

Collett, Brandon

From: Collett, Brandon
Sent: Sunday, August 4, 2024 10:43 AM
To: Hilovsky, James; Wenner, Jeremy
Cc: Krazl, David
Subject: RE: HAM-001SP-0035
Attachments: 2024 report.pdf; HAM-001SP -0035 Photos.docx

James,

This year's inspection of the HAM-001SP-0035 (ODNR bike path over Shawnee Run Rd, SFN 3190161) still found the structure to be deficient, but found little change since the previous inspection. That said, the concerns as previously stated in 2023 are still applicable. Attached is the 2024 inspection report and photos.

Thanks,

Brandon Collett, P.E.

Structures Planning Engineer

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**Department of
Transportation**

From: Collett, Brandon

Sent: Wednesday, May 17, 2023 9:14 AM

To: Hilovsky, James <james.hilovsky@dnr.ohio.gov>; Wenner, Jeremy <Jeremy.Wenner@dnr.ohio.gov>

Cc: Krazl, David <David.Krazl@dot.ohio.gov>

Subject: FW: HAM-001SP-0035

James/Jeremy,

Attached are photos and the inspection report for the HAM-001SP-0035 structure that carries the ODNR bikepath over Shawnee Run near the border of Indian Hills/Milford. A couple items to note are as follows:

1. The structure is rated deficient due to the amount of exposed reinforcing on the westernmost concrete slab. This is likely due to a combination of deterioration and over-height vehicular collisions.
2. There is loose concrete on this structure that needs to be removed.
3. While performing the inspection, a nearby resident complained about the amount of overheight bridge strikes. A summary for his conversation is at the bottom of this email. Our inspector measured the bridge and found the vertical clearance on this bridge is marked with a measurement with a 5" buffer that exceeds the recommended 3" "frost action" buffer as required by the OMUTCD. While this is good, there is an additional geometric factor

due to the vertical geometry of the road that is effectively reducing the vertical clearance due to the change in grade from a steep vertical curve on the Shawnee Run Rd as it transitions to a flatter road on SR 126. What ends up happening is that the length of the truck ends up effectively lifting the back (or front) of the truck as it goes under the bridge. Therefore, while the height of the bridge and the height of the truck may all be measured correctly, a conflict still occurs.

I recommend taking one of the following actions:

- A. Replace the superstructure/bridge. The vertical clearance for a bridge over a Collector Road such as Shawne Run Rd is 14.5 feet. (302-1 of [L&D Manual](#)). Not only would this solve the vertical clearance issue, but the bridge is rated as deficient due to these geometric issues.
- B. Eliminate bridge making this an at-grade crossing. Not only are vertical clearance and structure condition a non-issue, but the site distance at this intersection would be greatly improved.
- C. Field survey road and bridge, then determine the vertical approximate amount of "raise" that occurs when a long truck passes under the bridge due to the vertical geometry of the roads. Decrease the posted vertical clearance by that amount plus 3" "Frost Action" buffer both on the bridge mounted signs and the advanced warning signs. While there is an advanced warning sign at Given Rd, it might be wise to also add an advanced warning sign at Park Rd.

Pertinent manuals/excerpts include:

[TEM](#)

202-7 Low Clearance Signs

OMUTCD Section 2C.27 discusses Low Clearance signs and **Ohio Revised Code Section 5577.05** establishes a maximum vehicle height of 13 feet-6 inches.

The Low Clearance sign (W12-2) shall be used to warn road users of clearances less than 14 feet-6 inches. The structure-mounted Low Clearance sign (W12-2a) shall be used for clearances of 13 feet-6 inches or less, and may be used for clearances greater than 13 feet-6 inches. The W12-2 and the W12-2a should display the same clearance height. The vertical clearance shown should be the minimum clearance measured to the bottom of a chord not less than 10 feet in width over the approach lane(s).

The Side Low Clearance sign (W12-H3) is intended to show the vertical clearance directly above the face of the side rail or curb. This sign shall be used on the structure where the vertical clearance at the face of the side rail or curb is 13 feet-6 inches or less. This sign should be used as necessary on variable clearance structures where the side clearance is more than 13 feet-6 inches, but less than 14 feet-6 inches. When W12-H3 signs are used on a structure, the W12-2a sign should also be used even if the center clearance is more than 13 feet-6 inches.

Example applications of Low Clearance signs on low structures are shown in **Figure 298-42**.

[OMUTCD](#)

Section 2C.22 Low Clearance Signs (W12-2 and W12-2p)

Standard:

The Low Clearance (W12-2) sign (see Figure 2C-3) shall be used to warn road users of clearances less than 300 mm (12 in) above the statutory maximum vehicle height.

Guidance:

The actual clearance should be shown on the Low Clearance sign to the nearest 25 mm (1 in) not exceeding the actual clearance. However, in areas that experience changes in temperature causing frost action, a reduction, not exceeding 75 mm (3 in), should be used for this condition.

Where the clearance is less than the legal maximum vehicle height, the W12-2 sign with a supplemental distance plaque should be placed at the nearest intersecting road or wide point in the road at which a vehicle can detour or turn around.

In the case of an arch or other structure under which the clearance varies greatly, two or more signs should be used as necessary on the structure itself to give information as to the clearances over the entire roadway.

Clearances should be evaluated periodically, particularly when resurfacing operations have occurred. Option:

The Low Clearance sign may be installed on or in advance of the structure. If a sign is placed on the structure, it may be a rectangular shape (W12-2p) with the appropriate legend (see Figure 2C-3).

[L&D Manual Volume 1](#)

DESIGN CRITERIA NEW AND RECONSTRUCTED ^(J) BRIDGES				302-1
				REFERENCE SECTION 302.1

Functional Classification	Traffic	Lateral Clearance				Vertical Clearance Over Roadway (H)
		Design Year ADT		On Brdg (A)	Under Brdg (F)	
		Rural	Urban	Min.	Min.	
Interstates, Other Freeways, & Expressways	All	10' Rt. (B)(D)			Minimum	16.5' (I)
		4' Lt. (E)(B)				
Arterial	> 2000	8' (B)	For curbed shoulders, use shoulder widths from Figure 301-4. For uncurbed shoulders, use rural criteria at left.		(G)	16.5' (I)
	1501 - 2000	6' (B)				
	400 - 1500	6' (B)				
	< 400	4'				
Collector	> 2000	4'	Curbed or treated shoulder widths, see Figures 301-3 & 301-4 plus barrier clearance from Figure 603-2.		(G)	14.5'
	1501 - 2000	4'				
	400 - 1500	4'				
	< 400	(C)				
Local	> 2000	4'			(G)	14.5'
	1501 - 2000	4'				
	400 - 1500	4'				
	< 400	(C)				

Please let me know if you would like to discuss any of these recommendations further.

Respectfully,

Brandon Collett, P.E.

Structures Planning Engineer

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From: Krazl, David <David.Krazl@dot.ohio.gov>
Sent: Thursday, May 11, 2023 1:37 PM
To: Collett, Brandon <Brandon.Collett@dot.ohio.gov>
Subject: HAM-001SP-0035

Brandon,

Re: HAM-001SP-0035 (ODNR bike path over Shawnee Run Rd.)
SFN 3190161

I spoke with the property owner at the SW corner (9708 Shawnee Run Rd.)
He was saying that there are numerous vertical clearance collision occurrences at this structure.
What's going on is that: the structure posted at 11', trucks enter the structure with height of 10'-10" and gets pinched midway because of the change of elevation (height) at the east and west ends. This is enhanced by a long trailer or box on a truck.

The trucks have done property damage at the entrance to his property in trying to turn around.

I took some quick field measurements. west 11.41' east 12.16'
Length 30' At the west end, measured 3/4" (0.625") p/ft slope downward to the east, at approximately 10' to 15', then levels off.

Map apps bring trucks on this route also.

Warning signs are in place.

thank you

David Krazl

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