

CH 5 (La Prairie Road) Bridge
Over South Fork of Cedar Creek
(S.N. 085-3051/Sequence No. 22024)
Township of Huntsville
Schuyler County
Illinois

HIER No. SC-2019-1

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 2020

HISTORIC ILLINOIS ENGINEERING RECORD
HIER No. SC-2019-1

CH 5 (La Prairie Road) Bridge
(REINFORCED CONCRETE, RIGID FRAME)

Location: CH 5 (La Prairie Road) over South Fork of Cedar Creek
Township of Huntsville, Schuyler County, Illinois

USGS Quadrangle: Augusta, 7.5 minute, Illinois
Latitude 40° 8' 1" N Longitude 90° 54' 44" W

Universal Transverse Mercator Coordinates:
Zone 15 Easting 677847 Northing 4444473

Present Owner: Schuyler County

Present Use: Vehicular Bridge (IDOT Structure No. 085-3051)

Significance: The CH 5 (La Prairie Road) Bridge over the South Fork of Cedar Creek is a single-span, reinforced-concrete, rigid frame structure, the load on which is carried by a concrete frame consisting of the abutments and deck all constructed as one unit. It was built in 1936 and is one of only nine such structures remaining today that were known to have been constructed in Illinois prior to 1950.¹ The fabrication is a good example of this rather unusual structure-type and dates to a period in which reinforced concrete had evolved as a dominant bridge-building material.

PART 1. HISTORICAL INFORMATION

A. Physical History:

1. Date erected: 1936²

¹ A search for "concrete frame" bridges in Illinois identified only nine structures, including the subject bridge, that predate 1950 and remain today. A total of only nineteen remain in Illinois that predate 1970, all of which suggests this is an uncommon bridge-type in the state. National Bridge Inventory Data, available online at <http://uglybridges.com>, Accessed May 2020. Additionally are reinforced concrete, rigid frame bridges discussed in the Transportation Research Board publication, *A Context for Common Historic Bridge Types*. Parsons Brinkerhoff and Engineering & Industrial Heritage, *A Context for Common Historic Bridge Types* (Washington, D.C.: Transportation Research Board, 2005): 3-96 to 3-98.

² This is the date of construction noted in the National Bridge Inventory (see the citation in Footnote #1), as is it reflected in the Documentation of Adverse Effect prepared for the bridge's impending replacement. It is also the same year in which HIER No. FY-2017-1, a reinforced concrete, rigid frame bridge, a very similar structure, was constructed.

2. Designer: Unknown
3. Original and subsequent owners: Schuyler County
4. Builder or contractor: Unknown
5. Alterations and additions: No alterations or changes were observed

B. Historical Context:³

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.⁴

As settlers arrived in the state, rudimentary technicians – either self-taught or from New England shipyards – were attracted to erect covered bridges over rivers, ravines and other obstacles. Between 1820 and 1900, an estimated two to three hundred such bridges were built in Illinois, only a handful of which are thought to remain today.⁵

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 those made of steel and which came to use wide flange beams as structural components. The use of steel contributed to the expansion

³ The “Bridge Development in Illinois” and “Concrete Bridges and the Illinois State Highway Department” sections were initially prepared (including footnotes) in the late 1980s and early 1990s by John Nolan of the Illinois Department of Transportation (IDOT). Most, but not yet all, of that material has subsequently been reviewed against the sources cited, edited and expanded or modified as appropriate.

⁴ 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.

⁵ 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.

of railroads, settlement and industrialization in a growing America.⁶

Concrete Bridges and the Illinois State Highway Department:

Reinforced concrete emerged at the beginning of the twentieth century as a new building material in bridge construction. Concrete structures were substantially cheaper than bridges constructed of stone. And, without joints, they were generally stronger since the mortar used on stone bridges did not typically fill completely the joints between stones. Concrete bridges were also used in many locations with short crossings that would otherwise have claimed structures of steel (i.e., truss bridges). The versatility of concrete was further enhanced as it was reinforced with steel rods or used to encase rolled steel beams, thus protecting them from the weather. The use of concrete for shorter span bridges also accommodated the growing twentieth century demand for the consideration of aesthetics in their design, which meant essentially giving bridges a more pleasing appearance.⁷

Illinois established a state authority in 1905 that undertook the design of roadway bridges. The resulting Highway Commission warned local authorities in 1906 of the potential for danger embodied by existing bridges, many of which were timber. Thus did it offer plans for new bridges, concrete being the recommended building material for spans of less than 50 feet. A 43-foot test bridge was built in 1908 at the Southern Illinois Penitentiary, Menard, Illinois. It successfully carried over a multi-year testing period as many as 580 tons, or about 1,500 pounds per square foot. Indeed, the growing appetite for concrete bridges was so great the Highway Commission reported “the demand for plans for short span steel bridges is almost nil.”⁸

Three types of concrete bridges were built in Illinois by 1910-1912: slab, through girder and deck girder. In the case of slab bridges, they were very short spans in which the deck carried its own weight and that of the traffic on it (dead and live loads, respectively). With through girder bridges, the load-bearing girders were placed above

⁶ Walter V. Voss, “How New Materials Increased Man’s Building Ability,” in *Centennial Transactions* (New York: American Society of Civil Engineers, 1953): 829-830.

⁷ Walter M. Smith, Sr., and Walter M. Smith, Jr., “Concrete Bridges: Some Important Features in Their Design,” *Transactions of the American Society of Civil Engineers* 77 (December 1914): 695-696; Leslie R. Schureman, “Beauty in Short-Span Highway Bridges,” *Civil Engineering* 8 (May 1938): 319.

⁸ *First Annual Report of the Illinois State Highway Commission for the Year 1906* (Springfield, IL: State of Illinois, 1907): 55, 57, 59; *Second Annual Report of the Illinois State Highway Commission for the Year 1907* (Springfield, IL: State of Illinois, 1908): 77-81; Illinois State Highway Commission, *Modern Bridges for Illinois Highways* (Springfield, IL: Illinois State Journal Company, State Printer, 1912): 3-4, 49-53; *Third Annual Report of the Illinois State Highway Commission for the Years 1908-1909* (Springfield, IL: State of Illinois, 1911): 113.

the deck in such a fashion that they also served as the railings, though significantly oversized railings due to the loads they carried (these bridges were also known as edge-girder structures). The traffic deck essentially tied the lower chords of the two girders together, which meant that the bottom of the bridge was flat – it offered no obstacle to the flow of high water beneath. The loads of and on deck girder bridges were typically carried by two girders placed below the deck. The operational success of this bridge-type required clearance between high water and the girders, without which the girders might be problematical and impede high water flow. Through girder bridges typically accommodated the passage of water well since there were no structural obstacles below. The growing popularity of concrete structures is apparent by the fact that in 1908 fifty-one were built around the state, a number that had increased to 109 in 1911 and 141 in 1912.⁹

The State Highway Commission published in 1912 a 53-page bulletin “to encourage the construction of better highway bridges” by local road commissions. The bulletin outlined the financial and safety advantages of modern, properly designed bridges built either of concrete or steel, as well as described the commission’s bridge design services. The narratives were reinforced with pictures of poorly designed and collapsed bridges. In several cases noted by the commission, the cause of bridge failure was the fact that a structure collapsed under the weight of motorized steam tractors then found on township roads. The bulletin also provided several examples of modern concrete and steel bridges built throughout the state using commission plans.¹⁰

The Illinois State Legislature in 1913 subsequently passed the Tice State Aid Road Bill. It established the Illinois State Highway Department to be led by the Chief State Highway Engineer and overseen by the State Highway Commission. The department was divided into five bureaus: roads, bridges, maintenance, tests and audits. The state was then divided into seven geographic districts, each headed by a division engineer. The road, bridge and maintenance bureaus generally planned, designed and supervised the state aid road system, as well as provided consulting services and plans for county highway departments and other local entities that had bridge projects. The legislation also gave the State Highway Department control of the construction and maintenance of all bridges considered to be state aid improvements, as well as great influence over bridges owned by county and township governments.¹¹

⁹ A good introduction to concrete bridges is found in David Plowden’s, *Bridges: The Spans of North America* (New York: Viking Press, 1974), 297-300; *Fourth Annual Report of the Illinois State Highway Commission for the Years 1910, 1911, 1912* (Springfield, IL: State of Illinois, 1913): 303-304, 324-325, 327-329; *Third Annual Report*, 115, 119.

¹⁰ *Modern Bridges for Illinois Highways*, 1-12.

¹¹ *Fifth Report of the Illinois State Highway Department for the Years 1913, 1914, 1915, 1916* (Springfield, IL: Illinois State Journal Co., State Printer, 1917): xi-xii, 61-63; “Good Roads Bill Passed by House,” *Chicago Daily Tribune*, 6 June 1913, 2.

Reinforced-Concrete, Rigid-Frame Bridges with Ornamental Railings:

Although Charles S. Whitney of Milwaukee designed a pair of rigid-frame bridges in 1919, a more refined version of the rigid-frame derivative of a reinforced concrete bridge emerged in 1922 with the designs of Arthur G. Hayden, the designing engineer of the Westchester County (NY) Park Commission. The chief design aspect of such a bridge is that the concrete is cast as a continuous unit around a web of reinforcing bars. The deck and abutments, in other words, are not separate and fastened together. The bridge deck carries the load then transferred directly to the abutments. The rigid connection of these components provides for a thinner deck at the center and reduced mass in the abutments. The thinner center increases the clearance above the water which promotes a lower bridge profile that reduces the amount of grading needed at the approaches. When viewed from the side, a rigid frame bridge is identified by the nominal arch at the center. Both the reduced amount of concrete and increased clearance combined to make rigid-frame spans economical and simple to build in the field. Another important aspect of rigid-frame bridges that set them apart from their edge-girder counterparts is that they could be easily widened without significant changes to the original structure. And finally, the nominal arch and the ability to use decorative, instead of purely structural, railings provided opportunities for aesthetic design.¹²

Regarding the bridge's ornamental concrete railing, it is a variation of an Illinois Department of Transportation design called "Texas Classic Type 411." This railing had four styles of windows that were known as Type A – segmental arch, Type B – round arch, Type C – rectangular (no arch) and Type D – pointed arch. The subject bridge railing utilized the Type C window. These designs were implemented in order to give bridges of the 1920s and 1930s some aesthetic embellishments, rather than simply being a display of utilitarian components. Ornamental concrete railing systems were very popular in Illinois during this period because they had the strength necessary to deflect wayward vehicles back into the roadway. Furthermore, concrete was easy to use and conducive to manufacturing as pre-cast components, or to having unskilled workers pour it on site. This latter instance was often the case with bridge building crews supported by the Works Progress Administration or other Federal work relief efforts.¹³

¹² Charles S. Whitney, *Bridges[:] Their Art, Science and Evolution*. New York: Greenwich House, 1983; *Analysis of Rigid Frame Concrete Bridges*, 4th ed. (Chicago: Portland Cement Association, 1936), 5-6, Available online at <https://babel.hathitrust.org>, Accessed April 2017; North Carolina Department of Transportation, "Historic Bridges of North Carolina: Types of Bridges," Available online at <https://www.ncdot.gov/initiatives-policies/Transportation/bridges/historic-bridges>, Accessed May 2020.

¹³ "Railing Appraisal," *Illinois Highway Information System Structure Information and Procedure Manual* (01 November 2018), Available online at <https://idot.illinois.gov/Assets/uploads/files/Transportation-System/Manuals-Guides-&-Hand>

Schuyler County & Huntsville Township:

Schuyler County was established in January 1825 on land yielded by Pike and Fulton counties. It claimed 275,200 acres, 274,914 of which were said in 1908 to be cultivatable. The county's landscape was notable for its many, gently sloping ridges, while the land itself was said to be "some of the best and richest lands in the state." Given such acclaim, it is not surprising that agriculture was the most prominent economic activity and source of employment in the county. Prominent crops grown included corn, wheat, oats, rye, hay, potatoes, barley, sweet potatoes and sorghum, among others.¹⁴

Huntsville, generally in the county's northwest corner, was one of its twenty-one townships. Cedar Creek entered the northern third of the township through which it meandered before entering Camden Township immediately to the east. Along the creek were found timber, beds of coal and stone suitable for building. The township was also well drained. Soon the native forests gave way to "fertile farms." The first patents for land in the township were offered in 1817 to veterans of the War of 1812. That notwithstanding, serious settlement did not begin until 1833. Many arrivals came from the east, Kentucky, Tennessee, Ohio, North Carolina and Virginia. Another influx of settlers from several of those states occurred in 1835. Two years later a mill was established in Section 25 on the Big Missouri Creek, only to be later abandoned for lack of an adequate water supply. Huntsville Township did prosper. Virtually the entire town was considered cultivatable, the resulting crops helping to feed the cattle, hogs, horses and sheep on farms throughout the area. The township had 1,193 residents on 172 farms in 1880, though the population declined to 976 in 1900.¹⁵

Communities Generally Adjacent to Huntsville Township:

Agriculture was dominant in Huntsville Township, as it was in most of Schuyler County. That fact notwithstanding, farmers needed support – that is they needed places from which to secure supplies and from which to ship their various products to market. Huntsville Township did claim a namesake village, though it was known to have had only a post office in 1858 and had not grown to the point of formal

[books/Highways/ISIS_Manual_Internet.pdf](#), Accessed May 2020; Donald C. Jackson, *Great American Bridges and Dams* (New York: John Wiley & Sons Press, 1988), 37.

¹⁴ *Combined History of Schuyler and Brown Counties, Illinois* (Philadelphia: W. R. Brink & Co., 1882): 44-45; Newton Bateman, et al., eds., *Historical Encyclopedia of Illinois and History of Schuyler County* (Chicago: Munsell Publishing Company, 1908): 625-626.

¹⁵ *Schuyler and Brown Counties*, 363-365; *Historical Encyclopedia*, 702-703.

organization as late as 1882. It did offer some merchants and services, but development is not understood to have occurred in any consequential way. Indeed, Huntsville was simply acknowledged in 1908 to exist on the northwest one-quarter of Section 4. Important to the township's aspiring agriculturalists was the fact that the village never had railroad service.¹⁶

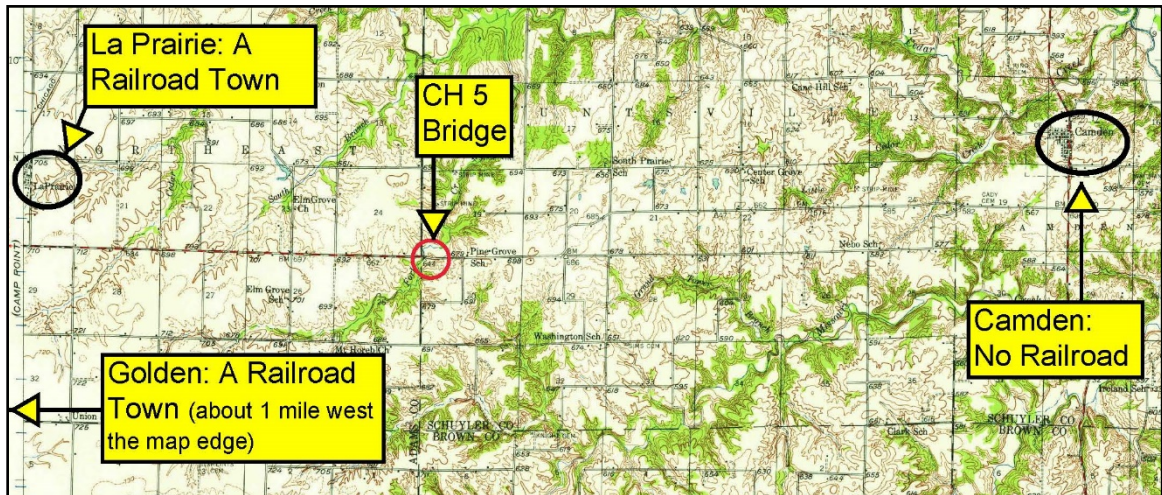


Figure 1: Map illustrating the location of the subject CH 5 (La Pointe Road) bridge in the context of the most immediate and relevant surrounding communities. Given the distances involved, and the fact that the closest railroad available was in La Prairie and Golden, good overland roads were important (U.S. Geological Survey, August Quadrangle [map], 1946, 1:62500, 15 Minute Series [Reston, VA: United States Department of the Interior, USGS, 1980]).

Neither did the Village of Camden, about a mile-and-a-half east of the Huntsville/Camden Township line, offer a railroad. Nor did it have a bank, the closest one being in Rushville, about fourteen miles to the east southeast. But it did offer some substance. Camden was platted in 1839, the same year its post office opened. A store was available to new residents in 1838 and a sawmill opened in 1856, as was a steam-powered flour mill constructed in 1865. The community claimed 200 residents in 1878 along with two wagon makers, two blacksmiths, two physicians, as well as a grocer, miller and dry goods merchant. Six years later the town had rebuilt after a disastrous 1882 tornado, yet the number and mix of businesses, as well as and the population, changed little throughout the 1880s. Camden did have a hotel no later than 1882 and wagon makers and lumber yards were offered over time.¹⁷

¹⁶ *Schuyler and Brown Counties*, 365-366; *Historical Encyclopedia*, 703; *Illinois State Gazetteer and Business Directory for 1858 and 1859* (Chicago: George W. Hawes, Publisher, 1858): 110. Huntsville remained an unincorporated community in 2020. "Huntsville, Illinois," Viewed at https://en.wikipedia.org/wiki/Huntsville,_Illinois on 16 May 2020.

¹⁷ *Illinois State Gazetteer for 1858*, 28; *Schuyler and Brown Counties*, 344; *Illinois State Gazetteer and Business Directory, 1878*, Volume I (Detroit, MI: R.L. Polk & Co., 1878): 188-189; *Illinois State Gazetteer and Business Directory, 1884*, Volume IV (Detroit, MI: R.L. Polk & Co., 1884): 285-286; *Illinois State Gazetteer and Business Directory, 1886*, Volume V (Detroit, MI: R.L. Polk & Co., 1886): 238-239; *Illinois State Gazetteer and Business Directory, 1888*, Volume VI (Detroit, MI: R.L.

Access to railroads was quickly found to be an important asset for a community if it were to grow and flourish. Huntsville Township is adjacent to the Schuyler/Adams county line, across from which is the latter county's Northeast Township, itself established in 1850. It claimed two communities not terribly distant from Huntsville Township through which the Chicago, Burlington & Quincy (CB&Q) railroad passed.¹⁸

The first was La Prairie, about four-and-one-half miles west of the county line. It was settled in 1855 and identified in the 1858 gazetteer simply as a station on the railroad. Twenty years later its population was said to be 150. Grain and livestock were shipped while other businesses included two general stores, two shoemakers, two physicians, a druggist and a hotel. Indeed, in 1878 La Prairie area farmers shipped 176 railroad cars of livestock and thirty-two of hay. Little had changed in 1884 although a meat market and wagon maker had established themselves in the community. La Prairie claimed two hundred fifty residents in 1886, that same as in 1888 when it also offered a farm implement dealer, grain dealer, barber and hotel.¹⁹

The second community was that of Golden, previously known as Keokuk Junction since it was that place at which the CB&Q and the Toledo, Wabash & Western railroads crossed – the latter having been built in 1862. That same year an enterprising entrepreneur constructed a building and opened a saloon adjacent to the crossing. Soon a small store and a grain storage facility were erected there. But there was a problem. The CB&Q refused to acknowledge the junction as a stop and required all commerce to be conducted at La Prairie. That changed a year later, however, when Keokuk Junction was awarded a post office. Thereafter did things happen quickly. A hotel was built in 1863. The town was platted, seventeen blocks on ten acres, and lots sold in 1866. A brick store building was constructed in 1867, the same year the Illinois legislature incorporated the community, which then became in 1873 the Village of Keokuk Junction. The village was thereafter renamed Golden which, in 1878, had 300 residents, a number that grew to 350 in 1884. While the nearest banking location was Camp Point, about seven-and-one-half miles to the south southwest, Golden offered a variety of merchants including three tailors, two flour mills, two blacksmiths, two general stores, one of which was operated by a lawyer and justice, as well as one lumber

Polk & Co., 1888): 247.

¹⁸ *The History of Adams County, Illinois[:]* *Containing a History of the County – Its Cities, Towns, etc.* (Chicago: Murray, Williamson & Phelps, 1879): 546; David F. Wilcox, ed., *Quincy and Adams County[:]* *History and Representative Men* (Chicago: the Lewis Publishing Company, 1919): 605.

¹⁹ *Illinois State Gazetteer for 1858 and 1859*, 125; *Illinois State Gazetteer, 1878*, 737; *Illinois State Gazetteer, 1884*, 1097; *Illinois State Gazetteer, 1886*, 890; *Illinois State Gazetteer, 1888*, 946-947; *The History of Adams County*, 550.

dealer, druggist, hotel, stove/tinware merchant, carriage sales, wagon maker, tailor, physician, saddle/harness maker, milliner, meat market, implement dealer and furniture dealer. The village's population was about 700 in 1886. Though it had fallen a bit two years later, the mix of merchants was largely the same. By 1919, Golden was also home to the Golden Elevator and Mill Company, with its 100,000 bushel capacity grain elevator, as well as the People's Exchange Bank, which opened in 1891 and was the first bank close to Huntsville Township, a creamery, seed sower manufacturer and a Standard Oil (of Illinois) service station.²⁰

Early Roads in Schuyler and Adams Counties:

Given that three of its closest trading points were beyond the boundaries of Huntsville Township, overland travel was important.

The first road district in Schuyler County was established in December 1825. The county was subsequently divided into four districts in 1827, ten districts in 1828 and fourteen districts in 1830. The need for the districts, and the work they were given, was driven by early travel ways that were at best crude trails characterized by markings on trees and crossings that were "roughly corduroyed over [only] the worst sloughs." The first bridge in the county was reportedly opened in 1830 across Crooked Creek, on the new road between Rushville and Quincy. Huntsville Township's first bridge reportedly crossed Cedar Creek south of the settlement of Huntsville. Roads and bridges were said in 1882 to be in "good condition."²¹

Regarding Adams County, through which Huntsville residents had to travel if they wanted to reach the railroad, roadway work also started in the late 1820s. Roads were viewed as important for promoting communication between the growing number of settlers in the area. And along with roads, that meant also building bridges of wood – at least into the early 1850s when iron was adopted for the purpose. Road taxes were assessed in Adams County, though the taxes were paid through roadway-related labor. The work for many years was done under the authority of as many as 300 county highway commissioners, each with their own way of doing things – a fact that did not promote roadway or bridge consistency across the county. The system was corrected with the passage by the state of circa 1900 legislation that allotted to each township

²⁰ Wilcox, *Quincy and Adams County*, 605-608; *History of Adams County*, 546-547; *Illinois State Gazetteer*, 1878, 721; *Illinois State Gazetteer*, 1884, 965; *Illinois State Gazetteer*, 1886, 792; *Illinois State Gazetteer*, 1888, 844.

²¹ *Schuyler and Brown Counties*, 365; *Historical Encyclopedia*, 678-679, 681.

three commissions who were then the authority for township travel routes.²²

CH 5 (La Prairie Road) and the Bridge over the South Fork of Cedar Creek:²³

Roadway locations from the village of Camden, through Huntsville Township, to the west Schuyler County line, as well as the roadways themselves, evolved over time. An 1882 map of the county clearly shows that an east/west roadway, starting one-half mile south of Camden, extended west to the Adams County line passing through the middle of Huntsville sections 19-24 (hereafter referred to as the 1882 road, See Figure 2, Page 11).



Figure 2: This image includes that part of Camden Township necessary to show that there was a straight roadway extending west in 1882 from a point immediately south of Camden, through Huntsville Township, to Adams County where it provided access to the railroad community of La Prairie. The blue circle identifies the location of the current bridge to be replaced (*Combined History of Schuyler and Brown Counties, Illinois* [Philadelphia: W.R. Brink & Co, 1882]: 8).

By 1913, however, thirty-one years later, while the 1882 road remained, a new conveyance had been constructed along the Section 24/25 section line west to Adams County. The new road (hereafter referred to as the 1913 road), which used the section line common to sections 19 and 20 immediately east of the county line, required a bridge over the South Fork of Cedar Creek. That structure was a predecessor to the extant bridge scheduled for replacement (See Figure 3, Page 12). Little else was altered on either route throughout the remainder of the decade (See Figure 4, Page 13), or at least during the 1920s (see Figure 5, Page 13). At some point in the 1930s, however, things began to change on the two roads. Despite the fact that the 1882 road is reflected in its entirety on the 1940 map (see Figure 5, Page 13), a 1937 Schuyler County Traffic

²² Wilcox, *Quincy and Adams County*, 194, 196.

²³ Research for the subject bridge was also conducted at the Illinois Department of Transportation's Contracts and Local Roads and Streets Records at the Illinois State Archives (Record Group 242), which yielded no relevant information.

Map clearly shows that the 1882 road was already no longer continuous through sections 19 and 20. Further did it illustrate the consolidation of the 1882 and 1913 roads into State Aid Route 5 (see Figure 6, Page 13). The connection of the two roads in to a single county highway was confirmed by a 1946 USGS map (see Figure 7, Page 14).

State Aid Road 5 carried in 1937 over 100 vehicles per day (VPD) for its easternmost four miles in Huntsville Township. The westernmost two miles, through sections 19 and 20 which included the subject bridge, carried between 75 and 99 VPD. The road was considered to be “metal” surfaced, a term used to indicate a hard surface be it concrete, brick or gravel. Little had changed in 1940. But by 1947, the whole highway in the township carried over 100 VPD, except for the westernmost one-half mile, that part of the road with the subject bridge, which continued to carry between 75 and 99 VPD.²⁴

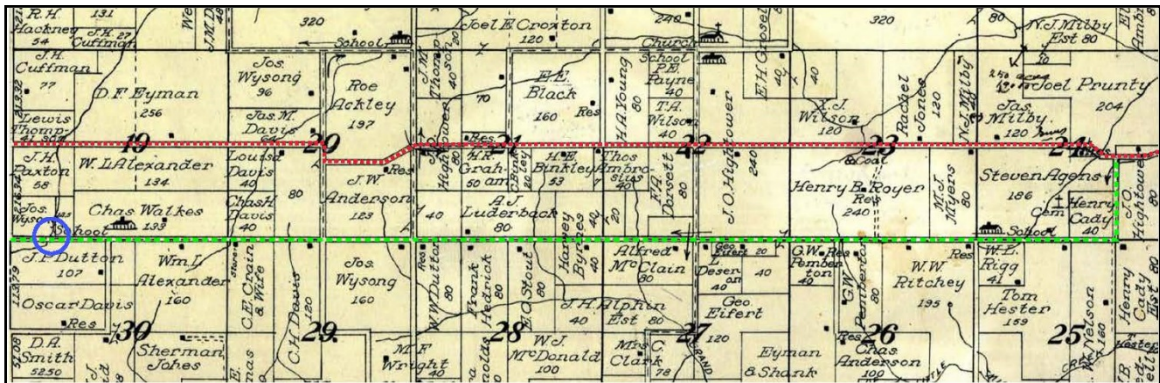


Figure 3: Dating to 1913, this image shows that, thirty-one years after the 1882 map, a new roadway departs the old road in Section 24, where it extends one-half mile south, and then turns west and continues to the Adams County line (green line). There have also been a couple of twists, turns and jogs added to the 1882 alignment (red line). The blue circle identifies the location of a predecessor bridge (*Standard Atlas of Schuyler County, Ill. Including a Plat Book of the Villages, Cities and Townships of the County* [Chicago: Geo. A. Ogle & Co., 1913]: 27).

Given this evolution, it may be concluded that a bridge was in place across the South Fork of Cedar Creek by 1913 when a plat map confirmed an east/west road constructed on the Section 19/20 section line and continued east. It is unknown how substantial that bridge was, nor is it known of what it was constructed. Plans in the mid-1930s to create State Aid Route 5 formalized a new context for the bridge’s operation. That is it was changed from what is largely thought to have been a local or community road to a county thoroughfare. Along with that, and the additional traffic the newly designated road would carry, a durable bridge over the Cedar Creek’s South Fork was needed. Thus was built in 1936 today’s rigid frame, reinforced concrete structure.

²⁴ *Traffic Map, Schuyler County, Illinois* (Springfield, IL: Department of Public Works & Buildings, Division of Highways, 1937); Samuel W. Ravenel, C.E., *Ravenel’s Road Primer for School Children* (Chicago: A.C. McClurg & Co., 1912): 135; *Traffic Map, Schuyler County, Illinois* (Springfield, IL: Department of Public Works & Buildings, Division of Highways, 1940); *Traffic Map, Schuyler County, Illinois* (Springfield, IL: Department of Public Works & Buildings, Division of Highways, 1947).

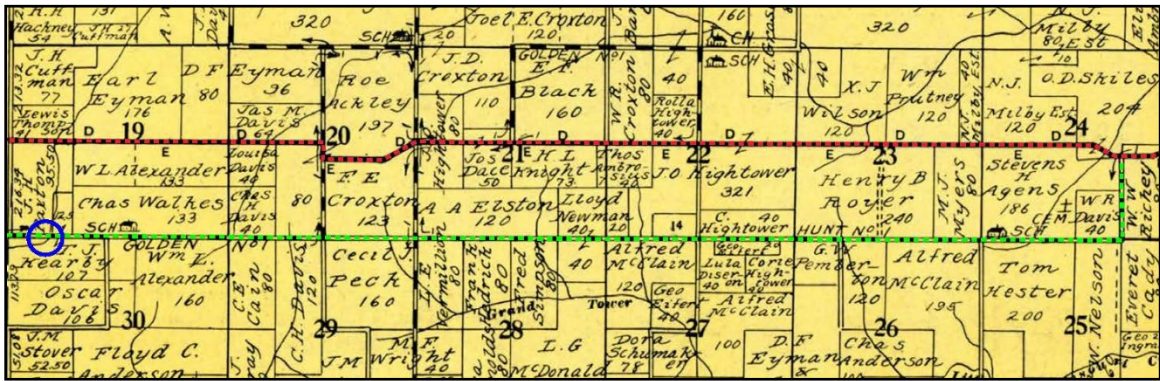


Figure 4: This map, adapted from a 1920 atlas, confirms that little along the subject roadway changed throughout the decade of the 1910s since the publication of the 1913 map (*Atlas and Plat Book of Schuyler County, Illinois* [Des Moines, IA: The Kenyon Company, 1920]: 15).



Figure 5: Roadway consistency through the 1920s and 1930s is apparent, one or two small “tweaks” notwithstanding (*Schuyler County Atlas* [Rushville, IL(?): no publisher, 1940]: n.p.).

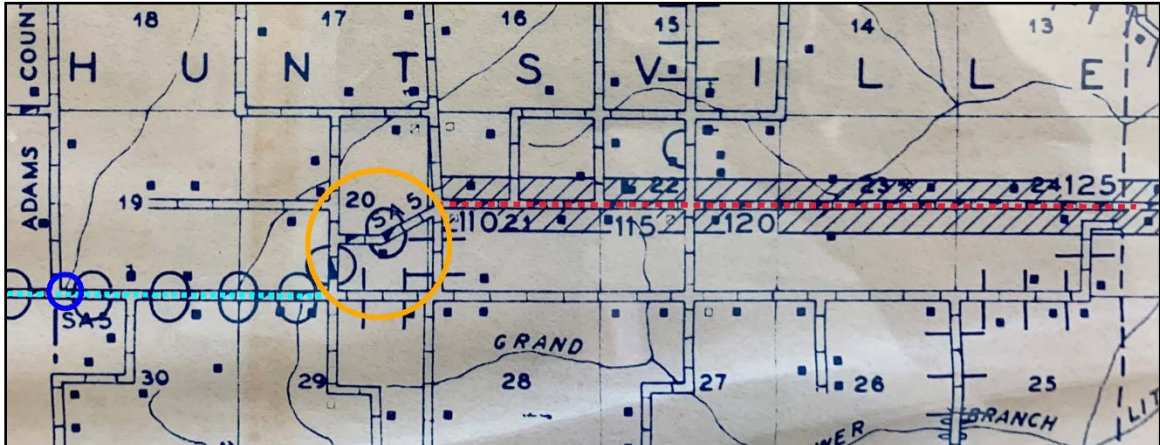


Figure 6: This map by the Illinois Department of Public Works & Buildings, Division of Highways, clearly shows – in contrast to the 1940 plat map (see Figure 5) – that the 1882 and 1913 roads were indeed tied together by 1937 and identified as State Aid Route 5. It is likely that the subject bridge, built in 1936, was specifically constructed to accommodate Route 5 and the anticipated traffic it would carry (*Traffic Map, Schuyler County, Illinois* [Springfield, IL: Department of Public Works & Buildings, Division of Highways, 1937]).

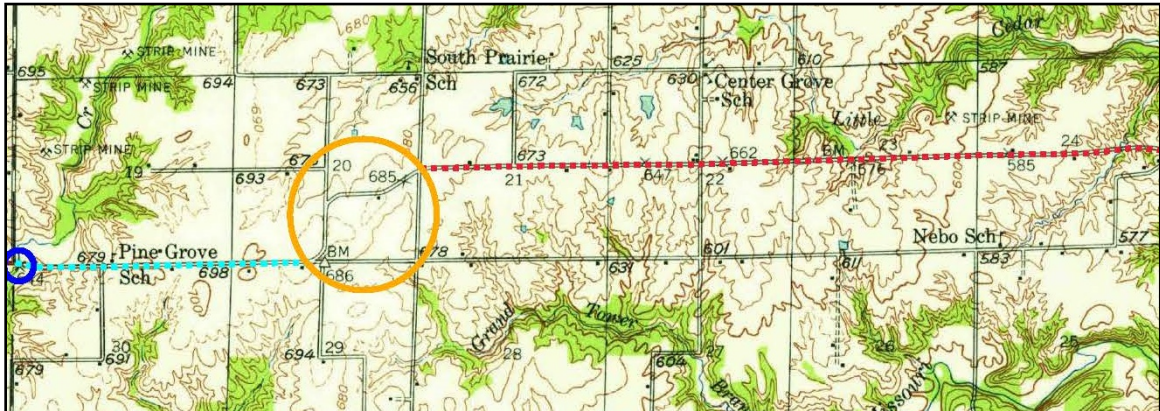


Figure 7: Illustrated on this map is the mid-1940s incarnation of today's CH 5 (La Prairie Road). Significant is the fact that part of the road extant in 1882 and that constructed by 1913 are employed by the conveyance. It is also worth noting that, for the first time, parts of the 1882 road no longer exist in Sections 19 and 20. The yellow circle identifies the initial, Section 20 alignment connecting the two roads (U.S. Geological Survey, August Quadrangle [map], 1946, 1:62500, 15 Minute Series [Reston, VA: United States Department of the Interior, USGS, 1946]).

PART II: ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural Character:

The CH 5 Bridge was constructed in 1936. It is a 35'-6" long, 33'-5" wide, reinforced-concrete, rigid frame structure carrying CH 5 over the South Fork of Cedar Creek.

2. Condition of Fabric:

The bridge's historical character is evident although its physical integrity is fair to poor with significant amounts of deteriorating concrete and exposed rebar.

B. Description:²⁵

The CH 5 Bridge is a reinforced concrete, rigid frame fabrication that is 35'-6" long. Its overall width is 33'-5", while that of the traffic deck is 29'-6". The roadway is flanked by ornamental, concrete railings. Traffic is carried by a load-bearing deck tied to the abutments. In such an instance, the thickness of the abutments increase from bottom to top

²⁵ The measurements used to describe this bridge were taken from the structure itself during field investigations. Activities were limited to components that could be reached without aid of ladders, boats or other equipment.

and are thickest where tied to the deck, which itself embodies a very shallow, 30'-2" long, 33' wide elliptical arch. The deck's arch is approximately 18" thick at the 4'-0" mark on the 35'-6" long traffic surface, about 9" thick at the 13'-1" and 22'-2" marks and 20" thick at the 31'-1" mark.²⁶ Wingwalls extend horizontally about 3', at 133° from each abutment corner, before tapering down for their remaining 6' of length.

The railing is a modest variation of the Texas Classic Type 411 with Type C (Squared) windows that rises from a 24" wide by 12" high curb, a top which is a 14" wide by 2" high lower chord. It is anchored by solid concrete blocks that are situated over the abutments and are 1½" higher than the railing itself. Each block is 24" long (facing the road) and 31½" high, although, given the curb and the lower chord, its top is 45½" above the highway. A large center panel that is 24" long at the bottom maintains the 14" width of each block as it rises, although it tapers to a length of 20" and terminates about 4" below the crown of the block, thus creating a prominent sense of geometric relief between the panel and the anchor crown. Each of the four blocks is generally 14" wide. The railing itself consists of twenty-four balusters centered on the lower chord, four of which are wide and flanked by sections of four narrow balusters. Those narrow are 5" long and 6" deep while those wide are 12" long and 6" deep. The corner of each baluster is inset by 1" both length and depth with 8 to 8½" wide windows between each baluster. The railing top chord crowns the balusters and consists of two equal sections, each 10" wide and 7" high. Its height above the roadway is 44".

The original, concrete traffic deck has at least one asphalt overlay and subsequent asphalt patching, the depth of which is uncertain.

No bridge plate was observed.

PART III: SOURCES OF INFORMATION

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²⁶ These measurements were obtained through drainage holes in the deck and were impossible to obtain with certainty given the amount of broken and deteriorated concrete on the deck's underside. The citation of these deck depths notwithstanding, they do not illustrate the character of the elliptical arch embodied by the deck and which is apparent in a number of photographs, examples of which are No. 5 and No. 6 of 24.

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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 to review conditions, photograph and measure it.
2. Searched resources in the University of Illinois Library (Urbana, IL), as well as at the Illinois State Library and Illinois State Archives. Digital sources consulted include the HathiTrust Digital Library and newspapers.com, all for data relating to the development of Schuyler County in general, and the construction of the CR 5 bridge 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

University of Illinois Library
1408 W. Gregory Drive
Urbana, Illinois 61801
(Illinois State Gazetteers)

Illinois State Archives

Norton Building
State Capitol Complex
Springfield, Illinois 62756
(IDOT Record Group 242, Local Government Records Index and Maps)

Illinois State Library
300 S. 2nd Street
Springfield, Illinois 62701-1796
(Plat Map & Illinois Transportation Map Collections)

•On-Line Sources:

HathiTrust Digital Library
(County & Local History Books, Engineering Journals and Other Resources)

Library of Congress
(Historic-period county plat maps)

historicmapworks.com
(Historic-period county plat maps)

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PART V: PROJECT INFORMATION

This HIER archival documentation is submitted in compliance with a stipulation of the Memorandum of Agreement (MOA) between the Federal Highway Administration, Illinois Division, and the Illinois State Preservation Officer, with final signature on 16 April 2020. The MOA was executed in compliance with CFR 36 800.6(b)(1)(iv) of the National Historic Preservation Act of 1966, as amended.

1939 Aerial Photographic Image Identifying Bridge Location:



Figure 8: This picture illustrates the location of the CR5 bridge amid the agricultural and forested land of Huntville Township (Illinois Historical Aerial Photography: 1937-1947, Image SA-26-2309, 24 July 1938, Viewed at <http://maps.isgs.illinois.edu/ilhap/> on 16 May 2020).

USGS Map (1981) Identifying Bridge Location:

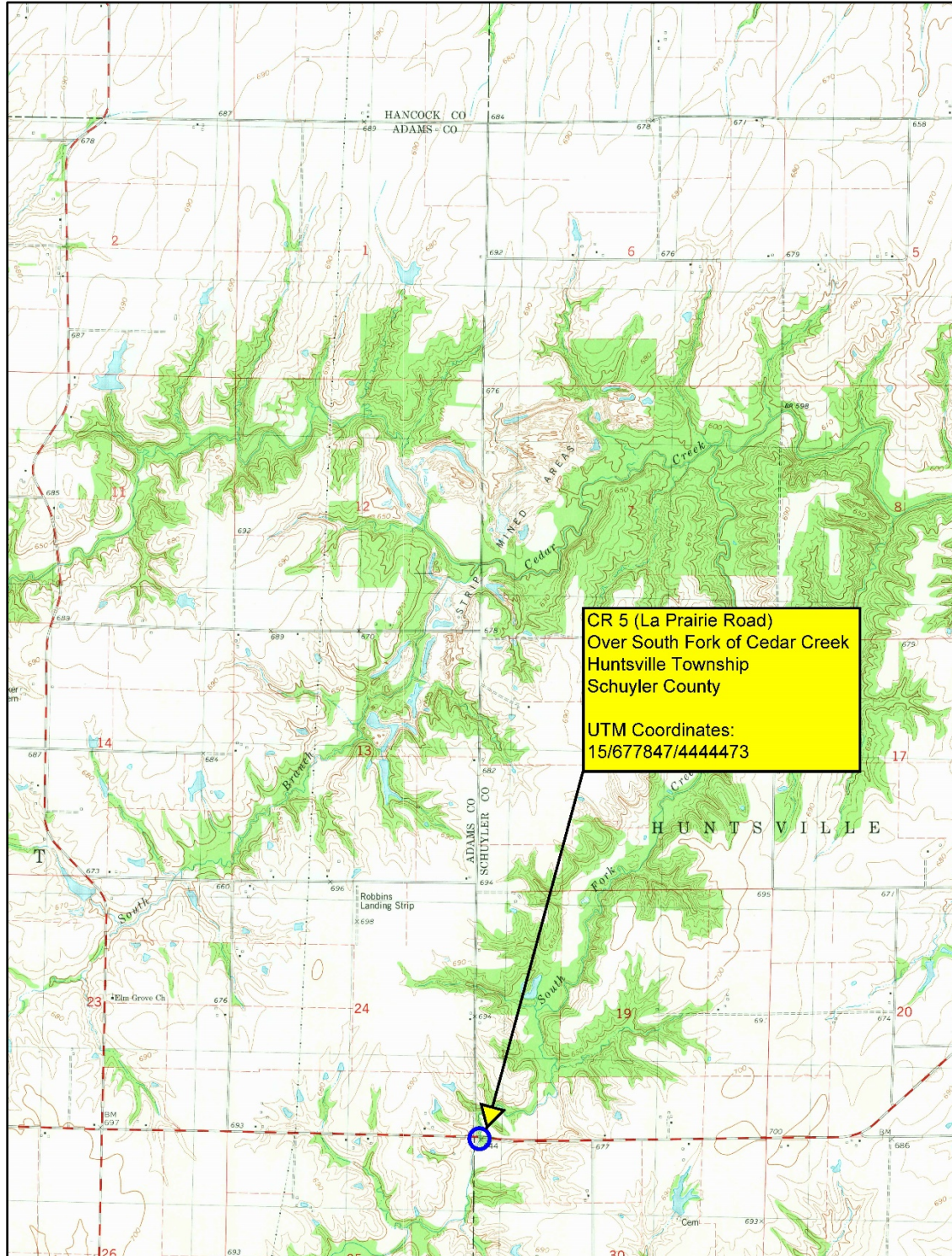


Figure 9: U.S. Geological Survey, *Augusta Quadrangle* [map], 1981, 1:24000, 7.5 Minute Series (Reston, VA: United States Department of the Interior, USGS, 1981).

HISTORIC ILLINOIS ENGINEERING RECORD

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Over South Fork of Cedar Creek
(S.N. 085-3051/Sequence No. 22024)
Township of Huntsville
Schuyler County
Illinois

HIER No. SC-2019-1

Documentation: 24 Exterior Photographs (2020)
23 Data Pages
01 7.5 Minute USGS Map (1981)

John N. Vogel, Ph.D., Associate Degree - Professional Photography, Photographer

HIER No. SC-2019-1.1	VIEW TO EAST. BRIDGE IN ITS GENERAL CONTEXT.
HIER No. SC-2019-1.2	VIEW TO EAST.
HIER No. SC-2019-1.3	VIEW TO EAST NORTHEAST.
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HIER No. SC-2019-1.5	VIEW TO NORTH.
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HIER No. SC-2019-1.18	VIEW TO NORTHEAST. NORTHSIDE BRIDGE RAILING.
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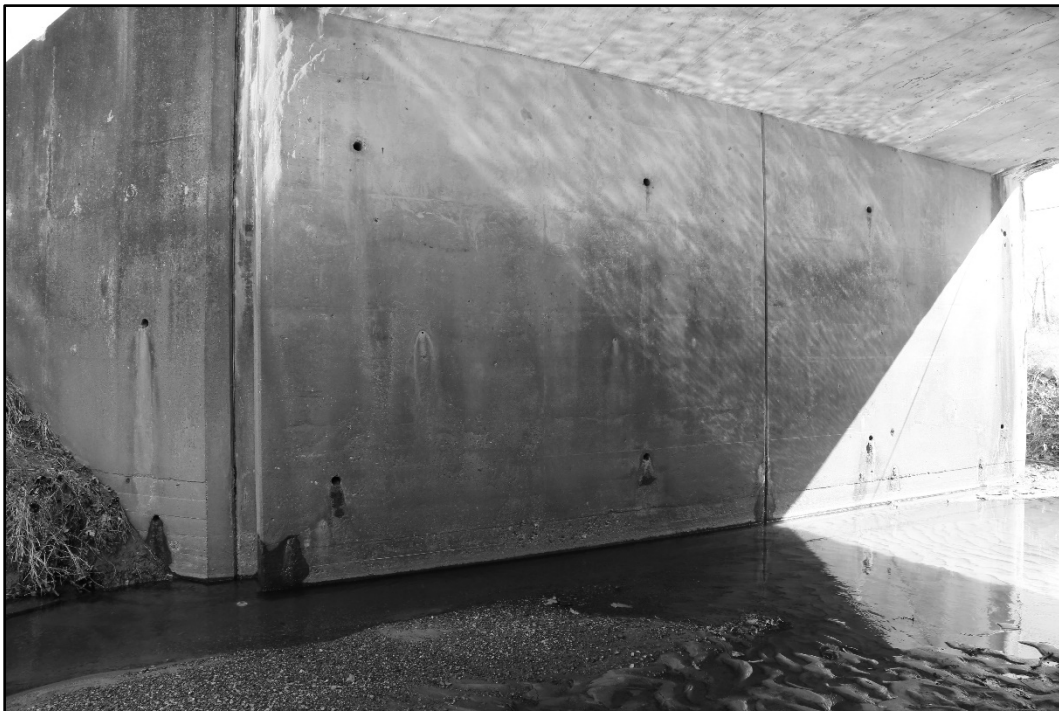


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