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PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
WOODBURY COUNTY
Pavement Markings

Eastland Ave to Fayette Ave
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	
18	
PROJECT IDENTIFICATION NUMBER	
25-97-020-040	
PROJECT NUMBER	
NHSN-020-1(210)--2R-97	
R.O.W. PROJECT NUMBER	

DESIGN DATA RURAL			
2024	AADT	8300	V.P.D.
2044	AADT	9960	V.P.D.
20	- DHV	-	V.P.H.
TRUCKS		17	%
Total			
Design ESALs		-	

DESIGN DATA URBAN			
2024	AADT	10100	V.P.D.
2044	AADT	12120	V.P.D.
20	- DHV	-	V.P.H.
TRUCKS		14	%
Total			
Design ESALs		--	

ROADWAY DESIGN

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.

Justin M. Pottorff

05/05/2026

SignatureJustin M. POTTORFFDate

Printed or Typed Name

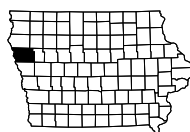
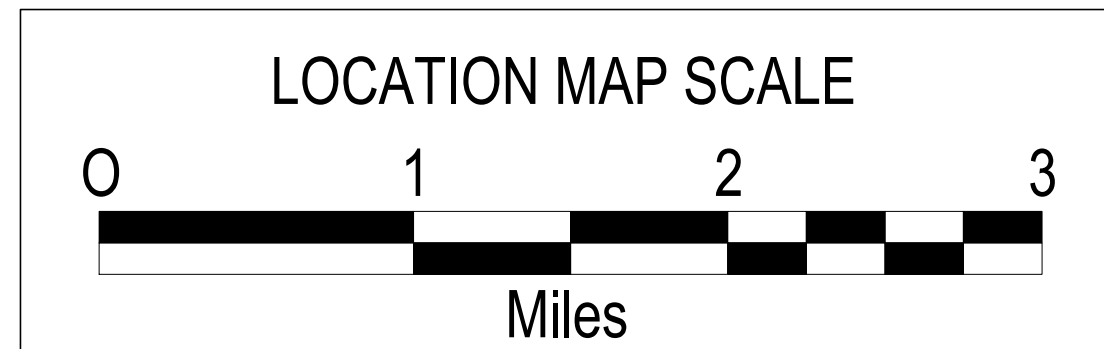
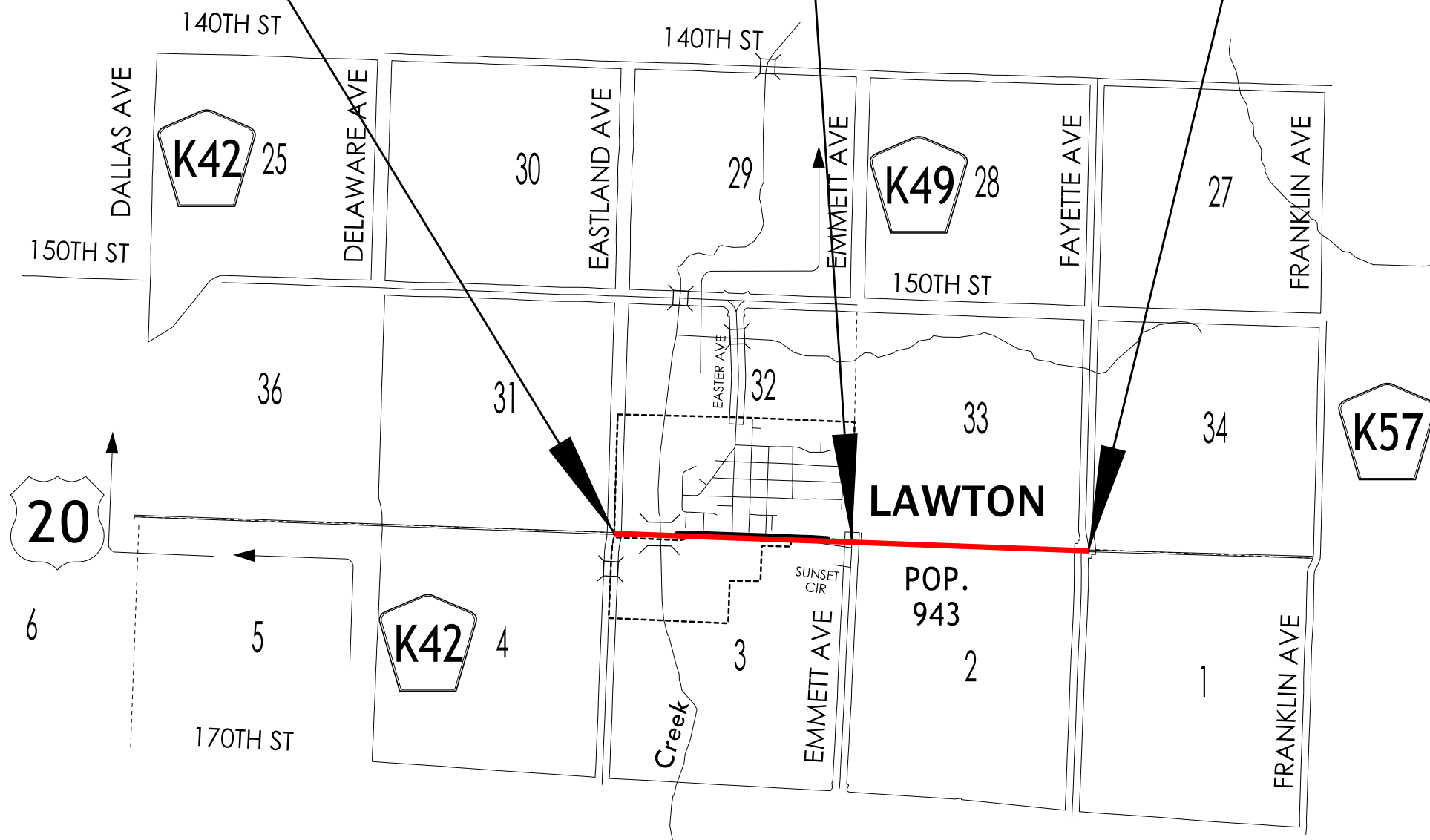
My license renewal date is December 31, 2026

Pages or sheets covered by this seal:ALL

BEGIN CONSTRUCTION
STA 793+82
MP 11.93
BEGIN DIV 1

END DIV 1
BEGIN DIV 2
STA 847+48
MP 12.94

END CONSTRUCTION
STA 900+50
MP 13.95
END DIV 2



WOODBURY COUNTY

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Division 1 : Urban
Division 2 : Rural

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Division 1	Division 2	Total	
1	2527-9263155	PRE-CUT SYMBOLS AND LEGENDS, PREFORMED THERMOPLASTIC MARKING MATERIAL	EACH	42		42	Refer to Tab 108-29.
2	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	123.37	227.22	350.59	Refer to Tab 108-22.
3	2527-9263225	PERMANENT TAPE MARKINGS, PREFORMED THERMOPLASTIC MARKING MATERIAL	STA	317.81		317.81	
4	2527-9270112	GROOVES CUT FOR PAVEMENT MARKINGS	STA	440.98	227.22	668.2	
5	2527-9270120	GROOVES CUT FOR SYMBOLS AND LEGENDS	EACH	42		42	Refer to Tab 108-29.
6	2528-8445110	TRAFFIC CONTROL	LS	0.5	0.5	1	Refer to Traffic Control Plan on Sheet J.1.
7	2533-4980005	MOBILIZATION	LS	0.5	0.5	1	- -

100_01D
8/15/22

PROJECT DESCRIPTION

This project is for the installation of permanent pavement markings and grooving on US 20 from Eastland Ave to Fayette Ave.

<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-111	04-21-20	Symbols and Legends
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-418	04-18-23	Lane Closure on Divided Highway
TC-419	04-18-23	Lane Closure on Undivided Highway
TC-431	04-15-25	Slow Moving Vehicle Operating in the Traffic Lane
TC-433	10-17-17	Pavement Marking Operations

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		US-20		11.64	12.51	1954		F-2(10)	PCC	9.5							HAWARDEN-NORTH	GRAVEL	2		CORECT'VLE GR=2
2.0		US-20		11.64	12.51	1998		NHSN-20-1(75)--2R-97	AAC	3.0	AAC	3.0					HAWARDEN-NORTH	GRAVEL			MILL 40MM OF UNKNOWN O'LAY
3.0		US-20		12.51	17.7	1954		F-2(10)	PCC	9.5							HAWARDEN-NORTH	GRAVEL	2		CORECT'VLE GR=2
4.0		US-20		12.51	17.7	1998	V	NHSN-20-1(75)--2R-97	AAC	3.0	AAC	3.0					HAWARDEN-NORTH	GRAVEL			

PROPOSED POSTED SPEED LIMIT			
Line No.	Roadway Identification	Proposed Posted Speed	Remarks
1.0	US 20	over 45	MP 11.93 Eastland Ave.
2.0	US 20	40-45	MP 12.02
3.0	US 20	over 45	MP 12.99
4.0	US 20	over 45	MP 13.95 Fayette Ave.

100_27
8/15/22

108 22

11/25/25

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

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BLW6 (STA)	BLW6 Factored (STA)	CHW10 (STA)	CHW10 Factored (STA)	CHY10 (STA)	CHY10 Factored (STA)	DCY6 (STA)	DCY6 Factored (STA)	ELW6 (STA)	ELW6 Factored (STA)	ELY6 (STA)	ELY6 Factored (STA)	SLW6 (STA)	SLW6 Factored (STA)	YLW2 (STA)	YLW2 Factored (STA)	Remarks	
US 20	793+82.00	807+89.00	All	Thermoplastic	x	x	x	Yes	71.76					42.97	71.76												
US 20	807+89.00	849+52.00	All	Thermoplastic	x	x	x	Yes	246.05			35.60	59.45	111.12	185.57									0.90	1.03	Refer to U. Sheets	
									317.81						59.45	257.33											1.03

Marking Type Thermoplastic:

Number of records:2

US 20	793+82.00	807+89.00	All	Waterborne/Solvent Paint	x	x	x	Yes	42.07	14.59	3.65							27.38	27.38	11.04	11.04					
US 20	807+89.00	849+52.00	All	Waterborne/Solvent Paint	x	x	x	Yes	81.10	20.00	5.00					0.40	0.80	43.20	43.20	1.60	1.60	30.50	30.50			Refer to U. Sheets
US 20	849+52.00	900+50.00	All	Waterborne/Solvent Paint	x	x	x	Yes	227.22	93.45	23.36							101.93	101.93	101.93	101.93					
									350.39						0.8	172.51	114.57									30.5

Marking Type Waterborne/Solvent Paint:

Number of records: 3

Total:

									668.2						59.45	257.33	0.8	172.51	114.57									1.03
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PAVEMENT MARKING SYMBOLS AND LEGENDS							108 29 4/15/25
Refer to PM-111							
Line No.	Roadway Identification	Station	Side	Pavement Symbol	Quantity (EA)	Groove Marking Needed?	Remarks
1.0	US 20 EB	813+00.00	Right	RTAW	2	Yes	RT TURN LANE-ENTRANCE
2.0	WB	814+70.00	Left	LTAW	2	Yes	LT TURN LANE-ENTRANCE
3.0	EB	819+00.00	Right	RTAW	2	Yes	RTL CEDAR ST-ENTRANCE
4.0	EB	819+00.00	Left	LTAW	2	Yes	LTR CEDAR ST
5.0	WB	821+50.00	Right	RTAW	2	Yes	RTL CEDAR ST
6.0	WB	821+50.00	Left	LTAW	2	Yes	LTL CEDAR ST- ENTRANCE
7.0	EB	826+70.00	Right	RTAW	2	Yes	RTL ELM ST- ENTRANCE
8.0	EB	826+70.00	Left	LTAW	2	Yes	LTL ELM ST
9.0	WB	828+60.00	Right	RTAW	2	Yes	RTL ELM ST
10.0	WB	828+60.00	Left	LTAW	2	Yes	LTL ELM ST-ENTRANCE
11.0	EB	834+50.00	Right	RTAW	2	Yes	RTL ENTRANCE
12.0	WB	836+50.00	Left	LTAW	2	Yes	LTL ENTRANCE
13.0	EB	846+60.00	Right	RTAW	2	Yes	RTL COUNTY RD
14.0	WB	848+50.00	Left	LTAW	2	Yes	LTL COUNTY RD
15.0	EB	813+00.00	Right	ONLW	1	Yes	RT TURN LANE-ENTRANCE
16.0	WB	814+70.00	Left	ONLW	1	Yes	LT TURN LANE-ENTRANCE
17.0	EB	819+00.00	Right	ONLW	1	Yes	RTL CEDAR ST-ENTRANCE
18.0	EB	819+00.00	Left	ONLW	1	Yes	LTR CEDAR ST
19.0	WB	821+50.00	Right	ONLW	1	Yes	RTL CEDAR ST
20.0	WB	821+50.00	Left	ONLW	1	Yes	LTL CEDAR ST- ENTRANCE
21.0	EB	826+70.00	Right	ONLW	1	Yes	RTL ELM ST- ENTRANCE
22.0	EB	826+70.00	Left	ONLW	1	Yes	LTL ELM ST
23.0	WB	828+60.00	Right	ONLW	1	Yes	RTL ELM ST
24.0	WB	828+60.00	Left	ONLW	1	Yes	LTL ELM ST-ENTRANCE
25.0	EB	834+50.00	Right	ONLW	1	Yes	RTL ENTRANCE
26.0	WB	836+50.00	Left	ONLW	1	Yes	LTL ENTRANCE
27.0	EB	846+60.00	Right	ONLW	1	Yes	RTL COUNTY RD
28.0	WB	848+50.00	Left	ONLW	1	Yes	LTL COUNTY RD
Total:					42		

262_06
9/28/22

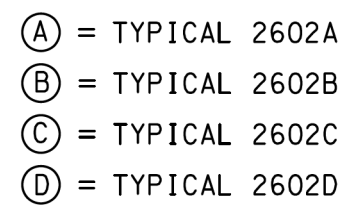
UTILITIES (NOT A POINT 25 PROJECT)

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

TRAFFIC CONTROL PLAN				108_23A 8/15/22	
1. Through traffic will be maintained on the project at all times.					
2. Traffic control on this project shall be found in accordance with the TC series of Standard Road Plans found in Tab. 105-4 and/or appropriate Detail Sheets included in the plans.					
For additional complementary information, refer to part VI of the Manual on Uniform Traffic Control Devices and the current Standard Specifications.					
3. The contractor shall coordinate traffic control with other projects in the area.					
4. Existing pavement markings that conflict with any TC Road Standard shall be removed.					

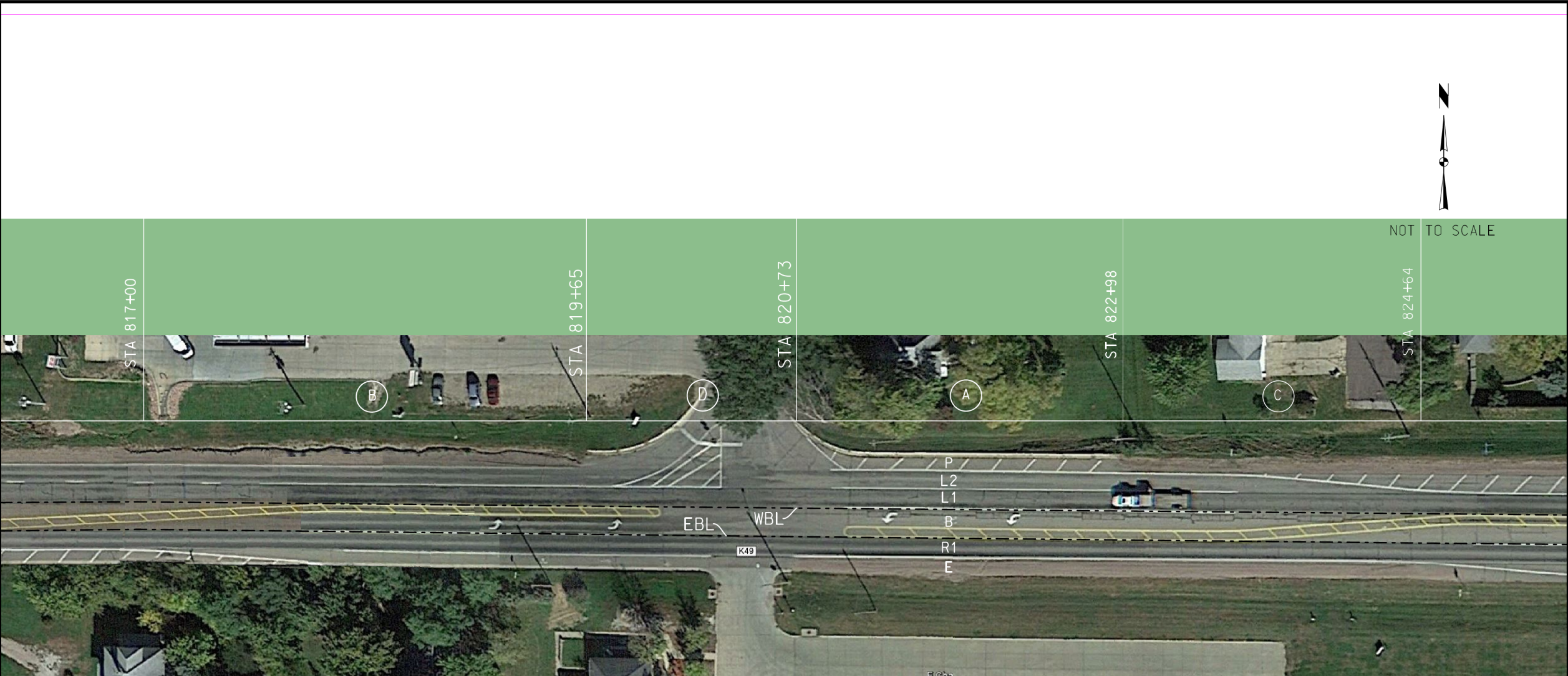
511 TRAVEL RESTRICTIONS

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
	US 20	EB	Woodbury	US 20 from Eastland Ave to Fayette Ave.	None	Traffic Control Device		Horizontal					



FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM DISTRICT 3	WOODBURY COUNTY	PROJECT NUMBER NHSN-020-1(210)--2R-97	SHEET NUMBER U.1
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- Ⓐ = TYPICAL 2602A
- Ⓑ = TYPICAL 2602B
- Ⓒ = TYPICAL 2602C
- Ⓓ = TYPICAL 2602D

FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	District 3	WOODBURY COUNTY	PROJECT NUMBER	NHSN-020-1(171)--2R-97	SHEET NUMBER	U.2
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STA 839+20

STA 843+70



(A) = TYPICAL 2602A
 (B) = TYPICAL 2602B
 (C) = TYPICAL 2602C
 (D) = TYPICAL 2602D

FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	District 3	WOODBURY COUNTY	PROJECT NUMBER	NHSN-020-1(171)-2R-97	SHEET NUMBER	U.5
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