Design Exception Request

BRO-50-4.49

PID: 109971; Request 01

Letting Type: ODOT-Let

Design Designation			
50; 4.46-4.54			
Current ADT (2025)	5,400	Td	0
Design Year ADT (2045)	5,800	Design Speed	55
Design Hourly Volume (2045)	510	Legal Speed	55
Directional Distribution	66%	Design Functional Class	4 - Minor Arterial Roads
Trucks (24hr B&C)	8%	Functional Class Area Type	Rural
		NHS Project	No



Submitted By:

E-SIGNED by Tyler Adams
on 2025-05-29 14:26:03 GMT

Tyler Adams
(Engineer of Record)

T.A.

Engineer of Record Seal

Approved by:

E-SIGNED by Adam Koenig
on 2025-05-29 16:04:38 GMT

Adam Koenig

Approval Date: 5/22/2025

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Controlling Criteria Identification			
Section: 50; 4.46-4.54			
Controlling Criteria	**Standard**	**Existing (a.)**	**Proposed**
Lane Width			
Shoulder Width	8' (on the Bridge) 13' (on the Roadway Section)	4' (on the Bridge) 7.3' to 9' (on the Roadway Section)	4' (on the Bridge) 7.3' to 9' (on the Roadway Section)
Horizontal Curve Radius			
Maximum Grade			
SSD (Horizontal & Crest Vertical)			
Pavement Cross Slope			
Superelevation Rate			
Vertical Clearance			
Design Loading Structural Capacity			
(a.) "Existing" may be N/A (i.e. New alignment or new ramp)			

Project Description

Replacement of Bridge No. BRO-0050-04.490 over the East Fork Little Miami river including approach pavement reconstruction.

Section Description

US-50 is a Rural Arterial with 12' lanes, 4' shoulders and in full super within the project limits. This project replaces the bridge over East Fork Little Miami river and includes approach pavement reconstruction.

Proposed Mitigation
N/A

Support for Deviation (Benefit-cost, R/W, Environmental, Constructability, Coordination with Other Projects, Relationship between any crash patterns and proposed design exception, etc.):
From ODOT's Location and Design manual, Figure 302-1, for a 183' long bridge with an ADT above 2000' an 8' shoulder is required since the structure is not over 200' in length. Along the US 50 corridor shoulders are 4' with areas of guardrail in place due to non traversable slopes beyond the edge of the road. Just outside of the project limits is an intersection to the west (Fayetteville Blanchester Road) that is not currently within the construction limits but would be impacted if the shoulders are increased to 8'. Guardrail is present both north and south of the project including throughout the intersection and increasing the shoulder limits would significantly increase the amount of guardrail that would need replaced with the project. Increasing the shoulder will also add cost for embankment and additional Right of Way. These cost and project limit increases outweigh the benefit of increasing the shoulder width to 8' for a short length in a corridor that has 4' shoulders throughout. Historic crash data does not show crashes caused from deficient shoulder width. Due to the added cost and minimal benefit we are requesting the shoulders be proposed at 4' to match the existing US-50 corridor.

Does the requested Design Exception location fall within a Safety Integrated Project (SIP) Map Location?
No

Does the crash analysis (GCAT and CAM Tool) show any patterns that would be adversely impacted by the proposed Design Exception?
There was only 1 crash reported within the past 3 years (2022, 2023,2024). The reported crash was a Westbound Rear-End collision, property damage only, occurring approximately 50' east from the Fayetteville Blanchester Rd intersection. The contributing factor of the crash was failure to follow assured clearing distance. The proposed design exception would have no adverse impacts to the crash patterns reported within the project limits.