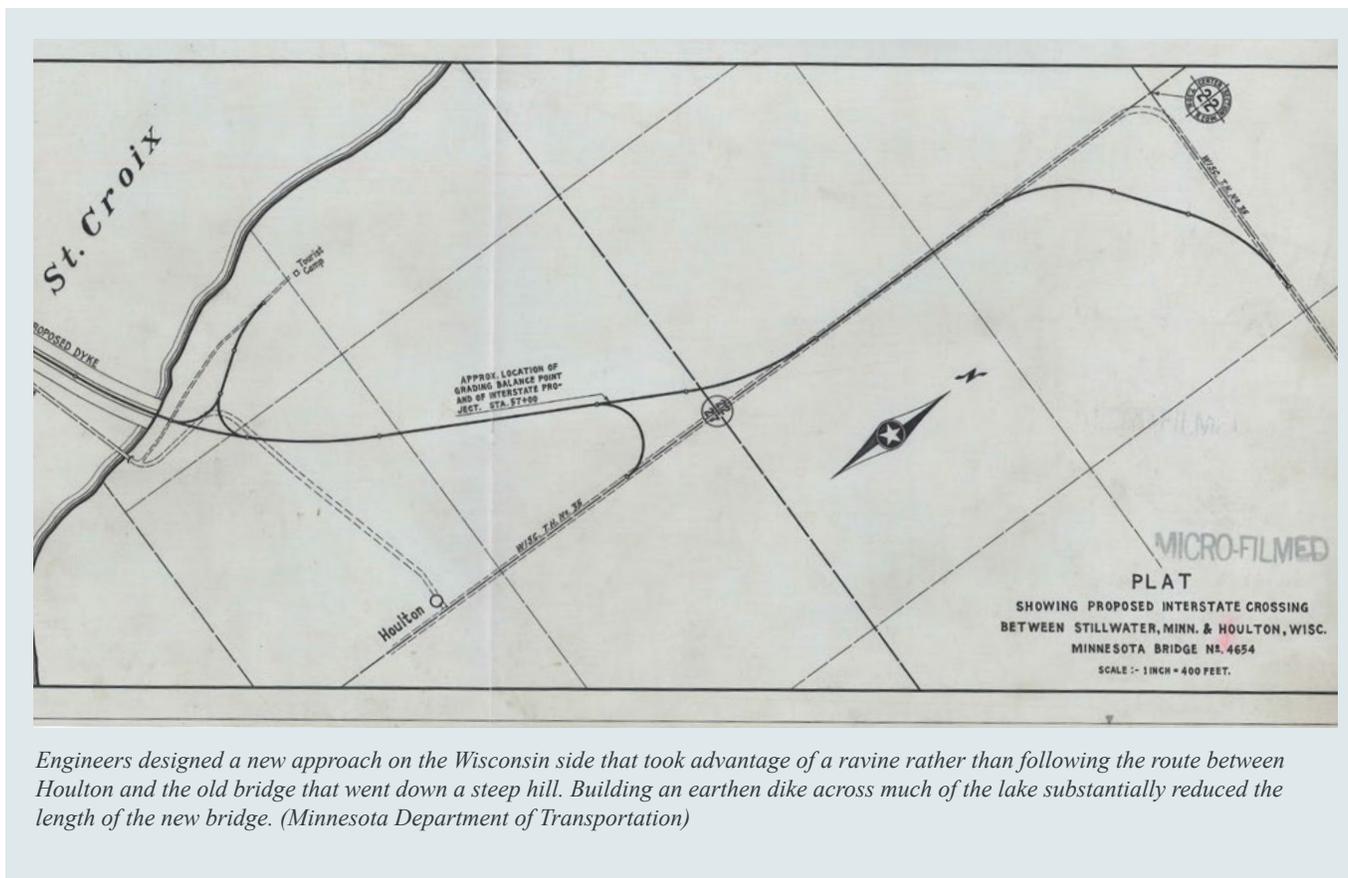
Given the controversy, MDH decided to consider both the Chestnut and Mulberry Street alignments when it relaunched field investigations early in 1929. The fieldwork was needed, Commissioner Babcock noted, because preliminary investigations made several years before were "never followed up in complete detail at the time due to the fact that the matter was being so strongly opposed by the St. Croix county authorities."⁴⁹

In the meantime, the Northern Pacific Railway joined the opposition to the Mulberry site. The railroad, which had extensive lines of railroad track along the west bank, noted "congested conditions" in the vicinity. "From a railway standpoint the opening of a crossing at Mulberry Street would be dangerous and much more objectionable than a crossing at Chestnut Street."⁵⁰

Some wanted the new bridge to align with Chestnut Street, as the earlier bridge did. Others advocated for a location upriver at Mulberry Street, an option illustrated in the top drawing. The lower drawing shows that soundings were taken to check conditions on the river bottom at both locations, but Chestnut Street—with an improved approach on the Wisconsin side—prevailed.

(Top: Minnesota Department of Transportation; Bottom: reproduced with permission of this Stillwater Public Library, Stillwater Minnesota)





Engineers designed a new approach on the Wisconsin side that took advantage of a ravine rather than following the route between Houlton and the old bridge that went down a steep hill. Building an earthen dike across much of the lake substantially reduced the length of the new bridge. (Minnesota Department of Transportation)

Representatives from both state highway departments met onsite again on June 5, 1929. On June 11, WHC agreed to join MDH in building the bridge, including the movable span, with Chestnut Street as the western terminus. A week later MDH Bridge Engineer Hofmann officially informed Stillwater City Engineer Abercrombie of this decision, noting that there had been a change to the eastern approach: “The so-called side-hill road will be eliminated and the new approach will cut up thru the so-called Houlton ravine.” He explained that this change “was deemed advisable when we obtained the approval of the Wisconsin Highway Commission on the question of using a 7 percent grade on this approach, insofar as we believe that this particular location of the road will involve less initial expense as well as occasion less difficulties in connection with future maintenance work.” Hoffman closed by announcing that “we have today transmitted our formal application for the construction of this bridge to the War Department.”⁵¹

In July 1929 the Corps held a public hearing on the revised bridge plans. The *Stillwater Gazette* reported that “there was a good sized crowd in attendance, including a number of women.” Major R. C. Williams, the Corps’s district engineer and the hearing moderator, said he “knew that there were some differences’ relative to the construction plans of the bridge,” but “he impressed upon those attending that the war department was interested only in regard to the effect of the proposed bridge on navigation.” Participants cooperated, and neither city officials nor a local business association expressed objections.⁵²

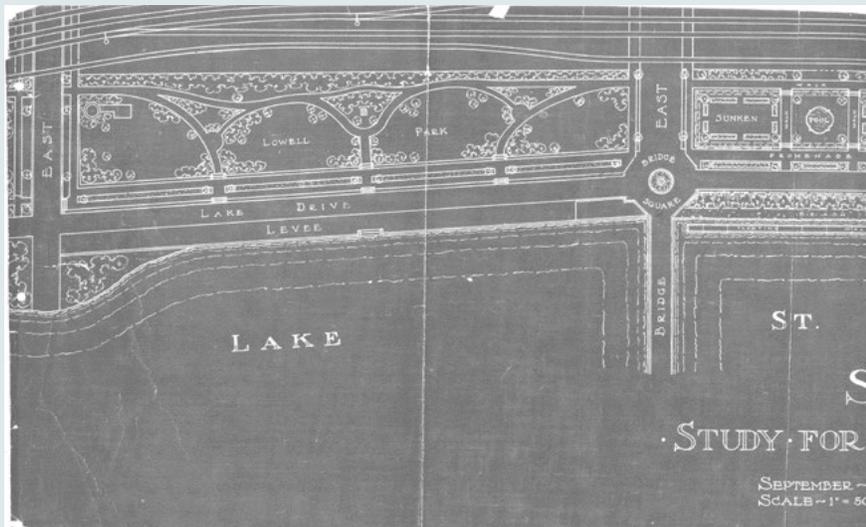


The future site of Lowell Park was an industrial wasteland in the early twentieth century. (Chester Sawyer Wilson, photographer; Minnesota Historical Society)

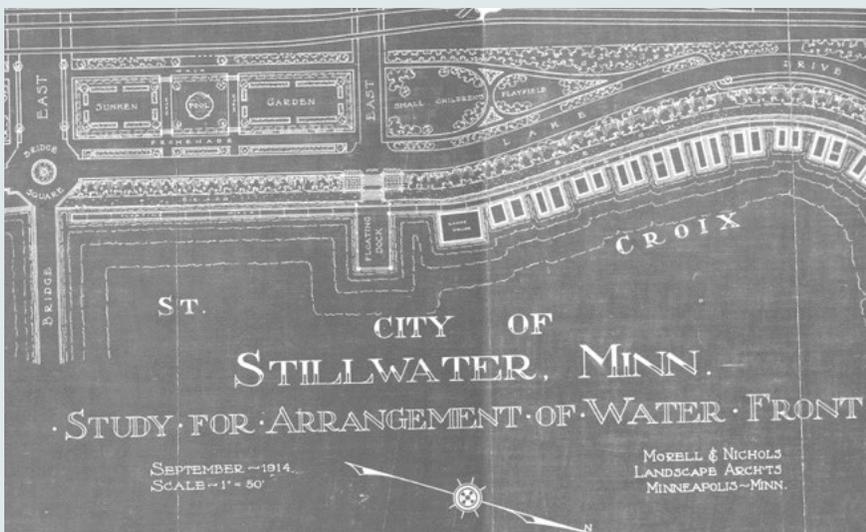
The Setting: Planning the Parks

Because the bridge's western terminus would remain at Chestnut, its approach would continue to bisect a highly visible location on Stillwater's levee. While the riverfront had a utilitarian function early on, industrial activities along the Saint Croix were reduced as lumbering declined. Civic boosters identified the riverfront as a potential amenity, part of a larger "City Beautiful" vision for Stillwater. The levee was secured for parkland in 1910 with a combination of public and private funds. The park was named in honor of local hotelier Elmore Lowell, who made the largest private donation.⁵³

The Minneapolis landscape architecture firm Morell and Nichols submitted drawings to the City of Stillwater for the "Arrangement of [the] Water Front" in September 1914. The design featured a circular concourse, labeled "bridge square," at the west end of the pontoon bridge. Lake Drive intersected the bridge approach at the concourse. A planting in the middle of the concourse created a roundabout. To the north of the bridge a narrow beach edged the riverfront, lined by floating walks, a floating dock, a canoe house, and boathouses. A larger bathing beach was beyond a small peninsula with a boat clubhouse and recreation grounds. A linear planting area separated the beach area from Lake Drive. Between the road and railroad tracks to the west were a formal sunken garden with an ornamental pool. Farther north, there was a small children's playfield.⁵⁴



Landscape architects Morell and Nichols drew up plans for a park on the waterfront. (Morell and Nichols, "City of Stillwater, Minn.—Study for Arrangement of Water Front," September 1914, at Minnesota Department of Transportation)



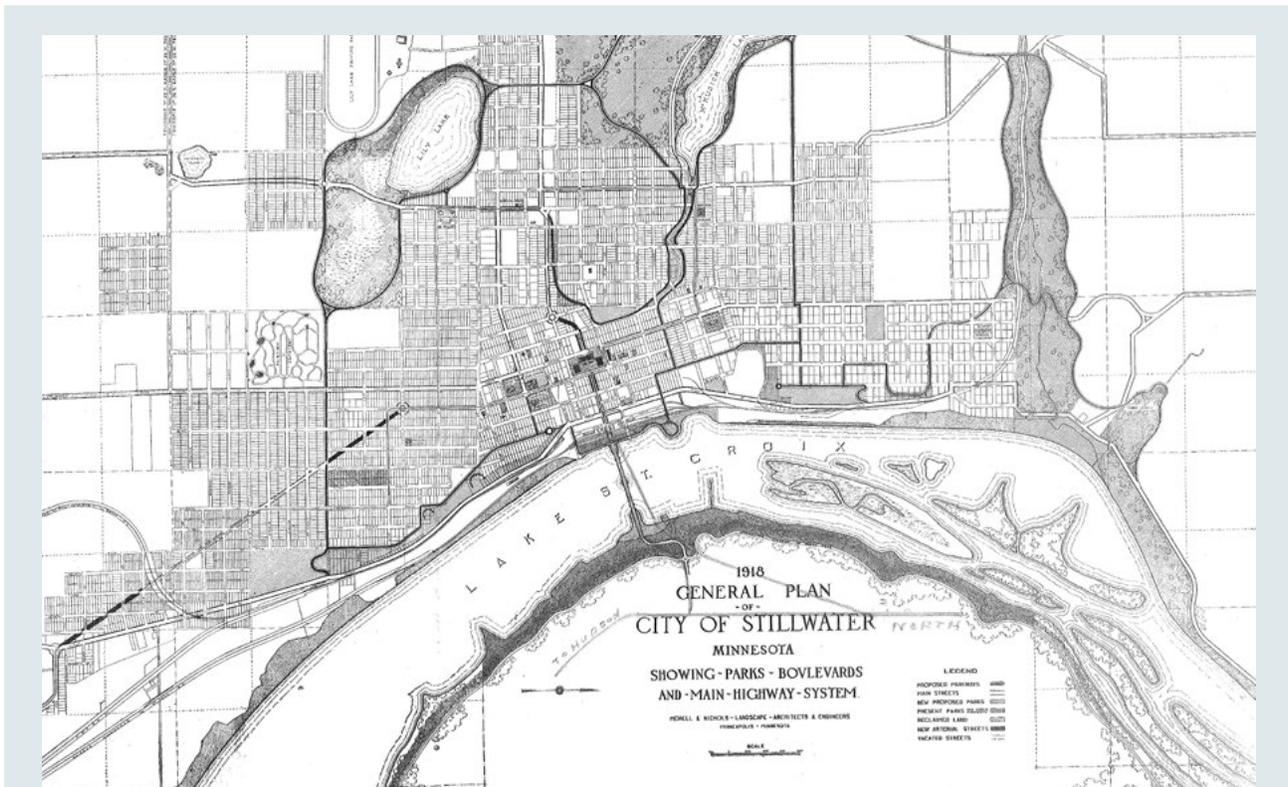
The industrial levee was soon transformed into a park. (John Runk Photograph Collection, Minnesota Historical Society)

A 1918 plan by Morell and Nichols showed the riverfront park being connected to a larger system of parks and boulevards extending throughout the city. The road leading from the bridge would terminate a few blocks to the west in a U-shaped civic plaza fronting on Third Street.⁵⁵

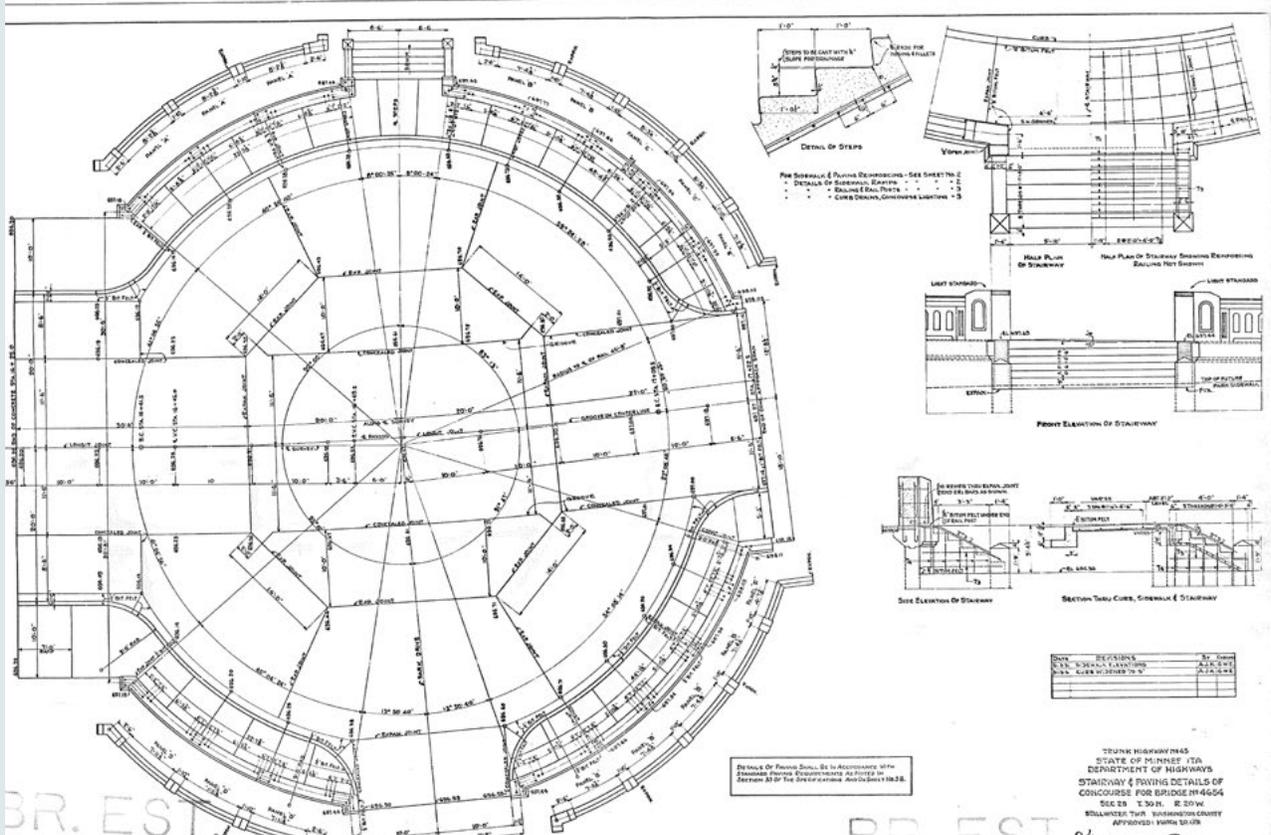
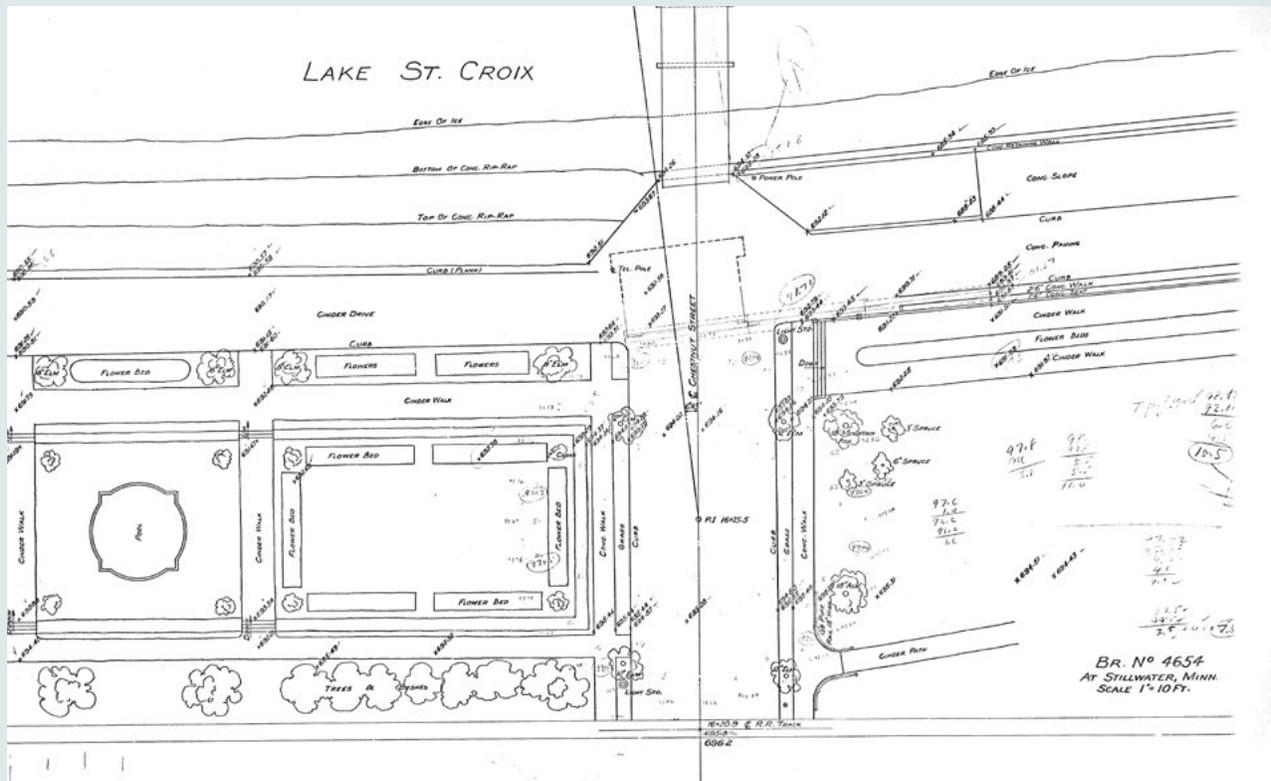
While the civic plaza was never realized, the concept of a concourse at the west end of the bridge had support. When it was not included in the bridge plans MDH developed in 1929, disappointed community members forced yet another delay in the start of construction. This was resolved in February 1930 when two interrelated landscape architecture firms—Morell and Nichols and the recently established partnership of Nichols, Nason and Cornell—presented a study with a “concourse as [a] terminal feature to Chestnut Street,” as well as a “rearrangement of Lowell Park and park driveways.”⁵⁶

This solution had not come easily. As MDH bridge engineer M. J. Hoffman explained, “We have encountered some rather serious objections on the Stillwater end of our bridge project due to the fact

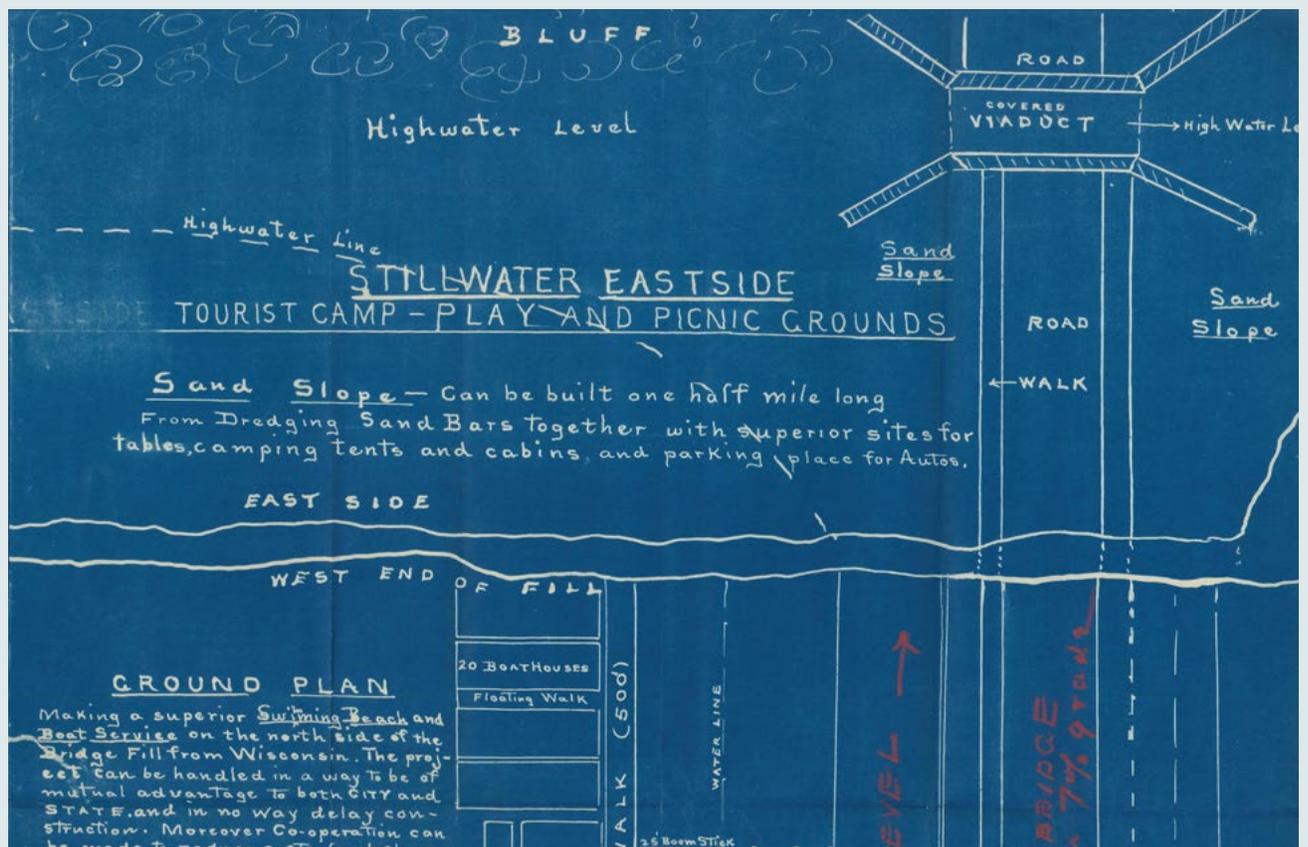
that our bridge is to be built higher than the present approach leading to the old structure with the result that a rather considerable amount of work will be required to reconstruct the city park to conform with the new bridge head conditions.” After a series of meetings with the city council and park board in early 1930, a compromise was reached that extended the point of intersection (PI) to the center line of the easterly railroad track that crossed Chestnut Street, about 55 feet west of the PI’s initial location. This “will permit the use of a circular plaza scheme developed by the landscape architects, which we believe will harmonize well with our layout for the proposed separation of the city parkway traffic.” The diameter of the circular plaza, to the inside of the curblin, would be about 80 feet with no center island. As MDH chief engineer J. T. Ellison explained, “Our department has consistently taken the stand that these center areas should not be built on trunk highways, and furthermore has been seeking the elimination of such existing center obstructions, as were built on the main highways previous to the time that they were incorporated in the trunk highway system.”⁵⁷



The ambitious 1918 “general plan” designed by Morell and Nichols called for a civic center at the end of Chestnut Street, which was not completed. (Morell and Nichols, “1918 General Plan of City of Stillwater, Minnesota, Showing Parks, Boulevards, and Main Highway System,” 1918, at Minnesota Department of Transportation)



Chestnut Street extended straight to the new bridge in the first plan prepared by Morell and Nichols. By March 1931, a concourse had been added. (Top: Morell and Nichols, "1918 General Plan of City of Stillwater, Minnesota, Showing Parks, Boulevards, and Main Highway System," 1918; Bottom: "Stairway and Paving Details," MDH; both at Minnesota Department of Transportation)



Stillwater had ambitious plans for a tourist camp, play area, and picnic grounds on land it owned on the Wisconsin end of the bridge. (Minnesota Department of Transportation)

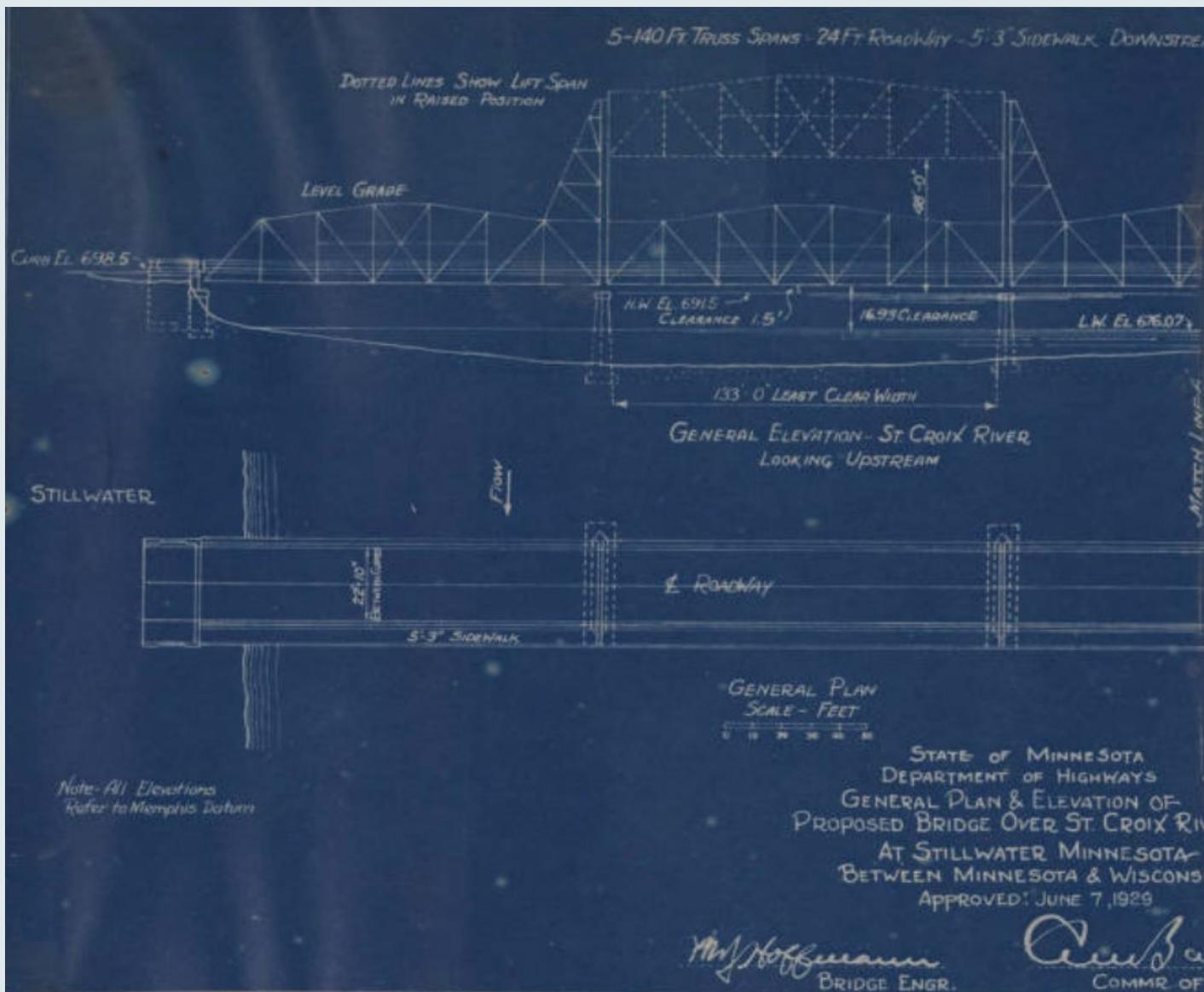
In the meantime, plans were proposed for an extensive tourist camp, picnic area, and recreational grounds on the land Stillwater owned north of the bridge on the east side of the river in Wisconsin. One drawing promised that “the project can be handled in a way to be of mutual advantage to both city and state, and in no way delay construction.” A half-mile-long sand beach would be created by dredging sandbars that clogged parts of the river. The facility would include “superior sites for tables, camping tents and cabins, and parking place for autos,” as well as a 500-foot-long floating walkway, twenty boathouses, and a “canoe house and boat livery.” In the end, improvements at the east end were very limited and the city focused on improving Lowell Park on the west bank.⁵⁸

Designing Engineers

MDH engineers developed most of the plans for the bridge. One of the early decisions was to create an earthen causeway on the east side. This reduced the 1,800-foot wide channel to a more manageable 1,050 feet, substantially decreasing the cost of the structure. It also improved the transition between the Wisconsin bluff and the significantly lower elevation of Stillwater. Instead of following the alignment of the existing east approach road, which went straight up the bluff, the new road would angle to the northeast to take advantage of a ravine. In spring 1929, as optimism grew that the bridge would be built soon, MDH Commissioner Babcock and Bridge Engineer Hoffman

signed off on a design for the bridge that included five 140-foot Parker through-truss spans with a 24-foot roadway and a 5.25-foot sidewalk cantilevered from the downstream side. The second span from the west would be a vertical lift. There would be a short stringer approach span on the east and none on the west.⁵⁹

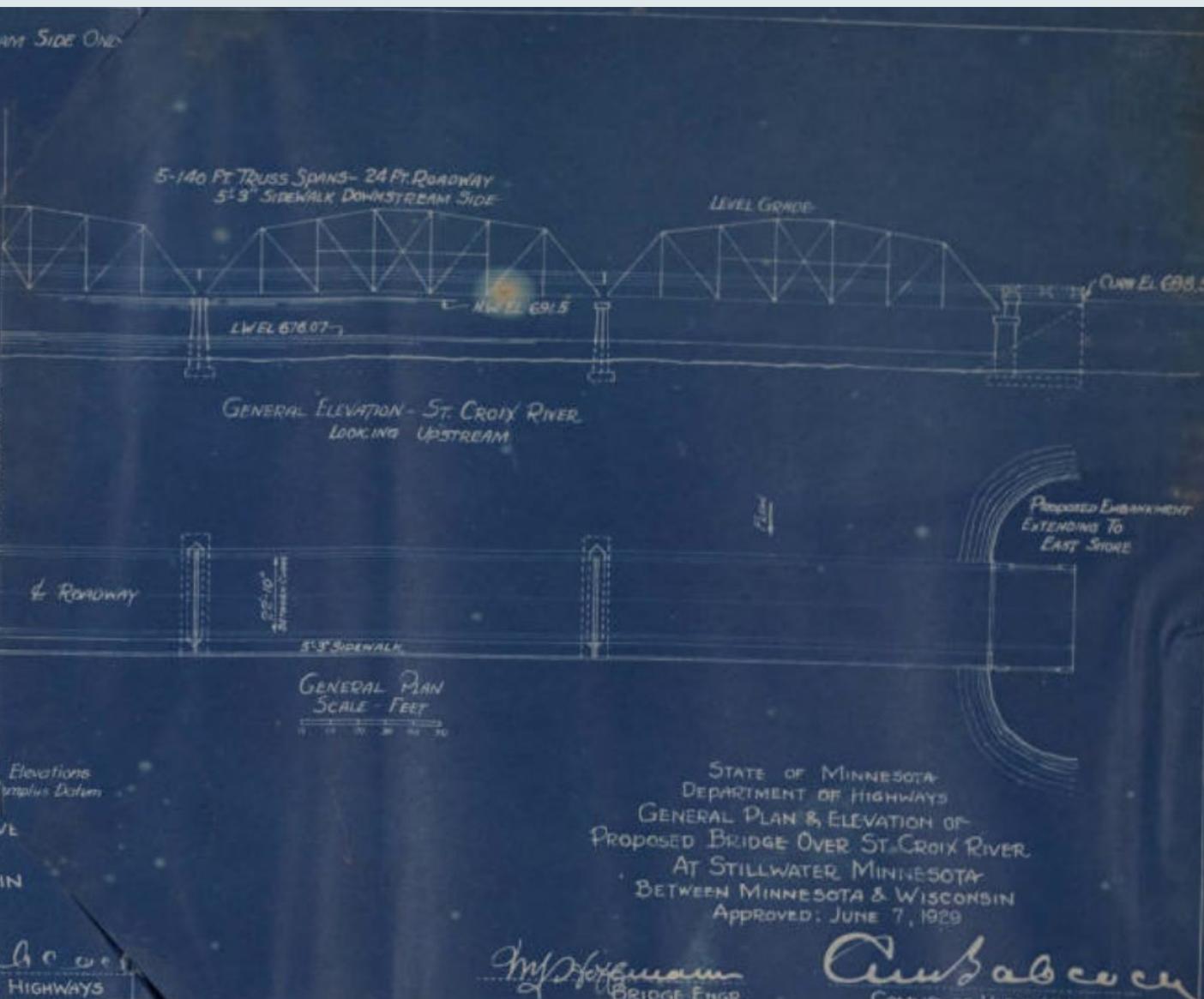
While MDH had the capacity to prepare most of the bridge plans in-house, the lift span was a task for specialists. A draft of instructions to consulting engineers interested in the project noted that “the designer shall furnish complete plan for lift span including the design of the supporting towers and pier and piling plan.” In addition, the consultant had to provide estimates of the cost of the span and the

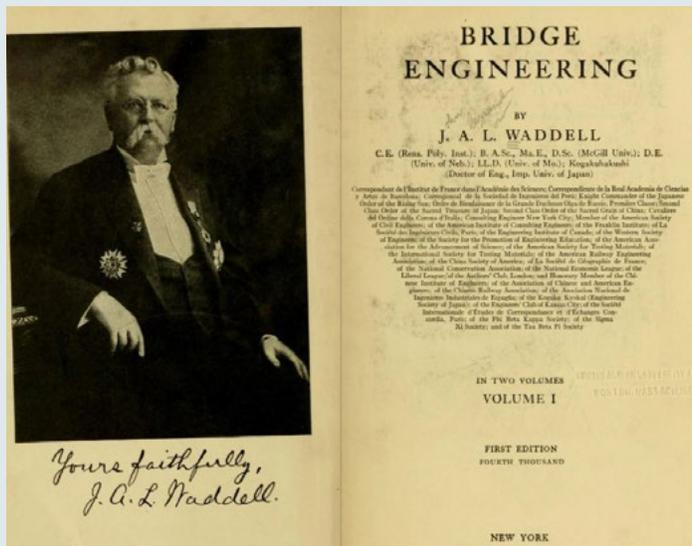


In June 1929, plans for the bridge included the lift span and five additional fixed through-truss spans as shown in this general plan and elevation. (Minnesota Department of Transportation)

quantity of materials required and examine shop drawings from fabricators and “assume financial responsibility for the final accurate fitting and satisfactory operation of [the] lift span.” MDH set out some design features, although not all were ultimately implemented as anticipated: “The machinery house shall be located on top of the trusses at [the] center of [the] span. Power for lifting shall be electrical using [a] motor of minimum horse-power. . . . The operating mechanism shall be capable of raising bridge the full 48 ft. in not less than (6) six minutes.” The instructions, which were accompanied by survey sheets and other information, indicated that the “bridge will only be opened at rare intervals.”⁶⁰

In 1929, five engineering firms bid on the chance to design the span, with substantial variation in the fees and schedules. Most of the companies proposed to produce plans five to six weeks after receiving the contract. Straus Engineering, though, wanted three months. Charles E. Foster submitted the highest fee, \$8,500, but included alternatives that dropped the price to \$5,000. The higher fee apparently covered three site visits while other proposals included none. Near the lower end of Foster’s range were Straus Engineering (\$6,000) and Waddell and Hardesty (\$5,500). The Scherzer Rolling Lift Bridge Company was lower at \$3,900, but the lowest bid, \$2,800, came from Ash Howard Needles and Tammen (AHNT). AHNT won the bid.⁶¹

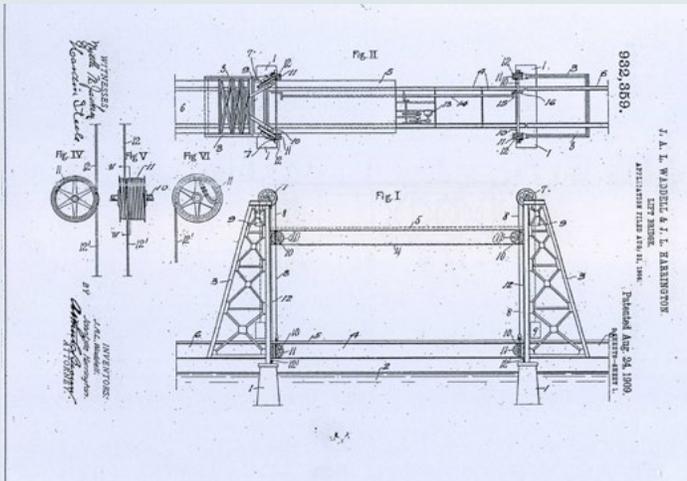




*Yours faithfully,
J. A. L. Waddell.*

Waddell published a book on bridge design in 1916 that became an engineering classic. (J. A. L. Waddell, *Bridge Engineering*, vol. 1 [New York: John Wiley and Sons, 1916])

Ash Howard Needles and Tammen was an outgrowth of a practice established in Kansas City, Missouri, in 1887 by internationally renowned bridge engineer John Alexander Low Waddell. When John Harrington became a partner in 1907 the firm was renamed Waddell and Harrington. Henry Tammen joined the group the following year. In 1914 Harrington left Waddell to found Harrington, Howard and Ash with Emmanuel Needles and Ruben Bergendorff, who later became partners, started with the firm in 1917 and 1922, respectively. When Harrington departed in 1928 the firm was reorganized as Ash Howard Needles and Tammen.⁶²

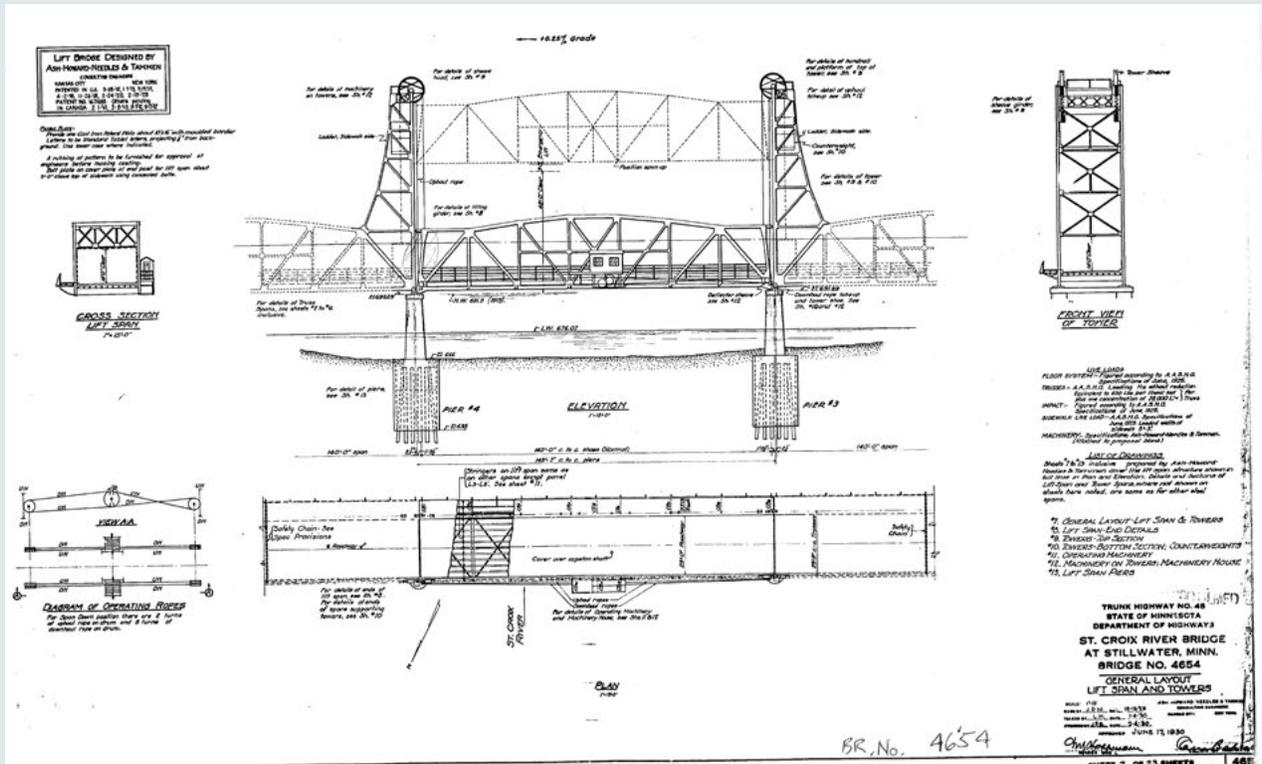


Waddell and Harrington applied for a patent for a lift bridge in August 1908 and received the patent a year later. (J. A. L. Waddell and J. L. Harrington, *lift bridge*, U.S. Patent 932,359, filed August 31, 1908, and issued August 24, 1909)

The design process was a collaboration between the consulting engineers and the client. Refinements in the design were documented in a series of letters between AHNT and MDH. AHNT drafted drawings and sent them to MDH, which challenged certain aspects of the design. AHNT responded, sometimes with revised plans, sometimes with counters to MDH's challenges. And another round began.

AHNT also made modifications as it learned more about existing conditions. After receiving new soundings from the bridge site, Henry Tammen wrote to Hoffman in January 1930: "We have given considerable study to the lift span piers, trying to secure an inexpensive pier and one which at the same time will be adequate in every way to take care of the loads both from the superstructure and from ice."

After describing the proposed solution in detail, Tammen broke the news that "these two piers will cost probably not less than \$55,000.00." This was "about \$20,000.00 more than the approximate figure we had given you" before receiving the data from the soundings which apparently disclosed "the unusually soft material at the top to a depth of about 28 ft. below the river bottom." Hoffman signed off on the final design of the lift span in June 1930.⁶³



A plan of the general layout of the lift span and towers was issued in June 1930. (Minnesota Department of Transportation)

Summary of Bids for Consulting Service 12nd 7 1930

Name & Address	Waddell & Hardesty	Straus Engineering Corporation	Schaefer Rolling Lift Bridges Co	Chas. E. Fowler	Ash, Howard Needles & Tammen	Keller & Harrington
1) Fee	\$5500	\$6000	\$3900	\$8500 or \$5500	\$2800.00	
2) Terms of Payment	40% on completion of P&E. Bal	30% 60% 10% to 10%	60% 30% 10%	70% 30%	\$2500 2300	
3) Time for plans	6 weeks	3 months	6 weeks	5 weeks	6 weeks	
4) Approve Details	Yes	Yes	Yes	Yes	Yes	
5) Inspector Salary	X See #9	\$400 per mo	See #9	\$350.00 per mo	\$400-1.7mo \$300-10at	
6) Personal Inspections	X ?	?	?	3 Trips	None	
7) Use of Patents	Unrevised & controlled.	Included in Fee	Included in Fee	Not stated	Included in fee	
8) Furnish Estimate	Yes	Yes	Yes	Not stated	Yes	
9) General Inspections	X Yes	See #5	Yes?	See No 5 & 6	Free by owner's expense	

Bids for erecting the lift span are summarized in this handwritten table. (Minnesota Department of Transportation)

Grading Gets Going

The project's first major contract was for grading the approaches. The bidding was overseen by WHC. Eleven bids had arrived at the Eau Claire division office by the deadline of January 23, 1930. One of the bids did not include the required certified checks and was disqualified. The remaining bids ranged from a high of \$156,288 to a low of \$116,179. Clement F. Sculley, who presented the latter, was awarded the contract.⁶⁴

Sculley inaugurated the construction of the bridge on January 30, 1930, when a steam shovel dug into the Wisconsin grade for the east approach. The contractor placed fill to build up a 700-foot causeway to reach the east end of the bridge. The work progressed well until crews reached a section about 500 feet from shore, where the fill settled more than expected. The contractor added more fill and it settled again. By May 1930, MDH and WHC engineers had concluded that they needed to consider adding two, and perhaps three, 140-foot truss spans to the eastern end of the

heretofore five-span bridge. This resulted in a delay of the letting for the bridge contract, which had been planned for June 28, 1930, and caused the departments to scramble for the more than \$55,000 the two spans would cost. There was also concern that adding the spans would increase the angle of the roadway's descent as it passed over the bridge, perhaps requiring the lift span to have a slight grade of .25 percent or less. Consulting engineer Henry Tammen reassured the state engineers that "there is no objection at all" to that amount of grade. "We have several lift spans in operation on a grade and they operate just as satisfactorily as if they were level."⁶⁵

The engineers soon decided the bridge need be no more than seven spans, and perhaps six, but "no definite decision will be made in this matter until the grading work is substantially completed." As time went on it became clear that conditions on the east side required the seventh span, although there was still hope, even after the bridge went out to bid, that only six spans would be needed.⁶⁶



A steam shovel was making progress excavating the Wisconsin approach to the bridge by February 1930. (John Runk Photograph Collection, Minnesota Historical Society)

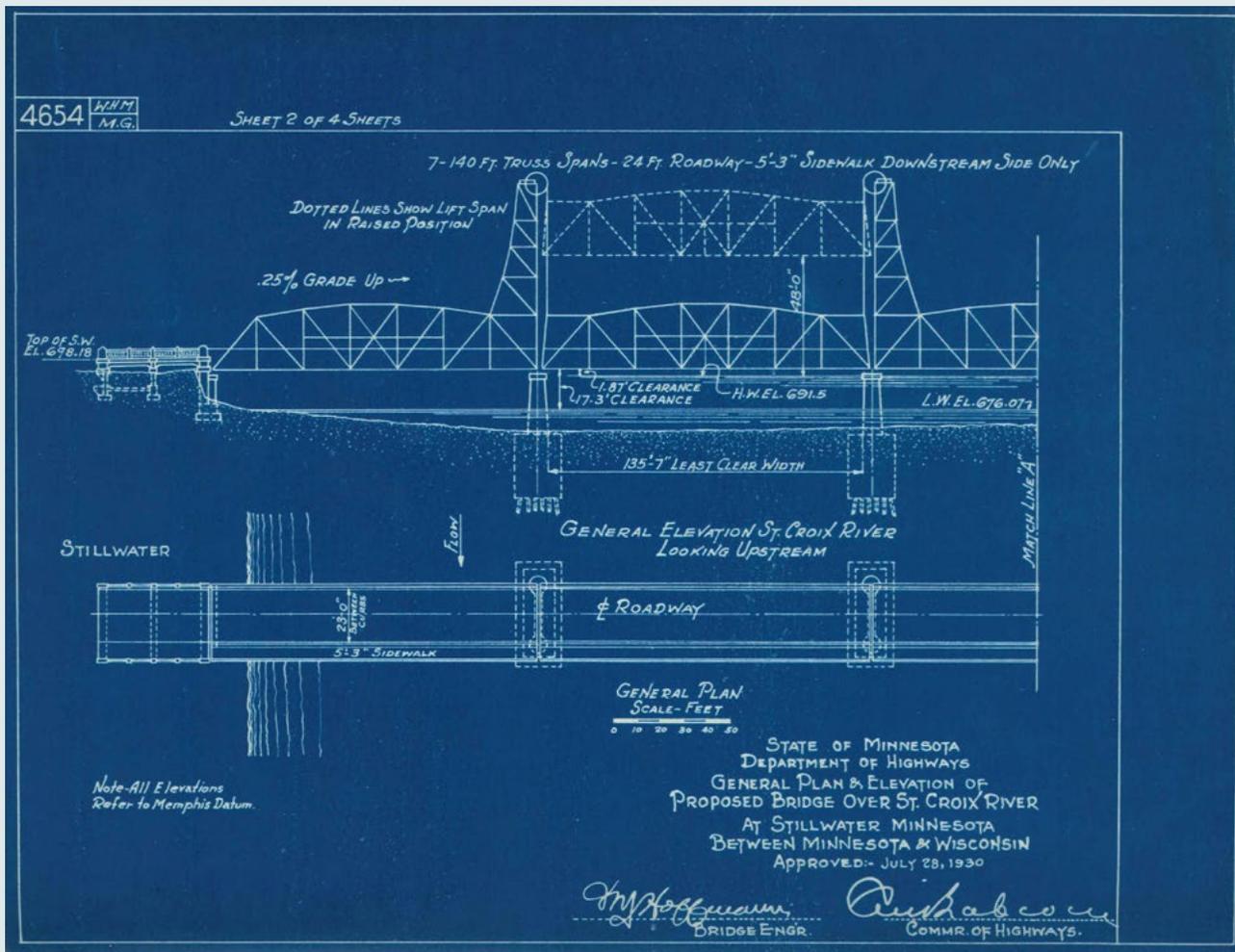


By March 1930, crews were placing fill for the dike for the east approach to the bridge. (John Runk Photograph Collection, Minnesota Historical Society)

The Big Bid

In June 1930, WHC and MDH issued a notice to contractors soliciting bids for construction of “a steel and concrete bridge consisting of seven 140-foot steel spans (including one 140-foot vertical lift span) and two 20-foot concrete approach spans with a 24-foot roadway and one sidewalk.” A special provision in the solicitation noted that “owing to the present uncertainty in regard to the east approach fill, it may later be deemed advisable to shorten the bridge proper by the possible elimination of one 140-foot truss span and one pier at the east end.” Bids would be opened on July 22, 1930, at 10:00 a.m. at MDH’s office at 1246 University Avenue in Saint Paul.

The announcement listed major items in the project and the estimated quantities, including excavation (2,580 cubic yards wet, 1,125 cubic yards dry and an additional 1,160 cubic yards for the underpass on the Minnesota end), 3,057 cubic yards of concrete, 148,970 pounds of steel reinforcing, 1,682,975 pounds of structural steel liftspan machinery and bridge lighting “complete.”⁶⁷



Engineers prepared plans adding a truss span to the bridge by July 1930, bringing the total number of trusses to seven. (Minnesota Department of Transportation)

The contractor had to begin construction no later than August 5, 1930, and be finished with the entire project by September 15, 1931, with some intermediate deadlines and restrictions. “The west abutment, retaining walls, underpass approach, paving and approach spans, except railings” had to be done by November 1, 1930. By the following May, all the piers and structural steel had to be in place except for the east abutment, the adjacent pier and the related steel spans. Work on those components could not start until spring 1931 to allow the fill at the east end to settle. Because questions remained about the construction of the east approach contractors were cautioned not to order materials for the east abutment until authorized by MDH. The contractor’s operations would be based on the west bank where there would be limited space to store equipment and materials. Chestnut Street, which would be closed between the railroad tracks and the shoreline, would be available, “but attention is called to the required filling of this area with material obtained from the underpass and foundation excavation.” The contractor had to vacate the concourse area at the bridge’s west end early in 1931 to allow concrete to be placed for the road and sidewalks. MDH could also offer a small area in the park south of Chestnut Street, but the use of land beyond that required permission from the City of Stillwater. MDH warned that “any portion of the park used by the Contractor must be restored to its original condition upon completion of his operations. Suitable protection to prevent injury to any trees and shrubs must be provided.” Installation of the concrete and ornamental iron railings would also wait until spring.⁶⁸

More than two dozen companies requested plan sets from MDH. The list read like a who’s who of the region’s large bridge fabricators including the Continental Bridge Company and McClintic-Marshall Company of Chicago; the Saint Paul branch of another important Chicago firm, the Illinois Steel Bridge Company; the International Steel and Iron Company of Evansville, Illinois; the Worden Allen Company, Wisconsin Bridge and Iron Company, Lakeside Bridge and Steel Company, and Milwaukee Bridge Company, all of Milwaukee; the Wausau Iron Works of Wausau, Wisconsin; the Clinton Bridge Works of Clinton, Iowa; and the Kansas City Bridge Company. The list also included firms that were interested in specific components of the project, like the Benson Electric Company of Superior, Wisconsin; the V and M Electric Company from Menominee, Michigan; and the Fowler Electric Company of Toledo, Ohio.

General contractors that expressed interest included the Thorton Brothers Company, Saint Paul; Fegles Construction Company and Industrial Contracting Company, Minneapolis; Theo Jenson, Saint Cloud; and Stein Construction Company, Milwaukee.⁶⁹

When the deadline for bids arrived eleven contractors vied for the job: Industrial Contracting, Stein Construction, Wausau Iron Works, S. J. Groves, Minneapolis Bridge Company, Peppard and Fulton, Wisconsin Bridge and Iron, Siems-Holmars, Koss Construction Company, Kansas City Bridge Company and the Widell Company. The highest bid, submitted by Groves, was \$384,440. The three lowest were Peppard and Fulton (\$247,202), the Minneapolis Bridge Company (\$262,273), and the Widell Company (\$267,622). After evaluating the proposals, MDH went with the low bidder, Peppard and Fulton, a Minneapolis contractor with headquarters in the Roanoke Building. Engineer Henry Tammen was surprised by the bids, telling Hoffman, “The prices which you received are exceptionally low and you are certainly going to secure a lot of bridge for the amount of money being spent.”⁷⁰

MDH had requested the names of companies that would be supplying materials for the project, and on July 28 Peppard and Fulton complied. While the sources of some materials, including paint, asphalt, and aggregate, had not been determined, major suppliers were in place: Universal for the Portland cement, with the product shipped in from Duluth by two dealers, the Consolidated Lumber Company and the Bluff City Lumber Company; the Kalman Steel Company of Chicago for the reinforcing steel; and the American Bridge Company for the structural steel, from its plants in Gary, Indiana, and Minneapolis.⁷¹

Maintaining the Crossing

There was no question about maintaining passage over the Saint Croix while the new bridge was under construction. None of the solutions, however, were optimal. The old bridge was hanging on by a wish and a promise, and settlement from the fill for the approaches to the new bridge was destabilizing the pile bents supporting the old structure, making matters worse. At one point, a section near the east end of the old bridge collapsed and MDH restored it with an oddly curved alignment in the hope of avoiding a repeat of the same problem. MDH also built an 8-foot by 30-foot barge with a 4-inch centrifugal pump to remove fill that was pushing at the bents. At the other end of the old bridge, MDH had to demolish the spans extending from the pontoon section to the western shore to accommodate construction activities for the new bridge. To maintain traffic on the old structure, temporary spans angled southwest from the pontoon to the riverbank.⁷²

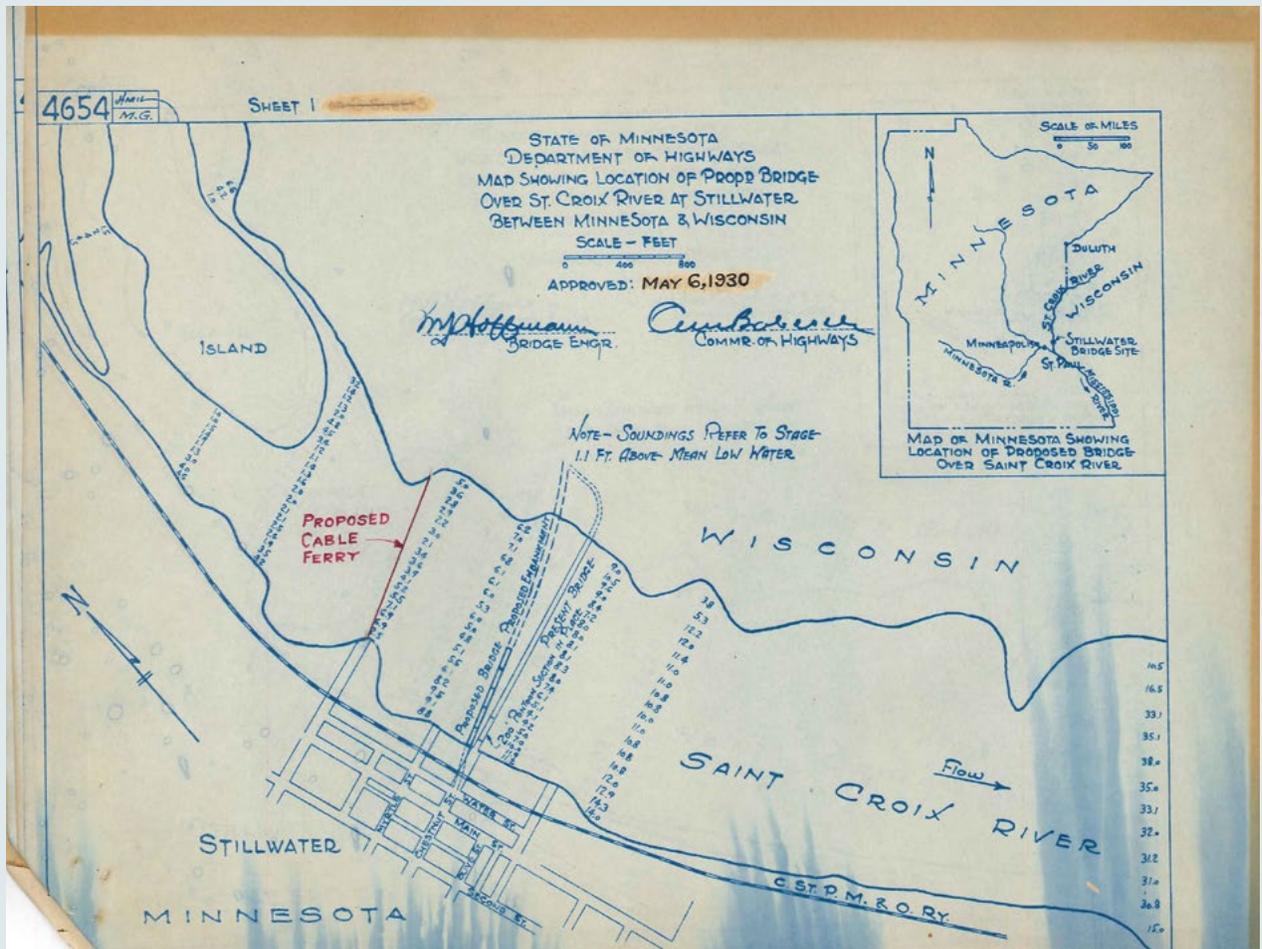
Ferries were an option when ice was off the river. A WHC progress report for the week ending May 16, 1930, noted, “The Minnesota Bridge Dept. has a ferry running between Stillwater and Houlton to take care of pedestrians, and they expect to have a larger ferry to carry all the traffic in a few days.” Commissioner Babcock had applied to the Corps on May 6 for a permit to install a cable across the river to guide the larger ferry while the bridge was being built. Three days later, the Corps granted permission with the provision that the cable be removed within thirty days after the bridge started carrying traffic. The cable was quickly laid and free ferry service began on May 24. The ferry, which could carry ten cars or thirty people, was about two blocks upriver from the new bridge, extending east from the terminus of Mulberry Street.⁷³



Looking west at the old bridge from Wisconsin, with Stillwater in the background, in May 1930. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)



A ferry shuttled passengers between Stillwater and Houlton in May 1930. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)



The Minnesota Department of Highways prepared this drawing with the proposed location of a cable for the ferry in May 1930. (Minnesota Department of Transportation)

MDH was responsible for operating the ferry but the two state highway departments shared expenses equally. Every month MDH sent a report to WHC with a tally of the costs and weekly traffic counts. In the June report, after the ferry had been in service for just more than a month, MDH's assistant bridge engineer noted that the traffic records "are quite interesting inasmuch as the volume of traffic is actually increasing and has almost reached a saturation point with respect to the capacity of the ferry."⁷⁴

MDH calculated that the cost to build and run the vehicular ferry from May 24 to October 11, 1930, was \$8,574. During that period, it transported 77,983 vehicles. The department had also spent \$418 to build the passenger-only ferry and run it for two weeks. With capacity of forty people, this barge measured 8 feet by 30 feet and was propelled by a Johnson outboard motor.⁷⁵

Construction

On August 1, 1930, with the start of construction imminent, MDH appointed Walter C. Nitardy as resident engineer. Nitardy would be based at the construction site and available for the duration of the project.⁷⁶

From the project's start to finish Nitardy sent weekly progress reports to the attention of Bridge Engineer Hoffman. The first announced that "actual construction on this project was started on Tuesday, August 5, 1930," when subcontractor Jamieson deployed a 3/4-yard steam shovel, a jackhammer, and four small trucks to begin excavation for the park drive underpass at the bridge's west approach. Chunks of concrete and stone that were removed were broken into smaller pieces for use as riprap. About 400 cubic yards of the excavated dirt was saved for fill in the park; "the rest is being wasted on the west river bank approximately 800 feet south of the bridge." The first week also witnessed the first accident. The steam shovel damaged an 18-inch storm sewer under Chestnut Street. Nitardy reported that "upon investigation, this sewer was found to be in very bad condition. It will be necessary to intercept this line near the R.R. tracks and install a new outlet." Jamieson finished excavating the underpass the following week.⁷⁷

In anticipation of the construction, Peppard and Fulton had cordoned off Chestnut Street at the railroad tracks, installed barricades on the park drive north and south of the bridge site, and cut down trees that were in the way. Putting in place some essential infrastructure for the project, the contractor erected a temporary construction office, installed a two-inch water line for the concrete plant, and brought in equipment: "one large two-drum steam hoist, one small two-drum steam hoist, one sixty foot pile driver with Vulcan steam hammer, one small steam boiler as well as pipe and misc. small equipment." Supplies were also arriving at the site, including lumber for falsework and forms.⁷⁸

The contractor planned to install a trestle parallel to, and directly south of, the alignment of the new bridge that would serve as a "work bridge," a platform for construction activities. A 65-foot stiff leg derrick, which would be mounted on rails on the platform, appeared in advance of the trestle's completion, along with other equipment—a third drum steam hoist and two pile drivers (one 60-foot and one 90-foot)—and a large tool shed. With the arrival of 40- and 60-foot piles, the contractor had begun driving piles for the work bridge but immediately discovered problems because of "inadequate bearing" in the vicinity of the west abutment and Pier 1, which was nearest the Minnesota shore (span and pier numbers ran sequentially from west to east). Nitardy reported that this threw the initial work plan into question: "Whether he will obtain longer piling, drive the present ones down to the water and poney[*sic*] bent[,] or abandon the work bridge in favor of scows has not been decided." That issue of the work bridge remained unresolved until a powerful drop hammer was delivered on August 30. It did the trick. In the following week, the contractor had driven piles for 500 feet of the work bridge and had installed decking on about half of that length. By September 13, 1930, the work bridge extended 50 feet past Pier 7 near the Wisconsin causeway.⁷⁹



Lowell Park became a staging area for construction in summer 1930. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)



Contractor Peppard and Fulton operated cranes and other equipment on a temporary trestle just south of the new bridge's location. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)

Before the bridge progress could be celebrated, it became the center of controversy. The Corps had required that boats could continue to use the river and specified that the reconstructed old bridge, which would carry vehicular traffic during construction, provide an opening 39 feet wide and 18 feet high to accommodate houseboats. Small boats had lesser demands: a horizontal clearance of at least 12 feet and vertical clearance of 16 feet. A local resident and houseboat owner, Mr. Muller, immediately complained to the War Department. He was apparently accommodated.⁸⁰

As the summer of 1930 progressed, and work proceeded on the embankment, MDH engineers continued to consider whether the bridge would contain six or seven truss spans. The uncertainty caused problems for the American Bridge Company, which was manufacturing the trusses. In late August, the company's engineer wrote to Hoffman: "Due to the uncertainty of the number of spans to be furnished we are unable to complete any drawings. Also from the fabrication standpoint it will be advantageous to fabricate all of one kind of material at one time thereby avoiding excessive duplication of work. . . . Kindly advise us, therefore, at your earliest convenience, whether we are to include the span that is now being held up." The issue was finally resolved by early September when Hoffman wrote to American Bridge: "I believe there should be no question about your proceeding with the preparation of plans for this bridge based on the construction of seven 140 feet steel truss spans." The following month a representative from the American Bridge Company reported to AHNT that the truss spans were being produced at the company's facility in Minneapolis, while the plant in Gary, Indiana, was fabricating the lifting girders, tower components, counterweights, and machinery.⁸¹

In the meantime, a small crew began excavation for Piers 1 and 2 by hand. By the end of August the excavation for Pier 1 and the west abutment was finished and the contractor had driven foundation piling in these locations. Completion of Pier 2 required installation of a cofferdam. During the first week of September, four foundation pilings had been driven: "It was found that refusal on piling in this pier is obtained from sixty to seventy feet below cut-off."⁸²

The construction site was rapidly filling with equipment and materials. During the week of August 26, the contractor "unloaded and floated to the site of the work 32 cars of long foundation piling. He also received and unloaded two cars of timber and one car of lumber and a car of misc. equipment including a three drum hoist to be used on the derrick in place of the one he now has. This car also contained a four and a six inch centrifugal pump. He also unloaded a steam shovel to be used for loading the material hopper."⁸³

The contractor tried to squeeze as much work as possible into the short first construction season in 1930, apparently working seven days a week. Nitardy's report for the week ending September 13 noted that the contractor had "placed his coffer-dam and completed excavation for pier No. 2, and should complete driving foundation piling in this unit by Sunday evening." The progress was aided by the arrival of yet another stiff-leg traveling derrick, which was being installed on the work trestle. The derrick was in operation by the following week and the contractor had set up floodlights so that night shifts could continue pile driving and excavation.⁸⁴

By mid-October, signs foreshadowing the end of the construction season were appearing. In his report for the week of October 18, Nitardy wrote that "cold weather during the last part of the week slowed work on the west approach span." It had otherwise been a good week, with the completion of concrete placement for the retaining walls of the concourse and the park drive pavement south of the bridge. The paving for the drive north of the bridge was finished the following week.⁸⁵

The onset of winter held off through mid-November. Nitardy reported: "The weather has been very good and the contractor has taken every advantage of it." Progress was slowed by rain the following week and cold as the month ended. The contractor began wrapping up work for the season and laying off workers in early December.⁸⁶

American Bridge Company

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

MINNEAPOLIS PLANT

EARL H. CASPER
MANAGER
R. W. ROBINSON
ENGINEER
GEO. W. WOODLING
ACCOUNTANT

Seventh Ave. & Second St., S.E.,

Minneapolis, Minn.

August 26, 1930

Subject: F-8237-41 State Bridge #4654
Stillwater, Minn

Mr. M. J. Hoffman, Bridge Engr.,
Minnesota Highway Dept.,
St. Paul, Minn

Dear Sir:

We wish to state that on the above work we have progressed considerably with regard to detailing and checking but due to the uncertainty of the number of spans to be furnished we are unable to complete any drawings. Also from the fabrication standpoint it will be advantageous to fabricate all of one kind of material at one time thereby avoiding excessive duplication of work. To follow this procedure it will be necessary for us to place our mill orders in the near future.

Kindly advise us, therefore, at your earliest convenience, whether we are to include the span that is now being held up.

Yours truly,

AMERICAN BRIDGE COMPANY

R. W. Robinson

Engineer

WG:JP
CC - Mr. George Bryan

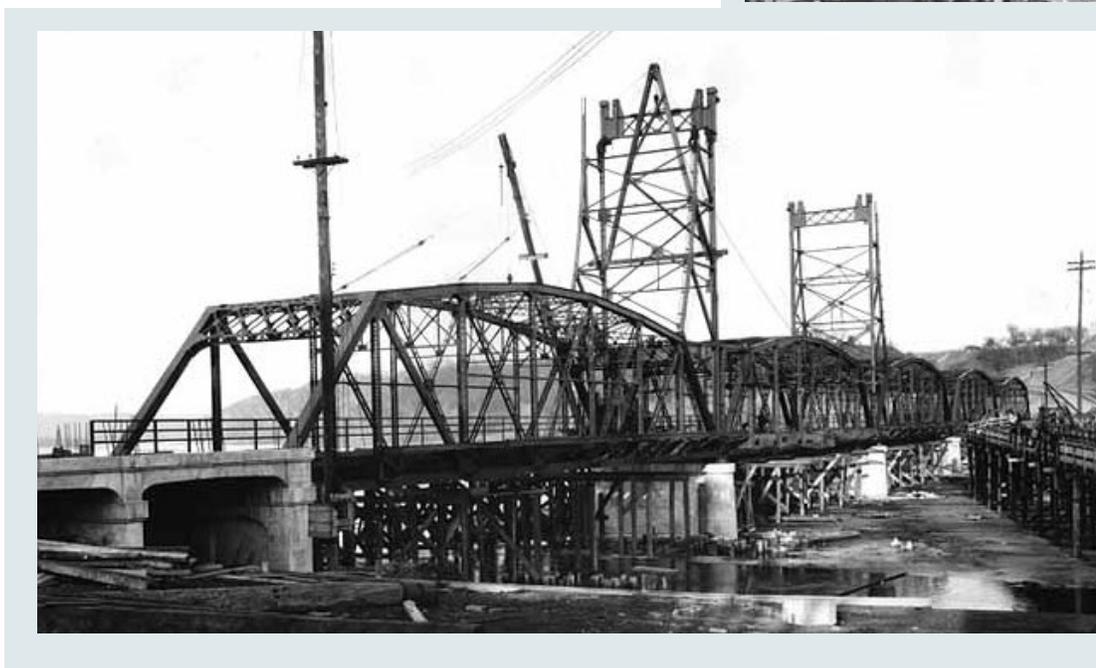


The Minneapolis plant of the American Bridge Company was hired to fabricate the steel spans but could not complete the shop drawings until MDH made a final decision on the number of spans the bridge would have. (Letter from R. W. Robinson, American Bridge Company, to MDH Bridge Engineer Hoffman, August 26, 1930, at Minnesota Department of Transportation)

The reduction in the crew also indicated a shift in the type of work, and hence the type of workers, that would be needed for the project's next phase when steel would be erected. By December, Piers 1 through 7 were finished. The contractor had begun placing steel in Span 4, a process impeded by delays in receiving steel from the fabricator. Unlike pile driving and concrete placement, winter was not an overwhelming obstacle for this work. For the week of January 23, 1931, for example, Nitardy wrote that rivet crews could not work half of one day, but the other crews were able to work the entire week. By the end of the month, the lift span was finished except for the top of the towers, which required special equipment to raise the heavy pieces of steel into position. All sections of the towers were in place by mid-February. To complete each span, the contractor installed wood falsework in the river to support the construction process. Workers then erected the steel components with temporary connections, rivet crews made the permanent connections and the formwork was removed.⁸⁷

In mid-March 1931, the contractor began placing the counterweight mechanisms and assembling machinery for the lift span. They also completed work on the east abutment and excavation for Pier 8, which, per a special provision, did not have to be done until the spring.

In the fall, the contractor had driven two test piles, the longest 69 feet, to get a sense of the challenges within the high fill on that abutment. The engineers concluded that longer piles could—and should—be driven under more favorable spring conditions, with the assistance of a jet to loosen harder materials at greater depths.⁸⁸



By February 1931, the towers for the lift span were beginning to take shape. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)

In early April, Nitardy reported that the pile driving was finished for the east abutment. The process had been “slow and difficult with piling taking refusal at varied elevations. Settlement of driven piling” had been an ongoing challenge, but Nitardy expressed some optimism that it “has continued at a slightly reduced rate.”⁸⁹

With the coming of spring the contractor ramped up work crews, with some fifty men employed by mid-April. In addition to setting up formwork and pouring concrete for the counterweights, priorities were placing the pavement, curbs, and sidewalks. Curbs, gutters, sidewalks, and railings for the concourse, as well as the road extending from the south side of the concourse to the park drive, were done by mid-June.⁹⁰

Work on painting the structure also began in the spring. The paint was ready and waiting because the previous fall MDH had inspected the red lead paint American Bridge ordered from the Minnesota Linseed Oil and Paint Company in Minneapolis. It met MDH’s specifications, which called for 81 percent red lead, 18 percent raw linseed oil, and 1 percent drier. Workers could not paint in freezing temperatures or rain so the application was more affected by weather than many of the other construction tasks. For the week of June 13, for example, Nitardy reported that “the paint crew lost about two days due to rain.”⁹¹



Work was underway on the Stillwater concourse by May 1931. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)

Open at Last

The bridge was open for service on Friday, June 26, 1931. On July 1, the community held a barbecue in Lowell Park to celebrate. Minnesota Governor Floyd B. Olson presided over the official ribbon cutting, with Wisconsin Adjutant General Ralph Immell leading the Wisconsin delegation. Later, a marching band from Stillwater played on the lift section as it rose to allow the first vessel, belonging to the Mayo brothers from Rochester, to pass below.⁹²



Governor Floyd B. Olson at the ceremonial ribbon-cutting. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)



A band marched across the new bridge on July 1, 1931, as part of the opening festivities. (John Runk Photograph Collection, Minnesota Historical Society)

YOU ARE INVITED
INTER-STATE BRIDGE CELEBRATION

TENTATIVE DATE JULY 1, 1931

AT

FLORENCE CURTIS, SECRETARY

STILLWATER, MINNESOTA

June 18, 1931

OFFICIAL COMMITTEES—

Leo Simonet, General Chairman

Executive—

W. J. Madden, Charles Englin, Matt Hooley, Ronald Parkhurst, Leo Simonet, Mayor Peter C. Lund, E. R. Weiss, George Steed and Senator George H. Sullivan.

Publicity—

I. J. Daly, Frank Schaffer, J. Hagerty, George Bancroft and F. G. Neumeier.

Finance—

W. O. Krog, chairman; James Mulvey, Eugene Lehmicke, H. C. Robertson, Carl Berglund, Joe Becker, Arthur Raduenz, V. Willis Bloom, Walter Nelson, Jack Kilty.

Program—

Richard Nelson, chairman; George Mueller, E. Linner, Lloyd Kollner, Axel Cronquist, Carl Meister, all of Stillwater; Jas. E. Frawley, Floyd Anderson, Wm. McPhetres, R. E. I. Roy Holcomb, Town of St. Joe; O. S. Arquist, Miles McNally, New Richmond; H. J. LaGrandeur, Lawrence Parnell, Somerset; H. B. Olson, St. Croix County Highway Commission; Fred Hartwick, Hammond; A. D. Kelly, chairman of County Board, Hudson; N. O. Yarnum, chairman County Highway Commission, Hudson; Peter Schuster, C. A. Smith, Glenwood City, and Mayor McGivern, Hudson.

Decorations—

Martin Nelson, chairman; Richard Moeckler, Richard Erickson, Howard Hanson and E. M. Mosier.

Mr. Hoffman, Bridge Engineer
State Highway Department
St. Paul, Minnesota

My dear Mr. Hoffman:

Stillwater, Minnesota, is sponsoring a celebration on July 1st, dedicating the official opening of the new interstate bridge at Stillwater.

We are giving a luncheon for a limited number of dignitaries at the Stillwater Club Rooms, 12:15 P. M. Wednesday, July 1st, at which you are cordially invited to be present.

We shall appreciate it if you will advise us if you can be present.

We expect to have a very interesting entertainment of water sports on the river during the afternoon and evening and we sincerely hope you will be with us on this occasion.

Very respectfully yours,

Leo Simonet
General Chairman

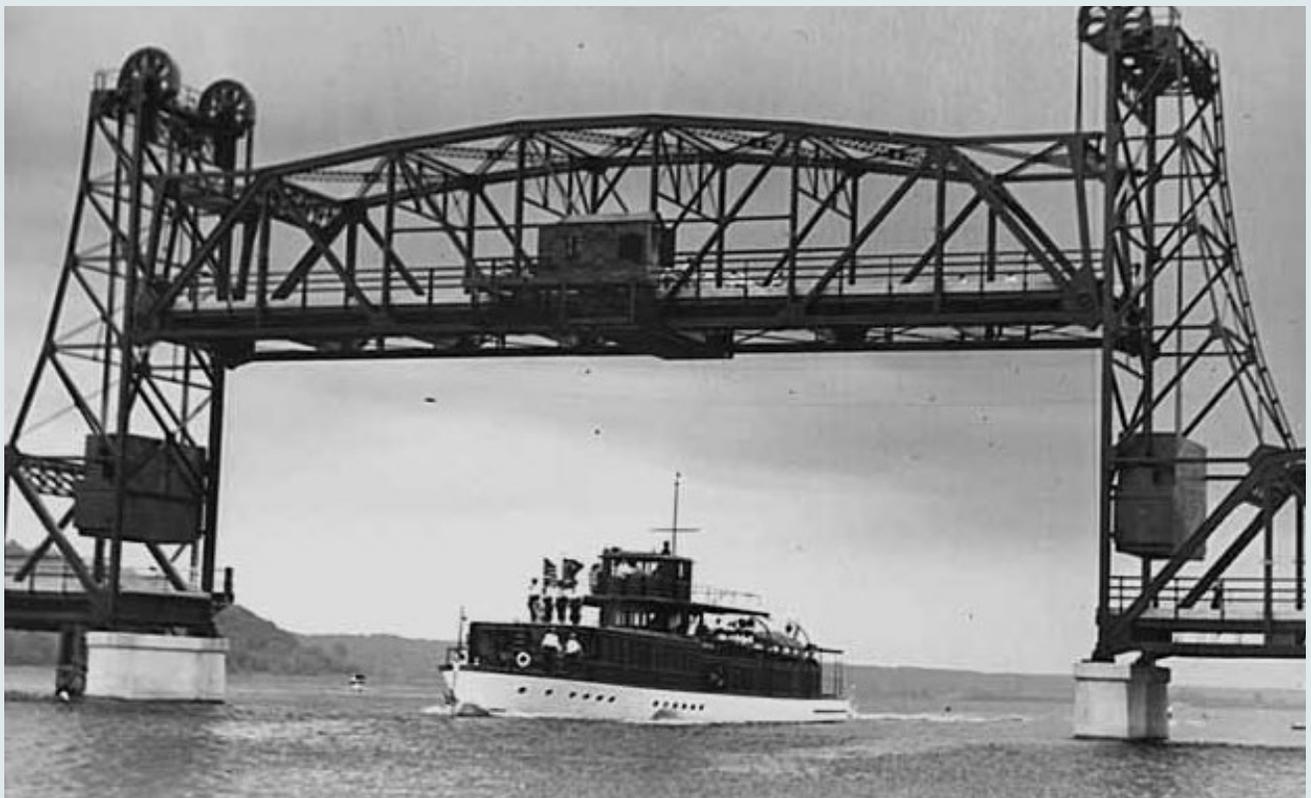


ADDRESS ALL CORRESPONDENCE TO STILLWATER ASSOCIATION

A committee of business owners and government agencies developed plans for an "Inter-State Bridge Celebration" on July 1, 1931. (Letter from Leo Simonet to Hoffman, June 18, 1931, at Minnesota Department of Transportation)



Throngs gathered along the levee to celebrate the bridge's completion. (Saint Paul Daily News, photographer; Minnesota Historical Society)



The Mayo brothers' boat passed under the lift span. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)

Nitardy's progress report for the week ending June 27, 1931, noted that the contractor's work on the bridge was finished except for painting, which was on track to be done by the end of the month. All sections of the temporary work bridge had been pulled from the water and Peppard and Fulton had begun to remove the old timber bridge, using a derrick mounted on the repurposed ferry boat.⁹³



A group of men stood at the end of the old bridge, with the new bridge to the left. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)

The new and old bridges were photographed in June 1931, just before the old structure was removed. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)

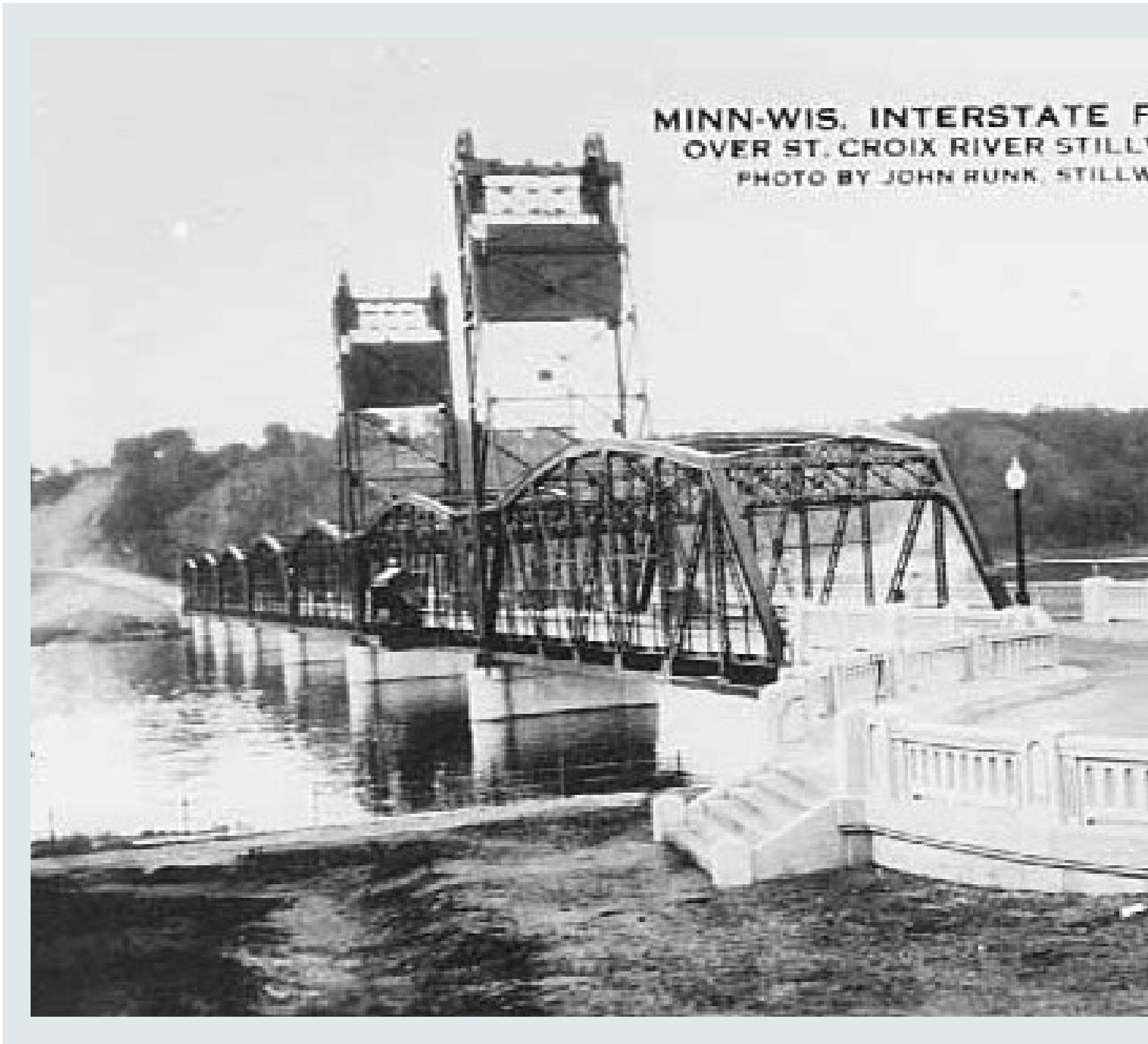


By July 1931, the old bridge was being disassembled. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)

Long before the dismantling began, MDH had asked Stillwater officials if they wanted the timbers and piling “for possible allotment to the poor families in town.” MDH offered to turn over the material to the city, which would be responsible for its distribution. The city declined, so MDH left the disposition of the material to the contractor. When visiting the project in late July or early August 1931, Hoffman observed that “there were some 7 or 8 boats present at the dismantling operations, and upon inquiry I was told that these men were salvaging the material primarily as fire wood.”

In response to an inquiry from a local resident about the wood, Hoffman wrote: “I am sure that if you are equipped with a boat, and are in a position to salvage some of this material direct from the job, that the contractors . . . will certainly have no objections to you or other local residents attempting to obtain a portion of the salvageable material.”⁹⁴

On July 30, Ernest Howard, a principal of AHNT, came to the site for the final inspection. Nitardy and Hoffman accompanied Howard as he examined the span, towers, and equipment, both in operation and at rest.



Howard concluded that “in general the structure appears to be in excellent condition and constructed in accordance with the plans and specifications, and everything seems to indicate able construction work and intelligent engineering direction and supervision. We desire to take [this] opportunity to congratulate you on the general excellence of all the work on the structure, as well as features of mechanical operation.”⁹⁵

With the project completed, MDH tallied the final costs. Sculley’s fee totaled \$132,008, split almost evenly between the two states. The largest part of that, \$72,419, was for excavating 258,640 cubic yards of earth at \$.28 per cubic yard. Another \$18,266 went to excavate 40,591 cubic yards of solid rock. The largest volume of excavation—over 2.5 million cubic yards—was for “standard overhaul excavation,” but because the contractor’s price for this was \$.003 per cubic yard, the cost was only \$7,662. Among Sculley’s other services were installing stone rip-rap, concrete and steel culverts, and guardrail.⁹⁶

The contract with Peppard and Fulton for erecting the bridge totaled \$460,173, again split almost evenly between the two states. The largest item was for some 1.7 million pounds of structural steel. At \$.05 a pound, the steel totaled \$84,767. Other large items included concrete (\$34,724 for 2,240 cubic yards of “Grade ‘A’” and \$3,472 for 248 cubic yards of slightly less expensive “Grade Seal”), piling (delivering 48,310 lineal feet for \$17,875 and driving 42,156 lineal feet for \$12,647), and \$5,047 for 42,058 lineal feet of lattice steel railing. The lift-span machinery cost \$23,850. Some parts of the scope were accounted for separately, including the west approach (\$16,757) and the concourse (\$8,513). The final accounting also contained \$6,011 for rebuilding the old bridge so that it could serve during construction, \$8,574 for the vehicular ferry, and \$418 for the pedestrian ferry.⁹⁷

In June 1929, WHC had estimated that the project would cost \$418,000. Both states were expected to foot \$181,000 of that expense, with Wisconsin chipping in an additional \$56,000 to cover right-of-way and other costs for the eastern approach. By May 1931, though, when MDH issued revised figures, the total had risen to \$443,935. The cost had dropped for the east approach and risen for the west approach, bringing Minnesota’s share to within about \$2,600 of Wisconsin’s. In the final tally in November 1931, the project’s cost was determined to be \$460,174, with Wisconsin responsible for \$226,673 and Minnesota for \$233,501.⁹⁸



5. River vs. Road

The end of construction did not put an end to problems caused by the unstable ground around the east abutment. In September 1931, MDH assistant bridge engineer M. O. Giertsen instructed a work crew to “repair wood header under sidewalk at east (Wisc.) end of bridge. Extend curbs and place guard rail posts. . . . Place filling back of curb extensions.” The following spring, Giertsen reported that the “east abutment has settled about 10 inches and moved about 4 inches to the north.” He outlined a detailed plan for an in-house work crew to straighten the east truss and adjust the adjacent roadway deck and railings.⁹⁹

This did not prove to be a long-term fix. In late 1935, MDH and WHC completed a major project to reconstruct the east abutment and fill to return that area to what had been called for in the original plans. By spring 1937, the abutment had shifted again, both longitudinally and vertically, by as much as four inches, and the fill had sunk up to 11 inches in some areas. Another work campaign was launched to avoid damage to the adjacent truss and return the approach roadway to the desired elevation.¹⁰⁰

Another large maintenance item in 1935 was touch-up painting. The Wisconsin portal and end cover plates received aluminum paint, while “all other cover plates on [the] entire bridge from the top of the sidewalk level to the hip joint” were dark green.¹⁰¹

The bridge presented noteworthy operational challenges as well. Lift-span service was subject to regulation by the federal War Department, represented by the Corps. MDH wanted to avoid having a full-time tender at the bridge and asked the Corps to require that the lift span be opened only on request. Commissioner Babcock reported that “several members of our central shop force at the Fair Grounds have been schooled in the operation of the Stillwater lift span bridge, and arrangements can be made to open the structure upon receipt of several hours’ notice in advance.” In early August 1931, the Corps held a public hearing about this approach. A week later, MDH Bridge Engineer Hoffman wrote to WHC Bridge Engineer Kirch, “I understand that only one objector was present at this hearing. . . . Undoubtedly our request will be granted.”¹⁰²



The dike continued to settle after the bridge opened, causing headaches for the highway departments. In this photograph taken in summer 1931, a woman stands by a gap between the sidewalk at the east end of the bridge and the dike. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)



*This postcard from the late 1930s shows a view of the bridge from Lowell Park.
(Minnesota Historical Society)*

He was correct. On August 26, acting Secretary of War F. H. Payne signed regulations, effective September 15, that did not require MDH to station an operator at the bridge. If someone wanted the lift section raised, they had to contact MDH and “the lift shall be operated as soon as is practicable after the receipt of notice . . . and in any case not later than twelve (12) hours after receipt of notice, unless a later hour is designated.” MDH was required to install four pier lights to aid navigation and to keep a copy of the regulations “conspicuously posted on both the upstream and downstream sides of the bridge in such manner that it can be easily read at any time, together with the telephone number to be used in giving the notification.”¹⁰³

The lift span was rarely called into action for passing boats during the first years after the bridge opened. MDH’s commissioner reported that “prior to 1937, the lift span was operated only at very infrequent intervals, and for several years not a single request for its opening was received.” Between April 21 and the end of July 1937, the bridge opened for watercraft twenty-six times. According to MDH’s district maintenance engineer, “no record was kept of the craft that passed through, but they were all pleasure craft of the cabin cruiser or yacht type. Those whom the boys remember are: E. O. Conrad of Stillwater, Stanley Hubbard of St. Paul, the Mayo yacht from Rochester and L. P. Kingston of Hastings.”¹⁰⁴

Soon pressure grew to have the lift span staffed on a more regular basis, beginning a long battle between MDH and the Corps about operations. Local boosters anticipated more boating as a result of construction of Lock and Dam No. 3 on the Mississippi River which was under way just downstream from the mouth of the Saint Croix River. To take advantage of the resulting rise in the water level of the Saint Croix, the City of Stillwater applied to the War Department in the summer of 1937 to build a landing for small watercraft along Lowell Park, including a permanent concrete wharf that would extend 14 feet east of the existing retaining wall between Myrtle and Nelson Streets. This would be augmented by a floating dock below the west span of the bridge “to serve as a breakwater and provide additional landing facilities.” MDH objected to the dock under the bridge. The city revised its plans to eliminate the floating dock and shorten the concrete wharf. The proposal ultimately made its way to Washington, where committees of the House of Representatives and Senate authorized the Corps to study the “proposed small-boat harbor at Stillwater.” Then World War II intervened and local enthusiasm for the project waned. In May 1946, the War Department issued a “notice of unfavorable review” because the city had “requested that the matter be dropped. . . . It is unable to make any commitment at this time regarding local cooperation.”¹⁰⁵

The city's 1937 application convinced the Corps that the dam-induced rise in the river's elevation would stimulate a rise in activity on the river. In April 1938, the Corps informed the highway departments that it was revising the regulations covering the lift-span's operation to provide for full-time operators during the navigation season. MDH's commissioner protested: "We question whether boating operations at the present time on the St. Croix River above Stillwater are such as to justify the expense. . . . While doubtless the maintenance of the new pool water elevation at Stillwater, incidental to the operation of the dam on the Mississippi River above Red Wing, will tend to increase pleasure boating, we are obligated to question the justification for annulment of the existing regulations governing the operation of the lift span." He added that "boating on the upper St. Croix River in past years has been confined largely to small motor craft, accommodation for which should be available at practically all times without the need of operating the lift span."¹⁰⁶

MDH's protest was to no avail. Starting in June 1938, the Corps required the highway departments to keep a tender and flagman on duty during navigation season from 6:00 a.m. Saturday to midnight on Sunday and from 6:00 a.m. to midnight on legal holidays. At other times, the lift span had to be opened within two hours of any request. While river traffic increased notably in the next years—resulting in a total of 108 openings in 1938, 142 in 1939, and 165 in 1940—there were none between 6:00 and 8:00 a.m. on Saturdays or between midnight and 8:00 a.m. on Sundays. In 1941, the Corps granted WHC's request that the bridge not be staffed during those hours.¹⁰⁷

The need to station staff at the bridge substantially increased the cost of operations, which MDH had completely covered under the earlier arrangement that had divided responsibilities between the two states.

This led Wisconsin and Minnesota to revise their agreement in 1938 to provide for joint operation and maintenance of the bridge. WHC, which had gained experience from the many movable bridges in the state, offered to assist MDH in improving the lift operation after learning that "traffic was delayed about three-quarters of an hour at each opening. This period seems quite large, and we believe that it can be reduced considerably. The longest that it takes us to operate any of our movable bridges is 35 minutes"—and this was for a 90-foot-long, hand-operated, single-leaf bascule (drawbridge). An immediate upgrade was the installation of a swinging gate at each end of the lift span to help the flagman control traffic.¹⁰⁸

America's entry into World War II in 1941 led to shortages of various items on the home front, including paint. This affected the Stillwater Lift Bridge, which was due for a new coat after rust spots were treated with red, lead-based paint. Rumors spread quickly that the structure would no longer be green but a bright aluminum color. When news broke that the color would be gray, some asserted that this was to camouflage the structure. The reason, though, was more mundane, as MDH's Director of Public Information explained: "We were unable to obtain a sufficient supply of Minnesota's customary and official bridge color—black." He added that paint was one of many materials considered critical to the war effort, and thus rationed. "Consequently, there can be no general repainting of bridges. The Stillwater bridge and the new Winona bridge are the only two I know of which now are on the list for new paint and the paint for the Winona bridge would not even be available except that it was purchased before emergency restrictions became effective." He also noted that "even had anyone desired to paint the bridge aluminum it could not have been accomplished because there is not that much aluminum paint available for such purposes in the whole northwest."¹⁰⁹

The bridge was painted again in 1953, returning most of the structure to green. That project, which the Chicago Decorating Company completed, included spot painting of the red lead-base coat, aluminum paint (presumably for the portal, as before), and a “medium shade chrome green in oil” (A.S.T.M. D-212). The work was completed by October.¹¹⁰

Somewhat surprisingly, given gas rationing and other shortages during World War II, the river was relatively busy. Boat traffic required the span to open 209 times in 1942, 215 times in 1943, 344 times in 1944, and 236 times in 1945. The activity was typically elevated in June and July. In 1944, for example, the count was 76 and 135, respectively.¹¹¹

In the years immediately after the war, traffic on the river showed little sign of increasing. The proprietor of Muller Boat Works wanted that to change. In July 1946, he contacted MDH to request that the bridge be staffed daily from 8:00 a.m. to midnight, “to take effect immediately.” MDH dispatched Nitardy to Stillwater to meet with the Mullers.¹¹²



The concourse at the west end of the bridge around 1946. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)

The local agitation had no effect during 1947, but in April 1948, the Corps announced an experiment to increase the time the bridge was staffed that year. In addition to the weekend hours that had been in place since 1941, an operator would now have to be on duty from 1:00 p.m. to 9:00 p.m. all other days during navigation season. The Corps had discussed possible changes with MDH officials in the previous months, so the agency was not surprised, but it was not pleased. It had earlier sent the Corps an “unqualified written objection, to providing additional lift span tender service.” After the Corps requested that MDH reconsider its objection, Bridge Engineer M. O. Giertsen conferred with WHC officials and presented the “joint attitude of our two states” in a strongly worded letter on March 8: “We very seriously object to any permanent increase in the service provided by the present regulations.”

He added, “We believe that the present regulations provide ample service for navigation. We do not consider expenditure of additional public funds justified for increased service to a very small minority, in this case navigation interests, to the disadvantage of a great majority, which in this case is highway traffic.”¹¹³

The Corps was not swayed and went forward with the expanded hours. In June 1948, there were only two weekday openings, and both were for Corps vessels. MDH felt this proved there was no demand and asked the Corps to immediately suspend the experiment, but without success. At the end of the year, an exasperated Giersten wrote to the Corps that “constant attendance of a span operator during all days of the week did not result in additional vessel movement.” It did, however, dramatically increase operating costs, doubling the average monthly expense from about \$300 to around \$600 and raising the average cost per opening from around \$7 to \$14.25.¹¹⁴



*An excursion boat passed under the lift span around 1950.
(Minnesota Historical Society)*

A sharp uptick in activity was on the horizon. While total vessel movements in the month of July, for example, were essentially the same in 1948 and 1949—231 and 232, respectively—they jumped to 385 in 1950 and 410 in 1951. Only about a quarter of these required the lift span to operate from 1948 to 1950. When the water elevation was higher in July 1951, the span had to be raised 316 times. At the same time traffic over the bridge was increasing. In September 1951, the City of Stillwater complained to MDH about the hazardous conditions this generated, prompted by an accident on the bridge when one car attempted to pass another. MDH posted signage prohibiting passing and limiting speed to 30 miles an hour. More openings after dark were also a concern because electricity was cut off to the warning lights on the east side when the span was lifted.¹¹⁵

Traffic on both the bridge and the river continued to rise. The lift span opened a total of 272 times during the 1950 navigation season, 655 times in 1951, and 811 times in 1952. In 1953, that number hit a new high of 1,197. While some activity in the latter year was due to higher water levels, MDH said that the “increase in interest among boat owners” was “unquestionable.” Reviewing activity for 1953, MDH observed a “great increase in navigation, which has required more frequent operation of the lift span with the resultant interference with highway traffic, as well as considerable criticism from navigation interests, including the local office of the War Department.” This criticism, MDH feared, would lead to requirements for longer hours for the lift-span’s operation. To avert this the department sought to increase efficiency by upgrading equipment. An obvious target was the original lift-span engine. It frequently needed repairs, and parts were increasingly hard to find, so it was replaced by a new gas engine in 1953 at a cost of around \$1,000. At the same time Giertsen sought advice from a colleague at WHC, maintenance engineer M. W. Fisher, about electrically powered systems “and what major changes might be required in connection with the gears, shafting, and other movable parts” to make a conversion.¹¹⁶

Another priority was installing an electric control system, which would eliminate the flagmen. When MDH received bids for the system in January 1954, a Stillwater contractor, the Bielenberg Electric Company, proposed to complete the installation for \$17,886. While this was somewhat more than MDH had anticipated, the bid was accepted.¹¹⁷

Some issues were harder to solve. The wandering east abutment and approach, which had taunted engineers even before the bridge opened, returned to the spotlight in 1958 when MDH tackled it yet again. J. H. Swanberg provided an overview of the persistent problem: “The East abutment and the approach fill have been settling and moving laterally progressively ever since the bridge was constructed in the early 30’s. We have made numerous adjustments both laterally and vertically. A major remodeling of the abutments was done in 1935 to provide for support for the truss. The lateral shift since then has now proceeded where it will be necessary for us to do another major remodeling job to provide the necessary support for the truss.”¹¹⁸

A new problem emerged in the mid-1960s when engineers concluded, based on findings from routine inspections, that the bridge’s original counterweight and operating cables should be replaced. The work was delayed for several years because there was “no visible deterioration of the counterweight cables and because the method of end attachment makes the changing of the counterweight cables a much more difficult task than originally anticipated.” MDH was forced to act in 1968 when one of the eight operating cables broke and had to be replaced. The department replaced the other seven operating cables, as well as the counterweight cables, in the following year.¹¹⁹

Wear and tear on the bridge accelerated as the volume and size of the vehicles it served expanded. Traffic congestion also increased, especially when the lift span was raised. When MDH conducted a traffic study from June 29 through July 8, 1957, the results were not surprising: “Heavy traffic flow and frequent bridge closings” on July 4 and the two Sundays during this period “coincided to produce the most serious delay problems.” The problem was concentrated “only during certain periods on the two Sundays studied. Major tie-ups occurred between 7:00 and 9:00 PM on the east approach to the bridge on both June 30, and July 7, but were much more prolonged and severe on the former Sunday” when the bridge carried 11,048 vehicles and was closed forty-six times, delaying up to 192 vehicles at the east approach. In addition, “frequent delays, to which the bridge was a contributing factor, also appeared on Main Street in Stillwater between 1:30 and 5:30 PM on June 30. At all other times, and on other days, such traffic tie-ups as appeared were relatively small and readily dispersible.”¹²⁰



Fireworks and other festivities have drawn people to the waterfront since at least 1934, when this photograph was taken. (John Runk Jr., photographer; John Runk Photograph Collection, Minnesota Historical Society)

Early in 1958, the Corps convened a meeting with MDH and WHC to discuss options to reduce delays caused by the bridge's operation, a source of increasing complaints from both drivers and boaters. The meeting produced more studies, including one on traffic controls that MDH transmitted to WHC in January 1959. In his cover letter, MDH traffic and planning engineer J. E. P. Darrell explained that drivers coming from the east were confused by signal lights, suggesting that they be rearranged and new signage added to "eliminate the current need for the bridge tender to have to walk to the signals on the east end of the lift span and to shuffle the cars around before he can safely lower the gates prior to raising the span." This was a common occurrence when traffic was heavy, "greatly extend[ing] the time when the bridge must be blocked, most of the time being involved in the bridge tender walking from his station to the signal and back again" before he could raise the lift span.¹²¹

6. Beginning of the End?

On August 14, 1958, the *Stillwater Weekly Gazette* announced that the Corps and the highway departments had met in Saint Paul and reached a compromise on the bridge's operation. This resulted in a Corps notice in October that revised the hours for the upcoming 1959 navigation season, May 15 to October 15. The span would be raised by request on Saturdays, Sundays, and holidays from 8:00 a.m. to 2:00 p.m. and 9:00 p.m. to midnight. Between 2:00 p.m. and 9:00 p.m., it would be lifted only once an hour, on the hour. On other days it would be staffed from 1:00 p.m. to 9:00 p.m. Two hours' notice was required at other times. In reviewing operations for 1959, MDH reported that the revised regulations "greatly relieved the highway traffic congestion." The same procedures were followed again in 1960 and continued to work well.¹²²

As part of the 1958 compromise, MDH agreed "to immediately conduct a study of the possibility of putting additional and higher spans on the east side of the bridge to permit the passage of boats without using the bridge lift." Notably, this was the first acknowledgment of an issue that would take over half a century to remedy. The bridge was becoming functionally obsolete.

Providing a higher clearance would reduce the number of boats that required the lift-span's activation. The Corps saw potential in creating an auxiliary channel by replacing the east approach with a span, but the highway departments showed less enthusiasm for the idea. Despite the promise of quick action, MDH reported to the Corps in April 1960 that "only preliminary studies have been made." By that fall, however, MDH's Bridge Division was working on "a preliminary plan for the construction of additional spans and raising the present spans on the Wisconsin approach."¹²³

Nothing came of this study. The complaints about congestion continued, and the idea of replacing the bridge altogether began to take wing. In June 1967, Howard Albertson, who represented the Stillwater area in the Minnesota House of Representatives, contacted MDH Commissioner John Jamieson after hearing from angry constituents about the bridge's operation. He asked the commissioner to "look into this matter and advise me accordingly, and also affirm as to when my community may expect the new bridge between Stillwater and Wisconsin, to be located South of Stillwater."¹²⁴



Periodic floods compounded operational problems at the bridge. (Minnesota Historical Society)

Several more years passed, but in April 1971, WHC and MDH executed an agreement to conduct engineering investigations for a new Saint Croix crossing. The study area extended two miles upstream and two miles downstream from the existing Stillwater Bridge. The agreement covered up to \$40,000 for preliminary engineering. The states would split the cost of investigating the floodplain, which was anticipated to total \$11,845. Each state was responsible for analyzing approaches and highway relocations required for the new bridge in its respective state with the expense adjusted at the end so that each had an equal share. Using the information gathered from these investigations, Minnesota would prepare a preliminary design report by November. The states negotiated a nearly identical agreement at the same time for engineering investigations for a new bridge over the Saint Croix at Prescott, but for that agreement, Wisconsin took the lead and there was a later deadline—May 1, 1972—for completing the preliminary design report.¹²⁵

In the meantime, the Stillwater Lift Bridge demanded attention. MDH developed a list of needed repairs, which was discussed with WHC at a meeting in January 1972. It did not begin well: “The Wisconsin representatives opened the meeting by expressing concern over the cost of the proposed repairs (estimated at \$192,000) in view of the proposed new river crossing to be constructed in this area.” MDH’s district engineer, W. C. Merritt, deflated WHC’s hope that a new bridge was imminent, explaining that the planning was “in a very preliminary state,” and “completion of a crossing would likely be ten years in the future.” He also noted “the likelihood that the structure would continue in operation beyond that time as a part of the local road system.”¹²⁶

One of the major issues in the existing structure was deterioration of the concrete deck, which appeared to be accelerating. MDH assumed, based on core samples from the two west spans, “that the concrete slab in each span is structurally sound with the exception of surface deterioration and isolated deeper deterioration (i.e., at expansion joints, etc.)” MDH proposed to replace and patch bad areas, then cover the entire deck with epoxy. WHC objected to this approach because it had tried epoxy and had bad results. By the end of the meeting the group agreed that the bridge needed more than spot maintenance, which had been the practice for many years, and that additional coring should be done on other spans to verify the results of the initial tests.¹²⁷

Over the following months, MDH worked on plans for the redecking, which included replacing the entire deck of the lift span and the two westernmost truss spans, with targeted repairs and a bituminous overlay for the other spans. Further analysis revealed extensive deterioration at the expansion joints, necessitating total removal and replacement of the concrete in these locations, as well as repair of the north curb and replacement of some sections of the sidewalk. Ultimately, a four-and-a-half-inch concrete deck was installed with no overlay. Because the counterweights had to be secured when the deck was removed, the lift span had to be fixed in the lowered position during construction.¹²⁸

In October 1972, MDH held a public information session about the project during a meeting of the Stillwater City Council. After the meeting concluded, the engineers reported that “there seemed to be no serious question of the need for repair and the need for doing it soon.” At the same time, the prospect of a new bridge was gaining momentum. During the October meeting, MDH described three options that were under study “for a new traffic corridor for T.H. 212,” the route carried by the bridge (later numbered T.H. 36). The presentation emphasized that “the new traffic corridor along with the new bridge is at least ten years in the future, and is contingent on many considerations, such as environmental impact studies, traffic studies, availability of funds, etc.”¹²⁹

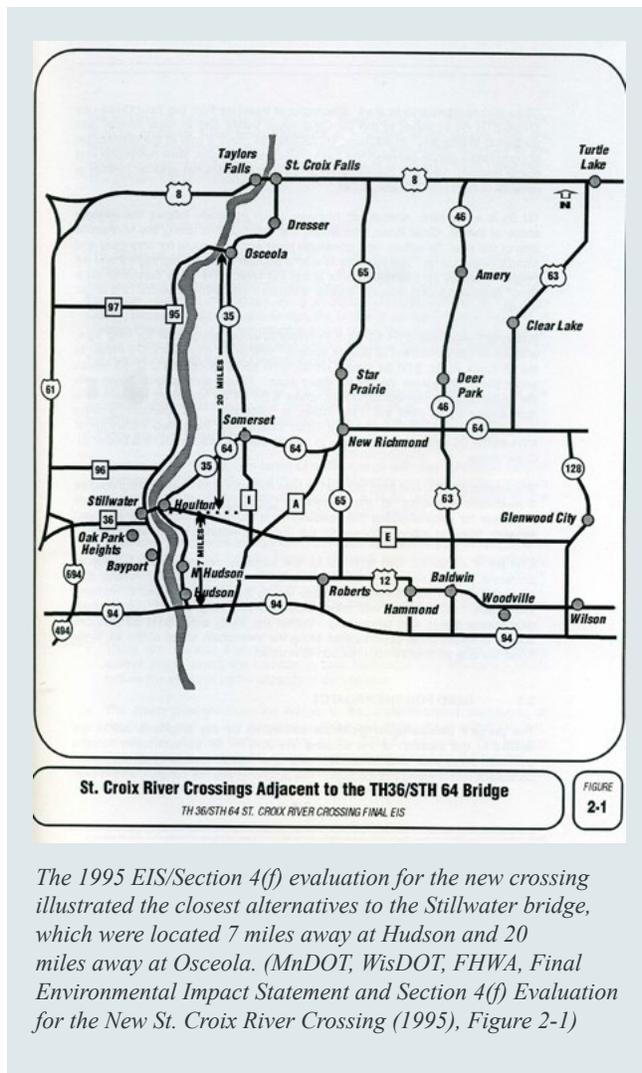
On November 1, MDH applied to the U.S. Coast Guard, which had taken over permitting responsibilities from the Corps, for permission to keep the lift span closed for fifty days beginning in spring 1973 or as soon as possible after the end of seasonal flooding. MDH planned to let the deck replacement project in late December. “The work of removing, replacing and curing the concrete will require 38 Working Days with additional time before and after the 38 days needed to build and remove a system to secure the heavy counterweights when the counterbalancing deck slab is removed.” To compress the schedule as much as possible, work would be conducted twenty-four hours a day, seven days a week. MDH hoped to have the bridge reopened by Memorial Day weekend.¹³⁰

When work on the deck replacement began in 1973, vehicular traffic had to be rerouted. As MDH Commissioner Ray Lappegaard explained, “The bridge has only a 24’ driving surface which, when you consider working area for men and equipment, storage area for materials, accessibility to the work area for material supply equipment, and providing reasonable safety to workmen, would make it virtually impossible to allow the bridge to remain open.” MDH had planned to start the project after detoured traffic could use a new four-lane interstate bridge in Hudson. Strikes delayed progress on the Hudson project, though, so MDH went ahead with the Stillwater work without the new crossing. Pedestrians could continue to use the Stillwater Bridge, served by shuttle buses at each end. Drivers were allowed to park on the east approach road.¹³¹

After that project was completed, bridge work returned to standard maintenance until 1979 when Minnesota issued a call for bids to replace the control system and lighting. The contract was awarded in June to the Batzli Electric Company, based in Minneapolis. The scope included upgrading the roadway lights, installing new marine navigation lights and replacing the control system for the lift span, including the traffic barrier gates and the

gasoline motor that had raised the lift span since 1953. The gasoline motor was salvaged by the contractor and retained by the highway department, and a new electric motor put in its place. Four mast-mounted gates, warning lights, and bells were installed to stop traffic. Existing pole-mounted incandescent light fixtures were converted to mercury vapor. Mercury vapor lights were also installed on the bridge trusses. Light fixtures and poles that were no longer needed were salvaged and transferred to the City of Stillwater.¹³²

In the next decade the ever-rebellious east abutment forced the reconstruction of the adjacent span in 1981. In 1982 the bridge was repainted “with an organic zinc rich primer and a vinyl finish coat.” This might have been when the paint color was changed from green to gray.¹³³



The 1995 EIS/Section 4(f) evaluation for the new crossing illustrated the closest alternatives to the Stillwater bridge, which were located 7 miles away at Hudson and 20 miles away at Osceola. (MnDOT, WisDOT, FHWA, Final Environmental Impact Statement and Section 4(f) Evaluation for the New St. Croix River Crossing (1995), Figure 2-1)

7. Round 1 of Alternatives

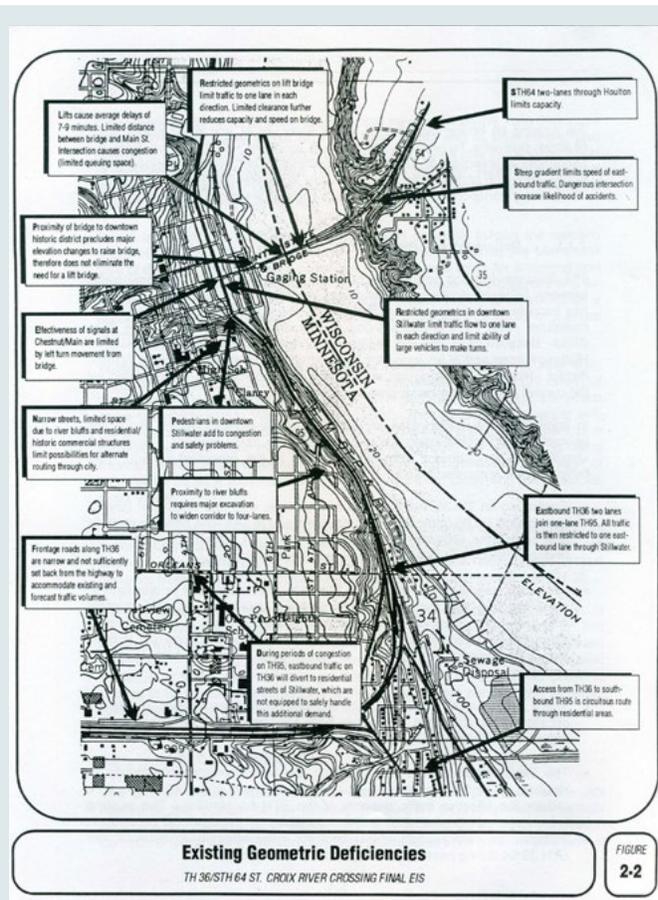
To Build or Not to Build: The Draft EIS

In the 1970s, the legal landscape for assessing environmental issues in the United States was evolving. Although some studies for a new Saint Croix River crossing were initiated during this decade, there was little advancement in planning, disappointing MDH engineers. It was a transformative period for the agency, which became the Minnesota Department of Transportation (MnDOT) by an act of the state legislature in 1976. The Department of Aeronautics, as well as some functions of the State Planning Agency and Public Service Department, were added to MnDOT's oversight. Two years later Richard Braun became the commissioner of the department, a position he held until 1986. Under his direction a Stillwater-Houlton bridge task force was created to begin the long environmental review process for the new crossing. Under the newly created environmental protection laws, including the National Environmental Protection Act of 1970, the Federal Highway Administration (FHWA) filed a notice of intent for preparing an Environmental Impact Statement (EIS) in October 1985. The Scoping Decision Document and Final Study Outline was issued in 1987, after Leonard Levine succeeded Braun. His five-year tenure would witness completion of a Draft Environmental Impact Statement (DEIS) and Section 4(f) evaluation, major milestones in the federal environmental review process, in 1990.¹³⁴

This process had been established by the National Environmental Policy Act (NEPA), which President Richard Nixon signed into law in 1970. NEPA requires federal agencies to evaluate the potential for environmental impact of projects they initiate or fund and to consider alternatives to actions that would damage the environment. Throughout the NEPA process the agency must seek input and review from the public, as well as relevant local, state and federal governments. In Minnesota this is done in two steps, beginning with preparation of a scoping document that outlines the extent of the project, alternatives and potential issues. This serves as the basis for the next step, the DEIS, which analyzes the effects of the alternatives on the environment.

In response to review comments on the DEIS and further studies and consultation, a final EIS is produced. The process ends with the federal agency issuing a Record of Decision describing the alternatives that were considered, explaining why a specific alternative was selected and outlining plans for mitigation and monitoring, if needed.

While FHWA is ultimately responsible for complying with NEPA for federally funded transportation projects, it often delegates the work of completing the process to the state proposing the project. For the new Saint Croix River crossing, the departments of transportation in Minnesota and Wisconsin shouldered the environmental review process, with MnDOT as the lead agency.



The 1995 EIS/Section 4(f) evaluation for the new crossing highlighted the “geometric deficiencies” of the existing bridge. (MnDOT, WisDOT, FHWA, Final Environmental Impact Statement and Section 4(f) Evaluation for the New St. Croix River Crossing (1995), Figure 2-2)

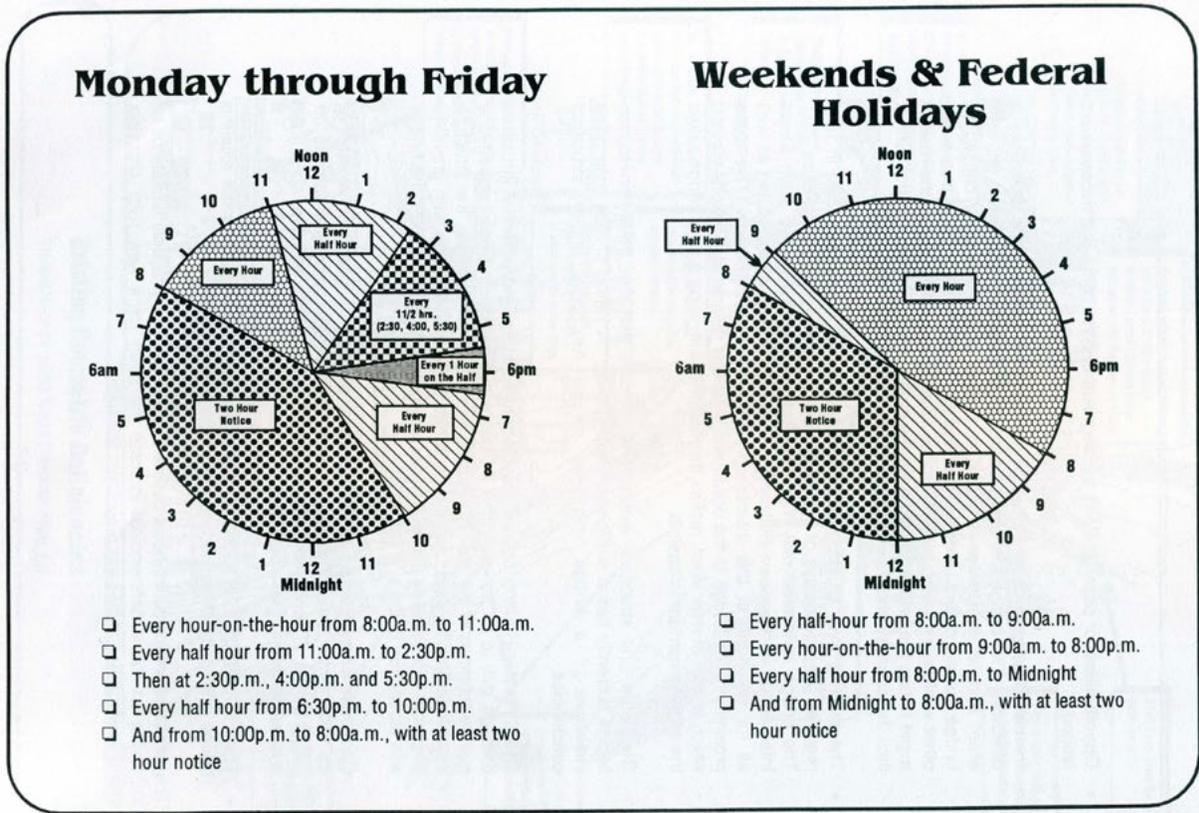
Minnesota and Wisconsin sometimes use different approaches to implementing federal reviews. In Wisconsin, for example, scoping is included as part of the DEIS rather than prepared as a separate document. For the Saint Croix crossing project, Minnesota's rules applied because of its status as the lead agency.

State laws varied as well. One of the starkest contrasts was in the area of municipal consent. While Wisconsin municipalities had power to influence plans for the project, Minnesota's municipal consent laws were complicated. A state law passed in the 1950s required approval by any municipality for the construction or improvement of a controlled-access trunk highway, excluding interstates, within its borders. The provisions of the law, however, were somewhat vague. In 2001, the law was revised to specifically cover trunk highway projects that altered access, increased or reduced traffic capacity, or required acquisition of permanent rights of way. While there were some exceptions for traffic safety, such as installing traffic control devices, the revised statute gave municipalities more power to block projects. If a municipality disapproved of a proposed plan, MnDOT's options were limited. It could modify the plan and go through the review process again, decide not to do the project, or appeal the municipality's decision to a three-person board. MnDOT and the municipality would each select one member of the appeal board, with the third a consensus choice of both parties or, if they were unable to reach agreement, an appointment by the Minnesota Supreme Court's chief justice. The municipal consent law, in its original or revised form, meant MnDOT would have to negotiate with as many as three municipalities—Stillwater, Oak Park Heights and Bayport—depending on where a new crossing was proposed.¹³⁵

While regulatory processes were daunting, they were part of any major transportation project and not enough to deter the two states. Both faced mounting pressure to build a new bridge as development in western Wisconsin burgeoned. Saint Croix County, at the bridge's eastern end, was one of the state's fast-growing counties by the 1980s. Its population was projected to jump from 48,655 in 1988 to 59,250 in 2000. A 2011 report confirmed these assumptions were well-grounded: "In the 1990s and early 2000s, the green fields from the St. Croix River east to New Richmond drew thousands of new residents who wanted to live in the country but commute to Minnesota for jobs, shopping and medical services." As Paul Mayer, head of the New Richmond Economic Development Corporation, observed, "We are basically a suburb of the Twin Cities." As traffic swelled the historic lift bridge was a prominent weak link in the transportation network. It was often a bottleneck by 1986, when it carried an average of 12,400 vehicles a day. The volume was predicted to grow to 28,200 vehicles by 2014.¹³⁶

The worst congestion was on summer weekends when tourists swarmed into Stillwater's quaint downtown, Twin Cities residents headed east to their cabins on Wisconsin lakes, and flotillas of pleasure boats demanded frequent raising of the bridge's lift span. Tie-ups occurred routinely on weekdays as well. The Andersen Corporation operated a large window factory in Bayport, just south of Stillwater, that employed around 3,600 workers by the mid-1990s. Approximately 60 percent of these employees called Wisconsin home. Many of them relied on the Stillwater Bridge for their commute. "When the day shift ends at Andersen," a newspaper reported, "traffic sometimes backs up from Stillwater as far as 2 miles south on Hwy. 95."¹³⁷

While government officials pushed forward with the multitude of studies and meetings required for a DEIS, an entrepreneur from Fargo, North Dakota, Richard Kluzark of the ReKard Development Corporation, proposed a private sector solution. The company would take ownership, charge a toll to users, and dedicate the revenue to rehabilitating the structure. The idea was inspired by a new toll bridge over the Red River connecting Fargo and Moorhead, which claimed to be the first private toll bridge built in the United States in forty years. ReKard's proposal assumed that a new bridge would be built and the rehabilitated historic structure would remain in use for local traffic, with tolls sufficient to support ongoing operations and maintenance.¹³⁸



Current Trial Lift Schedule

TH 36/STH 64 ST. CROIX RIVER CROSSING FINAL EIS

FIGURE 2-3

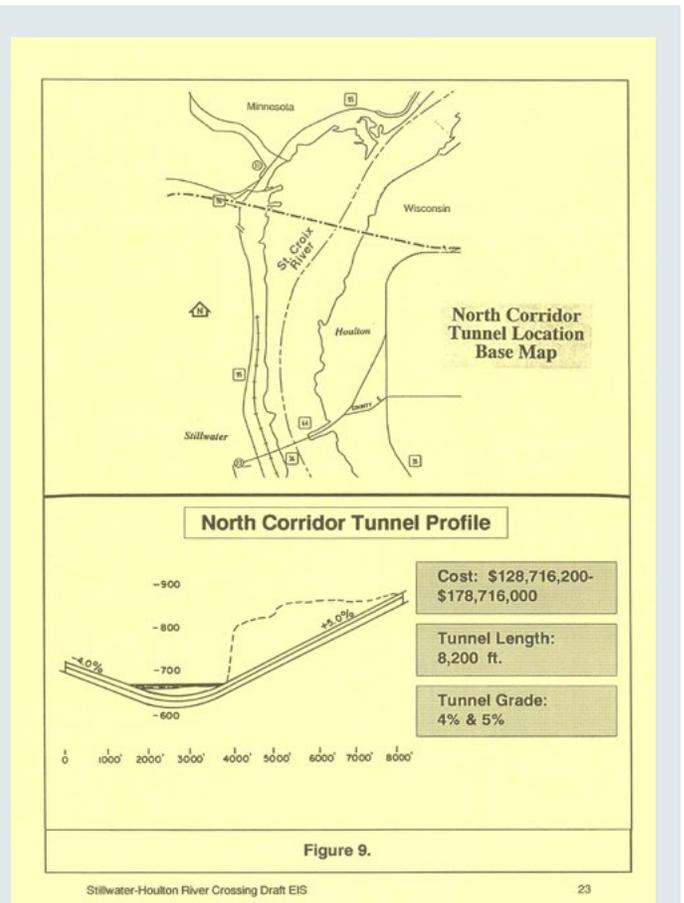
The transportation departments tried different schedules for the lift span in an attempt to reduce road congestion while serving river traffic. (MnDOT, WisDOT, FHWA, Final Environmental Impact Statement and Section 4(f) Evaluation for the New St. Croix River Crossing (1995), Figure 2-3)

MnDOT released a report evaluating the proposal and several related issues in September 1989. One chapter, “The Conflict between Preservation and Replacement,” highlighted the challenges of addressing the nation’s aging infrastructure: “There are approximately 570,000 bridges in the U.S. over twenty feet in length, roughly forty-five percent of which are deficient in some way. Nearly a quarter of a million of these bridges are eligible for replacement under the Highway Bridge Replacement and Rehabilitation Program (HBRRP), with approximately ten to twenty percent of these meeting the criteria for listing on the National Register.” Ironically, “the availability of bridge replacement funds has hastened the destruction of many historic bridges, while historic designation has, in many cases, added costly delays to the replacement process.” Impediments to saving historic bridges included “technical, safety and liability concerns” as well as funding. Changes in federal policy, particularly the Surface Transportation and Uniform Assistance Act of 1987, were making the preservation of historic bridges a national priority. MnDOT’s study concluded that the toll proposal provided a viable way of preserving a historic bridge, but the idea was eventually dropped.¹³⁹

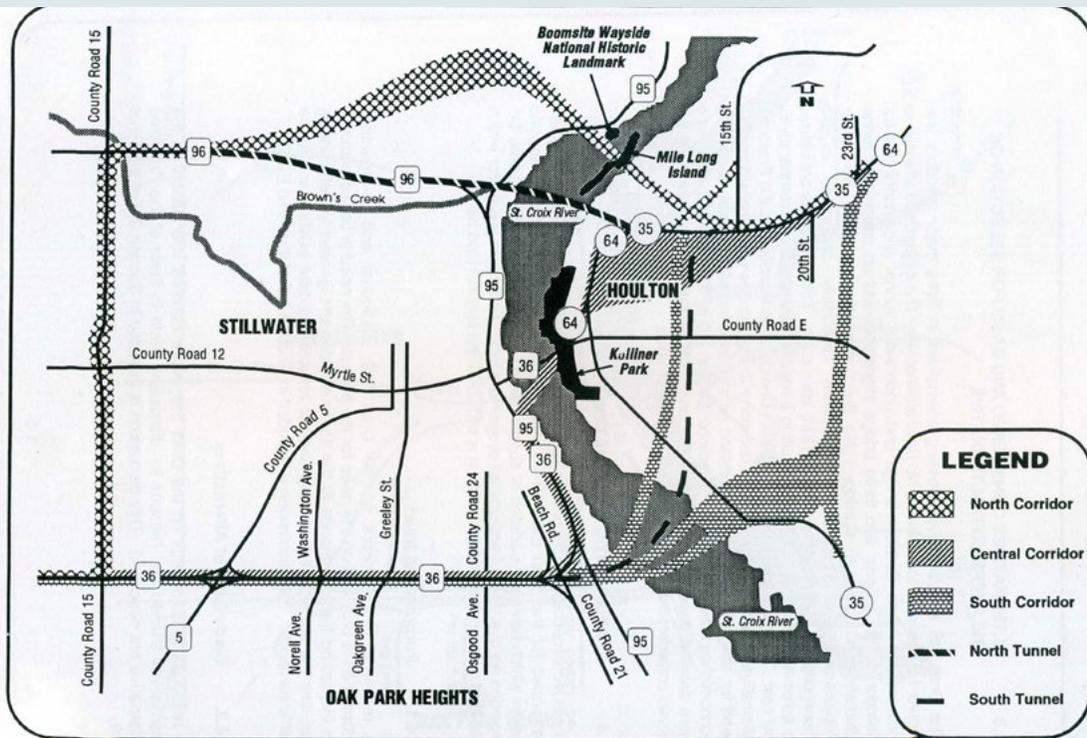
In March 1990, FHWA approved the release of the DEIS and a Section 4(f) evaluation. Section 4(f) of the U.S. Department of Transportation Act of 1966 requires the department to consider the effects of projects that it initiates or funds on park and recreational lands, wildlife and waterfowl refuges, and historic properties. If there is a “feasible and prudent” alternative that avoids Section 4(f) properties the project must adopt that alternative. If avoidance is not possible the agency is required to select the alternative that causes the least overall harm.

The DEIS, which MnDOT’s Metro District prepared, considered three general areas for the crossing: “The North Corridor, which bypasses the city of Stillwater . . . and Houlton . . . to the north; the Central Corridor, which uses existing approach roadways in Minnesota and Wisconsin, but bypasses the Stillwater central business district; and the South Corridor, which bypasses Stillwater and Houlton to the south.”

Within each corridor, there were a variety of options, with four bridge alignments for the central corridor and either a bridge or a tunnel for the north corridor. The south corridor had three possible bridge alignments with eight design variations and an 8,800-foot tunnel. In addition, instead of building a bridge at a new location, the report considered replacing or rehabilitating the existing lift bridge, improving traffic management, or doing nothing. The study did not say whether or not a new bridge should be built, but it did rule out all the north and central corridor options as well as the south corridor tunnel. From this point forward, planning focused on developing a new bridge south of Stillwater.¹⁴⁰



Alternatives considered in the 1990 DEIS included a tunnel for the Wisconsin approach. (MnDOT, Stillwater-Houlton Draft Environmental Impact Statement and Section 4(f) Evaluations, Trunk Highway 36 and State Trunk Highway 64 (1990), 10)

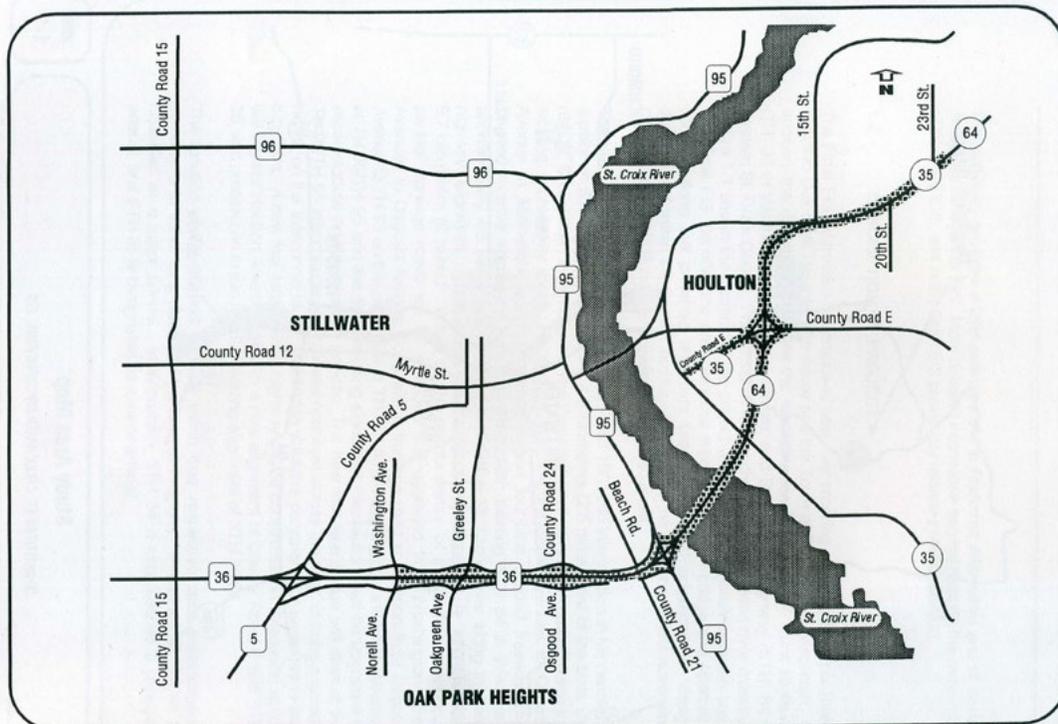


Draft EIS Study Corridors

TH 36/STH 64 ST. CROIX RIVER CROSSING FINAL EIS

FIGURE
1-3

The 1990 DEIS evaluated three corridors—north, central, and south. The 1995 FEIS recommended the south corridor as the preferred alternative. (MnDOT, WisDOT, FHWA, Final Environmental Impact Statement and Section 4(f) Evaluation for the New St. Croix River Crossing (1995), Figures 1-2 and 1-3)



Preferred Alternative

TH 36/STH 64 ST. CROIX RIVER CROSSING FINAL EIS

FIGURE
1-2

Four months after the DEIS was issued in 1990, the Department of the Interior provided comments. The department and its National Park Service (NPS) division were important in the environmental review for any construction along the Saint Croix, which was part of a federally designated “wild and scenic river” system. The Upper Saint Croix was one of only eight rivers in the nation designated in the Wild and Scenic Rivers Act (Public Law 90-542), which President Lyndon Johnson signed in October 1968. While the Department of Agriculture had administrative responsibility for most of the system’s rivers, the Saint Croix fell under the purview of the Department of the Interior. The Upper Saint Croix ran south for 102 miles from a dam near Gordon, Wisconsin, to a dam between Saint Croix Falls, Wisconsin, and Taylors Falls, Minnesota. Also included in the designation was the Namekagon River, stretching 98 miles from the Namekagon Lake Dam to its mouth in the Saint Croix. In 1972, the designation was extended 52 miles to the south to the river’s terminus at the Mississippi River by Prescott, Wisconsin. This section included the Lower Saint Croix, Lake Saint Croix, the Stillwater Bridge, and the three corridors discussed in the DEIS.¹⁴¹

Since “it is virtually impossible to develop an alternative river crossing that would not in some degree result in a Section 4(f) use of this area,” the Department of the Interior concluded in 1990 that a new bridge should not be built. Improved traffic management throughout the region could ease congestion at the existing crossing. The “existing historically significant lift bridge” should be maintained “for its safe life (approximately 5–15 years),” then rehabilitated or reconstructed. While acknowledging that the bridge was historic, the department ultimately favored natural over cultural resources: if “a decision to construct a new crossing is made, this Department would then recommend that the old bridge be removed, in accordance with our policy of non-proliferation of structures crossing the Lower Saint Croix to preserve the qualities for which it was set aside for protection by Congress.”¹⁴²

Historic preservationists and other supporters of the historic lift bridge were outraged, since the Department of the Interior, through its National Park Service division, was responsible for overseeing the nation’s historic as well as its natural resources. Some wondered if pitting one type of resource against another was a tactic to stop further consideration of a new crossing. If so, it did not work.

In December 1990, with input from a series of public hearings, MnDOT and WisDOT announced that they had “selected a BUILD alternative” and that “the preferred alternative is the north alignment of the South Corridor, known locally as the ‘Buckhorn’ site.” In a press release, William Crawford, MnDOT’s Metro District Engineer, explained that the decision had been influenced by “countless meetings” the transportation departments held with community officials and residents. “We still have two major challenges ahead of us,” he noted. “We need to work hard to minimize the impacts on the people living in the path of a new river crossing, and we need to work hard to design a bridge that will be compatible with the scenic and recreational values of the St. Croix. We cannot forget our responsibilities to people or the environment.”¹⁴³

Crawford could not have foreseen what a difficult challenge that would be. With the transportation agencies pursuing the construction of a new crossing and the Department of the Interior insisting that no additional bridges could cross the riverway, the stage was set for a long battle over the fate of the historic Stillwater Bridge.

1990 Draft EIS to 1995 Final EIS

The transportation departments moved forward with more studies and more meetings with the goal of refining the alternatives of the DEIS into a Final Environmental Impact Statement (FEIS). In February 1992, the state transportation departments held what they expected to be the last public meetings for this process. A major item on the agenda was the bridge type. Box girder, girder, and arch designs were in the running. Within about two months, they expected to decide which alternative to build. The FEIS would be issued in May or June, with construction under way by spring 1994. The bridge was estimated to cost \$53 to \$60 million, depending on the design. Construction related to the roads approaching the bridge raised the total project budget to over \$80 million.¹⁴⁴

In a meeting in early January 1993, MnDOT Bridge Engineer Donald Flemming and John Sandahl, director of the department's Engineering Services Division, discussed alternative structural types for the new bridge and plans to advertise for a consultant. In a memorandum the next day, Flemming summarized the role of MnDOT and the consultant, indicating "the desire of my office to design the river spans for the steel alternative with Mn/DOT Bridge Design Section personnel. We propose that the concrete box girder alternative along with the prestressed approach spans for both alternatives be designed by a consultant."¹⁴⁵

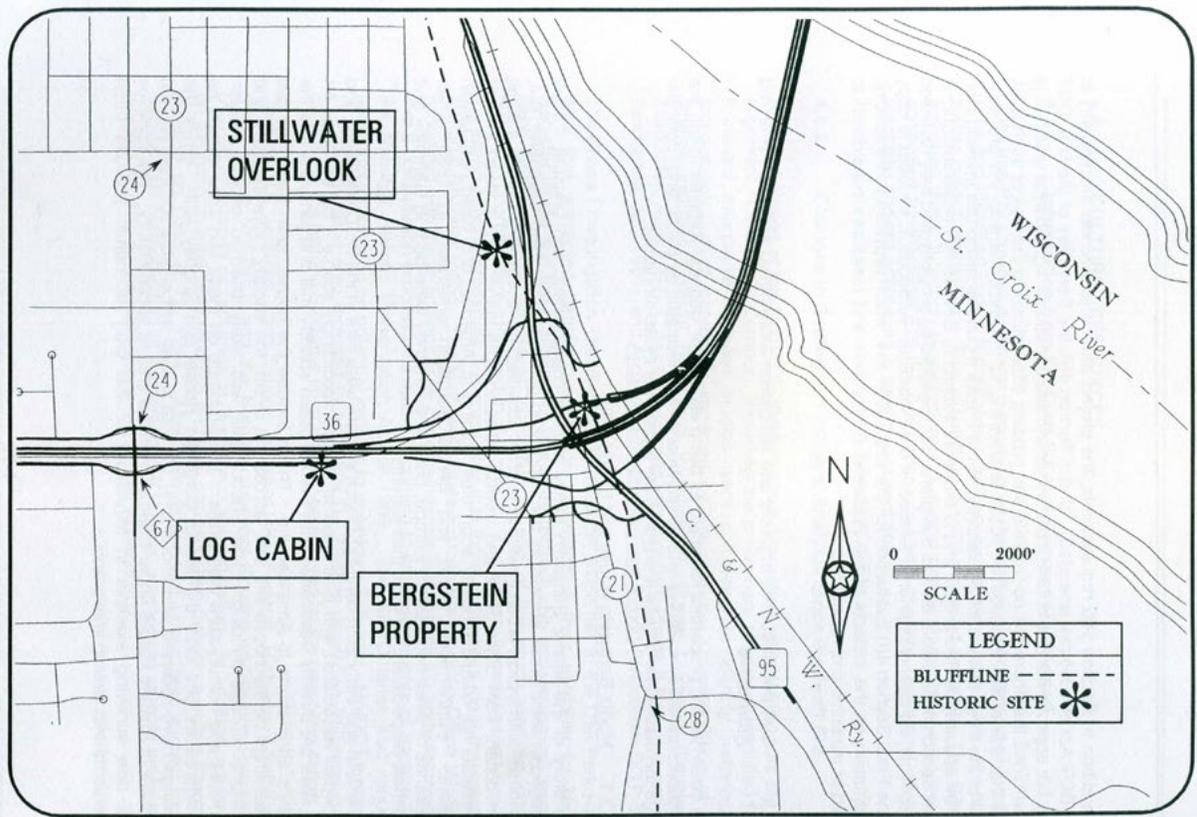
Another Perspective: Section 106

The NEPA process and Section 4(f) consider an array of resources, factors, and alternatives. As early as June 1989, for example, the Department of the Interior recommended that congestion at the historic bridge be addressed by "intensive transportation system management (TSM) measures" rather than construction of a new bridge. These measures would include "improved mass transit, park-and-ride lots, alternative traffic routing, increased carpooling and vanpooling." In response, MnDOT and FHWA conducted traffic studies and analyzed TSM alternatives, ultimately concluding that these initiatives could not adequately address the area's long-term transportation needs. A new bridge was, indeed, required. In a letter in May 1995, NPS regional director William Schenk wrote that NPS "could find no reason to refute the findings of the traffic studies, and we deferred to the expertise of the FHWA in these matters." NPS then turned to its "nonproliferation" policy.

It also called on FHWA, MnDOT and WisDOT to "become active participants in a regional study that the NPS is initiating to identify strategies to protect . . . the Saint Croix River from the negative effects of piecemealed transportation projects." NPS requested that planning for transportation projects in the region be delayed until after the study was completed.¹⁴⁶

Another federal review, the Section 106 process, focuses exclusively on historic resources. "Section 106" refers to a section of the National Historic Preservation Act of 1966 which also created the National Register of Historic Places. The Stillwater Lift Bridge was listed in the National Register in 1989. Other National Register properties were in the vicinity as well. While there are few protections for designated properties, Section 106 requires federal agencies to consider how properties that are listed, or eligible for listing, in the National Register are affected by projects they initiate, fund, or license. Federal agencies are responsible for avoiding, minimizing, or mitigating activities that adversely affect historic properties. The new Saint Croix Crossing bridge would receive funding from the U.S. Department of Transportation and require a permit from the U.S. Army Corps of Engineers, triggering the Section 106 review process. While the Stillwater Lift Bridge was not the only National Register property that might potentially be affected by the new crossing, NPS's "no proliferation" policy put the bridge in the Section 106 spotlight.

Section 106 compliance is ultimately overseen by the Advisory Council on Historic Preservation, whose members are appointed by the president of the United States. Under normal circumstances the Advisory Council does not get involved in individual compliance cases. Instead, federal agencies work with State Historic Preservation Offices (SHPO), local heritage preservation commissions, and other groups and individuals to identify historic properties that might be affected by projects, attempt to avoid adverse effects, and develop strategies, including mitigation, to minimize damage.



Location of Historic Sites

TH 36/STH 64 ST. CROIX RIVER CROSSING FINAL EIS

FIGURE
4-5

The FEIS noted that three historic sites would be affected by construction of the south corridor. (MnDOT, WisDOT, FHWA, Final Environmental Impact Statement and Section 4(f) Evaluation for the New St. Croix River Crossing (1995), Figure 4-5)

The Advisory Council has specific criteria for becoming involved in a controversy. The fracas over the Stillwater Lift Bridge met two of these criteria in regard to policy issues and public concern. Specifically:

- “This project raises significant issues regarding the competing values of natural resource protection and historic resource preservation in the National Park Service’s management of the Wild and Scenic Rivers program.”
- “There is widespread public opposition to the demolition of the Stillwater Lift Bridge.”¹⁴⁷

Consultation with federal, state and local government agencies, and the public concluded in December 1994 with the execution of a memorandum of agreement (MOA).

Signatories were the Advisory Council, FHWA, and the DOTs and SHPOs in Minnesota and Wisconsin. The MOA specified that the historic bridge would “remain on the states’ respective trunk highway systems” and would “not be affected” by construction of the new bridge. The agreement also indicated that “future changes in jurisdiction or disposition” of the historic bridge would be subject to a separate review under Section 106. A key assumption of the agreement was that the historic lift bridge would remain in place and continue to carry vehicular traffic. Three other historic properties—the Bergstein House and Shoddy Mill [or Bergstein Shoddy Mill and Warehouse], the Log Cabin Restaurant (Club Tara), and the South Saint Croix Overlook—would be adversely affected by the project, so the memorandum included measures to mitigate this damage.¹⁴⁸

Conclusion without a Conclusion

The ink on the memorandum was barely dry when complications arose. To conclude the EIS process, FHWA needed to issue a “Record of Decision.” It could not do that without the concurrence of NPS. On April 5, 1995, Philip Miller from FHWA’s Chicago office, NPS Midwest Regional Manager Bill Schenk from Omaha, and representatives from MnDOT and WisDOT met in Saint Paul. This resulted in a letter to Alan Steger, FHWA’s division administrator, from MnDOT Commissioner James Denn, and WisDOT Secretary Charles Thompson later that month explaining that “NPS continues to disagree with the FHWA position that because none of the build alternatives require its removal, the disposition of the existing historic lift bridge is a separate issue which will be resolved through a separate public decision-making process.” Instead, “NPS maintains that the disposition of the existing bridge is integral to this decision-making process” because a new bridge “will impact the qualities for which the river was designated by Congress. The NPS maintains that if a new bridge is to be constructed the existing bridge should be removed.” As a result, “only normal maintenance will be performed on the existing Stillwater bridge.” Assuming its useful remaining life was ten to fifteen years, the two agency heads agreed to remove the historic bridge “within 10 years of completion of the new bridge.” Schenk subsequently confirmed that the only way to satisfy NPS’s concerns was “that a decision to build a new bridge includes removal of the existing bridge.”¹⁴⁹

With this letter in hand, after some ten years of study, input from experts in a variety of fields, extensive public hearings, and consultation with an array of government agencies, MnDOT issued the FEIS for the project. The appended Section 4(f) assessment identified only one unresolved issue: the future of the historic lift bridge. FHWA signed off on the FEIS in June 1995 and issued a Record of Decision on July 10, theoretically giving MnDOT a green light for the bridge’s construction.¹⁵⁰

Objections to the conclusion of the NEPA process poured in from local preservationists. River Town Restoration President Brent Banchy charged that the transportation departments “have two different positions on the old bridge. They’ve sugar-coated their public announcements about the bridge but their internal position is that they want to take it down.”

At the federal level, Advisory Council director Robert Bush formally invalidated one of the key agreements, the Section 106 MOA, in a May 1996 letter to Steger: “The joint [MnDOT/WisDOT] letter . . . most definitely indicates a change in position from that represented to us during consultation to develop the existing agreement,” which “was clear in its intent that the historic Stillwater Lift Bridge would be maintained on the systems of both Minnesota and Wisconsin.” Bush concluded “that FHWA has failed to carry out the terms of the existing MOA which we deem to be null and void.”¹⁵¹

Commissioner Denn responded for FHWA: “There is no project identified in our 3-year Transportation Improvement Program, our 5-year work/study plan, or our long range Transportation System Plan that will alter or remove the existing bridge in Stillwater. We therefore restate that the existing bridge is not affected by construction of the new bridge or by any other planned DOT project.” He added a quote from a MnDOT newsletter: “A separate decision making process will be used to determine the final disposition of the old bridge at the end of its useful life (10 or 15 more years).” MnDOT Project Manager Mark Benson reiterated this stance in a May 1996 interview: “He said that when the time comes to consider major repairs to the old bridge, the Transportation Department will indeed seek its removal but . . . the bridge’s fate will depend on other factors as well. ‘If somebody else comes forward with a plan to maintain the bridge, then who can say now what its ultimate disposition will be?’”¹⁵²

This perspective—that the fate of the old bridge was not linked to the new one—was key to the Record of Decision but did not sway the project’s opponents. Rather than marking the end of the process, the Record of Decision served as a transition from one chapter in the saga to the next.

8. Bridge over Troubled Waters

In March 1996 *City Pages* reported that “the Sierra Club is exploring the possibility of a lawsuit,” but “there appears to be little realistic chance of interrupting the project.” The threat became a reality in June when the North Star Chapter of the Sierra Club and the Voyageurs Region National Park Association filed a lawsuit in federal court against the FHWA, MnDOT, WisDOT, and the Department of the Interior. The suit claimed these agencies had not sufficiently analyzed the bridge’s impact on the Saint Croix River. The litigants asserted, as one source explained, that the Wild and Scenic Rivers Act was “not trumped by the Transportation Act.”¹⁵³

But did the Wild and Scenic Rivers Act trump Section 106? As Deputy State Historic Preservation Office Britta Bloomberg observed, “Many environmentalists favor the site of the historic bridge as one alternative site for the new one. So, even if the NPS is persuaded to change its position, the lawsuit could mean that the future of the historic Stillwater Bridge would still hang in the balance.”¹⁵⁴

It was around this time that a new player, the National Trust for Historic Preservation, joined the fray. Based in Washington, DC, with a Midwest regional office in Chicago, the National Trust had been chartered by Congress in 1949 as a private nonprofit organization tasked with encouraging grassroots preservation nationwide. The organization’s President, Richard Moe, a Minnesota native, as was Roger Kennedy, director of the National Park Service from 1993 to 1997. Both were graduates of the University of Minnesota Law School. Kennedy was very familiar with the Saint Croix River Valley—he had written a book titled *Historic Homes in Minnesota* and had owned property in Franconia Township, just upstream from Stillwater.¹⁵⁵

If Kennedy was following the Stillwater Bridge controversy, he was keeping a low profile. This changed in May 1996 when Moe wrote to him, “Apparently your Omaha office is insisting that this bridge come down if a new bridge across the St. Croix is to be built. It strikes me as incredulous that a Park Service official would be proposing the destruction of such an historic landmark, particularly when no one else seems to be favoring its demolition. There is much support in Minnesota for maintaining the bridge, possibly as a pedestrian or bicycle bridge. I’d be grateful if you could have someone check out what’s behind all this.”¹⁵⁶

Kennedy responded, “We like the bridge, too. We think it should be a pedestrian and bicycle bridge. The only problem lies, not with us, but with the highway department, which so far, is failing to assure the locals that the bridge will, in fact, be maintained and operated. If they won’t operate it, it will simply be in the ‘up’ position all the time and nobody will be able to get across the river on it. So the bottom line: Park service is for the bridge; the highway department is not being helpful, so they ought to shoulder their responsibility.” This assertion was clearly at odds with the position of NPS’s regional office, suggesting Kennedy was not thoroughly briefed on the matter.¹⁵⁷

After making no progress with NPS, the National Trust placed the Stillwater Lift Bridge on its list of “America’s Most Endangered Historic Places” in June 1997. It joined important sites spanning the United States from Ellis Island National Monument in New York to the Congressional Cemetery in Washington, DC, to the Wa’ahila Ridge in Honolulu. Moe called the bridge “the ‘poster child’ of federal policies that needlessly pit protecting natural resources against protecting cultural resources.” The National Trust was also concerned about the potential for the new bridge to foster sprawl, and it “strongly encourage[d] the initiation of measures that would improve land-use planning and ensure implementation of recommendations to manage growth on both sides of the river to preserve the character and quality of existing towns and landscapes. It is essential that this beautiful area develop by choice, not chance.” A month earlier, Preservation Alliance of Minnesota had placed the bridge on its 1997 list of the top ten endangered properties in the state, the fourth year the bridge had made the list.¹⁵⁸

In the meantime NPS was working on a cooperative management plan for the Lower Saint Croix National Scenic Riverway, establishing two committees to provide input. One included local residents and other private stakeholders. The other committee had representatives from federal and state government agencies, including MnDOT and WisDOT, that had interests in the corridor and would be coauthors of the plan. A series of meetings and workshops began in April 1996. By November this process had produced statements outlining the purposes, significance, and exceptional resources and values of the corridor, including an acknowledgment of the complexity of the river as “an exceptional combination of high quality natural and historical resources, and scenic, aesthetic and recreational values.”¹⁵⁹

This planning process perhaps influenced NPS’s 1996 decision to evaluate the proposed new bridge project as a “water resources project” under Section 7(a) of the Wild and Scenic Rivers Act, which stated that “no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration”—namely the interior secretary, in the case of Stillwater. The Department of the Interior’s 1990 comments on the DEIS noted that the act required projects having a “direct and adverse impact” on the riverway to obtain the department’s approval. In the intervening years, supporters of the new bridge had assumed the EIS process took care of this review. Without the approval of NPS, the division of the Department of the Interior responsible for overseeing compliance with the act, other federal agencies were prohibited from giving funds or licenses to these projects. Because the Saint Croix project needed a permit to dredge and fill from the U.S. Army Corps of Engineers, a permit to cross a navigable river from the U.S. Coast Guard, and funding from the Federal Highway Administration, it would be stopped cold if NPS found it would directly and adversely affect the river. That is exactly what happened on December 30, 1996. A local newspaper remarked that NPS’s decision “didn’t have the impact of ‘The Shot Heard ’Round the World,’ but . . . foundations shook in Stillwater, Oak Park Heights, St. Paul, Washington D.C. and beyond.” Within hours of NPS’s announcement, the Corps stated that it would not grant a permit for the bridge.¹⁶⁰

“That decision left some people and agencies seething” and “other people ecstatic,” the newspaper observed. It also “left everyone wondering, as the dust is settling, what is going to happen next.” MnDOT Commissioner Denn immediately wrote to President Bill Clinton on behalf of Governor Arne Carlson to ask for Clinton’s intervention. At the same time, MnDOT decided to take the Department of the Interior to court. It challenged NPS’s authority to deny the project under the Wild and Scenic Rivers Act asserting that Congress had not intended to restrict bridge construction over designated rivers. MnDOT also claimed that the U.S. Transportation Act of 1966 gave the federal transportation department the right to build projects on protected property if there was not an alternative and if the agency minimized the damage. In addition, while this was the first proposal for a new bridge over a designated river since the legislation was passed in 1968, MnDOT emphasized that NPS had not challenged construction work on existing bridges in protected corridors.¹⁶¹

The lawsuit reflected MnDOT’s understandable frustration with NPS, but it was a controversial tactic. An editorial in the *Minneapolis Star Tribune* observed, “Apparently it’s either [MnDOT’s] bridge design and location or nothing.” The editorial chastised Minnesota Governor Arne Carlson, a strong proponent of the new bridge, who was discovering that the Stillwater Bridge, “is an issue that’s as hard for a politician to straddle as the St. Croix River itself.”¹⁶²

This was also evident to U.S. Representative Bill Luther, whose district included the Stillwater area. He joined Oak Park Heights in championing a different approach, mediation, in the hope of finding a compromise that could move the project forward. “He wants to see if the Park Service will accept a bridge with a different configuration and in a different place,” a newspaper reported. Throughout the controversy Luther maintained a neutral position. During an interview in February 1997, he explained, “We need to have a free flow of information, a very objective look at the situation. . . . I’ve been trying to look at each individual issue and not get into all of the partisanship and other squabbling. . . . I want to do what’s right on this issue.”¹⁶³

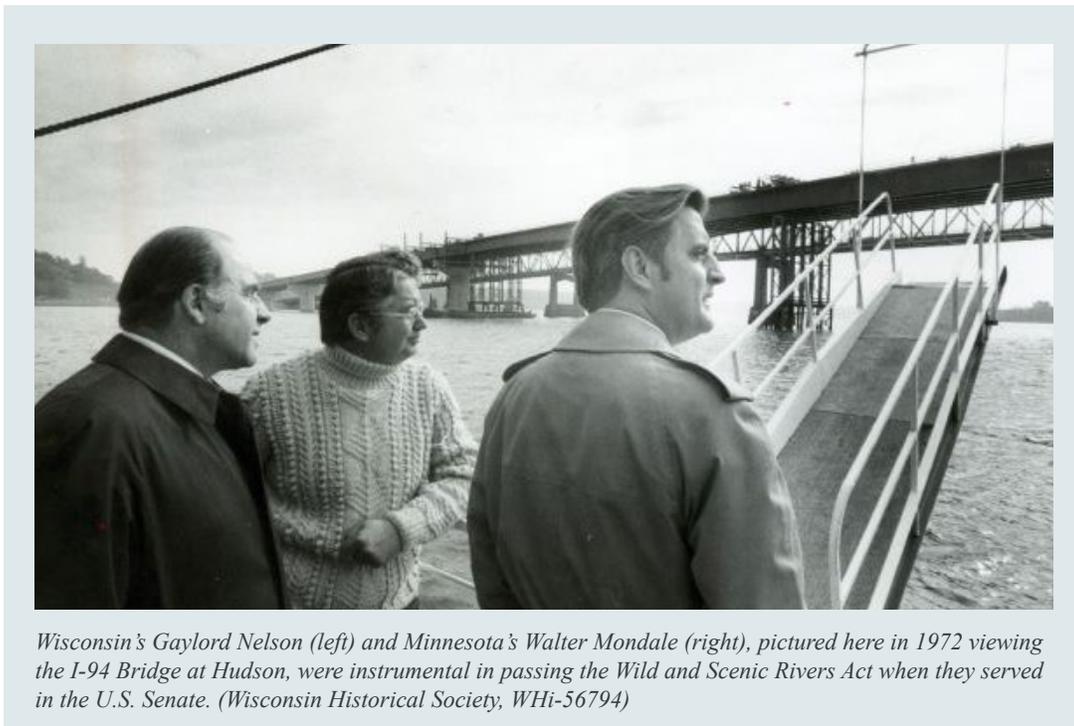
Luther's neutrality did not sit well with the governor. When Luther contacted him about considering mediation, Carlson fired back an angry letter in March 1997 paraphrasing an unlikely source: "As Shakespeare said, 'To build or not to build, that is the question.' Where do you stand?" (A newspaper reporter opined, "Shakespeare's Hamlet, a fellow who had trouble making up his mind, probably wouldn't have been able to decide what [to] do about the bridge.")¹⁶⁴

Like Carlson, MnDOT Commissioner Denn felt that "opponents of the proposed bridge have seized upon this single legal dispute to advance their call for mediating a multitude of old issues" that were addressed during the EIS process. He called that process "open, objective and honest," and "conducted fully within the letter and spirit of state and federal law. Mediation would only prolong the process unnecessarily."¹⁶⁵

Carlson and MnDOT hoped the lawsuit would quickly remove what appeared to be the last impediment to starting construction by summer 1998. U.S. District Court Judge Ann Montgomery heard arguments in January 1998 and issued a twenty-three-page ruling in April. While a quick process, the result dashed MnDOT's hopes. The judge found that installing eight piers in the river and doing extensive dredging to build the bridge would "significantly impact the bed and banks of the river."¹⁶⁶

Bridge supporters appeared to have two options: appeal the ruling or abandon the proposed design and location and head back to the drawing board. Governor Carlson and Wisconsin Governor Tommy Thompson, with support from the American Association of State Highway and Transportation Officials (AASHTO), decided to pursue a third: circumventing the ruling. They contacted several state representatives in Washington including Minnesota congressman James Oberstar and Wisconsin congressman Thomas Petri. Oberstar served on a House-Senate conference committee that was completing a major transportation bill. The governors and AASHTO wanted a provision added to the bill that would exempt bridges from review under the Wild and Scenic Rivers Act.¹⁶⁷

Two of the Act's authors, former Wisconsin Senator Gaylord Nelson and former Minnesota Senator and Vice President Walter Mondale, fought this effort. They sent a letter to the conferees in May 1998 decrying the "last-ditch effort to save an ill-conceived bridge project." Congressman Luther, another key opponent, noted that the Wild and Scenic Rivers Act was not under the jurisdiction of the transportation committees and the proposed change lacked public process. As Luther's office asserted, "We don't need Congress to shove a bridge down our throats."¹⁶⁸



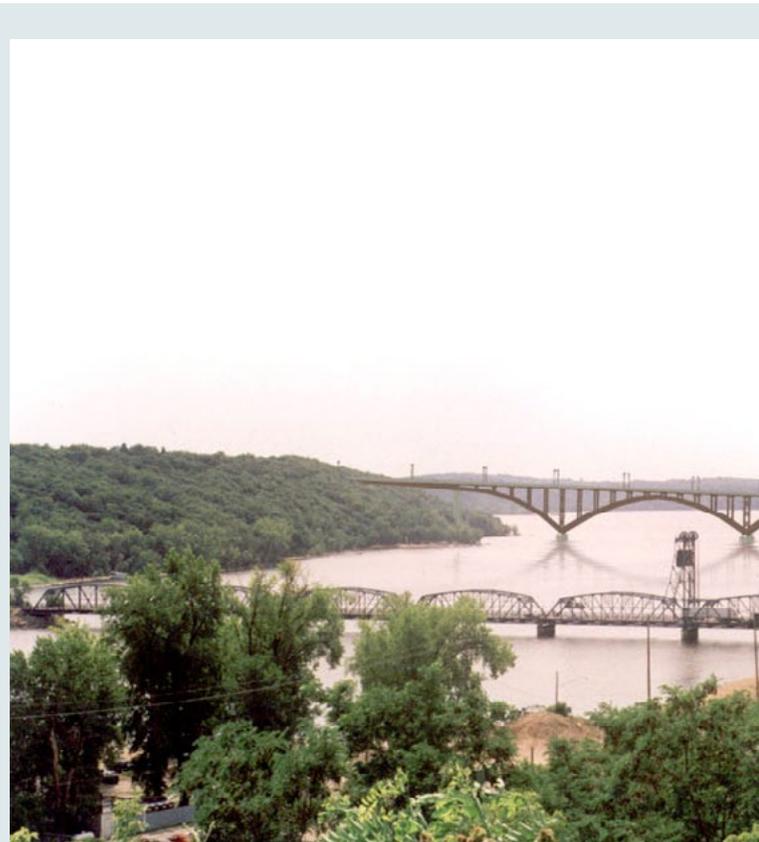
Wisconsin's Gaylord Nelson (left) and Minnesota's Walter Mondale (right), pictured here in 1972 viewing the I-94 Bridge at Hudson, were instrumental in passing the Wild and Scenic Rivers Act when they served in the U.S. Senate. (Wisconsin Historical Society, WHI-56794)

A New Route

The provision was not added to the transportation bill. Instead, an ad hoc committee that included Luther, NPS, transportation officials from both states, and representatives from local communities held a meeting in the Twin Cities in late May 1998. The committee, which excluded the Sierra Club, initially met behind closed doors “as a way to bring about a free-wheeling discussion.” This decision engendered yet more controversy for the beleaguered project. While an editorial in the *Stillwater Courier News* endorsed the approach—“give the process a chance to work without having a bunch of attorneys and reporters mucking things up”—others, including the Sierra Club, were outraged. Bowing to the protests in mid-July 1998, the committee launched public meetings and added Judy Ballairs of the Sierra Club to its roster. As a vote of confidence in the process MnDOT temporarily suspended an appeal that it had initiated after the court’s April ruling. Early on the committee realized it needed a third party to mediate and enlisted Richard Braun, a former commissioner of MnDOT, to take on the challenge, with a deadline of October 1 for forming a compromise.¹⁶⁹

By early August, the committee was considering six alternatives—“ranging from no new bridge to a new four-lane one and the elimination of the lift bridge.” A month later a newspaper reported on a public meeting where five options were presented, including the original one the court decision had ruled out. The “no build” option was off the table based on new traffic studies showing an inevitable increase in development on both sides of the river that would make traffic congestion in Stillwater intolerable. Three of the options were new. Each called for a structure that was shorter than the original design. “Though Braun denied that any bridge proposal had already been selected, much of the focus . . . was on one that would cross the river 3,600 feet, or roughly two-thirds of a mile, south of the existing bridge. It would be slightly north of the crossing that the federal judge had blocked and, more important, require a 700-foot shorter crossing of the river.” Known as “Alternative C,” this option was not without issues, including a potential tunnel to accommodate the grade transition at the steep bluff on the Wisconsin side. The two other options that were further upstream required double-decked approaches on the east side, an even bigger negative.¹⁷⁰

The committee’s work concluded on September 28, 1998, with the distribution of Braun’s five-page report, *A Graceful Solution for a Magnificent River*. The committee’s recommendations were generally well received by the various factions. The preferred solution was “Braun Alternative C” for a number of reasons. The proposed 2,220-foot-long structure had a deck-arch main span made of weathered steel and was anticipated to cost \$120 million, another jump from the first budget. Since it was closer to downtown Stillwater, it would have less impact on the more pristine river corridor, which the original structure would have bisected about half a mile further downstream. The recommended design would carry four lanes of traffic, which the Sierra Club believed would encourage sprawl. The Sierra Club’s Ballairs, the only woman on the twenty-one-member committee, ended up being the main dissenter from the recommendation. The biggest issue in the river valley, the future of the historic lift bridge, remained outstanding: “Legal issues were too complex and opinions were too strong to resolve this issue within the available time.” Nevertheless, Braun believed a compromise could be reached, particularly with the aid of an appropriate mediator, perhaps a retired judge.¹⁷¹



At the same time, political pressure was being exerted behind the scenes to sway opponents of the crossing. There was, for example, a change of heart by the Minnesota-Wisconsin Boundary Area Commission, which had asserted since 1990 that the bridge was unnecessary. In April 1997 the commission did an about face: “We are no longer certain that the no-build alternative should be our first choice. We now believe that an improved river crossing is needed.” The *Minneapolis Star Tribune* reported that “the change in position came as a Minnesota House committee earlier this week included an amendment that called for ending Minnesota’s involvement with the commission”—a message the commissioners heard loud and clear.¹⁷²

Other roadblocks were also being cleared. The Minnesota Center for Environmental Advocacy (MCEA) had filed a lawsuit against the Metropolitan Council’s approval of the project that was slowly working its way through the state court system. The council had been created in 1967 as a regional planning agency for the seven-county area containing Saint Paul, Minneapolis and suburbs.

The MCEA claimed that the council shirked its duties by approving funding for the new bridge, which would accelerate sprawl on the urban fringe. The state appeals court disagreed in March 1998, leaving the center to appeal to the Minnesota Supreme Court. The following January, the high court concluded the Metropolitan Council’s action was quasi-legislative rather than quasi-judicial, and thus, not in the court’s purview. The MCEA had decisively lost that battle.¹⁷³

During the same period, the Sierra Club was becoming more isolated. It diverged from NPS, a close compatriot up to this point, when it came out against Braun’s compromise: “The National Park Service . . . has been a courtroom ally in previously blocking a four-lane bridge,” a newspaper reported, but shortly after the report was issued, “the agency said . . . it ‘can live with’ Braun’s proposal.” An editorial in the *Minneapolis Star Tribune* concluded that “despite . . . major outstanding issues, and plenty of smaller ones, last week’s developments suggested that something like a consensus—perhaps a grudging one—might be within reach after decades of bitter disagreement over a new Stillwater Bridge.”¹⁷⁴



A compromise design, “Braun Alternative C,” featured a deck-arch main span of weatherized steel. (Courtesy of Todd Clarkowski, MnDOT)

In November 1998, the *Minneapolis Star Tribune* reported on “a small but noteworthy step,” a formal agreement between FHWA, MnDOT, WisDOT and NPS on the revised location for the new bridge, based on Braun’s recommendations. The agencies anticipated that the necessary environmental assessments would be completed by the following October. By January 1999, the FHWA decided to require a Supplemental EIS (SEIS) and initiated a series of meetings that were attended by representatives from many agencies and groups, including the Advisory Council, NPS, and the Minnesota and Wisconsin DOTs and SHPOs. Preservationists remained united. At a public meeting on January 27, 1999, “the following unanimously called for saving the bridge: the City of Stillwater, the Stillwater Historic Preservation Commission, the Stillwater Chamber of Commerce, the Stillwater Area Chamber of Commerce, Rivertown Restorations [*sic*] . . . , the Preservation Alliance of Minnesota, the Minnesota Historical Society and the National Trust for Historic Preservation.”¹⁷⁵

The hope for a compromise that included the bridge’s preservation was stimulated by a new dynamic at the Minnesota capital. Governor Arne Carlson had decided to retire from office when his second term ended in January 1999. When the state’s voters went to the polls in November 1998 they elected political maverick Jesse Ventura, representing the Reform Party, as governor. When he assembled his cabinet, he owed no allegiance to the state’s two main political parties. His pick for the commissioner of MnDOT was Elwyn Tinklenberg. They had worked together on planning improvements to Highway 610 in the northwestern suburbs of the Twin Cities, where both men were mayors. In making this appointment he noted that Tinklenberg “has a great deal of experience in transportation policy in the State of Minnesota. . . . He is a true visionary who understands the importance of transportation issues, especially to local communities.” Ventura selected Ted Mondale, another contender for the governorship in 1998 and the son of former vice president Walter Mondale, to be head of the Metropolitan Council. Opponents of the new Saint Croix crossing were also hopeful they would have allies in Saint Paul. A newspaper reported that Tinklenberg and Mondale had opposed the bridge before Ventura’s election. That hope was short-lived, however, because both “have backed away from that stance since assuming their new jobs.”¹⁷⁶



Jesse Ventura, a former pro-wrestler who had served as mayor of suburban Brooklyn Park, brought a fresh perspective to the bridge issue when he became governor of Minnesota in 1990. (Minnesota Historical Society)



In February 1999, MnDOT issued an amended Scoping Decision Document to guide preparation of the Supplemental DEIS (SDEIS) containing Braun's recommendations, christened the "Consensus Alternative." In addition, the SDEIS would include options for the future of the historic Stillwater Lift Bridge. The hope was to complete the supplemental environmental review process by the fall, put the project out to bid two years later, and begin construction in 2002.¹⁷⁷

As the SDEIS was under development, advocacy groups continued to put pressure on the state. National Trust president Moe emphasized his concerns about the historic bridge in a letter to Governor Ventura in March 1999, noting that "this significant cultural resource unnecessarily became a pawn in the negotiations of state and federal agencies over how to meet the area's transportation needs. We are calling on you to effect a different outcome." In the same month the Sierra Club and the MCEA issued a new study claiming that MnDOT "has both overestimated traffic demand for the [new] bridge and underestimated its potential to spur urban development in rural western Wisconsin."¹⁷⁸

In late April, MnDOT and WisDOT responded with an expanded mitigation plan. For the new structure, it included design features and construction techniques to minimize impacts on the bluffs and river. A land-use plan for the river valley between Taylors Falls and Prescott would help manage the growth stimulated by the new crossing. Several riverfront properties would be improved and the shoreline restored.¹⁷⁹

The mitigation plan also included three alternatives for the future of the historic bridge. One would preserve the bridge in place and the second would remove it. The third called for converting the bridge into a pier by removing the 700-foot earthen causeway at the Wisconsin end and allowing river traffic to pass through a channel created in that location, making it unnecessary to operate the bridge's lift span. Ownership of the bridge would be transferred to Stillwater, "plus an as-yet-unspecified 'pot of money' from the state to maintain it and to pay for its eventual removal." When the idea of converting the causeway into a channel was introduced in 1999, it drew little enthusiasm from preservationists, who recognized this as the first step toward the bridge's demolition.

Mark Balay of River Town Restoration claimed, "It starts the ball rolling, and the rolling doesn't stop. . . . It may take a number of years, but it's a staged demolition plan." Michael Matts, representing the National Trust, mused, "I'm not suggesting that anybody did anything inappropriate, but I have some concerns about how the mitigation plan was reached. . . . It seems like there was a compromise made right out of the gate—the removal of the lift bridge—in order to get the support of the National Park Service." He concluded, "The removal of the causeway is totally unacceptable."¹⁸⁰

The fears of preservationists were confirmed in June 1999 when MnDOT and WisDOT announced that the bridge would remain in service for bicycles and pedestrians for 10 years after the new bridge opened, and then be removed. MnDOT spokesman Adam Josephson claimed this would provide "what the historic folks wanted . . . for the bridge to live out its natural life." Tony Andersen, superintendent of the Saint Croix National Scenic Riverway, found this a "reasonable compromise." The agency recognized the clash between cultural and natural scenic resources, according to NPS staff member John Daugherty, but "in this case we think the scenic has to take precedence." Preservationists did not agree.¹⁸¹

The optimism about finding an acceptable compromise on the lift bridge's future—fueled by Braun's report and Governor Ventura's election—faded as months passed. By March 2000, FHWA had run out of patience. Al Steger, the agency's Minnesota division administrator, found that "the complexities of policies and interest related to . . . the historic Stillwater Lift Bridge have created a conundrum." He concluded that "in the absence of a consensus . . . we are moving forward with the project." This included the intent to eventually demolish the historic lift bridge. The *Minneapolis Star Tribune* explained that the "announcement does not necessarily mean that construction will begin soon but signals that nearly 15 months of negotiations with a variety of historic preservation groups have not yielded workable plans to save the 1931 landmark." Preservationists were not deterred. As the National Trust's Moe stated, "We're prepared to go quite a ways further to try to save this."¹⁸²

On the Homefront

One of the parties that would experience the most direct effect of the controversy's outcome was the City of Stillwater. The historic bridge was an emblem of the city, but traffic backed up by the bridge caused havoc in the city's downtown. For Stillwater, the best outcome would be to have its cake and eat it too—namely, to get a new bridge at some distance from downtown while retaining the historic bridge as a crossing, preferably under the state's ownership. When this seemed unlikely after the FHWA's announcement in March 2000, the city council voted in June to take ownership of the lift bridge after the opening of the new bridge, which was anticipated in 2004. Vehicles would no longer be allowed on the lift bridge, but it would be accessible to pedestrians and bicyclists for ten years. Then, in 2014, the embankment on the east end and as many as four spans of the bridge would be removed, turning the structure into a pier. The offer was conditioned on MnDOT's commitment to spend \$5.4 million to rehabilitate the structure before turning it over to the city.¹⁸³

Another affected community was Oak Park Heights, just south of Stillwater. Highway 36, the western gateway to the new bridge, formed much of the boundary between the two communities. Highway 36 had evolved into a sprawling commercial corridor that had drawn big-box retailers as well as many merchants from downtown Stillwater, who felt they needed this automobile-centric retail presence to remain competitive. Oak Park Heights saw the bridge project as an opportunity to upgrade the haphazard development along the south side of Highway 36 and possibly improve the area's utility systems as well. The city's vision included creating a new \$70 million central business district and attracting investments of over \$10 million to the area around the existing Saint Croix Mall. The feasibility of the city's dreams would be significantly affected by MnDOT's plans for the highway. Improvements to Highway 36 intersections were seen as a tradeoff for the loss of some 70 houses on land needed for approaches to the new bridge. City Administrator Michael Robertson had complained in 1995 that "very few of the benefits of the bridge visit Oak Park Heights, but most of the debits of the bridge land right in our lap." After evaluating the pros and cons of replacing the intersections with interchanges, the city concluded that the optimal solution would be at-grade signalized intersections, not interchanges.

MnDOT agreed to this approach in 1995 and won the approval it needed from the city under Minnesota's municipal consent law as the agency worked toward the conclusion of the initial FEIS process. It also obtained Stillwater's municipal consent under the law during the same period.¹⁸⁴

A few years went by, and the project budget burgeoned. During 1998–1999 alone, the cost soared from \$112.6 million to \$148 million or more, thanks in part to mitigation being proposed for the historic lift bridge, an unexpected \$2.5 million railroad realignment, the need to lengthen the structure by 155 feet, and a decision to widen the new bridge deck to improve safety and enlarge the sidewalk. Transportation planners scrambled to cut expenses wherever they could. Toward the end of 1999, MnDOT notified Oak Park Heights that this would affect the design of the Highway 36 intersections that had been negotiated four years earlier.¹⁸⁵

This was the last straw for Oak Park Heights. Tom Melena, the city administrator, expressed the community's frustration at the prospect of a pared-down project: "We've lost 30 acres of taxable land with 70 homes, we have now relocated a bridge that goes through the heart of our community and then we've been asked to put all the redevelopment and development that we have here on hold until sometime in the future. . . . We've gotten almost every negative thing we could have received . . . and received no positive indications, situations, or improvements through this whole thing." He added, "We will have a very good new bridge that is going to drop the traffic on an obsolete piece of road. . . . This is very piecemeal at best, and we are disappointed in that. We think they should either do the job right or not do it at all."¹⁸⁶

The city fumed until changes in Minnesota's municipal consent law in 2000 gave it the hope of additional leverage. Oak Park Heights asserted that MnDOT's revisions nullified the city's earlier consent. MnDOT would need to get the city's approval of the modified layout under the new, more stringent rules, which allowed costs to be considered. Failing that, MnDOT could pursue arbitration, and if the city prevailed, the project would be blocked. MnDOT disagreed with the city's opinion, maintaining that the 1995 consent was still valid. The issue would wind through the legal system for years.¹⁸⁷

Hope for the Historic Bridge

The historic lift bridge was on the agenda at the Advisory Council's meeting in June 2000. As a result of that meeting, Cathryn Slater, chair of the council, wrote to Secretary of the Interior Bruce Babbitt "to express the Council's strong disagreement with NPS's position and ask him to exercise his leadership toward resolving the impasse." The letter was a strong and unusual step for the council to take, signifying the important precedent that would be set by this conflict between natural and cultural resources.¹⁸⁸

This catalyzed a momentous meeting between Secretary Babbitt and Secretary of Transportation Rodney Slater several weeks later. The results were reported in an article in the *Minneapolis Star Tribune* on August 2 with a headline that proclaimed, "Stillwater Lift Bridge May Get Reprieve." The article explained that "two top federal officials said . . . that a long-awaited new bridge at Stillwater could be built without tearing down a nearby historic lift bridge, and that the necessary approvals could essentially be in place before President Clinton leaves office in January." While "the announcement appeared to create new momentum for the controversial project, . . . both state and federal officials cautioned that obstacles remain."¹⁸⁹

To facilitate an agreement, MnDOT soon issued an "enhanced mitigation plan" with two new options: preserving and rehabilitating the entire bridge for pedestrian and bicycle use, or rehabilitating the bridge into a pier by preserving only the lift and adjacent spans. There was, however, a catch. As mitigation for the impact of these alternatives on natural resources, the project would have to establish a conservation fund to purchase scenic easements and take other measures to protect the view-shed of the river. The cost of this fund and the work necessary to rehabilitate the historic bridge added millions of dollars to the mushrooming budget. The difficulty of bridging the financial gap continued to cast doubt on the feasibility of saving the lift bridge.¹⁹⁰

Around the same time, a coalition of local citizens known as the Friends of the St. Croix promoted an alternative proposed by local architects and planners Beth Diem, Tod Drescher, and Roger Tomten that would "restore the lift bridge and make it a one-way, westbound span. Lay a low, lovely, two-lane bridge alongside for eastbound traffic. Ease congestion in Stillwater with better traffic management. Make safety improvements to Hwy. 36 in Oak Park Heights.

Leave I-94 as the main regional corridor, and let Wisconsin determine how to feed cross-river traffic onto it." This approach, known as the "Citizens' 'Common Sense' Bridge Proposal," was promoted through brochures, press releases, and public meetings. At a forum at the Stillwater Armory on August 16, 2000, sponsored by the Saint Croix River Association, the "Common Sense" proposal backers and MnDOT representatives each made a 30-minute presentation followed by a public discussion. A MnDOT spokesman, however, had already made the department's position clear, according to an article in the *Saint Paul Pioneer Press*: the "proposal would not meet the transportation needs of the corridor and 'in several aspects would be more detrimental to natural and cultural resources' than the department's plan."¹⁹¹

In December, Secretary Babbitt concluded that the new bridge would not adversely affect the nationally designated river if any of the three mitigation strategies for the historic lift span—two of which retained some or all of the structure—were completed. The first option, removing the historic bridge, was not acceptable to preservationists. The second option, retaining "at least a major portion of the bridge by removing its causeway, relocating the river channel, and fixing the lift span in place to extend its life," was also not popular. As an Advisory Council report noted, "the public strongly criticized that mitigation package, instead supporting retention of the entire structure."¹⁹²

With the dawn of 2001, MnDOT concluded that the project faced seemingly insurmountable impediments: the shortfall of funds for mitigating the project's impact on the river valley, the ongoing battle over municipal consent with Oak Park Heights, and the lack of consensus on what to do with the historic bridge. Despite the change of heart by NPS, the Wisconsin Department of Natural Resources continued to insist that the historic bridge had to be removed if a new bridge was built.¹⁹³

In the first week of the new year, MnDOT officials let it be known that the project might be abandoned. Seeking to break the log jam with an ultimatum, they gave the warring factions a week to work out a compromise. Stillwater mayor Jay Kimble, who had long advocated for the new bridge, was "agog at the tomfoolery." The city, in an effort to maintain some momentum for the project, had just a few days earlier passed a resolution in support of any of the three options, including demolition of the historic bridge, while indicating a preference to keep it in place.¹⁹⁴

On January 12, 2001, MnDOT announced that planning for the new bridge was being suspended and that the SDEIS, which had been in the works since February 1999, would not be released. In a press release, Commissioner Tinklenberg indicated that “despite the enormous efforts of the state DOTs, there are no clear indications that this project is able to move forward.” WisDOT secretary Terry Mulcahy concurred. While “we believe this is a valid and much-needed transportation project for both states, . . . it is simply not prudent to continue spending state taxpayer dollars on planning and process. We need tangible evidence that we have the necessary financial and agency support for the project to ultimately be implemented. We have no such evidence.”¹⁹⁵

The agencies expressed hope that the project, in which they had already invested \$14 million, would still come to fruition, but the delays were close to negating the value of some of the planning. Tinklenberg established a June 2001 deadline for a final decision on whether to proceed or abandon the project: “This can’t go on forever. . . . The environmental documents start decaying in six months and we really don’t want to start all over,” a process that would take several years. “I think the chances of getting a bridge out there are very good, I just can’t tell you when. . . . This is one of those issues that will keep coming back until we find a solution.” As a sign that they had not thrown in the towel, the states did not immediately reallocate the \$135 million that had been pledged to the project.¹⁹⁶

Bridge proponents were furious. Ron Kind, who represented Wisconsin’s Third District in the U.S. House, called the decision “a slap in the face to the thousands and thousands of local citizens who use a deteriorating and increasingly unsafe bridge on a daily basis. . . . It is both irresponsible and bad public policy for the two transportation agencies to simply give up on this project.” A newspaper reported that “the decision also disappointed Stillwater city officials, who say they have waited ‘half a century’ for a new bridge.” On the other hand, environmentalists and preservationists cheered. The Sierra Club’s Scott Elkins “praised Gov. Jesse Ventura and Tinklenberg for having the courage ‘to put the stake through the heart of a really bad proposal.’”¹⁹⁷

9. New Players, A New Process, and New Perspectives

A few months passed. Then, in May 2001, a headline in the *Minneapolis Star Tribune* announced that the “Stillwater Bridge Plan Shows Signs of New Life.” After consulting with Minnesota Governor Jesse Ventura, Tinklenberg wrote a letter to WisDOT’s Mulcahy with a proposal that would resuscitate the project if several issues were resolved. One related to a potential \$13.4 million shortfall in the construction budget. While state officials were pursuing federal support to close this gap, Tinklenberg called on Wisconsin to cover that amount if those efforts were unsuccessful. The Wisconsin Department of Natural Resources also had to drop its demand for removing the historic bridge.¹⁹⁸

Tinklenberg found a more receptive audience in the Wisconsin statehouse and in Washington, D.C. There had been a change of leadership with the arrival of George W. Bush in the White House around the time MnDOT made its January ultimatum. In February 2001, Tommy Thompson stepped down as governor of Wisconsin to assume a position in Bush’s cabinet as secretary of the U.S. Department of Health and Social Services.¹⁹⁹

The Bush administration also brought in a new secretary of transportation, Norman Mineta, who had joined outgoing President Bill Clinton’s cabinet six months earlier as secretary of commerce. Mineta had learned how to navigate Washington politics during his long tenure in Congress (1975–1995) representing California’s Silicon Valley. He knew transportation policy and practice, having been a primary author of the 1991 Intermodal Surface Transportation Efficiency Act and, after leaving Congress, as an executive at Lockheed Martin.²⁰⁰

The potential impact of these transitions on the Saint Croix Crossing project had not gone unnoticed. When MnDOT announced its ultimatum in early January, a reporter had questioned Judy Melander, a MnDOT spokesperson, on the subject. She responded, “We know that people are changing, and opinions are changing too. . . . But we don’t know what those [opinions] are.” The reporter observed that “though Melander downplayed the significance, she acknowledged that the changing political landscape in Washington, D.C., was a factor in the decision.”²⁰¹

Scott McCallum, a strong supporter of the Stillwater project and the lieutenant governor since 1986, took Thompson’s place at Wisconsin’s helm. With the political tide turning, the objections of the state’s Department of Natural Resources seemed to weaken, and the likelihood that Wisconsin would pledge an additional \$13.4 million for the project grew stronger.²⁰²

Minnesota also had some issues to resolve, including completion of the environmental processes. More challenging, though, was a resolution to the conflict with Oak Park Heights about plans for reconstructing Highway 36.²⁰³

Mediation Momentum

It seemed an opportune time to bring in outside help. FHWA and the state DOTs asked the Morris Udall Foundation’s U.S. Institute for Conflict Resolution to mediate. After meeting with representatives from federal and state agencies in summer 2001, institute staff were authorized to conduct a “conflict assessment” to “identify the primary stakeholders and their perspectives on the issues, understand the causes of the impasse, determine whether or not re-starting negotiations seemed feasible, and, if so, propose a general design for a collaborative decision-making process.”²⁰⁴

The researchers found a high degree of skepticism about a positive outcome to the mediation process. Representative Kind expressed a common concern: “At the end of the day, we may find ourselves back in the same situation.” Stillwater’s Mayor Kimble felt that “we’ve been through this exercise. All of these issues brought up by each of these stakeholder agencies have been studied ad nauseum.” However, he stated that “while I am not looking forward to participating in these meetings because they are less fun than having a root canal, as frustrating as they are, Stillwater will attend and urge compromise by all parties.”²⁰⁵

The institute's assessment, completed in November 2001, had two primary recommendations. The first was to invite local governments and interested groups, including the Sierra Club, to be decision-making members of the process. Second, "since the perceived need to resolve all issues simultaneously appeared to be a major factor in the impasse," discussions should be split into two tracks: the future of the historic bridge and plans for the new bridge. "The issues, the timetables, the types of expertise needed, the leadership, and the politics involved in negotiation are substantially different for each bridge. Separating the processes will be more likely to let the decision-makers, the private groups, and the public at large give direct and thorough attention to the very real issues to be resolved about each bridge." Addressing the historic bridge's immediate needs would be the first priority; then, the issue of the new crossing would be tackled.²⁰⁶

There was resistance to the institute's recommendations, but the problems of traffic congestion and the bridge's deterioration were not going away. In June 2002, MnDOT and WisDOT finally reached an agreement to separate the decision about the historic bridge's fate from plans for building the new bridge. This marked a major turning point in the decades-long quest to build a new crossing. It came about because FHWA, the Department of the Interior, and the Advisory Council had successfully worked behind the scenes to exempt the project from NPS's "nonproliferation" policy and eliminate the costly conservation fund requirement.²⁰⁷

In October, the parties returned to the negotiating table. Hiring a mediator was their initial challenge. The choice was a team from Denver-based Resolve, led by Mike Hughes. The institute lauded this as "the first time the stakeholders involved in the St. Croix controversy came to consensus on a contentious question."²⁰⁸

More good news came for new bridge proponents in October 2002 when the U.S. Department of Transportation announced that the environmental review for the project, along with six others around the country, would be accelerated. Secretary Norman Mineta explained that this action was in response to Executive Order 13274, signed by President George Bush on September 18, that aimed to "enhance environmental stewardship and streamline the environmental review and development of transportation infrastructure projects."

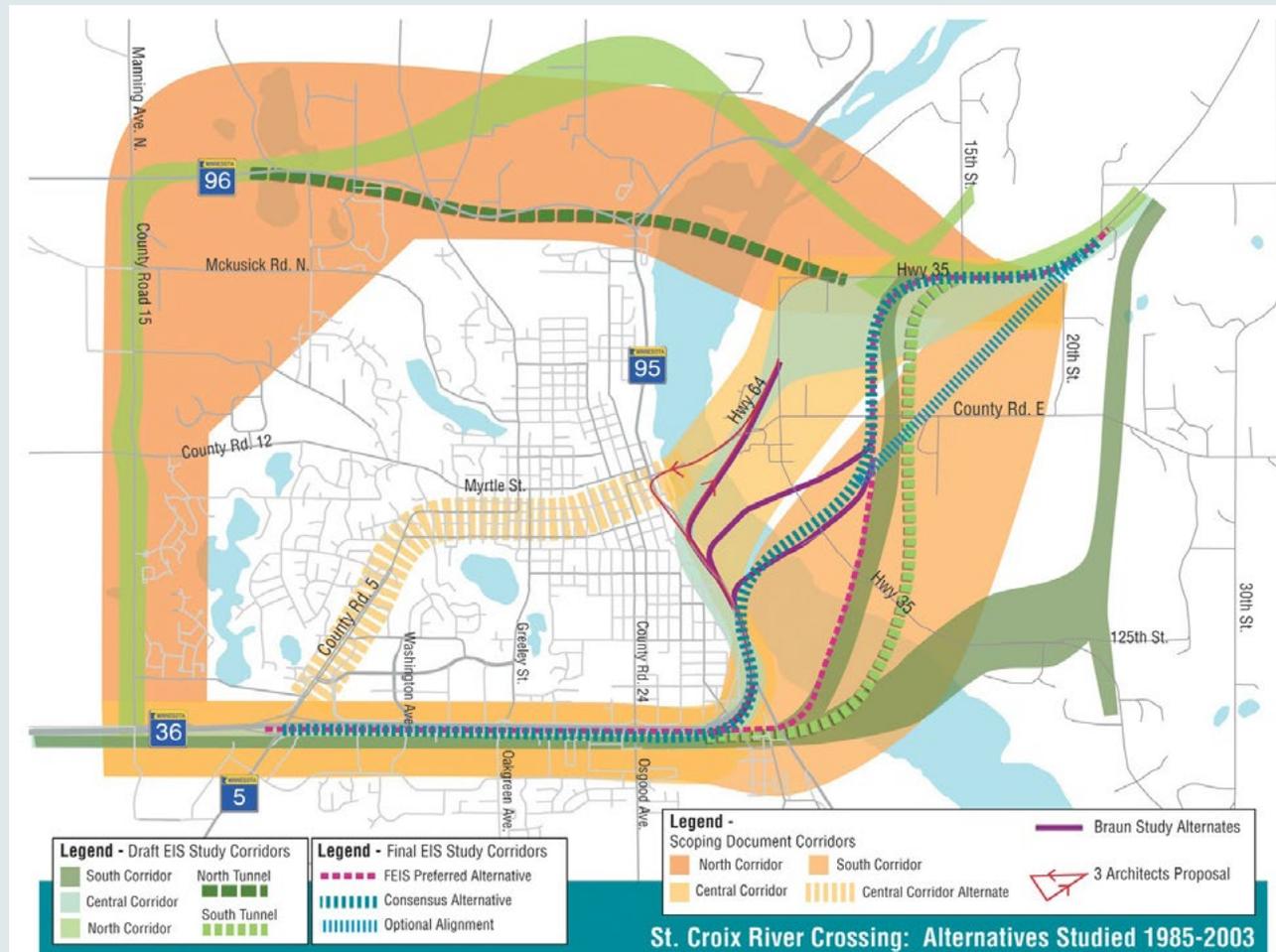
To implement the order, an interagency task force was created that included the secretaries of the interior, transportation, and other federal departments, as well as the chair of the Advisory Council.²⁰⁹

The institute arranged several meetings in the first months of 2003 to start the mediation process, then initiated meetings in June with twenty-eight stakeholders: seventeen governmental agencies—seven federal, six state, and four local—and eleven private groups. One of the latter was disruptive, did not represent a broad constituency, and was ultimately removed by group consensus. This reduced the stakeholders to twenty-seven, still a large number that had to adopt mutually acceptable, clearly defined rules to proceed. They agreed

1. to work toward a common understanding of the issues;
2. to consider the advantages and disadvantages of an array of solutions to these issues;
3. to reach consensus, if possible; and that
4. if all the stakeholders could not achieve consensus, the main regulatory agencies would come to an agreement.²¹⁰

A summary of an initial meeting explained, "Interest-based negotiation is based on discussing interests (the needs that must be satisfied by a solution) and not the positions (what the solution ought to be). . . . For the process to be successful, participants need to passionately represent their own interests and passionately search for the option that satisfies all interests." In June 2003, the stakeholders adopted an operating agreement that guided meetings, established procedures, and set milestones for deciding a preferred alternative and mitigation package.²¹¹

To avoid delays and conflicts with the NEPA process, the stakeholders became closely involved with work on the SEIS, including identifying the project's purpose and need, preparing the new scoping document, analyzing alternatives, reviewing environmental studies, and getting public comments. The stakeholders selected peer reviewers for the travel demand model at the request of the environmental advocates, an agreement that represented a major concession from the state DOTs.²¹²



This map summarized options that had been evaluated for the crossing, including the Braun study alternatives and the “Three Architects” proposal. (Minnesota Department of Transportation)

At their October meeting, the stakeholders “set aside the question of whether a bridge should be built and focused instead on what it should look like if it were built.” A bridge architect drew concepts for possible designs as they were discussed. One of the participants observed that there “was a dynamic give-and-take interchange between the architect and the stakeholders and among the stakeholders; at the end of the session, everyone left knowing a lot more about bridges and being able to conceptualize what a new bridge could look like on the St Croix. And almost everyone was excited about the possibilities.” A later report observed that “the visualization was a major turning point” that “marked the second phase of the decision-making process, when stakeholders envisioned new alternative solutions that would respond to the interests and viewpoints of the entire group.”²¹³

In November, MnDOT released the amended scoping document with details of six alternatives, including a tunnel, for public comment. The plan the three architects presented was still in the mix, as were two concepts that required no construction: “do nothing” and improving transit and traffic management, perhaps even reintroducing a ferry at the crossing.²¹⁴

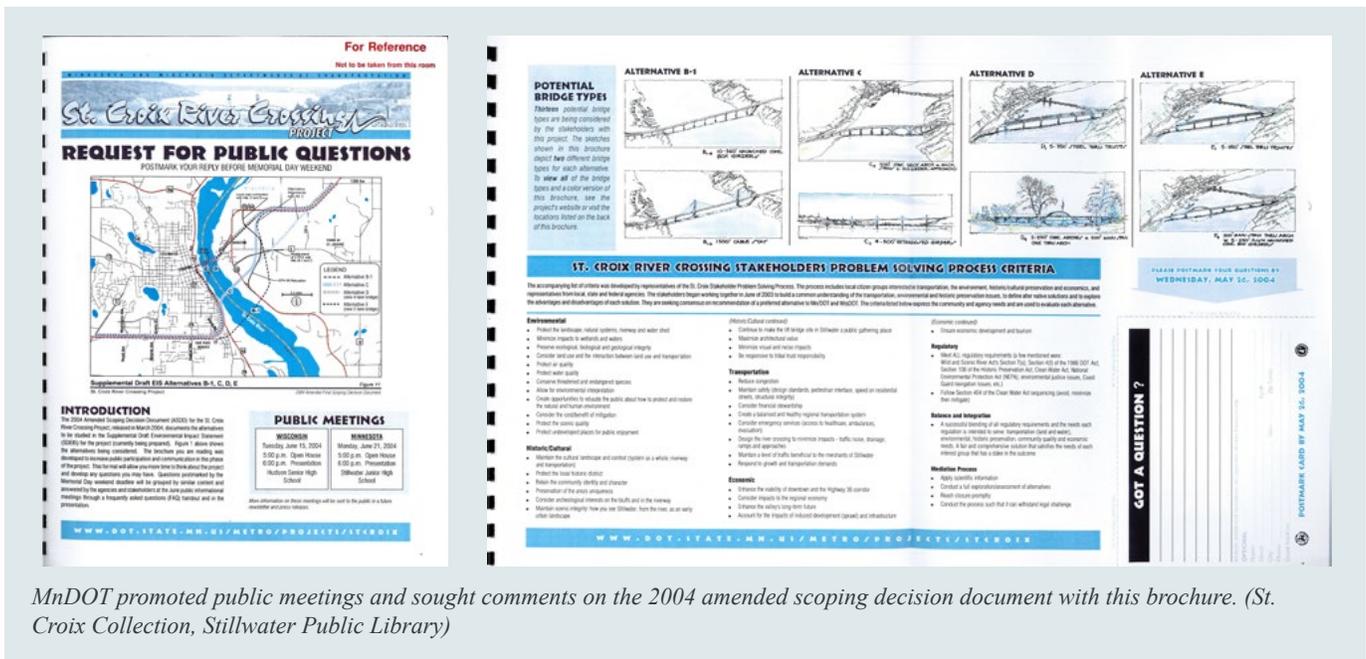
The deadline for comments on the scoping document was mid-December. After reviewing the results, MnDOT proposed in January 2004 to retain only three options, all including new four-lane bridges: one near the power plant in Oak Park Heights, another midway between the plant and the lift bridge, and the final close to the historic bridge. The stakeholders insisted that the architects' twin-bridge plan be included as well, straining the mediation process. They ultimately prevailed, and the process survived the test. The final scoping document, released by MnDOT and WisDOT in late March 2004, included these four options as well as the no-build alternative. Several new bridge types were also under consideration—cable-stay, through truss, bowstring truss, concrete arch, haunched concrete box girders, extradosed—although not all types were appropriate for every location. The state DOTs scheduled a series of meetings, provided information on a website, and conducted other outreach to get public input, planning to make a final selection in six months.²¹⁵

The stakeholders met seven times in 2004, and meetings continued into the following year. A summary of the process explained that “this period marked the third and final phase of decision-making.” In addition to evaluating options for the location and design of the new bridge, the group considered preservation alternatives for the historic bridge. At the February stakeholders meeting, Stillwater’s Mayor Kimble again voiced the city’s willingness to receive the bridge if it was in good repair and came with an endowment for maintenance. MnDOT’s area manager,

Rick Arnebeck, estimated that the bridge could remain functional until 2055, but that maintaining it for pedestrian and bicycle use could cost over \$20 million during that period. Mayor Kimble asked bluntly, “How much are you going to give us?”²¹⁶

The stakeholders also supported the development of a visual quality manual to guide the new construction and developed measures, including construction of new pedestrian and bicycle trails along the river, to mitigate for impacts to historic and other resources. The group called for incorporating the Stillwater Lift Bridge as a key component of the loop trail, which would also pass over the new bridge. This was another major breakthrough. It ended the impasse over the historic bridge’s future by giving it a recreational function that provided a rationale for its preservation.²¹⁷

While the stakeholders were able to reach consensus on many items—with work groups negotiating agreements on land use, mitigation, cumulative impact, and bridge type—the collaborative spirit fell apart at their last scheduled meeting in July 2005. While the amended Section 106 MOA was greeted with enthusiasm, environmentalists were concerned about the draft Section 7(a) determination and the draft Supplemental Final EIS (SFEIS). The Sierra Club and the MCEA felt that water quality issues were not adequately covered and threatened to withdraw from the mediation process. The stakeholders group concurred with this concern and formed a small work group to consider the issue.



MnDOT promoted public meetings and sought comments on the 2004 amended scoping decision document with this brochure. (St. Croix Collection, Stillwater Public Library)

With input from this committee, the stakeholders group held its final meeting in July 2006, a month after MnDOT had issued the SFEIS, to consider a mitigation package outlined in three separate memorandums of understanding and one memorandum of agreement. This package “included wetland replacement, relocation of threatened and endangered species, bluff land restoration and preservation activities, removal of visual intrusions from the river way, funding for the long-term preservation of the lift bridge, designating Stillwater as a historic district, and the addition of an access point to the river.” Assistance would also be provided to local governments to manage the growth the new bridge’s construction would stimulate.²¹⁸

Not everyone celebrated the agreements that ended the stakeholder process. While some “indicated enthusiastic support for the agreement,” “others gave more tempered endorsements” or “consented silently, with plainly visible disappointment.” Still, all the stakeholders endorsed the agreement save one: the Sierra Club. The MCEA was almost equally reluctant. Steve Thorne, who represented the group, stated that the SFEIS “remains quite a flawed document.” Of particular concern was the growth that the bridge would trigger in Wisconsin and the unsolved challenge of improving public transit in the region. On the other hand, Howard Lieberman, the representative for the Stillwater Heritage Preservation Commission, expressed a more positive view of the process: “You get a group of people, none of whom trusted the other, none of whom wanted to work with the other, . . . and . . . at the end of the day we are friends, we have forged a consensus and we did it in a relatively collegial, cordial, and oftentimes downright friendly way.”²¹⁹

Among the products of the consultation was the visual quality manual for the new bridge, which MnDOT commissioned a team of consultants to prepare. The team identified concerns and benefited from the insights of local residents during a series of public meetings. The manual was completed in 2007.

Highway 36 Partnership Study

Issues with businesses along Highway 36 also remained to be resolved because of the Minnesota municipal consent requirements. Beginning in October 2001, MnDOT began a T.H. 36 Partnership Study by holding a series of meetings with a technical advisory group of state and local government representatives and engineering consultants. Representatives from Oak Park Heights, Stillwater, and Washington County attended the meetings. By March 2004, the group had selected a plan that would erect an overpass at Oakgreen-Greeley, install “buttonhook” interchanges at Osgood and Norell-Washington, and upgrade frontage roads and storm-water retention. The “buttonhook” interchange design was significantly different than the at-grade intersections Oak Park Heights approved in 1995. MnDOT concluded that the new design would displace some twenty businesses—local business leaders thought the number might be twice as many—and take multiple construction seasons to build. The cities had approved preliminary “buttonhook” concepts several months earlier, so MnDOT planned to request support for the plans from Stillwater, Oak Park Heights, and Washington County by April, followed by municipal consent from the two cities in 2005.²²⁰

The optimistic projection that resulted from the T.H. 36 Partnership Study was derailed in August 2004. Following a public hearing on the SDEIS, Oak Park Heights claimed the design had changed for the worse since it had reviewed concepts earlier during the Partnership Study, and it rejected MnDOT’s plans. The city also asserted that pre-2001 state law on municipal consent, which contained a lengthy appeals process, should govern the proceedings. MnDOT thought the newer municipal consent law, with its cost-sharing information and expedited appeal process, should apply. It appeared Minnesota’s attorney general would decide the issue. In 2006, Oak Park Heights filed a suit against MnDOT over the municipal consent issue. This issue was resolved in 2007 when a state judge ruled that the pre-2001 municipal consent law applied. When Oak Park Heights continued to reject the “buttonhook” design, MnDOT decided to proceed with at-grade signalized intersections, a solution permitted under the 2007 court ruling because the city had offered municipal consent for this design in 1995.²²¹ Stillwater and Bayport provided municipal consent on the project’s layout in 2006 but under the new municipal consent law.

Lift Bridge Limbo

Throughout the stakeholder process, the Stillwater Lift Bridge soldiered on: a historic landmark to some, a traffic bottleneck to others—and a maintenance quandary for MnDOT and WisDOT. If the old bridge was to be demolished, there was little point in doing more than basic repairs to keep it in service temporarily. The same approach could be justified if the bridge would be staying in place but no longer carrying vehicular traffic. Renovation would have to be done at the time of the conversion, but the scope of that work would depend on the new use and the bridge's anticipated life. Finally, there was an outside possibility a new bridge would not be built, or that it would be built, but vehicles would continue to pass over the existing bridge. This raised an entirely different scenario for the structure's maintenance.

At the very least, so long as it remained in operation, the lift bridge had to remain structurally sound. Starting in 1994, the bridge was the subject of annual fracture-critical inspections. The first inspection led to a reduction in the bridge's capacity to 28 tons, and overweight trucks were no longer given special permits to use the bridge. An inspection in May 1995 found that the connections between the bottom chords of the trusses and floor beams were severely corroded. The bearing assemblies were also severely corroded, the east portal bracing had been damaged by a vehicle and inadequately repaired, and the sidewalk superstructure was in poor condition. True to its decades-long pattern, the east abutment continued to cause problems. The inspection report concluded that most of these items could be repaired. The sidewalk supports were of particular concern; the sidewalk "should eventually be closed, removed or repaired."²²²

Late in the 1996 operating season, the electric motor overloaded when the lift span was raised and lowered. Consulting engineers at , the firm that designed the lift span, traced the problem to the electronic control device, which was malfunctioning. No longer able to avoid the need to establish at least a short-term strategy for the bridge's maintenance, MnDOT and WisDOT held a meeting in November 1996. They acknowledged the sidewalk's deterioration but assumed it would be serviceable for a few more years. Repairs were scheduled for the electrical controller, and MnDOT planned to retain HNTB to examine the condition of the mechanical gears over the winter.

These actions would, the team hoped, "keep the current lift system operating for at least three more years." In addition to periodic connection repairs and spot painting, more extensive painting, deck replacement, and structural repairs would be needed within 10 to 15 years "if the bridge is to remain in place for decades." For this scope, state engineers estimated an expenditure of between \$750,000 and \$1.5 million.²²³ That number crept up after HNTB completed its investigation of the lift span and found that a significant investment would be required just to keep the lift span in operation for five years.²²⁴ A first step was replacing the original backup system, operated manually with a hand crank, with an auxiliary electric motor in 1997.²²⁵

An inspection in 1997 identified most of the same issues noted in earlier inspections, but the sidewalk situation had become dire: "While the overhang brackets appear to be in salvageable condition, the stringers have severe section loss (numerous holes in the web), and the sidewalk deck is severely deteriorated." The report recommended reconstruction or permanent closure.²²⁶ The following January, MnDOT let a contract for replacing the sidewalk, a project costing about \$300,000. The work started in April 1998 so that it could be completed by early June, before the increase in traffic volume that came with summer. The existing three-and-a-half-inch-thick concrete sidewalk between the southern trusses and the handrail was removed. The railings and posts were left in place, although sections of the top handrail that were disintegrating were replaced as part of the project. The most deteriorated stringers beneath the sidewalk were removed and replaced, and two-inch-thick concrete walkway panels formed the new deck.²²⁷

The sidewalk reconstruction was a sign of the increasingly large issues the aging bridge presented. While the bridge's fate was still unknown, MnDOT and WisDOT wanted to know the financial ramifications of some options that were being considered during the environmental review process.

They retained New Jersey engineering firm A. G. Lichtenstein and Associates to study the bridge's life expectancy based on a variety of scenarios. This resulting report, issued in May 1999, considered these options:

- Doing nothing: Load capacity would drop over time, with mechanical repairs for the lift span of up to \$100,000 in the next decade, “significant rehabilitation of the lift equipment” after 2009, and the need for deck-slab replacement by 2014. Investing \$150,000 in repairs to steel members by 2006 would enable those components to serve until 2019 or longer.
- Converting the bridge for bicycle and pedestrian use, with the lift span in operation: the same mechanical repairs, lift-span overhaul, and steel repairs would still be needed, but the deck replacement could be delayed until as late as 2019.
- Using the bridge for bicycles and pedestrians, but with the lift span permanently raised: while mechanical repairs would be eliminated, it would take a major expenditure to install stairs and elevators and strengthen the towers.
- Transforming the bridge into a pier by removing the roadway or removing spans 6 through 10.²²⁸

The ups and downs of the review process during the 1990s made any—or none—of these options seem possible.

In 2001, MnDOT and WisDOT assumed the new bridge would be completed sometime before the end of the decade—“by 2007 (most optimistic) to 2009 (a bit more realistic).” At that time, the agencies hoped to transfer ownership of the historic bridge to the City of Stillwater. It needed repair to serve traffic until that time, including painting, given that the structure's last coat of paint dated to 1982, and new electrical equipment.²²⁹

At a meeting held in June, MnDOT staff came up with recommendations for a paint project limited “to areas that have significant paint failure, corrosion, or steel section loss.” Generally, these areas were below the deck: the fascia stringers, ends of stringers under expansion joints, some floor beams, bottom chords of trusses, and verticals and diagonals under the deck.

The railing was also in urgent need of paint, but some sections seemed too weak to survive sandblasting to prepare the surfaces to receive the paint. The remainder of the bridge needed paint as well, but this would be done later, just before ownership passed to Stillwater. Notes from the meeting indicate that “the current paint color . . . is a dark gray. The Bridge Office recommends that a color close to charcoal gray be used for this bridge.”²³⁰

Nothing had been done by the following year, and conditions had only gotten worse. MnDOT's Metro District inspected the bridge in 2002 and reported particular concern about the “severe section loss to the horizontal leg of the bottom chord”—as much as 54 percent at the worst location. “Repairs should be completed before the end of February 2003,” the report urged.²³¹

They were not. By this time, though, MnDOT was beginning to plan a major rehabilitation, recognizing that the bridge “must remain operational and open to traffic for at least 15 years.”²³² Hiring HNTB to assess the condition of the bridge and west concourse in 2003 laid the groundwork for a rehabilitation project in 2005–2006. Priorities were the structural, mechanical, and electric work needed to ensure the bridge could remain in service. The electrical system for the lift-span's operation was completely upgraded, including a control console, closed-circuit television, motor and auxiliary motor, and traffic gates. Repairs and replacements were made as needed to structural members that were in poor condition, such as the corroded ends of floor beams. Following state-of-the-art practices, the new 5 $\frac{3}{8}$ -inch reinforced-concrete deck was structurally attached to the stringers, including the new stringers at the end bays of the truss spans. Shotcrete was used to patch concrete surfaces on piers and abutments. The tender's house was repaired, and a supplemental electrical house was added on the lift span. The disintegrating ornamental railing that had been reinstalled after the sidewalk was rebuilt in 1998 was finally rehabilitated—the components were removed from the bridge, cleaned, repaired (with extremely deteriorated sections replaced in kind), galvanized, repainted, and reinstalled. Where rivets had to be removed, they were reconnected with dome-head bolts, with the dome facing north, to replicate the appearance of rivets. The work was funded by a \$5 million Congressional allocation.²³³



A span was removed by a barge to maintain a navigation channel during the 2005 bridge rehabilitation project (Minnesota Department of Transportation)



*Deteriorated supports for the ornamental railing were among the items repaired by the 2005 project.
(Minnesota Department of Transportation)*





*The historic railings were removed from the bridge, repaired, repainted, and reinstalled.
(Minnesota Department of Transportation)*

HNTB's 2003 report included an analysis of MnDOT's expenditures on the bridge from 1996 to 2003. It also projected maintenance needs and costs after 2010, assuming the new bridge would open that year, the historic bridge would be used only for pedestrian traffic after that time, and MnDOT would no longer own it. After the 2005–2006 rehabilitation, “the projected level of work to retain utility of the lift bridge is anticipated to consist of significant structural preservation efforts during the first 15 years [2011–2025], an increased repair effort in the second 15-year period [2026–2040], followed by continued preservation efforts in the third 15-year period [2041–2055]. The lift bridge will require substantial structural preservation efforts to extend its useful life beyond 2055.”²³⁴

PREVIOUS MAINTENANCE and PRESERVATION COSTS

Records of costs associated with the Stillwater Lift Bridge were collected and reviewed for purposes of benchmarking the opinion of probable costs and documenting previous cost in recent years. The cost records collected and reviewed include costs from Mn/DOT's fiscal years 1996 through 2003. Mn/DOT's fiscal year spans from July 1 through June 30. For example, fiscal year 2002 runs from July 1, 2001, through June 30, 2002. The costs are presented in present worth 2003 US dollars using an annual escalation rate of 2.5%, compounded annually.

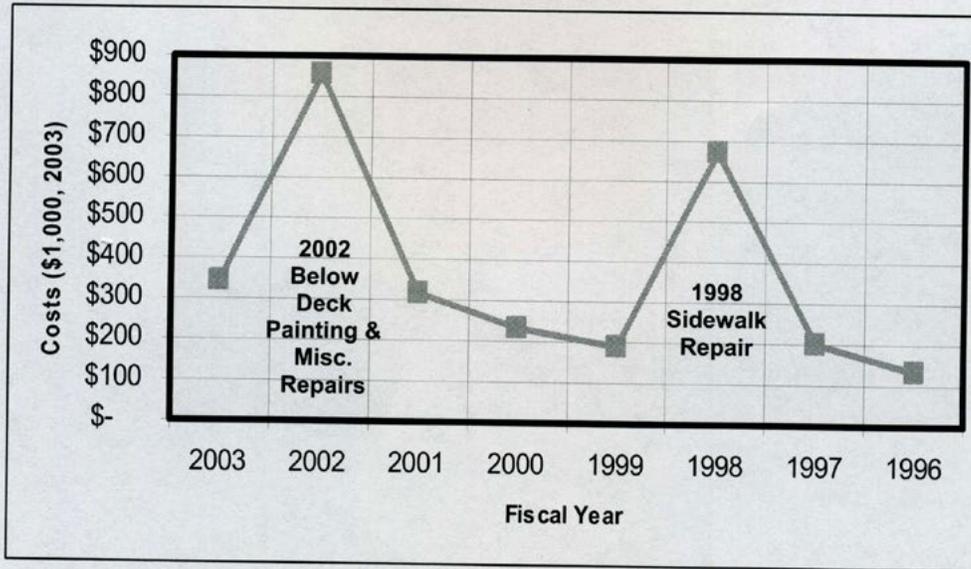
An attempt was made to organize the recorded costs into operations, routine maintenance, and structure preservation. Due to the absence of some activity descriptions, the organization should not be considered precise. Provided below in Table 4 are recorded costs.

Table 4: Previous Annual Maintenance Costs (\$1,000 US Dollars, 2003)

Category	Average	Median	Maximum	Minimum
Operations	\$ 79	\$ 79	\$ 101	\$ 9
Routine Maint.	\$ 33	\$ 26	\$ 93	\$ 5
Structure Preserv.	\$ 260	\$ 152	\$ 841	\$ 52
Combined Total	\$ 366	\$ 273	\$ 855	\$ 133

Provided below in Figure 4 is a graphic presentation of previous maintenance costs.

Figure 4: Combined Previous Maintenance Costs



A report prepared by HNTB summarized MnDOT's maintenance expenses for the bridge from 1996 through 2003. (HNTB, "Maintenance Projections and Annualized Costs, Report of Findings, Stillwater Lift Bridge (MnDOT Br. No. 4654—Wis/DOT Br. No. B-55-919) over the St. Croix River" (2003), 20, 23)

Figure 5: Projected Composite Condition Rating Codes – Substructure and Truss Spans

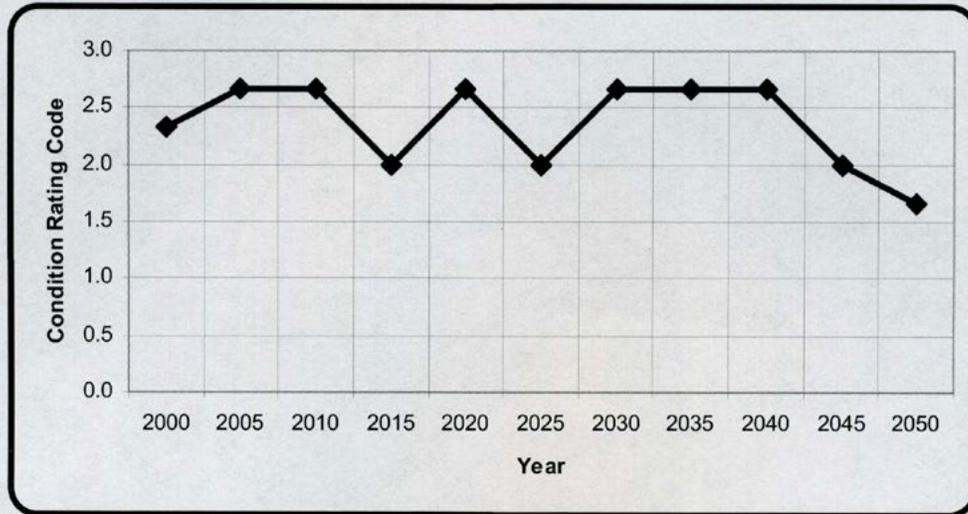
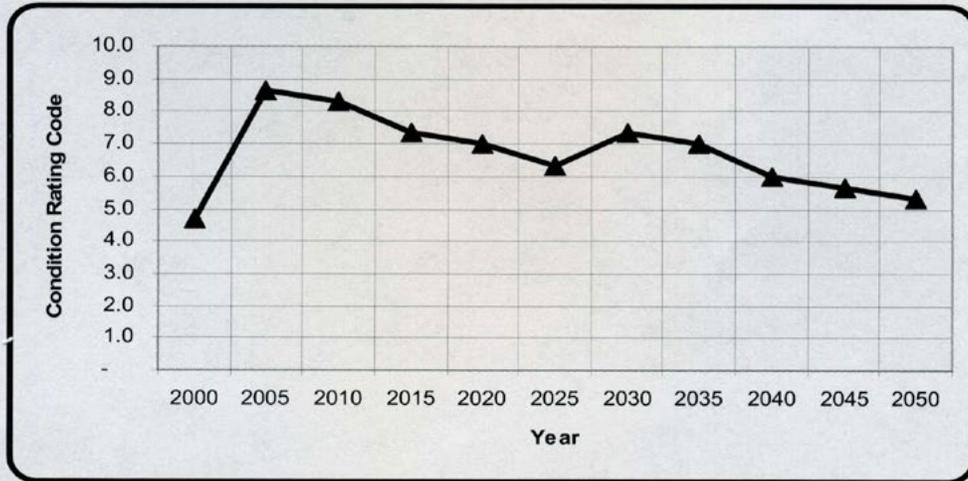


Figure 6: Projected Composite Condition Rating Codes – Balance, Drive and Distribution/Control Systems



The conditions of components of a system were considered when establishing condition rating for the system as a whole. Provided on the following page in Tables 6 and 7 are the projected condition code ratings for selected components of the substructure and trusses, respectively.

The 2003 report also projected costs for various bridge components through 2050.

While the deterioration of the bridge was inevitable, the assumptions about its future were in flux. This was reflected in the ongoing Section 106 process. Much time and many tempests had passed since the Section 106 MOA was signed in 1994. An amended agreement, negotiated during the stakeholder process and executed in May 2006, included a substantial stipulation on the historic bridge. The first clause required MnDOT “to own and operate the Stillwater Lift Bridge with the intent to preserve and protect it beyond the opening of the new bridge for conversion to pedestrian/bicycle use.” The next clause called for the creation of the “Stillwater Lift Bridge Advisory Committee” and included a long list of members, many from the stakeholder group. This committee would work with MnDOT and WisDOT on a management plan that would provide direction for the bridge’s interim vehicular service and its conversion for pedestrian and bicycle use. The plan would be informed by an operations and maintenance manual MnDOT would prepare outlining specific

needs, priorities, and costs. To help cover the cost of operating and maintaining the bridge after its vehicular use ended, MnDOT and WisDOT agreed to deposit at least \$3 million into an endowment fund. Expenditures from the fund were restricted to routine maintenance and operational activities. MnDOT and WisDOT would complete a major rehabilitation to convert the bridge to its new use after the new Saint Croix crossing was in service. The historic bridge would be preserved as a recreational amenity, part of a loop trail that would extend along both sides of the river and cross the new bridge. Among other clauses of the agreement, MnDOT and WisDOT agreed to publish a book on the history of the lift bridge. This publication is the product of that stipulation.²³⁵

The amended MOA was appended to the SFEIS and Final Section 4(f) Evaluations, released in June 2006. FHWA issued the record of decision in November, which specifically noted the conversion of the historic bridge for pedestrian/bicycle use and its inclusion in a loop trail.²³⁶



*An aerial view of the lift bridge in July 2017, shortly before the rehabilitation began.
(Minnesota Department of Transportation)*

Courts and Congress

At the conclusion of the mediation process addressing the congestion and safety problems, virtually all the stakeholders had agreed to a compromise that saved the historic bridge and allowed construction of the new bridge. The Sierra Club, however, could not accept the compromise. On June 5, 2007, it filed a lawsuit against the FHWA and NPS to block the project, charging that these agencies had not fulfilled their responsibilities under NEPA, 4(f), and 7(a) during the stakeholders' consultation process. When the case went to court in September, the Sierra Club asserted that the bridge plans were essentially the same as what had been proposed previously, and "many of the environmental harms that doomed the 1995 proposal haven't gone away and haven't been adequately dealt with by the new design." NPS argued that the new version was "very different" from earlier plans and that the mitigation package provided sufficient compensation for the project's adverse impacts.²³⁷

As the case slowly made its way through the court system, a major recession in 2008 caused an abrupt halt of the decade-long development surge in Wisconsin counties east of the Saint Croix, one of the major justifications for constructing the substantial four-lane structure. This led some to second-guess the need for the new bridge. The *Minneapolis Star Tribune* reported that "the portion of the county that the new bridge would serve is being slammed with a record number of tax delinquencies, most in the new housing areas in the New Richmond and Somerset areas. Sheriff sales of foreclosed properties have soared. Building permits have dwindled." High gas prices and the expansion of the internet, which allowed more people to work at home, were also influencing commuting patterns. Adam Josephson, MnDOT's east area manager, countered that "the needs for a four-lane bridge are already there so if you have any kind of growth trend it will only add to those needs." Politicians landed on both sides of the debate, with U.S. Representative Michele Bachmann, newly elected to represent part of the Stillwater area, a strong supporter of the proposed design, and U.S. Representative Betty McCollum, in an adjacent district, asserting that a smaller structure would meet the need and be more economical.²³⁸

A verdict was finally reached on the Sierra Club's lawsuit in March 2010 when U.S. District Judge Michael Davis ruled in its favor. While Davis cleared the FHWA of any wrongdoing, he concluded that

NPS's approval of the project in 2005 was in violation of federal laws. The agency's "failure to acknowledge its previous contrary position"—namely its 1996 stance that the bridge's impact to the river valley would be "dramatic and disruptive"—"let alone explain why, in its opinion, a change is justified, is the hallmark of an arbitrary and capricious decision."²³⁹

During the spring and summer of 2010, NPS went back to rewrite its Section 7(a) findings for the fourth time. That process was expected to be done by July 1, until a major oil spill in the Gulf of Mexico diverted NPS staff from the effort. Months passed. At the end of September, NPS's superintendent of the Saint Croix National Scenic Riverway, Chris Stein, told a reporter that "he had had no indication whether the environmental review would be released 'tomorrow or a couple of months from now.'"²⁴⁰

The report came out a few weeks later. On October 15, 2010, NPS called MnDOT with the startling news that it would revert to its original opinion: the new bridge would damage the river's scenic and recreational value. It was clearly a difficult decision for NPS, which had twice approved and now twice denied the project. In the end, NPS "just cannot consent to this project," Stein concluded. Hence, the bridge could not be built—unless Congress authorized the construction. This decision came as a shock to bridge supporters, who thought NPS's report would justify its 2005 shift to approving the construction. "All we expected was for them to explain how they got to 'yes,'" said Adam Josephson, MnDOT's east area manager. "We did not have any idea that they would change their mind." Project Coordinator Todd Clarkowski later recalled his shock at the "2:00 call from Chris Stein. . . . They changed their mind . . . wow . . . I thought that the project was done. Whereas before we were always able to move something forward—R/W, mitigation, design, etc. But that afternoon I thought it was over until I read the NPS decision and that allowed for Congress to over-rule an NPS decision."²⁴¹

Despite this unexpected setback, advocates for the new bridge were encouraged about the possibility of getting a Congressional override of NPS's decision, and they quickly took action, establishing the Saint Croix Crossing Coalition to lobby for the project. Several weeks after NPS's announcement, a newspaper reported that the coalition "consists of business leaders and elected officials from both sides of the river." It "is mobilizing and plans to take its case to Washington in January."

The group's efforts soon yielded results. On the state level, both the Minnesota and Wisconsin legislatures passed measures supporting the Saint Croix Crossing Project. In Washington, subcommittees of the U.S. House and Senate began hearings to consider authorizing the project within the framework of the Wild and Scenic Rivers Act. After a hearing by the House Subcommittee on National Parks, Forests and Public Lands in May, chair Rob Bishop of Utah told reporters, "I think it's a dumb issue. . . . It should have been solved a long time ago, and it's being held up by the federal government playing around with definitional terms." He thought the committee would approve the exemption.²⁴²

The Sierra Club, though, was not willing to give up, creating the Sensible Stillwater Bridge Partnership with other allies, including the MCEA, Saint Croix River Association, and Transit for Livable Communities. In July 2010, the group pitched a bridge that was narrower and lower in profile than the design the transportation departments planned. Similar to the earlier "Common Sense" proposal, the group's three-lane structure would start next to the east end of the historic Stillwater bridge and angle downriver, reaching the west bank south of downtown Stillwater. The historic bridge would carry westbound traffic. Two lanes of the new bridge would serve eastbound traffic; the direction of traffic in the third lane would change over the course of a day to accommodate the heaviest flow. The \$283 million price tag was about half the cost of the project proposed by the transportation departments—which by this time stood at \$574 to \$690 million, of which the bridge accounted for \$280 to \$310 million. The remainder was for purchasing land, constructing approach roads, locating utilities, and completing mitigation.²⁴³

MnDOT countered that the proposed alternative would cost more than its supporters estimated, and ironically, would have major environmental impacts on the Saint Croix's protected bluffs and the 4(f) park properties, the very type of impacts the Sierra Club had just sued to stop. Revising the environmental documentation would push the start of construction to the end of the decade or beyond. In response to MnDOT's criticisms, the group modified details of the design, releasing a report in November 2011. The anticipated cost for the alternate design had increased to \$394 million but was still far below the budget for the other structure. MnDOT soon issued its analysis of the revised proposal, finding many of the same drawbacks.²⁴⁴

While verbal skirmishes between the factions continued, advocates for the bigger bridge were making progress in Washington. By the end of 2011, both the House and Senate had bills in the pipeline that would exempt the project from the Wild and Scenic Rivers Act. To minimize the impact of this action, the bills included the riverway mitigation measures the stakeholders had negotiated earlier. The Senate bill was cosponsored by both senators from Minnesota—Democrats Amy Klobuchar and Al Franken—and both senators from Wisconsin—Republican Ron Johnson and Democrat Herb Kohl. The Senate passed the Saint Croix River Crossing Project Authorization Act unanimously on January 22, 2012. A press release from Senator Klobuchar, who had shepherded the bill through the chamber, proclaimed the vote "a milestone for the Saint Croix bridge project."²⁴⁵

Opponents rallied more support in the House, where the bill was sponsored by Representative Michelle Bachmann. Any hope of a unanimous vote was squelched by Representative Betty McCollum, who argued that the project was "bad fiscal policy, bad transportation policy and bad environmental policy." Others, though, were eager to see the project proceed. They were challenged by a threat from Minnesota Governor Mark Dayton to divert state funding to other projects if a bill was not passed by March 15, 2012. This led leaders to suspend House rules and bring the bill to the floor for a vote on February 29—a potentially risky move because passage required a two-thirds majority. While eighty members voted against the bill, it garnered enough votes to meet that threshold. Supporter Sean Duffy, a Representative from Wisconsin, marveled at the bipartisan, interstate cooperation behind the bill's passage: "You have two governors, a Republican and a Democrat, who support this bill. . . . You have progressives and conservatives in this chamber who have all come out and supported this bill. You have Vikings and Packers supporting this bill. This is a remarkable day."²⁴⁶ On March 14, 2012, President Barack Obama signed Public Law 112-100, which authorized the project under the Wild and Scenic Rivers Act, subject to appropriate mitigation.²⁴⁷

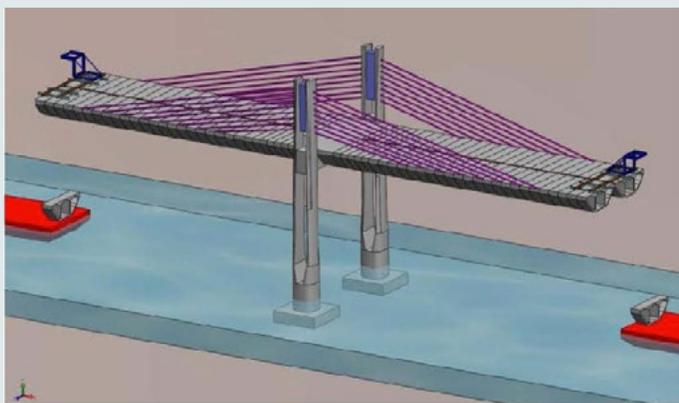
While this major hurdle was surmounted, many regulatory agencies still needed to approve and issue permits for the project. All in all, over one hundred different approvals and permitting actions had to be in place before any construction could occur. MnDOT and WisDOT worked with pertinent stakeholders in 2012 and 2013 to obtain the necessary permits before they were required.

10. Constructing the New Crossing

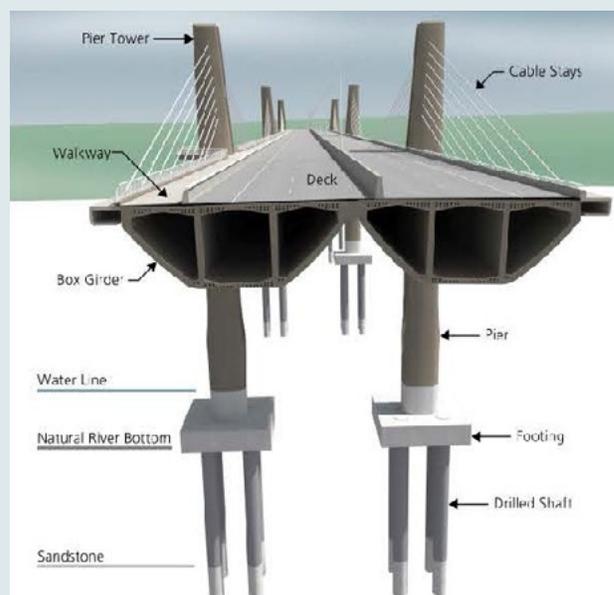
Testing foundation conditions for the new “extradosed” bridge was a priority. Each pier had two columns, connected at the top by a crossbeam. Foundation sandstone was about 130 feet below the river, covered by as much as 85 feet of muck. The depth would be a challenge for construction. Some good news came in August 2012, though, when MnDOT announced that it could cut the number of piers in the river from six to five by lengthening the spans from 475 feet to 575 feet, which would reduce the impacts on the river and valley. The pier on the Wisconsin shore would be installed as planned. Pier work was expensive, and MnDOT estimated that each pier would take three to four months to construct, so eliminating a pier would save both time and money. As an added benefit, lengthening the spans would make the bridge “look a little more slender, a little more sleek,” according to MnDOT’s project construction manager, Jon Chiglo.²⁴⁸

The bridge was designed by the architecture and engineering firm HDR, headquartered in Omaha, with an engineering firm from British Columbia, Buckland and Taylor. Principal Peter Taylor was an internationally renowned expert in cable-supported bridges. Bids for the first major contract for the new bridge, the foundation’s construction, were opened on March 4, 2013. The highest of the six submitted, \$60.6 million, was from a Pennsylvania contractor. MnDOT accepted the low bid, \$36.7 million, from Edward Kraemer and Sons. Headquartered in Plain, Wisconsin, with a regional office in Minnesota, Kraemer had specialized in road and bridge construction since its founding in 1911. The company had to begin work on the Saint Croix project by the following month and be done in about a year.²⁴⁹

Final plans for the new bridge were only 60 percent complete when the foundation contract was let. The design of the bridge was strongly influenced by the long controversy preceding its construction, by the environmental mitigation, and by the visual quality manual that was completed in 2007. While some wanted a dramatic cable-stay, the large mast and long cables would have had a major visual impact on the river valley. At the same time, a more utilitarian design, like a concrete box girder, would be unattractive for such a long crossing. The compromise was a hybrid, an extradosed structure. As Chiglo explained, “You can get longer spans than what you could normally get with a box girder structure, but the tower heights are not as tall as what you would normally see in a normal cable stay.” Extradosed bridges were also less susceptible to vibrations and wind stresses. This design had been introduced to the United States by the Pearl Harbor Memorial Bridge for Interstate 95 in New Haven, Connecticut. The Hartford Bridge was still under construction when work began on the Saint Croix Bridge, which would be the country’s second of this type.²⁵⁰



The “extradosed” bridge design combines cable-stayed and box-girder construction. Contractors had to cast nearly 1,000 concrete segments for the deck of the bridge. The deck is supported by cable stays (in purple) connected to the pier towers. (Minnesota Department of Transportation)



In April 2013, bids were due for another major contract for realigning and rebuilding Highway 36, a major east-west road connecting the Twin Cities to the bridge, and Highway 95, which ran along the west side of the Saint Croix River. As part of the project, streets intersecting the highways, a bridge, and frontage roads would be modified; ponds would be added for storm-water management; noise and retaining walls would be installed; and utilities would be relocated.²⁵¹

For the Minnesota roadway leading to the new bridge, C. S. McCrossan had the lowest bid and the highest technical score, but MnDOT concluded that the company had not made a good-faith effort to meet goals for hiring women- and minority-owned businesses, known as Disadvantaged Business Enterprises (DBE). FHWA had required MnDOT to set a goal for DBE participation at 15.7 percent. As a result, the contract was awarded to the next-lowest eligible bidder, a joint venture of Ames Construction from Burnsville, Minnesota, and the Lunda Construction Company, based in Black River Falls, Wisconsin, which had come in at \$58 million. Ames had been founded in 1962 as an earthwork contractor. Lunda traced its roots to 1938, when it began building small bridges and other transportation projects. The company's growth was spurred in the 1950s with contracts for construction of the interstate highway system. For the Saint Croix project, the Ames/Lunda team proposed a DBE goal of 16.7 percent.²⁵²

On May 28, with contractors for two important parts of the project in place, MnDOT organized an official groundbreaking ceremony. It was, according to a news account, "a moment rife with symbolism. The groundbreaking was attended by two mayors, six members of Congress, and Wisconsin Gov. Scott Walker." MnDOT Commissioner Charles Zelle stood in for Minnesota Governor Mark Dayton. "Many cited the bridge as one of the few signs of bipartisanship to come out of Washington in recent years."²⁵³

Kraemer made good progress during 2013, stimulated by the chance to get some \$1.4 million in incentives if its work was finished before January 20, 2014. Below-zero temperatures in mid-December challenged progress, but crews pushed on, as a newspaper article reported: "While the rest of us try to keep warm[,] workers on the St. Croix River bridge labor round-the-clock." Tugboats kept the water open around construction areas.

Heaters warmed temporary tents that protected piers while concrete cured, a process that could take more than a week.²⁵⁴ Ames/Lunda had finished most of the roadway approach work in Minnesota before the end of 2015. The eastbound and westbound bridges for the Highway 36 approach were mostly done by fall 2016.²⁵⁵ On the east side, WisDOT had built a four-lane expressway, State Highway 64, from New Richmond to Houlton in the previous decade in anticipation of the bridge's construction. With the bridge becoming a reality, work that remained to be done included extending Highway 64 to the new bridge and improving the highway's intersection with State Highway 35 and County Road E. WisDOT bid out the approach work for the east side in three phases. In December 2013, contractor H. James and Sons of Fennimore, Wisconsin, received the contract for the first phase, which included constructing a bridge to carry Highway 35 over Highway 64 and grading at the Highway 64/County Road E interchange. Phase 2, which included grading and paving Highways 35 and 64 and County Road E, was initiated in 2015 and completed in 2016, again by H. James and Sons. Also by 2016, Trieweiler Construction and Supply Company was working on paving for the Saint Croix bridge approach, part of the third phase. Work on the bridge approach was wrapped up in spring 2017.²⁵⁶

In the meantime, MnDOT had issued a request for time and material bids for the biggest contract of the project, construction of the new bridge's superstructure—essentially everything above the waterline. Bids were due on November 1, 2013. Kraemer teamed up with Obayashi to submit a bid of \$393 million, while PCL Civil Constructors came in high at \$461 million. The low bid of \$380.255 million was from the Lunda/Ames joint venture (the same prime contractors that were working on the Minnesota approach, but with Lunda in the title role and a different team of subcontractors). Lunda/Ames was awarded the contract on November 14. By this time, its sibling Ames/Lunda was already hard at work on the reconstruction of Highway 36 west of the crossing site.²⁵⁷



Work was underway on the Wisconsin approach by May 2015. Piers for the bridge are visible in the background. (Mike DeMulling, photographer) (Minnesota Department of Transportation)



The Minnesota approach, looking west, in July 2015. (Mike DeMulling, photographer; Minnesota Department of Transportation)

The Lunda/Ames team began work immediately. The contractor established a segment casting yard west of the bridge site, near the intersection of Highways 36 and 95, for fabricating the 338 segments for the approach spans. By September 2014, crews had produced the first seven segments, each measuring 43 feet wide, 10 feet deep, and ranging from 10 to 14 feet tall. A single segment weighed as much as 90 tons. A newspaper account explained that the casting process “includes placing a rebar ‘skeleton’ inside a form. . . . Workers pour concrete inside the form, with help from surveyors who take measurements before and after each pour. Crews remove the form after about 15 hours of curing time.”²⁵⁸

Lunda/Ames created another casting yard for the larger river span segments on Grey Cloud Island in Cottage Grove to produce 650 segments for the main spans. The process to make the reinforced-concrete sections followed that for the approach-span segments, but the sections were even more massive: 18 feet tall, 48 feet wide, 10 feet thick, and weighing up to 180 tons apiece. Each section was marked to indicate the specific location where it would be located on the bridge. The yard was situated on the Mississippi River not far upstream from the Saint Croix’s mouth, so the sections could be transported by barge directly to the construction site, a thirty-mile voyage.²⁵⁹

In May 2015, the first of the river bridge segments was hoisted into place at Pier 8, the closest to the river’s west bank. Specialized cranes known as “segment lifters” were soon placing two to four segments most days. The corresponding steel stays that linked each section to the pier towers were installed at the same time.²⁶⁰



The concrete casting yard for the approach sections was in Minnesota near the intersection of Highways 36 and 95. This aerial and the one below were taken in March 2015. (Mike DeMulling, photographer; Minnesota Department of Transportation)



The concrete casting yard for the larger river span segments was on Grey Cloud Island. Barges hauled the segments down the Mississippi River and up the Saint Croix to the bridge site. (Mike DeMulling, photographer; Minnesota Department of Transportation)



The first river segment was raised into place at Pier 8 in May 2015. (Mike DeMulling, photographer; Minnesota Department of Transportation)



By this time, MnDOT had a new project director. Jon Chiglo, who had taken on that role in 2012, moved to the private sector in November 2014. He asserted, though, that the project “won’t miss a beat,” adding, “There is a lot of talent working on this project. . . . It will move forward without disruption.” Chiglo was succeeded by Michael Beer, an eighteen-year veteran of MnDOT with experience on major construction projects as an assistant district engineer for the agency’s Metro District.²⁶¹

As often happens for projects of this scale, not everything went smoothly for the contractors. An item in a MnDOT news release illustrated how an unfortunate sequence of events could bring work to a halt: “Acquiring the necessary concrete forms to make the segments for the bridge was delayed five months in 2014. Only two American companies make these forms, and the selected company’s owner died and the company subsequently lost its lead engineer. The timing of these events caused the company to delay fabrication of the forms.” After the forms finally arrived, the crane that moved the giant segments in the Grey Cloud fabricating facility “broke down several times, delaying the movement of segments onto the barges” for as much as a week. In July 2015, one of the segment lifters quit working because of mechanical problems, stopping progress for yet another week. Then there was Minnesota’s infamous weather: “Minnesota typically has an eight-month construction season, at the longest. The St. Croix River experienced high water levels in spring 2014, which was a key time in the construction of the bridge piers. The high water caused a two-week delay. Progress was further slowed in 2014 when winter arrived early.”²⁶²

Obtaining materials and finding skilled workers were also challenges for the contractors. Other major construction projects in the region, including the new Vikings stadium in Minneapolis, created shortages of both and raised costs. In addition, the Saint Croix project faced a unique labor problem in April 2015, when over one hundred ironworkers walked off the job due to a conflict between Lunda/Ames and a subcontractor, J&L Steel and Electrical Service. The ironworkers were responsible for a variety of tasks, including placing reinforcing bars for the concrete deck segments in the casting yards. “It’s a bit of a slowdown,” MnDOT project director Beer said, “but we expect by the end of the week that they will be back up to schedule as normal.” J&L, a “disadvantaged business enterprise,” was based in Hudson, Wisconsin, and had been in business for almost four decades. “The owner . . . thought she was on to something big when she landed a \$62 million contract for installation of steel” for the project, a newspaper reported, “but the high cost of carrying the work forced the . . . business to leave the . . . project midway through its contract.” The company’s president “cited the unusual nature of the project . . . and cash flow issues stemming from cost pressures that included a lot of overtime and an aggressive schedule.” The article added, “Industry sources interviewed for this story say J&L’s predicament could have happened to any subcontractor, regardless of their DBE status.” The prime contractor took on the steelwork after J&L left. J&L had been anticipated to make a significant contribution toward Lunda/Ames’s compliance with FHWA’s 15.7 percent goal for DBE participation. With J&L’s departure mid-project, that goal would not be achieved.²⁶³

MnDOT’s contract with Lunda/Ames included an incentive of \$5 million if the bridge was sufficiently completed to carry one lane of traffic in each direction by July 2, 2016. By early 2015, it was obvious the ambitious goal would not be met. By September, MnDOT conceded that construction would not be finished by the fall 2016 deadline, but the project team did not project a completion date. In January 2016, MnDOT announced that the bridge would be ready by fall 2017, a year behind schedule. A MnDOT spokesperson “blamed the delay on complications ranging from uncooperative weather and labor and material shortages to equipment breakdowns and overall project complexities.”

To speed up the erection of the concrete deck segments, the contractor brought in two massive “ringer” cranes, each with a 250-foot-long boom that could lift 660 tons, to augment the segment lifters in the spring. These larger cranes increased productivity significantly.²⁶⁴

A milestone for the new bridge occurred on October 4, 2016, when the final piece of the 650 segments forming the deck of the main span over the river was placed. Segments comprising the approach spans were already installed. Terry Zoller, the construction manager, was happy to announce that “we should be able to walk from Minnesota to Wisconsin tonight.” He later observed that the structure “looks like a single bridge, but it’s really more like 980 mini bridges, strung end-to-end between Minnesota and Wisconsin. Hundreds of cast concrete segments have been cinched together into what will ultimately be a 5,000-foot span with steel cables as thick as your leg.”²⁶⁵

While the bridge was about 80 percent complete in October, much remained to be done before it could accommodate vehicles and pedestrians. Crews had to fill 2-foot-wide gaps at the piers with concrete after the deck segments were installed, a task known as “closure pours.” Closure pour work occurred during the winter of 2016–2017. By spring 2017, they would “concentrate on drainage work, electrical work, finishing the deck, installing the railing, building the 12-foot-wide pedestrian/bicycle trail and painting the structure.” The bridge’s tan color was chosen because it was compatible with the river valley. It would take more than 20,000 gallons of paint to coat the structure.²⁶⁶

The last closure pour was done on February 9, 2017, connecting Minnesota and Wisconsin with the new bridge. Crews continued to work throughout the winter, but the weather limited some activities. By May, with the arrival of spring, the end of construction was in sight. Crews were busy painting metal components, installing lighting, placing curbs and medians, and chip-sealing the deck.²⁶⁷



All of the segments were installed by October 2016. (Mike DeMulling, photographer; Minnesota Department of Transportation)

*A snorkel lift
on a barge
held a worker
painting the pier.
(Charlene Roise,
photographer)*





In mid-July 2017, the concrete had been painted on the left leg of this pier but not on the right leg. (Charlene Roise, photographer)





MnDOT issued a news release on June 15 announcing the ribbon-cutting ceremony for the new bridge on August 2 on the eastbound approach ramp of Highway 36, near where it crossed Highway 95 in Oak Park Heights. A spokesman indicated the bridge would open to traffic “within a day or two of that ribbon cutting.”²⁶⁸

(Mike DeMulling, photographer; Minnesota Department of Transportation)

11. History for the Future

While the new bridge took shape, there was also progress on the environmental mitigation package that was part of the SFEIS. The alignment of the 4.7-mile Saint Croix Crossing Bike/Pedestrian Loop Trail had been included in the SFEIS; it could not be altered without reopening the environmental review process. Work on clearing vegetation and stabilizing a historic wall on the Minnesota section began in 2015, and final design drawings for the trail were completed in August 2016. In an August 2015 news release, MnDOT explained that the trail’s development “will take place in phases from 2015 to 2017. This year’s construction will focus on the stretch of trail from north of Sunnyside Marina to north of Nelson Street in downtown Stillwater. Trail sections will be open for use after they are constructed.”²⁶⁹

The historic lift bridge was the key element of the environmental mitigation package. In 2007, an engineering firm, URS, prepared a report assessing the bridge’s condition in consultation with the MnDOT Cultural Resources Unit, MnSHPO, and the Stillwater Lift Bridge Advisory Committee. The report divided the assessment into three categories—stabilization, preservation, and maintenance—and considered needs, made recommendations, and provided costs within these categories. The report served “as the basis for developing an operations and maintenance manual for the lift bridge, which will in turn be used to develop the Stillwater Lift Bridge Management Plan” required by the 2006 amended MOA. The plan would address both the bridge’s “interim continued use as a vehicular bridge, and . . . its future conversion to a pedestrian/bike facility.”²⁷⁰

URS also coauthored, with Mead and Hunt, a management plan for the lift bridge, which was issued in March 2009. The plan summarized the bridge’s history, described existing conditions, and provided recommendations, “including the recommended treatments of the bridge for stabilization (vehicular use prior to conversion to pedestrian/bicycle use), preservation (conversion to trail use and rehabilitation and repair of structural, mechanical, and electrical components), and maintenance and operations following preservation.” Estimated costs were provided for these recommendations, which followed the Secretary of the Interior’s Standards for Rehabilitation.

The plan concluded by considering long-term issues, including repairs and emergencies. It also discussed the endowment fund, a requirement of the amended MOA to aid ongoing operation and maintenance expenses. The plan assumed MnDOT would continue to own and operate the bridge in cooperation with WisDOT, as it had in the past.²⁷¹

The management plan had anticipated that the new bridge project would receive funding in 2010 and be opened in 2013, at which point work on converting the historic structure would begin. When that sequence was delayed, MnDOT proceeded with a stabilization project in 2012 to make necessary repairs to the bridge while it continued to carry vehicular traffic. The cover sheet for the project’s shop drawings summarized the work scope: “Repair floor beam connection (28 each), lower chord repair (21 each), diagonal and vertical repair (1 each), end post repair (9 each), replace sidewalk bracket (12 each), repair intermediate sidewalk bracket (4 each), miscellaneous metals: rub rail shelf angle repair (14 each) and rub rail post repair (5 each).”²⁷² A larger rehabilitation project would begin when the new bridge opened, and the historic structure would carry only pedestrian and bicycle traffic. The budget for the new bridge covered the environmental mitigation costs for transforming the historic structure. MnDOT’s Saint Croix Crossing project coordinator, Todd Clarkowski, guaranteed the historic bridge “will be in good shape by the time that conversion is complete.” Clarkowski, who had been involved with the project for nearly two decades, said that preserving the lift bridge was key to solving congestion and safety problems in the area. “It was the stakeholders’ vision of the future use of the Lift Bridge that brought a solution.”²⁷³

The endowment fund was also critical to ensuring the historic bridge’s future. With vehicular traffic removed from the bridge, “it becomes a little harder to find available funding for operation and maintenance—things like paying the operator’s salary, for example,” according to Kristen Zschomler, a historian and archaeologist in charge of MnDOT’s Cultural Resources Unit. To prepare for possible shortfalls, MnDOT and WisDOT established an endowment fund, guaranteeing it would have a balance of at least \$3 million by the time ownership of the bridge was transferred.

The Minnesota legislature established the “Stillwater Lift Bridge Endowment Account” with passage of Statute 165.15 in 2009, the same year a management plan for the bridge was adopted.²⁷⁴ MnDOT deposited \$3 million into that account on June 30, 2014, and WisDOT followed with \$1.5 million on October 9. In February 2015, MnDOT added another \$3 million, raising the fund’s total to \$7.5 million. MnDOT, now the bridge’s sole owner, will use interest from the account for the routine operation and maintenance of the lift bridge. The state took on responsibility for the lift bridge, freeing WisDOT from future involvement, by including it as one of twenty-four bridges that MnDOT committed to save as part of a historic bridges program adopted in 2009.²⁷⁵

Bids were due to MnDOT on June 9, 2017, for adapting the structure to carry pedestrian and bicycle traffic while retaining the lift function to accommodate river traffic. The project, estimated to cost \$14 million, included repairing truss and other connections, repainting the structure with the historic green color, updating mechanical and electrical systems, rebuilding the west concourse, and installing replicas of historic lights on the bridge and concourse. Three contractors submitted bids: Kraemer North America, LLC, for \$8.6 million, L. S. Black Constructors for \$9.0 million, and Lunda Construction Company for \$10.3 million. MnDOT awarded the contract to the low bidder on June 30. Kraemer would start working on the lift bridge after traffic was switched to the new bridge on August 2, with project completion set for June 2019.²⁷⁶



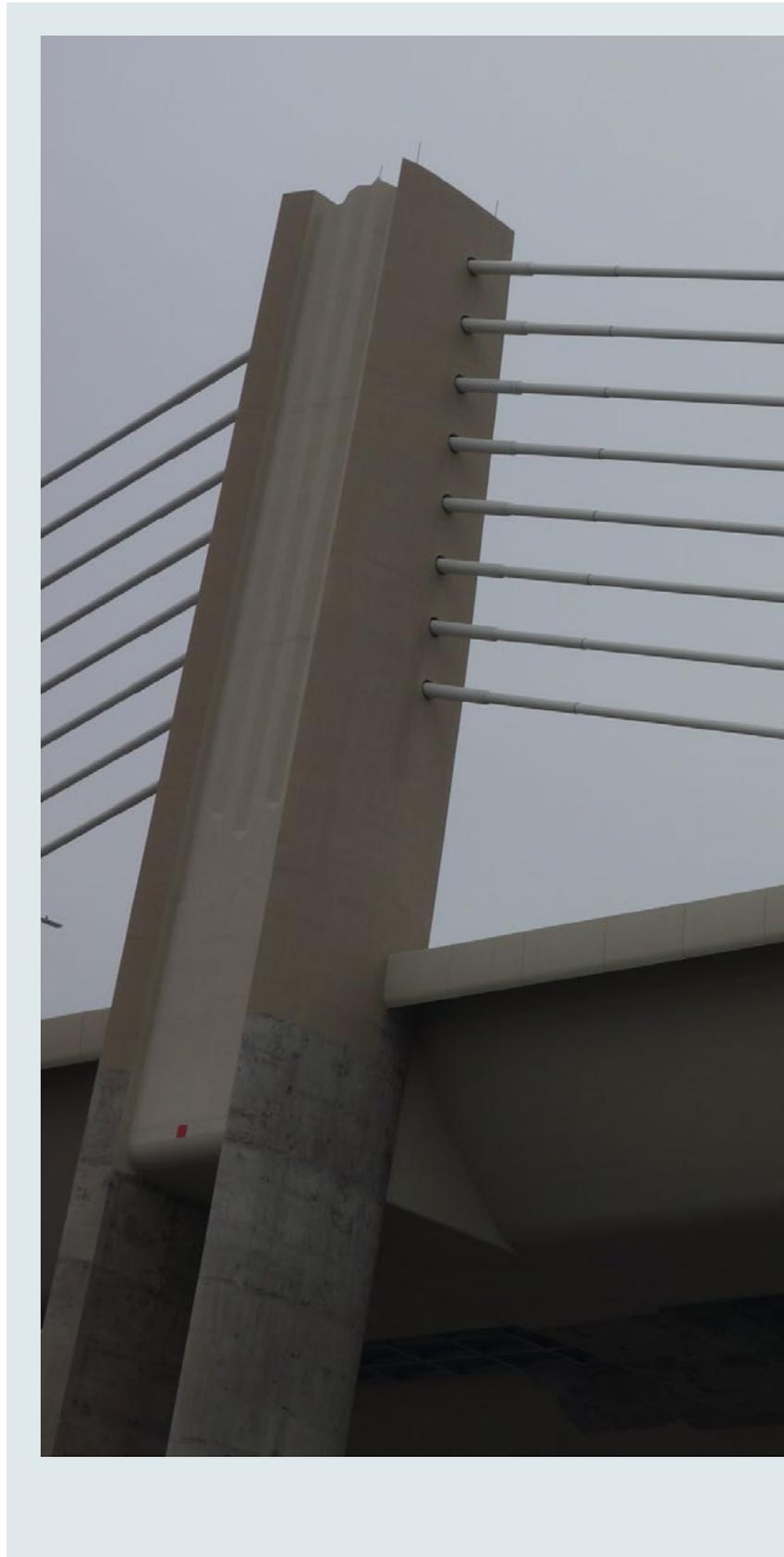
The lift bridge in July 2017, in its last days carrying vehicular traffic. (Minnesota Department of Transportation)

12. Passing the Torch: August 2, 2017

After decades of planning and years of construction, the Saint Croix Crossing was finally finished. The largest bridge project in Minnesota's history, it consumed some 281,900 tons of concrete. The pier foundations alone required around 2,000 truckloads of concrete. More than 5 miles of stay cables, containing about 400 miles of cable strands, extend between the piers and the deck. Around 1,969 miles of cable strands are not visible. Placed end to end, they could stretch from Stillwater to Dallas, Texas.²⁷⁷

Minnesota shouldered about \$368 million of the project's estimated cost of \$646 million, which included the rehabilitation of the historic lift bridge as part of the bike and pedestrian loop trail. Wisconsin contributed \$278 million.

Sixty percent of Minnesota's share came from the federal government, while only 5 percent of Wisconsin's funding was federal. *The Wall Street Journal* noted that "pitfalls . . . often beset . . . projects involving multiple states with competing interests." It quoted Adie Tomer, a Brookings Institution expert on infrastructure policy, who observed, "Bridge projects in particular have some of the toughest times moving from blueprint to final construction. . . . All it takes is a few state legislators on either side to derail it based on just one component." While acknowledging that "the Saint Croix Crossing has had its share of disputes," the article lauded the completion of the new bridge as "a rare win for cooperation in the often-contentious realm of cross-border infrastructure."²⁷⁸









This noteworthy collaboration was celebrated on the morning of August 2. Hot weather and a cloudless sky welcomed a large crowd that gathered at the Minnesota end of the bridge and the adjacent hillsides to witness the ribbon-cutting ceremony for the new bridge. Minnesota Governor Mark Dayton, Wisconsin Governor Scott Walker, Wisconsin Congressmen Ron Kind and Sean Duffy, MnDOT Commissioner Charlie Zelle, Oak Park Heights Mayor Mary McComber, and Saint Joseph town chairman Tom Spaniol were among the dignitaries on the podium for the program. Minnesota's U.S. Senator Amy Klobuchar, who played an instrumental role in passing the federal legislation that enabled the bridge's construction, could not attend, but she sent remarks that were read during the ceremony. Members of the audience included 101-year-old Helen Josephson and her sister, Doris Erler. Both had been at the opening ceremony for the lift bridge in 1931.²⁷⁹

The ribbon-cutting on August 2, 2017, drew a large crowd. (Mike DeMulling, photographer; Minnesota Department of Transportation)



Renée Hutter Barnes represented MnDOT's Cultural Resources Unit at the ribbon-cutting ceremony. (Charlene Roise, photographer)



Officials from state and local governments participated in the ceremony. (Charlene Roise, photographer)



Nancy Daubenberger, MnDOT Engineering Services Division assistant commissioner, attended the ribbon-cutting. (Charlene Roise, photographer)

To avoid traffic jams, the exact time the new bridge would be open to traffic remained somewhat uncertain, although Minnesota Governor Mark Dayton declared during the ribbon-cutting ceremony that the long-awaited event would occur that evening. Indeed, at about eight o'clock that night, cars began flowing over the new structure. "Motorists from both sides of the bridge moved forward like advancing armies behind escort vehicles with flashing lights," according to a newspaper account. "As they streamed across, they honked at hundreds of people watching them pass. Almost simultaneously, the Minnesota Department of Transportation shut down the Lift Bridge." Stillwater Mayor Ted Kozlowski remarked, "It's the collective weight off our community's shoulders, the Christmas present we never got to open. . . . It's the golden age of Stillwater."²⁸⁰

The city put on a party for the historic bridge in Lowell Park that night, taking advantage of a car show, "Crusin' on the Croix," that had been scheduled before the bridge closing was announced. The show included vintage cars from every decade of the bridge's history.²⁸¹





While details remained to be finished on the new crossing, August 2 essentially marked the end of the five-decade-long history of the construction of the new Saint Croix River Crossing, a saga as monumental as the bridge itself. At the same time, with the rehabilitation of the historic Stillwater Lift Bridge finally under way, a new chapter in the life of this community landmark was just beginning.

A sign announced “Lift Bridge Closed” on August 2, as motorists lined up to take their last trip over the bridge. (Charlene Roise, photographer)



*Mike DeMulling, photographer; Minnesota
Department of Transportation*



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Abbreviations

Advisory Council Advisory Council of Historic Preservation

AASHTO American Association of State Highway and Transportation Officials

AHNT Ash Howard Needles and Tammen (later HNTB)

DBE..... Disadvantaged Business Enterprise

DEIS..... Draft Environmental Impact Statement

EIS..... Environmental Impact Statement

FEIS Final Environmental Impact Statement

FHWA Federal Highway Administration

HBRRP..... Highway Bridge Replacement and Rehabilitation Program

MCEA..... Minnesota Center for Environmental Advocacy

MDH Minnesota Department of Highways

MnDOT..... Minnesota Department of Transportation

MNHS..... Minnesota Historical Society

MnSHPO..... Minnesota State Historic Preservation Office

MOA memorandum of agreement

NEPA..... National Environmental Protection Act

NPS National Park Service

PI point of intersection

SCR-SPL..... St. Croix Room, Stillwater Public Library

SDEIS Supplemental Draft Environmental Impact Statement

Section 106..... Section 106 of the National Historic Preservation Act of 1966

Section 4(f)..... Section 4(f) of the U.S. Department of Transportation Act of 1966

SEIS Supplemental Environmental Impact Statement

SFEIS Supplemental Final Environmental Impact Statement

SHPO State Historic Preservation Office

SLBAC..... Stillwater Lift Bridge Advisory Committee

TSM transportation system management

WHC Wisconsin Highway Commission

WisDOT Wisconsin Department of Transportation

Index

A

AASHTO 75–144, 123–144, 128–144, 139–144
Abercrombie, John 17, 18, 24, 26, 135, 136
Advisory Council on Historic Preservation 4, 70, 71, 72, 78, 81, 84, 123, 128, 139, 140, 141, 142
A. G. Lichtenstein and Associates 89, 123, 142
AHNT 33, 34, 44, 52, 128, 137
Albertson, Howard 61, 139
American Association of State Highway and Transportation Officials (AASHTO) 75
American Bridge Company 39, 44, 45, 137
America’s Most Endangered Historic Places 73
Ames Construction 99, 123, 143
Andersen Corporation 66
Andresen, August 22
Arnebeck, Rick 86
Ash Howard Needles and Tammen (AHNT, later HNTB) 33

B

Babcock, Charles 19
Badger Highway 23
Balay, Mark 79
Ballairs, Judy 76
Banchy, Brent 72
Batzli Electric Company 63
Bayport 65, 66, 87
Beer, Michael 103
Benson Electric Company 39

Benson, Mark 72
Bielenberg Electric Company 59
Bishop, Rob 97
Bloomberg, Britta 73, 139, 140
Bluff City Lumber Company 39
Braun, Richard 64, 76, 140
Buckland and Taylor 98, 123, 143
Buffington, Edwin 18, 136
Bush, Robert 72, 140

C

Carlson, Arne 74, 78
Chiglo, Jon 98, 103
“Citizens’ ‘Common Sense’ Bridge Proposal” 81
Clarkowski, Todd 77, 96, 110, 122, 123, 139, 144
Clinton, Bill 74, 83
Clinton Bridge Works 39
Congressional Cemetery 73
Conrad, E. O. 55
Consolidated Lumber Company 39
Continental Bridge Company 39
Crawford, William 69

D

Darrell, J. E. P. 60, 138
DEIS 64, 65, 66, 67, 68, 69, 70, 74, 79, 128
Denn, James 72, 140
Department of Aeronautics 64

Department of Agriculture 69
Department of the Interior 69, 70, 73, 74, 84
Disadvantaged Business Enterprises (DBE) 99
Draft Environmental Impact Statement (DEIS) 64
Duffy, Sean 97, 115

E

Edward Kraemer and Sons 98, 126, 144
EIS 63, 64, 70, 72, 74, 75, 78, 86, 128
Elkins, Scott 82
Ellis Island National Monument 73
Ellison, J. T. 23, 29, 136, 137
Engineering Services Division 70, 117
Environmental Impact Statement (EIS) 64
Executive Order 13274 84

F

Federal Highway Administration (FHWA) 64
Fegles Construction Company 39
FEIS 68, 70, 71, 72, 80, 128
FHWA 63, 64, 66, 67, 68, 70, 71, 72, 73, 78, 79, 80, 83, 84, 95, 96, 99, 104, 123, 125, 126, 128, 139, 140, 142
Final Environmental Impact Statement (FEIS) 70
Flemming, Donald 70, 139
Foster, Charles E. 33
Fowler Electric Company 39
Friends of the St. Croix 81, 124, 141

G

Giertsen, M. O. 54, 58, 138
Gordon 69, 140
Groves, S. J. 39

H

HDR 98
Highway 36 67, 80, 83, 87, 99, 109, 124, 125, 139, 143
Highway Bridge Replacement and Rehabilitation Program (HBRRP) 67
H. James and Sons 99
HNTB 88, 89, 92, 93, 124, 128, 136, 137, 142
House Subcommittee on National Parks, Forests and Public Lands 97
Hubbard, Stanley 55
Hughes, Mike 84

I

Illinois Steel Bridge Company 39
Immell, Ralph 48
Industrial Contracting Company 39
Intermodal Surface Transportation Efficiency Act 83
International Steel and Iron Company 39

J

Jamieson, John 61
Jenson, Theo 39
J&L Steel and Electrical Service 104
Johnson, Lyndon 69
Josephson, Adam 79, 96, 142

K

Kalman Steel Company 39
Kansas City Bridge Company 39
Kennedy, Roger 73, 140
Kind, Ron 82, 115
Kingston, L. P. 55

Kipp, O. L. 22
Kluzark, Richard 66
Koss Construction Company 39
Kraemer North America, LLC 111

L

Lake Saint Croix 1, 5, 6, 69
Lakeside Bridge and Steel Company 39
Lappegaard, Ray 63, 139
Levine, Leonard 64
Lieberman, Howard 87
Lock and Dam No. 3 55
Lockheed Martin 83
Log Cabin Restaurant (Club Tara) 71
Lower Saint Croix 69, 74
L. S. Black Constructors 111
Lunda/Ames 99, 101, 104
Lunda Construction Company 99–144, 111–144,
124–144, 143–144

M

MacDonald, Thomas 22
Matts, Michael 79, 140
Mayer, Paul 65
McCallum, Scott 83
McClintic-Marshall Company 39
McComber, Mary 115
McCrossan, C. S. 99
MCEA 77, 79, 86, 87, 97, 128
MDH 19, 20, 22, 23, 24, 26, 29, 30, 32, 33, 34, 36, 38,
39, 40, 41, 42, 44, 45, 47, 52, 53, 54, 55, 56, 57, 58,
59, 60, 61, 62, 63, 64, 124, 126, 128, 136, 137, 138,
139

Mead and Hunt 110, 124, 144
Melander, Judy 83
Melena, Tom 80
memorandum of agreement (MOA) 71
memorandums 87
Merritt, W. C. 62
Miller, E. J. 23, 137
Miller, Philip 72
Milwaukee Bridge Company 39
Mineta, Norman 83, 84, 126, 141
Minneapolis Bridge Company 39
Minnesota Center for Environmental Advocacy
(MCEA) 77
Minnesota Department of Highways (MDH) 19
Minnesota Department of Transportation (MnDOT)
19, 64
Minnesota Historical Society 5, 6, 9, 10, 13, 15, 16,
17, 27, 28, 36, 37, 40, 43, 46, 47, 48, 50, 51, 53, 54,
55, 57, 58, 60, 78, 122, 126, 128, 135
Minnesota State Highway Commission 19
Minnesota State Historic Preservation Office
(MnSHPO) 122, 128
Minnesota Supreme Court 65, 77
Minnesota-Wisconsin Boundary Area Commission 77
MnDOT 19, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73,
74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87,
88, 89, 92, 93, 95, 96, 97, 98, 99, 103, 104, 109, 110,
111, 115, 116, 117, 122, 123, 124, 125, 126, 127, 128,
135, 136, 137, 138, 139, 140, 141, 142, 143, 144
MnDOT Cultural Resources Unit 110
MnDOT's Metro District 67, 69, 89
MnSHPO 110, 128
MOA 71, 72, 86, 95, 110, 128
Moe, Richard 73, 140
Mondale, Walter 75, 78

Morris Udall Foundation 83

Muller Boat Works 57

municipal consent 65, 80, 81, 87

N

Namekagon Lake Dam 69

Namekagon River 69

National Environmental Policy Act (NEPA) 64

National Environmental Protection Act of 1970 64

National Park Service (NPS) 69

National Register of Historic Places 1, 70

National Trust for Historic Preservation 73, 78, 125, 140

Nelson, Gaylord 75

Nelson Street 110

NEPA 64, 70, 72, 84, 96, 129

New Richmond Economic Development Corporation 65

Nichols, Nason and Cornell 29, 136

Nitardy, Walter C. 42

Nixon, Richard 64

NPS 69, 70, 72, 73, 74, 76, 77, 78, 79, 81, 84, 96, 125, 129, 140

O

Oak Park Heights 65, 74, 80, 81, 83, 86, 87, 109, 115, 141

Obama, Barack 97

Obayashi 99

Oberstar, James 75

Oddie-Colton Bill 23

Ojibwa 5

Olson, Floyd B. 48

P

Payne, F. H. 55

PCL Civil Constructors 99

Peppard and Fulton 39, 42, 43, 51, 53, 137

Petri, Thomas 75

point of intersection (PI) 29

Portland cement 39

Prescott 5, 62, 69, 79, 123, 139

Preservation Alliance of Minnesota 73, 78

Public Law 112-100 97

Public Service Department 64

R

Record of Decision 64, 72, 123, 142

ReKard Development Corporation 66

Resolve 84

River Town Restoration 72, 79, 126, 135

S

Saint Croix County 6, 20, 23, 65

Saint Croix Crossing Coalition 96

Saint Croix Crossing Project 97

Saint Croix Falls 69

Saint Croix River Association 81, 97

Saint Joseph Township 22

Sandahl, John 70, 139

Schenk, Bill 72

Schenk, William 70, 139, 140

Scherzer Rolling Lift Bridge Company 33

Scoping Decision Document and Final Study Outline 64

Sculley, Clement F. 36

SDEIS 79, 82, 87, 129
Section 4(f) evaluation 63, 64, 67
SEIS 78, 84, 129
Sensible Stillwater Bridge Partnership 97
SFEIS 86, 87, 95, 110, 129
Sheils, G. A. 14
Shipstead, Henrik 22, 136
SHPO 70, 129
Siems-Holmars 39
Sierra Club 73, 76, 77, 79, 82, 84, 86, 87, 96, 97, 140, 142
South Saint Croix Overlook 71
Spaniol, Tom 115
State Historic Preservation Offices (SHPO) 70
State Planning Agency 64
Steger, Alan “Al” 72, 140
Stein, Chris 96
Stein Construction Company 39
Stillwater Area Chamber of Commerce 78
Stillwater Chamber of Commerce 78
Stillwater Historic Preservation Commission 78
Stillwater Lift Bridge Endowment Account 111, 125, 144
Straus Engineering 33
Sullivan, George 20
Sunnyside Marina 110
Supplemental Draft Environmental Impact Statement (SDEIS) 79
Supplemental Environmental Impact Statement (SEIS) 78
Supplemental Final Environmental Impact Statement (SFEIS) 86

Surface Transportation and Uniform Assistance Act of 1987 67
Swanberg, J. H. 59, 138, 139

T

Tammen, Henry 34, 36, 39, 136, 137
Taylors Falls 69, 79
T.H. 36 Partnership Study 87
Thompson, Charles 72, 140
Thompson, Tommy 75, 83
Thorne, Steve 87
Thorton Brothers Company 39
Tomer, Adie 112
Torkelson, M. W. 20, 136
Transit for Livable Communities 97
transportation system management (TSM) 70
Trieweiler Construction and Supply Company 99

U

U.S. Bureau of Public Roads 22
U.S. Department of Transportation Act of 1966 67, 129
U.S. Institute for Conflict Resolution 83

V

V and M Electric Company 39
Voyageurs Region National Park Association 73

W

Wa’ahila Ridge 73
Wausau Iron Works 39
WHC 20, 22, 23, 24, 26, 36, 38, 40, 41, 53, 54, 56, 58, 59, 60, 62, 126, 129, 136, 137, 139

Wild and Scenic Rivers Act (Public Law 90-542) 69

Williams, R. C. 26, 136

Wisconsin Bridge and Iron Company 39

Wisconsin Department of Natural Resources 81, 83

Wisconsin Department of Transportation (WisDOT)
3, 129

Wisconsin Highway Commission (WHC) 20

WisDOT 63, 64, 66, 68, 69, 70, 71, 72, 73, 74, 78, 79,
82, 83, 84, 86, 88, 89, 95, 97, 99, 110, 111, 124, 125,
127, 129, 140, 142, 143, 144

Worden Allen Company 39

Z

Zelle, Charles “Charlie” 99

Zoller, Terry 104

Zschomler, Kristen 110, 122

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