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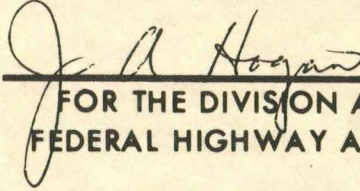
SUTLIFF BRIDGE OVER THE CEDAR RIVER JOHNSON COUNTY, IOWA PROJECT NO. BROS-9052(3)

ENVIRONMENTAL ASSESSMENT SUBMITTED PURSUANT TO 42 USC 4332(2)(c) DRAFT SECTION 4(f) STATEMENT AND PRELIMINARY CASE REPORT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
IOWA DEPARTMENT OF TRANSPORTATION
PLANNING AND RESEARCH DIVISION

"Approved for circulation and comment."

4/21/82
DATE


FOR THE DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

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DESCRIPTION OF THE PROPOSED ACTION

The proposed action as detailed in this Environmental Assessment involves the construction of a new bridge across the Cedar River and the removal of the existing Sutliff Bridge, a three span Parker style high truss structure which presently spans the river near the unincorporated community of Sutliff in northeastern Johnson County, Iowa. The bridge is a structurally deficient, functionally obsolete structure with inadequate vertical and horizontal clearance. The replacement structure will be constructed on new alignment, approximately one-half mile upstream of the existing bridge site. The new alignment will require approach roadway grading on both sides of the proposed bridge. Total project length is approximately 1.35 miles, which includes a west roadway approach of approximately 0.64 mile, an 867-foot long bridge structure, and an east roadway approach of approximately 0.55 mile. See Figure 1 for a project location map. The existing Sutliff Bridge has been determined eligible for the National Register of Historic Places. See pages 3-6 for pictures of the bridge and surrounding area.

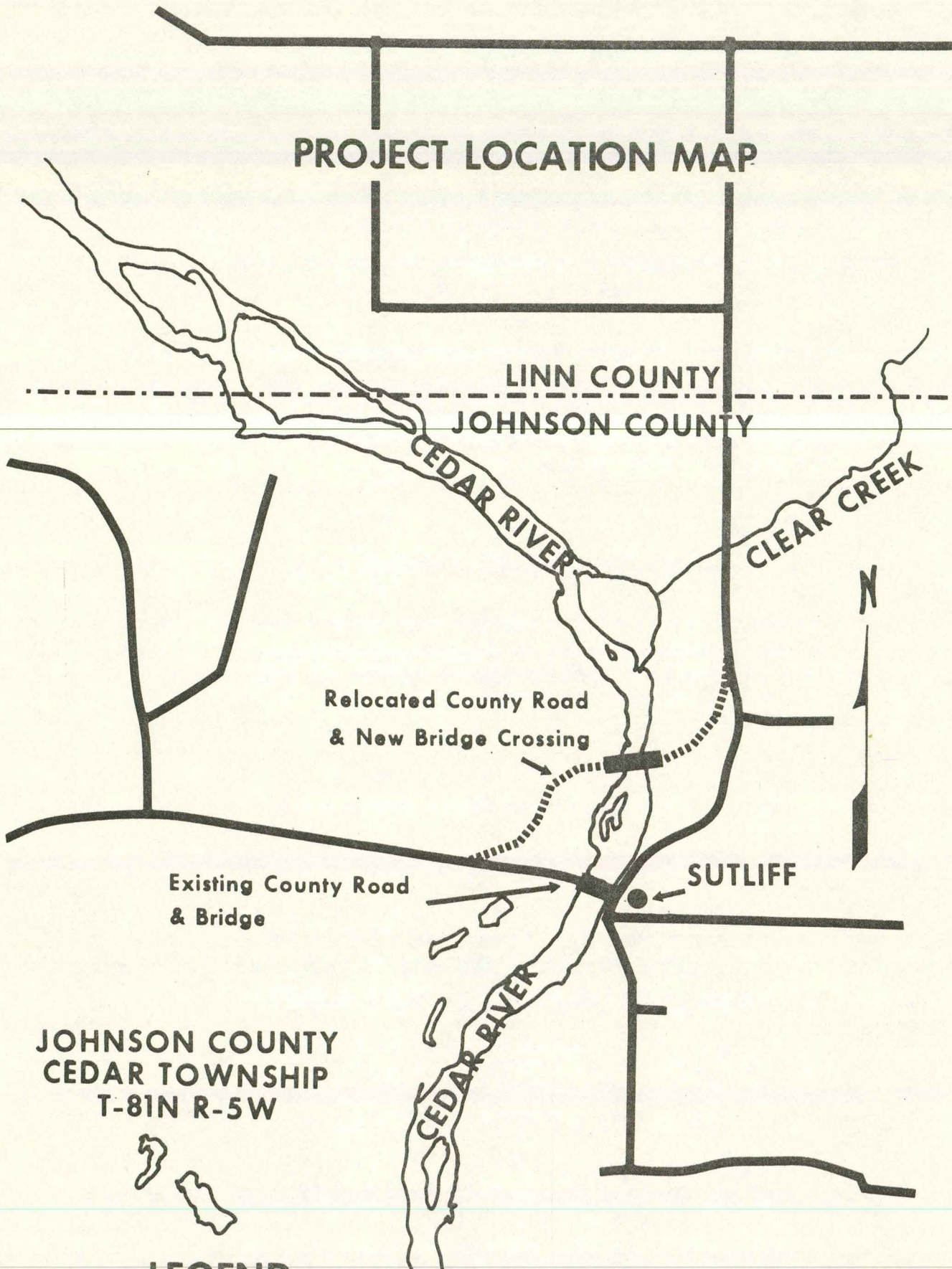
NEED FOR THE PROJECT

The existing Sutliff Bridge is an 827 x 16-foot three span structure originally constructed in 1898 by the Iowa Bridge Company. The structure is a Parker style pin connected high truss bridge with a posted vertical clearance of 14 feet. Each of the three main spans are 215 x 16 feet. The west approach is an eight span 155 x 16-foot wood trestle, and the east approach is a single span 27 x 16-foot wood trestle.

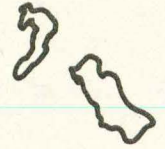
The Sutliff Bridge is in a very deteriorated condition and has been a constant maintenance problem for Johnson County, particularly in recent years. According to Federal Bridge Inspection Requirements, the existing structure has a sufficiency rating of 16.9 (on a 100 point evaluation) and is currently rated to permit only four ton gross loads. This weight restriction prohibits practically all movement of agricultural commodities, school buses, fire trucks, road maintenance vehicles, construction equipment, and commercial supplies for the community of Sutliff. The bridge presently carries an average daily traffic volume of approximately 190 vehicles per day with traffic estimated at 300 vehicles per day if a new bridge is constructed. The narrowness of the bridge severely limits vehicular operations upon it. Only one-way traffic is permitted, at extremely low speeds, and for loads restricted to four tons or less. The AASHTO policy specifies that bridges should be closed when less than three ton posting is required. Major structural deficiencies of the bridge include low vertical clearance, a weak and deteriorated wood flooring system, serious problems with the truss diagonal eyebars, and approach spans which have differential settlement and inadequate safety railing.

A 1979 Iowa Structure Inventory and Appraisal (SI&A) Report determined that "this is a dangerous old bridge which is being used by loads in excess of the posting and could collapse if not replaced." In a letter to the Johnson County Engineer, the consulting firm who performed the SI&A inspection states that "all of us are pushing our fortune by maintaining the bridge in service. In spite of its four ton posting, which in my judgement is at least two tons too high, larger loads persist in using the structure." The letter also states that "the bridge is in bad condition, it probably cannot be fixed, and if it is used much longer, it is quite likely to fail." A copy of this letter to the county engineer, which details extensively some of the major problems with the structure, can be found in Exhibit B of the Supportive Documentation of this report.

PROJECT LOCATION MAP



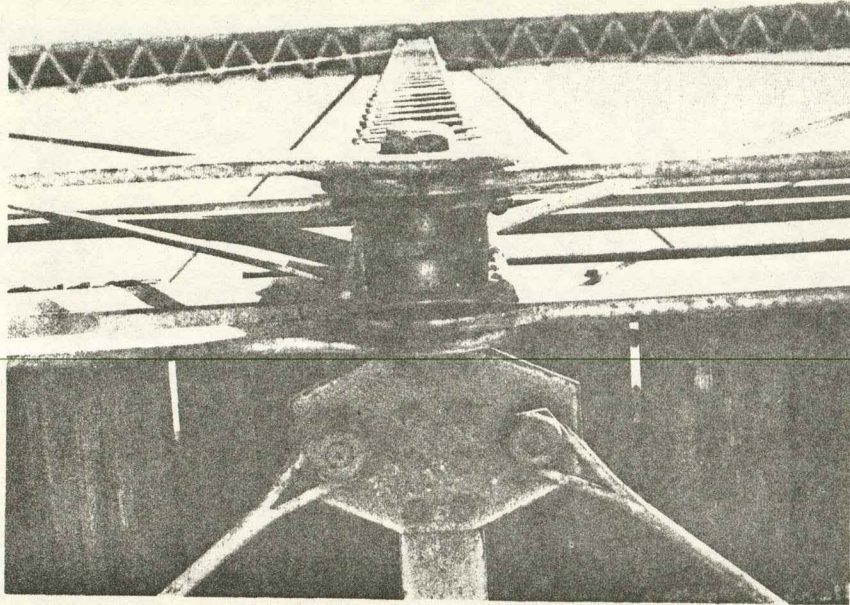
JOHNSON COUNTY
CEDAR TOWNSHIP
T-81N R-5W



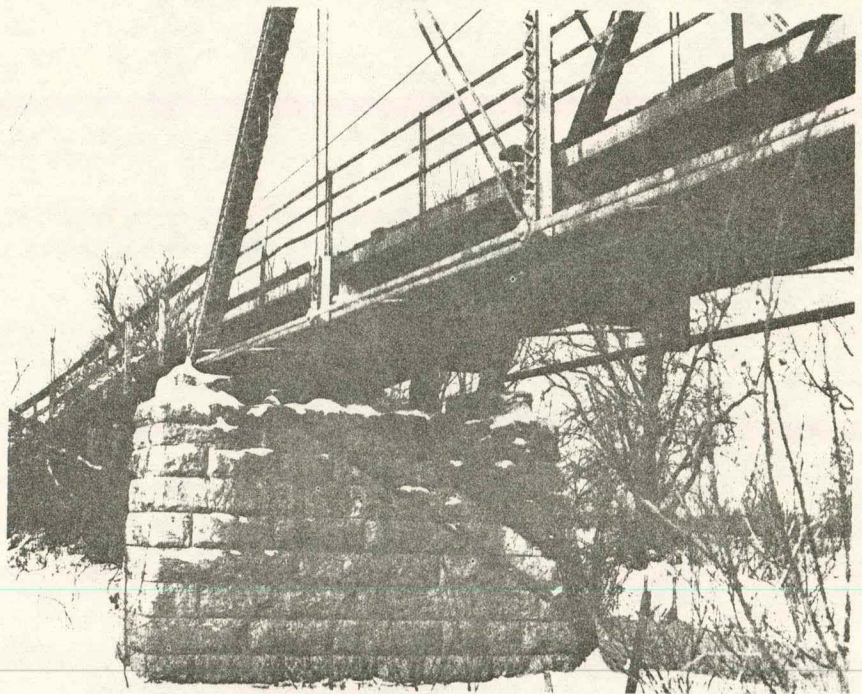
LEGEND:

- Existing County Road System
- Proposed County Road Relocation

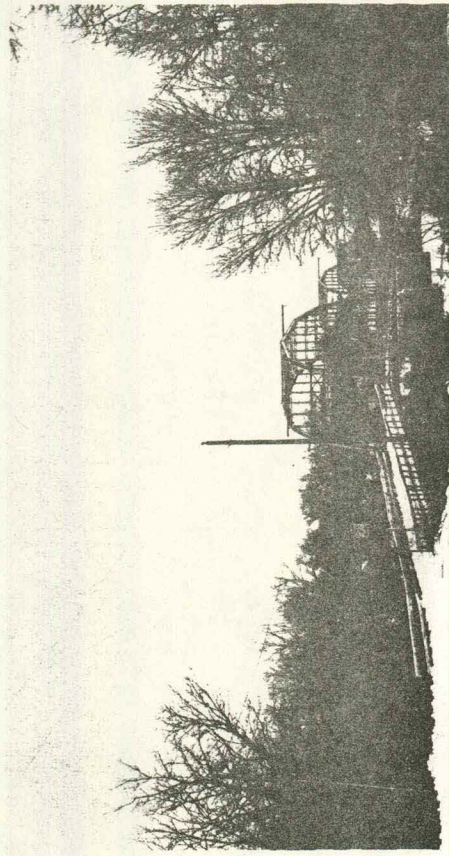
FIGURE 1



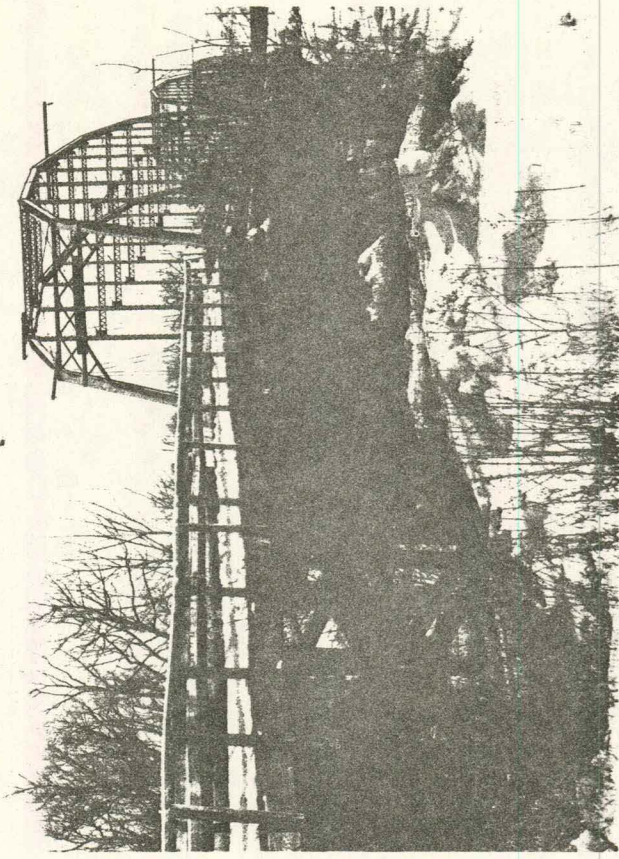
View showing
floor planking
and detail.



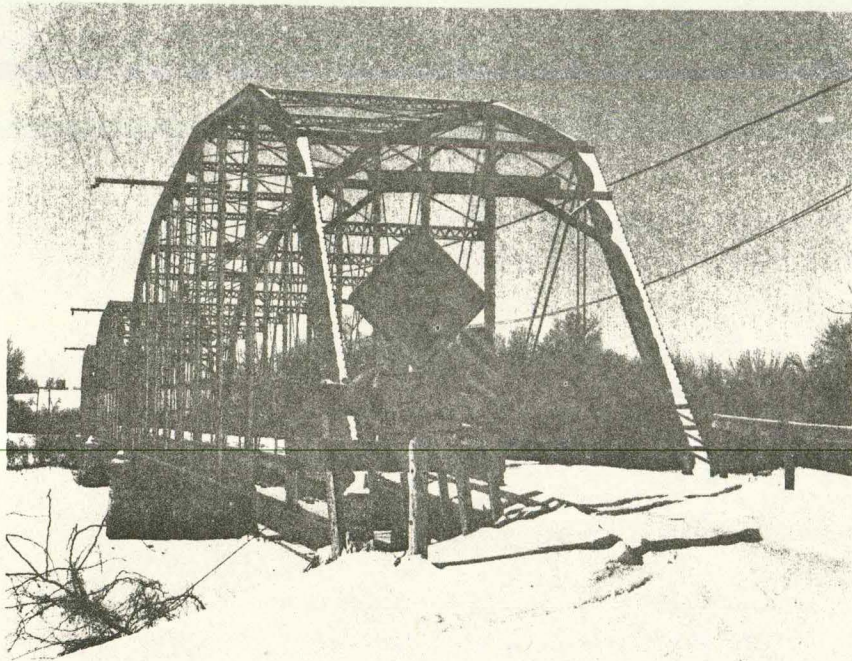
Stone pier and
bridge detail.



View showing
skewed approach
on west side.

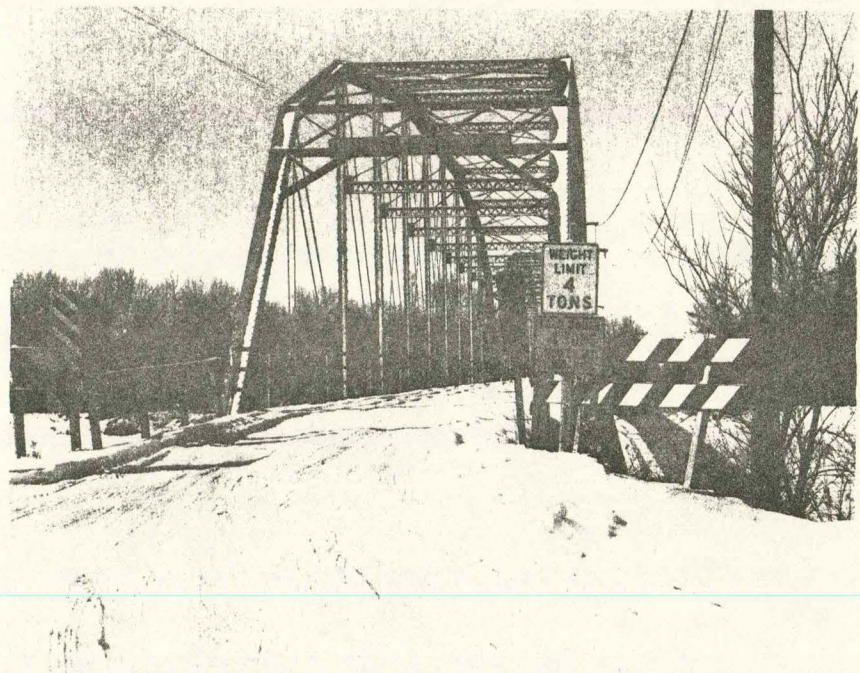


West approach.



View from east
approach looking
west.

East approach.

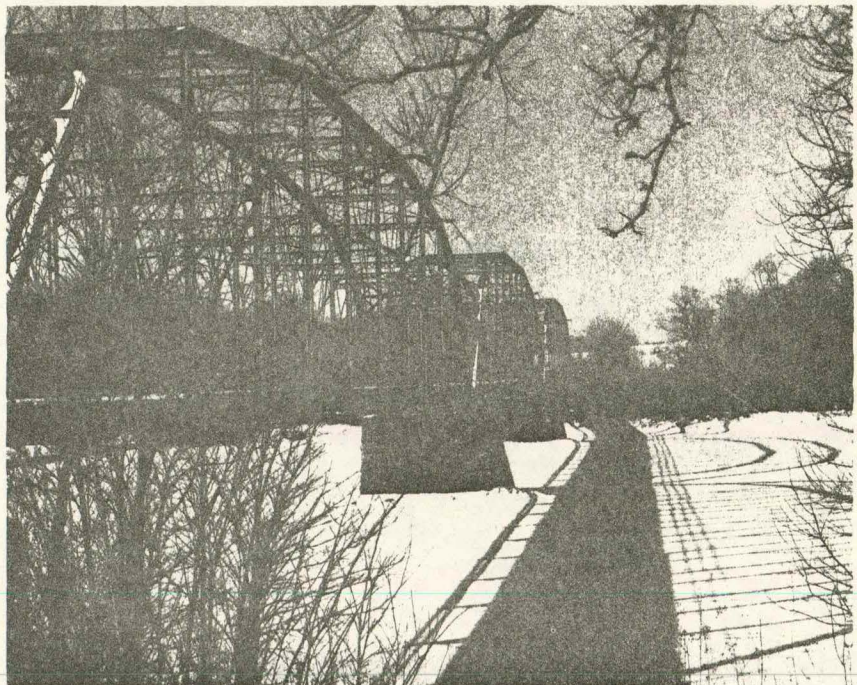




North elevation
view looking
southeast.



North elevation
view looking
southwest.



PROJECT STATUS

The need for replacement of this structure was first recognized in the early 1970's; at that time, however, no funds were available. Special bridge replacement funds authorized by Title 23 of the U.S. Code, Section 144, provided the source of funding for such projects. Priority listings of candidates for county discretionary bridge replacement funds were first created in 1972, with the Sutliff Bridge being placed on the first list. A location study was completed in 1977, but the historic significance of the existing structure was not assessed at that time. In September, 1978, the Federal Highway Administration (FHWA) concurred that the replacement project was a non-major action and, as such, an EIS or Negative Declaration was not necessary. An A-95 Review was circulated in early October, 1978, with the State Clearinghouse Signoff coming later that same month. Iowa Natural Resource Council and Iowa Conservation Commission permits were obtained in March and July, 1979, respectively.

Also, later that same year, coordination of project development activities with two other federal and state reviewing agencies, namely the U.S. Department of the Interior, Fish and Wildlife Service, and the Iowa Department of Environmental Quality took place. In May of 1979, the County applied for an Army Corps of Engineers 404 Permit for the proposed bridge replacement project. The Corps issued the Permit in February, 1980. Copies of the permit application, the environmental review that accompanied it, and the Corps permit are included in the Supportive Documentation at the end of this document. See Exhibits C, D, and E. In June, 1981, the final bridge and approach roadway grading plans were completed. All of the necessary right-of-way in the corridor (7 parcels) has been acquired by the County, the majority of it in early 1981.

An archaeological assessment was completed and submitted to the State Historic Preservation Officer (SHPO) in November, 1979. The SHPO's determination as to no effect and project approval based on this archaeological assessment was obtained in January, 1980. In preparation, however, for a request for federal-aid funds for construction, it was also necessary to assess the bridge for historic significance. In October, 1981, the SHPO and representatives of the Iowa Department of Transportation and FHWA inspected the bridge. The agencies agreed that the bridge met the criteria for eligibility to the National Register and submitted a request for determination to the Keeper of the National Register, U.S. Department of the Interior. Notification of the eligibility for inclusion was received from the Keeper of the Register on October 23, 1981. See Exhibits F, G, and H for various documents relating to the bridge's historical significance: respectively, the SHPO's comments regarding the bridge, the formal Request for Determination of Eligibility, and the Department of Interior Notification of Eligibility.

Because of procedural changes in the FHWA environmental policies, this project can no longer be classified as a categorical exclusion; an Environmental Assessment/Section 4(f) Statement is required. This document is being circulated for comments and development of a Memorandum of Agreement pursuant to CFR 771 and Section 106 of the Historic Preservation Act.

DESCRIPTION OF 4(F) INVOLVEMENT

The basis for the determination that the Sutliff Bridge was eligible for inclusion in the National Register was as follows: (1) The bridge is one of the few known remaining Parker trusses in the state (11 have been identified to date) and is also one of, if not the, longest such structure in the state. It is also

the oldest known Parker truss on the secondary road system (constructed in 1898); (2) It was built by an apparent major builder of Iowa bridges, the Iowa Bridge Company; (3) Its integrity of original setting, location, and design has been uncompromised; and (4) It was the first bridge across the Cedar River in the north-east portion of the county and replaced a ferry. Its completion was considered a major event of the time within the county by making the county seat and other county towns more accessible to people living in that area. These findings are included in the Request for Determination of Eligibility, a copy of which is attached at the back of this document. See Exhibit G.

ALTERNATIVES

Three alternatives to the proposed action were studied:

- Alternative #1: Leave the present bridge and eventually remove.
- Alternative #2: Build the proposed structure on the existing alignment.
- Alternative #3: Construct the proposed bridge on a different alignment.

Alternative #1 was rejected on the basis that it would not accomplish the previously stated objectives. Traffic over the bridge would remain restricted to a maximum of four ton gross loads. Additionally, the safety deficiencies which have been identified (inadequate bridge width and vertical clearance, structural deficiencies, and poor roadway approach, etc.) would remain. As previously related, the Iowa Structure Inventory and Appraisal inspection conducted in 1979 noted that the bridge was in dangerous condition, was being used by loads in excess of the posting, and could collapse if not replaced.

There are several structural defects which make rehabilitation impractical. The bridge's floor system is weak and deteriorated and is estimated to cost over \$200,000 to repair. Also, the eyes of the truss diagonal eyebars are subject to embrittlement and fracture through repeated load transfers. Fracture of the eyebar would cause actual truss failure. In summary, there is no non-destructive method to determine the progress of embrittlement, and no practical means to upgrade the structure and still maintain its historical integrity. (See Mr. Willis' 12-11-81 letter to County Engineer Gode -- Exhibit B.)

Alternative #2 was rejected because of potential impacts, including displacements, at the east end of the bridge. These would have been brought about by the existence of a high bluff on that side of the river and an undesirable "T" intersection which is present right off the end of the structure. A new bridge constructed on present alignment would have required the demolition of the Sutliff Store (a combination tavern, restaurant and convenience store) and two houses adjacent to it. Additionally, were the bridge to have been built at its present site, other displacements might also have been required to the northeast, along the existing county road.

Alternative #3 was selected as the preferred alternate from the several upstream and downstream relocation alignments studied in the project area. This alternate best serves the transportation needs of the area while causing the least adverse impacts. The selected route will require the acquisition of no buildings and very little cultivated crop land, mostly river bottom waste land. A more detailed discussion of the project's environmental impacts are included in the following section of this document.

The project area in the vicinity of the old and new bridge sites is characterized by gently rolling terrain, which is cut by the broad level alluvial valley of the Cedar River. Timbered land is found on both banks of the river. West of the river are level, cultivated fields situated upon a sandy point bar, while nearby are low, sandy ridges and isolated hills. No wetland areas are found within the project corridor.

The preferred alternate includes a 1.35 mile segment of new roadway and an 867-foot long replacement bridge located approximately 2,300 feet north of the existing river crossing. See Figure 2. The project begins approximately 0.4 mile west of the existing bridge, where the new roadway departs from the existing county road. A 24-foot rock surfaced roadway with 5-foot shoulders and 10-foot ditches is proposed. See Figure 3 for a typical cross section. The present roadway will remain during construction so that traffic can continue to utilize the existing structure until the replacement bridge is opened to traffic. The present structure will then be completely demolished and the approach roadway modified to serve as a field entrance and river access.

The proposed county road relocation, after departing from the present roadway, will continue in a northerly and northeasterly direction towards the new river crossing. An 867 x 30-foot pretensioned prestressed concrete beam bridge will be constructed to span both the existing Cedar River channel and a portion of the channel along the west bank which is to be cleared (excavated) as part of the proposed construction. The new structure will be supported by eight bridge piers and two stub abutments. See Figures 4 and 5 for location and situation plans and a profile view of the new structure. The shaded areas shown on these plans are where the channel excavation is to take place. Suitable excavation material removed from the channel will be used to build the approach fills and the wing dikes. The proposed bridge has been hydraulically designed to handle the flood flows of the Cedar River.

After crossing the river, the roadway will again curve northeasterly, rejoining the existing county road at a point approximately 0.84 mile north of the existing bridge. The major traffic movement will become the through roadway and an intersection will be constructed with the existing county road near the northern project terminus. In so doing, approximately 450 feet of the old roadway will be obliterated. See Figure 2.


The proposed project will require approximately 60 feet of right-of-way on each side of the new roadway centerline. The needed 20 acres, consisting of seven separate parcels, has already been acquired, with county funds. The right-of-way was purchased in early 1981, prior to the determination that the Sutliff Bridge was eligible for the National Register. Approximately a third of the right-of-way is in cultivated crop land while the remainder is comprised of pasture, timber, river bottom waste land, or the river channel itself.

Construction of the new bridge will require that a temporary haul road be built parallel to its centerline across the streambed, but not necessarily extending completely across at any one time. This temporary road will be constructed and removed by the contractor, with sufficient pipe culverts in place to handle the normal flow of the Cedar River.

The proposed action will also include the removal of the existing bridge (superstructure, piers, and abutments) and the wood trestle approaches following completion of the replacement roadway and structure. The pier removal will again require the building of

LEGEND

 BORROW AREA

 PROPOSED COUNTY ROAD RELOCATION

NOT TO SCALE

Proposed
867 x 30ft.
Bridge

Proposed
Connection

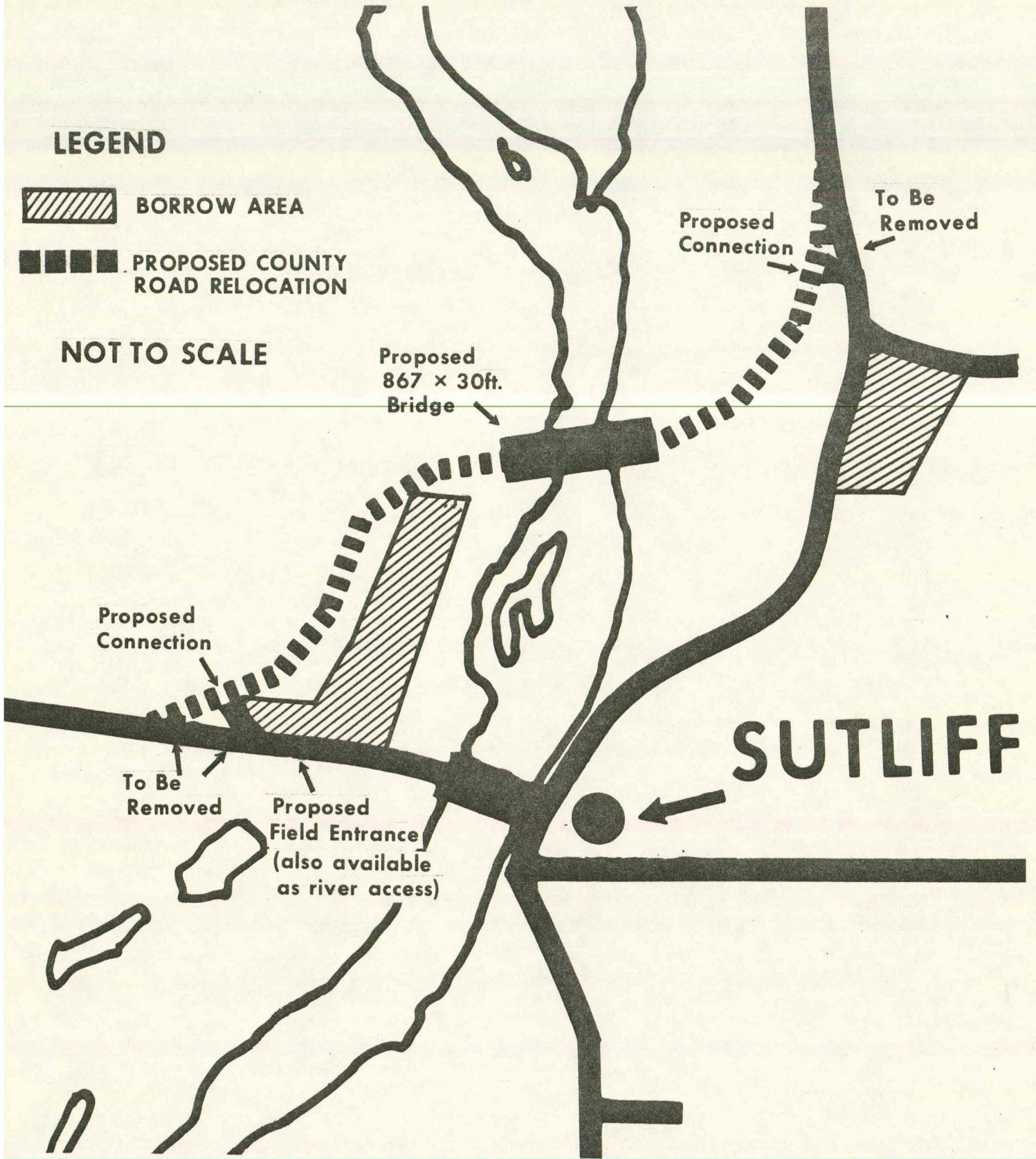
To Be
Removed

Proposed
Connection

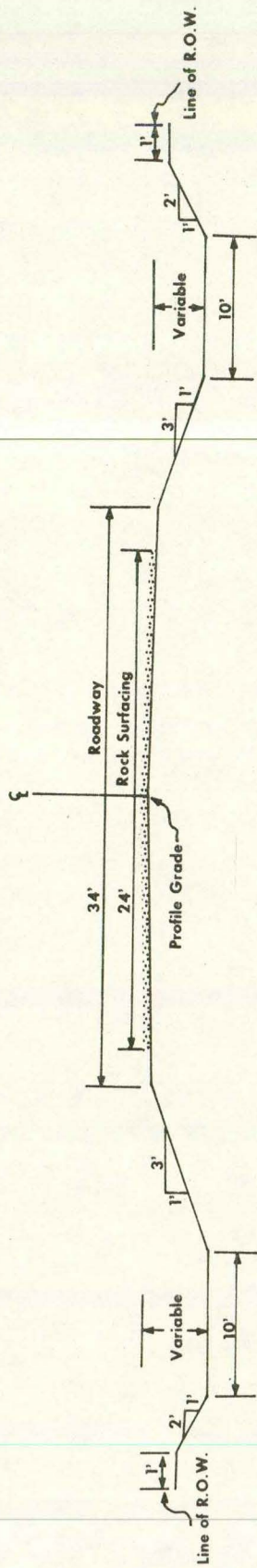
To Be
Removed

Proposed
Field Entrance
(also available
as river access)

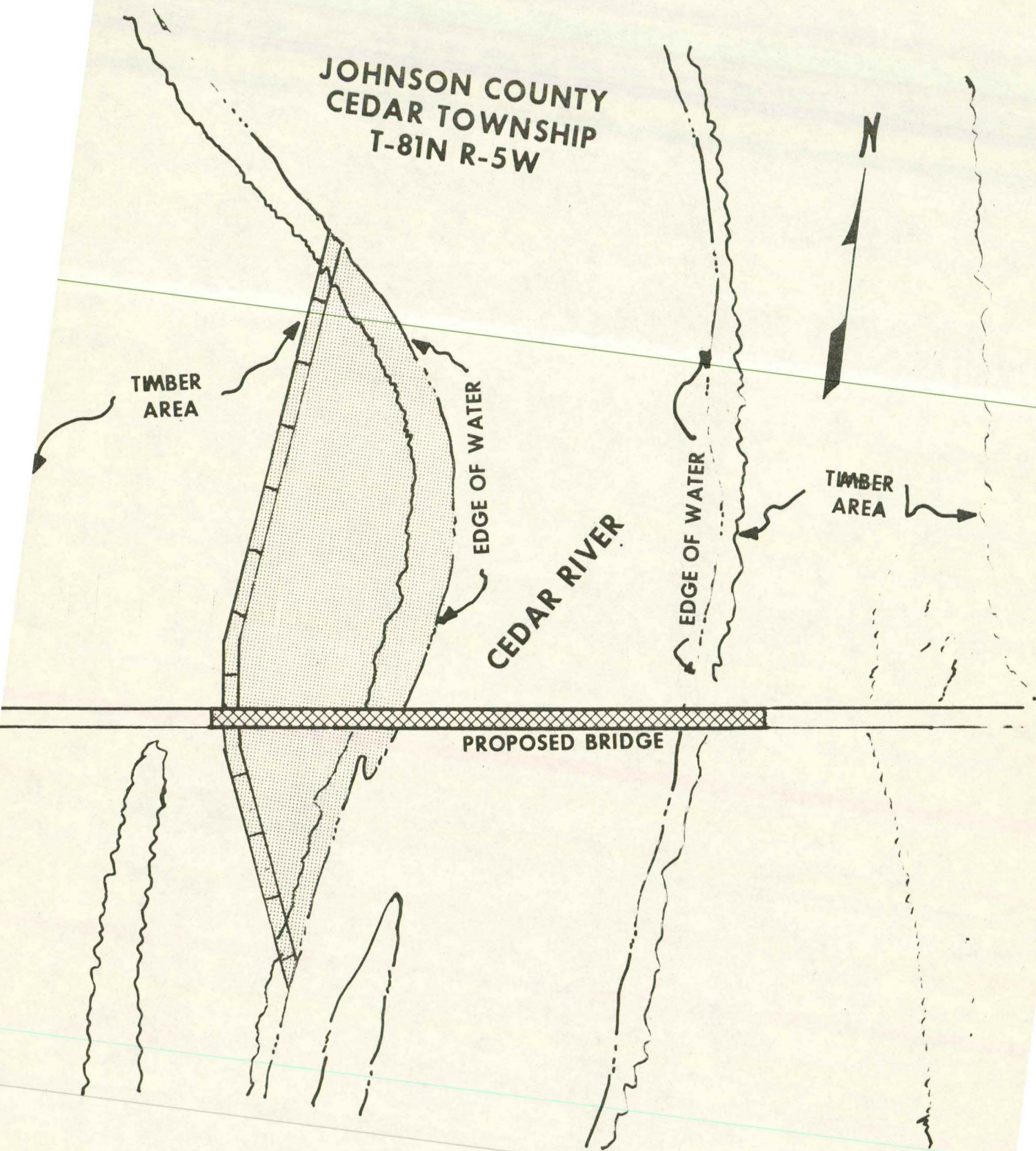
SUTLIFF



TYPICAL SECTION

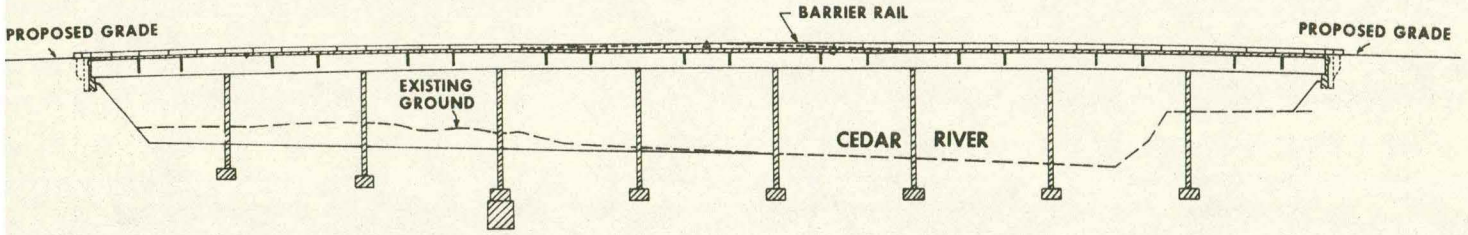


JOHNSON COUNTY
CEDAR TOWNSHIP
T-81N R-5W

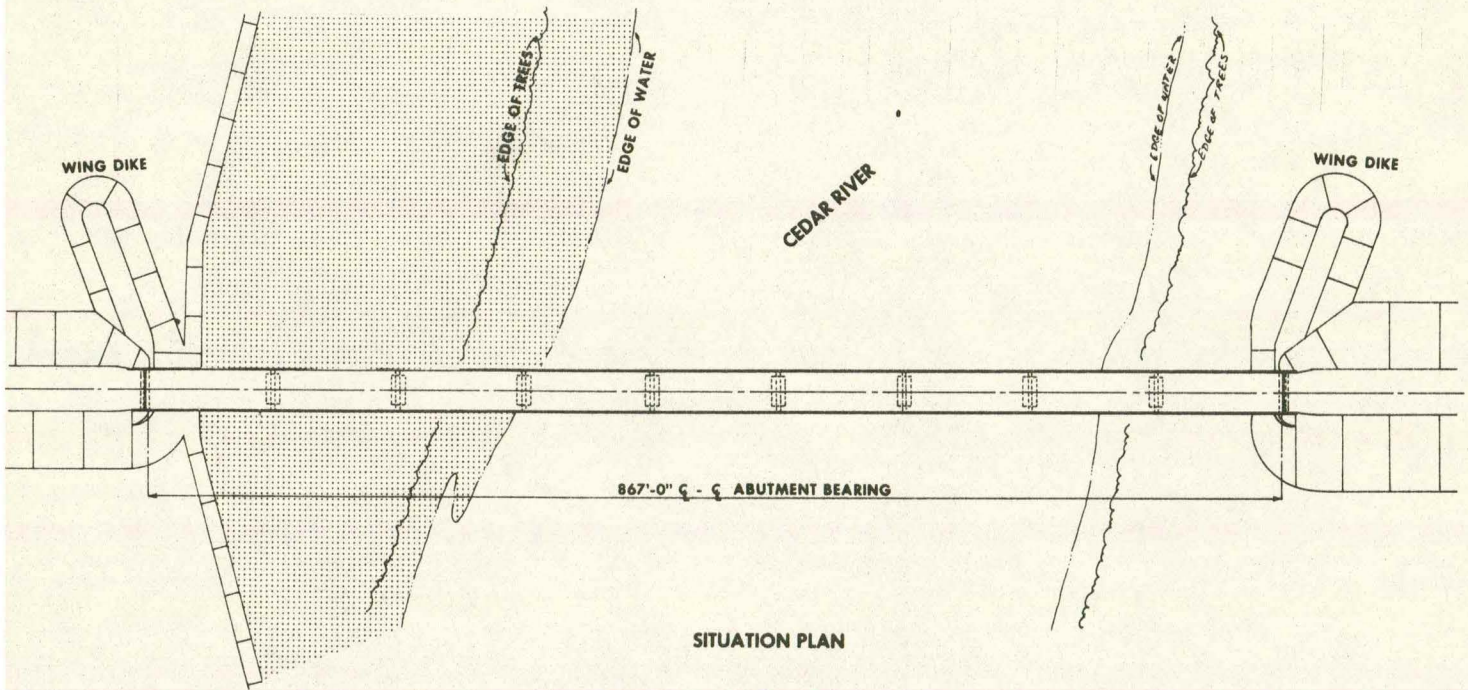


LOCATION PLAN

FIGURE 4



PROFILE VIEW



SITUATION PLAN

a temporary construction road across the streambed, parallel to the existing structure. The temporary roadway will not necessarily extend across the entire streambed at any one time and sufficient pipe culverts will be installed so as to handle normal river flow.

All of the temporary roads will be constructed from materials in the immediate streambed and will be removed as soon as possible or in accordance with any stipulations of the 404 permit. The material used will be returned to its original location.

Two borrow areas have been designated in the project area. The largest is located near the southern end of the project, west of the river. Covering approximately 9.3 acres, it begins just to the north of the existing road and east of the proposed roadway, and extends northerly for a distance of several hundred feet. The second borrow area is located east of the river near the northern end of the project. It covers approximately 4.1 acres. See Figure 2 for locations.

It is proposed that the borrow area on the east side of the river remain as part of the county road right-of-way, being ditch bottom and backslope. It will be seeded with a standard roadside mixture, including prairie grasses, for minimal maintenance. The borrow area on the west side of the river is expected to be either a wetlands type area or a shallow pond, depending upon the river stage at the time of construction. It will flood each time the river stage overtops the west bank and will gradually fill with silt. This borrow will also be seeded (if not under water) to provide for minimal maintenance.

The Johnson County Conservation Board is fully aware of the possibilities for locating a river access on either or both banks of the Cedar River in the Sutliff area and have held discussions in that regard, as they might relate to the county bridge replacement project. Their present position is that while inadequate funding prevents the immediate implementation of such plans, they will consider such development at a future date, should funds become available. In the meantime, the existing county road right-of-way from the west will be retained as a field entrance and will be available for river access. Additionally, the County Conservation Board hopes, in the future, to place a boat ramp and parking on the east side of the river, along the higher bank. The Board's feeling, at this time, is that they do not want any support facilities, only access, parking, and possibly a ramp. The County Secondary Roads Department has coordinated closely with the Conservation Board on this matter and pledges to continue this as development activities proceed on the bridge replacement project.

Estimated cost of the proposed bridge replacement project is as follows:

Bridge	\$1,042,000
Approach Grading, Draining & Crushed Stone Surfacing	257,000
Removal of Existing Structure	<u>30,000</u>
Total	\$1,329,000

All necessary permits from appropriate Federal and State regulatory agencies have been obtained and all right-of-way in the corridor has been acquired. If the necessary environmental processing can be completed in time, and the appropriate clearances obtained, the County is hoping for project letting in the late fall of 1982, with construction to begin in the spring of 1983.

IMPACTS

Other than the adverse impact associated with the demolition of the existing structure, the construction of a new Cedar River bridge, and its associated roadway approach work, will not have a significant adverse impact on the environment. Any adverse effects resulting from construction of the new roadway and bridge will be short-term and unavoidable in accomplishing the project. There will be a temporary increase in noise and air pollution during construction as a result of the sound levels and exhaust emissions characteristic of heavy equipment. While this will pose a temporary inconvenience to nearby businesses and residences in the Sutliff area, the improved roadway and new bridge should justify any such temporary disturbance in the area.

Noise and air studies for this proposed project were not completed due to the absence of sensitive receivers in the project corridor. Projected traffic volumes within the corridor were studied and were determined to be well within minimums as detailed in FHWA air and noise guidelines.

Plant life to be affected by the proposed construction will consist primarily of herbaceous vegetation and weed species as well as brush and scrub timber in areas adjacent to the river. The construction process will remove some of this vegetation, but impacts are not expected to be significant. Habitat removed during the construction period will be replaced to some degree with the reseeding of native grasses within the right-of-way. There are no known threatened or endangered species to be affected by this action and any adverse impacts to wildlife species present are expected to be minimal and confined to the construction phase of the project.

Temporary deterioration of surface water quality in the vicinity of the Cedar River crossing will result from the approach roadway grading, bridge construction (primarily the pier placements), and other construction activities, such as construction and removal of the temporary haul roads. Increased turbidity and siltation, caused by erosion of exposed land and disturbance of the streambed, will be the greatest impact on water quality. Runoff from disturbed areas may also increase the levels of metals, pesticides, and nutrients in the river, depending upon the adjacent land use and the amount of precipitation received during the construction period. Ground water quality should not be appreciably affected by construction operations.

There are no wetland areas located in the vicinity of the project site, and no construction activities will take place within the Cedar River floodplain. The proposed structure will have a larger hydraulic capacity and will cause less backwater than the present structure.

Some out of distance travel will be encountered by motorists originating in or destined for the Sutliff area and/or areas further south. The relocation of the new bridge to a point approximately a half-mile upstream of the existing site will mean an additional

travel distance of approximately one-and-a-half to two miles for those motorists. However, travel for the majority of motorists will be reduced, benefiting the traveling public and public services by providing improved safety and load carrying capacity.

These and other potential environmental impacts were addressed in further detail as part of the environmental review submitted by Johnson County in April, 1979, as part of its 404 Permit application. That information is included as Exhibit D in the Supportive Documentation of this report. See pages 24-27.

It should be noted that the historical and archaeological aspects of the project have been addressed through separate cultural resource studies conducted subsequent to the time the County's 404 environmental review was prepared. As previously discussed, no archaeological impacts were identified, but the existing bridge was determined to be eligible for listing in the National Register.

MITIGATION MEASURES

Construction of the replacement bridge does not require the removal of the present structure. The Iowa SHPO and representatives of the Iowa DOT, FHWA, and County Board of Supervisors discussed, on several occasions, the possibility of retaining this bridge for limited or other than highway purpose. Because of its structural condition, however, and the high cost of restoring the bridge to a functional condition, and since no agency will accept liability for the bridge, it was determined impracticable to retain it. The SHPO and FHWA proposed stipulations for mitigation (See Exhibit A) are believed reasonable and the only prudent alternative under the existing conditions. The mitigation requires a permanent record of the bridge's existence and removal of any plaques and other ornamental items deemed appropriate, to be used for commemorative purposes.

Certain mitigation measures will also be employed during the construction process to minimize those impacts which will be temporarily disruptive to the environment. These will include requiring contractors to equip and maintain trucks and machinery so as to limit noise emissions to the extent feasible and prudent. Also, waste materials created as a result of clearing, grubbing, and construction operations will either be used in project fill, hauled to a suitable landfill, or burned. Such burnings are regulated by state law and must be at least one-quarter mile from any inhabited building, confined to daylight hours, and permitted only when winds are favorable. Every effort will be made to avoid contributing to present and future air pollution problems.

The state's air quality standards require that measures be taken to prevent particulate matter in quantities sufficient to create a nuisance from becoming airborne (Section 657.1, Code of Iowa, 1975). Compliance with the Department of Environmental Quality's Rules and Regulations Regarding Air Pollution Control (1973), which include limitations placed on the generation of fugitive dust, will be required.

To reduce impacts on water quality, contractors will be required to minimize the area cleared during any one time and will employ erosion control measures at all stages of construction. Such measures may include temporary berms, dikes, siltation basins, drains, gravel, mulches, and grasses, and will pertain to haul roads and borrow sites as well as to the permanent right-of-way. Sanitary facilities will be required at the construction site. Suitable storage areas and careful handling of potentially harmful materials will also be required of the contractor.

SUMMARY

The proposed new Cedar River crossing will provide a safe, efficient highway facility in the study area. The existing Sutliff Bridge will require closure in the future regardless of whether or not a replacement bridge is constructed. Demolition of the existing bridge is strongly supported by the county as the best solution to the problems that exist. Although the local County Historical Society has indicated an interest in the maintenance of the old structure, they have indicated that they do not have the financial means to do so. The structural condition of the bridge makes rehabilitation impractical. No practical method exists for upgrading the structure while maintaining its historical integrity. If left in place and closed, the bridge will become a hazard to unauthorized motorists, cyclists, and pedestrians. It would also continue to be an obstacle in the river channel. Because of its deteriorating condition and a lack of agency acceptance of responsibility for rehabilitation or maintenance, it has been determined that there is no feasible or prudent alternative to the removal of the Sutliff Bridge.

Based on the information contained in this Environmental Assessment/Section 4(f) Statement, it has been determined that this project will not result in any significant impacts upon the quality of the environment. Unless significant impacts are identified as a result of the coordination process and the public availability of this Assessment, a formal Finding of No Significant Impact (FONSI) will be issued. The FONSI will include the ratified Memorandum of Agreement (MOA).

SUPPORTIVE DOCUMENTATION

Copies of correspondence and other documents associated with the project and its potential impacts are included in this section of the document.

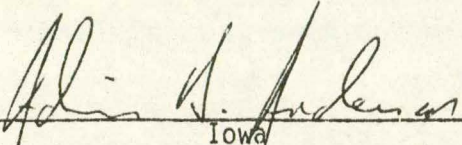
No formal public hearing was ever held on the project since none was requested during the county's pursuit of its 404 Permit. As preliminary plans for the project were developed, however, a public information meeting was held by the county at the Solon High School. As a result of this meeting the alignment was shifted to satisfy the desires of a landowner on the east side of the river. When the final alignment, bridge location, and property requirements were determined, the county held another public meeting in Solon to inform all interested parties of the progress of final design. There was no support for the preservation of the present structure in evidence at these meetings.

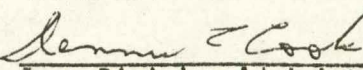
Project BROS-9052
Johnson County, Iowa
Sutliff Bridge

AGENCY PROPOSAL FOR
STIPULATIONS

The Federal Highway Administration (FHWA) has consulted with the Iowa State Historic Preservation Officer (SHPO) and will ensure that the following measures are carried out.

1. Prior to demolition, the FHWA will record the bridge so that there will be a permanent record of its existence. The FHWA will first contact the Historic American Engineering Record (HAER), (National Park Service, Department of the Interior, Washington, D.C.), to determine the level of documentation required. All documentation must be accepted by HAER prior to demolition. FHWA will provide copies of this documentation to the Iowa SHPO, along with any existing original documents for curation.
2. Plaques and other ornamental items deemed appropriate will be carefully removed for use for commemorative purposes. The specific items which will be preserved and their commemorative use will be determined in consultation with the Iowa SHPO.
3. When the bridge is demolished, FHWA will notify the Keeper of the National Register within 90 days of the demolition so that it will be removed from the records as eligible for the National Register.


Iowa
State Historic Preservation Officer

 12/29/81
Iowa Division Administrator
Federal Highway Administration

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Telephone 319-351-2166

Noel W. Willis
President

December 11, 1981

O. J. Gode, Jr., P. E.
Johnson County Engineer
Secondary Road Department
West Melrose Avenue
Iowa City, Iowa 52240

BRS-9052(3)
Johnson County

Dear Mr. Gode:

This letter is the response to the request by the Iowa Department of Transportation for information concerning the need to replace Sutliff Bridge over the Cedar River in the northeast corner of Johnson County.

Sutliff Bridge is a major river crossing consisting of three 214.5 x 16' Parker truss spans along with several wood approach spans. It is my understanding that the size and type of the main spans may have aroused some historical interest, and that you need an informed professional engineering opinion as to the structural integrity of the structure.

As you recall, I first became familiar with the structure in 1964, when at the request of Engineer Justen, I took a class of structural engineers from the University of Iowa out to the bridge, had them measure it, and compute its capacity. At that time, it was clear that the floor system was weak and deteriorated, and that the interior panel diagonals were too small also. In 17 years, those conditions have not improved.

In the late 1960's, the Silver Bridge over the Ohio River in West Virginia collapsed without warning on a busy Friday afternoon, and a number of people lost their lives as a result of the collapse. This triggered the institution of the inspection program, still in operation, in which all of the bridges in the country should be inspected every 2 years. I have had an extensive involvement in the program from its inception, have done work of this kind in over 40 Iowa counties, and still see an average of 600 bridges a year.

O. J. Gode, Jr.
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With the foregoing as background information, suppose I describe the defects of the structure which make rehabilitation imprudent. The floor system continues to be weak and deteriorated. To upgrade it would cost in excess of \$200,000.00, and the additional weight would detract from the live load carrying capacity of the truss itself. However, this is not the fatal defect of the structure. That defect is the manner in which the eyes of the truss diagonal eyebars are formed. These eyes are usually formed by drilling a circular hole the size of the pin in the ends of the eyebars. The diagonal eyes are formed by returning the bar stock around a pin and reforging it into the shank of the original stock. The shape of the connection is not circular, but like a teardrop, and the connection point on the shank is a small acute angle, or a re-entrant corner. These re-entrant corners are stress-raisers, and in the case of pre-1900 metal, points of embrittlement.

Embrittlement is caused by repetitive load passage, and the stress cycles which happen as a result of the passage. When embrittlement occurs, the metal changes in internal form, and it will fracture at stresses which are less than the dead load stresses currently present in the truss diagonals.

Actual embrittlement of these teardrop eyebars is an event of high probability. Fracture of the eyebar resulting from the embrittlement is also a high probability, as is actual truss failure stemming from eyebar fracture.

In my personal experience in bridge inspection, I have seen literally dozens of fractured eyebars of the teardrop detail. It should also be noted that the previously mentioned Silver Bridge failed because of an eyebar defect.

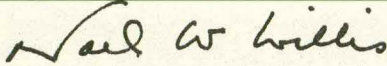
It is unfortunate that there is no non-destructive method to determine the progress of embrittlement, and no practical means to upgrade the structure and still maintain its historical integrity. The above statements do not consider the economics of the situation either. I do feel constrained to advise you that all of us are pushing our fortune by maintaining the bridge in service. In spite of its 4 ton posting, which in my judgment is at least 2 tons too high, larger loads persist in using the structure. Both of us have seen this in person. Further, if you foresee that there will be substantial delays in reconstructing the new structure upstream, I recommend that

O. J. Gode, Jr.
December 11, 1981
Page 3

you give serious consideration to closing the bridge. If it remains in service for any period of time, it is my judgment that the County officials are accepting a risk with considerably higher probability of serious disaster than exists at any other bridge location in this county.

In summary, the bridge is in bad condition, it probably cannot be fixed, and if it is used much longer, it is quite likely to fail.

Very truly yours,



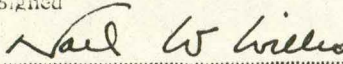
Noel W. Willis, P. E.
President

NWW/gn

I hereby certify that this plan, specification or report was prepared by me or under my direct personal supervision and that I am a duly registered Professional Engineer under the laws of the State of Iowa.

Signed

Date

 Dec 11 19 81

NOEL W WILLIS P. E. Iowa Reg No 4373



APPLICATION FOR A DEPARTMENT OF THE ARMY PERMIT

One set of original drawings and two copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and checklist).

1. Application number (To be assigned by Corps).	2. Date. 1 5 79 Day Mo. Yr.	3. For official use only.
4. Name and address of applicant. JOHNSON COUNTY BOX 126 IOWA CITY, IA 52240 Telephone number <u>319-351-2700</u> Social Security No. <u>-----</u>		
5. Name, address, and title of applicant's authorized agent for permit application coordination. O.J. GODE, JR., P.E. JOHNSON COUNTY ENGINEER BOX 126 IOWA CITY, IA 52240 Telephone Number <u>319-351-2700</u>		
6. Describe the proposed activity, its purpose and intended use, including a description of the type of structures, if any, to be erected on fills, or pile or float-supported platforms, and the type, composition and quantity of materials to be discharged or dumped and means of conveyance. Construction of an 867'-0"x30' Pretensioned Prestressed Concrete Beam Bridge with approach grading. Removal of old bridge. Temporary runarounds for bridge construction and old bridge removal are also requested. There will be No Permanent Fill in the stream channel. No materials other than those available in the immediate stream bed shall be used to construct temporary runarounds. All material shall be replaced to original streambed when crossings are no longer needed.		
7. Proposed use. Private <input type="checkbox"/> Public <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Other <input type="checkbox"/> (Explain in remarks)		
8. Name and addresses of adjoining property owners whose property also adjoins the waterway. Robert E. & Betty R. Kelley, Route 1, Lisbon, IA 52253 Norman R. Barnes, 2119 Blake Blvd. S.E. Cedar Rapids, IA 52403 Myrtle B. Heuston, 3020 Hartzell St. Evanston, Ill. 60201 Edward A. & Betty M. Van Velkinburg, Rt. 1, Lisbon, IA 52253 Victor Gaul, 219 W. 3rd, Tipton, IA 52722 William Q. Ellison (Purchaser) R.R. 2, Box 40, Solon, IA 52333 Edward W. Lucas (Bankruptcy Trustee)		
9. Location where proposed activity exists or will occur. Sec. <u>11</u> Twp <u>81N</u> Rge <u>5W</u> (Where applicable) <u>IOWA</u> <u>JOHNSON</u> <u>SUTLIFE</u> State County In - City or Town Near - City or Town		
10. Name of waterway at location of the activity. <u>CEDAR RIVER</u>		

11. Date activity is proposed to commence. Spring 1980

Date activity is expected to be completed. Fall 1985

12. Is any portion of the activity for which authorization is sought now complete? Yes No

If answer is "Yes" give reasons in the remarks section. Month and year the activity was completed _____ . Indicate the existing work on the drawings.

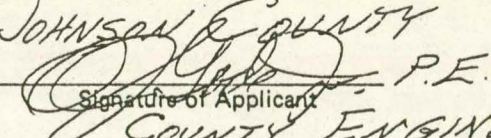
13. List all approvals or certifications required by other Federal, interstate, state or local agencies for any structures, construction, discharges, deposits or other activities described in this application.

Issuing Agency	Type Approval	Identification No.	Date of Application	Date of Approval
IDOT	Preliminary Design & Final Design		12-78	1-2-79 (Prelim)
INRC	For Construction in or on Floodway or Flood Plain		1-12-79	3-13-79
DEQ	State Certification			
Iowa Conservation Comm.	State Permit			
State Historical Society	State Approval			
Archeological Society	State Approval			

14. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein? Yes No (If "Yes" explain in remarks)

15. Remarks (see paragraph 3 of Permits Pamphlet for additional information required for certain activities).

16. Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities.

JOHNSON COUNTY

 Signature of Applicant
 COUNTY ENGINEER

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

The application must be signed by the person who desires to undertake the proposed activity; however, the application may be signed by a duly authorized agent if accompanied by a statement by that person designating the agent and agreeing to furnish upon request, supplemental information in support of the application.

If the activity includes the discharge of dredged or fill material in navigable waters or the transportation of dredged material for the purpose of dumping it in ocean waters, the application must be accompanied by a fee of \$100 for quantities exceeding 2500 cubic yards and \$10 for quantities of 2500 cubic yards or less. Federal, State and local governments are excluded from this requirement.

Date - April 17, 1979

Ref: Sutliff Bridge Project

JOHNSON COUNTY

ENVIRONMENTAL ASSESSMENT

1. Discussion of pertinent details of the proposed action.

The proposed action involves the construction of a new bridge across the Cedar River located in the NE $\frac{1}{4}$ of Sec. 11, T-81N, R-5W of the 5th P.M. The proposed structure will be a pretensioned prestressed concrete beam bridge, 867 feet-0 inches in length and 30'-0 inches in width. It will have 8 piers and 2 stub abutments. The proposed bridge is on new alignment, necessitating approach roadway grading on both ends of the proposed bridge.

~~No channel work is proposed. The bridge construction will require a temporary construction road parallel to the bridge centerline across the streambed, but not necessarily completely across at any time. This temporary road will be constructed by the contractor with sufficient pipe culverts to handle the normal low flow of the Cedar River. (200 to 800 CFS)~~

The proposed action will also include the removal of the existing bridge in the area across the Cedar River located approximately $\frac{1}{2}$ mile downstream from the proposed structure in Section 11, T-81N, R-5W of the 5th P.M. This structure will be completely removed; superstructure, piers, and abutments. Temporary construction roads will also be required for the pier removal of this bridge, but will not necessarily extend across the entire streambed at any one time.

All of the temporary roads will be constructed from materials in the immediate streambed and will be removed as soon as the project is complete. The material used will be returned to its original condition and location.

2. Analysis of the need and purpose of the proposed project.

The proposed construction project is designed to replace the existing structure over the Cedar River that is currently rated according to the Federal Bridge Inspection Requirements to permit only 4 ton gross loads to pass over it. This restricts practically all movement of agricultural commodities, school buses, large farm machinery, fertilizer trucks, fire trucks, road maintenance vehicles, construction equipment, and commercial supplies for the village of Sutliff. The existing structure has an extremely narrow roadway of 16 feet, causing a safety deficiency due to the relationship of the bridge width and the present traffic volume. There is also a safety deficiency due to the relationship of the bridge width with the approach roadway widths and alignments. The proposed bridge will be hydraulically designed to handle the flood flows of the Cedar River. The proposed roadway and bridge will connect with the existing roadway system, but will eliminate the poor roadway alignment at the existing bridge site.

3. Description of the environment in the vicinity of the project which would be directly affected by the permitted action as well as any of the secondary effects.

a. Ecological Impacts

(1) Air and Noise Levels

The traffic volume for this proposed new section of Secondary Roadway with the Cedar River crossing is estimated to be 300 VPD upon it's completion. The traffic count for the bridge in 1957 showed 160 VPD. In 1962 the count was 60 VPD. Volumes of 116 VPD and 113 VPD were measured in the counts of 1967

Continued - Ecological Impacts

and 1972 respectively. Our most recent count of 186 VPD across the existing structure was taken in 1977 by the Iowa Department of Transportation as a part of their routine traffic counts. A predicted count of 300 cars per day on the new facility appears to be quite realistic considering the number of vehicles unable or unwilling to use the present structure due to it's narrow width and 4 ton load limit. The predicted increase in traffic volume anticipated over the new project is not expected to have a significant impact on noise levels or air quality. The floor of the present bridge is constructed from wood plank and is extremely noisy as vehicles cross it. The new bridge will have a concrete deck and the noise from vehicles should be materially reduced.

3a (2) Water Quality and Supply

A slight impact on water quality can be expected from the construction phase of the project. The construction and removal of the temporary roadway and the excavation for the piers will cause some increased turbidity in the immediate area. The degree of the impact will be determined by the amount of precipitation received during the construction stage of the project. The project will have no impact on the supply of water above or below the construction site. All other characteristics typical and realistic of a bridge crossing a stream should remain the same as expected from the existing bridge.

3a (3) Soil Erosion and Siltation

The construction of the river piers and the temporary haul road will contribute slightly to some siltation downstream. The construction of the approach grading involved will cause some temporary erosion as the current vegetation is removed and the new embankment is constructed. The county will implement soil erosion control methods on the new embankment and all disturbed areas upon completion of the project. This will involve seeding and fertilizing the entire area. The degree of this impact will depend upon the amount of precipitation which is received during the construction phase of the project.

3a (4) Fish and Wildlife Populations

No evaluation of fish life in the vicinity of the construction site has been made recently. However, past surveys show that channel and flathead catfish, walleye, northern pike, carp, carpsucker, buffalo, shiners, and minnows inhabit this portion of the river. There are no known endangered species that will be affected by the project and no long term adverse impact on existing fish life will be encountered.

Furbearing animals such as raccoon, red fox, coyote, opossum, striped skunk and mink inhabit the woodland area in the immediate vicinity of the project. Populations of deer, squirrel, and rabbit are present. The river is also used by the muskrat and beaver in the area. Numerous songbirds and upland game animals such as the bobwhite quail, cottontail rabbit, ringnecked pheasant and whitetail deer use the area.

Seasonal homes in the form of cabins and trailers, as well as the village of Sutliff on the East side of the river restrict wildlife use of the area. Limited additional impact is expected due to the project.

Habitat removed during the construction period will be replaced to some degree with the reseeding of native grasses in the right-of-way. Songbird nesting sights could be replaced by shrub plantings. There are no known threatened

Continued - Fish and Wildlife Populations

species affected by this action and adverse impacts to species present are expected to be minimal and confined to the construction phase of the project.

3a (5) Vegetative Habitat

Woodland and agricultural land will be disturbed during the construction of the project. Weed species dominate the flood-prone areas. It will be necessary to remove some vegetation. If feasible, those trees and brush that must be bulldozed could be left piled in the right-of-way backslopes and borrow areas. They would not have to be burned. The second growth brush will quickly replace itself. Native grasses including big bluestem, indiangrass, switchgrass, and sideoats grama are recommended to revegetate the area. A legume such as alfalfa or red clover could be seeded the second year following the establishment of the native grass. There should be no adverse affects to significant vegetation as a result of the proposed action.

3a (6) Shellfish and Benthonic Life

Pier construction and the construction and removal of the temporary road will disturb this water life for the duration of the construction period. The amount of this life has not been evaluated. However, the effect is expected to be very minimal.

3a (7) Wetland Areas

There are no wetlands located on the project site.

b. Economic Impacts

3b (1) Land Use (Zoning and Planning)

Land use in the surrounding area is not expected to change significantly.

3b (2) Employment

There should be no change except for labor used on the project.

3b (3) Tax Base

A small reduction in tax base will be caused by the additional right-of-way acquisition. Most of the aquisition will consist of low valued river bottom timber land.

3b (4) Public Services

Present traffic service will continue over the existing bridge until the new one is open to traffic. Upon completion of the project, services will benefit from the improved safety and load carrying capacity of the new facility. The construction of the proposed project will insure that the residents of the area will have the opportunity to orderly pursue their religious, economic, educational and recreational endeavors and be assured that they can always be served by fire protection and law enforcement and other similar services during emergency situations.

C. Social Impacts

3c (1) Historic and Archeological Sites

No visible evidence of any such sites have been observed during the preliminary surveys and field examinations of the project site. However, this assessment will be submitted to the State Archeologist and the State Historical Society for their review and comment. Any historical or archeological evidence which is unearthed during construction binds the contractor to suspend operations until the evidence has been examined and studied.

3c (2) Present and Potential Recreation Areas

There are no limitations imposed upon any recreational areas by the proposed action.

3c (3) Flood Damage Protection

No adverse impact is expected. The proposed structure will have a larger hydraulic capacity and will cause less backwater than the present structure.

3c (4) Navigation

The proposed structure will not restrict navigation. Only small pleasure boats use the Cedar River at this location.

3c (5) Aesthetics

The site of the proposed bridge and roadway realignment is presently a combination of cropland, timber, scrub brush, and weed growth. The proposed bridge will have a low profile and simple lines to blend into the landscape; no high steel trusses. The existing structure will be completely removed.

It seems reasonable to assume that no adverse effects will result from the proposed project.

4. Identification of Alternatives to the propose action which would accomplish all of the objectives desired, those which would provide only a partial solution to the objectives of the project, and the alternative of no action. This analysis is required so that the final project recommendation is made in the best overall public interest.

- a. Leave the present bridge and do nothing. This alternative would not accomplish the objectives desired as listed under heading number 2.
- b. Build the proposed structure on the existing alignment. This alternative was rejected due to problems encountered in complying with design standards. There also would have been a number of displacements made necessary by this alignment.
- c. Construct the proposed bridge on a different alitnment. Several different locations and alignments in the area were studied. All parties involved agree that the proposed route best suits the transportation needs of the area at the most economic cost. Therefore, the proposed action is recommended in the best overall public interest.



DEPARTMENT OF THE ARMY
 ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
 CLOCK TOWER BUILDING
 ROCK ISLAND, ILLINOIS 61201

REPLY TO
 ATTENTION OF:
 NCROD-S-070-0X6-1-074170

9 July 1979

SECTION 404

PUBLIC NOTICE

1. Mr. O. J. Gode, Jr., Johnson County Engineer, Box 126, Iowa City, Iowa, has applied for a Department of the Army permit to perform work in conjunction with the removal of the existing bridge and construction of a new bridge over the Cedar River in Section 11, Township 81 North, Range 5 West, near Sutliff, Iowa.
2. The existing bridge is restricted to 4-ton gross loads. It also has a narrow 16-foot wide roadway causing a safety deficiency due to the present traffic volume. The bridge, including super-structure, piers, and abutments will be completely removed.
3. The proposed bridge will be located approximately 1/2 mile upstream of the existing bridge. It will be a pretensioned prestressed concrete beam bridge, 867 feet in length, 30 feet wide, and will be supported by 8 piers and 2 stub abutments. The bridge will be on a new alignment necessitating approach roadway grading at both ends of the bridge. A temporary haul road crossing the stream will be built for the contractors use. The road will be culverted to allow normal flow of the Cedar River to pass. A similar road will be constructed at the existing bridge site for the contractors use in removing the old structure. Both temporary roads will be removed upon completion of the project. All areas disturbed during demolition and construction activities will be seeded and/or riprapped to prevent subsequent erosion. No channel change is proposed for the project. Traffic will continue to use the existing bridge until the new bridge is open to traffic.
4. This application is being processed under the provisions of Section 404 of the Clean Water Act (33 U.S.C. 1344).
5. The Iowa Natural Resources Council, by Council Order No. 79-56, approved the proposed project. The applicant has submitted his plans to the Iowa Department of Environmental Quality for 401 certification, and to the Iowa Conservation Commission for a construction permit.
6. The District staff has reviewed the information provided by the applicant, as well as the stated views of the agencies involved, and has made a preliminary determination that this District does not plan to file an environmental impact statement describing the activities unless warranted by later developments.
7. As a result of this review, the staff has determined that the proposed activity will have no adverse effect on any species or the critical habitat of any fish, wildlife, or plant which is designated as endangered or threatened pursuant to the Endangered Species Act of 1973. Therefore, no formal consultation request has been made to the U. S. Department of the Interior, Fish and Wildlife Service.

8. The staff has also consulted the latest published version of the National Register of Historic Places and found no registered properties, nor properties eligible for inclusion therein, that would be affected by the applicant's proposed activity. However, presently unknown archaeological, scientific, pre-historic, or historical data may be lost or destroyed by the proposed work.

9. Any interested parties, particularly navigation interests, federal and state agencies for the protection of fish and wildlife, and the officials of any state, town, or local association whose interests may be affected by the proposed work, are invited to submit to this office within 30 days of the date of this notice, written statements of facts, arguments, or objections thereto. These statements should bear upon the adequacy of plans and suitability of location and should, if appropriate, suggest any changes considered desirable.

10. The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered; among those are conservation, economics, aesthetics, general environmental concerns, historic values, fish and wildlife values, flood damage prevention, land use, navigation, recreation, water supply, water quality, energy needs, safety, food production, and, in general, the needs and welfare of the people. No permit will be granted unless its issuance is found to be in the public interest.

11. The evaluation of the impact of the proposed activity on the public interest will also include application of the guidelines promulgated by the Administrator of the United States Environmental Protection Agency under authority of Section 404 (b) of the Clean Water Act (40 C.F.R. Part 230).

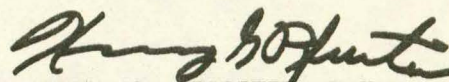
12. Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. A request may be denied if substantive reasons for holding a hearing are not provided.

13. The applicant's plans have been reproduced on the attached sheet.

14. All replies to this public notice should be addressed to the District Engineer, Rock Island District, U.S. Army Corps of Engineers, Clock Tower Building, Rock Island, Illinois 61201. Mr. Cecil Deitrich, telephone number 309/788-6361, extension 213, may be contacted for additional information.

FOR THE DISTRICT ENGINEER:

Attach
Plan


HENRY G. PFIESTER, P.E.
Chief, Operations Division

NOTICE TO POSTMASTERS:

It is requested that this notice be conspicuously and continuously posted for 30 days from the date of issuance of this notice.

Application No. NCROD-S-070-0X6-1-074170
 Name of Applicant Johnson County, Iowa
 Effective Date 11 February 1980
 Expiration Date (If applicable) 31 December 1982

DEPARTMENT OF THE ARMY
 PERMIT

Referring to written request dated 1 May 1979 for a permit to:

() Perform work in or affecting navigable waters of the United States, upon the recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of March 3, 1899 (33 U.S.C. 403);

XX Discharge dredged or fill material into waters of the United States upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 404 of the Federal Water Pollution Control Act (86 Stat. 816, P.L. 92-500);

() Transport dredged material for the purpose of dumping it into ocean waters upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (86 Stat. 1052; P.L. 92-532);

Johnson County Engineer
 Secondary Road Department
 Box 126
 Iowa City, Iowa 52240

is hereby authorized by the Secretary of the Army:

to perform work in conjunction with the removal and replacement of an existing bridge with an 867' long by 30' wide pretensioned, prestressed concrete beam bridge with approach gradings. The new bridge to be supported by 8 piers and 2 abutments. Temporary culverted road crossings will be removed upon completion of the projects. All areas disturbed during the demolition and the construction activities will be seeded and/or riprapped to prevent subsequent erosion.

in the Cedar River

at the Northeast 1/4 of Section 11, Township 81 North, Range 5 West of the 5th P.M., near the city of Sutliff, Johnson County, Iowa.

in accordance with the plans and drawings attached hereto which are incorporated in and made a part of this permit (on drawings: give file number or other definite identification marks.)

Maps No. 074170. Sheet 1: Vicinity Map; Sheet 2: "Situation Plan".

subject to the following conditions:

I. General Conditions:

a. That all activities identified and authorized herein shall be consistent with the terms and conditions of this permit; and that any activities not specifically identified and authorized herein shall constitute a violation of the terms and conditions of this permit which may result in the modification, suspension or revocation of this permit, in whole or in part, as set forth more specifically in General Conditions j or k hereto, and in the institution of such legal proceedings as the United States Government may consider appropriate, whether or not this permit has been previously modified, suspended or revoked in whole or in part.

b. That all activities authorized herein shall, if they involve, during their construction or operation, any discharge of pollutants into waters of the United States or ocean waters, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, pretreatment standards and management practices established pursuant to the Federal Water Pollution Control Act of 1972 (P.L. 92-500; 86 Stat. 816), the Marine Protection, Research and Sanctuaries Act of 1972 (P.L. 92-532, 86 Stat. 1052), or pursuant to applicable State and local law.

c. That when the activity authorized herein involves a discharge during its construction or operation, of any pollutant (including dredged or fill material), into waters of the United States, the authorized activity shall, if applicable water quality standards are revised or modified during the term of this permit, be modified, if necessary, to conform with such revised or modified water quality standards within 6 months of the effective date of any revision or modification of water quality standards, or as directed by an implementor on plan contained in such revised or modified standards, or within such longer period of time as the District Engineer, in consultation with the Regional Administrator of the Environmental Protection Agency, may determine to be reasonable under the circumstances.

d. That the discharge will not destroy a threatened or endangered species as identified under the Endangered Species Act, or endanger the critical habitat of such species.

e. That the permittee agrees to make every reasonable effort to prosecute the construction or operation of the work authorized herein in a manner so as to minimize any adverse impact on fish, wildlife, and natural environmental values.

f. That the permittee agrees that he will prosecute the construction or work authorized herein in a manner so as to minimize any degradation of water quality.

g. That the permittee shall permit the District Engineer or his authorized representative(s) or designee(s) to make periodic inspections at any time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

h. That the permittee shall maintain the structure or work authorized herein in good condition and in accordance with the plans and drawings attached hereto.

i. That this permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and that it does not authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations nor does it obviate the requirement to obtain State or local assent required by law for the activity authorized herein.

j. That this permit may be summarily suspended, in whole or in part, upon a finding by the District Engineer that immediate suspension of the activity authorized herein would be in the general public interest. Such suspension shall be effective upon receipt by the permittee of a written notice thereof which shall indicate (1) the extent of the suspension, (2) the reasons for this action, and (3) any corrective or preventative measures to be taken by the permittee which are deemed necessary by the District Engineer to abate imminent hazards to the general public interest. The permittee shall take immediate action to comply with the provisions of this notice. Within ten days following receipt of this notice of suspension, the permittee may request a hearing in order to present information relevant to a decision as to whether his permit should be reinstated, modified or revoked. If a hearing is requested, it shall be conducted pursuant to procedures prescribed by the Chief of Engineers. After completion of the hearing, or within a reasonable time after issuance of the suspension notice to the permittee if no hearing is requested, the permit will either be reinstated, modified or revoked.

k. That this permit may be either modified, suspended or revoked in whole or in part if the Secretary of the Army or his authorized representative determines that there has been a violation of any of the terms or conditions of this permit or that such action would otherwise be in the public interest. Any such modification, suspension, or revocation shall become effective 30 days after receipt by the permittee of written notice of such action which shall specify the facts or conduct warranting same unless (1) within the 30-day period the permittee is able to satisfactorily demonstrate that (a) the alleged violation of the terms and the conditions of this permit did not, in fact, occur or (b) the alleged violation was accidental, and the permittee has been operating in compliance with the terms and conditions of the permit and is able to provide satisfactory assurances that future operations shall be in full compliance with the terms and conditions of this permit; or (2) within the aforesaid 30-day period, the permittee requests that a public hearing be held to present oral and written evidence concerning the proposed modification, suspension or revocation. The conduct of this hearing and the procedures for making a final decision either to modify, suspend or revoke this permit in whole or in part shall be pursuant to procedures prescribed by the Chief of Engineers.

l. That in issuing this permit, the Government has relied on the information and data which the permittee has provided in connection with his permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Government may, in addition, institute appropriate legal proceedings.

m. That any modification, suspension, or revocation of this permit shall not be the basis for any claim for damages against the United States.

n. That the permittee shall notify the District Engineer at what time the activity authorized herein will be commenced, as far in advance of the time of commencement as the District Engineer may specify, and of any suspension of work, if for a period of more than one week, resumption of work and its completion.

o. That if the activity authorized herein is not started on or before 1st day of October, 19 82, one year from the date of issuance of this permit unless otherwise specified) and is not completed on or before 31st day of December, 19 82, (three years from the date of issuance of this permit unless otherwise specified) this permit, if not previously revoked or specifically extended, shall automatically expire.

p. That this permit does not authorize or approve the construction of particular structures, the authorization or approval of which may require authorization by the Congress or other agencies of the Federal Government.

q. That if and when the permittee desires to abandon the activity authorized herein, unless such abandonment is part of a transfer procedure by which the permittee is transferring his interests herein to a third party pursuant to General Condition t hereof, he must restore the area to a condition satisfactory to the District Engineer.

r. That if the recording of this permit is possible under applicable State or local law, the permittee shall take such action as may be necessary to record this permit with the Register of Deeds or other appropriate official charged with the responsibility for maintaining records of title to and interests in real property.

s. That there shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein.

t. That this permit may not be transferred to a third party without prior written notice to the District Engineer, either by the transferee's written agreement to comply with all terms and conditions of this permit or by the transferee subscribing to this permit in the space provided below and thereby agreeing to comply with all terms and conditions of this permit. In addition, if the permittee transfers the interests authorized herein by conveyance of realty, the deed shall reference this permit and the terms and conditions specified herein and this permit shall be recorded along with the deed with the Register of Deeds or other appropriate official.

ii. Special Conditions: (Here list conditions relating specifically to the proposed structure or work authorized by this permit):

If construction work uncovers an item or items that may be of historic or archaeological interest or if important new historical data comes to light in the project area, the work should be delayed sufficient time to notify the State Historic Preservation Officer, Iowa State Historical Department, 26 East Market Street, Iowa City, Iowa (telephone: 319/353-4186), and to allow the significance of the discovery to be determined.

The following Special Conditions will be applicable when appropriate:

STRUCTURES IN OR AFFECTING NAVIGABLE WATERS OF THE UNITED STATES:

a. That this permit does not authorize the interference with any existing or proposed Federal project and that the permittee shall not be entitled to compensation for damage or injury to the structures or work authorized herein which may be caused by or result from existing or future operations undertaken by the United States in the public interest.

b. That no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized by this permit.

c. That if the display of lights and signals on any structure or work authorized herein is not otherwise provided for by law, such lights and signals as may be prescribed by the United States Coast Guard shall be installed and maintained by and at the expense of the permittee.

d. That the permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the authorized structure or work, shall, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the waterway to its former conditions. If the permittee fails to comply with the direction of the Secretary of the Army or his authorized representative, the Secretary or his designee may restore the waterway to its former condition, by contract or otherwise, and recover the cost thereof from the permittee.

e. Structures for Small Boats: That permittee hereby recognizes the possibility that the structure permitted herein may be subject to damage by wave wash from passing vessels. The issuance of this permit does not relieve the permittee from taking all proper steps to insure the integrity of the structure permitted herein and the safety of boats moored thereto from damage by wave wash and the permittee shall not hold the United States liable for any such damage.

MAINTENANCE DREDGING:

a. That when the work authorized herein includes periodic maintenance dredging, it may be performed under this permit for 0 years from the date of issuance of this permit (ten years unless otherwise indicated);

b. That the permittee will advise the District Engineer in writing at least two weeks before he intends to undertake any maintenance dredging.

DISCHARGES OF DREDGED OR FILL MATERIAL INTO WATERS OF THE UNITED STATES:

a. That the discharge will be carried out in conformity with the goals and objectives of the EPA Guidelines established pursuant to Section 404(b) of the FWPCA and published in 40 CFR 230;

b. That the discharge will consist of suitable material free from toxic pollutants in other than trace quantities;

c. That the fill created by the discharge will be properly maintained to prevent erosion and other non-point sources of pollution; and

d. That the discharge will not occur in a component of the National Wild and Scenic River System or in a component of a State wild and scenic river system.

DUMPING OF DREDGED MATERIAL INTO OCEAN WATERS:

a. That the dumping will be carried out in conformity with the goals, objectives, and requirements of the EPA criteria established pursuant to Section 102 of the Marine Protection, Research and Sanctuaries Act of 1972, published in 40 CFR 220-228.

b. That the permittee shall place a copy of this permit in a conspicuous place in the vessel to be used for the transportation and/or dumping of the dredged material as authorized herein.

This permit shall become effective on the date of the District Engineer's signature.

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

John Smith PE 2/5/80
PERMITTEE County Engineer DATE

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

Walter Hines, P.E. 2/11/80
DATE

for
F. W. MUELLER, Jr., Colonel
DISTRICT ENGINEER,
U.S. ARMY, CORPS OF ENGINEERS

Transferee hereby agrees to comply with the terms and conditions of this permit.

TRANSFEEEE DATE



**DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS**

NOTICE OF AUTHORIZATION

11 February 19 80

A PERMIT TO perform work in conjunction with the removal of the existing bridge and the construction of a new bridge over the Cedar River near Sutliff, Iowa.

at the NE 1/4 of Sec. 11, Township 21N, Range 24W, in Johnson County, Iowa

has been issued to JOHNSON COUNTY ENGINEER On 11 February 19 80

ADDRESS OF PERMITTEE Secondary Road Dept., Box 125, Iowa City, Iowa 52240

PERMIT NUMBER ICHD-5-879-045-1-87100

PERMIT EXPIRES: 31 December 1982

[Signature]
For the _____

THIS NOTICE MUST BE CONSPICUOUSLY DISPLAYED AT THE SITE OF WORK.

IOWA STATE HISTORICAL DEPARTMENT
DIVISION OF HISTORIC PRESERVATION

September 25, 1981

ADRIAN D. ANDERSON, DIRECTOR
STATE HISTORIC PRESERVATION OFFICER

Mr. O. J. Gode, Jr., P.E.
Johnson County Engineer
Box 126
Iowa City, IA 52240

Re: FM-52(), COE permit no. NCROD-S-070-OX6-1-074170; relocation and
bridge replacement over the Cedar River, near Sutliff, Johnson County

Dear Mr. Gode:

Based on the results of the previous survey work and the field inspection by Division and County Engineer staff on August 31, 1981 the Division offers the following recommendations:

1. there will be no impact of the proposed undertaking on archaeological sites known in the area of the project.
2. the existing bridge is, in my opinion, eligible for listing in the National Register of Historic Places. The IDOT should proceed to prepare a formal request for a determination of eligibility of the bridge, forward the request and documentation to the Division for review and once receiving the formal comments about the request forward it to the Federal Highway Administration so that FHWA may review it and forward it to the Keeper of the National Register for the actual formal determination.
3. at the time the request for a DOE is forwarded to the Keeper the IDOT may request the opinions of the State Historic Preservation Officer regarding appropriate mitigative actions to reduce the potential impacts of the proposed undertaking on the existing bridge.
4. parties originating correspondence in regard to this project should provide a courtesy copy to the Corps of Engineers because of the involvement of the Corps of Engineers in issuing the federal permit.

The Division will assist the DOT to the extent possible in completing the request for the determination of eligibility, and completing the review process in an expedient fashion.

Sincerely,

Stan Riggle / Deputy SAPO, for

Adrian D. Anderson, Director
State Historic Preservation Officer

cc: David W. Cook, IDOT
Roy Eichhorn, COE

BROS-9052(3)
SUTLIFF BRIDGE
JOHNSON COUNTY, IOWA

REQUEST FOR DETERMINATION OF ELIGIBILITY
TO THE NATIONAL REGISTER OF HISTORIC PLACES

PREPARED FOR THE
FEDERAL HIGHWAY ADMINISTRATION

BY THE
OFFICE OF PROJECT PLANNING
PLANNING AND RESEARCH DIVISION
IOWA DEPARTMENT OF TRANSPORTATION

OCTOBER, 1981

PARKER HIGH TRUSS BRIDGE
OVER THE CEDAR RIVER
JOHNSON COUNTY, IOWA

DESCRIPTION

The existing 827 x 16 foot three span Parker style high truss bridge is located near the center of Section 11, T81N-R5W, Cedar Township and is situated over the Cedar River (Fig. 1). West of the bridge are level, cultivated fields situated upon a sandy point bar. Timbered land is found on both banks of the river. The east approach to the bridge lies within the unincorporated town of Sutliff (Fig. 2). The general bridge area is one of gently rolling terrain that is cut by the broad level alluvial valley of the Cedar River. Several sandy pahas, long ridges, and isolated hills are nearby. These landscape features are characteristic of the Iowan Surface (Prior 1976:50).

The bridge data available at the Iowa Department of Transportation states that the existing bridge (FHWA #205310) was constructed in 1898. The structure is a 827 x 16 foot three span pin-connected bridge with a vertical clearance of 15 feet 1 inch. Each of the three main spans are 215 x 16 feet in length (Figs. 3 & 4). The two approaches comprise the remainder of the total length (Figs. 5 & 6). The west approach is a 155 x 16 foot eight span wood trestle and a one span 27 x 16 wood trestle forms the east approach.

SIGNIFICANCE

The Iowa Department of Transportation is currently involved with inventorying all bridge structures built prior to 1936 that are located upon the state's secondary road system. This presently amounts to over 7,850 structures. A preliminary survey indicates that there are eleven Parker high trusses known from the fifty-one counties presently surveyed. None of these eleven bridges have been field confirmed. The Sutliff bridge also has the longest span length

of any of the reported Parker trusses with the Iowa Structure and Inventory and Appraisal form listing the maximum span length as 238 feet. This varies slightly with the 1931 grading plans of the county trunk road which lists the bridge as having three spans of 215 feet each. Irregardless of the high truss span length, the total length of the bridge, 827 feet, allows the Sutliff bridge to be the longest Parker truss presently known upon Iowa's secondary road system.

The existing bridge was the first structure across the Cedar River in Johnson County and is still the only bridge in the county that crosses that river. Prior to its construction, Allan C. Sutliff ran a ferry at the location. A. C. Sutliff came to the county in 1838 and started the ferry service around 1840-42 (Aurner 1912: 187). Eventually a sandbar formed in the center of the river and made the ferry unworkable. Residents in the area then had to travel many miles to the next crossing in order to get to the county seat in Iowa City (Aurner 1912: 203).

The Johnson County Board of Supervisors voted in December, 1896, to erect an iron bridge at the crossing of Sutliff's ferry. In 1897, a contract was let to J. R. Sheely and Company of Des Moines, Iowa, with a bid of about \$12,000, to construct the bridge. The bridge was completed and accepted by county authorities in April, 1898. It was at the time the longest bridge in the county. The remaining bridge plaque states that the Iowa Bridge Company of Des Moines was the bridge builder for the project. The connection between J. R. Sheely and Company and the Iowa Bridge Company is presently unknown. However, the Iowa Bridge Company was a major Iowa bridge builder from the turn of the century. The fate of the Iowa Bridge Company is unknown, but they are not listed in the Des Moines' City Directory after 1929 and so may have either relocated out of Des Moines or entered bankruptcy after the Depression of 1929.

At its dedication on June 3, 1898, people from all over the region were invited to celebrate its opening. One of the largest gatherings ever held

in Johnson County to that time assembled at the west end of the bridge for a picnic dinner and commemorative speeches. It was estimated that 300 of the best known men in the county and surrounding area were in attendance with the crowd estimated at about 1,000 persons (Aurner 1912: 203-204).

SUMMARY

The historical research indicates that the Sutliff Bridge was the first bridge across the Cedar River at this location and replaced a ferry. It is one of the few remaining Parker trusses known to exist upon the secondary road system of Iowa and is also one of, if not the, longest Parker truss in the state. It is also the oldest known Parker truss upon the secondary road system. It was apparently built by a major Iowa bridge builder, the Iowa Bridge Company of Des Moines. Due to these findings, plus the fact that the integrity of location, design, and setting has never been seriously modified, the bridge appears to meet the National Register criteria of significance and may be eligible for listing in the National Register of Historic Places.

REFERENCES

Aurner, Charles Ray

1912 Leading Events in Johnson County, Iowa, History. Western Historical Press. Cedar Rapids, Iowa.

Prior, Jean C.

1976 A Regional Guide to Iowa Landforms. Iowa Geological Survey. Educational Series 3. The State of Iowa.

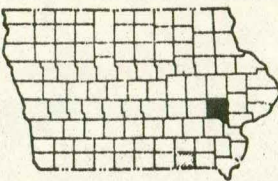
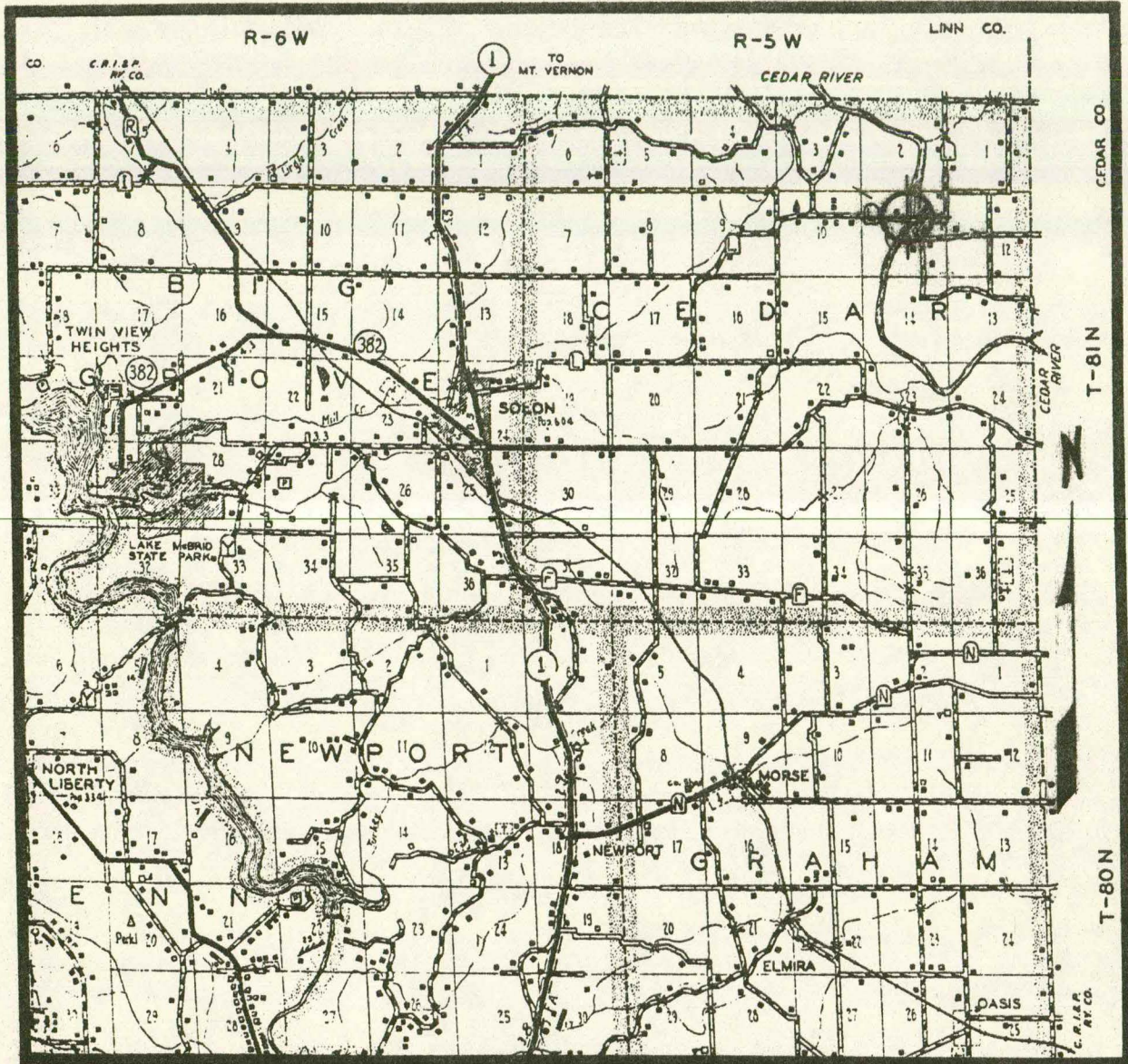
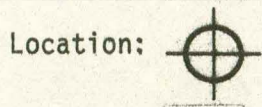
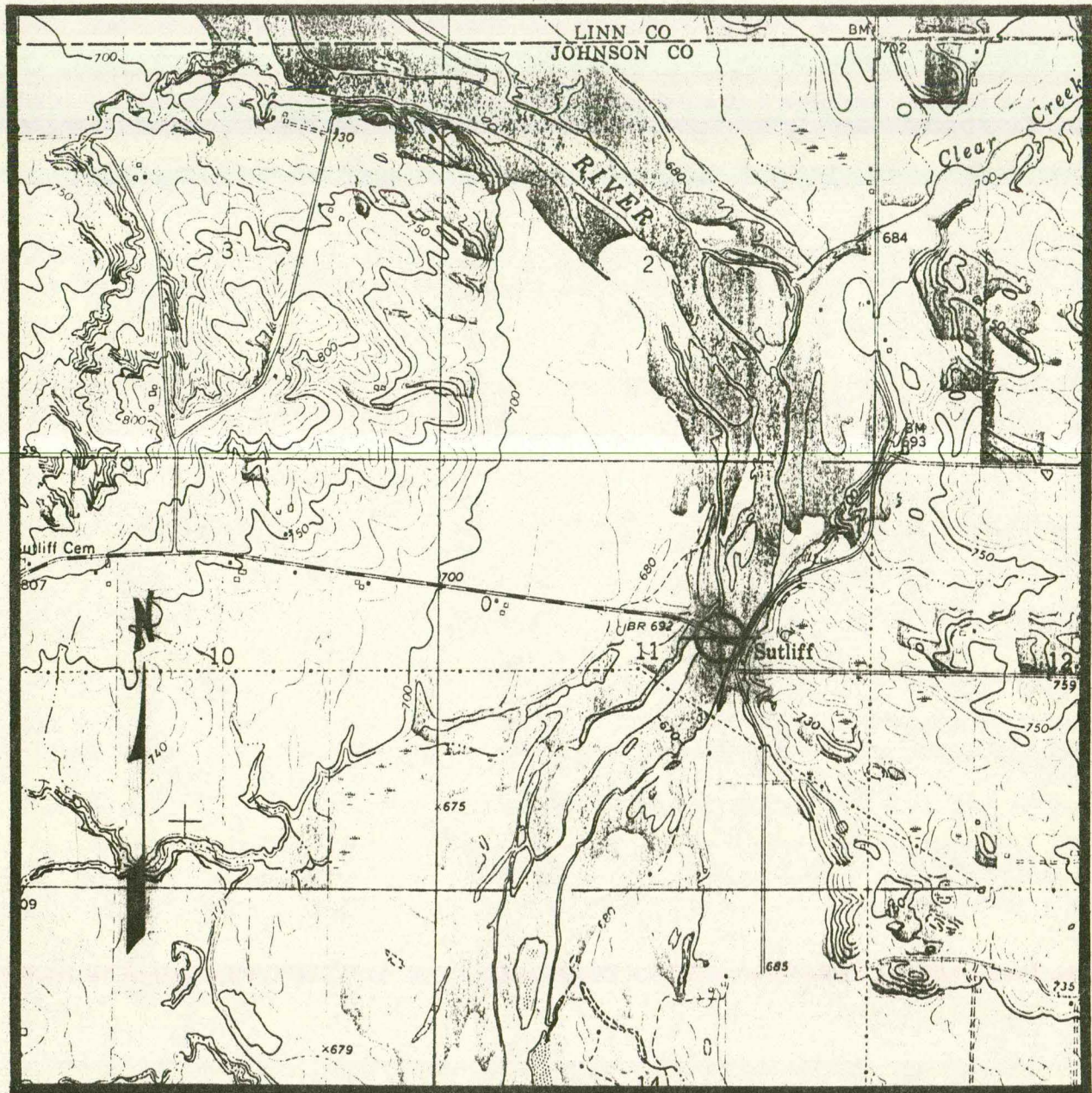


Figure from General Highway and Transportation Map 1975
Johnson County, Iowa

Fig. 1. Location of Sutliff Bridge.




R5W



Map taken from U.S.G.S. 7 1/2 minute topographic series: Solon, Iowa 1965

Fig. 2. Location of bridge in relation to surrounding landforms.

Bridge location: 

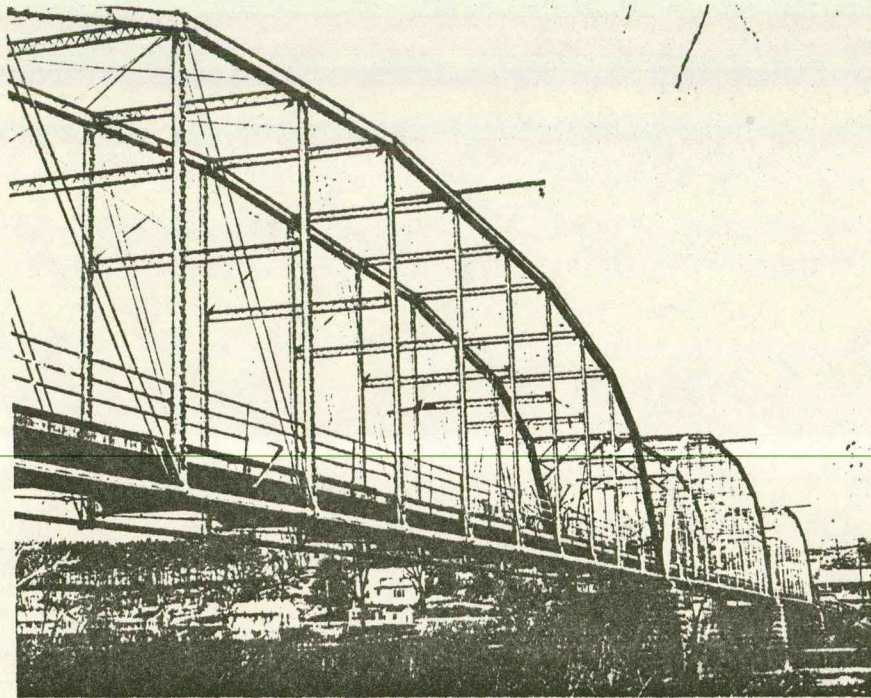


Fig. 3. South elevation of existing bridge
View to the northeast.

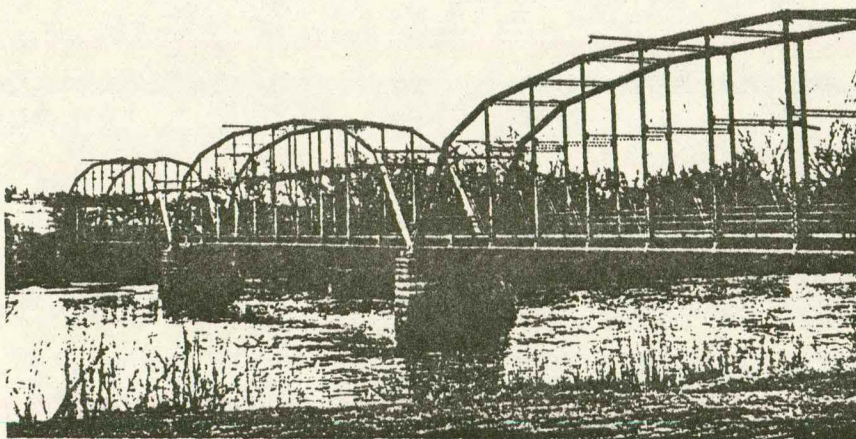


Fig. 4. North elevation of existing bridge.
View to the northwest.



Fig. 5. West approach of existing bridge.
View to the east.



Fig. 6. East approach of existing bridge.
View to the west.



United States Department of the Interior

NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

IN REPLY REFER TO: 710

Mr. H. A. Willard
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
P. O. Box 627
Ames, Iowa 50010

OCT 23

Dear Mr. Willard:

Thank you for your letter requesting a determination of eligibility for inclusion in the National Register pursuant to Executive Order 11593 or the National Historic Preservation Act of 1966, as amended. Our determination appears on the enclosed material.

As you are aware, transportation projects requiring the use of significant historic properties are also subject to the provisions of section 4(f) of the Department of Transportation Act of 1966. Your request for our professional judgment constitutes a part of the Federal planning process. We urge that this information be integrated into the National Environmental Policy Act and section 4(f) analyses in order to bring about the best possible program decisions. This determination does not represent the results of formal consultation by the Department of Transportation with the Department of the Interior pursuant to section 4(f). Such requirements would be fulfilled only when the Department of the Interior separately comments on any section 4(f) statement which may be prepared and approved by you for circulation. The determination also does not serve in any manner as a veto to uses of the property, with or without Federal participation or assistance. Any decision on use of the property in question lies with your agency after the Department of the Interior has had an opportunity to comment on the 4(f) statement and other procedures are fulfilled (36 CFR 800).

We are pleased to be of assistance in the consideration of historic resources in the planning process.

Sincerely,

Carol D. Shull
Acting Keeper of the
National Register

Enclosure

E.O. 11593

DETERMINATION OF ELIGIBILITY NOTIFICATION National Register of Historic Places Heritage Conservation and Recreation Service

Name of property: Sutliff Bridge

Location: Johnson County

State: IA

Request submitted by: DOT/FHWA H.A. Willard

Date received: 10/22/81

Additional information received:

Opinion of the State Historic Preservation Officer:

Eligible

Not Eligible

No Response

Comments:

The Secretary of the Interior has determined that this property is:

Eligible

Applicable criteria:

Not Eligible

Comments:

36 CFR Part 63.3
Determination

Documentation insufficient

(Please see accompanying sheet explaining additional materials required)

FOR

Susan D. Hanlon
Keeper of the National Register

Determined Eligible

Date: OCTOBER 23, 1981

STATE LIBRARY OF IOWA



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