

# MINNESOTA DEPARTMENT OF TRANSPORTATION LYON COUNTY

CONSTRUCTION PLAN FOR: BITUMINOUS OVERLAY AND AGGREGATE SHOULDERS.

COUNTY STATE AID HIGHWAY NO. 13

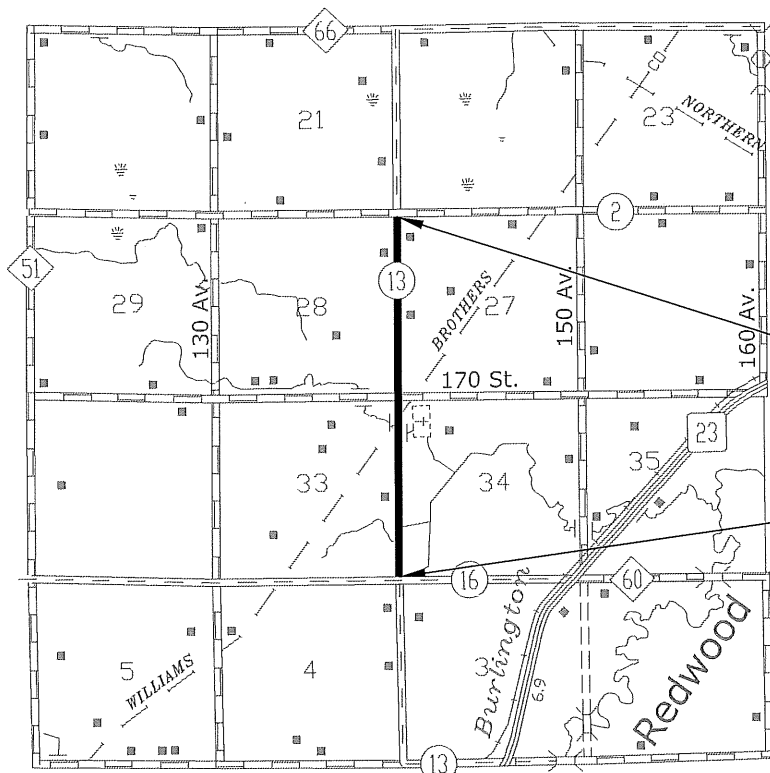
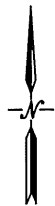
BETWEEN: CSAH 16 AND CSAH 2  
FROM: N.E. COR. SEC 4 T109N-R43W  
TO: N.E. COR. SEC 28 T110N-R43W

STATE AID PROJECT NO. 042-613-024

GROSS LENGTH	10596.48 FEET	2.007 MILES
BRIDGE LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	10596.48 FEET	2.007 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. 042-613-024  
STA. 105+96.48

BEG S.A.P. 042-613-024  
STA. 0+00.00

FUNCTIONAL CLASSIFICATION:  
RURAL MAJOR COLLECTOR

DESIGN SPEED 40 MPH

ADT 330 (2014)

PROJ ADT 560 (2034)

NO. OF TRAFFIC LANES: 2

NO. OF PARKING LANES: 0

S.F. 100 %

TON DESIGN 9

ESALS (20 YR) = 311,000

SHOULDER WIDTH 3.00'

STOPPING SITE DISTANCE BASED ON:

3.5' HEIGHT OF EYE

2.0' HEIGHT OF OBJECT

GRADED SAP 042-613-08 (1967)

SAP 042-613-10 (1968)

SURFACED SAP 042-613-18 (1993)

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: 3/18/15 License No.: 50428

*Aaron VanMoer* Date: 3/18/15  
Approved County Engineer

*Tom D. Brunault* Date: 3/19/15  
District State Aid Engineer:  
Reviewed for Compliance with State Aid Rules/Policy

*Tom D. Brunault* Date: 3/19/15  
Approved for State Aid Funding - for State Aid Engineer

GOVERNING SPECIFICATIONS  
THE 2014 EDITION OF THE MINNESOTA DEPARTMENT  
OF TRANSPORTATION "STANDARD SPECIFICATIONS  
FOR CONSTRUCTION".

NOTE	ITEM NO.	ITEM	UNIT	RURAL	TOTAL ESTIMATED QUANTITY
	2021.501	MOBILIZATION	LUMP SUM	1.00	1.00
	2051.501	MAINT. & RESTORATION OF HAUL ROADS	LUMP SUM	1.00	1.00
	2221.501	SHOULDER BASE AGGREGATE CLASS 5 MOD.	TON	1400.00	1400.00
1,2	2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3,B)	TON	3125.00	3125.00
	2563.601	TRAFFIC CONTROL	LUMP SUM	1.00	1.00
	2582.502	6" SOLID LINE WHITE-PAINT	LIN FT	20875.00	20875.00
	2582.502	4" SOLID LINE YELLOW-PAINT	LIN FT	10185.00	10185.00

**CONSTRUCTION NOTES**

- 30 DEGREE SAFETY EDGE SHALL BE INCLUDED WITH THE TOTAL BID PRICE FOR BITUMINOUS WEARING COURSE (2360). BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30 DEGREE ANGLE FROM THE TOP OF EACH COURSE.
- TACK OIL @ .05 GAL/SQ. YD. SHALL BE INCLUDED WITH THE TOTAL BID PRICE FOR BITUMINOUS WEARING COURSE (2360).

BASIS FOR ESTIMATED QUANTITIES
<p><u>WEARING COURSE MIXTURE</u>            BITUMINOUS MATERIAL FOR MIXTURE (MAXIMUM DENSITY)            110LBS./SQ.YD./INCH OF DEPTH</p> <p><u>TACK COAT</u>            BITUMINOUS MATERIAL FOR TACK COAT .05 GALS. PER SQ.YD.</p> <p><u>SHOULDER BASE AGGREGATE</u>            140 LBS/CU. FT.</p>

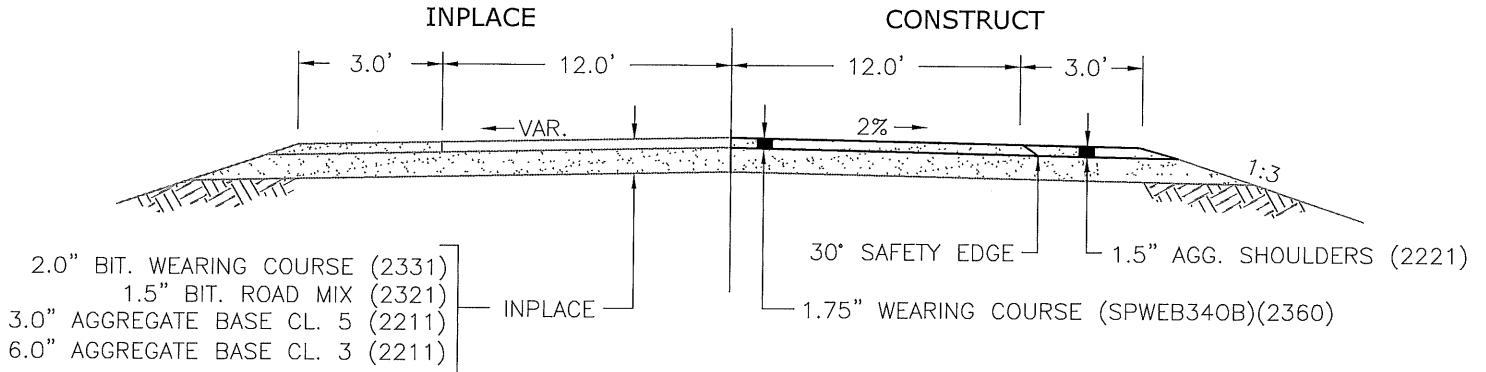
STANDARD PLATES AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.	
STANDARD PLATES	
PLATE NO.	DESCRIPTION
8000 I	STANDARD BARRICADES
9000 E	APPROACHES AND ENTRANCES

GRANULAR EQUIVALENT  
 9 TON  
 R VALUE: 10  
 ESAL'S: 311,000

EXISTING G.E.: 13.75  
 REQUIRED G.E.: 17.50  
 ON PLANS: 17.688

## TYPICAL SECTION

STA. 0+00.00 TO STA. 105+96.45  
 C.S.A.H. 16 TO C.S.A.H. 2  
 NOT TO SCALE

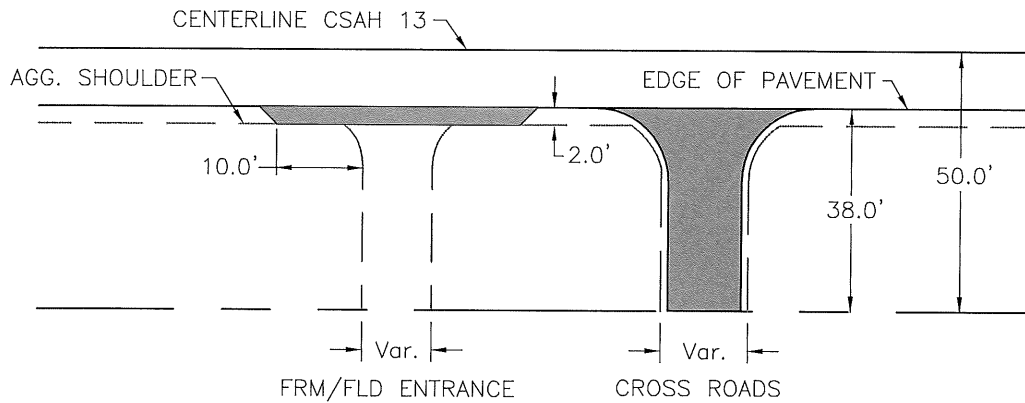


**SECTION NOTES:**

1. 30° BITUMINOUS SAFETY EDGE SHALL BE INCLUDED WITH THE TOTAL BID PRICE FOR BITUMINOUS WEARING COURSE (2360).
2. TACK OIL SHALL BE INCLUDED WITH THE TOTAL BID PRICE FOR BITUMINOUS WEARING COURSE (2360).

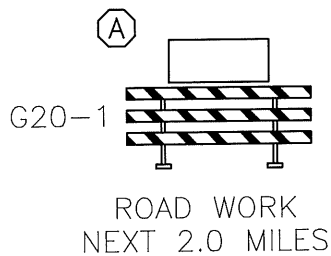
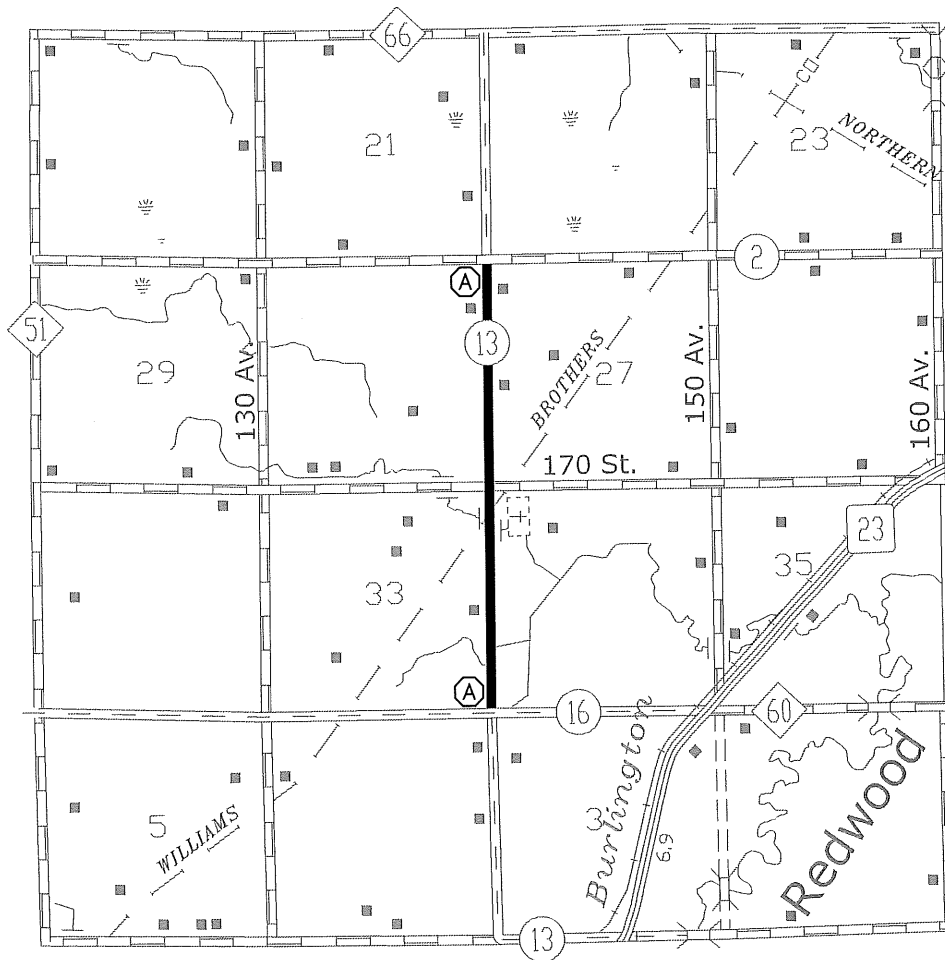
## TYPICAL AUXILIARY APPROACH PAVING

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



ENTRANCE TYPE	#	EST. TONS
FIELD ENTRANCE	14	70
RESIDENT ENTRANCE	1	5
CROSS ROADS	5	200
		275

# TRAFFIC CONTROL PLAN



**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