DESIGN DATA
POSTED SPEED= 55 MPH
ADT 2025 = 1550
PROJ. ADT 2045 = 1550
PROJ. HCADT 2045 = <10% ADT
Based on STOPPING Sight Distance
HEIGHT OF EYE= 3.5 ft HEIGHT OF OBJECT= 0.5 ft
$\Sigma \text{ N I8}_{20} = 605,000$
SOIL FACTOR: 130
7 Ton Design
Shoulder Width: 7 ft
FUNCTIONAL CLASSIFICATION= MAJOR COLLECTOR
Design Speed Not Achieved At: STA. <u>to STA.</u> <u>M.p.h.</u>

SURFACED

GRADED

OVERLAY

SEGMENT

ADT

OVERLAY OVERLAY

MINNESOTA DEPARTMENT OF TRANSPORTATION **RENVILLE COUNTY**

STATE AID PROJECT: 065-601-017 (CSAH 1) Mill Bituminous, Bituminous Resurfacing, Aggregate Shouldering, And Pavement Markings

GEOGRAPHIC LOCATION: On CSAH 1; From 500' South of CSAH 4, 8 Miles South of Danube, Mn. to US HIGHWAY 212 LEGAL DESCRIPTION: SW Corner Section 17 T-114-N R-35-W to the NW Corner Section 8 T-115-N R-35-W

GROSS LENGTH: 42,956 feet 8.136 miles BRIDGE LENGTH: 0.00 feet 0.000 miles NET LENGTH: 42,956 feet 8.136 miles



GOVERNING SPECIFICATIONS

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

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST MMUTCD, INCLUDING THE LATEST FIELD MANUAL FOR TRMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

INDEX

Sheet 1	Title Sheet
Sheet 2	Estimated Quantities,
	& Basis of Estimate
Sheet 3	Construction Notes
Sheet 4-6	Typical Sections
Sheet 7	Plan View

(THIS PLAN CONTAINS 7SHEETS)

END SAP 065-601-017 (CSAH 1)

STA 785+78



THE LOCATION OF UNDERGROUND UTILITIES SUCH AS TELEPHONE, ELECTRIC AND PIPE LINES ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT I-800-252-II66 AT LEAST 48 HOURS PRIOR TO THE START OF EXCAVATION.

DATE	JEFFREY S. MARLOWE RENVILLE COUNTY ENGINEER SHEET NO. 1 of 7					
DATE	APPROVAL DATE: 03/31/2025 LICENSE NUMBER: 50817					
03/31/2025	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.					

ESTIMATED QUANTITIES

NOTE NO.	SPECIFICATION NUMBER.	CONTRACT ITEM	UNIT	SAP 065-601-017 PARTICIPATING QUANTITES	SAP 065-601-017 NON PARTICIPATING QUANTITES	TOTAL QUANTITES
	2016.601	QUALITY MANAGEMENT - THERMAL PROFILING	LS	1		1
	2016.601	QUALITY MANAGEMENT - INTELLIGENT COMPACTION	LS	1		1
	2021.501	MOBILIZATION	LS	1		1
1, 2, 3, 4	2221.509	SHOULDER BASE AGGREGATE CLASS 1	TON	12,887		12,887
	2232.504	MILL BITUMINOUS SURFACE 1.50"	SY	1,774		1,774
1,3,5 -12	2360.509	TYPE SP 4.75 NON-WEARING COURSE MIXTURE 3B	TON	5,595		5,595
3,11 - 14	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE 3B	TON	22,434		22,434
15,16	2563.601	TRAFFIC CONTROL	LS	1		1
17, 22	2580.501	INTERIM PAVEMENT MARKING	LS	1		1
18 - 21	2582.503	6" SOLID LINE PAINT	LF	85,817		85,817
18 - 20, 22	2582.503	4" SOLID LINE PAINT	LF	17,440		17,440
18 - 20, 22	2582.503	4" BROKEN LINE PAINT	LF	3,068		3,068

BASIS OF ESTIMATE	
CLASS 1 AGGREGATE	1.4 Tons / CY (LV) 1.8 Tons / CY (CV)
TYPE SP BITUMINOUS MIXTURE	110 lbs / SY-in
FARM ENTRANCES	30 Tons / Entrance / 3" Lift
LOW VOLUME ROAD INTERSECTIONS	30 Ton / Intersection / 3" Lift
FIELD ENTRANCE	2.2 Ton / Entrance

BITUMINOUS QUANTITY TABULATIONS (Tons)

LOCATION	NON-WEAR	WEAR
MAINLINE	4,742	20,396
FARM ENTRANCES	170	510
LOW VOLUME ROAD APPROACH	144	360
CEMETERY	60	120
TURN LANES	300	600
SHOULDER ROUND OUTS	48	120
CSAH 17	40	150
FIELD ENTRANCES & MAILBOXES	90	179
TOTAL QUANTITY	5,595	22,434

GRAVEL EQUIVALENT (G.E.) STA 362+25 - 362+57 AND 363+11 - 363+40 REQUIRED GE 18.60"

GRAVEL EQUIVALENT (G.E.) FACTORS

EXISTING HMA CLASS 5 CONSTRUCT BITUMINOUS PAVEMENT (Mn/DO

GRAVEL EQUIVALENT (G.E.) STA 361+22 - 362+25, 362+57 - 363+11, 363+40 - 785+78 REQUIRED GE 18.60"

GRAVEL EQUIVALENT (G.E.) FACTORS

EXISTING HMA

EXISTING CLASS 5

CONSTRUCT BITUMINOUS PAVEMENT (Mn/DC

INCLUDES QUANTITIES FOR:

54 FIELD ENTRANCES 17 FARM ENTRANCES 12 LOW VOLUME ROAD INTERSECTIONS 3 MAILBOX TURNOUT 2 CEMETERY **3 TURN LANES** 2 CSAH 17 INTERSECTIONS **3 SHOULDER RUNOUTS**

STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY FHWA, SHALL APPLY TO THIS PROJECT.

8000 K TEMPORARY CHANNELIZERS 9000 E APPROACHES AND ENTRANCES

I hereby certify this plan, specification, or report 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.

PROFESSIONAL ENGINEER: JEFFREY S. MARLOWE

date___03/31/2025

	9.00" @ 1.75 =	15.75" G.E.
	4.00" @ 1.00 =	4.00" G.E.
T SPEC. 2360)	3.50" @ 2.25 =	7.88" G.E.

	8.00" @ 1.75 =	14.00" G.E.
	6.00" @ 1.00 =	6.00" G.E.
OT SPEC. 2360)	3.50" @ 2.25 =	7.88" G.E.
		27.88" G.E.

ESTIMATED QUANTITIES BASIS OF ESTIMATE

27.63 G.E.

CONSTRUCTION NOTES

- Compaction shall be in accordance with MnDOT Spec. 2211.3D.2.b. QUALITY COMPACTION METHOD.
- 2. All aggregates shall conform to MnDOT Spec. 3138.
- 3. All Aggregates & Bituminous Mixtures shall be weighed in accordance with MnDOT Spec. 1901.8.
- All shouldering material shall be placed with a shouldering machine. Maximum depth of lifts shall be 3" 4
- 5. Prior to placement of any bituminous mixture, the roadway shall have loose material removed and disposed of, be swept clean, and tacked All joints to pavement must be milled. All costs to be included in 2021.501 MOBILIZATION
- Item Number 2360.509 Type SP 4.75 NON-WEARING COURSE MIXTURE 3B to be used for Leveling Course. It shall be modified to provide 97%-100% passing the $\frac{3}{6}$ " sieve with the balance of sieves to match the 'D' gradation as shown in Table 3139-2 Part D of MnDOT Specification 3139. Oil content shall be between 6.3% and 6.5%.
- All costs associated with the Leveling Course, included but not limited to: disposing of loose material, cleaning, placing, and compaction of mix shall be 7 included in the price bid for Item 2360.509 Type SP 4.75 NON-WEARING COURSE MIXTURE 3B.
- Placement of the Leveling Course shall be performed by a Paving Machine. Blade Leveling will NOT be allowed. 8.
- Compaction of the Leveling Course shall be performed by a Pneumatic Tire Roller, conforming to MnDOT Specification 2350.6C3. 9
- 10. Excavation of the 2.00" x 14" strip of aggregate shouldering along the existing bituminous surface to widen the existing surface shall be considered incidental to Item 2360.509 Type SP 4.75 NON-WEARING COURSE MIXTURE 3B.
- 11. The Bituminous Tack Coat shall be a CSS-1 or CSS-1H Cationic Emulsified Asphalt conforming to MnDOT Spec. 3151.2.D and be applied at an undiluted application rate in accordance with Table 2357-2 under MnDOT Spec. 2357. BITUMINOUS MATERIAL FOR THE TACK COAT shall be incidental to 2360.509 TYPE SP 4.75 NON-WEARING COARSE MIXTURE 3B and SP 2360.509 TYPE 12.5 WEARING COARSE MIXTURE 3B.
- 12. The Asphalt Cement shall be a PG 58S-28 Performance Grade Binder conforming to Mn/DOT Spec. 3151.2A
- 13. Wear Course shall consist of the upper 3.00" of Bituminous Pavement and be constructed in 2 1.50" lifts as shown in the typical section. NOTE; the Wear Course Mixture shall be designed with 3% Air Voids.
- 14. Farm Entrance and Low Volume Road paving shall be accomplished at the same time as mainline paving. No cold joints that abut the mainline pavement will be allowed.
- 15. The Contractor shall be responsible for ALL Project Related Traffic Control.
- 16. All costs associated with Traffic Control (shown & not shown), including: Flaggers, Signs, Posts, Barricades, Drums, Cones, Labor, etc.; shall be included in the Price Bid for 2563.601 TRAFFIC CONTROL
- 17. Markings shall be placed at the end of each day. Lift 1 and 2 shall be marked with paint skips spaced @ 50'. Lift 3, final lift, shall be marked with TRPM markers at the direction of the engineer.
- 18. Glass Beads applied at 8 lbs. per gallon of paint shall be included in the bid price for item 2582.503 6" SOLID LINE WHITE PAINT, 4" BROKEN YELLOW LINE - PAINT, AND 4" SOLID YELLOW - PAINT.
- 19. All Pavement Marking Materials shall be listed on the MnDot Approved Products list.
- 20. Markings for line locations, starts, and stops will be furnished by Renville County personnel.
- 21. Shall be white paint.
- 22. Shall be yellow paint.

GENERAL NOTES

- Access for local traffic to adjacent properties shall be maintained at all times during construction of project. 1.
- 2. Hourly work without notification shall be considered unauthorized work and shall be uncompensated.
- 3 surface
- 4 attention before the damage is done.
- 5. SHOULDER BASE AGGREGATE CLASS 1.

I hereby certify this plan, specification, or report 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.

PROFESSIONAL ENGINEER: JEFFREY S. MARLOWE

The contractor shall notify the Project Engineer prior to performing any hourly equipment work to facilitate documentation of pay quantities.

All roads used by the contractor for hauling of natural materials from their sources shall be subject to prior arrangement with the road authority involved. Damages and any other conditions created or imposed shall be corrected to the satisfaction of the road authority. This will include but not be limited to dust control, blading, and the addition of gravel surfacing or spot bituminous overlays depending on the type of the roadway

Protection and restoration of property will be performed in accordance with the provisions of MnDot Spec. 1712, except as modified below: The County will not be held responsible for damages done by the contractor to property located below the ground surface with in the right-of-way even though the existence of such property is not shown on the plans, indicated in the special provisions or otherwise brought to the contractors

Contractor shall be required to reshape intersections and farm entrances just prior to paving as an incidental cost. Additional Class 1 aggregate shall be added if required for reshaping. Payment for any additional Class 1 that is needed shall be made under pay Item 2221.509

CONSTRUCTION NOTES



TYPICAL SECTIONS

-(PLACE) 0.50" x 26' SPNWD330B BITUMINOUS NON-WEAR COURSE MIXTURE (2360) TYP - (PLACE) 1.50" x 26' SPWEB330B BITUMINOUS WEAR COURSE MIXTURE (2360) TYP (PLACE) 1.50" x 26' SPWEB330B BITUMINOUS WEAR COURSE MIXTURE (2360) TYP

NOT TO SCALE — 60'R/W — —25' Clear Zone-PLACE 3.50" X 5.0' SHOULDER BASE AGGREGATE CLASS 1 TYP



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PROFESSIONAL ENGINEER: JEFFREY S. MARLOWE

DATE 03/31/2025

LICENSE # 50817

TYPICAL SECTIONS

- (PLACE) 0.50" x 26' SPNWD330B BITUMINOUS WEAR COURSE MIXTURE (2360) TYP



PROFESSIONAL ENGINEER: JEFFREY S. MARLOWE

TYPICAL SECTIONS

MILL 1.50" X 38' BITUMINOUS SURFACE (PLACE) 1.50" x 38' SPWEB330B BITUMINOUS WEAR COURSE MIXTURE (2360) TYP

(INPLACE) 6.00" BITUMINOUS PAVEMENT

33'	R/W			NOT TO	SCALE
	+				
		V	ARIES		



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PROFESSIONAL ENGINEER: JEFFREY S. MARLOWE

DATE_03/31/2025

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