

7. ODOT will encourage the use of ODOT's *Ohio Historic Bridge Maintenance and Preservation Guidance* (and its amended or updated successors) for undertakings affecting historic types of bridges, even if they are not eligible for, or listed on the NRHP.



**OHIO DEPARTMENT OF TRANSPORTATION
INTER-OFFICE COMMUNICATION
Office of Environmental Services**

TO: Ferzan Ahmed, District 6 Deputy Director
Attention: Brian Tatman, District Environmental Coordinator

DATE: April 15, 2014

FROM: Timothy M. Hill, Administrator, Office of Environmental Services

SUBJECT: Ohio Bridge Partnership Program Section 106 Coordination
No Historic Properties Affected

PROJECT: D06-OBPP Package 6-4 PID: 97623

Project Description

The proposed design-build project will replace four bridges in Morrow County, Ohio. The existing structures will be replaced on the existing line and grade. Limited amounts of new right-of-way will be required for access to install the new wider bridge structure and re-grade the approaching embankments. Rock channel protection will be required to protect the new facilities from erosion and may cause stream impacts. The APE is considered to be limited to the existing roadway surface and disturbed stream bank areas where construction will occur. A salvage plan will be incorporated into the plan notes to salvage and relocate the four wrought iron Pratt pinned pony trusses (SFNs: 5931622, 5932238, 5930634, 5932440) for future reuse as part of a sustainable design feature. A laydown and storage location of the trusses will be specified by the Morrow County Engineer in the contract plans for the four abovementioned structures.

Area of Potential Effects (APE)

Based on the proposed scope of work, the APE for the undertaking is essentially limited to the existing bridges and the approach roadways along Phillips Road, Pompey Road, Bennington Harmon Road, and Prospect Mr. Vernon Road.

Cultural Resources Records Check

An electronic literature review was conducted on 4/7/2014 using the Ohio State Historic Preservation Office's Online Database. No National Register of Historic Places (NRHP) sites are located within the project APE. No known or inventoried architectural or archaeological resources will be impacted by the proposed construction areas.

The bridges scheduled for replacement are not considered eligible for the NRHP as a result of the 2010 historic bridge survey (accepted April 28, 2010) and in accordance with the *Section 106 Programmatic Agreement executed on November 30, 2011 (Agreement No. 16734)*. There are 95 Pratt pin-connected pony trusses in ODOT's Historic Bridge Database. There are currently 24 NRHP-eligible Pratt pin-connected pony trusses in the ODOT Historic Bridge Database. Four of the NRHP-eligible Pratt pony structures are in Morrow County, one of which was built by Massillon Bridge Company. Fourteen extant Pratt pin-connected pony trusses were built by the Massillon Bridge Co., all of which are located in Morrow County.

SFN	Route	Road Name	SLM	Crossing	Type	Year built	Builder	NR Historic Status	Salvage Plan
5931622	TR 161	Phillips Rd.	0.02	Alum Creek	Pratt Pinned Pony Truss	Ca. 1892	Massillon Bridge. Co. likely	Not Eligible	Yes
5932238	TR 166	Pompey Rd.	0.27	Turkey Run	Pratt Pinned Pony Truss	Ca. 1890	Massillon Bridge. Co. likely	Not Eligible	Yes
5930634	TR 191	Bennington Harmon Rd.	0.94	Big Walnut Creek	Pratt Pinned Pony Truss	Ca. 1895	Massillon Bridge. Co. likely	Not Eligible	Yes
5932440	TR 21	Prospect Mt. Vernon Rd.	9.04	Alum Creek	Pratt Pinned Pony Truss	Ca. 1892	Massillon Bridge. Co. likely	Not Eligible	Yes

History Architecture Analysis

No NRHP-qualified properties are located in the project APE. The four 19th century Pratt pinned pony trusses (SFNs: 5931622, 5932238, 5930634, 5932440) have been identified by OES and ODOT's Office of Structural Engineering for salvage/reuse, based on their truss condition and size. The four structures will be salvaged and made available for reuse. No further history/architecture investigations are recommended.

Archaeology Analysis

The APE is characterized by roadway and stream bank disturbances. No further archaeological investigations are recommended.

Section 106 Determination

In accordance with the *Section 106 Programmatic Agreement* executed on November 30, 2011 (Agreement No. 16734), and in compliance with 36 CFR § 800.4(d)(1), ODOT-OES has determined that "no historic properties affected" is the appropriate finding for the proposed bridge replacement, based on the following:

- 1.) The existing bridges were evaluated as not eligible for the NRHP in the 2010 historic bridge survey (accepted by FHWA, SHPO and ODOT on April 28, 2010).
- 2.) No NRHP-qualified properties are located in the project APE.
- 3.) The APE is characterized by previously disturbed roadway and stream bank areas. No further archaeological investigations are recommended.

This completes the Section 106 review by ODOT-OES and no further cultural resource investigations are required pending completion of the 15 day review and comment period at the State Historic Preservation Office (SHPO) with no comments or objections received from the SHPO during that period, pursuant with the *Programmatic Agreement*. You may then process the environmental document with no further comment or involvement from ODOT-OES unless the scope of the proposed undertaking was to change. Should the SHPO have comments on or object to our finding, ODOT-OES will work with your office to respond to the SHPO prior to finalization of the environmental document.

The environmental document should note the date of this IOC for project Section 106 clearance. The environmental document should also note the date of the November 30, 2011 *Programmatic Agreement* as the basis for the Section 106 approval. A copy of this IOC and any subsequent consultation as a result of SHPO comments should be attached to the appropriate environmental document. If you have any questions or comments regarding this determination, they may be addressed to Tom Barrett, Staff Historian, at tom.barrett@dot.state.oh.us or 614-466-3932.



**OHIO DEPARTMENT OF TRANSPORTATION
INTER-OFFICE COMMUNICATION
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TO: Ferzan Ahmed, District 6 Deputy Director
Attention: Brian Tatman, District Environmental Coordinator

FROM: Timothy M. Hill, Administrator, Office of Environmental Services

SUBJECT: Ohio Bridge Partnership Program Section 106 Coordination
No Historic Properties Affected

PROJECT: D06-OBPP Package 6-3 PID: 97618

DATE: April 15, 2014

Project Description

The proposed design-build project will replace six bridges in Morrow County, Ohio. The existing structures will be replaced on the existing line and grade. Limited amounts of new right-of-way will be required for access to install the new wider bridge structure and re-grade the approaching embankments. Rock channel protection will be required to protect the new facilities from erosion and may cause stream impacts. The APE is considered to be limited to the existing roadway surface and disturbed stream bank areas where construction will occur. A salvage plan will be incorporated into the plan notes to salvage and relocate the wrought iron Pratt pinned pony trusses (SFNs: 5931282, 5931568, 5931339) for future reuse as part of a sustainable design feature. A laydown and storage location of the trusses will be specified by the Morrow County Engineer in the contract plans for the three abovementioned structures.

Area of Potential Effects (APE)

Based on the proposed scope of work, the APE for the undertaking is essentially limited to the existing bridges and the approach roadways along Tabor Road, Curtis Road, Cardington-Denmark Martel Road, Cardington Denmark Road, and Curl Road.

Cultural Resources Records Check

An electronic literature review was conducted on 4/7/2014 using the Ohio State Historic Preservation Office's Online Database. No National Register of Historic Places (NRHP) sites are located within the project APE. No known or inventoried architectural or archaeological resources will be impacted by the proposed construction areas.

The bridges scheduled for replacement are not considered eligible for the NRHP as a result of the 2010 historic bridge survey (accepted April 28, 2010) and in accordance with the *Section 106 Programmatic Agreement executed on November 30, 2011 (Agreement No. 16734)*. There are 95 Pratt pin-connected pony trusses in ODOT's Historic Bridge Database. There are currently 24 NRHP-eligible Pratt pin-connected pony trusses in the ODOT Historic Bridge Database. Four of the NRHP-eligible Pratt pony structures are in Morrow County, one of which was built by Massillon Bridge Company. Fourteen of the extant Pratt pin-connected pony trusses were built by the Massillon Bridge Co., all of which are located in Morrow County.

SFN	Route	Road Name	SLM	Crossing	Type	Year built	Builder	NR Historic Status	Salvage Plan
5931126	CR131	Tabor	0.31	Shaw Creek	Steel beam simple	1964		Exempt type	No
5931789	CR 137	Curtis	0.69	Shaw Creek	Concrete slab simple	1935		Exempt type	No
5931282	CR 137	Curtis	0.69	Shaw Creek	Pratt Pinned Pony Truss 46'	1888	Massillon Bridge Co.	Not Eligible	Yes
5930332	CR 28	Cardington-Denmark Martel	1.98	Shaw Creek	Warren Polygonal Riveted Pony Truss 80'	1953	Edwards Sheet Metal Works, Inc	Not Eligible	No
5931568	TR 132	Cardington Denmark	0.12	Shaw Creek	Pratt Pinned Pony Truss 64'	Ca. 1890	American Bridge & Iron Co.?	Not Eligible	Yes
5931339	TR 138	Curl	1.45	Shaw Creek	Pratt Pinned Pony Truss 51'	1887	Massillon Bridge Co.	Not Eligible	Yes

History Architecture Analysis

No NRHP-qualified properties are located in the project APE. The three 19th century Pratt pinned pony trusses (SFNs 5931282, 5931568 and 5931339) have been identified by OES and ODOT's Office of Structural Engineering for salvage/reuse, based on their truss condition and size. The three structures will be salvaged and made available for reuse. No further history/architecture investigations are recommended.

Archaeology Analysis

The APE is characterized by roadway and stream bank disturbances. No further archaeological investigations are recommended.

Section 106 Determination

In accordance with the *Section 106 Programmatic Agreement* executed on November 30, 2011 (Agreement No. 16734), and in compliance with 36 CFR § 800.4(d)(1), ODOT-OES has determined that "no historic properties affected" is the appropriate finding for the proposed bridge replacement, based on the following:

- 1.) The existing bridges were evaluated as not eligible for the NRHP in the 2010 historic bridge survey (accepted by FHWA, SHPO and ODOT on April 28, 2010).
- 2.) No NRHP-qualified properties are located in the project APE.
- 3.) The APE is characterized by previously disturbed roadway and stream bank areas. No further archaeological investigations are recommended.

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The environmental document should note the date of this IOC for project Section 106 clearance. The environmental document should also note the date of the November 30, 2011 *Programmatic Agreement* as the basis for the Section 106 approval. A copy of this IOC and any subsequent consultation as a result of SHPO comments should be attached to the appropriate environmental document. If you have any questions or comments regarding this determination, they may be addressed to Tom Barrett, Staff Historian, at tom.barrett@dot.state.oh.us or 614-466-3932.

Scott Moore

Brown Co. Eng. Office

Old bridge on A&P Road
(C67) - thinks its on

the historic list. They want
to do something with it and
need guidance

937-378-6456

D. mm.

Campground.

Old A&P Road -

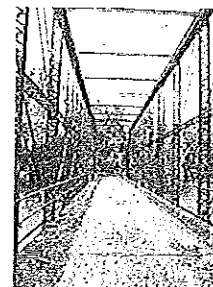
Removed/safety

Whipple Truss

OHIO DEPARTMENT OF TRANSPORTATION

HISTORIC BRIDGE SURVEY REPORT

4/15/2014



SFN #: 08XXXX3 County: BROWN Municipality:
 NR Rec: Eligible Previous Inventory/Date: Status:

ODOT District: Owner: Lat/Long: 38.79353 / 83.95403

Location: NORTH OF OHIO RIVER UTM:

Feature On: OLD A&P ROAD (CR 67) (CLOSED)

Feature Intersected: WHITE OAK CREEK

Type: THRU TRUSS Design: DOUBLE INTERSECTION PRATT (WHIPPLE)

Material: METAL

Railing Type: PIPE RAILINGS

Spans: 1 Overall Length: 176 ft. Out to Out Width: 16 ft. Roadway Width: ft.

Year Built: 1885CA Alteration (Date): Source: Style

Designer/Builder:

Setting/Context:

The bridge is closed to traffic. It carries a single-lane over a stream in a rural setting. To the west is a campground. The bridge appears to be on the alignment of a bypassed section of old US 52.

Physical Description:

The 1 span, 176'-long, double-intersection Pratt (Whipple) truss bridge is supported on stone abutments with concrete repairs. The truss is traditionally composed with built-up compression members and eyebar tension members. The upper chords are toe-out channels with coverplate and battens. The verticals are toe-out channels with lacing. The diagonals are eyebars with loop-welded eyes. The lower chord eyebars have forged eyes. The interior panels have a mid-height strut of toe-out channels with lacing. The upper lateral bracing is composed of I-sections with a U-shaped clip to form the connection with the upper chords at the pins. The A-frame lattice portal bracing features decorative cast-iron moldings at the base of the brackets. U-shaped hangers at the lower panel points pick up built-up floorbeams. The floorbeams carry rolled stringers and a steel deck pan (non original). The bridge has pipe railings with many sections missing.

Integrity:

The end posts at the west end have been strengthened with channel sections welded to the interior. The counter rods at mid-span have snapped. Snapped diagonals in two panels on the upstream side have been repaired with the addition of cables. Rods have been added to strengthen the end panels of the lower chords. The alterations and lack of maintenance are having an impact on the integrity of the design/materials, but sufficient integrity remains for the bridge to convey its technological significance.

Summary of Significance:

The ca. 1885 double-intersection Pratt truss is a technologically significant example of an increasingly uncommon truss type/design (Criterion C). The builder is undocumented by available county records. Double-intersection Pratt trusses, also known as Whipple or Murphy-Whipple trusses, were among the most successful of long-span thru truss designs (to 300' long) of the 1860s to 1890s for both railroad and vehicular crossings. Surviving examples are uncommon nationally and considered technologically significant; Ohio with at least 14 identified examples dating from 1881 to 1898 (Phase 1A survey, 2008) has a very high number in comparison to most other states. The truss design is characterized by diagonals that extend over two panels. In 1847, Squire Whipple, one of America's foremost bridge engineers, developed the design figuring that the double-intersection configuration increased the depth of panel without altering the optimal angle of the diagonals, thus allowing for increased span length. His design was further refined in 1859 by John

OHIO DEPARTMENT OF TRANSPORTATION

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OFN #: 08XXXX3

County: BROWN

Municipality:

NR Rec: Eligible

Previous Inventory/Date:

Status:

W. Murphy, the talented chief engineer of Pennsylvania's Lehigh Valley RR, who substituted wrought-iron pins for cast-iron connecting pieces, thus developing the connection detail that would prove to be advanced construction practice for this and other truss designs for the next several decades. Ohio's surviving examples, which mostly date to the 1880s, were not cutting edge for their time, but they show how the form had evolved into the preferred long-span thru truss design of the period. Most have documented associations with prominent Ohio-based fabricators.

Reviewed By/ Date: JPH (6/09)

Notes:

For Eligible Bridge:

Level of Significance: High

Justification:

There are at least 14 examples of the bridge type important to the development and maturation of the pin-connected thru truss bridge (Dec. 2009). They date from 1881 and concentrate in the 1880s. Even though there are more than 12 extant examples in Ohio, each built in the 1880s has high significance based on overall scarcity (everywhere but in Ohio) of the design. This is a major and technologically significant bridge type. The bridge has high significance.

In Management Plan (2009)? No

OHIO DEPARTMENT OF TRANSPORTATION

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