RAY COUNTY

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

Inv. No.	MHTD	Bridge Name	Description
*RAY001	G 55R	Lexington Bridge	**7-408' riveted Warren through truss** **1925** Kansas City Bridge Company (replaced)
RAY002	J 190R	Crooked River Bridge	**12-78'** steel stringer 1946 J.D. Tobin Construction Co.
*RAY003	K 900	Henrietta Viaduct	1- 60' riveted Warren pony truss **1904** Kansas City Bridge Company
*RAY004	013001.2	Brushy Creek Bridge	1- 80' pinned Pratt pony truss **1910** Kansas City Bridge Company
RAY005	076001.8	Bisbee Bridge	1- 40' pinned Pratt bedstead **c1905**
RAY006	103000.8	South Mud Creek Bridge	1- 80' riveted Pratt pony truss **1913** county work force
RAY007	156001.2	Crooked River Bridge	1-100' riveted Pratt pony truss **1912** Kansas City Bridge Company (replaced)
*RAY008	167001.4	Crooked River Bridge	1- 56' pinned Pratt bedstead **c1910**
*RAY009	168000.2	Hendrix Bridge	1- 80' riveted Pratt pony truss **1913** county work force
RAY010	191003.3	Lick Creek Bridge	1- 80' **2-angle Camelback pony truss** c1925
RAY011	220000.2	Fishing River Bridge	1- 80' riveted Pratt pony truss **1913** county work force
*RAY012	239000.4	Crooked River Bridge	1- 80' pinned Pratt pony truss **c1910**
RAY013	244003.4	Crooked River Bridge	1-102' **pinned Pratt through truss** **1889** Wrought Iron Bridge Company
RAY014	249002.6	Crooked River Bridge	1-120' **pinned Pratt through truss** **1908** Kansas City Bridge Company
*RAY015	257001.6	Crooked River Bridge	1- 30' **concrete filled spandrel arch** c1920
*RAY016	289001.3	Crooked River Bridge	1-106' **pinned Pratt through truss** **1908** Kansas City Bridge Company
*RAY017	351002.4	Rolling Creek Bridge	**1-160' pinned Pratt through truss** **1904** American Bridge Company
*RAY018	369002.6	Hall Stone Bridge	
*RAY019	376000.8	Oinck Bridge	

EXCLUDED:

Pratt pony truss
043002.3 051001.1 063002.0 182000.1 229003.1 248000.8 352000.8
361001.0

RAY COUNTY

EXCLUDED (cont.):

Warren pony truss

041000.5	075000.6	087001.1	108001.4	180002.0	232000.4
241000.7	245000.7				

Steel stringer

A000001	G 950R1	G 991R	J 269R	J 323R	J 324R	J 325R
J 633	J 744	S 5	S 487	S 698	S 700	S 704
T 389	X 618	X 619	X 771	X 858	Y 926	016000.3
017001.2	018000.8	030000.8	037001.7	038001.2	040000.4	066000.2
071001.9	082000.9	084000.2	100000.4	109000.7	128000.6	130500.1
135000.7	137002.6	138000.2	143000.5	144000.5	164000.7	164000.9
171002.7	188003.3	194003.3	204000.6	208000.9	209000.2	229002.5
232002.6	233000.8	270000.3	274000.2	307001.0	314000.1	317000.6
336000.3	347000.2	358000.2	371001.1			

Steel girder

S 699	069000.5	085000.2	099002.6	101002.3	118000.7	146001.4
362002.1						

Concrete slab

217001.2

Concrete girder

G 948R1	G 949R1	J 191	L 384	T 940

Concrete box culvert

S 701	S 703	X 770	X 857	X 8592

Timber stringer

Y 656	238000.4	319000.3	362002.6

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	2	15	0	0	17
Excluded	32	70	0	0	102
	34	85	0	0	119 structures

Lexington Bridge

RAY001

GENERAL DATA

structure no.: G 55R
county: Ray / Lafayette
city/town: Lexington
feature inters.: Missouri River
cadastral grid: S35, T51N, R27W
highway route: State Highway 13
highway distr.: 4
current owner: State of Missouri

STRUCTURAL DATA

superstructure: two steel, 12-panel, rigid-connected Warren through trusses with polygonal upper chords; 5 steel, 7-panel, rigid-connected Warren through trusses with polygonal upper chords; 3 steel, 9-panel, rigid-connected, Warren deck trusses; 8 steel girder approach spans
substructure: concrete abutments, wingwalls and piers

span number: 10
span length: 408.0'
total length: 3073.0'
roadway width: 20.0'
condition: excellent
alterations: bridge painted, 1973; deck repaired, 1985
floor/decking : concrete deck over steel stringers
other features: Warren through trusses: upper chord: 2 channels with cover plate and lattice bars; lower chord: 4-angles with lacing and continuous cover plates; verticals: 2 channels with lacing alternating with 4 angles with lacing; diagonals: 2 channels with lacing; portals: 2 angles with lattice bars; struts: angles; top lateral bracing: 4 angles with lattice bars; bottom lateral bracing: angles; floor beams: I-beams; guardrails: lattice; (two center spans identical except, verticals: 4 angles with lacing; diagonals: 4 angles with lacing and cover plates); Warren deck trusses: upper chord: 4 angles with cover plates and lattice bars; lower chord: 4 angles with batten plates and cover plates; verticals: 4 angles with batten bars alternating with 2 channels with lacing; diagonals: 4 angles with lacing and cover plates; top and bottom lateral bracing: 2 angles; floor beams: 4 angles with continuous plate; bridge plaque: **1924 Lexington Bridge built by Lafayette County, Ray County, City of Lexington; Federal Aid appropriated by Missouri Highway Commission; Designed by J.A.L. Waddell, Consulting Engineer, New York, NY and Kansas City, MO; Supervised by Missouri State Highway Commission; B.H. Piepmeier, Chief Engineer; Contractor - Kansas City Bridge Co., Kansas City, MO**

HISTORICAL DATA

erection date: 1924-25
erection cost: $1,086.294.15 (contract amount)
designer: J.A.L. Waddell, Kansas City MO
fabricator : Union Bridge and Construction Company, New York NY
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number G 55R; Ray County Court Record, Book 1: page 50 (16 August 1922), page 61 (11 September 1922), page 130 (5 December 1922) - located at the Ray County Courthouse, Richmond MO; **The Lexington News**, "Bridge Dedicated in 1925", written by Bonnie Mitchell, n.p. (11 November 1987); **Third Biennial Report of the Missouri State Highway Commission**, pages 112-13 (1922), page 120 (1924) - located in St. Louis MO; field inspection by Lon Johnson, 11 September 1990.

sign. rating: 86
evaluation: NRHP eligible (excellent example of large-scale highway bridge construction)

inventoried by: Michelle Crow-Dolby 3 August 1992

Henrietta Viaduct

RAY003

GENERAL DATA

structure no.: K 900
county: Ray

city/town: Henrietta
feature inters.: Wabash and Santa Fe Railroads
cadastral grid: S16, T51N, R27W
highway route: State Highway 13
highway distr.: 4
current owner: State of Missouri

STRUCTURAL DATA

superstructure: continuous I-beam steel stringer
substructure: concrete abutments and wingwalls with concrete spill-through piers

span number: 12
span length: 78.0'
total length: 705.0'
roadway width: 26.0'

condition: good
alterations: none
floor/decking : concrete deck
other features: lateral bracing: crossed angles; guardrails: balustrade of channels and square rods with concrete approach guards; concrete sidewalk carried on cantilevered angles with steel plates

HISTORICAL DATA

erection date: 1946
erection cost: $180,956.25
designer: Missouri State Highway Department
fabricator : unknown
contractor: J.A. Tobin Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number K 900; field inspection by Lon Johnson, 11 September 1990.

sign. rating: 43
evaluation: NRHP determined non-eligible (undistinguished, relatively late example of standard beam bridge type)

inventoried by: Michelle Crow-Dolby 3 August 1992

Brushy Creek Bridge

RAY004

GENERAL DATA

structure no.: 013001.2
county: Ray

city/town: 2.7 miles northwest of Elmira
feature inters.: Brushy Creek
cadastral grid: S4, T54N, R29W
highway route: County Road 13
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 4-panel, rigid-connected, Warren pony truss
substructure: concrete-filled steel cylinder piers with concrete back- and wingwalls

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 12.3'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plates; vertical: 2 angles; diagonal: 2 angles with batten plates; lateral bracing: round rods with threaded ends; floor beam: I-beams; guardrail: 2 channels; bridge plate: **Kansas City Bridge Company / Builders / 1904**

HISTORICAL DATA

erection date: 1904
erection cost: unknown
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 Number 013001.2; field inspection by Lon Johnson, 9 September 1990.

sign. rating: 53
evaluation: NRHP possibly eligible (earliest documented example in Missouri of the riveted Warren truss)

inventoried by: Michelle Crow-Dolby 3 August 1992

Bisbee Bridge

RAY005

GENERAL DATA

structure no.: 076001.8
county: Ray
city/town: 3.0 miles northwest of Millville
feature inters.: Crooked River
cadastral grid: S32, T54N, R27W
highway route: County Road 76
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss
substructure: unknown

span number: 1
span length: 80.0'
total length: 80.0'
roadway width: 12.8'
condition: fair
alterations: unknown
floor/decking : timber deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1910
erection cost: unknown
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 Number 076001.8; Ray County Court Record, Book 1: page 580 (16 May 1924) -located at the Ray County Courthouse, Richmond MO.

sign. rating: 44
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Michelle Crow-Dolby 3 August 1992

South Mud Creek Bridge

RAY006

GENERAL DATA

structure no.: 103000.8
county: Ray
city/town: 3.5 miles west of Tinney
feature inters.: South Mud Creek
cadastral grid: S1/12, T54N, R27W
highway route: County Road 103
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt bedstead
substructure: steel bedstead leg abutments with timber backwalls

span number: 1
span length: 40.0'
total length: 41.0'
roadway width: 12.5'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1905
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 103000.8.

sign. rating: 21
evaluation: NRHP non-eligible (typical example of common structural type, poorly documented)

inventoried by: Michelle Crow-Dolby 3 August 1992

Crooked Creek Bridge

RAY007

GENERAL DATA

structure no.: 156001.2
county: Ray
city/town: 2.0 miles south of Millville
feature inters.: Crooked River
cadastral grid: S27, T53N, R27W
highway route: County Road 156
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt pony truss
substructure: concrete-filled, steel cylinder piers

span number: 1
span length: 80.0'
total length: 117.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1913
erection cost: unknown
designer: Kansas City Bridge Company, Kansas City MO (probable)
fabricator : Kansas City Bridge Company, Kansas City MO (probable)
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 156001.2; Ray County Court Record, Book W, page 362 (9 July 1913) - located at Ray County Courthouse, Richmond MO.

sign. rating: 40
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Michelle Crow-Dolby 3 August 1992

Crooked River Bridge

RAY008

GENERAL DATA

structure no.: 167001.4
county: Ray

city/town: 7.7 miles northwest of Richmond
feature inters.: Crooked River
cadastral grid: S28, T53N, R28W
highway route: County Road 167
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt through truss with steel stringer approaches on each end
substructure: concrete abutments and wingwalls; concrete-filled, steel cylinder piers

span number: 1
span length: 100.0'
total length: 160.0'
roadway width: 12.6'

condition: fair
alterations: none
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 angles with batten plates; vertical: 4 angles with lacing; diagonal: 2 angles with lacing; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam; guard-rail: 2 channels; builder's plate: **1912 / Built by Kansas City Bridge Co / Kansas City MO / D.T. Maddux Pres Judge / C. McGuage Assoc Judge / J.M. Summers Assoc Judge / E.A. Ringo Co Clerk**

HISTORICAL DATA

erection date: 1912
erection cost: unknown
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO; Lackawanna Steel Company, Pittsburgh PA
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 167001.4; Ray County Court Record, Book W: pages 78-80 (8 May 1912), page 108 (8 August 1912); Book Z: page 449 (13 March 1922) - located at the Ray County Courthouse, Richmond MO; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 47
evaluation: NRHP possibly eligible (early example of mainstay structural type)

inventoried by: Michelle Crow-Dolby 3 August 1992

Lick Creek Bridge

RAY010

GENERAL DATA

structure no.: 191003.3
county: Ray

city/town: 6.5 miles northwest of Orrick
feature inters.: Lick Creek
cadastral grid: S31, T52N, R29W
highway route: County Road 191
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt bedstead
substructure: concrete abutments and wingwalls

span number: 1
span length: 56.0'
total length: 58.0'
roadway width: 10.9'

condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 191003.3.

sign. rating: 28
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Michelle Crow-Dolby 3 August 1992

Fishing River Bridge

RAY011

GENERAL DATA

structure no.: 220000.2
county: Ray
city/town: 4.5 miles northwest of Richmond
feature inters.: Fishing River
cadastral grid: S16, T52N, R28W
highway route: County Road 220
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 80.0'
total length: 80.0'
roadway width: 12.9'
condition: fair
alterations: unknown
floor/decking : timber deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1913
erection cost: unknown
designer: Kansas City Bridge Company, Kansas City MO (probable)
fabricator : Kansas City Bridge Company, Kansas City MO (probable)
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 220000.2; Ray County Court Record, Book W, page 362 (9 July 1913) - located at Ray County Courthouse, Richmond MO.

sign. rating: 40
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Michelle Crow-Dolby 3 August 1992

Crooked River Bridge

RAY012

GENERAL DATA

structure no.: 239000.4
county: Ray

city/town: 1.5 miles northeast of Richmond
feature inters.: Crooked River
cadastral grid: S29, T52N, R27W
highway route: County Road 239
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid connected, two-angle Camelback pony truss
substructure: concrete abutments, timber wingwalls and steel pile bent piers

span number: 1
span length: 78.0'
total length: 78.0'
roadway width: 13.7'

condition: fair
alterations: steel plates welded along top chord, lower chord, verticals and diagonals
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post, lower chord, vertical, diagonal: 2 angles; lateral bracing: round rod with threaded ends; floor beam: I-beam; guardrail: steel angle

HISTORICAL DATA

erection date: c1925
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 239000.4; field inspection by Lon Johnson, 11 September 1990.

sign. rating: 43
evaluation: NRHP non-eligible (poorly documented example of uncommon structural type)

inventoried by: Michelle Crow-Dolby 3 August 1992

Crooked River Bridge

RAY013

GENERAL DATA

structure no.: 244003.4
county: Ray
city/town: 1.5 miles east of Richmond
feature inters.: Crooked River
cadastral grid: S22/27, T52N, R27W
highway route: County Road 244
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt pony truss
substructure: concrete abutments and wingwalls, steel cylinder piers

span number: 1
span length: 80.0'
total length: 119.0'
roadway width: 12.8'
condition: fair
alterations: unknown
floor/decking : timber deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1913
erection cost: unknown
designer: Kansas City Bridge Company, Kansas City MO (probable)
fabricator : Kansas City Bridge Company, Kansas City MO (probable)
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 220000.2; Ray County Court Record, Book W, page 362 (9 July 1913) - located at Ray County Courthouse, Richmond MO.

sign. rating: 40
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Michelle Crow-Dolby 3 August 1992

Crooked River Bridge

RAY014

GENERAL DATA

structure no.: 249002.6
county: Ray
city/town: 3.8 miles east of Richmond
feature inters.: Crooked River
cadastral grid: S22, T52N, R27W
highway route: County Road 249
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls; concrete-filled steel cylinder piers

span number: 1
span length: 80.0'
total length: 130.0'
roadway width: 11.8'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 249002.6.

sign. rating: 30
evaluation: NRHP non-eligible (typical example of common structural type, poorly documented)

inventoried by: Michelle Crow-Dolby 3 August 1992

Crooked River Bridge

RAY015

GENERAL DATA

structure no.: 257001.6
county: Ray
city/town: 8.5 miles east of Richmond
feature inters.: Crooked River
cadastral grid: S24/25, T52N, R27W
highway route: County Road 257
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: wrought iron or steel, 6-panel, pin-connected Pratt through truss; 2 steel stringer approaches on north end; 1 steel stringer approach on south end

substructure: timber pile bent abutments; concrete-filled iron cylinder piers; stone pier

span number: 1
span length: 102.0'
total length: 162.0'
roadway width: 10.8'
condition: fair
alterations: approach spans altered
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 looped square or rectangular eyebars; vertical: 2 channels with lacing (looped square eyebar at hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; floor beam: riveted plate girder, U-bolted to lower chord pins; guardrail: steel pipe; lattice portal strut; portal builder's plate: **Wrought Iron Bridge Co / Builders / Canton Ohio**

HISTORICAL DATA

erection date: 1889
erection cost: $795.00 (contract amount)
designer: Wrought Iron Bridge Company, Canton OH
fabricator : Wrought Iron Bridge Company, Canton OH
contractor: Wrought Iron Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 257001.6; Ray County Court Record, Book M: page 418 (7 January and 7 May 1889) - located at the Ray County Courthouse, Richmond MO; field inspection by Lon Johnson, 11 September 1990.

sign. rating: 51
evaluation: NRHP possibly eligible (well-preserved, early example of mainstay structural type)

inventoried by: Michelle Crow-Dolby 3 August 1992

Crooked River Bridge

RAY016

GENERAL DATA

structure no.: 289001.3
county: Ray

city/town: 6.8 miles southeast of Richmond
feature inters.: Crooked River
cadastral grid: S6, T51N, R26W
highway route: County Road 289
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 7-panel, pin-connected Pratt through truss; steel stringer approaches at either end
substructure: steel pile bent abutments; concrete-filled steel cylinder piers

span number: 1
span length: 120.0'
total length: 159.0'
roadway width: 11.0'

condition: fair
alterations: none
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 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 looped rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam, field-bolted to vertical; guardrail: steel pipe; bridge plate: **1908 / J.G. Van Trump Pres Judge / Job Slack Assoc. Judge / E.A. Ringo County Clerk / W.A. Mullin Co. R&B Commissioner**

HISTORICAL DATA

erection date: 1908
erection cost: $2820.00 (three-bridge contract)
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 Number 289001.3; Ray County Court Record, Book T: page 565 (7 May 1908), pages 612-14 (8 September 1908) - located at the Ray County Courthouse, Richmond MO; field inspection by Lon Johnson, 11 September 1990.

sign. rating: 48
evaluation: NRHP non-eligible (typical example of mainstay structural type)

inventoried by: Michelle Crow-Dolby 3 August 1992

Rolling Creek Bridge

RAY017

GENERAL DATA

structure no.: 351002.4
county: Ray

city/town: 2.0 miles northeast of Orrick
feature inters.: Rolling Creek
cadastral grid: S13, T51N, R29W
highway route: County Road 351
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: concrete filled spandrel arch
substructure: concrete abutments and wingwalls

span number: 1
span length: 30.0'
total length: 30.0'
roadway width: 14.5'

condition: poor
alterations: concrete has failed in several places
floor/decking : gravel over concrete
other features: concrete guardrails

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 351002.4; field inspection by Lon Johnson, 9 September 1990.

sign. rating: 20
evaluation: NRHP non-eligible (poorly preserved example of concrete arch construction)

inventoried by: Michelle Crow-Dolby 3 August 1992

Hall Stone Bridge

RAY018

GENERAL DATA

structure no.: 369002.6
county: Ray

city/town: 4.0 miles northwest of Orrick
feature inters.: Fishing River
cadastral grid: S4, T51N, R29W
highway route: County Road 369
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss; steel stinger approach spans
substructure: concrete abutments; stone piers with concrete caps

span number: 1
span length: 106.0'
total length: 144.0'
roadway width: 13.8'

condition: fair
alterations: original concrete deck removed
floor/decking : timber deck over steel stringers
other features: upper chord: 2 channels with cover plate and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 angles with batten plates; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam; guardrail: steel pipe; bridge plate: **J.G. Van Trump Pres Judge / Assoc Judges / R.A. King Job Slack / E.A. Ringo Co Clerk / J.M. Rhodes / Co Highway Engr / 1908**

HISTORICAL DATA

erection date: 1908
erection cost: $2830.00 (three-bridge contract)
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 Number 369002.6; Ray County Court Record, Book T: pages 612-14 (8 September 1908) - located at the Ray County Courthouse, Richmond MO; field inspection by Lon Johnson, 9 September 1990.

sign. rating: 48
evaluation: NRHP non-eligible (typical example of mainstay structural type)

inventoried by: Michelle Crow-Dolby 3 August 1992

Oinck Bridge

RAY019

GENERAL DATA

structure no.: 376000.8
county: Ray
city/town: 1.5 miles south of Orrick
feature inters.: Fishing River
cadastral grid: S27, T51N, R29W
highway route: County Road 376
highway distr.: 4
current owner: Ray County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Pratt through truss; 2 steel stringer approaches at each end
substructure: steel pile bent abutments; concrete-filled steel cylinder piers

span number: 1
span length: 160.0'
total length: 232.0'
roadway width: 11.8'
condition: good
alterations: none
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 (4 angles with lacing at hip); diagonal: 2 punched rectangular eyebars; counter: eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with knee braces; floor beam: I-beam; guardrail: 2 channels

HISTORICAL DATA

erection date: 1904
erection cost: $5900.00 (contract amount)
designer: American Bridge Company, New York NY
fabricator : American Bridge Company, New York NY
contractor: American Bridge Company, New York NY

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 376000.8; Ray County Court Record, Book R: page 569 (2 August 1904) -located at the Ray County Courthouse, Richmond MO; field inspection by Lon Johnson, 9 September 1990.

sign. rating: 51
evaluation: NRHP possibly eligible (well-preserved, long-span example of mainstay structural type)

inventoried by: Michelle Crow-Dolby 3 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Lexington Bridge
MHTD: G 55R

RAY001

DATE(S) OF CONSTRUCTION
1924-25

LOCATION
State Highway 13 over Missouri River; S35, T51N, R27W
Lexington; Ray / Lafayette County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP NRHP eligible (score:)

CONDITION
excellent

OWNER
State of Missouri

span number: 10
span length: 408.0'
total length: 3073.0'
roadway wdt.: 20.0'

superstructure: two steel, 12-panel, rigid-connected Warren through trusses with polygonal upper chords; 5 steel, 7-panel, rigid-connected Warren through trusses with polygonal upper chords; 3 steel, 9-panel, rigid-connected, Warren deck trusses; 8 steel girder approach spans
substructure: concrete abutments, wingwalls and piers
floor/decking: concrete deck over steel stringers
other features: Warren through trusses: upper chord: 2 channels with cover plate and lattice bars; lower chord: 4-angles with lacing and continuous cover plates; verticals: 2 channels with lacing alternating with 4 angles with lacing; diagonals: 2 channels with lacing; portals: 2 angles with lattice bars; struts: angles; top lateral bracing: 4 angles with lattice bars; bottom lateral bracing: angles; floor beams: I-beams; guardrails: lattice; (two center spans identical except, verticals: 4 angles with lacing; diagonals: 4 angles with lacing and cover plates); Warren deck trusses: upper chord: 4 angles with cover plates and lattice bars; lower chord: 4 angles with batten plates and cover plates; verticals: 4 angles with batten bars alternating with 2 channels with lacing; diagonals: 4 angles with lacing and cover plates; top and bottom lateral bracing: 2 angles; floor beams: 4 angles with continuous plate; bridge plaque: **1924 Lexington Bridge built by Lafayette County, Ray County, City of Lexington; Federal Aid appropriated by Missouri Highway Commission; Designed by J.A.L. Waddell, Consulting Engineer, New York, NY and Kansas City, MO; Supervised by Missouri State Highway Commission; B.H. Piepmeier, Chief Engineer; Contractor - Kansas City Bridge Co., Kansas City, MO**

The wide and unpredictable Missouri River, which forms the border between Ray and Lafayette Counties, has always severely hampered transportation efforts in the area. Gilead Rupe pioneered the first effort to cross the river in the early 1800s when he operated a ferry across the expanse of water. For the next several decades, various ferry businesses carried people, livestock, and wagons across the Missouri, although they were both expensive and time consuming. Finally, on 30 September 1889, citizens celebrated the opening of a new pontoon toll bridge, which charged only fifty cents per crossing. The new span, however, proved inadequate for the heavy loads and inclement weather and was soon abandoned. Obtaining sufficient funds to construct a new bridge was the biggest deterrent facing

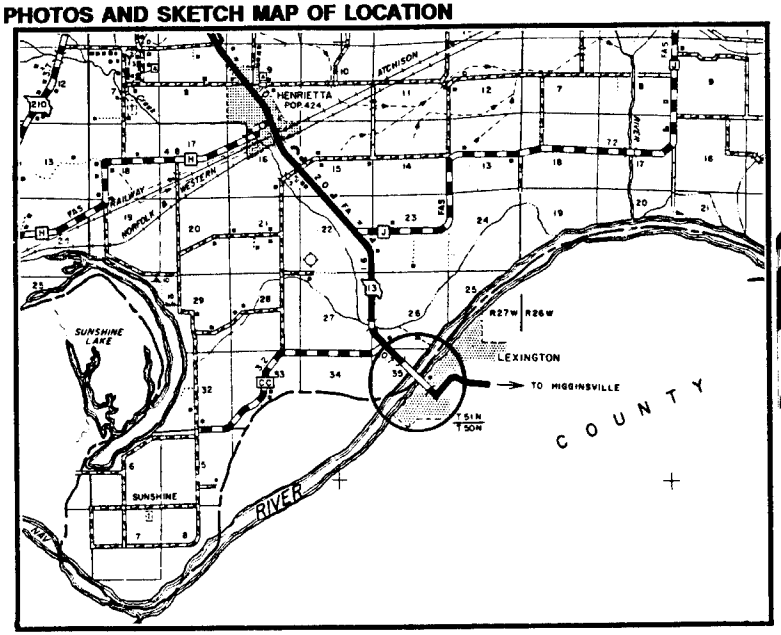
local citizens, and consequently, the river remained unspanned for many years. It was not until 1922 that the Lexington Chamber of Commerce appointed a bridge committee to secure securing monies for a permanent structure spanning the Missouri River at Lexington. Through federal grants, bonds, and personal subscriptions, the industrious committee procured enough money to finance the proposed bridge building project. The United States Government paid for one-half the cost of the bridge, and Lafayette and Ray Counties jointly funded the other half, in proportion to their assessed valuation. Ray's allotment was not to exceed $192,000.00 and Lafayette's share was not to surpass $258,000.00. Total estimated cost for the new crossing was nearly $900,000.00. Once Ray County voters approved a $192,000.00 bond issue in September of 1922 for the county's appointed cost for the Lexington Bridge, the county advertised for competitive construction bids, due in December of 1922.

Awarded the $1,086,294.15 contract, Missouri-based Kansas City Bridge Company began making preparations for the erection of the 3073-foot steel structure, designed by the renowned J.A.L. Waddell based out of New York City and Kansas City. Kansas City utilized steel components rolled by Union Bridge and Construction Company to construct the imposing ten span crossing. Comprised of seven Warren through trusses, three four-panel Warren deck trusses, and eight steel girder approaches, the bridge features riveted connections throughout. The entire structure rests on a concrete substructure. Kansas City completed the Lexington Bridge in time for a 5 November 1925 dedication ceremony that attracted thousands of local citizens and numerous dignitaries. Requiring only maintenance-related repairs since its construction, the Lexington Bridge continues to carry regional vehicular traffic as a major state highway link between Ray and Lexington Counties.

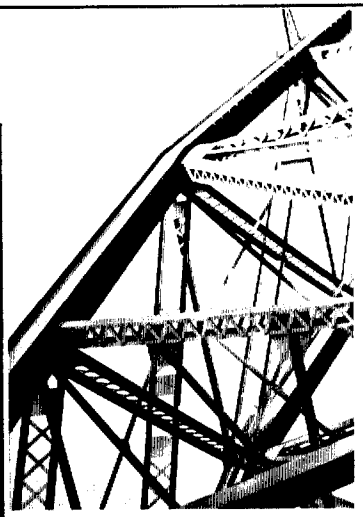
Throughout the 1920s and 1930s the Missouri State Highway Department relied almost exclusively on rigid-connected Pratt and Parker configurations for its medium-span through trusses. The agency adopted Warren configurations for its pony trusses and for its through trusses over the Missouri and Mississippi rivers. Thus, the Lexington Bridge, a long-span major river crossing, is a well-preserved example of this state highway department bridge construction trend.

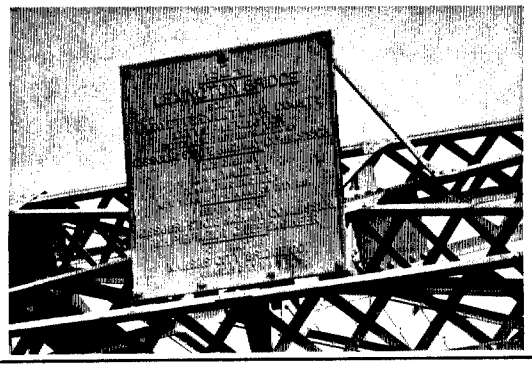
NAME(S) OF STRUCTURE
Lexington Bridge

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 Number G 55R; Ray County Court Record, Book 1: page 50 (16 August 1922), page 61 (11 September 1922), page 130 (5 December 1922) - located at the Ray County Courthouse, Richmond MO; **The Lexington News**, "Bridge Dedicated in 1925", written by Bonnie Mitchell, n.p. (11 November 1987); **Third Biennial Report of the Missouri State Highway Commission**, pages 112-13 (1922), page 120 (1924) - located in St. Louis MO; field inspection by Lon Johnson, 11 September 1990.

INVENTORIED BY
Michelle Crow-Dolby

AFFILIATION
Fraserdesign, Loveland CO

DATE
3 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Brushy Creek Bridge
MHTD: 013001.2

RAY004

DATE(S) OF CONSTRUCTION
1904

LOCATION
County Road 13 over Brushy Creek; S4, T54N, R29W
2.7 miles northwest of Elmira; Ray County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 53)

CONDITION
fair

OWNER
Ray County

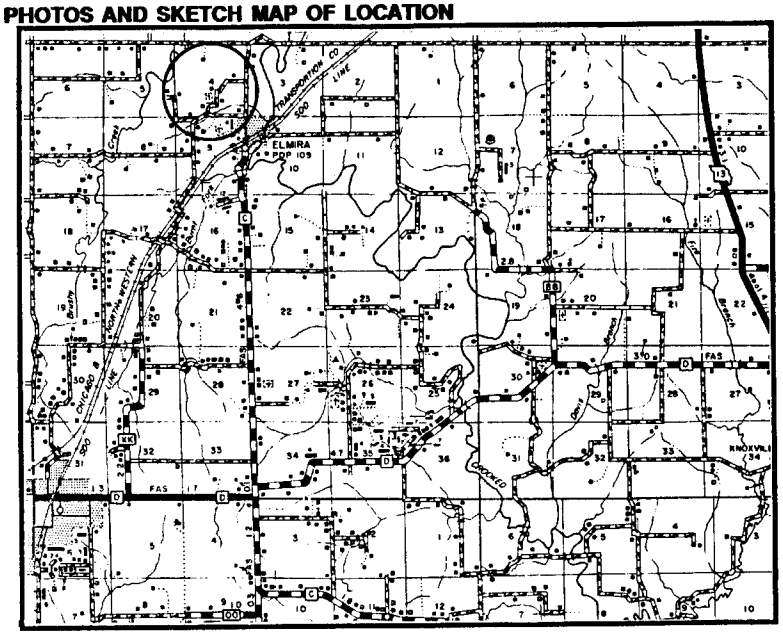
span number:	1	superstructure:	steel, 4-panel, rigid-connected, Warren pony truss
span length:	60.0'	substructure:	concrete-filled steel cylinder piers with concrete back- and wingwalls
total length:	60.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	12.3'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plates; vertical: 2 angles; diagonal: 2 angles with batten plates; lateral bracing: round rods with threaded ends; floor beam: I-beams; guardrail: 2 channels; bridge plate: **Kansas City Bridge Company / Builders / 1904**

Located northwest of Elmira, this medium-span steel truss carries a gravel-surfaced county road over Brushy Creek. The Brushy Creek Bridge is comprised of a single rigid-connected Warren pony truss, with a timber deck and steel cylinder piers. The bridge dates to 1904. That year the Ray County Court contracted with the Kansas City Bridge Company to supply and erect the structure. Since its completion, the Brushy Creek Bridge has carried vehicular traffic, with only maintenance-related repairs.

Patented in 1848 by Captain James Warren and Theobald Monzani, the Warren truss in its classic form features a web configuration that relies on simple triangulation for its rigidity. "The term Warren truss or Warren girder was originally applied only to the particular case of the Triangular truss in which the web triangles are all equilateral; but later writers generally use the name for any triangular truss," noted bridge engineer J.A.L. Waddell stated in his 1916 **Bridge Engineering**. "As there is no special advantage in making the web triangles equilateral, there does not appear to be any good raison d'etre for the use of the true Warren type." Warrens were built sparingly in the 19th century, a period in which the pin-connected Pratt dominated the bridge industry. After the turn of the century, however, rigid-connected Warren trusses began to supersede earlier pinned Pratt configurations for use on short- to intermediate-span highway bridges. The Brushy Creek Bridge in Ray County is significant as the earliest documented example in Missouri of the riveted Warren truss–a medium-span example of what would later become a mainstay structural type in the state.

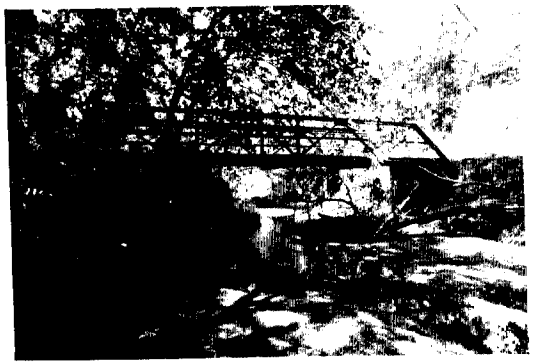
NAME(S) OF STRUCTURE
Brushy Creek Bridge

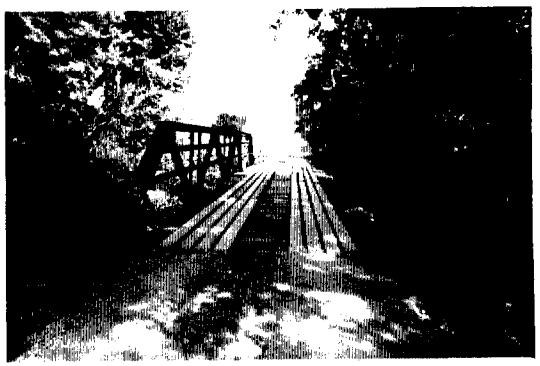
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 013001.2; field inspection by Lon Johnson, 9 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Michelle Crow-Dolby	Fraserdesign, Loveland CO	3 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Crooked River Bridge
MHTD: 167001.4

RAY008

DATE(S) OF CONSTRUCTION
1912

LOCATION
County Road 167 over Crooked River; S28, T53N, R28W
7.7 miles northwest of Richmond; Ray County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 47)

CONDITION
fair

OWNER
Ray County

span number: 1
span length: 100.0'
total length: 160.0'
roadway wdt.: 12.6'

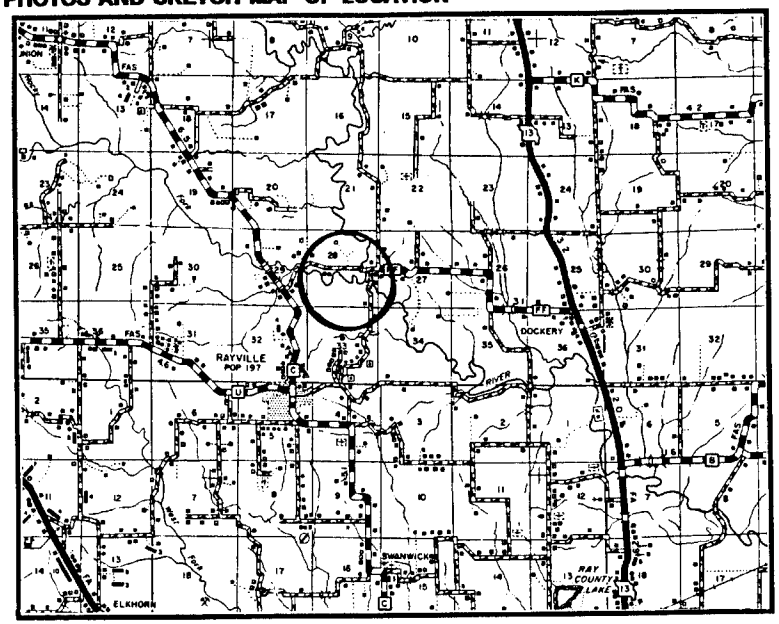
superstructure: steel, 5-panel, rigid-connected Pratt through truss with steel stringer approaches on each end
substructure: concrete abutments and wingwalls; concrete-filled, steel cylinder piers
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 angles with batten plates; vertical: 4 angles with lacing; diagonal: 2 angles with lacing; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam; guardrail: 2 channels; builder's plate: **1912 / Built by Kansas City Bridge Co / Kansas City MO / D.T. Maddux Pres Judge / C. McGuage Assoc Judge / J.M. Summers Assoc Judge / E.A. Ringo Co Clerk**

This short-span through truss carries an unpaved county road across the Crooked River northwest of Richmond. The bridge consists of a single rigid-connected Pratt truss, supported by steel cylinder piers, with steel stringer approach spans over concrete abutments on each end. Ray County records make only terse references to bridge construction, but they–and a builder's plate on the bridge itself–indicate that this bridge was constructed here in 1912 by the Kansas City Bridge Company. Since its completion, the Crooked River Bridge has carried intermittent traffic at this rural crossing, in unaltered condition.

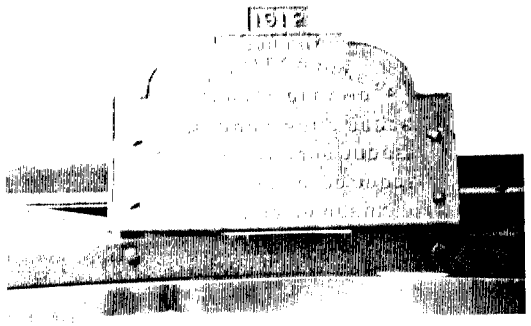
The Missouri State Highway Department employed the riveted Pratt configuration as its standard medium-span truss design for hundreds of bridges throughout the state. This bridge type was thus a mainstay structural type in Missouri during the 1920s and 1930s. But before the highway department developed its design, the counties had begun building riveted Pratts on their own, based on standard designs by the regional bridge builders. Relatively few pre-MSHD riveted Pratts were built in Missouri by the counties, owing to the short time span between their introduction and their adoption by the highway department. The Crooked River Bridge in Ray County is noteworthy among these as one of the oldest surviving riveted Pratt through truss in Missouri–a well-preserved, early example of a state bridge staple.

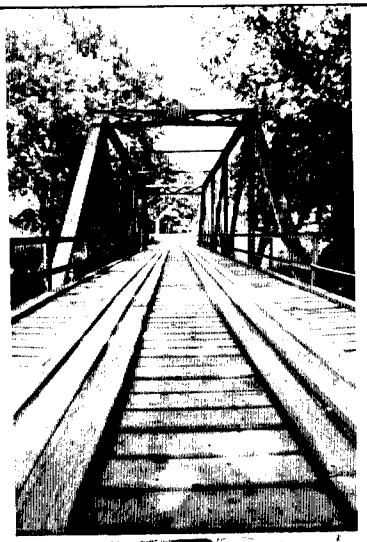
NAME(S) OF STRUCTURE
Crooked River Bridge

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 Number 167001.4; Ray County Court Record, Book W: pages 78-80 (8 May 1912), page 108 (8 August 1912); Book Z: page 449 (13 March 1922) - located at the Ray County Courthouse, Richmond MO; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Michelle Crow-Dolby	Fraserdesign, Loveland CO	3 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Crooked River Bridge
MHTD: 257001.6

RAY015

DATE(S) OF CONSTRUCTION
1889

LOCATION
County Road 257 over Crooked River; S24/25, T52N, R27W
8.5 miles east of Richmond; Ray County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
fair

OWNER
Ray County

span number: 1
span length: 102.0'
total length: 162.0'
roadway wdt.: 10.8'

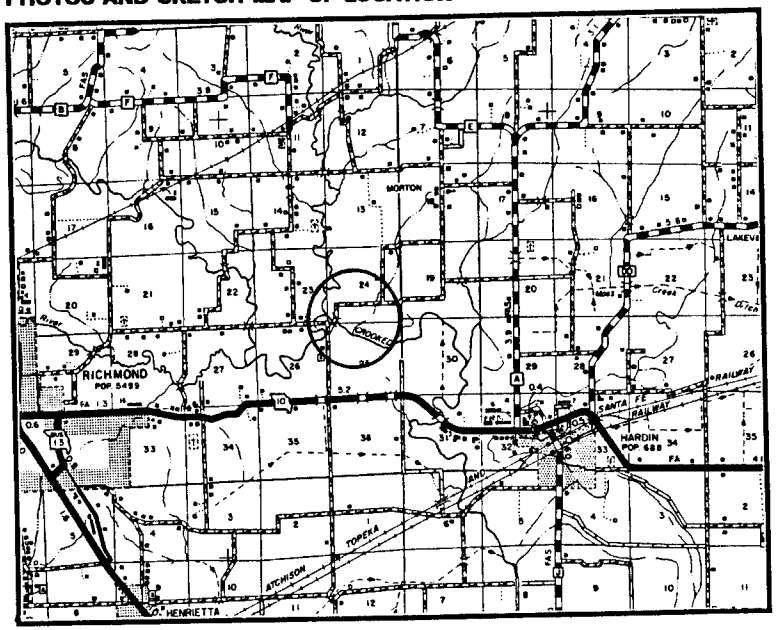
superstructure: wrought iron or steel, 6-panel, pin-connected Pratt through truss; 2 steel stringer approaches on north end; 1 steel stringer approach on south end
substructure: timber pile bent abutments; concrete-filled iron cylinder piers; stone pier
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square or rectangular eyebars; vertical: 2 channels with lacing (looped square eyebar at hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; floor beam: riveted plate girder, U-bolted to lower chord pins; guardrail: steel pipe; lattice portal strut; portal builder's plate: **Wrought Iron Bridge Co / Builders / Canton Ohio**

Spanning the Crooked River east of Richmond in southeastern Ray County, this 102-foot Pratt through truss dates to 1889. In May of that year, the Ray County Court awarded the Wrought Iron Bridge Company a contract to remove an old bridge at this location and erect a new truss. Courthouse records list the contract amount as $795.00, with the Canton, Ohio-based contractor providing a $1590.00 bond to secure its work. Additionally, Wrought Iron was required to raise the previous bridge's stone piers and abutments by three feet to provide the new truss with a higher water clearance. Completed the same year, the structure continues to carry intermittent traffic in its original location while retaining a high degree of both structural and historical integrity.

In Missouri the pinned Pratt through truss was the bridge of choice for short- and medium-span applications in the late 19th and early 20th centuries. Most of the structures erected during this period were based on standard plans developed either by the state highway department (after 1917) or by the individual bridge companies, such as the prolific Wrought Iron Bridge Company in Canton, Ohio. As a result, thousands of Pratts were built across the state, all very much alike in detailing, and today the Pratt truss constitutes the most populous group of through trusses. The Crooked River Bridge is thus distinguished as an early example of this bridge construction trend.

NAME(S) OF STRUCTURE
Crooked 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 Number 257001.6; Ray County Court Record, Book M: page 418 (7 January and 7 May 1889) - located at the Ray County Courthouse, Richmond MO; field inspection by Lon Johnson, 11 September 1990.

INVENTORIED BY
Michelle Crow-Dolby

AFFILIATION
Fraserdesign, Loveland CO

DATE
3 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Crooked River Bridge
MHTD: 289001.3

RAY016

DATE(S) OF CONSTRUCTION
1908

LOCATION
County Road 289 over Crooked River; S6, T51N, R26W
6.8 miles southeast of Richmond; Ray County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 48)

CONDITION
fair

OWNER
Ray County

span number: 1
span length: 120.0'
total length: 159.0'
roadway wdt.: 11.0'

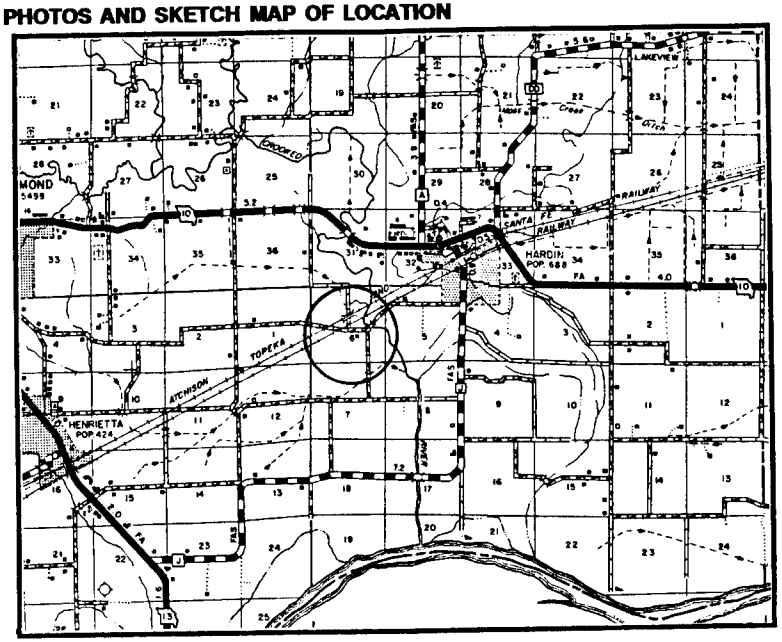
superstructure: steel, 7-panel, pin-connected Pratt through truss; steel stringer approaches at either end
substructure: steel pile bent abutments; concrete-filled steel cylinder piers
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 looped rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam, field-bolted to vertical; guardrail: steel pipe; bridge plate: **1908 / J.G. Van Trump Pres Judge / Job Slack Assoc. Judge / E.A. Ringo County Clerk / W.A. Mullin Co. R&B Commissioner**

This Pratt through truss carries an unpaved county road over the Crooked River some seven miles southeast of Richmond in the southeastern corner of Ray County. Approached at either end by steel stringers and featuring pinned connections throughout, the timber-decked structure spans 120 feet. The bridge traces its construction history to May of 1908, when, according to county court records, the county highway engineer was asked to make plans, advertise, and take bids for a bridge at this location. Several months later a contract for three bridges, including this truss, was let to the Kansas City Bridge Company for the aggregate sum of $2820.00. According to its bridge plate, the crossing was completed in 1908 by KCBCo. Since its construction, the Crooked River Bridge has serviced county-road traffic in essentially unaltered condition, with its overall integrity intact.

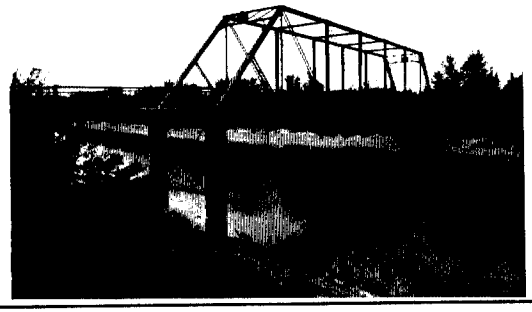
In Missouri, the pinned Pratt through truss was the bridge of choice for short- and medium-span applications in the late 19th and early 20th centuries. As a result, thousands of Pratts were built across the state, and today Pratts constitute the most populous group of through trusses. Though it retains a relatively high degree of physical integrity, the Crooked River Bridge is unremarkable in its design, dimensions, and detailing.

NAME(S) OF STRUCTURE
Crooked 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 Number 289001.3; Ray County Court Record, Book T: page 565 (7 May 1908), pages 612-14 (8 September 1908) - located at the Ray County Courthouse, Richmond MO; field inspection by Lon Johnson, 11 September 1990.

INVENTORIED BY
Michelle Crow-Dolby

AFFILIATION
Fraserdesign, Loveland CO

DATE
3 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Hall Stone Bridge
MHTD: 369002.6

RAY018

DATE(S) OF CONSTRUCTION
1908

LOCATION
County Road 369 over Fishing River; S4, T51N, R29W
4.0 miles northwest of Orrick; Ray County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 48)

CONDITION
fair

OWNER
Ray County

span number: 1
span length: 106.0'
total length: 144.0'
roadway wdt.: 13.8'

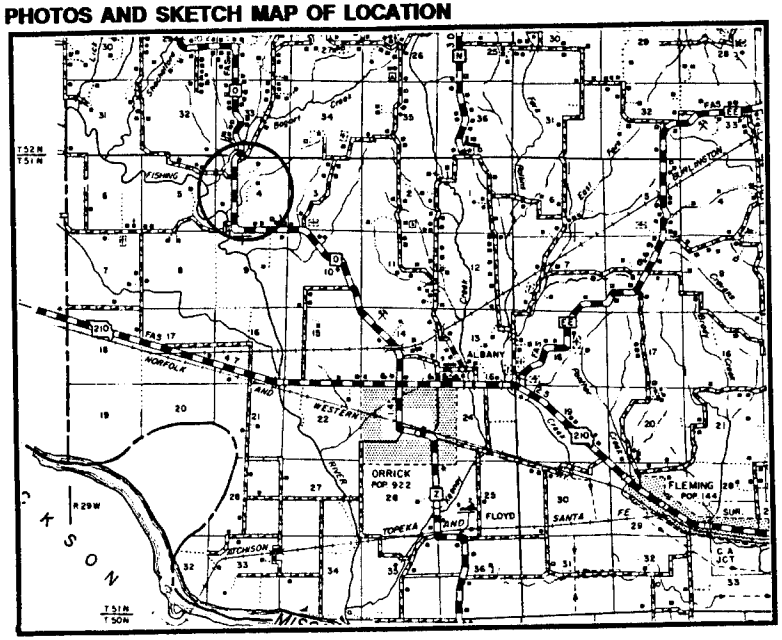
superstructure: steel, 6-panel, pin-connected Pratt through truss; steel stinger approach spans
substructure: concrete abutments; stone piers with concrete caps
floor/decking: timber deck over steel stringers
other features: upper chord: 2 channels with cover plate and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 angles with batten plates; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam; guardrail: steel pipe; bridge plate: **J.G. Van Trump Pres Judge / Assoc Judges / R.A. King Job Slack / E.A. Ringo Co Clerk / J.M. Rhodes / Co Highway Engr / 1908**

The Hall Stone Bridge spans Fishing River four miles northwest of Orrick in southwestern Ray County. Approached at either end by steel stringers and supported by stone piers and concrete abutments, this Pratt through truss dates to 1908. The structure's builder's plate indicates a 1908 construction date. The bridge was erected here by the Kansas City Bridge Company, which constructed the majority of Ray County's bridges during this period. Additionally, court records reveal a three-bridge contract with the Missouri bridge contractor, totaling $2830.00, which probably included this span. Since its construction, the truss has functioned in place in its rural setting.

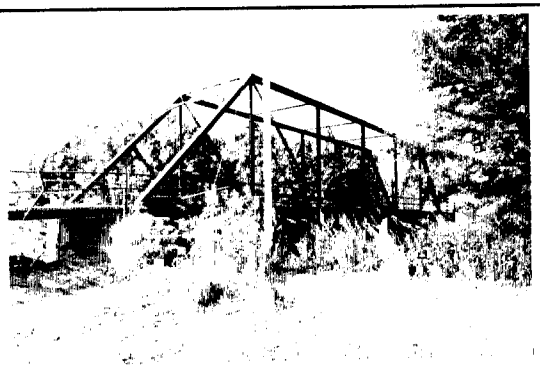
In Missouri, the pinned Pratt through truss was the bridge of choice for short- and medium-span applications in the late 19th and early 20th centuries. As a result, thousands of Pratts were built across the state, and today Pratts constitute the most populous group of through trusses. Though it retains a relatively high degree of physical integrity, the Hall Stone Bridge is unremarkable in its design, dimensions, and detailing.

NAME(S) OF STRUCTURE
Hall Stone 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 Number 369002.6; Ray County Court Record, Book T: pages 612-14 (8 September 1908) - located at the Ray County Courthouse, Richmond MO; field inspection by Lon Johnson, 9 September 1990.

INVENTORIED BY
Michelle Crow-Dolby

AFFILIATION
Fraserdesign, Loveland CO

DATE
3 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Oinck Bridge
MHTD: 376000.8

RAY019

DATE(S) OF CONSTRUCTION
1904

LOCATION
County Road 376 over Fishing River; S27, T51N, R29W
1.5 miles south of Orrick; Ray County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
good

OWNER
Ray County

span number: 1
span length: 160.0'
total length: 232.0'
roadway wdt.: 11.8'

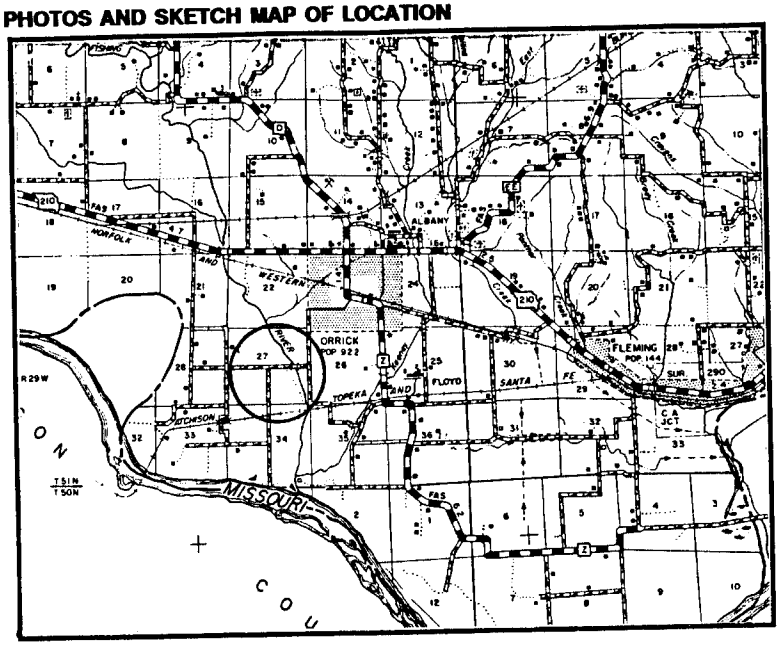
superstructure: steel, 8-panel, pin-connected Pratt through truss; 2 steel stringer approaches at each end
substructure: steel pile bent abutments; concrete-filled steel cylinder piers
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (4 angles with lacing at hip); diagonal: 2 punched rectangular eyebars; counter: eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with knee braces; floor beam: I-beam; guardrail: 2 channels

Carrying a county road in the southwestern corner of Ray County, the Oinck Bridge spans the Fishing River south of Orrick. The Pratt through truss features pinned connections throughout and has an overall length of 232 feet. The entire structure is supported by a steel substructure. On August 2, 1904, a contract was let to American Bridge Company to fabricate and build this bridge and two others. The contract amount for this structure, $5900.00, was unusually high, apparently owing to the bridge's large scale. The New York-based contractor presumably completed the crossing the same year with no notable difficulties. Since its construction, the Oinck Bridge has retained a high degree of structural integrity and continues to carry vehicular traffic in its rural setting.

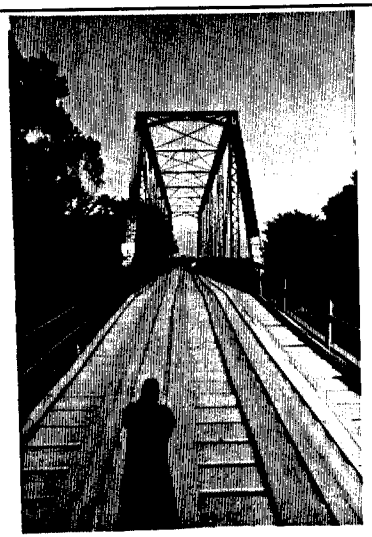
Marketed exclusively by virtually all of the in-state and regional bridge contractors and promoted in the form of standardized designs, the pinned Pratt through truss was widely used by Missouri's counties to carry roads over the state's myriad watercourses. Thousands of such trusses were erected across the state in the late 19th and early 20th centuries, and many remain in place today. The Oinck Bridge, with unremarkable dimensions and detailing, thus typifies this widespread bridge building trend.

NAME(S) OF STRUCTURE
Oinck 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 Number 376000.8; Ray County Court Record, Book R: page 569 (2 August 1904) -located at the Ray County Courthouse, Richmond MO; field inspection by Lon Johnson, 9 September 1990.

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