

WAYNE COUNTY

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

Inv. No.	MHTD	Bridge Name	Description
*WAYN01	J 21R	St. Francis River Bridge	1-170' riveted Warren through truss 1941 George W. Condon
*WAYN02	J 935	Leeper Bridge	2-180' rivet Parker/Pratt through truss 1933 List & Clark Construction Co.
*WAYN03	031002.2	Montgomery Ford Bridge	1-100' pinned Pratt through truss 1913 Vincennes Bridge Co. (prob.)
*WAYN04	069000.5	Wappapello Bridge	1-210' pin Pennsylvania through truss 1911 Stupp Bros. Bridge & Iron Co.
*WAYN05	090001.1	Duncan Ford Bridge	1-190' pin Pennsylvania through truss 1913 Vincennes Bridge Company
*WAYN06	200000.6	Clark Creek Bridge	2- 90' riveted Warren pony truss 1924

EXCLUDED:

Pratt pony truss
123000.0

Warren pony truss
H 899

Steel stringer

F 111R	G 446R	MING002	S 496	S 498	S 906	T 712
T 1033	020002.6	023001.2	027R00.1	027001.2	030001.0	032000.3
043000.8	043002.6	063001.5	064000.2	131001.8	150003.5	176001.0
187000.7	187000.9	189000.3	204000.3	206000.1	213000.3	3415R0.3
341500.1						

Concrete girder

G 881	H 80R	H 81R	H 348	H 349 R	K 115	K 357
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Concrete box culvert

DUCK001	DUCK002	F 1122	G 875	G 876	G 877	G 901R
H 268	H 350R	H 351R	H 443	H 937	K 157	K 356
P 114	S 104	S 495	S 497	S 543	S 821	T 415
X 526	X 605	X 606	X 775R	X 919	X 920	Y 351
Y 352	Y 353	Y 354	Y 435	Y 436	013001.7	015000.2
020004.5	027002.6	055R00.2	061001.2	073000.1	092R00.1	096001.2
105000.0	167003.2	168000.6	169000.2	186001.9	187R00.1	202000.2
209000.3	216001.0					

WAYNE COUNTY

EXCLUDED (cont.):

Concrete slab

G 445R	H 113R	H 114R	J 630	MING001	W 59	043001.9
061000.2	090003.2	092002.2	096000.9	123001.4	123003.2	128000.1

Timber stringer

MINGO03	MINGO04	MINGO05	T1029	T1030	049001.4
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SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	2	4	0	0	6
Excluded	60	49	0	0	109
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	62	53	0	0	115 structures

St. Francis River Bridge

WAYN01

GENERAL DATA

structure no.: J 21R	city/town: 6.6 miles south of Greenville
county: Wayne	feature inters.: St. Francis River
	cadastral grid: S13, T28N, R5E
	highway route: U.S. Highway 67
	highway distr.: 10
	current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 8-panel, rigid-connected Warren through truss with polygonal top chord, skewed, with steel stringer approach spans	
substructure: concrete abutments, wingwalls and piers; hammerhead spill-through piers at approach spans	
span number: 1	condition: good
span length: 170.0'	alterations: none
total length: 851.0'	floor/decking : asphalt on concrete deck, over steel stringers
roadway width: 26.0'	other features: upper chord / inclined end post: 2 face-to-face channels with cover plate and lacing; lower chord: 2 channels with lacing; vertical: wide flange; diagonal: wide flange; lateral bracing: 1 angle; strut: 4 angles with lacing and bracing; portal strut: 4 angles with lacing; floor beam: I-beam; guardrail: 2 channels

HISTORICAL DATA

erection date: 1941	
erection cost: \$158,598.07	
designer: Missouri State Highway Department	
fabricator : unknown	
contractor: George W. Condon Company	
references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. J 21R; Missouri Highway and Transportation Department, Primary System Bridge Record, located at the Bridge Division, MHTD, Jefferson City MO; field inspection by Richard Collier, 31 March 1992.	
sign. rating: 62	
evaluation: NRHP possibly eligible (well-preserved example of rare through truss design by MSHD)	

Inventoried by: Michelle Crow-Dolby 21 May 1993

Leeper Bridge

WAYN02

GENERAL DATA

structure no.:	J 935	city/town:	0.3 mile northwest of Leeper
county:	Wayne	feature inters.:	Black River
		cadastral grid:	S22/27, T28N, R3E
		highway route:	Missouri State Highway 34
		highway distr.:	10
		current owner:	Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: two steel, 9-panel, rigid-connected Parker through trusses; two steel, 6-panel rigid-connected Pratt through trusses; steel stringer approach spans

substructure: concrete abutments, wingwalls and piers; steel pile bent piers under approach spans

span number:	2; 2	condition:	good
span length:	180.0'; 120.0'	alterations:	none
total length:	988.0'	floor/decking :	concrete deck over steel stringers
roadway width:	22.0'	other features:	upper chord / inclined end post: 2 channels with cover plate and lacing; lower chord: 2 channels with batten plates; vertical: 4 angles with lacing; diagonal: 2 angles with batten plates; lateral bracing: 1 angle; strut: 4 angles with X-bracing; portal strut: wide flange; floor beam: I-beam; guardrail: 2 channels; end post-mounted bridge plate: Missouri Highway Dept Bridge N ^o J 935 1933

HISTORICAL DATA

erection date: 1933

erection cost: \$73,397.92

designer: Missouri State Highway Department

fabricator : Inland Steel Company, East Chicago IN

contractor: List and Clark Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. J 935; Missouri Highway and Transportation Department, Primary System Bridge Record, located at the Bridge Division, MHTD, Jefferson City MO; Wayne County Court Record 8: page 185 (20 December 1911), page 224 (27 February 1912), page 279 (24 May 1912), page 292 (31 May 1912), page 600 (22 May 1913), located at the Wayne County Courthouse, Greenville MO; Missouri State Highway Commission, **Ninth Biennial Report: 1933-34**, pages 185-87; field inspection by Richard Collier, 31 March 1992.

Leeper Bridge

sign. rating: 52

evaluation: NRHP possibly eligible (well-preserved, multiple-span example of MSHD truss design)

inventoried by: Michelle Crow-Dolby 21 May 1993

Montgomery Ford Bridge

WAYN03

GENERAL DATA

structure no.: 031002.2	city/town: 1.0 mile west of Lowndes
county: Wayne	feature inters.: Bear Creek
	cadastral grid: S28, T29N, R7E
	highway route: County Road 31
	highway distr.: 10
	current owner: Wayne County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss
substructure: concrete-filled steel cylinder piers, with timber back- and wingwalls

span number: 1	condition: fair
span length: 100.0'	alterations: none
total length: 100.0'	floor/decking : timber deck over steel stringers
roadway width: 12.0'	other features: upper chord / 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: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with 1-angle knee braces; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles

HISTORICAL DATA

erection date: 1913
erection cost: unknown
designer: Vincennes Bridge Company, Vincennes IN (probable)
fabricator : Vincennes Bridge Company, Vincennes IN (probable)
contractor: Vincennes Bridge Company, Vincennes IN (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 031002.2; Wayne County Court Record 8: page 575 (19 May 1913) - located at the Wayne County Courthouse, Greenville, Missouri; field inspection by Richard Collier, 31 March 1992.

sign. rating: 31
evaluation: NRHP non-eligible (typically configured example of common bridge type)

inventoried by: Michelle Crow-Dolby 21 May 1993

Wappapello Bridge

WAYN04

GENERAL DATA

structure no.:	069000.5	city/town:	0.5 mile south of Wappapello
county:	Wayne	feature inters.:	St. Francis River
		cadastral grid:	S2, T26N, R7E
		highway route:	County Road 69
		highway distr.:	10
		current owner:	Wayne County

STRUCTURAL DATA

superstructure: steel, 10-panel, pin-connected Pennsylvania through truss, with steel stringer approach spans

substructure: concrete abutments (below grade); concrete-filled steel cylinder piers under main span; timber pile bent piers under approach spans

span number:	1	condition:	fair (bridge closed)
span length:	210.0'	alterations:	none
total length:	280.0'	floor/decking :	timber deck over steel stringers
roadway width:	13.3'	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 looped rectangular eyebars; counter: round rod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with 2-angle bracing; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles; portal builder's plate: 1911 Built By Stupp Bro's Bridge & Iron Company St. Louis M ^o ; bridge plate (south end): Class B

HISTORICAL DATA

erection date: 1911

erection cost: \$4000.00 (engineer's estimate)

designer: Stupp Brothers Bridge and Iron Company, St. Louis MO

fabricator : Stupp Brothers Bridge and Iron Company, St. Louis MO;
Lackawanna Steel Company, Pittsburgh PA

contractor: Stupp Brothers Bridge and Iron Company, St. Louis MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 069000.5; Wayne County Court Record, Book 7, page 553 (25 August 1910); Book 8, page 124 (29 August 1911), page 160 (21 November 1911), located at the Wayne County Courthouse, Greenville MO; W.A.L. Waddell, **Bridge Engineering** (London: John Wiley and Sons, 1916); field inspection by Richard Collier, 31 March 1992.

Wappapello Bridge

sign. rating: 67
evaluation: NRHP possibly eligible (well-preserved, long-span example of uncommon structural type)

inventoried by: Michelle Crow-Dolby 21 May 1993

Duncan Ford Bridge

WAYN05

GENERAL DATA

structure no.:	090001.1	city/town:	1.0 mile south of Williamsville
county:	Wayne	feature inters.:	Black River
		cadastral grid:	S29, T27N, R5E
		highway route:	County Road 90
		highway distr.:	10
		current owner:	Wayne County

STRUCTURAL DATA

superstructure: steel, 10-panel, pin-connected Pennsylvania through truss, with steel stringer approach spans
substructure: concrete abutments and wingwalls; concrete-filled steel cylinder piers under main span; concrete piers under approach spans

span number:	1	condition:	fair
span length:	190.0'	alterations:	none
total length:	229.0'	floor/decking :	timber deck over steel stringers
roadway width:	15.7'	other features:	upper chord / 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; lateral bracing: round rod with threaded ends; strut: 4 angles with X-bracing between; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles

HISTORICAL DATA

erection date: 1912-13
erection cost: \$4193.00
designer: Vincennes Bridge Company, Vincennes IN
fabricator : Vincennes Bridge Company, Vincennes IN; Carnegie Steel Company, Pittsburgh PA
contractor : Vincennes Bridge Company, Vincennes IN
references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 090001.1; Wayne County Court Record, Book 8, page 185 (20 December 1911), page 224 (27 February 1912), page 279 (24 May 1912), page 292 (31 May 1912), page 600 (22 May 1913), page 600 (22 May 1913), located at the Wayne County Courthouse, Greenville MO; "County Makes Plans To Replace 1909 Bridge Near Williamsville", **Wayne County Journal-Banner**, Piedmont, Missouri (1 November 1984); field inspection by Richard Collier, 31 March 1992.

Duncan Ford Bridge

sign. rating: 63
evaluation: NRHP possibly eligible (well-preserved, long-span example of uncommon structural type)

inventoried by: Michelle Crow-Dolby 21 May 1993

Clark Creek Bridge

WAYN06

GENERAL DATA

structure no.: 200000.6 city/town: 0.2 mile west of Patterson
county: Wayne feature inters.: Clark Creek
cadastral grid: S18, T29N, R5E
highway route: County Road 200
highway distr.: 10
current owner: Wayne County

STRUCTURAL DATA

superstructure: steel, 9-panel, rigid-connected Warren pony truss, with 5-panel, rigid-connected Warren pony approach span
substructure: concrete abutments, wingwalls and pier

span number: 2 condition: good
span length: 90.0' alterations: none
total length: 141.0' floor/decking : asphalt on concrete deck, over transverse steel stringers
roadway width: 18.0' other features: upper chord / inclined end post: 2 channels with cover plate and lacing; lower chord: 2 angles with batten plates; vertical: 4 angles with continuous plate; diagonal: 2 angles with batten plates; lateral bracing: 1 angle; floor beam: none; guardrail: 2 steel pipes

HISTORICAL DATA

erection date: 1923-24
erection cost: \$13,745.00 (engineer's estimate)
designer: Missouri State Highway Department
fabricator : Lackawanna Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 200000.6; Missouri State Highway Commission, **Third Biennial Report**: 1921-22, page 144; Missouri State Highway Commission, **Fourth Biennial Report**: 1923-24, page 175; field inspection by Richard Collier, 31 March 1992.

sign. rating: 39
evaluation: NRHP non-eligible (typical example of common highway truss type, distinguished marginally by its two-span configuration)

inventoried by: Michelle Crow-Dolby 21 May 1993

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

St. Francis River Bridge
MHTD: J 21R

WAYN01

DATE(S) OF CONSTRUCTION

1941

LOCATION

U.S. Highway 67 over St. Francis River; S13, T28N, R5E
6.6 miles south of Greenville; Wayne County, Missouri

USE (ORIGINAL / CURRENT)

highway bridge / highway bridge

RATING potentially NRHP eligible (score: 62)

CONDITION

good

OWNER

Missouri Highway and Transportation Department

span number: 1
span length: 170.0'
total length: 851.0'
roadway wdt.: 26.0'

superstructure: steel, 8-panel, rigid-connected Warren through truss with polygonal top chord, skewed, with steel stringer approach spans
substructure: concrete abutments, wingwalls and piers; hammerhead spill-through piers at approach spans
floor/decking: asphalt on concrete deck, over steel stringers
other features: upper chord / inclined end post: 2 face-to-face channels with cover plate and lacing; lower chord: 2 channels with lacing; vertical: wide flange; diagonal: wide flange; lateral bracing: 1 angle; strut: 4 angles with lacing and bracing; portal strut: 4 angles with lacing; floor beam: I-beam; guardrail: 2 channels

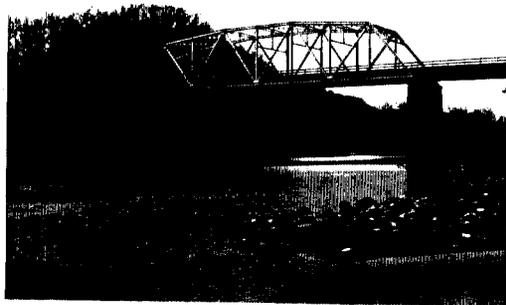
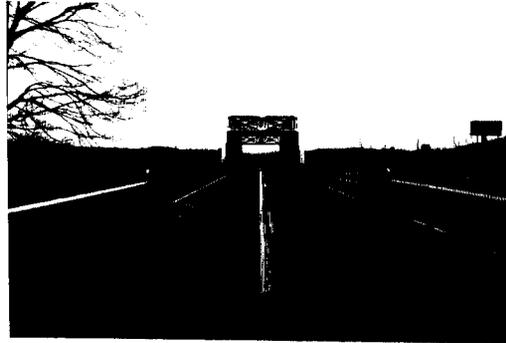
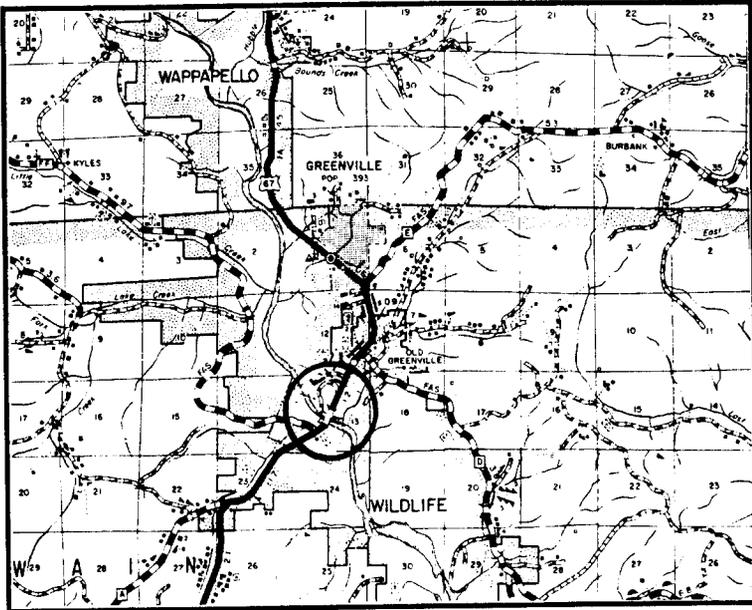
This crossing of the St. Francis River is located on U.S. Highway 67, 6½ miles south of Greenville, at the river's inlet into Wappapello Lake. A riveted Warren through truss with polygonal top chords, the structure is skewed and rests on a concrete substructure. There are nine steel stringer approach spans on the north end, and two more on the south end. Design work for the crossing was prepared by the Missouri State Highway Department in the fall of 1940. On November 29th, the George W. Condon Company received a \$158,598.07 contract for the bridge's erection. Completed early in 1941, the structure has since carried moderate to heavy traffic loads on this principal north-south artery. The Condon-built bridge replaced an earlier structure, erected just over ten years previously, in the summer of 1930. Comprised of an 80-foot truss, and multiple plate girder approach spans, the 1930 bridge at the site was built by S.J. Cohen for \$86,712.10. The St. Francis River Bridge typifies long-span truss design and detailing by the state highway department.

Throughout the 1920s and 1930s the Missouri State Highway Department relied almost exclusively on rigid-connected Pratt and Parker configurations for its medium-span through trusses. The agency adopted Warren configurations for its pony trusses and for its cantilevered through trusses over the Missouri and Mississippi rivers, but for some reason did not employ Warren webs for its simply supported through trusses. The St. Francis River Bridge marks a departure from this trend, and a reconciliation of sorts between pony and through truss design by the highway department. World War II arrested most steel bridge construction in the early 1940s, and as trusses were used less frequently for all but the longest-span crossings after the war, the Warren through truss never received widespread use in the state. Although the St. Francis River Bridge itself is technologically unadventurous, it represents a prototype in MSHD bridge design.

NAME(S) OF STRUCTURE

St. Francis 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 21R; Missouri Highway and Transportation Department, Primary System Bridge Record, located at the Bridge Division, MHTD, Jefferson City MO; field inspection by Carl McWilliams and Richard Collier, 31 March 1992.

INVENTORIED BY

Carl McWilliams

AFFILIATION

Fraserdesign, Loveland CO

DATE

11 May 1992

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Leeper Bridge (Black River Bridge)

MHTD: J 935

WAYN02

DATE(S) OF CONSTRUCTION

1933

LOCATION

Missouri State Highway 34 over Black River; S22/27, T28N, R3E
0.3 mile northwest of Leeper; Wayne County, Missouri

USE (ORIGINAL / CURRENT)

highway bridge / highway bridge

RATING NRHP potentially eligible (score: 52)

CONDITION

good

OWNER

Missouri Highway and Transportation Department

span number: 2; 2
span length: 180.0'; 120.0'
total length: 988.0'
roadway wdt.: 22.0'

superstructure: two steel, 9-panel, rigid-connected Parker through trusses; two steel, 6-panel rigid-span connected Pratt through trusses; steel stringer approach spans
substructure: concrete abutments, wingwalls and piers; steel pile bent piers under approach spans
floor/decking: concrete deck over steel stringers
other features: upper chord / inclined end post: 2 channels with cover plate and lacing; lower chord: 2 channels with batten plates; vertical: 4 angles with lacing; diagonal: 2 angles with batten plates; lateral bracing: 1 angle; strut: 4 angles with X-bracing; portal strut: wide flange; floor beam: I-beam; guardrail: 2 channels; end post-mounted bridge plate:
Missouri Highway Dept Bridge No J 935 1933

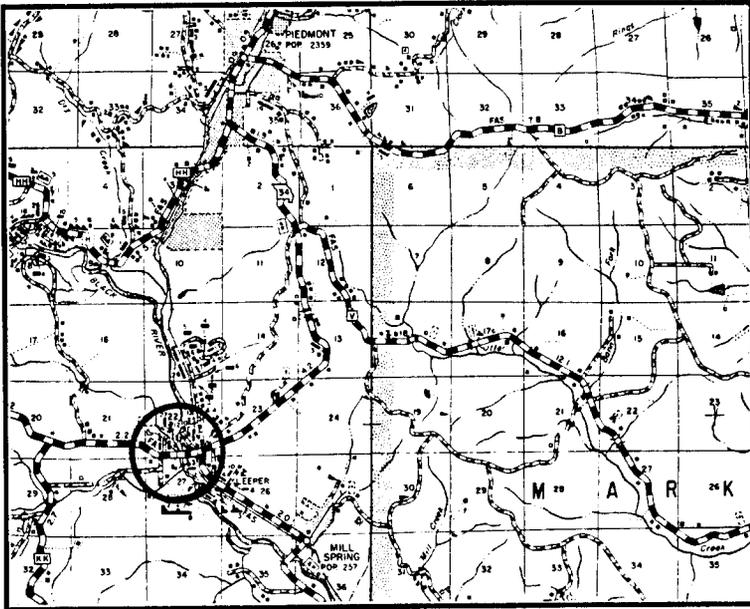
This crossing of the Black River is located on Missouri Highway 34, just northwest of the small town of Leeper. The two Parker truss channel spans are flanked by two Pratt through trusses, with eight steel stringer approach spans on the north end. Support for the superstructure is provided by concrete abutments and piers, with steel pile bent piers under the steel stringer spans. Design work was prepared by the Missouri State Highway Department in early 1933. On March 4th, the List and Clark Construction Company received a \$73,397.92 contract for the bridge's erection. Completed later that year, the structure has since carried moderate to heavy traffic loads on State Highway 34, a main route between western Wayne County and southeastern Reynolds County. List and Clark's bridge replaced an earlier structure that had been built in 1913. A steel truss of unknown configuration, the 1913 bridge at the site was erected by the Vincennes Bridge Company for \$4993.00. The current Leeper Bridge appears largely unchanged from its original construction.

Many of the large-scale bridges designed by the Missouri State Highway Department in the 1920s and 1930s were replacements for earlier county-built structures. The Leeper Bridge ranks among the longest of these multiple-span steel truss bridges built during this period. The rigid-connected Parker and Pratt trusses that comprise the bridge feature standard MSHD design, but this bridge is distinguished by its multiplicity and diversity of spans, overall structure length and its high degree of physical integrity.

NAME(S) OF STRUCTURE

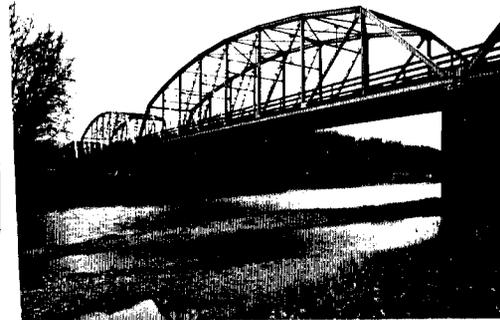
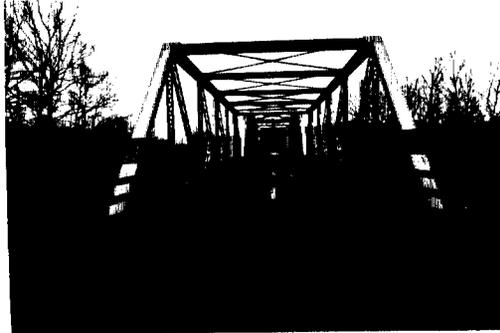
Leeper Bridge (Black River Bridge)

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 935; Missouri Highway and Transportation Department, Primary System Bridge Record, located at the Bridge Division, MHTD, Jefferson City MO; Wayne County Court Record 8: page 185 (20 December 1911), page 224 (27 February 1912), page 279 (24 May 1912), page 292 (31 May 1912), page 600 (22 May 1913), located at the Wayne County Courthouse, Greenville MO; Missouri State Highway Commission, Ninth Biennial Report: 1933-34, pages 185-87; field inspection by Richard Collier and Carl McWilliams, 31 March 1992.

INVENTORIED BY

Carl McWilliams

AFFILIATION

Fraserdesign, Loveland CO

DATE

11 May 1992

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Wappapello Bridge (St. Francis River Bridge)
MHTD: 069000.5

WAYN04

DATE(S) OF CONSTRUCTION

1911

LOCATION

County Road 69 over St. Francis River; S2, T26N, R7E
0.5 mile south of Wappapello; Wayne County, Missouri

USE (ORIGINAL / CURRENT)

roadway bridge / abandoned

RATING NRHP potentially eligible (score: 67)

CONDITION

fair (bridge closed)

OWNER

Wayne County

span number: 1
span length: 210.0'
total length: 280.0'
roadway wdt.: 13.3'

superstructure: steel, 10-panel, pin-connected Pennsylvania through truss, with steel stringer approach spans
substructure: concrete abutments (below grade); concrete-filled steel cylinder piers under main span; timber pile bent piers under approach spans
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 looped rectangular eyebars; counter: round rod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with 2-angle bracing; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles; portal builder's plate: 1911 Built By Stupp Bro's Bridge & Iron Company St. Louis Mo; bridge plate (south end): Class B

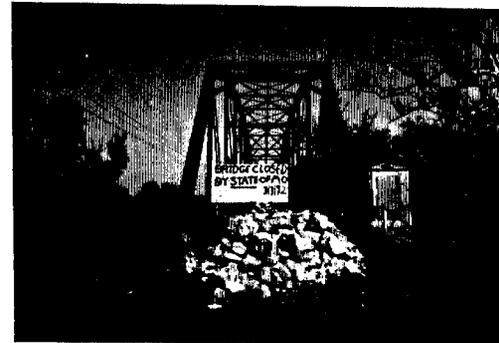
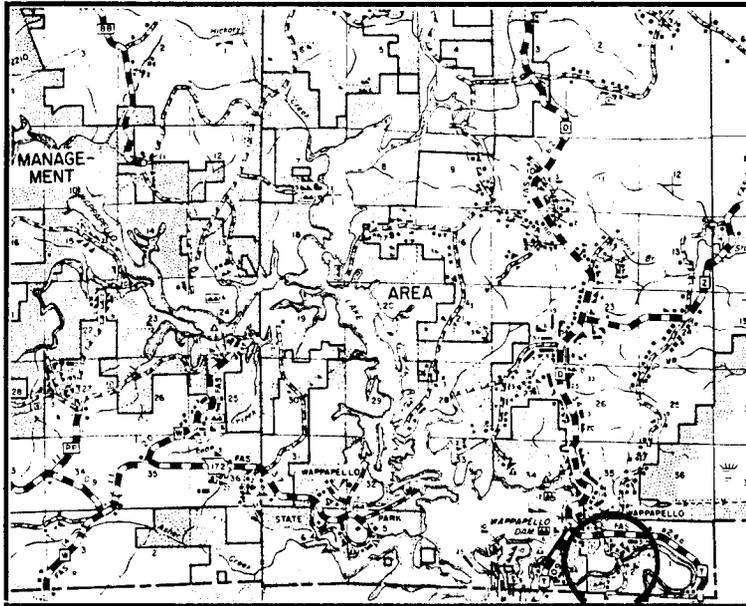
This long-span truss crosses the St. Francis River about ½ mile below the Wappapello Dam, in extreme southeastern Wayne County. A pin-connected Pennsylvania through truss, the structure is supported by concrete-filled steel cylinder piers and concrete abutments. Efforts to build the bridge began in the summer of 1910. That August the Wayne County Court determined to build two bridges across the St. Francis River. One would be located near Lone Rock; the other was this crossing just south of Wappapello. Newt Bennet, the county highway engineer, was directed to view both bridge sites, estimate the structures' cost and prepare specifications. After soliciting competitive bids, the county court awarded a contract to fabricate and erect the two trusses to the Stupp Brothers Bridge and Iron Company of St. Louis. Stupp Brothers, which dominated bridge construction in Wayne County during the period, completed the crossings in 1911 for an aggregate cost of \$8170.00. The Lone Rock Bridge has since been replaced, but the Wappapello Bridge appears much the same today as when it was built. Crude waferboard signs set at each approach note that the crossing was closed to traffic on March 3, 1992. There is strong local sentiment to have the bridge reopened, but its future is currently unclear.

Named after the Pennsylvania Railroad, which used it extensively, the Pennsylvania [Petit] truss configuration is a subtype of the basic Pratt truss, with subdivided panels. "It is comparatively simple," stated Bridge Engineer W.A.L. Waddell in his seminal book, **Bridge Engineering**, "and, like the Pratt truss, it is economical of metal and lends itself readily to the connection of the floor and lateral systems." Though not especially exotic structurally, Pennsylvania trusses were typically employed for long-span applications. As a result, relatively few were ever erected in Missouri. Fewer yet remain in place today; less than ten have been identified by the statewide bridge inventory.

The Wappapello Bridge is thus technologically significant as a well-preserved example of this uncommon long-span structural type. Although recently closed, it has served historically as a regionally important crossing of a major river - an important resource in Missouri highway history.

NAME(S) OF STRUCTURE

Wappapello 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. 069000.5; Wayne County Court Record, Book 7, page 553 (25 August 1910); Book 8, page 124 (29 August 1911), page 160 (21 November 1911), located at the Wayne County Courthouse, Greenville MO; W.A.L. Waddell, *Bridge Engineering* (London: John Wiley and Sons, 1916); field inspection by Carl McWilliams and Richard Collier, 31 March 1992.

INVENTORIED BY

Carl McWilliams

AFFILIATION

Fraserdesign, Loveland CO

DATE11 May 1992

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Duncan Ford Bridge (Black River Bridge)

MHTD: 090001.1

LOCATION

County Road 90 over Black River; S29, T27N, R5E
1.0 mile south of Williamsville; Wayne County, Missouri

WAYN05

DATE(S) OF CONSTRUCTION

1912-13

USE (ORIGINAL / CURRENT)

roadway bridge / roadway bridge

RATING NRHP potentially eligible (score: 63)

CONDITION

fair

OWNER

Wayne County

span number: 1
span length: 190.0'
total length: 229.0'
roadway wdt.: 15.7'

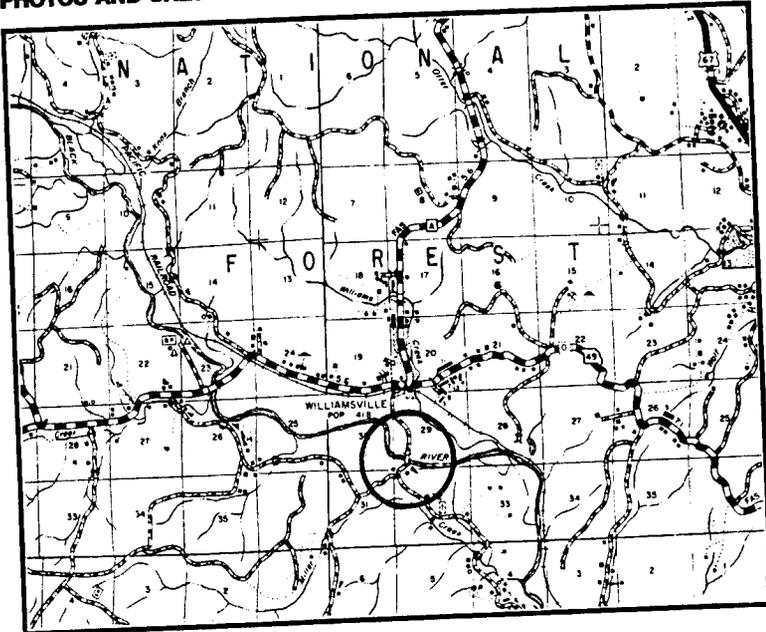
superstructure: steel, 10-panel, pin-connected Pennsylvania through truss, with steel stringer approach spans
substructure: concrete abutments and wingwalls; concrete-filled steel cylinder piers under main span; concrete piers under approach spans
floor/decking: timber deck over steel stringers
other features: upper chord / 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; lateral bracing: round rod with threaded ends; strut: 4 angles with X-bracing between; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles

On December 20, 1911, the Wayne County Court decided that a steel bridge was needed across the Black River 3/4 mile south of Williamsville, in the southwestern corner of the county. The court ordered the county highway engineer to measure the site, determine the proposed bridge's dimensions and estimate its probable cost. This work was duly carried out, and in February 1912 the court advertised for competitive bids to fabricate and erect the long-span truss. On May 24th proposals for the structure's construction were opened. With a bid of \$4193.00, the Vincennes Bridge Company of Vincennes, Indiana, was the successful proposer. That same day Vincennes received another contract to build a smaller bridge across McKenzie Creek near Piedmont. The Duncan Ford Bridge took almost exactly one year to complete. In May 1913, Vincennes was paid \$5835.00 for the Duncan Ford and the McKenzie Creek bridges. Citing structural deterioration of the truss and its approach spans, the county in 1984 developed plans to replace the Duncan Ford Bridge, but has not to date undertaken the construction. The steel truss continues to carry local traffic, little changed from its original construction.

Serving as a major crossing for eighty years, the Duncan Ford Bridge is historically significant for its longstanding role in the development of regional transportation. The structure's channel span is technologically noteworthy as a well-preserved example of a Pratt truss subtype - the Pennsylvania truss. With its polygonal top chord and subdivided panels, the truss exemplifies this relatively uncommon structural type, which was used primarily for long-span applications after the turn of the century. The Duncan Ford Bridge is a significant Missouri roadway span.

NAME(S) OF STRUCTURE
Duncan Ford Bridge (Black 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. 090001.1; Wayne County Court Record, Book 8, page 185 (20 December 1911), page 224 (27 February 1912), page 279 (24 May 1912), page 292 (31 May 1912), page 600 (22 May 1913), page 600 (22 May 1913), located at the Wayne County Courthouse, Greenville MO; "County Makes Plans To Replace 1909 Bridge Near Williamsville", *Wayne County Journal-Banner*, Piedmont, Missouri (1 November 1984); field inspection by Carl McWilliams and Richard Collier, 31 March 1992.

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