

**IOWA DEPARTMENT OF TRANSPORTATION**

To Office	District 1	Date	December 3, 2019
Attention	Tony Gustafson, ADE	Ref No.	Franklin County MBIN-035-1(514)157--0M-35
From	WHKS/Joe Stanisz		PIN 17-35-035-010 Design No. N/A
Bureau	Bridges and Structures		File No. N/A FHWA No. 602425
Subject	Final Concept for Bridge Approach Repair of a 314' x 30' Continuous Welded Plate Girder Bridge Bridge Maintenance No. 3556.70035		

The bridge on Co. Rd. S13 over I-35, 5.0 mi N of Jct. Co. Rd. C70, has been scheduled for bridge approach repair to be let on 1/20/2021. The current cost estimate is \$181,286 including inflation and 20% contingency. The MB program budgeted amount is \$150,000. The bridge was inspected on 9/26/2019 by Josh Opheim and Kirk Romsey with WHKS. Others in attendance included Allison Smyth and Craig Van Der Wilt with the District.

The bridge location map and asset information can be viewed in SIIMS using the following link:  
[https://siims.iowadot.gov/InspectTech/bridgedetail.aspx?type=0&as\\_id=67926](https://siims.iowadot.gov/InspectTech/bridgedetail.aspx?type=0&as_id=67926)

**EXISTING CONDITIONS**

The bridge was constructed in 1972 (Des. No. 2970).

Small hollows and PC patches in top of deck and in top of backwall adjacent to sliding plate joints. Bottom of deck contains transverse cracks with leaching.

Localized areas of girder paint failure and rust. Deck drains have been extended.

The retrofit rails and end sections are 34" tall with thrie beam connections (Des. No. 304).

Macadam stone slope protection was installed in 2003.

Co. Rd. S13 in the vicinity of the bridge is a 2-lane, 22-foot wide PCC pavement with 10-ft shoulders (approximately 4 ft. granular and 6 ft. earth). The roadway has no posted speed limit but is presumed to be 55 mph. It has a 2017 ADT of 460 vehicles per day.

The first two panels of both bridge approaches are in poor condition. Approach panels have settled 6 to 8-in at the end of wings and leveling courses have been placed. The approaches are level with the backwall at the bridge. There are EF type joints at 60 and 80 feet from the bridge on both ends.

The guardrail bridge connections are STS and the end treatments are FLEAT. The mounting height in the northwest corner is 31" but the other 3 corners average 28". Shoulders in front of the guardrail are granular.

**RECOMMENDATIONS**

It is recommended that the following repairs be made:

1. UAC sliding plate joints and paving notches.
2. Clean and seal barrier rails (incidental to Mobilization or approaches).
3. Replace the first 2 panels of both bridge approaches with BR-201 10" double reinforced approach.
4. Remove and reinstall the existing guardrail.
5. Pave from the edge of pavement to the guardrail posts with HMA as per Typical 7156.
6. Replace all 4 bridge end drains with DR-402 rock flumes.

Co. Rd. S13 will be closed to traffic during construction. See accompanying Traffic Control Statement for proposed detour route.

Traffic control will be road closure in accordance with Standard Road Plan TC-252. This project is not considered a Traffic Critical Project.

The District should provide a site survey of the utilities.

Estimated cost of repairs is as follows:

<b>ROADWAY ESTIMATE:</b>				
<b>Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount</b>
Class 13 Excavation	131	CY	\$35	\$4,585
Paved Shoulder, HMA, 9"	392	SY	\$59	\$23,128
Pave Shoulder for Bridge End Drain	76	SY	\$140	\$10,640
Bridge End Drain (DR-402)	4	EACH	\$4,300	\$17,200
Remove and Reinstall Guardrail	350	LF	\$20	\$7,000
Bridge Approach, 10"	249	SY	\$205	\$51,045
Removal of Pavement	249	SY	\$15	\$3,735
Traffic Control	1	LS	\$5,000	\$5,000
Additional Roadway Items	1	LS	\$10,000	\$10,000
Mobilization	1	LS	10%	\$12,233
	Base Cost:			\$144,566
	Contingency:		20%	\$28,913
	1 Years Inflation:		4.5%	\$7,807
	<b>ROADWAY TOTAL:</b>			<b>\$181,286</b>
<b>PROJECT TOTAL:</b>				<b>\$181,286</b>

JJO/KR

Distributed to:

Scott Dockstader, District 1  
Tony Gustafson, District 1  
Lance Starbuck, District 1  
Jesse Tibodeau, District 1  
Craig Vander Wilt, District 1  
Denny Howe, District 1  
John Narigon, District 1  
Allison Smyth, District 1  
Charlie Purcell, Project Delivery  
Scott Marler, Systems Operations  
Michael Kennerly, Design  
Kent Nicholson, Design  
Stuart Nielson, Design  
Dan Harness, Design  
Yanxiao Jia, Design  
Dung Ta, Design  
Donald Tebben, Program Management  
Angela Poole, Program Management  
Mark A Swenson, Project Scheduling  
DeeAnn Newell, Location and Environment  
Jill Garton, Location and Environment  
Brad Azeltine, Location and Environment  
Valerie Brewer, Location and Environment  
Matt Donovan, Location and Environment  
Kenneth Brink, Location and Environment  
James Nelson, Bridges and Structures  
Mike Nop, Bridges and Structures  
David Evans, Bridges and Structures  
Jesse Peterson, Bridges and Structures  
Scott Neubauer, Bridges and Structures  
Joe Stanisz, Bridges and Structures  
Ronald Meyer, Bridges and Structures  
Curtis Carter, Construction and Materials  
Clayton Burke, Construction and Materials  
Sheri Harris, Document Services  
Dan Sprengeler, Traffic and Safety  
Willy Sorenson, Traffic and Safety