

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only
received SEP 5 1985
date entered OCT 15 1985

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic HARGROVE PIVOT BRIDGE
and/or common OLD HARGROVE BRIDGE

2. Location

street & number BUTLER COUNTY RTE. 159 (2,000 feet east of Rte. HH) not for publication
city, town vicinity of 8th congressional district
state Missouri code 029 county Butler code 023

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input type="checkbox"/> occupied	<input type="checkbox"/> agriculture
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	N/A unoccupied	<input type="checkbox"/> commercial
<input checked="" type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input type="checkbox"/> yes: restricted	<input type="checkbox"/> government
	<input type="checkbox"/> being considered	<input checked="" type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial
	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> no	<input type="checkbox"/> military
			<input type="checkbox"/> museum
			<input type="checkbox"/> park
			<input type="checkbox"/> private residence
			<input type="checkbox"/> religious
			<input type="checkbox"/> scientific
			<input checked="" type="checkbox"/> transportation
			<input type="checkbox"/> other:

4. Owner of Property

name Butler County Court
street & number
city, town Poplar Bluff vicinity of state Missouri 63901

5. Location of Legal Description

courthouse, registry of deeds, etc. BUTLER COUNTY COURTHOUSE
street & number
city, town Poplar Bluff state Missouri

6. Representation in Existing Surveys

title Historic American Engineering Record has this property been determined eligible? yes no
date October 12, 1980 federal state county local
depository for survey records U. S. Department of Interior, National Park Service
city, town P. O. Box 25287 Denver state Colorado 80225

7. Description

Condition

excellent

good

fair

deteriorated

ruins

unexposed

Check one

unaltered

altered

Check one

original site

moved

date _____

Describe the present and original (if known) physical appearance

The Old Hargrove swing or pivot bridge is located in Butler County, Missouri, on County Road 159, 0.3 miles east of Missouri State Highway 53, and 2,000 feet east of County Route HH. It crosses the Black River at that point. The structure is 220 feet long, including the approaches to the bridge, with a turning span of 100 feet, and 16.2 feet wide with a concrete rim-bearing turntable support.¹

The truss design is a modification of two standard plans used widely in American bridge construction during the era of iron bridges; this bridge has a modified Wichert truss as its center span and a modified Warren pony truss extending on each side of the center truss.² The center pivot turntable support was designed³ so that boatmen could turn the bridge with a crank kept on shore for their use.

Early steamboat and logboat traffic on this part of the Black River dictated that a bridge of this nature be constructed at this site. Until 1942, the Army Corps of Engineers ran snag boats along this stretch of the river to maintain it in navigable condition. Since that date,⁴ the bridge has not been turned due to the lack of river traffic in the area.

Many parts of the bridge show deterioration: the iron beam truss members are rusted; the timber deck consists of rotted and loose wood; the turntable is inoperative due to disuse for over 40 years. In spite of this deterioration, the bridge remains open to traffic yet carries very little vehicular load because its location now is a remote, little used one.⁵

The deterioration has not reached the state of irreversibility. Overall, the bridge structure is essentially unchanged from the design of its construction in the autumn of 1917.⁶

REFERENCE NOTES

1. Missouri State Highway Department, "Structure Inventory and Appraisal Sheet: Bridge No. 159000.3", March 1979.
2. David Weitzman, Traces of the Past (Charles Scribner's Sons: New York, 1980, p. 111, pp. 83-121. Interview with Dr. William Andrews, Professor of Civil Engineering, University of Missouri-Rolla, September 6, 1984.
3. HAER Inventory Card for Old Hargrove Bridge, Butler County, Missouri, October, 1980. Interview with Mr. Robert Manns, Butler County Historical Society, April, 1981.

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Continuation sheet HARGROVE PIVOT BRIDGE Item number 7 Page 1

4. "Bridge Improved by Qulin Scouts", Three Rivers Times, November, 1968. Missouri State Highway Department, "Structure Inventory...." Interview with Mr. Claude Buffington, Associate Judge, Western District, Butler County (Missouri) Court, April, 1981.
5. Missouri State Highway Department, "Structure Inventory...."
6. "Big Bridge Opens Up New District", Poplar Bluff Weekly Citizen Democrat, November 8, 1917. Interview with Mr. F. A. Finley, Representative for Missouri State District 155, October 5, 1983.

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Continuation sheet HARGROVE PIVOT BRIDGE Item number 8

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REFERENCE NOTES

1. Big Bridge Opens Up New District", Poplar Bluff Weekly Citizens Democrat, November 8, 1917.
2. Henry H. Bormann, Bridges (Macmillan: New York, 1934) p. 30. F. C. Kunz, Design of Steel Bridges (McGraw-Hill: New York, 1915) pp. 278-79, 309-11. C. C. Schneider, "Movable Bridges", Transactions of the American Society of Civil Engineers, LX (1908) 258-336.
3. David Weitzman, Traces of the Past (Charles Scribner's Sons: New York, 1980) pp. 82-121. Interview with Dr. William Andrews, Professor of Civil Engineering, University of Missouri-Rolla, September 6, 1984.

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input checked="" type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates 1917

Builder/Architect Miller and Bocherding

Statement of Significance (in one paragraph)

The Old Hargrove Swing Bridge in southeastern Missouri is a prototype of small-scale swing or pivot bridges constructed over rivers in America in the late 19th and early 20th centuries. It exemplifies the degree to which this bridge building technology reached into less populated regions of the country and stands as an example of empirical bridge design by several different bridge builders in this era. It is eligible under Criterion C because it embodies the distinctive characteristics of a small scale pivot bridge built during the early 20th century.

Constructed in 1917, the Old Hargrove Bridge is not among the first such swing or pivot bridges built in this country.¹ This economical means of spanning a river gained popularity in the United States during the 1890s. For a county in southern Missouri seeking an inexpensive design that would minimize the interruption of the flow of steamboats, dredge boats, and logging boats along the Black River, a center pivot swing bridge was an attractive choice. Such a bridge is relatively light in weight, offers little wind resistance, and takes less power to turn than other more conventional designs.² The resulting extant structure in Butler County, Missouri, typifies the vernacular tradition in American technology--seeking the practical, simple and minimal design as a solution for a particular problem.

This bridge is relatively unchanged from its original construction in 1917. Some deterioration of the structure is evident yet it stands as a fine example of a modestly-sized rim-bearing swing bridge. With a modified Wichert center truss surrounded by modified Warren pony trusses, this bridge suggests that many small-scale units were subjected to design modifications made by local highway engineers and by amateur bridge designers. These unique, rather elegant, yet empirical design features make the bridge worthy of future consideration by historians of American technology.³

Based on preliminary inventories of engineering sites in Missouri, we believe this bridge is one of the few extant types in the region. Although several fixed Pratt truss structures remain throughout the state, few small-scale swing bridges in nearly original condition exist. Its simple design, sensible means of turning (boatmen used a crank kept in storage on shore), and modest cost serve as reminders that technology can offer elegant, affordable, and practical solutions to a problem such as this--spanning a river in a remote area with an inexpensive yet durable bridge. The Old Hargrove Bridge is a fine example of this engineering heritage in America.

9. Major Bibliographical References

See attached sheet.

10. Geographical Data

Acree of nominated property less than one acre

Quadrangle name HANLEYVILLE, MO.

Quadrangle scale 1:24,000

UTM References

A

1	5	7	4	1	3	6	0	4	0	5	8	9	4	0
Zone			Easting				Northing							

B

Zone			Easting				Northing							

C

Zone			Easting				Northing							

D

Zone			Easting				Northing							

E

Zone			Easting				Northing							

F

Zone			Easting				Northing							

G

Zone			Easting				Northing							

H

Zone			Easting				Northing							

Verbal boundary description and justification

Bridge is located 0.3 miles east of Missouri State Route 53, 2,000 feet east of Butler County Route HH, over the Black River on Butler County Route 159. The bridge is 220 feet long including the bridge approaches. It runs in an approximately east-west (see continuation sheet)

List all states and counties for properties overlapping state or county boundaries

state	code	county	code

state	code	county	code

11. Form Prepared By

name/title 1. H. J. Eisenman, Associate Professor of History

organization University of Missouri-Rolla

date September 17, 1984

street & number

telephone (314) 341-4808

city or town Rolla

state Missouri

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national state local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature

Wayne E. Cross

for title Frederick A. Brunner, Ph.D., P.E., Director Department of Natural Resources, and State Historic Preservation Officer date 8/15/85

For NPS use only

I hereby certify that this property is included in the National Register

for *Beth Groover*
Keeper of the National Register

date 10/15/85

Attest:

date

Chief of Registration

**United States Department of the Interior
National Park Service**

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date entered

Continuation sheet

HARGROVE PIVOT BRIDGE

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BIBLIOGRAPHY

Dr. William Andrews, Professor of Civil Engineering, University of Missouri-Rolla. Interview, September 6, 1984.

"Big Bridge Opens Up New District", Poplar Bluff Weekly Citizen Democrat, November 8, 1917.

Bormann, Henry H., Bridges. Macmillan Co.: New York, 1934.

"Bridge Improved by Qulin Scouts", Three Rivers Times, November, 1968.

Mr. Claude Buffington, Associate Judge, Western District, Butler County (Missouri) Court. Interview, April, 1981.

Butler County, Missouri. County Court Record Book T. 1916.

Butler County, Missouri. County Court Record Book U. 1917.

Mr. F. A. Finley, Representative for Missouri State District 155. Interview, October 5, 1983.

HAER Inventory Card for Old Hargrove Bridge, Butler County, Missouri, October, 1980.

Kunz, F. C., Design of Steel Bridges. McGraw-Hill: New York, 1915.

Mr. Robert Manns, Butler County Historical Society. Interview, April, 1981.

Missouri State Highway Department, "Structure Inventory and Appraisal Sheet: Bridge No 159000.3", March, 1979.

Schneider, C. C., "Movable Bridges", Transactions of the American Society of Civil Engineers. LX (1908) 258-336.

Weitzman, David. Traces of the Past. Charles Scribner's Sons: New York, 1980.

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Continuation sheet HARGROVE PIVOT BRIDGE

Item number 10

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direction and is approximately 17 feet wide in the north-south direction as the pivot is now inoperable. It all lies in Butler County, Missouri, in the north half of the northwest quarter, of the northwest quarter, of the northwest quarter, of the northwest quarter section of Section 15, Township 23 North and Range 7 East.

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Continuation sheet HARGROVE PIVOT BRIDGE

Item number 11

Page 1

2. James M. Denny
name/title Chief, Survey & Registration and State Contact Person
Department of Natural Resources
organization Historic Preservation Program
street & number P. O. Box 176 telephone (314) 751-4096
city or town Jefferson City state Missouri 65102

8500323A

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

Substantive Review

Hargrove Pivot Bridge
Butler County
MISSOURI

SEP 5 1985

Working No. _____

Fed. Reg. Date: 2/3/87

Date Due: 10/3/85 - 10/20/85

Action: ACCEPT 10-15-85

RETURN

REJECT

Federal Agency: _____

- resubmission
- nomination by person or local government
- owner objection
- appeal

Substantive Review: sample request appeal NR decision

Reviewer's comments:

Recom./Criteria Accept - c
 Reviewer Gus verna
 Discipline Historian
 Date 10/15/85
 _____ see continuation sheet

Nomination returned for: _____ technical corrections cited below
 _____ substantive reasons discussed below

1. Name

2. Location

3. Classification

Category	Ownership	Status	Present Use
	Public Acquisition	Accessible	

4. Owner of Property

5. Location of Legal Description

6. Representation in Existing Surveys

Has this property been determined eligible? yes no

7. Description

Condition	Check one	Check one
<input type="checkbox"/> excellent	<input type="checkbox"/> deteriorated	<input type="checkbox"/> original site
<input type="checkbox"/> good	<input type="checkbox"/> ruins	<input type="checkbox"/> moved date _____
<input type="checkbox"/> fair	<input type="checkbox"/> unexposed	
	<input type="checkbox"/> unaltered	
	<input type="checkbox"/> altered	

Describe the present and original (if known) physical appearance

- summary paragraph
- completeness
- clarity
- alterations/integrity
- dates
- boundary selection

8. Significance

Period _____ Areas of Significance—Check and justify below

Specific dates _____ Builder/Architect _____

Statement of Significance (*in one paragraph*)

- summary paragraph
- completeness
- clarity
- applicable criteria
- justification of areas checked
- relating significance to the resource
- context
- relationship of integrity to significance
- justification of exception
- other

9. Major Bibliographical References

10. Geographical Data

Acreage of nominated property _____

Quadrangle name _____

UTM References _____

Verbal boundary description and justification _____

11. Form Prepared By

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

____ national ____ state ____ local

State Historic Preservation Officer signature

title _____ date _____

13. Other

- Maps
- Photographs
- Other

Questions concerning this nomination may be directed to _____

Signed _____ Date _____ Phone: _____

Comments for any item may be continued on an attached sheet



HARGROVE PIVOT BRIDGE 1 of 3
Butler County Rte. 159, Butler Co., Mo.

Photographer: James M. Denny
Date: Dec., 1981
Neg. Loc.: Dept. of Natural Resources
Historic Preservation Program
P. O. Box 176
Jefferson City, Mo. 65102

Looking northeast.



HARGROVE PIVOT BRIDGE 2 of 3
Butler County Rte. 159, Butler Co., Mo.

Photographer: James M. Denny
Date: Dec., 1981
Neg. Loc.: Dept. of Natural Resources
Historic Preservation Program
P. O. Box 176
Jefferson City, Mo. 65102

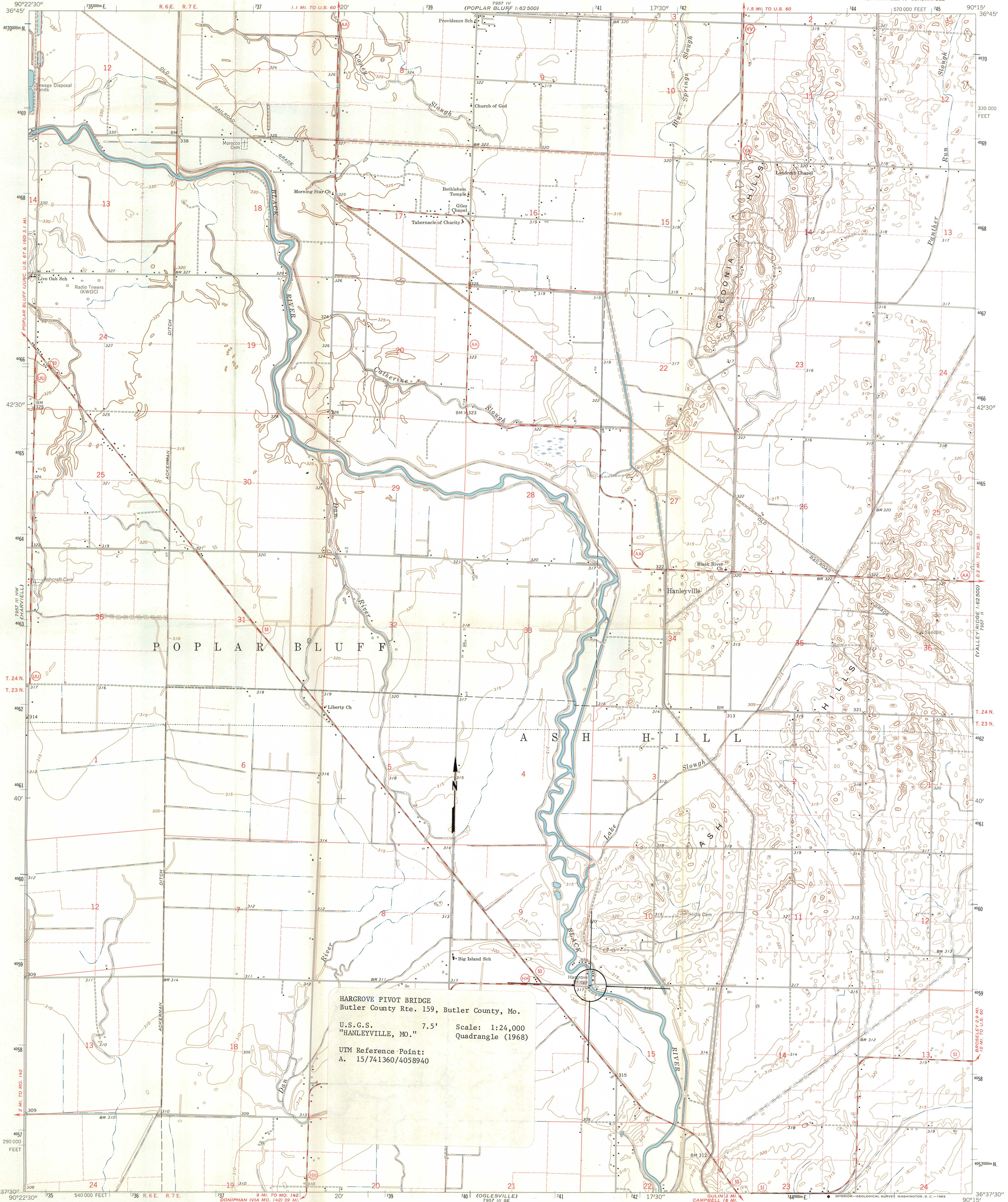
Detail of concrete rim-bearing turntable
support; looking northeast.



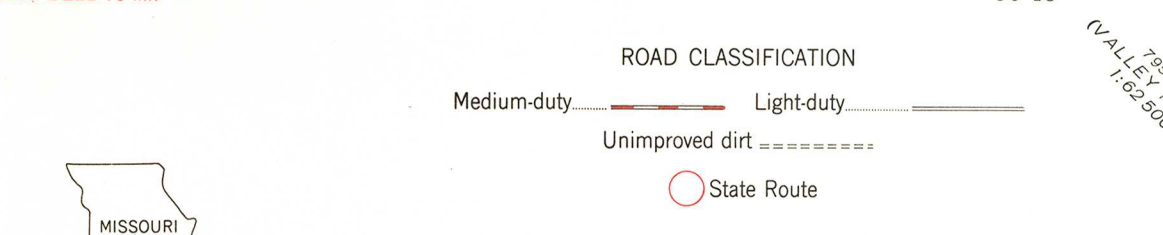
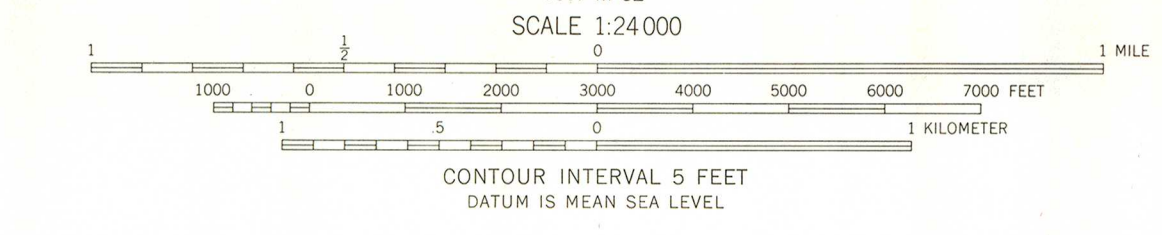
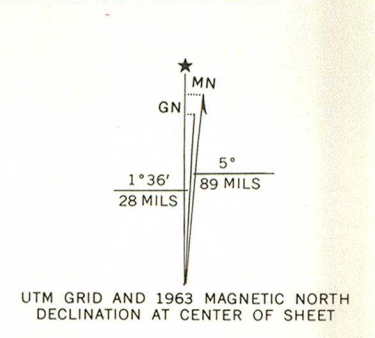
HARGROVE PIVOT BRIDGE 3 of 3
Butler County Rte. 159, Butler Co., Mo.

Photographer: James M. Denny
Date: Dec., 1981
Neg. Loc.: Dept. of Natural Resources
Historic Preservation Program
P. O. Box 176
Jefferson City, Missouri 65102

Detail of modified Wichert Truss, looking
north.



Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Planimetry by photogrammetric methods from aerial photographs
taken 1963. Topography by planetable surveys 1963
Polyconic projection. 1927 North American datum
10,000-foot grid based on Missouri coordinate system, east zone
1000-meter Universal Transverse Mercator grid ticks,
zone 15, shown in blue
Fine red dashed lines indicate selected fence and field lines where
generally visible on aerial photographs. This information is unchecked



THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR WASHINGTON, D. C. 20242
AND BY THE MISSOURI GEOLOGICAL SURVEY, ROLLA, MISSOURI
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

HANLEYVILLE, MO.
NE/4 HARVIELL 15' QUADRANGLE
N3637.5—W9015/7.5

JOHN ASHCROFT
Governor

FREDERICK A. BRUNNER
Director



STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF PARKS & HISTORIC PRESERVATION

P.O. Box 176
Jefferson City, MO 65102
314-751-2479

Division of Energy
Division of Environmental Quality
Division of Geology and Land Survey
Division of Management Services
Division of Parks and
Historic Preservation

August 23, 1985

Ms. Carol Shull
National Register Branch
Interagency Resources Division
National Park Service
1100 L Street, Room 6209
Washington, D. C. 20240

Dear Ms. Shull:

Enclosed please find the following submissions from Missouri for nomination to the National Register of Historic Places.

HARGROVE PIVOT BRIDGE
Butler County Rte. 159
Missouri

ST. PAUL'S EPISCOPAL CHURCH
5th and South Green Streets - Corner
Lee's Summit, Missouri

These nominations were approved by our State Review Board, the Missouri Advisory Council on Historic Preservation, on July 26, 1985, and have been signed by Missouri's Deputy State Historic Preservation Officer, Wayne Gross. Enclosed please find a copy of the July 12, 1985 letter appointing Wayne Gross Deputy State Historic Preservation Officer. All owners and appropriate elected public officials were notified and provided at least thirty (30) days to comment on the above proposed nominations in accordance with Section 60.6 (c) 36CFR60, interim regulations, using the exact notification format recommended by the National Register. No objections, notarized or otherwise, were received for the above referenced nominations.

SEP 5 1985

Ms. Carol Shull
August 23, 1985
Page 2

If there are any questions concerning these submissions, please contact James M. Denny of my staff at 314/751-4096.

Sincerely,

DIVISION OF PARKS, RECREATION,
AND HISTORIC PRESERVATION

A handwritten signature in cursive script that reads "Claire F. Blackwell". The signature is written in black ink and is positioned below the typed name and title.

Claire F. Blackwell
Director
Historic Preservation Program

CFB:meb

Enclosures