

**MINNESOTA DEPARTMENT OF TRANSPORTATION  
LINCOLN COUNTY  
CONSTRUCTION PLAN FOR BITUMINOUS OVERLAY  
COUNTY STATE AID HIGHWAY NO. 23**

LOCATED ON CSAH 23 BETWEEN THE INT. OF STATE HWY. 19 AND THE INT. OF RAILROAD STREET  
FROM 1159.30' EAST & 12.51' NORTH OF THE NORTH 1/4 CORNER OF SECTION 3-T111N-R45W  
TO 1496.34' WEST AND 1118.45' SOUTH OF THE EAST 1/4 CORNER OF SECTION 34-T112-R45W

(Geographic Description)

(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  
SHEET 4 TYPICAL SECTIONS  
SHEET 5 TRAFFIC CONTROL

THIS PLAN CONTAINS 5 SHEETS

**LAST PROJECTS:**

SAP 041-623-002 (BITUMINOUS OVERLAY, 1995)  
SAP 041-623-001 (AGGREGATE BASE, BITUMINOUS BASE,  
BITUMINOUS SURFACE, STORM SEWER,  
SIDEWALK, CONCRETE CURB AND GUTTER,  
BITUMINOUS OVERLAY, 1994)

**DESIGN DESIGNATION**

(STA. 7+42 TO STA. 22+37 - STATE HWY. 19 TO RAILROAD ST.)

Design Strength 10 TON  
R-VALUE 10 (ASSUMED)  
ADT (2025) 710  
PROJ. ADT (2045) 781  
PROJ. HCADT (2045) 46 (6%)  
SOIL FACTOR 100  
SHOULDER WIDTH 0.0 FT.

OR

FUNCTIONAL CLASSIFICATION MINOR COLLECTOR

NO. OF TRAFFIC LANES 2 NO. OF PARKING LANES 2

POSTED SPEED 30 MPH

BASED ON STOPPING SIGHT DISTANCE

HEIGHT OF EYE 3.5 FT. HEIGHT OF OBJECT 2.0 FT.

DESIGN SPEED NOT ACHIEVED AT:

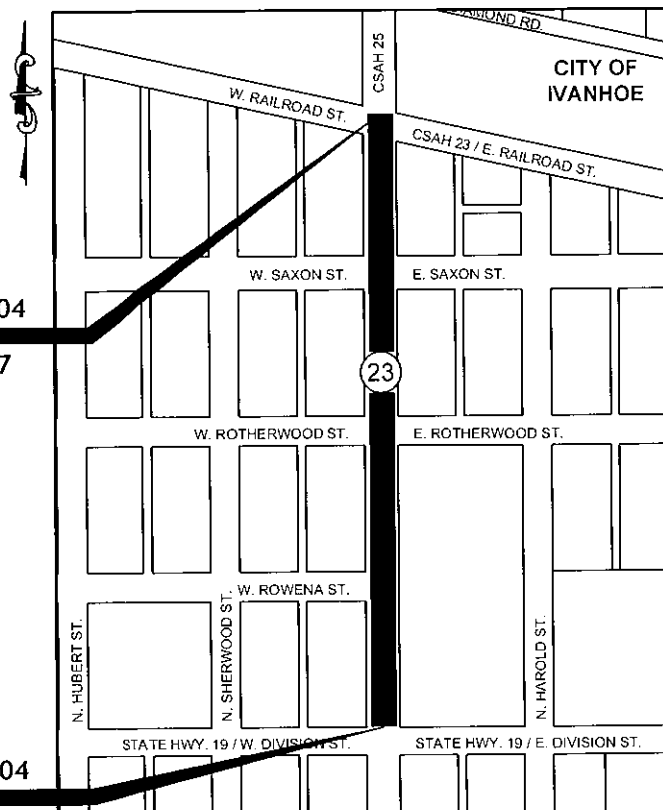
STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

**SAP 041-623-004**

**EOP STA. 22+37**

**SAP 041-623-004**

**BOP STA. 7+42**



SCALE: 1 BLOCK

**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: 2-24-25

License Number: 54947

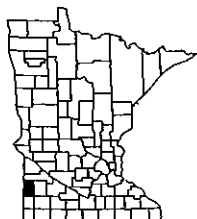
Approved: Joseph M. Wilson 2-24-25  
Lincoln County Engineer

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

State-Aid Engineer: \_\_\_\_\_  
Approved for State-Aid Funding

**SAP 041-623-004**

GROSS LENGTH	1495.0 FT.	0.283 MI.
BRIDGES LENGTH	0.0 FT.	0.000 MI.
EXCEPTIONS LENGTH	0.0 FT.	0.000 MI.
NET LENGTH	1495.0 FT.	0.283 MI.



SAP NO. 041-623-004

SHEET NO. 1 OF 5 SHEETS

# ESTIMATED QUANTITIES / STANDARD PLATES

NOTES	ITEM NUMBER	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
	2021.501	MOBILIZATION	LUMP SUM	1
1	2232.504	MILL BITUMINOUS SURFACE (1.5")	SQ YD	2751
2	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (2,B)	TON	681
3	2504.602	ADJUST VALVE BOX-WATER	EACH	8
3	2506.502	ADJUST FRAME AND RING CASTING	EACH	14
	2563.601	TRAFFIC CONTROL	LUMP SUM	1
4	2582.503	4" BROKEN LINE PAINT	LIN FT	299

## NOTES:

1. MILL 12 FT. WIDE AT A DEPTH OF 1.5" AT THE BOP AND EOP. TAPER TO 0" AT 12 FT. FROM THE BOP AND EOP. MILL 8 FT. WIDE AT A DEPTH OF 1.5" ALONG THE CURB AND GUTTER. TAPER TO 0" AT 8 FT. FROM THE CURB AND GUTTER.
2. 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.
2. THE NEWLY PAVED SURFACE SHALL MEET REQUIREMENTS SPECIFIED IN TABLE 2360.3-5 IN THE MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. ALL MATERIALS AND LABOR NEEDED FOR ADJUSTMENTS SHALL BE INCLUDED IN THE BID PRICE FOR ADJUST VALVE BOX-WATER AND ADJUST FRAME AND RING CASTING.
3. QUANTITIES DO NOT INCLUDE 40' SKIP. 4" BROKEN LINE PAINT SHALL BE YELLOW IN COLOR.

## BASIS FOR PLANNED QUANTITIES

TYPE SP 12.5 WEARING COURSE MIXTURE (2,B)

110 LBS. / INCH SQ. YD.

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

STANDARD PLATES	
PLATE NO.	DESCRIPTION
4010I	ADJUSTING RINGS FOR CATCH BASINS & MANHOLES
4108F	CONCRETE ADJUSTING RINGS
8000K	TEMPORARY CHANNELIZERS
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  
CI/ASCE 38-22, ENTITLED, "STANDARD GUIDELINES FOR  
INVESTIGATING AND DOCUMENTING EXISTING UTILITIES."

CERTIFIED BY

*Joseph M. Hahn*  
LICENSED ENGINEER

LIC. NO. 54947

DATE: 2-24-25

SAP 041-623-004

SHEET NO. 2 OF 5 SHEETS

# QUANTITY TABLES

## (2232) MILL BITUMINOUS SURFACE (1.5")

STA. 7+42 TO STA. 7+54 MILL BITUMINOUS (12' WIDE AT BOP)	66	SQ YD
STA. 7+54 TO STA. 13+82 MILL BITUMINOUS (8' WIDE ALONG LT. & RT. CURB AND GUTTER)	1124	SQ YD
STA. 13+82 TO STA. 22+25 MILL BITUMINOUS (8' WIDE ALONG LT. & RT. CURB AND GUTTER)	1500	SQ YD
STA. 22+25 TO STA. 22+37 MILL BITUMINOUS (12' WIDE AT EOP)	61	SQ YD

## (2360) BITUMINOUS QUANTITIES

STA. 7+42 TO STA. 13+82 MAINLINE - STATE HWY. 19 TO ROTHERWOOD ST.	232	TON
STA. 13+82 TO STA. 22+37 MAINLINE - ROTHERWOOD ST. TO RAILROAD ST.	449	TON

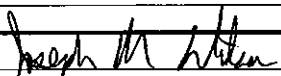
## (2504) ADJUST VALVE BOX-WATER

STA. 7+59.8 @ 12.5' LT.	1	EACH
STA. 11+31.2 @ 17.1' LT.	1	EACH
STA. 14+78.4 @ 20.8' LT.	1	EACH
STA. 14+88.3 @ 26.2' LT.	1	EACH
STA. 15+89.9 @ 24.6' LT.	1	EACH
STA. 18+04.7 @ 20.2' LT.	1	EACH
STA. 18+52.1 @ 25.5' LT.	1	EACH
STA. 21+86.3 @ 19.4' LT.	1	EACH

## (2506) ADJUST FRAME AND RING CASTING

STA. 7+43.9 @ 0.4' RT.	1	EACH
STA. 10+69.1 @ 12.0' RT.	1	EACH
STA. 10+70.1 @ 7.2' LT.	1	EACH
STA. 10+94.6 @ 0.3' RT.	1	EACH
STA. 14+51.2 @ 7.7' LT.	1	EACH
STA. 14+66.6 @ 12.9' RT.	1	EACH
STA. 14+67.9 @ 0.7' RT.	1	EACH
STA. 18+27.7 @ 8.4' LT.	1	EACH
STA. 18+41.6 @ 0.4' RT.	1	EACH
STA. 18+40.5 @ 11.6' RT.	1	EACH
STA. 21+61.7 @ 27.0' RT.	1	EACH
STA. 21+96.5 @ 9.6' LT.	1	EACH
STA. 22+24.5 @ 10.6' RT.	1	EACH
STA. 22+26.3 @ 1.0' RT.	1	EACH

CERTIFIED BY

  
 LICENSED ENGINEER

LIC. NO. 54947

DATE: 2-24-25

SAP 041-623-004

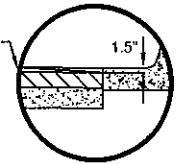
SHEET NO. 3 OF 5 SHEETS

# TYPICAL SECTIONS

NO SCALE

BITUMINOUS MILLING  
DETAIL

BITUMINOUS MILLING (AT C&G)  
1.5" BELOW GUTTER  
8 FEET WIDE  
(TAPER TO 0" AT 8 FEET)

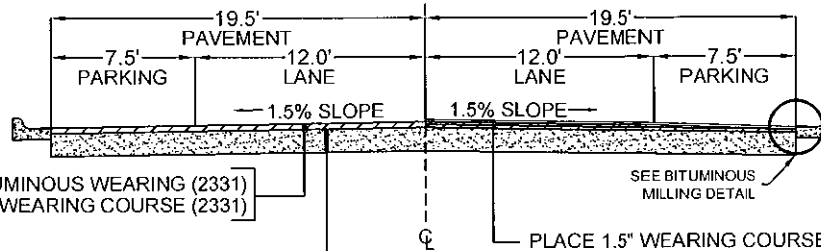


BETWEEN STATE HWY. 19 AND ROTHERWOOD ST.  
STA. 7+42 TO STA. 13+82

GRANULAR EQUIVALENT:  
10 TON @ 88071 ESAL'S  
R VALUE: 10  
REQUIRED: 18.21  
SHOWN: 25.75

EXISTING

PROPOSED



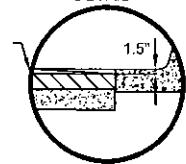
INPLACE 1.5" BITUMINOUS WEARING (2331)  
INPLACE 2.0" BITUMINOUS WEARING COURSE (2331)

INPLACE 14.5" AGGREGATE BASE CL. 5

EXISTING BITUMINOUS	
CORE LOCATION	CORE THICKNESS
STA. 11+15 LT.	5.0"

BITUMINOUS MILLING  
DETAIL

BITUMINOUS MILLING (AT C&G)  
1.5" BELOW GUTTER  
8 FEET WIDE  
(TAPER TO 0" AT 8 FEET)

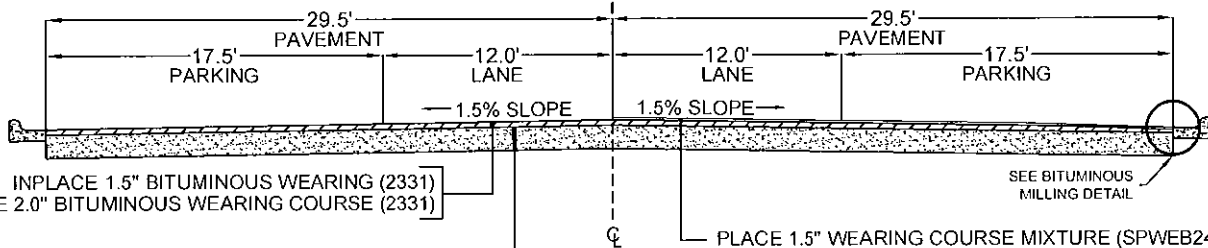


BETWEEN ROTHERWOOD ST. AND RAILROAD ST.  
STA. 13+82 TO STA. 22+28

GRANULAR EQUIVALENT:  
10 TON @ 88071 ESAL'S  
R VALUE: 10  
REQUIRED: 18.21  
SHOWN: 25.75

EXISTING

PROPOSED



INPLACE 1.5" BITUMINOUS WEARING (2331)  
INPLACE 2.0" BITUMINOUS WEARING COURSE (2331)

INPLACE 14.5" AGGREGATE BASE CL. 5

EXISTING BITUMINOUS	
CORE LOCATION	CORE THICKNESS
STA. 15+91 LT.	4.5"
STA. 16+47 RT.	4.75"
STA. 19+31 LT.	4.875"
STA. 20+32 RT.	4.25"

CERTIFIED BY

*Joseph M. Miller*  
LICENSED ENGINEER

LIC. NO.

54947

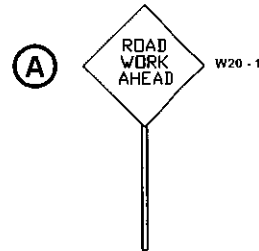
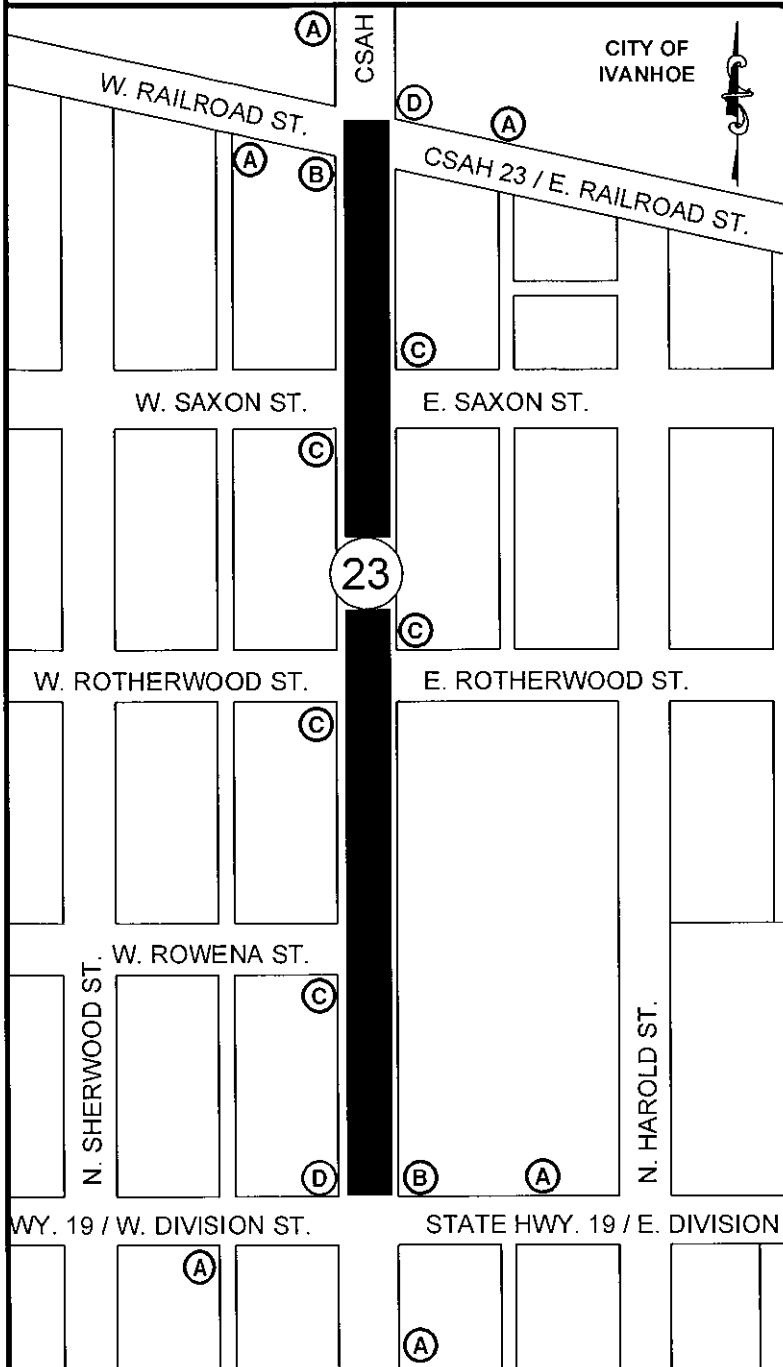
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SAP 041-623-004

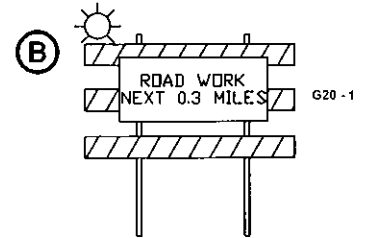
SHEET NO. 4 OF 5 SHEETS

# TRAFFIC CONTROL

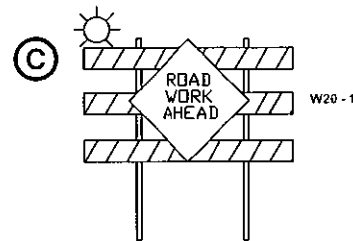
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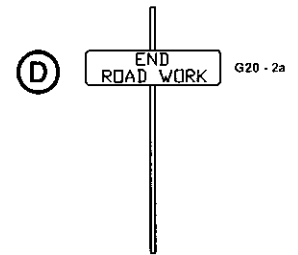
1000' FROM INTERSECTION  
6 LOCATIONS



2 LOCATIONS



5 LOCATIONS



2 LOCATIONS

SIGN	SIGN NO.	QUANTITY	SIZE	COLOR	FLASHERS
	TYPE III BARRICADE	7	60" X 48"	ORANGE ON WHITE	7
	W20 - 1	11	36" X 36"	BLACK ON ORANGE	
	G20 - 1	2	60" X 24"	BLACK ON ORANGE	
	G20 - 2a	2	48" X 24"	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 CONFORM TO THE LATEST MnMUTCD, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

CERTIFIED BY

*Joseph M. Wilton*  
LICENSED ENGINEER

LIC. NO. 54947

DATE: 2-24-25

SAP 041-623-004

SHEET NO. 5 OF 5 SHEETS