

LFM-235TH--7X-95

WINNEBAGO COUNTY
HMA PAVEMENT - FULL DEPTH RECLAMATION

PLANS OF PROPOSED IMPROVEMENT ON THE
FARM-TO-MARKET SYSTEM
WINNEBAGO COUNTY
LFM-235TH--7X-95
HMA PAVEMENT - FULL DEPTH RECLAMATION

On 235th Ave from A34 to Lakeside Dr

Refer to the Proposal Form for list of applicable specifications.

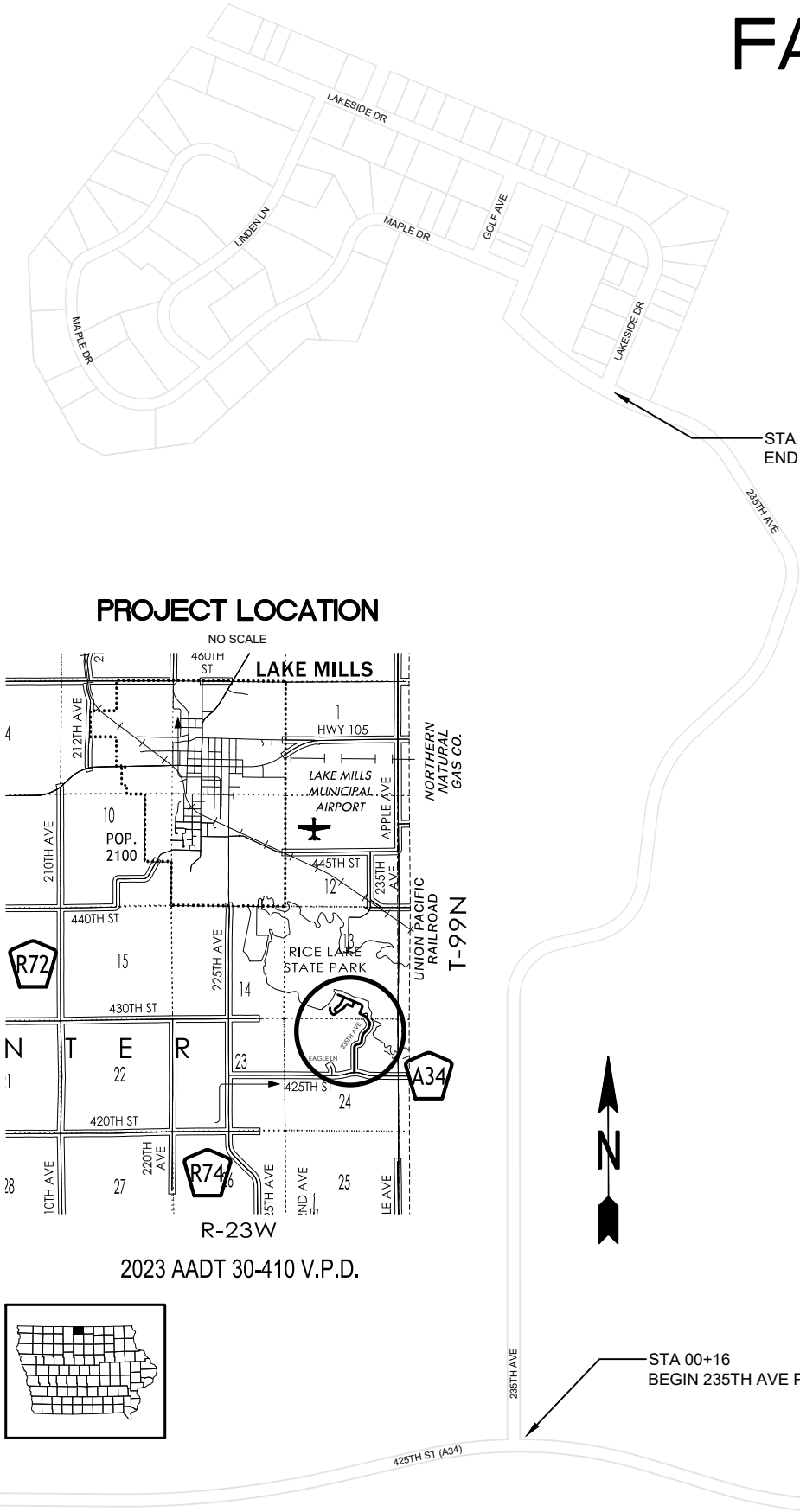
Scales: As Noted

		105-3
		10-18-05
INDEX OF SHEETS		
No.	Description	
A.1	Title Sheet	
B.1	Typical Cross Sections, Mix Design	
C.1	Estimate Reference Information, Estimated Project Quantities	
C.2	Tabulations, Intersection Details	

105-1				
09-27-94				
MILEAGE SUMMARY				
Location			Lin. Ft.	Miles
235TH AVE				
STA.	0+16	to STA. 33+01	3,285	0.62
Project Total			3,285	0.62

UTILITY CONTACTS			
Utility	Contact Name	Phone	Email
Heartland Power Cooperative	Mike Holstad	515-584-2251	mholstad@smig.net
Winnebago Cooperative Telecom Assn.	Paul Davis	641-592-6105	pauldavis@wctatel.com

			105-4
			10-18-11
STANDARD ROAD PLANS			
The following Standard Road Plans apply to construction work on this project.			
Number	Date	Title	
PV-3	10-15-24	Safety Edge	
PV-202	04-21-20	Hot Mix Asphalt Resurfacing	
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)	
TC-213	04-18-23	Lane Closure With Flaggers	
TC-251	04-18-23	Temporary Road Closure	
TC-284	10-15-19	No Centerline Marking on Non-Primary Roadways	

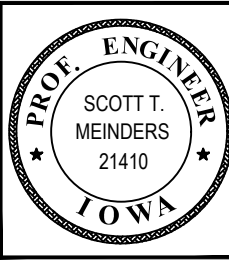


TRAFFIC CONTROL PLAN
This project will be completed under traffic with no marked detour.
Refer to Standard Road Plan TC-213 for work on 235th Avenue. The "work area" may be extended the entire length of 235th Avenue to avoid the need for pilot cars. Portable rumble strips are not required.
Traffic control devices, procedures, layouts, signing, and pavement markings installed within the limits of this project shall conform to the Manual on Uniform Traffic Control Devices for Streets and Highways, as adopted by the Department per 761 of the Iowa Administrative Code (IAC) Chapter 130.
Contractor shall be responsible for installation, maintenance, and removal of safety devices. Except that the County will install temporary NO CENTERLINE signs, rumble strip panels, and pavement markings.

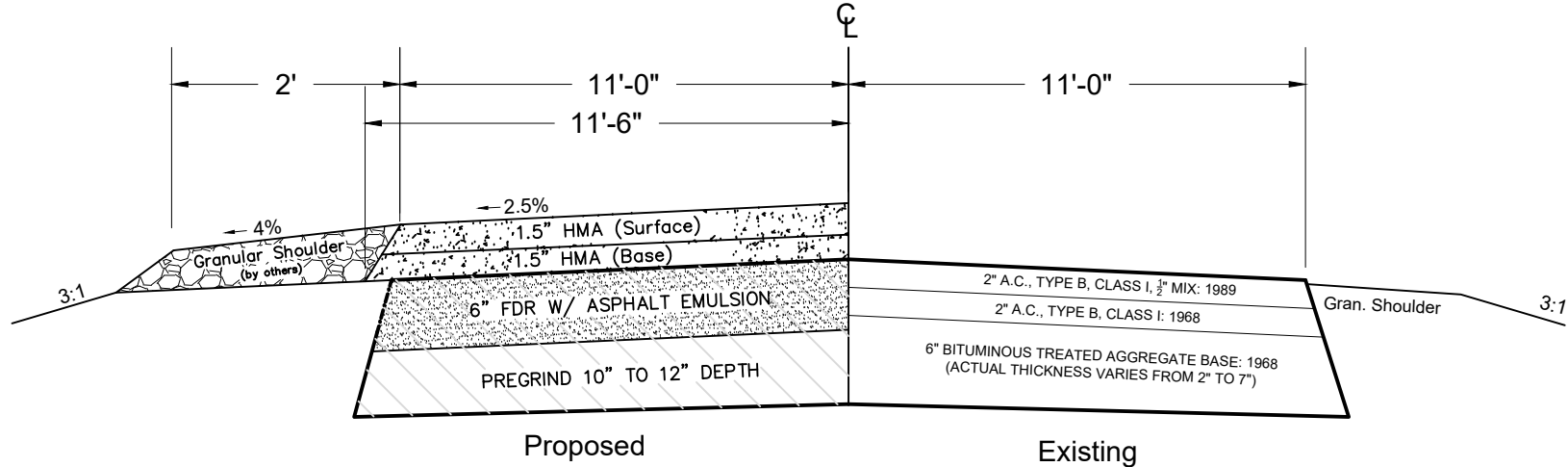


Approved, Board of Supervisors

[Signatures]



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.
[Signature] 7-8-25
Scott T. Meinders Date
My license renewal date is December 31, 2026
Pages or Sheets covered by this seal: All



TYPICAL CROSS SECTION
22' WIDTH, 6" FULL DEPTH RECLAMATION,
3' HOT MIX ASPHALT OVERLAY
WITH 2' GRANULAR SHOULDERS
235TH AVE
STA: 00+11 TO 33+01

AET P-0039286

SFDR MIX DESIGN SUMMARY

Client

Winnebago County, Iowa

Attn Scott Meinders
AET Contact Kristen Hanson

Project

235th Avenue

From

425th Street

To

Lakeside Drive

Target Emulsion Content	3.8% +/- 0.3%
Gal/SY (Assumes 6 in depth)	2.70
Target Moisture Content	2.7%
Cement Filler	1.0%

Relevant Specification 2023 MnDOT Grading and Base Manual, Section 5-692.290

Materials

The engineered emulsion used was manufactured and supplied by Flint Hills Resources, and it was graded as SFDR EE (H). Cement was manufactured and supplied by Continental Cemenet. Bituminous cores and aggregate base samples were collected and processed by AET. Blended materials consisted of 60% RAP and 40% existing base aggregate.

Mix Preparation

Testing was performed according to the MnDOT Grading and Base Manual for SFDR mix designs using engineered emulsified asphalt stabilization.

Comments from Testing

Please consult the letter report prefacing this report summary. If you have any questions concerning this report, please contact us.

Special Notes

Field adjustments to the emulsion content may be required.

1) The engineered emulsion content was determined based on the gradation of crushed materials in the laboratory. Use gradation checks and adjustments to reclaimer operations so the reclaimed material resembles the mix design sample.. Consult the letter report for more information on field issues reproducing the target gradation.

2) If the temperature of the surfacing during the reclaiming operation is above 100 deg F, the engineered emulsion content may need to be reduced to maintain workability.

3) We recommend performing a modified Proctor test on the reclaimed material prior to injecting emulsion to determine if the optimum moisture content of the field materials are different than the laboratory tested materials. We recommend keeping the moisture content between 45% and 65% of the optimum moisture.

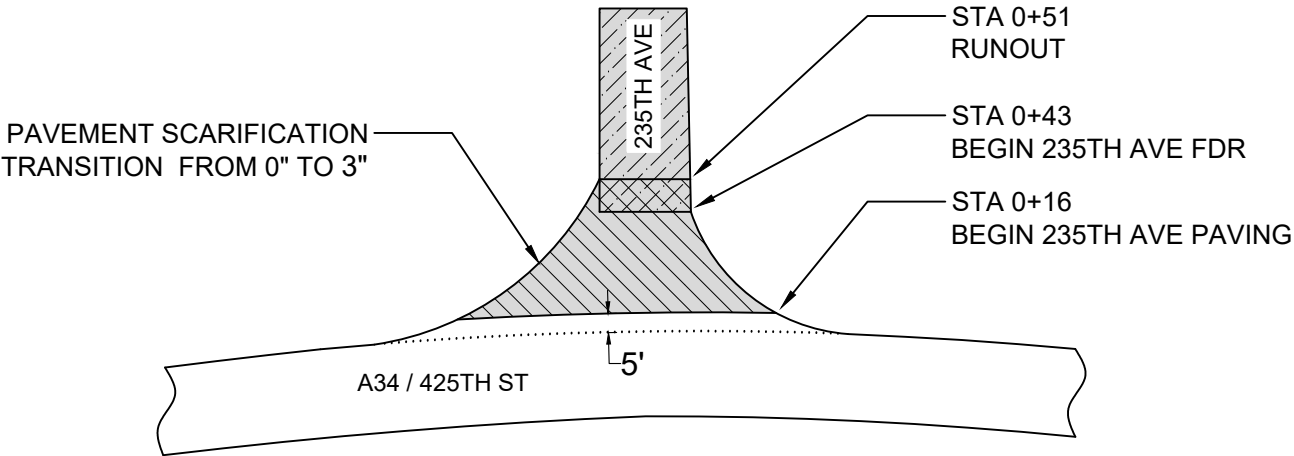
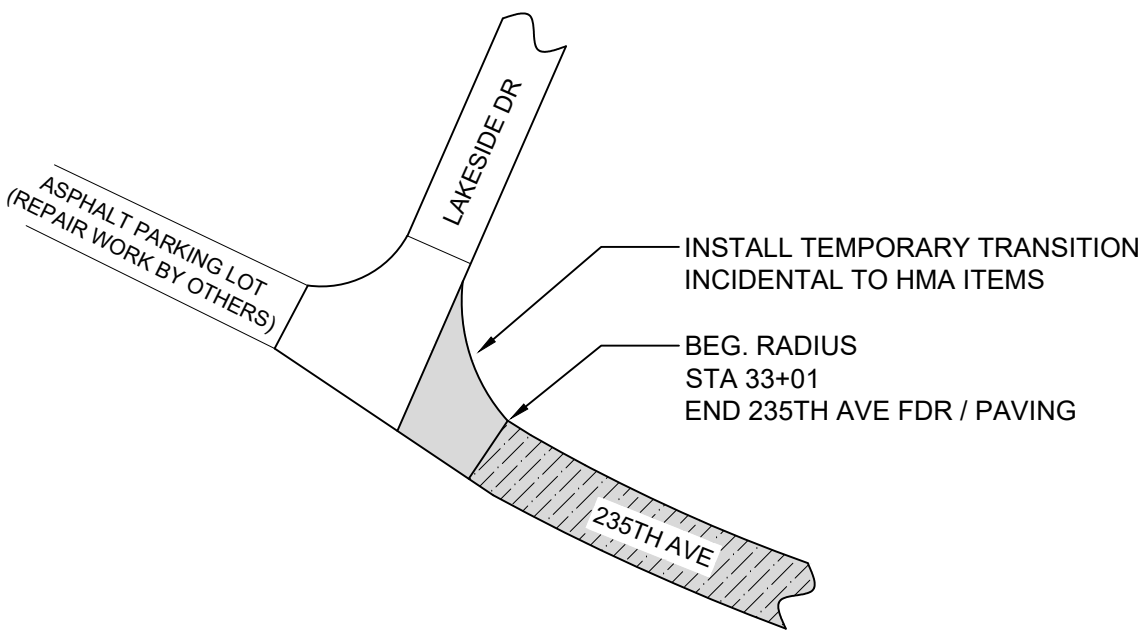
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Phone (651) 659-9001 | (800) 972-6364 | Fax (651) 659-1379 | www.teamAET.com | AA/EEO

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100-4A 10-29-02			
ESTIMATE REFERENCE INFORMATION			
Item Code	Item Code	Item	Description
0001	2116-0000100	FULL DEPTH RECLAMATION	Complete FDR in accordance with the typical cross section and mix design summary on Sheet B.1. Make an initial pass to pregrind the full depth of pavement, approximately 10" to 12", which is incidental to this item. Full geotechnical and mix design reports can be provided upon request.
0002	2116-0000220	ASPHALT STABILIZING AGENT	Use SFDR EE (H) cationic mixing grade engineered emulsion by Flint Hills or approved equal and meeting AASHTO M208 residue asphalt content minimum of 64% and penetration range of 100-200 dmm. Apply at a rate of 3.8% (2.70 gal/sy).
0003	2116-0000300	MINERAL STABILIZING AGENT	Use portland cement at a rate of 1% (5.95 lb/sy).
0004	2214-5145150	PAVEMENT SCARIFICATION	Item used for runnouts and driveways. See Sheet C.2 for tabulation, layout, and details.
0005	2303-1031500	HOT MIX ASPHALT STANDARD TRAFFIC, BASE COURSE, 1/2 IN. MIX	See Sheet B.1 for typical cross section. See Sheet C.2 for tabulation and intersection details. Class 1 compaction is required. Certified plant inspection is required. Pavement smoothness shall not apply.
0006	2303-1033500	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, NO SPECIAL FRICTION REQUIREMENT	See Item No. 5.
0007	2303-1258283	ASPHALT BINDER, PG 58-28S, STANDARD TRAFFIC	See Item No. 5.
0008	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES	
0009	2528-8445110	TRAFFIC CONTROL	See Sheet A.1 for Traffic Control Plan.
0010	2528-8445113	FLAGGERS	See previous item.
0011	2533-4980005	MOBILIZATION	

100-1C 04-17-12				
ESTIMATED PROJECT QUANTITIES				
Item No.	Item Code	Item	UNIT	Total
0001	2116-0000100	FULL DEPTH RECLAMATION	SY	7,964
0002	2116-0000220	ASPHALT STABILIZING AGENT	GAL	21,503
0003	2116-0000300	MINERAL STABILIZING AGENT	TON	23.70
0004	2214-5145150	PAVEMENT SCARIFICATION	SY	170
0005	2303-1031500	HOT MIX ASPHALT STANDARD TRAFFIC, BASE COURSE, 1/2 IN. MIX	TON	668
0006	2303-1033500	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, NO SPECIAL FRICTION REQUIREMENT	TON	668
0007	2303-1258283	ASPHALT BINDER, PG 58-28S, STANDARD TRAFFIC	TON	80
0008	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES	LS	1
0009	2528-8445110	TRAFFIC CONTROL	LS	1
0010	2528-8445113	FLAGGERS	EACH	9
0011	2533-4980005	MOBILIZATION	LS	1



PAVEMENT SCARIFICATION										Winnebago 05-17-22
Road	Station to Station		Side	Length	Width	Depth	Area	Qty	Remarks	
				LF	LF	IN	SY	Tons		
235th Ave.	0+16	0+51	BOTH	-	-	1.5	170	14	See Sheet C.2, Runnout	
Total							170	14		

Winnebago
01-06-22

HMA PLACEMENT

Calculations assume a hot mix asphalt unit weight (lb/cf) of 145, a binder rate of 6.00%.

Location				Mainline			Area	Bid Items									Remarks
								Hot Mix Asphalt Pavement						Binder			
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	Fillets	Surface		Intermediate		Base		Surface	Intermediate	Base	
				FT	FT	SY	SY	IN	TONS	IN	TONS	IN	TONS	TONS	TONS	TONS	
235th Ave.	BOTH	0+51	33+01	22	3,250	7,944	79	1.5	654.41			1.5	654.41	39.3		39.3	
A34 and 235th Ave.	BOTH						170	1.5	13.87			1.5	13.87	0.8		0.8	See Sheet C.2
Project Total									668				668	40		40	

LEGEND

PAVEMENT SCARIFICATION
(VARIABLE DEPTH)

FULL DEPTH RECLAMATION (FDR)

HMA PAVING

INTERSECTION DETAILS
NO SCALE