IL 106 (Former U.S. Highway 36)
Over Illinois River
(S.N. 086-0001/Sequence No. 20790B)
Bloomfield Precinct
Scott County
Illinois

HIER No. ST-2021-1

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic Illinois Engineering Record
State Historic Preservation Office
Springfield, Illinois

Prepared by the Illinois State Archaeological Survey
on behalf of the Illinois Department of Transportation

May 2022

HISTORIC ILLINOIS ENGINEERING RECORD
HIER No. ST-2021-1

U.S. Highway 36/IL 106 Bridge
(NINE-SPAN PARKER THROUGH TRUSS BRIDGE, THE CENTER [FIFTH] SPAN BEING A VERTICAL LIFT STRUCTURE)

Location: IL 106 over the Illinois River
Bloomfield Precinct, Scott County, Illinois

USGS Quadrangle: USGS Florence, 7.5 minute, Illinois
Latitude 39° 37' 57" N Longitude 90° 36' 27" W

Universal Transverse Mercator Coordinates:
Zone 15 705336 Easting 4389513 Northing

Present Owner: Illinois Department of Transportation

Present Use: Vehicular Bridge (IDOT Structure No. 086-0001)

Significance: The U.S. Highway 36/IL 106 bridge across the Illinois River is a nine-span, Parker Through truss. The four spans at each end of the structure are fixed-in-place while the center, fifth span is a moveable, vertical-lift component. Oriented on an east/west axis, the bridge is fabricated from steel plates, channels, angles and lacing. A ferry originally carried traffic across the Illinois River immediately north of the village of Florence. It continued to operate after the route was designated in the mid-1920s as U.S. Highway 36, which carried travelers between Indianapolis (IN) and Denver (CO), as well as local traffic to Pittsfield about ten miles west of the bridge and Winchester about eight miles to the east. Construction started in 1926. A contentious project that ultimately required a change in contractors notwithstanding, the ferry ceased operation when the bridge opened in May 1930. Vertical-lift bridges that carried vehicular traffic are a rare structure-type in Illinois. National Bridge Inventory Data identifies only two such bridges carrying vehicular traffic in the state today, the second one being opened a year after the Florence Bridge. It is located about forty miles south and crosses the Illinois River in the village of Hardin.[1] The former U.S. Highway 36 lift bridge was determined in con-

[1] Although not identified in the National Bridge Inventory Data, it is known that the state claims at least three lift bridges carrying railroads across rivers in the Chicago vicinity. The accuracy of the inventory data as it applies to vehicular traffic is assumed. It is unknown how many other lift bridges may be found carrying railroads in the state. "Landmark Designation Report: Historic Chicago Railroad Bridges – Preliminary Landmark Recommendations Approved by the Commission of Chicago Landmarks, September 7, 2006," Viewed on 05 March 2021 at www.chicago.gov/content/dam/city/depts/zlup/Historic_Preservation/Publications/Historic_Chicago_Railroad_Bridges.pdf.

sultation with the State Historic Preservation Office to be eligible for the National Register of Historic Places.

PART 1. HISTORICAL INFORMATION

A. Physical History:

1. Date of Erection: 1926-1930

2. Designer: Unknown

3. Original and subsequent owners: Illinois Department of Transportation

4. Builder or contractor: Stressenreuter Brothers (Chicago, IL)

5. Alterations and additions: The bridge has no additions. Alterations include replacement railings on the east approach spans and the installation of some equipment recovered in 2001 from the lift bridge across the Illinois River at LaSalle. The structure was also rehabilitated in 1980 and 2004 and redecked in 2020.

B. Historical Context:[2]

Bridge Development in Illinois

The earliest permanent bridges in Illinois include a few stone arches built in the 1830s when the National Road was extended west from Maryland. At least one other arch was built on the Chicago-Galena Road in the same period. Accounts of early travelers suggest that rudimentary ferries sometimes facilitated passage over larger streams in the region. Timber structures crossing small water courses also accommodated travel. Little is known of the pile trestles or half-submerged floating platforms used. All were subject to risks and washouts.[3]

As pioneers moving west established settlements, technicians were attracted to the

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[2] The "Bridge Development in Illinois," "Steel Bridge" and "Pratt and Warren Truss Bridge" context sections were and initially prepared in circa 1990 by John R. Nolan of the Illinois Department of Transportation (IDOT). Most of that material has subsequently been reviewed against the sources cited and then edited, expanded, modified or rewritten as appropriate.

[3] Keith A. Sculle and John A. Jakle, "From Terre Haute to Vandalia, Illinois," in *A Guide to the National Road*, ed. Karl Raitz (Baltimore, MD: The Johns Hopkins University Press, 1996): 277; Milo M. Quaife, *Chicago's Highways Old and New* (Chicago: D.F. Keller & Co., 1923): 187.

frontier to erect bridges, many of them covered. Between 1820 and 1900, an estimated two to three hundred covered bridges were built in Illinois, only a handful of which are thought to remain today.[4]

Railroads helped drive the need to improve upon early timber structures. They required by the late 1850s stronger bridges that encouraged the development of iron fabrications. Those were followed in the 1870s by others made of steel and which came to use wide flange beams as structural components. The use of steel contributed to the expansion of railroads, settlement and industrialization in a growing America.[5]

Steel Bridges:

Cast iron was first used for bridge construction in England in 1776. The resulting structure spanned the River Severn and was 102 feet long. The material was then used for other bridges on the island, as well as at least one in Germany, into the early years of the nineteenth century. Bridges of cast iron established a viable alternative to those of wood and stone. But it was the subsequent development of wrought iron, considered superior to that which was cast, that initiated bridge building in the modern era. Wrought iron's period of dominance was limited by the development of steel and the 1862 Bessemer process which removed impurities from the steel, thus improving its strength. Early United States bridges built of steel included the Eads Bridge in St. Louis (completed in 1874) and the Chicago & Alton Railroad Bridge across the Missouri River at Glasgow, Missouri (completed in 1879). Steel emerged as the dominant bridge building material in the last decades of the nineteenth century.[6]

Stone, brick and concrete arch bridges had to be constructed on site. It was impossible to build such a structure in a factory, disassemble it, transport it to its intended destination and then reassemble it. Yet that, in varying degrees, is what happened with iron and steel bridges. Approaches and abutments, stone or concrete, were often still built by local labor. The bridges themselves were not. Constructing the components for bridges, and then assembling those components, became a big business in the last quarter of the

[4] Russell M. Garrard, "Early Bridges in Central Illinois," in *Heritage of Mid-Illinois Engineering* (Capital City Chapter of the Illinois Society of Professional Engineers, circa 1976): 15ff.

[5] Walter V. Voss, "How New Materials Increased Man's Building Ability," in *Centennial Transactions* (New York: American Society of Civil Engineers, 1953): 829-830.

[6] "The Developments of the Nineteenth Century in Bridge Design and Construction," *Engineering News*, Vol. XLIV, No. 24 (13 December 1900): 409-410; Daniel L. Schodek, *Landmarks in American Civil Engineering* (Cambridge, MA: MIT Press, 1987): 118-124; "Chicago and Alton Railway Bridge, Howard County, Missouri," Written Historical and Descriptive Data, Historic American Buildings Survey, National Park Service, U.S. Department of the Interior, no date, page 2, From Prints and Photographs Division, Library of Congress (HABS No. MO-1465).

nineteenth century. Companies large and small were established to meet the growing demand for bridges across the country, the larger of which developed operations with a variety of function-related shops that included designing, forging necessary parts, machining those parts, riveting them and so on. Bridges were at least partially assembled in the factory to make sure all parts fit properly, after which they were disassembled and sent to the site for final assembly by a crew of experienced builders, be they employees of the originating company or those of companies that simply specialized in putting together the bridges of others.[7]

The State of Illinois claimed almost sixty bridge building companies that operated between 1849 and 1900, the vast majority of them being located in Chicago. Many were short-lived and either went out of business or were acquired by one of those larger. A moment in which the American bridge-building industry experienced a seismic shift occurred in 1900 when industrialist and financier J.P. Morgan created a new corporation. He acquired and combined twenty-four individual companies, including both the American Bridge Works and the Lassig Bridge and Iron Works in Chicago, and established the American Bridge Company, a behemoth that soon dominated bridge design and construction in the United States.[8]

Notwithstanding the creation of Morgan's new company and the evolving maturation of the bridge building industry, early roadway structures of steel were often deficient. There had been a growing and significant effort to improve railroad bridges in the country in the post-Civil War years of the nineteenth century, but that effort had yet to reach those modest structures on the nation's growing roadway network. One problem was that local road commissioners often lacked the expertise to make appropriate bridge-related decisions. As well, when requests for bridge proposals were issued, they often lacked the specifics necessary to adequately describe the structure needed and the amount of traffic it might have to carry. Bridge companies were competitive. With few specifications offered, they often proposed structures that might be only nominally capable of addressing needs at a given location. Yet those shortcomings were easy to overlook since the bridges erected were of *steel*, a term that implied – though often erroneously – strength and longevity.[9]

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[7] Jeffrey A. Hess and Robert M. Frame, *Historic Highway Bridges in Wisconsin, Volume 2, Part 1: Truss Bridges* (Madison, WI: Wisconsin Department of Transportation, 1998): 65-67.

[8] Victor C. Darnell, *Directory of American Bridge-Building Companies, 1840-1900*, Occasional Publication No. 4 (Washington, D.C.: Society for Industrial Archaeology, 1984): 7-13.

[9] Henry S. Jacoby, "Recent Progress in American Bridge Construction," *Engineering News*, Vol. XLVIII, No. 3 (17 July 1902): 44; *First Annual Report of the Illinois Highway Commission for the Year 1906* (Springfield, IL: State Printer 1907): 56.

The State of Illinois began to address the uncertainties experienced by local governments as they sought bridges sufficient to safely meet growing needs. A good example of the state's efforts is found in its publication *Modern Bridges for Illinois Highways*, published initially in 1910 with an expanded second edition issued in 1912. The publication explained that "whenever the township commissioners…have under consideration the construction of a particular bridge, and desires the assistance of the Highway Commission in preparing the plans, such assistance is furnished without expense to either county, township or municipality." Indeed, the state was committed to a highway system with bridges both well designed and constructed, be they concrete or steel (truss).[10]

Pratt and Warren Truss Bridges:

Pratt truss bridges were first constructed of iron and patented in 1844 by Thomas and Caleb Pratt. Bridges of this type put vertically-placed members in compression (being pushed in at both ends) while diagonals were in tension (being stretched or pulled at both ends). Pratts use heavy vertical beams typically of channels, angles and lacing while diagonals are more slender and generally comprised of steel rods, angles or bars. These bridges were designed for use as either Pony or Through truss structures.[11]

Warren truss bridges were developed in the same decade. Two British engineers patented in 1848 the truss system which had only diagonals that acted in both tension and compression. Indeed, the substantial diagonals form a pronounced "W" in the truss's web, typically a giveaway as to the bridge's type. A prominent variation of the type was a Warren truss with Verticals in which the verticals were subordinate components that simply provided additional bracing for the structure. Warren trusses, again both Pony and Through, were thought an economical bridge-type and still being erected in the 1970s.[12]

Parker Through Truss Bridges:

A Parker truss bridge is a variation of a Pratt. It was developed in Boston in 1870 by mechanical engineer Charles H. Parker and notable for its polygonal top chord instead

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[10] *Modern Bridges for Illinois Highways, Second Edition Revised and Enlarged* (Springfield, IL: State of Illinois Highway Commission, Bulletin No. 9, 1912): 8.

[11] T. Allan Comp and Donald Jackson, *Bridge Truss Types: A Guide to Dating and Identifying* (Memphis, TN: American Association for State and Local History, Technical Leaflet 95, 1977): n.p.; Hess and Frame, *Bridges in Wisconsin*, 12.

[12] Comp and Jackson, *Truss Types*, n.p; Parsons Brinckerhoff and Engineering & Industrial Heritage, *A Context for Common Historic Bridge Types*, (Washington, D.C., Transportation Research Board, 2005): 3-39 to 3-40.

of the straight top chord of a Pratt. Parker had reasoned that the depth of a truss had to be greatest at a span's center and that the height of the verticals defining the panels to either side could sequentially decrease. And verticals of decreasing height meant the amount of steel needed for a structure would be reduced thus would material costs be reduced. Of course verticals of decreasing height meant the lengths of the various diagonals were no longer consistent. Rather did they vary, a fact that increased labor costs in the course of production since each had a unique length as opposed to the common length of a standard Pratt. Despite such cost-related conflicts, Parker's development facilitated the construction of spans with lengths up to 300 feet, consequentially longer than those of typical Pratt bridges.[13]

Vertical Lift Bridges:

Moveable bridge spans proliferated in the late nineteenth and early twentieth centuries. Swing, bascule and vertical lift bridges were the common types of such structures which, in their own unique way, moved to permit the passage of boats on the waterway crossed. Swing bridges were typically anchored in the middle of a watercourse and rotated 90° to open and permit a vessel to pass on one side of the structure or the other. Bascule bridges followed swing spans and replaced many of them. They were normally anchored on the river bank which also served as the pivot point for the bridge deck that extended over the river from the anchor. Rotating on that pivot point, the arc of the span would open or close to permit water craft or land traffic to pass. A bascule structure, in other words, is essentially a drawbridge. And lift bridges, also used in the first thirty years of the twentieth century to replace swing spans, are just that – bridges that lift. Such structures have a tower on each side of a river or shipping lane, each tower carrying one side of a truss bridge span that crosses the waterway. With the machinery on each tower working synchronously, an operator can raise the lift span the general height of the tower, thus permitting boats to pass below. Such structures operate on the basis of cables attached to each end of the span that rise to and over the pullies at the top of each tower and then reach down to counterweights below. The subject U.S. Highway 36 bridge is a vertical lift span.

Early vertical lift bridges were developed by Squire Whipple in 1872 for use on small waterways in New York and neighboring states. They were typically short structures with nominal lifts. Perhaps the first monumental lift bridge in the United States was proposed in 1893 by J.A.L. Waddell for construction in Duluth, Minnesota. It was planned to span a width of 250 feet and provide 140 feet of clearance below, though it

[13] Comp and Jackson, *Truss Types*, n.p.; Parsons Brinkerhoff, *Common Historic Bridge Types*, 3-33 to 3-34.

was never built. Waddell did, however, build the first such bridge a year later in Chicago. It carried Halstead Street across the South Chicago River and had a 130-foot clear span with vertical clearance of 150 feet. Vertical lift bridges were well suited to flat areas where long, high approaches were impractical. They were never widely used on highways in Illinois. Two remain on state highways today, the subject structure and another about forty miles downriver on Illinois 100 at the village of Hardin.[14]

Scott & Pike Counties:

The U.S. Highway 36 bridge spans the Illinois River and links Scott County on the east side of the river to Pike County on its west. Both counties were heavily agricultural. Pike County was organized in 1824 and said in 1858 to have fertile soil that was well cultivated. Wheat, oats, potatoes and corn were among the crops raised. Scott County, also organized about 1824, was consequentially smaller than Pike and said in 1858 as well to have fine, well cultivated soil. Potatoes, wheat, oats and corn were some of the crops grown in the county. The community of Pittsfield was the Pike County seat of government while that of Winchester hosted the Scott County governmental offices. Both county seats had railroads by 1872 as well as a variety of merchants. Thus did they develop as prominent, regional, agricultural support shipping and receiving centers in addition to having their governmental identities. And they were tied together by U.S. Highway 36.[15]

Farming was the primary agricultural activity in both counties. By 1880 Pike County had 3,650 farms with an average size of 123 acres. Scott County then had 1,046 farms with an average size of 133 acres. Swine, milk cows and horses were among the animals most often found on the farms in both counties. Twenty years later, in 1900, Pike County claimed farms numbering 3,995 with an average acreage of 123.1 acres while Scott County hosted 1,131 farms averaging a size of 128 acres. The number of farms had dropped in each county by 1930. Pike County then had 2,879 farms while the county's Town of Detroit – which included the bridge site on the west side of the river – had 92 farms on 14,916 acres. Scott County overall then had 934 farms while Bloomfield Precinct (as opposed to a township), where was the east side of the bridge anchored, had 58 farms on 9,991 acres. Clearly, farming was a dominant economic activity in each county. And each county seat, with its railroad, was apparently the

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[14] Parsons Brinkerhoff, *Common Historic Bridge Types*, 3-120 to 3-122.

[15] George W. Hawes, comp., *Illinois State Gazetteer and Business Directory for 1858 and 1859* (Chicago, IL: George W. Hawes, 1858): 171, 202; *Illinois State Gazetteer and Business Directory for the Years 1864-5* (Chicago, IL: J.C.W. Bailey, 1864): 86, 91; *Atlas Map of Pike County, Illinois* (Davenport, IA: Andreas, Lyter & Co., 1872): 123; *Atlas Map of Scott County* (Davenport, IA: Andreas, Lyter & Co., 1873): 28.

primary shipping point for moving goods and produce both in and out of the immediate vicinity. This suggests that, while there were travelers on U.S. Highway 36, as well as on its pre-1926 predecessor roadway, the Pikes Peak Ocean to Ocean Highway which extended from New York (NY) to Los Angeles (CA), there was at best only modest local demand in the late nineteenth or early twentieth centuries for a bridge across the Illinois River between Pittsfield and Winchester. A ferry operating at the hamlet of Florence, immediately south of U.S. Highway 36, and on the Pike County side of the river, seems – with occasional difficulties – to have met the needs of those wanting to cross the river at the time.[16]

U.S. Highway 36/IL 106 Bridge Across the Illinois River:

The state of Illinois is bisected by the Illinois River which extends from Chicago southwest to a point on the Mississippi River, immediately north of St. Louis. Crossing the Illinois River in 1925 were six bridges and six ferries, one of the latter being that at Florence, about 62 miles west southwest of Springfield. Ferries were a venerable, though not particularly efficient, method of carrying vehicles and wagons across a river and had been used in the United States since the early years of the nineteenth century. Nor were they inexpensive. The ferry at Florence charged in 1929 seventy-five cents to carry a car and driver across the river. It was also not uncommon for there to be long lines of traffic and delays at Florence, despite the fact that the ferry company often had two boats working. Additionally could high water on the river affect landings as could winter ice floes halt ferry service for periods of time. Clearly, it was a system not without problems.[17]

The amount of traffic carried by a ferry could be attributable – at least in part – to the volume of traffic on the highway on which it was situated. Traveling east to west, travelers passed from Scott County into Pike County as they crossed the river. Pike County was unique in that its east and west borders were framed by major rivers, the Illinois on its east and the Mississippi on its west. About ten miles west of the Illinois River was Pittsfield, the county seat, thought to have been somewhat isolated given the

[16] United States Census. Office, *Report of the Production of Agriculture as Returned at the Tenth Census.* (Washington, D.C.: Government Printing Office, 1883): 60, 80, 184; William R. Merriam, Director, *Twelfth Census of the United States Taken in the Year 1900: Agriculture Part 1, Farm, Live Stock and Animal Products* (Washington, D.C.: United States Census. Office, 1902): 74, 274; *Fifteenth Census. of the United States: 1930-Agriculture Volume 1, Farm Acreage and Farm Values* (Washington, D.C.: Bureau of the Census. Library, 1931): 159, 162. All census data at https://agcensus.library.cornell.edu and accessed on 16 May 2022.

[17] "Many Bridges and Ferries About State," *The* (Bloomington, IL) *Pantagraph*, 12 October 1925: 2; "Central Illinois Road Conditions," *The* (Streator, IL) *Times*, 3 June 1929: 7; "Florence Bridge of Illinois River Set to Open January 1," *St. Louis* (MO) *Globe-Democrat*, 1 December 1929: 40.

county's river barriers and considered by some to have been "…a hermit town for close to a hundred years." But in 1926 Pittsfield thought it was well poised for development with early talk of a bridge replacing the ferry at Florence, as well as the construction of a bridge across the Mississippi at Louisiana (MO), about twenty miles to the south-west.[18]

Meetings concerning a Florence bridge occurred in mid-1926, including one in May in Springfield (IL) and one in July in Peoria (IL). Attendees included members of the Illinois Chamber of Commerce, the American Automobile Association (Springfield office) and the Chicago Auto Club, in addition to representatives from the Illinois communities of Danville, Decatur, Bloomington and Jacksonville, as well as from Hannibal (MO). Meetings concluded with the understanding there was strong interest in the bridge and that its construction was imperative. Envisioned at the conclusion of the July meeting was a nine-span structure, the first bids for which would soon be sought.[19]

Some matters needed to be resolved before solicitations could be issued. For instance, was the bridge authorized by a prior $60 million state bond issue, or a subsequent $100 million bond? Matters moved forward once the state's attorney general rendered an opinion. Pike County land for the bridge and its west approach had been acquired in July, 1926, while ten acres on the east side, in Scott County, were obtained in August. Soon thereafter were solicitations anticipated for a bridge that would have a total of nine spans including the vertical lift span needed to allow large boats to pass. The bridge was to have a 24-foot wide deck and be finished by October 1928. The first contracts were reported in October 1926. The Illinois Steel Bridge Company, located in nearby Jacksonville, received one for $332,182 for 200,000 tons of steel while another went to the Stressenreuter Brothers for $174,454. That firm was the contractor.[20]

Stressenreuter Brothers was a Chicago-based highway and bridge builder. The firm had a consequential state roadway project in the vicinity of Mattoon (IL) near completion in late 1924, after which much of its equipment went into storage. It is unclear if the

[18] *Complete Map Guide: Pikes Peak Ocean to Ocean Highway, New York to Los Angeles* (Chicago, IL: Rand McNally & Company, 1927): 38; "Progress Finds New Disciple in Illinois Town," *Palatine* (IL) *Enterprise*, 28 May 1916: 6; "Start to Build Bridge in July," *The* (Moline, IL) *Dispatch*, 28 June 1927: 13.

[19] "Businessmen Confer About Road System," *Belvidere* (IL) *Daily Republican*, 12 May 1926:1; "Florence Bridge of Illinois River," *Globe-Democrat*, 1 December 1929; "Discuss Plans for Bridge At Florence," *The Jacksonville* (IL) *Daily Journal*, 23 July 1926:7.

[20] "Florence Bridge of Illinois River," *Globe-Democrat*, 1 December 1929; "Secure Land for Florence Bridge," *The Jacksonville* (IL) *Daily Journal*, 3 August 1926: 7; "Bridge Company Gets Contract At Florence," *The Jacksonville* (IL) *Daily Journal*, 2 October 1926: 4.

company had any Illinois work in 1925, though evidence suggests that, if it did, none was significant. The outlook for Stressenreuter improved in 1926 when it was also awarded a project to build a 660-foot bridge across the Illinois River in LaSalle (IL) in addition to a large bridge contract in White County in the state's far south southeast – about 270 miles from LaSalle. The construction of each bridge was estimated to take two years, that in LaSalle being started first. And as equipment there was no longer needed it was to be dispatched to the White County project. Curiously there was no mention of the Florence-area bridge, the contract for which Stressenreuter received about two months before that for the LaSalle structure. The lack of mention was odd given its size which was "…said to be the largest highway structure to have been placed under contract by the state highway department."[21]

The bridge at Florence was considered a vital link in the evolving regional and national transportation system. It was to carry across the Illinois River both State Route 36 and U.S. Highway 36, the later between its terminal points of Indianapolis (IN) and Denver (CO). Additionally did U.S. Highway 36 intersect with U.S. Highway 54 just west of Pittsfield. The bridge, consequently, also accommodated traffic coming from the east and going southwest, ultimately as far as El Paso (TX). There were grand hopes for the highway all hinging on the timely completion of the Illinois River bridge. It was disappointing when almost constant highwater and flooding on the river delayed work on the $750,000 structure well into 1927.[22]

Work did get underway in that year though. It was reported in August that excavations for the west abutment were complete, piles were being driven and concrete was being poured. Excavations for the first pier east of the west abutment were also proceeding and it was hoped that work on the next pier east on the west bank could start soon. The report speculated that all piers could be completed before it got too cold and that the winter could be spent assembling the steel bridge spans. Stressenreuter had only completed the abutment and one pier on the west of the river, in addition to one pier on the east side, as 1927 came to a close. It was noted that a delay at their LaSalle project delayed the movement of needed equipment to Florence and that ferry crossings continued. A completion date of 1 November 1928 was still assumed and no mention was made of the company's White County project.[23]

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[21] "Finish Pouring for Slab Route 25 South," *Journal Gazette* (Mattoon, IL), 30 October 1924: 1; "Stressenreuters Will Ship Road Equipment," *Journal Gazette* (Mattoon, IL), 14 December 1926: 8; "Make Progress on Big Bridge," *The Jacksonville* (IL) *Daily Journal*, 3 August 1927: 9.

[22] "Start to Build Bridge," *The Dispatch*, 28 June 1927; "Bridge to Span Illinois River," *Lake Geneva* (WI) *News Tribune*, 7 July 1927: 6.

[23] "Make Progress," *Daily Journal*, 3 August 1927; "To Delay Florence Bridge Construction," *The Jacksonville* (IL) *Daily Journal*, 6 December 1927: 12.

The year 1928 dawned with more high water and something of a crisis at hand. The Pittsfield Chamber of Commerce had sent a letter to Frank Sheets, the state's Chief Highway Engineer, asking about the various delays and suggesting that there might be some unspoken political considerations at play. Sheets replied that was not the case and that "it seems almost an insult to our intelligence for you to think we would be so poor in political sagacity as to delay construction of the Florence bridge for such reasons."[24]

The letter was sent by Jess M. Thompson, secretary of the Pittsfield Chamber of Commerce. He asked, among other things, why the bridge across the Mississippi River at Louisiana (MO) was progressing so much more rapidly than that at Florence. Sheets responded that both bridges were put under contract about the same time, approximately 1 October 1926. But that from 1 October 1926 to 1 February 1928, water on the Mississippi was only above flood stage for about five weeks. Even then it was not more than about 1 foot 6 inches above. It was simply a situation that had no significant impact on Mississippi River bridge construction. On the Illinois River, Sheets explained, water was above flood stage twelve of those sixteen months some times by as much as eleven feet which made coffer dams very hard to construct and manage. He emphasized that "… the Illinois River has indulged in an orgy of floods which is unprecedented and of which no reasonable predications could be made at the time the contract was let…." Consequently were the situations at Florence and Louisiana not analogous, he argued.[25]

Regarding coffer dams, Sheets went on to explain that some work could have been done in the weeks the water level was slightly above or actually below flood stage. Yet that was impractical given the height the flood waters reached and the costs involved. All budgets, Sheets observed, were based, "…and rightly so…" on conditions typical for the time, not the exception. It would also have been dangerous for men working in the coffered areas. As for the contractor, Sheets explained that Stressenreuter was an experienced firm that had pursued many projects for the state. There were continued discussions and meetings between the firm and the state, yet unexpected circumstances did arise. He acknowledged that Stressenreuter could have been dismissed but argued that another contractor would have done no better due to the weather related problems. It was also possible that Stressenreuter might then have sued the department, thereby

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[24] "Florence Bridge Now Delayed by More High Water," *Daily Republican-Register* (Mount Carmel, IL), 26 June 1928: 1; "Sheets Says Floods Cause Bridge Delay," *The Daily Independent* (Murphysboro, IL), 7 February 1928: 1.

[25] Hiram L. Williamson, "State Capitol News," *The Roberts* (IL) *Herald*, 15 February 1928: 7; "High Waters Effect Bridge Construction," *The Jacksonville* (IL) *Daily Journal*, 8 February 1928: 3.

creating further delays. Sheets concluded that, given the circumstances and the clear desire to get the bridge completed, the contractor had to be given "…tolerant, fair and judicious consideration."[26]

It is uncertain if it was the result of more cooperative weather or perhaps a renewed commitment to completing the project, but 1928 was a productive year for the bridge – ongoing fears of high water and flooding notwithstanding. A report submitted in December identified all bridge components complete, including the east and west abutments, as well as piers 1, 2, 3, 7 & 8. Concrete was also being poured for pier 6. Additionally had five of the bridge spans been assembled on-shore and placed on the completed piers, two on the west side of the river and three on the east. The primary bridge components remaining were piers 4 and 5, those on either side of the lift span, as well as the lift span itself.[27]

The successes of the 1928 construction season, however, did not extend into 1929, at least not at the start. Flooding and ice were again problems without which it was thought that the bridge could have been completed in 90 days. This time Stressenreuter, after having been given the benefit of the doubt in 1928, was held accountable and dismissed. Harry Cleaveland, Director of the State Department of Public Works and Buildings, subsequently announced that the National Security Company, the project's bonding entity, would take over the project and secure a new contractor. The specific reasons for replacing Stressenreuter are a bit vague. Might the company have been taking advantage of weather delays to address their projects in the city of LaSalle and in White County? Or might there have been some collusion with the ferry company as long as it was able to operate? It was reported to have been "…reaping a rich harvest" as construction dragged on. An analysis offered in September of that year noted that "the travel across the river at that point has been very heavily enriching the ferryman." Regardless, an investigation was pursued and Stressenreuter dismissed.[28]

The 1928 election of Louis L. Emmerson as governor may well have driven the state's rapidly growing desire to complete the project. The new contractor had completed the remaining piers, placed another span, finished the 1,200 foot, concrete approach trestle

[26] "High Waters," *Daily Journal*, 8 February 1928.

[27] "Lack of Roads Maroons Bridge Over Mississippi," *Chicago* (IL) *Tribune*, 27 May 1928: 37; "Finish Florence Bridge by June," *The Decatur* (IL) *Daily Review*, 16 December 1928: 28; "Ice Halts Work On Florence Bridge," *The Jacksonville* (IL) *Daily Journal*, 5 March 1929: 12.

[28] "Ice Halts Work," *Daily Journal*¸5 March 1929; "Open Florence Bridge Later," *The Decatur* (IL) *Herald*, 28 July 1929: 7; "Annul Contract of Bridge Builder," *The Decatur* (IL) *Daily Review*, 17 June 1929: 1; "The Florence Bridge," *Alton* (IL) *Evening Telegraph*, 28 September 1929: 4.

to the east in Scott County and completed the construction of the three remaining spans, all of which had yet to be placed. A completion date of 1 January 1930 was projected, after which "transcontinental motor traffic that now seeks other routes will then have a new and direct route cross-country."[29]

With all the delays that had been encountered throughout the entire construction process, it is not surprising that the projected 01 January opening was missed. A new date of 10 May 1930 was identified. Key to the whole process was the placement of the final spans, one of which was to have been positioned and secured on 11 April. High winds thwarted those efforts, but the 300 ton span was set the next day. With it in place, engineer Frank Sheets confirmed the viability of the 10 May completion dated and proceeded accordingly.[30]

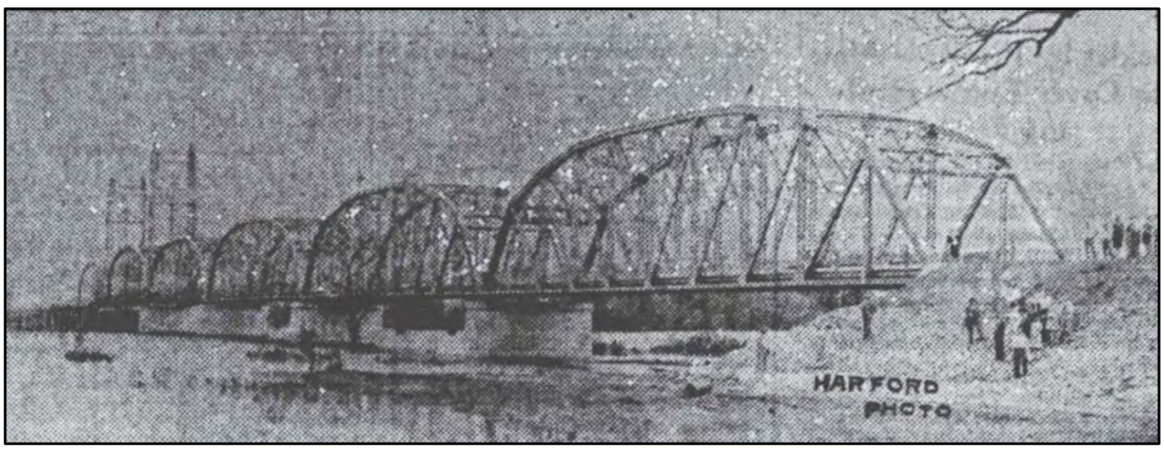

Figure 1: This image of the new Florence Bridge was published in a St. Louis newspaper on 18 May 1930 ("Free Bridge for U.S. No. 36 on Illinois River," *St. Louis* (MO) *Globe-Democrat*, 18 May 1930: 38).

Several retrospective articles appeared in early May as the 19th, the day selected for the structure's formal dedication, approached. One lamented the delays encountered and regretted that there had never been a complete and satisfactory explanation offered for them. "It is on a much travelled highway and has been a much needed improvement, but there seemed to be no hurrying with its completion," the article summarized. Another, published a week later, was more celebratory. It exclaimed that the Florence bridge was the longest in the state, that it would end the ferry at that location and that it would be a free bridge, the only one south of Pekin (IL). Two days after the celebration, it was observed that, if put into railcars, the volume of material used to fabricate the

[29] "Florence Bridge Set to Open January 1," *St. Louis* (MO) *Globe-Democrat*, 1 December 1929: 34.

[30] "To Open Florence Bridge May 10," *Alton* (IL) *Evening Telegraph*, 19 March 1920: 1; "Opening the Florence Bridge," *The* (Moline, IL) *Dispatch*, 24 March 1930: 6; "New Florence Bridge Work Being Rushed," *The Edwardsville* (IL) *Intelligencer*, 12 April 1930: 8.

bridge would have created a train five miles long. [31]

With regular maintenance, re-decking, the reconstruction of components on the approach spans and other maintenance-related activities, the bridge continues to serve travelers today, more than ninety years after its construction was completed.

PART II: ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural Character:

The IL 106 Bridge is a nine-span structure that opened to traffic in 1930 when it carried U.S. Highway 36. Its overall length is 3,171'-0" and is comprised of a 1,218'-0", post-and-beam-approach section that carried traffic over floodable lowland to the east and the 1,953'-0", nine-span truss section that continued over the Illinois River to the west. The center, fifth span is a moveable, lift element that accommodated the passage of commercial barge and boat traffic on the river.

2. Condition of Fabric:

The bridge continues to serve traffic after more than ninety years of operation. Its character defining components remain (i.e., the intermediate concrete piers, Parker Through truss spans and the Parker truss Vertical-Lift span), but changes have occurred over time. Modifications include replacing the original, concrete, Texas Classic Type 411-like railing defined by arched openings and intermediate blocks over the deck beams on the post-and-beam approach to the east with a modern railing with a sizeable, continuous, middle chord and more nominal top chord. The bridge was subsequently rehabilitated in 2004, perhaps the time when equipment removed from the LaSalle bridge in 2001 was integrated into its operating mechanism. Finally, repair work on the bridge and its roadway occurred over the summer of 2020.[32] The structure's deterioration continues, however. Its sufficiency rating in 2016 was 22.6, a number that was reduced to 16.7 in 2018.

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[31] "The Florence Bridge," *Alton* (IL) *Evening Telegraph*, 1 May 1920: 4; "Longest Bridge in Illinois to be Dedicated," *Daily Republican-Register* (Mount Carmel, IL), 7 May 1930: 1; "The 'Day of Days,'" *Decatur* (IL) *Herald*, 21 May 1930: 2; "New Bridge over Illinois River to Shorten Routings," *St. Louis* [MO] *Post-Dispatch*, 11 May 1930: 47.

[32] A picture of the bridge at some point after its completion can be found at https://bridgehunter.com/il/pike/florence/. Note that the image shows the structure's original railing. The picture was viewed on 15 March 2021, identified as #24 of 26 and numbered #488608; "Lift bridge to be demolished," *The Pantagraph* (Bloomington, IL), 01 May 2001: 39.

B. Description:[33]

The bridge is comprised of two components, a post-and-beam approach that extends 1,218'-0" over floodable lowlands on the east side of the Illinois River and a nine-span Parker Through truss that connects with the aforementioned approach on its west end and continues 1,953'-0" feet west, across the river itself and the immediately adjacent lowland on its west bank. A subcomponent of the truss section is span #5 which, while still a Parker Through truss element, is a lift span that elevates and accommodates the passage of boat and barge traffic on the river below.

The approach to the east consists of twenty-nine spans, twenty-eight that are 43'-6" long and that to the far east which is 20' long. The bents carrying the highway are comprised of six, squared, concrete piles of 14" by 14" (with small variances) manufactured on site (see Figures 14 & 15). The piles are placed on 4'-9" centers (as measured where they intersect with the beam carried), the two outer most projecting away from the bridge as they descend at an incline of 11°. The piles carry a 26'-8" long, 36" by 36" concrete beam which then carries six, 9½" by 24" I-beam stingers, all on 4'-9" centers and situated directly above the vertical piles (see Photo #18 of 60). The deck is 24' wide and flanked by a modest curb 12" wide on its bottom by 9" high on its outer side and a wide, canted corner facing the roadway (see Photo #15 of 60). Behind the curb are I-beam posts placed on 8'-6" centers that carry a two course railing. The top chord is 35½" to 36" off the deck and is 4" high by 3" wide, beneath which is a 12" high by 3" wide intermediate chord, the top of which is 27" above the deck. The deck of the east approach was last repaired in 2020.

The Parker Through truss spans each claim ten panels. Spans 1, 2, 3, 4, 5, 6, 8 and 9 are all 215' long while span 7 is 200' long. The outer end of the outer spans (1 and 9) are carried by concrete abutments, between which are eight concrete, intermediate piers (see Photo #23 of 60 for a typical bridge pier). Each fixed, non-moveable span (spans 1, 2, 3, 4, 6, 7, 8, 9) has eleven deck beams, all 10" by 29" I-beams comprised of plates and angles, the former reinforced with vertically-placed angles on 28" centers.[34] The beams carry eleven deck stringers, the outer two of which are 12" channels. The nine intermediate stringers are 5" by 12", rolled I-beams, all of which are placed on 28"

[33] The measurements used to describe this bridge were taken from the structure itself during field investigations, as well as from copies of the bridge plans received from IDOT. Regarding on-site measurements, activities were limited to components that could be reached from the deck, slopes around and ground beneath the deck without aid of ladders, boats or other equipment.

[34] The below deck elements of the Parker Through truss spans were measured on span 1, which was the most accessible of all the truss spans. Bridge components were also verified, as well as possible, against construction plan sheets. The identical character of, and the redundancy evident in the use of, multiple spans of the same length permits the conclusion that all spans are the same.

centers. Bottom lateral bracing components are 6½" by 12" and constructed of lacing and 2½" by 3" angles. Paired 4" by 6" angels constitute both upper and lower halves of the bridge's lower chords with overall dimensions of 11" by 13" (see Photo #24 of 60).

The trusses themselves employ inclined end posts and top chords constructed of angles, plates and lacing, all fabricated with a dimension of 17" by 20". Hip verticals (1 & 9) are 8½" by 10¾" and built of angles and stay plates. Intermediate verticals (2-8) are all of channels and lacing and measure 9" by 17½" (see Photo #29 of 60). Regarding diagonals, panels 1 and 10, each defined by an inclined end post and a hip vertical, have none. Those in panels 2 and 9 are 12½" by 10¾", while those in panels 3 and 8 are 10½ by 10¾, those in panels 4 and 7 are 8½ by 10¾, and those in panels 5 and 6 are 8½" by 10¾". All diagonals are of angles and stay plates with the exception of those in panels 5 and 6 of spans 4, 5 and 6 which are 10" by 18" and built of channels and lacing.

The dimensions of all structural components are consistent in all the non-moveable spans. It should be noted that the length of each panel in spans 1, 2, 3, 4, 6, 8 and 9 is 21'-6" (215-foot spans) while that for each panel in span 7 is 20' (200-foot span).

Moveable Parker truss span 5 has the same length and width as the other 215' spans. Its primary difference is the towers that facilitate lifting it. The towers rise from the east end of span 4 (adjacent to the west end of lift-span 5) and the west end of span 6 (adjacent to the east end of lift-span 5 [see Figure 10]). The base of the towers is 21'-6" long and extends from the east heel (that point at which the inclined end post and lower chord meet) of span 4 and the west heel of span 6 to their adjacent hip verticals. Additionally is the base of each 23'-0" high, rising from the center of the lower chord to the center of a horizontal brace that reaches from the inclined end post/hip vertical/top chord connection to the primary tower vertical, one on each side of the bridge's deck. Those verticals are 18½" by 22" and comprised of plates, angles and lacing. They reach a height of 96'-5" above the center of the lower chord. The towers are further braced by inclined verticals that rise from the end post/hip vertical/top chord connection at an angle of about 50° toward the primary verticals (see Photo #39 of 60). Broken into five sections by horizontal braces as viewed from the north or south sides (see Figure 10), the first section above the 23'-0" high base is 21'-6", while the second is 17'-8", the third is 15'-1" the fourth is 12'-6" and the fifth is 6'-8". Consequently does the tower's length taper from its 21'-6" base to 9'-0" at the top. All bracing, as well as that between the primary verticals and that between the angled verticals behind, are comprised of various combinations using angles, stay plates, channels and lacing. Crowning the towers and centered on the primary verticals are two sheaves, one to the north and one to the south, that facilitate movement of the cables that connect span 5 to the counterweight at each end (see Photos #41 & 42 of 60). The sheaves have a diameter of 26'-7½" and are connected by an 11¾" axel. Each has a width of 1'-7½" on the perimeter and accommodates eight cables. Span

5 is unencumbered by the towers, though it is connected to them at its east and west ends by attached cables that pass over the sheaves and descend to counter weights within the towers on spans 4 and 6, between the primary verticals and the inclined verticals behind. The counterweights (see Photo #41 & 42 of 60) together match the weight of span 5 which, with the balance achieved, makes it possible for smaller electrical motors to raise or lower the bridge as needed by traffic on the river.

Span 5 resembles the eight other Parker spans on the bridge, with some modifications. First are the structural enhancements that enable the cables extending from the counter-weights and over the sheaves to connect to the moveable span. Rising 90° from each of span 5's four heels are two 5" by 3½" angles tied together with stay plates. Extending across the road and carried by the two vertical angles is horizontal bracing immediately adjacent to a similar component on the tower side of span 5. The total height of this element is about 23"-0". Also rising from the heel at a 100° angle is another vertical adjacent to the 90° vertical. Finally, a horizontal component extends from the inclined end post/top chord/hip vertical/diagonal connection to a gusset plate that connects it to the 90° and 100° verticals at the end of each span and adjacent to the towers at the end of spans 4 and 6. The cables that elevate span 5 are also tied to these gusset plates located at each of the spans for corners. Second, and centered on the span at about the height of the lower struts, is the bridge operator's house, a 21'-6" long by 15'-0" wide structure sheathed today with vertical metal siding (see Photo #44 of 60). In addition to sheltering the bridge operator, the house contained when the bridge began operating in 1930 two motors that drove the lift mechanism. Originally, they were 50 horsepower, 690 rounds-per-minute sources of power that produced 378 foot-pounds of torque on a full load.[35] The final component of the bridge is the 107'-6" shaft that reaches east and west from the operator's house and extends to the power transfer box at each end of span 5 (see Photo #48 of 60). It is in that box where the power carried by the horizontal shafts is transferred to vertical drives that mesh with the operating rack (see Photo #51 of 60) centered in and fixed to the towers at span 5 ends of spans 4 and 6.

PART III: SOURCES OF INFORMATION

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"Lift Bridge to be Demolished." *The Pantagraph* (Bloomington, IL), 01 May 2001: 39.

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PART IV: METHODOLOGY OF RESEARCH

A. Research Strategy:

Research objectives were to place the bridge in its geographic, historic and engineering contexts. A strategy was developed to accomplish those goals that investigated local, regional and statewide documentary sources. On-site observation and investigation of the bridge was also part of the research plan.

B. Research Process:

1. Visited bridge in August and October 2020 to review, photograph and measure it.

2. Searched resources at the Illinois Department of Transportation in general and in the Bureau of Design & Environment and the Transporta- tion Library in particular. Digital sources consulted include the Hathi- Trust Digital Library and newspapers.com, all for data relating to the development of U.S. Highway 36 in general, and the construction of the U.S. Highway 36 bridge across the Illinois River in particular.

3. Completed research and prepared report draft.

4. Document draft internally reviewed.

5. Document draft reviewed by IDOT and SHPO.

6. Completed all revisions and submitted to IDOT.

C. Archives and Repositories Used/Consulted:

•Libraries and/or Other Repositories:

Bureau of Design & Environment
Illinois Department of Transportation
2300 S. Dirksen Parkway
Springfield, Illinois 62764
(U.S. Highway 36/Bridge Plan Set)

Department Library
Illinois Department of Transportation
2300 S. Dirksen Parkway
Springfield, Illinois 62764
(IDOT Annual Reports and various technical documents)

•On-Line Sources:

HathiTrust Digital Library
(Digitized Books, Gazetteers & Business Directories, Engineering Journals and Other Resources)

newspapers.com
(Historic-period newspapers for surrounding communities)

historicmapworks.com
(Historic-period county plat maps)

D. Research Staff:

1. Researcher/Preparer/Editor:

John N. Vogel, Ph.D., Associate Degree - Professional Photography
Illinois State Archaeological Survey
Prairie Research Institute
University of Illinois
23 Stadium Drive
Champaign, Illinois 61820
jnvogel@hrltd.org

2. Photographer:

John N. Vogel, Ph.D., Associate Degree - Professional Photography
Illinois State Archaeological Survey
Prairie Research Institute
University of Illinois
23 Stadium Drive
Champaign, Illinois 61820
jnvogel@hrltd.org

3. Drone Operators (aerial photographs):

Michael E. Smith, M.A.
Senior Architectural Archaeologist
Illinois State Archaeological Survey
Prairie Research Institute
University of Illinois
23 Stadium Drive
Champaign, Illinois 61820
mesmith4@illinois.edu

John M. Lambert, M.A.
Archaeological Spatial Analyst
Illinois State Archaeological Survey
Prairie Research Institute
University of Illinois
23 Stadium Drive
Champaign, Illinois 61820
lambertj@illinois.edu

4. Additional Staff:

Brad Koldehoff, RPA
Cultural Resources Unit Chief
Bureau of Design & Environment
Illinois Department of Transportation
2300 S. Dirksen Parkway
Springfield, Illinois 62764
brad.koldehoff@illinois.gov

PART V: PROJECT INFORMATION

This HIER archival documentation is submitted in compliance with a stipulation of a Memorandum of Agreement (MOA) between the Federal Highway Administration, Illinois Division, and the Illinois State Preservation Officer, with final signature on 20 September 2021. The MOA was executed in compliance with CFR 36 800.6(b)(1)(iv) of the National Historic Preservation Act of 1966, as amended.

1941 Aerial Image of the Bridge Location and Its Surrounding Community:

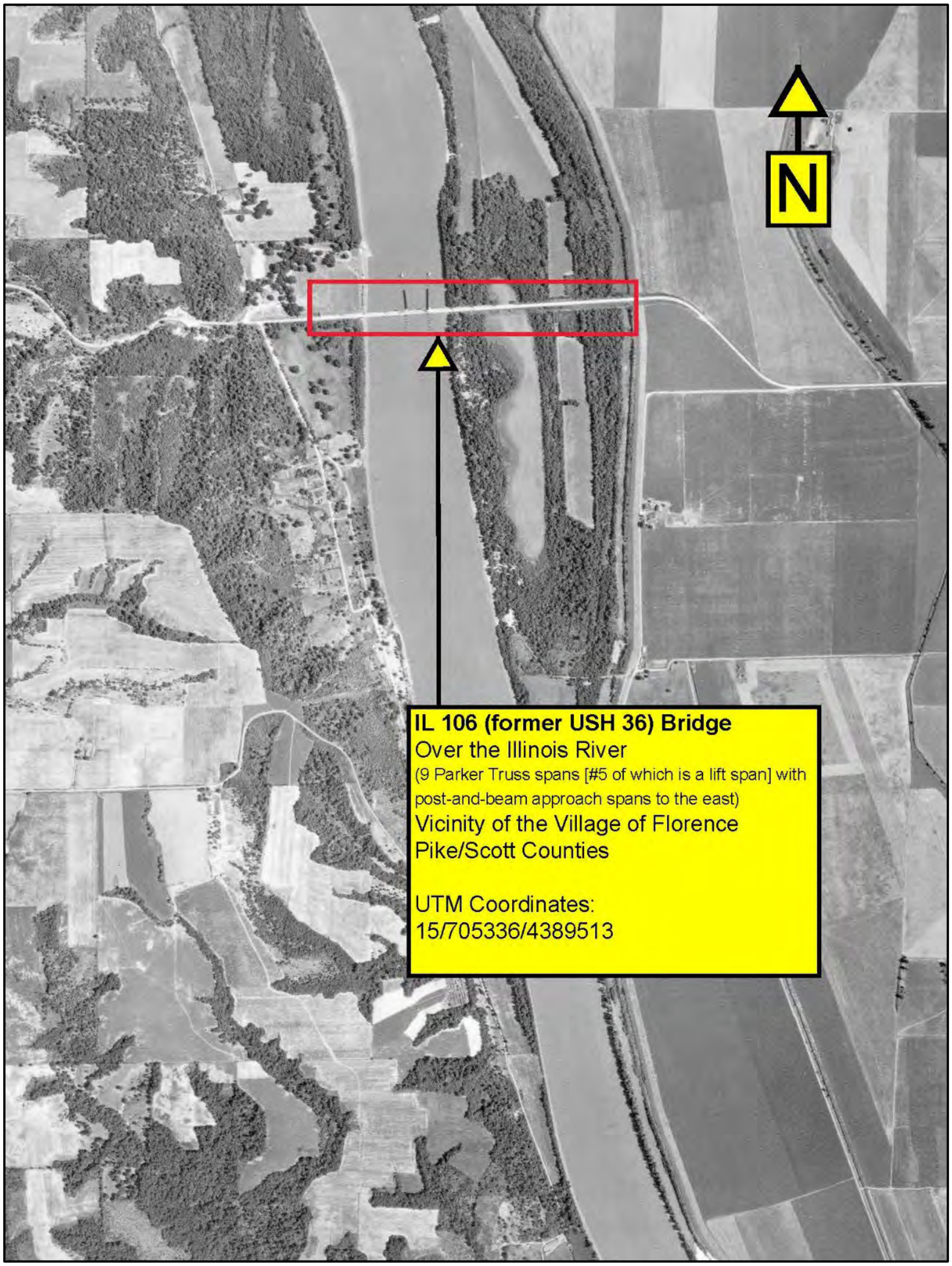

Figure 2: The bridge's agricultural and partially wooded vicinity is evident. Illinois Historic Aerial Photography: 1937-1947, Image SF-1B-82, 19 July 1941, Viewed at http://maps.isgs.illinois.edu/ilhap/ on 08 March 2021.

USGS Map (1926) Identifying Bridge's Future Location:

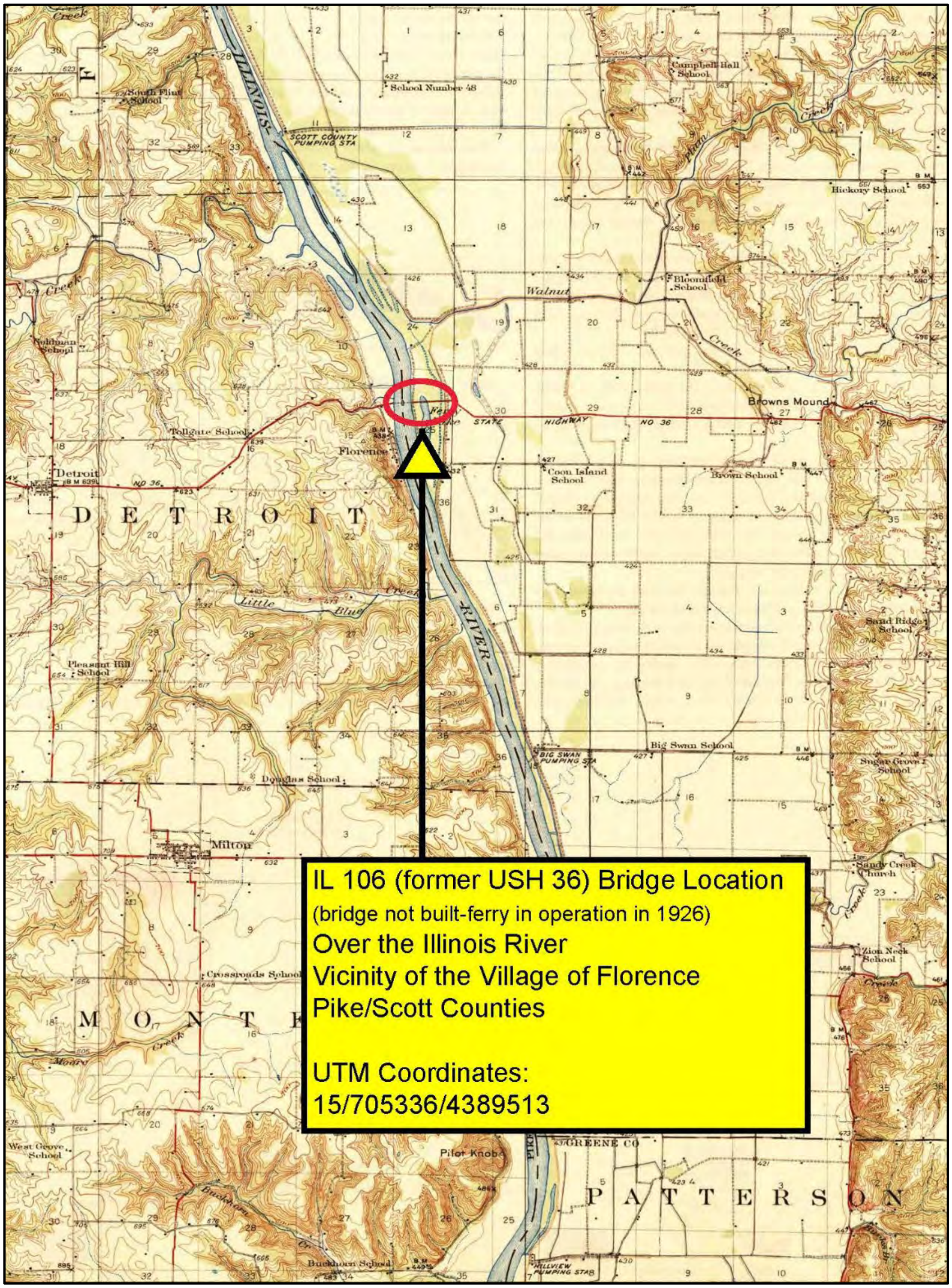

Figure 3: U.S. Geological Survey, *Griggsville Quadrangle* [map], 1926, 1:24000, 15 Minute Series (Reston, VA: United States Department of the Interior, USGS, 1926).

<u>USGS Map (1924/1971) Identifying Bridge's Location and U.S.H 36 Realignment</u>:

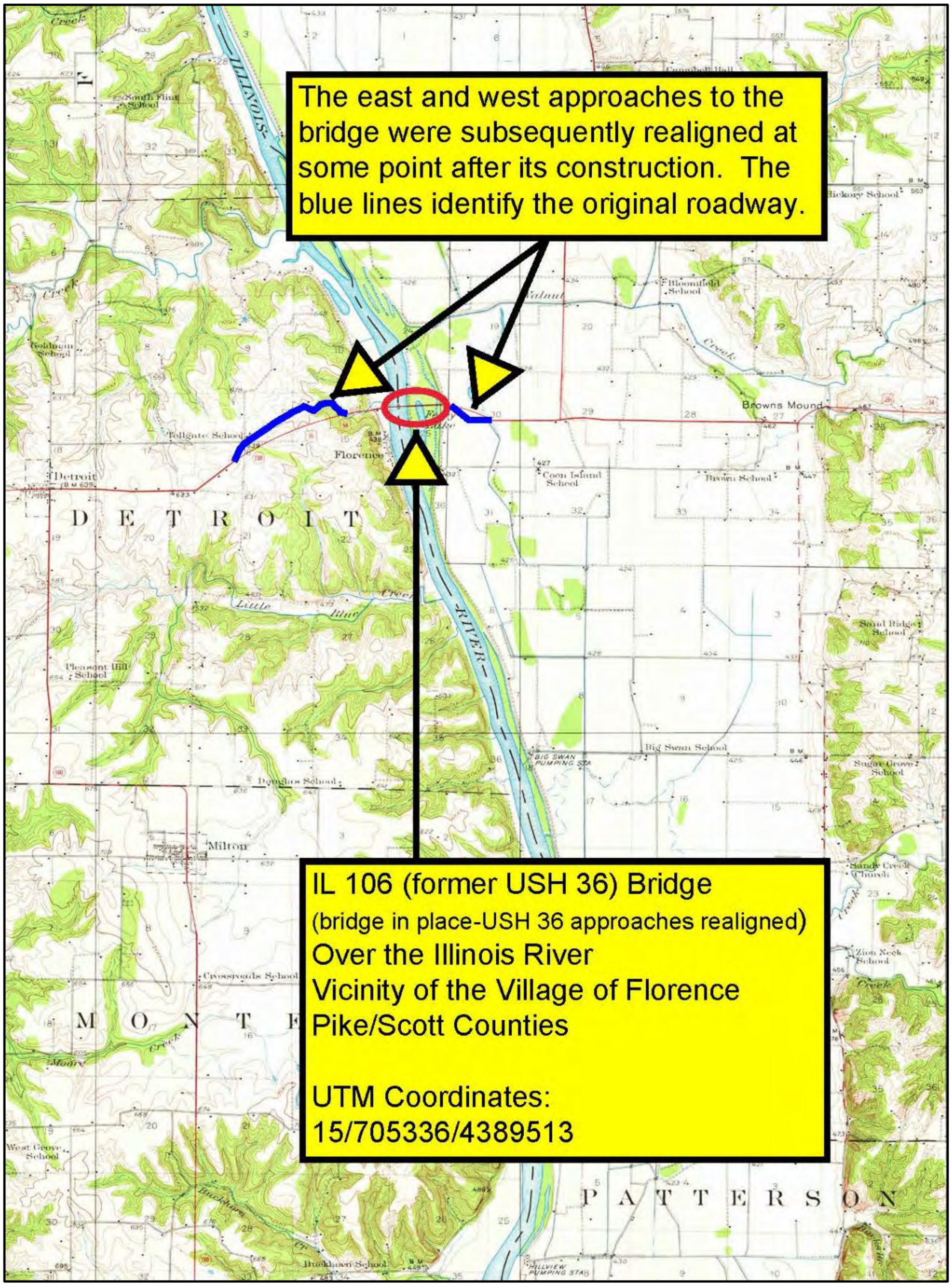

Figure 4: U.S. Geological Survey, *Griggsville Quadrangle* [map], 1924/1971, 1:62000, 15 Minute Series (Reston, VA: United States Department of the Interior, USGS, 1924/1971).

Historic Bridge Plan Sheets (east approach spans):

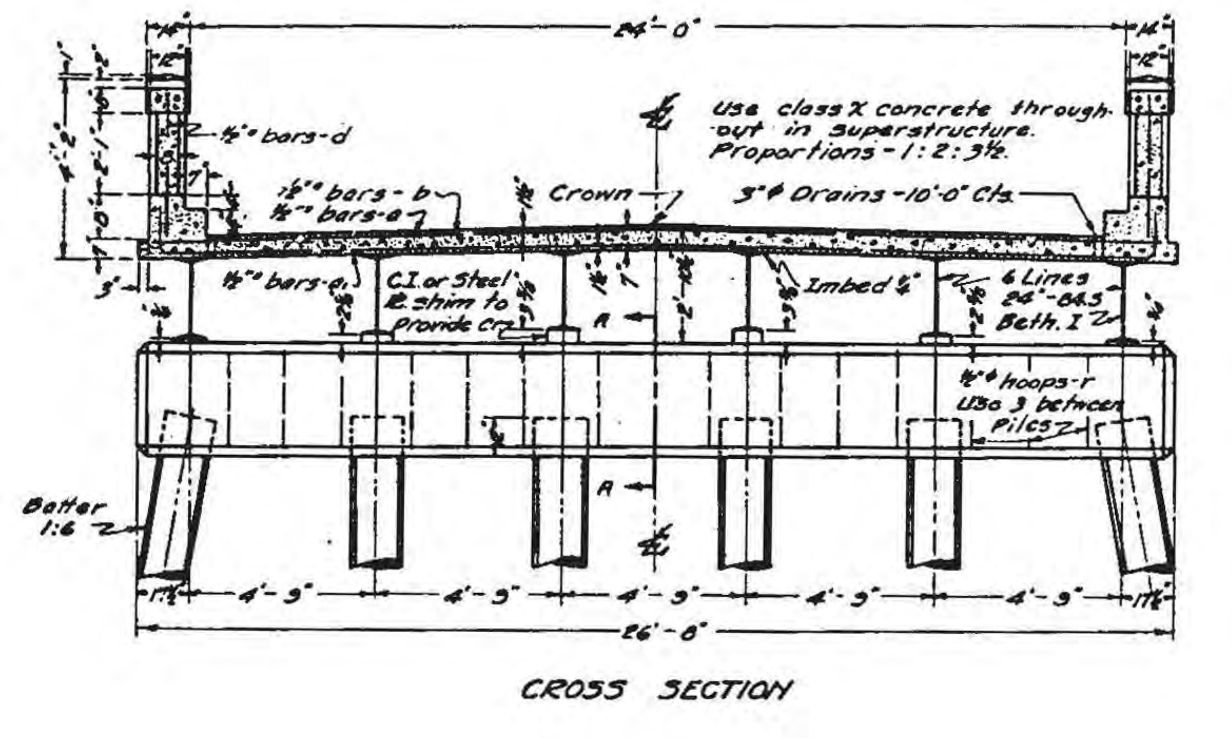

Figure 5: Image adapted from original Bridge Plan Set (Plans in possession of the Bureau of Design & Environment, Illinois Department of Transportation [IDOT], Springfield, IL. Electronic copies are also in possession of the Illinois State Archaeological Survey [ISAS], University of Illinois, Urbana, IL.)

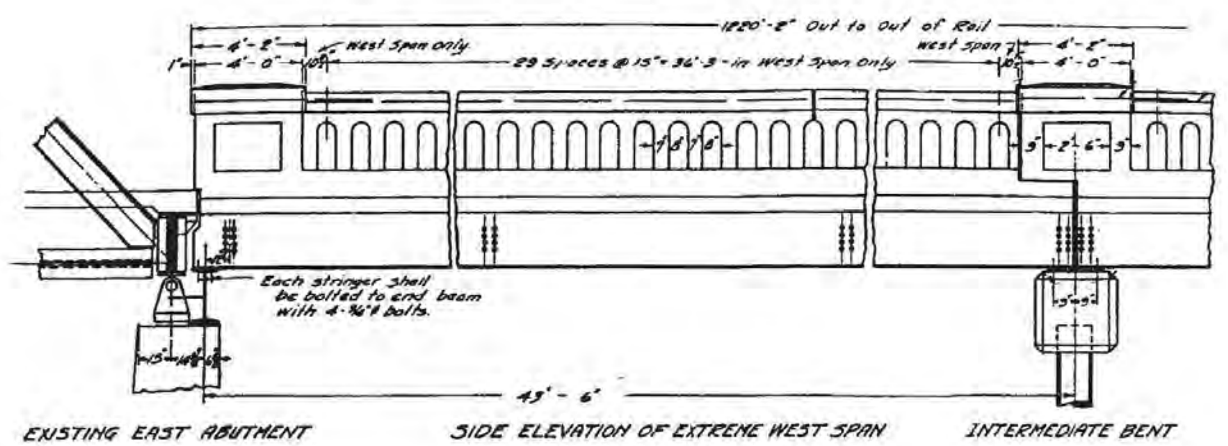

Figure 6: The span pictured generally represents all 43-foot 6-inch, post-and-beam approach spans east of the truss bridge and its lift structure (adapted from the original Bridge Plan Set in possession of IDOT and ISAS).

Historic Bridge Plan Sheets (elevation for entire bridge – view to north):

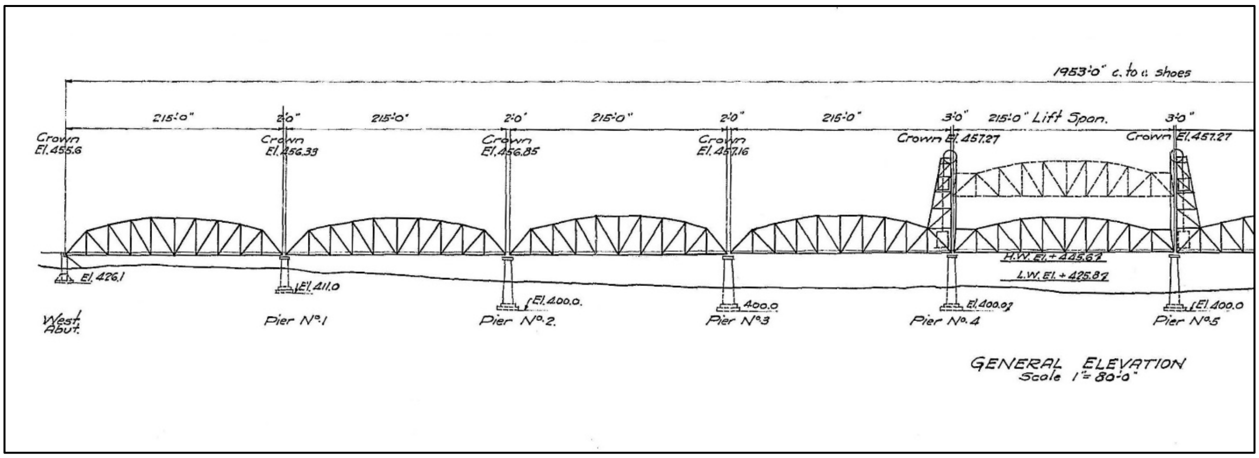

Figure 7: This elevation is dated 05 August 1926 and depicts the lift span with its four approach spans to the west (left), the touch point for which is Pike County (adapted from the original Bridge Plan Set in possession of IDOT and ISAS).

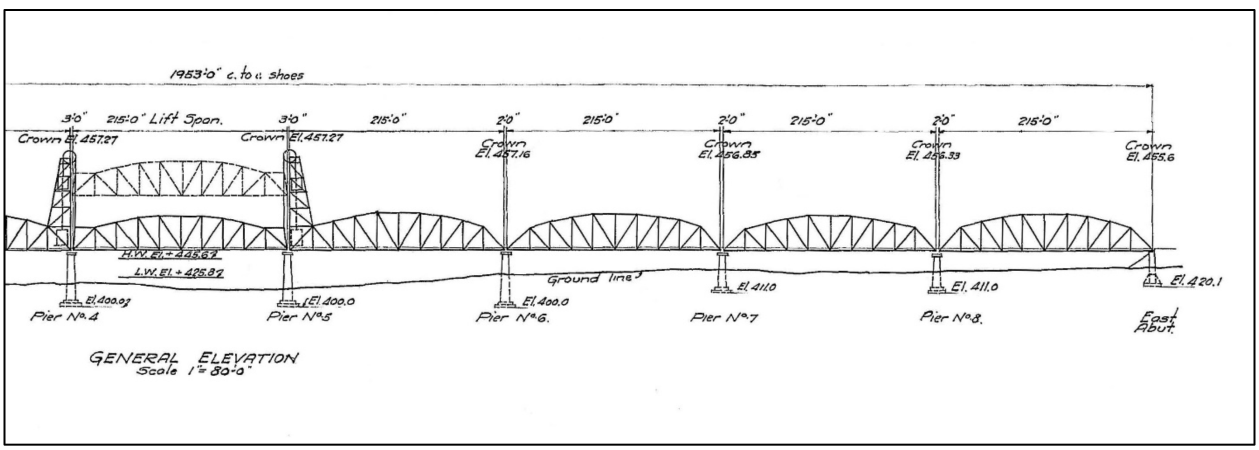

Figure 8: Portrayed in this illustration is the east half of the nine-span truss and lift bridge that extends across the Illinois River and into Scott County. Note that Span #7 (third span from the right) is identified as 215 feet long, as are all other fixed spans on the bridge. As constructed two or three years after the plans were drawn, however, Span #7 is actually only 200 feet long (adapted from the original Bridge Plan Set in possession of IDOT and ISAS).

Historic Bridge Plan Sheets (elevation for spans 1, 2, 3, 4, 6, 8 & 9):

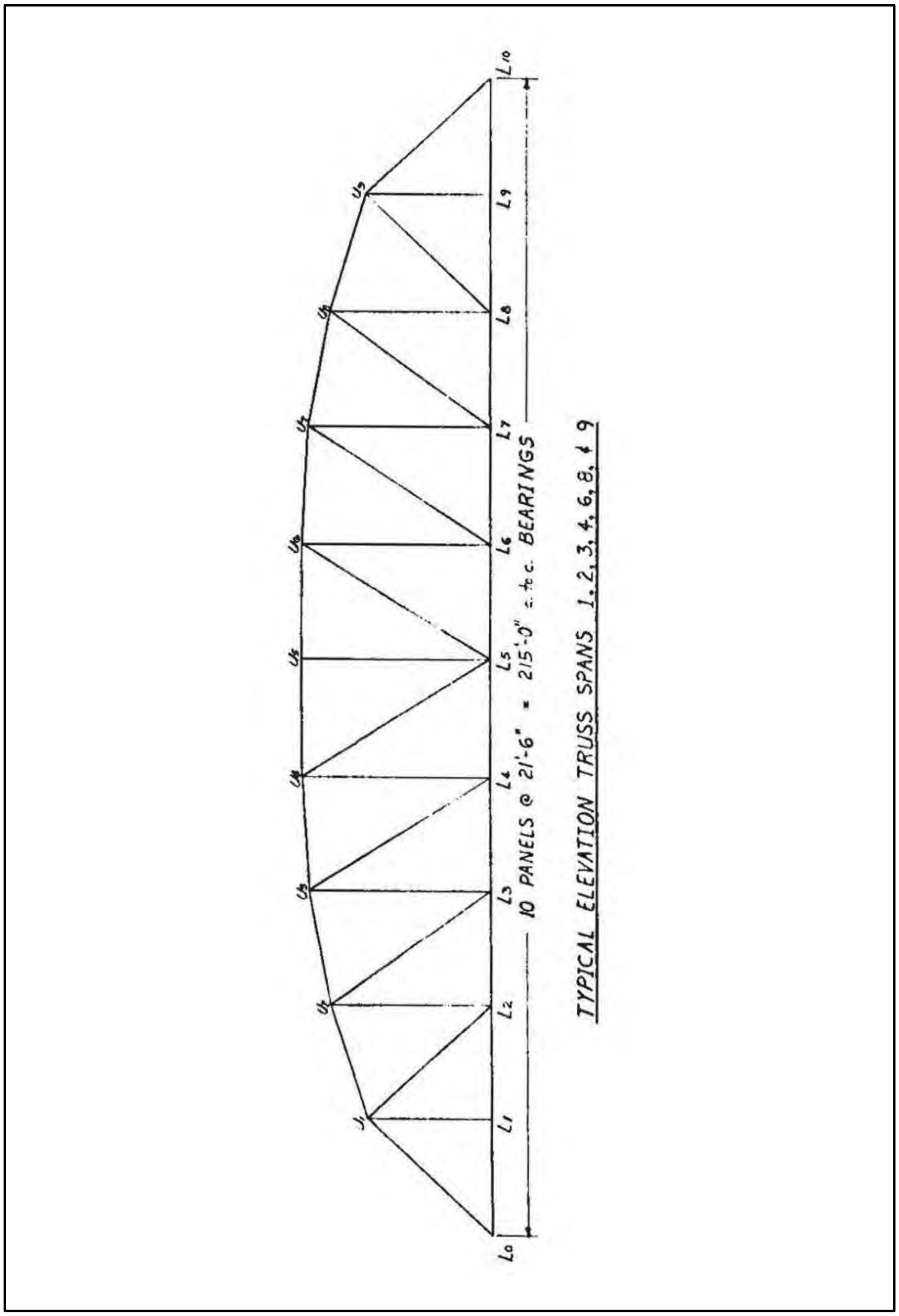

Figure 9: As noted beneath the Parker truss diagram above, this is the typical 215-foot long elevation used in spans, 1, 2, 3, 4, 6, 8 and 9. Span 5 was the lift component and Span 7 was only 200 feet long (adapted from the original Bridge Plan Set in possession of IDOT and ISAS).

Historic Bridge Plan Sheets (elevation of span 5 [vertical lift span] – view to north):

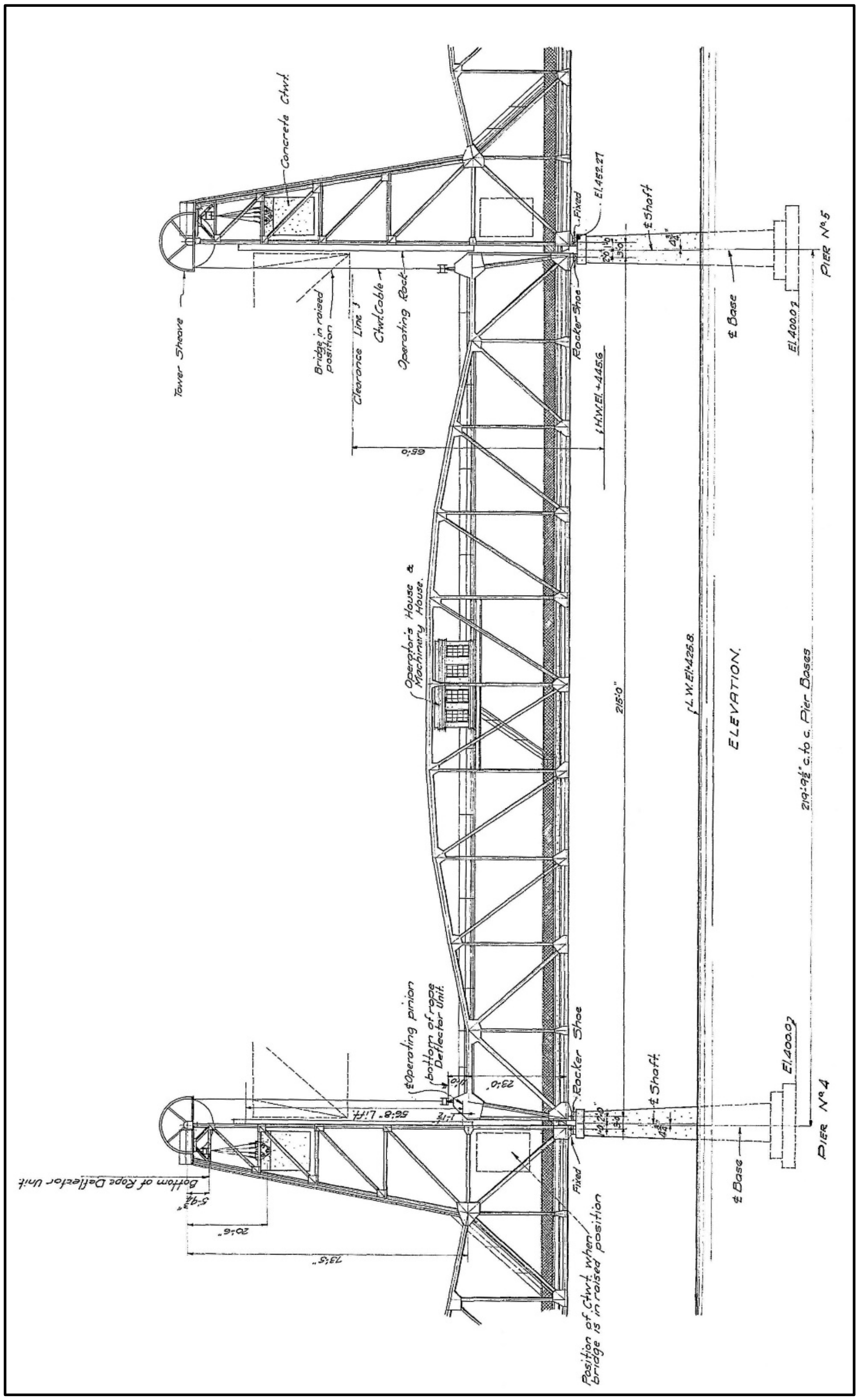

Figure 10: The lift span is that which could be elevated to permit the passage of boats and barges beneath. It was Span 5 of the structure's nine sections (adapted from the original Bridge Plan Set in possession of IDOT and ISAS).

Historic Bridge Plan Sheets (vertical lift drive shaft and machinery):

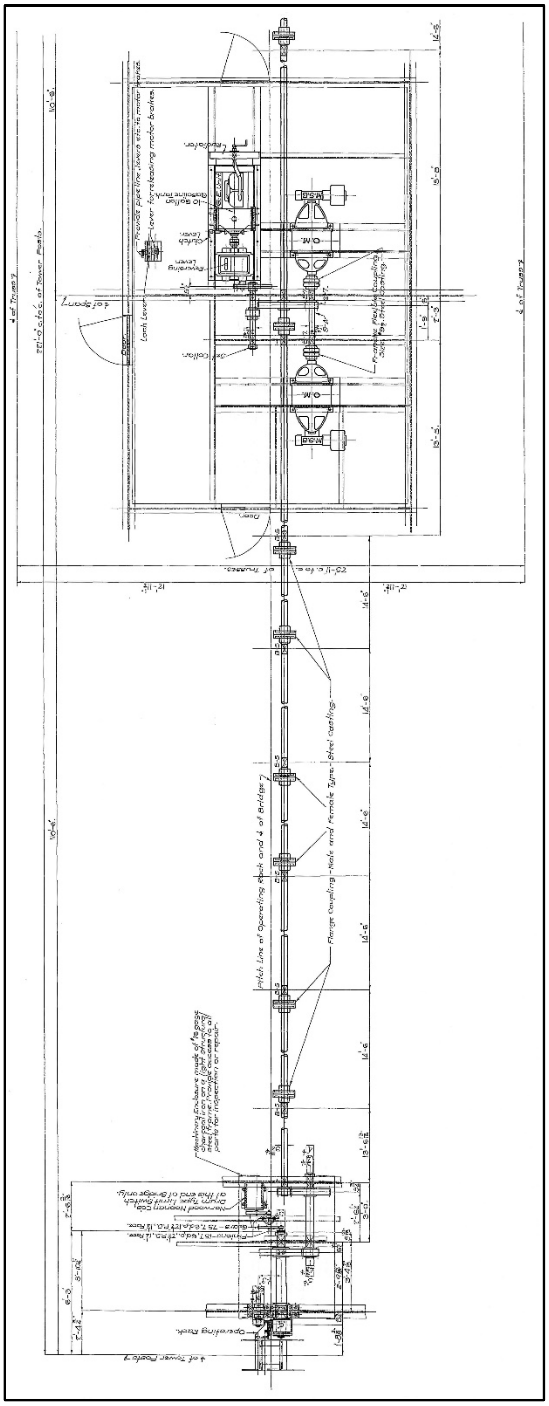

Figure 11: Motors (top), driveshaft (middle) and gearing mechanism (lower part of the image) that transfers power to the vertical shaft that powers span 5 up or down (adapted from the original Bridge Plan Set in possession of IDOT and ISAS).

Historical Images of the Bridge and Its Construction (page 1):

Figure 12: The caption for this image acknowledged the "Florence Ferry." Photo adapted from the photo-set in possession of the Bureau of Design & Environment, Illinois Department of Transportation [IDOT], Springfield, IL. Electronic copies of the photos are also in possession of the Illinois State Archaeological Survey [ISAS], University of Illinois, Urbana, IL.)

Figure 13: Identified with a caption acknowledging "construction view showing coffer dams for piers 3, 4 and 6" (adapted from the original Bridge Photoset in possession of IDOT and ISAS).

Historical Images of the Bridge and Its Construction (page 2):

Figure 14: "Pouring concrete piling[s] describes the activity shown (adapted from the original Bridge Photoset in possession of IDOT and ISAS).

Figure 15: This photograph had no apparent caption. It shows the concrete piles used for the east approach spans which are the product of the activity shown in Figure 14 above (adapted from the original Bridge Photoset in possession of IDOT and ISAS).

Historical Images of the Bridge and Its Construction (page 3):

Figure 16: Although a caption was not found for this image, it shows the concrete piles for the easternmost, post-and-beam approach spans (see Figures 14 and 15 for images of how the piles were produced) being driven into the ground (adapted from the original Bridge Photoset in possession of IDOT and ISAS).

Historical Images of the Bridge and Its Construction (page 4):

Figure 17: Pictured here, according to the original caption, is "the Golden Eagle going south. Lift span [to the right of the right tower] ready to float into position" (adapted from the original Bridge Photoset in possession of IDOT and ISAS).

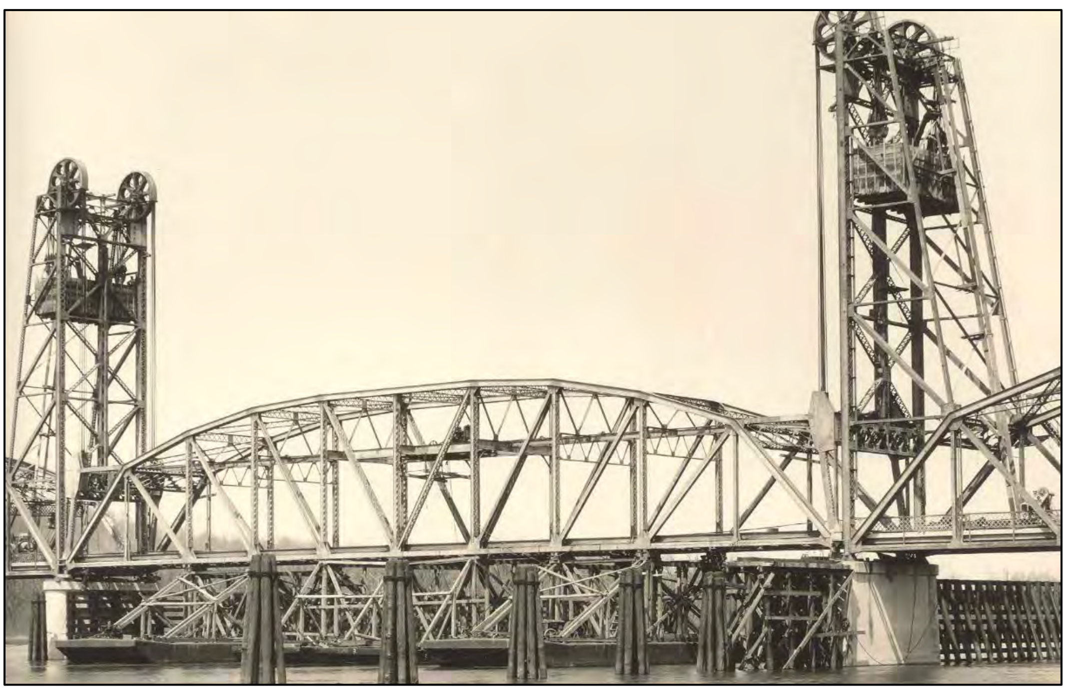

Figure 18: The multi-year project was close to completion when this image was taken. Its caption notes "lift span floated into position" (adapted from the original Bridge Photoset in possession of IDOT and ISAS).

Historical Image of the Completed Bridge and Its Easternmost Approach:

Figure 19: This view is to the north northwest. It illustrates at some unknown point in time the completed structure in general, and the east approach spans in particular. Note that the bridge's original configuration included a Texas Classic Type 411-like, concrete railing with repetitive, arched openings and intermediate blocks over each bent. This railing was subsequently replaced (this image [photo #488608] was viewed at https://bridgehunger.com/il/pike/florence on 15 March 2021).

HISTORIC ILLINOIS ENGINEERING RECORD

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Over Illinois River
Bloomfield Precinct
Scott County
Illinois

Documentation: 60 Exterior Photographs (2020)
26 Data Pages
06 Plan Sheet Illustrations
07 Historic-Period, Construction Photographs (1926-1930)
02 7.5 Minute USGS Map (1926 & 1924/1971)

John N. Vogel, Ph.D., Associate Degree - Professional Photography, Photographer
Mike Smith, M.A. & John M. Lambert, M.A., Drone Operators (Photographs #1 - #11)

HIER No. ST-2021-1.1	VIEW TO EAST NORTHEAST. BRIDGE AND ITS SETTING.
HIER No. ST-2021-1.2	VIEW TO NORTHEAST. BRIDGE AND ITS SETTING.
HIER No. ST-2021-1.3	VIEW TO NORTH NORTHEAST. BRIDGE AND ITS SETTING.
HIER No. ST-2021-1.4	VIEW TO NORTH. BRIDGE AND ITS SETTING.
HIER No. ST-2021-1.5	VIEW TO NORTH NORTHWEST. BRIDGE AND ITS SETTING.
HIER No. ST-2021-1.6	VIEW TO NORTHWEST. BRIDGE AND ITS SETTING.
HIER No. ST-2021-1.7	VIEW TO WEST SOUTHWEST. BRIDGE AND ITS SETTING.
HIER No. ST-2021-1.8	VIEW TO SOUTHWEST. BRIDGE AND ITS SETTING.
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HIER No. ST-2021-1.16	VIEW TO WEST NORTHWEST. INTERMEDIATE PIERS CARRYING EAST APPROACH SPAN.
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HIER No. ST-2021-1.50 VIEW TO EAST. GEAR BOX. TERMINAL POINT FOR HORIZONTAL DRIVE SHAFT. TRANSFER POINT WHERE DRIVE MECHANISM IS TRANSFERRED TO RACK-AND-PINION

HIER No. ST-2021-1.51 VIEW TO NORTH. POWER TRANSFER BOX. POWER SHAFT FROM BRIDGE TENDER'S SHELTER TO LEFT. RACK-AND-PINION VERTICAL DRIVE TO RIGHT.

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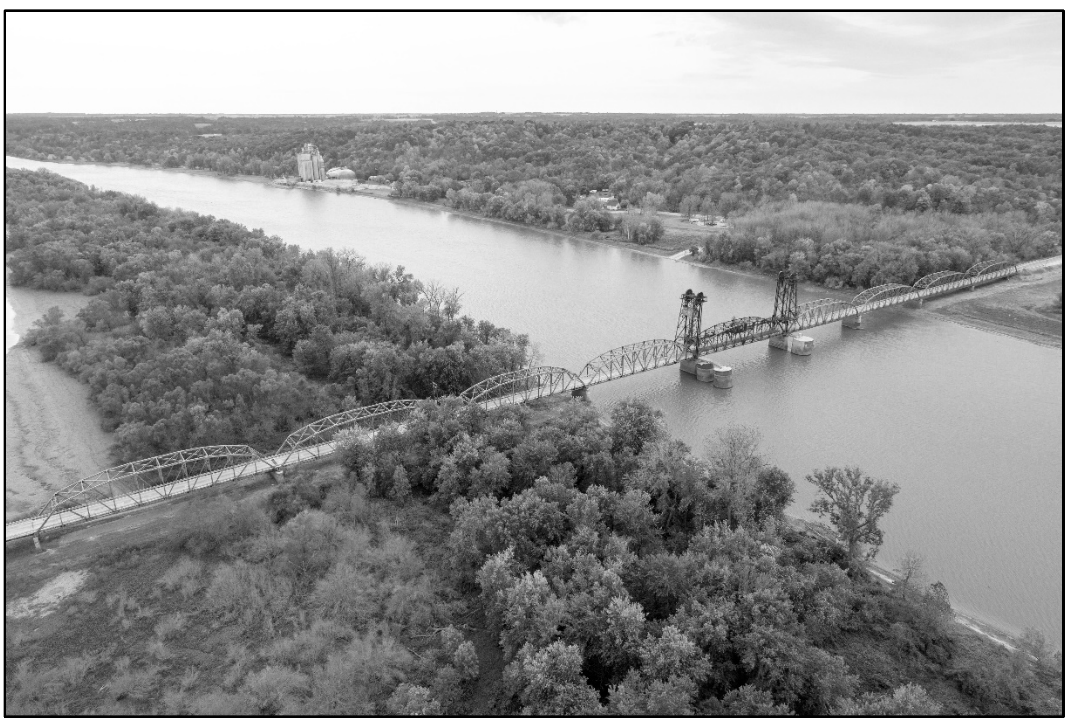

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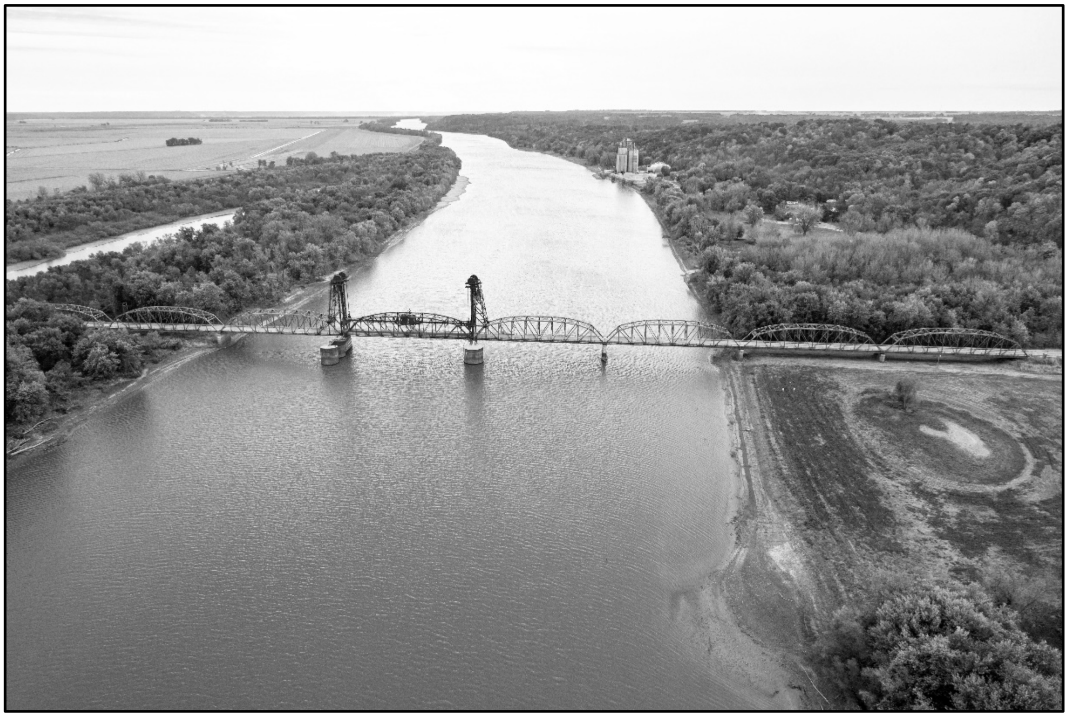

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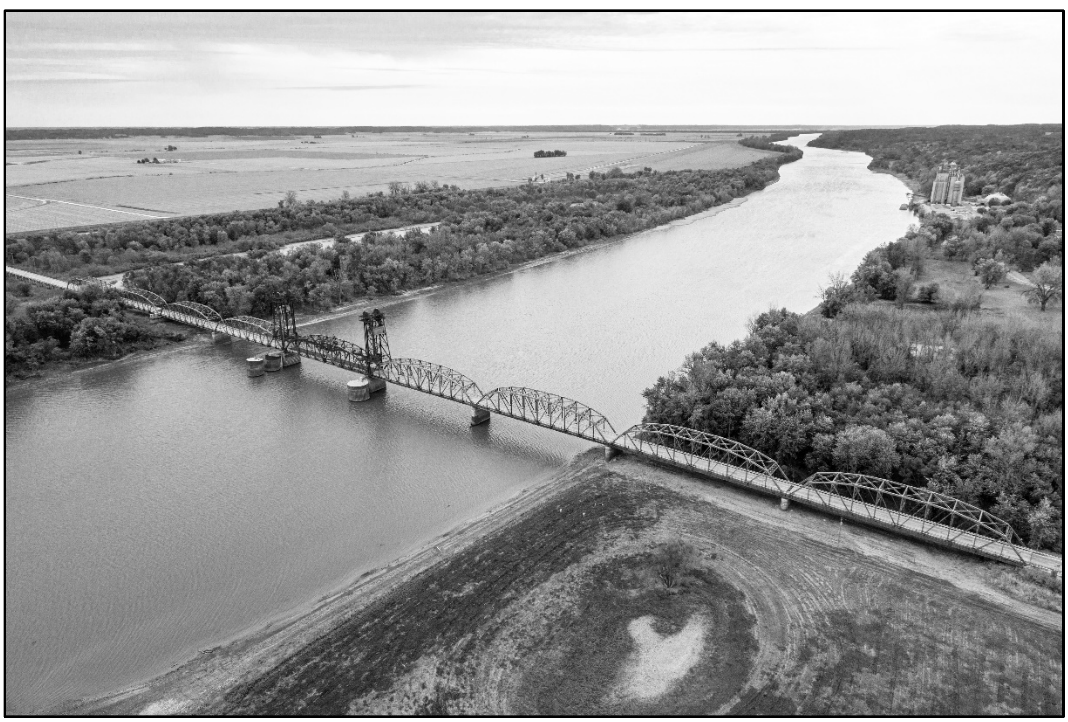

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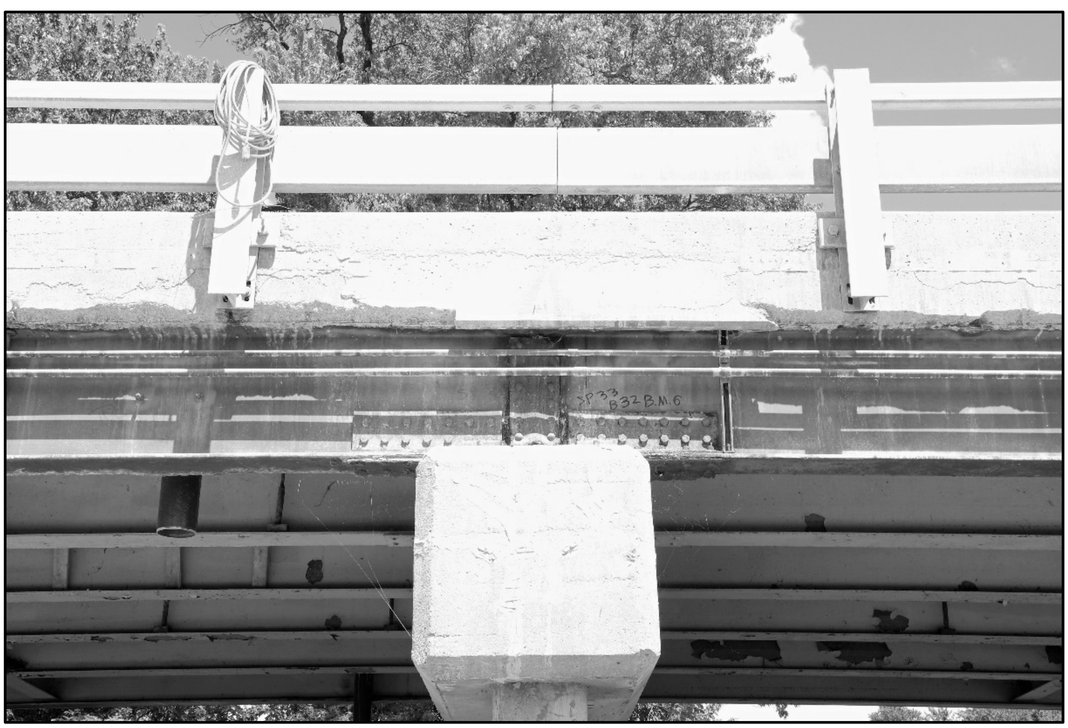

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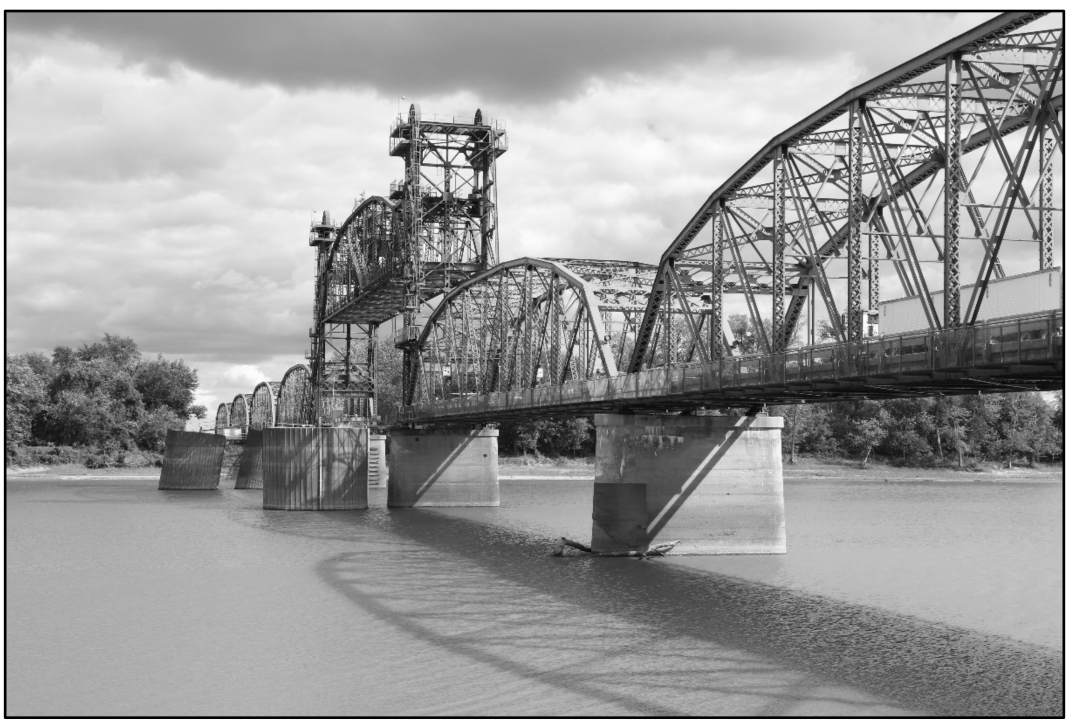

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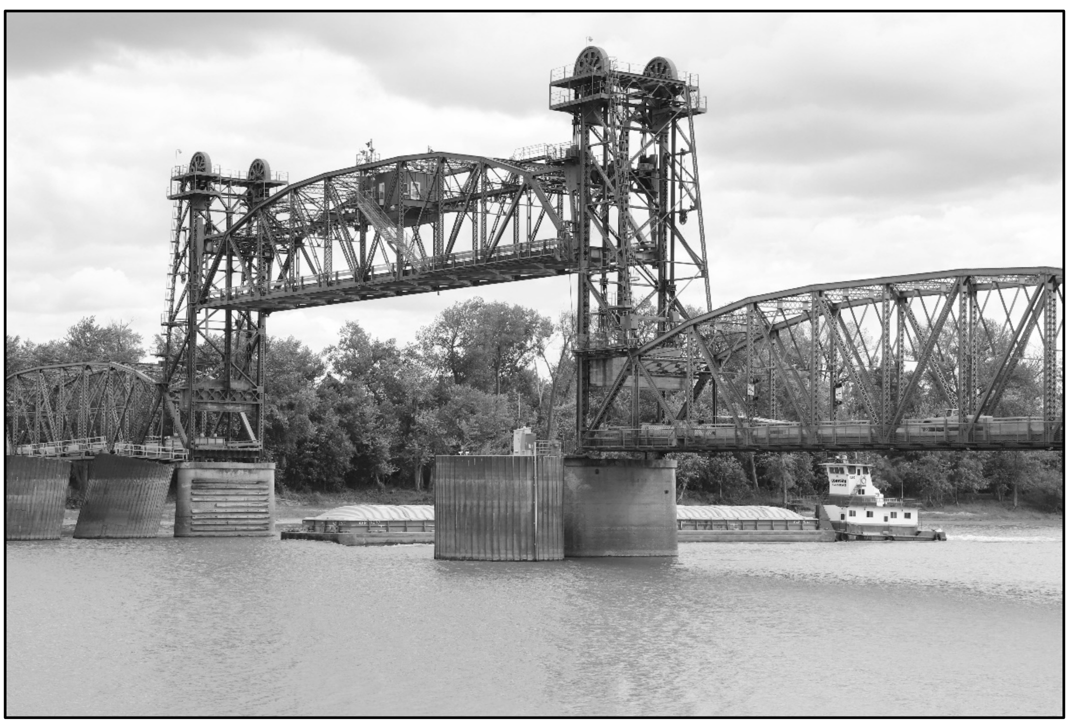
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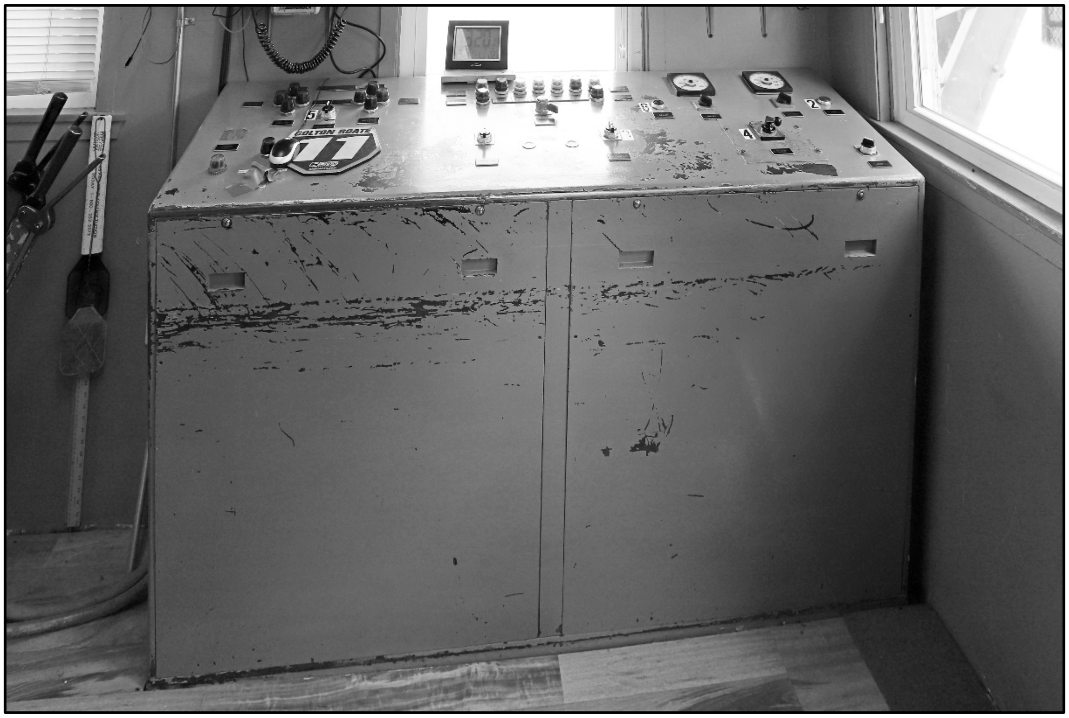

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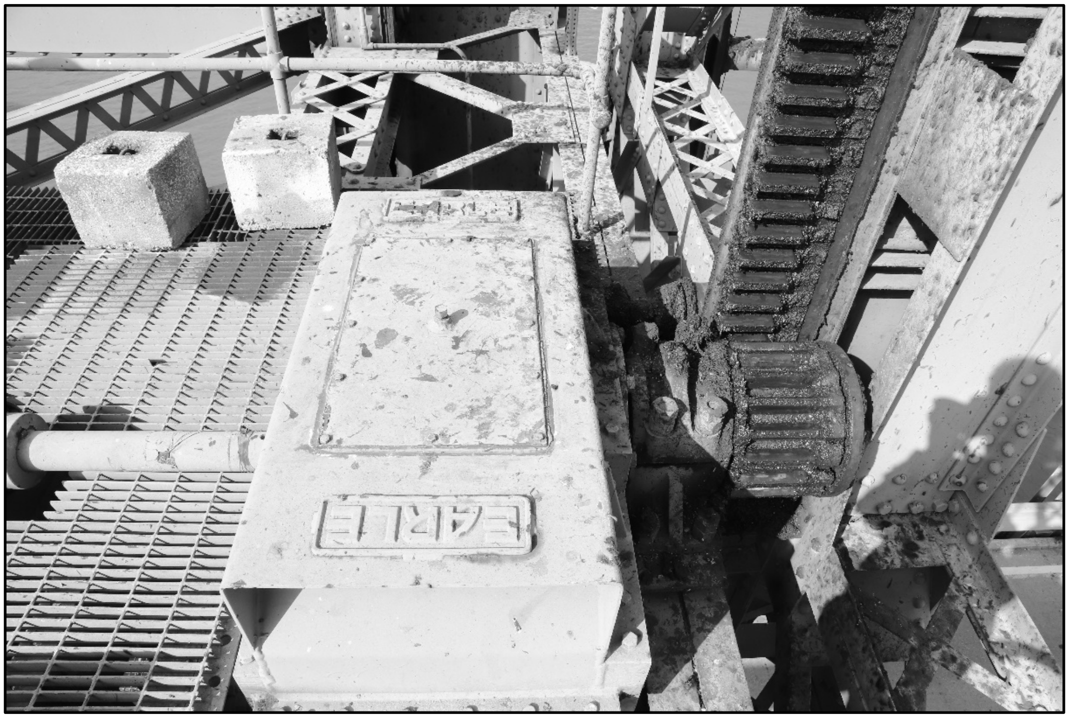

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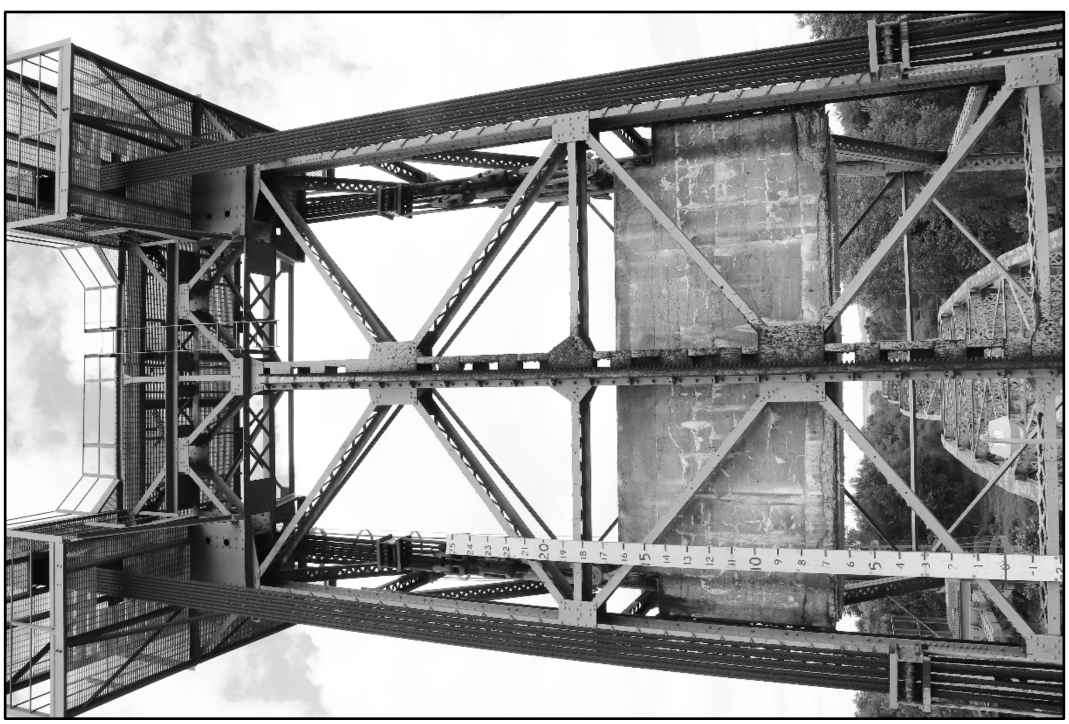

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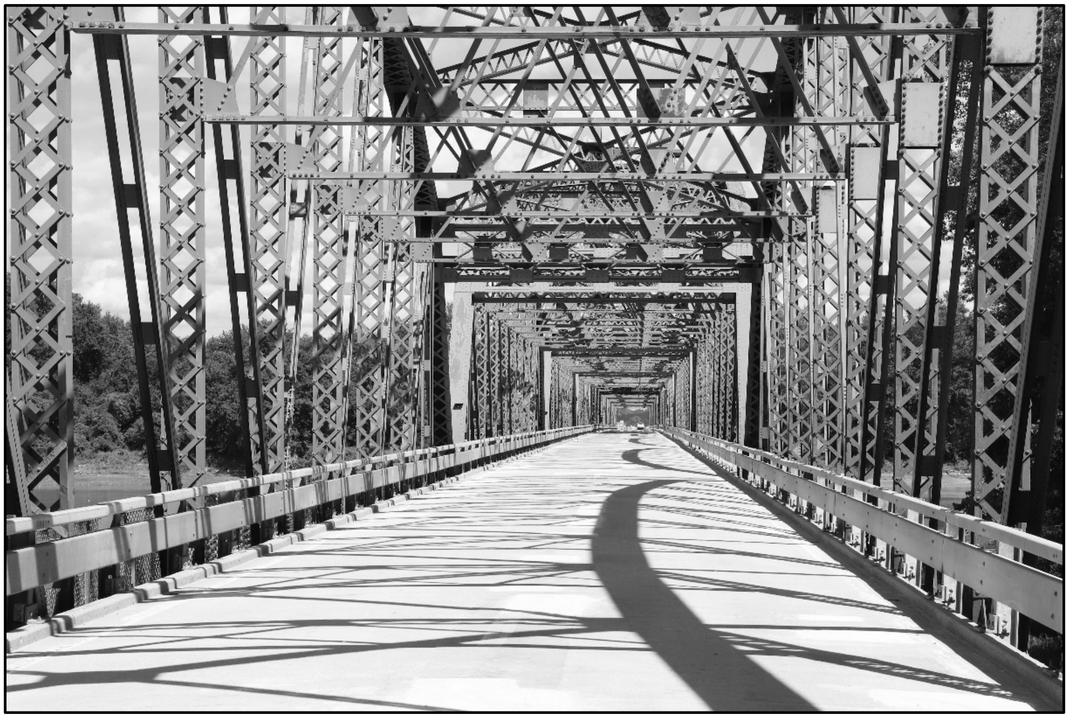

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