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PLANS OF PROPOSED IMPROVEMENT ON THE
**PRIMARY ROAD SYSTEM
KEOKUK COUNTY**
HMA Joint & Crack Sealing
From IA 92 to IA 22

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



REVISIONS

TOTAL	
11	
PROJECT IDENTIFICATION NUMBER	
25-54-149-020	
PROJECT NUMBER	
MP-149-5(717)35--76-54	
R.O.W. PROJECT NUMBER	

DESIGN DATA RURAL			
2024	AADT	1,300	V.P.D.
20 --	AADT	--	V.P.D.
20 --	DHV	--	V.P.H.
TRUCKS		12	%
Total			
Design ESALs		--	

INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	Anthony J Klein	Primary Signature Block	C.1

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

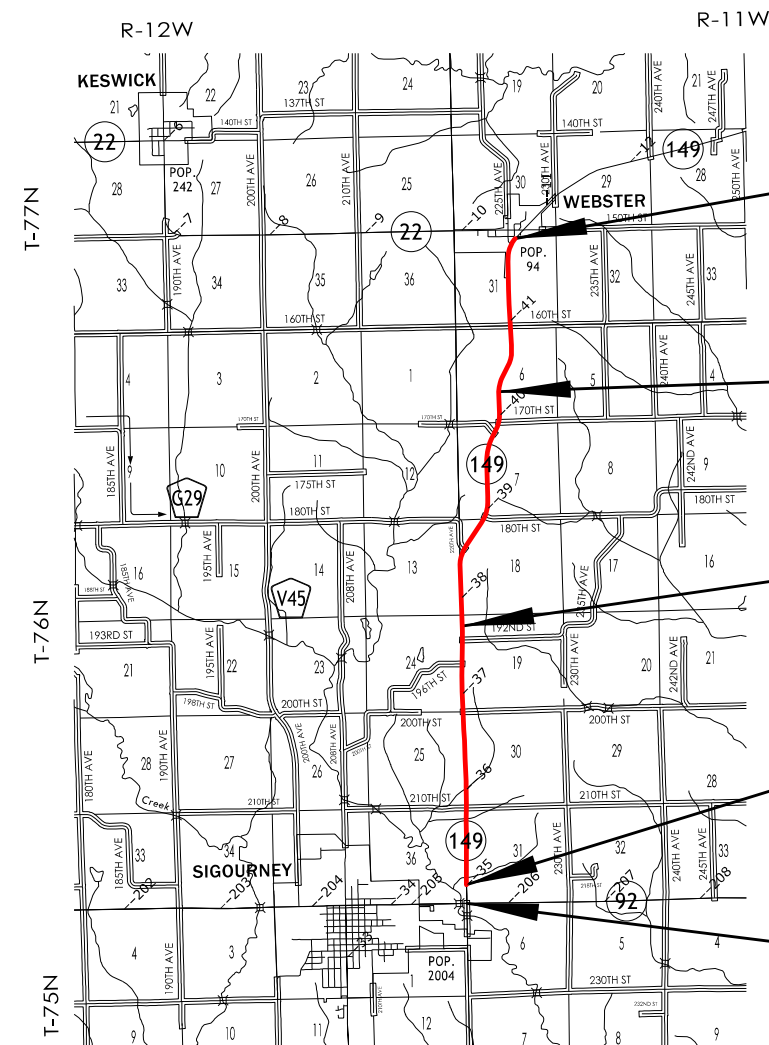
Anthony J. Klein 1/28/26
Signature Date

Anthony J Klein
Printed or Typed Name

My license renewal date is December 31, 2026

Pages or sheets covered by this seal: ALL SHEETS

KEOKUK COUNTY



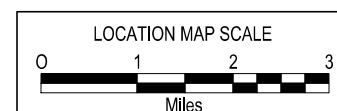
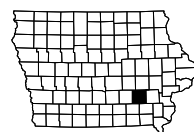
END PROJECT
End HMA Joint and Crack Sealing
MP 41.89
STA. 375+00.00

- EQUATION:
STA. 278+13.53 (BACK)
= STA. 278+38.91 (AHEAD)

EQUATION:
STA. 154+01.62 (BACK)
= STA. 154+00.35 (AHEAD)

STA. 12+00.00
Begin HMA Joint and Crack Seal

BEGIN PROJECT
MP 34.80
STA. 1+36.90



ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Rural

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	966.77	Item for replacement of all paint striping within project areas. See Tab 108-22 for locations and information.
2	2528-8445110	TRAFFIC CONTROL	LS	1	As per current Standard Specifications.
3	2528-8445113	FLAGGERS	EACH	0	See Proposal.
4	2528-8445115	PILOT CARS	EACH	0	
5	2533-4980005	MOBILIZATION	LS	1	As per current Standard Specifications.
6	2541-1004011	CRACK AND JOINT CLEANING AND SEALING (HMA SURFACES)	MILE	6.9	All work to be as per current Standard Specifications. Centerline joint WILL be sealed. Sealer Material estimated at 1 pound per 3 linear feet for transverse cracks and centerline joint. The centerline does have rumble strips. HMA SURFACE WIDTH RURAL AREAS: 24 foot width of two lane segment typical of mainline. Sealer material estimate based on transverse cracks every 40'. Sealer material estimate for 100% coverage of longitudinal centerline joint, and/or edge of the pavement/auxiliary lane joint. Sealer quantity increased by 15% for irregularities.
7	2541-1005001	SEALER MATERIAL (HMA SURFACES)	LB	22,223	

262_06
9/28/22

UTILITIES (NOT A POINT 25 PROJECT)

This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

100_01D
8/15/22

PROJECT DESCRIPTION

This project is for HMA Joint and Crack Sealing along IA 149 from IA 92 to IA 22 in Keokuk County.

This project includes transverse cracks and a longitudinal centerline joint.

This project also includes the replacement of the centerline and edgeline pavement markings as needed.

<div>105_04 4/21/26</div> <div>STANDARDS</div> <div>The following Standards apply to construction work on this project.</div>		
Number	Date	Title
PM-110	10-15-24	Line Types
PM-420	10-15-24	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
PM-520	10-15-24	Two-Lane Roadway with no Turn Lanes (Two-Way Stop Condition)
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-212	04-18-23	Spot Location Lane Closure with Flaggers
TC-213	04-18-23	Lane Closure with Flaggers
TC-214	04-18-23	Lane Closure with Flaggers for use with Pilot Car
TC-231	04-18-23	Slow Moving Vehicle Operating in the Traffic Lane
TC-233	10-17-17	Pavement Marking Operations Two-Lane

102_05
9/29/23

EXISTING PAVEMENT																					
Line No.	County	Route	Direction of Travel	Begin Ref. Location Sign	End Ref. Location Sign	Year	Type	Project Number	Surface Type	Surface Depth (IN)	Base Type	Base Depth (IN)	Subbase Type	Subbase Depth (IN)	Removal Type	Removal Depth (IN)	Coarse Aggregate Source	Coarse Aggregate Type	Course Aggregate Durability Class	Reinforcement Type	Remarks
1.0	Keokuk	IA 149	Both	34.69	36.77	2019	S	STP-149-1(84)--2C-54	HMA	1.0	RAC	2.0			SCR	2.0					2in Hot-in-place Recycling
2.0	Keokuk	IA 149	Both	34.69	36.77	1993		STP-149-1(45)--2C-54	AAC	1.5	BAC	1.5	TBB	6.0			DURHAM	C.LST.			
3.0																					
4.0	Keokuk	IA 149	Both	36.77	41.97	2019	S	STP-149-1(84)--2C-54	HMA	1.0	RAC	2.0			SCR	2.0					2in Hot-in-place Recycling
5.0	Keokuk	IA 149	Both	36.77	41.97	1992		F-149-1(39)--20-54	AAC	1.5	BAC	1.5	TBB	8.0			KESWICK	C.LST.			

108_22
10/21/25

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.
*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.
BCY4: Broken Centerline (Yellow) @ 0.17 BCY6: Broken Centerline (Yellow) @ 0.25 BLC6: Broken Line Contrast (White/Black) @ 0.50 BLW4: Broken Lane Line (White) @ 0.17 BLW6: Broken Lane Line (White) @ 0.25
CBW6: Crosswalk Bar (White) @ 10.00 CHW8: Channelizing Line (White) @ 1.33 CHW10: Channelizing Line (White) @ 1.67 CHY8: Channelizing Line (Yellow) @ 1.33 CHY10: Channelizing Line (Yellow) @ 1.67
CLW6: Crosswalk Line (White) @ 2.00 DCY4: Double Centerline (Yellow) @ 1.34 DCY6: Double Centerline (Yellow) @ 2.00 DDY4: Double Dotted Line (Yellow) @ 0.44 DDY6: Double Dotted Line (Yellow) @ 0.67
DLW4: Dotted Line (White) @ 0.22 DLW6: Dotted Line (White) @ 0.33 DLY4: Dotted Line (Yellow) @ 0.22 DLY6: Dotted Line (Yellow) @ 0.33 ELW4: Edge Line Right (White) @ 0.67
ELW6: Edge Line Right (White) @ 1.00 ELY4: Edge Line Left (Yellow) @ 0.67 ELY6: Edge Line Left (Yellow) @ 1.00 LDW8: Lane Drop (White) @ 0.33 LDW10: Lane Drop (White) @ 0.42
MNY6: Median Nose (Yellow) @ 1.00 NPY4: No Passing Zone Line (Yellow) @ 0.84 NPY6: No Passing Zone Line (Yellow) @ 1.25 RLW4: Ramp Edge Line Right (White) @ 0.67 RLW6: Ramp Edge Line Right (White) @ 1.00
RLY4: Ramp Edge Line Left (Yellow) @ 0.67 RLY6: Ramp Edge Line Left (Yellow) @ 1.00 SLW2: Stop Line (White) @ 4.00 SLW4: Solid Lane Line (White) @ 0.67 SLW6: Solid Lane Line (White) @ 1.00
SPW4: Sloped Curb 4" (White) @ 2.16 SPW6: Sloped Curb 6" (White) @ 2.28 SPY4: Sloped Curb 4" (Yellow) @ 2.16 SPY6: Sloped Curb 6" (Yellow) @ 2.28 STW6: Standard Curb 6" (Yellow) @ 2.03
STY6: Standard Curb 6" (Yellow) @ 2.03 YLW2: Yield Line (White) @ 1.15

Line No.	Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 (STA)	BCY6 Factored (STA)	DCY6 (STA)	DCY6 Factored (STA)	ELW6 (STA)	ELW6 Factored (STA)	NPY6** (STA)	NPY6** Factored (STA)	Remarks
1.0	IA 149	12+00.00	154+01.62		Waterborne/Solvent Paint	X	X	X			99.62	24.91	9.98	19.96	284.03	284.03	32.42	40.53	
2.0	IA 149	154+00.35	278+13.53		Waterborne/Solvent Paint	X	X	X			83.47	20.87	9.25	18.50	248.26	248.26	31.41	39.26	
3.0	IA 149	278+38.91	375+00.00		Waterborne/Solvent Paint	X	X	X			52.93	13.23	12.53	25.06	193.22	193.22	31.15	38.94	
Total:												59.01		63.52		725.51		118.73	

Bid Quantity Waterborne/Solvent Paint 966.77 Stations

Equation: 154+01.62 Back = 154+00.35 Ahead

Equation: 278+13.53 Back = 278+38.91 Ahead

108_23A 8/15/22
TRAFFIC CONTROL PLAN
Through traffic will be maintained on this project at all times.

511 TRAVEL RESTRICTIONS												108_25 3/28/24	
Line No.	Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
1.0	IA 149	Both	Keokuk	From IA 92 to IA 22	No Width Restrictions Expected	Traffic Control Device		Horizontal					See Note 1
Note 1: Alternating Lane closures within the project limits due to road maintenance work.													
FILE NO.	ENGLISH	DESIGN TEAM	McElmeel\Klein\Freitag			KEOKUK COUNTY	PROJECT NUMBER	MP-149-5(717)35--76-54			SHEET NUMBER	J.2	

111_01
10/14/22

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
None Provided	