MINNESOTA DEPARTMENT OF TRANSPORTATION LYON COUNTY

CONSTRUCTION PLAN FOR: BITUMINOUS OVERLAY, MILLING, AND AGGREGATE SHOULDERS.

COUNTY STATE AID HIGHWAY NO. 24

BETWEEN: CSAH 10 & T.H. 59 (1.0 MILE EAST OF MINNEOTA)

FROM: NE. COR. SEC. 30 T113N-R42W TO: N. 1/4 COR. SEC. 21 T113N-R41W

STATE AID PROJECT 042-624-019

GROSS LENGTH

41259.00 FEET 7.814 MILES

BRIDGE LENGTH

0.00 FEET

0.000 MILES

EXCEPTIONS LENGTH

0.00 FEET

0.000 MILES

NET LENGTH

41259.00 FEET

7.814 MILES

1//2025

/2025

SHEET NO. SHEET NO.

2

TITLE SHEET ESTIMATED QUANTITY SHEET

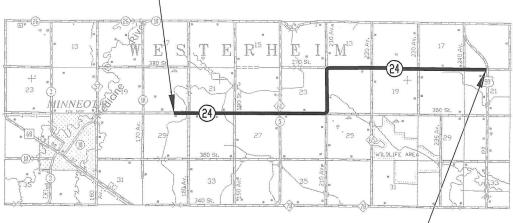
SHEET NO. SHEET NO.

4 SHEET NO.

DETAILS SHEET
TYPICAL SECTIONS SHEET
TRAFFIC CONTROL PLAN SHEET

THIS PLAN CONTAINS 5 SHEETS

BEG. S.A.P. 042-624-019 STA. 36+36.00



LYON COUNTY MINNESOTA

END S.A.P. 042-624-019

STA. 448+95.00

FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR POSTED SPEED: 55 MPH ADT (2025):360 PROJ ADT (2045): 460 NO. OF TRAFFIC LANES: 2 S.F. 130 % R VALUE:10 TON DESIGN:10 ESALS (20 YR): 129,000

SHOULDER WIDTH: 3.25' STOPPING SITE DISTANCE BASED ON: 3.5' HEIGHT OF EYE 2.0' HEIGHT OF OBJECT

GRADED: 42-624-04 (1982) 42-624-14 (2014)

SURFACED: 42-624-08 (1985) 42-624-13 (2001) 42-624-015(2014)

GOVERNING SPECIFICATIONS
THE 2020 EDITION OF THE MINNESOTA DEPARTMENT
OF TRANSPORTATION "STANDARD SPECIFICATIONS
FOR CONSTRUCTION" SHALL GOVERN.

Design Engineer: I	hereby	certify the	at this	plan wa	s prepared b	y me
or under my direct	supervis	sion, and	that I	am a di	uly licensed	
Professional Enginee	er under	the haws	of the	State c	of Minnesota.	

Signature -Design Engineer

Aaron VanMoer Printed name _ License number <u>50428</u>

/17/2025 Approved LYON COUNTY ENGINEER

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

/2025

APPROVED FOR STATE AID FUNDING: STATE AID ENGINEER

STATE AID PROJECT 042-624-019 SHEET 1 OF 5 SHEETS

	ITEM NO.	ITEM	UNIT	RURAL	TOTAL ESTIMATED QUANTITY
	2016.601	QUALITY MANAGEMENT-THERMAL PROFILE	LUMP SUM	1	1
	2016.601	QUALITY MANAGEMENT-INTELLIGENT COMPACTION	LUMP SUM	1	1
1	2021.501	MOBILIZATION	LUMP SUM	1	1
	2051.501	MAINTENANCE & RESTORATION OF HAUL ROADS	LUMP SUM	1	1
2	2221.509	SHOULDER BASE AGGREGATE CLASS 5 MOD	TON	3235	3235
3	2232.504	MILL BITUMINOUS SURFACE (2.00")	SQ YD	1022	1022
4	2360.509	TYPE SP 4.75 WEAR COURSE MIXTURE (3,B)	TON	4038	4038
5	2360.509	TYPE SP 12.5 WEAR COURSE MIXTURE (3,B)	TON	8075	8075
6	2563.601	TRAFFIC CONTROL	LUMP SUM	1	1
7	2580.501	INTERIM PAVEMENT MARKING	LUMP SUM	1	1
8	2582.503	4" SOLID LINE PAINT	LIN FT	16400	16400
8	2582.503	6" SOLID LINE PAINT	LIN FT	57200	57200
8	2582.503	24" SOLID LINE PAINT	LIN FT	14	14
8	2582.503	4" BROKEN LINE PAINT	LIN FT	4800	4800

CONSTRUCTION NOTES

- 1. TOTAL BID PRICE SHALL INCLUDE ALL OPERATIONS IN A SINGLE LUMP SUM BID.
- 2. 1325 TONS INCLUDED IN TOTAL QUANTITY FOR CROSSROADS & FIELD APPROACHES. #200 SIEVE MODIFIED TO 6-12%.
- 3. MILL EXISTING BITUMINOUS SURFACE 8' WIDE X 2.0" DEEP AS DIRECTED BY THE ENGINEER. MILLINGS SHALL BECOME PROPERTY OF THE CONTRACTOR. TOTAL QUANTITY INCLUDES X-RDS AND DRIVEWAYS.

MILL 100' X 28' WIDE AT EACH EXISTING CENTERLINE CULVERT FOR PATCHING. MILLINGS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

- 4. CONSTRUCT LONGITUDINAL JOINT AS PER MnDOT SPECIFICATION 2360.3C.
- 5. 30' SAFETY EDGE SHALL BE INCLUDED ON ALL LIFTS. BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30' ANGLE FROM THE TOP OF EACH COURSE.

BITUMINOUS TACK COAT SHALL BE INCLUDED WITH THE TOTAL BID PRICE. SUPPLY AND CONSTRUCT BITUMINOUS TACK COAT AS PER MNDOT SPECIFICATION 2357.

480 TONS INCLUDED IN TOTAL QUANTITY FOR AUXILIARY APPROACH PAVING INCLUDING TURN LANES.

105 TONS INCLUDED IN TOTAL QUANTITY FOR PATCHING AT SPECIFIED LOCATIONS.

- 6. TOTAL BID PRICE SHALL INCLUDE ALL TRAFFIC CONTROL OPERATIONS IN A SINGLE LUMP SUM BID. SEE SHEET 5 FOR DETAILS.
- 7. INTERIM PAVEMENT MARKING SHALL BE APPLIED AFTER EACH DAYS PAVING OPERATIONS. INTERIM MARKINGS SHALL CONSIST OF CENTER LINE MARKINGS AND INCLUDE NO PASSING ZONES IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD).
- 8. TOTAL PAINT PLACED. PLACE 6" SOLID EDGE LINE PAINT AT 11.5 FT.

CONSTRUCTION NOTES (GENERAL)

1. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY LEVEL "D". THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES."

CERTIFIED BY: _____LIC. NO. 50428 STATE AID PROJECT 042-624-019 SHEET 2 OF 5 SHEETS

BASIS FOR ESTIMATED QUANTITIES

WEAR COURSE MIXTURE

BITUMINOUS MATERIAL FOR MIXTURE (MAXIMUM DENSITY)
110LBS./SQ.YD./INCH OF DEPTH

TACK COAT

BITUMINOUS MATERIAL FOR TACK COAT .05 GALS. PER SQ.YD.

SHOULDER BASE AGGREGATE CL 5 MOD

140 POUNDS/CU.YD.

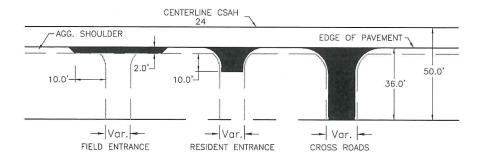
#200 SIEVE MODIFIED 6-12% PASSING

50 TON AT GRAVEL CROSS ROADS, 25 TON AT ENTRANCES

STANDARD PLATES AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.				
STANDARD PLATES				
PLATE NO.	DESCRIPTION			
8000 K	CHANNELIZERS			
9000 E	APPROACHES AND ENTRANCES			

TYPICAL AUXILIARY APPROACH PAVING

STANDARD PLATE 9000E SHALL APPLY. FIELD ADJUST AS DIRECTED BY THE ENGINEER.



ENTRANCE TYPE	#	EST. TONS
FIELD ENTRANCE (5 TON EA.)	34	170
ENTRANCE (20 TON EA.)	5	100
CROSS ROAD (30 TON EA.)	7	210
		480

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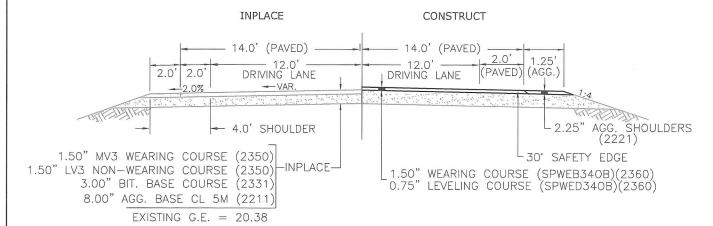
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TYPICAL SECTION

STA. 162+95.00 TO STA. 448+95.00

NOT TO SCALE

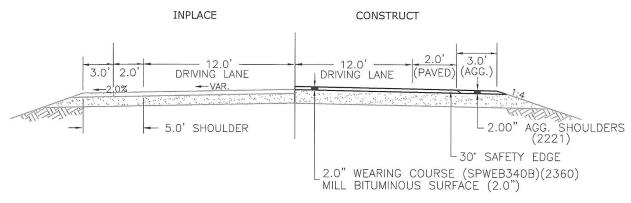


GRANULAR EQUIVALENT
10 TON
R VALUE: 10
ESAL'S: 129,000 (20 YR—FLEX)
REQUIRED G.E. 20.50
G.E. ON PLANS: 25.44

PATCHING

STA. 36+36.00 TO STA. 37+36.00 STA. 120+00.00 TO STA. 121+00.00 STA. 148+00.00 TO STA. 149+00.00

NOT TO SCALE



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TEMPORARY TRAFFIC CONTROL PLAN



	TEMPORARY TRAFFIC CONTROL SIGNS						
INSERT	SIGN	QUANTITY	NOTES	INSERT	SIGN	QUANTITY	NOTES
	ROAD WORK NEXT 5.5 MILES	2	INSTALL ON TYPE 3 BARRICADE BLACK ON ORANGE 48"x24"		UNEVEN LANES W8-11	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
(A)	NEXT 5.5 MILES		"NEXT 5.5 MILES"		BUMP AHEAD	AS NEEDED	BLACK ON ORANGE 48"x48"
CENTER STRIPE W8-12	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"×48"		W8-1A	AS NEEDED	BLACK ON ORANGE 48"x48"	
	SHOULDER W8-9	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"		W8-1A ROAD WORK AHEAD	AS NEEDED	BLACK ON ORANGE 48"x48"
	DO NOT PASS R4-1	AS NEEDED	INSTALL AT NO PASSING ZONE BLACK ON WHITE 24"x30"		PASS WITH CARE	AS NEEDED	INSTALL AT NO PASSING ZONE BLACK ON WHITE 24"x30"

GENERAL TEMPORARY SIGNING NOTES:

LICENSED PROFESSIONAL ENGINEER

- 1. TRAFFIC CONTROL LAYOUT FOR EACH OPERATION OF PAVING, SHOULDERING AND STRIPING SHALL MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE MMMUTCD, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
- 2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST MnMUTCD, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
- 3. ALL NECESSARY TRAFFIC CONTROL DEVICES ON THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR THE IMMEDIATE REPAIR OR REPLACEMENT OF ALL TRAFFIC CONTROL DEVICES THAT BECOME DAMAGED, MOVED, OR DESTROYED.
- 4. ALL INPLACE REGULATORY AND WARNING SIGNS TO REMAIN INPLACE THROUGHOUT CONSTRUCTION.
- 5. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE ALL TRAFFIC CONTROL DEVICES REQUIRED TO PROVIDE SAFE MOVEMENT OF LOCAL VEHICULAR TRAFFIC THROUGHOUT THE PROJECT. THE ENGINEER WILL HAVE THE RIGHT TO MODIFY THE REQUIREMENTS OF TRAFFIC CONTROL AS DEEMED NECESSARY DUE TO FIELD CONDITIONS. THE STREET SHALL REMAIN OPEN TO LOCAL TRAFFIC AT ALL TIMES. TEMPORARY SIGNING AND TRAFFIC CONTROL SHALL BE A LUMP SUM MEASUREMENT, AND TOTAL NUMBER OF SIGNS AND HOURS OF FLAGGING SHALL VARY BASED ON THE CONTRACTORS OPERATION.

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CERTIFIED BY:_

_LIC. NO. 50428

STATE AID PROJECT 042-624-019 SHEET 5 OF 5 SHEETS