

---

# Documentation of the Historic Crest Underpass

---

Railroad Bridge  
Benton County, over Route 52



*This page intentionally left blank for printing purposes*

## Historical Narrative

The existing railroad bridge at milepost 195.135 over Route 52 in Benton County was constructed in 1936-37 under a contractual agreement between the Missouri State Highway Commission and the Chicago, Rock Island, and Pacific Railway Company (C.R.I. & P.). Commonly called the Crest Underpass in reference to a nearby village located a mile to the southeast, the bridge was constructed to eliminate the at-grade crossing of Route 52 with the railroad track. Its construction, however, came fairly late during a long period of eliminating similar at-grade crossings from the state highway system.

The C.R.I. & P. Railroad had constructed this line across northern Benton County in 1902-04, soon after acquiring the defunct St. Louis, Kansas City, and Colorado Railroad which at that time extended from St. Louis only as far west as Freeburg, Osage County. The C.R.I. and P., in a massive expenditure of capital, extended the line west across Missouri to Kansas City, routing the line across the edge of the Ozark Border through a region previously lacking direct railway transportation between these two cities. The new rail line allowed the transport of the region's grain, livestock and other agricultural products plus mineral resources such as coal and clay, while also providing passenger service between St. Louis and Kansas City. The line sparked the founding or growth of several towns along the route, including Crest, which arose as a small shipping point.<sup>1</sup>

The Crest Underpass project was only one of many similar eliminations of at-grade railway crossings on the new state highway system. The elimination of at-grade railroad crossings of state highways had been among the top priorities since the first years of the Missouri State Highway Commission. Inaugurating the construction of some 7,500 miles of primary and secondary state roads following the passage of the Centennial Road Law in 1921, the Highway Commission, working through the Missouri State Highway Department, followed an on-going policy to eradicate as rapidly as possible all railroad grade crossings from the state highway system, with U.S. routes and primary state routes having priority over secondary state routes. In pursuing its plan to eliminate existing grade crossings, the Commission was following an older state policy first adopted in a 1919 Missouri statute, Chapter 95, which established the Public Service Commission. Article 3, Section 10459 of Chapter 95 granted the Public Service Commission the power to abolish or permit grade crossings:

No public road, highway or street shall hereafter be constructed across the track of any railroad corporation at grade . . . without having first secured the permission of the commission.

---

<sup>1</sup> St. Louis Southwestern Railway Company, "Historic Report (49 C.F.R. 1105.8), St. Louis Southwestern Railway Company, Abandonment Exemption in the State of Missouri, ICC Docket No. AB-39 (Sub-No. 18x)," October 18, 1993, Historic Preservation Program, Missouri Department of Natural Resources, Jefferson City.

The statute effectively outlawed at-grade crossings of railroads and highways, with the Public Service Commission, in short, having full authority over the grade intersections, with the power to:

... alter or abolish any such crossing, and to require, where, in its judgment, it would be practicable, a separation of grades at any such crossing heretofore or hereafter established. . . .<sup>2</sup>

In addition, the Public Service Commission had the authority to apportion the expenses incurred in the construction of grade separations between the railroad companies and the relevant public body, such as the State Highway Commission.

The State of Missouri considered its policy to prohibit and eliminate grade crossings a "constitutional exercise of the police power in the interest of public safety," but the policy also followed that of the federal government which insisted in the Transportation Act of 1920 that grades be separated at all crossings of railroads and primary highways built with federal-aid funds. However, the federal policy remained essentially incidental as Missouri retained its own authority and mechanisms regarding at-grade crossings. Upon application by the State Highway Commission, the Public Service Commission, after holding appropriate hearings, might order the construction of a railroad or highway overpass to effect a grade separation, and order how the costs for the project would be apportioned.<sup>3</sup>

From its inception, therefore, the Highway Commission took an active role in reducing the number of at-grade railroad crossings as a matter of state policy. The Commission endorsed the policy as one which would remove the obvious hazards to traffic; reduce the frequency of traffic bottlenecks at highway and railroad intersections; diminish unnecessary expenses incurred at crossing locations (such as costs from accidents and the installation of signals); and realize savings in construction costs by shortening the total lengths of highways. In its Fourth Biennial Report of 1924 the Commission predicted, "The savings in abolishing railroad grade crossings alone will more than pay all engineering expense for the entire state highway system."<sup>4</sup>

---

<sup>2</sup> The Revised Statutes of the State of Missouri, 1919. Volume III, c. 95, art. 3, sec. 10459.

<sup>3</sup> See "Chicago, Rock Island and Pacific Railway Company v. Public Service Commission of Missouri," Reports of Cases Determined by the Supreme Court of the State of Missouri, Vol. 315 (Columbia: E.W. Stephens Publishing Co., 1927), 1108-1119.

<sup>4</sup> Missouri State Highway Commission (MSHC), Fourth Biennial Report of the State Highway Commission of Missouri for the Period Ending December 1, 1924 (Jefferson City: Hugh Stephens Press), 51; Missouri State Highway Commission (MSHC), Fifth Biennial Report of the State Highway Commission of Missouri for the Period Ending December 1, 1926 (Jefferson City: Hugh Stephens Press), 89.

Many of the grade-crossing eliminations came as the Highway Department designed and relocated the new state highways away from the older state-designated routes, some of which repeatedly crossed stretches of railroad tracks. During initial highway relocation surveys, the Highway Department chose economical points of crossing and routed the new highways along one side of the railroads for long distances. In the first two years of the Highway Commission, from 1922 through 1924, 160 of the 731 total railroad grade crossings in the state highway system were removed through road relocations.<sup>5</sup>

The other method for ridding the state highway system of its railroad grade crossings was the construction of separation structures, in the form of either highway overpasses or railroad overpasses. These projects involved the authorization of the Public Service Commission, with contractual agreements between the railroad companies and the Highway Commission which generally shared project costs equally. Shortly after the elimination program began, however, some of the railroad companies began to question their paying proportionate costs on certain overhead crossing projects. In November 1925, in the face of the railroads' growing protests, the Highway Commission formally resolved "to continue the present policy of having the railroad companies pay 50% of the cost of grade separations, including the approaches."<sup>6</sup>

The Highway Commission's resolution came as the C.R.I. & P. Railway Company appealed a decision made by the Public Service Commission requiring the Railway to pay one-third of the costs of a highway viaduct over its tracks at Route 8 (now Route 36) in northwest Missouri. The Cole County Circuit Court upheld the ruling made by the Public Service Commission, after which, in 1926, the Railroad brought its appeal before the Missouri Supreme Court. The Railroad argued, in sum, that it should not be required to pay for the costs of the viaduct approaches outside of its right of way; that in federal-aid projects, the Railroad should share only in the costs of the state's proportionate amount; that the Public Service Commission had no power to assess any costs against the Railroad where the grade crossing was not unusually dangerous; and that the Public Service Commission needed the consent of the Interstate Commerce Commission before ordering an expenditure by the Railroad.<sup>7</sup>

---

<sup>5</sup> MSHC, Fourth Biennial Report, 51; MSHC, Fifth Biennial Report, 99.

<sup>6</sup> "Policy Regarding Division of Costs of Grade Separations," November 12, 1925, Minutes of Proceedings of the Missouri State Highway Commission (MSHC), Secretary's Office, Missouri State Highway Commission, Jefferson City. Hereafter cited as Minutes, MSHC.

<sup>7</sup> "Chicago, Rock Island and Pacific Railway Company v. Public Service Commission of Missouri," 1108-1119.

The Supreme Court unanimously concurred in the majority opinion written by Judge C. Higbee who upheld the Circuit Court's earlier decision. Higbee determined that the entire cost of the grade separation project conceivably might be borne by the railroad company, since:

. . . it is the presence of the railroad track which makes necessary the construction of the viaduct. Take away the railroad and there would be no more need or occasion for a viaduct than for a Chinese pagoda. Hence, . . . the necessity for the overhead crossing being caused solely by the railroad track, the [Public Service] Commission, with entire propriety, might have apportioned the entire cost of the construction and maintenance of the viaduct to the railroad company.<sup>8</sup>

Higbee further ruled against the Railroad's contention that it should not pay for the viaduct approaches outside of its right of way. "The approaches are necessary parts of the crossing," Higbee wrote, "without which the viaduct would not be a crossing; it would be a useless obstruction." The judge also determined that federal-aid allotments for highway projects become state money, a matter in which the railroad company should not be concerned. He upheld Section 10459 that outlawed all grade crossings, including those which were not dangerous. Finally, Higbee concluded, the Public Service Commission did not need the approval or consent of the Interstate Commerce Commission to order the construction of the viaduct or to impose costs upon the Railroad. After this decision, the railroads had little recourse but to cooperate in the construction of grade separation structures.<sup>9</sup>

Through the 1920s, as the new state highway system steadily emerged, the State Highway Department remained more active than any other state in reducing the numbers of grade crossings. By the end of 1926, 320 grade crossings had been eliminated: 240 (75 percent) through highway relocations, and eighty (25 percent) through the construction of grade separation structures. The total cost of the structures then amounted to \$1,429,500. Fifty-eight were on U.S. highways, and the remainder were on the state system. Each of the remaining 411 grade crossings also had received at least some attention toward their future elimination. In addition, the department had erected mechanical warning signals at twenty locations.<sup>10</sup> By the end of 1930, the Highway Department had eliminated over 500 grade crossings, the majority (324) through highway relocations and about one-third (172) through grade separation structures.<sup>11</sup>

---

<sup>8</sup> Ibid., 1114.

<sup>9</sup> Ibid.; MSHC, Fifth Biennial Report, 100; see also "Chicago, Rock Island and Pacific Railway Company v. State Highway Commission of Missouri," Reports of Cases Determined by the Supreme Court of the State of Missouri, Vol. 322 (Columbia: E.W. Stephens Publishing Co., 1930), 419-434.

<sup>10</sup> MSHC, Fifth Biennial Report, 99-100.

<sup>11</sup> Missouri State Highway Commission (MSHC), Sixth Biennial Report of the State Highway Commission of Missouri for the Period Ending December 1, 1928 (Jefferson

The elimination program bogged down during the Great Depression when the railroad companies, faced with severe financial shortages, found it virtually impossible to contribute further toward grade separation structures. A large delegation of railroad officials met with the Highway Commission in December 1931 and discussed alternate means to continue the program. The railroad officials suggested delayed payment plans, cost sharing, cost reductions, and a long-range plan, but the Commission preferred to postpone the construction of separation structures until the economic conditions improved. Over a year later, in February 1933, as the Centennial Road System neared completion, the Chief Engineer T. H. Cutler reported that forty-seven grade separations remained in the construction program, but because of the railroads' continued financial straits, the Highway Department would have to make the best possible highway and railroad connections at grade level.<sup>12</sup>

Shortly after Cutler's report, however, new federal funds rescued the waning at-grade elimination program. Passage of the National Industrial Recovery Act (NIRA) in June 1933 provided, among other provisions, \$400 million for the nationwide construction of public highways and related projects. Missouri's allotment of NIRA highway funds totaled \$12,180,306. Approximately \$1.5 million of this was directed to be spent on railroad grade separations. Up to half of the NIRA allotments could be apportioned to "NRH" projects--those projects located outside of corporate municipalities. At least 25 percent of the funds were earmarked for municipal (NRM) road projects, and up to 25 percent could be allotted to secondary (NRS) road projects. Federal Aid funds provided 30 percent of project costs for labor and materials; state funds provided the remaining 70 percent. These Federal Aid Highway projects were overseen by the U.S. Bureau of Public Roads, U.S. Department of Agriculture. The Bureau approved project designs drafted by the Missouri State Highway Department, and enforced regulations governing minimum wages, working hours, and labor sources as stipulated in the NIRA.<sup>13</sup>

The Missouri State Highway Commission balked at portions of the new Federal Aid program, including the policy requiring the state to pay more than the traditional 50 percent

---

City: Hugh Stephens Press), 454; Missouri State Highway Commission (MSHC), Seventh Biennial Report of the State Highway Commission of Missouri for the Period Ending December 1, 1930 (Jefferson City: Hugh Stephens Press), 505.

<sup>12</sup> "Policy regarding deferred payments by railroads, postponement of grade separation program," September 8, 1931; "Conference with railroads regarding grade separations," November 10, 1931; "Request for conference regarding grade separation matters," December 8, 1931; "Delegation of railroad representatives regarding grade separations," December 15, 1931; Report regarding status of grade separation program; matter of temporary crossings," February 14, 1933, Minutes, MSHC.

<sup>13</sup> Missouri State Highway Commission (MSHC), Ninth Biennial Report of the State Highway Commission of Missouri for the Period Ending December 1, 1934 (Jefferson City: Hugh Stephens Press), 112-113, 178.

cost of railroad grade separation projects. Formerly, the railroad companies had shared the costs for such projects on an equal basis, a practice backed by state statute. In August 1933, in the face of the federal policy, the Commission decided to continue to have the railroads fund at least some portions of grade separations, particularly "such part of construction as is made necessary by railroad regulations and train operations." The Commission also decided to seek agreements with the railroads and the Bureau of Public Roads on uniform regulations for grade separation projects. After extensive legal wrangling between the Commission and the Bureau of Public Roads, the federal policy shifted to allow the railroads to share in the costs of grade separation projects on a "voluntary" basis, although not nearly to the extent as had been required in the past.<sup>14</sup>

The Highway Commission also resisted using Federal Aid funds on certain bridge and grade separation projects because of the accompanying wage and labor requirements. In August 1933, the Assistant Chief Engineer C. W. Brown provided examples of projects where "very little, if any advantage could be received in applying for these [NIRA] funds, as the extra cost of labor [as required by the act] more than offsets the amount received from the federal government." The Commission therefore decided to apply for Federal Aid funds only when it would be of financial benefit to the Highway Department.<sup>15</sup>

Despite these misgivings, the Highway Commission rapidly expended its allotted \$12 million of NIRA funds. The first contracts using the appropriations were let in September 1933. In November, the Commission requested the Bureau of Public Roads for an advance of \$2.5 million. In March 1934, after this request had been honored with only \$750,000, an amount insufficient for the projects already under contract, the Commission requested another advance of \$750,000. By July 1934, a year after passage of NIRA, the Highway Department had placed over \$10.5 million of its allotment under contract, with the balance of the funds committed to other projects then in the final stages of design.<sup>16</sup>

Meanwhile, development of the Crest Underpass project in Benton County had been underway for some years but had become bogged down in disagreements between the Highway Department and the C.R.I. & P. Railway. In the 1920s, the Highway Department had studied two crossing locations along Benton County's Route 52, one for a highway

---

<sup>14</sup> "Policy of Railroad Grade Separations from Funds of National Recovery Act," August 12, 1933, Minutes, MSHC; MSHC, Ninth Biennial Report, 112-113; "Federal Road Program Forges Ahead," Missouri Magazine, March 1934: 22.

<sup>15</sup> "Report on the Use of N.R.A. Funds on Bridges and Grade Separations," Aug. 31, 1933, Minutes, MSHC.

<sup>16</sup> "Resolution Concerning Request for Advance of Federal Funds Under Section 204, Title II, of the National Industrial Recovery Act," November 3, 1933; "Ratification of Application Made by the Chief Engineer for Additional Advance of NRH, NRM, and NRS Funds from the Federal Government," March 13, 1934, Minutes, MSHC; "State Highway News," Missouri Magazine July 1934, 28-29.

underpass and another for an overpass. Based on costs, the department had chosen to build the underpass. The Highway Commission approved the detail plans for this 6.2 mile section of Route 52--including "a grade separation under the C. R. I. and P. Railroad"--in August 1929.<sup>17</sup> By late 1933, however, the Railway and the Highway Department were still engaged in co-designing a structure agreeable to both. Responsibility for the design fell upon the Railway's engineering department headed by Bridge Engineer I. L. Simmons, while the Highway Department's Bridge Division under N. R. Sack reviewed and approved the Railway's plans. In October 1933, the railroad's latest revised blueprints allowed for a 30'-wide roadway underneath a proposed 52' plate deck girder span on timber pile bents and concrete end abutments. Although Sack's bridge division approved the general design, Sack and Simmons disagreed as to which set of construction specifications to use in guiding the work. Sack insisted on the Highway Department's Standard Specifications; Simmons preferred the Railway's own set of specifications coupled with A.R.E.A. specifications, which he claimed "were standard and probably better known than any other specifications."<sup>18</sup> After failing to reach a compromise, Sack finally closed the debate saying, "We accordingly will do nothing further relative to the checking of the specifications and plans until this matter [of specifications] is definitely decided upon."<sup>19</sup>

Several more months elapsed before the Crest Underpass project had advanced to a stage seemingly agreeable to both parties. The project by then had become an NRH project requiring the involvement of the U.S. Bureau of Public Roads. Additional funds for its construction had been supplied through the Hayden-Cartwright Road Act, passed by Congress on June 18, 1934. This act appropriated another \$200,000,000 for nationwide highway construction under the same terms as outlined in the NIRA. Missouri's apportionment under this bill totaled \$6,173,740. In August 1934, the Highway Department forwarded to the C.R.I. & P. Railway for its signature, a copy of the contract for the Crest Underpass construction along with a joint application to the Public Service Commission. The project failed a final hurdle, however, when officials of the Bureau of Public Roads denied its approval. The Bureau's Senior Highway Bridge Engineer, John Quinn, questioned its necessity, calling Route 52 "a road of minor importance with possibilities of carrying only a small amount of tourist traffic," while also noting the railroad track was "in a very dilapidated

---

<sup>17</sup> "Approval of Detail Plans," August 13, 1929, Minutes, MSHC; Memorandum, John I. Quinn to Clifford Shoemaker, September 11, 1934, Bridge No. K-448 Correspondence File, Bridge Division, Missouri Department of Transportation, Jefferson City; hereafter cited as Bridge File, MDOT.

<sup>18</sup> The basis for the acronym A.R.E.A. is unknown. I. L. Simmons to N. R. Sack, November 2, 1933, Bridge File, MDOT.

<sup>19</sup> N. R. Sack to I. L. Simmons, November 29, 1933; See also, I. L. Simmons to N. R. Sack, October 13, 1933; N. R. Sack to I. L. Simmons, October 24, 1933; I. L. Simmons to N. R. Sack, October 26, 1933; N. R. Sack to I. L. Simmons, October 30, 1933; I. L. Simmons to N. R. Sack, November 2, 1933; N. R. Sack to I. L. Simmons, November 15, 1933; I. L. Simmons to N. R. Sack, November 22, 1933, in Bridge File, MDOT.

condition in the vicinity of the proposed separation," and evidently carried little freight. After reviewing the two locations of the Highway Department's original study, Quinn recommended construction of the highway overpass rather than the planned underpass. "In this district," Quinn reported, "overheads have been favored over underpass locations for one reason besides others of the difficulties of arriving at agreements with railroads on underpasses in the matter of costs, methods of construction, and types of structures."<sup>20</sup>

The Highway Department's Chief Engineer, T. H. Cutler, attempted to salvage the work already accomplished for construction of the underpass. Cutler provided the studies and cost estimates of both the underpass and overpass at Crest to the Bureau's District Engineer in Omaha, Clifford Shoemaker, noting the underpass location would cost \$5,000 less. Cutler then countered Quinn's argument that underpass projects generally provoked disagreements with the railroads:

We have not had any trouble in this State from this source other than that anticipated. When all railroads operating in this State, except one, agree to our policies we do not feel that we should change our practices for this one. This trouble referred to by Mr. Quinn has been on hand ever since the State Highway Department's program started. At the beginning of this NRA program we advised all railroads that they would receive similar treatment wherever this money was used, and in view of the several underpasses already under way and agreed upon with other railroads, we do not feel like making any other arrangements with the Rock Island.

Cutler added that the underpass location had been chosen some time ago, that the plans had been completed, and that the right of way had already been secured at a cost to Missouri taxpayers of \$1,400.<sup>21</sup>

Despite Cutler's arguments, Shoemaker agreed with Quinn and insisted on the highway overpass. Accordingly, in November 1934, Cutler abandoned the plans for the underpass, ordering the Department's Kansas City District Engineer to begin the survey for the highway overpass crossing while securing the necessary right of way, since it was the only location that the Bureau would approve. Then a month later, Shoemaker's superiors in Washington, D.C., reversed his decision and approved the underpass construction, but with several conditions. First, the Bureau needed assurance of the importance and future continuance of the C.R.I. & P.'s line through Benton County. Second, the Railway was relieved of any costs associated with the Crest Underpass project. This policy was to be extended to all railroad crossing eliminations in the state, without exception, as the imposition of costs upon the railroads violated the laws and regulations governing grade elimination projects built with federal funds.

---

<sup>20</sup> Floyd C. Shoemaker, Missouri and Missourians, 5 Vols. (Chicago: Lewis Publishing Company, 1943), II: 524; Missouri State Highway Commission (MSHC), Tenth Biennial Report of the State Highway Commission of Missouri for the Period Ending December 1, 1934 (Jefferson City: Hugh Stephens Press), 55; Memorandum, John I. Quinn to Clifford Shoemaker, September 11, 1934, Bridge File, MDOT.

<sup>21</sup> T. H. Cutler to Clifford Shoemaker, October 26, 1934, Bridge File, MDOT.

Finally, the Bureau warned, that in giving its approval for any future projects it would give no consideration to the previous acquisition of right of way as it had generously done for the Crest Underpass project.<sup>22</sup>

In early 1935, the Highway Department retrieved the preliminary plans for the underpass drawn up over a year before and began to finalize the details with the help of the C.R.I. & P. Because the Railway would no longer be contributing to the costs of the bridge, estimated at over \$18,000, Cutler also ordered his Bridge Division to consider devising a less expensive structure. The Railway, in finalizing their plans for the 52' plate deck girder span, soon realized their original cost estimate had no substantial basis and was much too low, which further spurred the Bridge Division into developing another, more economical crossing. By May 1935, Sack's engineers had sketched out a longer, five-span crossing on open bents and open abutments which they believed would cost less than the one-span bridge originally designed. Again, responsibility for developing the detailed blueprints of the newly proposed bridge and estimating its costs fell upon the C.R.I. & P.'s Engineering Department, which found the suggested structure "a wide departure from anything we have heretofore constructed." The Railway also redesigned its single-span bridge, shortening it to 45', hoping to prove it a cost-effective structure that met their needs and the needs of the Highway Department.<sup>23</sup>

Through the remainder of 1935 the two groups under Simmons and Sack considered these and various other structural designs, trying to reconcile the Highway Department's concerns over costs with the Railway's concerns over structural stability and railroad safety. Proposals by one met with objections and counter-proposals by the other. Sack's Bridge Division continued to believe that a five-span structure would prove the most economical, and although Simmons continued to prefer the single-span structure, his Engineering Department patiently followed Sack's suggestions in trying to develop plans acceptable to both parties. Hopes to build the underpass during the 1935 highway program faded.<sup>24</sup>

In late October, an exasperated Sack confided to the Department's Engineer of Grade Separations, Roy Johnson:

---

<sup>22</sup> T. H. Cutler to J. J. Corbett, November 7, 1934; Clifford Shoemaker to T. H. Cutler, December 26, 1934, Bridge File, MDOT.

<sup>23</sup> T. H. Cutler to R. H. Ford, March 9, 1935; I. L. Simmons to T. H. Cutler, March 22, 1935; T. H. Cutler to I. L. Simmons, May 1, 1935; I. L. Simmons to T. H. Cutler, June 8, 1935, Bridge File, MDOT.

<sup>24</sup> I. L. Simmons to T. H. Cutler, June 15, 1935; N. R. Sack to I. L. Simmons, July 18, 1935; I. L. Simmons to N. R. Sack, August 2, 1935; N. R. Sack to I. L. Simmons, August 9, 1935; N. R. Sack to I. L. Simmons, September 2, 1935; I. L. Simmons to N. R. Sack, September 13, 1935; T. H. Cutler to I. L. Simmons, October 1, 1935; I. L. Simmons to T. H. Cutler, October 9, 1935; I. L. Simmons to T. H. Cutler, October 16, 1935, Bridge File, MDOT.

In our correspondence with the Rock Island we have indicated several changes that could be made which would result in some further economy. They have in many instances objected to changes as not being consistent with their present and past practices. We have had a great deal of difficulty with them in obtaining a plan which has been at all satisfactory. We are very doubtful as to whether or not we can obtain a plan from them which will show any more economy than that last submitted, especially since the preparation of these plans is left in their hands.<sup>25</sup>

In January 1936, anxious to settle the prolonged disputes, Chief Engineer Cutler conferred with the Assistant Chief Engineer of the C.R.I. & P., Robert H. Ford. They agreed to set up a face-to-face conference between Sack and Simmons who would be given full authority to hammer out agreements on the plans and construction procedures for the Crest Underpass. The two met in Sack's office on January 28, and reached a compromise on a modified version of a five-span structure proposed earlier. The substructure would consist of end stub abutments set on reinforced concrete pilings; intermediate concrete pile bents driven to bedrock; and central open piers, also on concrete pilings. The central piers would be set on more stable spread footings, as the Railway desired, if the soil conditions permitted. The spans would consist of a central, 36" I-beam span 38'-6" long, and two approach spans at each end, consisting of 30" I-beams 19'-0" long. The Railway would also provide plans for the temporary falsework underneath the spans, while the Highway Department would pay for the falsework, a departure from earlier agreements. The Highway Department's Standard Specifications would guide the majority of the construction; A.R.E.A. Specifications for railroad bridges would cover the steel design and workmanship, the concrete design, and waterproofing of the bridge deck's asphalt planks.<sup>26</sup>

In a few short weeks following the conference, the Railway provided new plans for the structure which were reviewed and revised by Sack's Bridge Division, who returned them to Simmons' department for marking the corrections. With progress on the structure finally evident, Simmons expressed his relief. "It is very gratifying to me to see we are approaching a solution of this problem, and I wish to thank the Department for this fine spirit of cooperation in reaching an agreement on the type of bridge which should be built here."<sup>27</sup> Other problematic details were quickly resolved, the project specifications were satisfactorily drafted, and by early April, Simmons considered the matter closed, pleased by the end to the negotiations.<sup>28</sup>

---

<sup>25</sup> Memorandum, N. R. Sack to Roy Johnson, October 29, 1935, Bridge File, MDOT.

<sup>26</sup> Robert H. Ford to T. H. Cutler, January 25, 1936; Memorandum, N. R. Sack, January 28, 1936, Bridge File, MDOT; "C.R.I. & P.R.R. Underpass, Project No. NRH-356A, Benton County, Bridge No. K-448," Detail Plans, Bridge Division, Missouri Department of Transportation, Jefferson City.

<sup>27</sup> I. L. Simmons to N. R. Sack, February 26, 1936, Bridge File, MDOT.

<sup>28</sup> N. R. Sack to I. L. Simmons, February 17, 1936; I. L. Simmons to N. R. Sack, February 26, 1936; I. L. Simmons to N. R. Sack, February 27, 1936; I. L. Simmons

Construction bids for the Crest Underpass, designated as Project No. NRH-356A, were opened and awarded on July 17, 1936. The Chernus Construction Company of St. Louis received the bridge contract with a bid of \$35,152, also receiving the contract to grade and pave the adjoining three miles of Route 52.<sup>29</sup> The contract between the Trustees of the C.R.I. & P. Railway Company and the Missouri State Highway Commission to construct the underpass was signed on July 25. Under the terms of this contract, the Commission agreed to reimburse the Railway for all costs it would incur during the project; the Railway agreed to maintain the structure, and the Highway Department would maintain the roadway.<sup>30</sup> On August 28, having received a joint application from the Commission and the Railway Trustees, the Public Service Commission formally ordered the construction of the underpass.<sup>31</sup>

The Crest Underpass was completed on May 3, 1937. Final costs ran \$2,168 over the contract price. Indemnities to the Railway totaled approximately \$5,000. The Highway Department accepted the work after a joint inspection by its Grade Separation Engineer and the Railway's Division Engineer. Although he called it "a fine structure," the Railway's representative did note open construction joints between the floor and the curbs on two of the end spans where monolithic construction had been intended. The Railway nevertheless gave its acceptance on August 2. Clifford Shoemaker of the Bureau of Public Roads proved less lenient. An inspection by his office made in November showed cracks and spalling in the concrete floor. Shoemaker subsequently withheld federal approval of the bridge until the problems were remedied. By then, however, the Department had received all but \$2,000 of the federal funds earmarked for the project, and concluded, "The State will not be seriously affected due to the Bureau's unsatisfactory report."<sup>32</sup>

---

to N. R. Sack, March 3, 1936; N. R. Sack to I. L. Simmons, March 19, 1936; I. L. Simmons to N. R. Sack, March 30, 1936; N. R. Sack to I. L. Simmons, April 2, 1936; I. L. Simmons to N. R. Sack, April 8, 1936, Bridge File, MDOT.

<sup>29</sup> "Tabulation of Bids Recieved, Project Nos. F.A.P.-356A and NRH-356A," July 17, 1936, Bid Tabulations, Plans and Records Office, Design Division, Missouri Department of Transportation.

<sup>30</sup> "Contract for Grade Separation," July 25, 1936, Bridge File, MDOT.

<sup>31</sup> The Public Service Commission mistakenly ordered the construction of an overhead crossing. "State of Missouri, Public Service Commission, Case No. 9207," August 28, 1936, Bridge File, MDOT.

<sup>32</sup> J. J. Corbett to W. H. Burgwin, "Construction: Final Inspection and Final Acceptance," May 5, 1937; I. L. Simmons to N. R. Sack, June 18, 1937; N. R. Sack to I. L. Simmons, July 1, 1937; I. L. Simmons to N. R. Sack, July 7, 1937; N. R. Sack to I. L. Simmons, July 12, 1937; C. J. Brown to C. W. Brown, August 2, 1937; J. J. Corbett to C. W. Brown, "Construction: Unsatisfactory Report," December 16, 1937, Bridge File, MDOT; "Final Audits of Completed Projects Prior to July, 1937 Meeting," July 13, 1937, Minutes, MSHC.

In the two year period between December 1, 1934, and December 1, 1936, when the Crest Underpass was designed and put under contract, the Highway Department used its second NIRA allotment of \$6,173,740 to help construct thirty-nine other railroad grade separation structures across the state, for a total cost of about \$2 million. The railroads contributed about \$100,000 to these projects.<sup>33</sup>

The C.R.I. & P. Railroad continued to use and maintain the Crest Underpass for approximately forty-two years. The company ended its passenger service from St. Louis to Kansas City in 1950, but continued to carry passengers over the line between Kansas City and Eldon for another decade. The railway company ceased its freight operations in 1979, and was acquired by the St. Louis Southwestern Railway Company in the following year. No rail traffic has been handled on the line under the new ownership.<sup>34</sup>

---

<sup>33</sup> "Approval of Detail Plans," Aug. 31, 1934; "Approval of Detail Plans," November 9, 1934; "Award of Contracts for Constructing State Road Work on which Bids were Received," December 21, 1934; "Final Audits of Completed Projects Prior to September 1936 Meeting," September 8, 1936, Minutes, MSHC.

<sup>34</sup> St. Louis Southwestern Railway Company, "Historic Report."

### List of Photographs (orientations)

- Number 1 facing north
- Number 2 facing north
- Number 3 facing northwest
- Number 4 facing north
- Number 5 facing north
- Number 6 facing north
- Number 7 facing northwest
- Number 8 facing east
- Number 9 facing west
- Number 10 facing west
- Number 11 facing north
- Number 12 facing west
- Number 13 facing east
- Number 14 facing east
- Number 15 facing west
- Number 16 facing west
- Number 17 facing east
- Number 18 facing northwest
- Number 19 facing west
- Number 20 facing west
- Number 21 facing northwest
- Number 22 facing east
- Number 23 facing south
- Number 24 facing south
- Number 25 facing south

Photograph 1



Photograph 2



Photograph 3



Photograph 4



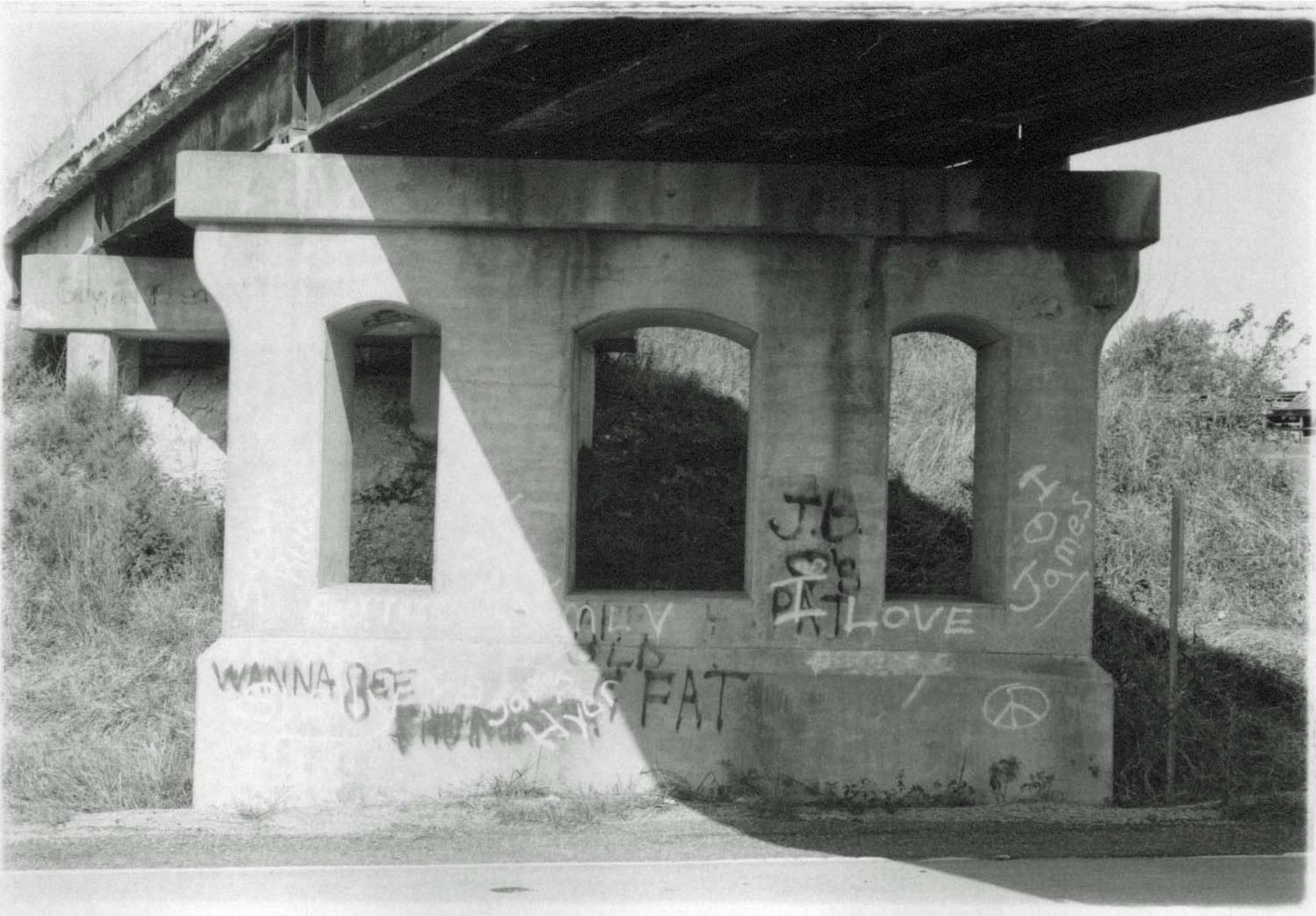
Photograph 5



Photograph 6



Photograph 7



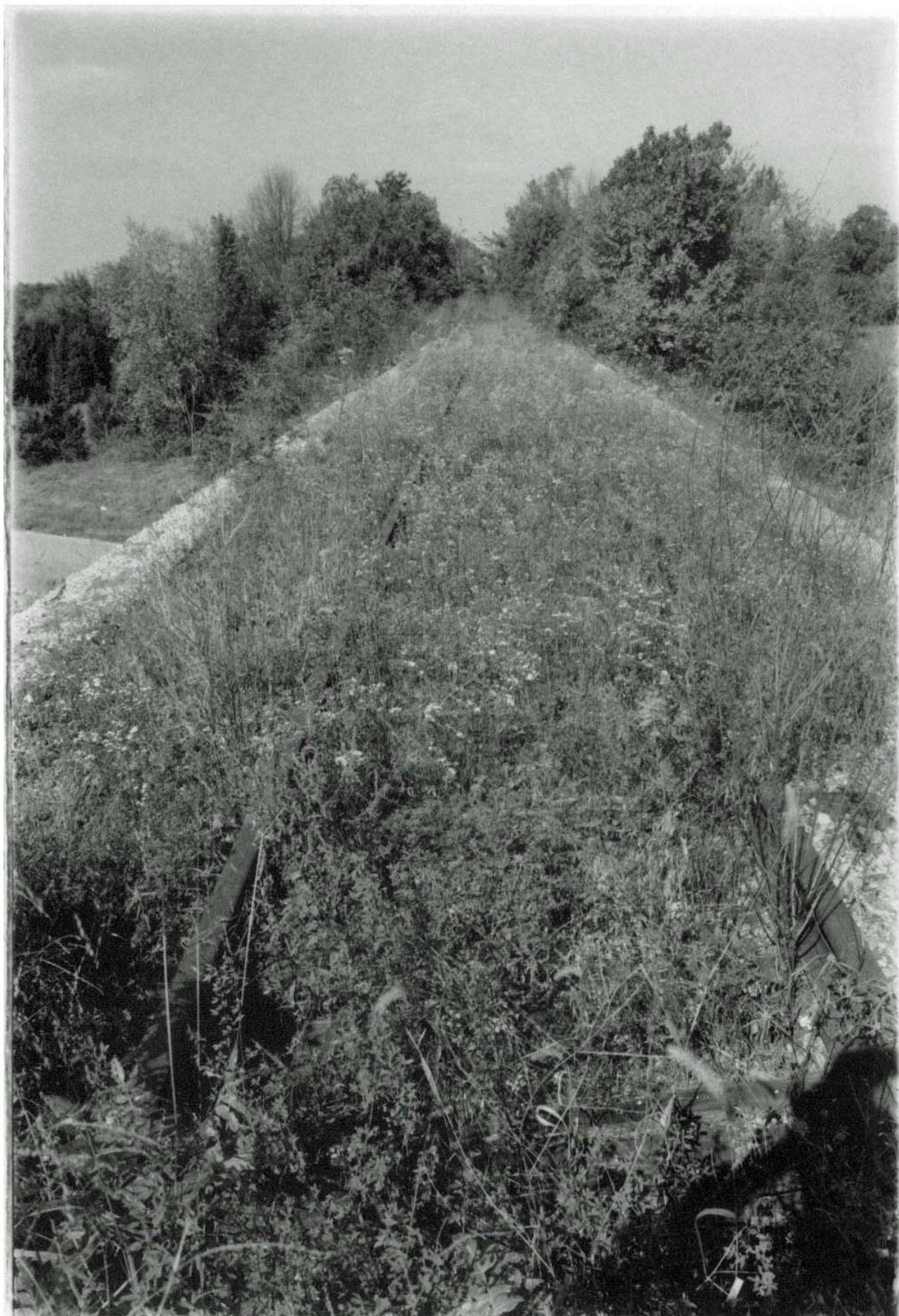
Photograph 8



Photograph 9



Photograph 10

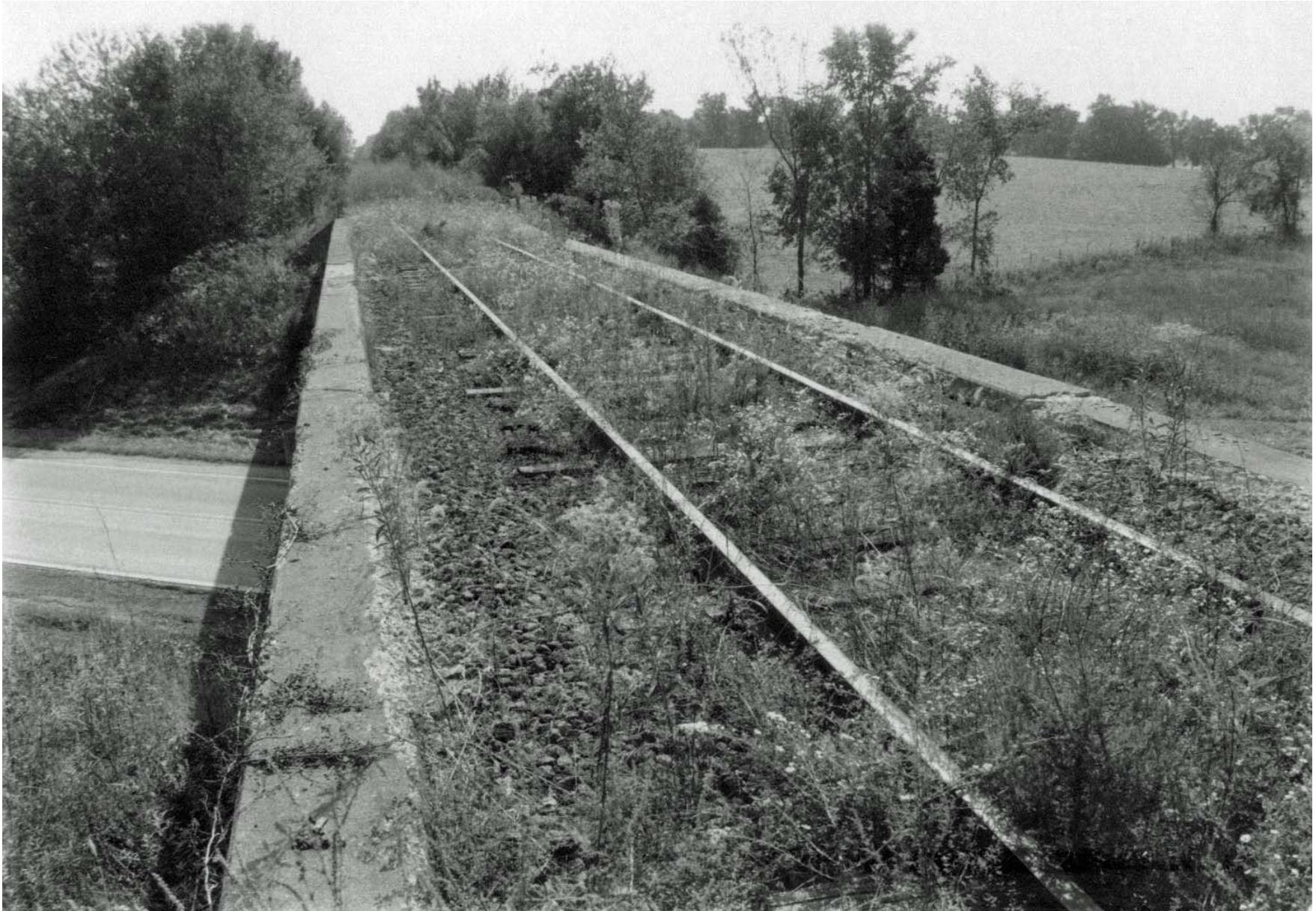




Photograph 12

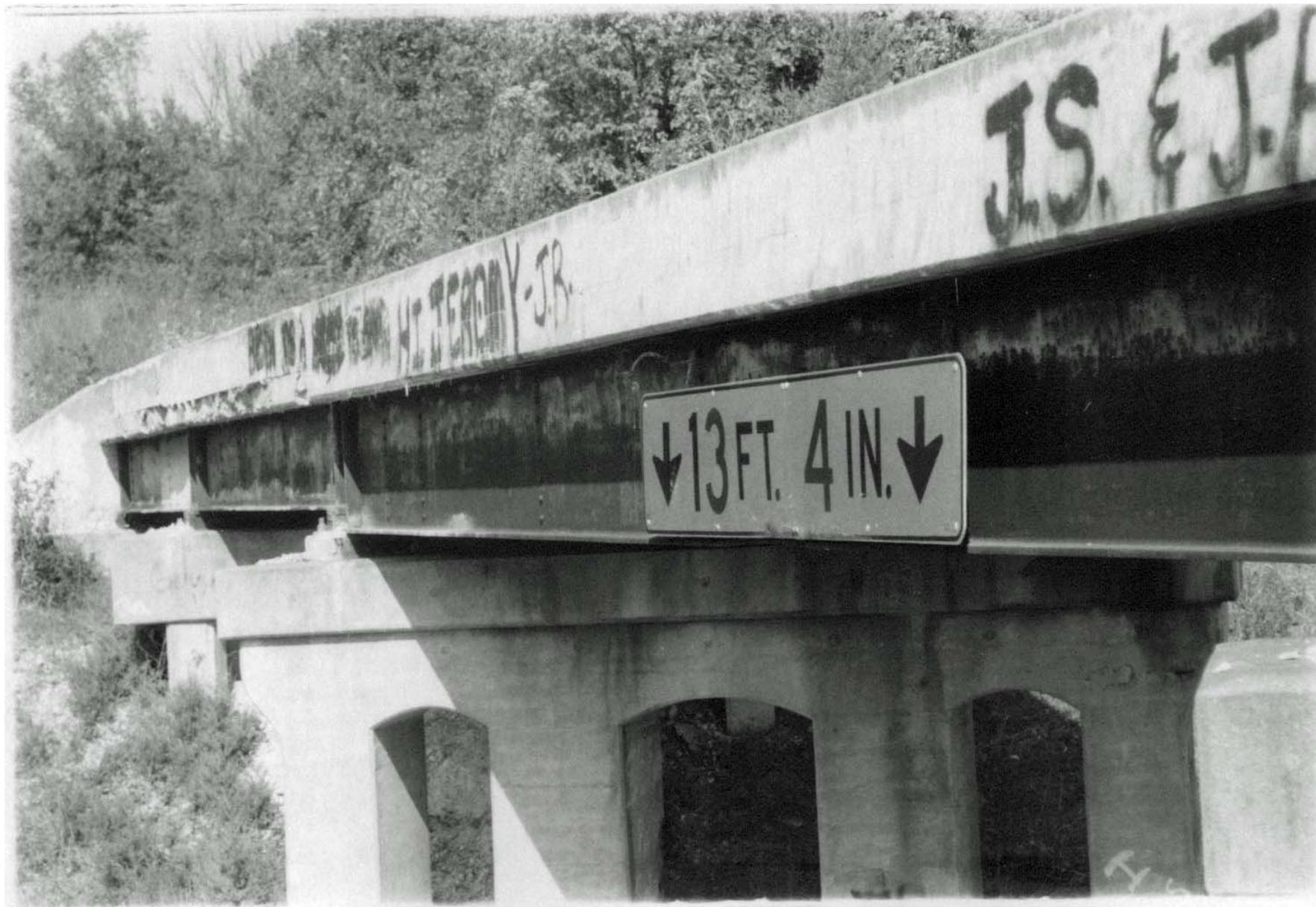


Photograph 13





Photograph 15



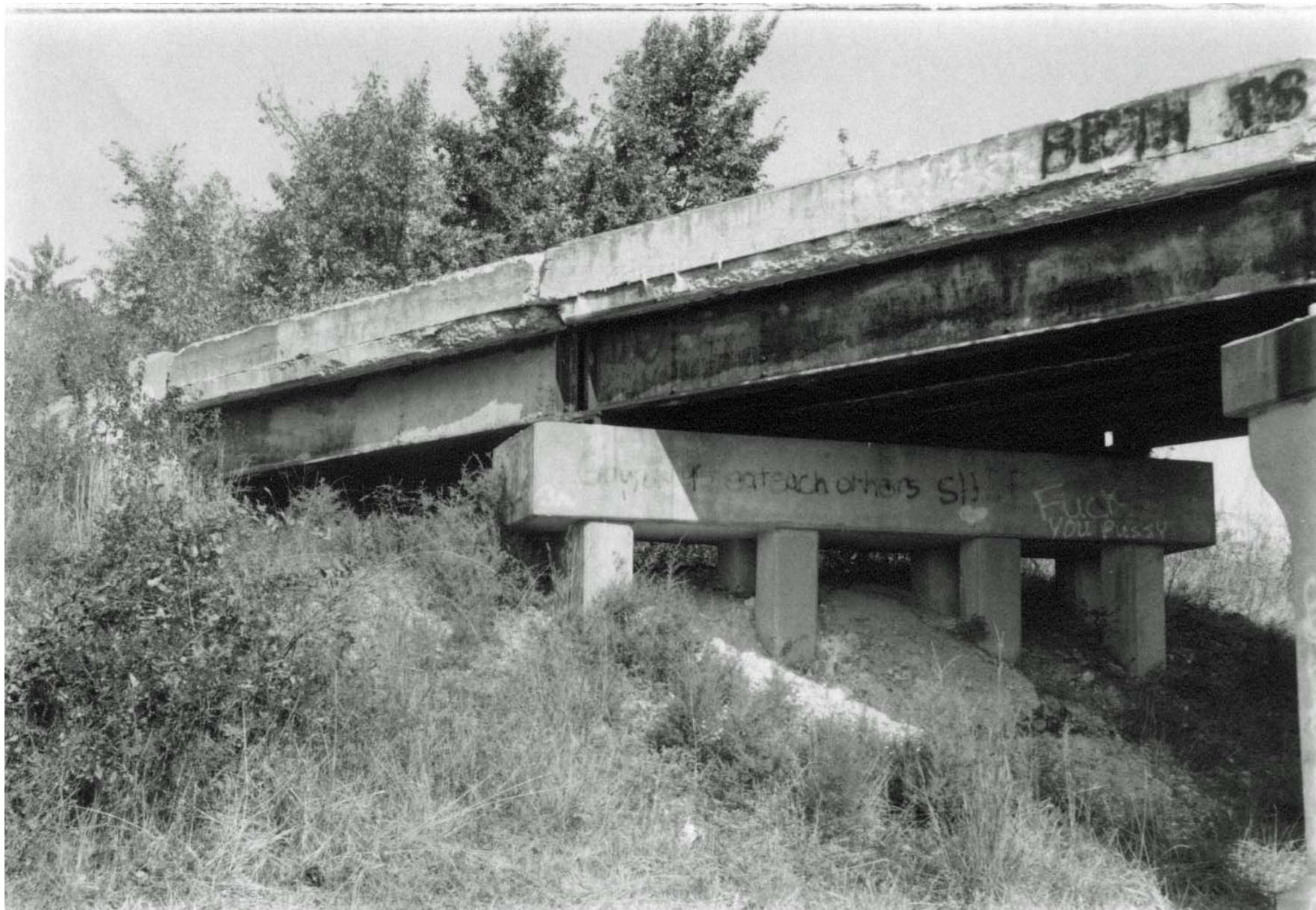
Photograph 16



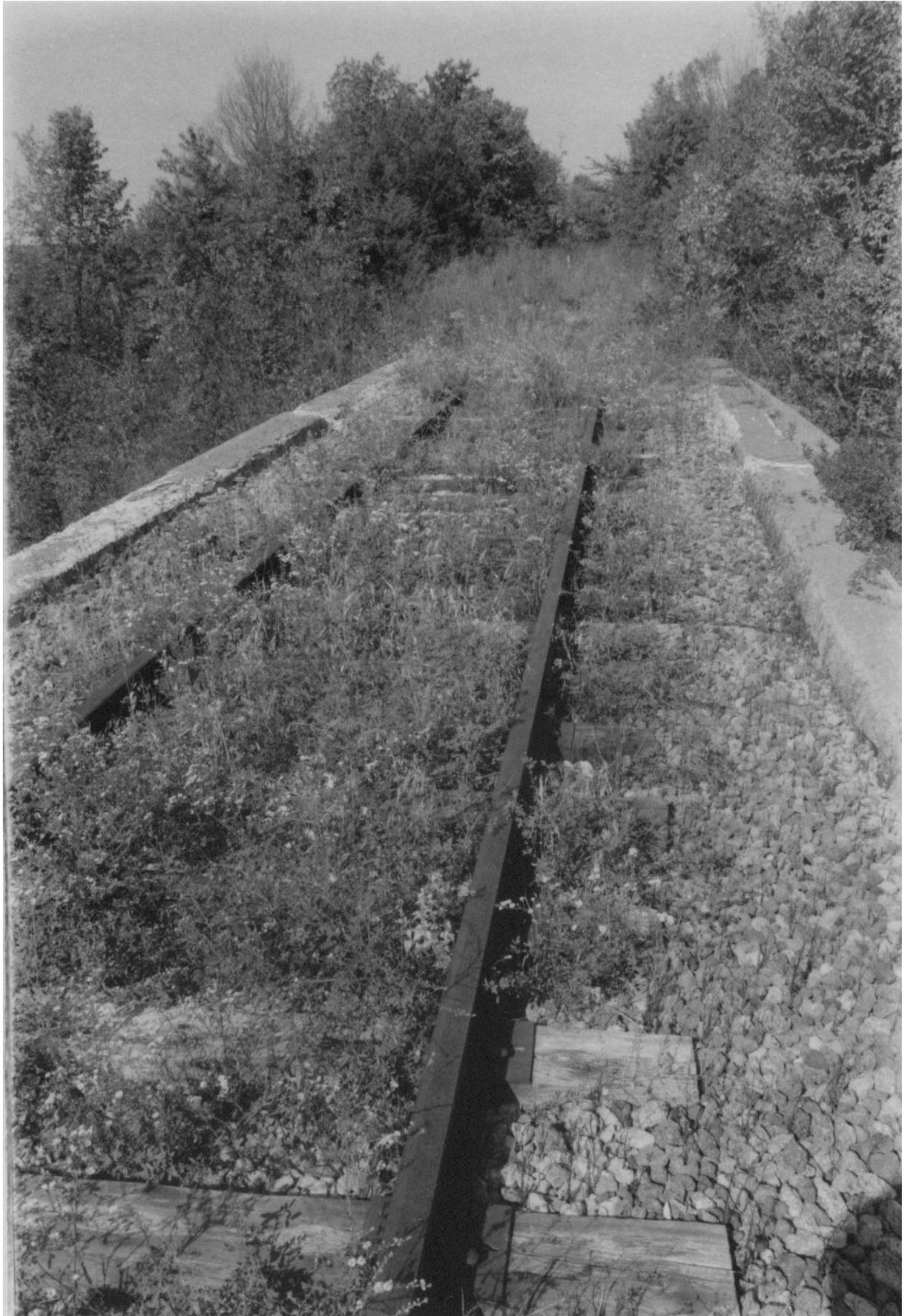
Photograph 17

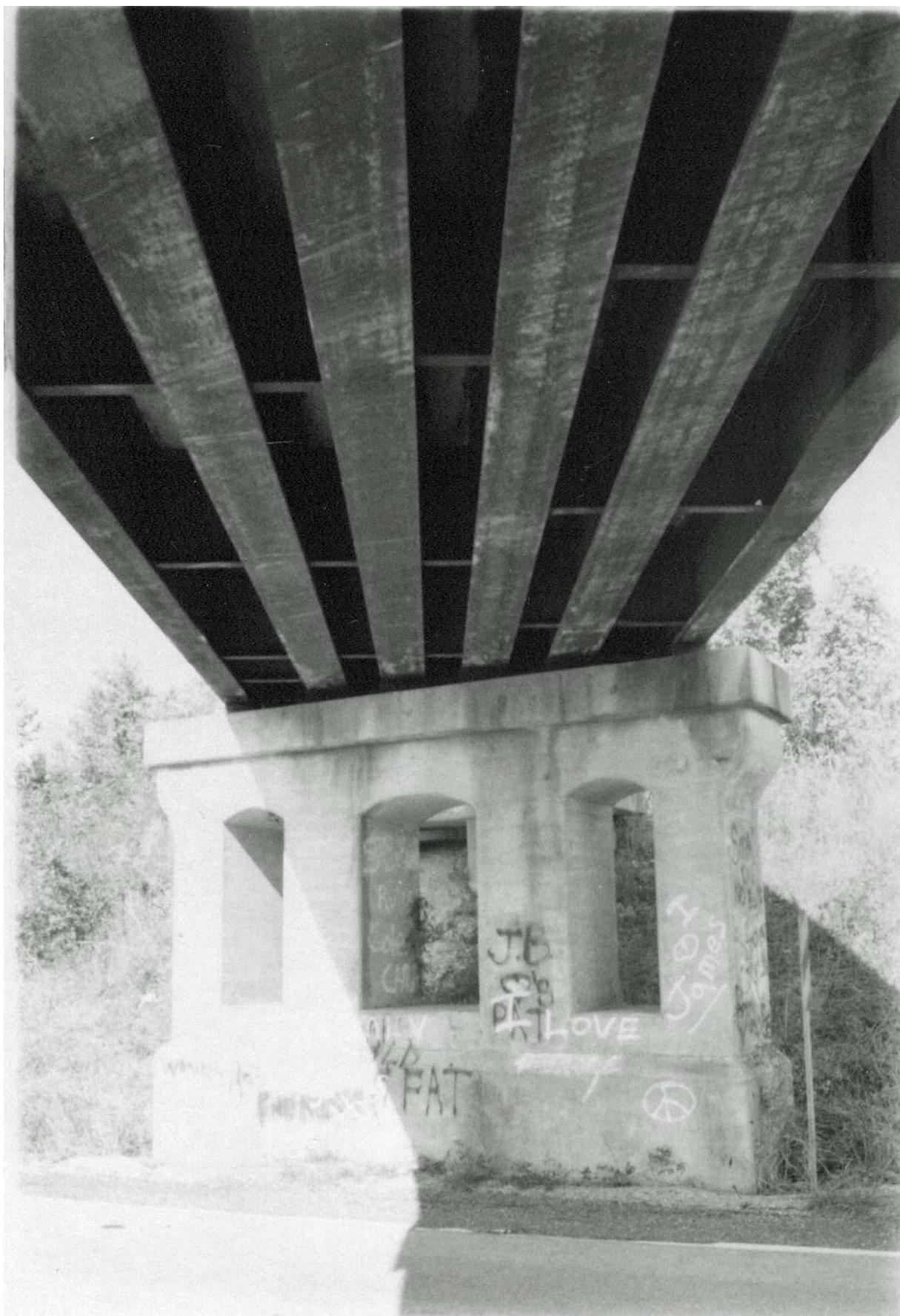


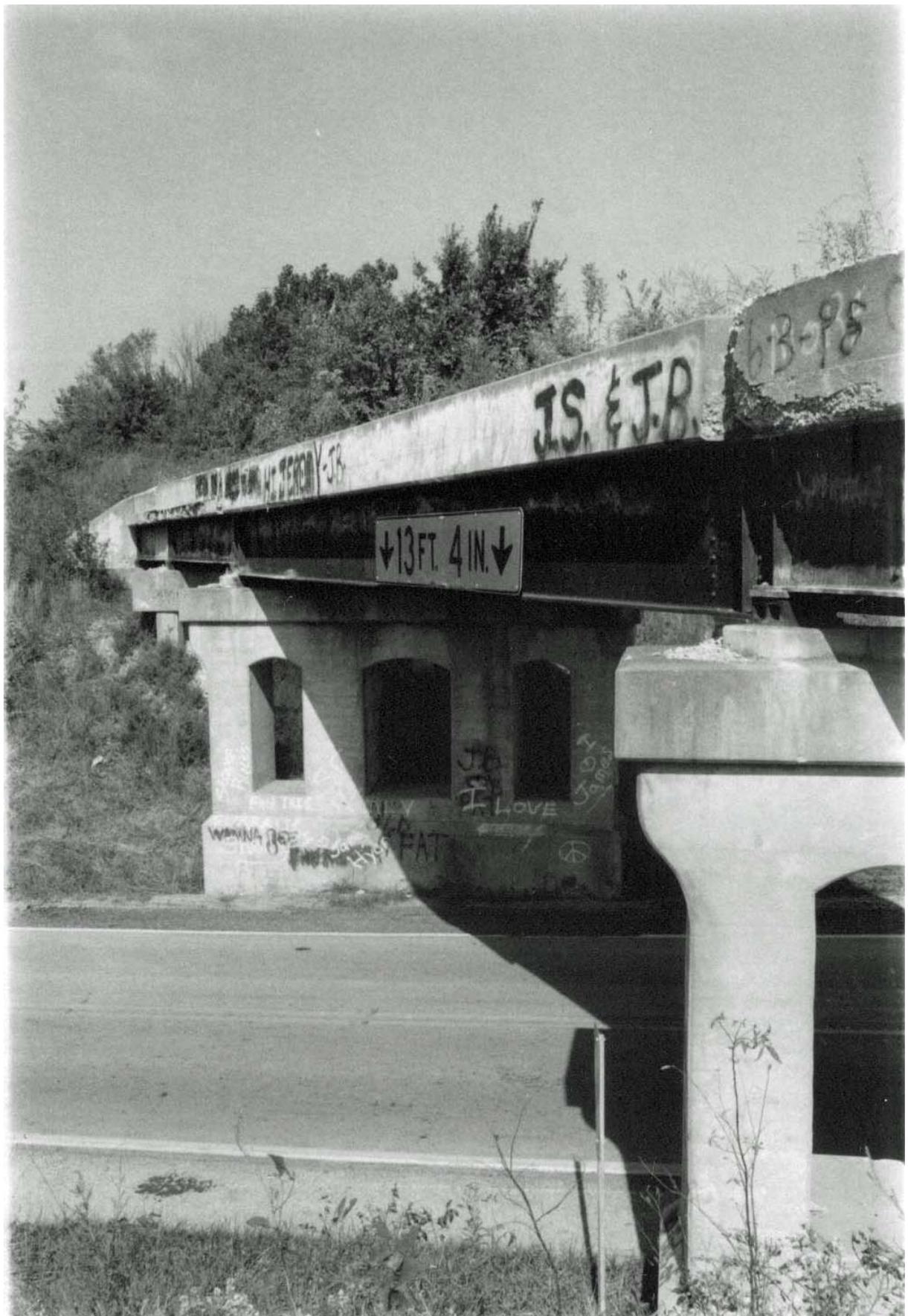
Photograph 18



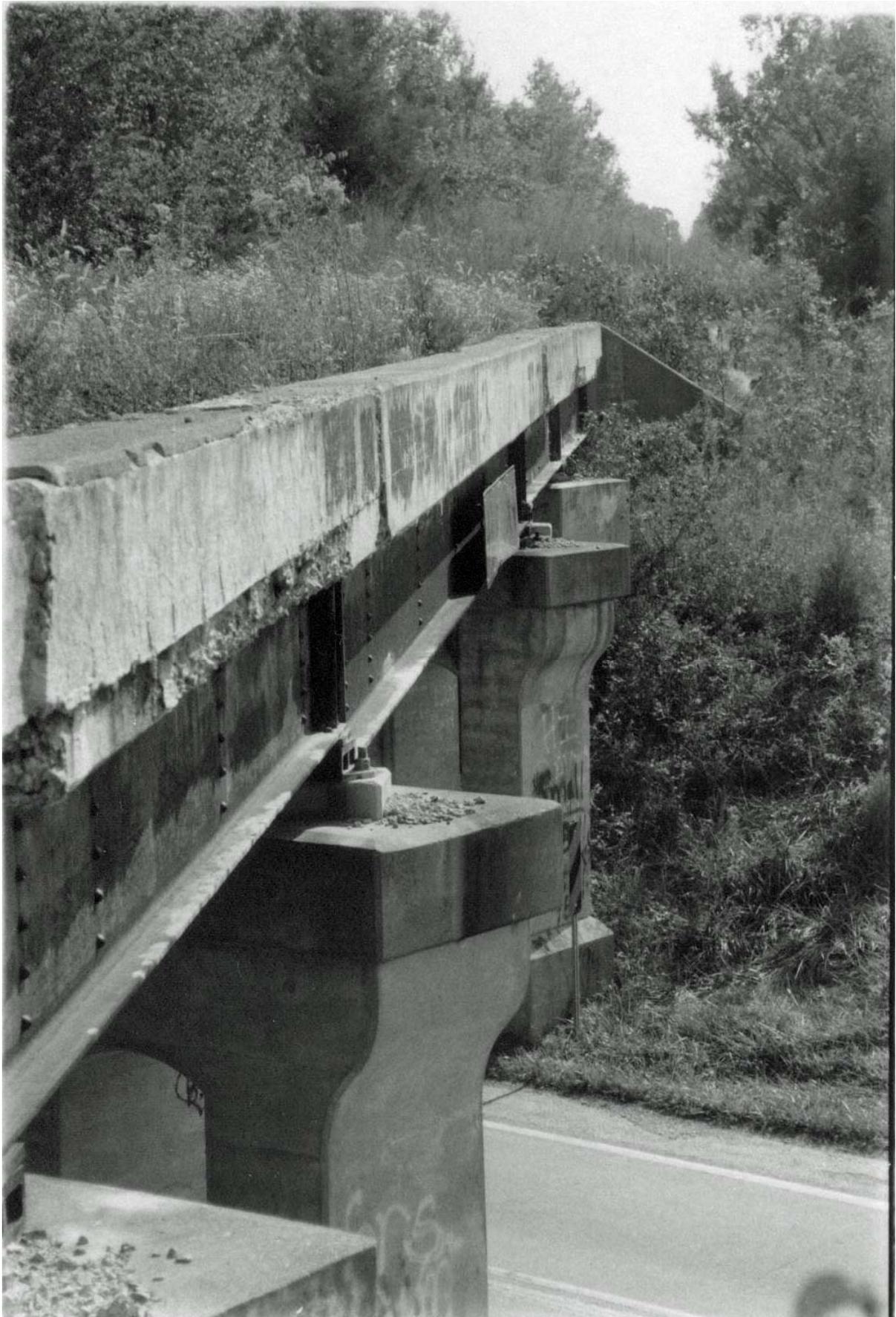
Photograph 19







Photograph 22



Photograph 23



Photograph 24



Photograph 25

