

MILLER COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
 [Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description
MILL01	H 119	Saline Creek Bridge	1-120' riveted Pratt through truss 1925 Fogleman and Davidson
*MILL02	J 719	Osage River Bridge	2-200' riveted cantilever through truss 1932 Industrial Construction Co.
MILL03	011000.2	Calhoun Bridge	1- 80' riveted Pratt pony truss 1914 Kansas City Bridge Company
*MILL04	096001.5	Hoecker Bridge	1-120' pinned Pratt through truss 1909 Missouri Bridge and Iron Co.
*MILL05	146000.4	Singer Bridge	1-120' pinned Pratt through truss 1913 Missouri Bridge and Iron Co.
*MILL06	156001.2	Kemna Bridge	1-167' steel cable suspension bridge 1924 J.A. Dice
*MILL07	181001.2	Boeckman Bridge	1-160' steel cable suspension bridge 1926 J.A. Dice
*MILL08	199000.7	Brumley Bridge	1-216' steel cable suspension bridge c1925 J.A. Dice
*MILL09	222001.8	Buetcher Bridge	1-140' steel cable suspension bridge c1925 J.A. Dice
*MILL10	264000.2	Mill Creek Bridge	1- 96' steel cable suspension bridge c1925 J.A. Dice
*MILL11	274001.7	Glaize Bridge	1-414' steel cable suspension bridge 1922 J.A. Dice

EXCLUDED:

Warren pony truss
T 52

Steel stringer

K 819	S 535	S 536	S609	T 27	T 53	T 962
X 536R	009000.5	012000.5	032000.2	106000.1	107000.1	203000.5
212002.2	217002.5	330001.9	339000.4			

Concrete girder

G 962A	G 964	G 965	K 42	023000.5	089004.1	210000.1
287000.6	287001.2	338000.3				

Concrete slab

002000.5	022000.7	024000.1	046001.2	049000.9	051001.9	066000.4
087000.9	097000.5	106005.0	108002.1	112003.0	134000.5	135001.1
152000.4	182001.2	182001.3	235000.6	270002.6	330001.3	

MILLER COUNTY

EXCLUDED (cont.):

Concrete box culvert						
G 252R1	G 253R	K 41	K 43	T 26	T 94	T 448
W 344	W 464	W 465	W 538	074000.6	132000.2	158002.7
158003.7	199000.5	203000.1	206000.2	299002.6	319000.9	337000.9

Timber stringer	
Y 199	059001.1

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	2	9	0	0	11
Excluded	25	47	0	0	72
	<hr/>				
	27	56	0	0	83 structures

Saline Creek Bridge

MILL01

GENERAL DATA

structure no.:	H 119	city/town:	3.8 miles northeast of Tuscumbia
county:	Miller	feature inters.:	Saline Creek
		cadastral grid:	S25, T41N, R14W
		highway route:	State Highway 17
		highway distr.:	5
		current owner:	Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure:	steel, 6-panel, rigid-connected Pratt through truss, with rigid-connected Warren pony truss approach span		
substructure:	concrete abutments, wingwalls and pier		
span number:	1	condition:	good
span length:	120.0'	alterations:	none
total length:	288.0'	floor/decking :	concrete deck over steel stringers
roadway width:	20.0'	other features:	steel pipe guardrails

HISTORICAL DATA

erection date:	1925
erection cost:	\$29,776.75
designer:	Missouri State Highway Department
fabricator :	unknown
contractor:	Fogleman and Davidson
references:	Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. H 119; Primary System Bridge Files, located at Missouri Highway and Transportation Department, Jefferson City MO.
sign. rating:	41
evaluation:	NRHP non-eligible (typically configured example of MSHD truss design)

inventoried by: Michelle Crow-Dolby and Clayton Fraser 1 March 1993

Osage River Bridge

MILL02

GENERAL DATA

structure no.:	J 719	city/town:	Tuscumbia
county:	Miller	feature inters.:	Osage River
		cadastral grid:	S11, T40N, R14W
		highway route:	Missouri State Highway 17
		highway distr.:	5
		current owner:	Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, rigid-connected cantilever through truss with 5-panel, rigid-connected Warren deck truss approach span at each end; 6 span steel stringer approach at north end

substructure: concrete abutments, wingwalls and bullnosed piers; spill-through piers under stringer approach spans

span number:	2	condition:	excellent
span length:	200.0'	alterations:	none
total length:	1084.0'	floor/decking :	asphalt-covered concrete deck over steel stringers
roadway width:	20.0'	other features:	upper chord and inclined end post: 2 channels with cover plate and double lacing; lower chord: 2 channels with double lacing; vertical: wide flange; diagonal: 2 channels with double lacing; 2 channels with batten plates; lateral bracing: 1 angle; strut: 4 angles with lacing; floor beam: I-beam; guardrail: 2 channels

HISTORICAL DATA

erection date: 1932-33
erection cost: \$109,112.80
designer: Missouri State Highway Department
fabricator : Inland Steel Company, East Chicago IL
contractor: Industrial Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. J 719; Primary System Bridge Files, located at Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Clayton Fraser, 4 May 1990.

sign. rating: 53
evaluation: NRHP possibly eligible (well-preserved, short-span cantilevered highway truss, one of a relatively small number)

inventoried by: Michelle Crow-Dolby and Clayton Fraser 1 March 1993

Calhoun Bridge

MILL03

GENERAL DATA

structure no.:	011000.2	city/town:	1.1 miles north of Orlean
county:	Miller	feature inters.:	South Moreau Creek
		cadastral grid:	S1/2, T42N, R15W
		highway route:	County Road 11
		highway distr.:	5
		current owner:	Miller County

STRUCTURAL DATA

superstructure:	steel, 5-panel, rigid-connected Pratt pony truss		
substructure:	concrete abutments and wingwalls		
span number:	1	condition:	fair
span length:	80.0'	alterations:	none
total length:	80.0'	floor/decking :	concrete deck over steel stringers
roadway width:	11.7'	other features:	steel guardrails

HISTORICAL DATA

erection date:	1914
erection cost:	\$3600.00
designer:	Kansas City Bridge Company, Kansas City MO
fabricator :	Kansas City Bridge Company, Kansas City MO
contractor:	Kansas City Bridge Company, Kansas City MO
references:	Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 011000.2; Miller County Court Record, Book R: page 55 (5 March 1914); original contract between Miller and Moniteau Counties with Kansas City Bridge Company (2 March 1914); original drawing - all located at Miller County Courthouse, Tuscumbia MO.
sign. rating:	46
evaluation:	NRHP non-eligible (typically configured example of common structural type)

inventoried by: Michelle Crow-Dolby and Clayton Fraser 1 March 1993

Hoecker Bridge

MILL04

GENERAL DATA

structure no.:	096001.5	city/town:	4.5 miles northwest of St. Elizabeth
county:	Miller	feature inters.:	Tavern Creek
		cadastral grid:	S7, T41N, R12W
		highway route:	County Road 96
		highway distr.:	5
		current owner:	Miller County

STRUCTURAL DATA

superstructure: steel, 7-panel, pin-connected Pratt through truss, with 4-span steel stringer on south end (replacement) and 2-span steel stringer on north end (original)

substructure: stone rubble on north end; concrete abutments and wingwalls with steel cylinder piers on south end

span number:	1	condition:	fair
span length:	120.0'	alterations:	none
total length:	212.0'	floor/decking :	timber deck over timber stringers
roadway width:	11.0'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 looped rectangular eyebars; counter: 1 square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 channels with lacing; floor beam: I-beam; guardrail: gas pipe

HISTORICAL DATA

erection date: 1908-09

erection cost: \$2494.00 (contract amount)

designer: Missouri Bridge and Iron Company, St. Louis MO

fabricator : Inland Steel Company, East Chicago IN;
Cambria Steel Company, Pittsburgh PA

contractor: Missouri Bridge and Iron Company, St. Louis MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 096001.5; Miller County Court Record, Book P: page 54 (7 May 1908), page 137 (7 September 1908), page 161 (4 November 1908), page 287 (7 May 1909), page 411 (6 November 1909); original bridge contract between Miller County and Missouri Bridge and Iron Company (15 March 1909); letter from Curtis Hill, State Highway Engineer (15 September 1908); original bridge drawing (no date) -all located at Miller County Courthouse, Tuscumbia MO; field inspection by Clayton Fraser, 4 May 1990.

Hoecker Bridge

sign. rating: 46
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Michelle Crow-Dolby and Clayton Fraser 1 March 1993

Singer Bridge

MILL05

GENERAL DATA

structure no.:	146000.4	city/town:	1.8 miles northeast of St. Elizabeth
county:	Miller	feature inters.:	Tavern Creek
		cadastral grid:	S27, T41N, R12W
		highway route:	County Road 146
		highway distr.:	5
		current owner:	Miller County

STRUCTURAL DATA

superstructure:	steel, 7-panel, pin-connected Pratt through truss, with steel stringers at each end		
substructure:	concrete abutments and wingwalls with concrete-filled steel cylinder piers		
span number:	1	condition:	good
span length:	120.0'	alterations:	none
total length:	170.0'	floor/decking :	timber deck over steel stringers
roadway width:	10.8'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; counter: 1 round eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam, field bolted to vertical; guardrail: timber

HISTORICAL DATA

erection date:	1913
erection cost:	\$2235.00
designer:	Missouri Bridge and Iron Company, St. Louis MO
fabricator :	Inland Steel Company, East Chicago IN
contractor :	Missouri Bridge and Iron Company, St. Louis MO
references:	Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 146000.4; Miller County Court Record, Book Q: page 365 (10 August 1912), page 369 (3 September 1912), page 377 (21 September 1912), page 419 (21 January 1913), page 477 (12 April 1913); original Notice of Letting by D.W. Baker, County Surveyor; original bridge contract between Miller County and Missouri Bridge and Iron Company (3 September 1912); original bridge drawing

Singer Bridge

by D.W. Baker; letter from Robert P. Garrett, Vice President of Missouri Bridge and Iron Company to Miller County (23 January 1913) - all located at Miller County Courthouse, Tuscumbia MO; field inspection by Clayton Fraser, 4 May 1990.

sign. rating: 44

evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Michelle Crow-Dolby and Clayton Fraser 1 March 1993

Kemna Bridge

MILL06

GENERAL DATA

structure no.:	156001.2	city/town:	1.4 miles southeast of St. Elizabeth
county:	Miller	feature inters.:	Tavern Creek
		cadastral grid:	S3, T40N, R12W
		highway route:	County Road 156
		highway distr.:	5
		current owner:	Miller County

STRUCTURAL DATA

superstructure: steel cable suspension bridge with steel towers
substructure: concrete pier pedestals and deadmen

span number:	1	condition:	fair
span length:	167.0'	alterations:	bridge rehabilitated and timber towers replaced, 1978
total length:	167.0'	floor/decking :	corrugated steel over steel stringers
roadway width:	11.1'	other features:	towers: wide-flange steel; parallel-strand, straight wire cables in concrete deadmen; guardrail: none

HISTORICAL DATA

erection date: 1924
erection cost: unknown
designer: J.A. Dice, Warsaw MO
fabricator : unknown
contractor: J.A. Dice, Warsaw MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 156001.2; Robert Hayden, **Historical Resources Mitigation: Bridges Over the Osage**, vol. 2, September 1980; field inspection by Clayton Fraser, 4 May 1990.

sign. rating: 46
evaluation: NRHP non-eligible (poorly preserved example of uncommon vernacular bridge type)

inventoried by: Michelle Crow-Dolby and Clayton Fraser 1 March 1993

Boeckman Bridge

MILL07

GENERAL DATA

structure no.:	181001.2	city/town:	2.6 miles southeast of St. Elizabeth
county:	Miller	feature inters.:	Tavern Creek
		cadastral grid:	S10, T40N, R12W
		highway route:	County Road 181
		highway distr.:	5
		current owner:	Miller County

STRUCTURAL DATA

superstructure:	steel cable suspension bridge		
substructure:	concrete abutments and concrete piers		
span number:	1	condition:	good
span length:	160.0'	alterations:	rehab work done in 1988; timber towers replaced with steel
total length:	185.0'	floor/decking :	timber over timber stringers
roadway width:	12.4'	other features:	towers: steel; single strand, straight cables in concrete deadmen; guardrail: wire mesh

HISTORICAL DATA

erection date:	1926
erection cost:	unknown
designer:	J.A. Dice, Warsaw MO
fabricator :	unknown
contractor :	J.A. Dice, Warsaw MO
references:	Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 181001.2; Robert Hayden, Historical Resources Mitigation: Bridges Over the Osage , vol. 2, September 1980; The Miller County Autogram-Sentinel , "Revamping Underway on Boeckman Bridge," n.p. 30 June 1988; Missouri Transportation Bulletin , "Miller County Rehabilitates Suspension Bridge," Vol.5, page 1, September 1988; field inspection by Clayton Fraser, 4 May 1990.
sign. rating:	46
evaluation:	NRHP individually listed and more recently de-listed (poorly preserved example of uncommon vernacular bridge type)

inventoried by: Michelle Crow-Dolby and Clayton Fraser 1 March 1993

Brumley Bridge

MILLO8

GENERAL DATA

structure no.:	199000.7	city/town:	6.4 miles northwest of Iberia
county:	Miller	feature inters.:	Tavern Creek
		cadastral grid:	S25, T40N, R13W
		highway route:	County Road 199
		highway distr.:	5
		current owner:	Miller County

STRUCTURAL DATA

superstructure:	steel cable suspension bridge		
substructure:	concrete tower pedestals and deadmen		
span number:	1	condition:	good
span length:	216.0'	alterations:	bridge renovated, 1988
total length:	216.0'	floor/decking :	timber deck over timber stringers
roadway width:	10.8'	other features:	towers: timber tower sheathed in corrugated steel, reinforced by I-beams at one end; concrete tower at other end; single strand, straight cables in concrete deadmen; guard-rail: none

HISTORICAL DATA

erection date:	c1925
erection cost:	unknown
designer:	J.A. Dice, Warsaw MO
fabricator :	unknown
contractor :	J.A. Dice, Warsaw MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 199000.7; Robert Hayden, **Historical Resources Mitigation: Bridges Over the Osage**, vol. 2, September 1980; "Revamping Underway on Boeckman Bridge," **Miller County Autogram-Sentinel**, 30 June 1988; field inspection by Clayton Fraser, 4 May 1990.

sign. rating:	52
evaluation:	NRHP possibly eligible (technologically significant example of an esoteric bridge type, built using vernacular tradition)

inventoried by: Michelle Crow-Dolby and Clayton Fraser 1 March 1993

Buetcher Bridge

MILL09

GENERAL DATA

structure no.:	222001.8	city/town:	3.5 miles north of Iberia
county:	Miller	feature inters.:	Tavern Creek
		cadastral grid:	S1, T39N, R13W
		highway route:	County Road 222
		highway distr.:	5
		current owner:	Miller County

STRUCTURAL DATA

superstructure:	steel cable suspension bridge		
substructure:	fieldstone side walls on east approach; concrete tower pedestals and deadmen		
span number:	1	condition:	good
span length:	140.0'	alterations:	renovated, 1986
total length:	141.0'	floor/decking :	timber deck over timber stringers
roadway width:	12.0'	other features:	tower: timber sheathed in corrugated steel, supported by I-beams; single strand, straight cables in concrete deadmen; guardrail: none

HISTORICAL DATA

erection date:	c1925
erection cost:	unknown
designer:	J.A. Dice, Warsaw MO
fabricator :	unknown
contractor :	J.A. Dice, Warsaw MO
references:	Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 222001.8; Robert Hayden, <u>Historical Resources Mitigation: Bridges Over the Osage</u> , vol. 2, September 1980; field inspection by Clayton Fraser, 4 May 1990.
sign. rating:	52
evaluation:	NRHP possibly eligible (technologically significant example of an esoteric bridge type, built using vernacular tradition)

Inventoried by: Michelle Crow-Dolby and Clayton Fraser 1 March 1993

Mill Creek Bridge

MILL10

GENERAL DATA

structure no.:	264000.2	city/town:	2.2 miles southwest of Brumley
county:	Miller	feature inters.:	Mill Creek
		cadastral grid:	S36, T39N, R15W
		highway route:	County Road 264
		highway distr.:	5
		current owner:	Miller County

STRUCTURAL DATA

superstructure:	steel cable suspension bridge		
substructure:	concrete deadmen and spill-through tower pedestals		
span number:	1	condition:	fair
span length:	96.0'	alterations:	towers and pedestals replaced; cables reinforced
total length:	135.0'	floor/decking :	corrugated steel deck over steel stringers
roadway width:	11.1'	other features:	towers: steel I-beams; single strand, straight cables in concrete deadmen; guardrail: none

HISTORICAL DATA

erection date:	c1925
erection cost:	unknown
designer:	J.A. Dice, Warsaw MO
fabricator :	unknown
contractor :	J.A. Dice, Warsaw MO
references:	Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 264000.2; Robert Hayden, Historical Resources Mitigation: Bridges Over the Osage , vol. 2, September 1980; field inspection by Clayton Fraser, 4 May 1990.
sign. rating:	44
evaluation:	NRHP non-eligible (poorly preserved example of uncommon vernacular bridge type)

inventoried by: Michelle Crow-Dolby and Clayton Fraser 1 March 1993

Glaize Bridge

MILL11

GENERAL DATA

structure no.:	274001.7	city/town:	2.8 miles southwest of Brumley
county:	Miller	feature inters.:	Grand Auglaize Creek
		cadastral grid:	S36, T39N, R15W
		highway route:	County Road 274
		highway distr.:	5
		current owner:	Miller County

STRUCTURAL DATA

superstructure:	steel cable suspension bridge with steel cable towers		
substructure:	concrete tower pedestals abutments, wingwalls and piers		
span number:	1	condition:	good
span length:	414.0'	alterations:	renovated
total length:	500.0'	floor/decking :	timber deck over timber stringers
roadway width:	12.0'	other features:	towers: 2 channels with lacing; single strand, straight cables in concrete deadmen; guardrail: 3 angles

HISTORICAL DATA

erection date:	1922
erection cost:	unknown
designer:	J.A. Dice, Warsaw MO
fabricator :	Pan American Bridge Company, New Castle IN
contractor:	J.A. Dice, Warsaw MO
references:	Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 274001.7; Robert Hayden, Historical Resources Mitigation: Bridges Over the Osage , vol. 2, September 1980; Miller County Court Record, Book T: page 327 (6 November 1922) - located at Miller County Courthouse, Tuscumbia MO; field inspection by Clayton Fraser, 4 May 1990.
sign. rating:	66
evaluation:	NRHP possibly eligible (outstanding, technologically significant example of an esoteric bridge type, built using vernacular tradition)

inventoried by: Michelle Crow-Dolby and Clayton Fraser 1 March 1993

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Osage River Bridge
MHTD: J 719

MILL02

DATE(S) OF CONSTRUCTION

1932-33

LOCATION

Missouri State Highway 17 over Osage River; S11, T40N, R14W
Tuscumbia; Miller County, Missouri

USE (ORIGINAL / CURRENT)

highway bridge / highway bridge

RATING NRHP possibly eligible (score: 53)

CONDITION

excellent

OWNER

Missouri Highway and Transportation Department

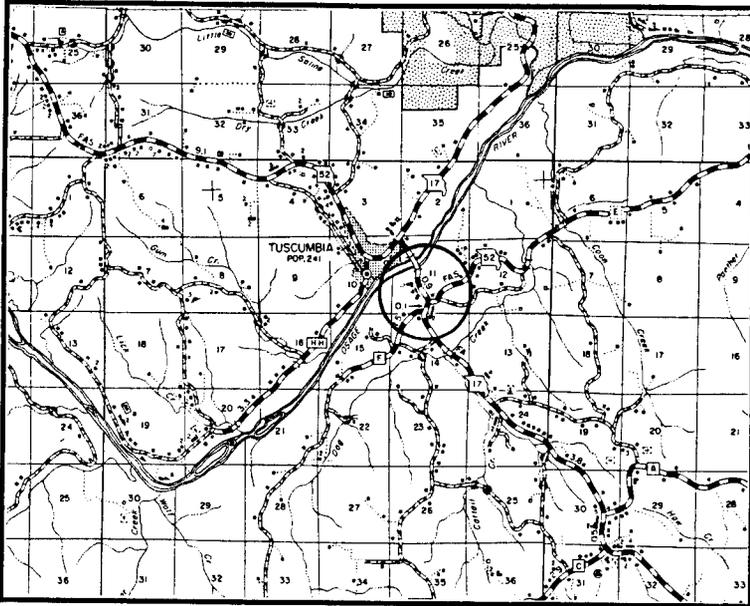
span number: 2
span length: 200.0'
total length: 1084.0'
roadway wdt.: 20.0'

superstructure: steel, rigid-connected cantilever through truss with 5-panel, rigid-connected Warren deck truss approach span at each end; 6 span steel stringer approach at north end
substructure: concrete abutments, wingwalls and bullnosed piers; spill-through piers under stringer approach spans
floor/decking: asphalt-covered concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and double lacing; lower chord: 2 channels with double lacing; vertical: wide flange; diagonal: 2 channels with double lacing; 2 channels with batten plates; lateral bracing: 1 angle; strut: 4 angles with lacing; floor beam: I-beam; guardrail: 2 channels

Carrying Missouri State Highway 17 over the Osage River, this two-span steel truss is located in the county seat of Tuscumbia. Configured as a five-panel riveted cantilevered through truss with six steel stringer approach spans on the north, the structure rests on concrete abutments and bullnosed and spill-through piers. The bridge's history dates to 1932, when the Missouri State Highway Department let a construction contract to the Industrial Construction Company for the sum of \$109,112.80. Designed by the state highway commission and utilizing steel components rolled in Illinois by the Inland Steel Company, the structure was erected without incident and continues to carry traffic in essentially unaltered condition. Opened to traffic in 1933, the Osage River Bridge facilitated highway traffic in central Missouri. It is thus historically significant for its role in the development of overland transportation in the region. The Osage River Bridge is technologically significant as a well-preserved, small-scale example of cantilevered truss construction in Missouri. It is one of only a handful of such major trusses found in the state away from the Mississippi and Missouri rivers.

NAME(S) OF STRUCTURE

Osage River Bridge

PHOTOS AND SKETCH MAP OF LOCATION**LOCATION MAP**TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. J 719; Primary System Bridge Files, located at Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Clayton Fraser, 4 May 1990.

INVENTORIED BY
Clayton Fraser**AFFILIATION**
Fraserdesign, Loveland CO**DATE**
4 May 1990

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Hoecker Bridge
MHTD: 096001.5

MILL04

DATE(S) OF CONSTRUCTION

1908-09

LOCATION

County Road 96 over Tavern Creek; S7, T41N, R12W
4.5 miles northwest of St. Elizabeth; Miller County, Missouri

USE (ORIGINAL / CURRENT)

roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 46)

CONDITION

fair

OWNER

Miller County

span number: 1
span length: 120.0'
total length: 212.0'
roadway wdt.: 11.0'

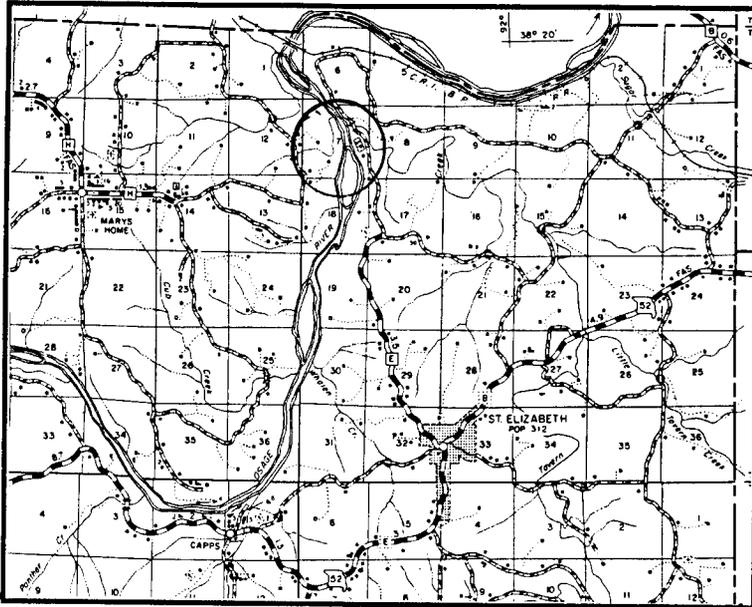
superstructure: steel, 7-panel, pin-connected Pratt through truss, with 4-span steel stringer on south end (replacement) and 2-span steel stringer on north end (original)
substructure: stone rubble on north end; concrete abutments and wingwalls with steel cylinder piers on south end
floor/decking: timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 looped rectangular eyebars; counter: 1 square eyobar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 channels with lacing; floor beam: I-beam; guardrail: gas pipe

On May 7, 1908, the Miller County Court directed the county engineer to prepare specifications and estimate the cost of a bridge across Tavern Creek, just upstream from the creek's confluence with the Osage River. Known as the Hoecker Bridge, the structure was greatly desired by nearby citizens who raised \$450.00 in subscriptions to help pay for its erection. In the fall of 1908, after reviewing all the bids submitted by various contractors, the county awarded the Missouri Bridge and Iron Company a \$2494.00 contract to erect the structure. Using steel fabricated by the Inland and Cambria Mills of Pittsburgh, the Saint Louis-based firm erected the truss during the winter of 1908-09. On May 7, 1909, exactly a year after it was authorized by the county court, the bridge was declared completed, and a final payment of \$2398.02 was issued to MoB&I. Built as a seven-panel, pin-connected Pratt through truss, the structure is still in service today. A four-span steel stringer approach on the north end has been replaced, but the two-span approach on the south end appears original.

From the 1870s through the 1910s, thousands of pin-connected Pratt through trusses were erected on Missouri's roadways. Although several hundred of these structures remain in use today, relatively few date from before the turn of the century. And fewer yet of the 19th century survivors remain structurally intact. The Hoecker Bridge stands out among Missouri's pin-connected trusses as a well-documented example that has retained a high degree of structural integrity.

NAME(S) OF STRUCTURE

Hoecker Bridge

PHOTOS AND SKETCH MAP OF LOCATION**LOCATION MAP**TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 096001.5; Miller County Court Record, Book P: page 54 (7 May 1908), page 137 (7 September 1908), page 161 (4 November 1908), page 287 (7 May 1909), page 411 (6 November 1909); original bridge contract between Miller County and Missouri Bridge and Iron Company (15 March 1909); letter from Curtis Hill, State Highway Engineer (15 September 1908); original bridge drawing (no date) -all located at Miller County Courthouse, Tuscumbia MO; field inspection by Clayton Fraser, 4 May 1990.

INVENTORIED BY

Clayton Fraser

AFFILIATION

Fraserdesign, Loveland CO

DATE4 May 1990

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Singer Bridge
MHTD: 146000.4

MILL05

DATE(S) OF CONSTRUCTION

1913

LOCATION

County Road 146 over Tavern Creek; S27, T41N, R12W
1.8 miles northeast of St. Elizabeth; Miller County, Missouri

USE (ORIGINAL / CURRENT)

roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 44)

CONDITION

good

OWNER

Miller County

span number: 1
span length: 120.0'
total length: 170.0'
roadway wdt.: 10.8'

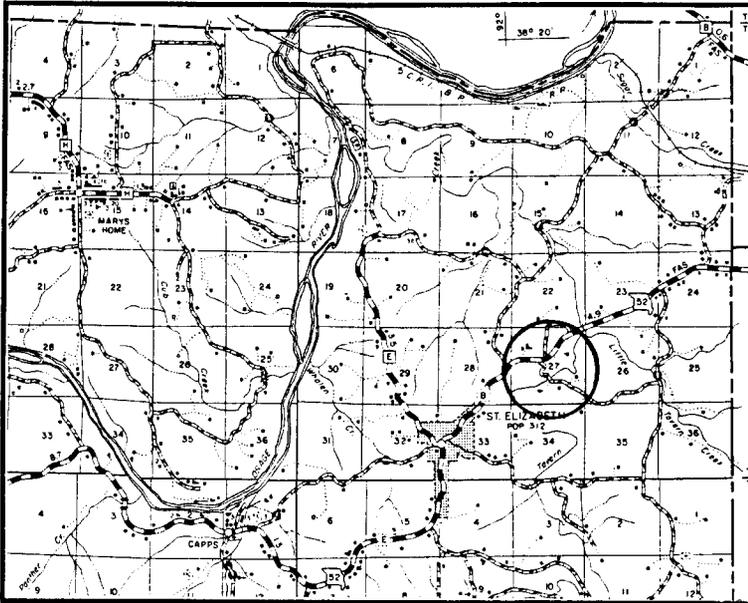
superstructure: steel, 7-panel, pin-connected Pratt through truss, with steel stringers at each end
substructure: concrete abutments and wingwalls with concrete-filled steel cylinder piers
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; counter: 1 round eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam, field bolted to vertical; guardrail: timber

The Singer Bridge carries a secondary county road over Tavern Creek in northeastern Miller County. Configured as a seven-panel pin-connected Pratt through truss with flanking steel stringer approach spans, the structure rests on concrete abutments and concrete-filled steel cylinder piers. The bridge dates to August 1912, when the Miller County Court ordered the highway engineer to advertise for bids to build a steel bridge across Tavern Creek at Singer Ford. In September the bids were considered, and a \$1962.00 contract was subsequently let to the St. Louis-based Missouri Bridge and Iron Company. The same day that the contract was awarded, nearby residents submitted subscriptions totaling \$1100.00 toward the bridge's construction. By January 1913 work on the project had not yet begun, so the court ordered the county clerk to communicate with Missouri Bridge and Iron in order to ascertain why the bridge had not yet been constructed. Apparently spurred into action, MoB&I quickly erected the bridge over the next three months. In April the structure, which utilized steel components rolled by Inland Steel Company of Indiana, was declared completed. MoB&I was paid \$1962.00 for the truss and an additional \$273.00 for work on the approach spans. The Singer Bridge is still in service and exhibits a high degree of structural integrity.

From the 1870s through the 1910s, thousands of pin-connected Pratt through trusses were erected on Missouri's roadways. Although several hundred of these structures remain in use today, relatively few date from before the turn of the century. And fewer yet of the 19th century survivors remain structurally intact. The Singer Bridge stands out among Missouri's pin-connected trusses as a well-documented example that has retained a high degree of structural integrity.

NAME(S) OF STRUCTURE

Singer Bridge

PHOTOS AND SKETCH MAP OF LOCATION**LOCATION MAP**TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 146000.4; Miller County Court Record, Book Q: page 365 (10 August 1912), page 369 (3 September 1912), page 377 (21 September 1912), page 419 (21 January 1913), page 477 (12 April 1913); original Notice of Letting by D.W. Baker, County Surveyor; original bridge contract between Miller County and Missouri Bridge and Iron Company (3 September 1912); original bridge drawing by D.W. Baker; letter from Robert P. Garrett, Vice President of Missouri Bridge and Iron Company to Miller County (23 January 1913) - all located at Miller County Courthouse, Tuscumbia MO; field inspection by Clayton Fraser, 4 May 1990.

INVENTORIED BY

Clayton Fraser

AFFILIATION

Fraserdesign, Loveland CO

DATE4 May 1990

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Kemna Bridge
MHTD: 156001.2

MILL06

DATE(S) OF CONSTRUCTION

1924

LOCATION

County Road 156 over Tavern Creek; S3, T40N, R12W
1.4 miles southeast of St. Elizabeth; Miller County, Missouri

USE (ORIGINAL / CURRENT)

roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 46)

CONDITION

fair

OWNER

Miller County

span number: 1	superstructure: steel cable suspension bridge with steel towers
span length: 167.0'	substructure: concrete pier pedestals and deadmen
total length: 167.0'	floor/decking: corrugated steel over steel stringers
roadway wdt.: 11.1'	other features: towers: wide-flange steel; parallel-strand, straight wire cables in concrete deadmen; guardrail: none

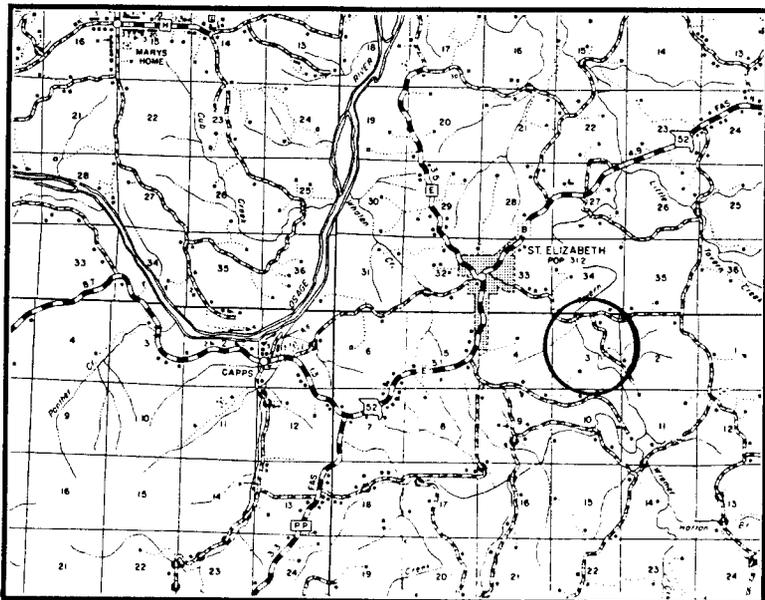
The Kemna Bridge is a steel cable suspension bridge that crosses over Tavern Creek about 1½ miles southeast of Saint Elizabeth in Miller County. The bridge was designed and built by Joseph A. Dice, a well-known regional bridge builder. A native of Warsaw, the county seat of nearby Benton County, Dice erected more than 30 bridges between 1896 and the mid-1930s. These included Dice's most notable spans, suspension bridges over the Osage River in Benton, Miller, and Saint Clair Counties. The 167-foot Kemna Bridge, supported by a concrete pier and abutments, features straight suspension wire, rather than the widely heralded twisted wire rope made famous by Washington Roebling's 1883 Brooklyn Bridge. Additionally, the structure consists of a non-rigid substructure owing to the lack of bolts to secure the floor beams to the stringer beams and the absence of bolts to secure deck flooring to the stringers. These unusual construction techniques were evidently employed by Dice in order to conserve the meager funds procured from nearby citizens and county coffers. Dice's atypical suspension bridge design also incorporated planked flooring, which was not anchored to the abutments, and a single-lane roadway. All these design elements contribute to the structural significance of Miller County's suspension bridges and to Dice's reputation as an innovative Missouri bridge builder.

County records contain little or no written documentation pertaining to Dice's suspension bridges in Miller County. Preferring to operate on a verbal and spatial basis, the prolific contractor apparently did not retain any written records either. The self-trained bridge builder never drew up any plans or specifications for the structures he erected, instead, relying solely on his memory. Dice illustrated this unorthodox practice by explaining, "with a ball of string to stretch across the river a couple of times, I could just sort of feel the correct measurements." The majority of the "swinging bridges" Dice designed were built by raising money through local subscription and were simply constructed using timber harvested from along stream and river banks. Since its erection in 1924, the Kemna Bridge has functioned in place, although a 1978 renovation and the replacement of the original timber towers diminish the bridge's structural integrity substantially. Its historical value, however, remains intact and contributes significantly to the structure's overall importance.

NAME(S) OF STRUCTURE

Kemna Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 156001.2; Robert Hayden, *Historical Resources Mitigation: Bridges Over the Osage*, vol. 2, September 1980; field inspection by Clayton Fraser, 4 May 1990.

INVENTORIED BY
Clayton Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
4 May 1990

Ten suspension bridges built by Missouri bridge builder J.A. Dice remain in central Missouri. As a group, these spans comprise the state's most important examples of vernacular bridge construction, designed and built without benefit of detailed structural analysis or computation and utilizing atypical construction techniques. The Kemna Bridge is thus distinguished as a representative example of an esoteric structural type which ranks among Missouri's most important early vehicular spans.

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Boeckman Bridge
MHTD: 181001.2

MILL07

DATE(S) OF CONSTRUCTION

1926

LOCATION

County Road 181 over Tavern Creek; S10, T40N, R12W
2.6 miles southeast of St. Elizabeth; Miller County, Missouri

USE (ORIGINAL / CURRENT)

roadway bridge / roadway bridge

RATING NRHP de-listed (score: 46)

CONDITION

good

OWNER

Miller County

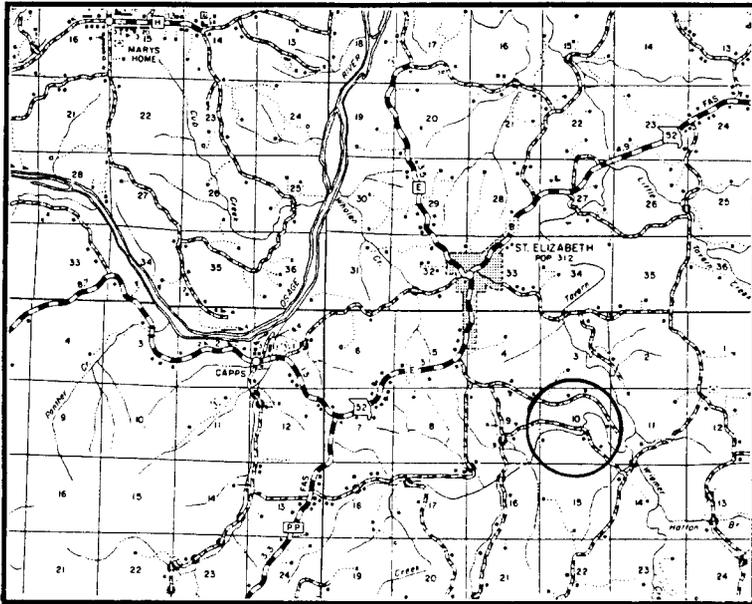
span number: 1	superstructure: steel cable suspension bridge
span length: 160.0'	substructure: concrete abutments and concrete piers
total length: 185.0'	floor/decking: timber over timber stringers
roadway wdt.: 12.4'	other features: towers: steel; single strand, straight cables in concrete deadmen; guardrail: wire mesh

Located in rural Miller County, southeast of St. Elizabeth, this medium-span suspension bridge carries a secondary county road over Tavern Creek. The bridge consists of a steel cable suspended span supported by steel towers and tied into massive concrete deadmen at both ends. The Boeckman Bridge was built in 1926 by journeyman contractor J.A. Dice. One of ten such Dice-built suspension bridges identified by the statewide bridge inventory (six of which are in Miller County), it was individually listed on the National Register of Historic Places in 1979. "Boeckman Bridge is significant as an example of an unusual form of regional bridge construction which has survived with virtually all of its original members intact, the NRHP nomination stated. As built, the Boeckman Bridge consisted of zinc-coated steel main and suspender cables, supported by heavy timber towers with corrugated steel sheathing. In 1988 the bridge underwent major rehabilitation. The suspender cables were reinforced by new galvanized steel cables, many of the floor beams were replaced or reinforced by the addition of second side-by-side beams, the wooden stringers and deck were replaced entirely, and the original timber towers were replaced with steel posts and beams.

Replacement of floor components is considered a normal part of bridge maintenance, and virtually all of Missouri's historic timber-decked bridges have undergone numerous repairs or replacements on their decks and/or stringers. The addition of the new suspenders impacted the visual integrity of the bridge. But the original suspender cables have been left largely in place, and the new cables can be considered a reversible element. It is the replacement of the towers, however, that posed the most serious threat to the physical integrity of the Boeckman Bridge. The primary superstructural elements of a suspension bridge are its towers and main and suspender cables. Replacement of the original timber towers (and their bulky sheathing) with relatively lightweight steel components has altered both the essential structure of the bridge and its appearance. Combined with the lesser impacts, the tower replacement represents a tremendous loss of integrity for the bridge. The removal of more than half of its historic fabric begs the question of whether this bridge is a 1926 structure or a 1988 structure. As stated in the nomination, much of the Boeckman Bridge's significance is tied to its high degree of integrity, which is appropriate for a vernacular site such as this. With its integrity so seriously compromised, the bridge's significance is also diminished. As a result, the Boeckman Bridge was de-listed from the National Register in 1994.

NAME(S) OF STRUCTURE

Boeckman Bridge

PHOTOS AND SKETCH MAP OF LOCATION**LOCATION MAP**TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 181001.2; Robert Hayden, **Historical Resources Mitigation: Bridges Over the Osage**, vol. 2, September 1980; **The Miller County Autogram-Sentinel**, "Revamping Underway on Boeckman Bridge," n.p. 30 June 1988; **Missouri Transportation Bulletin**, "Miller County Rehabilitates Suspension Bridge," Vol.5, page 1, September 1988; field inspection by Clayton Fraser, 4 May 1990.

INVENTORIED BY
Clayton Fraser**AFFILIATION**
Fraserdesign, Loveland CO**DATE**
4 May 1990

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Brumley Bridge
MHTD: 199000.7

MILL08

DATE(S) OF CONSTRUCTION

c1925

LOCATION

County Road 199 over Tavern Creek; S25, T40N, R13W
6.4 miles northwest of Iberia; Miller County, Missouri

USE (ORIGINAL / CURRENT)

roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 52)

CONDITION

good

OWNER

Miller County

span number: 1

span length: 216.0'

total length: 216.0'

roadway wdt.: 10.8'

superstructure: steel cable suspension bridge

substructure: concrete tower pedestals and deadmen

floor/decking: timber deck over timber stringers

other features: towers: timber tower sheathed in corrugated steel, reinforced by I-beams at one end; concrete tower at other end: single strand, straight cables in concrete deadmen; guardrail: none

Known locally as the Brumley Bridge, this lightweight structure crosses over Tavern Creek some six miles northwest of Iberia in Miller County. The bridge consists of a single steel cable suspension span, supported by a timber tower sheathed in corrugated steel at one end and a concrete tower on the other end. The two main cables consist of parallel-strand galvanized wires, supported on each end by massive, tapered concrete deadmen. To each main cable are attached the wire suspender cables by means of simple wrapping and tying. The timber floor beams are similarly attached to the suspenders' other ends. Timber stringers, which carry the timber plank deck, bear directly on these floor beams. The Brumley Bridge was designed and built by Joseph A. Dice, a well-known regional bridge builder. A native of Warsaw, the county seat of nearby Benton County, Dice erected more than 30 bridges in his 40-year career. These included his most notable spans, suspension bridges over the Osage River in Benton, Miller, and Saint Clair Counties.

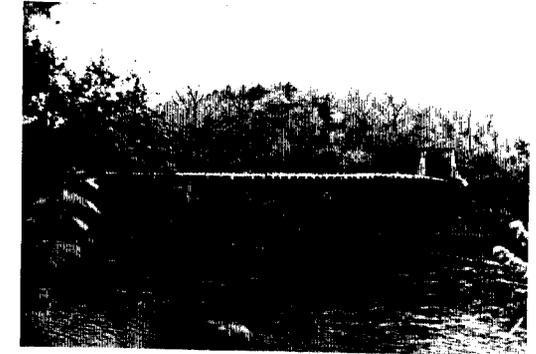
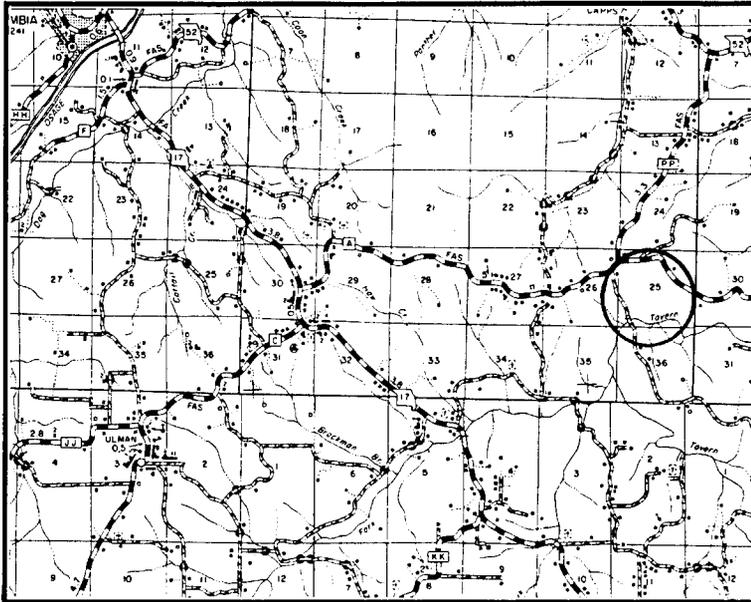
County records contain little or no written documentation pertaining to Dice's suspension bridges in Miller County, which suggests that they were built for local road districts. Preferring to operate on a verbal and spatial basis, the prolific contractor apparently did not retain any written records either. The self-trained bridge builder never drew up any plans or specifications for the structures he erected, instead, relying solely on his memory. Dice illustrated this unorthodox practice by explaining, "with a ball of string to stretch across the river a couple of times, I could just sort of feel the correct measurements." The majority of the "swinging bridges" Dice designed were built by raising money through local subscription and were simply constructed using timber harvested from along stream and river banks. Since its erection circa 1925, the Brumley Bridge has functioned in place, although a 1988 renovation impacts the bridge's structural integrity somewhat. County officials were careful to preserve the bridge's original design and appearance and merely strengthened the deck by replacing nails, which had originally secured the flooring, with screws. This augmentation increased the bridge's weight capacity from two to four tons. Its historical significance remains intact, however.

Missouri bridge builder J.A. Dice built a number of suspension bridges between 1896 and 1940 in central Missouri, ten of which remain in place today. As a group, these spans comprise the state's most important examples of vernacular bridge construction, designed and built without benefit of detailed structural analysis or computation. Dice built his lightweight suspension bridges empirically using easily obtainable materials, and, as a result they cost substantially less than comparable steel truss spans. They were breathtakingly light, however, and have fared poorly in subsequent years. The Brumley Bridge is distinguished as one of the best-preserved among Dice's remaining bridges: a technologically significant example of an esoteric bridge type.

NAME(S) OF STRUCTURE

Brumley Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 199000.7; Robert Hayden, *Historical Resources Mitigation: Bridges Over the Osage*, vol. 2, September 1980; "Revamping Underway on Boeckman Bridge," *Miller County Autogram-Sentinel*, 30 June 1988; field inspection by Clayton Fraser, 4 May 1990.

INVENTORIED BY
Clayton Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
4 May 1990

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Buetcher Bridge
MHTD: 222001.8

MILL09

DATE(S) OF CONSTRUCTION

c1925

LOCATION

County Road 222 over Tavern Creek; S1, T39N, R13W
3.5 miles north of Iberia; Miller County, Missouri

USE (ORIGINAL / CURRENT)

roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 52)

CONDITION

good

OWNER

Miller County

span number: 1	superstructure: steel cable suspension bridge
span length: 140.0'	substructure: fieldstone side walls on east approach; concrete tower pedestals and deadmen
total length: 141.0'	floor/decking: timber deck over timber stringers
roadway wdt.: 12.0'	other features: tower: timber sheathed in corrugated steel, supported by I-beams; single strand, straight cables in concrete deadmen; guardrail: none

The Buetcher Bridge is a steel cable suspension bridge that crosses over Tavern Creek some three miles north of Iberia in Miller County. The bridge was designed and built by Joseph A. Dice, a well-known regional bridge builder. A native of Warsaw, the county seat of nearby Benton County, Dice erected more than 30 bridges between 1896 and the mid-1930s. These included Dice's most notable spans, suspension bridges over the Osage River in Benton, Miller, and Saint Clair Counties. The 140-foot Buetcher Bridge features a single steel cable suspension span, supported by timber towers sheathed in corrugated steel. The two main cables consist of parallel-strand galvanized wires, supported on each end by massive, tapered concrete deadmen. To each main cable are attached the wire suspender cables by means of simple wrapping and tying. The timber floor beams are similarly attached to the suspenders' other ends. Timber stringers, which carry the timber plank deck, bear directly on these floor beams.

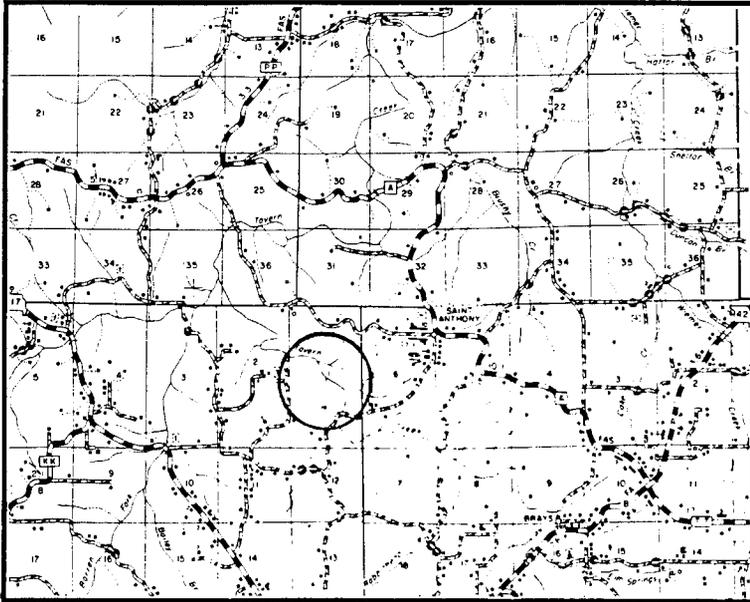
County records contain little or no written documentation pertaining to Dice's suspension bridges in Miller County, which suggests that they were built for local road districts. Preferring to operate on a verbal and spatial basis, the prolific contractor apparently did not retain any written records either. The self-trained bridge builder never drew up any plans or specifications for the structures he erected, instead, relying solely on his memory. Dice illustrated this unorthodox practice by explaining, "with a ball of string to stretch across the river a couple of times, I could just sort of feel the correct measurements." The majority of the "swinging bridges" Dice designed were built by raising money through local subscription and were simply constructed using timber harvested from along stream and river banks. Since its erection circa 1925, the Buetcher Bridge has functioned in place, although a 1986 renovation diminishes the bridge's structural integrity somewhat. Its historical value, however, remains intact and contributes significantly to the structure's overall importance.

Ten suspension bridges built by Missouri bridge builder J.A. Dice remain in central Missouri. As a group, these spans comprise the state's most important examples of vernacular bridge construction, designed and built without benefit of detailed structural analysis or computation and utilizing atypical construction techniques. The Buetcher Bridge is distinguished as among the best-preserved examples of this esoteric structural type.

NAME(S) OF STRUCTURE

Buetcher Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 222001.8; Robert Hayden, *Historical Resources Mitigation: Bridges Over the Osage*, vol. 2, September 1980; field inspection by Clayton Fraser, 4 May 1990.

INVENTORIED BY

Clayton B. Fraser

AFFILIATION

Fraserdesign, Loveland CO

DATE

4 May 1990

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Mill Creek Bridge
MHTD: 264000.2

MILL10

DATE(S) OF CONSTRUCTION

c1925

LOCATION

County Road 264 over Mill Creek; S36, T39N, R15W
2.2 miles southwest of Brumley; Miller County, Missouri

USE (ORIGINAL / CURRENT)

roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 44)

CONDITION

fair

OWNER

Miller County

span number: 1	superstructure: steel cable suspension bridge
span length: 96.0'	substructure: concrete deadmen and spill-through tower pedestals
total length: 135.0'	floor/decking: corrugated steel deck over steel stringers
roadway wdt.: 11.1'	other features: towers: steel I-beams; single strand, straight cables in concrete deadmen; guardrail: none

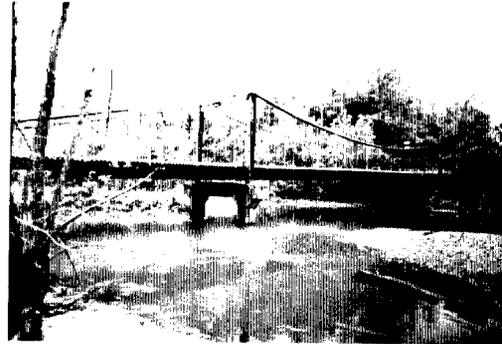
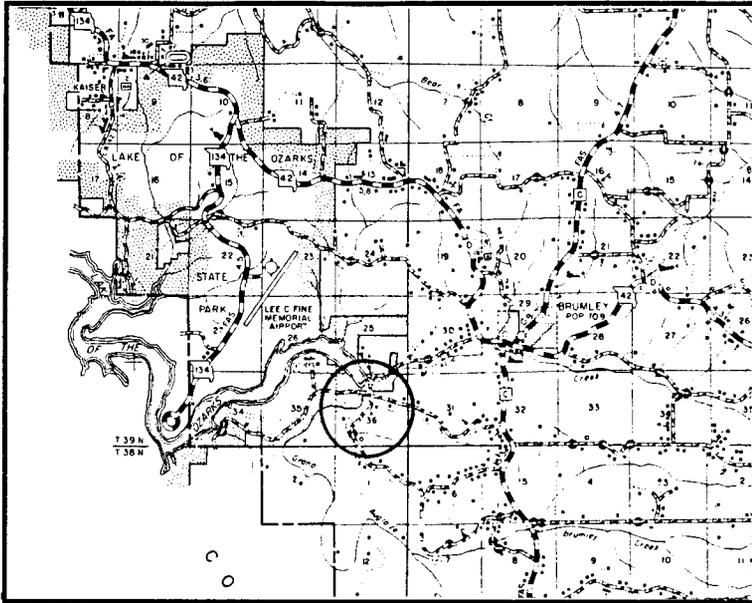
The Mill Creek Bridge is a steel cable suspension bridge that crosses over Mill Creek some two miles southwest of Brumley in Miller County. The bridge was designed and built by Joseph A. Dice, a well-known regional bridge builder. A native of Warsaw, the county seat of nearby Benton County, Dice erected up to thirty-one bridges between circa 1896 and the mid-1930s. These included Dice's most notable spans, suspension bridges over the Osage River in Benton, Miller, and Saint Clair Counties. The 135-foot Mill Creek Bridge, supported by concrete abutments and spill through piers, features straight suspension wire, rather than the widely heralded twisted wire rope made famous by Washington Roebling's 1883 Brooklyn Bridge. Additionally, the structure consists of a non-rigid substructure owing to the lack of bolts to secure the floor beams to the stringer beams and the absence of bolts to secure deck flooring to the stringers. These unusual construction techniques were evidently employed by Dice in order to conserve the meager funds procured from nearby citizens and county coffers. Dice's atypical suspension bridge design also incorporated planked flooring, which was not anchored to the abutments, and a single-lane roadway. All these design elements contribute to the structural significance of Miller County's suspension bridges and to Dice's reputation as an innovative Missouri bridge builder.

County records contain little or no written documentation pertaining to Dice's suspension bridges in Miller County, which suggests that they were built for local road districts. Preferring to operate on a verbal and spatial basis, the prolific contractor apparently did not retain any written records either. The self-trained bridge builder never drew up any plans or specifications for the structures he erected, instead, relying solely on his memory. Dice illustrated this unorthodox practice by explaining, "with a ball of string to stretch across the river a couple of times, I could just sort of feel the correct measurements." The majority of the "swinging bridges" Dice designed were built by raising money through local subscription and were simply constructed using timber harvested from along stream and river banks. Since its erection circa 1925, the Mill Creek Bridge has functioned in place, although a recent renovation—in which the original towers and concrete pedestals were replaced and the steel cables reinforced with new cables—compromises the bridge's structural integrity substantially.

Ten suspension bridges built by Missouri bridge builder J.A. Dice remain in central Missouri. As a group, these spans comprise the state's most important examples of vernacular bridge construction, designed and built without benefit of detailed structural analysis or computation and utilizing atypical construction techniques. The Mill Creek Bridge, with possesses the shortest span in the state, is as a representative example of an esoteric structural type.

NAME(S) OF STRUCTURE

Mill Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION**LOCATION MAP**

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 264000.2; Robert Hayden, *Historical Resources Mitigation: Bridges Over the Osage*, vol. 2, September 1980; field inspection by Clayton Fraser, 4 May 1990.

INVENTORIED BY

Clayton Fraser

AFFILIATION

Fraserdesign, Loveland CO

DATE

4 May 1990

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Glaize Bridge
MHTD: 274001.7

MILL11

DATE(S) OF CONSTRUCTION

1922

LOCATION

County Road 274 over Grand Auglaize Creek; S36, T39N, R15W
2.8 miles southwest of Brumley; Miller County, Missouri

USE (ORIGINAL / CURRENT)

roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 66)

CONDITION

good

OWNER

Miller County

span number: 1

span length: 414.0'

total length: 500.0'

roadway wdt.: 12.0'

superstructure: steel cable suspension bridge with steel cable towers

substructure: concrete tower pedestals abutments, wingwalls and piers

floor/decking: timber deck over timber stringers

other features: towers: 2 channels with lacing; single strand, straight cables in concrete deadmen;
guardrail: 3 angles

The Glaize Bridge is a steel cable suspension bridge that crosses over Grand Auglaize Creek some two miles southwest of Brumley in Miller County. The bridge was designed and built by Joseph A. Dice, a well-known regional bridge builder. The 414-foot Glaize Bridge features a single steel cable suspension span, supported by steel towers made up of members rolled in Pittsburgh by Bethlehem. The two main cables consist of parallel-strand galvanized wires, supported on each end by massive, tapered concrete deadmen. To each main cable are attached the wire suspender cables by means of simple wrapping and tying. The steel floor beams are similarly attached to the suspenders' other ends. Steel stringers, which carry the timber plank deck, bear directly on these floor beams.

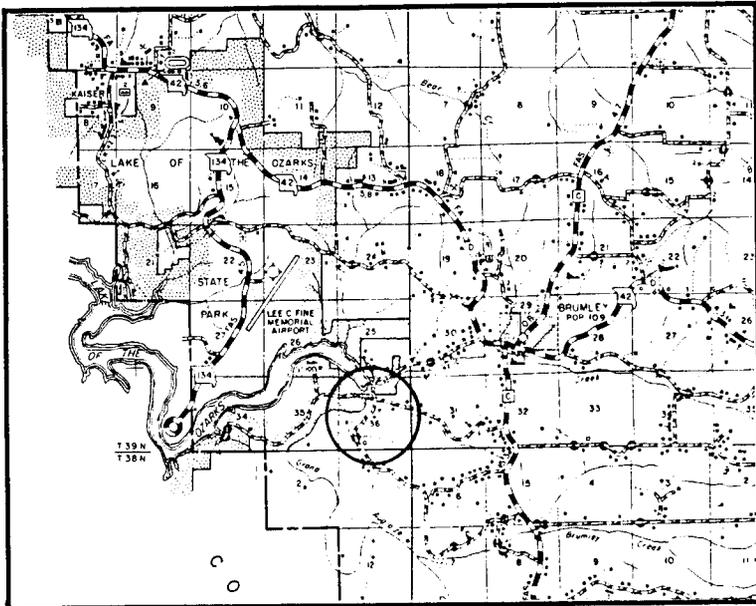
County records contain little or no written documentation pertaining to Dice's suspension bridges in Miller County, which suggests that they were built for local road districts. Preferring to operate on a verbal and spatial basis, the prolific contractor apparently did not retain any written records either. The self-trained bridge builder never drew up any plans or specifications for the structures he erected, instead, relying solely on his memory. Dice illustrated this unorthodox practice by explaining, "with a ball of string to stretch across the river a couple of times, I could just sort of feel the correct measurements." The majority of the "swinging bridges" Dice designed were built by raising money through local subscription and were simply constructed using timber harvested from along stream and river banks. Since its erection in 1922, the Glaze Creek Bridge has functioned in place, with only maintenance-related repairs.

Missouri bridge builder J.A. Dice built over 30 suspension bridges between 1896 and 1940 in central Missouri, ten of which remain in place today. As a group, these spans comprise the state's most important examples of vernacular bridge construction, designed and built without benefit of detailed structural analysis or computation. Dice built his lightweight suspension bridges empirically using easily obtainable materials, and, as a result they cost substantially less than comparable steel truss spans. They were breathtakingly light, however, and have fared poorly in subsequent years. The Glaize Bridge, which is the oldest and longest of the Dice bridges still carrying traffic, is distinguished as one of the best-preserved among his remaining spans. It is a superlative example of an esoteric structural type—among Missouri's most important early vehicular spans.

NAME(S) OF STRUCTURE

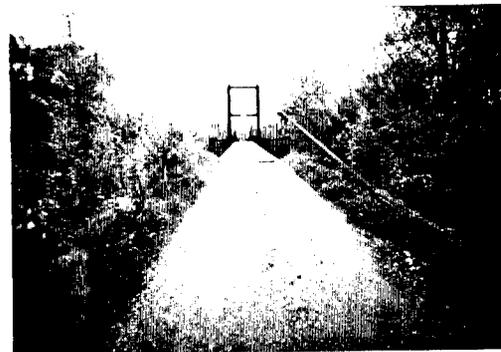
Glaize Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 274001.7; Robert Hayden, *Historical Resources Mitigation: Bridges Over the Osage*, vol. 2, September 1980; Miller County Court Record, Book T: page 327 (6 November 1922) - located at Miller County Courthouse, Tuscumbia MO; field inspection by Clayton Fraser, 4 May 1990.

INVENTORIED BY
Clayton Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
4 May 1990
