LIVINGSTON COUNTY

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

Inv. No.	MHTD	Bridge Name	Description	
LIVI01	S 639	Shoal Creek Bridge	1-**100'**	riveted Warren pony truss
			1933	Amos Melberg
*LIVI02	035000.5	Clear Creek Bridge	1- 42'	riveted Warren pony truss
			1906	A.M. Blodgett, Kansas City MO
LIVI03	080500.1	Fair Avenue Bridge		(replaced)
*LIVI04	150000.7	Medicine Creek Bridge		(replaced)
*LIVI05	193000.0	Muddy Creek Bridge	1- 64'	pinned Pratt bedstead
			1901	Dildine Bridge and Constr. Co.
*LIVI06	207000.0	Muddy Creek Bridge	1- 50'	riveted Warren pony truss
			1906	W.O. Graham, Chillicothe MO
*LIVI07	322000.8	Shoal Creek Bridge	1-100'	**pinned Pratt through truss**
			1919	Kansas City Bridge Company
*LIVI08	337001.2	Rattlesnake Creek Bridge	1- 32'	pinned Pratt bedstead
			c**1900**	
*LIVI09	465002.4	Campbell Creek Bridge	1- 50'	**riveted polyg. Warren bedstead**
			1906	W.O. Graham, Chillicothe MO

EXCLUDED:

Pratt pony truss
425000.5 433000.3 434002.1 438000.3 439002.3

Warren pony truss
142000.5 144001.9 189001.1 191001.0 323000.9 324001.2 509000.1

Steel stringer

G 612R	G 614R	G 862R1	L 156R	L 158	S 472	T 378
T 379	X 148	X 956	011000.1	024000.2	036000.3	036001.3
053000.3	072R01.7	072001.3	080500.2	084000.1	090000.1	093000.2
101000.8	102000.1	105R01.2	107000.5	119000.3	123000.2	123001.0
139002.1	168000.1	176001.1	193000.1	207000.0	218000.5	253000.7
258000.6	296R02.0	296001.1	296001.5	297000.6	305R01.0	339001.3
341000.7	347001.6	358001.4	358001.8	359001.8	359002.0	361001.7
362002.3	365000.5	366000.3	370000.5	376001.8	377000.4	408000.8
411000.1	412000.3	415R00.0	429001.5	444001.2	444002.2	452000.9
452001.4	458000.5	460000.4	460001.0	462001.1	466001.8	469001.2
470000.2	473001.5	484000.3	485001.6	493000.0	507000.6	508000.6

Steel girder
080500.5 424001.3 459001.5

Concrete girder
H 844R K 518 251002.5

LIVINGSTON COUNTY

EXCLUDED (cont.):

Concrete slab
G 861R1

Concrete box culvert
G 611R G 613R H 601R H 843 L 157 T 84 T 328
X 714

Timber stringer
Y 570 080500.4 221000.3 229000.2 430000.9

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	1	6	0	0	7
Excluded	22	82	3	0	107
	23	88	3	0	114 structures

Shoal Creek Bridge

LIVI01

GENERAL DATA

structure no.:	S 639	**city/town:**	3.7 miles northeast of Ludlow
county:	Livingston	**feature inters.:**	Shoal Creek Drainage Ditch
		cadastral grid:	S7, T56N, R24W / S12, T56N, R25W
		highway route:	State Secondary Route C
		highway distr.:	2
		current owner:	Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Warren pony truss, skewed, with steel stringer approach spans

substructure: timber abutments, wingwalls and piers

span number:	1	**condition:**	good
span length:	100.0'	**alterations:**	none
total length:	178.0'	**floor/decking :**	timber deck over steel stringers
roadway width:	20.0'	**other features:**	guardrail: steel

HISTORICAL DATA

erection date: 1933

erection cost: $10,111.80

designer: Missouri State Highway Department

fabricator : unknown

contractor: Amos Melberg

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. S 639.

sign. rating: 63

evaluation: NRHP possibly eligible (typically configured example of MSHD standard highway truss design, distinguished somewhat by its skewed configuration)

inventoried by: Clayton B. Fraser 10 May 1991

Clear Creek Bridge

LIVI02

GENERAL DATA

structure no.:	035000.5	**city/town:**	14.8 miles northwest of Chillicothe
county:	Livingston	**feature inters.:**	Clear Creek
		cadastral grid:	S7, T59N, R25W
		highway route:	County Road 35
		highway distr.:	2
		current owner:	Livingston County

STRUCTURAL DATA

superstructure: steel, 3-panel, rigid-connected Warren pony truss
substructure: steel pile abutments with timber wingwalls

span number:	1	**condition:**	fair
span length:	42.0'	**alterations:**	unknown
total length:	42.0'	**floor/decking :**	timber deck
roadway width:	12.0'	**other features:**	steel guardrails

HISTORICAL DATA

erection date: 1906
erection cost: unknown
designer: A.M. Blodgett, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO (probable)
contractor: A.M. Blodgett, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 035000.5; Livingston County Court Record, Book P: page 19 (2 October 1906) -located at the Livingston County Courthouse, Chillicothe MO; field inspection by Clayton Fraser, 10 December 1990.

sign. rating: 48
evaluation: NRHP possibly eligible (one of earliest documented examples in Missouri of mainstay structural type)

inventoried by: Clayton B. Fraser 10 May 1991

Muddy Creek Bridge

LIVI05

GENERAL DATA

structure no.: 193000.0
county: Livingston
city/town: 8.2 miles northeast of Chillicothe
feature inters.: Muddy Creek
cadastral grid: S19/30, T58N, R22W
highway route: County Road 193
highway distr.: 2
current owner: Livingston County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt truss leg bedstead
substructure: stone abutments and timber wingwalls

span number: 1
span length: 64.0'
total length: 64.0'
roadway width: 12.0'
condition: fair
alterations: moved to this location, 1902
floor/decking : timber deck over steel stringers
other features: end post: 2 channels with lacing; top chord: 2 channels with cover and batten plates; lower chord: 2 angles with batten plates; vertical: 4 angles with lacing; diagonal: 2 looped rectangular eyebars; counter: round bar with turnbuckles; lateral bracing: round bar with threaded ends; floor beam: I-beams U-bolted to vertical; guardrail: none

HISTORICAL DATA

erection date: 1901
erection cost: $1500.00 (contract amount)
designer: Dildine Bridge and Construction Company, Cameron MO
fabricator : Dildine Bridge and Construction Company, Cameron MO
contractor: Monroe Township Board

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 193000.0; Livingston County Court Record, Book N: page 92 (10 October 1901), page 95 (7 November 1901), page 246 (6 August 1902) - located at the Livingston County Courthouse, Chillicothe MO; field inspection by Clayton Fraser, 10 December 1990.

sign. rating: 51
evaluation: NRHP possibly eligible (well-preserved example of mainstay structural type of early 20th century)

inventoried by: Clayton B. Fraser 10 May 1991

Muddy Creek Bridge

LIVI06

GENERAL DATA

structure no.:	207000.0	**city/town:**	2.0 miles northwest of Wheeling
county:	Livingston	**feature inters.:**	Muddy Creek
		cadastral grid:	S31, T58N, R22W
		highway route:	County Road 207
		highway distr.:	2
		current owner:	Livingston County

STRUCTURAL DATA

superstructure: steel, 3-panel, rigid-connected Warren pony truss
substructure: steel pile abutments with timber wingwalls

span number:	1	**condition:**	fair
span length:	50.0'	**alterations:**	none
total length:	115.0'	**floor/decking :**	timber deck
roadway width:	13.0'	**other features:**	no guardrails

HISTORICAL DATA

erection date: 1906
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: W.O. Graham, Chillicothe MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 207000.0; Livingston County Court Record, Book O: page 633 (13 September 1906) - located at the Livingston County Courthouse, Chillicothe MO; field inspection by Clayton Fraser, 10 December 1990.

sign. rating: 48
evaluation: NRHP possibly eligible (one of earliest documented examples in Missouri of mainstay structural type)

inventoried by: Clayton B. Fraser 10 May 1991

Shoal Creek Bridge

LIVI07

GENERAL DATA

structure no.: 322000.8
county: Livingston
city/town: 2.2 miles northeast of Ludlow
feature inters.: Shoal Creek
cadastral grid: S19/20, T56N, R25W
highway route: County Road 322
highway distr.: 2
current owner: Livingston County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss, with steel stringer approach span at each end
substructure: timber pile abutments and wingwalls with steel cylinder piers

span number: 1
span length: 100.0'
total length: 160.0'
roadway width: 12.0'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 punched rectangular eyebars; diagonal: 2 punched rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plates; floor beam: I-beam, field bolted to vertical; guardrail: 2 angles; gusset plates at upper chord connection; A-frame portal

HISTORICAL DATA

erection date: 1919
erection cost: 4799.00
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO; Illinois Steel Company, Chicago IL
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 322000.8; Livingston County Court Record, Book T: page 487 (3 June 1919), page 489 (10 June 1919) - located at the Livingston County Courthouse, Chillicothe MO; field inspection by Clayton Fraser, 10 December 1990.

sign. rating: 41
evaluation: NRHP determined non-eligible (typically configured, relatively late example of common structural type)

inventoried by: Clayton B. Fraser 10 May 1991

Rattlesnake Creek Bridge

LIVI08

GENERAL DATA

structure no.: 337001.2
county: Livingston
city/town: 2.5 miles northeast of Ludlow
feature inters.: Rattlesnake Creek
cadastral grid: S2/11, T56N, R25W
highway route: County Road 337
highway distr.: 2
current owner: Livingston County

STRUCTURAL DATA

superstructure: steel, 2-panel, pin-connected Pratt bedstead, with steel stringer approach spans at both ends
substructure: steel pile bent piers with timber pile abutments

span number: 1
span length: 32.0'
total length: 104.0'
roadway width: 12.0'
condition: fair
alterations: truss moved to this location
floor/decking : timber deck over steel stringers
other features: upper chord and upright end post: 2 channels with lacing; lower chord: 2 angles with batten plates; vertical: 4 angles with lacing; diagonal: 2 looped rectangular eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to vertical; guardrail: none

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 No. 337001.2; field inspection by Clayton Fraser, 10 December 1990.

sign. rating: 15
evaluation: NRHP non-eligible (typical, small-scale example of common truss type, moved to this location)

inventoried by: Clayton B. Fraser 10 May 1991

Campbell Creek Bridge

LIVI09

GENERAL DATA

structure no.:	465002.4	**city/town:**	0.6 mile west of Bedford
county:	Livingston	**feature inters.:**	Campbell Creek
		cadastral grid:	S4, T56N, R22W
		highway route:	County Road 465
		highway distr.:	2
		current owner:	Livingston County

STRUCTURAL DATA

superstructure: steel, 3-panel, rigid-connected polygonal Warren bedstead truss
substructure: steel pile bents pier and abutments with timber wingwalls

span number:	1	**condition:**	fair
span length:	50.0'	**alterations:**	none
total length:	78.0'	**floor/decking :**	timber deck
roadway width:	14.0'	**other features:**	no guardrails

HISTORICAL DATA

erection date: 1906
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: W.O. Graham, Chillicothe MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 465002.4; Livingston County Court Record, Book O: page 433 (13 September 1906) -located at the Livingston County Courthouse, Chillicothe MO; field inspection by Clayton Fraser, 10 December 1990.

sign. rating: 64
evaluation: NRHP possibly eligible (uniquely configured example of what would later become a mainstay structural type)

inventoried by: Clayton B. Fraser 10 May 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Shoal Creek Bridge
MHTD: S 639

LIVI01

DATE(S) OF CONSTRUCTION
1933

LOCATION
State Secondary Route C over Shoal Creek Drainage Ditch; S7, T56N, R24W / S12, T56N, R25W; 3.7 miles northeast of Ludlow; Livingston County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 63)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number: 1
span length: 100.0'
total length: 178.0'
roadway wdt.: 20.0'

superstructure: steel, 5-panel, rigid-connected Warren pony truss, skewed, with steel stringer approach spans
substructure: timber abutments, wingwalls and piers
floor/decking: timber deck over steel stringers
other features: guardrail: steel

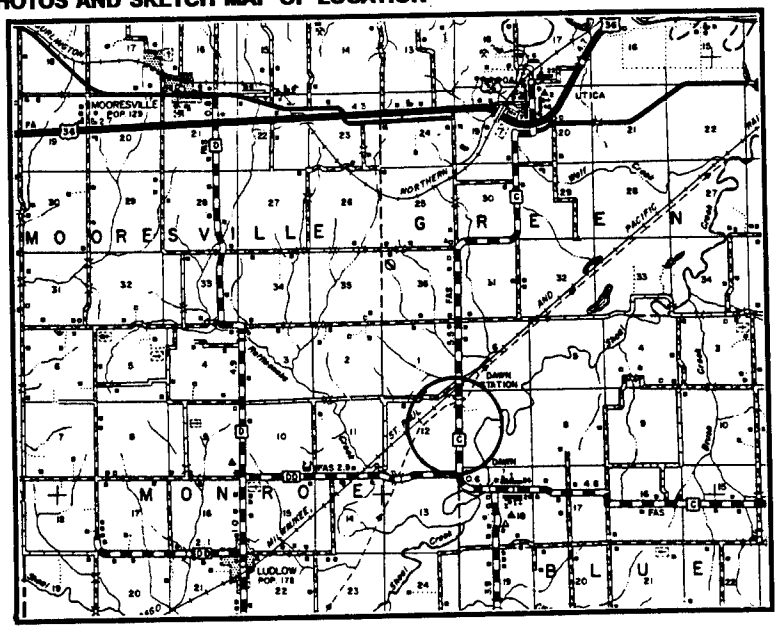
Located northeast of Ludlow, this long-span pony truss carries State Secondary Route C over channelized Shoal Creek. The 100-foot channel span is a rigid-connected Warren pony truss, carried on a skew by a concrete substructure. The Shoal Creek Bridge was designed early in 1933 by engineers for the Missouri State Highway Department. On March 4th a contract to build the bridge was awarded to Amos Melberg. Probably completed later that year, the Shoal Creek Bridge has functioned in place with no serious alterations.

The Missouri State Highway Department used riveted Warren configurations for its pony trusses almost from the time the agency developed its first bridge standards around 1920. Structurally straightforward and versatile, these ubiquitous trusses were erected by the hundreds throughout the state in span lengths ranging from 40 to 100 feet. The Shoal Creek Bridge is distinguished among Missouri's Warren trusses as among the few skewed examples of this mainstay structural type.

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 No. S 639.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 May 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Clear Creek Bridge
MHTD: 035000.5

LIVI02

DATE(S) OF CONSTRUCTION
1906

LOCATION
County Road 35 over Clear Creek; S7, T59N, R25W
14.8 miles northwest of Chillicothe; Livingston County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 48)

CONDITION
fair

OWNER
Livingston County

span number:	1	superstructure:	steel, 3-panel, rigid-connected Warren pony truss
span length:	42.0'	substructure:	steel pile abutments with timber wingwalls
total length:	42.0'	floor/decking:	timber deck
roadway wdt.:	12.0'	other features:	steel guardrails

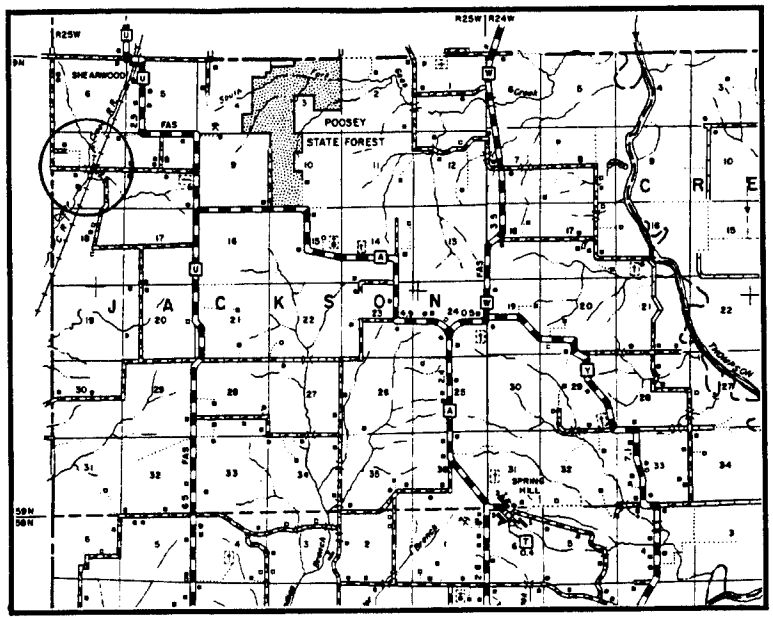
Located in the extreme northwest corner of Livingston County, this small-scale steel truss carries an unpaved county road over Clear Creek. The Clear Creek Bridge is comprised of a single rigid-connected Warren pony truss, supported by steel pile bents. The bridge dates to 1906. That year the Livingston County Court contracted with bridge builder A.M. Blodgett of Kansas City to supply and erect five small-scale steel structures, including this truss in Jackson Township. At the beginning of October, all five were reported complete by the county and opened to wagon traffic. Since its completion, the Clear Creek Bridge has continued to function in place, 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 pony trusses began to supersede earlier pinned Pratt configurations for use on short- to intermediate-span highway bridges. The Clear Creek Bridge in Livingston County is significant as the one of the earliest documented examples in Missouri of the riveted Warren truss–a small-scale example of what would later become a mainstay structural type in the state.

NAME(S) OF STRUCTURE

Clear Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 035000.5; Livingston County Court Record, Book P: page 19 (2 October 1906) -located at the Livingston County Courthouse, Chillicothe MO; field inspection by Clayton Fraser, 10 December 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 May 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Muddy Creek Bridge
MHTD: 193000.0

LIVI05

DATE(S) OF CONSTRUCTION
1901

LOCATION
County Road 193 over Muddy Creek; S19/30, T58N, R22W
8.2 miles northeast of Chillicothe; Livingston County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
fair

OWNER
Livingston County

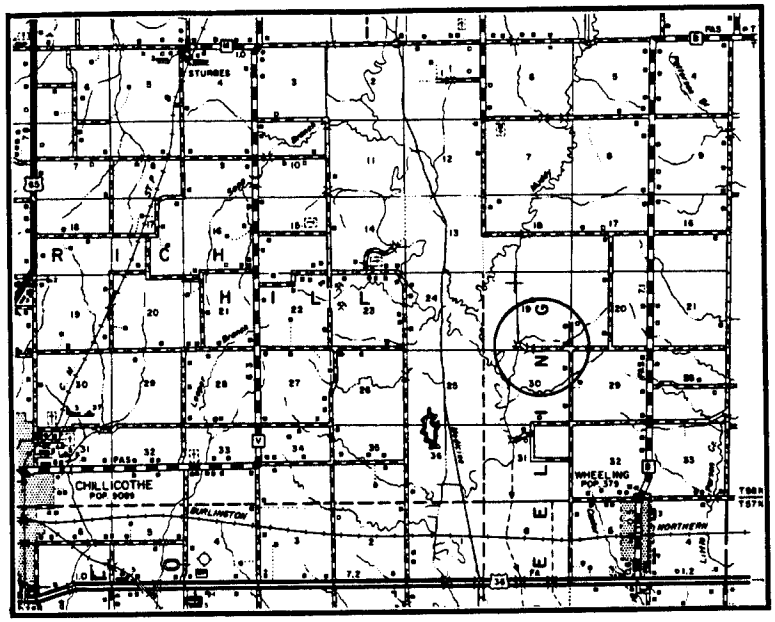
span number:	1	superstructure:	steel, 4-panel, pin-connected Pratt truss leg bedstead
span length:	64.0'	substructure:	stone abutments and timber wingwalls
total length:	64.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	12.0'	other features:	end post: 2 channels with lacing; top chord: 2 channels with cover and batten plates; lower chord: 2 angles with batten plates; vertical: 4 angles with lacing; diagonal: 2 looped rectangular eyebars; counter: round bar with turnbuckles; lateral bracing: round bar with threaded ends; floor beam: I-beams U-bolted to vertical; guardrail: none

Among the eleven structures listed in the statewide bridge inventory from Livingston County is this 64-foot steel span which crosses Muddy Creek some eight miles northeast of Chillicothe. This timber-decked structure features a pinned Pratt truss-leg bedstead, supported by bedstead legs with stone masonry backwalls. The bridge traces its history to 1901. In October of that year the county bridge commissioner J.Y. Powell was ordered by the Livingston County Court to view a crossing site here in Wheeling Township and make estimates for a new bridge. Apparently the cost of a new bridge was prohibitive, because in the summer of 1902 the county directed the Monroe Township board to move an existing bridge from its location south of Ludlow to this site. The Monroe Township bedstead had been constructed over Shoal Creek late the previous year by the Dildine Bridge and Construction Company of Cameron, Missouri. Total cost: $1500.00. Since its move in 1902, the Muddy Creek Bridge has gained a definite sense of place while carrying County Road 193 over Muddy Creek for over ninety years, in essentially unaltered condition.

In a bedstead truss, a single "leg" functioned as both end post and support at each corner of the structure. This combined super- and substructure reduced erection costs somewhat, but bedsteads were prey to flood and collision damage and suffered from inherent structural weaknesses relating to compression stress in the lower chords. Despite these weaknesses, numerous truss leg bedsteads were erected throughout Missouri in the late 1890s and early 1900s. Hundreds remain in place today, in fact, Missouri has probably more bedsteads than any other state. The Muddy Creek Bridge is a well-preserved, though not particularly distinguished, example of this statewide bridge construction trend.

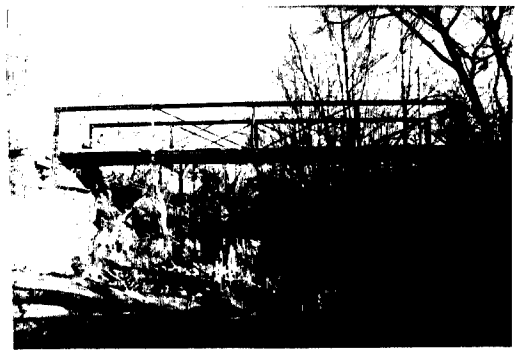
NAME(S) OF STRUCTURE
Muddy Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 193000.0; Livingston County Court Record, Book N: page 92 (10 October 1901), page 95 (7 November 1901), page 246 (6 August 1902) - located at the Livingston County Courthouse, Chillicothe MO; field inspection by Clayton Fraser, 10 December 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 May 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Muddy Creek Bridge
MHTD: 207000.0

LIVI06

DATE(S) OF CONSTRUCTION
1906

LOCATION
County Road 207 over Muddy Creek; S31, T58N, R22W
2.0 miles northwest of Wheeling; Livingston County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 48)

CONDITION
fair

OWNER
Livingston County

span number:	1	superstructure:	steel, 3-panel, rigid-connected Warren pony truss
span length:	50.0'	substructure:	steel pile abutments with timber wingwalls
total length:	115.0'	floor/decking:	timber deck
roadway wdt.:	13.0'	other features:	no guardrails

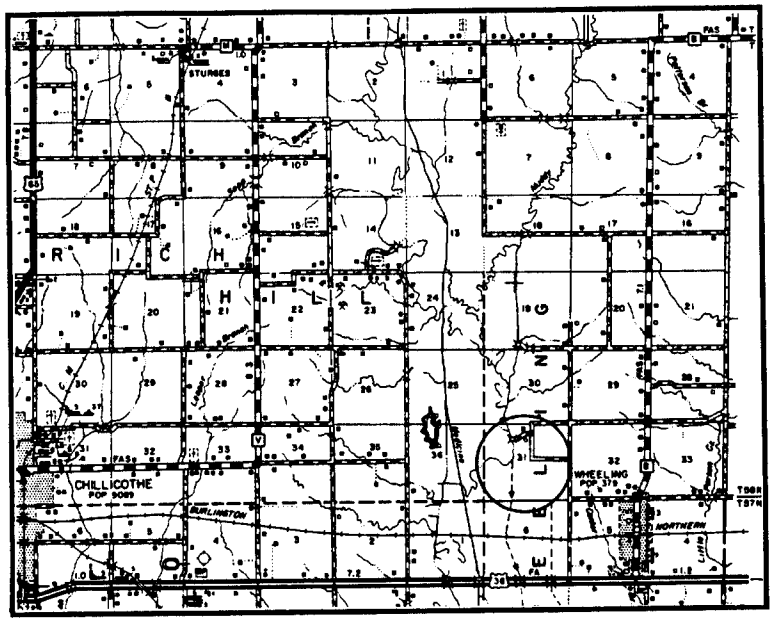
Located some two miles northwest of Wheeling, this small-scale steel truss carries an unpaved county road over Muddy Creek. The Muddy Creek Bridge is comprised of a single rigid-connected Warren pony truss, supported by steel pile bents. The bridge dates to 1906. That year the Livingston County Court contracted with bridge builder W.O. Graham of Chillicothe to supply and erect several small-scale steel structures, including this truss in Wheeling Township. By early the next year, all were reported complete by the county and opened to wagon traffic. Since its completion, the Muddy Creek Bridge has continued to function in place, 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 pony trusses began to supersede earlier pinned Pratt configurations for use on short- to intermediate-span highway bridges. The Muddy Creek Bridge in Livingston County is significant as the one of the earliest documented examples in Missouri of the riveted Warren truss–a small-scale example of what would later become a mainstay structural type in the state.

NAME(S) OF STRUCTURE

Muddy Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 207000.0; Livingston County Court Record, Book O: page 633 (13 September 1906) - located at the Livingston County Courthouse, Chillicothe MO; field inspection by Clayton Fraser, 10 December 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 May 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Campbell Creek Bridge
MHTD: 465002.4

LIVI09

DATE(S) OF CONSTRUCTION
1906

LOCATION
County Road 465 over Campbell Creek; S4, T56N, R22W
0.6 mile west of Bedford; Livingston County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 64)

CONDITION
fair

OWNER
Livingston County

span number:	1	superstructure:	steel, 3-panel, rigid-connected polygonal Warren bedstead truss
span length:	50.0'	substructure:	steel pile bents pier and abutments with timber wingwalls
total length:	78.0'	floor/decking:	timber deck
roadway wdt.:	14.0'	other features:	no guardrails

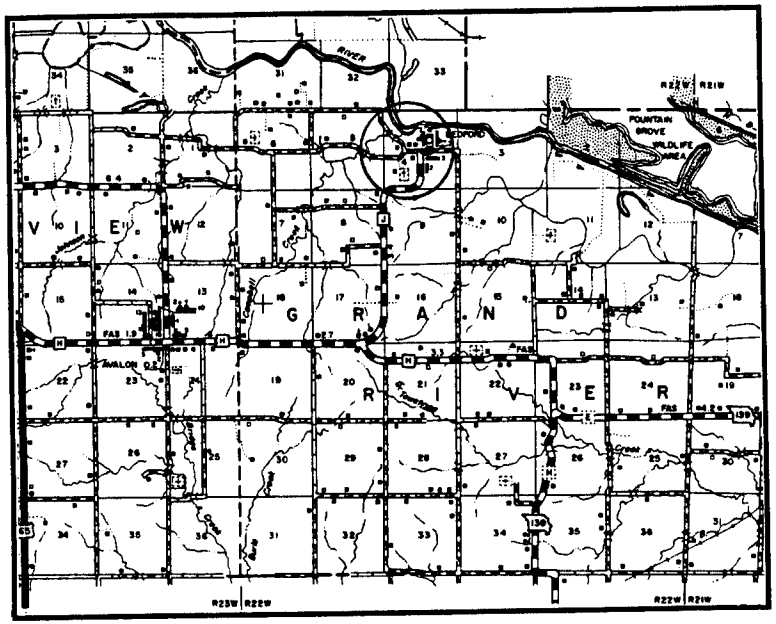
Located just west of Bedford, this small-scale steel truss carries an unpaved county road over Campbell Creek. The Campbell Creek Bridge is comprised of a single rigid-connected Warren pony truss, supported by steel pile bents. The bridge dates to 1906. That year the Livingston County Court contracted with bridge builder W.O. Graham of Chillicothe to supply and erect several small-scale steel structures, including this truss in Grand River Township. By early the next year, all were reported complete by the county and opened to wagon traffic. Since its completion, the Campbell Creek Bridge has continued to function in place, 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. 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 pony trusses began to supersede earlier pinned Pratt configurations for use on short- to intermediate-span highway bridges. Almost all of these early spans employed straight upper chords. The Campbell Creek Bridge in Livingston County, however, featured sloped upper chords, marking it as a uniquely configured example of what would later become a mainstay structural type in the state.

NAME(S) OF STRUCTURE

Campbell Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 465002.4; Livingston County Court Record, Book O: page 433 (13 September 1906) -located at the Livingston County Courthouse, Chillicothe MO; field inspection by Clayton Fraser, 10 December 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	10 May 1991