

MINNESOTA DEPARTMENT OF TRANSPORTATION LINCOLN COUNTY CONSTRUCTION PLAN FOR BITUMINOUS OVERLAY COUNTY STATE AID HIGHWAY NO. 20

LOCATED ON CSAH 20 BETWEEN THE INT. OF TH 75 AND YELLOW MEDICINE CSAH 16 FROM 27.00' FROM (Geographic Description)
THE NORTHEAST CORNER OF SECTION 4-T113N-R45W TO 0.84' SOUTH OF NORTH 1/4 OF SECTION 1-T113N-R45W (Legal Description)

SPECIFICATIONS

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

INDEX

SHEET 1	TITLE SHEET / INDEX MAP
SHEET 2	ESTIMATED QUANTITIES / STANDARD PLATES
SHEET 3	QUANTITY TABLES / TYPICAL SECTIONS
SHEET 4	TRAFFIC CONTROL

THIS PLAN CONTAINS 4 SHEETS

LAST PROJECTS:

SAP 041-620-005 (BITUMINOUS OVERLAY-1 1/2" LEVELING AND 1 1/4" WEARING, 1990)
SAP 041-620-003 (AGGREGATE BASE, PLANT-MIXED BITUMINOUS SURF.
AND AGGREGATE SHOULDERS, 1970)

DESIGN DESIGNATION

(TH 75 TO CR 109)

Design Strength	10 TON
R-VALUE	10 (ASSUMED)
ADT (2025)	183
PROJ. ADT (2045)	201
PROJ. HCA DT (2045)	12 (6%)
SOIL FACTOR	130
SHOULDER WIDTH	4.0 FT.

DESIGN DESIGNATION

(CR 109 TO YELLOW MEDICINE COUNTY 16)

Design Strength	10 TON
R-VALUE	10
ADT (2025)	154
PROJ. ADT (2045)	169
PROJ. HCA DT (2045)	10 (6%)
SOIL FACTOR	130
SHOULDER WIDTH	4.0 FT.

OR

FUNCTIONAL CLASSIFICATION MINOR COLLECTOR
NO. OF TRAFFIC LANES 2 NO. OF PARKING LANES 0
POSTED SPEED 55 MPH
BASED ON STOPPING SIGHT DISTANCE
HEIGHT OF EYE 3.5 FT. HEIGHT OF OBJECT 2.0 FT.
DESIGN SPEED NOT ACHIEVED AT:
STA. _____ TO STA. _____

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GROSS-LENGTH	13188.6 FT.	2.498 MI.
BRIDGES-LENGTH	0.0 FT.	0.000 MI.
EXCEPTIONS-LENGTH	0.0 FT.	0.000 MI.
NET-LENGTH	13188.6 FT.	2.498 MI.

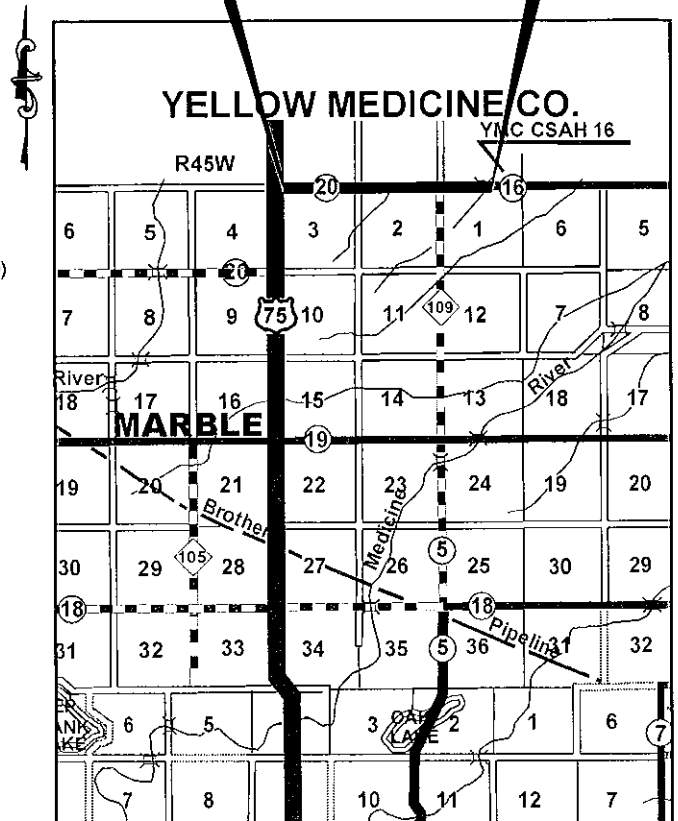


SAP 041-620-011

BOP STA. 0+27

SAP 041-620-011

EOP STA. 132+15.55



SCALE: 1 MILE

LOCAL AGENCY SIGNATURES:

Signature: Joseph M. Wilson Typed or Printed Name: JOSEPH M. WILSON
Design Engineer: I hereby certify that this plan was prepared by me
or under my direct supervision, and that I am a duly Licensed
Professional Engineer under the laws of the State of Minnesota.

Date: 4-9-25

License Number: 54947

Approved: Joseph M. Wilson
Lincoln County Engineer

Date: 4-9-25

District State-Aid Engineer: _____
Reviewed for Compliance with State-Aid Rules/Policy

State-Aid Engineer: _____
Approved for State-Aid Funding

ESTIMATED QUANTITIES / STANDARD PLATES

NOTES	ITEM NUMBER	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
	2016.601	QUALITY MANAGEMENT-THERMAL PROFILING	LUMP SUM	1
	2021.501	MOBILIZATION	LUMP SUM	1
1	2221.609	SHOULDER BASE AGGREGATE CLASS 1 MOD	TON	1705
2,3	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (2,B)	TON	3171
	2563.601	TRAFFIC CONTROL	LUMP SUM	1
4	2582.503	4" SOLID LINE PAINT	LIN FT	35879
5	2582.503	4" BROKEN LINE PAINT	LIN FT	2439

NOTES:


- SHOULDER BASE AGGREGATE CLASS 1 MOD INCLUDES AN ADDITIONAL 100 TON PER LANE MILE TO ACCOUNT FOR THE EXISTING SHOULDER MATERIAL BEING LOW. SEE SPECIAL PROVISION 2211 FOR MODIFICATION OF THE SPECIFICATION FOR BID ITEM 2221.609.
- THE CONTRACTOR SHALL MILL BUTT JOINTS AT THE BOP AND EOP. MILLINGS BECOME THE PROPERTY OF THE CONTRACTOR. MILLING BUTT JOINTS SHALL BE INCLUDED IN THE BID PRICE OF TYPE SP 12.5 WEARING COURSE MIXTURE (2,B).
- BITUMINOUS TACK MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR TYPE SP 12.5 WEARING COURSE MIXTURE (2,B). THE CONTRACTOR SHALL REFER TO APPLICATION RATES SPECIFIED IN TABLE 2357.3-1 IN THE MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- QUANTITY CONTAINS 26466 LINEAR FEET OF WHITE PAINT AND 9413 LINEAR FEET OF YELLOW PAINT.
- QUANTITIES DO NOT INCLUDE 40' SKIP. 4" BROKEN LINE PAINT SHALL BE YELLOW IN COLOR.

EXISTING BITUMINOUS	
CORE LOCATION	CORE THICKNESS
STA. 27+84 RT.	5.25"
STA. 31+56 LT.	6.375"
STA. 40+78 RT.	5.5"
STA. 56+37 RT.	4.0"
STA. 89+60 LT.	4.75"
STA. 99+17 LT.	4.5"
STA. 106+94 RT.	5.5"
STA. 117+72 RT.	4.25"
STA. 130+22 LT.	4.0"

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

STANDARD PLATES	
PLATE NO.	DESCRIPTION
8000K	CHANNELIZERS- TYPE A, TYPE B, TYPE C
9000E	APPROACHES AND ENTRANCES

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

CERTIFIED BY  LICENSED ENGINEER

LIC. NO. 54947

DATE: 4-9-25

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SHEET NO. 2 OF 4 SHEETS

QUANTITY TABLES

BASIS FOR PLANNED QUANTITIES

SHOULDER BASE AGGREGATE CLASS 1 MOD (CV)	140 LBS. / CUBIC FOOT (DRY WEIGHT)
TYPE SP 12.5 WEARING COURSE MIXTURE (2,B)	110 LBS. / INCH SQ. YD.

(2221) SHOULDER BASE AGGREGATE CLASS 1 MOD

STA. 0+27 TO STA. 132+15.55 MAINLINE	1423	TON
1 COUNTY ROAD INTERSECTION @ 30 TON PER APP	30	TON
3 TWP. ROAD INTERSECTIONS @ 20 TON PER APP	60	TON
4 DRIVEWAYS @ 8 TON PER APP	32	TON
20 FIELD APPROACHES @ 8 TON PER APP	160	TON

(2360) BITUMINOUS QUANTITIES

STA. 0+27 TO STA. 132+15.55 MAINLINE	2901	TON
1 TH ROAD INTERSECTION @ 20 TON PER APP	20	TON
1 COUNTY ROAD INTERSECTIONS @ 40 TON PER APP	40	TON
3 TWP. ROAD INTERSECTIONS @ 30 TON PER APP	90	TON
4 DRIVEWAYS @ 20 TON PER APP	80	TON
20 FIELD APPROACHES @ 2 TON PER APP	40	TON

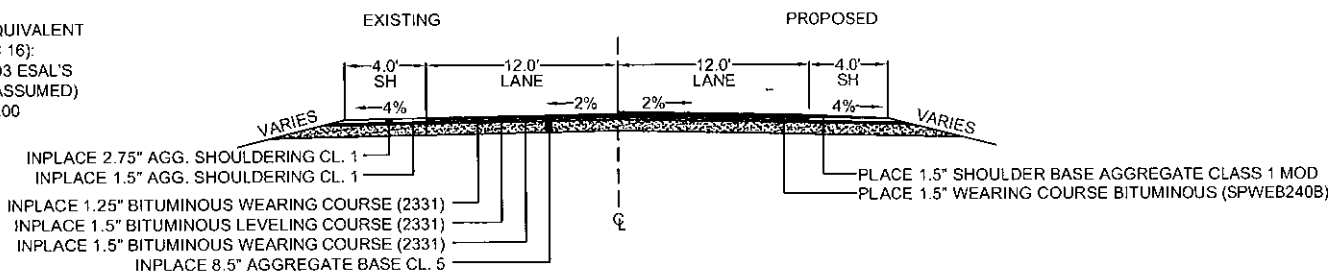
TYPICAL SECTIONS

GRANULAR EQUIVALENT
(TH 75 TO CR 109):
10 TON @ 19103 ESAL'S
R VALUE: 10 (ASSUMED)
REQUIRED: 17.00
SHOWN: 20.00

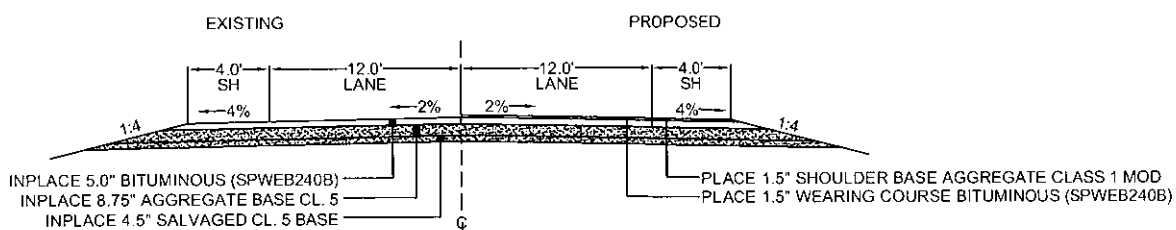
GRANULAR EQUIVALENT
(TH 75 TO YMC 16):
10 TON @ 19103 ESAL'S
R VALUE: 10 (ASSUMED)
REQUIRED: 17.00
SHOWN: 20.00

STA. 0+27 TO STA. 22+50
STA. 23+34 TO STA. 84+97
STA. 86+22 TO STA. 108+39
STA. 109+61 TO STA. 130+63
STA. 131+58 TO STA. 132+15.55

NO SCALE



STA. 22+50 TO STA. 23+34
STA. 84+97 TO STA. 86+22
STA. 108+39 TO STA. 109+61
STA. 130+63 TO STA. 131+58



CERTIFIED BY Joseph M. White
LICENSED ENGINEER

LIC. NO. 54947 DATE: 4-9-25

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SHEET NO. 3 OF 4 SHEETS

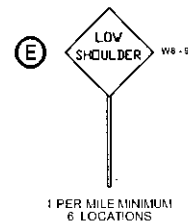
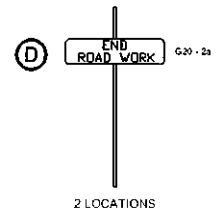
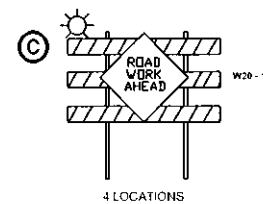
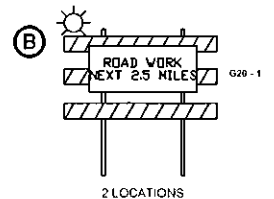
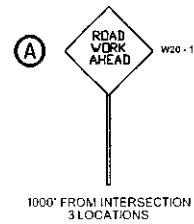
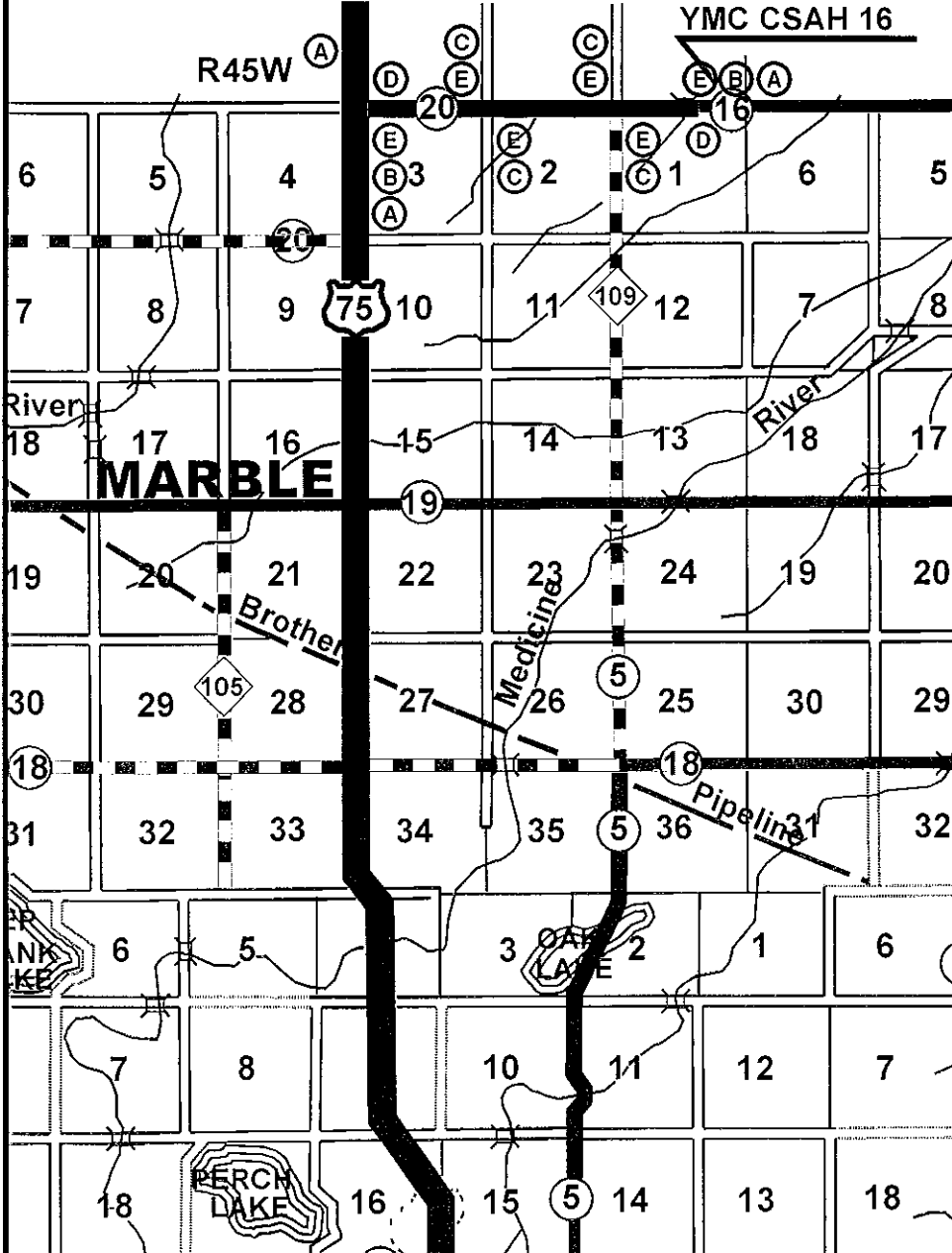
TRAFFIC CONTROL

NO SCALE

YELLOW MEDICINE CO.

YMC CSAH 16

R45W (A)



SIGN	SIGN NO.	QUANTITY	SIZE	COLOR	FLASHERS
	TYPE III BARRICADE	6	60" X 48"	ORANGE ON WHITE	6
	W20 - 1	7	36" X 36"	BLACK ON ORANGE	
	G20 - 1	2	60" X 24"	BLACK ON ORANGE	
	G20 - 2a	2	48" X 24"	BLACK ON ORANGE	
	W8 - 9	6	48" X 48"	BLACK ON ORANGE	

THE ATTACHED LAYOUT AND TABULATION SHOULD BE CONSIDERED A MINIMUM. ADDITIONAL SIGNING MAY BE REQUIRED TO MEET SAFETY STANDARDS BASED ON THE CONTRACTOR'S OPERATIONS.

ALL NECESSARY TRAFFIC CONTROL DEVICES ON THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MnMUTCD) AND WITH THE LATEST EDITION OF THE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL.

CERTIFIED BY Joseph M. [Signature]
LICENSED ENGINEER

LIC. NO. 54947 DATE: 4-9-25

SAP 041-620-011

SHEET NO. 4 OF 4 SHEETS