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CASS COUNTY

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

Inv. No.	MHTD	Bridge Name	Description
*CASS01	H 453R1	Archie Bridge	**3-140'** steel plate deck girder 1951 Knutson-Gould Constr. Co.
*CASS02	L 23R	CRI&P Railroad Overpass	1-**260'** riveted Parker through truss 1948 Perry McGlone Constr. Co.
CASS03	016000.7	West Fork Bridge	(replaced)
CASS04	058001.1	Bridge	1- 45' pinned Pratt bedstead c1910
CASS05	073000.6	Big Creek Bridge	1- 60' pinned Pratt bedstead c1905
CASS06	078001.3	Middle Big Creek Bridge	1- 80' pinned Pratt pony truss c1910
CASS07	109000.0	Duncan Creek Bridge	1- 65' pinned Pratt half-hip pony truss c1910
CASS08	112000.4	Big Creek Bridge	1- 60' pinned Pratt pony truss c1910
CASS09	117000.5	Camp Creek Bridge	1- 55' pinned Pratt pony truss c1905
CASS10	126001.7	East Creek Bridge	(replaced)
CASS11	139000.1	Strasburg Bridge	(replaced)
CASS12	140000.6	Templeton Bridge	1- 40' pinned Pratt bedstead 1905 George Bird, Harrisonville MO
CASS13	141001.4	East Creek Bridge	(replaced)
CASS14	149001.1	Crawford Creek Bridge	1- 55' pinned Pratt pony truss c1890 Kansas City B&I Company
CASS15	154001.6	Big Creek Bridge	(replaced)
CASS16	162001.2	Crawford Creek Bridge	1- 45' pinned Pratt bedstead c1905 S.B. Coutts, Harrisonville MO
CASS17	165000.0	Crawford Creek Bridge	1- 60' pinned Pratt half-hip pony truss 1910 Canton Bridge Co., Canton OH
CASS18	170004.1	Massey Creek Bridge	1- 55' pinned Pratt pony truss c1910
CASS19	187000.2	Town Creek Bridge	1- 25' pinned Pratt half-hip pony truss c1910
CASS20	191000.2	Massey Creek Bridge	1- 75' pinned Pratt half-hip pony truss 1910 Western Bridge Company
*CASS21	193001.0	Hall Bridge	(replaced)
*CASS22	194000.4	Massey Creek Bridge	1- 85' **pinned Pratt through truss** c1890
CASS23	213000.6	Lusher Bridge	1- 40' pinned Pratt pony truss 1911 Western Bridge Company
CASS24	217000.1	Coldwater Creek Bridge	1- 55' pinned Pratt bedstead c1910
CASS25	230001.7	Wolf Creek Bridge	1- 50' pinned Pratt half-hip pony truss c1915

CASS COUNTY

INCLUDED (cont.):

CASS26	265000.8	Wolf Creek Bridge	1- 40'	pinned Pratt bedstead
			c1910	
CASS27	282000.4	Camp Creek Bridge		(replaced)
*CASS28	299000.3	Grand River Bridge	1- 98'	**bowstring pony arch-truss**
			c1880	Mo. Valley B&I Works (prob.)
CASS29	300000.6	Price and Colburn Bridge	1- 80'	pinned Pratt pony truss
			1910	George Bird, Harrisonville MO
CASS30	329000.9	Wolf Creek Bridge		(destroyed)
CASS31	329001.3	East Branch Bridge	1- 70'	pinned Pratt half-hip pony truss
			c1910	
*CASS32	338000.7	Russell Bridge	1- 24'	**pinned kingpost pony truss**
			1905	George Bird, Harrisonville MO
CASS33	342001.4	Eight Mile Creek Bridge	1- 34'	pinned Pratt bedstead
			c1905	Western Bridge Company
CASS34	347000.5	East Fork Bridge	1- 70'	pinned Pratt pony truss
			c1910	
*CASS35	361000.6	East Fork Bridge	1- 70'	**pinned Pratt through truss**
			c1890	Kansas City Bridge Company
*CASS36	364000.4	Prewitt Bridge	1- 32'	**pinned kingpost pony truss**
			1905	George Bird, Harrisonville MO
CASS37	369000.6	East Fork Bridge		(replaced)
CASS38	382000.8	Eight Mile Creek Bridge	1- 50'	pinned Pratt pony truss
			1918	Western Bridge Company
CASS39	385000.5	Camp Creek Bridge		(replaced)
CASS40	386000.3	Camp Creek Bridge	1- 40'	pinned Pratt bedstead
			c1905	
CASS41	392001.1	Campbell Bridge		(replaced)
CASS42	393001.7	Camp Creek Bridge	1- 48'	pinned Pratt half-hip pony truss
			1912	Canton Bridge Co., Canton OH
CASS43	394001.0	Crooked Creek Bridge	1- 40'	pinned Pratt bedstead
			c1905	
CASS44	402002.2	Camp Creek Bridge		(destroyed)
CASS45	407000.4	Camp Creek Bridge	1- 68'	pinned Pratt pony truss
			c1915	
CASS46	413001.2	Clear Creek Bridge		(replaced)
CASS47	438000.4	Sugar Creek Bridge		(replaced)
CASS48	450000.5	Big Creek Bridge	1- 50'	pinned Pratt bedstead
			c1905	Western Bridge Company
CASS49	470001.4	Rocky Branch Bridge	1- 45'	pinned Pratt bedstead
			1906	Western Bridge Company
CASS50	480000.2	Walnut Creek Bridge	1- 30'	pinned Pratt bedstead
			c1905	Western Bridge Company
*CASS51	485002.8	Bridge		(replaced)
*CASS52	488000.2	Harding Creek Bridge	1- 45'	pinned Pratt bedstead
			1906	Western Bridge Company
*CASS53	511001.0	South Fork Bridge	1- 70'	pinned Pratt bedstead
			c1905	

CASS COUNTY

INCLUDED (cont.):

CASS54	530000.2	Black Creek Bridge	1- 35' c1905	pinned Pratt bedstead
*CASS55	534002.2	Grand River Bridge	1- 64' 1884	pinned Pratt through truss Osage Bridge & Iron Works
*CASS56	540000.8	App Bridge	1- 40' 1897	pinned Pratt bedstead Farnsworth and Blodgett
CASS57	558002.0	Eight Mile Creek Bridge		(replaced)
CASS58	564000.5	Eight Mile Creek Bridge	1- 55' c1915	pinned Pratt pony truss
CASS59	577001.5	Grand River Bridge	1-100' c1930	riveted Warren pony truss
CASS60	587001.2	Sugar Creek Bridge	1- 60' c1915	pinned Pratt pony truss
*CASS61	592001.9	Joslin Branch Bridge	1- 50' c1910	pinned Pratt half-hip pony
CASS62	605001.7	Lick Creek Bridge	1- 50' c1905	pinned Pratt bedstead
CASS63	606001.7	Lick Creek Bridge	1- 40' c1905	pinned Pratt bedstead
CASS64	632001.6	Creighton Bridge		(replaced)
CASS65	659000.1	Massey Creek Bridge	1- 70' 1919	pinned Pratt pony truss Kansas City Bridge Company
*CASS66	none	Clark Bridge	1- 1880	pinned Pratt through truss Missouri Valley B&I Works

EXCLUDED:

Pratt pony truss
080000.4 233001.0 418000.5 452001.3 485000.6

Warren pony truss
100000.3 170003.8 175000.7 263000.7 366000.8 520000.4 529000.8
542000.2 543000.2 590001.0 657000.5

Steel stringer
G 485R1 L 24 L 327R S 14 S 15 S 34 T 647
W 122 Y 947 014001.0 037001.8 072000.9 126001.0 133000.4
143000.8 144000.3 149001.9 152001.6 158000.4 160001.1 161000.5
161001.1 182000.3 182000.8 187000.4 195001.3 204000.9 205000.2
218001.9 285000.4 367000.7 370000.6 371000.1 378000.7 428000.8
439000.3 440001.4 441000.2 467003.7 472000.9 489001.1 537000.6
545002.6 557000.0 557000.4 573000.7 578000.7 588000.5 619001.2
658000.1

Steel girder
T 502

CASS COUNTY

EXCLUDED (cont.):

Concrete girder

G 311	G 484R1	H 419R	H 564	H 565	K 497	K 498
K 558	L 173	U1870001	232000.0	282001.5		

Concrete slab

G 618R1	G 619R1	L 25R	L 32R	Y 875	579000.5

Concrete box culvert

G 985	G 986R	H 416	H 420	J 78R	J 88	J 632
J 920	J 921	J 922	J 931	T 505	T 648	U1870003
X 464	061001.6	131000.4	218001.1	226001.5	281000.7	

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	2	46	0	1	49
Excluded	38	65	2	0	105
	40	111	2	1	154 structures

Archie Bridge

CASS01

GENERAL DATA

structure no.: H 453R1
county: Cass
city/town: Archie
feature inters.: South Grand River
cadastral grid: S27/34, T43N, R31W
highway route: U.S. Highway 71
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, variable depth, plate deck girder, skewed
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 140.0'
total length: 325.0'
roadway width: 28.0'
condition: good
alterations: superstructure replaced, 1951
floor/decking : concrete deck over steel stringers
other features: steel channel guardrails

HISTORICAL DATA

erection date: 1926; rebuilt 1951
erection cost: $171,209.90
designer: Missouri State Highway Department
fabricator : unknown
contractor: Koch and McGlone (substructure);
Knutson-Gould Construction Company, Kansas City MO (superstructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number H 453R1; Primary System Bridge Record, located at the Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 38
evaluation: NRHP non-eligible (long-span example of MSHD beam bridge type, built relatively late and not exceptionally significant)

inventoried by: Mark Hufstetler 27 August 1992

CRI&P Railroad Overpass

CASS02

GENERAL DATA

structure no.: L 23R
county: Cass
city/town: 1.1 miles south of Baldwin Park
feature inters.: Chicago, Rock Island & Pacific Railroad
cadastral grid: S29, T46N, R30W
highway route: State Highway 7
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 10-panel, rigid-connected Parker through truss
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 260.0'
total length: 481.0'
roadway width: 26.0'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plates; lower chord, vertical and diagonal: 4 angles; lateral bracing: 2 angles with batten plates; floor beam: I-beam, field-bolted to verticals; guardrail: concrete

HISTORICAL DATA

erection date: 1948
erection cost: $215,870.15
designer: Missouri State Highway Department
fabricator : unknown
contractor: Perry McGlone Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number L 23R; Files on primary system bridges located at the Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 39
evaluation: NRHP non-eligible (long-span example of MSHD truss design, not exceptionally significant)

inventoried by: Mark Hufstetler 27 August 1992

Bridge

CASS04

GENERAL DATA

structure no.: 058001.1
county: Cass
city/town: 4.2 miles northeast of Raymore
feature inters.: branch of Middle Creek
cadastral grid: S8, T46N, R31W
highway route: County Road 58
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

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

span number: 1
span length: 45.0'
total length: 48.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: unknown

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 058001.1.

sign. rating: 25
evaluation: NRHP non-eligible (typically configured, inadequately documented example of relatively common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Bridge

CASS05

GENERAL DATA

structure no.: 073000.6
county: Cass
city/town: 2.2 miles northwest of Pleasant Hill
feature inters.: branch of Big Creek
cadastral grid: S12, T46N, R31W
highway route: County Road 73
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

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

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber 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 073000.6.

sign. rating: 29
evaluation: NRHP non-eligible (typically configured, inadequately documented example of relatively common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Big Creek Bridge

CASS06

GENERAL DATA

structure no.: 078001.3
county: Cass
city/town: 3.7 miles northwest of Pleasant Hill
feature inters.: Middle Big Creek
cadastral grid: S22, T46N, R31W
highway route: County Road 78
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss, with steel stringer approach spans
substructure: concrete abutments and wingwalls

span number: 1
span length: 80.0'
total length: 116.0'
roadway width: 12.8'
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 078001.3.

sign. rating: 30
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Duncan Creek Bridge

CASS07

GENERAL DATA

structure no.: 109000.0
county: Cass
city/town: 2.4 miles southeast of Pleasant Hill
feature inters.: Duncan Creek
cadastral grid: S28, T46N, R30W
highway route: County Road 109
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt half-hip pony truss
substructure: unknown

span number: 1
span length: 65.0'
total length: 66.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber 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 109000.0.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Big Creek Bridge

CASS08

GENERAL DATA

structure no.: 112000.4
county: Cass
city/town: 3.0 miles southeast of Pleasant Hill
feature inters.: Big Creek
cadastral grid: S33/34, T46N, R30W
highway route: County Road 112
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: unknown

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 12.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber 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 112000.4.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Camp Creek Bridge

CASS09

GENERAL DATA

structure no.: 117000.5
county: Cass
city/town: 4.9 miles northeast of Harrisonville
feature inters.: Camp Creek
cadastral grid: S18/19, T45N, R30W
highway route: County Road 117
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: unknown

span number: 1
span length: 55.0'
total length: 55.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 117000.5.

sign. rating: 25
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Templeton Bridge

CASS12

GENERAL DATA

structure no.: 140000.6
county: Cass
city/town: 0.8 mile east of Strasburg
feature inters.: East Creek
cadastral grid: S29, T46N, R29W
highway route: County Road 140
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead, with steel stringer approach spans
substructure: steel truss-leg piers

span number: 1
span length: 40.0'
total length: 58.0'
roadway width: 14.1'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1905
erection cost: $270.00 (erection cost)
designer: unknown
fabricator : unknown
contractor: George Bird, Harrisonville MO (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 140000.6; Cass County Court Record, Book S: page 175 (5 May 1905) - located at the Cass County Courthouse, Harrisonville MO.

sign. rating: 37
evaluation: NRHP non-eligible (typical, small-scale example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Crawford Creek Bridge

CASS14

GENERAL DATA

structure no.: 149001.1
county: Cass
city/town: 2.0 miles southeast of Strasburg
feature inters.: Crawford Creek
cadastral grid: S5, T45N, R29W
highway route: County Road 149
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 55.0'
total length: 56.0'
roadway width: 12.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber guardrails

HISTORICAL DATA

erection date: c1890
erection cost: unknown
designer: Kansas City Bridge and Iron Company, Kansas City MO
fabricator : Kansas City Bridge and Iron Company, Kansas City MO
contractor: Kansas City Bridge and Iron Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 149001.1.

sign. rating: 35
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Crawford Creek Bridge

CASS16

GENERAL DATA

structure no.: 162001.2
county: Cass
city/town: 3.0 miles southeast of Strasburg
feature inters.: Crawford Creek
cadastral grid: S8, T45N, R29W
highway route: County Road 162
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

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

span number: 1
span length: 45.0'
total length: 48.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck over steel stringers
other features: unknown

HISTORICAL DATA

erection date: c1900
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: S.B. Coutts, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 162001.2.

sign. rating: 32
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Crawford Creek Bridge

CASS17

GENERAL DATA

structure no.: 165000.0
county: Cass
city/town: 2.4 miles north of Gunn City
feature inters.: Crawford Creek
cadastral grid: S17/20, T45N, R29W
highway route: County Road 165
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 13.8'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1910
erection cost: $1450.00
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 165000.0; Cass County Court Record, Book U: page 101 (8 October 1910) -located at the Cass County Courthouse, Harrisonville MO.

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

inventoried by: Mark Hufstetler 27 August 1992

Massey Creek Bridge

CASS18

GENERAL DATA

structure no.: 170004.1
county: Cass
city/town: 1.2 miles northeast of Cleveland
feature inters.: Massey Creek
cadastral grid: S27/28, T45N, R33W
highway route: County Road 170
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss, with steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 55.0'
total length: 81.0'
roadway width: 13.8'
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 170004.1.

sign. rating: 25
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Town Creek Bridge

CASS19

GENERAL DATA

structure no.: 187000.2
county: Cass
city/town: Harrisonville
feature inters.: Town Creek
cadastral grid: S28, T45N, R31W
highway route: County Road 187
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 2-panel, pin-connected Pratt half-hip pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 25.0'
total length: 26.0'
roadway width: 12.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber 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 187000.2.

sign. rating: 20
evaluation: NRHP non-eligible (typical, small-scale example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Massey Creek Bridge

CASS20

GENERAL DATA

structure no.: 191000.2
county: Cass
city/town: 1.2 miles southeast of Cleveland
feature inters.: Branch of Massey Creek
cadastral grid: S33/34, T45N, R33W
highway route: County Road 191
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss
substructure: unknown

span number: 1
span length: 75.0'
total length: 75.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1910
erection cost: $1293.00
designer: Western Bridge Company, Harrisonville MO
fabricator : Western Bridge Company, Harrisonville MO
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 191000.2; Cass County Court Record, Book U: page 101 (8 October 1910) -located at the Cass County Courthouse, Harrisonville MO.

sign. rating: 38
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Massey Creek Bridge

CASS22

GENERAL DATA

structure no.: 194000.4
county: Cass
city/town: 3.7 miles northeast of Cleveland
feature inters.: Massey Creek
cadastral grid: S25, T45N, R33W
highway route: County Road 194
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: stone masonry abutments, wingwalls and piers

span number: 1
span length: 85.0'
total length: 143.0'
roadway width: 14.0'
condition: fair
alterations: unknown
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: I-beam; diagonal: 2 punched rectangular eyebars; counter: round rod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with double lacing; floor beam: I-beam, U-bolted to lower chord pins; guardrail: timber

HISTORICAL DATA

erection date: c1890
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 194000.4; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 34
evaluation: NRHP non-eligible (well-preserved, early example of mainstay structural type, lacking definitive documentation)

inventoried by: Mark Hufstetler 27 August 1992

Lusher Bridge

CASS23

GENERAL DATA

structure no.: 213000.6
county: Cass
city/town: 4.6 miles southwest of Freeman
feature inters.: Harless Creek
cadastral grid: S29, T44N, R33W
highway route: County Road 213
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

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

span number: 1
span length: 40.0'
total length: 40.0'
roadway width: 12.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1911
erection cost: $585.00
designer: Western Bridge Company, Harrisonville MO
fabricator : Western Bridge Company, Harrisonville MO
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 213000.6; Cass County Court Record, Book U: page 117 (9 November 1910), page 173 (3 January 1911) - located at the Cass County Courthouse, Harrisonville MO.

sign. rating: 35
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Coldwater Creek Bridge

CASS24

GENERAL DATA

structure no.: 217000.1
county: Cass
city/town: 4.3 miles southwest of Freeman
feature inters.: Coldwater Creek
cadastral grid: S34, T44N, R33W
highway route: County Road 217
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

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

span number: 1
span length: 55.0'
total length: 80.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber 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 217000.1.

sign. rating: 25
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Wolf Creek Bridge

CASS25

GENERAL DATA

structure no.: 230001.7
county: Cass
city/town: 6.4 miles northwest of Harrisonville
feature inters.: Wolf Creek
cadastral grid: S12, T45N, R32W
highway route: County Road 230
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt half-hip pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 50.0'
total length: 52.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 230001.7.

sign. rating: 25
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Wolf Creek Bridge

CASS26

GENERAL DATA

structure no.: 265000.8
county: Cass
city/town: 3.0 miles northwest of Harrisonville
feature inters.: Wolf Creek
cadastral grid: S31, T45N, R31W
highway route: County Road 265
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead, with timber stringer approach spans
substructure: steel truss-leg piers

span number: 1
span length: 40.0'
total length: 56.0'
roadway width: 14.0'
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 265000.8.

sign. rating: 25
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Grand River Bridge

CASS28

GENERAL DATA

structure no.: 299000.3
county: Cass
city/town: 0.9 mile north of Freeman
feature inters.: Massey Creek
cadastral grid: S12, T44N, R33W
highway route: County Road 299
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: wrought iron, 9-panel bowstring pony arch-truss
substructure: stone abutments and wingwalls

span number: 1
span length: 98.0'
total length: 98.0'
roadway width: 13.7'
condition: fair
alterations: deck and floor structure replaced
floor/decking : timber deck over steel stringers
other features: arch rib: box girder comprised of two channels with top and bottom cover plates; lower chord: 2 rectangular eyebars; vertical: 2 round rods, threaded into cast iron skewback; diagonal: round rod, threaded into cast iron skewback; lateral bracing: round rod with turnbuckle; floor beam: I-beam, clamped to lower chord; guardrail: timber

HISTORICAL DATA

erection date: c1875
erection cost: unknown
designer: Missouri Valley Bridge and Iron Company, Leavenworth KS (probable)
fabricator : Missouri Valley Bridge and Iron Company, Leavenworth KS (probable)
contractor: Missouri Valley Bridge and Iron Company, Leavenworth KS (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 299000.3; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 81
evaluation: NRHP eligible (one of the last examples in Missouri of earliest mass-produced iron bridge type)

inventoried by: Mark Hufstetler 27 August 1992

Price and Colburn Bridge

CASS29

GENERAL DATA

structure no.: 300000.6
county: Cass
city/town: Freeman
feature inters.: Massey Creek
cadastral grid: S7, T44N, R32W
highway route: County Road 300
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss, with steel stringer approach spans
substructure: concrete-filled steel cylinder piers

span number: 1
span length: 80.0'
total length: 142.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1910
erection cost: $2300.00
designer: unknown
fabricator : unknown
contractor: George Bird, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 300000.6; Cass County Court Record, Book S: page 563 (7 March 1910), page 589 (7 April 1910); Book U: page 21 (6 July 1910) - located at the Cass County Courthouse, Harrisonville MO.

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

inventoried by: Mark Hufstetler 27 August 1992

East Branch Bridge

CASS31

GENERAL DATA

structure no.: 329001.3
county: Cass
city/town: 2.9 miles northwest of Harrisonville
feature inters.: East Branch
cadastral grid: S1, T44N, R32W
highway route: County Road 329
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss
substructure: unknown

span number: 1
span length: 70.0'
total length: 71.0'
roadway width: 13.8'
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 329001.3.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Russell Bridge

CASS32

GENERAL DATA

structure no.: 338000.7
county: Cass
city/town: 3.5 miles southeast of Harrisonville
feature inters.: Eight Mile Creek
cadastral grid: S1/12, T44N, R30/31W
highway route: County Road 338
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, pin-connected kingpost pony truss
substructure: steel pile bent abutments with timber back- and wingwalls

span number: 1
span length: 24.0'
total length: 24.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck over steel stringers
other features: inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical

HISTORICAL DATA

erection date: 1905
erection cost: $417.00
designer: unknown
fabricator : unknown
contractor: George Bird, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 338000.7; Cass County Court Record, Book S: page 175 (5 May 1905) - located at the Cass County Courthouse, Harrisonville MO; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 48
evaluation: NRHP potentially eligible (now-rare example of what was once a ubiquitous structural type)

inventoried by: Mark Hufstetler 27 August 1992

Eight Mile Creek Bridge

CASS33

GENERAL DATA

structure no.: 342001.4
county: Cass
city/town: 4.0 miles southeast of Harrisonville
feature inters.: Eight Mile Creek
cadastral grid: S7/12, T44N, R30/31W
highway route: County Road 342
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 2-panel, pin-connected Pratt truss-leg bedstead, with steel stringer approach spans
substructure: steel truss-leg piers

span number: 1
span length: 34.0'
total length: 62.0'
roadway width: 12.0'
condition: fair
alterations: unknown
floor/decking : timber deck over steel stringers
other features: timber guardrails

HISTORICAL DATA

erection date: c1905
erection cost: unknown
designer: Western Bridge Company, Harrisonville MO
fabricator : Western Bridge Company, Harrisonville MO
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 342001.4.

sign. rating: 32
evaluation: NRHP non-eligible (typical example of common structural type, partially documented)

inventoried by: Mark Hufstetler 27 August 1992

East Fork Bridge

CASS34

GENERAL DATA

structure no.: 347000.5
county: Cass
city/town: 3.0 miles southwest of Harrisonville
feature inters.: East Fork of the Grand River
cadastral grid: S7, T44N, R31W
highway route: County Road 347
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss, with steel stringer approach spans
substructure: unknown

span number: 1
span length: 70.0'
total length: 91.0'
roadway width: 13.8'
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 347000.5.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

East Fork Bridge

CASS35

GENERAL DATA

structure no.: 361000.6
county: Cass
city/town: 6.0 miles south of Harrisonville
feature inters.: East Fork of the Grand River
cadastral grid: S31, T44N, R31W
highway route: County Road 361
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: wrought iron, 5-panel, pin-connected Pratt through truss, with 2 timber stringer approach spans
substructure: concrete-filled iron cylinder piers; timber pile bent piers and abutments at approach spans

span number: 1
span length: 70.0'
total length: 104.0'
roadway width: 14.0'
condition: fair
alterations: heavy portal strut damage on both ends
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 punched eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: I-beam; floor beam: riveted plate girder, U-bolted to lower chord pins; guardrail: twisted cable

HISTORICAL DATA

erection date: c1890
erection cost: unknown
designer: Kansas City Bridge and Iron Company, Kansas City MO
fabricator : Kansas City Bridge and Iron Company, Kansas City MO
contractor: Kansas City Bridge and Iron Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 361000.6; field inspection by Mark Hufstetler, 10 February 1992.

sign. rating: 37
evaluation: NRHP non-eligible (poorly preserved, typically configured early example of mainstay structural type)

inventoried by: Mark Hufstetler 27 August 1992

Prewitt Bridge

CASS36

GENERAL DATA

structure no.: 364000.4
county: Cass
city/town: 4.2 miles south of Harrisonville
feature inters.: East Fork of the Grand River
cadastral grid: S20, T44N, R31W
highway route: County Road 364
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, pin-connected kingpost pony truss
substructure: steel pile bent abutments and timber back- and wingwalls

span number: 1
span length: 32.0'
total length: 32.0'
roadway width: 13.8'
condition: fair
alterations: floor beam replaced and outriders added
floor/decking : timber deck over timber stringers
other features: inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to verticals; guardrail: timber

HISTORICAL DATA

erection date: 1905
erection cost: unknown
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: George Bird, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 364000.4; Cass County Court Record, Book S: page 175 (5 May 1905) - located at the Cass County Courthouse, Harrisonville MO; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 46
evaluation: NRHP possibly eligible (now-rare example of what was once a ubiquitous structural type, altered)

inventoried by: Mark Hufstetler 27 August 1992

Eight Mile Creek Bridge

CASS38

GENERAL DATA

structure no.: 382000.8
county: Cass
city/town: 6.5 miles southeast of Harrisonville
feature inters.: Eight Mile Creek
cadastral grid: S25, T44N, R30W
highway route: County Road 382
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt pony truss
substructure: unknown

span number: 1
span length: 50.0'
total length: 52.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck over steel stringers
other features: timber guardrails

HISTORICAL DATA

erection date: 1918
erection cost: unknown
designer: Western Bridge Company, Harrisonville MO
fabricator : Western Bridge Company, Harrisonville MO
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 382000.8; Cass County Court Record, Book X: page 130 (8 August 1917), page 261 (18 February 1918) - located at Cass County Courthouse, Harrisonville MO.

sign. rating: 35
evaluation: NRHP non-eligible (typically configured, rather late example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Camp Creek Bridge

CASS40

GENERAL DATA

structure no.: 386000.3
county: Cass
city/town: 2.6 miles northwest of East Lynne
feature inters.: Camp Creek
cadastral grid: S20/29, T45N, R30W
highway route: County Road 386
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead, with steel stringer approach spans
substructure: steel truss-leg piers

span number: 1
span length: 40.0'
total length: 51.0'
roadway width: 14.1'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber 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 386000.3.

sign. rating: 25
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Camp Creek Bridge

CASS42

GENERAL DATA

structure no.: 393001.7
county: Cass
city/town: 1.7 miles northwest of East Lynne
feature inters.: Camp Creek
cadastral grid: S28/29, T45N, R30W
highway route: County Road 393
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt half-hip pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 48.0'
total length: 48.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1912
erection cost: unknown
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 393001.7; Cass County Court Record, Book U: page 90 (3 October 1910), page 101 (8 October 1910), page 590 (3 August 1912), page 612 (10 August 1912) - located at the Cass County Courthouse, Harrisonville MO.

sign. rating: 37
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Crooked Creek Bridge

CASS43

GENERAL DATA

structure no.: 394001.0
county: Cass
city/town: 2.5 miles west of East Lynne
feature inters.: Crooked Creek
cadastral grid: S31/32, T45N, R30W
highway route: County Road 394
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead
substructure: steel truss-leg piers

span number: 1
span length: 40.0'
total length: 58.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber 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 394001.0.

sign. rating: 26
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common truss type)

inventoried by: Mark Hufstetler 27 August 1992

Camp Creek Bridge

CASS45

GENERAL DATA

structure no.: 407000.4
county: Cass
city/town: 1.0 mile east of East Lynne
feature inters.: Camp Creek
cadastral grid: S26/35, T45N, R30W
highway route: County Road 407
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

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

span number: 1
span length: 68.0'
total length: 69.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 407000.4.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common truss type)

inventoried by: Mark Hufstetler 27 August 1992

Big Creek Bridge

CASS48

GENERAL DATA

structure no.: 450000.5
county: Cass
city/town: 4.3 miles northeast of East Lynne
feature inters.: Big Creek
cadastral grid: S20, T45N, R29W
highway route: County Road 450
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead
substructure: steel truss-leg piers

span number: 1
span length: 50.0'
total length: 77.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: unknown

HISTORICAL DATA

erection date: c1905
erection cost: unknown
designer: S.B. Coutts, Harrisonville MO
fabricator : S.B. Coutts, Harrisonville MO
contractor: Western Bridge Company, Harrisonville MO (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 450000.5.

sign. rating: 35
evaluation: NRHP non-eligible (typically configured, early example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Panther Creek Bridge

CASS49

GENERAL DATA

structure no.: 470001.4
county: Cass
city/town: 4.6 miles northeast of Garden City
feature inters.: Panther Creek
cadastral grid: S16, T44N, R29W
highway route: County Road 470
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead
substructure: steel truss-leg abutments with timber back- and wingwalls

span number: 1
span length: 45.0'
total length: 45.0'
roadway width: 12.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber guardrails

HISTORICAL DATA

erection date: 1906
erection cost: unknown
designer: S.B. Coutts, Harrisonville MO
fabricator : S.B. Coutts, Harrisonville MO
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 470001.4; Cass County Court Record, Book S: page 443 (6 September 1906) - located at Cass County Courthouse, Harrisonville MO.

sign. rating: 37
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Walnut Creek Bridge

CASS50

GENERAL DATA

structure no.: 480000.2
county: Cass
city/town: 4.0 miles east of Garden City
feature inters.: Walnut Creek
cadastral grid: S33/34, T44N, R29W
highway route: County Road 480
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 2-panel, pin-connected Pratt truss-leg bedstead
substructure: steel truss-leg abutments with timber back- and wingwalls

span number: 1
span length: 30.0'
total length: 31.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber guardrails

HISTORICAL DATA

erection date: c1905
erection cost: unknown
designer: S.B. Coutts, Harrisonville MO
fabricator : S.B. Coutts, Harrisonville MO
contractor: Western Bridge Company, Harrisonville MO (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 480000.2.

sign. rating: 32
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Harding Creek Bridge

CASS52

GENERAL DATA

structure no.: 488000.2
county: Cass
city/town: 4.8 miles southwest of Freeman
feature inters.: Hardin Creek
cadastral grid: S2, T43N, R33W
highway route: County Road 488
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead
substructure: steel pile bent piers; concrete back- and wingwalls on south end; timber back- and wingwalls on north end

span number: 1
span length: 45.0'
total length: 47.0'
roadway width: 14.0'
condition: fair
alterations: substructure partially replaced
floor/decking : timber deck over steel stringers
other features: upper chord and upright end post: 2 channels with cover plate and lacing; lower chord: 2 rectangular eyebars or 2 angles with batten plates; vertical: 4 angles with lacing; diagonal: 2 rectangular eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to verticals; guardrail: timber

HISTORICAL DATA

erection date: 1906
erection cost: unknown
designer: S.B. Coutts, Harrisonville MO
fabricator : S.B. Coutts, Harrisonville MO;
Carnegie Steel Company, Pittsburgh PA
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 488000.2; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 36
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

South Fork Bridge

CASS53

GENERAL DATA

structure no.: 511001.0
county: Cass
city/town: 4.9 miles southeast of Freeman
feature inters.: South Fork of the Grand River
cadastral grid: S5, T43N, R32W
highway route: County Road 511
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt bedstead, with steel stringer approach span
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 70.0'
total length: 88.0
roadway width: 14.0'
condition: fair
alterations: truss perhaps moved; some web members replaced
floor/decking : timber deck over steel stringers
other features: upper chord and upright end post: 2 channels with cover plate and lacing, 2 channels with cover and batten plates; lower chord: 2 angles with batten plates, 2 rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 rectangular eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to verticals; guardrail: timber

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 511001.0; field inspection by Mark Hufstetler, 10 February 1992.

sign. rating: 11
evaluation: NRHP non-eligible (typically configured, long-span example of common structural type, substantially altered)

inventoried by: Mark Hufstetler 27 August 1992

Black Creek Bridge

CASS54

GENERAL DATA

structure no.: 530000.2
county: Cass
city/town: 4.1 miles west of Archie
feature inters.: Black Creek
cadastral grid: S35, T43N, R32W
highway route: County Road 530
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead
substructure: steel truss-leg piers

span number: 1
span length: 35.0'
total length: 63.0'
roadway width: 12.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber 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 530000.2.

sign. rating: 26
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Grand River Bridge

CASS55

GENERAL DATA

structure no.: 534002.2
county: Cass
city/town: 5.1 miles northwest of Archie
feature inters.: New Channel of the Grand River
cadastral grid: S12, T43N, R32W
highway route: County Road 534
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: wrought iron, 6-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: concrete spill-through piers under truss; timber pile bent abutments and piers at approaches

span number: 1
span length: 64.0'
total length: 153.0'
roadway width: 13.8'
condition: fair
alterations: truss moved, 1929; one portal strut replaced
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 punched rectangular eyebars; vertical: I-beam; diagonal: 2 punched rectangular eyebars; lateral bracing: round rod with threaded ends; strut: I-beam; floor beam: I-beam, U-bolted to lower chord pins; guardrail: timber

HISTORICAL DATA

erection date: 1884
erection cost: unknown
designer: unknown
fabricator : Osage Bridge and Iron Works
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 534002.2; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 33
evaluation: NRHP non-eligible (poorly preserved, poorly documented example of mainstay structural type, moved from an unknown location)

inventoried by: Mark Hufstetler 27 August 1992

App Bridge (Black Creek Bridge)

CASS56

GENERAL DATA

structure no.: 540000.8
county: Cass
city/town: 3.6 miles southwest of Archie
feature inters.: Black Creek
cadastral grid: S35/36, T43N, R32W
highway route: County Road 540
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead, with steel deck girder approach spans
substructure: steel truss-leg piers, with concrete abutments and wingwalls

span number: 1
span length: 40.0'
total length: 63.0'
roadway width: 14.0'
condition: poor
alterations: abutments replaced; original floor system repaired with deep girders
floor/decking : timber deck over steel girders
other features: upper chord and upright end post: 2 channels with lacing; lower chord: 2 angles with batten plate or 2 rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 rectangular eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beams, U-bolted to lower chord pins; guardrail: timber

HISTORICAL DATA

erection date: 1897
erection cost: unknown
designer: unknown
fabricator : Jones and Laughlin Steel Company, Pittsburgh PA
contractor: Farnsworth and Blodgett, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 540000.8; Cass County Court Record, Book U: page 365 (12 August 1911) page 386 (6 September 1911); Book X: page 505 (10 April 1919) - located at the Cass County Courthouse, Harrisonville MO; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 37
evaluation: NRHP non-eligible (early example of mainstay structural type, poorly preserved)

inventoried by: Mark Hufstetler 27 August 1992

Eight Mile Creek Bridge

CASS58

GENERAL DATA

structure no.: 564000.5
county: Cass
city/town: 4.5 miles north of Archie
feature inters.: Eight Mile Creek
cadastral grid: S11, T43N, R31W
highway route: County Road 564
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 55.0'
total length: 81.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber guardrails

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 564000.5.

sign. rating: 25
evaluation: NRHP non-eligible (typical example of common structural type, poorly documented)

inventoried by: Mark Hufstetler 27 August 1992

Grand River Bridge

CASS59

GENERAL DATA

structure no.: 577001.5
county: Cass
city/town: 3.7 miles southeast of Archie
feature inters.: Old Channel of the Grand River
cadastral grid: S12, T42N, R31W
highway route: County Road 577
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

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

span number: 1
span length: 100.0'
total length: 101.0'
roadway width: 14.3'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1930
erection cost: unknown
designer: Missouri State Highway Department
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 577001.5.

sign. rating: 28
evaluation: NRHP non-eligible (typical, long-span example of MSHD truss design of the 1920s and 1930s)

inventoried by: Mark Hufstetler 27 August 1992

Sugar Creek Bridge

CASS60

GENERAL DATA

structure no.: 587001.2
county: Cass
city/town: 4.2 miles southwest of Garden City
feature inters.: Sugar Creek
cadastral grid: S16, T43N, R30W
highway route: County Road 587
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: unknown

span number: 1
span length: 60.0'
total length: 61.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 587001.2.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Joslin Branch Bridge

CASS61

GENERAL DATA

structure no.: 592001.9
county: Cass
city/town: 6.5 miles southwest of Garden City
feature inters.: Joslin Branch
cadastral grid: S2/35, T42/43N, R30W
highway route: County Road 592
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected half-hip pony truss, with timber and steel stringer approach spans
substructure: timber pile bents abutments; steel pile and concrete piers

span number: 1
span length: 50.0'
total length: 81.0'
roadway width: 14.0'
condition: poor
alterations: substructure largely replaced
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 angles; lower chord: 2 rectangular or 2 square eyebars; vertical: 2 angles with batten plates; diagonal: square eyebar; lateral bracing: round rod with threaded ends; floor beam: riveted plate girder, field-bolted to verticals; guardrail: timber

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 592001.9; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 28
evaluation: NRHP non-eligible (uncommon Pratt truss configuration, poorly preserved and poorly documented)

inventoried by: Mark Hufstetler 27 August 1992

Lick Creek Bridge

CASS62

GENERAL DATA

structure no.: 605001.7
county: Cass
city/town: 2.2 miles southeast of Dayton
feature inters.: Lick Creek
cadastral grid: S6/31, T42/43N, R29W
highway route: County Road 605
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

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

span number: 1
span length: 50.0'
total length: 50.0'
roadway width: 14.1'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber 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 605001.7.

sign. rating: 29
evaluation: NRHP non-eligible (typically configured, poorly documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Lick Creek Bridge

CASS63

GENERAL DATA

structure no.: 606001.7
county: Cass
city/town: 2.6 miles southeast of Dayton
feature inters.: Lick Creek
cadastral grid: S8, T42N, R29W
highway route: County Road 606
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

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

span number: 1
span length: 40.0'
total length: 42.0'
roadway width: 14.1'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber 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 606001.7.

sign. rating: 26
evaluation: NRHP non-eligible (typically configured, poorly documented example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Massey Creek Bridge

CASS65

GENERAL DATA

structure no.: 659000.1
county: Cass
city/town: Freeman
feature inters.: Massey Creek
cadastral grid: S18, T44N, R32W
highway route: County Road 659
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss, with steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 70.0'
total length: 91.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1919
erection cost: $6495.00
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 Number 659000.1; Cass County Court Record, Book H: page 40 (10 August 1875); Book X: page 244 (9 February 1918), page 249 (4 March 1918), page 325 (7 August 1918); Cass County Minute Book: 1919 - 1923: page 30 (7 January 1920), page 48 (9 April 1920)- located at the Cass County Courthouse, Harrisonville MO.

sign. rating: 42
evaluation: NRHP non-eligible (typically configured, relatively late example of common structural type)

inventoried by: Mark Hufstetler 27 August 1992

Clark Bridge

CASS66

GENERAL DATA

structure no.: none
county: Cass
city/town: 5.0 miles northwest of Archie
feature inters.: Grand River
cadastral grid: S6/7, T43N, R31W
highway route: vacated county road
highway distr.: 4
current owner: Cass County

STRUCTURAL DATA

superstructure: wrought iron, 6-panel, pin-connected Pratt through truss
substructure: stone masonry abutments and wingwalls

span number: 1
span length: unknown
total length: unknown
roadway width: unknown
condition: fair
alterations: bridge closed
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; counter: round eyerod with unslotted turnbuckle; lateral bracing: round rod with threaded ends; strut: I-beam; floor beam: I-beam, U-bolted to lower chord pins; portal builder's plate: **MO. VALLEY BRIDGE & IRON WORKS / 1880 / INSLEY SHIRE & C° / LEAVENWORTH, KANS.**

HISTORICAL DATA

erection date: c1865 (substructure); 1880 (superstructure)
erection cost: $1450.00 (superstructure cost)
designer: F.E. Bybee
fabricator : Missouri Valley Bridge and Iron Works, Leavenworth KS
contractor: Missouri Valley Bridge and Iron Works, Leavenworth KS

references: Cass County Court Record, Book H: page 123 (24 April 1874); Book I: page 253 (19 July 1877); Book J: page 286 (16 December 1879); page 333 (11 February 1880), page 361 (1 March 1880), pages 386-387 (5 April 1880), page 447 (5 July 1880); 1896 Cass County Minute Book: page 132 (4 October 1897) - located at the Cass County Courthouse, Harrisonville MO; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 58
evaluation: NRHP possibly eligible (well-preserved, early example of mainstay structural type)

inventoried by: Mark Hufstetler 27 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Hall Bridge (Massey Creek Bridge) CASS21
MHTD: 193001.0

DATE(S) OF CONSTRUCTION
1904

LOCATION
County Road 193 over Massey Creek; S35, T45N, R33W
3.0 miles east of Cleveland; Cass County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 40)

CONDITION
fair

OWNER
Cass County

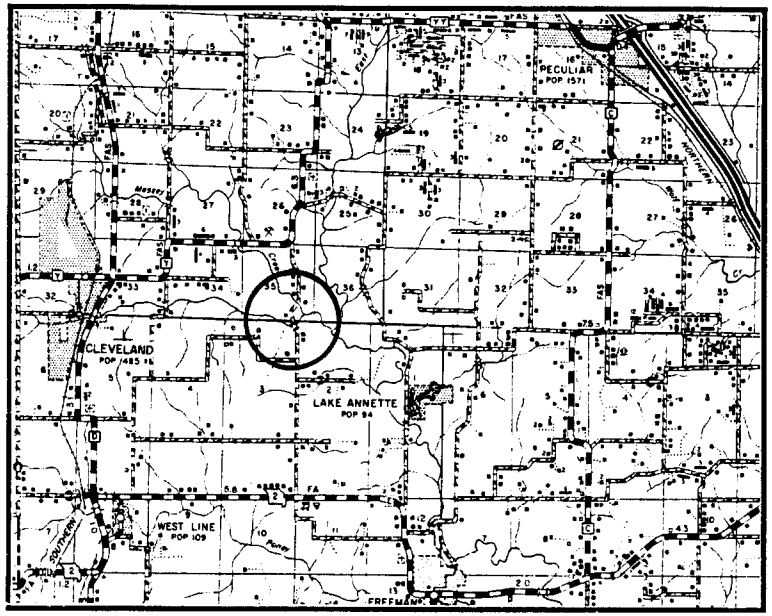
span number:	1	superstructure:	steel, 5-panel, pin-connected Pratt pony truss, with steel stringer approach spans
span length:	80.0'	substructure:	concrete abutments, wingwalls and piers
total length:	104.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	14.0'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 punched rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to verticals; guardrail: 1 angle

This single-span truss carries County Road 193 over Massey Creek in western Cass County. Comprised of a pinned Pratt pony truss, supported by a concrete substructure and approached by steel stringer spans, the Hall Bridge - as it was locally known - was erected in 1904. In May of that year the Cass County Court directed the county road and bridge commissioner to draw up plans and specifications, estimate the cost, and solicit bids for this bridge and five others around the county. The court in June contracted for four of the medium-span structures with Harrisonville, Missouri, contractor George Bird. It was not until August, however, that the county hired Bird to build the bridge near Joe Hall's farm for $1125.00. Bird used a pinned truss fabricated by the Canton Bridge Company of Canton, Ohio, completing it later that year. The Hall Bridge lasted less than a year before it required a major reconstruction of its substructure. In October 1905 the county purchased new steel cylinder piers to place under the existing truss. These piers were later replaced with a concrete substructure, but the truss remains intact, as the Hall Bridge continues to function in place at this rural Union Township crossing. It is a typically configured example of a mainstay structural type in Missouri - the Pratt pony truss.

NAME(S) OF STRUCTURE

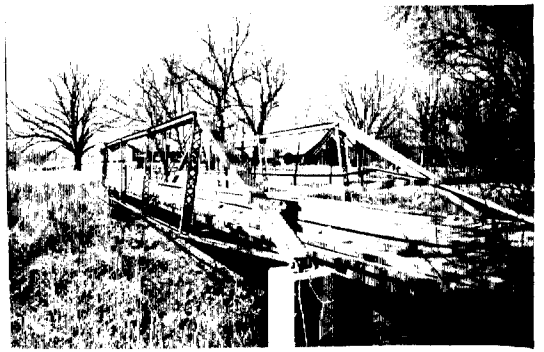
Hall Bridge (Massey Creek Bridge)

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 193001.0; Cass County Court Record, Book R, page 590 (5 May 1904), page 602 (7 June 1904); Book S: page 14 (5 August 1904), page 74 (6 December 1911), pages 274-75 (6 October 1905) - located at the Cass County Courthouse, Harrisonville MO; field inspection by Mark Hufstetler, 10 February 1991.

INVENTORIED BY

Mark Hufstetler

AFFILIATION

Fraserdesign

DATE

27 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Grand River Bridge
MHTD: 299000.3

CASS28

DATE(S) OF CONSTRUCTION
c1875

LOCATION
County Road 299 over Massey Creek; S12, T44N, R33W
0.9 mile north of Freeman; Cass County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP eligible (score: 81)

CONDITION
fair

OWNER
Cass County

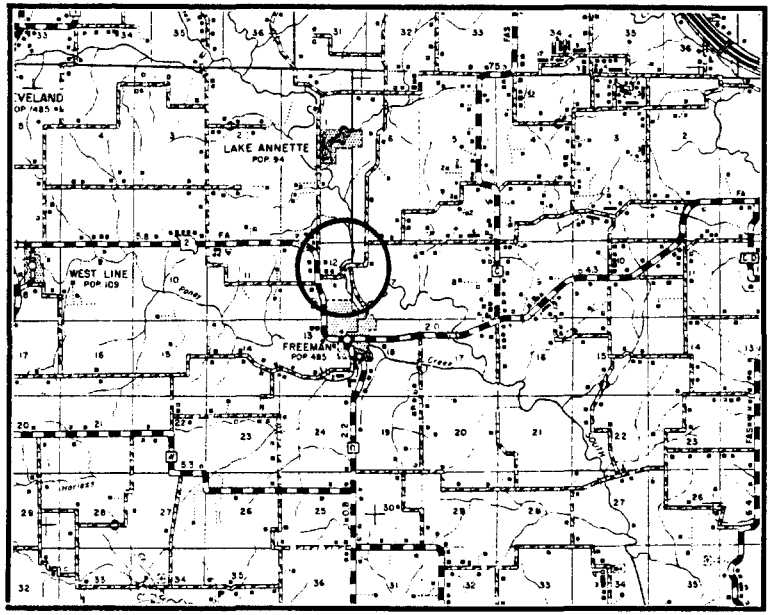
span number:	1	superstructure:	wrought iron, 9-panel bowstring pony arch-truss
span length:	98.0'	substructure:	stone abutments and wingwalls
total length:	98.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	13.7'	other features:	arch rib: box girder comprised of two channels with top and bottom cover plates; lower chord: 2 rectangular eyebars; vertical: 2 round rods, threaded into cast iron skewback; diagonal: round rod, threaded into cast iron skewback; lateral bracing: round rod with turnbuckle; floor beam: I-beam, clamped to lower chord; guardrail: timber

Located just north of Freeman, this bowstring arch-truss carries what was once the main road west from Harrisonville over the North Fork of the Grand River (now called Massey Creek). The timber-decked bridge features a wrought iron 98-foot truss, supported by cut stone abutments. The truss bears the earmarks of early 1870s fabrication by the Missouri Valley Bridge and Iron Company of Leavenworth, Kansas. Although Missouri Valley was active in Cass County during this period, no specific references to a bridge at this crossing have been located in the Cass County Court Record. The date, therefore, must be approximated. The iron superstructure of the bridge remains intact, but the deck and floor system have evidently been replaced.

The bowstring arch-truss was the iron span of choice for Missouri counties in the late 1860s and 1870s. Marketed extensively by such industry giants as the Wrought Iron Bridge Company, the King Iron Bridge Company of Ohio and the Missouri Valley Bridge and Iron Works of Kansas, these often-patented bridge forms featured a wide range of span lengths, economical fabrication cost and relatively quick erection. The proliferation of the bowstring coincided with the initial development of Missouri's road system, and as a result, perhaps thousands of these prototypical iron spans were erected throughout the state. The bowstring design had some rather severe structural flaws, however, and it was superseded by the pin-connected truss in the early 1880s. Through subsequent attrition, almost all of Missouri's bowstrings have since been replaced and demolished. Now only a half-dozen remain in place, two of which use pony configurations. One of the last of its kind still functioning as designed, the Grand River Bridge in Cass County is a significant resource in the interpretation of Missouri transportation development.

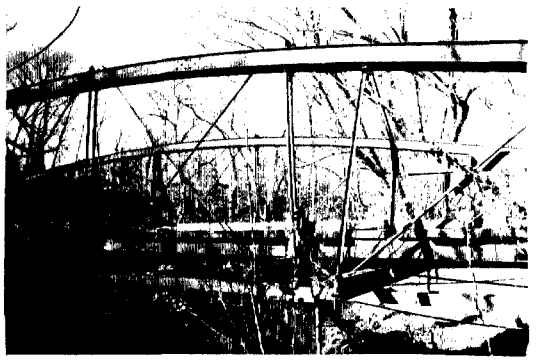
NAME(S) OF STRUCTURE
Grand River Bridge

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 299000.3; field inspection by Mark Hufstetler, 10 February 1991.

INVENTORIED BY
Mark Hufstetler

AFFILIATION
Fraserdesign

DATE
27 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Russell Bridge (Eight Mile Creek Bridge) CASS32
MHTD: 338000.7

DATE(S) OF CONSTRUCTION
1905

LOCATION
County Road 338 over Eight Mile Creek; S1/12, T44N, R30/31W
3.5 miles southeast of Harrisonville; Cass County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP potentially eligible (score: 48)

CONDITION
fair

OWNER
Cass County

span number:	1	superstructure:	steel, pin-connected kingpost pony truss
span length:	24.0'	substructure:	steel pile bent abutments with timber back- and wingwalls
total length:	24.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	14.0'	other features:	inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical

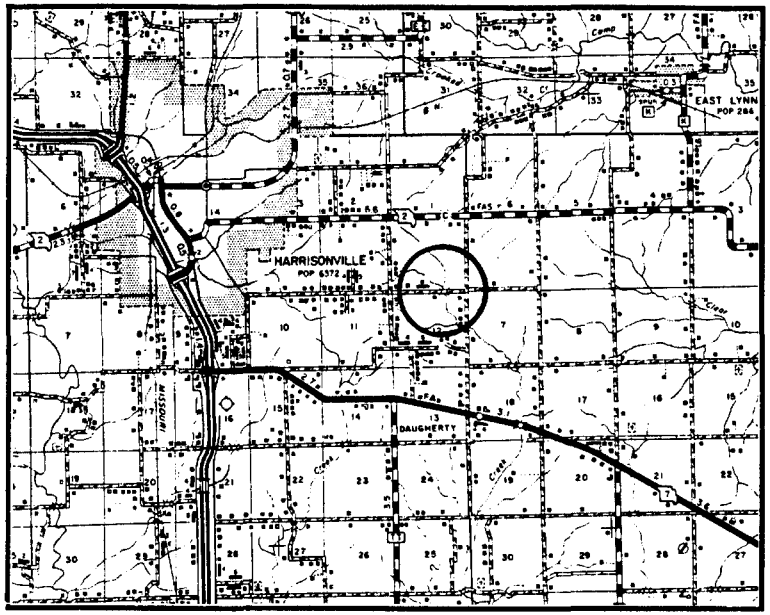
Dating to 1905, this small-scale truss spans Eight Mile Creek some three miles southeast of Harrisonville, in central Cass County. The bridge consists of a kingpost pony truss supported by steel pile bent abutments with timber backwalls. Known locally as the Russell Bridge, it was constructed in 1905 by George Bird, a contractor based in nearby Harrisonville. The Cass County Court hired Bird that May to build this structure for $417.00 and several other small steel spans. Since its completion later that year, the Russell Bridge has functioned in place, with no substantial alterations.

With its roots extending to the middle ages, the kingpost pony truss is the most rudimentary truss type. Numerous kingposts were built on Missouri's early roads in the 19th century, executed first as timber/iron combination structures and later in all-metal configurations. The kingpost as a structural type was limited to relatively short-span applications, however, and as steel beam bridges received widespread acceptance after the turn of the century, erection of kingpost trusses declined rapidly. This bridge in Cass County is an unusually late example of all-steel kingpost fabrication. Its technological significance is enhanced by its well-preserved physical condition and by the fact that almost all of the once-numerous kingpost trusses in Missouri have since been demolished.

NAME(S) OF STRUCTURE

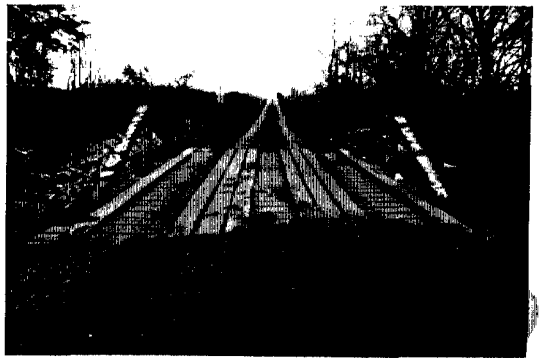
Russell Bridge (Eight Mile Creek Bridge)

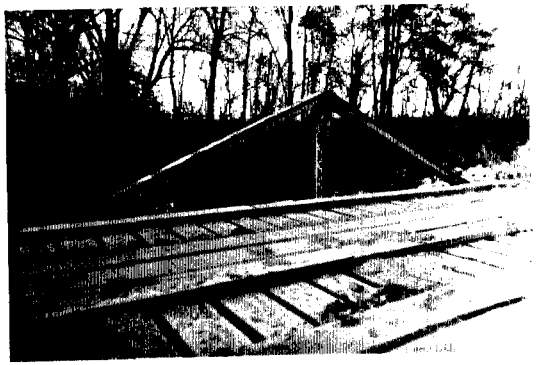
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 338000.7; Cass County Court Record, Book S: page 175 (5 May 1905) - located at the Cass County Courthouse, Harrisonville MO; field inspection by Lon Johnson, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Mark Hufstetler	Fraserdesign	27 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
East Fork Bridge
MHTD: 361000.6

CASS35

DATE(S) OF CONSTRUCTION
c1890

LOCATION
County Road 361 over East Fork of the Grand River; S31, T44N, R31W
6.0 miles south of Harrisonville; Cass County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 37)

CONDITION
fair

OWNER
Cass County

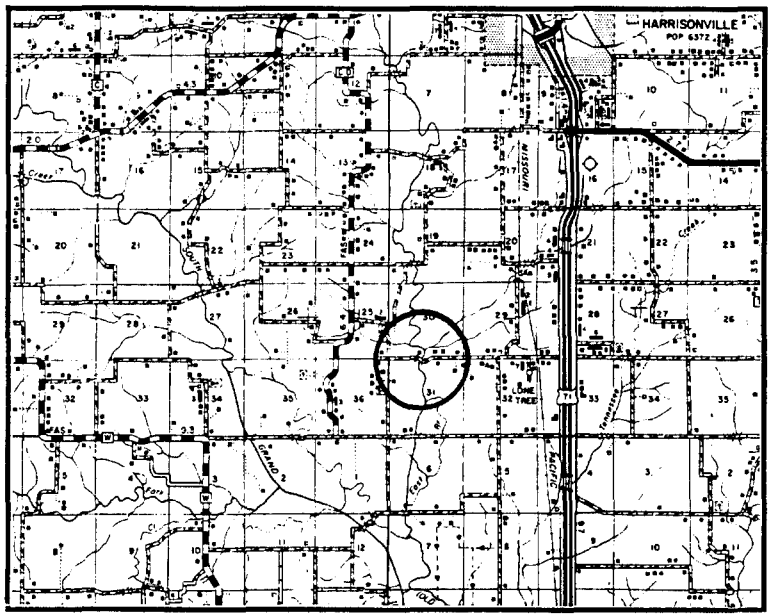
span number: 1
span length: 70.0'
total length: 104.0'
roadway wdt.: 14.0'

superstructure: wrought iron, 5-panel, pin-connected Pratt through truss, with 2 timber stringer approach spans
substructure: concrete-filled iron cylinder piers; timber pile bent piers and abutments at approach spans
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 punched eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: I-beam; floor beam: riveted plate girder, U-bolted to lower chord pins; guardrail: twisted cable

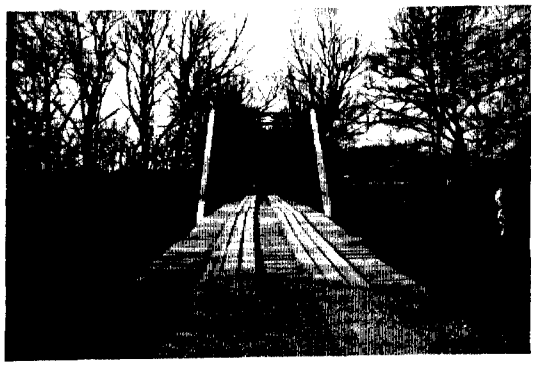
Located in south-central Cass County, six miles south of Harrisonville, this Pratt through truss spans the East Fork of the Grand River. This truss features pin-connected detailing and wrought iron web members typical for the late 1880s and early 1890s. Builder's plates on the truss's portals indicate that it was fabricated by the Kansas City Bridge and Iron Company, which was active in Cass County during this period. County records have failed to provide definitive documentation of the bridge's construction, however. The East Fork Bridge continues to carry traffic at this rural crossing, although its portals on both ends have been heavily damaged due to collision by tall vehicles. It is a representative early example of a mainstay structural type for Missouri: the pinned Pratt through truss.

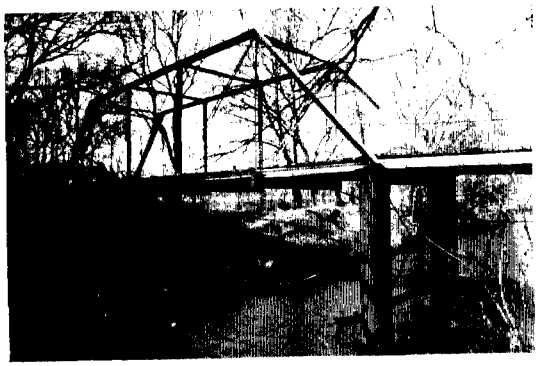
NAME(S) OF STRUCTURE
East Fork Bridge

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 361000.6; field inspection by Mark Hufstetler, 10 February 1992.

INVENTORIED BY	**AFFILIATION**	**DATE**
Mark Hufstetler	Fraserdesign	27 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Prewitt Bridge (East Fork Bridge) CASS36
MHTD: 364000.4

DATE(S) OF CONSTRUCTION
c1905

LOCATION
County Road 364 over East Fork of the Grand River; S20, T44N, R31W
4.2 miles south of Harrisonville; Cass County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP potentially eligible (score: 46)

CONDITION
fair

OWNER
Cass County

span number:	1	superstructure:	steel, pin-connected kingpost pony truss
span length:	32.0'	substructure:	steel pile bent abutments and timber back- and wingwalls
total length:	32.0'	floor/decking:	timber deck over timber stringers
roadway wdt.:	13.8'	other features:	inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to verticals; guardrail: timber

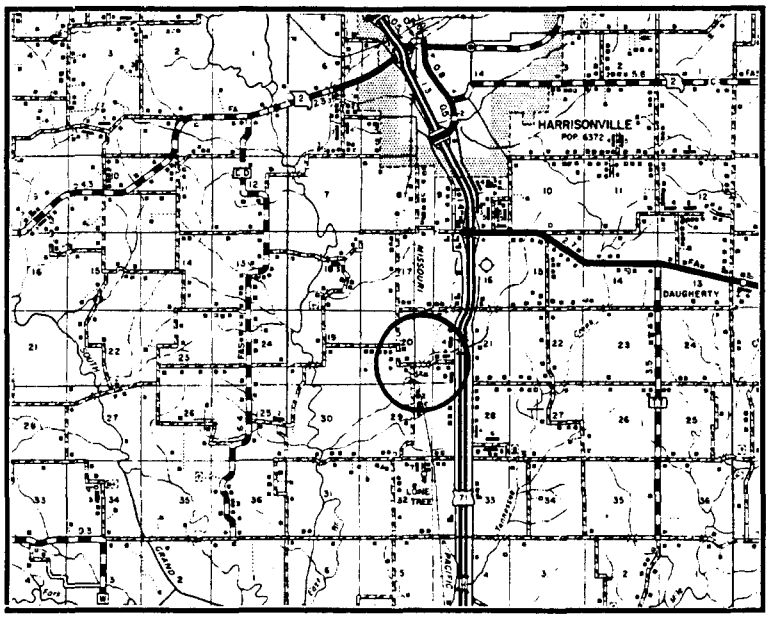
This pin-connected kingpost pony truss spans the East Fork of the Grand River about four miles south of Harrisonville, in south-central Cass County. Known locally as the Prewitt Bridge, the small-scale structure is supported by I-beam pile abutments with timber backwalls and guardrails. It was constructed in 1905 by George Bird, a contractor based in nearby Harrisonville. The Cass County Court hired Bird that May to build this structure for $440.00, the Russell Bridge [**CASS32**], and several other small steel spans. Since its completion later that year, the Prewitt Bridge has functioned in place, with the replacement of its center floor beam and addition of steel outriders as the only alteration of note.

The kingpost configuration is simple, consisting of a single triangle with reinforcing timber or steel members. With its roots extending to the middle ages, the kingpost is the most rudimentary truss type. Numerous kingposts were built on Missouri's early roads in the 19th century, executed first as timber/iron combination structures and later in all-metal configurations. The kingpost as a structural type was limited to relatively short-span applications, however, and as steel beam bridges received widespread acceptance after the turn of the century, erection of kingpost trusses declined rapidly. This bridge in Cass County is an unusually late example of all-steel kingpost fabrication. Its technological significance is enhanced by its well-preserved physical condition and by the fact that almost all of the once-numerous kingpost trusses in Missouri have since been demolished.

NAME(S) OF STRUCTURE

Prewitt Bridge (East Fork 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 364000.4; Cass County Court Record, Book S: page 175 (5 May 1905) - located at the Cass County Courthouse, Harrisonville MO; field inspection by Mark Hufstetler, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Mark Hufstetler	Fraserdesign	27 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Grand River Bridge
MHTD: 534002.2

CASS55

DATE(S) OF CONSTRUCTION
1884

LOCATION
County Road 534 over New Channel of the Grand River; S12, T43N, R32W
5.1 miles northwest of Archie; Cass County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 33)

CONDITION
fair

OWNER
Cass County

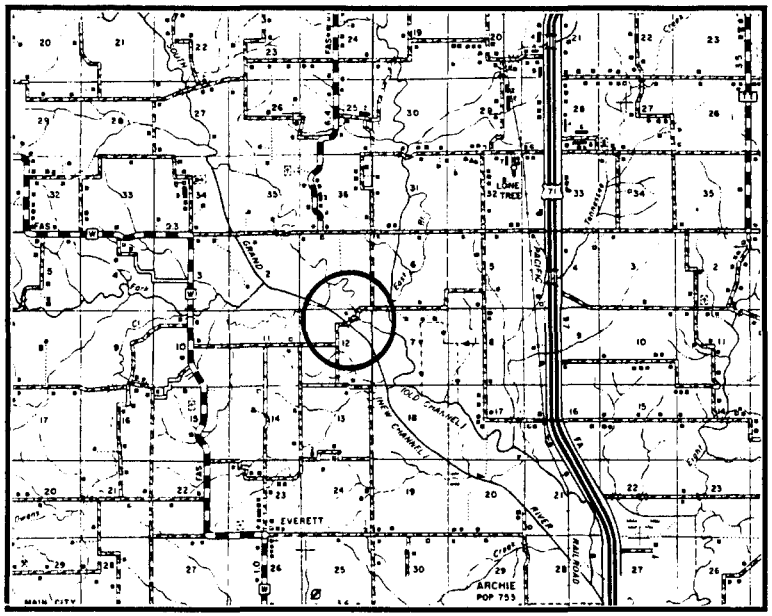
span number: 1
span length: 64.0'
total length: 153.0'
wdt.: 13.8'

superstructure: wrought iron, 6-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: concrete spill-through piers under truss; timber pile bent abutments and piers at roadway approaches
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 punched rectangular eyebars; vertical: I-beam; diagonal: 2 punched rectangular eyebars; lateral bracing: round rod with threaded ends; strut: I-beam; floor beam: I-beam, U-bolted to lower chord pins; guardrail: timber

This short-span through truss spans the New Channel of the Grand River northwest of Archie, in south-central Cass County. The bridge features a single pinned Pratt truss, supported by concrete spill-through piers, with steel stringer approach spans. The truss was reportedly moved to this location in 1929, at which time the concrete substructure and approach spans were built. It had been fabricated in 1884 by the obscure Osage Bridge and Iron Works. Cass County records do not record any dealings with Osage B&I at that time, indicating that the truss was moved here from another county. This move and the clouded origins of the truss limit its interpretive value, as does its relatively poor physical integrity. The Grand River Bridge is thus an early, though not particularly significant, example of a Missouri mainstay structural type - the pinned Pratt through truss.

NAME(S) OF STRUCTURE
Grand 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 534002.2; field inspection by Mark Hufstetler, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Mark Hufstetler	Fraserdesign	27 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
App Bridge (Black Creek Bridge) CASS56
MHTD: 540000.8

DATE(S) OF CONSTRUCTION
1897

LOCATION
County Road 540 over Black Creek; S35/36, T43N, R32W
3.6 miles southwest of Archie; Cass County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 37)

CONDITION
poor

OWNER
Cass County

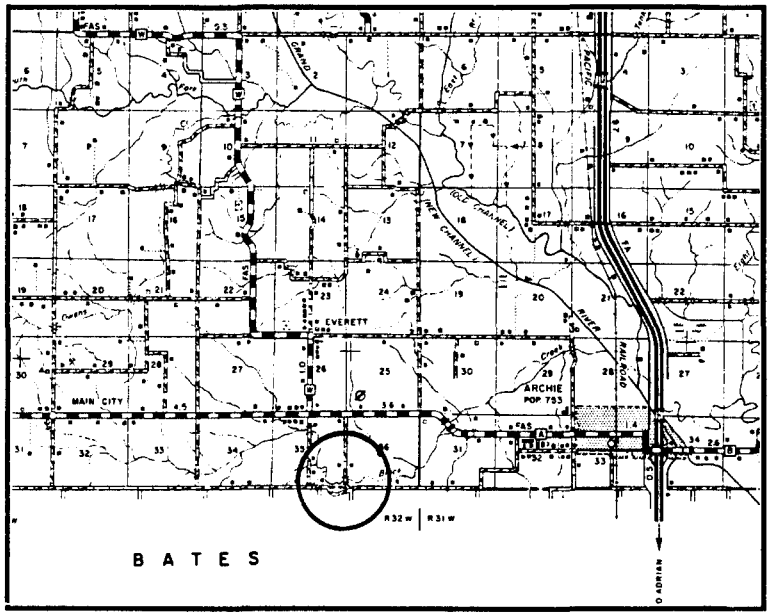
span number:	1	superstructure:	steel, 3-panel, pin-connected Pratt truss-leg bedstead, with steel deck girder approach spans
span length:	40.0'	substructure:	steel truss-leg piers, with concrete abutments and wingwalls
total length:	63.0'	floor/decking:	timber deck over steel girders
roadway wdt.:	14.0'	other features:	upper chord and upright end post: 2 channels with lacing; lower chord: 2 angles with batten plate or 2 rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 rectangular eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beams, U-bolted to lower chord pins; guardrail: timber

Located over Black Creek in extreme southern Cass County, this small-scale bridge was constructed in 1897 by the Kansas City-based contractors Farnsworth and Blodgett. The structure functioned for years as a truss-leg bedstead, with stringer approach spans on both ends. More recently, however, the abutments have been replaced with concrete, and deep steel girders have replaced the original floor system. The original trussed superstructure has thus been superseded by the new girders, rendering them structurally redundant. The App Bridge, as it was called in 1911, is thus a poorly preserved, early example of a Missouri mainstay structural type.

NAME(S) OF STRUCTURE

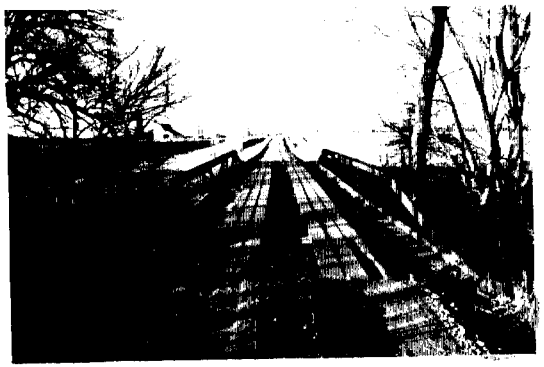
App Bridge (Black Creek Bridge)

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 540000.8; Cass County Court Record, Book U: page 365 (12 August 1911) page 386 (6 September 1911); Book X: page 505 (10 April 1919) - located at the Cass County Courthouse, Harrisonville MO; field inspection by Mark Hufstetler, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Mark Hufstetler	Fraserdesign	27 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Clark Bridge (Grand River Bridge) CASS66
MHTD: none

DATE(S) OF CONSTRUCTION
c1865 (substructure); 1880 (superstructure)

LOCATION
vacated county road over Grand River; S6/7, T43N, R31W
5.0 miles northwest of Archie; Cass County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / abandoned

RATING NRHP potentially eligible (score: 58)

CONDITION
fair

OWNER
Cass County

span number:	1	superstructure:	wrought iron, 6-panel, pin-connected Pratt through truss
span length:	unknown	substructure:	stone masonry abutments and wingwalls
total length:	unknown	floor/decking:	timber deck over timber stringers
roadway wdt.:	unknown	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; counter: round eyerod with unslotted turnbuckle; lateral bracing: round rod with threaded ends; strut: I-beam; floor beam: I-beam, U-bolted to lower chord pins; portal builder's plate: **MO. VALLEY BRIDGE & IRON WORKS / 1880 / INSLEY SHIRE & Cº / LEAVENWORTH, KANS.**

The Clark Bridge spans the original channel of the Grand River on a vacated county road in western Cass County. Located on the main north-south route through Cass County, the crossing was a strategic one during the county's early development, and the present iron Pratt truss is at least the second bridge to occupy this site. An early combination truss was already experiencing difficulties by the late 1870s, when the county undertook repeated substructural and superstructural repairs to keep it open. Finally, in December 1879, owing to unspecified damage, S.E. Licklider was ordered by the court to auction off the bridge, which was lying prostrate in the stream. Adverse weather forced Licklider to postpone the outdoor sale in order to give "interested parties a chance to come to it." But at the re-scheduled auction "the weather continued unfavorably and a rise in the river was expected hourly," he reported. "It appeared that no one wanted to invest unless I would be responsible for flood [damage to the truss in the river] and as a result no bids were received. Finally H.H. Parish said he would raise the Burford bid [$20] five dollars and that was all he would give."

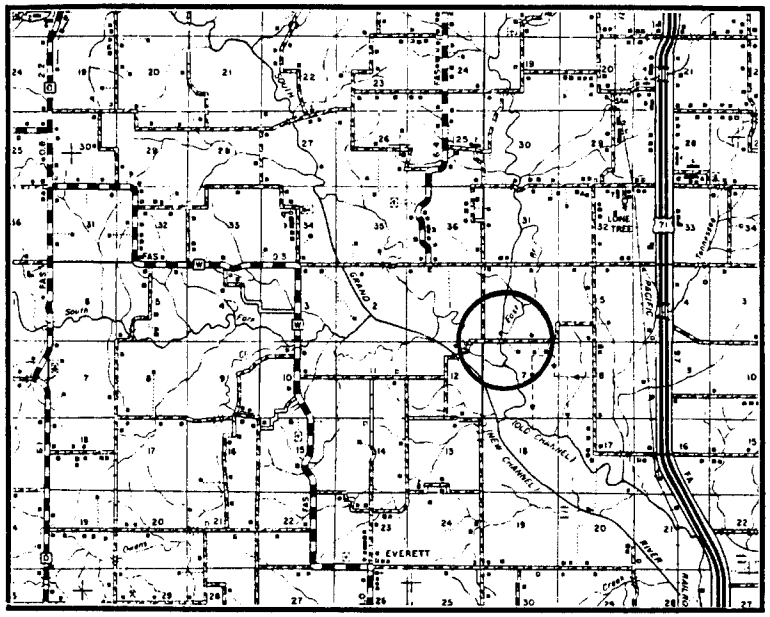
The county accepted the paltry bid, appropriating $1000.00 for the erection of a new all-iron truss on the existing stone abutments in February 1880. The judges approved plans and specifications drafted by county road commissioner F.E. Bybee; in April they awarded the contract to fabricate and erect the replacement span to the Missouri Valley Bridge and Iron Works of Leavenworth, Kansas. The bridge was to be completed by July 10, 1880, according to the written agreement. Completing the structure before the contractual deadline, Mo Valley was issued a warrant for $1450.00. Since its completion, the wrought iron bridge has carried traffic across the Grand River in essentially unaltered condition. It has more recently been closed to traffic and has been allowed by the county to molder in place.

In the early 1880s, the pin-connected Pratt truss superseded the bowstring arch-truss as the iron bridge of choice for medium-span wagon crossings. Patented in 1844 by Thomas and Caleb Pratt, the Pratt design is distinguished by vertical members acting in compression and diagonals that act in tension. "The Pratt truss is the type most commonly used in America for spans under two hundred and fifty (250) feet in length," noted bridge engineer J.A.L. Waddell wrote in 1916. "Its advantages are simplicity, economy of metal, and suitability for connecting to the floor and lateral systems." Virtually all of the major regional bridge fabricators manufactured Pratt trusses and marketed them extensively to Missouri's counties. The Missouri Valley Bridge and Iron Works was a major player in western Missouri during the late 19th century, and the Clark Bridge represents that company's penchant for pinned truss construction. With an erection date of 1880, the Clark Bridge is distinguished as the oldest originally placed Pratt truss remaining in Missouri. It is thus a technologically and historically significant, well-preserved, transportation-related resource: one of the most important of the state's early spans.

NAME(S) OF STRUCTURE

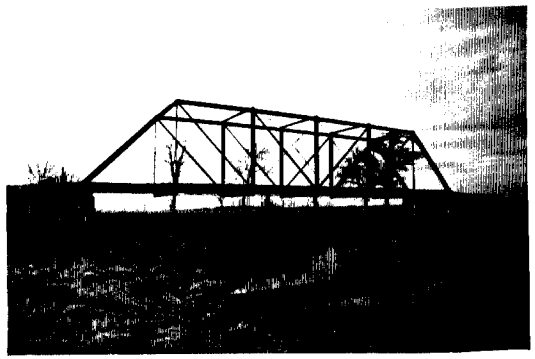
Clark Bridge (Grand River Bridge)

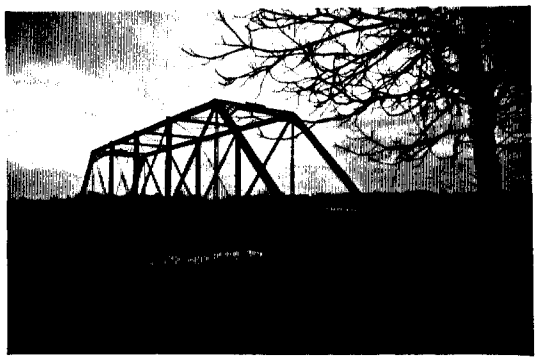
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES

Cass County Court Record, Book H: page 123 (24 April 1874); Book I: page 253 (19 July 1877); Book J: page 286 (16 December 1879); page 333 (11 February 1880), page 361 (1 March 1880), pages 386-387 (5 April 1880), page 447 (5 July 1880); 1896 Cass County Minute Book: page 132 (4 October 1897) - located at the Cass County Courthouse, Harrisonville MO; field inspection by Mark Hufstetler, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign	27 August 1992

CLAY COUNTY

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

Inv. No.	MHTD	Bridge Name	Description
CLAY01	K 108A	Fishing River Bridge	**3-100'** riveted Warren pony truss 1933 Davis Construction Company
CLAY02	K 647	Fishing River Bridge	**1-100'** steel deck girder 1936 Otto W. Knutson
*CLAY03	N111B21	Shoal Creek Bridge	1- 55' **concrete filled spandrel arch** 1921 Phillips Contracting Company
CLAY04	N133B21	Small Creek Bridge	(replaced)
CLAY05	N149B41	Big Shoal Creek Bridge	(replaced)
*CLAY06	N213B31	Fishing River Bridge	1- 38' pinned Pratt half-hip pony truss **1912** Kansas City Bridge Company
CLAY07	S 818	Clear Creek Bridge	**1-100'** riveted Warren pony truss 1933 Otto W. Knutson
*CLAY08	S007B12	Chouteau Bridge	3-404' **pinned Whipple through truss** **1887** Keystone Bridge Works
*CLAY09	U1370131	Wildwood Avenue Overpass	1- 31' concrete deck girder **1907**
*CLAY10	046000.4	Clear Creek Bridge	1-100' **2-angle Camelback pony truss** c1940
*CLAY11	049001.6	New Hope Creek Bridge	2- 43' **concrete Luten arch** **1919** Topeka Bridge and Iron Co.
*CLAY12	070002.1	Carroll Creek Bridge	1- 42' **concrete filled spandrel arch** **1920** Phillips Contracting Company
CLAY13	137000.1	North Thompson Ave. Bridge	(replaced)
CLAY14	137000.2	South Thompson Ave. Bridge	(replaced)
*CLAY15	137000.5	Marietta Street Bridge	1- 72' **concrete open spandrel arch** c1920
*CLAY16	137000.6	Garland Street Bridge	1- 68' **concrete open spandrel arch** **1917** Western Bridge Company
*CLAY17	153001.3	Wilkerson Creek Bridge	1- 60' **concrete Luten arch** 1921 Topeka Bridge and Constr. Co.
*CLAY18	247500.1	Richfield Street Overpass	(replaced)
CLAY19	247500.7	Campbell Drive Bridge	1- 40' **concrete filled spandrel arch** 1921
CLAY20	247500.9	Rush Creek Bridge	1- 26' **concrete filled spandrel arch** c1920
CLAY21	293000.3	Fishing River Bridge	1- 70' riveted Pratt pony truss **1916** Kansas City Bridge Co. (prob.)
*CLAY22	354000.2	Williams Creek Bridge	2- 48' **concrete Luten arch** 1920 Topeka Bridge and Iron Co.

EXCLUDED:

Warren pony truss
H 661

CLAY COUNTY

EXCLUDED (cont.):

Other truss
N034B21 N067831 050000.3 059000.0 068000.3 101000.7 104000.4
107000.9 110000.6 118000.5 126000.7 206001.0 208000.6 210000.9
N063B12

Steel stringer
A00000.8 J 205R J 635R K 460R K 461R K 648 K 881
L 191A N024B22 N024B31 N039B41 N138B11 N174B31 N183B41
N212B41 N242B11 S 369 S 748 S 781 S 819 W 388
006000.4 020001.4 020001.5 057000.2 062000.8 064000.2 096001.3
112003.5 145001.8 158000.3 165000.1 184001.3 188000.4 196000.4
215001.8 219000.1 226000.9

Steel girder
184001.0

Steel multi-plate arch
056000.6

Concrete girder
H 938 J 503 J 923 K 140R K 292 K 307R K 363RK 369
069000.3 085500.1 085500.2

Concrete slab
N212B31 N06B31

Concrete box culvert
H 660 H 940 K 106 K 368 K 564 K 645 L 190
S 486 U1370132 020000.2 100000.7 132000.6 171001.7 171003.5
247500.3

Timber stringer
N061B31 W 288 067001.9 359300.1 359300.2

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	3	10	4	0	17
Excluded	23	62	12	0	97
	26	72	16	0	114 structures

Fishing River Bridge

CLAY01

GENERAL DATA

structure no.: K 108A
county: Clay
city/town: 5.5 miles southwest of Excelsior Springs
feature inters.: Fishing River
cadastral grid: S18, T52N, R30W
highway route: U.S. Highway 69
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 10-panel, rigid-connected Warren pony truss
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 100.0'
total length: 309.0'
roadway width: 34.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1933
erection cost: $43,762.99
designer: Missouri State Highway Department
fabricator : unknown
contractor: Davis Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number K 108A; Files on Primary System Bridges on file at the Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 46
evaluation: NRHP non-eligible (typically configured example of MSHD standard truss design)

inventoried by: Clayton B. Fraser 10 September 1994

Fishing River Bridge

CLAY02

GENERAL DATA

structure no.: K 647
county: Clay
city/town: 5.0 miles south of Excelsior Springs
feature inters.: Fishing River
cadastral grid: S36, T52N, R30W
highway route: State Supplementary Route N
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel plate deck girder, with seven steel stringer approach spans
substructure: timber pile abutments and piers with concrete caps

span number: 1
span length: 100.0'
total length: 434.0'
roadway width: 22.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1936
erection cost: $35,381.00
designer: Missouri State Highway Department
fabricator : unknown
contractor: Otto W. Knutson

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number K 647; Files on Primary System Bridges on file at the Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 38
evaluation: NRHP non-eligible (typically configured example of MSHD beam bridge design)

inventoried by: Clayton B. Fraser 10 September 1994

Shoal Creek Bridge

CLAY03

GENERAL DATA

structure no.: N111B21
county: Clay
city/town: Gladstone
feature inters.: Shoal Creek
cadastral grid: S18, T51N, R32W
highway route: North Agnes Avenue
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

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

span number: 1
span length: 55.0'
total length: 55.0'
roadway width: 18.0'
condition: fair
alterations: none
floor/decking : concrete over earth fill
other features: concrete guardrails with recessed rectangular panels

HISTORICAL DATA

erection date: 1920-21
erection cost: $7295.00 (contract amount)
designer: unknown
fabricator : none
contractor: Phillips Contracting Company, Buckner MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number N111B21; Clay County Court Record, Book 28: page 285 (19 April 1920), page 362 (14 June 1920) - located at the Clay County Courthouse, Liberty MO; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 49
evaluation: NRHP possibly eligible (well-preserved example of non-standard concrete bridge construction)

inventoried by: Clayton B. Fraser 10 September 1994

Fishing River Bridge

CLAY06

GENERAL DATA

structure no.: N213B31
county: Clay
city/town: northeastern edge of Kansas City
feature inters.: Fishing River
cadastral grid: S23/24, T52N, R32W
highway route: North Home Avenue
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

superstructure: steel, 2-panel, pin-connected Pratt half-hip pony truss
substructure: concrete abutments, wingwalls and open-concrete piers

span number: 1
span length: 38.0'
total length: 73.0'
roadway width: 13.5'
condition: fair
alterations: bridge closed
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 square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam; guardrail: 2 angles with lacing

HISTORICAL DATA

erection date: 1912
erection cost: $700.00 (superstructure cost)
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 N213B31; Clay County Court Record, Book W: page 382 (27 May 1912) - located at the Clay County Courthouse, Liberty MO; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 39
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 10 September 1994

Clear Creek Bridge

CLAY07

GENERAL DATA

structure no.: S 818
county: Clay

city/town: 1.0 mile southeast of Kearney
feature inters.: Clear Creek
cadastral grid: S26/35, T52/53N, 31RW
highway route: State Highway 92
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Warren pony truss
substructure: timber pile bent abutments and piers with concrete caps

span number: 1
span length: 100.0'
total length: 212.0'
roadway width: 20.0'

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

HISTORICAL DATA

erection date: 1933-34
erection cost: $13,934.25
designer: Missouri State Highway Department
fabricator : unknown
contractor: Otto W. Knutson

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number S 818; Files on Primary System Bridges on file at the Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 43
evaluation: NRHP non-eligible (typically configured example of MSHD standard truss design)

inventoried by: Clayton B. Fraser 10 September 1994

Chouteau Bridge

CLAY08

GENERAL DATA

structure no.: S007B12
county: Clay
city/town: Kansas City
feature inters.: Missouri River
cadastral grid: S18, T50N, R32W
highway route: Chouteau Drive
highway distr.: 4
current owner: Clay County / Jackson County

STRUCTURAL DATA

superstructure: steel, 16-panel, pin-connected Whipple through truss channel spans; 32 plate girder approach spans; 2 steel stringer approach spans on south end; 3 steel stringer approach spans on north end

substructure: concrete abutments with stone masonry channel piers and steel bent approach span piers

span number: 3
span length: 404.0'
total length: 1359.0'
roadway width: 20.0'
condition: fair
alterations: converted from railroad to vehicular use
floor/decking : concrete over steel bridge deck
other features: upper chord and inclined end post: 2 built-up channels with cover plate and lacing; lower chord: 4 angles with lacing or 4 punched rectangular eyebars; vertical: 2 built-up channels with lacing (2 punched rectangular eyebars at hips); diagonal: punched rectangular eyebars; upper lateral bracing: round rod; lower lateral bracing: 1 angle; floor beam: riveted plate girder

HISTORICAL DATA

erection date: 1886-87
erection cost: unknown
designer: Charles Louis Strobel, Chicago IL
fabricator : Keystone Bridge Works, Pittsburgh PA
contractor: Keystone Bridge Works, Pittsburgh PA (superstructure); Sooy Smith and Company, New York NY (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number S007B12; Historical American Engineering Record prepared by Harrington & Cortelyou, Inc., Kansas City MO, 1991; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 97
evaluation: NRHP eligible (The last of the pinned Whipple trusses over the Missouri River, the Chouteau Bridge is a nationally significant example of great river bridge construction.)

inventoried by: Clayton B. Fraser 10 September 1994

Wildwood Avenue Overpass

CLAY09

GENERAL DATA

structure no.: U1370131
county: Clay
city/town: Excelsior Springs
feature inters.: Henrie Avenue
cadastral grid: S1, T52N, R30W
highway route: Wildwood Avenue
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

superstructure: concrete deck girder with arched haunches
substructure: concrete abutments; stone and concrete wingwalls

span number: 1
span length: 31.0'
total length: 38.0'
roadway width: 22.5'
condition: fair
alterations: bridge widened and guardrails replaced
floor/decking : concrete deck
other features: slotted concrete guardrails

HISTORICAL DATA

erection date: 1907
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number U1370131; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 29
evaluation: NRHP non-eligible (earliest example in state of concrete girder construction, poorly documented and substantially altered)

inventoried by: Clayton B. Fraser 10 September 1994

Clear Creek Bridge

CLAY10

GENERAL DATA

structure no.: 046000.4
county: Clay
city/town: 4.6 miles northwest of Kearney
feature inters.: Clear Creek
cadastral grid: S5, T53N, R31W
highway route: County Road 46
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

superstructure: steel, rigid-connected 2-angle Camelback pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 100.0'
total length: 102.0'
roadway width: 17.4'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 angles with cover plate; lower chord, vertical and diagonal: 2 angles; lateral bracing: round rod with threaded ends; strut: steel plate knee brace at vertical; floor beam: I-beam; guard-rail: 2 angles

HISTORICAL DATA

erection date: c1940
erection cost: unknown
designer: unknown
fabricator : Illinois Steel Company, Chicago IL
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 046000.4; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 37
evaluation: NRHP non-eligible (uncommon structural type, poorly documented)

inventoried by: Clayton B. Fraser 10 September 1994

New Hope Creek Bridge

CLAY11

GENERAL DATA

structure no.: 049001.6
county: Clay
city/town: 2.9 miles northeast of Kearney
feature inters.: New Hope Creek
cadastral grid: S14, T53N, R31W
highway route: County Road 49
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

superstructure: concrete Luten arch
substructure: concrete abutments, wingwalls and pier

span number: 2
span length: 43.0'
total length: 103.0'
roadway width: 15.8'
condition: fair
alterations: none
floor/decking : earth fill over concrete
other features: concrete guardrails with incised rectangular panels; builder's plate: **BUILT BY THE / TOPEKA / BRIDGE & IRON CO. / TOPEKA KANSAS / 1919**

HISTORICAL DATA

erection date: 1919
erection cost: $5965.00
designer: Daniel B. Luten, Indianapolis IN (patent-holder)
fabricator : none
contractor: Topeka Bridge and Iron Company, Topeka KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 049001.6; Clay County Court Record, Book 27: page 494 (3 April 1919), page 521 (5 May 1919) - located at the Clay County Courthouse, Liberty MO; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 64
evaluation: NRHP possibly eligible (well-preserved example of patented concrete bridge type)

inventoried by: Clayton B. Fraser 10 September 1994

Carroll Creek Bridge

CLAY12

GENERAL DATA

structure no.: 070002.1
county: Clay

city/town: 5.1 miles northeast of Kearney
feature inters.: branch of Carroll Creek
cadastral grid: S8, T53N, R30W
highway route: County Road 70
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

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

span number: 1
span length: 42.0'
total length: 45.0'
roadway width: 18.0'

condition: fair
alterations: none
floor/decking : earth fill over concrete
other features: concrete guardrails with recessed rectangular panels

HISTORICAL DATA

erection date: 1920-21
erection cost: $6980.00 (contract amount)
designer: unknown
fabricator : none
contractor: Phillips Contracting Company, Buckner MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 070002.1; Clay County Court Record, Book 28: page 285 (19 April 1920), page 362 (14 June 1920) - located at the Clay County Courthouse, Liberty MO; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 49
evaluation: NRHP possibly eligible (well-preserved example of non-standard concrete bridge construction)

inventoried by: Clayton B. Fraser 10 September 1994

Marietta Street Bridge

CLAY15

GENERAL DATA

structure no.: 137000.5
county: Clay
city/town: Excelsior Springs
feature inters.: East Fork of Fishing River
cadastral grid: S1, T52N, R30W
highway route: Marietta Street
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

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

span number: 1
span length: 72.0'
total length: 116.0'
roadway width: 22.5'
condition: good
alterations: none
floor/decking : concrete deck
other features: concrete Art Deco post-and-slab guardrails with diamond cutouts; cantilevered sidewalks

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 137000.5; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 31
evaluation: NRHP non-eligible (nicely detailed, but poorly documented, example of pre-MSHD concrete bridge design)

inventoried by: Clayton B. Fraser 10 September 1994

Garland Street Bridge

CLAY16

GENERAL DATA

structure no.: 137000.6
county: Clay
city/town: Excelsior Springs
feature inters.: Dry Fork of Fishing River
cadastral grid: S12, T52N, R30W
highway route: Garland Street
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

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

span number: 1
span length: 68.0'
total length: 99.0'
roadway width: 22.0'
condition: fair
alterations: none
floor/decking : concrete deck
other features: slotted concrete guardrails; builder's plate: WESTERN BRIDGE CO. / HARRISONVILLE MO / 1917 / W.C. PATTON / CITY ENGINEER

HISTORICAL DATA

erection date: 1917
erection cost: unknown
designer: W.C. Patton, City Engineer
fabricator : none
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 137000.6; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 52
evaluation: NRHP possibly eligible (early, well-preserved example of pre-MSHD open spandrel concrete arch design)

inventoried by: Clayton B. Fraser 10 September 1994

Wilkerson Creek Bridge

CLAY17

GENERAL DATA

structure no.: 153001.3
county: Clay
city/town: 1.7 miles southeast of Smithville
feature inters.: Wilkerson Creek
cadastral grid: S25, T53N, R33W
highway route: County Road 153
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

superstructure: concrete Luten arch
substructure: concrete abutments and wingwalls

span number: 1
span length: 60.0'
total length: 104.0'
roadway width: 19.0'
condition: fair
alterations: none
floor/decking : cantilevered concrete
other features: limestone, ashlar rubble facing; 5-panel classical balustrade guardrails

HISTORICAL DATA

erection date: 1921
erection cost: $10,904.00
designer: Daniel B. Luten, Indianapolis IN (patent-holder)
fabricator : none
contractor: Topeka Bridge and Construction Company, Topeka KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 153001.3; Clay County Court Record, Book 29: page 366 (12 August 1921), pages 412-419 (no date) - located at the Clay County Courthouse, Liberty MO; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 62
evaluation: NRHP possibly eligible (well-preserved example of patented concrete bridge type)

inventoried by: Clayton B. Fraser 10 September 1994

Campbell Drive Bridge

CLAY19

GENERAL DATA

structure no.: 247500.7
county: Clay

city/town: Glenaire
feature inters.: Shoal Creek
cadastral grid: S24, T51N, R32W
highway route: Campbell Drive
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

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

span number: 1
span length: 40.0'
total length: 60.0'
roadway width: 19.0'

condition: fair
alterations: unknown
floor/decking : earth fill over concrete
other features: unknown

HISTORICAL DATA

erection date: 1921
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 247500.7.

sign. rating: 26
evaluation: NRHP non-eligible (small-scale example of concrete arch construction, poorly documented)

inventoried by: Clayton B. Fraser 10 September 1994

Rush Creek Bridge

CLAY20

GENERAL DATA

structure no.: 247500.9
county: Clay
city/town: Liberty
feature inters.: Rush Creek
cadastral grid: S9, T51N, R32W
highway route: Reyfield
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

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

span number: 1
span length: 26.0'
total length: 27.0'
roadway width: 33.3'
condition: fair
alterations: unknown
floor/decking : earth fill over concrete
other features: unknown

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 247500.9.

sign. rating: 21
evaluation: NRHP non-eligible (small-scale example of concrete arch construction, poorly documented)

inventoried by: Clayton B. Fraser 10 September 1994

Fishing River Bridge

CLAY21

GENERAL DATA

structure no.: 293000.3
county: Clay
city/town: western edge of Mosby
feature inters.: Fishing River
cadastral grid: S18, T52N, R30W
highway route: County Road 293
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

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

span number: 1
span length: 70.0'
total length: 70.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel lattice guardrails

HISTORICAL DATA

erection date: 1916
erection cost: unknown
designer: Kansas City Bridge Company, Kansas City MO (probable)
fabricator : Kansas City Bridge Company, Kansas City MO (probable)
contractor: Kansas City Bridge Company, Kansas City MO (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 293000.3; Clay County Court Record, Book Z: page 66 (13 March 1916) - located at the Clay County Courthouse, Liberty MO.

sign. rating: 42
evaluation: NRHP non-eligible (typically configured, partially documented example of common structural type)

inventoried by: Clayton B. Fraser 10 September 1994

Williams Creek Bridge

CLAY22

GENERAL DATA

structure no.: 354000.2
county: Clay
city/town: Mosby
feature inters.: Williams Creek
cadastral grid: S16, T52N, R30W
highway route: County Road 354
highway distr.: 4
current owner: Clay County

STRUCTURAL DATA

superstructure: concrete Luten arch
substructure: concrete abutments, wingwalls and pier

span number: 2
span length: 48.0'
total length: 119.0'
roadway width: 18.1'
condition: fair
alterations: guardrail damaged
floor/decking : earth over concrete fill
other features: bullnosed cutwaters in pier; concrete guardrails with classical cast balusters

HISTORICAL DATA

erection date: 1919-20
erection cost: $11,700.00 (contract amount)
designer: Daniel B. Luten, Indianapolis IN (patent-holder)
fabricator : none
contractor: Topeka Bridge and Iron Company, Topeka KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 354000.2; Clay County Court Record, Book 27: page 613 (7 August 1919); Book 28: page 37 (23 October 1919), page 399 (30 July 1920) - located at the Clay County Courthouse, Liberty MO; field inspection by Lon Johnson, 10 February 1991.

sign. rating: 54
evaluation: NRHP possibly eligible (representative example of patented concrete bridge design, damaged)

inventoried by: Clayton B. Fraser 10 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Shoal Creek Bridge
MHTD: N111B21

CLAY03

DATE(S) OF CONSTRUCTION
1920-21

LOCATION
North Agnes Avenue over Shoal Creek; S18, T51N, R32W
Gladstone; Clay County, Missouri

USE (ORIGINAL / CURRENT)
city street bridge / city street bridge

RATING NRHP possibly eligible (score: 49)

CONDITION
fair

OWNER
Clay County

span number:	1	superstructure:	concrete filled spandrel arch
span length:	55.0'	substructure:	concrete abutments and wingwalls
total length:	55.0'	floor/decking:	concrete over earth fill
roadway wdt.:	18.0'	other features:	concrete guardrails with recessed rectangular panels

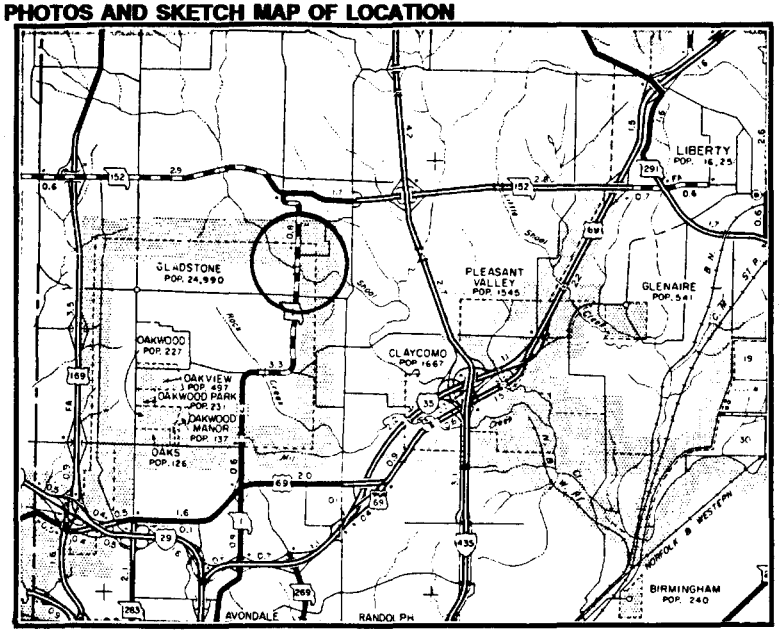
This medium-scale concrete arch bridge carries North Agnes Avenue over Shoal Creek in Gladstone. The structure consists of a single filled spandrel arch on concrete abutments, featuring plainly detailed concrete guardrails with recessed rectangular panels. The Shoal Creek Bridge dates to 1920. In April of that year the Clay County Court directed the county surveyor to prepare a cost estimate and specifications for this bridge, one over Carroll Creek [**CLAY12**] and three other spans. The county solicited competitive bids for the bridges, and in June proposals were received from five bridge companies: the Topeka Bridge and Construction Company, the Kansas City Bridge Company, Walt Archer, C.G. Hamilton, and the Phillips Contracting Company of Buckner, Missouri. Low bidder at $7295.00, Phillips received the contract to build the Shoal Creek Bridge. The contractor reportedly completed the bridge in 1921. Since that time it has functioned in place, with no major alterations.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. Of the more than 13,000 pre-1951 bridges identified in Missouri by the statewide historic bridge inventory, only about 85 are filled spandrel concrete arches. These break down into roughly three equal groups: arches built to carry urban streets, those built by the state highway department in the 1920s and 1930s to carry highways and those built by the counties at rural county road crossings. The Shoal Creek Bridge falls into the third category. With its 55-foot span and 1920-21 construction date, it is among the longer and older of these rural county arches. The Shoal Creek Bridge does not display any features that could be regarded as technologically superlative. Rather, the bridge derives its significance from its representation of the broad trend of concrete bridge construction in Missouri. As a well-preserved and well-documented early concrete arch–designed by a county engineer as the state highway department was just beginning to draft standardized plans–the Shoal Creek Bridge is an important transportation-related resource.

NAME(S) OF STRUCTURE

Shoal 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 N111B21; Clay County Court Record, Book 28: page 285 (19 April 1920), page 362 (14 June 1920) - located at the Clay County Courthouse, Liberty MO; field inspection by Lon Johnson, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Chouteau Bridge
MHTD: S007B12

CLAY08

DATE(S) OF CONSTRUCTION
1886-87

LOCATION
Chouteau Drive over Missouri River; S18, T50N, R32W
Kansas City; Clay County, Missouri

USE (ORIGINAL / CURRENT)
railroad bridge / roadway bridge

RATING NRHP eligible (score: 97)

CONDITION
fair

OWNER
Clay County / Jackson County

span number: 3
span length: 404.0'
total length: 1359.0'
roadway wdt.: 20.0'

superstructure: steel, 16-panel, pin-connected Whipple through truss channel spans; 32 plate girder approach spans; 2 steel stringer approach spans on south end; 3 steel stringer approach spans on north end
substructure: concrete abutments with stone masonry channel piers and steel bent approach span piers
floor/decking: concrete over steel bridge deck
other features: upper chord and inclined end post: 2 built-up channels with cover plate and lacing; lower chord: 4 angles with lacing or 4 punched rectangular eyebars; vertical: 2 built-up channels with lacing (2 punched rectangular eyebars at hips); diagonal: punched rectangular eyebars; upper lateral bracing: round rod; lower lateral bracing: 1 angle; floor beam: riveted plate girder

Linking the Northeast Industrial section of Kansas City, Missouri, to North Kansas City and Clay County, the Chouteau Bridge was built in 1886-87 for the Chicago, Milwaukee and St. Paul Railroad. It spans the Missouri River in a north/south direction, four miles downstream from the confluence of the Kansas and Missouri Rivers. In order to provide funds for the new line, the CM&StP issued income bonds totalling $5,000,000.00. The sale of these bonds, in addition to the existing Chicago and Pacific Western Division bonds, made the Missouri connection a reality. In March 1886, after the right-of-way for this new line was obtained and funding was procured, a contract with the Herman Clark and Company of New York to extend the railroad was approved. Concurrent with this transaction, contracts were let to the Keystone Bridge Works of Pittsburgh for the bridge's superstructure and with Sooy Smith Company of New York for the construction of the bridge's abutments and piers. Charles Louis Strobel, consulting engineer and agent for the Keystone Bridge Works' Chicago office, was chosen as designer for the bridge.

While grading of the railroad line commenced in the spring of 1886, actual construction of the span did not commence until the fall of that year. Work on the massive stone substructure–and later the wrought iron trusses–continued for six months past the July 1887 contract deadline. Finally, on 5 December 1887, the CM&StP opened its new Chicago-Kansas City line. Although the bridge was modified for vehicular traffic in the early 1950s, the structure essentially appears as it was originally constructed. The superstructure features three Whipple truss spans that stretch over the Missouri River. With the design of the Milwaukee Road, Strobel introduced the "A-Iron column." These columns can be found at the trestle-bents where Strobel found that "important advantages could be secured for this part of the

structure by adopting for the compression members a new form of cross-section consisting of four Z-Irons joined by lattice bars in the middle plane." Through the years, there have been several alterations made to the bridge, but the most significant change occurred in 1951-1953 when the bridge was sold to Kansas City and converted to two-lane highway use. As a result of the conversion, the original deck of the bridge was removed and replaced with an open grating and concrete deck. New guardrails were also installed. In addition to these modifications, the name of the bridge was changed to The Francois Chouteau Bridge, in commemoration of the first family of Kansas City, Missouri. On 17 September 1953, the Chouteau Bridge officially opened to highway traffic. The bridge has functioned in place since then, although its demolition is currently being discussed.

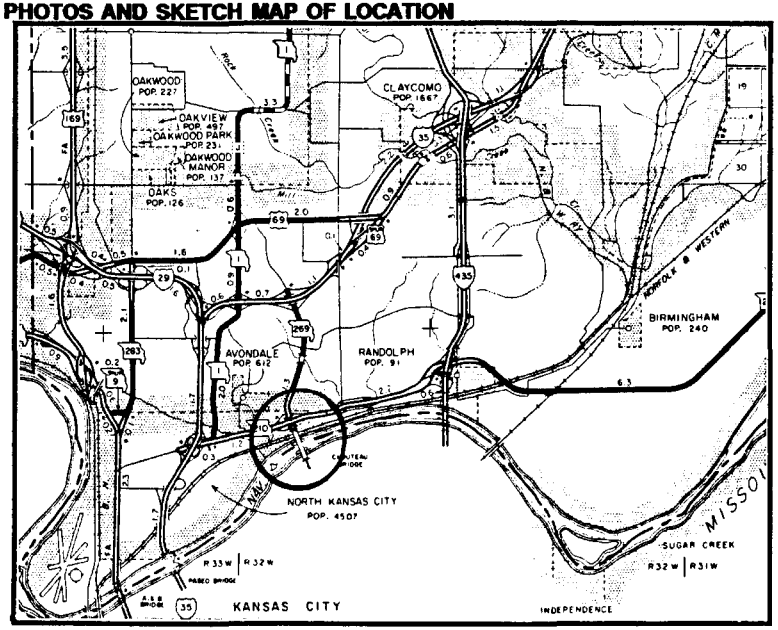
The Chouteau Bridge is the oldest of the fourteen vehicular steel truss bridges spanning the Missouri River that are included in the statewide bridge inventory. As a group, these spans comprise some of the state's longest vehicular crossings. The Chouteau Bridge is historically significant because of its early erection date, and because it served as a strategic railroad crossing into Kansas City for more than fifty years. A pivotal transportation link, the bridge helped open up new areas to settlement, and had a major impact on Kansas City's socioeconomic development.

The Chouteau Bridge is technologically significant because it ranks among the state's longer examples of iron or steel truss construction. With an overall length of 1,359 feet, the multiple-span structure is a superlative example of its type. The structure is also significant because of its Whipple truss design. The Whipple truss differed from the more common Pratt truss in that its diagonal members extended across, not one, but rather two panels. This variation provided greater lateral support for the diagonals, a critical consideration on deep, long-span trusses. Accordingly, most of the railroad bridges built across the Missouri in the 1880s utilized the Whipple design. Few of these structures remain, however, and the Chouteau Bridge is the state's only Missouri River railroad Whipple truss known to have been converted to vehicular use. Having made a significant contribution to Kansas City's historical development, and as a superlative example of a rare bridge type, the Chouteau Bridge is clearly eligible for inclusion in the National Register of Historic Places under both Criteria A and C.

NAME(S) OF STRUCTURE

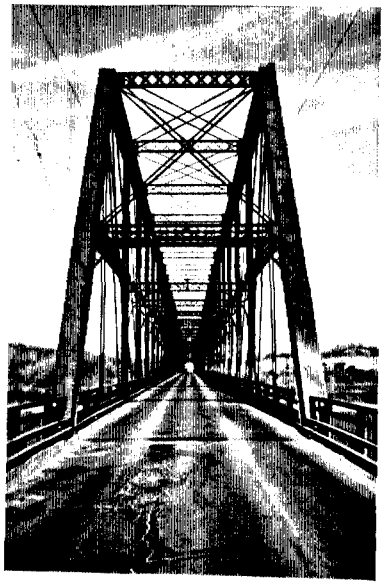
Chouteau Bridge

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 S007B12; Historical American Engineering Record prepared by Harrington & Cortelyou, Inc., Kansas City MO, 1991; field inspection by Lon Johnson, 10 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	10 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Wildwood Avenue Overpass
MHTD: U137013.1

CLAY09

DATE(S) OF CONSTRUCTION
1907

LOCATION
Wildwood Avenue over Henrie Avenue; S1, T52N, R30W
Excelsior Springs; Clay County, Missouri

USE (ORIGINAL / CURRENT)
city street bridge / city street bridge

RATING NRHP non-eligible (score: 29)

CONDITION
fair

OWNER
Clay County

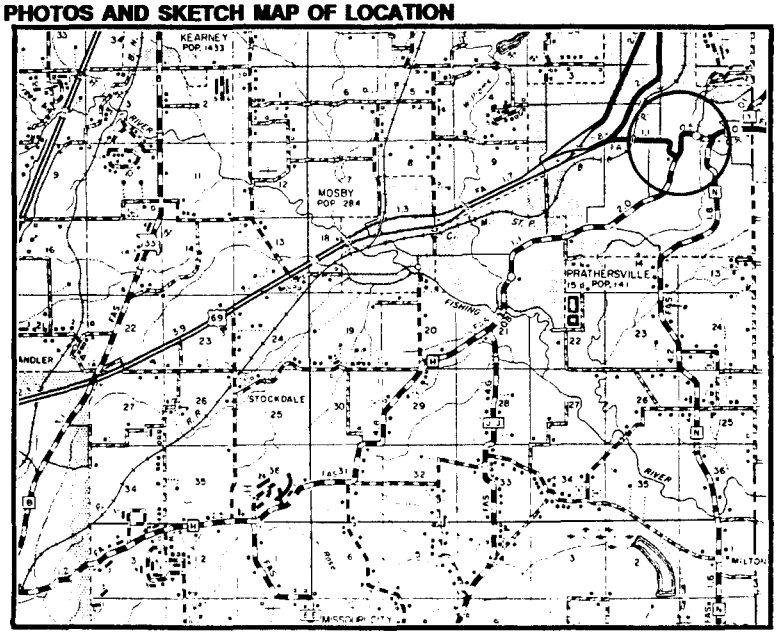
span number:	1	superstructure:	concrete deck girder with arched haunches
span length:	31.0'	substructure:	concrete abutments; stone and concrete wingwalls
total length:	38.0'	floor/decking:	concrete deck
roadway wdt.:	22.5'	other features:	slotted concrete guardrails

This small-scale concrete bridge carries Wildwood Avenue over Henrie Street in the small town of Excelsior Springs. The Wildwood Avenue Overpass consists of a single concrete deck girder span, with four concrete beams that have arched haunches, supported by concrete abutments. Sidewalks on either side of the roadway are supported by cantilevered brackets; these are bounded by slotted concrete guardrails. These guardrails provide the only architectural embellishment for the bridge. They also represent its most serious alteration, for the sidewalks, cantilever brackets and guardrails have all been added to the original structure. Structure Inventory and Appraisal records indicate that the Wildwood Avenue Overpass was built in 1907, although no county records have been found to corroborate this date. The bridge is today distinguished as the oldest remaining concrete girder span in Missouri. Its lack of documentation and subsequent alterations diminish its interpretive value, however.

NAME(S) OF STRUCTURE

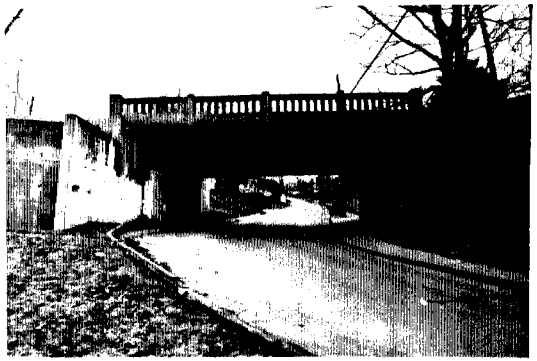
Wildwood Avenue Overpass

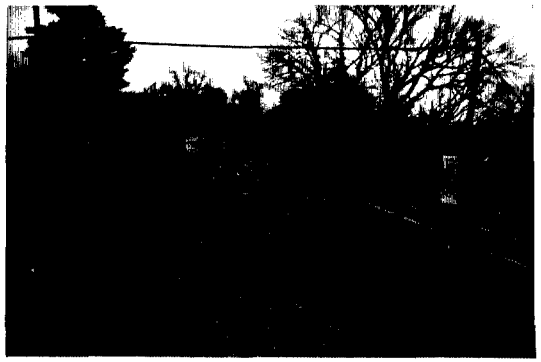
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number U137013.1; field inspection by Lon Johnson, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
New Hope Creek Bridge
MHTD: 049001.6

CLAY11

DATE(S) OF CONSTRUCTION
1919

LOCATION
County Road 49 over New Hope Creek; S14, T53N, R31W
2.9 miles northeast of Kearney; Clay County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 64)

CONDITION
fair

OWNER
Clay County

span number:	2	superstructure:	concrete Luten arch
span length:	43.0'	substructure:	concrete abutments, wingwalls and pier
total length:	103.0'	floor/decking:	earth fill over concrete
roadway wdt.:	15.8'	other features:	concrete guardrails with incised rectangular panels; builder's plate: **BUILT BY THE / TOPEKA / BRIDGE & IRON CO. / TOPEKA KANSAS / 1919**

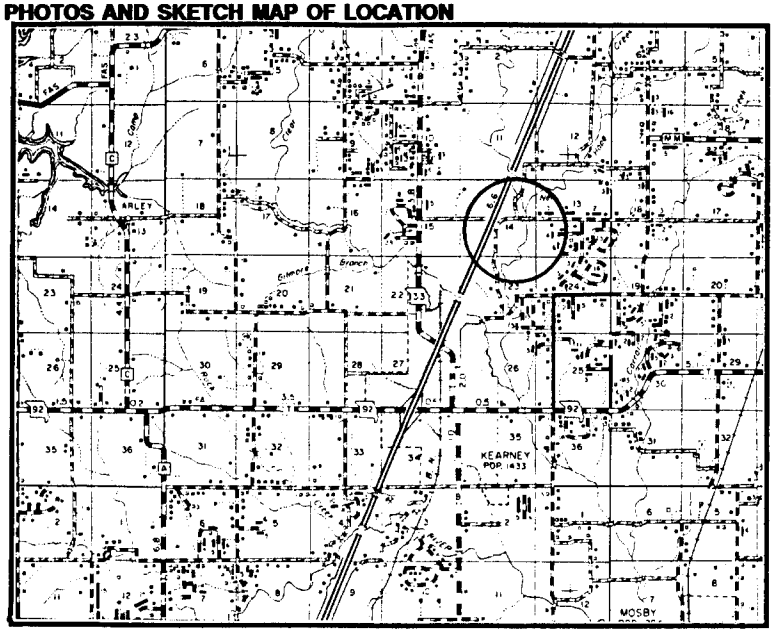
Located in northern Clay County, this bridge carries County Road 49 over New Hope Creek some three miles northeast of Kearney. The structure is comprised of two filled spandrel concrete arches, with concrete substructure and a deck that cantilevers over the arches' spandrel walls on concrete brackets. The arch features the distinctive horseshoe profile, indicating its design source as the patent held by Indianapolis engineer Daniel B. Luten. The New Hope Creek Bridge is one of several Clay County concrete arches built around 1920. In April 1919 the county court directed the county surveyor to prepare plans for a "bridge on the north line in Section 14, T53N, R31W." The county later solicited for competitive bids for the bridge's construction. Two bids were submitted, one by the Topeka Bridge and Iron Company of Kansas, for $5965.00, and a second, higher bid by the Kansas City Bridge Company. The Topeka bid was accepted; construction was completed later that same year. The New Hope Creek has carried vehicular traffic since, with no significant alterations.

Daniel Luten patented his namesake concrete arch in 1905. Soon thereafter, he began marketing it on a national basis through his own construction company, and through regional representatives. The Topeka Bridge and Construction Company functioned as Luten's western representative, building Luten arches and other concrete bridges in the Midwest, the mountain states and as far away as Arizona. Although these bridges were marketed extensively and Luten protected his broadly defined patent rights aggressively through the courts, his arch designs never found universal acceptance. Relatively few Luten arches have been identified by the Missouri statewide bridge inventory. The New Hope Creek Bridge in Clay County is distinguished among these for its relatively early construction date and its high degree of physical integrity. Designed and built by one of Daniel Luten's major subsidiaries, it is a well-preserved, small-scale representative of early patented concrete bridge design.

NAME(S) OF STRUCTURE

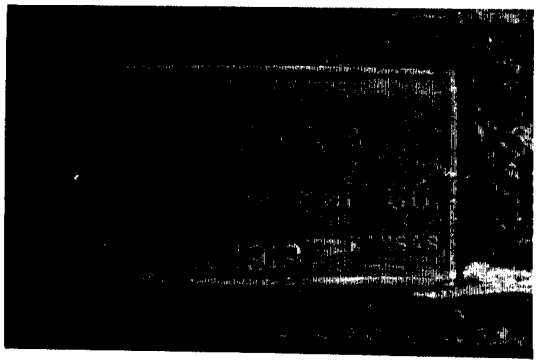
New Hope Creek Bridge

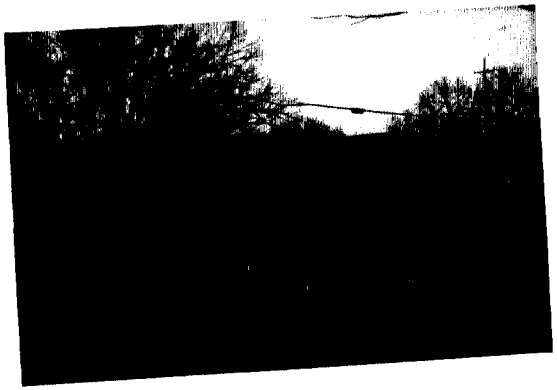
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 049001.6; Clay County Court Record, Book 27: page 494 (3 April 1919), page 521 (5 May 1919) - located at the Clay County Courthouse, Liberty MO; field inspection by Lon Johnson, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Carroll Creek Bridge
MHTD: 070002.1

CLAY12

DATE(S) OF CONSTRUCTION
1920-21

LOCATION
County Road 70 over branch of Carroll Creek; S8, T53N, R30W
5.1 miles northeast of Kearney; Clay County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 49)

CONDITION
fair

OWNER
Clay County

span number:	1	superstructure:	concrete filled spandrel arch
span length:	42.0'	substructure:	concrete abutments and wingwalls
total length:	45.0'	floor/decking:	earth fill over concrete
roadway wdt.:	18.0'	other features:	concrete guardrails with recessed rectangular panels

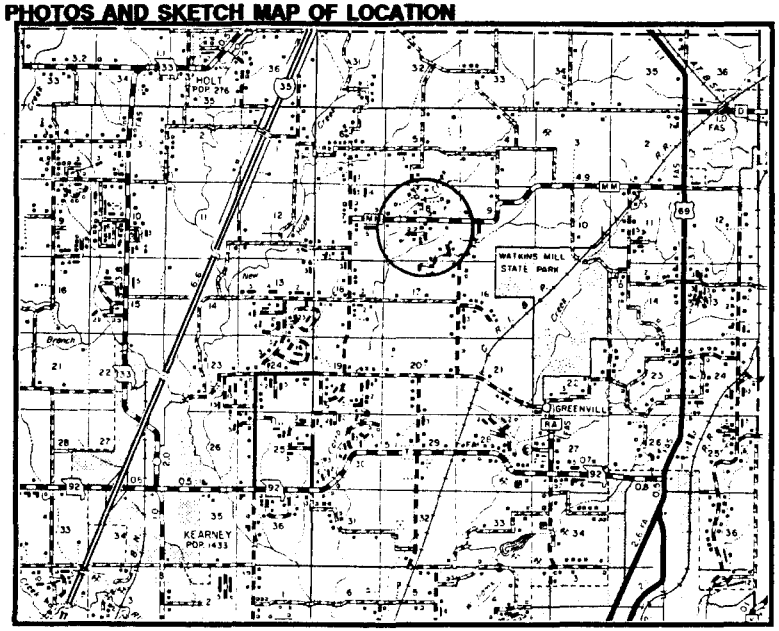
This small-scale concrete arch bridge carries a gravel-surfaced county road overa branch of Carroll Creek northeast of Kearney. The structure consists of a single filled spandrel arch on concrete abutments, featuring plainly detailed concrete guardrails with recessed rectangular panels. The Carroll Creek Bridge dates to 1920. In April of that year the Clay County Court directed the county surveyor to prepare a cost estimate and specifications for this bridge, one over Shoal Creek [CLAY03] and three other spans. The county solicited competitive bids for the bridges, and in June proposals were received from five bridge companies: the Topeka Bridge and Construction Company, the Kansas City Bridge Company, Walter Archer, C.G. Hamilton, and the Phillips Contracting Company. Low bidder at $6980.00, Phillips received the contract to build the Shoal Creek Bridge. The Buckner, Missouri, contractor reportedly completed the bridge in 1921. Since that time it has functioned in place, with no major alterations.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. Of the more than 13,000 pre-1951 bridges identified in Missouri by the statewide historic bridge inventory, only about 85 are filled spandrel concrete arches. These break down into roughly three equal groups: arches built to carry urban streets, those built by the state highway department in the 1920s and 1930s to carry highways and those built by the counties at rural county road crossings. The Carroll Creek Bridge falls into the third category. With its 55-foot span and 1920-21 construction date, it is among the longer and older of these rural county arches. The Carroll Creek Bridge does not display any features that could be regarded as technologically superlative. Rather, the bridge derives its significance from its representation of the broad trend of concrete bridge construction in Missouri. As a well-preserved and well-documented early concrete arch–designed by a county engineer as the state highway department was just beginning to draft standardized plans–the Carroll Creek Bridge is an important transportation-related resource.

NAME(S) OF STRUCTURE

Carroll 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 070002.1; Clay County Court Record, Book 28: page 285 (19 April 1920), page 362 (14 June 1920) - located at the Clay County Courthouse, Liberty MO; field inspection by Lon Johnson, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Garland Street Bridge
MHTD: 137000.6

CLAY16

DATE(S) OF CONSTRUCTION
1917

LOCATION
Garland Street over Dry Fork of Fishing River; S12, T52N, R30W
Excelsior Springs; Clay County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 52)

CONDITION
fair

OWNER
Clay County

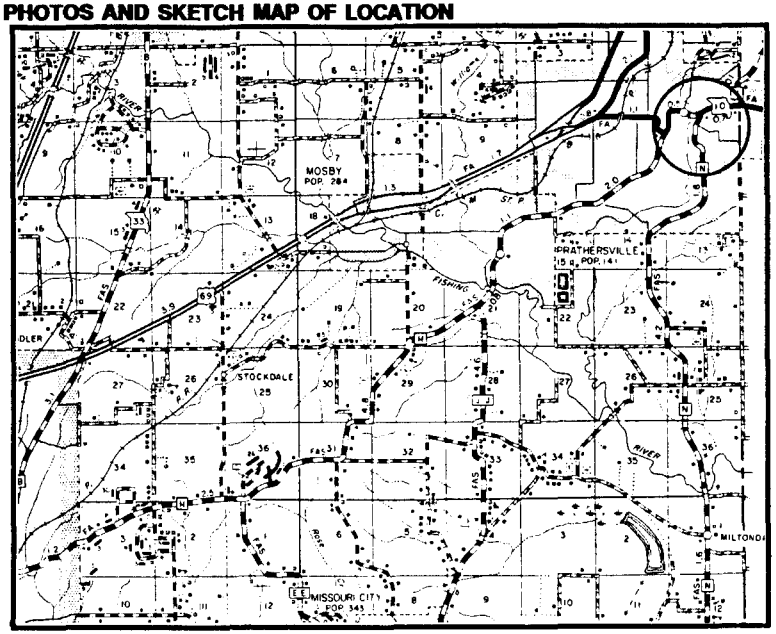
span number:	1	superstructure:	concrete open spandrel arch
span length:	68.0'	substructure:	concrete abutments and wingwalls
total length:	99.0'	floor/decking:	concrete deck
roadway wdt.:	22.0'	other features:	slotted concrete guardrails; builder's plate: **WESTERN BRIDGE CO. / HARRISONVILLE MO / 1917 / W.C. PATTON / CITY ENGINEER**

This small-scale concrete bridge carries Garland Street over the Dry Fork of Fishing River in Excelsior Springs. Comprised of an open spandrel concrete arch, the bridge features slotted concrete guardrails as its only architectural detailing. The Garland Street Bridge was designed by city engineer W.C. Patton, who, judging from the distinctive arch profile, may have had assistance from a representative of the Topeka Bridge and Iron Company, then active in the county. The city contracted with the Western Bridge Company of Harrisonville, Missouri, to construct the arch. Completed in 1917, the Garland Street Bridge has functioned in place since, with no serious alterations. It is today noteworthy as an early example of pre-MSHD concrete bridge construction.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. Of the more than 13,000 pre-1951 bridges identified in Missouri by the statewide historic bridge inventory, only about three dozen are open spandrel concrete arches. The Garland Street Bridge is distinguished among these for its relatively early constriction and its well-preserved condition.

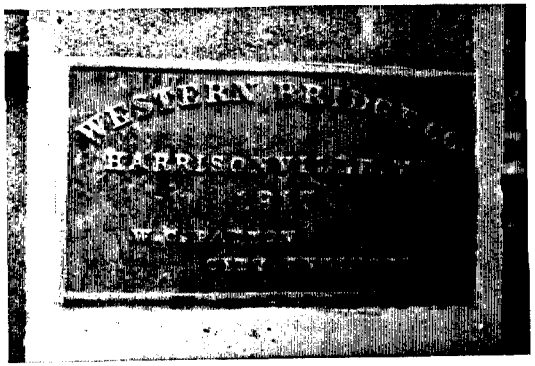
NAME(S) OF STRUCTURE
Garland Street Bridge

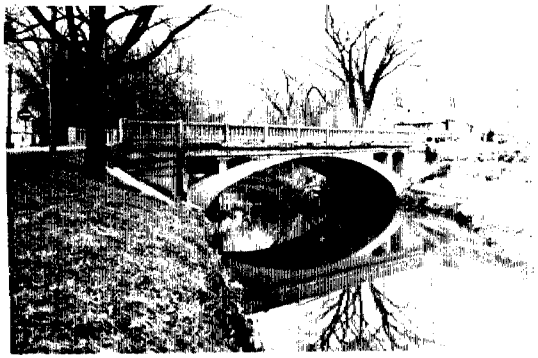
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 137000.6; field inspection by Lon Johnson, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Wilkerson Creek Bridge
MHTD: 153001.3

CLAY17

DATE(S) OF CONSTRUCTION
1921

LOCATION
County Road 153 over Wilkerson Creek; S25, T53N, R33W
1.7 miles southeast of Smithville; Clay County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 62)

CONDITION
fair

OWNER
Clay County

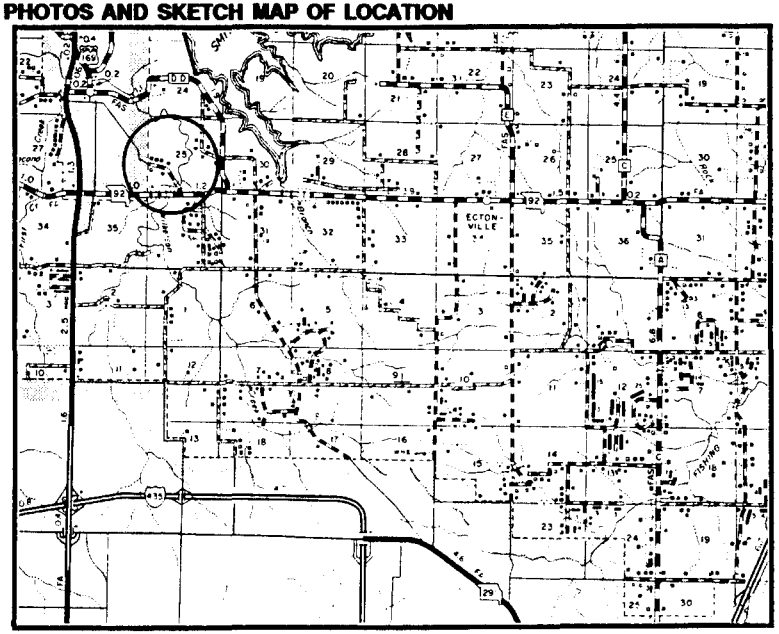
span number:	1	superstructure:	concrete Luten arch
span length:	60.0'	substructure:	concrete abutments and wingwalls
total length:	104.0'	floor/decking:	cantilevered concrete
roadway wdt.:	19.0'	other features:	limestone, ashlar rubble facing; 5-panel classical balustrade guardrails

Located southeast of Smithville, this bridge carries County Road 153 over Wilkerson Creek. The structure is comprised of a single filled spandrel concrete arch, with concrete substructure and a deck that cantilevers over the arches' spandrel walls on concrete brackets. The arch features the distinctive horseshoe profile, indicating its design source as the patent held by Indianapolis engineer Daniel B. Luten. The Wilkerson Creek Bridge is one of several Clay County concrete arches built around 1920. In August 1921 the Clay County surveyor provided cost estimates for twenty bridges and culverts of varying sizes to the county court. Later that summer bids for their construction were received from eight bridge contractors: the Kansas City Bridge Company, Buis & Olson, Louis Carr, Walter Archer, Weldin & Kimsey, John Brockman, J. Walter Phillips and the Topeka Bridge and Construction Company. The only contractor from out-of-state, Topeka was the low bidder at $10,904.00 for the Wilkerson Creek structure. The contractor commenced work soon thereafter, presumably finishing the bridge later that year. Since its completion, the Wilkerson Creek Bridge has carried vehicular traffic in essentially unaltered condition.

Daniel Luten patented his namesake concrete arch in 1905. Soon thereafter, he began marketing it on a national basis through his own construction company, and through regional representatives. The Topeka Bridge and Construction Company functioned as Luten's western representative, building Luten arches and other concrete bridges in the Midwest, the mountain states and as far away as Arizona. Although these bridges were marketed extensively and Luten protected his broadly defined patent rights aggressively through the courts, his arch designs never found universal acceptance. Relatively few Luten arches have been identified by the Missouri statewide bridge inventory. The Wilkerson Creek Bridge in Clay County is distinguished among these for its high degree of physical integrity. Designed and built by one of Daniel Luten's major subsidiaries, it is a well-preserved, small-scale representative of early patented concrete bridge design.

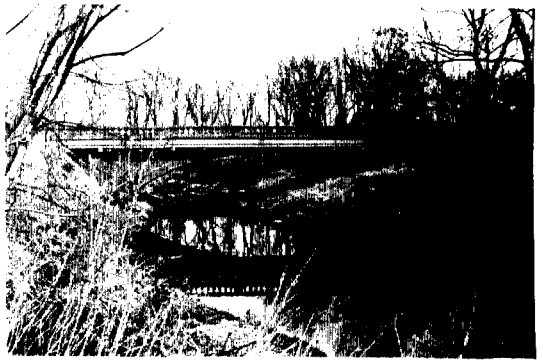
NAME(S) OF STRUCTURE
Wilkerson Creek Bridge

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 153001.3; Clay County Court Record, Book 29: page 366 (12 August 1921), pages 412-419 (no date) - located at the Clay County Courthouse, Liberty MO; field inspection by Lon Johnson, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Williams Creek Bridge
MHTD: 354000.2

CLAY22

DATE(S) OF CONSTRUCTION
1919-20

LOCATION
County Road 354 over Williams Creek; S16, T52N, R30W
Mosby; Clay County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 54)

CONDITION
fair

OWNER
Clay County

span number:	2	superstructure:	concrete Luten arch
span length:	48.0'	substructure:	concrete abutments, wingwalls and pier
total length:	119.0'	floor/decking:	earth over concrete fill
roadway wdt.:	18.1'	other features:	bullnosed cutwaters in pier; concrete guardrails with classical cast balusters

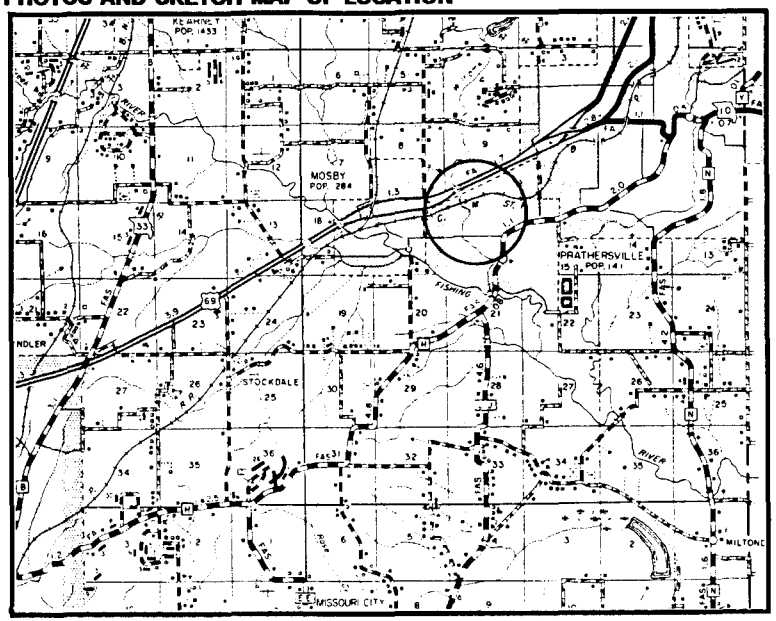
The Williams Creek Bridge in Mosby spans Williams Creek in east-central Clay County. This two-span concrete filled spandrel arch features concrete abutments and wingwalls, with a classical concrete balustrade and bullnosed cutwaters on the center pier. The Williams Creek Bridge dates to 1919. In August of that year the county clerk noted that the "court agrees with the commissioners of Excelsior Springs to pay $4500.00 towards the cost of two bridges", including this structure over Williams Creek. Two months later the court awarded a contract to build the Williams Creek Bridge to the Topeka Bridge and Iron Company for $11,700.00. In July 1920 the court paid $5850.00 toward the bridge's construction, indicating the structure's completion. Since that time the Williams Creek Bridge has functioned in place, with the removal of a portion of its guardrail as the only serious addition.

The Williams Creek Bridge employs a patented arch type that had been developed by Indianapolis engineer Daniel B. Luten in 1905. Luten marketed his arch on a national basis through his own construction company, and through regional representatives. The Topeka Bridge and Construction Company functioned as Luten's western representative, building Luten arches and other concrete bridges in the Midwest, the mountain states and as far away as Arizona. Although these bridges were marketed extensively and Luten protected his broadly defined patent rights aggressively through the courts, his arch designs never found universal acceptance. Relatively few Luten arches have been identified by the Missouri statewide bridge inventory. The Williams Creek Bridge in Clay County is a representative example of this early patented concrete bridge design.

NAME(S) OF STRUCTURE

Williams 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 354000.2; Clay County Court Record, Book 27: page 613 (7 August 1919); Book 28: page 37 (23 October 1919), page 399 (30 July 1920) - located at the Clay County Courthouse, Liberty MO; field inspection by Lon Johnson, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 September 1994

HENRY COUNTY

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

Inv. No.	MHTD	Bridge Name	Description
HENR01	046002.1	Norris Creek Bridge	(replaced)
HENR02	100001.7	Wades Creek Bridge	(replaced)
HENR03	118000.5	Tebo Creek Bridge	(replaced)
HENR04	179000.3	Tebo Creek Bridge	1-**100'** pinned Pratt pony truss c**1910** county work force (prob.)
*HENR05	181000.6	Tebo Creek Bridge	1- 82' pinned Pratt pony truss **1910** county work force
*HENR06	191000.7	Tebo Creek Bridge	1- 50' pinned Pratt bedstead **1909** county work force
*HENR07	193000.6	Newman Bridge	**3**- 32' concrete deck girder **1917** Canton Bridge Co., Canton OH
HENR08	193003.0	Sand Creek Bridge	1- 75' pinned Pratt pony truss c**1910** county work force (prob.)
HENR09	200000.4	Bridge	1- 30' steel stringer **1916** country work force
HENR10	205000.5	Tebo Creek Bridge	1- 80' pinned Pratt pony truss c**1910** county work force (prob.)
*HENR11	239000.6	Fields Creek Bridge	1- 68' pinned Pratt half-hip pony truss c**1915** county work force (prob.)
HENR12	246001.0	South Grand River Bridge	(destroyed)
HENR13	280001.3	Montrose Lake Bridge	(replaced)
*HENR14	329001.0	Deer Creek Bridge	1- 80' **2-angle Camelback pony truss** c1925 county work force (prob.)
HENR15	338000.9	Deepwater Creek Bridge	1- 70' pinned Pratt pony truss c**1900**
HENR16	365000.7	Sparrow Foot Ck. Bridge	(replaced)
*HENR17	484000.9	Marshall Creek Bridge	(replaced)
HENR18	490001.8	Deepwater Creek Bridge	1- 60' pinned Pratt pony truss c**1910** county work force (prob.)
HENR19	491000.2	Bear Creek Bridge	(replaced)
HENR20	523000.2	Bear Creek Bridge	(replaced)
HENR21	544000.9	Deepwater Creek Bridge	(replaced)
HENR22	547000.5	Spruce Creek Bridge	1- 80' pinned Pratt pony truss c**1915** county work force (prob.)
HENR23	567000.6	Truman Lake Bridge	**18**-26' steel stringer 1931 O.O. Fuller
HENR24	567001.0	Truman Lake Bridge	**15**-25' steel stringer 1931 O.O. Fuller

HENRY COUNTY

EXCLUDED:

Pratt pony truss
342001.7 571001.7

Warren pony truss

H 129	095000.2	138002.2	151000.6	315001.2	468000.7	563000.4

Concrete girder

H 16R	H 146	H 161	J 534	J 696	J 818	J 819
K 232	K 604	K 930A	X 961	089500.6	569001.4	

Steel stringer

K 792	S 396	S 998	T 411	T 412	T 571R	T 816
T 817	X 425	Y 852	Y 864	028001.7	030000.3	030000.6
037003.1	040000.1	040000.2	046001.1	057000.8	067000.9	075000.5
075001.3	077000.5	085000.4	089500.1	089500.2	089500.4	095001.5
096000.1	096000.2	100002.3	103R02.0	112000.6	114001.3	114002.4
159001.8	160000.8	175000.3	175000.5	189000.2	206001.4	207000.6
207001.1	213000.4	217000.3	236002.2	238000.3	246000.6	249000.6
265001.0	272000.6	273R00.1	280001.2	280003.7	283002.2	292002.8
294002.0	296000.5	300001.1	314000.6	342001.6	342002.5	348000.6
360000.3	373000.7	379000.3	382000.2	382000.7	391002.4	399000.3
442001.1	456000.4	466000.5	479000.3	485000.5	485001.2	487000.8
497000.5	498000.3	512000.5	542000.1	547001.5	567000.0	567000.2
567001.2						

Concrete slab

H 162	J 533	K 231	U0895001

Concrete box culvert

H 128	H 131	H 171	J 535	J 536	K 77	K 78
K 79	K 80	K 81	K 82	K 132	K 230	K 233
S 879	S 880	T 443	T 815	U0895002	X 966	567001.8

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	0	14	0	0	14
Excluded	45	89	2	0	136
	45	103	2	0	150 structures

Tebo Creek Bridge

HENR04

GENERAL DATA

structure no.: 179000.3
county: Henry
city/town: 4.3 miles south of Calhoun
feature inters.: Tebo Creek
cadastral grid: S30, T42N, R24W
highway route: County Road 179
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss, with steel stringer approach span
substructure: concrete abutments, wingwalls and pier

span number: 1
span length: 100.0'
total length: 119.0'
roadway width: 13.8'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: Canton Bridge Company, Canton OH (probable)
fabricator : Canton Bridge Company, Canton OH (probable)
contractor: county work force (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 179000.3.

sign. rating: 36
evaluation: NRHP non-eligible (undocumented example of pinned Pratt pony truss construction)

inventoried by: Clayton B. Fraser 20 April 1994

Tebo Creek Bridge

HENR05

GENERAL DATA

structure no.: 181000.6
county: Henry
city/town: 2.3 miles south of Calhoun
feature inters.: Middle Fork of Tebo Creek
cadastral grid: S7, T42N, R24W
highway route: County Road 181
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss, with steel stringer approach spans
substructure: stone masonry abutments; steel pile bent piers

span number: 1
span length: 82.0'
total length: 113.0'
roadway width: 12.0'
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 punched rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 punched rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; guardrail: 2 angles

HISTORICAL DATA

erection date: 1910
erection cost: unknown
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH;
Cambria Steel Company, Pittsburgh PA
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 181000.6; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 44
evaluation: NRHP non-eligible (typically configured example of a mainstay structural type)

inventoried by: Clayton B. Fraser 20 April 1994

Tebo Creek Bridge

HENR06

GENERAL DATA

structure no.: 191000.7
county: Henry
city/town: 3.6 miles southwest of Calhoun
feature inters.: West Fork of Tebo Creek
cadastral grid: S9, T42N, R25W
highway route: County Road 191
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead, with steel stringer approach span at the west end
substructure: steel pile bent piers with concrete back- and wingwalls at the east end and timber backwall at the west end

span number: 1
span length: 50.0'
total length: 66.0'
roadway width: 12.0'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord: 2 channels with cover and batten plates; lower chord: 2 angles with batten plates; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; lateral bracing: round rod with threaded ends; guardrail: steel lattice; cast iron hip blocks; cotter pin connections

HISTORICAL DATA

erection date: 1909
erection cost: $445.00 (superstructure cost)
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 191000.7; Henry County Court Record, Book S: page 402 (2 March 1909) - located at the Henry County Courthouse, Clinton MO; field inspection by Mark Hufstetler, 10 February, 1991.

sign. rating: 42
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 20 April 1994

Newman Bridge

HENR07

GENERAL DATA

structure no.: 193000.6
county: Henry
city/town: 3.4 miles southwest of Calhoun
feature inters.: West Fork of Tebo Creek
cadastral grid: S10/15, T42N, R25W
highway route: County Road 193
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

superstructure: concrete, two-rib deck girder with arched haunches, skewed
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 32.0'
total length: 65.0'
roadway width: 13.2'
condition: good
alterations: none
floor/decking : concrete deck
other features: concrete guardrails with incised panels and open balustrade; "**NEWMAN BRIDGE 1917**" incised in center of balustrade at north end

HISTORICAL DATA

erection date: 1917
erection cost: $1985.00 (contract amount)
designer: Canton Bridge Company, Canton OH
fabricator : none
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 193000.6; Henry County Court Record, Book W: pages 312-3 (24 September 1917) - located at the Henry County Courthouse, Clinton MO; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 54
evaluation: NRHP possibly eligible (earliest concrete bridge in the county; well-preserved, early example of concrete bridge construction in Missouri)

inventoried by: Clayton B. Fraser 20 April 1994

Sand Creek Bridge

HENR08

GENERAL DATA

structure no.: 193003.0
county: Henry
city/town: 1.9 miles south of Calhoun
feature inters.: Sand Creek
cadastral grid: S12, T42N, R25W
highway route: County Road 193
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

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

span number: 1
span length: 75.0'
total length: 75.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: Canton Bridge Company, Canton OH (probable)
fabricator : Canton Bridge Company, Canton OH (probable)
contractor: county work force (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 193003.0.

sign. rating: 31
evaluation: NRHP non-eligible (slightly longer than average, but typically configured example of a common structural type)

inventoried by: Clayton B. Fraser 20 April 1994

Bridge

HENR09

GENERAL DATA

structure no.: 200000.4
county: Henry
city/town: Lewis
feature inters.: branch of Tebo Creek
cadastral grid: S16, T42N, R25W
highway route: County Road 200
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

superstructure: steel stringer
substructure: unknown

span number: 1
span length: 30.0'
total length: 32.0'
roadway width: 14.8'
condition: fair
alterations: unknown
floor/decking : unknown
other features: unknown

HISTORICAL DATA

erection date: 1916
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 200000.4.

sign. rating: 30
evaluation: NRHP non-eligible (largely undocumented, technologically undistinguished structure)

inventoried by: Clayton B. Fraser 20 April 1994

Tebo Creek Bridge

HENR10

GENERAL DATA

structure no.: 205000.5
county: Henry
city/town: 4.1 miles south of Calhoun
feature inters.: branch of Tebo Creek
cadastral grid: S24, T42N, R25W
highway route: County Road 205
highway distr.: 4
current owner: Henry 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: 13.8'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: no guardrails

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: Canton Bridge Company, Canton OH (probable)
fabricator : Canton Bridge Company, Canton OH (probable)
contractor: county work force (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 205000.5; Henry County Court Record, Book U: page 176 (3 March 1913) - located at the Henry County Courthouse, Clinton MO.

sign. rating: 36
evaluation: NRHP non-eligible (slightly longer than average, but typically configured example of a common structural type)

inventoried by: Clayton B. Fraser 20 April 1994

Fields Creek Bridge

HENR11

GENERAL DATA

structure no.: 239000.6
county: Henry
city/town: 3.9 miles northwest of Clinton
feature inters.: Fields Creek
cadastral grid: S31, T42N, R26W
highway route: County Road 239
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 68.0'
total length: 69.0'
roadway width: 11.8'
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 punched rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 punched rectangular eyebars; counter: looped round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; guardrail: 2 angles; builder's plate: **The Canton Bridge Co. Canton Ohio**

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH;
Cambria Steel Company, Pittsburgh PA
contractor: county work force (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 239000.6; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 36
evaluation: NRHP non-eligible (typically configured, relatively late example of common structural type)

inventoried by: Clayton B. Fraser 20 April 1994

Deer Creek Bridge

HENR14

GENERAL DATA

structure no.: 329001.0
county: Henry
city/town: 1.9 miles southeast of Clinton
feature inters.: Deer Creek
cadastral grid: S12, T41N, R26W
highway route: County Road 329
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected, 2-angle Camelback pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 80.0'
total length: 80.0'
roadway width: 14.5'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 angles; lower chord: 2 angles; vertical: 2 angles; diagonal: 1 or 2 angles; lateral bracing: round rod with threaded ends; guardrail: 2 angles

HISTORICAL DATA

erection date: c1925
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: county work force (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 329001.0; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 48
evaluation: NRHP non-eligible (relatively uncommon structural type, but lacking in documentation)

inventoried by: Clayton B. Fraser 20 April 1994

Deepwater Creek Bridge

HENR15

GENERAL DATA

structure no.: 338000.9
county: Henry
city/town: 3.2 miles northwest of Deepwater
feature inters.: Deepwater Creek
cadastral grid: S5, T40N, R26W
highway route: County Road 338
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss
substructure: stone masonry abutments and pier

span number: 1
span length: 70.0'
total length: 112.0'
roadway width: 13.8'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1900
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 338000.9.

sign. rating: 29
evaluation: NRHP non-eligible (typically configured example of common structural design, distinguished somewhat by its stone abutments)

inventoried by: Clayton B. Fraser 20 April 1994

Deepwater Creek Bridge

HENR18

GENERAL DATA

structure no.: 490001.8
county: Henry
city/town: 5.9 miles northwest of Deepwater
feature inters.: branch of Deepwater Creek
cadastral grid: S2, T40N, R27W
highway route: County Road 490
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: timber pile bent abutments and wingwalls

span number: 1
span length: 60.0'
total length: 62.0'
roadway width: 13.8'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: Canton Bridge Company, Canton OH (probable)
fabricator : Canton Bridge Company, Canton OH (probable)
contractor: county work force (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 490001.8.

sign. rating: 34
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 20 April 1994

Spruce Creek Bridge

HENR22

GENERAL DATA

structure no.: 547000.5
county: Henry
city/town: 4.7 miles west of Montrose
feature inters.: Spruce Creek
cadastral grid: S7/18, T40N, R28W
highway route: County Road 547
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

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

span number: 1
span length: 80.0'
total length: 80.0'
roadway width: 13.9'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: Canton Bridge Company, Canton OH (probable)
fabricator : Canton Bridge Company, Canton OH (probable)
contractor: county work force (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 547000.5.

sign. rating: 36
evaluation: NRHP non-eligible (typically configured example of pinned Pratt pony truss construction)

inventoried by: Clayton B. Fraser 20 April 1994

Truman Lake Bridge

HENR23

GENERAL DATA

structure no.: 567000.6
county: Henry
city/town: 3.5 miles west of Clinton
feature inters.: Truman Lake
cadastral grid: S12, T41N, R27W
highway route: County Road 567 (old State Route 18)
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

superstructure: steel stringer
substructure: timber pile bent abutments and piers

span number: 18
span length: 26.0'
total length: 452.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1930-31
erection cost: $19,932.61
designer: Missouri State Highway Department
fabricator : unknown
contractor: O.O. Fuller

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 567000.6; Missouri Highway and Transportation Department Primary System Bridge Record, located at Bridge Division, MHTD, Jefferson City MO.

sign. rating: 40
evaluation: NRHP non-eligible (notable for its multiple spans, but otherwise a typically built, MSHD-standard steel stringer crossing)

inventoried by: Clayton B. Fraser 20 April 1994

Truman Lake Bridge

HENR24

GENERAL DATA

structure no.: 567001.0
county: Henry
city/town: 3.5 miles west of Clinton
feature inters.: Truman Lake
cadastral grid: S12, T41N, R27W
highway route: County Road 567 (old State Route 18)
highway distr.: 4
current owner: Henry County

STRUCTURAL DATA

superstructure: steel stringer
substructure: timber pile bent abutments and piers

span number: 15
span length: 25.0'
total length: 352.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1930-31
erection cost: $15,648.63
designer: Missouri State Highway Department
fabricator : unknown
contractor: O.O. Fuller

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 567001.0; Missouri Highway and Transportation Department Primary System Bridge Record, located at Bridge Division, MHTD, Jefferson City MO.

sign. rating: 40
evaluation: NRHP non-eligible (notable for its multiple spans, but otherwise a typically built, MSHD-standard steel stringer crossing)

inventoried by: Clayton B. Fraser 20 April 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Newman Bridge HENR07
MHTD: 193000.6

DATE(S) OF CONSTRUCTION
1917

LOCATION
County Road 193 over West Fork of Tebo Creek; S10/15, T42N, R25W
3.4 miles southwest of Calhoun; Henry County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 54)

CONDITION
good

OWNER
Henry County

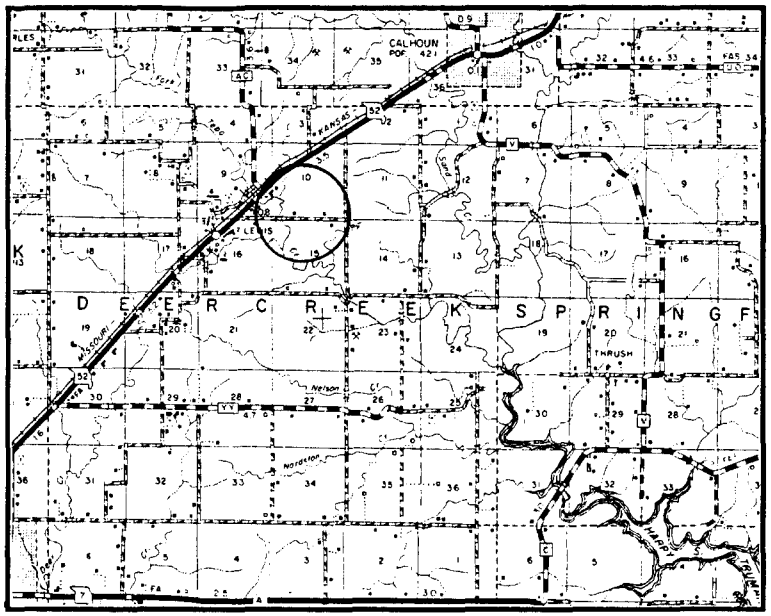
span number:	3	superstructure:	concrete, 2-rib, deck girder with arched haunches, skewed
span length:	32.0'	substructure:	concrete abutments, wingwalls and piers
total length:	65.0'	floor/decking:	concrete deck
roadway wdt.:	13.2'	other features:	concrete guardrails with incised panels and open balustrade; "**NEWMAN BRIDGE 1917**" incised in center of balustrade at north end

Around the turn of the century, the Henry County Court began contracting with the Canton Bridge Company of Canton, Ohio, for its major and minor roadway bridges. Marketed to the county by Canton's Kansas City sales representative, J.W. Hoover, the giant bridge firm fabricated and shipped a variety of steel trusses, which were erected over creeks using local labor. The county and the bridge company maintained an almost exclusive relationship over the next two decades. After about 1910, the county began using concrete for bridge decks and substructures but still relied on steel trusses for virtually all of its spans over 40 feet. This changed in 1917. That year Henry County solicited competitive bids for two rural bridges over Tebo Creek–one immediately east of Lewis, the other about a mile downstream. In September proposals were received from Canton and from local builder R.T. Faith. Faith was awarded the contract to build a steel truss at the ;lower crossing for $1850.00. Canton's bid to erect a standard steel truss at the upper crossing was $2100.00, $50 less than Faith's. As an alternative, the bridge company proposed to build a concrete girder structure here for $1985.00. "The Court further finds that said bridge Canton Bridge Company guarantees its said concrete bridge to be erected near Lewis, Missouri, for a period of four years," the county clerk stated, "and the said bid of the Canton Bridge Company on the Concrete bridge... is the best bid presented." Canton's proposed structure consisted of three spans, the longest of which extended 32 feet. Each span was comprised of two spandrel girders with arched haunches, supported on a slight skew by concrete piers and abutments. The variable depth configuration of the girders suggested cantilevered construction, but they may have been arched for aesthetic reasons. Canton received the contract for the concrete structure and began work soon thereafter. The Newman Bridge, as the span was known locally, was completed later in 1917. It has functioned in place since, with only minor collision damage to its concrete guardrails as the only change.

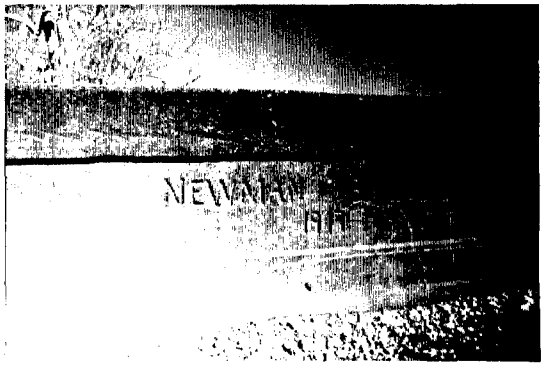
Missouri was slow to embrace concrete as a bridge superstructural material after the turn of the century. It was not until the state highway department began promulgating standard concrete slab and girder designs in the 1920s that the counties began building all-concrete bridges with any regularity. Concrete bridges built before 1922 are a relative rarity in the state for this reason. The Newman Bridge in Henry County is noteworthy as an early and, with its arched girders, well-articulated example of concrete bridge construction. The first such concrete structure built by the county, it represented a locally significant watershed in local bridge construction.

NAME(S) OF STRUCTURE
Newman 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 193000.6; Henry County Court Record, Book W: pages 312-3 (24 September 1917) - located at the Henry County Courthouse, Clinton MO; field inspection by Mark Hufstetler, 10 February 1991.

INVENTORIED BY
Mitzi Rossillon

AFFILIATION
Fraserdesign, Loveland CO

DATE
21 August 1992

JACKSON COUNTY

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

Inv. No.	MHTD	Bridge Name	Description
JACK01	G 363R1	Little Blue River Bridge	1-100' **riveted Pratt through truss** 1923 W.A. Ross Co., Kansas City
JACK02	H 76R	Big Blue River Bridge	(replaced)
JACK03	J 526	Blue River Bridge	1-**140'** **steel through arch** 1933 Davis Construction Co. et. al.
JACK04	J 926R	Big Blue River Bridge	(replaced)
*JACK05	K 229R4	A.S.B. Bridge	**3-428'** **steel vertical-lift truss** **1911** McClintic-Marshall Constr. Co.
JACK06	K 392R	Winner Road Bridge	**3-130'** **steel rigid frame** 1934 M.E. Gillioz
JACK07	K 393R	Winner Road Viaduct	**8-** 46' **steel rigid frame viaduct** 1934 M.E. Gillioz
JACK08	K 394R	Winner Road Viaduct	**17-76'** **steel rigid frame viaduct** 1934 M.E. Gillioz
JACK09	K 608R	Intercity Viaduct	1-**147'** **steel deck truss** 1904 1936 M.E. Gillioz
JACK10	K 653R1	Rock Creek Bridge	3- 60' concrete deck girder **1911** Metropolitan Street Railway Co.
*JACK11	L 249	Ramp F Overpass	1- **53'** **concrete rigid frame** 1949 Swenson Construction Co.
*JACK12	L 253	Broadway Overpass	1- **50'** **concrete rigid frame** 1950 Bushman Construction Co.
*JACK13	L 568R1	Liberty Bend Bridge	**2-460'** **riveted cantilever through truss** 1947
*JACK14	Y 24	Sni-A-Bar Creek Bridge	1- 45' **concrete filled spandrel arch** **1912** Illinois Steel Bridge Company
JACK15	Y 148	Sni-A-Bar Creek Bridge	1-130' **riveted Pratt through truss** 1929
*JACK16	Z 901	Blue River Bridge	1-120' **riveted Pratt through truss** 1932 F.H. Freeto, Independence MO
*JACK17	S026B31	Gladstone Blvd. Overpass	1- **60'** **steel two-hinge deck arch** **1898** Wrought Iron Bridge Company
*JACK18	S026B32	Cliff Drive Overpass	1- 82' **concrete filled spandrel arch** 1920 Concrete Construction Company
*JACK19	S026B33	Lexington Avenue Viaduct	**5- 95'** steel plate deck girder **1901** Central Electric Railway Co.
*JACK20	S028B31	Grand Avenue Viaduct	**14-109'** steel plate deck girder 1940 J.A. Tobin Construction Co.
*JACK21	S030B11	Twelfth Street Trafficway	**46-140'** **double-deck concrete arch/girder** **1914** Graff Construction Company
*JACK22	S030B12	Bluff Street Bridge	1-**160'** **riveted Pratt through truss** **1915** Kansas City Terminal Railway

JACKSON COUNTY

INCLUDED (cont.):

*JACK24	S030B42	Beardsley Road Viaduct	**16-40'**	**concrete deck girder viaduct**
			1917	
*JACK25	S036B32	Truman Road Bridge		(replaced)
JACK26	S047B21	Manchester Trafficway	**4-100'**	**steel plate deck girder**
			1940	Kansas City Bridge Company
*JACK27	S048B11	East 23rd Street Viaduct	**18-110'**	**steel plate deck girder**
			1938	Wisconsin Bridge & Iron Co.
*JACK28	S051B31	27th Street Viaduct	1-**120'**	**concrete open spandrel arch**
			1917	McMillan Contracting Company
*JACK29	S052B11	Oak Street Viaduct	**12-100'**	steel plate deck girder
			1931	
JACK30	S053B21	23rd Street Viaduct	**36-97'**	concrete deck girder
			1921	A.S. Hecker, Cleveland OH
*JACK31	S055B21	31st Street Overpass	3- 50'	concrete deck girder
			1916	
*JACK32	S078B31	50th Street Bridge	**2-** 36'	**concrete filled spandrel arch**
			c1920	
*JACK33	S079B32	Main Street Bridge		(removed)
*JACK34	S080B11	Prospect Avenue Bridge		(replaced)
JACK35	S080B21	Paseo Drive Bridge	1- 24'	**concrete filled spandrel arch**
			c1935	
*JACK36	S080B22	Woodland Avenue Bridge	1- 75'	**concrete filled spandrel arch**
			1918	Burt L. Elmer, Kansas City
*JACK37	S080B31	Troost Avenue Bridge	1- 74'	**concrete open spandrel arch**
			1917	Fox Redpath Construction Co.
*JACK38	S081B41	Sebree Bridge	**3-** 80'	**concrete open spandrel arch**
			1923	
*JACK39	S082B33	Blue Parkway Viaduct	**14-105'**	**steel plate deck girder**
			1936	List Construction Company
*JACK40	S083B31	Sni-A-Bar Road Overpass	1-**128'**	**concrete open spandrel arch**
			1929	List Construction Company
*JACK41	S084B11	Raytown Road Bridge	1- 40'	**concrete filled spandrel arch**
			1913	Mulholland Construction Co.
*JACK42	S106B12	63rd Street Viaduct	**6-140'**	**steel plate deck girder**
			1936	W.A. Ross Construction Co.
JACK43	S115B41	Little Blue Road Bridge	1-120'	**riveted Pratt through truss**
			1932	
*JACK44	S121B21	Gregory Boulevard Bridge		(replaced)
*JACK45	S128B11	Paseo Overpass	1- 63'	**concrete filled spandrel arch**
			1917	H.H. Hannenkratt / Dan Murno
*JACK46	S128B12	Paseo Overpass	1- 63'	**concrete filled spandrel arch**
			1917	H.H. Hannenkratt / Dan Murno
*JACK47	S131B21	Hillcrest Road Bridge	**2-** 20'	**concrete filled spandrel arch**
			1906	Midland Bridge Company
*JACK48	S137B31	Rhinehart Road Bridge	1-**100'**	pinned Pratt pony truss
			1904	Interstate Bridge Company

JACKSON COUNTY

INCLUDED (cont.):

JACK49	S140B41	Noland Road Bridge		(replaced)
JACK50	S142B31	Elm Avenue Bridge	1- 36' c1900	pinned Pratt pony truss
JACK51	S146B31	Dodson Bridge	1-122' 1930	riveted Pratt through truss
*JACK52	S147B21	Troost Avenue Viaduct	10-56' 1943	steel stringer List and Weatherly Constr. Co.
*JACK53	S153B22	Bannister Road Overpass	1- 37' 1931	concrete rigid frame
*JACK55	S245B11	Kenneth Road Bridge	1-100' c1900	pinned Pratt through truss
*JACK56	042700.1	Blue Ridge Overpass	1- 70' 1906	stone masonry arch Forrester-Swenson Constr. Co.
JACK57	053000.6	Little Blue River Bridge		(replaced)
JACK58	070001.8	Bridge		(replaced)
*JACK59	072000.9	Santa Fe Railroad Overpass	1- 53' c1925	2-angle Pratt pony truss
JACK60	105000.4	Fire Prairie Creek Bridge		(replaced)
JACK61	127000.4	Sni-A-Bar Creek Bridge		(replaced)
JACK62	141001.0	Blue Branch Bridge		(replaced)
JACK63	147000.6	Blue Branch Bridge	3- 50' c1930	riveted Pratt pony truss
JACK64	212500.4	Bridge		(removed)
JACK65	212502.3	Wilson Street Bridge	1- 45' c1925	concrete filled spandrel arch
JACK66	243500.1	Little Blue River Bridge	1- 45' c1900	pinned Pratt pony truss
*JACK67	243500.5	Little Blue River Bridge	1- 40' 1911	concrete filled spandrel arch Midland Bridge Company
JACK68	243501.4	Mouse Creek Bridge	1- 50' 1919	pinned Pratt half-hip pony truss
JACK69	243502.3	Bridge	1- 37' c1910	pinned Pratt pony truss
*JACK70	243502.4	View High Road Bridge		(replaced)
JACK71	264001.0	Sni-A-Bar Creek Bridge		(replaced)
*JACK72	297000.4	Marble Creek Bridge	1- 43' 1911	concrete filled spandrel arch J.C. Brown
*JACK73	302000.6	Sni-A-Bar Creek Bridge	1- 46' 1911	concrete filled spandrel arch Midland Bridge Company
*JACK74	304000.3	Sni-A-Bar Creek Bridge	1- 56' 1907	pinned Pratt half-hip pony truss Kansas City Bridge Company
JACK75	338002.5	Bridge		(replaced)
*JACK76	399500.1	Santa Fe Railroad Overpass	1-163' c1920	pinned Pratt through truss

JACKSON COUNTY

EXCLUDED:

Pratt pony truss
G376R 079000.6

Warren pony truss
Y 146 Z 729 091001.1

Steel stringer
J 524 K 784R K 790 K 791 L 146R1 S096B31 S140B31
S237B41 U22200011735 U22200352435 Y 147 Z 733R
029002.8 072001.4 107000.7 130000.2 180500.2 212503.7 233300.2243500.7
250002.4 316001.0 345001.2 351000.7 361500.5

Steel girder
K 354 K 423 S023B41 147000.4

Concrete girder
G 383 H 77R1 J 529R J 803 J 804R J 806 J 807
J 844 J 934 J 978 K 265R K 289R K 462R K 593
K 720 K 721 S022B21 S173B12 S179B41 S200B41 S229B21
U22200014315 161001.7 212501.0 2125001.1 212502.4
237001.2 243500.6 243501.2 243501.3 373000.4

Concrete slab
J 810 J 811 L 91R S088B31 S091B41 S091B42 S131B31
S084B12 S096B11 S101B21 212500.8 212502.7 416000.3

Concrete box culvert
H 35 H 595R J 805R J 933 J 970 L 36 L 37
L 144 L 145 S079B35 S098B11 S098B12 S104B11 S104B12
S121B41 S080B21 S106B11 S131B11 S145B22 S166B41 S176B11
S195B42 U22200033615 Y 144 Y 145 Y 164 Y 165
049001.8 233300.1 249003.0 255000.2 270001.0 329000.7 374002.5
416000.2

Timber stringer
S096B32 S144B21 S155B31

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	6	39	17	0	62
Excluded	26	64	34	0	124
	32	103	51	0	186 structures

Little Blue River Bridge

JACK01

GENERAL DATA

structure no.: G 363R1
county: Jackson
city/town: Kansas City
feature inters.: Little Blue River
cadastral grid: S19, T49N, R31W
highway route: U.S. Highway 40
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt through truss, with rigid-connected Pratt pony truss approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1; 2
span length: 100.0'; 50.0'
total length: 207.0'
roadway width: 20.5'
condition: good
alterations: deck widened and guardrails replaced, 1975
floor/decking : concrete deck over steel stringers
other features: Armco guardrails

HISTORICAL DATA

erection date: 1923
erection cost: $26,009.00
designer: Missouri State Highway Department
fabricator : unknown
contractor: W.A. Ross Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number G 363R1; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 34
evaluation: NRHP non-eligible (typical detailing and configuration for this structural type)

inventoried by: Clayton B. Fraser 20 September 1994

Blue River Bridge

JACK03

GENERAL DATA

structure no.: J 526
county: Jackson
city/town: Kansas City
feature inters.: Blue River
cadastral grid: S13, T49N, R33W
highway route: U.S. Highway 40
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, rigid-connected tied arch, with steel stringer approach spans
substructure: concrete abutments, wingwalls and spill-through piers

span number: 1
span length: 140.0'
total length: 430.0'
roadway width: 40.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: arch rib: two built-up channels with slotted cover plates; lower chord: two built-up channels with batten plates; vertical: I-beam; strut: variable-depth plate girder; upper later bracing: plate girder; floor beam: I-beam; sidewalks with lattice guardrails cantilevered from both sides

HISTORICAL DATA

erection date: 1933-34
erection cost: $118,492.00
designer: Missouri State Highway Department
fabricator : unknown
contractor: Davis Construction Company, Gerard Knutson and Lam Construction Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number J 526; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson City, Missouri; **Ninth Biennial Report of the State Highway Commission of Missouri**, 1933-34, pp. 189-190.

sign. rating: 73
evaluation: NRHP eligible (unique example in Missouri of uncommon structural type, in well-preserved condition)

inventoried by: Clayton B. Fraser 24 September 1994

A.S.B. Bridge

JACK05

GENERAL DATA

structure no.: K 229R4
county: Jackson
city/town: Kansas City
feature inters.: Missouri River
cadastral grid: S32, T50N, R33W
highway route: U.S. Highway 71
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 16-panel, rigid-connected, double-deck Baltimore vertical lift truss, with two fixed-span Baltimore double-deck trusses and steel deck girder approach spans
substructure: concrete/stone abutments and piers

span number: 3
span length: 428.0'
total length: 1467.0'
roadway width: 51.0'
condition: good
alterations: reflooring, reconditioning 1927; span replaced, 1932; upper deck and approaches removed, 1987
floor/decking : lower deck: railroad rail deck over steel plate girders;upper deck: removed
other features: upper chord and inclined end post: 2 built-up channels with lacing; lower chord: 2 built-up channels with lacing; vertical: 2 channels with lacing; diagonal: 2 channels or 2 angles with lacing; floor beam: riveted plate girder; steel guardrails

HISTORICAL DATA

erection date: 1889-90; 1909-11
erection cost: $2,534,829.23
designer: J.A.L. Waddell, Kansas City MO
fabricator : unknown
contractor: McClintic-Marshall Construction Company, Pittsburgh PA (superstructure);
James O'Connor & Son, Kansas City MO (substructure reconstruction);
American Electric Company, St. Joseph MO (electrical equipment)

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number K 229R4; **Kansas City Times**, 29 December 1911, 10 February 1911, 2 May 1927; Bob Hayden, "The A.S.B. Bridge: Grand Old Lady of the Missouri," **Kansas City Star Magazine**, 28 November 1976; Engineers Club of Kansas City, **Inspection of the Fratt Bridge over the Missouri River at Kansas City, Mo.**, program for luncheon held 18 November 1911; Donald Hoffman, "Missouri River Workhorses," **Kansas City Star**, 29 July 1980; Donald C. Jackson, **Great American Bridges and Dams** (Washington: The National Press, 1988), 217-18; Kansas City Press Club, ed., **Men of Affairs in Greater Kansas**

City: 1912; Newspaper Reference Work (Kansas City: Kansas City Press Club, 1912); U.S. Engineer Office, **Missouri River Bridges: Data, History, & Laws** (Kansas City, 1933), page 54; J.A.L. Waddell, **Bridge Engineering** (New York: John Wiley and Sons, 1916), pages 723-728; field inspection by Clayton Fraser, October 1994.

sign. rating: 82

evaluation: NRHP eligible (nationally significant example of uncommon structural type)

inventoried by: Clayton B. Fraser 20 September 1994

Winner Road Bridge

JACK06

GENERAL DATA

structure no.: K 392R
county: Jackson
city/town: Kansas City
feature inters.: Big Blue River
cadastral grid: S1/36, T49N/T50N, R32W
highway route: U.S. Highway 24
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel rigid frame
substructure: steel rigid-frame legs on concrete pedestals

span number: 1; 2
span length: 130.0'; 95.0'
total length: 366.0'
roadway width: 42.0'
condition: good
alterations: cantilevered sidewalks added, 1977
floor/decking : concrete deck over steel stringers
other features: concrete guardrails; sidewalks cantilevered from bridge spandrels, with chain link fencing

HISTORICAL DATA

erection date: 1934-35
erection cost: $51,739.00 (substructure); $68,415.95 (superstructure)
designer: Missouri State Highway Department
fabricator : unknown
contractor: M.E. Gillioz, Monett MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number K 392R; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; "Conquering the Wilderness of the Blue Valley with Viaducts and Trafficways," **Kansas City Star**, 20 September 1935; **The History of Missouri**, Vol. 3 (New York: Lewis Historical Publishing Company, 1967), 451-52; State Highway Commission, **Ninth Biennial Report**, 1933-34, pages 183-191; "Winner Road Viaducts," **Kansas City Star**, 4 August 1935.

sign. rating: 69
evaluation: NRHP possibly eligible (rare example of MSHD experimental structural type)

inventoried by: Clayton B. Fraser 20 September 1994

Winner Road Viaduct

JACK07

GENERAL DATA

structure no.: K 393R
county: Jackson
city/town: Kansas City
feature inters.: Kansas City Southern Railroad
cadastral grid: S1/36, T50N, R32W
highway route: U.S. Highway 24
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel rigid frame
substructure: steel rigid-frame legs on concrete pedestals

span number: 6; 2
span length: 46.0'; 34.0'
total length: 343.0'
roadway width: 42.0'
condition: good
alterations: cantilevered sidewalks added, 1977
floor/decking : concrete deck over steel stringers
other features: concrete guardrails; sidewalks cantilevered from bridge spandrels, with chain link fencing

HISTORICAL DATA

erection date: 1934-35
erection cost: $26,481.25 (substructure); $54,947.50 (superstructure)
designer: Missouri State Highway Department
fabricator : unknown
contractor: M.E. Gillioz, Monett MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number K 393R; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; State Highway Commission, **Ninth Biennial Report**, 1933-34, pages 183-191; "Winner Road Viaducts," **Kansas City Star**, 4 August 1935.

sign. rating: 61
evaluation: NRHP possibly eligible (rare example of MSHD experimental structural type)

inventoried by: Clayton B. Fraser 20 September 1994

Winner Road Viaduct

JACK08

GENERAL DATA

structure no.: K 394R
county: Jackson
city/town: Kansas City
feature inters.: St. Louis & San Francisco Railroad
cadastral grid: S1/36, T49/50N, R33W
highway route: U.S. Highway 24
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel rigid frame
substructure: steel rigid-frame legs on concrete pedestals

span number: 17.0
span length: 76.0'
total length: 1243.0'
roadway width: 42.0'
condition: good
alterations: cantilevered sidewalks added, 1977
floor/decking : concrete deck over steel stringers
other features: concrete guardrails; sidewalks cantilevered from bridge spandrels, with chain link fencing

HISTORICAL DATA

erection date: 1934-35
erection cost: $80,657.00 (substructure); $170,155.85 (superstructure)
designer: Missouri State Highway Department
fabricator : unknown
contractor: M.E.Gillioz, Monett MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number K 394R; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; State Highway Commission, **Ninth Biennial Report**, 1933-34, pages 183-191; "Winner Road Viaducts," **Kansas City Star**, 4 August 1935.

sign. rating: 66
evaluation: NRHP possibly eligible (rare example of MSHD experimental structural type)

inventoried by: Clayton B. Fraser 20 September 1994

Intercity Viaduct

JACK09

GENERAL DATA

structure no.: K 608R
county: Jackson
city/town: Kansas City
feature inters.: Kaw River and city streets
cadastral grid: S6, T49N, R33W
highway route: U.S. Highway 40
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, rigid-connected Warren deck truss, with plate deck girder rigid-frame approach spans
substructure: concrete abutments, wingwalls and steel legs on concrete pedestals

span number: 1
span length: 147.0'
total length: 4,230.0'
roadway width: 52.0'
condition: good
alterations: roadway widened and guardrails replaced
floor/decking : concrete deck over steel stringers
other features: concrete guardrails with pipe over

HISTORICAL DATA

erection date: 1936
erection cost: $690,963.00
designer: Missouri State Highway Department
fabricator : unknown
contractor: M.E. Gillioz, Monett MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number K 608R; **Tenth Biennial Report of the State Highway Commission of Missouri,** 1935-36, pp. 262-264; Kansas City Public Service Company, **History of Bridges and Viaducts,** page 25.

sign. rating: 63
evaluation: NRHP possibly eligible (important urban viaduct, substantially altered)

inventoried by: Clayton B. Fraser 20 September 1994

Rock Creek Bridge

JACK10

GENERAL DATA

structure no.: K 653R1
county: Jackson
city/town: Kansas City
feature inters.: Rock Creek
cadastral grid: S32, T50N, R32W
highway route: U.S. Highway 24 (Winner Road)
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: concrete deck girder
substructure: concrete abutments and wingwalls with concrete column piers

span number: 1; 2
span length: 60.5'; 24.0'
total length: 110.0'
roadway width: 77.3'
condition: good
alterations: bridge widened at least twice
floor/decking : concrete deck
other features: MSHD standard concrete guardrails; curved girder haunches

HISTORICAL DATA

erection date: 1911
erection cost: unknown
designer: Metropolitan Street Railway Company (probable)
fabricator : none
contractor: Metropolitan Street Railway Company (probable)

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number K 653R1; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; Kansas City Public Service Company, **History of Bridges and Viaducts**, page 20-J - located at Kansas City Engineer's Office, Kansas City, Missouri.

sign. rating: 39
evaluation: NRHP non-eligible (early example of concrete urban bridge construction)

inventoried by: Clayton B. Fraser 21 September 1994

Ramp F Overpass

JACK11

GENERAL DATA

structure no.: L 249
county: Jackson
city/town: Kansas City
feature inters.: Ramp D
cadastral grid:
highway route: Ramp F
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: concrete rigid frame
substructure: concrete abutments and stone wingwalls

span number: 1
span length: 53.0'
total length: 59.0'
roadway width: 24.0'
condition: good
alterations: none
floor/decking : concrete deck
other features: stone parapets

HISTORICAL DATA

erection date: 1949
erection cost: $112,624.39
designer: Missouri State Highway Department
fabricator : none
contractor: Swenson Construction Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number L 249; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; Elmer Napier, "Rigid-Frame Bridges," **Roads and Bridges**, April 1940, page 13; field inspection by Clayton Fraser, October 1994.

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

inventoried by: Clayton B. Fraser 21 September 1994

Broadway Overpass

JACK12

GENERAL DATA

structure no.: L 253
county: Jackson
city/town: Kansas City
feature inters.: 30th Street
cadastral grid: S17, T49N, R33W
highway route: Broadway Street
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: concrete rigid frame
substructure: concrete abutments and stone wingwalls

span number: 1
span length: 50.0'
total length: 58.0'
roadway width: 56.0'
condition: good
alterations: none
floor/decking : concrete deck
other features: stone parapets

HISTORICAL DATA

erection date: 1949-50
erection cost: $112,241.39
designer: Missouri State Highway Department
fabricator : none
contractor: Bushman Construction Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number L 253; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; Elmer Napier, "Rigid-Frame Bridges," **Roads and Bridges**, April 1940, page 13; field inspection by Clayton Fraser, October 1994.

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

inventoried by: Clayton B. Fraser 21 September 1994

Liberty Bend Bridge

JACK13

GENERAL DATA

structure no.: L 568R1
county: Jackson / Clay
city/town: 4.5 miles northeast of Independence
feature inters.: Missouri River
cadastral grid: S5, T50N, R32W
highway route: State Highway 291
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 2-span, rigid-connected cantilever through truss; cantilevered Warren deck truss approach spans; steel deck girder approach spans
substructure: concrete abutments and spill-through piers

span number: 2
span length: 460.0'
total length: 1,884.0'
roadway width: 24.0'
condition: good
alterations: deck replaced with steel grid, 1984; part of grid deck replaced, 1986
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 built-up channels with cover and batten plates; lower chord: 2 built-up channels with lacing; vertical: 2 channels with lacing; diagonal: 2 channels with lacing or batten plates; lateral bracing: 2 angles; floor beam: I-beam, field-bolted to vertical; strut: 2 angles with lacing; steel guardrails

HISTORICAL DATA

erection date: 1947
erection cost: unknown
designer: Sverdrup and Parcel, St. Louis MO (probable)
fabricator : Carnegie Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number L 568R1; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; State Highway Commission, **Thirteenth Biennial Report**, 1941-42, page 149; field inspection by Lon Johnson, 3 February 1991.

sign. rating: 52
evaluation: NRHP possibly eligible (well-preserved example of large-scale truss bridge construction on a crossing of the Missouri River)

inventoried by: Clayton B. Fraser 21 September 1994

Sni-A-Bar Creek Bridge

JACK14

GENERAL DATA

structure no.: Y 24
county: Jackson

city/town: 2.1 miles northeast of Lone Jack
feature inters.: Phillips Creek
cadastral grid: S4/5, T47N, R29W
highway route: State Supplementary Route F
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

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

span number: 1
span length: 45.0'
total length: 70.0'
roadway width: 40.0'

condition: good
alterations: Armco guardrails added
floor/decking: concrete/asphalt over concrete
other features: paneled concrete guardrails

HISTORICAL DATA

erection date: 1911-12
erection cost: $6945.00 (contract amount)
designer: unknown
fabricator: none
contractor: Illinois Steel Bridge Company, Jacksonville IL

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number Y 24; Jackson County Court Record, Book 47, page 412 (22 August 1911), page 454 (18 September 1911); Book 48, page 34 (16 January 1912) - located at Jackson County Courthouse, Independence, Missouri; field inspection by Lon Johnson, 6 February 1991.

sign. rating: 50
evaluation: NRHP possibly eligible (early, well-preserved example of concrete bridge construction)

inventoried by: Clayton B. Fraser 21 September 1994

Sni-A-Bar Creek Bridge

JACK15

GENERAL DATA

structure no.: Y 148
county: Jackson
city/town: 1.2 miles north of Oak Grove
feature inters.: Sni-A-Bar Creek
cadastral grid: S20/21, T49N, R29W
highway route: State Supplementary Route H
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 7-panel, rigid-connected Pratt through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 130.0'
total length: 134.0'
roadway width: 20.0'
condition: good
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1929
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number Y 148.

sign. rating: 33
evaluation: NRHP non-eligible (typically configured example of standard truss type)

inventoried by: Clayton B. Fraser 21 September 1994

Blue River Bridge

JACK16

GENERAL DATA

structure no.: Z 901
county: Jackson
city/town: 2.9 miles west of Grandview
feature inters.: Blue River
highway route: State Highway 150
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Pratt through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 120.0'
total length: 124.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: upper chord and 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; floor beam: I-beam, field-bolted to vertical; angle guardrails with concrete balustrade over wingwalls; bridge plate: **BRIDGE 73-201 / JACKSON COUNTY / 1932**

HISTORICAL DATA

erection date: 1932
erection cost: $12,558.25 (contract amount)
designer: unknown
fabricator : Inland Steel Company, East Chicago IN
contractor: F.H. Freeto, Independence MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number Z 901; Jackson County Court Record, Book 68, page 592 (26 July 1932) - located at Jackson County Courthouse, Independence, Missouri; field inspection by Lon Johnson, 6 February 1991.

sign. rating: 41
evaluation: NRHP non-eligible (typically configured example of standard bridge type)

inventoried by: Clayton B. Fraser 21 September 1994

Gladstone Boulevard Overpass

JACK17

GENERAL DATA

structure no.: S026B31
county: Jackson
city/town: Kansas City
feature inters.: Anderson Avenue
cadastral grid: S34, T50N, R32W
highway route: Gladstone Boulevard
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel two-hinge deck arch
substructure: stone masonry abutments

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 40.0'
condition: fair
alterations: deck replaced
floor/decking : concrete deck over steel stringers
other features: six riveted plate girder arch ribs with one-angle lateral bracing; pin-connected cast iron bearing shoes; ornamental wrought iron guardrails with cast iron newels; cast iron Ionic columns at abutments

HISTORICAL DATA

erection date: 1897-98
erection cost: $14,480.00
designer: D.A. Miles
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 S026B31; Kansas City Public Service Company, **History of Bridges and Viaducts**, page 25; field inspection by Mark Hufstetler, 4 February 1991.

sign. rating: 73
evaluation: NRHP eligible (outstanding early example of urban bridge construction)

inventoried by: Clayton B. Fraser 21 September 1994

Cliff Drive Overpass

JACK18

GENERAL DATA

structure no.: S026B32
county: Jackson
city/town: Kansas City
feature inters.: Chestnut Trafficway
cadastral grid: S34, T50N, R33W
highway route: Cliff Drive
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: concrete filled spandrel arch
substructure: concrete abutments with stone masonry wingwalls

span number: 1
span length: 82.0'
total length: 82.0'
roadway width: 42.0'
condition: good
alterations: none
floor/decking : asphalt over earth fill
other features: six arch ribs corbeled beneath arch barrel; recessed panels on arch spandrels; classical guardrails with cast concrete balusters; bronze plate: **ERECTED 1920 / BY BOARD OF PARK COMMISSIONERS / KANSAS CITY MO / H.B. THOMPSON CONTRACTOR**

HISTORICAL DATA

erection date: 1920
erection cost: $20,000.00+
designer: Kansas City Board of Park Commissioners
fabricator : none
contractor: H.B. Thompson / Concrete Construction Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S026B32; Roy Ellis, "A Civic History of Kansas City, Missouri," Ph.D. Dissertation, Columbia University, 1930, pages 90-92; Carrie Westlake Whitney, **Kansas City, Missouri: Its History and Its People 1808-1908** (Chicago: S.J. Clarke Publishing Company, 1908), page 579; **A Story of the Development of the Parks and Recreation Department Published on occasion of its Diamond Jubilee**, 1892-1967, page 8; Kansas City Park Department, **Cowtown 1890 Becomes City Beautiful 1962: The Story of Kansas City's Parks**, page 55; Office of City Council of Kansas City, **Index to Appropriations**, Ordinance 34530, Book 86, page 163 (5 May 1920); William H. Wilson, **The City Beautiful Movement** (Baltimore: Johns Hopkins University Press, 1989), pages 99-125; field inspection by Lon Johnson, 4 February 1991.

sign. rating: 53
evaluation: NRHP possibly eligible (well-preserved concrete structure associated with Kansas City's park and boulevard system)

inventoried by: Clayton B. Fraser 21 September 1994

Lexington Avenue Viaduct

JACK19

GENERAL DATA

structure no.: S026B33
county: Jackson
city/town: Kansas City
feature inters.: Chestnut Trafficway
cadastral grid: S34, T50N, R33W
highway route: Lexington Avenue
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel plate deck girder
substructure: concrete abutments with steel bent piers on concrete pedestals

span number: 5
span length: 95.0'
total length: 386.0'
roadway width: 43.0'
condition: good
alterations: remodeled, 1907; repairs, new deck, sidewalk and rails, 1970
floor/decking : concrete deck over steel stringers
other features: lattice guardrail on one side with Jersey barrier and aluminum tube guardrails at sidewalk

HISTORICAL DATA

erection date: 1900-01
erection cost: unknown
designer: Waddell and Hedrick, Kansas City MO
fabricator : unknown
contractor: Central Electric Railway Company, Kansas City MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S026B33; Reed McKinley, Director of Public Works, to Powell C. Groner, President, Kansas City Public Service Company, correspondence, 15 July 1948; Powell C. Groner, President, Kansas City Public Service Company, correspondence to Reed McKinley, Director of Public Works, 18 August 1948; "Steel Viaduct over Agnes Avenue Gorge for Central Electric Railway Company of Kansas City," original construction drawings by Waddell and Hedrick, 21 February 1900 - located at Kansas City Engineer's Office, Kansas City, Missouri.

sign. rating: 51
evaluation: NRHP possibly eligible (although altered, an important early example of this structural type, designed by the state's most influential engineer)

inventoried by: Clayton B. Fraser 21 September 1994

Grand Avenue Viaduct

JACK20

GENERAL DATA

structure no.: S028B31
county: Jackson
city/town: Kansas City
feature inters.: First Street and railroads
cadastral grid: S32, T50N, R33W
highway route: Grand Avenue
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel plate deck girder
substructure: concrete abutments and wingwalls with hammerhead spill-through piers

span number: 14
span length: 109.0'
total length: 773.0'
roadway width: 40.0'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1940
erection cost: $305,000.00
designer: Ash, Howard, Needles & Tammen, Kansas City MO
fabricator : Colorado Fuel and Iron Company, Pueblo CO;
Illinois Steel Company, Chicago IL;
Carnegie Steel Company, Pittsburgh PA
contractor: J.A. Tobin Construction Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S028B31; **Kansas City Star**, 21 January 1940; "A Viaduct at $285,029: J.A. Tobin Company is Low on Food Terminal Link," **Kansas City Times**, 1 May 1940; "Avenue to Food: Ground Broken for $305,000 Viaduct to Link Rails and City Market," **Kansas City Star**, 9 July 1940; field inspection by Lon Johnson, 4 February 1991.

sign. rating: 41
evaluation: NRHP non-eligible (typical example of Depression-era urban construction)

inventoried by: Clayton B. Fraser 23 September 1994

Twelfth Street Trafficway

JACK21

GENERAL DATA

structure no.: S030B11
county: Jackson
city/town: Kansas City
feature inters.: railroad yard
cadastral grid: S6, T49N, R33W
highway route: 12th Street
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: double-deck concrete through arch with 45 deck girder approach spans
substructure: concrete abutments and post piers

span number: 1; 45
span length: 140.0'
total length: 2054.0'
roadway width: 52.0'
condition: good
alterations: bridge rehabilitated,
floor/decking : concrete deck
other features: modern metal pipe guardrails, upper solid concrete balustrade with recessed panels

HISTORICAL DATA

erection date: 1913-14
erection cost: $577,330.49
designer: Waddell and Harrington, Kansas City MO
fabricator : none
contractor: Graff Construction Company, Seattle WA

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S030B11; **Kansas City Times**, 10 April 1913; **Kansas City Journal**, 27 August 1913; Kansas City Public Service Company, **History of Bridges and Viaducts**; E.E. Howard, "The Twelfth Street Trafficway Viaduct, Kansas City, Missouri," **American Society of Civil Engineers Transactions**, Paper No. 1357 presented at the meeting of September 1, 1915, pages 485-487, 525, 531-533; **Kansas City Star**, 28 February 1965; **Kansas City Star**, 9 April 1965; field inspection by Mark Hufstetler, 4 February 1991.

sign. rating: 77
evaluation: NRHP eligible (Missouri's foremost urban viaduct)

inventoried by: Clayton B. Fraser 23 September 1994

Bluff Street Bridge

JACK22

GENERAL DATA

structure no.: S030B12
county: Jackson
city/town: Kansas City
feature inters.: railroad tracks
cadastral grid: S6, T49N, R33W
highway route: St. Louis Road
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel, 7-panel, rigid-connected Pratt through truss, skewed
substructure: concrete (north), 2 concrete piers set in stone wall (south), concrete on top of both (bridge raised)

span number: 1
span length: 160.0'
total length: 163.0'
roadway width: 41.0'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: upper chord / end post: box beam comprised of 4 angles with continuous plates and lacing; lower chord: box beam comprised of 4 angles with lacing; vertical: box beam comprised of 4 angles with double lacing; diagonal: box beam comprised of 4 angles with lacing or built-up I-beam comprised of 4 angles with lacing; strut: 4 angles with lacing; floor beam: I-beam, field-bolted to verticals; guard-rail: 2 channels

HISTORICAL DATA

erection date: 1914-15
erection cost: unknown
designer: G.E. Tebbets
fabricator : unknown
contractor: Kansas City Terminal Railway Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S030B12; Kansas City Public Service Company, History of Bridges and Viaducts, pages 6-7.

sign. rating: 69
evaluation: NRHP determined eligible (noteworthy urban truss viaduct)

inventoried by: Clayton B. Fraser 23 September 1994

Beardsley Road Viaduct

JACK24

GENERAL DATA

structure no.: S030B42
county: Jackson
city/town: Kansas City
feature inters.: Hillside Drainage
cadastral grid: S6, T49N, R33W
highway route: Beardsley Road
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: concrete deck girder
substructure: concrete abutments and wingwalls; concrete post piers

span number: 16
span length: 40.0'
total length: 640.0'
roadway width: 40.0'
condition: fair
alterations: interstate highway recently built overhead
floor/decking : concrete deck
other features: Armco guardrails

HISTORICAL DATA

erection date: 1917
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number S030B42.

sign. rating: 33
evaluation: NRHP non-eligible (undistinguished example of mainstay structural type, largely undocumented)

inventoried by: Clayton B. Fraser 23 September 1994

Manchester Trafficway

JACK26

GENERAL DATA

structure no.: S047B21
county: Jackson
city/town: Kansas City
feature inters.: Big Blue River
cadastral grid: S7, T49N, R32W
highway route: Manchester Trafficway
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel plate deck girder
substructure: concrete abutments, wingwalls and spill-through piers

span number: 4
span length: 100.0'
total length: 360.0'
roadway width: 46.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1940
erection cost: $148,400.00
designer: Ash, Howard, Needles & Tammen, 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 S047B21; "Conquering the Wilderness of the Blue Valley with Viaducts and Trafficways," **Kansas City Star**, 29 September 1935; Kansas City Chamber of Commerce, **Where These Rocky Bluffs Meet: Including the Story of the Kansas City Ten-Year Plan** (Kansas City: Kansas City Chamber of Commerce, 1939), 213-17.

sign. rating: 43
evaluation: NRHP non-eligible (undistinguished example of long-span beam bridge construction)

inventoried by: Clayton B. Fraser 23 September 1994

East 23rd Street Viaduct

JACK27

GENERAL DATA

structure no.: S048B11
county: Jackson
city/town: Kansas City
feature inters.: Big Blue River
cadastral grid: S12, T49N, R32W
highway route: 23rd Street Trafficway
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel variable-depth plate girder
substructure: concrete abutments, wingwalls and spill-through piers

span number: 18
span length: 110.0'
total length: 1639.0'
roadway width: 42.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel balustrade guardrails with curved concrete bulkheads; sidewalks on both sides of roadway; bridge plate: DEPARTMENT OF PUBLIC WORKS / CITY OF KANSAS CITY, MISSOURI / R.E. McELROY, CITY MANAGER / MATTHEW S. MURRAY, DIRECTOR OF PUBLIC WORKS / N.W. HYLAND, ASSISTANT DIRECTOR OF PUBLIC WORKS / EAST TWENTY-THIRD STREET VIADUCT / 1936 / BLACK & VEATCH CONSULTING ENGINEERS / WISCONSIN BRIDGE & IRON COMPANY CONTRACTOR

HISTORICAL DATA

erection date: 1936-38
erection cost: $531,000.00
designer: Black & Veatch, Consulting Engineers
fabricator : Wisconsin Bridge & Iron Company, Milwaukee WI
contractor: Wisconsin Bridge & Iron Company, Milwaukee WI

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S048B11; "Conquering the Wilderness of the Blue Valley with Viaducts and Trafficways," **Kansas City Star**, 29 September 1935; **Kansas City Star**, 8 June 1938; **Kansas City Times**, 9 June 1938.

sign. rating: 51
evaluation: NRHP possibly eligible (noteworthy long-span urban viaduct)

inventoried by: Clayton B. Fraser 23 September 1994

27th Street Viaduct

JACK28

GENERAL DATA

structure no.: S051B31
county: Jackson
city/town: Kansas City
feature inters.: Vine Street
cadastral grid: S9/16, T49N, R33W
highway route: 27th Street
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: concrete open spandrel arch, with arched deck girder approach spans
substructure: concrete abutments, wingwalls and spill-through piers

span number: 1; 4; 2
span length: 120'; 40'; 45'
total length: 371.0'
roadway width: 40.0'
condition: good
alterations: bridge rehabilitated, 1949
floor/decking : concrete deck
other features: concrete guardrails with decorative molded balusters; decorative pedestrian stairways on both sides; sidewalks carried on decorative concrete corbels

HISTORICAL DATA

erection date: 1917
erection cost: $88,500 (estimate)
designer: Hedrick & Hedrick, Kansas City MO
fabricator : none
contractor: McMillan Contracting Company, Kansas City MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S051B31; Roy Ellis, **A Civic History of Kansas City, Missouri**, published in Springfield, Missouri, 1930, pages 91, 93; promotional literature for Harrington, Howard and Ash, Consulting Engineers, Kansas City, Missouri, from the Kansas City Public Library; Carrie Westlake Whitney, **Kansas City, Missouri: Its History and Its People 1808-1908** (Chicago: S.J. Clarke Publishing Company, 1908), pages 592, 595; "The New Twenty-Seventh Street Viaduct over Vine Street," **Kansas City Times**, 27 December 1916; George E. Kessler, "The Kansas City Park System and Its Effect on the City Plan," **Good Roads**, 2 June 1917, pages 321-24; Kansas City Parks Department, **Cowtown 1890 Becomes City Beautiful 1962: The Story of Kansas City's Parks**, page 10; William H. Wilson, **The City Beautiful Movement** (Baltimore: Johns Hopkins University Press, 1989), pages 122-25; field inspection by Lon Johnson, 4 February 1991.

sign. rating: 63
evaluation: NRHP possibly eligible (outstanding example of urban concrete bridge construction built as an integral part of Kansas City's boulevard system)

inventoried by: Clayton B. Fraser 23 September 1994

Oak Street Viaduct

JACK29

GENERAL DATA

structure no.: S052B11
county: Jackson
city/town: Kansas City
feature inters.: Kansas City Terminal Railway
cadastral grid: S9/16, T49N, R33W
highway route: Oak Street
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel plate deck girder
substructure: concrete abutments and wingwalls with spill-through concrete piers

span number: 12
span length: 100.0'
total length: 711.0'
roadway width: 46.0'
condition: good
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: unknown

HISTORICAL DATA

erection date: 1930-31
erection cost: $350,000 (estimate)
designer: Ash, Howard, Needles & Tammen, Kansas City MO
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S052B11; "Oak Street Viaduct for Kansas City Terminal Railway," original construction drawings by Ash, Howard, Needles and Tammen, 23 June 1930; **Kansas City Star**, 14 August 1930; **Kansas City Star**, 2 October 1930; **Kansas City Star**, 19 October 1930; "Oak Span Steel Soon," **Kansas City Star**, 21 February 1931; **Kansas City Star**, 21 August 1931; "Oak Street Viaduct Another Completed Link in 9-Mile Cross-Town Trafficway," **Kansas City Times**, 26 August 1931; **Kansas City Star**, 25 August 1931.

sign. rating: 37
evaluation: NRHP non-eligible (undistinguished long-span beam bridge)

inventoried by: Clayton B. Fraser 23 September 1994

23rd Street Viaduct

JACK30

GENERAL DATA

structure no.: S053B21
county: Jackson
city/town: Kansas City
feature inters.: Kansas City railway, Wyoming Street
cadastral grid: S7, T49N, R33W
highway route: 23rd Street
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: concrete deck girder; steel plate deck girder
substructure: concrete abutments and wingwalls with concrete post piers

span number: 36
span length: 97.0'
total length: 1,596.0'
roadway width: 56.0'
condition: good
alterations: substantial alterations in 1960-61
floor/decking : concrete deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1919-21
erection cost: $987,989.04
designer: Harrington, Howard and Ash, Kansas City MO
fabricator : none
contractor: A.S. Hecker and Company, Cleveland OH

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S053B21; Kansas City Public Service Company, **History of Bridges and Viaducts**; **Kansas City Times**, 16 March 1918; "How Kansas City is Trying to Lift Itself Out of the Mud Despite the Aldermanic Combine," **Kansas City Times**, 3 April 1919; **Kansas City Times**, 12 March 1919; **Kansas City Times**, 28 March 1919; **Kansas City Journal**, 22 September 1921;.

sign. rating: 39
evaluation: NRHP non-eligible (relatively early, large-scale example of concrete bridge construction, substantially altered)

inventoried by: Clayton B. Fraser 23 September 1994

31st Street Overpass

JACK31

GENERAL DATA

structure no.: S055B21
county: Jackson
city/town: Kansas City
feature inters.: Wyandotte Street
cadastral grid: S17, T49N, R33W
highway route: 31st Street
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: concrete deck girder
substructure: concrete abutments and wingwalls with spill through piers

span number: 3
span length: 50.0'
total length: 87.0'
roadway width: 44.0'
condition: good
alterations: repaired, 1974
floor/decking : concrete deck
other features: decorative concrete post-and-beam guardrails

HISTORICAL DATA

erection date: 1916
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S055B21; Roy Ellis, **A Civic History of Kansas City, Missouri**, page 94; field inspection by Lon Johnson, 4 February 1991.

sign. rating: 39
evaluation: NRHP non-eligible (partially documented example of concrete bridge construction)

inventoried by: Clayton B. Fraser 23 September 1994

50th Street Bridge

JACK32

GENERAL DATA

structure no.: S078B31
county: Jackson
city/town: Kansas City
feature inters.: Brush Creek
cadastral grid: S30, T49N, R33W
highway route: 50th Street
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

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

span number: 2
span length: 36.0'
total length: 74.0'
roadway width: 26.0'
condition: good
alterations: none
floor/decking : concrete over earth fill
other features: sidewalks on both sides of roadway with slotted concrete guardrails; incised lines on spandrel walls; concrete pilasters at abutments and pier

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 S078B31; **Kansas City Times**, 27 May 1911; Roy Ellis, A Civic History of Kansas City, Missouri, published in Springfield, Missouri, 1930, page 95; Erle Smith, **Cowtown 1890 Becomes City Beautiful 1962: The Story of Kansas City's Parks**, 1962; field inspection by Mark Hufstetler, 5 February 1991.

sign. rating: 34
evaluation: NRHP non-eligible (well-preserved but poorly documented example of urban bridge construction)

inventoried by: Clayton B. Fraser 23 September 1994

Paseo Boulevard Bridge

JACK35

GENERAL DATA

structure no.: S080B21
county: Jackson
city/town: Kansas City
feature inters.: Brush Creek
cadastral grid: S27, T49N, R33W
highway route: Paseo Boulevard
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

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

span number: 1
span length: 24.0'
total length: 71.0'
roadway width: unknown
condition: fair
alterations: box culverts added to either side of arch, 1960
floor/decking : concrete deck
other features: stone guardrail on one side; steel guardrail on one side

HISTORICAL DATA

erection date: c1935
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S080B21.

sign. rating: 14
evaluation: NRHP non-eligible (poorly preserved, poorly documented concrete arch bridge)

inventoried by: Clayton B. Fraser 23 September 1994

Woodland Avenue Bridge

JACK36

GENERAL DATA

structure no.: S080B22
county: Jackson
city/town: Kansas City
feature inters.: Brush Creek
cadastral grid: S28, T49N, R33W
highway route: Woodland Avenue
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

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

span number: 1
span length: 75.0'
total length: 123.0'
roadway width: 36.0'
condition: fair
alterations: rehabilitated and guardrails replaced, 1977
floor/decking : concrete over earth fill
other features: cantilevered sidewalks supported by corbeled brackets; corbeled arch rings and incised panels on spandrel walls; concrete pilasters at abutments; steel guardrails

HISTORICAL DATA

erection date: 1917-18
erection cost: $12,000.00
designer: unknown
fabricator : none
contractor: Burt L. Elmer, Kansas City

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S080B22; Kansas City Public Service Company, **History of Bridges and Viaducts**; field inspection by Lon Johnson, 5 February 1991.

sign. rating: 38
evaluation: NRHP non-eligible (undistinguished concrete arch bridge, substantially altered)

inventoried by: Clayton B. Fraser 23 September 1994

Troost Avenue Bridge

JACK37

GENERAL DATA

structure no.: S080B31
county: Jackson
city/town: Kansas City
feature inters.: Brush Creek
cadastral grid: S28, T49N, R33W
highway route: Troost Avenue
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: concrete, four-rib, open spandrel arch
substructure: concrete abutments and wingwalls

span number: 1
span length: 74.0'
total length: 74.0'
roadway width: 42.5'
condition: fair
alterations: deck and guardrails replaced, 1977
floor/decking : concrete deck
other features: steel angle guardrails; decorative bronze plates mounted on concrete guardrail bulkheads

HISTORICAL DATA

erection date: 1917
erection cost: $19,578.97
designer: unknown
fabricator : none
contractor: Fox Redpath Construction Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S080B31; Kansas City Public Service Company, **History of Bridges and Viaducts**; Office of City Council of Kansas City, **Index to Appropriations**, Ordinance No. 28014; Ordinance No. 30271; field inspection by Lon Johnson, 5 February 1991.

sign. rating: 47
evaluation: NRHP possibly eligible (relatively early example of open-spandrel arch construction)

inventoried by: Clayton B. Fraser 23 September 1994

Sebree Bridge

JACK38

GENERAL DATA

structure no.: S081B41
county: Jackson
city/town: Kansas City
feature inters.: Brush Creek
cadastral grid: S27, T49N, R33W
highway route: Benton Boulevard
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: concrete, four-rib, open spandrel arch; arched concrete deck girder approach spans
substructure: concrete abutments wingwalls and piers

span number: 3; 5
span length: 80.0'
total length: 324.0'
roadway width: 53.0'
condition: good
alterations: rehabilitated, 1983
floor/decking : concrete deck
other features: cantilevered sidewalks, tall concrete lamp pedestals, flower urns; bridge plate: **The Sebree Bridge 1923** (incised in concrete of lamp pedestal)

HISTORICAL DATA

erection date: 1922-24
erection cost: unknown
designer: Harrington, Howard and Ash, Kansas City MO
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S081B41; The Chamber of Commerce of Kansas City Missouri, **Where These Rocky Bluffs Meet: Including the Story of The Kansas City Ten-Year Plan**, 1938, pages 77-81; **Kansas City Star**, 19 January 1922; **Kansas City Journal**, 16 November 1924; **Kansas City Star**, 5 October 1930; field inspection by Lon Johnson, 5 February 1991.

sign. rating: 47
evaluation: NRHP possibly eligible (handsomely proportioned example of concrete urban bridge design, well preserved)

inventoried by: Clayton B. Fraser 23 September 1994

Blue Parkway Viaduct

JACK39

GENERAL DATA

structure no.: S082B33
county: Jackson
city/town: Kansas City
feature inters.: Big Blue River; St. Louis and Santa Fe Railroad
cadastral grid: S26, T49N, R32W
highway route: Blue Parkway
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel plate deck girder
substructure: concrete abutments and wingwalls with spill-through piers

span number: 14
span length: 105.0'
total length: 810.0'
roadway width: 42.0'
condition: good
alterations: rehabilitated in 1976
floor/decking : concrete deck over steel stringers
other features: steel guardrail, solid concrete balustrade separates sidewalks from traffic, chain link fence on outside of sidewalks

HISTORICAL DATA

erection date: 1935-36
erection cost: $197,322.48
designer: Missouri State Highway Department
fabricator : unknown
contractor: List Construction Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S082B33; files on Primary System Bridge, located at Missouri Highway and Transportation Department, Jefferson City, Missouri; Missouri State Highway Commission, **Tenth Biennial Report**, 1935-36, page 263; Chamber of Commerce of Kansas City, Missouri, **Where These Rocky Bluffs Meet: Including the Story of The Kansas City Ten-Year Plan**, 1938, pages 177-217; field inspection by Lon Johnson, 5 February 1991.

sign. rating: 47
evaluation: NRHP possibly eligible (long-span example of MSHD beam bridge design)

inventoried by: Clayton B. Fraser 23 September 1994

Sni-A-Bar Road Overpass

JACK40

GENERAL DATA

structure no.: S083B31
county: Jackson
city/town: Kansas City
feature inters.: Kansas City Southern Railroad
cadastral grid: S25, T49N, R33W
highway route: Sni-A-Bar Road
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: concrete, two-rib, open spandrel arch, skewed
substructure: concrete abutments and wingwalls

span number: 1
span length: 128.0'
total length: 190.0'
roadway width: 19.5'
condition: good
alterations: none
floor/decking : concrete deck
other features: solid concrete guardrails with incised rectangular panels; builder's plate: **Sni-A-Bar Road Bridge, The Kansas City Southern Railway Company An. Reece, Chief Engineer, Ash-Howard-Needles & Tammen Consulting Engineers List Construction Company Contractor**

HISTORICAL DATA

erection date: 1929
erection cost: unknown
designer: Ash, Howard, Needles & Tammen, Kansas City MO
fabricator : none
contractor: List Construction Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S083B31.

sign. rating: 38
evaluation: NRHP non-eligible (undistinguished example of uncommon structural type)

inventoried by: Clayton B. Fraser 23 September 1994

Raytown Road Bridge

JACK41

GENERAL DATA

structure no.: S084B11
county: Jackson
city/town: Kansas City
feature inters.: Round Grove Creek
cadastral grid: S19/30, T49N, R32W
highway route: Raytown Road
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

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

span number: 1
span length: 40.0'
total length: 41.0'
roadway width: 30.5'
condition: fair/poor
alterations: extensive concrete spalling on spandrel walls
floor/decking : concrete over earth fill
other features: concrete guardrails with recessed rectangular panels

HISTORICAL DATA

erection date: 1913
erection cost: $10,185.00 (four-bridge contract)
designer: unknown
fabricator : none
contractor: Mulholland Construction Company, Kansas City MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S084B11; Jackson County Court Record, Book 48, page 169 (11 April 1912), page 212 (8 May 1912), Book 49, page 185 (7 May 1913) - located in Jackson County Courthouse, Independence, Missouri; field inspection by Lon Johnson, 9 February 1991.

sign. rating: 42
evaluation: NRHP non-eligible (typical, small-scale example of concrete arch construction, poorly preserved)

inventoried by: Clayton B. Fraser 22 February 1994

63rd Street Viaduct

JACK42

GENERAL DATA

structure no.: S106B12
county: Jackson
city/town: Kansas City
feature inters.: Big Blue River; St. Louis & Santa Fe Railroad
cadastral grid: S2, T48N, R33W
highway route: 63rd Street
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel, variable depth plate girder viaduct
substructure: concrete abutments, wingwalls and piers

span number: 6
span length: 140.0'
total length: 671.0'
roadway width: 42.0'
condition: fair
alterations: none
floor/decking : asphalt on concrete deck over steel stringers
other features: concrete balustrade posts; bridge plate at each end: **MISSOURI HIGHWAY DEPT BRIDGE No. K607 1936**

HISTORICAL DATA

erection date: 1936
erection cost: $357,989.00
designer: Missouri State Highway Department
fabricator : Illinois U.S.A.
contractor: W.A. Ross Construction Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S106B12; Primary System Bridge Record, located at the Missouri Highway and Transportation Department, Jefferson City MO; **Kansas City Times**, 20 September 1935; Kansas City Chamber of Commerce, **Where These Rocky Bluffs Meet: Including the Story of The Kansas City Ten-Year Plan**, (Kansas City: Chamber of Commerce of Kansas City, 1938), pages 177, 213; "Looking Northeast over the Sixty-Third Street Viaduct which Provides a New Entrance into City," **Kansas City Times**, 11 September 1937; field inspection Mark Hufstetler, 5 February 1991.

sign. rating: 50
evaluation: NRHP possible (long-span example of MSHD beam bridge design)

inventoried by: Clayton B. Fraser 22 February 1994

Little Blue Road Bridge

JACK43

GENERAL DATA

structure no.: S115B41
county: Jackson
city/town: Kansas City
feature inters.: Little Blue River
cadastral grid: S11, T48N, R32W
highway route: Little Blue Road
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Pratt through truss, with concrete deck girder approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 120.0'
total length: 197.0'
roadway width: 20.0'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1932
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S115B41.

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

inventoried by: Clayton B. Fraser 22 February 1994

Paseo Overpass

JACK45

GENERAL DATA

structure no.: S128B11
county: Jackson
city/town: Kansas City
feature inters.: 77th Street
cadastral grid: S16, T48N, R33W
highway route: Paseo Boulevard
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

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

span number: 1
span length: 63.0'
total length: 65.0'
roadway width: 28.0'
condition: good
alterations: none
floor/decking : concrete over earth fill
other features: ornamental concrete guardrails with paneled concrete bulkheads; horizontal grooves cast in concrete on wingwalls; incised panels cast in concrete on arch spandrels; corbeled concrete stringcourse at springline and road level

HISTORICAL DATA

erection date: 1917
erection cost: $70,000.00 for both overpasses
designer: Harrington, Howard and Ash, Kansas City MO
fabricator : none
contractor: H.H. Hannenkratt and D. Murno, Kansas City MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S128B11; Roy Ellis, **A Civic History of Kansas City, Missouri**, published in Springfield, Missouri, 1930, p. 91, 93; promotional literature for Harrington, Howard and Ash, Consulting Engineers, Kansas City, Missouri, from the Kansas City Public Library; Kansas City Public Service Company, **History of Bridges and Viaducts**; Carrie Westlake Whitney, **Kansas City, Missouri: Its History and Its People 1808-1908** (Chicago: S.J. Clarke Publishing Company, 1908), pages 592, 595; Kansas City Parks Department, **Cowtown 1890 Becomes City Beautiful 1962: The Story of Kansas City's Parks**, page 10; Fraserdesign, "The Paseo Overpasses: Preliminary Determination of NRHP Eligibility for the Missouri Historic Bridge Inventory," 27 March 1991; Jerry Cook, Kansas City Public Works Engineer, Bridge Inventory Report, as cited in Preliminary Determination of Paseo Overpasses; George E. Kessler, "The Kansas City Park System and Its Effect on the City Plan," **Good Roads**, 2 June 1917, pages 321-24; William H. Wilson, **The City Beautiful Movement** (Baltimore: Johns Hopkins University Press, 1989), pages 122-25; field inspection Mark Hufstetler, 5 February 1991.

Paseo Overpass

sign. rating: 56
evaluation: NRHP determined eligible (outstanding example of urban concrete bridge construction built as an integral part of Kansas City's boulevard system)

inventoried by: Clayton B. Fraser 22 February 1994

Paseo Overpass

JACK46

GENERAL DATA

structure no.: S128B12
county: Jackson
city/town: Kansas City
feature inters.: 77th Street
cadastral grid: S16, T48N, R33W
highway route: Paseo Boulevard
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

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

span number: 1
span length: 63.0'
total length: 65.0'
roadway width: 28.0'
condition: good
alterations: none
floor/decking : concrete over earth fill
other features: ornamental concrete guardrails with paneled concrete bulkheads; horizontal grooves cast in concrete on wingwalls; incised panels cast in concrete on arch spandrels; corbeled concrete stringcourse at springline and road level

HISTORICAL DATA

erection date: 1917
erection cost: $70,000.00 for both overpasses
designer: Harrington, Howard and Ash, Kansas City MO
fabricator : none
contractor: H.H. Hannenkratt and D. Murno, Kansas City MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S128B11; Roy Ellis, **A Civic History of Kansas City, Missouri**, published in Springfield, Missouri, 1930, p. 91, 93; promotional literature for Harrington, Howard and Ash, Consulting Engineers, Kansas City, Missouri, from the Kansas City Public Library; Kansas City Public Service Company, **History of Bridges and Viaducts**; Carrie Westlake Whitney, **Kansas City, Missouri: Its History and Its People 1808-1908** (Chicago: S.J. Clarke Publishing Company, 1908), pages 592, 595; Kansas City Parks Department, **Cowtown 1890 Becomes City Beautiful 1962: The Story of Kansas City's Parks**, page 10; Fraserdesign, "The Paseo Overpasses: Preliminary Determination of NRHP Eligibility for the Missouri Historic Bridge Inventory," 27 March 1991; Jerry Cook, Kansas City Public Works Engineer, Bridge Inventory Report, as cited in Preliminary Determination of Paseo Overpasses; George E. Kessler, "The Kansas City Park System and Its Effect on the City Plan," **Good Roads**, 2 June 1917, pages 321-24; William H. Wilson, **The City Beautiful Movement** (Baltimore: Johns Hopkins University Press, 1989), pages 122-25; field inspection Mark Hufstetler, 5 February 1991.

Paseo Overpass

sign. rating: 56
evaluation: NRHP determined eligible (outstanding example of urban concrete bridge construction built as an integral part of Kansas City's boulevard system)

inventoried by: Clayton B. Fraser 22 February 1994

Hillcrest Road Bridge

JACK47

GENERAL DATA

structure no.: S131B21
county: Jackson
city/town: Kansas City
feature inters.: small creek
cadastral grid: S13/14, T48N, R33W
highway route: Hillcrest Road
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

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

span number: 2
span length: 20.0'
total length: 40.0'
roadway width: 20.0'
condition: fair
alterations: original concrete wingwalls lengthened with historic stone retaining walls
floor/decking : asphalt over earth fill
other features: concrete guardrails with rectangular slots

HISTORICAL DATA

erection date: 1906
erection cost: unknown
designer: unknown
fabricator : none
contractor: Midland Bridge Company, Kansas City MO (probable)

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S131B21; Board of Park Commissioners of Kansas City, **The Park and Boulevard System of Kansas City, Missouri**, revision and reprint of 1914 edition, 1920, pages 24-25; Kansas City Parks Department, **Cowtown 1890 becomes City Beautiful 1962: The Story of Kansas City's Parks**, page 10; Missouri State Board of Agriculture, Highway Department, "Bridges and Culverts," Bulletin No. 5, August 1908, page 4.

sign. rating: 50
evaluation: NRHP possibly eligible (early example of concrete arch construction)

inventoried by: Clayton B. Fraser 22 February 1994

Rhinehart Road Bridge

JACK48

GENERAL DATA

structure no.: S137B31
county: Jackson
city/town: Kansas City
feature inters.: Little Cedar Creek
cadastral grid: S13/14, T48N, R32W
highway route: Rhinehart Road
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel, 6-panel pin-connected Pratt pony truss
substructure: timber pile bent abutments and backwalls

span number: 1
span length: 100.0'
total length: 102.0'
roadway width: 15.0'
condition: fair
alterations: deck rehabilitated 1986
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, 4 angles with batten plates; vertical: 4 angles with lacing; diagonal: 2 punched rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: lattice; endpost-mounted builder's plate: **INTER-STATE BRIDGE CO. / KANSAS CITY MO / 1904**

HISTORICAL DATA

erection date: 1904
erection cost: unknown
designer: Interstate Bridge Company, Kansas City MO
fabricator : Carnegie Steel Company, Pittsburgh PA
contractor: Interstate Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S137B31; field inspection by Lon Johnson, 9 February 1991.

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

inventoried by: Clayton B. Fraser 23 February 1994

Elm Avenue Bridge

JACK50

GENERAL DATA

structure no.: S142B31
county: Jackson
city/town: Kansas City
feature inters.: small creek
cadastral grid: S20, T48N, R32W
highway route: Elm Avenue
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: 3-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 36.0'
total length: 38.0'
roadway width: 15.6'
condition: fair
alterations: truss possibly moved to this location
floor/decking : concrete deck over steel stringers
other features: Armco over original lattice guardrails

HISTORICAL DATA

erection date: c1900
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S142B31.

sign. rating: 12
evaluation: NRHP non-eligible (typically configured, small-scale example of common structural type, possibly moved to this location)

inventoried by: Clayton B. Fraser 23 February 1994

Dodson Bridge

JACK51

GENERAL DATA

structure no.: S146B31
county: Jackson
city/town: Kansas City
feature inters.: Big Blue River
cadastral grid: S22, T48N, R33W
highway route: Prospect Avenue
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Pratt through truss, with concrete deck girder approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 122.0'
total length: 206.0'
roadway width: 20.0'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1930
erection cost: unknown
designer: E.M. Stayton and N.T. Veatch, Jr., Consulting Engineers
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S146B31; "Dodson Bridge over Blue River," original construction drawings by E.M. Stayton and N.T. Veatch, Jr., April 1930 - located at Kansas City Engineer's Office, Kansas City, Missouri.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured example of standard bridge type)

inventoried by: Clayton B. Fraser 23 February 1994

Troost Avenue Viaduct

JACK52

GENERAL DATA

structure no.: S147B21
county: Jackson
city/town: Kansas City
feature inters.: 85th Street, K.C.P.S.R.R. tracks, stream
cadastral grid: S20/21, T48N, R33W
highway route: Troost Avenue
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: rolled steel deck girder
substructure: concrete abutments, wingwalls and spill-through piers

span number: 10
span length: 56.0'
total length: 381.0'
roadway width: 48.5'
condition: good
alterations: repaired after collision, 1984
floor/decking : concrete deck over steel stringers
other features: concrete post-and-rail guardrails

HISTORICAL DATA

erection date: 1943
erection cost: $147,640.69
designer: Missouri State Highway Department
fabricator : Salvage Section of War Production Board
contractor: List and Weatherly Construction Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S147B21; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; Missouri State Highway Commission, **Thirteenth Biennial Report**, 1941-42, page 149; "Salvaged Steel Used in Kansas City Bridge," **Engineering News Record**, 2 September 1943, p. 3; field inspection Mark Hufstetler, 5 February 1991.

sign. rating: 48
evaluation: NRHP possibly eligible (wartime bridge built using salvaged materials)

inventoried by: Clayton B. Fraser 26 September 1994

Bannister Road Overpass

JACK53

GENERAL DATA

structure no.: S153B22
county: Jackson
city/town: Kansas City
feature inters.: Blue River Road
cadastral grid: S27, T48N, R33W
highway route: Bannister Road
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: concrete rigid frame
substructure: concrete abutments and wingwalls

span number: 1
span length: 37.0'
total length: 38.0'
roadway width: 20.5'
condition: good
alterations: none
floor/decking : concrete deck
other features: recessed panels on concrete spandrel walls; fluted Art Moderne pylons at abutments; Armco guardrails

HISTORICAL DATA

erection date: 1931
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S153B22; Elmer Napier, "Rigid-Frame Bridges," **Roads and Bridges**, April 1940, page 13; field inspection Mark Hufstetler, 5 February 1991.

sign. rating: 54
evaluation: NRHP possibly eligible (earliest example in state of this rare structural type)

inventoried by: Clayton B. Fraser 26 September 1994

Kenneth Road Bridge

JACK55

GENERAL DATA

structure no.: S245B11
county: Jackson
city/town: Kansas City
feature inters.: Big Blue River
cadastral grid: S31, T47N, R33W
highway route: Kenneth Road
highway distr.: 4
current owner: City of Kansas City

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss, with timber stringer approach spans
substructure: stone masonry piers, concrete/timber abutments

span number: 1
span length: 100.0'
total length: 158.0'
roadway width: 14.5'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord / inclined end post: two channels with cover plate and lacing; lower chord: two rectangular eyebars; vertical: two channels with lacing (two square eyebars at the hip); diagonal: two rectangular eyebars; counter: 2 square eyebars with turnbuckles; lateral bracing: round rod with threaded ends; strut: four angles with lacing; portal strut: lattice; floor beam: riveted plate girder, U-bolted to lower chord pins; Armco guardrails

HISTORICAL DATA

erection date: c1900
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S245B11; field inspection Mark Hufstetler, 6 February 1991.

sign. rating: 26
evaluation: NRHP non-eligible (typically configured example of mainstay structural type, poorly documented)

inventoried by: Clayton B. Fraser 26 September 1994

Blue Ridge Overpass

JACK56

GENERAL DATA

structure no.: 042700.1
county: Jackson
city/town: Blue Summit
feature inters.: Missouri State Route 12
cadastral grid: S5, T49N, R32W
highway route: Blue Ridge Boulevard
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

superstructure: stone filled spandrel arch
substructure: stone masonry abutments and wingwalls

span number: 1
span length: 70.0'
total length: 86.0'
roadway width: 56.4'
condition: good
alterations: none
floor/decking : asphalt over earth fill
other features: ashlar stone masonry on spandrels, wingwalls, guardrails and arch barrel; concrete string-course with stone corbels on spandrel; builder's plate: **BUILT BY FORRESTER-SWENSON CONSTRUCTION CO. / OSCAR KOELHER**

HISTORICAL DATA

erection date: 1906
erection cost: unknown
designer: Oscar Koehler, Jackson County Surveyor
fabricator : none
contractor: Forrester-Swenson Construction Company

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number 042700.1; Oscar Koehler, Jackson County Surveyor, "Good Roads and Safe Bridges," October 1908 - located at the Kansas City Public Library; field inspection Lon Johnson, 10 February 1991.

sign. rating: 63
evaluation: NRHP possibly eligible (outstanding example of stone arch construction)

inventoried by: Clayton B. Fraser 26 September 1994

Santa Fe Railroad Overpass

JACK59

GENERAL DATA

structure no.: 072000.9
county: Jackson
city/town: northwest of Sibley
feature inters.: Atchison, Topeka & Santa Fe Railway
cadastral grid: S34, T51N, R30W
highway route: County Road 72
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected 2-angle Pratt pony truss, with timber stringer approach spans
substructure: timber pile bent abutments, wingwalls and piers, with steel pile bent piers at truss

span number: 1
span length: 53.0'
total length: 125.0'
roadway width: 14.6'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: timber guardrails

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 072000.9; field inspection Mark Hufstetler, 6 February 1991.

sign. rating: 33
evaluation: NRHP non-eligible (poorly documented example of uncommon structural type)

inventoried by: Clayton B. Fraser 26 September 1994

Blue Branch Bridge

JACK63

GENERAL DATA

structure no.: 147000.6
county: Jackson
city/town: Grain Valley
feature inters.: Blue Branch
cadastral grid: S35, T49N, R30W
highway route: County Road 147
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

superstructure: steel, 4-panel, rigid-connected Pratt pony truss
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 50.0'
total length: 150.0'
roadway width: 20.0'
condition: fair
alterations: rehabilitated, 1940
floor/decking : concrete/concrete
other features: unknown

HISTORICAL DATA

erection date: c1930
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number 147000.6.

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

inventoried by: Clayton B. Fraser 26 September 1994

Wilson Street Bridge

JACK65

GENERAL DATA

structure no.: 212502.3
county: Jackson
city/town: Independence
feature inters.: Small Creek
cadastral grid: S32, T50N, R32W
highway route: Wilson Street
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

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

span number: 1
span length: 45.0'
total length: 82.0'
roadway width: 32.0'
condition: fair
alterations: unknown
floor/decking : asphalt over earth fill
other features: concrete guardrails with ornamental recessed panels

HISTORICAL DATA

erection date: c1925
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number 212502.3.

sign. rating: 31
evaluation: NRHP non-eligible (poorly documented, small-scale concrete arch bridge)

inventoried by: Clayton B. Fraser 26 September 1994

Little Blue River Bridge

JACK66

GENERAL DATA

structure no.: 243500.1
county: Jackson
city/town: 2.2 miles west of Lake Tapawingo
feature inters.: branch of Little Blue River
cadastral grid:
highway route: county road
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls with steel pile bent piers

span number: 1
span length: 45.0'
total length: 81.0'
roadway width: 15.9'
condition: fair
alterations: truss probably moved to this location
floor/decking: timber deck
other features: timber guardrails

HISTORICAL DATA

erection date: c1900
erection cost: unknown
designer: unknown
fabricator: unknown
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number 243500.1.

sign. rating: 15
evaluation: NRHP non-eligible (typically configured, poorly documented example of common structural type).

inventoried by: Clayton B. Fraser 26 September 1994

Little Blue River Bridge

JACK67

GENERAL DATA

structure no.: 243500.5
county: Jackson
city/town: 2.8 miles southeast of Unity Village
feature inters.: East Fork of Little Blue River
cadastral grid: S34, T48N, R31W
highway route: county road
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

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

span number: 1
span length: 40.0'
total length: 42.0'
roadway width: 17.5'
condition: fair
alterations: partial replacement of collision-damaged guardrails
floor/decking : earth fill over concrete
other features: concrete guardrails with rectangular incised panels

HISTORICAL DATA

erection date: 1911
erection cost: $2648.00
designer: Jackson County Surveyor
fabricator : none
contractor: Midland Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number 243500.5; Jackson County Court Record, Book 47, page 238 (8 May 1911), page 273 (1 June 1911), page 477 (2 October 1911), page 485 (4 October 1911) - located at Jackson County Courthouse, Independence, Missouri; field inspection Mark Hufstetler, 6 February 1991.

sign. rating: 48
evaluation: NRHP possibly eligible (relatively early example of concrete arch bridge construction)

inventoried by: Clayton B. Fraser 26 September 1994

Mouse Creek Bridge

JACK68

GENERAL DATA

structure no.: 243501.4
county: Jackson
city/town: Lee's Summit
feature inters.: Mouse Creek
cadastral grid:
highway route: Sampson Road
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt half-hip pony truss
substructure: unknown

span number: 1
span length: 50.0'
total length: 52.0'
roadway width: 16.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: lattice guardrails

HISTORICAL DATA

erection date: c1900
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number 243501.4.

sign. rating: 26
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 26 September 1994

Bridge

JACK69

GENERAL DATA

structure no.: 243502.3
county: Jackson
city/town: Lee's Summit
feature inters.: Cedar Creek
cadastral grid:
highway route: Longview Road
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss, with timber stringer approach spans
substructure: stone masonry abutments

span number: 1
span length: 37.0'
total length: 128.0'
roadway width: 15.8'
condition: fair
alterations: unknown
floor/decking: timber deck
other features: timber 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 243502.3.

sign. rating: 25
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 26 September 1994

Marble Creek Bridge

JACK72

GENERAL DATA

structure no.: 297000.4
county: Jackson
city/town: east of Tarsney Lakes
feature inters.: Marble Creek
cadastral grid: S19/30, T48N, R29W
highway route: County Road 297
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

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

span number: 1
span length: 43.0'
total length: 48.0'
roadway width: 16.3'
condition: fair
alterations: none
floor/decking : earth fill over concrete
other features: incised panels on solid concrete guardrails and spandrel walls

HISTORICAL DATA

erection date: 1911
erection cost: unknown
designer: Jackson County Surveyor (probable)
fabricator : none
contractor: J.C. Brown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number 297000.4; Jackson County Court Record, Book 47, page 233 (3 May 1911) - located at Jackson County Courthouse, Independence, Missouri; field inspection Mark Hufstetler, 6 February 1991.

sign. rating: 47
evaluation: NRHP possibly eligible (well-preserved, early example of concrete bridge construction)

inventoried by: Clayton B. Fraser 26 September 1994

Sni-A-Bar Creek Bridge

JACK73

GENERAL DATA

structure no.: 302000.6
county: Jackson
city/town: north of Lone Jack
feature inters.: branch of Sni-A-Bar Creek
cadastral grid: S6, T47N, R29W
highway route: County Road 302
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

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

span number: 1
span length: 50.0'
total length: 70.0'
roadway width: 40.0'
condition: fair
alterations: none
floor/decking : earth fill over concrete
other features: solid concrete guardrails with recessed rectangular panels

HISTORICAL DATA

erection date: 1911
erection cost: $7195.00
designer: Jackson County Surveyor
fabricator : none
contractor: Illinois Steel Bridge Company, Jacksonville IL

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number 302000.6; Jackson County Court Record, Book 47, page 454 (18 September 1911) - located at Jackson County Courthouse, Independence, Missouri; field inspection Mark Hufstetler, 6 February 1991.

sign. rating: 49
evaluation: NRHP possibly eligible (well-preserved, early example of concrete bridge construction)

inventoried by: Clayton B. Fraser 26 September 1994

Sni-A-Bar Creek Bridge

JACK74

GENERAL DATA

structure no.: 304000.3
county: Jackson
city/town: northeast of Lone Jack
feature inters.: branch of Sni-A-Bar Creek
cadastral grid: S4/5, T47N, R29W
highway route: County Road 304
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss
substructure: stone masonry abutments and wingwalls

span number: 1
span length: 56.0'
total length: 58.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : timber deck
other features: upper chord / inclined end post: two channels with cover plate and lacing; lower chord: 2 angles with batten plates or two rectangular eyebars; vertical: four angles with lacing; diagonal: two rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to verticals; lattice guardrails; endpost-mounted builder's plate: **1907 / KANSAS CITY BRIDGE CO / KANSAS CITY MO**

HISTORICAL DATA

erection date: 1907
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 304000.3; field inspection Mark Hufstetler, 6 February 1991.

sign. rating: 45
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 26 September 1994

Santa Fe Railroad Overpass

JACK76

GENERAL DATA

structure no.: 399500.1
county: Jackson
city/town: City of Sibley
feature inters.: Atchison, Topeka & Santa Fe Railroad
cadastral grid: S34, T51N, R30W
highway route: city street
highway distr.: 4
current owner: Jackson County

STRUCTURAL DATA

superstructure: steel, 9-panel, pin-connected Pratt through truss
substructure: concrete abutment and wingwalls

span number: 1
span length: 163.0'
total length: 165.0'
roadway width: 13.1'
condition: fair
alterations: none
floor/decking : timber deck over timber stringers
other features: upper chord / inclined end post: two channels with cover plate and lacing; lower chord: two channels with lacing or two rectangular eyebars; vertical: two channels with lacing; diagonal: two rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to verticals; timber guardrails

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number 399500.1; field inspection Mark Hufstetler, 6 February 1991.

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

inventoried by: Clayton B. Fraser 26 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Blue River Bridge
MHTD: J 526

JACK03

DATE(S) OF CONSTRUCTION
1933-34

LOCATION
U.S. Highway 40 over Blue River; S13, T49N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP eligible (score: 73)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number:	1	superstructure:	steel, rigid-connected tied arch, with steel stringer approach spans
span length:	140.0'	substructure:	concrete abutments, wingwalls and spill-through piers
total length:	430.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	40.0'	other features:	arch rib: two built-up channels with slotted cover plates; lower chord: two built-up channels wit batten plates; vertical: I-beam; strut: variable-depth plate girder; upper later bracing: plate girder; floor beam: I-beam; sidewalks with lattice guardrails cantilevered from both sides

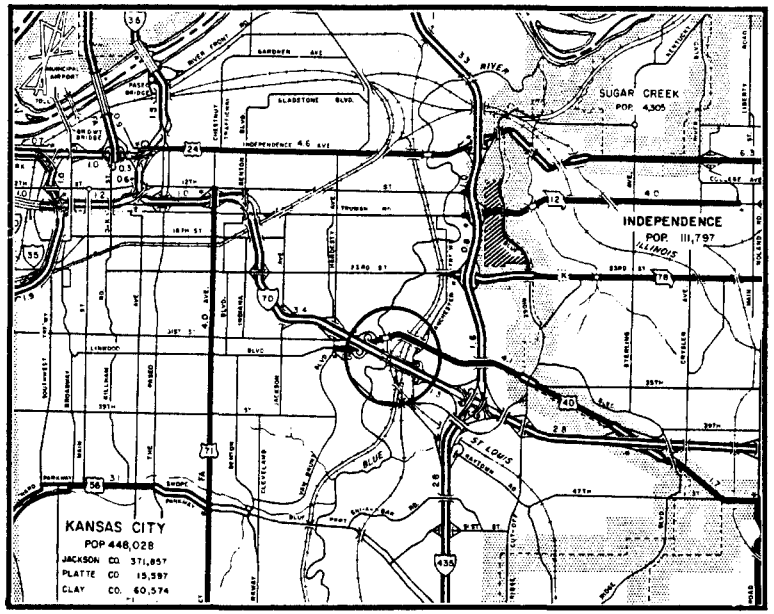
This medium-scale steel bridge carries U.S. Highway 40 over the Blue River in Kansas City. As described by the state highway department, "The superstructure consists of six 45' steel I-beam spans and one 140' steel arch. The Substructure is of concrete bents and piers, the bents being supported by piling and the piers carried to rock." The 140-foot span was configured as a rigid-connected tied arch, with plate girder struts and lateral braces and built-up box-beam arch ribs. The Blue River Bridge was engineered by the Missouri State Highway Department in 1933. Designating the project as Project NRM-352A, the agency solicited competitive proposals in September. That month the state highway commission awarded contracts to build the structure to Gerard Knutson, the Davis Construction Company and the Lam Construction Company. The contractors apparently completed the bridge the following year for $118,492.00. Since that time the bridge has functioned in place, with only maintenance-related repairs.

In the 1930s MSHD typically used riveted Parker through trusses as a standard design for 140-foot steel spans. The tied arch of the Blue River Bridge represents a noteworthy departure from standard practice for the agency. Tied arches had been used for almost a century before the construction of this bridge, beginning with the bowstring arch-truss patented by New York engineer Squire Whipple in 1840. In the 1860s and 1870s, numerous bowstrings were erected on Missouri's roads by the counties, but the structural type was eventually superseded by pinned trusses in the 1880s. The highway department delineated riveted trusses for its standard long-span steel designs in the late 1910s and 1920s but did not employ the steel arch to any extent before MSHD engineers decided to experiment with this span in Kansas City. The reason for this experimentation is unclear: perhaps aesthetics determined the structural type, as suggested by the variable-depth struts. MSHD also explored other structural types during this biennium, designing its first suspension bridge (**CAMD05**) and its first cantilevered through truss (**MILL02**). The Blue River Bridge was completed successfully, but the tied arch was never

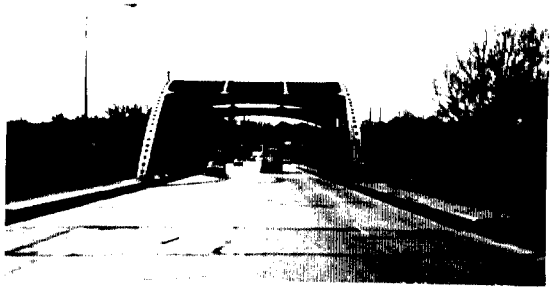
embraced by the highway department as a standard design, although MSHD experimented later in the decade with the nation's first cantilevered tied arch (**STLO09**). The Blue River Bridge is thus significant as an uncommon instance of experimentation by an agency not generally known for its bridge innovation.

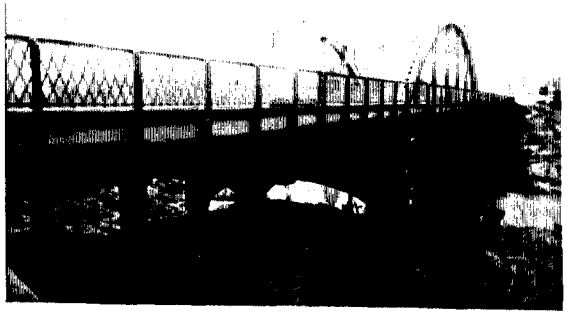
NAME(S) OF STRUCTURE
Blue River Bridge

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 J 526; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson City, Missouri; Ninth Biennial Report of the State Highway Commission of Missouri, 1933-34, pp. 189-190.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
A.S.B. Bridge
MHTD: K 229R4

JACK05

DATE(S) OF CONSTRUCTION
1889-90; 1909-11

LOCATION
U.S. Highway 71 over Missouri River; S32, T50N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
railroad/roadway bridge / railroad bridge

RATING NRHP eligible (score: 82)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number:	3	superstructure:	steel, 16-panel, rigid-connected, double-deck Baltimore vertical lift truss, with two fixed-span Baltimore double-deck trusses and steel deck girder approach spans
span length:	428.0'		
total length:	1467.0'	substructure:	concrete/stone abutments and piers
roadway wdt.:	51.0'	floor/decking:	lower deck: railroad rail deck over steel plate girders;upper deck: removed
		other features:	upper chord and inclined end post: 2 built-up channels with lacing; lower chord: 2 built-up channels with lacing; vertical: 2 channels with lacing; diagonal: 2 channels or 2 angles with lacing; floor beam: riveted plate girder; steel guardrails

In March 1887 Congress granted a charter to build a bridge across the Missouri River at Kansas City, "said bridge to provide for the passage of railway trains, and free passage shall be accorded to wagons and vehicles of all kinds, and for the transit of animals and for foot-passengers." This initiated what would prove to be a 24-year process fraught with failures and delays. The original charter holders–the Chicago, Kansas City and Texas Railway Company [CKC&T]–obtained approval of the bridge's fixed-span, high-level design from the War Department in February 1889. The stone piers were built before local control of the bridge was transferred to the Kansas City Bridge and Terminal Company [KCB&T] in 1890. (Apparently, the CKC&T still maintained some degree of involvement in the project through a mortgage arrangement.) The partially completed structure became known as the Winner Bridge after W.E. Winner, president of the KCB&T, but the bridge and terminal company was slow in continuing work on the structure, due probably to the depressed economy that followed the Panic of 1893. In March 1894 Congress granted an extension of time, while deleting the provision for free passage of wagons, stock and pedestrians. A year later the CKC&T was acquired by the Kansas City and Atlantic Railroad Company [KC&A], and with this transfer went the mortgage on the bridge. Nationally known engineer J.A.L. Waddell was then commissioned to re-design the Winner Bridge, using his patents for vertical-lift-bridge machinery. Waddell delineated a pin-connected truss with a lift span of 425 feet, to be built on the original piers.

With inadequate funding, the project lay dormant through the rest of the decade. In 1901 Winner lost control of the bridge through foreclosure by the KC&A. Local control was then turned over to Theodore Bates and the North End Terminal Company. Bates was no more effective in building the bridge than his predecessors, however, and it was not until the Union Bridge and Terminal Railroad Company [UB&T] acquired the bridge holdings in 1903 that prospects for the structure's completion began to brighten. A subsidiary of the Chicago, Burlington and Quincy Railroad [CB&Q] and the Armour and Swift meat packing plants, the UB&T was better financed than

the other rail companies. Still, the UB&T was slow to undertake the construction project. Congress granted further time extensions in 1904 and again in 1907. Waddell was again called in to re-design the bridge, this time by F.W. Fratt, president of the UB&T. Waddell and his new partner John Harrington re-configured the bridge as a rigid-connected truss. They telescoped the hangers inside of the truss's vertical posts instead of letting them pass outside, they substituted concrete for cast iron in the counterweights, and positioned the weights at either end of the truss instead of at the panel points. They also changed the position of the operator's house and re-designed the lift machinery.

Now known as the Fratt Bridge, the structure was one step closer to completion. "Mr. Fratt and his associates, after long deliberation, decided to build their bridge," Waddell stated disgustedly, "but before they would make up their minds to adopt the lifting deck, they had a large working model made of it to scale and operated by electric power; and although this worked to perfection, they still were not satisfied until they had an expert committee of civil and mechanical engineers examine the plans, specifications, and model and report upon the efficiency and practicability of the design." Waddell described the design in his **Bridge Engineering**:

> **The bridge proper, i.e., the portion between the established harbor lines, and excluding the approaches, consists of three double-deck, riveted-truss spans, providing on the lower deck two standard railway tracks, and on the upper deck two street car tracks and separate roadways and sidewalks for vehicular traffic and pedestrians. To permit the passage of boats, one of the three spans contains a lifting deck, which consists of a double-track railway bridge floor, the metal thereof being nickel steel, as to reduce the weight to be lifted, with a lateral system that includes special wind chords, all supported by stiff hangers, also of nickel steel, from each panel of the upper trusses.**

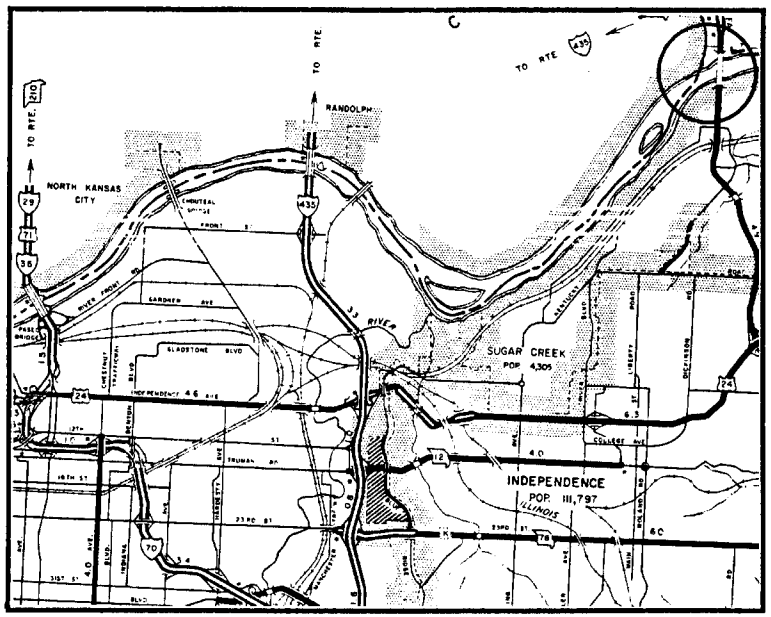
What the ungainly bridge lacked in aesthetics it compensated for in utility. Actual construction began in August 1909. Concrete piles for the substructure were cast and driven by the American Concrete Company of Chicago. The old stone piers were shortened and remodeled and new concrete ones built by James O'Connor and Son of Kansas City. The superstructure was erected by the McClintic-Marshall Construction Company of Pittsburgh. The American Electrical Company of St. Joseph, Missouri, fabricated and installed the electrical lift equipment. After more than two years of construction, the Fratt Bridge was finally opened to traffic in December 1911 for a total cost of $2.5 million. "The opening of the new bridge means a new era for Clay County, and the north side of Kansas City," the **Kansas City Times** stated in 1911. "It means the development of 3,500 acres of land that the Armour-Swift-Burlington interests hold on the Clay County side."

The bridge soon acquired its more common name, the Armor-Swift-Burlington, or A.S.B., Bridge, under which is operates presently. The A.S.B. Bridge charged tolls for pedestrians, bicyclists, horses and riders, stock, horse-drawn carriages, automobiles, and even threshing machines. Tolls ranged from a nickel to 40 cents per trip. Those who used the bridge felt these tolls were too high, especially when those who built the bridge were only paid $2 a day. Nevertheless, citizens were essentially at the mercy of Armour-Swift-Burlington until 1927, when the state bought the bridge and made it toll-free. The A.S.B. Bridge carried both rail and vehicular traffic with occasional repairs, remodelings and replacements of mechanical and structural components until 1987. That year the upper highway deck was closed and the approach spans leading to it removed. Since that time the A.S.B. Bridge has carried only railroad traffic.

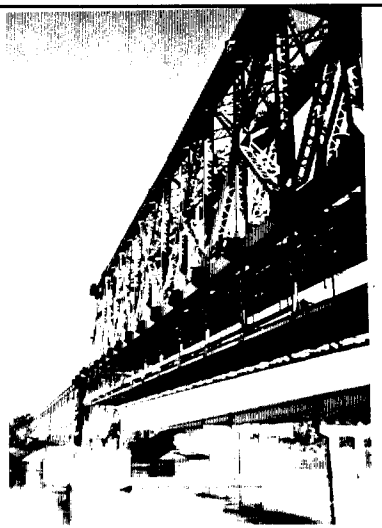
The A.S.B. Bridge, in all its permutations, mirrored the prevailing engineering trends of the times. Waddell's 1894 design featured a 425-foot pin-connected span that carried the railroad and wagon decks on its lower and upper chords, respectively. As the project lay unfinished in the late 1890s, the progress of lift-bridge technology itself stagnated. This was due to Waddell himself, who held most of the controlling patents for lift bridge mechanics, and his disappointment with the Winner project and the Halstead Street Bridge in Chicago. Waddell resumed designing lift structures in 1907 with the re-design of the Fratt Bridge, which was followed by other spans in Keithsburg, Illinois, Sand Point, Idaho, and Portland, Oregon. The Fratt Bridge incorporated all that Waddell and Harrington had learned and devised for moveable-span bridges. It thus stands as a nationally important example of this infrequently used technology. The A.S.B. Bridge is historically important for its association with early Kansas City history and the role it played in linking the north and south sides of Kansas City across the Missouri River. Although substantially modified by the removal of its upper deck, the bridge is one of Missouri's most important spans.

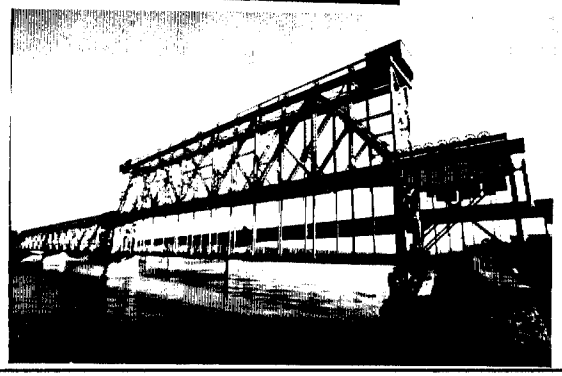
NAME(S) OF STRUCTURE
A.S.B. Bridge

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 K 229R4; **Kansas City Times**, 29 December 1911, 10 February 1911, 2 May 1927; Bob Hayden, "The A.S.B. Bridge: Grand Old Lady of the Missouri," **Kansas City Star Magazine**, 28 November 1976; Engineers Club of Kansas City, **Inspection of the Fratt Bridge over the Missouri River at Kansas City, Mo.**, program for luncheon held 18 November 1911; Donald Hoffman, "Missouri River Workhorses," **Kansas City Star**, 29 July 1980; Donald C. Jackson, **Great American Bridges and Dams** (Washington: The National Press, 1988), 217-18; Kansas City Press Club, ed., **Men of Affairs in Greater Kansas City: 1912** Newspaper Reference Work (Kansas City: Kansas City Press Club, 1912); U.S. Engineer Office, **Missouri River Bridges: Data, History, & Laws** (Kansas City, 1933), page 54; J.A.L. Waddell, **Bridge Engineering** (New York: John Wiley and Sons, 1916), pages 723-728; field inspection by Clayton Fraser, October 1994.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Winner Road Bridge JACK06
MHTD: K 392R

DATE(S) OF CONSTRUCTION
1934-35

LOCATION
U.S. Highway 24 over Big Blue River; S1/36, T49N/T50N, R32W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 69)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number:	1; 2	superstructure:	steel rigid frame
span length:	130.0'; 95.0'	substructure:	steel rigid-frame legs on concrete pedestals
total length:	366.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	42.0'	other features:	concrete guardrails; sidewalks cantilevered from bridge spandrels, with chain link fencing

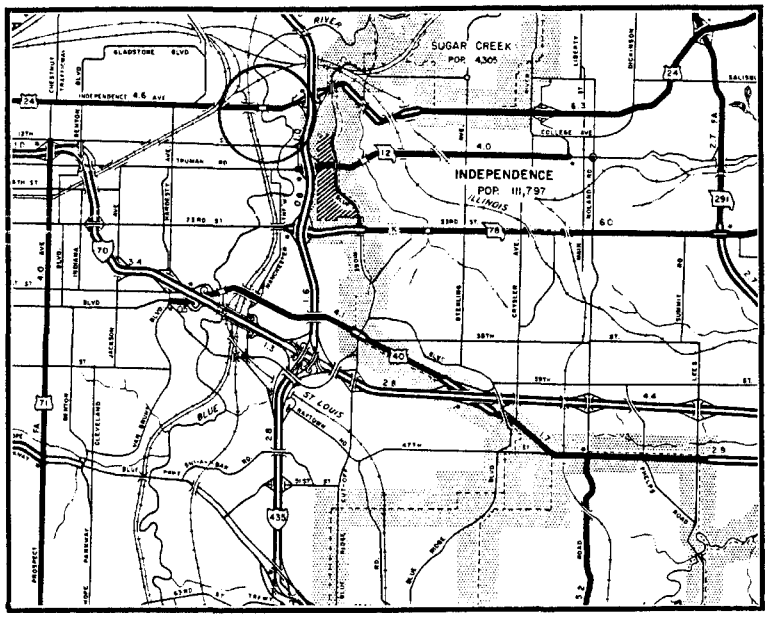
The Big Blue River Bridge was built at a time when Kansas City endeavored to develop the Blue Valley, an area divided by the Blue River. Long considered a barrier to this development, the Blue River was bridged by numerous viaducts during the 1930s. The Big Blue River Bridge was one of three steel rigid frame structures designed in 1934 by the Missouri State Highway Department as part of extensive work on U.S. Highway 24 through the area [other structures: **JACK07**, **JACK08**]. As delineated by MSHD, the Big Blue River Bridge featured three 130-foot spans, with the steel deck girders rigidly fixed to steel pedestals to form a rigid-frame superstructure. In April 1934 the highway department solicited competitive bids for the bridges' construction. In May the department hired M.E. Gillioz to build the concrete pedestals and steel towers for this structure for $51,739.00. In September the department hired Gillioz to erect the girder superstructure for $68,415.95. Based in Monett, Missouri, Gillioz was responsible for the construction of numerous bridges throughout the state. A native Missourian, he started a construction business, the Gillioz Company, in 1914. The company was responsible for constructing both buildings and bridges. Gillioz worked on the three structures through 1934 and into 1935. By summer they were almost complete. "The new 1-million-dollar Winner road gateway into Kansas City from the east, which will carry traffic above the railroad tracks in the East Bottoms by a series of viaducts, rapidly is nearing completion," the **Kansas City Star** reported in August. Gillioz completed the Big Blue River Bridge later that year. The structure carried increasing vehicular traffic for over 40 years before the highway department undertook a major renovation in 1977. At that time, the original sidewalks were removed, the roadway widened, and new sidewalks added on brackets cantilevered from the spandrel beams. This marked the only substantial alteration of the bridge.

"For the period from November 1, 1932, to December 1, 1934, designs have been prepared and contracts let on 792 new structures," the highway department stated in 1935. Most of these design were for typically configured truss or beam bridges, with separate super- and substructural systems. For three structures in Jackson County, however, the department employed "steel rigid-space-frame" designs, which tied the superstructural girders rigidly with steel columns to form a single inflexible system. Steel rigid-frame bridges had been developed in the late 19th century and marketed extensively to the counties by bridge fabricators as the bedstead truss. Due primarily to their structural shortcomings, bedsteads largely fell from favor soon after the turn of the century in virtually all of the country except

Missouri. Eventually even Missouri counties stopped buying bedsteads. The rigid-frame design remained dormant in the state until the highway department revived it in the early 1930s with a limited number of urban viaducts and overpasses. But MSHD's use of rigid frames proved shortlived before World War II, limited primarily to Kansas City and St. Louis, and the department never adopted it as a structural standard. The only remaining examples in Missouri of this rather esoteric structural type are the three Jackson County structures built in 1934 and the Chouteau Avenue Viaduct in St. Louis [**STLC10**]. The Winner Road Bridge is thus technologically significant–despite its subsequent alteration–as a relatively rare example of what was essentially an experimental structural type for the state highway department.

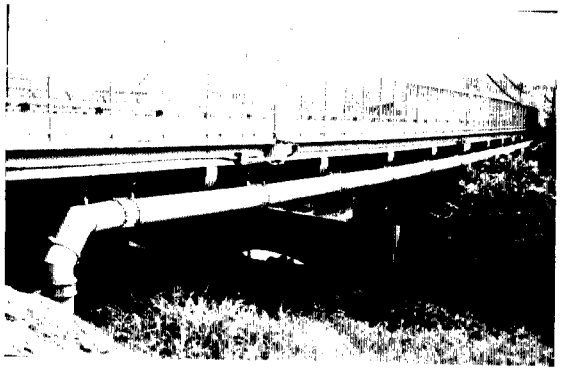
NAME(S) OF STRUCTURE
Winner Road Bridge

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 K 394R; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; "Conquering the Wilderness of the Blue Valley with Viaducts and Trafficways," **Kansas City Star**, 20 September 1935; **The History of Missouri,** Vol.3 (New York: Lewis Historical Publishing Company, 1967) 451-52; State Highway Commission, **Ninth Biennial Report,** 1933-34, pages 183-191; "Winner Road Viaducts," **Kansas City Star**, 4 August 1935.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Winner Road Viaduct JACK07
MHTD: K 393R

DATE(S) OF CONSTRUCTION
1934-35

LOCATION
U.S. Highway 24 over Kansas City Southern Railroad; S1/36, T50N, R32W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
highway viaduct / highway viaduct

RATING NRHP possibly eligible (score: 61)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number:	6; 2	superstructure:	steel rigid frame
span length:	46.0'; 34.0'	substructure:	steel rigid-frame legs on concrete pedestals
total length:	343.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	42.0'	other features:	concrete guardrails; sidewalks cantilevered from bridge spandrels, with chain link fencing

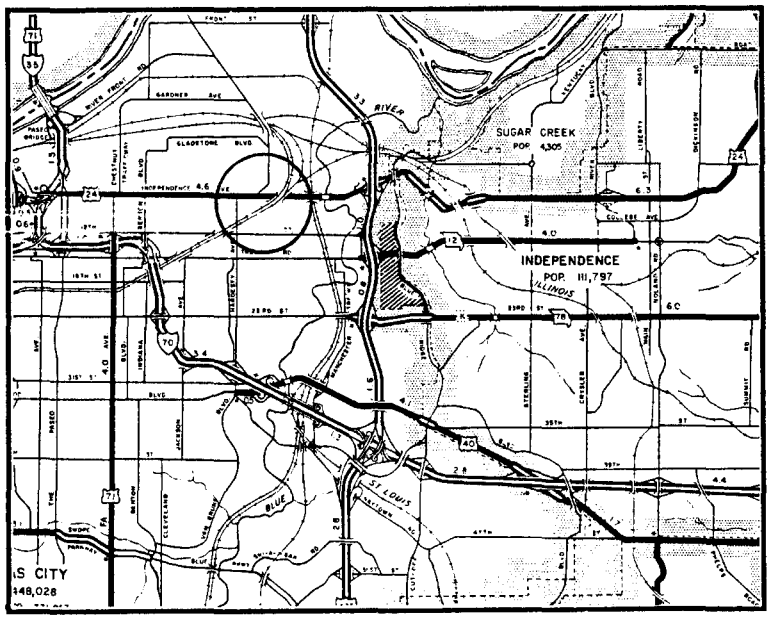
The U.S. Highway 24 Viaduct was one of three steel rigid frame structures designed in 1934 by the Missouri State Highway Department as part of extensive work on U.S. Highway 24 through the area [other structures: **JACK06, JACK08**]. As delineated by MSHD, the viaduct featured six 46-foot and two 34-foot spans, with the steel deck girders rigidly fixed to steel pedestals to form a rigid-frame superstructure. In April 1934 the highway department solicited competitive bids for the bridges' construction. In May the department hired M.E. Gillioz to build the concrete pedestals and steel towers for this structure for $26,481.25. In September the department hired Gillioz to erect the girder superstructure for $54,947.50. Based in Monett, Missouri, Gillioz was responsible for the construction of numerous bridges throughout the state. A native Missourian, he started a construction business, the Gillioz Company, in 1914. The company was responsible for constructing both buildings and bridges. Gillioz worked on the three structures through 1934 and into 1935. By summer they were almost complete. "The new 1-million-dollar Winner road gateway into Kansas City from the east, which will carry traffic above the railroad tracks in the East Bottoms by a series of viaducts, rapidly is nearing completion," the **Kansas City Star** reported in August. Gillioz completed the Winner Road Viaduct later that year. The structure carried increasing vehicular traffic for over 40 years before the highway department undertook a major renovation in 1977. At that time, the original sidewalks were removed, the roadway widened, and new sidewalks added on brackets cantilevered from the spandrel beams. This marked the only substantial alteration of the bridge.

"For the period from November 1, 1932, to December 1, 1934, designs have been prepared and contracts let on 792 new structures," the highway department stated in 1935. Most of these design were for typically configured truss or beam bridges, with separate super- and substructural systems. For three structures in Jackson County, however, the department employed "steel rigid-space-frame" designs, which tied the superstructural girders rigidly with steel columns to form a single inflexible system. Steel rigid-frame bridges had been developed in the late 19th century and marketed extensively to the counties by bridge fabricators as the bedstead truss. Due primarily to their structural shortcomings, bedsteads largely fell from favor soon after the turn of the century in virtually all of the country except Missouri. Eventually even Missouri counties stopped buying bedsteads. The rigid-frame design remained dormant in the state until the highway department revived it in the early 1930s with a limited number of urban viaducts and overpasses. But MSHD's use of rigid

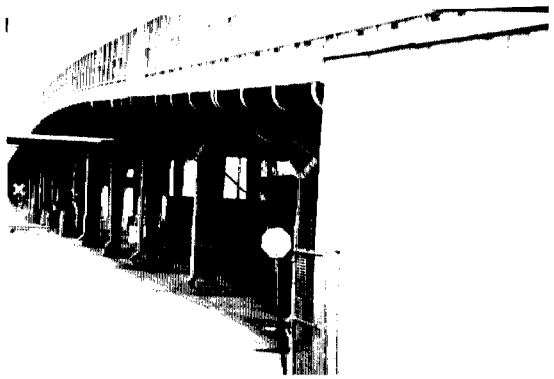
frames proved shortlived before World War II, limited primarily to Kansas City and St. Louis, and the department never adopted it as a structural standard. The only remaining examples in Missouri of this rather esoteric structural type are the three Jackson County structures built in 1934 and the Chouteau Avenue Viaduct in St. Louis [**STLC10**]. The Winner Road Viaduct is thus technologically significant–despite its subsequent alteration–as a relatively rare example of what was essentially an experimental structural type for the state highway department.

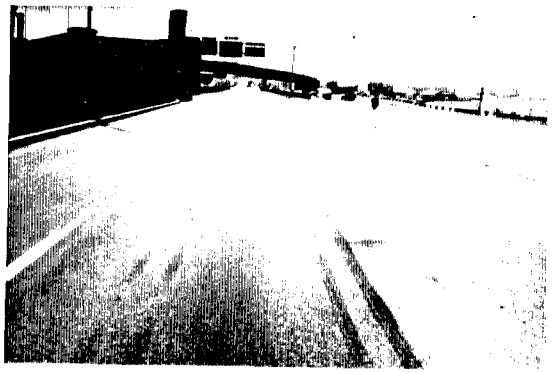
NAME(S) OF STRUCTURE
Winner Road Viaduct

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 K 393R; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; State Highway Commission, **Ninth Biennial Report**, 1933-34, pages 183-191; "Winner Road Viaducts," **Kansas City Star**, 4 August 1935.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Winner Road Viaduct
MHTD: K 394R

JACK08

DATE(S) OF CONSTRUCTION
1934-35

LOCATION
U.S. Highway 24 over St. Louis & San Francisco Railroad; S1/36, T49/50N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
highway viaduct / highway viaduct

RATING NRHP possibly eligible (score: 66)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number:	17.0	superstructure:	steel rigid frame
span length:	76.0'	substructure:	steel rigid-frame legs on concrete pedestals
total length:	1243.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	42.0'	other features:	concrete guardrails; sidewalks cantilevered from bridge spandrels, with chain link fencing

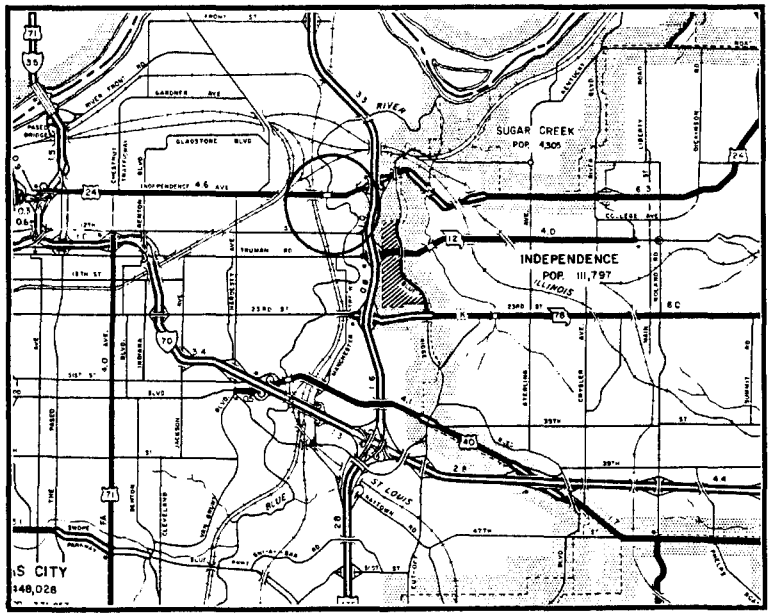
The U.S. Highway 24 Viaduct was one of three steel rigid frame structures designed in 1934 by the Missouri State Highway Department as part of extensive work on U.S. Highway 24 through the area [other structures: **JACK06**, **JACK07**]. As delineated by MSHD, the viaduct featured seventeen spans of various lengths, with the steel deck girders rigidly fixed to steel pedestals to form a rigid-frame superstructure. In April 1934 the highway department solicited competitive bids for the bridges' construction. In May the department hired M.E. Gillioz to build the concrete pedestals and steel towers for this structure for $80,657.00. In September the department hired Gillioz to erect the girder superstructure for $170,155.85. Based in Monett, Missouri, Gillioz was responsible for the construction of numerous bridges throughout the state. A native Missourian, he started a construction business, the Gillioz Company, in 1914. The company was responsible for constructing both buildings and bridges. Gillioz worked on the three structures through 1934 and into 1935. By summer they were almost complete. "The new 1-million-dollar Winner road gateway into Kansas City from the east, which will carry traffic above the railroad tracks in the East Bottoms by a series of viaducts, rapidly is nearing completion," the **Kansas City Star** reported in August. "The first viaduct bridging the Missouri Pacific and Frisco network of tracks bear the Sheffield Steel Company, is 1,242 feet long. It is virtually complete. "Gillioz completed the Winner Road Viaduct soon thereafter. The structure carried increasing vehicular traffic for over 40 years before the highway department undertook a major renovation in 1977. At that time, the original sidewalks were removed, the roadway widened, and new sidewalks added on brackets cantilevered from the spandrel beams. This marked the only substantial alteration of the bridge.

"For the period from November 1, 1932, to December 1, 1934, designs have been prepared and contracts let on 792 new structures," the highway department stated in 1935. Most of these design were for typically configured truss or beam bridges, with separate super- and substructural systems. For three structures in Jackson County, however, the department employed "steel rigid-space-frame" designs, which tied the superstructural girders rigidly with steel columns to form a single inflexible system. Steel rigid-frame bridges had been developed in the late 19th century and marketed extensively to the counties by bridge fabricators as the bedstead truss. Due primarily to their structural shortcomings, bedsteads largely fell from favor soon after the turn of the century in virtually all of the country except Missouri. Eventually even Missouri counties stopped buying bedsteads. The rigid-frame design remained dormant in the state

until the highway department revived it in the early 1930s with a limited number of urban viaducts and overpasses. But MSHD's use of rigid frames proved shortlived before World War II, limited primarily to Kansas City and St. Louis, and the department never adopted it as a structural standard. The only remaining examples in Missouri of this rather esoteric structural type are the three Jackson County structures built in 1934 and the Chouteau Avenue Viaduct in St. Louis [**STLC10**]. The Winner Road Viaduct is thus technologically significant–despite its subsequent alteration–as a relatively rare example of what was essentially an experimental structural type for the state highway department.

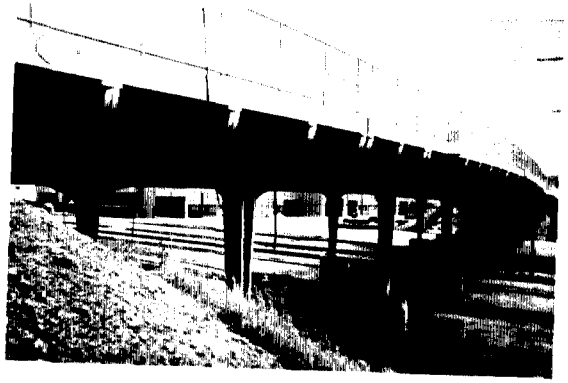
NAME(S) OF STRUCTURE
Winner Road Viaduct

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 K 394R; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; State Highway Commission, **Ninth Biennial Report**, 1933-34, pages 183-191; "Winner Road Viaducts," **Kansas City Star**, 4 August 1935.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Intercity Viaduct JACK09
MHTD: K 608R

DATE(S) OF CONSTRUCTION
1936

LOCATION
U.S. Highway 40 over Kaw River and city streets; S6, T49N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
highway viaduct / highway viaduct

RATING NRHP possibly eligible (score: 63)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number:	1	superstructure:	steel, rigid-connected Warren deck truss, with plate deck girder rigid-frame approach spans
span length:	147.0'	substructure:	concrete abutments, wingwalls and steel legs on concrete pedestals
total length:	4,230.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	52.0'	other features:	concrete guardrails with pipe over

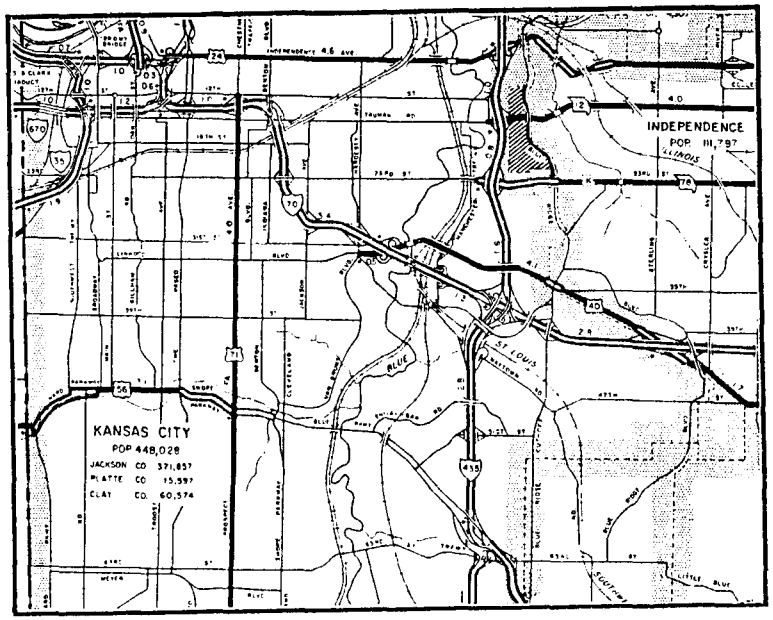
The Intercity Viaduct was constructed by the Kansas City Viaduct and Terminal Railway Company under an agreement with the Kansas City government in 1904. Spanning the Kaw River, as well as several on-grade city streets, the structure linked the cities of Kansas City, Missouri, and Kansas City, Kansas. It was comprised of a series of steel plate girder and deck truss spans, supported by steel piers. The Intercity Viaduct carried increasingly heavy traffic through the 1910s and 1920s, even outlasting the terminal railway company. By the early 1930s it was beginning to show considerable wear, and was under consideration for replacement by the state highway department when Congress passed legislation in 1934 that allowed federal monies to be used for the first time for road and bridge construction within municipalities. Taking advantage of the new act, the highway department undertook a number of urban road and bridge projects over the next three years. This included the reconstruction of the Intercity Viaduct. MSHD engineers produced the construction documents for the viaduct, generally following the spans and alignment of the existing structure. As delineated by MSHD, the new viaduct would feature a riveted deck truss over the Kaw River, with steel plate deck girders over Santa Fe, Madison, Mulberry and Ohio Streets. These latter spans were bolted rigidly to steel piers, forming a rigid-frame structure. A contract to erect the new Intercity Viaduct was awarded in February 1936 to M.E. Gillioz of Monett, Missouri. Gillioz apparently completed the structure later that year for a total cost of $690,963.00. Since that time, the Intercity Viaduct has functioned in place, with the widening of its roadway and replacement of the guardrails as the most serious alterations.

As an important interstate link between the two Kansas Cities, the Intercity Viaduct has formed an integral part of the cities' street systems. The viaduct is also important as one of the grade separation projects funded through the New Deal's Hayden-Cartwright Act. Federal relief programs of the 1930s broke with past practice by allowing federal funds to be used for urban, as well as rural highways. Grade separation was a major focus of the highway department during this period, requiring commitment of much staff time. The Intercity Viaduct is technologically distinguished for its combination of two uncommon structural types. Steel deck trusses have never been common in Missouri, not have steel rigid-frame bridges. A regionally important example of these two bridge types, the structure is both technologically and historically significant.

NAME(S) OF STRUCTURE

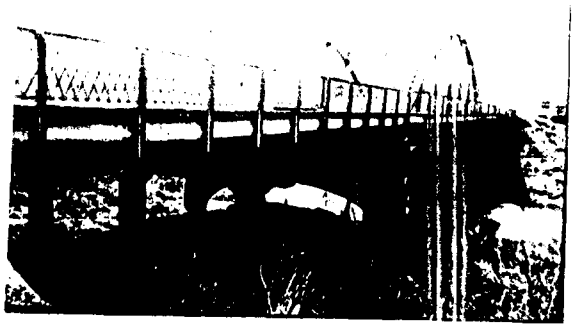
Intercity Viaduct

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 K 608R; **Tenth Biennial Report of the State Highway Commission of Missouri**, 1935-36, pp. 262-264; Kansas City Public Service Company, **History of Bridges and Viaducts**, page 25.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Rock Creek Bridge JACK10
MHTD: K 653R1

DATE(S) OF CONSTRUCTION
1911

LOCATION
U.S. Highway 24 (Winner Road) over Rock Creek; S32, T50N, R32W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street bridge / highway bridge

RATING NRHP non-eligible (score: 39)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

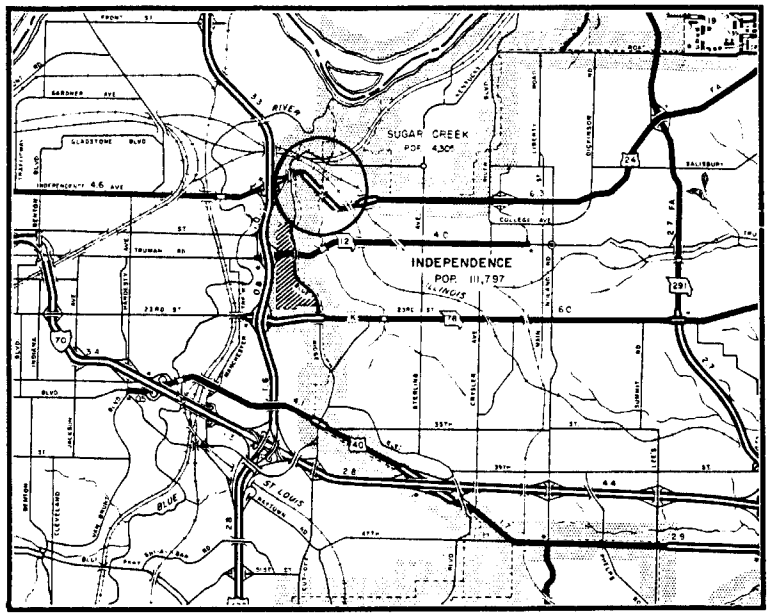
span number:	1; 2	superstructure:	concrete deck girder
span length:	60.5'; 24.0'	substructure:	concrete abutments and wingwalls with concrete column piers
total length:	110.0'	floor/decking:	concrete deck
roadway wdt.:	77.3'	other features:	MSHD standard concrete guardrails; curved girder haunches

This small-scale concrete bridge carries U.S. Highway 24 (Winner Road) over Rock Creek in the northeastern quadrant of Kansas City. The Rock Creek Bridge is comprised of three concrete deck girder spans with arched haunches, supported by concrete abutments and piers. The bridge is currently owned and maintained by the Missouri Highway and Transportation Department, but it was originally built by the Kansas City Terminal Railway, according to a typewritten bridge history produced by the Kansas City Public Service Company. Although uncorroborated by county records, the report states that the bridge was built here in 1911 as a double-track structure, which Jackson County later widened to accommodate vehicular traffic. The widening may have occurred in 1922, as indicated by the primary system bridge records at MHTD. Around 1940-41 the state highway department acquired the Rock Creek Bridge, and incorporated it into U.S. Highway 24. The MSHD standard concrete guardrails indicate that an additional widening occurred sometime after that.

Missouri was slow to embrace concrete as a bridge superstructural material after the turn of the century. It was not until the state highway department began promulgating standard concrete slab and girder designs in the 1920s that the counties began building all-concrete bridges with any regularity. The exceptions to this were the heavily urbanized areas–primarily Kansas City and St. Louis–where heavy traffic necessitated the use of concrete relatively early. Built by the city's major interurban railroad and later modified by the county for roadway use, the Rock Creek Bridge is distinguished among Missouri's concrete bridges as one of the earliest dateable concrete girder spans still in use. At least two subsequent widenings have diminished the interpretive value of the bridge, however.

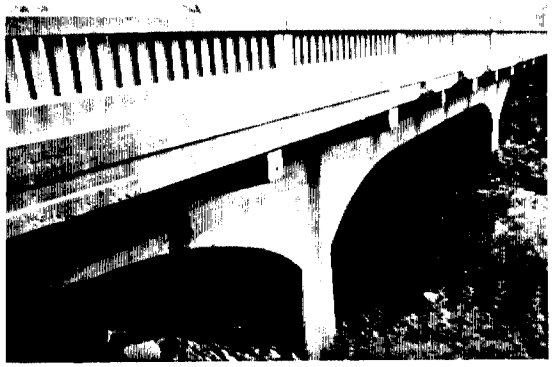
NAME(S) OF STRUCTURE
Rock Creek Bridge

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 K 653R1; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; Kansas City Public Service Company, **History of Bridges and Viaducts**, page 20-J - located at Kansas City Engineer's Office, Kansas City, Missouri.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Ramp F Overpass
MHTD: L 249

JACK11

DATE(S) OF CONSTRUCTION
1949

LOCATION
Ramp F over Ramp D;
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
highway overpass / highway overpass

RATING NRHP possibly eligible (score: 51)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

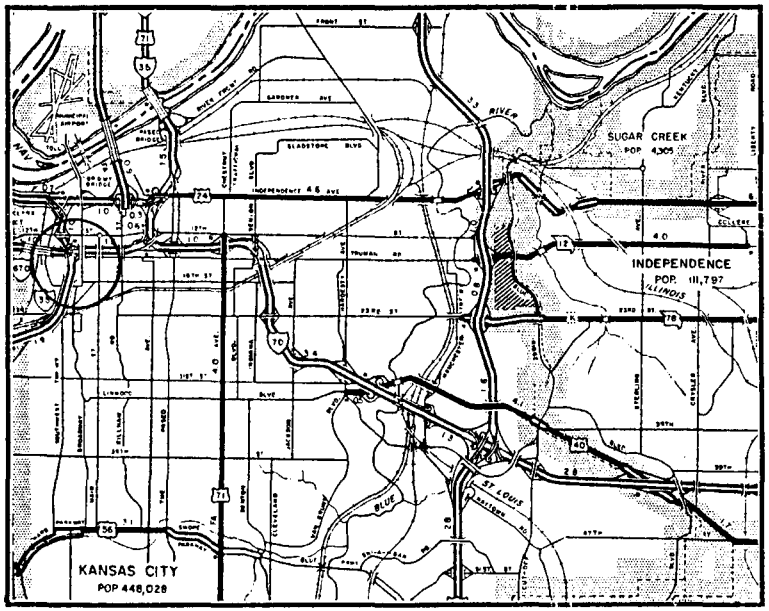
span number:	1	superstructure:	concrete rigid frame
span length:	53.0'	substructure:	concrete abutments and stone wingwalls
total length:	59.0'	floor/decking:	concrete deck
roadway wdt.:	24.0'	other features:	stone parapets

This single-span concrete bridge carries Ramp F of Interstate 35 over another ramp in Kansas City. The structure consists of a single-span concrete rigid frame, which features a slightly arched slab supported by concrete abutments with stone-veneer wingwalls. The Ramp F Overpass was designed by the Missouri State Highway Department as part of work on U.S. Highway 69 in Kansas City. On February 25, 1949, MSHD awarded a contract to build the bridge to the Bushman Construction Company. Presumably, Bushman finished the bridge later that year. Total cost: $112,624.39. Since its completion, the overpass has carried vehicular traffic in essentially unaltered condition.

Developed by Westchester County, New York, in the early 1920s, the concrete rigid frame bridge became especially popular for federal relief projects during the 1930s. Both picturesque and practical, the flat or elliptically arched designs appealed to proponents of urban beautification. The Missouri State Highway Department used the concrete rigid frame sparingly in urban overpass situations, never adopting this structural type as a state standard. Only seven concrete rigid frame bridges have been identified by the statewide bridge inventory, all of which are in Kansas City or St. Louis. Although built relatively late in the milieu of rigid frame construction, the Ramp F Overpass is distinguished by its well-preserved condition. It is technologically significant as a relatively rare example of what was essentially an experimental structural type for the state highway department.

NAME(S) OF STRUCTURE
Ramp F Overpass

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 L 249; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; Elmer Napier, "Rigid-Frame Bridges," **Roads and Bridges**, April 1940, page 13; field inspection by Clayton Fraser, October 1994.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Broadway Overpass
MHTD: L 253

JACK12

DATE(S) OF CONSTRUCTION
1949-50

LOCATION
Broadway Street over 30th Street; S17, T49N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
highway overpass / highway overpass

RATING NRHP possibly eligible (score: 51)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

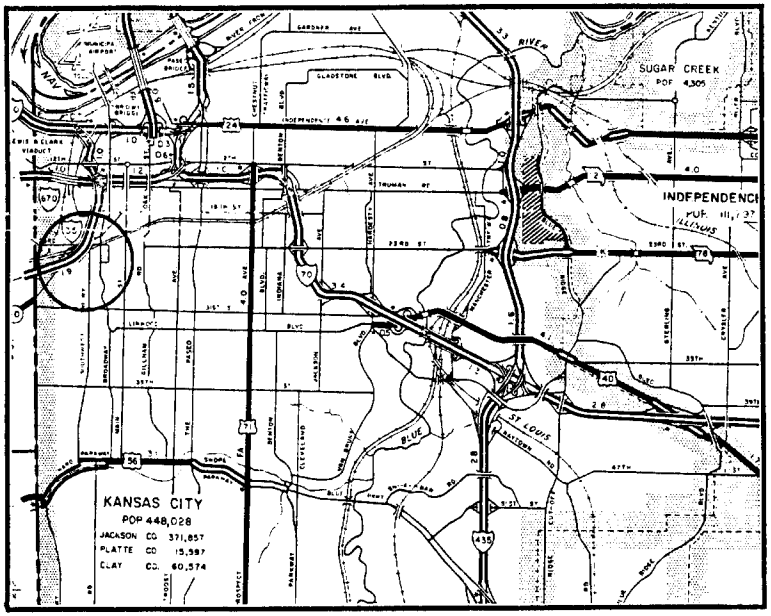
span number:	1	superstructure:	concrete rigid frame
span length:	50.0'	substructure:	concrete abutments and stone wingwalls
total length:	58.0'	floor/decking:	concrete deck
roadway wdt.:	56.0'	other features:	stone parapets

This single-span concrete bridge carries a ramp of northbound Interstate 35 (formerly Broadway Avenue) over 30th Street in Kansas City. The structure consists of a single-span concrete rigid frame, which features a slightly arched slab supported by concrete abutments with stone-veneer wingwalls. The Broadway Overpass was designed by the Missouri State Highway Department in 1949 as part of work on U.S. Highway 69 in Kansas City. On December 2, 1949, MSHD awarded a contract to build the bridge to the Bushman Construction Company. Presumably, Bushman finished the bridge the following year. Total cost: $112,241.39. Since its completion, the overpass has carried vehicular traffic in essentially unaltered condition.

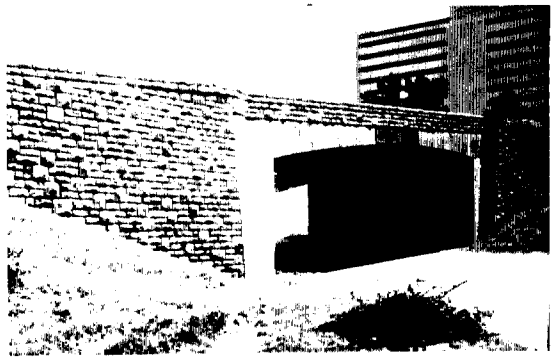
Developed by Westchester County, New York, in the early 1920s, the concrete rigid frame bridge became especially popular for federal relief projects during the 1930s. Both picturesque and practical, the flat or elliptically arched designs appealed to proponents of urban beautification. The Missouri State Highway Department used the concrete rigid frame sparingly in urban overpass situations, never adopting this structural type as a state standard. Only seven concrete rigid frame bridges have been identified by the statewide bridge inventory, all of which are in Kansas City or St. Louis. Although built relatively late in the milieu of rigid frame construction, the Broadway Overpass is distinguished by its well-preserved condition. It is technologically significant as a relatively rare example of what was essentially an experimental structural type for the state highway department.

NAME(S) OF STRUCTURE
Broadway Overpass

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 L 253; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; Elmer Napier, "Rigid-Frame Bridges," **Roads and Bridges**, April 1940, page 13; field inspection by Clayton Fraser, October 1994.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Liberty Bend Bridge JACK13
MHTD: L 568R1

DATE(S) OF CONSTRUCTION
1947

LOCATION
State Highway 291 over Missouri River; S5, T50N, R32W
4.5 miles northeast of Independence; Jackson / Clay County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 52)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

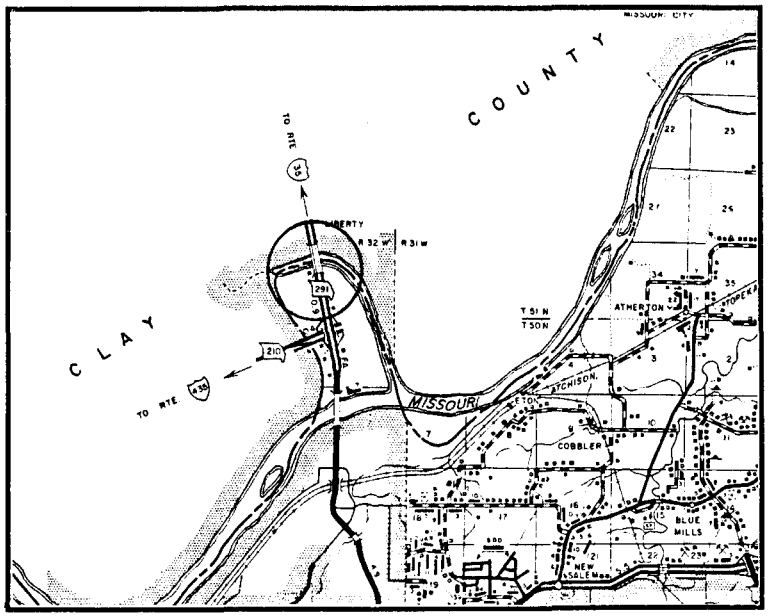
span number:	2	superstructure:	steel, 2-span, rigid-connected cantilever through truss; cantilevered Warren deck truss approach spans; steel deck girder approach spans
span length:	460.0'		
total length:	1,884.0'	substructure:	concrete abutments and spill-through piers
roadway wdt.:	24.0'	floor/decking:	concrete deck over steel stringers
		other features:	upper chord and inclined end post: 2 built-up channels with cover and batten plates; lower chord: 2 built-up channels with lacing; vertical: 2 channels with lacing; diagonal: 2 channels with lacing or batten plates; lateral bracing: 2 angles; floor beam: I-beam, field-bolted to vertical; strut: 2 angles with lacing; steel guardrails

Alternately known as the Liberty Bridge and the Liberty Bend Bridge, this massive steel structure carries State Highway 291 over the Missouri River between Jackson and Clay counties. The multiple-span superstructure consists of two rigid-connected, cantilevered Warren trusses over the river's main channel, supported by concrete spill-through piers and approached on both sides by cantilevered Warren deck truss and deck girder spans. MHTD records indicate that the Liberty Bend Bridge was constructed in 1947. The configuration of the structure is indicative of those trusses designed by engineers Sverdrup and Parcel of St. Louis. Little else is known of this structure, however. The bridge's deck was replaced with steel grid in 1984, and part of the grid deck was replaced in 1986. With an overall length of 1,884 feet, the Liberty Bend Bridge continues to carry vehicular traffic.

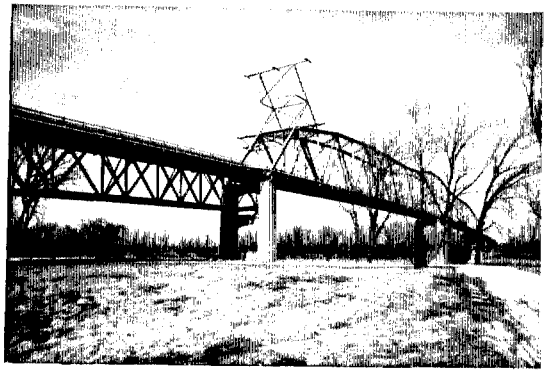
Fourteen vehicular steel truss bridges over the Missouri River are included in Missouri's statewide historic bridge inventory. As a group, these bridges comprise some of the state's longest examples of truss bridge construction. Undertaken in the wake of World War II, the Liberty Bend Bridge was the last of the great river truss bridges built in Missouri. It has formed a regionally important crossing of the Missouri River. Featuring a cantilevered design, the Liberty Bend Bridge ranks among Missouri's most monumental examples of steel truss construction. With a span length of 460 feet and an overall length of 1884 feet, the multiple-span structure clearly ranks as a superlative example of its type. Its distinctive curved profile distinguished it among several great river bridges undertaken in the state by prominent St. Louis civil engineers Sverdrup and Parcel. Similarly configured structures undertaken by Sverdrup and Parcel include the Mark Twain Bridge in Hannibal, the Hermann Bridge and the Miami Bridge. As an important river crossing and a well-preserved example of large-scale bridge construction, the Liberty Bend Bridge is one of Missouri's more noteworthy highway trusses.

NAME(S) OF STRUCTURE
Liberty Bend 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 L 568R1; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; State Highway Commission, **Thirteenth Biennial Report**, 1941-42, page 149; field inspection by Lon Johnson, 3 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Sni-A-Bar Creek Bridge JACK14
MHTD: Y 24

DATE(S) OF CONSTRUCTION
1911-12

LOCATION
State Supplementary Route F over Phillips Creek; S4/5, T47N, R29W
2.1 miles northeast of Lone Jack; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / highway bridge

RATING NRHP possibly eligible (score: 50)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

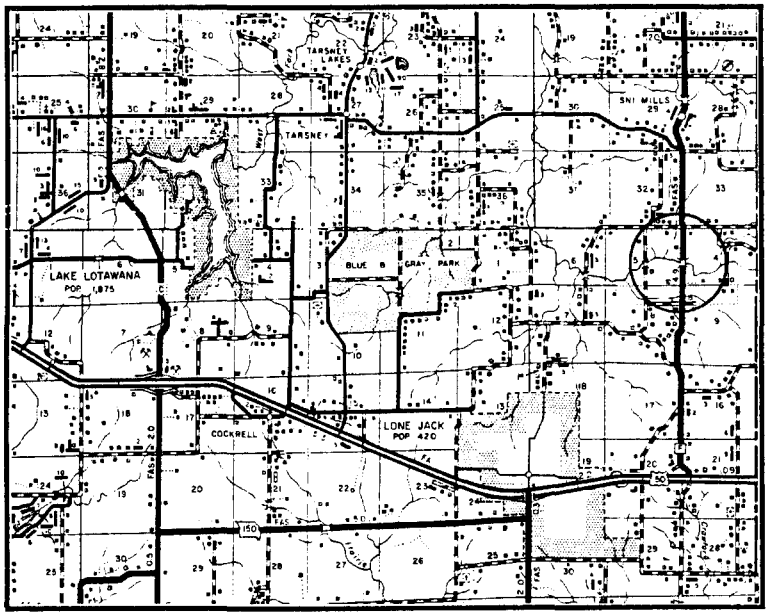
span number:	1	superstructure:	concrete filled spandrel arch
span length:	45.0'	substructure:	concrete abutments and wingwalls
total length:	70.0'	floor/decking:	concrete/asphalt over concrete
roadway wdt.:	40.0'	other features:	paneled concrete guardrails

This single-span concrete bridge carries State Supplementary Route over Sni-A-Bar Creek about two miles northeast of Lone Jack. The structure features a filled spandrel arch with an elliptical profile, supported by concrete abutments. It is simply detailed, with recessed rectangular panels on the girder sides as the only architectural expression. The Sni-A-Bar Creek Bridge dates to 1911. In August of that year the Jackson County Court directed the county engineer to solicit competitive bids for several small-scale concrete bridges and culverts. After receiving the proposals in September, the county awarded a contract to build a 45-foot concrete arch with a 40-foot roadway on Cunningham Road between Lone Jack and Oak Grove. Low bidder at $6945.00, the Illinois Steel Bridge Company was hired to build the structure. The Jacksonville, Illinois, firm labored on the structure that winter, reportedly working on the bridge in January 1912. The Sni-A-Bar Creek Bridge was apparently completed later in 1912. It has functioned in place since, with the recent addition of Armco guardrails as the only alteration of note.

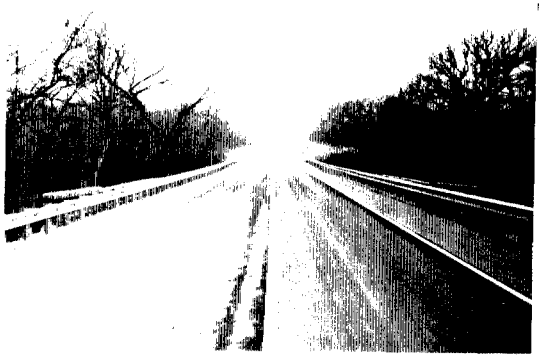
Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. The Sni-A-Bar Creek Bridge is distinguished among these as one of the earliest dateable concrete arch bridges found in the state. Modestly scaled and simply detailed, it is noteworthy as an early, well-preserved example of concrete bridge construction in Missouri.

NAME(S) OF STRUCTURE
Sni-A-Bar 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 Y 24; Jackson County Court Record, Book 47, page 412 (22 August 1911), page 454 (18 September 1911); Book 48, page 34 (16 January 1912) - located at Jackson County Courthouse, Independence, Missouri; field inspection by Lon Johnson, 6 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Gladstone Boulevard Overpass JACK17
MHTD: S026B31

DATE(S) OF CONSTRUCTION
1897-98

LOCATION
Gladstone Boulevard over Anderson Avenue; S34, T50N, R32W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street overpass / city street overpass

RATING NRHP eligible (score: 73)

CONDITION
fair

OWNER
City of Kansas City

span number:	1	superstructure:	steel two-hinge deck arch
span length:	60.0'	substructure:	stone masonry abutments
total length:	60.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	40.0'	other features:	six riveted plate girder arch ribs with one-angle lateral bracing; pin-connected cast iron bearing shoes; ornamental wrought iron guardrails with cast iron newels; cast iron Ionic columns at abutments

This small-scale steel overpass carries Gladstone Boulevard over Anderson Avenue at the southern edge of North Terrace Park in Kansas City. A two-hinge, steel deck arch, the structure is comprised of six plate girder ribs, supported on pinned bearing shoes by stone masonry abutments. Indicative of its 19th century origins, the Gladstone Boulevard Overpass features ornamental wrought iron guardrails with cast iron newels, cast iron Ionic columns at the abutments, and decorative rosettes on the spandrel ribs. The structure dates to 1897. In March of that year engineer D.A. Miles delineated the drawings for the bridge. On June 16th, the Kansas City Board of Public Works awarded a contract to fabricate and build the structure to Kansas City engineer J.W. Hoover, the local representative of the Wrought Iron Bridge Company. WIBCo worked on the overpass through the end of 1897 and into 1898, completing it on July 20, 1898. Total cost, including sidewalks, curbing and paving, was $14,480.00. Since its completion, the Gladstone Boulevard Overpass has functioned in place in virtually original condition, with the replacement of its deck the only alteration of note.

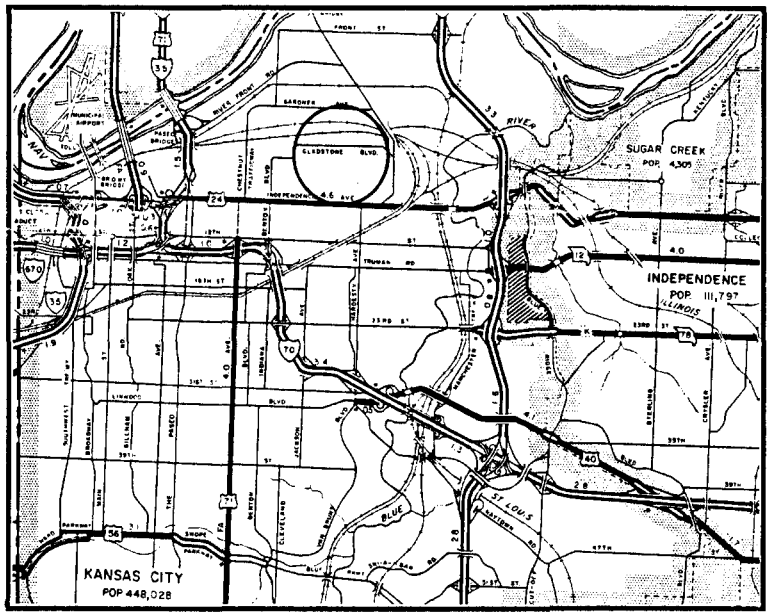
Based in Canton, Ohio, the Wrought Iron Bridge Company was the gargantuan creation of Ohio-born bridge building genius David Hammond. Hammond had established a modest bridge manufacturing business in 1864, incorporating it in 1871 as the Wrought Iron Bridge Company [WIBCo]. The firm marketed its bridges through the traditional means of solicitation and advertising. The company opened branch offices in several midwestern states from which it fielded general agents. Essentially traveling salesmen–some of whom also had engineering credentials–these agents visited with city and county officials, explained the company's bridge design and presented proposals for competitive bid lettings. WIBCo was represented in western Missouri by J.W. Hoover from his Kansas City office. Born near Canton, Ohio, in 1850, Hoover received a degree in civil engineering at the University of Michigan in 1875. After a short stint in Cincinnati, he accepted a position as an engineer for the Indianapolis Bridge Company in Indiana. Hoover moved back to Canton in 1878, where he worked as a civil engineer in the construction department of the Wrought Iron Bridge Company. In January 1884 he moved to Kansas City to act as one of WIBCo's general agents. Hoover remained WIBCo's representative until the company was absorbed in 1900 by the American Bridge Company.

Marketing extensively to the cities and counties (and perhaps participating in price-fixing arrangements with other firms), WIBco maintained an active presence in Missouri in the 1870s, 1880s and 1890s. The company's 1874 catalog listed iron structures built in Richmond, Independence, Georgia City and Hannibal. By 1885 WIBCo had erected some 2,100 linear feet of iron bridges in the state, including spans in Jackson, Cooper, Moniteau, Barton, Cole, Linn, Ray, Carroll, Green and Marion counties. WIBCo maintained an extensive roster of bridge types that ranged from the standard to the esoteric. Designed by a local engineer, the Gladstone Boulevard Overpass was atypical of WIBCo's bridge commissions in both its configuration and engineering source. It is today distinguished as the only example of its type identified by the statewide bridge inventory. And with its structural and ornamental elements essentially unaltered, the Gladstone Boulevard Overpass is one of the few 19th century urban structures remaining in place intact in the state. It is a significant, well-preserved remnant of Kansas City's early street system.

NAME(S) OF STRUCTURE

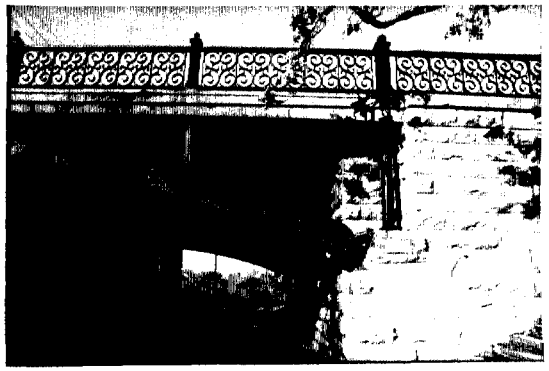
Gladstone Boulevard Overpass

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 S026B31; Kansas City Public Service Company, **History of Bridges and Viaducts**, page 25; field inspection by Mark Hufstetler, 4 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Cliff Drive Overpass
MHTD: S026B32

JACK18

DATE(S) OF CONSTRUCTION
1920

LOCATION
Cliff Drive over Chestnut Trafficway; S34, T50N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street overpass / city street overpass

RATING NRHP possibly eligible (score: 53)

CONDITION
good

OWNER
City of Kansas City

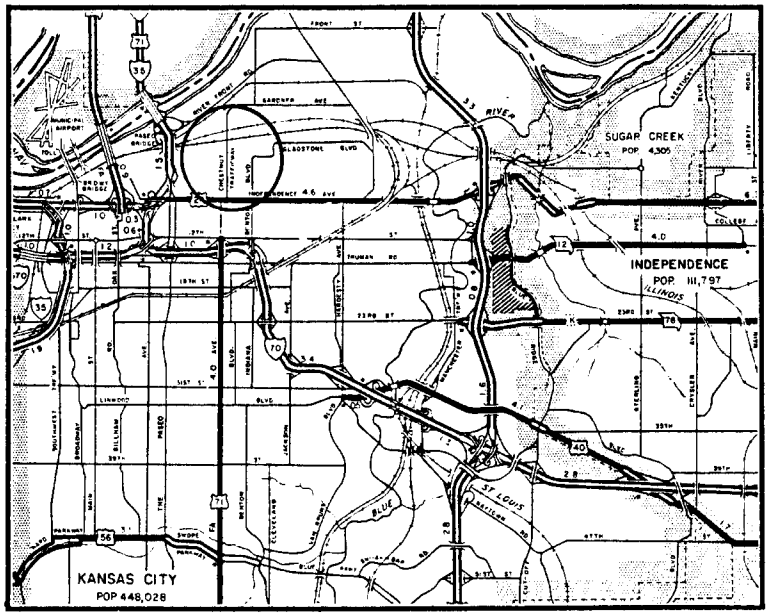
span number:	1	superstructure:	concrete filled spandrel arch
span length:	82.0'	substructure:	concrete abutments with stone masonry wingwalls
total length:	82.0'	floor/decking:	asphalt over earth fill
roadway wdt.:	42.0'	other features:	six arch ribs corbeled beneath arch barrel; recessed panels on arch spandrels; classical guardrails with cast concrete balusters; bronze plate: **ERECTED 1920 / BY BOARD OF PARK COMMISSIONERS / KANSAS CITY MO / H.B. THOMPSON CONTRACTOR**

An important aspect in the development of late 19th century Kansas City was the incorporation of a series of parks and boulevards. As the city grew, city officials recognized the need to provide recreational areas for the public. A Board of Park Commissioners was appointed between 1893 and 1895, and in the decades to follow countless city parks were created. Parts of North Terrace Park, a 305-acre tract, were set aside between 1899 and 1920. Located along the bluffs of the Missouri River between Highland and Belmont, this park is cut across by the serpentine Cliff Drive, which was constructed between 1899 and 1904 and was once considered the most scenic drive in the country. In May 1920 the Board of Parks Commission appropriated $20,000.00 for the construction of an overpass that would carry Cliff Drive over the Chestnut Trafficway, which runs north and south through the park. The rest of the cost was to be paid by the North Park District Fund. As designed, the Cliff Drive Overpass consisted of an elliptically shaped, filled spandrel arch with six arch ribs corbeled slightly beneath the arch barrel. The bridge featured stone masonry wingwalls, recessed panels on its concrete spandrels and a classical balustrade. The park board hired H.B. Thompson to build the bridge, which he completed with the Concrete Construction Company in 1920. Since that completion, the Cliff Drive Bridge has carried vehicular and pedestrian traffic in essentially unaltered condition.

Sponsored by August R. Meyer and designed by George E. Kessler, the Kansas City network of parks and boulevards represents one of the most stellar successes of the City Beautiful Movement in America. The North Terrace Park, overlooking the Missouri River, was one of the city's earliest and most popular attractions, and Cliff Drive formed a central feature in the park. The Cliff Drive Overpass was built in 1920 as the park was developing to maturity. As such it is a well-preserved, integral component of the city's park system. A handsomely proportioned and detailed structure, it is among the state's more noteworthy concrete arch bridges.

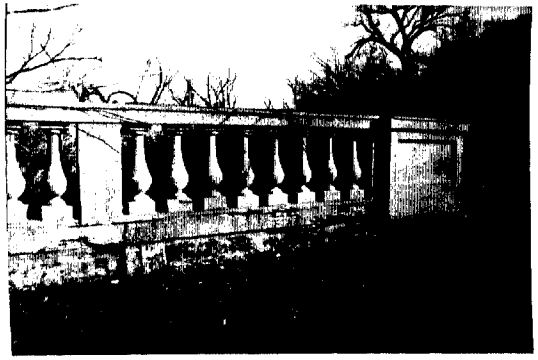
NAME(S) OF STRUCTURE
Cliff Drive Overpass

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 S026B32; Roy Ellis, "A Civic History of Kansas City, Missouri," Ph.D. Dissertation, Columbia University, 1930, pages 90-92; Carrie Westlake Whitney, **Kansas City, Missouri: Its History and Its People 1808-1908** (Chicago: S.J. Clarke Publishing Company, 1908), page 579; **A Story of the Development of the Parks and Recreation Department Published on occasion of its Diamond Jubilee**, 1892-1967, page 8; Kansas City Park Department, **Cowtown 1890 Becomes City Beautiful 1962: The Story of Kansas City's Parks**, page 55; Office of City Council of Kansas City, **Index to Appropriations**, Ordinance 34530, Book 86, page 163 (5 May 1920); William H. Wilson, **The City Beautiful Movement** (Baltimore: Johns Hopkins University Press, 1989), pages 99-125; field inspection by Lon Johnson, 4 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Lexington Avenue Viaduct JACK19
MHTD: S026B33

DATE(S) OF CONSTRUCTION
1900-01

LOCATION
Lexington Avenue over Chestnut Trafficway; S34, T50N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street viaduct / city street viaduct

RATING NRHP possibly eligible (score: 51)

CONDITION
good

OWNER
City of Kansas City

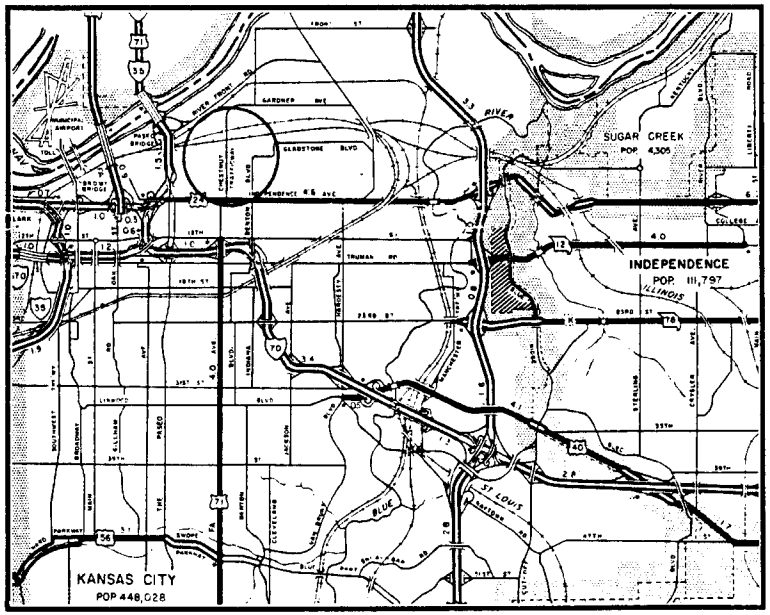
span number:	5	superstructure:	steel plate deck girder
span length:	95.0'	substructure:	concrete abutments with steel bent piers on concrete pedestals
total length:	386.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	43.0'	other features:	lattice guardrail on one side with Jersey barrier and aluminum tube guardrails at sidewalk

This multiple-span viaduct carries Lexington Avenue over the Chestnut Trafficway in North Terrace Park. The structure is comprised of five steel plate deck girder spans, supported by steel four-leg bent piers on concrete pedestals. The Lexington Avenue Viaduct was designed early in 1900 by the Kansas City engineering firm of Waddell and Hedrick for the Central Electric Railway Company. The structure was authorized that year by the city under Ordinance 14186, which stated: "Said steel railroad between the west line of Montgall Avenue and the east line of Chestnut Street shall be laid on a safe and substantial steel viaduct constructed so as to contain (in addition to the railroad right-of-way thereon) a wagon roadway and sidewalk for public use." Built in 1900-01, the structure carried electric interurban trains as well as vehicular and pedestrian traffic. In 1907, according to city records, the viaduct was remodeled. In 1926 the rail company was transferred through receivership to control of the Kansas City Public Service Company. The Lexington Avenue Viaduct functioned in unaltered condition until 1970, when its deck, sidewalks and guardrails were replaced.

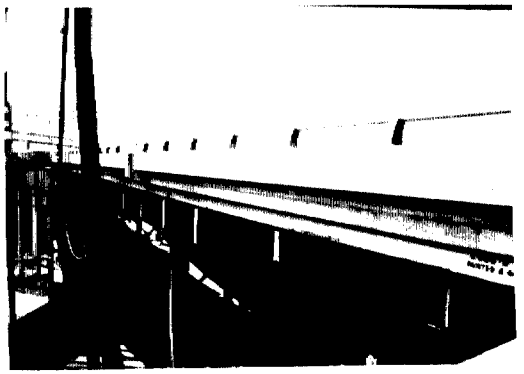
City railroad companies such as Central Electric Railway Company, the Kansas City Terminal Railway and the Metropolitan Street Railway Company were responsible in whole or in part for the construction of many of Kansas City's viaducts. Their interest in uninterrupted traffic for their interurban trains and trolleys prompted them to construct the grade separations, many of which were built under joint agreements with the Department of Public Works to be used for both rail and vehicular traffic. Built in 1900, the Lexington Avenue Viaduct typifies this citywide trend. The structure is distinguished historically as one of the few remaining bridges in Missouri designed by the nationally important engineering firm of J.A.L. Waddell. The structure is technologically noteworthy as the oldest dateable vehicular steel girder in the state. Although it has been altered, the Lexington Avenue Viaduct is an important transportation-related resource.

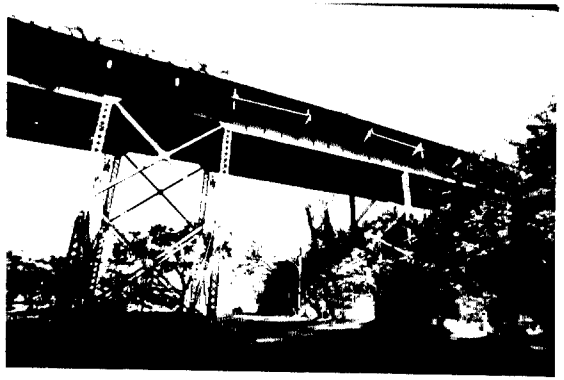
NAME(S) OF STRUCTURE
Lexington Avenue Viaduct

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 S026B33; Reed McKinley, Director of Public Works, to Powell C. Groner, President, Kansas City Public Service Company, correspondence, 15 July 1948; Powell C. Groner, President, Kansas City Public Service Company, correspondence to Reed McKinley, Director of Public Works, 18 August 1948; "Steel Viaduct over Agnes Avenue Gorge for Central Electric Railway Company of Kansas City," original construction drawings by Waddell and Hedrick, 21 February 1900 - located at Kansas City Engineer's Office, Kansas City, Missouri.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Grand Avenue Viaduct JACK20
MHTD: S028B31

DATE(S) OF CONSTRUCTION
1940

LOCATION
Grand Avenue over First Street and railroads; S32, T50N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street viaduct / city street viaduct

RATING NRHP non-eligible (score: 41)

CONDITION
fair

OWNER
City of Kansas City

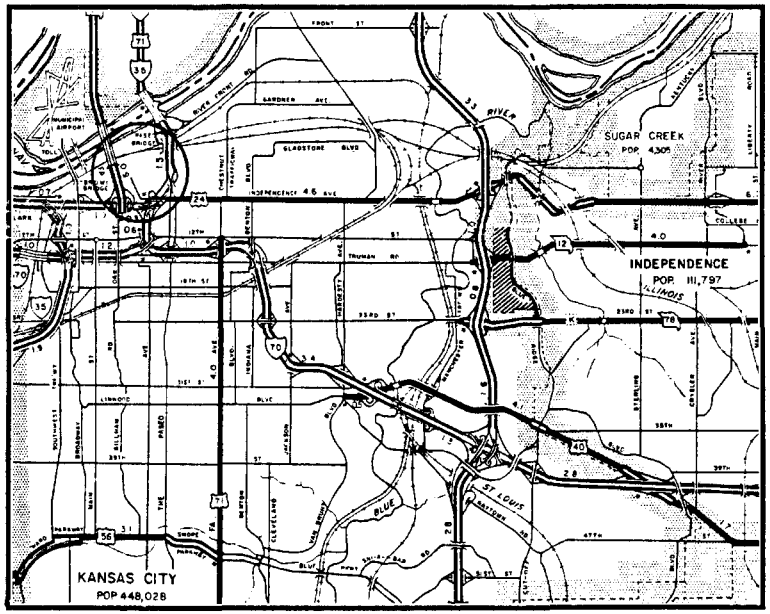
span number:	14	superstructure:	steel plate deck girder
span length:	109.0'	substructure:	concrete abutments and wingwalls with hammerhead spill-through piers
total length:	773.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	40.0'	other features:	steel angle guardrails

In January 1940 the City Council of Kansas City deliberated over an ordinance which would authorize a contract for the $300,000 Grand Avenue Viaduct. Considered a "vital connecting link in Kansas City's produce market area," this multiple-span structure connected the new city market with a million-dollar railroad food terminal to be built east of the A.S.B. Bridge. Kansas City engineers Ash, Howard, Needles & Tammen designed the structure, and in May the city solicited for bids to build it. The J.A. Tobin Construction Company submitted the lowest of nine bids at $285,029.00. Director of Public Works Ralph E. Cameron awarded the contract, which estimated a six-month construction time. By July 1940 construction was underway. The groundbreaking consisted of a steam shovel ceremony for which Director of Public Works Arthur C. Everham, Assistant Director N.W. Hyland, contractor J.A. Tobin, and consulting engineer E.E. Howard were present. Although a traditional spade was on hand for the groundbreaking, Everham opted for the steam shovel, stating, "A spade would make it look like a WPA job. This is a modern construction job using modern equipment."

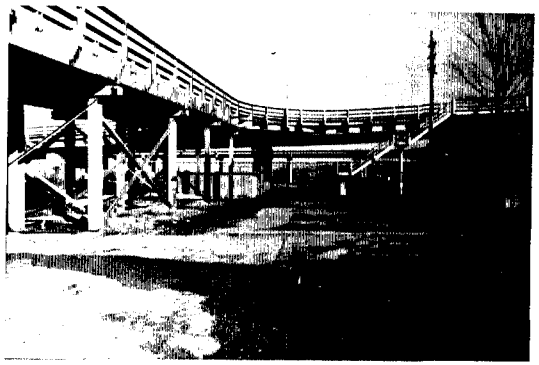
Initial construction work, which included the grading of the railroad yard, and general excavation began shortly after the groundbreaking. Although the cost of the viaduct was estimated at $305,000, the overall cost for grading, building tracks and docks, paving, and a western approach to the municipal wharf pushed the price closer to $800,000. When finished, the project included an administration building, open and covered docks, and other items necessary for a food distribution center. Completed in 1940, on the cusp of American entrance into World War II, the Grand Avenue Viaduct is a steel plate deck girder supported by concrete abutments, wingwalls, and hammerhead spill through piers. It functions as originally designed, with no serious alterations. The Grand Avenue Viaduct is today a well-preserved example of Depression-era urban construction.

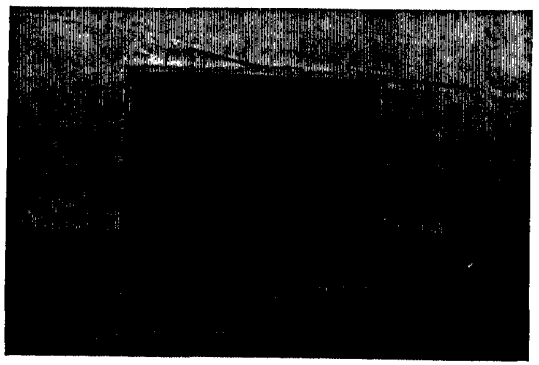
NAME(S) OF STRUCTURE
Grand Avenue Viaduct

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 S028B31; **Kansas City Star**, 21 January 1940; "A Viaduct at $285,029: J.A. Tobin Company is Low on Food Terminal Link," **Kansas City Times**, 1 May 1940; "Avenue to Food: Ground Broken for $305,000 Viaduct to Link Rails and City Market," **Kansas City Star**, 9 July 1940; field inspection by Lon Johnson, 4 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Twelfth Street Trafficway
MHTD: S030B11

JACK21

DATE(S) OF CONSTRUCTION
1913-14

LOCATION
12th Street over railroad yard; S6, T49N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street viaduct / city street viaduct

RATING NRHP eligible (score: 77)

CONDITION
good

OWNER
City of Kansas City

span number:	1; 45	superstructure:	double-deck concrete through arch with 45 deck girder approach spans
span length:	140.0'	substructure:	concrete abutments and post piers
total length:	2054.0'	floor/decking:	concrete deck
roadway wdt.:	52.0'	other features:	modern metal pipe guardrails, upper solid concrete balustrade with recessed panels

The significance of the Twelfth Street Trafficway lies partially in its location. The viaduct comprised the main part of the Twelfth Street Trafficway, which was historically the main east-west route through the city, connecting uptown Kansas City with the West Bottoms, an industrial section that included "railroad yards, freight stations, warehouses, packinghouses, wholesale and manufacturing concerns, and the large stock yard interests, including a considerable percentage of the city's businesses." Until the Twelfth Street Trafficway was built, these sections of the city were connected by three indirect routes.

The first municipal authorization for a viaduct here was issued in January 1886, when the city permitted the Corrigan Consolidated Street Railway Company to "construct and operate a cable or electric railway on 12th Street from State Line to the eastern limits of the City of Kansas." In February 1887 the Metropolitan Street Railway Company hired the Phoenix Bridge Company of Philadelphia to build an iron viaduct along Twelfth Street; six months later a contract was let to the Kansas City Bridge and Iron Company for the same viaduct, presumably due to a default by Phoenix. The iron structure lasted for some twenty years before the city and the street railway companies began planning its replacement. The structure's principal drawback–other than its advancing age–was that it carried only railroad tracks. According to engineer E.E. Howard, "A roadway suitable for vehicular, as well as street-car, traffic... has been advocated for many years, and has been made a feature of more than one political campaign, and of franchise negotiations with street-railway interest." In November 1909 the city council passed an ordinance that extended the franchise of the railways to operate along Twelfth Street, provided they build the replacement structure. The viaduct's cost was estimated at $1.3 million. The council enacted a similar ordinance in August 1911 calling for the receivers of the Metropolitan Street Railway Company to demolish the existing viaduct and construct a new structure.

Two more years passed before the viaduct inched closer to construction. The new viaduct was designed by pre-eminent Kansas City engineers Waddell and Harrington. The firm described the structure's general layout:

> The improvement finally realized as the Trafficway extends from Liberty Street to Broadway, a distance of 3/4 mile, of which the viaduct occupies about 2,300 feet. The remaining portion consists of earth embankments and cuts, with the usual

street improvements on Twelfth Street, and the regrading of certain side streets to intersect its new grade. A street 60 ft. wide is thus provided on a continuous grade of about 5.5% for a distance of 3,500 ft., substantially from end to end of the improvement. It was physically impossible, without involving prohibitory expense and damage to existing structures, to extend the end of the grade in either direction, so the gradient practically fixed itself. To accommodate traffic desiring a less steep grade, and willing, for such advantage, to travel by a less direct route, a roadway on a lower deck is provided, with a grade of about 2.5 per cent. This lower roadway begins one block east of the upper one and extends to the bluff, a distance of 1,800 ft.; thus enabling all classes of traffic to avoid the grade crossings over the heavy service railway tracks on the street below. Ascending roadways or streets alongside the bluff from the end of the lower deck will terminate in streets at the summit of the hill, giving easy grades, although by indirect routes for team traffic bound up town.

With the structure's design completed, the Kansas City Board of Public Works finally solicited competitive bids for its construction in April 1913. Estimating the cost at between $600,000 and $630,000, the city planned to fund it with bond proceeds and $200,000 from the Metropolitan Street Railway Company, which would then be entitled to use the viaduct until 1925. The city took a number of precautions to ensure that only financial stable companies would bid: it required that all bids be accompanied by certified checks equal to 5 percent of all bids under $10,000 and 25 percent of those above $10,000; and a surety bond equal to 75% of the gross amount of the bond.

In August 1913 the Graff Construction Company of Seattle was awarded the construction contract, but not without some difficulty. Graff complained about the Board of Public Works' stringent contract requirements, stating that the financial status of his company should not be questioned as long as he was capable of completing the job. Nevertheless, Graff presented his credentials and qualifications to the board. "We make a specialty of reinforced concrete work," Graff told the board. "We propose to build a structure which will be a monument to Kansas City as well as to the consulting engineers who designed it. And we intend to complete it within the time specified in the contract." Included among Graff's references was the prestigious engineering firm of Waddell and Harrington, which had designed the structure. City officials debated the advantages to both steel and concrete viaducts, and were eventually convinced by the consulting engineers to choose reinforced concrete.

The Kansas City Board of Public Works was principally responsible for the construction. John Lyle Harrington of Waddell and Harrington personally supervised both design and construction, while C.F. Graff, president of the Graff Construction Company gave his personal attention to the construction as well. An average of 200 men, of whom nearly 150 were carpenters, worked nine-hour days to erect the structure. Because the construction had been placed on a tight 15-month schedule, work often continued into the night. This was especially true of the pouring of concrete, a task that frequently stretched until midnight. Other aspects of the construction were frustrating: acquiring clean stone, and managing the costs of sand, steel and concrete.

The 2,054-foot long Twelfth Street Viaduct is a double-deck reinforced concrete bridge with girder spans supported by columns sunk in rock, soil, and concrete piles. A long arch span crosses eight railway tracks on Santa Fe Street. Because the columns are transversely paired, the upper deck cantilevers beyond each side of the columns, while the lower deck advances between them. The upper deck is

composed of forty-five deck girder spans of two girders each, which range in length from 33 to 56 feet. Included in the upper deck is the arch span and two earth filled approaches. The lower deck consists of twenty-seven through girder spans with two girders each. Cross girders and cantilevered beams support the floor slabs. Where both decks cross the street, shallow floors are needed, with concrete encased steel beams and concrete-covered steel girders serving as reinforcements. Both decks are lit by incandescent electric lights. "Careful attention was given to the architectural treatment in an effort to secure something more than a plain series of posts and beams," E.E. Howard stated. "The treatment developed considers the columns as columns with plinths and capitals, and not merely as posts. The bottoms of the upper-deck girders are curved to give an arched or high cambered appearance. The lower-deck girders are straight and in effect are supported by secondary pilasters set out from the main columns. Certain limiting conditions of the railway and street locations crossing under the structure practically determined certain column locations, but the span lengths were made smaller near the lower end of the structure, affording uniformity of appearance and preserving the unity of effect, in spite of the great variation in height of the different columns."

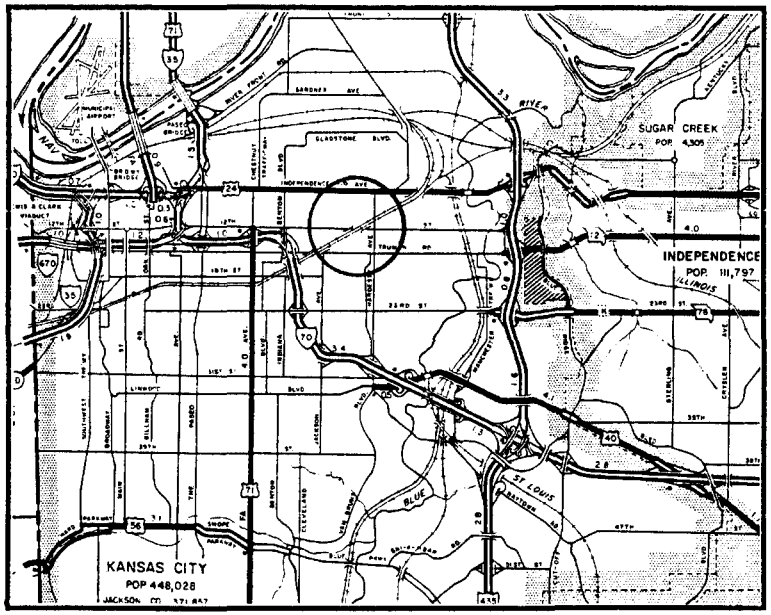
Completed in 1914 for the reported costs of $577,330.49, the Twelfth Street Trafficway carried increasingly heavy vehicular and rail traffic for almost fifty years without major repair. In the mid-1960s, however, a major rehabilitation of the trafficway was undertaken, involving primarily deck reconstruction and replacement of the guardrails.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. The notable exception to this was in the large urban areas, where concrete's intrinsic rigidity under heavy vehicular and rail traffic offset its
increased cost over steel. Several concrete viaducts and overpasses were built in Kansas City after the turn of the century, but none were larger than the Twelfth Street Trafficway. Considered a "bold departure in many respects from the established canons of design," this massive structure represents an extraordinary feat of civil engineering and construction management. The Twelfth Street Viaduct, according to one of its designers, "marks another important instance of the present tendency in American development to pass from the stage of pioneer civilization, with its temporary, but economical and expedient, types of buildings, works, ways, and systems, to an era of permanence, beauty of line and mass, sufficiency, and efficiency." The structure's double-deck configuration and through arch span are unique in Missouri and uncommon in the country. Given its importance to Kansas City transportation and its technological significance, the Twelfth Street Viaduct can be considered Missouri's foremost urban viaduct.

NAME(S) OF STRUCTURE

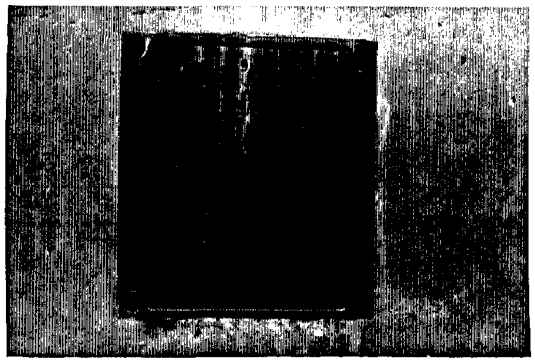
Twelfth Street Trafficway

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 S030B11; **Kansas City Times**, 10 April 1913; **Kansas City Journal**, 27 August 1913; Kansas City Public Service Company, **History of Bridges and Viaducts**; E.E. Howard, "The Twelfth Street Trafficway Viaduct, Kansas City, Missouri," **American Society of Civil Engineers Transactions**, Paper No. 1357 presented at the meeting of September 1, 1915, pages 485-487, 525, 531-533; **Kansas City Star**, 28 February 1965; **Kansas City Star**, 9 April 1965; field inspection by Mark Hufstetler, 4 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Bluff Street Bridge
MHTD: S030B12

JACK22

DATE(S) OF CONSTRUCTION
1914-15

LOCATION
St. Louis Road over railroad tracks; S6, T49N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street overpass / city street overpass

RATING NRHP determined eligible (score: 69)

CONDITION
fair

OWNER
City of Kansas City

span number: 1
span length: 160.0'
total length: 163.0'
roadway wdt.: 41.0'

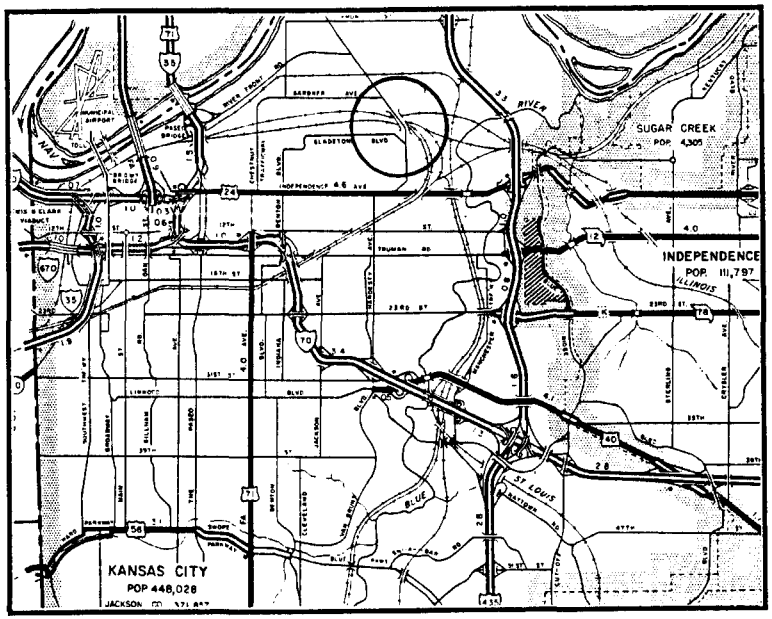
superstructure: steel, 7-panel, rigid-connected Pratt through truss, skewed
substructure: concrete (north), 2 concrete piers set in stone wall (south), concrete on top of both (bridge raised)
floor/decking: concrete deck over steel stringers
other features: upper chord / end post: box beam comprised of 4 angles with continuous plates and lacing; lower chord: box beam comprised of 4 angles with lacing; vertical: box beam comprised of 4 angles with double lacing; diagonal: box beam comprised of 4 angles with lacing or built-up I-beam comprised of 4 angles with lacing; strut: 4 angles with lacing; floor beam: I-beam, field-bolted to verticals; guardrail: 2 channels

This heavily skewed, heavy-weight steel truss carries St. Louis Street over several railroad tracks in Kansas City. The overpass is comprised of a single Pratt through truss with riveted connections, supported by concrete/stone abutments. Locally known as the Bluff Street Bridge, this structure is the most recent in a series of overpass structures at this point. The crossing's history dates to at least 1873. That year a franchise was granted to a street railway company "causing street car tracks to be laid on each roadway of the Bridge over the Hannibal and St. Joseph Railroad," suggesting that a bridge had already been built here. In 1886 the Kansas City Bridge and Iron Company erected a superstructure to replace the existing bridge, operating under contract with the Corrigan Consolidated Street Railway Company. At that time the railway company hired Michael Walsh to extend one of the existing stone abutments. In 1893 the city and the Kansas City Metropolitan Street Railway Company entered into an agreement to fund a new viaduct here. Kansas City contractors Farnsworth and Blodgett received a contract that June to erect the new structure. In 1914-15 the viaduct was again rebuilt, this time by the Kansas City Terminal Railway Company. It is unclear during which incarnation of the bridge the stone/concrete abutment were built. The 1914-15 truss's function is indicated by its extremely heavy construction; it has historically carried both vehicular and interurban rail traffic. Today the Bluff Street Bridge is closed to traffic, and plans are underway for its replacement.

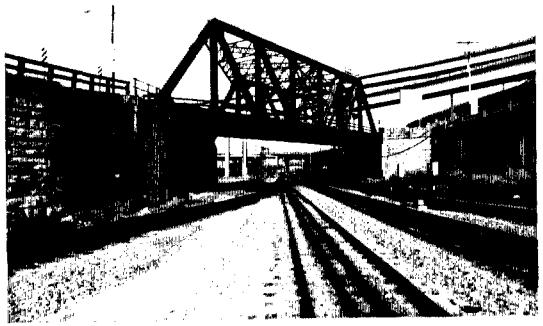
The Bluff Street Bridge is historically important for its longstanding role in Kansas City transportation. Historically it has been associated with some of the city's most important interurban railway companies, including the Corrigan Street Railway Company, the Metropolitan Street Railway Company and the Kansas City Terminal Railway Company. In its earliest form it ranked among the city's first grade separations. In its present form, it is technologically distinguished as among the earliest of the riveted Pratt trusses in the state. A singular-looking structure, it is a noteworthy transportation-related resource.

NAME(S) OF STRUCTURE
Bluff Street 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 S030B12; Kansas City Public Service Company, **History of Bridges and Viaducts**, pages 6-7.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
East 23rd Street Viaduct JACK27
MHTD: S048B11

DATE(S) OF CONSTRUCTION
1936-38

LOCATION
23rd Street Trafficway over Big Blue River; S12, T49N, R32W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street bridge / city street roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
good

OWNER
City of Kansas City

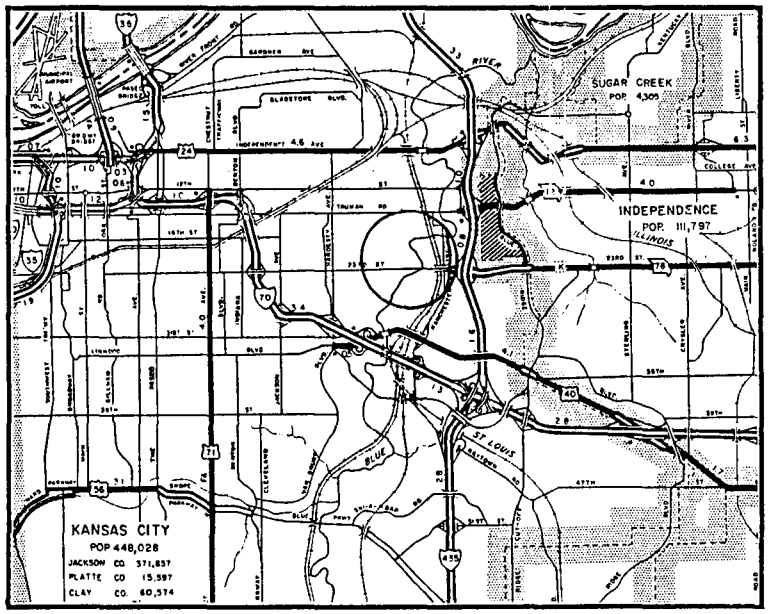
span number:	18	superstructure:	steel variable-depth plate girder
span length:	110.0'	substructure:	concrete abutments, wingwalls and spill-through piers
total length:	1639.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	42.0'	other features:	steel balustrade guardrails with curved concrete bulkheads; sidewalks on both sides of roadway; bridge plate: **DEPARTMENT OF PUBLIC WORKS / CITY OF KANSAS CITY, MISSOURI / R.E. McELROY, CITY MANAGER / MATTHEW S. MURRAY, DIRECTOR OF PUBLIC WORKS / N.W. HYLAND, ASSISTANT DIRECTOR OF PUBLIC WORKS / EAST TWENTY-THIRD STREET VIADUCT / 1936 / BLACK & VEATCH CONSULTING ENGINEERS / WISCONSIN BRIDGE & IRON COMPANY CONTRACTOR**

In 1935 Kansas City announced one of its civic improvement plans, which included "conquering the wilderness of the Blue Valley with Viaducts and Trafficways." For decades, the Blue River had been a major barrier to the development of the Blue Valley as well as the expansion of Kansas City. To combat this, the city constructed numerous bridges to carry the city's major thoroughfares across the river. Winner Road was completed, 15th Street and a bridge over the Blue were completed, and U.S. Highway 40 already crossed the Blue at both 31st and Leeds Streets. The Kansas City Department of Public Works contributed to this development by contracting for the construction of the East 23rd Street Viaduct, a 1,639-foot structure that intersected the Blue River and four rail tracks. Consulting engineers Black and Veatch designed the structure, a steel girder viaduct supported by concrete abutments. The Wisconsin Bridge and Iron Company fabricated and erected the structure, beginning work in 1936 and finishing in June 1938. Works Progress Administration men were employed along with state and city workers to construct the viaduct.

When completed in 1938 at a total cost of $531,000, the viaduct formed a direct route between Independence Avenue and the south residential section of the city. City officials were thrilled with the viaduct, which "[made] the city accessible to suburban residents east of the Blue and between Fifteenth Street and U.S. Highway No. 40 cutoff." In addition, the East 23rd Street Viaduct "certainly will tend to stimulate the growth of the intercity area, and add to the value of the Blue Valley industrial sites." Today it is distinguished as one of the longest span steel beam bridges in Missouri. With it variable-depth plate girders and original guardrails and substructure, the East 23rd Street Viaduct is a noteworthy urban span.

NAME(S) OF STRUCTURE
East 23rd Street Viaduct

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 S048B11; "Conquering the Wilderness of the Blue Valley with Viaducts and Trafficways," **Kansas City Star**, 29 September 1935; **Kansas City Star**, 8 June 1938; **Kansas City Times**, 9 June 1938.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
27th Street Viaduct
MHTD: S051B31

JACK28

DATE(S) OF CONSTRUCTION
1917

LOCATION
27th Street over Vine Street; S9/16, T49N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street viaduct / city street viaduct

RATING NRHP possibly eligible (score: 63)

CONDITION
good

OWNER
City of Kansas City

span number:	1; 4; 2	superstructure:	concrete open spandrel arch, with arched deck girder approach spans
span length:	120'; 40'; 45'	substructure:	concrete abutments, wingwalls and spill-through piers
total length:	371.0'	floor/decking:	concrete deck
roadway wdt.:	40.0'	other features:	concrete guardrails with decorative molded balusters; decorative pedestrian stairways on both sides; sidewalks carried on decorative concrete corbels

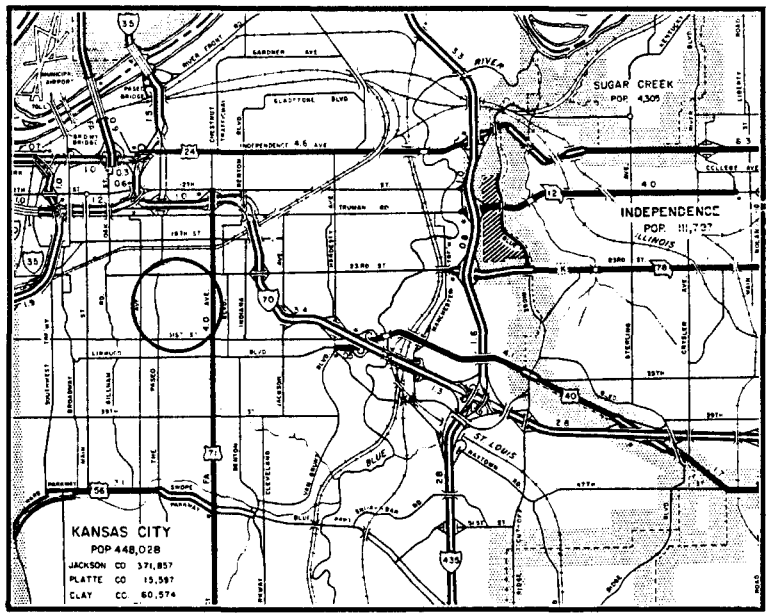
An integral aspect of Kansas City's social and cultural development was the incorporation of a system of public parks and boulevards. first promoted in the late 19th century by prominent Kansas City personages such as August R. Meyer and designed by landscape architect George E. Kessler, the system featured a series of beautifully landscaped city parks linked with an "all-inclusive network of boulevards," which themselves were landscaped with plantings, sculptures, fountains and a variety of other decorative elements. Paseo Boulevard, or "the Paseo" as it is often called, formed a central spine that joined North Terrace Park ion the north edge of Kansas City with Swope Park at the southern city limits. Extending from Admiral Boulevard to 79th Street for 9.07 miles, it was constructed between 1899 and 1919 and was actually a combined boulevard and parkway that ran north to south through the center of the city. The Paseo formed a focal point for Kessler's landscaping plan. As described by historian William Wilson:

> **The intersecting streets formed rectangles, each one of which Kessler fashioned into a distinctive park. At Ninth Street a small stone fountain bubbled; the Pergola, a double colonnade with a trellis roof, stood between Tenth and Eleventh; at Twelfth Kessler designed a high stone terrace to ornament and compensate for a steep grade; across Twelfth, a Spanish cannon captured during the Spanish-American War overlooked a formal sunken garden; at Fifteenth stood the wonder of the Paseo, an enormous stone fountain that Kessler designed after a fountain at Versailles. A small fountain at Eighteenth completed the original Paseo. Though each park was individual, all were harmonious and subordinated to the whole. In a day of slow travel, the Paseo presented a delightful pattern of colorful, shifting scenes to the pedestrian or carriage passenger.**

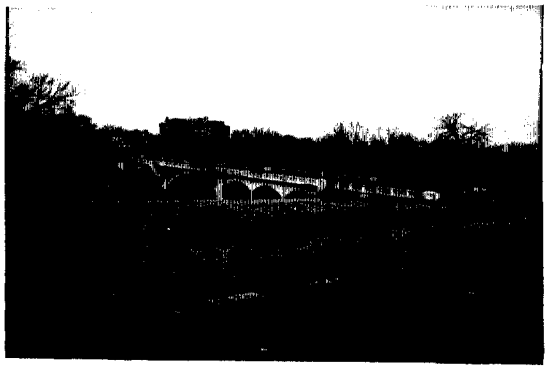
As it extended through residential areas further south, the Paseo relied on the median between its north- and southbound lanes to form a long, essentially continuous park. Kessler used the overpass structures at intersecting streets–including this viaduct over Vine Street, one-half block east of the Paseo–to provide architectural punctuation for the boulevard. The 27th Street Viaduct was an integral feature in his plan. Engineered in 1916 by the Kansas City firm of Hedrick and Hedrick, the overpass employs graceful lines in its central open

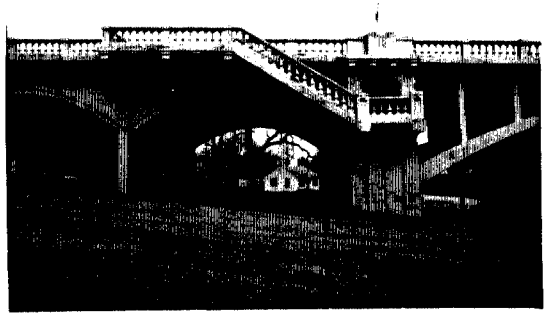
NAME(S) OF STRUCTURE
27th Street Viaduct

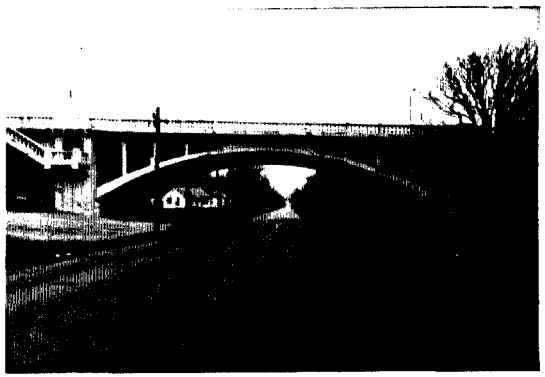
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP







SOURCES
Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S051B31; Roy Ellis, **A Civic History of Kansas City, Missouri**, published in Springfield, Missouri, 1930, pages 91, 93; promotional literature for Harrington, Howard and Ash, Consulting Engineers, Kansas City, Missouri, from the Kansas City Public Library; Carrie Westlake Whitney, **Kansas City, Missouri: Its History and Its People 1808-1908** (Chicago: S.J. Clarke Publishing Company, 1908), pages 592, 595; "The New Twenty-Seventh Street Viaduct over Vine Street," **Kansas City Times**, 27 December 1916; George E. Kessler, "The Kansas City Park System and Its Effect on the City Plan," **Good Roads**, 2 June 1917, pages 321-24; Kansas City Parks Department, **Cowtown 1890 Becomes City Beautiful 1962: The Story of Kansas City's Parks**, page 10; William H. Wilson, **The City Beautiful Movement** (Baltimore: Johns Hopkins University Press, 1989), pages 122-25; field inspection by Lon Johnson, 4 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
23rd Street Viaduct JACK30
MHTD: S053B21

DATE(S) OF CONSTRUCTION
1919-21

LOCATION
23rd Street over Kansas City railway, Wyoming Street; S7, T49N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street viaduct / city street viaduct

RATING NRHP non-eligible (score: 39)

CONDITION
good

OWNER
City of Kansas City

span number:	36	superstructure:	concrete deck girder; steel plate deck girder
span length:	97.0'	substructure:	concrete abutments and wingwalls with concrete post piers
total length:	1,596.0'	floor/decking:	concrete deck
roadway wdt.:	56.0'	other features:	steel angle guardrails

Part of Kansas City's effort to "lift itself out of the mud" in the 1910s and 1920s included construction of the 23rd Street Viaduct. As designed by Harrington, Howard and Ash of Kansas City, the multiple-span structure was comprised of concrete deck girder spans with arched profiles, supported by concrete post-type piers. Built in 1919-21, the 23rd Street Viaduct dates to 1915. That year a $300,000 bond issue was passed to build the viaduct and adjacent trafficway. After several delays, the Kansas City Board of Public Works finally signed an agreement in July 1917 with the Kansas City Railways Company and six other railroad companies to build the immense structure. The city would pay a third of the estimated $600,000 cost, the Railways Company a third, and the six railroads the remainder. In March 1918 the city solicited competitive bids for the viaduct's construction, but the lowest bid–$700,000 submitted by the Fuller Construction Company–was substantially above the initial estimates. With the nation in a world war, the city could not get the railroads to commit funds to the project. "I do not believe there is a ghost of a chance that the [federal] government will approve this project," Railways Company representative Phillip Kelly stated. "It is not one that will be considered essential. The government is permitting the railroads to spend money only for those things that will further the war."

Without the railroads' support, the city was forced to reject Fuller's bid and shelve the project until the war's end. By the time the city let the contract to build the viaduct in March 1919 to low-bidder A.S. Hecker of Cleveland, the cost had risen to $750,000. Although approved unanimously approved by the Kansas City Board of Public Works and the mayor, the contract was first rejected by the city council, largely due to the opposition by the Pendergast interests, which objected to the out-of-town contractor. "I know nothing of conditions in Kansas City," Hecker admitted to the council. "When the contract was awarded by the board of public works I went back home and when I got word the lower house [of city council] had rejected the contract, nearly all of our equipment, worth about $50,000 and a lot of it new, was loaded on cars and ready to ship. I had given the board my word that I would be on the job and ready to go to work within two weeks after the contract was confirmed. I was making ready to keep that promise."

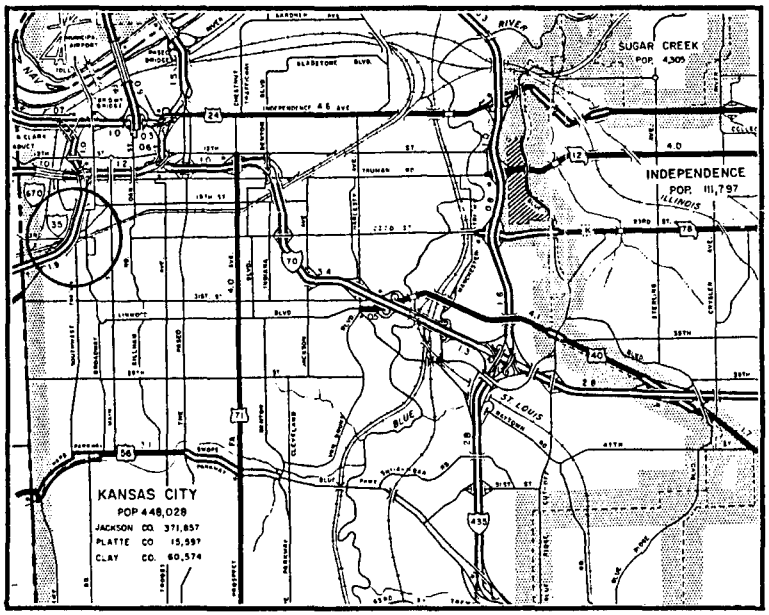
The council eventually approved Hecker's contract, and he began work on the viaduct in 1919. During construction, a "temporary dangerous and unsafe wooden bridge" was used until the structure was completed. The viaduct's price was increased again as it was

nearing completion in 1921, this time to $900,000. When the structure was finished that year, its aggregate cost was slightly less than $1 million. "The faith and civic spirit in Armourdale which held its people there despite overflows of the Kaw River was again manifest yesterday when despite lowering clouds during the afternoon, the committee in charge of the Twenty-third street viaduct opening kept at work on the preparations," the **Kansas City Journal** reported in September. "And it was faith and civic spirit that made possible the great structure, faith and determination through the years of delays." Held on September 21, 1921, the grand opening of the viaduct was attended by Missouri Governor Henry Allen and Kansas City officials, who all gave speeches congratulating each other for their remarkable foresight in building the structure. Once opened, the 23rd Street Viaduct carried vehicular traffic in essentially unaltered condition for about 40 years. In 1960 it was widened, the deck and guardrails replaced and steel girder spans added.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. The 23rd Street Viaduct is distinguished among these as one of the most massive of Missouri's early concrete bridges. Its subsequent alterations have diminished the structure's interpretive value, however.

NAME(S) OF STRUCTURE
23rd Street Viaduct

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 S053B21; Kansas City Public Service Company, **History of Bridges and Viaducts**; **Kansas City Times**, 16 March 1918; "How Kansas City is Trying to Lift Itself Out of the Mud Despite the Aldermanic Combine," **Kansas City Times**, 3 April 1919; **Kansas City Times**, 12 March 1919; **Kansas City Times**, 28 March 1919; **Kansas City Journal**, 22 September 1921;.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Troost Avenue Bridge
MHTD: S080B31

JACK37

DATE(S) OF CONSTRUCTION
1917

LOCATION
Troost Avenue over Brush Creek; S28, T49N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street bridge / city street bridge

RATING NRHP possibly eligible (score: 47)

CONDITION
fair

OWNER
City of Kansas City

span number:	1	superstructure:	concrete, four-rib, open spandrel arch
span length:	74.0'	substructure:	concrete abutments and wingwalls
total length:	74.0'	floor/decking:	concrete deck
roadway wdt.:	42.5'	other features:	steel angle guardrails; decorative bronze plates mounted on concrete guardrail bulkheads

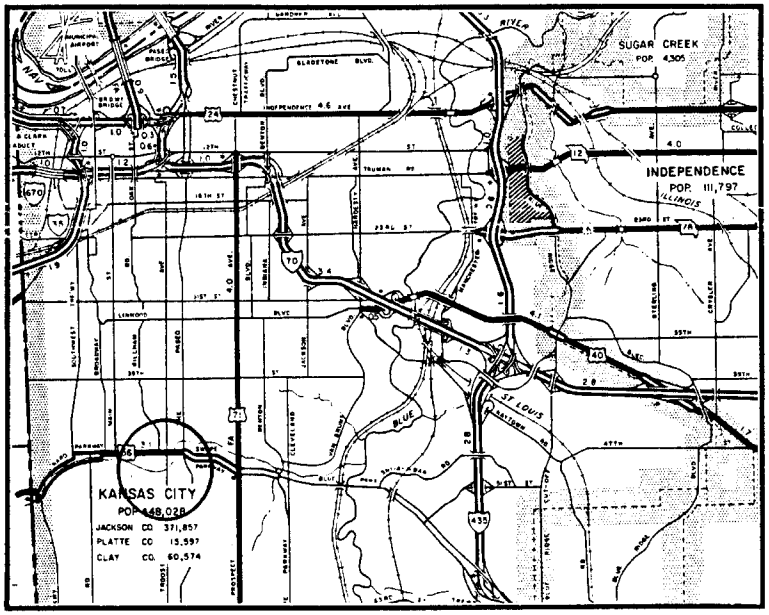
This medium-scale concrete bridge carries Troost Avenue over Brush Creek in central Kansas City. The first bridge here was built in 1904. By 1916, this structure was in need of replacement, however, and that September the Kansas City Board of Public Works moved to replace the existing structure with a more massive concrete bridge. As designed, the new Troost Avenue Bridge consisted of a single open spandrel arch, supported on a skew by concrete abutments. On September 29, 1916, the board contracted with the Fox Redpath Construction Company to build the bridge, appropriating $17,000.00 from the Bridge and Viaduct Fund for its construction. Fox Redpath finished work on the bridge the next year. Total Cost: $19,578.97. Since its completion the Troost Avenue Bridge has carried vehicular traffic. In 1977 its deck and guardrails were replaced, altering the structure's appearance somewhat.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. Of the more than 13,000 pre-1951 bridges identified in Missouri by the statewide historic bridge inventory, only about three dozen are open spandrel concrete arches. The Troost Avenue Bridge is distinguished among these for its relatively early construction.

NAME(S) OF STRUCTURE

Troost Avenue 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 S080B31; Kansas City Public Service Company, **History of Bridges and Viaducts**; Office of City Council of Kansas City, **Index to Appropriations**, Ordinance No. 28014; Ordinance No. 30271; field inspection by Lon Johnson, 5 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Sebree Bridge
MHTD: S081B41

JACK38

DATE(S) OF CONSTRUCTION
1922-24

LOCATION
Benton Boulevard over Brush Creek; S27, T49N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street bridge / city street bridge

RATING NRHP possibly eligible (score: 47)

CONDITION
good

OWNER
City of Kansas City

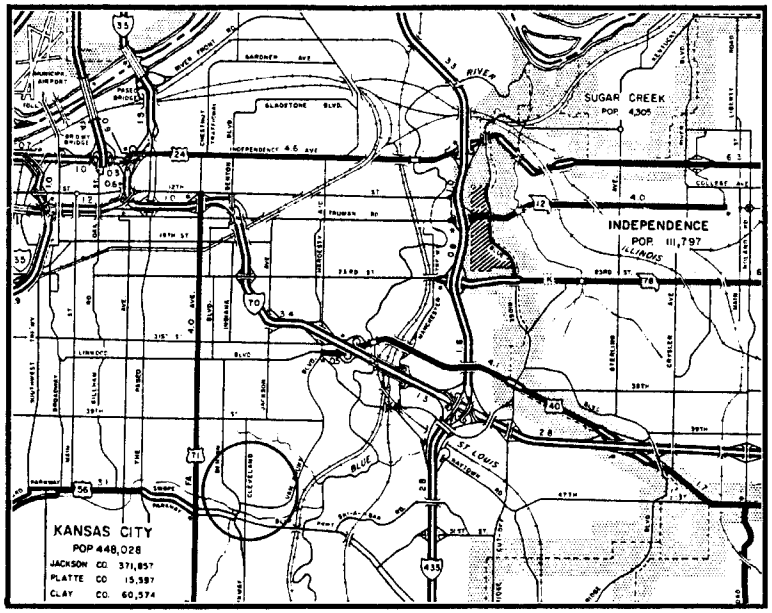
span number:	3; 5	superstructure:	concrete, four-rib, open spandrel arch; arched concrete deck girder approach spans
span length:	80.0'	substructure:	concrete abutments wingwalls and piers
total length:	324.0'	floor/decking:	concrete deck
roadway wdt.:	53.0'	other features:	cantilevered sidewalks, tall concrete lamp pedestals, flower urns; bridge plate: **The Sebree Bridge 1923** (incised in concrete of lamp pedestal)

Between 1910 and 1920, Kansas City's population increased by 30 percent and the automobile became a more popular mode of transportation. Along with these changes emerged the need for wider streets and other road improvements. Using a tax bill method for funding, the Chamber of Commerce launched the "Get-It-Done" movement in 1921, which initiated and completed numerous municipal improvement projects. Among these was the Sebree Bridge, a concrete open spandrel arch that crossed Brush Creek connecting the Swope Parkway with Benton Boulevard. "The vast importance of this project," reported the **Kansas City Star** in January 1922, "is that eastern and Northeastern Kansas City will be linked directly with Swope Park."

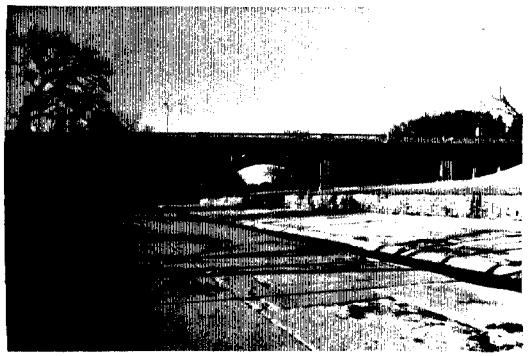
The city hired Harrington, Howard and Ash to engineer the proposed bridge in 1921 and the following January let the contract to build the Sebree Bridge. Completed in 1923, the Sebree Bridge featured three 80-foot spans, with a series of five arched deck girder approach spans. By 1924, even though most of its initial "Get-It-Done" projects had been completed, city officials realized that tax bills were not sufficient to complete the scope of projects planned. By the 1930s, a system of bond bills was suggested to replace tax bills. Nevertheless, the "Get-It-Done" program inspired city officials to come up with a more comprehensive program of public improvements within a specific time frame. The Sebree Bridge functioned unaltered until 1983, when it was rehabilitated. It is today distinguished as a well-preserved example of monumental urban bridge construction. With its three long arches and five shorter arched girder spans, the Sebree Bridge was characterized by the **Kansas City Journal** as "one of Kansas City's most artistic bridges."

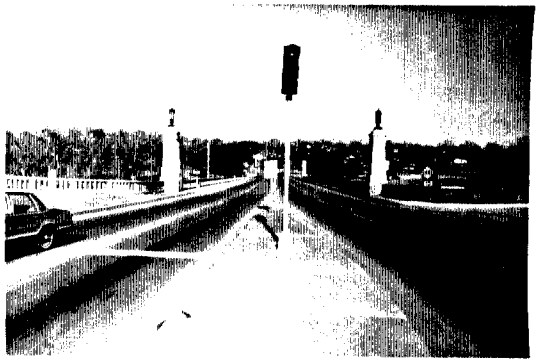
NAME(S) OF STRUCTURE
Sebree Bridge

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 S081B41; The Chamber of Commerce of Kansas City Missouri, **Where These Rocky Bluffs Meet: Including the Story of The Kansas City Ten-Year Plan**, 1938, pages 77-81; **Kansas City Star**, 19 January 1922; **Kansas City Journal**, 16 November 1924; **Kansas City Star**, 5 October 1930; field inspection by Lon Johnson, 5 February 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Blue Parkway Viaduct JACK39
MHTD: S082B33

DATE(S) OF CONSTRUCTION
1935-36

LOCATION
Blue Parkway over Big Blue River; St. Louis and Santa Fe Railroad;
S26, T49N, R32W, Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge/highway bridge

RATING NRHP possibly eligible (score: 47)

CONDITION
good

OWNER
City of Kansas City

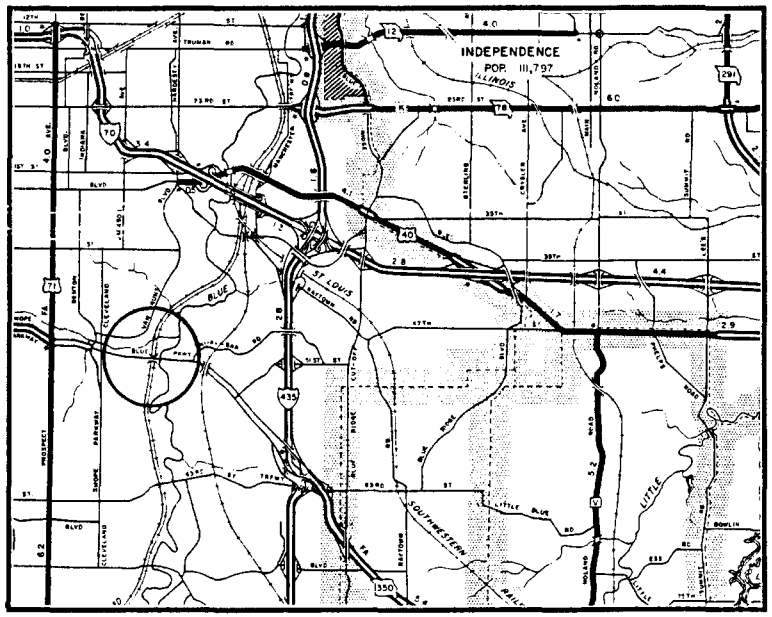
span number:	14	superstructure:	steel plate deck girder
span length:	105.0'	substructure:	concrete abutments and wingwalls with spill-through piers
total length:	810.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	42.0'	other features:	steel guardrail, solid concrete balustrade separates sidewalks from traffic, chain link fence on outside of sidewalks

As part of the effort to create jobs during the Depression, Congress in 1934 passed an act allowing federal monies to be used for road and bridge construction within municipalities. Taking advantage of the new legislation, the Missouri State Highway Commission undertook a number of urban road and bridge projects in subsequent years. Between 1934 and 1936, 558 new structures were designed by MSHD. Located over the Big Blue River in Kansas City, the Blue Parkway Viaduct was one of these. To span the river as well as tracks of the St. Louis & San Francisco Railroad, the highway department in 1935 engineered a series of fourteen steel plate deck girder spans, supported by concrete spill-through piers. This span was one of six such vehicular bridges built over the Blue in 1936. It was erected that year by the List Construction Company for a total cost of $197,322.48. Since its completion, the Blue Parkway Viaduct has functioned in place, with a rehabilitation in 1976 as its most serious alteration.

As an important crossing of the Big Blue River and the St. Louis & San Francisco Railroad, the Blue Parkway Viaduct has formed an integral part of the city's street system. The viaduct is also important as one of the railroad separation projects funded through the New Deal's Hayden-Cartwright Act. Federal relief programs of the 1930s broke with past practice by allowing federal funds to be used for urban, as well as rural highways. Grade separation was a major focus of the highway department during this period, requiring commitment of much staff time. The Blue Parkway Viaduct is technologically distinguished as one of the longest-span examples of its type. Through the 1930s and 1940s, the Missouri State Highway Department designed and built progressively longer steel beam bridges, using both rolled and plate girders in through and deck configurations. This culminated at the end of the decade with spans around 150 feet. Other longer girders had been built elsewhere in the country, but for Missouri, this represented a noteworthy technological feat. With its 105-foot deck girder span and 1936 construction date, the Blue Parkway Viaduct is noteworthy as one of the earliest of these long-span beam bridges.

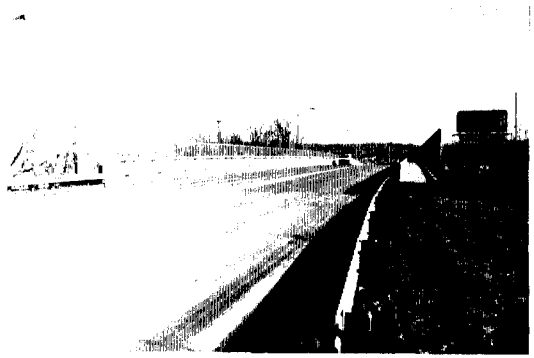
NAME(S) OF STRUCTURE
Blue Parkway Viaduct

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 S082B33; files on Primary System Bridge, located at Missouri Highway and Transportation Department, Jefferson City, Missouri; Missouri State Highway Commission, **Tenth Biennial Report**, 1935-36, page 263; Chamber of Commerce of Kansas City, Missouri, **Where These Rocky Bluffs Meet: Including the Story of The Kansas City Ten-Year Plan**, 1938, pages 177-217; field inspection by Lon Johnson, 5 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Raytown Road Bridge JACK41
MHTD: S084B11

DATE(S) OF CONSTRUCTION
1913

LOCATION
Raytown Road over Round Grove Creek; S19/30, T49N, R32W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / city street bridge

RATING NRHP non-eligible (score: 42)

CONDITION
fair/poor

OWNER
City of Kansas City

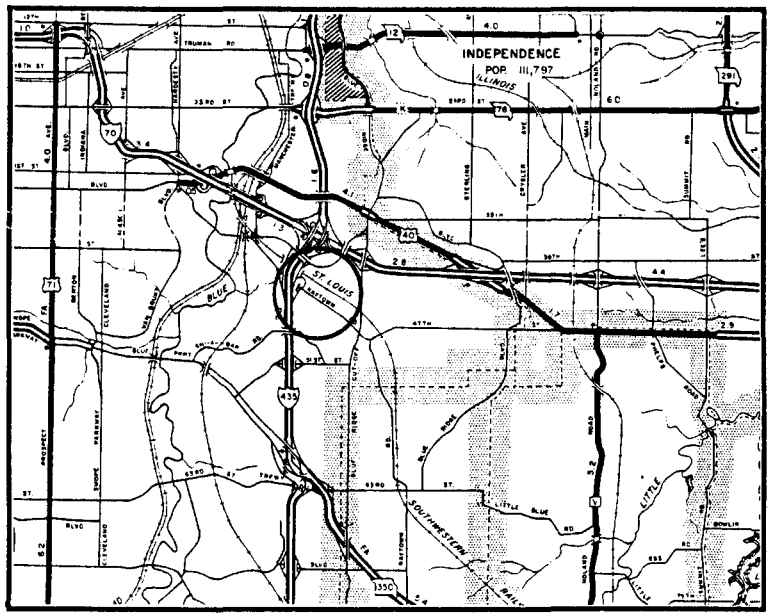
span number:	1	superstructure:	concrete filled spandrel arch
span length:	40.0'	substructure:	concrete abutments and wingwalls
total length:	41.0'	floor/decking:	concrete over earth fill
roadway wdt.:	30.5'	other features:	concrete guardrails with recessed rectangular panels

This small-scale concrete bridge carries the Raytown Road over Round Grove Creek in Kansas City. The Raytown Road Bridge consists of a filled spandrel arch with an elliptical profile, supported by concrete abutments and featuring solid concrete guardrails with recessed rectangular panels. The Raytown Road Bridge dates to 1912. In April of that year the Jackson County Court solicited competitive bids for four concrete bridges in this part of the county. Proposals were received for the bridges in May and taken under advisement. The county later contracted with the Mulholland Construction Company for the structures. This small arch was completed the next year. It has functioned in place since, with essentially no alteration.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. Built in 1913, the Raytown Road Bridge is noteworthy as an early, well-preserved example of concrete bridge construction in Missouri.

NAME(S) OF STRUCTURE
Raytown Road 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 S084B11; Jackson County Court Record, Book 48, page 169 (11 April 1912), page 212 (8 May 1912), Book 49, page 185 (7 May 1913) - located in Jackson County Courthouse, Independence, Missouri; field inspection by Lon Johnson, 9 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
63rd Street Viaduct JACK42
MHTD: S106B12

DATE(S) OF CONSTRUCTION
1936

LOCATION
63rd Street over Big Blue River; St. Louis & Santa Fe Railroad; S2, T48N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possible (score: 50)

CONDITION
fair

OWNER
City of Kansas City

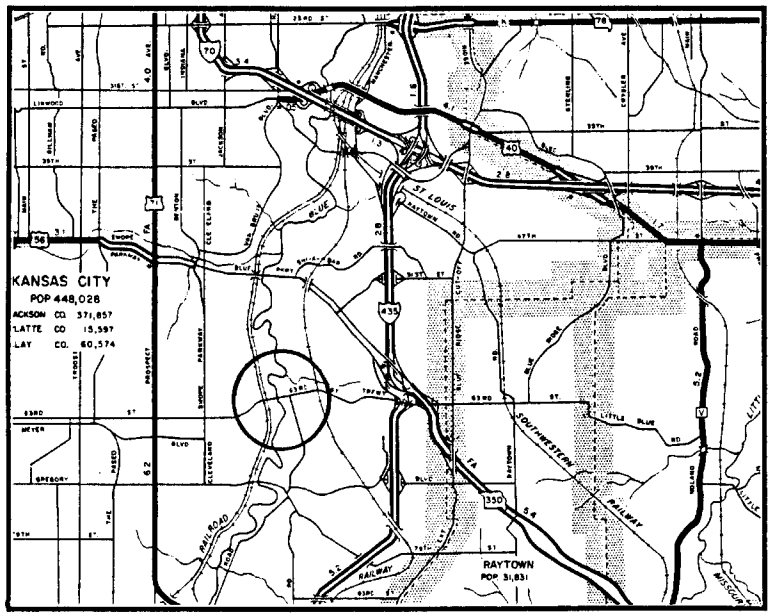
span number:	6	superstructure:	steel, variable depth plate girder viaduct
span length:	140.0'	substructure:	concrete abutments, wingwalls and piers
total length:	671.0'	floor/decking:	asphalt on concrete deck over steel stringers
roadway wdt.:	42.0'	other features:	concrete balustrade posts; bridge plate at each end: **MISSOURI HIGHWAY DEPT BRIDGE No. K607 1936**

During the 1930s, Kansas City launched its Ten-Year Plan, a program of civic improvements funded by city bond elections. Throughout that decade the Civic Improvement committee appropriated funds each year for a variety of projects, including road and bridge construction. In 1935, the **Kansas City Times** stated that an important aspect of the Ten-Year Plan was the "subjugation of the Blue River Valley" which was "buttressed by wooded, irregular hills, has stayed the developer, shunning the city's growth and the platting of home districts southward, even far beyond Brush Creek." By 1934, the Civic Improvement committee approved $150,000 "for the purchase of rights of way for bridges over Blue river at Twenty-third, Thirty-ninth, and Sixty-third Streets..." Each of these provided links between some of the city's major trafficways and state or county roads. According to the **Times**, "Sixty-third Street represents another east-west gap soon to be plunged with viaduct and concrete slab." The 63rd Street Viaduct was designed by the Missouri State Highway Department, its steel fabricated by the Illinois Steel Company od Chicago, and its construction undertaken by the W.A. Ross Construction company for a total cost of $357,989. It is a steel girder viaduct supported by concrete abutments. Decorative concrete columns are featured at each corner of the structure. Ultimately, it ran from the northern edge of Swope Park to with the county highway. When completed, the structure linked the network of Jackson County highways to the Raytown region, united with U.S. Highway 50, and made accessible by car lands in the Blue Valley.

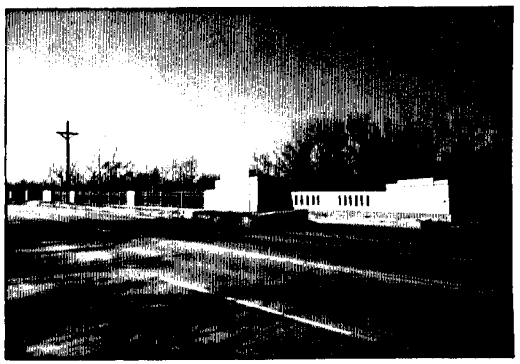
Through the 1930s and 1940s, the Missouri State Highway Department designed and built progressively longer steel beam bridges, using both rolled and plate girders in through and deck configurations. This culminated at the end of the decade with spans around 150 feet. Other longer girders had been built elsewhere in the country, but for Missouri, this represented a noteworthy technological feat. With its 140-foot deck girder spans, the 63rd Street Viaduct in Kansas City is distinguished as one of the longest beam bridges identified in the statewide inventory. Although built late in the milieu of bridge construction in Missouri, it is significant as the ultimate extension in the state of this utilitarian structural type.

NAME(S) OF STRUCTURE
63rd Street Viaduct

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 S106B12; Primary System Bridge Record, located at the Missouri Highway and Transportation Department, Jefferson City MO; **Kansas City Times**, 20 September 1935; Kansas City Chamber of Commerce, **Where These Rocky Bluffs Meet: Including the Story of The Kansas City Ten-Year Plan**, (Kansas City: Chamber of Commerce of Kansas City, 1938), pages 177, 213; "Looking Northeast over the Sixty-Third Street Viaduct which Provides a New Entrance into City," **Kansas City Times**, 11 September 1937; field inspection Mark Hufstetler, 5 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Paseo Overpass
MHTD: S128B11

JACK45

DATE(S) OF CONSTRUCTION
1917

LOCATION
Paseo Boulevard over 77th Street; S16, T48N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street overpass / city street overpass

RATING NRHP determined eligible (score: 56)

CONDITION
good

OWNER
City of Kansas City

span number:	1	superstructure:	concrete filled spandrel arch
span length:	63.0'	substructure:	concrete abutments and wingwalls
total length:	65.0'	floor/decking:	concrete over earth fill
roadway wdt.:	28.0'	other features:	ornamental concrete guardrails with paneled concrete bulkheads; horizontal grooves cast in concrete on wingwalls; incised panels cast in concrete on arch spandrels; corbeled concrete stringcourse at springline and road level

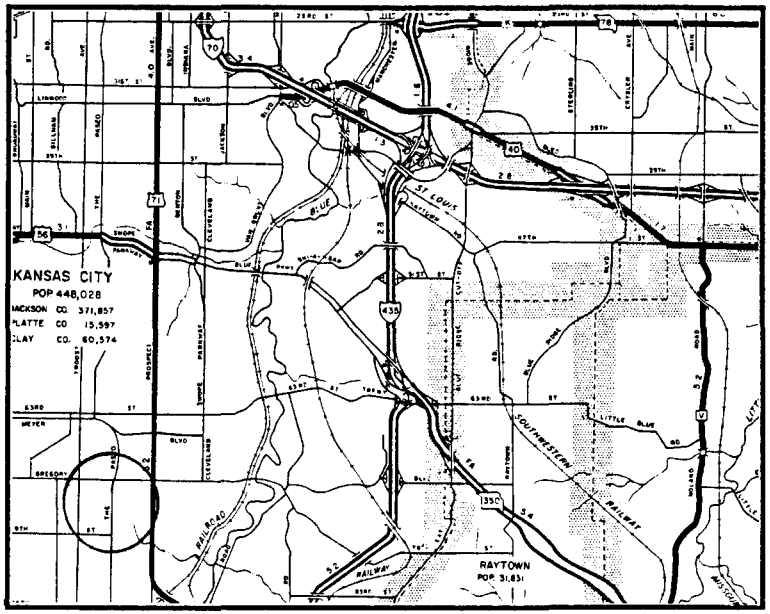
An integral aspect of Kansas City's social and cultural development was the incorporation of a system of public parks and boulevards. first promoted in the late 19th century by prominent Kansas City personages such as August R. Meyer and designed by landscape architect George E. Kessler, the system featured a series of beautifully landscaped city parks linked with an "all-inclusive network of boulevards," which themselves were landscaped with plantings, sculptures, fountains and a variety of other decorative elements. Paseo Boulevard, or "the Paseo" as it is often called, formed a central spine that joined North Terrace Park ion the north edge of Kansas City with Swope Park at the southern city limits. Extending from Admiral Boulevard to 79th Street for 9.07 miles, it was constructed between 1899 and 1919 and was actually a combined boulevard and parkway that ran north to south through the center of the city. The Paseo formed a focal point for Kessler's landscaping plan. As described by historian William Wilson:

> **The intersecting streets formed rectangles, each one of which Kessler fashioned into a distinctive park. At Ninth Street a small stone fountain bubbled; the Pergola, a double colonnade with a trellis roof, stood between Tenth and Eleventh; at Twelfth Kessler designed a high stone terrace to ornament and compensate for a steep grade; across Twelfth, a Spanish cannon captured during the Spanish-American War overlooked a formal sunken garden; at Fifteenth stood the wonder of the Paseo, an enormous stone fountain that Kessler designed after a fountain at Versailles. A small fountain at Eighteenth completed the original Paseo. Though each park was individual, all were harmonious and subordinated to the whole. In a day of slow travel, the Paseo presented a delightful pattern of colorful, shifting scenes to the pedestrian or carriage passenger.**

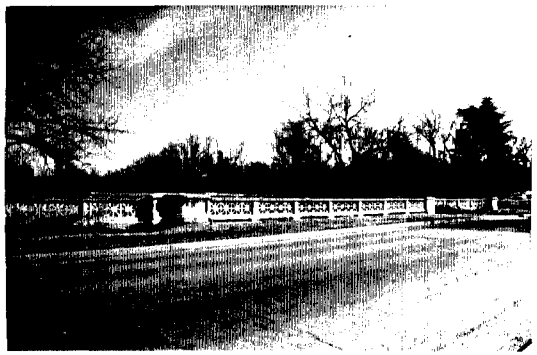
As it extended through residential areas further south, the Paseo relied on the median between its north- and southbound lanes to form a long, essentially continuous park. Kessler used the overpass structures at intersecting streets to provide architectural punctuation for

NAME(S) OF STRUCTURE
Paseo Overpass

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 S128B11; Roy Ellis, **A Civic History of Kansas City, Missouri**, published in Springfield, Missouri, 1930, p. 91, 93; promotional literature for Harrington, Howard and Ash, Consulting Engineers, Kansas City, Missouri, from the Kansas City Public Library; Kansas City Public Service Company, **History of Bridges and Viaducts**; Carrie Westlake Whitney, **Kansas City, Missouri: Its History and Its People 1808-1908** (Chicago: S.J. Clarke Publishing Company, 1908), pages 592, 595; Kansas City Parks Department, **Cowtown 1890 Becomes City Beautiful 1962: The Story of Kansas City's Parks**, page 10; Jerry Cook, Kansas City Public Works Engineer, Bridge Inventory Report, as cited in Preliminary Determination of Paseo Overpasses; George E. Kessler, "The Kansas City Park System and Its Effect on the City Plan," **Good Roads**, 2 June 1917, pages 321-24; William H. Wilson, **The City Beautiful Movement** (Baltimore: Johns Hopkins University Press, 1989), pages 122-25; field inspection Mark Hufstetler, 5 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Paseo Overpass
MHTD: S128B12

JACK46

DATE(S) OF CONSTRUCTION
1917

LOCATION
Paseo Boulevard over 77th Street; S16, T48N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street overpass / city street overpass

RATING NRHP determined eligible (score: 56)

CONDITION
good

OWNER
City of Kansas City

span number:	1	superstructure:	concrete filled spandrel arch
span length:	63.0'	substructure:	concrete abutments and wingwalls
total length:	65.0'	floor/decking:	concrete over earth fill
roadway wdt.:	28.0'	other features:	ornamental concrete guardrails with paneled concrete bulkheads; horizontal grooves cast in concrete on wingwalls; incised panels cast in concrete on arch spandrels; corbeled concrete stringcourse at springline and road level

An integral aspect of Kansas City's social and cultural development was the incorporation of a system of public parks and boulevards. first promoted in the late 19th century by prominent Kansas City personages such as August R. Meyer and designed by landscape architect George E. Kessler, the system featured a series of beautifully landscaped city parks linked with an "all-inclusive network of boulevards," which themselves were landscaped with plantings, sculptures, fountains and a variety of other decorative elements. Paseo Boulevard, or "the Paseo" as it is often called, formed a central spine that joined North Terrace Park ion the north edge of Kansas City with Swope Park at the southern city limits. Extending from Admiral Boulevard to 79th Street for 9.07 miles, it was constructed between 1899 and 1919 and was actually a combined boulevard and parkway that ran north to south through the center of the city. The Paseo formed the focal point for Kessler's landscaping plan. As described by historian William Wilson:

> **The intersecting streets formed rectangles, each one of which Kessler fashioned into a distinctive park. At Ninth Street a small stone fountain bubbled; the Pergola, a double colonnade with a trellis roof, stood between Tenth and Eleventh; at Twelfth Kessler designed a high stone terrace to ornament and compensate for a steep grade; across Twelfth, a Spanish cannon captured during the Spanish-American War overlooked a formal sunken garden; at Fifteenth stood the wonder of the Paseo, an enormous stone fountain that Kessler designed after a fountain at Versailles. A small fountain at Eighteenth completed the original Paseo. Though each park was individual, all were harmonious and subordinated to the whole. In a day of slow travel, the Paseo presented a delightful pattern of colorful, shifting scenes to the pedestrian or carriage passenger.**

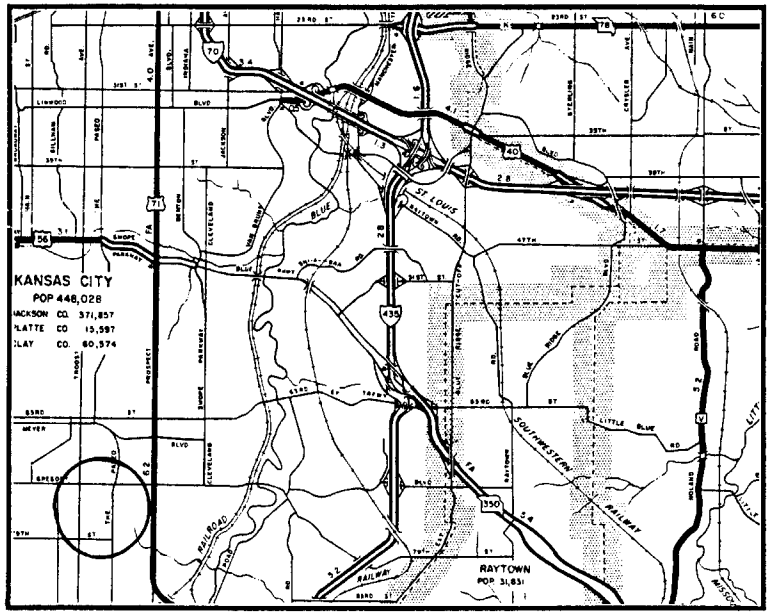
As it extended through residential areas further south, the Paseo relied on the median between its north- and southbound lanes to form a long, essentially continuous park. Kessler used the overpass structures at intersecting streets to provide architectural punctuation for

the boulevard. The twin overpasses that carried the Paseo over 77th Street were integral features in Kessler's grand scheme. Engineered by the pre-eminent Kansas City firm of Harrington, Howard and Ash, the Paseo Overpasses employ forceful lines and ornamental concrete work to create a handsome landscaping feature for the boulevard. They replaced a timber bent trestle that had been built by the Metropolitan Street Railway Company in 1907. In October 1915 the Board of Park Commissioners let a contract to grade the Paseo to H.H. Hannenkratt. The contract included construction of the overpasses to carry the Paseo over 77th Street, for which Hannenkratt subcontracted with D. Munro. The two Paseo Overpasses were completed in 1917 for an aggregate cost of about $70,000 as the boulevard was in its final stages of construction. Since their completion, the Paseo Overpasses have carried traffic with no substantial alteration.

Kansas City's network of parks and boulevards represents one of the most stellar successes of the City Beautiful Movement in America. "These boulevards and their east-west links tied not just the parks but the entire city together," according to Wilson. Costing $14.7 million dollars by 1915, the system by 1920 incorporated almost 2000 acres of parkland and 90 miles of scenic boulevards. As the main link through the heart of the city, the Paseo was an integral feature in this boulevard system. It not only provided a vital greenbelt to link the parks, but it afforded George Kessler an extended pallet over which he could develop his grandiose concept of landscape design. Although its elaborate fountains were derided by some, Kessler's Paseo was an aesthetic success–one of Missouri's most noteworthy examples of urban landscaping. As integral components of the Paseo, these two overpasses are significant for their contribution to its architectural success.

NAME(S) OF STRUCTURE
Paseo Overpass

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 S128B12; Roy Ellis, **A Civic History of Kansas City, Missouri**, published in Springfield, Missouri, 1930, p. 91, 93; promotional literature for Harrington, Howard and Ash, Consulting Engineers, Kansas City, Missouri, from the Kansas City Public Library; Kansas City Public Service Company, **History of Bridges and Viaducts**; Carrie Westlake Whitney, **Kansas City, Missouri: Its History and Its People 1808-1908** (Chicago: S.J. Clarke Publishing Company, 1908), pages 592, 595; Kansas City Parks Department, **Cowtown 1890 Becomes City Beautiful 1962: The Story of Kansas City's Parks**, page 10; Jerry Cook, Kansas City Public Works Engineer, Bridge Inventory Report, as cited in Preliminary Determination of Paseo Overpasses; George E. Kessler, "The Kansas City Park System and Its Effect on the City Plan," **Good Roads**, 2 June 1917, pages 321-24; William H. Wilson, **The City Beautiful Movement** (Baltimore: Johns Hopkins University Press, 1989), pages 122-25; field inspection Mark Hufstetler, 5 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Hillcrest Road Bridge
MHTD: S131B21

JACK47

DATE(S) OF CONSTRUCTION
1906

LOCATION
Hillcrest Road over small creek; S13/14, T48N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street bridge / city street bridge

RATING NRHP possible (score: 50)

CONDITION
fair

OWNER
City of Kansas City

span number:	2	superstructure:	concrete filled spandrel arch
span length:	20.0'	substructure:	concrete abutments, wingwalls and pier
total length:	40.0'	floor/decking:	asphalt over earth fill
roadway wdt.:	20.0'	other features:	concrete guardrails with rectangular slots

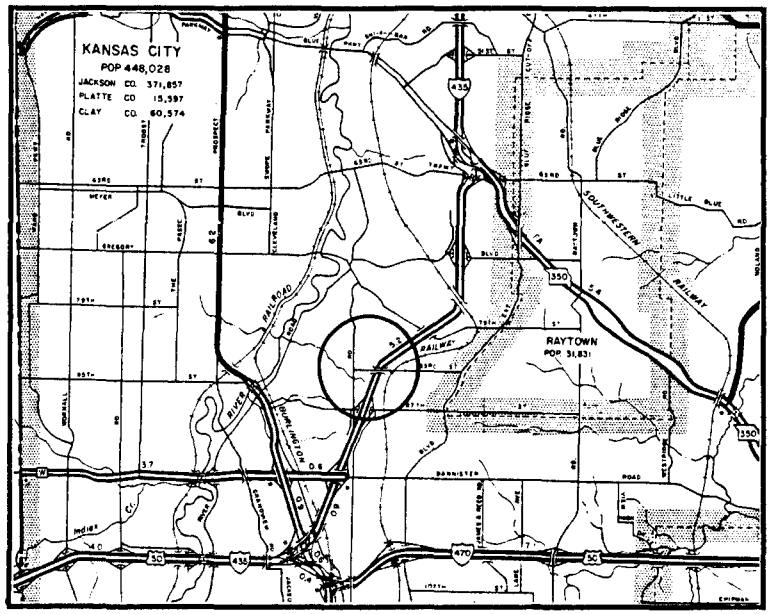
Located just east of the Hillcrest Country Club, this small concrete bridge carries Hillcrest Road over a small creek. Built in 1906, when the Kansas City Board of Park Commissioners endeavored to establish a system of parks connected by scenic boulevards, the Hillcrest Road Bridge was most likely an attempt to develop the roads in the municipal parks. . Hillcrest Road connects with Oldham Road in Swope Park. A concrete filled spandrel arch supported by concrete abutments and pier, this structure was built in 1906, probably by the Midland Bridge Company of Kansas City. The Hillcrest Road Bridge has since functioned in place with only minor modification.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. The Hillcrest Road Bridge is distinguished among these as one of earliest dateable examples of concrete arch construction in the state. Modestly scaled and simply detailed, it is noteworthy as an early, well-preserved example of concrete bridge construction in Missouri.

NAME(S) OF STRUCTURE

Hillcrest Road 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 S131B21; Board of Park Commissioners of Kansas City, **The Park and Boulevard System of Kansas City, Missouri**, revision and reprint of 1914 edition, 1920, pages 24-25; Kansas City Parks Department, **Cowtown 1890 becomes City Beautiful 1962: The Story of Kansas City's Parks**, page 10; Missouri State Board of Agriculture, Highway Department, "Bridges and Culverts," Bulletin No. 5, August 1908, page 4.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Troost Avenue Viaduct
MHTD: S147B21

JACK52

DATE(S) OF CONSTRUCTION
1943

LOCATION
Troost Avenue over 85th Street, K.C.P.S.R.R. tracks, stream; S20/21, T48N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 48)

CONDITION
good

OWNER
City of Kansas City

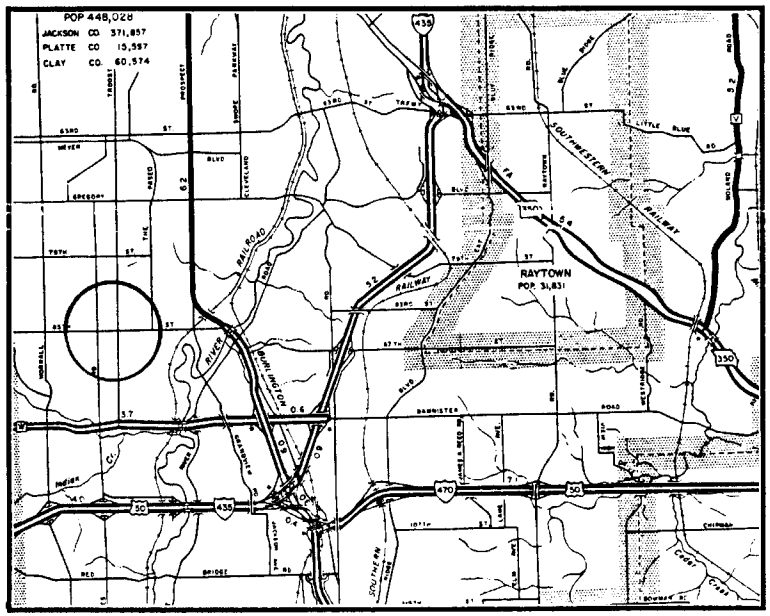
span number:	10	superstructure:	rolled steel deck girder
span length:	56.0'	substructure:	concrete abutments, wingwalls and spill-through piers
total length:	381.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	48.5'	other features:	concrete post-and-rail guardrails

During World War II, the Missouri State Highway Department's Bureau of Bridges underwent an enormous transformation. Due to wartime shortages on building materials, such as steel, the numbers of bridges designed and constructed during those years plummeted. Those bridges that were constructed were composed of "as few critical materials as possible," including unreinforced concrete, timber and salvaged steel. The Troost Avenue Viaduct was built in 1943, during the country's second year at war. The structure was designed by the Missouri State Highway Department. The construction contract of $115,664.00 was awarded to List and Weatherly Construction Company of Kansas City. A steel stringer viaduct, its steel I-beams, splice plates, and bearing plates were acquired by the Public Roads Administration through the Salvage Section of the War Production Board. As designed by MSHD, ten I-beam spans ranging from 24 feet to 65 feet are supported by open concrete bents. The Troost Avenue Viaduct extends from Troost Avenue over 85th Street, railroad tracks, and a tributary of the Blue River. Work on the structure began in February 1943 and was completed in June of that year. Carrying traffic in essentially unaltered condition since its completion, this bridge represents the way in which the Bureau of Bridges weathered the problems associated with wartime shortages.

NAME(S) OF STRUCTURE

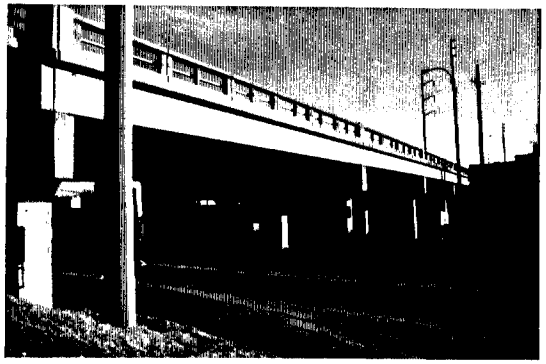
Troost Avenue Viaduct

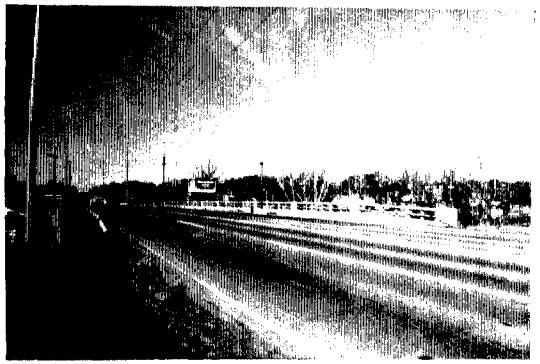
PHOTOS AND SKETCH MAP OF LOCATION

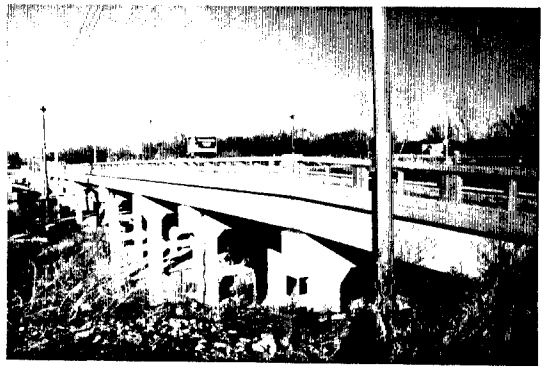


LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP







SOURCES

Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S147B21; files on primary system bridges, located at Missouri Highway and Transportation Department, Jefferson City MO; Missouri State Highway Commission, **Thirteenth Biennial Report**, 1941-42, page 149; "Salvaged Steel Used in Kansas City Bridge," **Engineering News Record**, 2 September 1943, p. 3; field inspection Mark Hufstetler, 5 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Bannister Road Overpass
MHTD: S153B22

JACK53

DATE(S) OF CONSTRUCTION
1931

LOCATION
Bannister Road over Blue River Road; S27, T48N, R33W
Kansas City; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
city street overpass / city street overpass

RATING NRHP possibly eligible (score: 54)

CONDITION
good

OWNER
City of Kansas City

span number:	1	superstructure:	concrete rigid frame
span length:	37.0'	substructure:	concrete abutments and wingwalls
total length:	38.0'	floor/decking:	concrete deck
roadway wdt.:	20.5'	other features:	recessed panels on concrete spandrel walls; fluted Art Moderne pylons at abutments; Armco guardrails

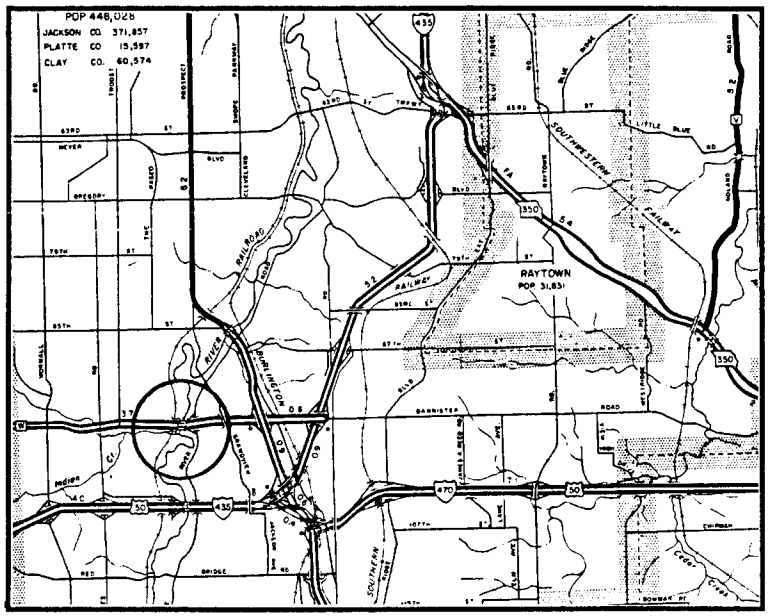
In the early 1930s, with Harry Truman as the Presiding Judge, the Jackson County Court issued $10 million in bonds to fund a massive road and bridge campaign. Under this, miles or roads were built or improved and numerous bridges and overpasses built. These latter structures employed a variety of structural types, including steel trusses, steel stringers, concrete girders, concrete slabs and concrete arches. One bridge–the Banister Road Overpass–used a novel, relatively new structural type: the concrete rigid frame. This small-scale structure featured a single 37-foot span, with a series of straight concrete girders tied rigidly to engaged concrete columns on the abutments. With earth-overburden deck, the Bannister Road Overpass resembled a large concrete box culvert, which was its closest structural analogy. Built in 1931, it has functioned in place since, with its superstructure essentially intact and the more recent construction of Armco guardrails as its only alteration.

Developed by Westchester County, New York, in the early 1920s, the concrete rigid frame bridge became especially popular for federal relief projects during the 1930s. Both picturesque and practical, the flat or elliptically arched designs appealed to proponents of urban beautification. Neither the municipalities nor the state highway department of Missouri used the rigid frame configuration extensively. In fact, only three concrete rigid frame bridges have been identified by the statewide bridge inventory, all of which are in Kansas City. Built relatively early in the milieu of rigid frame construction, the Bannister Road Overpass is distinguished by its well-preserved condition. It is technologically significant as a relatively rare example of what was essentially an experimental structural type in Missouri.

NAME(S) OF STRUCTURE

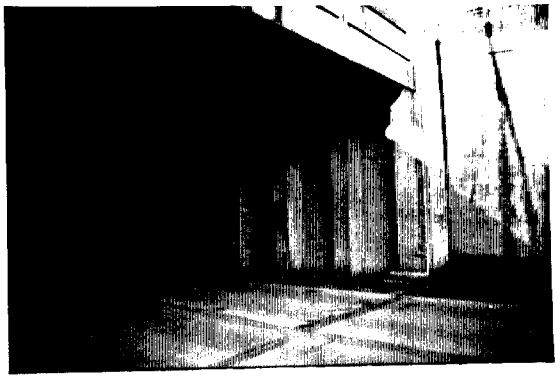
Bannister Road Overpass

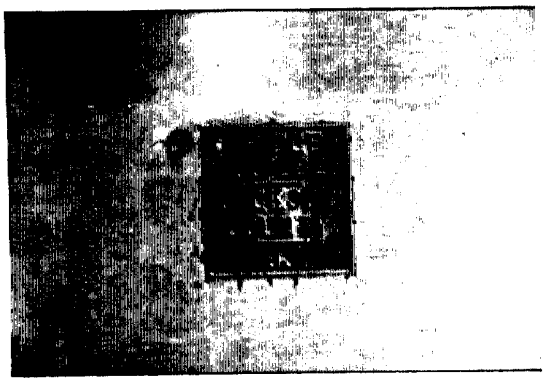
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number S153B22; Elmer Napier, "Rigid-Frame Bridges," **Roads and Bridges**, April 1940, page 13; field inspection Mark Hufstetler, 5 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Blue Ridge Overpass JACK56
MHTD: 042700.1

DATE(S) OF CONSTRUCTION
1906

LOCATION
Blue Ridge Boulevard over Missouri State Route 12; S5, T49N, R32W
Blue Summit; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
roadway overpass / roadway overpass

RATING NRHP possibly eligible (score: 63)

CONDITION
good

OWNER
Jackson County

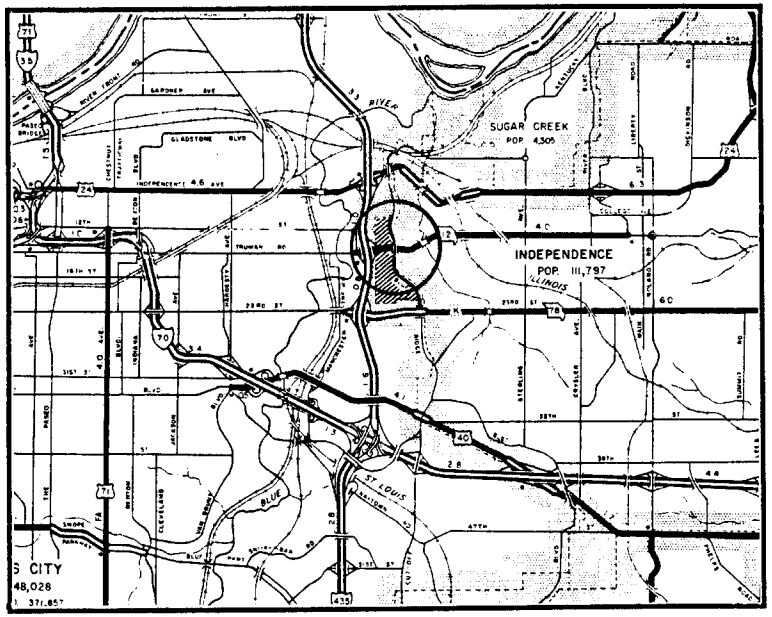
span number:	1	superstructure:	stone filled spandrel arch
span length:	70.0'	substructure:	stone masonry abutments and wingwalls
total length:	86.0'	floor/decking:	asphalt over earth fill
roadway wdt.:	56.4'	other features:	ashlar stone masonry on spandrels, wingwalls, guardrails and arch barrel; concrete stringcourse with stone corbels on spandrel; builder's plate: **BUILT BY FORRESTER-SWENSON CONSTRUCTION CO. / OSCAR KOELHER**

This handsomely proportioned structure carries the Blue Ridge Boulevard over Missouri State Highway 12 in Blue Summit. The overpass is configured as an elliptical stone masonry arch, with limestone ashlar used for the arch spandrels, barrel, wingwalls and guardrails. Architectural expression on the overpass consists of decorative stone guardrails and a concrete stringcourse with stone corbels on each of the spandrels. The Blue Ridge Boulevard Overpass dates to 1906. That year Jackson County Surveyor Oscar Koehler designed this structure to carry the Blue Ridge Boulevard over Blue Avenue (15th Street) "on the main rock road between Kansas City and Independence." This was the largest of several stone arch bridges of various descriptions that Koehler had designed. The overpass, according to Koehler, "commands a grand view of the eastern part of Kansas City and the beautiful Blue River Valley, including fine rolling country thereabout, with the City of Independence in the distance." It was built that year by the Forrester-Swenson Construction Company. Since its completion, the Blue Ridge Overpass has carried vehicular traffic, without serious alteration.

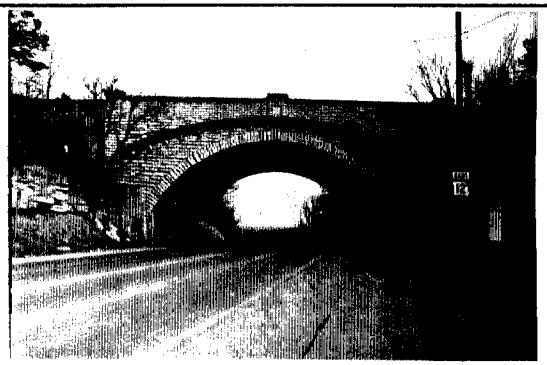
"This is the longest single span rubble masonry arch bridge that has been constructed in the western country, and has been greatly admired by all who have had an opportunity to view it," Koehler stated in October 1908. He was proud of the Blue Ridge Overpass, featuring it prominently in a campaign brochure entitled "Good Roads and Safe Bridges." Indeed the Blue Ridge Overpass stands out among the stone arch bridges built in Missouri. It is today the oldest dateable stone bridge and by far the longest-span stone structure found in the state. It features the most successful architectural treatment in a group of relatively plain-faced stone arches remaining in Missouri. And it is one of the best preserved of Missouri's remaining stone bridges. All of Koehler's lesser known arch bridges have since been demolished. The Blue Ridge Overpass today stands as the most noteworthy of Missouri's stone arch bridges.

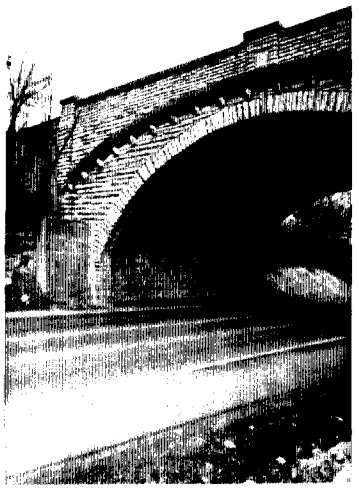
NAME(S) OF STRUCTURE
Blue Ridge Overpass

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 042700.1; Oscar Koehler, Jackson County Surveyor, "Good Roads and Safe Bridges," October 1908 - located at the Kansas City Public Library; field inspection Lon Johnson, 10 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Little Blue River Bridge JACK67
MHTD: 243500.5

DATE(S) OF CONSTRUCTION
1911

LOCATION
county road over East Fork of Little Blue River; S34, T48N, R31W
2.8 miles southeast of Unity Village; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 48)

CONDITION
fair

OWNER
Jackson County

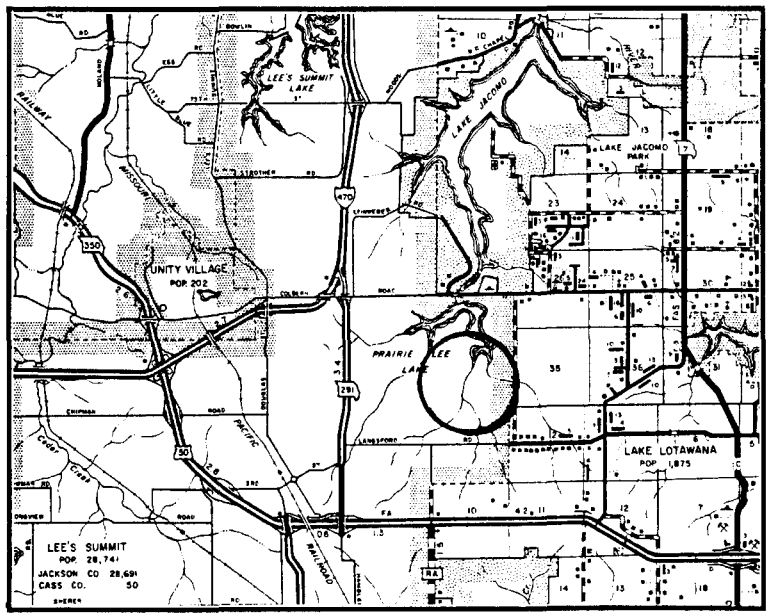
span number:	1	superstructure:	concrete filled spandrel arch
span length:	40.0'	substructure:	concrete abutments and wingwalls
total length:	42.0'	floor/decking:	earth fill over concrete
roadway wdt.:	17.5'	other features:	concrete guardrails with rectangular incised panels

This single-span concrete bridge carries a county road over a branch of the Little Blue River in south-central Jackson County. The structure features a filled spandrel concrete arch with an elliptical profile supported by concrete mass abutments. It is simply detailed, with incised rectangular panels on the guardrails as the only architectural expression. The Little Blue River Bridge dates to 1911. On June 1st of that year the Jackson County Court received bids for two concrete structures: a 70-foot arch over Sni-A-Bar Creek and a 40-foot arch over the East Fork of the Little Blue River. The contract to build them was awarded to the Midland Bridge Company of Kansas City for $8600.00. Completed in October for a cost of $2648.00, the Little Blue River Bridge has since functioned in place, with the partial replacement of part of one collision-damaged guardrail as the only alteration of note.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. The Little Blue River Bridge is distinguished among these as one of the oldest remaining concrete arch bridges found in the state. Modestly scaled and simply detailed, it is noteworthy as an early, well-preserved example of concrete bridge construction in Missouri.

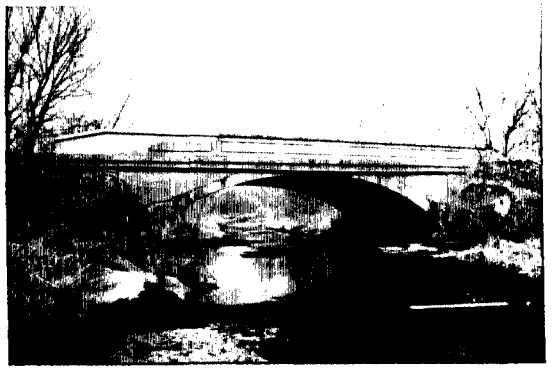
NAME(S) OF STRUCTURE
Little Blue River Bridge

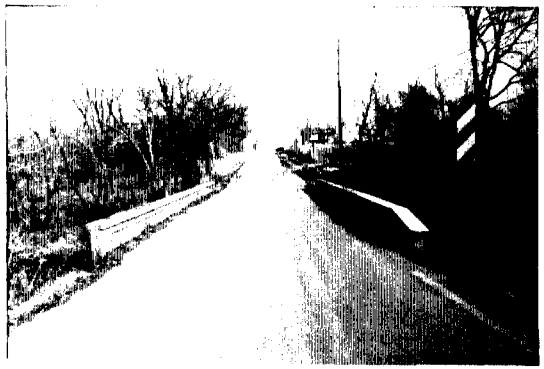
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES
Missouri Highway and Transportation Department Structure Inventory and Appraisal: Structure Number 243500.5; Jackson County Court Record, Book 47, page 238 (8 May 1911), page 273 (1 June 1911), page 477 (2 October 1911), page 485 (4 October 1911) - located at Jackson County Courthouse, Independence, Missouri; field inspection Mark Hufstetler, 6 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Marble Creek Bridge
MHTD: 297000.4

JACK72

DATE(S) OF CONSTRUCTION
1911

LOCATION
County Road 297 over Marble Creek; S19/30, T48N, R29W
east of Tarsney Lakes; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 47)

CONDITION
fair

OWNER
Jackson County

span number:	1	superstructure:	concrete filled spandrel arch
span length:	43.0'	substructure:	stone masonry abutments and wingwalls
total length:	48.0'	floor/decking:	earth fill over concrete
roadway wdt.:	16.3'	other features:	incised panels on solid concrete guardrails and spandrel walls

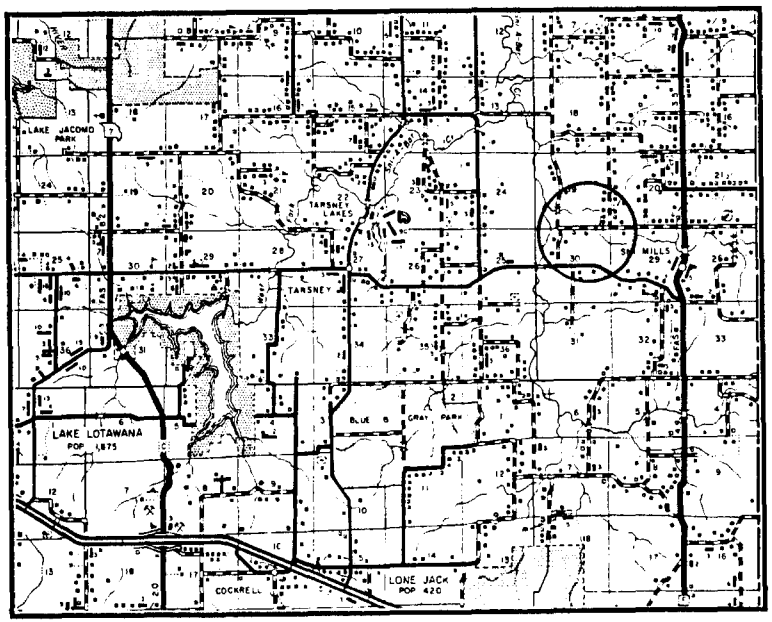
This single-span concrete bridge carries a county road over a tributary of Sni-A-Bar Creek in southeastern Jackson County. The structure features a filled spandrel concrete arch with an elliptical profile supported by stone masonry abutments. It is simply detailed, with incised panels on the guardrails and spandrel walls as the only architectural expression. The Marble Creek Bridge was constructed in 1911 by J.C. Brown, under contract with the Jackson County Court. Since its completion, the structure has functioned in place, in essentially unaltered condition.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. One of the oldest remaining concrete arch bridges found in the state, the Marble Creek Bridge is distinguished among these by its concrete superstructure and stone masonry substructure. Modestly scaled and simply detailed, it is noteworthy as an early, well-preserved example of concrete bridge construction in Missouri.

NAME(S) OF STRUCTURE

Marble 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 297000.4; Jackson County Court Record, Book 47, page 233 (3 May 1911) - located at Jackson County Courthouse, Independence, Missouri; field inspection Mark Hufstetler, 6 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Sni-A-Bar Creek Bridge JACK73
MHTD: 302000.6

DATE(S) OF CONSTRUCTION
1911

LOCATION
County Road 302 over branch of Sni-A-Bar Creek; S6, T47N, R29W
north of Lone Jack; Jackson County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 49)

CONDITION
fair

OWNER
Jackson County

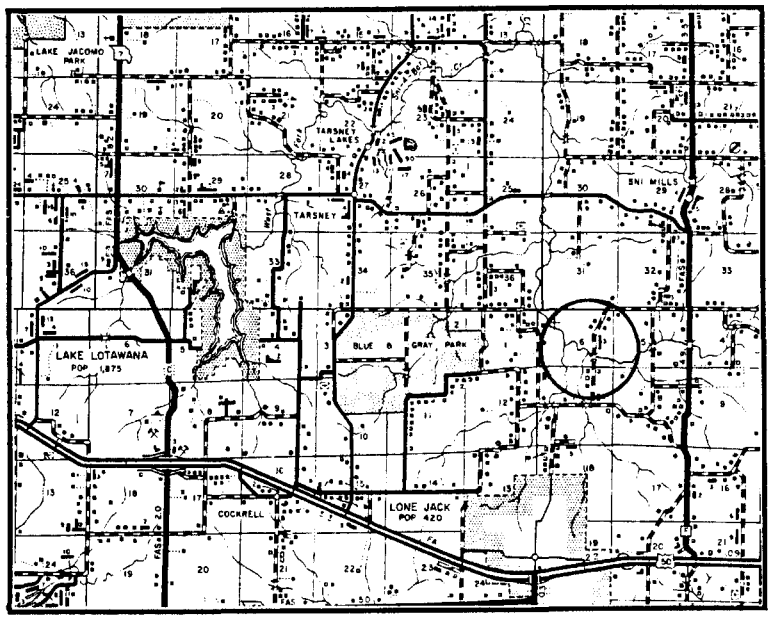
span number:	1	superstructure:	concrete filled spandrel arch
span length:	50.0'	substructure:	concrete abutments and wingwalls
total length:	70.0'	floor/decking:	earth fill over concrete
roadway wdt.:	40.0'	other features:	solid concrete guardrails with recessed rectangular panels

This single-span concrete bridge carries a county road over a branch of Sni-A-Bar Creek in southeastern Jackson County. The structure features a filled spandrel concrete arch with an elliptical profile supported by concrete mass abutments. It is simply detailed, with recessed panels cast in the solid concrete guardrails as the only architectural expression. The Sni-A-Bar Creek Bridge was constructed in 1911 by the Illinois Steel Bridge Company of Jacksonville, Illinois, under contract with the Jackson County Court. Since its completion, the structure has functioned in place, in essentially unaltered condition.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. The Sni-A-Bar Creek Bridge is distinguished among these as one of the oldest remaining concrete arch bridges found in the state. Modestly scaled and simply detailed, it is noteworthy as an early, well-preserved example of concrete bridge construction in Missouri.

NAME(S) OF STRUCTURE
Sni-A-Bar 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 302000.6; Jackson County Court Record, Book 47, page 454 (18 September 1911) - located at Jackson County Courthouse, Independence, Missouri; field inspection Mark Hufstetler, 6 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	24 September 1994

JOHNSON COUNTY

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

Inv. No.	MHTD	Bridge Name	Description
JOHN01	081001.2	McMahan Bridge	(replaced)
JOHN02	089002.2	North Fork Bridge	(replaced)
JOHN03	095000.3	Honey Creek Bridge	(replaced)
JOHN04	106001.7	Bridge	1- 32' riveted Pratt bedstead c1915
JOHN05	110001.0	Brown Bridge	(replaced)
JOHN06	153000.6	Blackjack Creek Bridge	(replaced)
*JOHN07	153001.5	Blackwater River Bridge	1-200' **pinned Parker through truss** 1929 Standard Bridge Company
JOHN08	167001.3	Burns Bridge	1- 90' **pinned Pratt through truss** 1913 Western Bridge Company
JOHN09	186001.2	Brush Creek Bridge	(replaced)
JOHN10	214001.1	Blackwater River Bridge	(replaced)
*JOHN11	216003.4	Waupler Bridge	1- 78' **pinned Pratt through truss** c1890
*JOHN12	220001.7	Granger Ford Bridge	1-136' **pinned Pratt through truss** c1895 1929 moved by Standard Bridge Co.
JOHN13	250000.3	Todd Bridge	1- 24' steel stringer 1914 Western Bridge Company
JOHN14	254000.1	Blackwater River Bridge	(replaced)
*JOHN15	264000.6	Murray Ford Bridge	1- 80' **pinned Pratt through truss** 1891 John Bridgewater
JOHN16	272003.7	Kassing Bridge	1- 75' riveted Pratt pony truss 1912 A.E. Shorthill Company 1930 moved by county work force
JOHN17	274000.4	McFarland Bridge	(replaced)
JOHN18	314000.8	Lost Creek Bridge	(replaced)
JOHN19	361000.6	Spence Bridge	(replaced)
*JOHN20	378001.9	Post Oak Creek Bridge	(replaced)
JOHN21	388000.8	Bundley Bridge	(replaced)
JOHN22	392000.3	Giersig Bridge	(replaced)
JOHN23	448000.4	Clear Creek Bridge	(replaced)
JOHN24	527001.5	Hildebrand Bridge	(replaced)
JOHN25	547000.7	Hogan Fork Bridge	(replaced)
JOHN26	550001.9	Hogan Fork Bridge	(replaced)
JOHN27	592003.5	Panther Creek Bridge	1- 50' riveted Pratt pony truss 1912 A.E. Shorthill Company
*JOHN28	594001.0	Quick City Bridge	1-200' **pinned Pratt through truss** 1929 Standard Bridge Company
JOHN29	610000.4	Big Creek Bridge	1-160' **riveted Parker through truss** c1930

JOHNSON COUNTY

EXCLUDED:

Pratt pony truss
236003.8

Warren pony truss
M13000.5 M13000.8 161000.5 175000.5 274001.2 374002.5 442000.7
610000.9

Steel stringer
G 952R1 G 954R G 955R K 384 L 142 S 778 S 779
T 111 T 818 T 819 T 852 X 855 005001.1 016000.8
045000.3 058000.4 061000.1 068001.7 071000.2 075000.2 078001.1
079002.0 084001.6 086002.6 092R00.7 094000.4 105000.7 106000.7
114R00.5 115001.8 116001.0 122000.6 126000.2 128000.9 130002.5
137000.6 141001.0 147000.4 148000.1 167000.7 179001.1 182000.2
188000.1 210000.4 218002.0 219001.3 220001.0 226002.1 2 2 8 5 0 0 . 1
231000.6 236000.8 241000.2 245000.8 261001.0 266001.2 278003.5
279001.7 286000.2 292000.3 298001.1 305002.0 305002.3 310000.3
315000.1 320000.2 320000.4 333001.4 339002.5 340001.8 357001.3
366003.3 369002.4 375001.4 387001.2 390001.1 390002.7 396000.6
397000.2 398000.3 416000.2 425003.4 431000.7 433002.9 438000.8
440000.2 464001.0 493002.4 503001.2 511R01.1 511001.8 535000.7
536000.2 547002.1 556002.2 579001.2 579002.5 580001.8 586001.3
588003.0 598001.3 601001.7 602000.3 620R00.7

Concrete girder
G 95 G 966 K 429 042000.3

Concrete slab
G 953R L 83R 564000.7

Concrete box culvert
F 573R G 397R G 399R G 528R K 383 L 274392 R 837
S 2R T 374 T 853 X 370 042000.6

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	0	11	0	0	11
Excluded	30	99	0	0	129
	30	110	0	0	140 structures

Bridge

JOHN04

GENERAL DATA

structure no.: 106001.7
county: Johnson
city/town: 8.1 miles northwest of Warrensburg
feature inters.: branch of Walnut Creek
cadastral grid: S9, T47N, R26W
highway route: County Road 106
highway distr.: 4
current owner: Johnson County

STRUCTURAL DATA

superstructure: steel, 2-panel, rigid-connected Pratt bedstead
substructure: steel pile bent abutments with timber wingwalls

span number: 1
span length: 32.0'
total length: 32.0'
roadway width: 12.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: unknown

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 106001.7.

sign. rating: 20
evaluation: NRHP non-eligible (poorly documented example of standard truss type)

inventoried by: Clayton B. Fraser 14 August 1993

Blackwater River Bridge

JOHN07

GENERAL DATA

structure no.: 153001.5
county: Johnson
city/town: 6.0 miles northeast of Warrensburg
feature inters.: Blackwater River
cadastral grid: S34/35, T47N, R25W
highway route: County Road 153
highway distr.: 4
current owner: Johnson County

STRUCTURAL DATA

superstructure: steel, 10-panel, pin-connected Parker through truss; 2-span steel stringer approach at east end
substructure: steel pile bent piers and concrete abutments and wingwalls

span number: 1
span length: 200.0'
total length: 237.0'
roadway width: 13.6'
condition: fair
alterations: none
floor/decking : steel plate deck
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched eyebars; vertical: 2 channels with lacing; diagonal: 2 punched eyebars; lateral bracing: round rods with threaded ends; counter: round rod with turnbuckle; strut: 2 angles; floor beam: I-beams, U-bolted to verticals; guardrail: steel channels

HISTORICAL DATA

erection date: 1929
erection cost: unknown
designer: Standard Bridge Company, Omaha NE
fabricator : Standard Bridge Company, Omaha NE;
Bethlehem Steel Company, Bethlehem PA
contractor: Standard Bridge Company, Omaha NE

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 153001.5; Johnson County Bridge Record (1899-1930) page 52; Johnson County Bridge Record (1899-1930) page 52; Ewing Cockrell, **History of Johnson County, Missouri** (Topeka, Kansas: Historical Publishing Company, 1918); "County Bridge Loss May Be High As $75,000," **Warrensburg Star-Journal**, 23 November 1928; **The History of Johnson County, Missouri** (Kansas City: Kansas City Historical Company, 1881); Johnson County Court Record, 1880-1930, located at the Johnson County Clerk's Office, Johnson County Courthouse, Warrensburg, Missouri; **Standard Atlas of Johnson County, Missouri** (Chicago: George A. Ogles and Company, 1898); "Worst Rain Storm Ever Known Here," **The Holden Progress**, 22 November 1928; field inspection by Mark Hufstetler, 9 February 1991.

Blackwater River Bridge

sign. rating: 49
evaluation: NRHP possibly eligible (well-preserved, long-span example of uncommon structural type)

inventoried by: Clayton B. Fraser 14 August 1993

Burns Bridge

JOHN08

GENERAL DATA

structure no.: 167001.3
county: Johnson
city/town: 9.8 miles northwest of Knob Noster
feature inters.: Blackwater River
cadastral grid: S32, T48N, R24W
highway route: County Road 167
highway distr.: 4
current owner: Johnson County

STRUCTURAL DATA

superstructure: steel, pin-connected Pratt through truss
substructure: steel pile bent piers and abutments; timber wingwalls

span number: 1
span length: 90.0'
total length: 158.0'
roadway width: 11.8'
condition: fair
alterations: substructure replaced
floor/decking : timber deck
other features: unknown

HISTORICAL DATA

erection date: 1913
erection cost: $2632.00
designer: Western Bridge Company, Harrisonville MO
fabricator : unknown
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 167001.3; Johnson County Bridge Record (1899-1930) page 42 - located at the Johnson County Courthouse, Warrensburg MO.

sign. rating: 34
evaluation: NRHP non-eligible (typical example of common structural type, substantially altered)

inventoried by: Clayton B. Fraser 14 August 1993

Waupler Bridge

JOHN11

GENERAL DATA

structure no.: 216003.4
county: Johnson
city/town: 8.7 miles northeast of Warrensburg
feature inters.: Clear Fork of Blackwater River
cadastral grid: S31, T47N, R24W
highway route: County Road 216
highway distr.: 4
current owner: Johnson County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss
substructure: concrete/stone abutments and wingwalls

span number: 1
span length: 78.0'
total length: 78.0'
roadway width: 14.0'
condition: poor
alterations: decking removed; bridge closed
floor/decking : deck removed
other features: upper chord and inclined end post: 2 channels with cover and batten plates; 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; floor beam: I-beam, U-bolted to lower chord pins

HISTORICAL DATA

erection date: c1890
erection cost: $1200.00 (estimate)
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 216003.4; Johnson County Bridge Record (1899-1930), page 16 - located at Johnson County Courthouse, Warrensburg MO; field inspection by Mark Hufstetler, 9 February 1991.

sign. rating: 32
evaluation: NRHP non-eligible (early example of mainstay structural type, poorly documented)

inventoried by: Clayton B. Fraser 14 August 1993

Granger Ford Bridge

JOHN12

GENERAL DATA

structure no.: 220001.7
county: Johnson
city/town: 3.0 miles northeast of Warrensburg
feature inters.: Blackwater River
cadastral grid: S7, T46N, R25W
highway route: County Road 220
highway distr.: 4
current owner: Johnson County

STRUCTURAL DATA

superstructure: steel, 9-panel, pin-connected Pratt through truss; two steel stringer approaches
substructure: steel pile bent piers and abutments with timber back- and wingwalls

span number: 1
span length: 136.0'
total length: 201.0'
roadway width: 12.5'
condition: fair
alterations: truss moved; approach spans added and substructure partially replaced
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 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; counter: round rod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: variable-depth plate girder, U-bolted to lower chord pins; guardrail: steel angle

HISTORICAL DATA

erection date: c1895; moved 1929
erection cost: $1563.00 (re-erection)
designer: unknown
fabricator : unknown
contractor: Standard Bridge Company, Omaha NE (re-erection)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 220001.7; Johnson County Bridge Record (1899-1930) page 52, located at the Johnson County Courthouse, Warrensburg MO; field inspection by Mark Hufstetler, 10 February 1991.

sign. rating: 29
evaluation: NRHP non-eligible (typically configured example of mainstay structural type, moved to this site)

inventoried by: Clayton B. Fraser 14 August 1993

Murray Ford Bridge

JOHN15

GENERAL DATA

structure no.: 264000.6
county: Johnson
city/town: 6.5 miles northeast of Holden
feature inters.: Little Blackwater Creek
cadastral grid: S16/17, T46N, R27W
highway route: County Road 264
highway distr.: 4
current owner: Johnson County

STRUCTURAL DATA

superstructure: wrought iron, 5-panel, pin-connected Pratt through truss
substructure: concrete/stone abutments and wingwalls

span number: 1
span length: 80.0'
total length: 80.0'
roadway width: 14.0'
condition: fair
alterations: partial replacement of substructure
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 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; counter: round rod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; floor beam: variable-depth plate girder, U-bolted to verticals; guardrail: steel channel

HISTORICAL DATA

erection date: 1890-91
erection cost: unknown
designer: unknown
fabricator : Carnegie Iron Works, Pittsburgh PA
contractor: John Bridgewater

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 264000.6; Johnson County Court Record, Book P, page 400 (23 September 1890), page 592 (29 June 1891) - located at Johnson County Courthouse, Warrensburg, Missouri; field inspection by Mark Hufstetler, 9 February 1991.

sign. rating: 44
evaluation: NRHP possibly eligible (well-preserved, relatively early example of main-stay structural type)

inventoried by: Clayton B. Fraser 14 August 1993

Kassing Bridge

JOHN16

GENERAL DATA

structure no.: 272003.7
county: Johnson
city/town: 5.3 miles northeast of Holden
feature inters.: South Fork of Blackwater River
cadastral grid: S19, T46N, R27W
highway route: County Road 272
highway distr.: 4
current owner: Johnson County

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Pratt pony truss
substructure: steel pile bent piers and abutments with timber wingwalls

span number: 1
span length: 75.0'
total length: 143.0'
roadway width: 11.6'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: unknown

HISTORICAL DATA

erection date: 1912
erection cost: unknown
designer: A.E. Shorthill Company, Marshalltown IA
fabricator : A.E. Shorthill Company, Marshalltown IA
contractor: A.E. Shorthill Company, Marshalltown IA; county work force (1930)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 272003.7; Johnson County Bridge Record (1899-1930) page 53 - located at the Johnson County Courthouse, Warrensburg MO.

sign. rating: 32
evaluation: NRHP non-eligible (typically configured example of common structural type, moved to this location)

inventoried by: Clayton B. Fraser 14 August 1993

Panther Creek Bridge

JOHN27

GENERAL DATA

structure no.: 592003.5
county: Johnson
city/town: 5.2 miles southeast of La Tour
feature inters.: Panther Creek
cadastral grid: S29, T44N, R28W
highway route: County Road 592
highway distr.: 4
current owner: Johnson County

STRUCTURAL DATA

superstructure: steel, 4-panel, rigid-connected Pratt pony truss
substructure: unknown

span number: 1
span length: 50.0'
total length: 50.0'
roadway width: 12.0'
condition: fair
alterations: none
floor/decking : unknown
other features: unknown

HISTORICAL DATA

erection date: 1912
erection cost: unknown
designer: A.E. Shorthill Company, Marshalltown IA
fabricator : A.E. Shorthill Company, Marshalltown IA
contractor: A.E. Shorthill Company, Marshalltown IA

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 592003.5; Johnson County Supervisors' Minute Book P: page 394 (18 August 1890), located at the Johnson County Courthouse, Warrensburg MO.

sign. rating: 33
evaluation: NRHP non-eligible (undistinguished example of mainstay structural type)

inventoried by: Clayton B. Fraser 14 August 1993

Quick City Bridge

JOHN28

GENERAL DATA

structure no.: 594001.0
county: Johnson
city/town: 5.4 miles southeast of La Tour
feature inters.: Big Creek
cadastral grid: S29, T44N, R28W
highway route: County Road 594
highway distr.: 4
current owner: Johnson County

STRUCTURAL DATA

superstructure: steel, 10-panel, pin-connected Pratt through truss
substructure: steel pile abutments with concrete back- and wingwalls

span number: 1
span length: 200.0'
total length: 200.0'
roadway width: 13.6'
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 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; lateral bracing: round rod with threaded ends; counter: round rod with turnbuckle; strut: 2 angles; floor beam: I-beam, U-bolted to verticals; guardrail: steel channels

HISTORICAL DATA

erection date: 1929
erection cost: $10,001.00
designer: Standard Bridge Company, Omaha NE
fabricator : Bethlehem Steel Company, Bethlehem PA
contractor: Standard Bridge Company, Omaha NE

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 594001.0; Johnson County Bridge Record (1899-1930) page 52; Ewing Cockrell, **History of Johnson County, Missouri** (Topeka, Kansas: Historical Publishing Company, 1918); "County Bridge Loss May Be High As $75,000," **Warrensburg Star-Journal**, 23 November 1928; **The History of Johnson County, Missouri** (Kansas City: Kansas City Historical Company, 1881); Johnson County Court Record, 1880-1930, located at the Johnson County Clerk's Office, Johnson County Courthouse, Warrensburg, Missouri; "Worst Rain Storm Ever Known Here," **The Holden Progress**, 22 November 1928; field inspection by Mark Hufstetler, 9 February 1991.

sign. rating: 50
evaluation: NRHP determined eligible (longest-span example in Missouri of this mainstay structural type)

inventoried by: Clayton B. Fraser 14 August 1993

Big Creek Bridge

JOHN29

GENERAL DATA

structure no.: 610000.4
county: Johnson

city/town: 8.7 miles southwest of Holden
feature inters.: Big Creek
cadastral grid: S12, T44N, R29W
highway route: County Road 610
highway distr.: 4
current owner: Johnson County

STRUCTURAL DATA

superstructure: steel, 10-panel, rigid-connected Parker through truss
substructure: steel pile bent piers and timber wingwalls

span number: 1
span length: 160.0'
total length: 160.0'
roadway width: 14.5'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: unknown

HISTORICAL DATA

erection date: c1930
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 610000.4.

sign. rating: 30
evaluation: NRHP non-eligible (poorly documented example of Pratt truss subtype)

inventoried by: Clayton B. Fraser 14 August 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Blackwater River Bridge
MHTD: 153001.5

JOHN07

DATE(S) OF CONSTRUCTION
1929

LOCATION
County Road 153 over Blackwater River; S34/35, T47N, R25W
6.0 miles northeast of Warrensburg; Johnson County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 49)

CONDITION
fair

OWNER
Johnson County

span number:	1	superstructure:	steel, 10-panel, pin-connected Parker through truss; 2-span steel stringer approach at east end
span length:	200.0'		
total length:	237.0'	substructure:	steel pile bent piers and concrete abutments and wingwalls
roadway wdt.:	13.6'	floor/decking:	steel plate deck
		other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched eyebars; vertical: 2 channels with lacing; diagonal: 2 punched eyebars; lateral bracing: round rods with threaded ends; counter: round rod with turnbuckle; strut: 2 angles; floor beam: I-beams, U-bolted to verticals; guardrail: steel channels

The floods that struck Johnson County late in 1928 were some of the worst in memory. Up to ten inches of rain fell over the region between November 15th and 17th, sending water roaring down Big Creek and its tributaries. "Starting late Thursday night, rain fell continuously in torrential quantity until 8 o'clock Saturday morning when it began to slacken," a local newspaper reported, "and during the rest of the morning only a light mist fell. As a result practically all streams in this vicinity are out of their banks, lowlands are flooded and roads and highways have been made impassable." No human lives were lost, but damage to livestock, crops and property was extensive. Flood stage at Quick City was six feet higher than the previous high water mark, heavily damaging several houses in the small town. And farmers such as Byron Riffle and C.L. Farnsworth, who had cattle in low-lying pastures, lost much of their herds when cows floated away in the roiling water. One of Farnsworth's animals was later found dead in a tree.

For the Johnson County Court, the damage was particularly acute, as some fifteen county-owned bridges were wrecked by the floodwaters, aggregating between $60,000 and $75,000 of loss. "Small bridges and culverts by the score over the county will have to be rebuilt," another newspaper reported. "The county engineer says that several bridges repaired the last year by bridge crews were lost in the onslaught of the waters and trees carried along in the flood." In the aftermath of the flood, Johnson County re-built or moved several steel and iron trusses, including this long-span pinned Parker through truss northeast of Warrensburg. In 1929 the Johnson County Court contracted with the Standard Bridge Company to supply and erect five long-span steel trusses. Standard's bid was substantially lower than those of the other six firms that had bid, primarily because the Omaha-based firm was proposing to use pin-connected trusses. Although the 200-foot span of the Blackwater River Bridge was far longer than the crossing required, its extreme length served to insure that the structure would never be washed away again.

Standard used steel rolled by Bethlehem to fabricate the truss. For the truss's design, the firm used an established configuration–the Parker through truss. Developed in the 19th century by C.H. Parker, the Parker truss was characterized by upper chords and vertical members that acted in compression and lower chords and diagonals acting in tension. In this it resembled the venerable Pratt and was, in fact, universally regarded by civil engineers as a Pratt subtype. J.A.L. Waddell in his influential Bridge Engineering gave the Parker only passing mention in his discussion of truss types, stating: "[The Pratt's] chords are not necessarily parallel, but may be inclined. This latter form is frequently known as the Parker truss." The inclined upper chords afforded a degree of efficiency in long span trusses, where bending moment stresses at mid-span greatly exceed the sheer stresses at the ends. The Parker's drawback was that, unlike the straight-chorded Pratt truss, the polygonal chords necessitated different-length verticals and diagonals at each panel, increasing its fabrication costs somewhat. Because trusses were generally priced on the basis of their superstructural steel weight, the lighter overall weight of a polygonal-chord truss more than offset the slight increase in fabricating costs in spans greater than 160 feet. In the highly competitive bridge industry, this economy equated directly with profit.

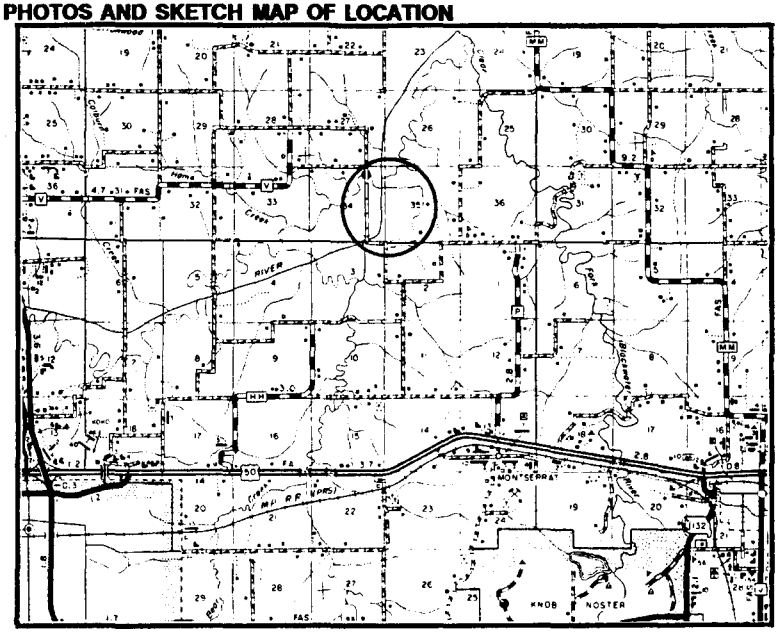
Standard probably completed the Blackwater River Bridge in 1929; since that time the bridge has functioned in place, with only maintenance-related repairs.

Built as an emergency measure in the wake of severe flooding, the Blackwater River Bridge is one of the few pin-connected Parker trusses remaining in use on Missouri's roadways. Thousands of pinned trusses were built across the state during an intense period of bridge construction in the late 19th and early 20th centuries. Most featured straight-chorded Pratt configurations. After the turn of the century, however, bridge manufacturers found a greater economy in polygonal-chorded Pratt variants (particularly the Parker truss) for long-span applications. Among these, the Blackwater River Bridge is noteworthy for its long span. With its pinned configuration, it is not unique among Missouri's early roadway spans. Rather, the significance of this structure accrues from its representation of early wagon/auto bridge construction. It is among the longest and best-preserved trusses in Missouri: an important example of a now-uncommon structural type.

NAME(S) OF STRUCTURE

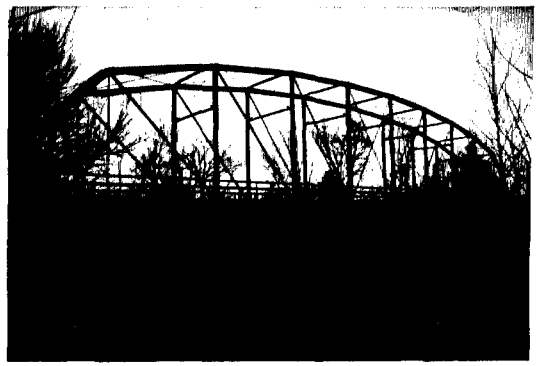
Blackwater River Bridge

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 153001.5; Johnson County Bridge Record (1899-1930) page 52; Johnson County Bridge Record (1899-1930) page 52; Ewing Cockrell, **History of Johnson County, Missouri** (Topeka, Kansas: Historical Publishing Company, 1918); "County Bridge Loss May Be High As $75,000," **Warrensburg Star-Journal**, 23 November 1928; **The History of Johnson County, Missouri** (Kansas City: Kansas City Historical Company, 1881); Johnson County Court Record, 1880-1930, located at the Johnson County Clerk's Office, Johnson County Courthouse, Warrensburg, Missouri; **Standard Atlas of Johnson County, Missouri** (Chicago: George A. Ogles and Company, 1898); "Worst Rain Storm Ever Known Here," **The Holden Progress**, 22 November 1928; field inspection by Mark Hufstetler, 9 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	14 August 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Waupler Bridge JOHN11
MHTD: 216003.4

DATE(S) OF CONSTRUCTION
c1890

LOCATION
County Road 216 over Clear Fork of Blackwater River; S31, T47N, R24W
8.7 miles northeast of Warrensburg; Johnson County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / abandoned

RATING NRHP non-eligible (score: 32)

CONDITION
poor

OWNER
Johnson County

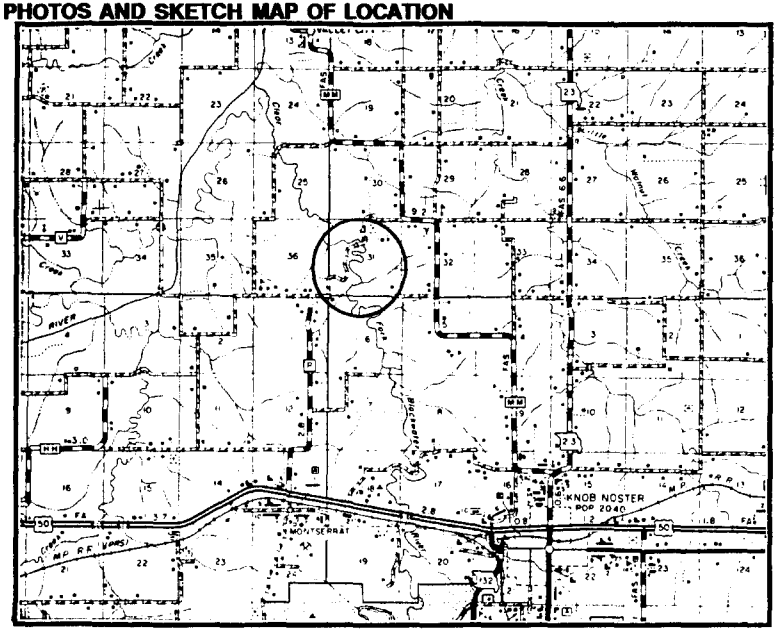
span number:	1	superstructure:	steel, 6-panel, pin-connected Pratt through truss
span length:	78.0'	substructure:	concrete/stone abutments and wingwalls
total length:	78.0'	floor/decking:	deck removed
roadway wdt.:	14.0'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; 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; floor beam: I-beam, U-bolted to lower chord pins

Known locally as the Waupler Bridge, this single-span truss carries a gravel-surfaced county road over the Clear Fork of the Blackwater River northeast of Warrensburg. The structure consists of a pin-connected Pratt through truss, supported by concrete/stone abutments. Johnson County bridge files noted in 1903 that the Waupler Bridge was a "steel bridge built some time ago." Physical attributes of the truss indicate that it was fabricated around 1890. Today the bridge is closed to traffic, with its timber deck removed.

In the early 1880s the pin-connected Pratt through truss superseded the bowstring arch-truss as the iron bridge of choice for medium- and long-span wagon bridges. Patented in 1844 by Thomas and Caleb Pratt, the Pratt design is distinguished by vertical members acting in compression and diagonals that act in tension. "The Pratt truss is the type most commonly used in America for spans under two hundred and fifty (250) feet in length," noted bridge engineer J.A.L. Waddell wrote in 1916. "Its advantages are simplicity, economy of metal, and suitability for connecting to the floor and lateral systems." Virtually all of the major regional bridge fabricators manufactured Pratt trusses and marketed them extensively to Missouri's counties in the late 19th and early 20th centuries. Hundreds of Pratts remain in place today. The Waupler Bridge is distinguished among these for its early construction date. It is thus noteworthy as an early example in Missouri of a mainstay structural type: the pin-connected Pratt through truss.

NAME(S) OF STRUCTURE
Waupler 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 216003.4; Johnson County Bridge Record (1899-1930), page 16 - located at Johnson County Courthouse, Warrensburg MO; field inspection by Mark Hufstetler, 9 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	14 August 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Granger Ford Bridge
MHTD: 220001.7

JOHN12

DATE(S) OF CONSTRUCTION
c1895; moved 1929

LOCATION
County Road 220 over Blackwater River; S7, T46N, R25W
3.0 miles northeast of Warrensburg; Johnson County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 29)

CONDITION
fair

OWNER
Johnson County

span number: 1
span length: 136.0'
total length: 201.0'
roadway wdt.: 12.5'

superstructure: steel, 9-panel, pin-connected Pratt through truss; two steel stringer approaches
substructure: steel pile bent piers and abutments with timber back- and wingwalls
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 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; counter: round rod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: variable-depth plate girder, U-bolted to lower chord pins; guardrail: steel angle

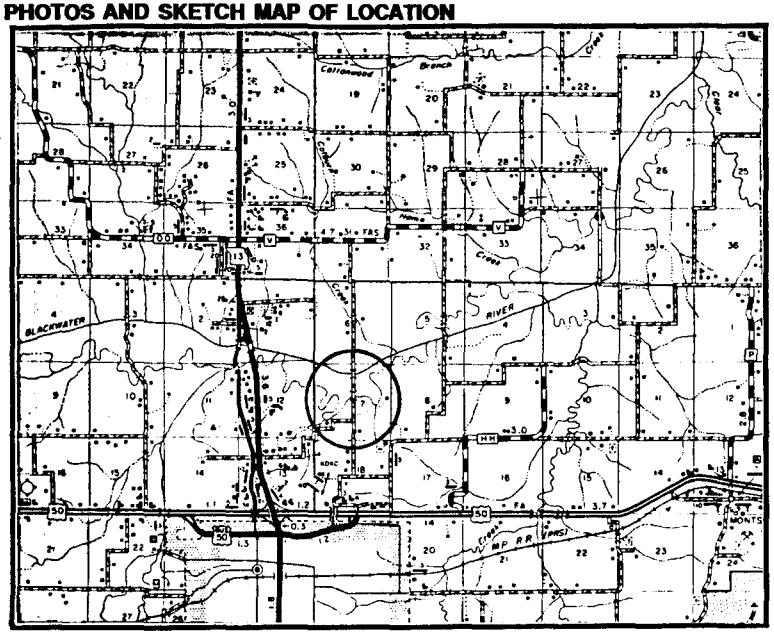
The floods that struck Johnson County late in 1928 were some of the worst in memory. Up to ten inches of rain fell over the region between November 15th and 17th, sending water roaring down Big Creek and its tributaries. "Starting late Thursday night, rain fell continuously in torrential quantity until 8 o'clock Saturday morning when it began to slacken," a local newspaper reported, "and during the rest of the morning only a light mist fell. As a result practically all streams in this vicinity are out of their banks, lowlands are flooded and roads and highways have been made impassable." No human lives were lost, but damage to livestock, crops and property was extensive. Flood stage at Quick City was six feet higher than the previous high water mark, heavily damaging several houses in the small town. And farmers such as Byron Riffle and C.L. Farnsworth, who had cattle in low-lying pastures, lost much of their herds when cows floated away in the roiling water. One of Farnsworth's animals was later found dead in a tree.

For the Johnson County Court, the damage was particularly acute, as some fifteen county-owned bridges were wrecked by the floodwaters, aggregating between $60,000 and $75,000 of loss. "Small bridges and culverts by the score over the county will have to be rebuilt," another newspaper reported. "The county engineer says that several bridges repaired the last year by bridge crews were lost in the onslaught of the waters and trees carried along in the flood." In the aftermath of the flood, Johnson County re-built or moved several steel and iron trusses, including this medium-span pinned Pratt through truss northeast of Warrensburg. Originally erected here around 1895, the span was dismantled and moved by the county from the "old channel of Blackwater Creek" to the Granger Ford. On July 1, 1929, the county court hired the Standard Bridge Company of Omaha to build new piers and abutments and re-erect the bridge at its new location for $1,563.00. Since that time, the Granger Ford Bridge has functioned in place, with the partial reconstruction of its substructure and the addition of approach spans as the most noteworthy alterations to date.

In the early 1880s the pin-connected Pratt through truss superseded the bowstring arch-truss as the iron bridge of choice for medium- and long-span wagon bridges. Patented in 1844 by Thomas and Caleb Pratt, the Pratt design is distinguished by vertical members acting in compression and diagonals that act in tension. "The Pratt truss is the type most commonly used in America for spans under two hundred and fifty (250) feet in length," noted bridge engineer J.A.L. Waddell wrote in 1916. "Its advantages are simplicity, economy of metal, and suitability for connecting to the floor and lateral systems." Virtually all of the major regional bridge fabricators manufactured Pratt trusses and marketed them extensively to Missouri's counties in the late 19th and early 20th centuries. Hundreds of Pratts remain in place today. The Granger Ford Bridge is a typically configured example of this statewide bridge trend.

NAME(S) OF STRUCTURE
Granger Ford 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 220001.7; Johnson County Bridge Record (1899-1930) page 52, located at the Johnson County Courthouse, Warrensburg MO; field inspection by Mark Hufstetler, 10 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	14 August 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Murray Ford Bridge JOHN15
MHTD: 264000.6

DATE(S) OF CONSTRUCTION
1890-91

LOCATION
County Road 264 over Little Blackwater Creek; S16/17, T46N, R27W
6.5 miles northeast of Holden; Johnson County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 44)

CONDITION
fair

OWNER
Johnson County

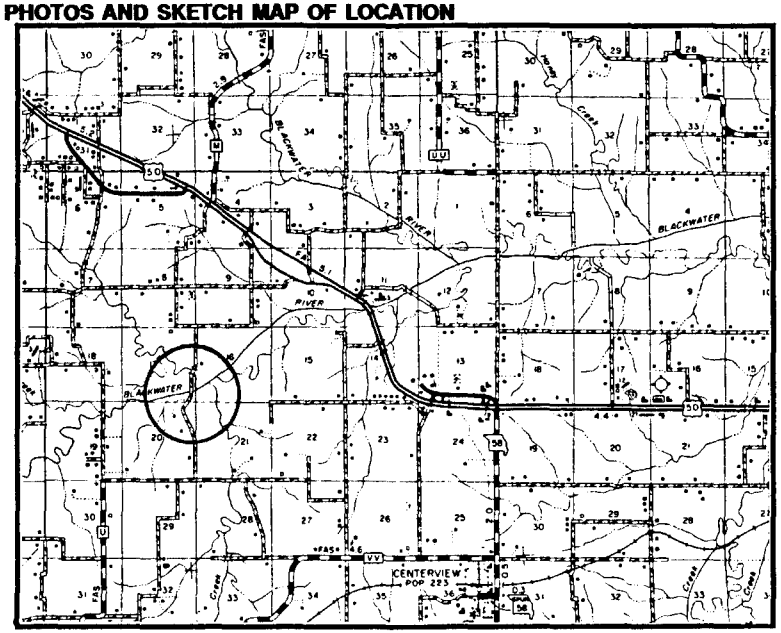
span number:	1	superstructure:	wrought iron, 5-panel, pin-connected Pratt through truss
span length:	80.0'	substructure:	concrete/stone abutments and wingwalls
total length:	80.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	14.0'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; counter: round rod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; floor beam: variable-depth plate girder, U-bolted to verticals; guardrail: steel channel

Located in west-central Johnson County northeast of Holden, this short-span truss carries a secondary county road over Little Blackwater Creek. The structure consists of a single pinned Pratt through truss, supported by stone abutments, that have been extended and repaired with sections of concrete. Known locally as the Murray Ford Bridge, the truss dates to 1890. In September of that year the Johnson County Court directed the county road and bridge commissioner to solicit competitive bids for an iron bridge across the Blackwater at the Murray Ford, on the Holden-Columbus Road, and another small-scale structure near Leeton. The county later contracted with John Bridgewater, a local builder responsible for constructing the majority of the timber and combination spans in Johnson County in the 1880s and early 1890s. Bridgewater completed the stone substructure by the following spring, but finished the iron superstructure only after the county threatened to cancel the contract in June 1891. The truss's fabricator is unrecorded. Since its completion, presumably later that year, the Murray Ford Bridge has carried county-road traffic. The structure has more recently been bypassed by an adjacent crossing of Blackwater Creek, although it is still open for traffic, in essentially unaltered condition.

In the early 1880s the pin-connected Pratt through truss superseded the bowstring arch-truss as the iron bridge of choice for medium- and long-span wagon bridges. Patented in 1844 by Thomas and Caleb Pratt, the Pratt design is distinguished by vertical members acting in compression and diagonals that act in tension. "The Pratt truss is the type most commonly used in America for spans under two hundred and fifty (250) feet in length," noted bridge engineer J.A.L. Waddell wrote in 1916. "Its advantages are simplicity, economy of metal, and suitability for connecting to the floor and lateral systems." Virtually all of the major regional bridge fabricators manufactured Pratt trusses and marketed them extensively to Missouri's counties in the late 19th and early 20th centuries. Hundreds of Pratts remain in place today. The Murray Ford Bridge is distinguished among these for its relatively well-preserved condition and for its early construction date. It is thus significant as an early and well-preserved example–the oldest remaining, originally placed span in Johnson County–of a mainstay structural type: the pin-connected Pratt through truss.

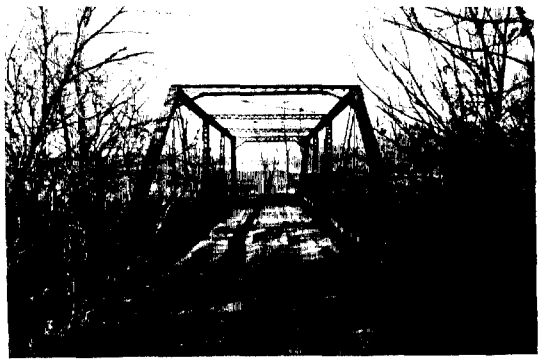
NAME(S) OF STRUCTURE
Murray Ford Bridge

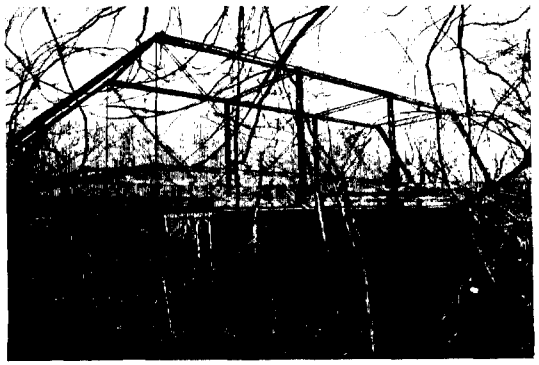
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 264000.6; Johnson County Court Record, Book P, page 400 (23 September 1890), page 592 (29 June 1891) - located at Johnson County Courthouse, Warrensburg, Missouri; field inspection by Mark Hufstetler, 9 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	14 August 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Quick City Bridge
MHTD: 594001.0

JOHN28

DATE(S) OF CONSTRUCTION
1929

LOCATION
County Road 594 over Big Creek; S29, T44N, R28W
5.4 miles southeast of La Tour; Johnson County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP determined eligible (score: 50)

CONDITION
fair

OWNER
Johnson County

span number:	1	superstructure:	steel, 10-panel, pin-connected Pratt through truss
span length:	200.0'	substructure:	steel pile abutments with concrete back- and wingwalls
total length:	200.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	13.6'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; lateral bracing: round rod with threaded ends; counter: round rod with turnbuckle; strut: 2 angles; floor beam: I-beam, U-bolted to verticals; guardrail: steel channels

The floods that struck Johnson County late in 1928 were some of the worst in memory. Up to ten inches of rain fell over the region between November 15th and 17th, sending water roaring down Big Creek and its tributaries. "Starting late Thursday night, rain fell continuously in torrential quantity until 8 o'clock Saturday morning when it began to slacken," a local newspaper reported, "and during the rest of the morning only a light mist fell. As a result practically all streams in this vicinity are out of their banks, lowlands are flooded and roads and highways have been made impassable." No human lives were lost, but damage to livestock, crops and property was extensive. Flood stage at Quick City was six feet higher than the previous high water mark, heavily damaging several houses in the small town. And farmers such as Byron Riffle and C.L. Farnsworth, who had cattle in low-lying pastures, lost much of their herds when cows floated away in the roiling water. One of Farnsworth's animals was later found dead in a tree.

For the Johnson County Court, the damage was particularly acute, as some fifteen county-owned bridges were wrecked by the floodwaters, aggregating between $60,000 and $75,000 of loss. "Small bridges and culverts by the score over the county will have to be rebuilt," another newspaper reported. "The county engineer says that several bridges repaired the last year by bridge crews were lost in the onslaught of the waters and trees carried along in the flood." Six of the largest structures wrecked by the flooding spanned Big Creek. One of these was the truss north of La Tour, among the county's oldest bridges: "The truss was carried about 200 yards distant, while the flooring was found three-quarters of a mile distant." But the largest structure washed away by the floodwaters that fall was the steel span over Big Creek on the outskirts of Quick City.

The Quick City Bridge was beyond salvation. The substructure was badly twisted, and the county court decided that the truss's 75-foot span was insufficient for this crossing. Instead of re-building the bridge in its original position, the judges opted to replace it entirely. The 1912 truss would be recovered from the stream and moved to another location, and a new, longer truss would be built in its place. In January the court declared an emergency and ordered Presiding Judge J.S. Graham to purchase a replacement structure from the Standard Bridge Company of Omaha, Nebraska. The court must have had a change of mind, when, the following month, it ordered county highway engineer L.E. Quick to solicit competitive bids for the Quick City Bridge and another span over the Blackwater Ditch. Late in February proposals were received from seven bridge companies. At $10,760.00, the Standard's bid was substantially lower than those of the other six firms. The primary reason that Standard's proposal was so much lower than the others was that the Omaha-based firm was proposing to use pin-connected trusses. Although the 200-foot span of the Quick City Bridge was far longer than the crossing required, its extreme length served to insure that the structure would never be washed away again.

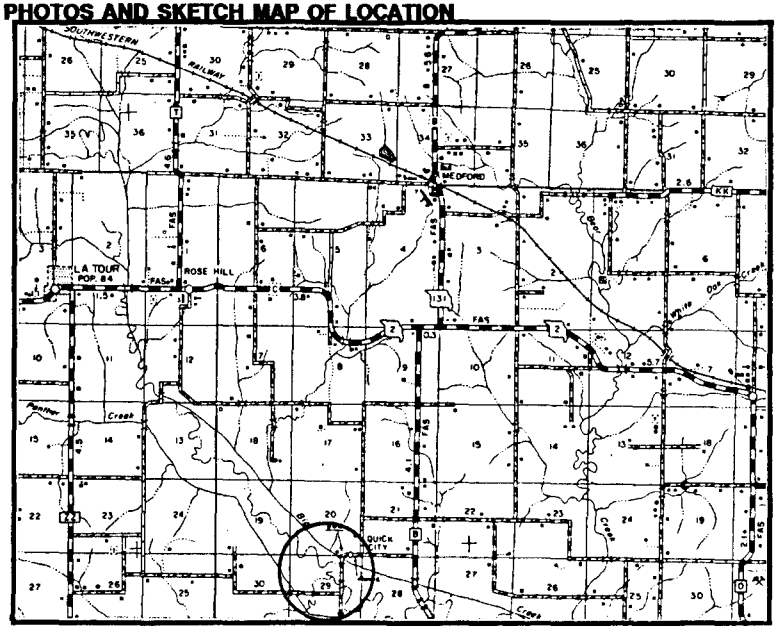
The truss that Standard fabricated for the Quick City crossing featured a Pratt configuration - the most common vehicular truss type in the country. Patented in 1844 by Thomas and Caleb Pratt, the Pratt design was characterized by upper chords and vertical members acting in compression and lower chords and diagonals that acted in tension. Its parallel chords and equal panel lengths resulted in standardized sizes for the verticals, diagonals and chord members, making fabrication and assembly relatively easy. In the highly competitive bridge market, in which efficiency equated with profit, Pratt trusses received almost universal use. "The Pratt truss is the type most commonly used in America for spans under two hundred and fifty feet in length," noted bridge engineer J.A.L. Waddell wrote in 1916. "Its advantages are simplicity, economy of metal, and suitability for connecting to the floor and lateral systems."

Standard Bridge began construction of these abutments in the spring of 1929. "Work of repairing and rebuilding bridges which were damaged or washed away by the floods late last fall is well under way," the **Star-Journal** reported in May. Standard shipped the truss to the site in its component parts, assembled it over timber falseworks and installed the floor system. By August the new bridge was completed and opened for traffic. A year later the original truss was salvaged from the stream, dismantled and moved to another crossing northeast of Holden. Since its erection, the Quick City Bridge has functioned in place, with only maintenance-related repairs to its deck.

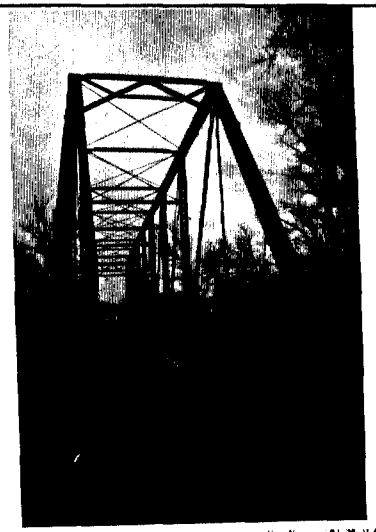
Between the early 1880s, when trusses superseded bowstrings, and the 1920s, when riveted connections replaced pinned, the pin-connected Pratt truss was the metal structure of choice for medium- and long-span wagon bridges in Missouri. Virtually all of the major regional fabricators manufactured Pratt trusses and marketed them extensively to Missouri's counties in the late 19th and early 20th centuries. As a result, thousands of Pratt trusses were built across the state, and many remain in place today. Most extend less than 120 feet; several have spans greater than 150 feet. Only two 200-foot pinned Pratts are known to remain in Missouri, however: the Quick City Bridge in Johnson County and the Frenchman's Bluff Bridge in Lincoln County. Built at a time in which pin-connected trusses were considered an anachronism, the Quick City Bridge is significant as one of the longest examples in Missouri of this mainstay structural type.

NAME(S) OF STRUCTURE
Quick City 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 594001.0; Johnson County Bridge Record (1899-1930) page 52; Ewing Cockrell, **History of Johnson County, Missouri** (Topeka, Kansas: Historical Publishing Company, 1918); "County Bridge Loss May Be High As $75,000," **Warrensburg Star-Journal**, 23 November 1928; **The History of Johnson County, Missouri** (Kansas City: Kansas City Historical Company, 1881); Johnson County Court Record, 1880-1930, located at the Johnson County Clerk's Office, Johnson County Courthouse, Warrensburg, Missouri; **Standard Atlas of Johnson County, Missouri** (Chicago: George A. Ogles and Company, 1898); "Worst Rain Storm Ever Known Here," **The Holden Progress**, 22 November 1928; field inspection by Mark Hufstetler, 9 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	14 August 1993

LAFAYETTE COUNTY

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

Inv. No.	MHTD	Bridge Name	Description
LAFA01	G 387	Horseshoe Creek Bridge	1-100' **riveted Pratt through truss** 1923 Cook-O'Brien Construction Co.
LAFA02	J 25R	Sni-A-Bar Creek Bridge	1-**200'** **riveted Parker through truss** 1929 Clinton Bridge Works; George W. Condon
*LAFA03	L 90R	Graham Branch Bridge	1- 28' **concrete filled spandrel arch** **1911**
LAFA04	Y 845	Dyer Rock Creek Bridge	1- 24' concrete through girder **1917** Vermillion Bros., Higginsville MO
LAFA05	184001.1	Little Tabo Creek Bridge	(replaced)
LAFA06	208001.7	Davis Creek Bridge	1-150' **pinned Parker through truss** **c1910**
*LAFA07	211000.1	Bear Creek Bridge	1- 50' pinned Pratt half-hip pony truss **1904** Midland Bridge Co., Kansas City
*LAFA08	266001.5	Davis Creek Bridge	1- 96' **riveted polyg. Warren pony truss** 1940
LAFA09	426000.3	Sni-A-Bar Creek Bridge	1- 34' pinned Pratt pony truss **c1895**

EXCLUDED:

Pratt pony truss

G 391	033000.8	045001.0	443001.0

Warren pony truss

G 988R	T 352	X 403	372001.2

Steel stringer

G 729R1	G 819R1	K 345	K 346	L 352R	S 42	T 563
X 563	X 564	X 740	X 823	020001.0	026001.3	045000.3
046001.0	084R01.5	095R01.5	096000.5	109001.4	115000.5	119R03.3
119000.9	122002.0	122002.3	160000.2	162000.4	181R02.8	194000.1
207000.8	225000.1	231000.5	243000.7	259000.1	270000.1	282002.0
284000.5	305002.5	331R01.9	348001.8	376000.3	398001.7	406000.1
411001.0	420000.6	423000.8	437000.7	455000.2	460000.5	475R01.5

Steel girder

053003.1	095001.8	111001.5	155002.5	164001.7	179000.5	187001.7
242001.0	315001.1	452000.6				

Concrete girder

G 636R1	H 100R	H 106R	J 821	W 312	096000.4	184002.5
187000.8	213001.3	403000.6				

LAFAYETTE COUNTY

EXCLUDED (cont.):

Concrete slab
G 636 193001.0 193002.0 257000.8 288000.3 295000.4

Concrete box culvert
G 635 H 101 H 122 H 722

Timber stringer
018001.2

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	4	4	0	0	8
Excluded	25	63	0	0	88
	29	67	0	0	96 structures

Horseshoe Creek Bridge

LAFA01

GENERAL DATA

structure no.: G 387
county: Lafayette
city/town: 2.7 miles northwest of Bates City
feature inters.: Horseshoe Creek Bridge
cadastral grid: S34, T49N, R29W
highway route: Interstate 70
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt through truss, with concrete slab approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 100.0'
total length: 142.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1923
erection cost: $18,204.04
designer: Missouri State Highway Department
fabricator : unknown
contractor: Cook-O'Brien Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number G 387; Files on primary system bridges located at Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 38
evaluation: NRHP non-eligible (standard MSHD short-span through truss of the 1920s)

inventoried by: Lon Johnson 19 August 1993

Sni-A-Bar Creek Bridge

LAFA02

GENERAL DATA

structure no.: J 25R
county: Lafayette
city/town: 6.3 miles southwest of Lexington
feature inters.: Sni-A-Bar Creek
cadastral grid: S15, T50N, R28W
highway route: State Highway 224
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, rigid-connected Parker through truss, with Warren pony truss and concrete girder approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1; 1
span length: 200.0'; 80.0'
total length: 332.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1929
erection cost: $23,059.42
designer: Missouri State Highway Department
fabricator : Clinton Bridge Works, Clinton IA
contractor: Clinton Bridge Works, Clinton IA; George W. Condon

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number J 25R; Files on primary system bridges located at Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 49
evaluation: NRHP non-eligible (long-span version of MSHD standard truss design)

inventoried by: Lon Johnson 19 August 1993

Graham Branch Bridge

LAFA03

GENERAL DATA

structure no.: L 90R
county: Lafayette
city/town: 1.0 mile southwest of Lexington
feature inters.: Graham Branch
cadastral grid: S33, T51N, R27W
highway route: State Highway 224
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

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

span number: 1
span length: 28.0'
total length: 56.0'
roadway width: 27.0'
condition: good
alterations: guardrails replaced with Armco, 1988
floor/decking : concrete deck
other features: Armco steel beam guardrails

HISTORICAL DATA

erection date: 1911
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number L 90R; Files on primary system bridges located at the Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Lon Johnson, 11 February 1991.

sign. rating: 32
evaluation: NRHP non-eligible (small-scale example of concrete arch bridge construction, altered and inadequately documented)

inventoried by: Lon Johnson 19 August 1993

Dyer Rock Creek Bridge

LAFA04

GENERAL DATA

structure no.: Y 845
county: LaFayette

city/town: 5.3 miles northeast of Concordia
feature inters.: Dyer Rock Creek
cadastral grid: S11, T49N, R24W
highway route: State Secondary Route NN
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: concrete through girder
substructure: concrete abutments and wingwalls

span number: 1
span length: 24.0'
total length: 27.0'
roadway width: 15.5'

condition: fair
alterations: none
floor/decking : concrete deck
other features: concrete guardrail with incised panels on parapets

HISTORICAL DATA

erection date: 1917
erection cost: unknown
designer: unknown
fabricator : none
contractor: Vermillion Brothers Contractors, Higginsville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number Y 845.

sign. rating: 56
evaluation: NRHP possibly eligible (well-preserved, relatively early example of concrete girder construction)

inventoried by: Clayton B. Fraser 19 August 1993

Davis Creek Bridge

LAFA06

GENERAL DATA

structure no.: 208001.7
county: Lafayette
city/town: 2.5 miles southwest of Aullville
feature inters.: Davis Creek
cadastral grid: S31, T49N, R25W
highway route: County Road 208
highway distr.: 4
current owner: Lafayette County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Parker through truss, with steel stringer approach spans
substructure: unknown

span number: 1
span length: 150.0'
total length: 183.0'
roadway width: 13.8'
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 208001.7.

sign. rating: 32
evaluation: NRHP non-eligible (typically configured, inadequately documented example of uncommon Pratt truss sub-type)

inventoried by: Lon Johnson 19 August 1993

Bear Creek Bridge

LAFA07

GENERAL DATA

structure no.: 211000.1
county: Lafayette

city/town: 4.1 miles southeast of Higginsville
feature inters.: Bear Creek
cadastral grid: S29/30, T49N, R25W
highway route: County Road 211
highway distr.: 4
current owner: Lafayette County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss, with steel stringer approach span on south end
substructure: timber pile bent piers with timber back- and wingwalls

span number: 1
span length: 50.0'
total length: 68.0'
roadway width: 12.1'

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: 4 angles with lacing; diagonal: round eyerod; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to vertical; guardrail: none; endpost-mounted builder's plate: **190[4] / The Midland [Bridge Company] / Frey... / Tr.... / Prop... / Kansas...**

HISTORICAL DATA

erection date: 1904
erection cost: unknown
designer: Midland Bridge Company, Kansas City MO
fabricator : Midland Bridge Company, Kansas City MO
contractor: Midland Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 211000.1; field inspection by Lon Johnson, 11 February 1991.

sign. rating: 39
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Lon Johnson 19 August 1993

Davis Creek Bridge

LAFA08

GENERAL DATA

structure no.: 266001.5
county: Lafayette
city/town: 2.3 miles northwest of Concordia
feature inters.: Davis Creek
cadastral grid: S29/30, T49N, R24W
highway route: County Road 266
highway distr.: 4
current owner: Lafayette County

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Warren pony truss with polygonal upper chords; steel stringer approach spans at both ends
substructure: concrete abutments and wingwalls; steel pile bent piers

span number: 1
span length: 96.0'
total length: 144.0'
roadway width: 15.7'
condition: fair
alterations: unknown
floor/decking : concrete 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 continuous plate; diagonal: 2 angles with batten plates; lateral bracing: 1 angle; floor beam: I-beam; guardrail: lattice

HISTORICAL DATA

erection date: c1940
erection cost: unknown
designer: unknown
fabricator : Jones and Laughlin Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 266001.5; field inspection by Lon Johnson, 11 February 1991.

sign. rating: 41
evaluation: NRHP non-eligible (uncommon structural type, poorly documented and possibly moved)

inventoried by: Lon Johnson and Michelle Crow-Dolby 19 August 1993

Sni-A-Bar Creek Bridge

LAFA09

GENERAL DATA

structure no.: 426000.3
county: Lafayette
city/town: 3.6 miles southwest of Odessa
feature inters.: East Fork Sni-A-Bar Creek
cadastral grid: S22/23, T48N, R28W
highway route: County Road 426
highway distr.: 4
current owner: Lafayette County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt through truss
substructure: steel pile bent piers and timber back- and wingwalls

span number: 1
span length: 34.0'
total length: 34.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: tapered "fishtail" plate girder floor beams; steel angle guardrails

HISTORICAL DATA

erection date: c1895
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 426000.3.

sign. rating: 22
evaluation: NRHP non-eligible (early example of mainstay structural type, inadequately documented)

inventoried by: Lon Johnson 19 August 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Dyer Rock Creek Bridge LAFA04
MHTD: Y 845

DATE(S) OF CONSTRUCTION
1917

LOCATION
State Secondary Route NN over Dyer Rock Creek; S11, T49N, R24W
5.3 miles northeast of Concordia; LaFayette County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / highway bridge

RATING NRHP possibly eligible (score: 56)

CONDITION
fair

OWNER
Missouri Highway and Transportation Department

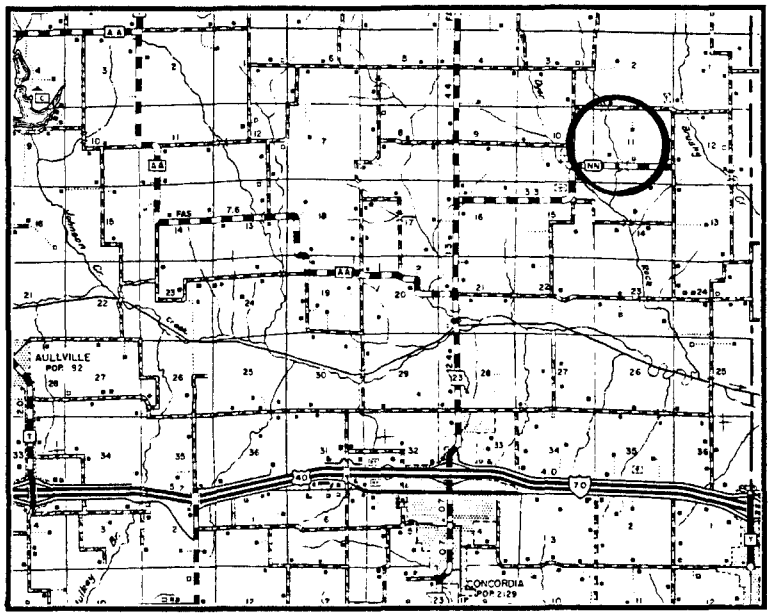
span number:	1	superstructure:	concrete through girder
span length:	24.0'	substructure:	concrete abutments and wingwalls
total length:	27.0'	floor/decking:	concrete deck
roadway wdt.:	15.5'	other features:	concrete guardrail with incised panels on parapets

This small-scale concrete bridge carries State Secondary Route NN over Dyer Rock Creek northeast of Concordia. The structure features a concrete deck supported between the concrete mass abutments by a pair of through girders. It is simply detailed, with incised rectangular panels on the girder sides as the only architectural expression. The Dyer Rock Creek Bridge was built in 1917 by the Vermillion Brothers Contractors of Higginsville, Missouri, inder contract with the Lafayette County Court. Since its completion, the bridge has functioned in place, without substantial alteration.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. The Dyer Rock Creek Bridge is distinguished among these as one of less than ten concrete through girders found in the state. Modestly scaled and simply detailed, it is noteworthy as an early, well-preserved example of concrete bridge construction in Missouri.

NAME(S) OF STRUCTURE
Dyer Rock 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 Y 845.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	19 August 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Davis Creek Bridge
MHTD: 266001.5

LAFA08

DATE(S) OF CONSTRUCTION
c1940

LOCATION
County Road 266 over Davis Creek; S29/30, T49N, R24W
2.3 miles northwest of Concordia; Lafayette County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 41)

CONDITION
fair

OWNER
Lafayette County

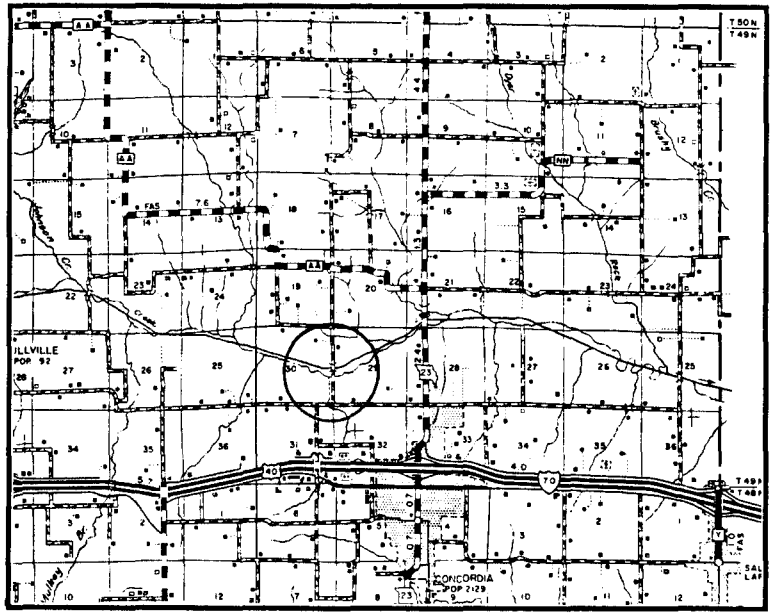
span number:	1	superstructure:	steel, 6-panel, rigid-connected Warren pony truss with polygonal upper chords; steel stringer approach spans at both ends
span length:	96.0'	substructure:	concrete abutments and wingwalls; steel pile bent piers
total length:	144.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	15.7'	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 continuous plate; diagonal: 2 angles with batten plates; lateral bracing: 1 angle; floor beam: I-beam; guardrail: lattice

Carrying a gravel-surfaced road over Davis Creek some two miles northwest of Concordia, this 96-foot bridge is located in east-central Lafayette County. Configured as a polygonal Warren pony truss, the superstructure rests on concrete and steel substructure. The Davis Creek Bridge features riveted connections throughout and is approached on either end by steel stringers. Structure Inventory and Appraisal records indicate that the bridge was erected in 1940, which is uncorroborated in other county records. This bridge continues to carry intermittent vehicular traffic and maintains an average degree of historical integrity.

The Davis Creek Bridge is one of ten rigid-connected, polygonal Warren pony trusses included in Missouri's statewide inventory. All of these crossings were built in the 1930s and 1940s, most on primary system roadways. Its profile differs from the MSHD design, however, indicating an outside design source. It is possible that the truss was salvaged and moved to this location, perhaps from another state.

NAME(S) OF STRUCTURE
Davis 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 266001.5; field inspection by Lon Johnson, 11 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Lon Johnson	Fraserdesign, Loveland CO	28 February 1990

PLATTE COUNTY

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

Inv. No.	MHTD	Bridge Name	Description
PLAT01	F 151	Mitchell Creek Bridge	1- 30' **concrete filled spandrel arch** 1923 L.A. Woods Construction Co.
*PLAT02	K 266R	Platte River Bridge	**3-180' riveted Parker through truss** 1933 Snyder and Johnson
*PLAT03	K 456R	Fairfax Bridge	**3-475' riveted cantilever through truss** 1935 Kansas City Bridge Company
PLAT04	K 491	Bear Creek Bridge	**1-100' steel plate through girder** 1936 Mike Haase
PLAT05	K 698	Weston Viaduct	**1-115' steel plate through girder** 1936 Mike Haase/Oscar H. Schmidt
*PLAT06	K 754R	Highway 92 Viaduct	**16-50'** steel stringer 1939 Fred M. Clark and Son
PLAT07	L 354R1	Platte River Bridge	**3-115'** steel stringer 1951 Maxwell Bridge Company
PLAT08	N236B11	Interurban Road Bridge	**2- 52' concrete filled spandrel arch** c1920
PLAT09	N237B32	Interurban Road Bridge	**2- 26' concrete filled spandrel arch** c1920
PLAT10	003000.9	Sugar Creek Bridge	(replaced)
*PLAT11	006000.4	Sugar Creek Bridge	1-130' **2-angle Camelback through truss** c1920
*PLAT12	016000.1	Iatan Bridge	1- 50' pinned Pratt pony truss **1885** Missouri Valley B&I Company
PLAT13	024000.9	Bear Creek Branch Bridge	(replaced)
PLAT14	053002.7	Bee Branch Bridge	(replaced)
*PLAT15	130000.0	Platte River Bridge	**2-160' riveted Pratt through truss** c1920 KCCC&SJ Railroad
*PLAT16	136001.7	Jowler Creek Bridge	2- 48' **concrete filled spandrel arch** c1920
*PLAT17	138003.0	Jowler Creek Bridge	1- 60' **2-angle Pratt pony truss** c1920
*PLAT18	160000.4	Bee Creek Bridge	1-112' **pinned Pratt through truss** **1910** Missouri Valley B&I Company
*PLAT19	173001.5	Platte River Bridge	(replaced)
*PLAT20	175000.8	Cordon's Ferry Bridge	1-150' **pinned Pratt through truss** **1895** Missouri Valley B&I Company

EXCLUDED:

Steel truss
046000.6 135002.6 137001.2

Steel stringer

J 558R	K 343R	K 355	K 480R	K 703	K 704	K 705
L 380R1	NO95B11	N125B11	N167B11	N189B11	N237B31	S 25R

PLATTE COUNTY

EXCLUDED (cont.):

Steel stringer

S 229	S 592	S 726	S 829	X 877	001001.2	014000.0
021000.2	021001.9	038000.4	039000.5	045000.7	058002.6	064000.1
067002.9	082000.3	103000.7	109000.9	125500.1	138000.6	153000.6
170000.2	176000.8	188000.1	190000.1	190003.0	196000.5	202000.5
455000.1	455000.2					

Steel girder

J 783	J 784

Concrete girder

H 917	H 918	J 557	J 784	097000.1	097003.1

Concrete box culvert

G 564R	J 559	K 4	K 6	K 7	K 481	K 706
T 574	155000.6	185R01.6				

Timber stringer

372000.2

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	7	7	2	0	16
Excluded	26	38	2	0	66
	33	45	4	0	82 structures

Mitchell Creek Bridge

PLAT01

GENERAL DATA

structure no.: F 151
county: Platte
city/town: Parkville
feature inters.: Mitchell Creek
cadastral grid: S35, T51N, R34W
highway route: State Supplementary Route FF
highway distr.: 4
current owner: State of Missouri

STRUCTURAL DATA

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

span number: 1
span length: 30.0'
total length: 34.0'
roadway width: 24.0'
condition: good
alterations: none
floor/decking : asphalt over earth fill
other features: cantilevered sidewalks; concrete guardrails

HISTORICAL DATA

erection date: 1922-23
erection cost: $10,055.50
designer: Missouri State Highway Department
fabricator : none
contractor: L.A. Woods Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number F 151; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO; Missouri State Highway Commission, **Third Biennial Report**, 1921-22, pages 127-28, 131.

sign. rating: 47
evaluation: NRHP possibly eligible (well-preserved, early example of MSHD concrete bridge design)

inventoried by: Clayton B. Fraser 5 August 1992

Platte River Bridge

PLAT02

GENERAL DATA

structure no.: K 266R
county: Platte

city/town: 1.3 miles southwest of Platte City
feature inters.: Platte River
cadastral grid: S35, T53N, R35W
highway route: State Highway 45
highway distr.: 4
current owner: State of Missouri

STRUCTURAL DATA

superstructure: steel, 9-panel, rigid-connected Parker through truss
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 180.0'
total length: 548.0'
roadway width: 22.0'

condition: fair
alterations: maintenance-related repairs, 1988
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 channels with cover and batten plates; vertical: 4 angles with lacing or 2 channels with lacing; diagonal: 2 angles with batten plates; lateral bracing: 1 angle; strut: 2 angles; floor beam: I-beam, field-bolted to verticals; guardrail: 2 channels; bridge plate: **MISSOURI / HIGHWAY DEPT / BRIDGE No K 266 / 1933**

HISTORICAL DATA

erection date: 1933
erection cost: $58,161.50
designer: Missouri State Highway Department
fabricator : Inland Steel Company, East Chicago IN
contractor: Snyder and Johnson, Humboldt IA

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number K 266R; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO; Missouri State Highway Commission Biennial Report, page 187 (1933); field inspection by Lon Johnson, 3 February 1991

sign. rating: 48
evaluation: NRHP possibly eligible (well-preserved, multiple-span example of MSHD long-span truss design)

inventoried by: Michelle Crow-Dolby 5 August 1992

Fairfax Bridge

PLAT03

GENERAL DATA

structure no.: K 456R
county: Platte / Wyandotte
city/town: Kansas City
feature inters.: Missouri River
cadastral grid: S8/9, T50N, R33W
highway route: US Highway 69
highway distr.: 4
current owner: State of Missouri / State of Kansas

STRUCTURAL DATA

superstructure: 2 rigid-connected, cantilevered through truss channel spans flanked by 2 rigid-connected Warren through trusses with polygonal upper chords at each end; 3 rigid-connected Warren deck trusses at each end; 1 steel stringer approach span at each end

substructure: concrete abutments, wingwalls and piers (four in river, ten on land)

span number: 2
span length: 475.0'
total length: 1298.0'
roadway width: 20.0'
condition: good
alterations: concrete deck replaced with steel grid and guardrails replaced, 1979
floor/decking : asphalt over steel grid
other features: upper chord and inclined end post: 2 channels with double lacing; lower chord: 2 built-up channels with double lacing on both ends or 2 built-up channels with cover and batten plates; vertical: 4 angles with batten plate or 2 channels with double lacing or 2 face-to-face channels with batten plates or 2 channels with lacing; diagonal: 4 angles with batten plate or 2 channels with batten plates or 2 channels with double lacing; lateral bracing: 2 angles with lacing; strut: 4 angles with lacing, braced; floor beam: I-beams; guard-rail: steel

HISTORICAL DATA

erection date: 1933-35
erection cost: $511,500.00 (contract amount)
designer: Sverdrup and Parcel, St. Louis 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 K 456R; **Kansas City Star**: 17 February 1933, 26 May 1933, 12 July 1933, 29 September 1933, 23 April 1940, 12 January 1942, 12 April 1942; **Kansas City Times**: 2 December 1933, 13 May 1935, 7 March 1938; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Lon Johnson, 3 February 1991.

Fairfax Bridge

sign. rating: 62
evaluation: NRHP possibly eligible (noteworthy example of large-scale truss construction on interstate crossing of Missouri River)

inventoried by: Michelle Crow-Dolby 5 August 1992

Bear Creek Bridge

PLAT04

GENERAL DATA

structure no.: K 491
county: Platte
city/town: Weston
feature inters.: Bear Creek
cadastral grid: S12, T53N, R36W
highway route: State Highway 45
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel plate through girder, skewed, with two steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 100.0'
total length: 167.0'
roadway width: 22.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1936
erection cost: $15,923.32
designer: Missouri State Highway Department
fabricator : unknown
contractor: Mike Haase

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number K 491; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 54
evaluation: NRHP possibly eligible (long-span example of MSHD beam bridge design)

inventoried by: Clayton B. Fraser 5 August 1992

Weston Viaduct

PLAT05

GENERAL DATA

structure no.: K 698
county: Platte
city/town: Weston
feature inters.: Burlington Northern Railroad
cadastral grid: S11/12, T53N, R36W
highway route: State Highway 45
highway distr.: 4
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel plate through girder, with four steel stringer approach spans
substructure: concrete abutments and wingwalls and spill-through piers

span number: 1
span length: 115.0'
total length: 327.0'
roadway width: 24.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: concrete guardrails

HISTORICAL DATA

erection date: 1936
erection cost: $41,672.55
designer: Missouri State Highway Department
fabricator : unknown
contractor: Mike Haase / Oscar H. Schmidt

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number K 698; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 54
evaluation: NRHP possibly eligible (long-span example of MSHD beam bridge design)

inventoried by: Clayton B. Fraser 5 August 1992

Highway 92 Viaduct

PLAT06

GENERAL DATA

structure no.: K 754R
county: Platte
city/town: 4.8 miles west of Platte City
feature inters.: Missouri Route 45 and railroad tracks
cadastral grid: S31, T53N, R35W
highway route: State Highway 92
highway distr.: 4
current owner: State of Missouri

STRUCTURAL DATA

superstructure: steel stringer
substructure: concrete abutments, wingwalls and piers

span number: 16
span length: 50.0'
total length: 699.0'
roadway width: 24.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: strut: 4 angles, braced; floor beam: I-beam; concrete balustrade guardrails

HISTORICAL DATA

erection date: 1939
erection cost: $78,511.80
designer: Missouri State Highway Department
fabricator : Inland Steel Company, East Chicago IN
contractor: Fred M. Clark and Son

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number K 754R; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Lon Johnson, 3 February 1991.

sign. rating: 45
evaluation: NRHP non-eligible (undistinguished multiple-span example of MSHD beam bridge design)

inventoried by: Michelle Crow-Dolby 5 August 1992

Platte River Bridge

PLAT07

GENERAL DATA

structure no.: L 354R1
county: Platte
city/town: 0.5 mile north of Platte City
feature inters.: Platte River
cadastral grid: S25, T53N, R35W
highway route: county road
highway distr.: 4
current owner: Platte County

STRUCTURAL DATA

superstructure: three steel plate deck girders with seven steel stringer approach spans
substructure: concrete abutments and wingwalls; hammerhead spill-through piers

span number: 1; 2
span length: 115.0'; 92.0'
total length: 704.0'
roadway width: 38.0'
condition: good
alterations: deck widened, 1975
floor/decking : concrete deck over steel stringers
other features: concrete with steel pipe guardrails

HISTORICAL DATA

erection date: 1950-51
erection cost: $276,079.28
designer: Missouri State Highway Department
fabricator : unknown
contractor: Maxwell Bridge Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number L 354R1; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 38
evaluation: NRHP non-eligible (relatively late example of MSHD long-span beam bridge design, altered)

inventoried by: Michelle Crow-Dolby 5 August 1992

Interurban Road Bridge

PLAT08

GENERAL DATA

structure no.: N236B11
county: Platte
city/town: Kansas City
feature inters.: Todd Creek
cadastral grid:
highway route: Nothwest Interurban Road
highway distr.: 4
current owner: Platte County

STRUCTURAL DATA

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

span number: 2
span length: 52.0'
total length: 108.0'
roadway width: 16.0'
condition: fair
alterations: guardrails replaced with Armco
floor/decking : asphalt over earth fill
other features: Armco 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 N236B11.

sign. rating: 19
evaluation: NRHP non-eligible (poorly preserved, poorly documented example of concrete arch construction)

inventoried by: Michelle Crow-Dolby 5 August 1992

Interurban Road Bridge

PLAT09

GENERAL DATA

structure no.: N237B32
county: Platte
city/town: Kansas City
feature inters.: Wildcat Branch
cadastral grid:
highway route: Northwest Interurban Road
highway distr.: 4
current owner: Platte County

STRUCTURAL DATA

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

span number: 2
span length: 26.0'
total length: 54.0'
roadway width: 15.5'
condition: fair
alterations: guardrails replaced with Armco
floor/decking: asphalt over earth fill
other features: Armco 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 N237B32.

sign. rating: 16
evaluation: NRHP non-eligible (poorly preserved, poorly documented example of concrete arch construction)

inventoried by: Michelle Crow-Dolby 5 August 1992

Sugar Creek Bridge

PLAT11

GENERAL DATA

structure no.: 006000.4
county: Platte
city/town: 10.3 miles northwest of Weston
feature inters.: Sugar Creek
cadastral grid: S2/35, T54/55N, R37W
highway route: County Road 6
highway distr.: 4
current owner: Platte County

STRUCTURAL DATA

superstructure: steel, 6-panel, 2-angle rigid-connected Camelback pony truss; 1 steel stringer approach on west end
substructure: steel pile bent piers and timber back- and wingwalls

span number: 1
span length: 130.0'
total length: 131.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post, lower chord, vertical, diagonal: 2 angles; lateral bracing: round rods with threaded ends; strut: 1 angle, knee braced; floor beam: I-beams; guardrail: 2 angles

HISTORICAL DATA

erection date: c1925
erection cost: unknown
designer: unknown
fabricator : Inland Steel Company, East Chicago IN
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 006000.4; field inspection by Lon Johnson, 6 February 1991.

sign. rating: 45
evaluation: NRHP non-eligible (long-span example of uncommon structural type, largely undocumented)

inventoried by: Michelle Crow-Dolby 5 August 1992

Iatan Bridge

PLAT12

GENERAL DATA

structure no.: 016000.1
county: Platte
city/town: Iatan
feature inters.: Iatan Creek
cadastral grid: S23, T54N, R36W
highway route: County Road 16
highway distr.: 4
current owner: Platte County

STRUCTURAL DATA

superstructure: wrought iron, 3-panel, pin-connected Pratt pony truss, with timber stringer approach on north end
substructure: concrete-filled iron cylinder piers with timber pile abutments and back- and wingwalls

span number: 1
span length: 50.0'
total length: 65.0'
roadway width: 12.5'
condition: fair
alterations: none
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 punched rectangular eyebars; vertical: I-beam with star-iron outrider; counter: round eye-rod with turnbuckle; lateral bracing: round rod; floor beam: I-beam U-bolted to lower chord pins; guardrail: timber

HISTORICAL DATA

erection date: 1885
erection cost: unknown
designer: Missouri Valley Bridge and Iron Company, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Company, Leavenworth KS
contractor: Missouri Valley Bridge and Iron Company, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 016000.1; Platte County Court Record, Book L: page 538 (17 April 1876); Book M: page 5 (17 June 1876) - located at the Platte County Courthouse, Platte City MO; W.M. Paxton, **Annals of Platte County, Missouri**, pages 622, 825; field inspection by Lon Johnson, 6 February 1991.

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

inventoried by: Clayton B. Fraser 5 August 1992

Platte River Bridge

PLAT15

GENERAL DATA

structure no.: 130000.0
county: Platte
city/town: 4.0 miles northeast of Platte City
feature inters.: Platte River
cadastral grid: S16, T53N, R34W
highway route: Interurban Road
highway distr.: 4
current owner: Platte County

STRUCTURAL DATA

superstructure: steel, rigid-connected Pratt through truss
substructure: concrete abutments, wingwalls and piers

span number: 2
span length: 160.0'
total length: 326.0'
roadway width: 15.0'
condition: good
alterations: railroad bridge re-decked for roadway use
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 4 angles with batten plates; vertical: 2 channels with lacing (4 angles with lacing at hip); diagonal: 2 channels with lacing or 4 angles with lacing; lateral bracing: 4 angles with lacing or 2 angles; floor beam: steel girder and railroad ties; guardrail: cable

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: Kansas City, Clay County and St. Joseph Railroad
fabricator : unknown
contractor: Kansas City, Clay County and St. Joseph Railroad

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 130000.0; field inspection by Lon Johnson, 6 February 1991.

sign. rating: 32
evaluation: NRHP non-eligible (railroad bridge modified for roadway use)

inventoried by: Michelle Crow-Dolby 5 August 1992

Jowler Creek Bridge

PLAT16

GENERAL DATA

structure no.: 136001.7
county: Platte
city/town: 4.3 miles northeast of Platte City
feature inters.: Jowler Creek
cadastral grid: S6, T53N, R34W
highway route: County Road 136
highway distr.: 4
current owner: Platte County

STRUCTURAL DATA

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

span number: 2
span length: 48.0'
total length: 95.0'
roadway width: 16.4'
condition: fair
alterations: none
floor/decking : earth fill over concrete
other features: bullnosed cutwater on pier

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 136001.7; field inspection by Lon Johnson, 6 February 1991.

sign. rating: 30
evaluation: NRHP non-eligible (poorly documented example of pre-MSHD concrete arch construction)

inventoried by: Michelle Crow-Dolby 5 August 1992

Jowler Creek Bridge

PLAT17

GENERAL DATA

structure no.: 138003.0
county: Platte
city/town: 4.0 miles northeast of Platte City
feature inters.: Jowler Creek
cadastral grid: S16, T53N, R34W
highway route: County Road 138
highway distr.: 4
current owner: Platte County

STRUCTURAL DATA

superstructure: steel, rigid-connected, 2-angle Pratt pony truss
substructure: timber pile bent piers with concrete caps, timber back- and wingwalls

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 18.0'
condition: fair
alterations: none
floor/decking : concrete over corrugated steel
other features: upper chord and inclined end post, lower chord, vertical: 2 angles; diagonal: 1 angle; counter: 1 angle; lateral bracing: round rods with threaded ends; strut: 1 angle, knee-braced; floor beam: I-beams; guardrail: 2 angles

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : Inland Steel Company, East Chicago IN
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 138003.0; field inspection by Lon Johnson, 6 February 1991.

sign. rating: 32
evaluation: NRHP non-eligible (largely undocumented example of uncommon structural type)

inventoried by: Michelle Crow-Dolby 5 August 1992

Bee Creek Bridge

PLAT18

GENERAL DATA

structure no.: 160000.4
county: Platte
city/town: 5.0 miles west of Platte City
feature inters.: Bee Creek
cadastral grid: S30, T53N, R35W
highway route: County Road 160
highway distr.: 4
current owner: Platte County

STRUCTURAL DATA

superstructure: steel, 7-panel, pin-connected Pratt through truss
substructure: steel pile bent piers with timber back- and wingwalls

span number: 1
span length: 112.0'
total length: 112.0'
roadway width: 11.6'
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 punched rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles; endpost-mounted builder's plate: **1910 / BUILT BY / MISSOURI VALLEY / BRIDGE AND / IRON COMPANY**

HISTORICAL DATA

erection date: 1910
erection cost: unknown
designer: Missouri Valley Bridge and Iron Company, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Company, Leavenworth KS
contractor: Missouri Valley Bridge and Iron Company, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 160000.4; field inspection by Lon Johnson, 3 February 1991.

sign. rating: 41
evaluation: NRHP non-eligible (typically configured example of mainstay structural type)

inventoried by: Michelle Crow-Dolby 5 August 1992

Cordon's Ferry Bridge

PLAT20

GENERAL DATA

structure no.: 175000.8
county: Platte
city/town: 3.0 miles southwest of Platte City
feature inters.: Platte River
cadastral grid: S10, T52N, R35W
highway route: County Road 175
highway distr.: 4
current owner: Platte County

STRUCTURAL DATA

superstructure: steel, 7-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: concrete-filled steel cylinder piers, timber back- and wingwalls; partial stone backwall on east

span number: 1
span length: 150.0'
total length: 188.0'
roadway width: 14.0'
condition: poor
alterations: upper chords braced with steel beams; three verticals replaced
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 (2 looped square eyebars at hip); diagonal: 2 punched rectangular eyebars; counter: square eyerod with turn-buckle; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam; guardrail: woven wire

HISTORICAL DATA

erection date: 1895
erection cost: $4200.00 (contract amount)
designer: Missouri Valley Bridge and Iron Company, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Company, Leavenworth KS; Carnegie Steel Company, Pittsburgh PA
contractor: Missouri Valley Bridge and Iron Company, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 175000.8; Platte County Road Book B: page 395 (7 September 1895), page 401 (3 June 1895) - located at the Platte County Courthouse, Platte City MO; field inspection by Lon Johnson, 3 February 1991.

sign. rating: 46
evaluation: NRHP non-eligible (well-documented example of mainstay structural type, substantially altered)

inventoried by: Michelle Crow-Dolby 5 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Cordon's Ferry Bridge
MHTD: 175000.8

PLAT20

DATE(S) OF CONSTRUCTION
1895

LOCATION
County Road 175 over Platte River; S10, T52N, R35W
3.0 miles southwest of Platte City; Platte County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 46)

CONDITION
poor

OWNER
Platte County

span number: 1
span length: 150.0'
total length: 188.0'
roadway wdt.: 14.0'

superstructure: steel, 7-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: concrete-filled steel cylinder piers, timber back- and wingwalls; partial stone backwall on east
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 (2 looped square eyebars at hip); diagonal: 2 punched rectangular eyebars; counter: square eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam; guardrail: woven wire

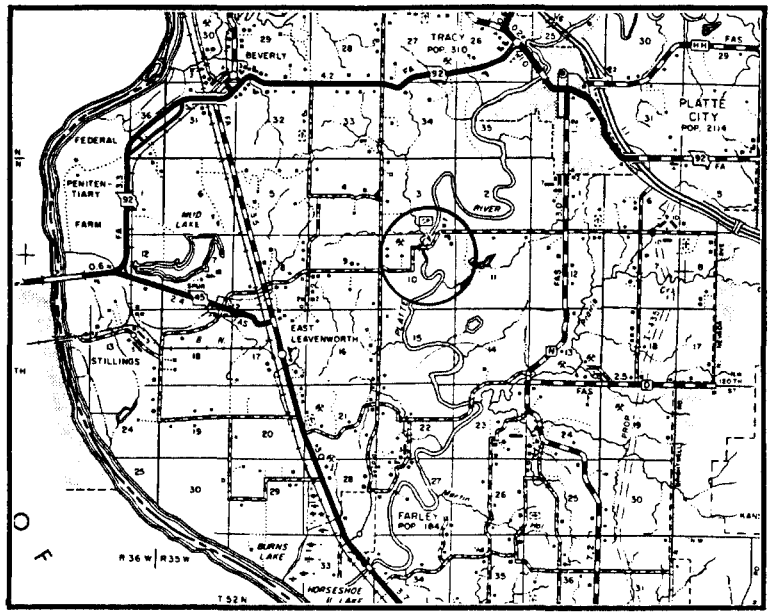
In June 1895, the Platte County Road and Bridge Commissioner was directed by the county court to solicit competitive proposals for the erection of this bridge, located at the site of Cordon's Ferry southwest of Platte City. Reporting in September the same year that the Missouri Valley Bridge and Iron Company was the low bidder, the bridge commissioner subsequently awarded the company with a $4200.00 construction contract for this 188-foot structure. Using steel components rolled in Pittsburgh by Carnegie Steel Company, the Leavenworth, Kansas contractor completed the crossing later that year. The seven-panel Pratt through truss, spanning the Platte River, features a timber deck and pinned connections throughout. The entire truss is supported by steel cylinder piers with stone and timber backwalls. Since its completion in 1895, Cordon's Ferry Bridge has functioned in place. It has more recently been altered through the addition of steel beams over its upper chords and the replacement of three of its verticals.

In the early 1880s, the pin-connected Pratt truss superseded the bowstring arch-truss as the iron bridge of choice for medium-span wagon crossings. Patented in 1844 by Thomas and Caleb Pratt, the Pratt design is distinguished by vertical members acting in compression and diagonals that act in tension. "The Pratt truss in the type most commonly used in America for spans under two hundred and fifty (250) feet in length," noted bridge engineer J.A.L. Waddell in 1916. "Its advantages are simplicity, economy of metal, and suitability for connection to the floor and lateral systems." Virtually all of the regional bridge fabricators manufactured Pratt trusses and marketed them extensively to Missouri's counties. The Missouri Valley Bridge and Iron Company was a major player in western Missouri during the late 19th century, and the Cordon's Ferry Bridge represents that company's penchant for pinned truss construction.

NAME(S) OF STRUCTURE

Cordon's Ferry 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 175000.8; Platte County Road Book B: page 395 (7 September 1895), page 401 (3 June 1895) - located at the Platte County Courthouse, Platte City MO; field inspection by Lon Johnson, 3 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Michelle Crow-Dolby	Fraserdesign, Loveland CO	5 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Mitchell Creek Bridge PLAT01
MHTD: F 151

DATE(S) OF CONSTRUCTION
1922-23

LOCATION
State Supplementary Route FF over Mitchell Creek; S35, T51N, R34W
Parkville; Platte County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 47)

CONDITION
good

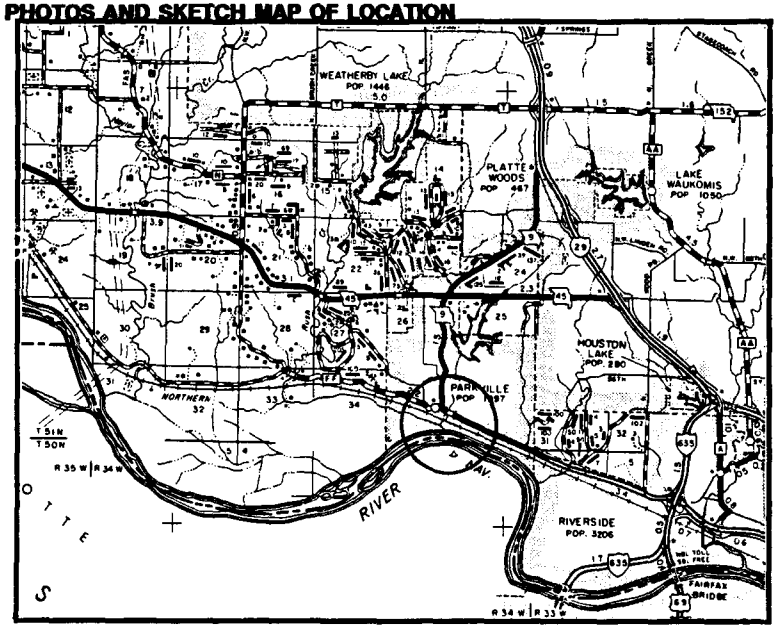
OWNER
State of Missouri

span number:	1	superstructure:	concrete filled spandrel arch
span length:	30.0'	substructure:	concrete abutments and wingwalls
total length:	34.0'	floor/decking:	asphalt over earth fill
roadway wdt.:	24.0'	other features:	cantilevered sidewalks; concrete guardrails

One of the provisions of the Hawes Road Law establishing the Missouri State Highway Department was that the newly formed agency develop plans and specifications for bridges and culverts. "The Highway Department has maintained a drafting room which has been called upon for many kinds of service," the department reported in 1918, "but the especial function of which has been the preparation of bridge and culvert designs." By 1920, the department had developed several standards for short- and medium-span bridges, including 13 designs for steel superstructures with spans ranging up to 100 feet. In addition, the department delineated some 185 special bridge designs during the 1919-20 biennium. In 1922 MSHD designed some 293 spans with a total length of over 20,000 feet. One of these was a structure over Mitchell Creek in Parkville, a concrete filled spandrel arch with a 30-foot span. MSHD engineers designed the structure late in 1922, and solicited competitive bids for its construction. When proposals were received in December, the low bidder was the L.A. Woods Construction Company at $10,055.50. The contractor completed the bridge and another 70-foot span (recently demolished) in 1923; the Mitchell Creek Bridge has continued to function in place, without alteration. It is historically significant as one of the few structures left intact from MSHD's formative years–a small-scale concrete arch that represents early highway bridge building in Missouri.

NAME(S) OF STRUCTURE
Mitchell 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 F 151; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO; Missouri State Highway Commission, **Third Biennial Report**, 1921-22, pages 127-28, 131.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	5 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Platte River Bridge
MHTD: K 266R

PLAT02

DATE(S) OF CONSTRUCTION
1933

LOCATION
State Highway 45 over Platte River; S35, T53N, R35W
1.3 miles southwest of Platte City; Platte County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 48)

CONDITION
fair

OWNER
State of Missouri

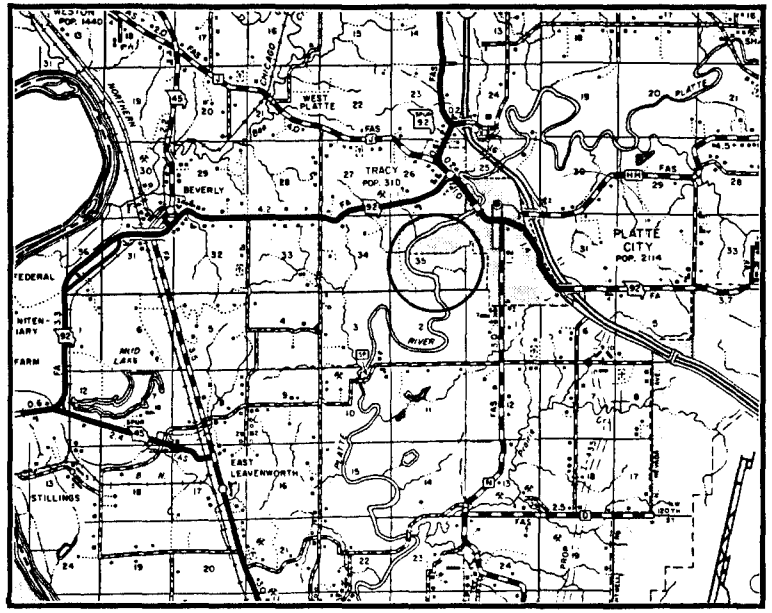
span number:	3	superstructure:	steel, 9-panel, rigid-connected Parker through truss
span length:	180.0'	substructure:	concrete abutments, wingwalls and piers
total length:	548.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	22.0'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 channels with cover and batten plates; vertical: 4 angles with lacing or 2 channels with lacing; diagonal: 2 angles with batten plates; lateral bracing: 1 angle; strut: 2 angles; floor beam: I-beam, field-bolted to verticals; guardrail: 2 channels; bridge plate: **MISSOURI / HIGHWAY DEPT / BRIDGE No K 266 / 1933**

Carrying Missouri State Highway 45 in western Platte County, this large-scale riveted Parker through truss crosses the Platte River. Featuring a concrete deck over steel stringers and a concrete substructure, the overall bridge length is 548 feet. Designed by the Missouri State Highway Department, the structure was built by Snyder and Johnson for a total cost of $58,161.50. The Humboldt, Iowa, contractors used steel components rolled in East Chicago, Indiana, by Inland Steel Company, completing the three-span bridge in 1933. Functioning in place today southwest of Platte City, the Platte River Bridge retains a high degree of structural integrity with only maintenance-related repairs.

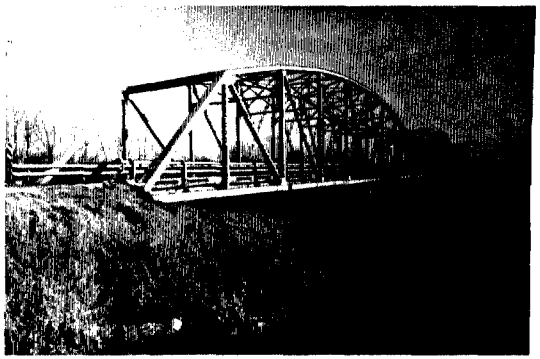
The Platte River Bridge is technologically significant as a well-preserved example of a relatively uncommon structural type. Pin-connected Pratt trusses were built by the thousands throughout Missouri in the late 19th and early 20th centuries. Pinned Parker trusses, a polygonal-chorded Pratt variant, were typically used for crossings requiring long spans, where a savings in materials could be effected by angling the upper chords. Riveted Parker trusses such as the Platte River Bridge were built far less often than Pratts; fewer than three dozen remain in place today on Missouri's road system. Among these, the Platte River Bridge is distinguished by its multiplicity of spans and its excellent degree of historical and structural integrity.

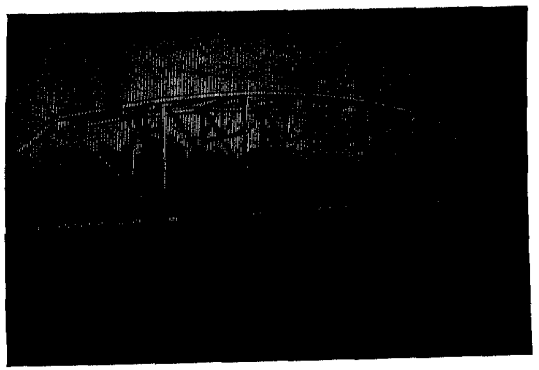
NAME(S) OF STRUCTURE
Platte River Bridge

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 K 266R; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO; Missouri State Highway Commission Biennial Report, page 187 (1933); field inspection by Lon Johnson, 3 February 1991

INVENTORIED BY	AFFILIATION	DATE
Michelle Crow-Dolby	Fraserdesign, Loveland CO	5 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Fairfax Bridge
MHTD: K 456R

PLAT03

DATE(S) OF CONSTRUCTION
1933-35

LOCATION
US Highway 69 over Missouri River; S8/9, T50N, R33W
Kansas City; Platte County, Missouri Wyandotte County, Kansas

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 62)

CONDITION
good

OWNER
State of Missouri / State of Kansas

span number: 2
span length: 475.0'
total length: 1298.0'
roadway wdt.: 20.0'

superstructure: 2 rigid-connected, cantilevered through truss channel spans flanked by 2 rigid-connected Warren through trusses with polygonal upper chords at each end; 3 rigid-connected Warren deck trusses at each end; 1 steel stringer approach span at each end
substructure: concrete abutments, wingwalls and piers (four in river, ten on land)
floor/decking: asphalt over steel grid
other features: upper chord and inclined end post: 2 channels with double lacing; lower chord: 2 built-up channels with double lacing on both ends or 2 built-up channels with cover and batten plates; vertical: 4 angles with batten plate or 2 channels with double lacing or 2 face-to-face channels with batten plates or 2 channels with lacing; diagonal: 4 angles with batten plate or 2 channels with batten plates or 2 channels with double lacing; lateral bracing: 2 angles with lacing; strut: 4 angles with lacing, braced; floor beam: I-beams; guardrail: steel

Early efforts to connect Platte County, Missouri, and Kansas' Wyandotte County had long proved unsuccessful, owing to the wide expanse of the Missouri River at this location and the resulting high costs of building such a long bridge. It was not until Frank A. Davis, secretary of the Greater Kansas City Regional Plan Association, established the Regional Bridge Company in the early 1930s that fund raising for the crossing became a reality. Organizing civic and business leaders from both banks of the Missouri, Davis spearheaded the attempt to secure adequate funding for the construction of a bridge that would link the two counties. Both the Kansas and Missouri highway departments agreed to finance and furnish labor for the construction of the bridge's approaches and any additional road and sidewalk renovation. Soon after, early in 1933, the Regional Bridge Company procured a $600,000.00 loan from the Reconstruction Finance Corporation in order to build the large-scale structure. The bridge was to be operated as a toll crossing until its bonds could be retired and the loan paid off. Regional officers wasted little time and quickly advertised for competitive construction bids, using plans and specifications delineated by the St. Louis bridge engineering firm of Sverdrup and Parcel, for the rigid-connected, cantilevered structure. Late in May, a contract was let by the executive committee of the Regional Bridge Company to the lowest of six bidders, the Kansas City Bridge Company of Missouri. The bridge contractor agreed to fabricate and erect the massive steel through trusses and substructure for $511,500.00 by May 1, 1934.

Concrete in the four river piers was placed first, using pneumatic caissons to sink the concrete and steel piers to bedrock 110 feet below the water's surface. Men working under the water constructing these piers were often called "sandhogs" by their fellow workers. Sandhogs' working hours were strictly regulated by the federal government, owing to dangerous air pressure conditions underwater. One newspaper reported that "[Sandhogs] are not permitted to work more than one and one-half hours in any twenty-four hours at a depth greater than ninety-eight feet." Work on the bridge's substructure was completed without any reported injuries or mishaps. Steel work on the two cantilevered through trusses, and the two Warren through trusses was successfully finished by KCBCo by the deadline specified in the contract. The bridge was completed in 1934 but was not opened to the public until May 12th, owing to a delay in the construction of the approaches. Unfortunately, this delay caused the toll crossing to open for business already hundreds of thousands of dollars behind in the loan repayment schedule.

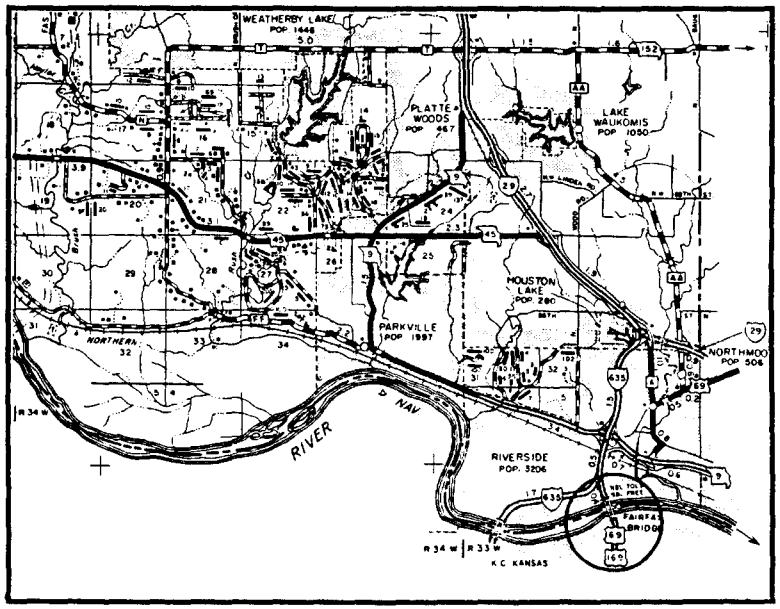
In 1938, three years after the toll bridge's opening to public traffic, the structure still had not been able to pay off even the interest on the loan. Critics claimed this failure to generate sufficient money to repay the loan was due to the "failure to properly mark the highways leading to the bridge and reluctance of motorists to pay toll collections." The problem of not enough paying motorists using the bridge because of prohibitive fees continued until 1940 when the toll situation was reexamined. Harry Darby, chairman of the industrial development commission of the Kansas City Chamber of Commerce, went so far as to say that toll crossings acted as a traffic barrier. "Nothing has been paid on the principal of that loan [from the Reconstruction Finance Corporation]," Darby stated, "and motorists avoid the [Fairfax] bridge because of the toll charges." After careful analysis of the situation, a solution was discovered. It was found that more motorists would use the bridge if toll charges were dramatically reduced, and a profit would actually be realized. Additionally, civic leaders negotiated a new financing plan for the bridge's $600,000.00 loan. The new, lower toll fees in place, the Fairfax Bridge effectively paid of its loan within the next fifteen years, reemerging as a free highway crossing.

Since its construction, the Fairfax Bridge has continued to service regional traffic on U.S. Highway 69 between Missouri Kansas with few major alterations. In 1979 the concrete deck was replaced with a newer steel grid, and modern guardrails were installed at a cost of $2,570,101.90. The Fairfax Bridge retains a high degree of both historical and visual integrity, thus making it a significant Missouri River crossing.

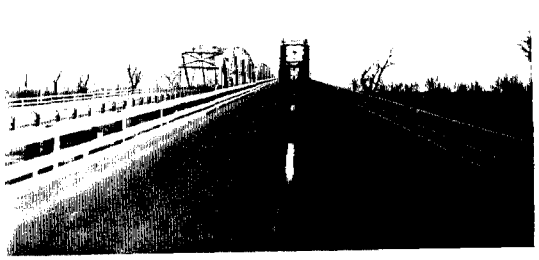
Undertaken during the early years of the Great Depression, the Fairfax Bridge marked the first of what would be a series of great river bridges built in the state. It has formed a regionally important crossing of the Missouri River. Featuring a cantilevered design, the Fairfax Bridge ranks among Missouri's most monumental examples of steel truss construction. With a span length of 475 feet and an overall length of almost 1300 feet, the multiple-span structure clearly ranks as a superlative example of its type. Its distinctive curved profile was representative of the great river bridges undertaken by L.J. Sverdrup. Similarly configured structures undertaken by Sverdrup and Parcel include the Mark Twain Bridge in Hannibal, the Miami Bridge, the Hermann Bridge and the Washington Bridge. As an important river crossing and a well-preserved example of large-scale bridge construction, the Fairfax Bridge is one of Missouri's more noteworthy highway trusses.

NAME(S) OF STRUCTURE
Fairfax 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 K 456R; **Kansas City Star**: 17 February 1933, 26 May 1933, 12 July 1933, 29 September 1933, 23 April 1940, 12 January 1942, 12 April 1942; **Kansas City Times**: 2 December 1933, 13 May 1935, 7 March 1938; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Lon Johnson, 3 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Michelle Crow-Dolby	Fraserdesign, Loveland CO	5 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Bear Creek Bridge
MHTD: K 491

PLAT04

DATE(S) OF CONSTRUCTION
1936

LOCATION
State Highway 45 over Bear Creek; S12, T53N, R36W
Weston; Platte County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 54)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

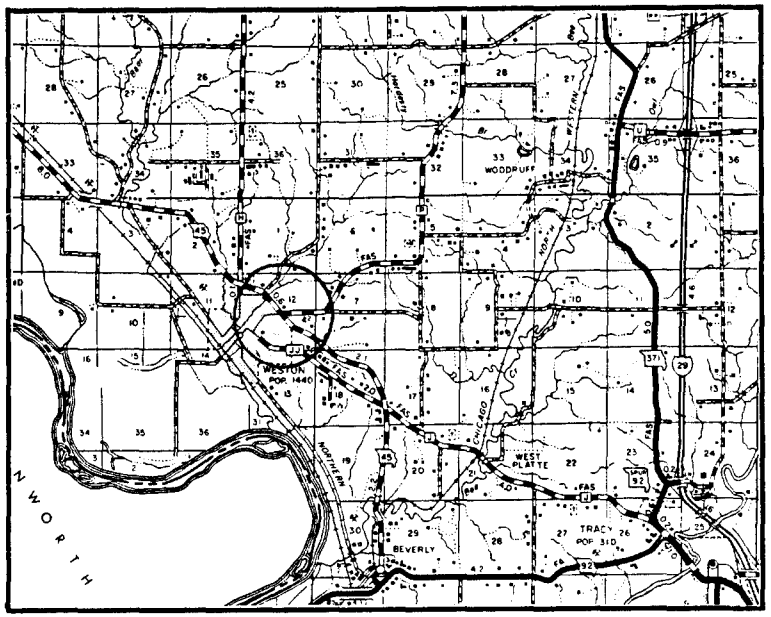
span number:	1	superstructure:	steel plate through girder, skewed, with two steel stringer approach spans
span length:	100.0'	substructure:	concrete abutments, wingwalls and piers
total length:	167.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	22.0'	other features:	steel guardrails

This three-span bridge carries State Highway 45 over Bear Creek in the small town of Weston. The structure consists of a single long-span, riveted plate through girder, flanked by two steel stringer approach spans; the superstructure is supported by concrete piers and abutments. The Bear Creek Bridge was engineered by the Missouri State Highway Department in 1936. Designating the project as Project WPGH-791(B), the agency solicited competitive proposals in June. That month the state highway commission awarded a contract to build the bridge to Mike Haase. The contractor apparently completed the structure later that year for $15,923.32. Since that time the bridge has functioned in place, with only minor maintenance-related repairs.

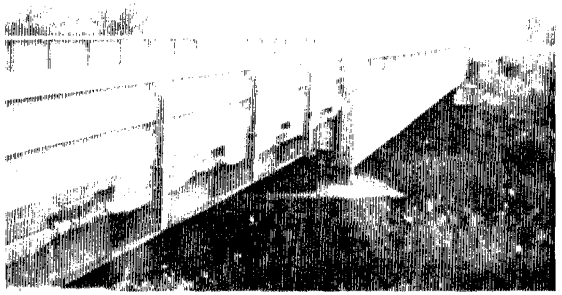
Through the 1930s and 1940s, the Missouri State Highway Department designed and built progressively longer steel beam bridges, using both rolled and plate girders in through and deck configurations. This culminated at the end of the decade with spans around 150 feet. Other longer girders had been built elsewhere in the country, but for Missouri, this represented a noteworthy technological feat. With its 100-foot through girder span and 1936 construction date, the Bear Creek Bridge is noteworthy as one of the earliest of these long-span beam bridges.

NAME(S) OF STRUCTURE
Bear 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 K 491; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	3 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Weston Viaduct
MHTD: K 698

PLAT05

DATE(S) OF CONSTRUCTION
1936

LOCATION
State Highway 45 over Burlington Northern Railroad; S11/12, T53N, R36W
Weston; Platte County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 54)

CONDITION
good

OWNER
State of Missouri

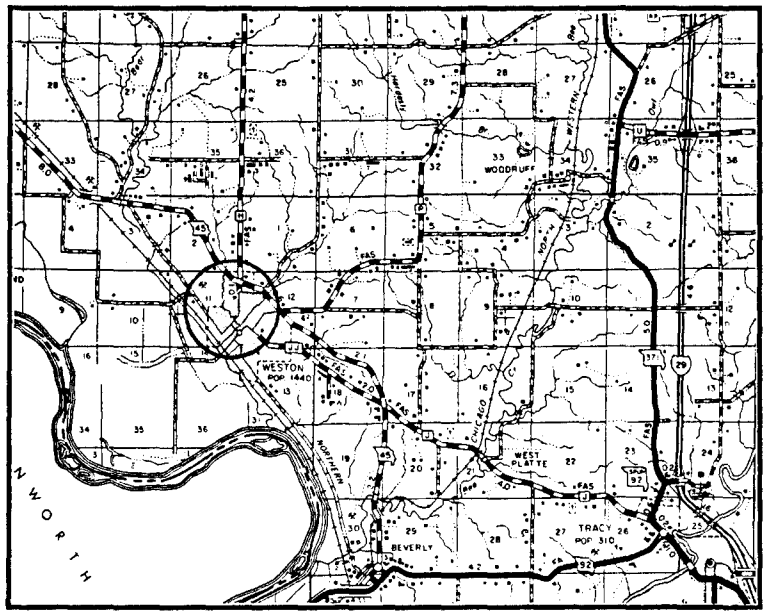
span number:	1	superstructure:	steel plate through girder, with four steel stringer approach spans
span length:	115.0'	substructure:	concrete abutments and wingwalls and spill-through piers
total length:	327.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	24.0'	other features:	concrete guardrails

This five-span bridge carries State Highway 45 over the tracks of the Burlington Northern Railroad in the small town of Weston. The structure consists of a single long-span, riveted plate through girder, flanked by four steel stringer approach spans; the superstructure is supported by concrete piers and abutments. The Weston Viaduct was engineered by the Missouri State Highway Department in 1936. Designating the project as Project WPGH-791(B), the agency solicited competitive proposals in June. That month the state highway commission awarded a contract to build the viaduct to Mike Haase. The contractor apparently completed the structure later that year for $41,672.55. Since that time the viaduct has functioned in place, with only minor maintenance-related repairs.

Through the 1930s and 1940s, the Missouri State Highway Department designed and built progressively longer steel beam bridges, using both rolled and plate girders in through and deck configurations. This culminated at the end of the decade with spans around 150 feet. Other longer girders had been built elsewhere in the country, but for Missouri, this represented a noteworthy technological feat. With its 115-foot through girder span and 1936 construction date, the Weston viaduct is noteworthy as one of the earliest of these long-span beam bridges.

NAME(S) OF STRUCTURE
Weston Viaduct

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 K 698; Files on primary system bridges on file at Missouri Highway and Transportation Department, Jefferson City MO.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	3 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Iatan Bridge
MHTD: 016000.1

PLAT12

DATE(S) OF CONSTRUCTION
1885

LOCATION
County Road 16 over Iatan Creek; S23, T54N, R36W
Iatan; Platte County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
fair

OWNER
Platte County

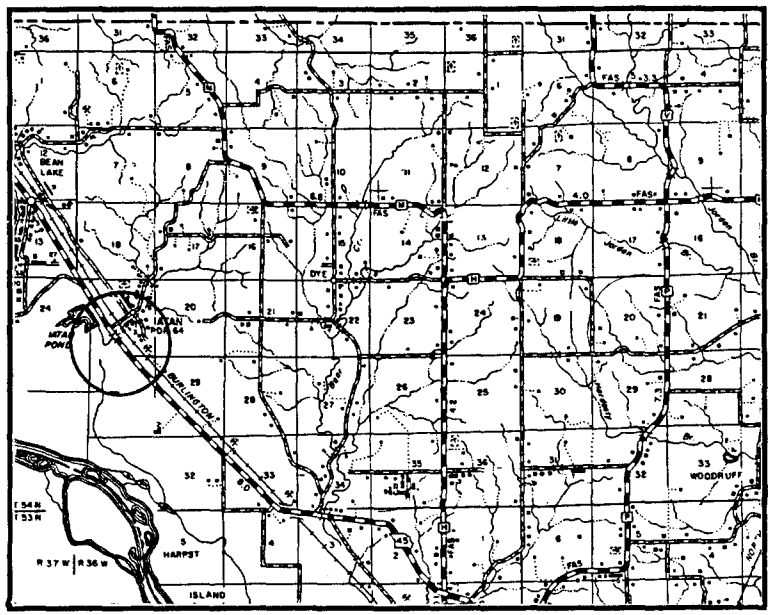
span number:	1	superstructure:	wrought iron, 3-panel, pin-connected Pratt pony truss, with timber stringer approach on north end
span length:	50.0'		
total length:	65.0'	substructure:	concrete-filled iron cylinder piers with timber pile abutments and back- and wingwalls
roadway wdt.:	12.5'	floor/decking:	timber deck over timber stringers
		other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: I-beam with star-iron outrider; counter: round eyerod with turnbuckle; lateral bracing: round rod; floor beam: I-beam U-bolted to lower chord pins; guardrail: timber

Located in the small town of Iatan, in the northwestern corner of Platte County, this small-scale iron truss spans Iatan Creek. The structure is comprised of a 50-foot Pratt pony truss with pinned connections, supported by iron cylinder piers and approached on one end by a single stringer span. The Iatan Bridge dates to 1875, two years after the town itself was founded. In September of that year, county road and bridge commissioner A.G. Smith prepared plans and specifications for a timber bridge at this crossing. Smith later hired a builder to erect the bridge, and in July 1876, the first Iatan Bridge was completed. The timber structure lasted less than ten years before the county began contemplating its replacement. On October 3, 1885, the court contracted with the Missouri Valley Bridge and Iron Company of Leavenworth, Kansas, for an all-iron span, to be erected on iron tubular piers. Missouri Valley presumably completed the new structure later that year. Since its completion, the Iatan Bridge has continued to carry vehicular traffic, without serious alteration.

As Platte County's oldest remaining truss, the Iatan Bridge is historically noteworthy as an intact remnant of early transportation. The structure is technologically significant as a very early example of Pratt pony truss construction–Missouri's mainstay structural type for short-span crossings in the 19th and 20th centuries. With its star iron outriders and U-bolted floor beams, the Iatan Bridge is a strong visual reminder of early truss bridge construction in Missouri.

NAME(S) OF STRUCTURE
Iatan 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 016000.1; Platte County Court Record, Book L: page 538 (17 April 1876); Book M: page 5 (17 June 1876) - located at the Platte County Courthouse, Platte City MO; W.M. Paxton, **Annals of Platte County, Missouri**, pages 622, 825; field inspection by Lon Johnson, 6 February 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	5 August 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Bee Creek Bridge
MHTD: 160000.4

PLAT18

DATE(S) OF CONSTRUCTION
1910

LOCATION
County Road 160 over Bee Creek; S30, T53N, R35W
5.0 miles west of Platte City; Platte County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 41)

CONDITION
fair

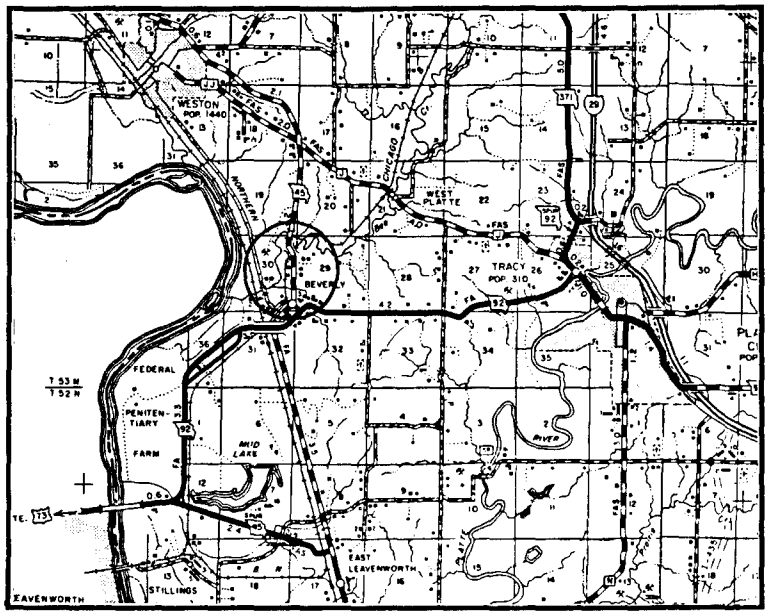
OWNER
Platte County

span number:	1	superstructure:	steel, 7-panel, pin-connected Pratt through truss
span length:	112.0'	substructure:	steel pile bent piers with timber back- and wingwalls
total length:	112.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	11.6'	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 (2 angles with batten plates at hip); diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles; endpost-mounted builder's plate: **1910 / BUILT BY / MISSOURI VALLEY / BRIDGE AND / IRON COMPANY**

This medium-scale Pratt through truss spans Bee Creek five miles west of Platte City. This single-span pinned structure is supported by a steel and timber substructure. The truss was erected in 1910 by the based Missouri Valley Bridge and Iron Company of Leavenworth, Kansas, an often-hired contractor in Platte County. Since its completion, the Bee County Bridge has functioned in place, with its superstructure intact. It is a typically configured example of a mainstay structural type in Missouri: the pinned Pratt through truss.

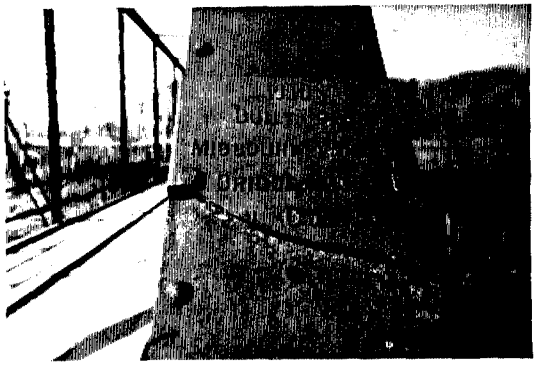
NAME(S) OF STRUCTURE
Bee Creek Bridge

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 160000.4; field inspection by Lon Johnson, 3 February 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	5 August 1992

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
RAY002	J 190R	Crooked River Bridge	(replaced)
*RAY003	K 900	Henrietta Viaduct	**12-78'** steel stringer 1946 J.D. Tobin Construction Co.
*RAY004	013001.2	Brushy Creek Bridge	1- 60' riveted Warren pony truss **1904** Kansas City Bridge Company
RAY005	076001.8	Bisbee Bridge	1- 80' pinned Pratt pony truss **1910** Kansas City Bridge Company
RAY006	103000.8	South Mud Creek Bridge	1- 40' pinned Pratt bedstead **c1905**
RAY007	156001.2	Crooked River Bridge	1- 80' riveted Pratt pony truss **1913** county work force
*RAY008	167001.4	Crooked River Bridge	1-100' riveted Pratt pony truss **1912** Kansas City Bridge Company (replaced)
*RAY009	168000.2	Hendrix Bridge	
RAY010	191003.3	Lick Creek Bridge	1- 56' pinned Pratt bedstead **c1910**
RAY011	220000.2	Fishing River Bridge	1- 80' riveted Pratt pony truss **1913** county work force
*RAY012	239000.4	Crooked River Bridge	1- 80' **2-angle Camelback pony truss** c1925
RAY013	244003.4	Crooked River Bridge	1- 80' riveted Pratt pony truss **1913** county work force
RAY014	249002.6	Crooked River Bridge	1- 80' pinned Pratt pony truss **c1910**
*RAY015	257001.6	Crooked River Bridge	1-102' **pinned Pratt through truss** **1889** Wrought Iron Bridge Company
*RAY016	289001.3	Crooked River Bridge	1-120' **pinned Pratt through truss** **1908** Kansas City Bridge Company
*RAY017	351002.4	Rolling Creek Bridge	1- 30' **concrete filled spandrel arch** c1920
*RAY018	369002.6	Hall Stone Bridge	1-106' **pinned Pratt through truss** **1908** Kansas City Bridge Company
*RAY019	376000.8	Oinck Bridge	**1-160' pinned Pratt through truss** 1904 American Bridge Company

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

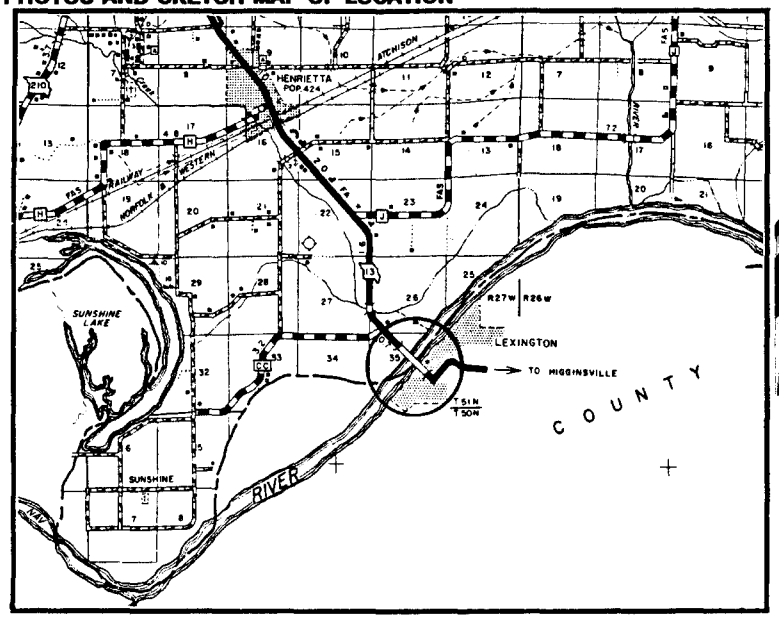
local citizens, and consequently, the river remained unspanned for many years. It was not until 1922 that the Lexington Chamber of Commerce appointed a bridge committee to secure securing monies for a permanent structure spanning the Missouri River at Lexington. Through federal grants, bonds, and personal 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.

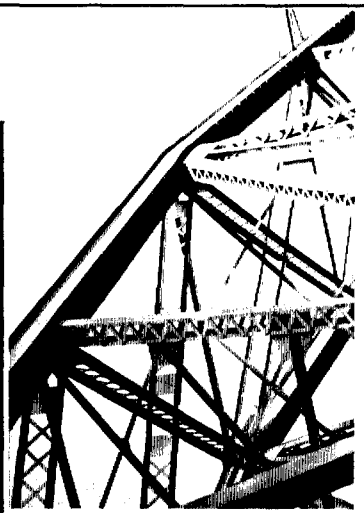
Throughout the 1920s and 1930s the Missouri State Highway Department relied almost exclusively on rigid-connected Pratt and Parker configurations for its medium-span through trusses. The agency adopted Warren configurations for its pony trusses and for its through trusses over the Missouri and Mississippi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

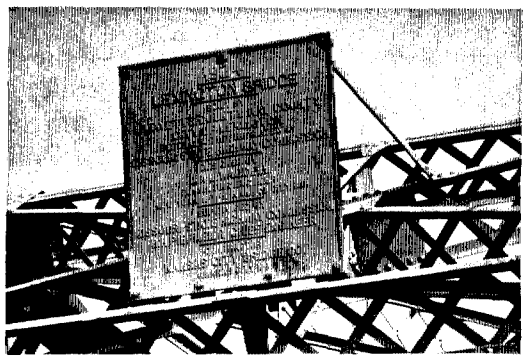
NAME(S) OF STRUCTURE
Lexington Bridge

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	**AFFILIATION**	**DATE**
Michelle Crow-Dolby	Fraserdesign, Loveland CO	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

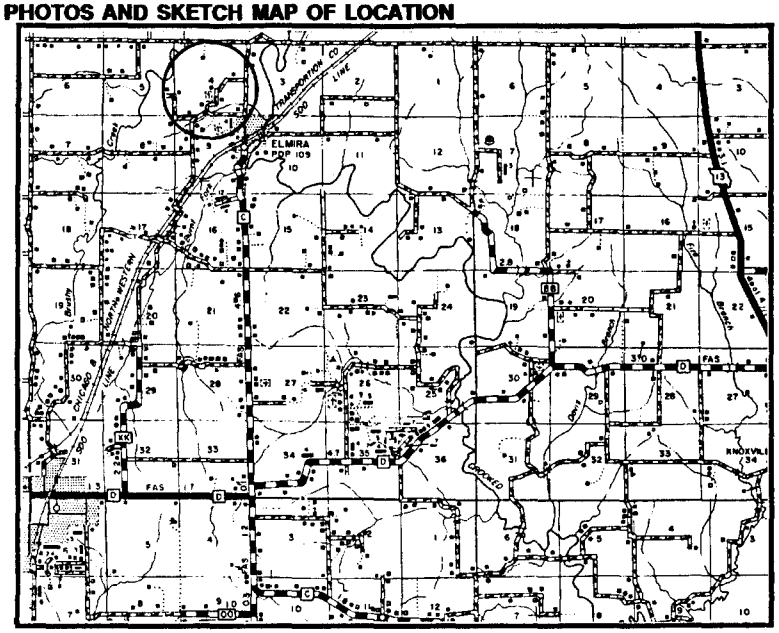
span number:	1	superstructure:	steel, 4-panel, rigid-connected, Warren pony truss
span length:	60.0'	substructure:	concrete-filled steel cylinder piers with concrete back- and wingwalls
total length:	60.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	12.3'	other features:	upper chord 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.

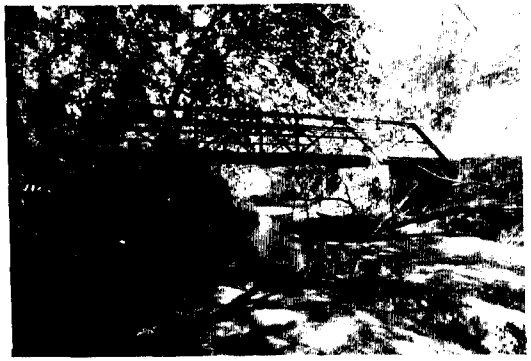
NAME(S) OF STRUCTURE
Brushy Creek Bridge

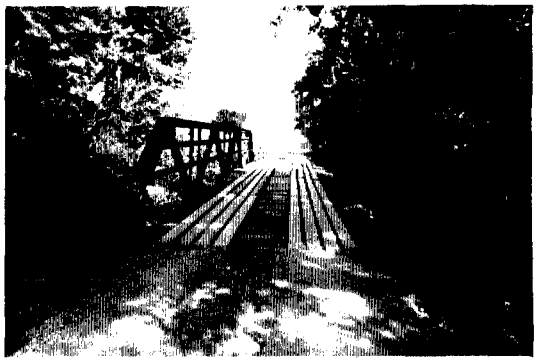
PHOTOS AND SKETCH MAP OF LOCATION



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'

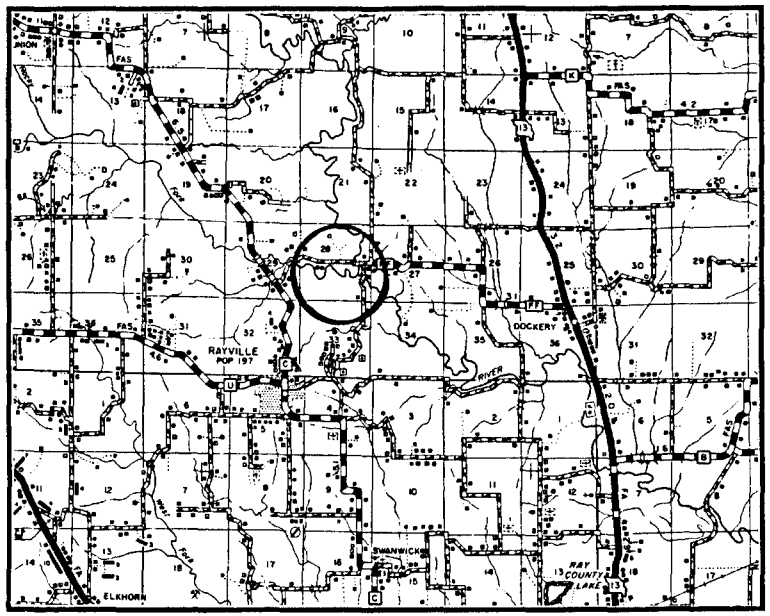
superstructure: steel, 5-panel, rigid-connected Pratt through truss with steel stringer approaches on each end
substructure: concrete abutments and wingwalls; concrete-filled, steel cylinder piers
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels 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.

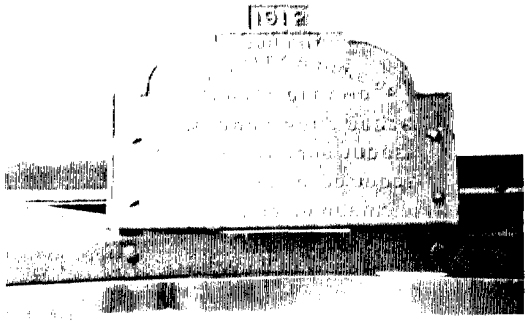
The Missouri State Highway Department employed the riveted Pratt configuration as its standard medium-span truss design for hundreds of bridges throughout the state. This bridge type was thus a mainstay structural type in Missouri during the 1920s and 1930s. But before the highway department developed 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.

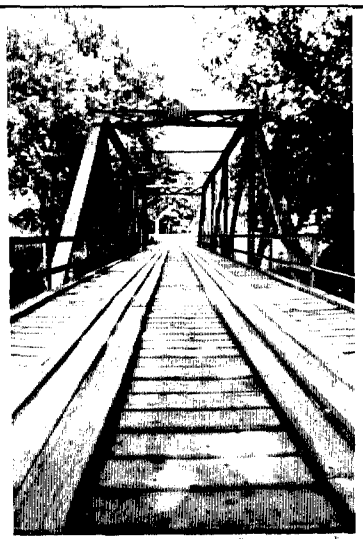
NAME(S) OF STRUCTURE
Crooked River Bridge

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'

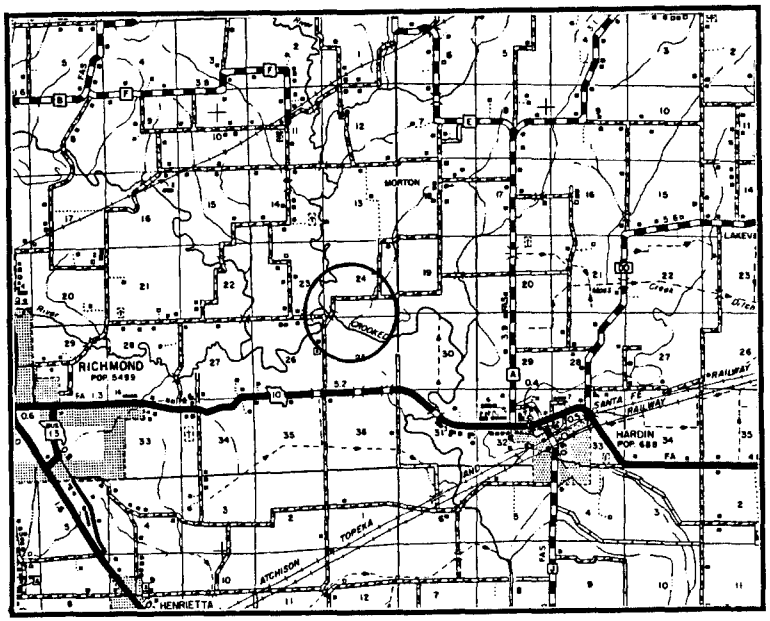
superstructure: wrought iron or steel, 6-panel, pin-connected Pratt through truss; 2 steel stringer approaches on north end; 1 steel stringer approach on south end
substructure: timber pile bent abutments; concrete-filled iron cylinder piers; stone pier
floor/decking: timber deck over steel stringers
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.

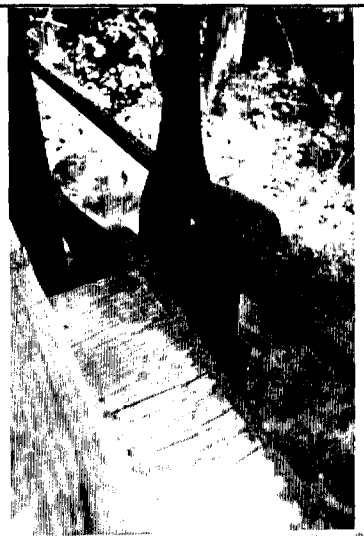
In Missouri the pinned Pratt through truss was the bridge of choice for short- and medium-span applications in the late 19th and early 20th centuries. Most of the structures erected during this period were based on standard plans developed either by the state highway department (after 1917) or by the 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	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: 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	superstructure:	steel, 7-panel, pin-connected Pratt through truss; steel stringer approaches at either end
span length:	120.0'	substructure:	steel pile bent abutments; concrete-filled steel cylinder piers
total length:	159.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	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 (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**

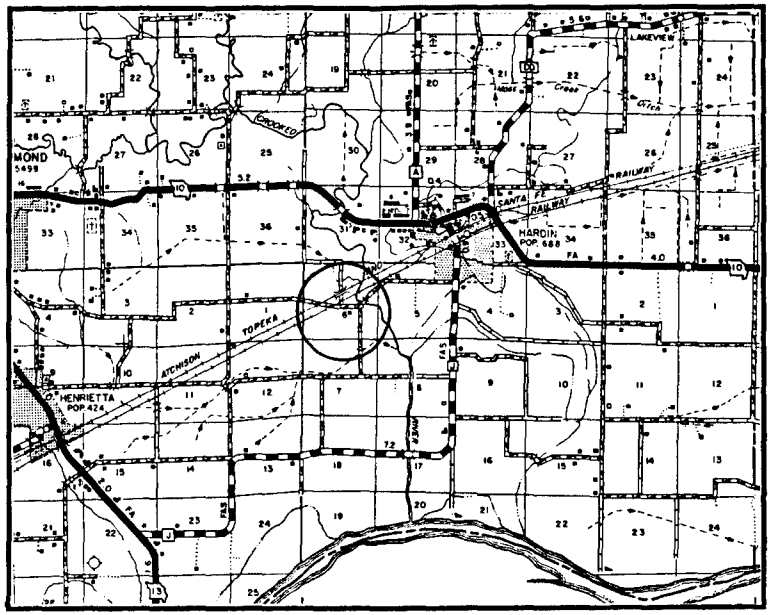
This Pratt through truss carries an unpaved county road over the Crooked River some seven miles southeast of Richmond in the southeastern corner of Ray County. Approached at either end by steel stringers and featuring pinned connections throughout, the timber-decked structure spans 120 feet. The bridge 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

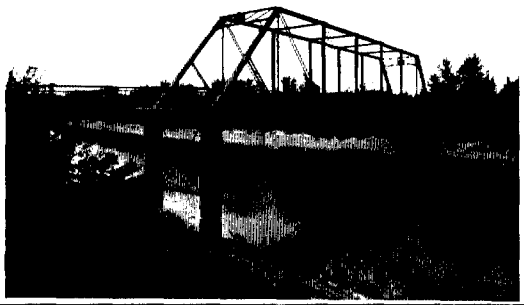
Crooked River Bridge

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	AFFILIATION	DATE
Michelle Crow-Dolby	Fraserdesign, Loveland CO	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

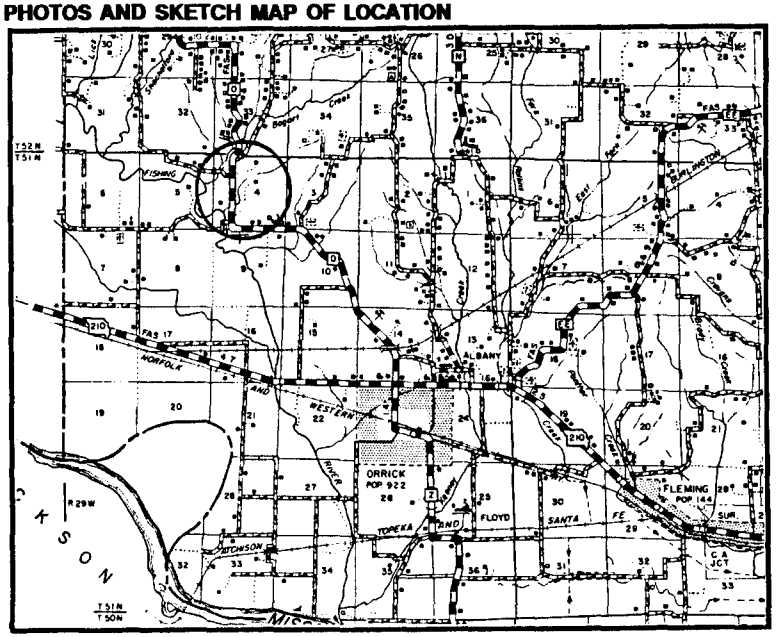
span number:	1	superstructure:	steel, 6-panel, pin-connected Pratt through truss; steel stinger approach spans
span length:	106.0'	substructure:	concrete abutments; stone piers with concrete caps
total length:	144.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	13.8'	other features:	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	AFFILIATION	DATE
Michelle Crow-Dolby	Fraserdesign, Loveland CO	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

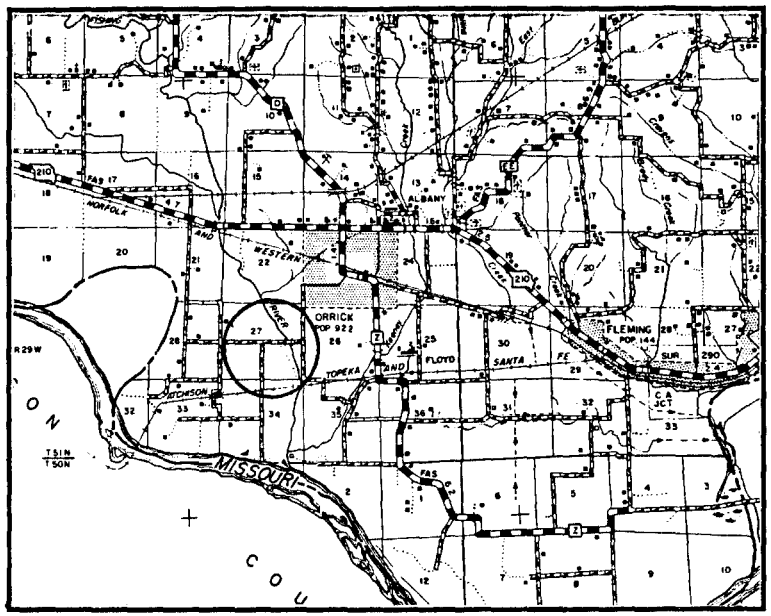
span number:	1	superstructure:	steel, 8-panel, pin-connected Pratt through truss; 2 steel stringer approaches at each end
span length:	160.0'	substructure:	steel pile bent abutments; concrete-filled steel cylinder piers
total length:	232.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	11.8'	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 (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.

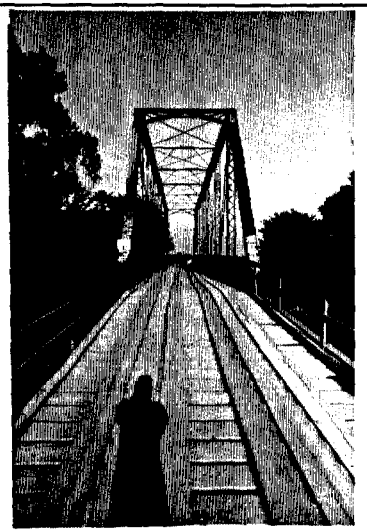
Marketed exclusively by virtually all of the in-state and regional bridge contractors and promoted in the form of standardized designs, the pinned Pratt through truss was widely used by Missouri's counties to carry roads over the state's myriad watercourses. Thousands of such trusses were erected across 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.

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