

MINNESOTA DEPARTMENT OF TRANSPORTATION LYON COUNTY

CONSTRUCTION PLAN FOR: BITUMINOUS OVERLAY AND AGGREGATE SHOULDERS.

COUNTY STATE AID HIGHWAY NO. 9

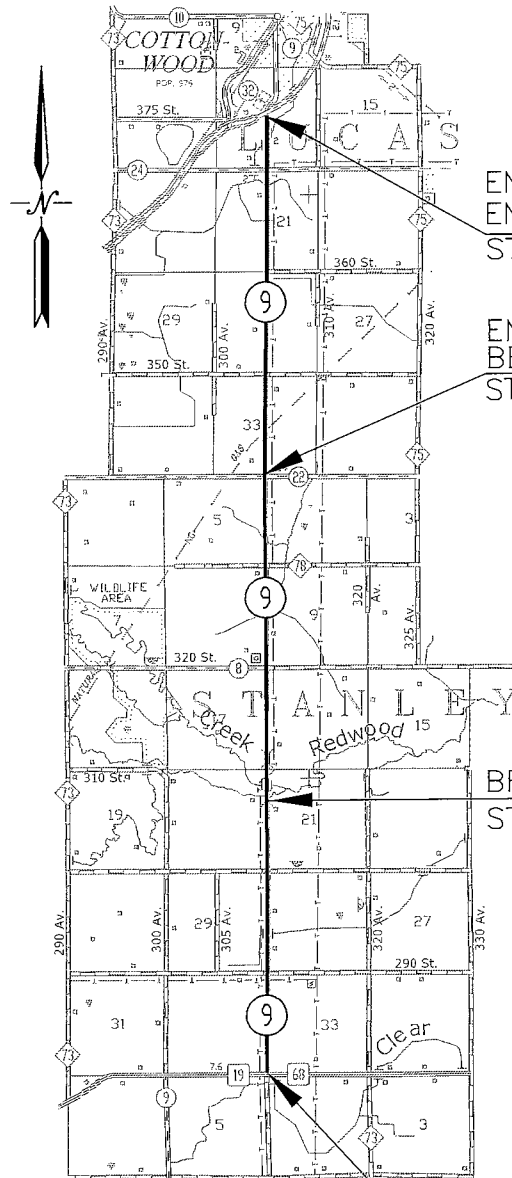
BETWEEN: MN 19/68 AND MN 23
FROM: N.E. COR. SEC. 5 T111N-R40W
TO: A POINT 3,169' N. OF THE S. QUARTER
COR. SEC. 16-T113N-R40W
(0.5 MILES SOUTH OF COTTONWOOD)

STATE AID PROJECT 042-609-034

GROSS LENGTH	49,720.50 FEET	9.417 MILES
BRIDGE LENGTH	132.00 FEET	0.025 MILES
EXCEPTIONS LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	49,720.50 FEET	9.417 MILES

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	ESTIMATED QUANTITY SHEET
SHEET NO. 3	TYPICAL SECTIONS SHEET
SHEET NO. 4	TRAFFIC CONTROL PLAN SHEET

THIS PLAN CONTAINS 4 SHEETS



END S.A.P. 042-609-034
END SEGMENT 2
STA. 497+20.50

END SEGMENT 1
BEGIN SEGMENT 2
STA. 310+97.50

BRIDGE 42522
STA. 145+28.00

BEGIN S.A.P. 042-609-034
BEGIN SEGMENT 1
STA. 0+00.00

FUNCTIONAL CLASSIFICATION:

MAJOR COLLECTOR

DESIGN SPEED: 40 MPH

ADT: 630 (2017)

PROJ ADT: 800 (2037)

NO. OF TRAFFIC LANES: 2

NO. OF PARKING LANES: 0

S.F.: 130%

R VALUE: 10

TON DESIGN: 10

ESALS (20 YR): 292,000

SHOULDER WIDTH: SEG. 1 = 3.75'

SEG. 2 = 3.25'

STOPPING SITE DISTANCE BASED ON:

3.5' HEIGHT OF EYE

2.0' HEIGHT OF OBJECT

SEGMENT 1: MN 19/68 TO CSAH 22

GRADED: SP 42-505-02 AND

SP 42-505-03 (1948-1950)

SURFACED: SAP 42-609-26 (1993)

SEGMENT 2: CSAH 22 TO MN 23

GRADED: SP 42-505-02 (1948)

SURFACED: SAP 42-609-27 (1995)

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Signature: *Aaron VanMoer* _____ Typed Name: Aaron VanMoer
Design Engineer

Date: *2/15/17* _____ License No.: 50428

_____ Date: *2/15/17*
Approved County Engineer

_____ Date: *2/16/17*
District State Aid Engineer:
Reviewed for Compliance with State Aid Rules/Policy

_____ Date: *2/16/17*
Approved for State Aid Funding - for State Aid Engineer

GOVERNING SPECIFICATIONS
THE 2016 EDITION OF THE MINNESOTA DEPARTMENT
OF TRANSPORTATION "STANDARD SPECIFICATIONS
FOR CONSTRUCTION" SHALL GOVERN.

NOTE	ITEM NO.	ITEM	UNIT	MUN.	RURAL	TOTAL ESTIMATED QUANTITY
	2021.501	MOBILIZATION	LUMP SUM		1.00	1.00
	2051.501	MAINTENANCE & RESTORATION OF HAUL ROADS	LUMP SUM		1.00	1.00
1	2221.501	SHOULDER BASE AGGREGATE CLASS 5 MOD	TON		10,560.00	10,560.00
2	2232.501	MILL BITUMINOUS SURFACE (1.5")	SQ YD		110.00	110.00
3	2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD		528.00	528.00
4	2360.501	TYPE SP12.5 WEARING COURSE MIX (3,B)	TON		23,040.00	23,040.00
	2563.601	TRAFFIC CONTROL	LUMP SUM		1.00	1.00
	2582.502	24" STOP LINE PAINT	LIN FT		70.00	70.00
5	2582.502	4" SOLID LINE PAINT	LIN FT		36,550.00	36,550.00

CONSTRUCTION NOTES

1. INCLUDES 20 TONS PER FIELD ENTRANCE.
2. MILL 8' X 24' AT MN 19 (1), CSAH 8 (1), CSAH 22 (2), AND MN 23 (1).
3. MILL 2" AT BRIDGE 42522 (132'x32').
4. 30° SAFETY EDGE SHALL BE INCLUDED. BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30° ANGLE FROM THE TOP OF EACH COURSE.
PLACE 1.5" WEARING COURSE ON BRIDGE 42522.
5. YELLOW CENTER LINE PAINT. TOTAL QUANTITY INCLUDES SOLID AND BROKEN LINE.

BASIS FOR ESTIMATED QUANTITIES

WEARING 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.
TACK COAT INCIDENTAL TO BITUMINOUS PAVING

AGGREGATE SHOULDERS

1.89 TONS./C.Y. AND 20 TONS PER FIELD APPROACH

STANDARD PLATES AS APPROVED BY THE FEDERAL HIGHWAY
ADMINISTRATION SHALL APPLY ON THIS PROJECT.

STANDARD PLATES

PLATE NO.	DESCRIPTION
8000 J	CHANNELIZERS
9000 E	APPROACHES AND ENTRANCES

CERTIFIED BY:



LIC. NO. 50428

LICENSED PROFESSIONAL ENGINEER

STATE AID PROJECT 042-609-034

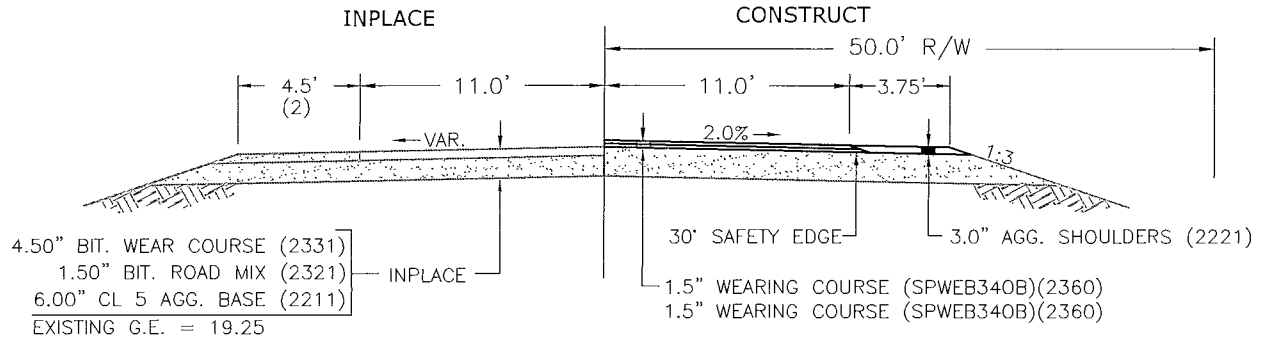
SHEET 2 OF 4 SHEETS

TYPICAL SECTION

SEGMENT 1 - STA. 0+00 TO STA. 310+97.5

MN 19 TO CSAH 22

NOT TO SCALE



GRANULAR EQUIVALENT
10 TON
R VALUE: 10
ESAL'S: 292,000
G.E. REQUIRED: 25.30
G.E. ON PLANS: 26.00

SECTION NOTES:

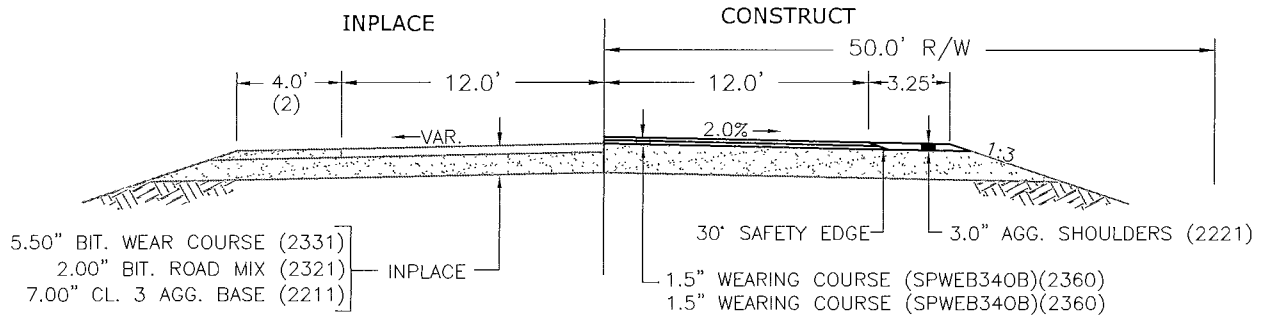
1. 30' BITUMINOUS SAFETY EDGE SHALL BE INCLUDED. BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30' ANGLE FROM THE TOP OF EACH LIFT.
2. INPLACE SHOULDER WIDTH BASED ON AN AVERAGE OF MEASUREMENTS.
3. MILL 2" AND PLACE 1.5" WEARING COURSE AT BRIDGE 42522 (STA. 145+28.00)

TYPICAL SECTION

SEGMENT 2 - STA. 310+97.5 TO STA. 497+20.5

CSAH 22 TO MN 23

NOT TO SCALE



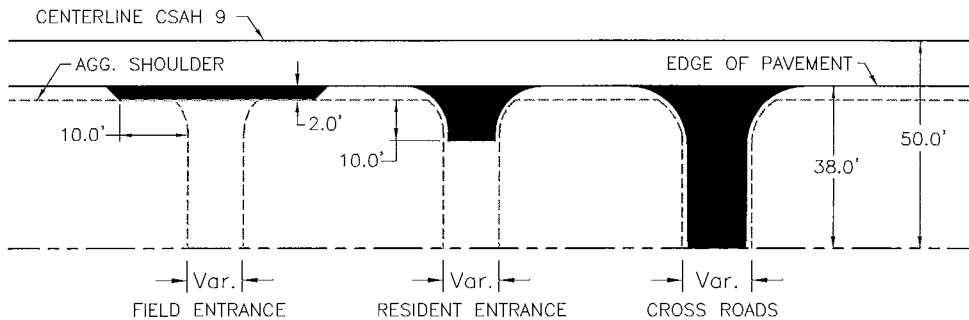
GRANULAR EQUIVALENT
10 TON
R VALUE: 10
ESAL'S: 292,000
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SECTION NOTES:

1. 30' BITUMINOUS SAFETY EDGE SHALL BE INCLUDED. BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30' ANGLE FROM THE TOP OF EACH LIFT.
2. INPLACE SHOULDER WIDTH BASED ON AN AVERAGE OF MEASUREMENTS.

TYPICAL AUXILIARY APPROACH PAVING

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



ENTRANCE TYPE	#	EST. TONS
FIELD ENTRANCE	51	255
RESIDENT ENTRANCE	17	425
CROSS ROAD	15	525
		1205

CERTIFIED BY:










LIC. NO. 50428

LICENSED PROFESSIONAL ENGINEER

STATE AID PROJECT 042-609-034

SHEET 3 OF 4 SHEETS

TEMPORARY TRAFFIC CONTROL PLAN

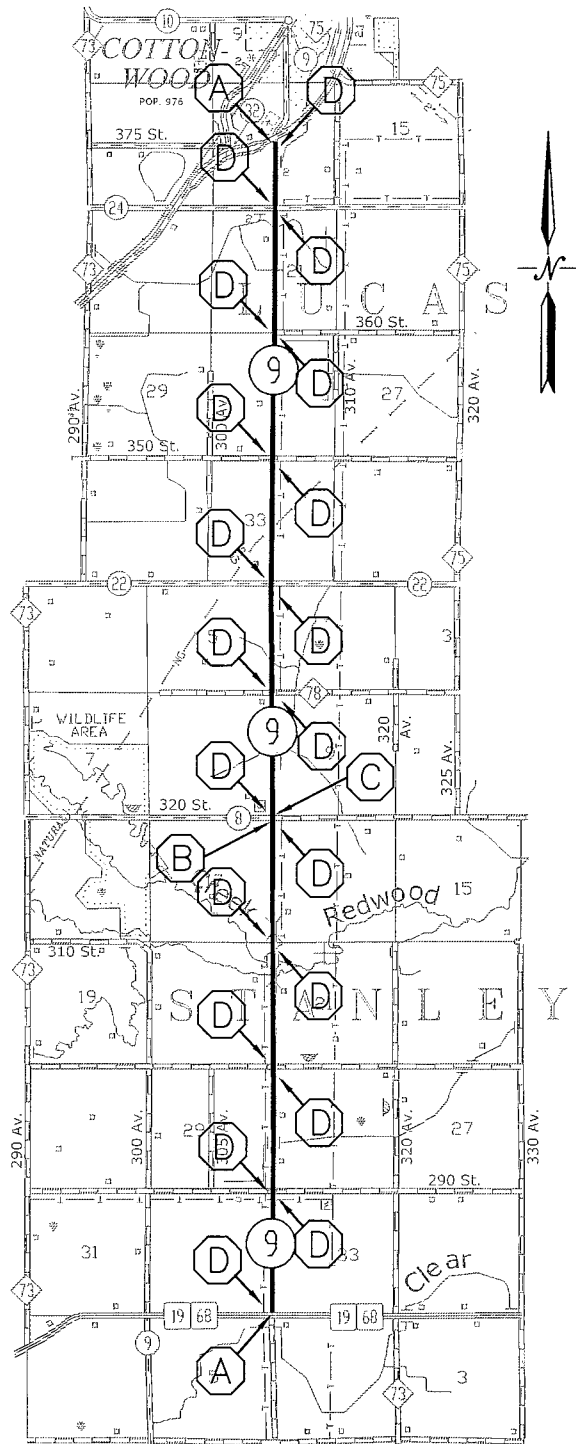
TEMPORARY TRAFFIC CONTROL SIGNS			
INSERT	SIGN	QUANTITY	NOTES
(A) (B) (C)	 G20-1 NEXT 10.0 MILES	2	INSTALL ON TYPE 3 BARRICADE BLACK ON ORANGE 48"x24"
	NEXT 4.0 MILES	1	
	NEXT 5.5 MILES	1	
(D)	 W8-12	20	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	 W8-9	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	 W8-11	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	 W8-1A	AS NEEDED	BLACK ON ORANGE 48"x48"
	 W8-1A	AS NEEDED	BLACK ON ORANGE 48"x48"
	 W20-1	AS NEEDED	BLACK ON ORANGE 48"x48"
	 R4-1	22	INSTALL AT NO PASSING ZONE BLACK ON WHITE 24"x30"
	 R4-2	18	INSTALL AT NO PASSING ZONE BLACK ON WHITE 24"x30"

SIGN SPECIFIC NOTES:

1. R4-1 AND R4-2 SIGNS TO BE INSTALLED AT ENDS OF SOLID YELLOW LINES. R4-1 SIGNS TO BE INSTALLED OPPOSITE INPLACE NO PASSING ZONE SIGNS. R4-2 SIGNS TO BE INSTALLED AT THE TERMINATION OF SOLID YELLOW LINE. SIGNS SHALL BE INSTALLED PRIOR TO REMOVING CENTERLINE MARKINGS AND SHALL REMAIN INPLACE UNTIL FINAL STRIPING IS RESTORED.

GENERAL TEMPORARY TRAFFIC CONTROL NOTES:

1. TRAFFIC CONTROL SHALL MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE MnMUTCD, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
2. 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.
3. ALL INPLACE REGULATORY AND WARNING SIGNS TO REMAIN INPLACE THROUGHOUT CONSTRUCTION.
4. 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.



CERTIFIED BY:  LIC. NO. 50428
 LICENSED PROFESSIONAL ENGINEER