

# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

**CONSTRUCTION PLAN FOR** Grading, Base, Bituminous Surfacing & Arch Culvert Construction  
 (221st Ave. NE.)  
 LOCATED ON County Road 74 BETWEEN Minn. State Highway 65 AND Van Buren St. NE. (Geographic Description)  
 FROM 1050 West of NE Cor. Sec. 7-33-23 TO 300' East of NE Cor. Sec. 7-33-23 (Legal Description)

COUNTY PROJECT NO. 88-23-74 STATE AID PROJ. NO. \_\_\_\_\_

GROSS LENGTH	1350	FEET	0.256	MILES	GROSS LENGTH	_____	FEET	_____	MILES
BRIDGES-LENGTH	_____	FEET	_____	MILES	BRIDGES-LENGTH	_____	FEET	_____	MILES
EXCEPTIONS-LENGTH	_____	FEET	_____	MILES	EXCEPTIONS-LENGTH	_____	FEET	_____	MILES
NET LENGTH	1350	FEET	0.256	MILES	NET LENGTH	_____	FEET	_____	MILES

MINN. PROJ. NO. \_\_\_\_\_  
 MINN. PROJ. NO. \_\_\_\_\_

**GOVERNING SPECIFICATIONS**

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION  
 "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

**INDEX**

SHEET NO. 1	TITLE SHEET
" " 2	ESTIMATED QUANTITIES
" " 3	TYPICAL SECTION &
" " 4	EROSION CONTROL
" " 5	BRIDGE CONSTRUCTION
" " 6,7,8 & 9	PLAN & PROFILE
" " 10 & 11	CROSS SECTIONS
	TRAFFIC CONTROL &
	DETOURS

THIS PLAN CONTAINS 11 SHEETS

**DESIGN DESIGNATION**

±N18<sub>20</sub> ..... 167,000  
 R Value ..... 50  
 ADT (1989) = 1439  
 Proj. ADT (2009) = 2442  
 Proj. HCADT (2009) = 203  
 Soil Factor ..... A-3  
 \_\_\_\_\_ 9 Ton Design  
 Shoulder Width ..... 8'

Design Speed 55 MPH  
 Based on Stopping Sight Distance  
 Height of eye 3.5' Height of object 0.5' MN.D.O.T. Table 2-5.03b  
 Design Speed not achieved at:  
 STA. \_\_\_\_\_ TO STA. \_\_\_\_\_ MPH  
 STA. \_\_\_\_\_ TO STA. \_\_\_\_\_ MPH  
 STA. \_\_\_\_\_ TO STA. \_\_\_\_\_ MPH

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

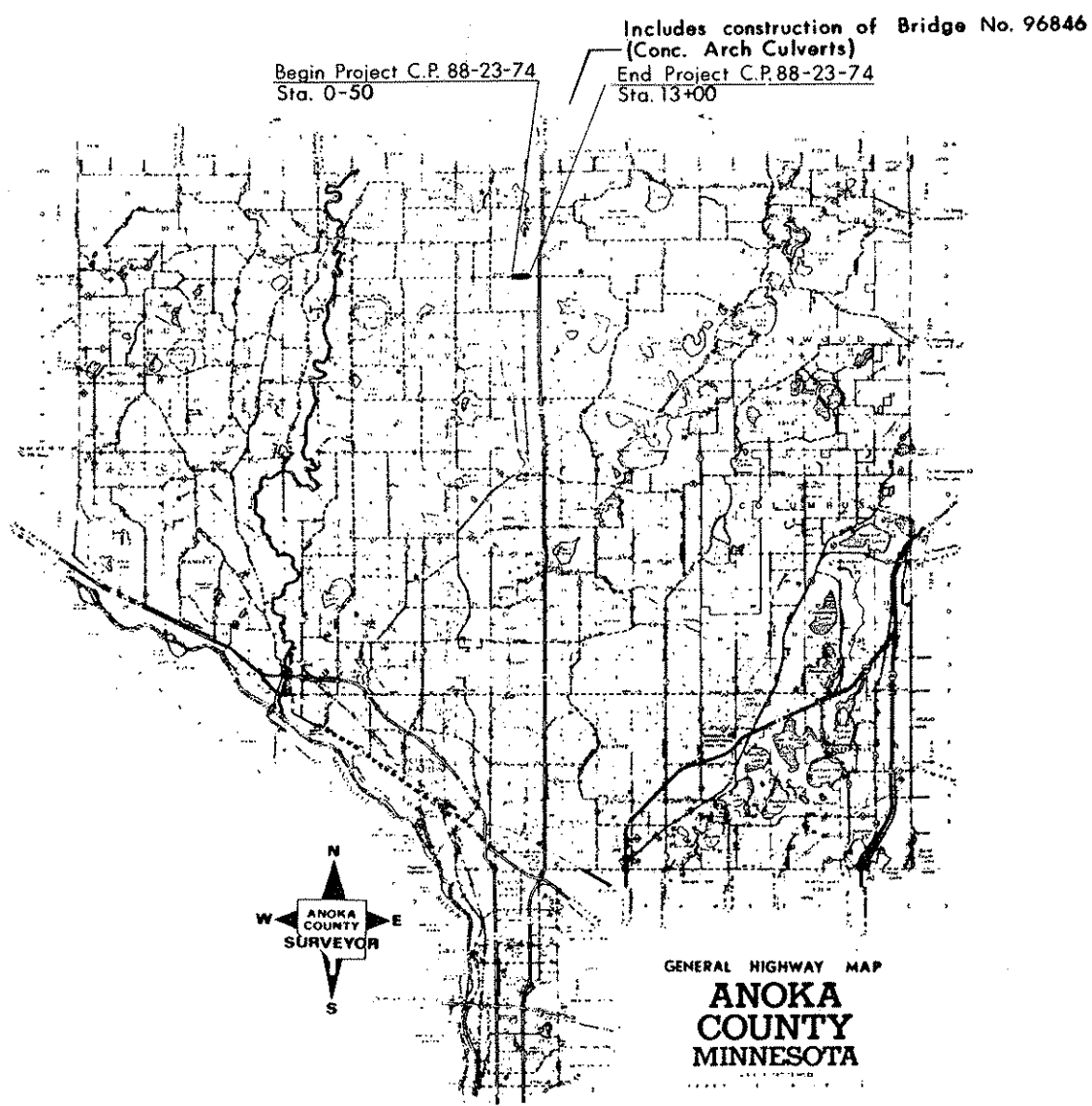
DATE 3/15/90 REG. NO. 6549 ENGR. Paul K. Lund  
 COUNTY \_\_\_\_\_  
 DATE 2/13/90 REG. NO. 15180 ENGR. William J. Funder  
 DESIGN FIRM: Comstock & Davis, Inc.

**PLANS SYMBOLS**

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLURF EASEMENT
- PRESENT RIGHT OF WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE (EXCEPT EASEMENTS)
- VACATED PLATTED PROPERTY
- CORPORATE CITY LIMITS
- TRUNK HIGHWAY CENTERLINE
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY LINE
- RIVER OR CREEK
- DRY RUN
- DRAINAGE DITCH
- DRAIN TEE
- CULVERT
- DROP PILE
- QUARD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- RAILROAD SLOTTED FENCE
- STONE WALL OR FENCE
- WEDGE
- RAILROAD CRUSHING SKIN
- RAILROAD MISSING BELLY
- ELECTRIC WARNING SKIN
- CROSSING GATE
- MEANDER CORNER
- SPRINGS
- MARSH
- TAMBER
- ORCHARD
- BRUSH
- NURSERY
- CATCH BASIN
- FIRE HYDRANT
- WATER TOWER
- OVERPASS
- UNDERPASS
- SHED
- BUILDING (see State Form)
- F. FRAME
- C. CONCRETE
- S. STUCCO
- T. TILE
- B. BRICK
- ST. STUCCO
- IRON PIPE OR PIPE
- MONUMENT STONE QUARRITE OR METAL
- WOODEN PILE
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

**UTILITIES SYMBOLS**

- POWER POLE
- TELEPHONE OR TELEGRAPH POLE
- JOINT TELEPHONE AND POWER ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- RESISTAL TELEPHONE AIR TERMINAL
- WAS MAN
- WATER MAIN
- CONCRETE
- TELEPHONE AIR TERMINAL
- ELECTRIC AIR TERMINAL
- TELEPHONE AIR TERMINAL
- ELECTRIC AIR TERMINAL
- BURIED TELEPHONE AIR TERMINAL
- BURIED TELEPHONE AIR TERMINAL
- AERIAL TELEPHONE AIR TERMINAL
- SEWER AIR TERMINAL
- SEWER AIR TERMINAL



**SCALES**

PLAN ..... 50'  
 PROFILE ..... 5'  
 INDEX MAP ..... 2.66 mi.  
 GENERAL LAYOUT.....

COUNTY PROJECT NO. 88-23-74  
 STATE PROJ. NO. \_\_\_\_\_ SHEET NO. 1 OF 11 SHEETS

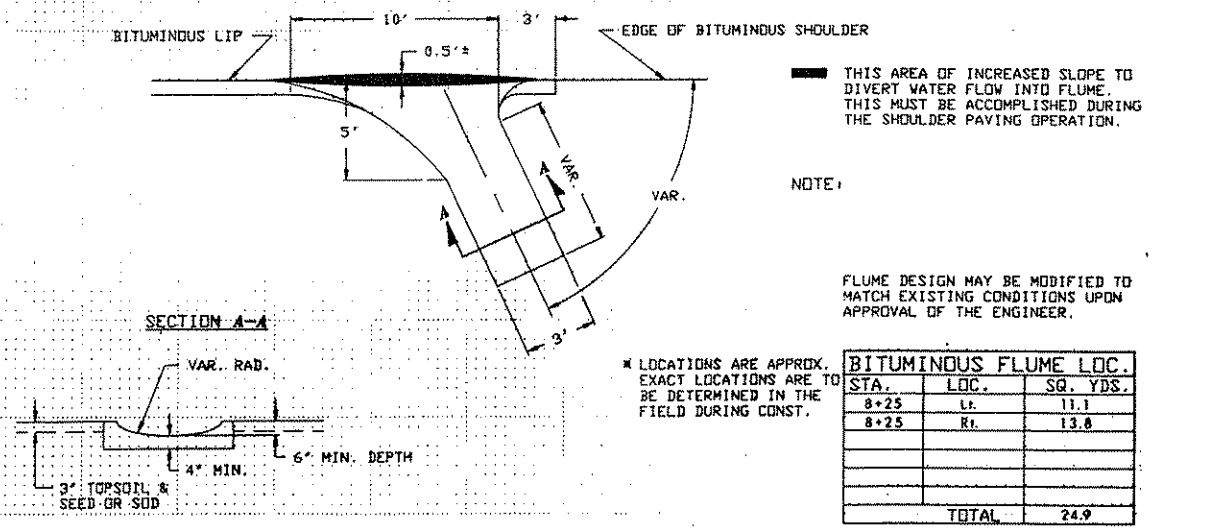
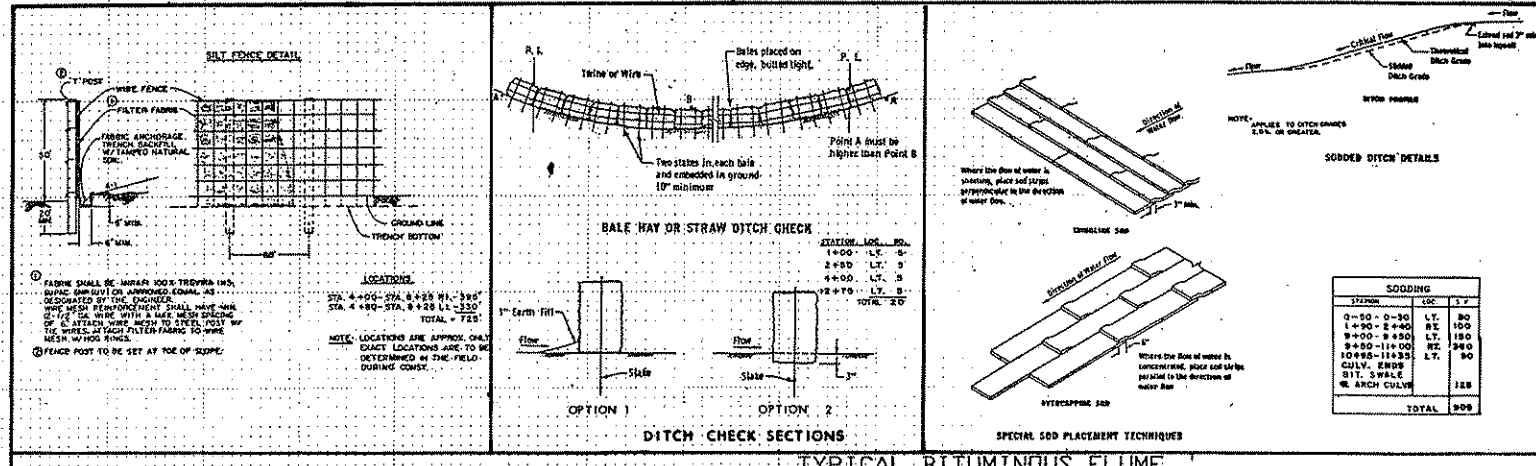
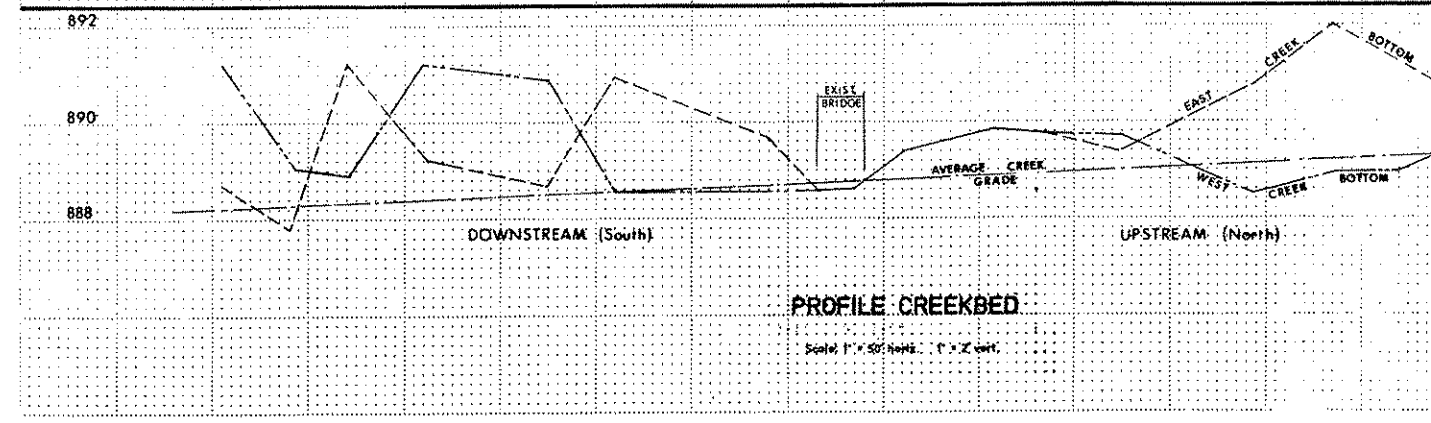
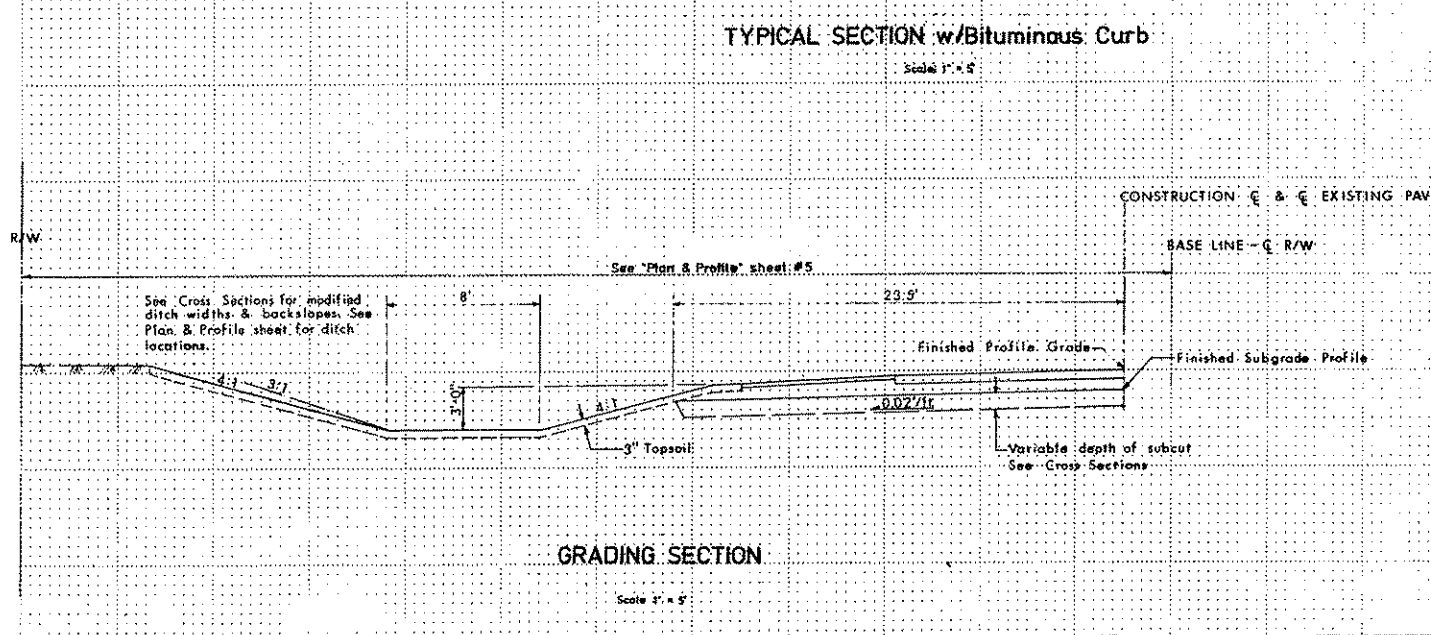
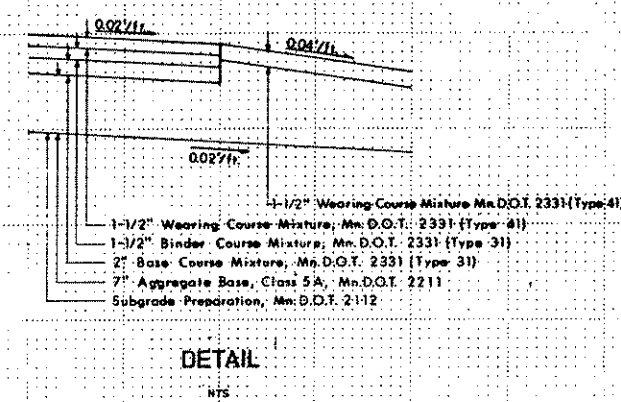
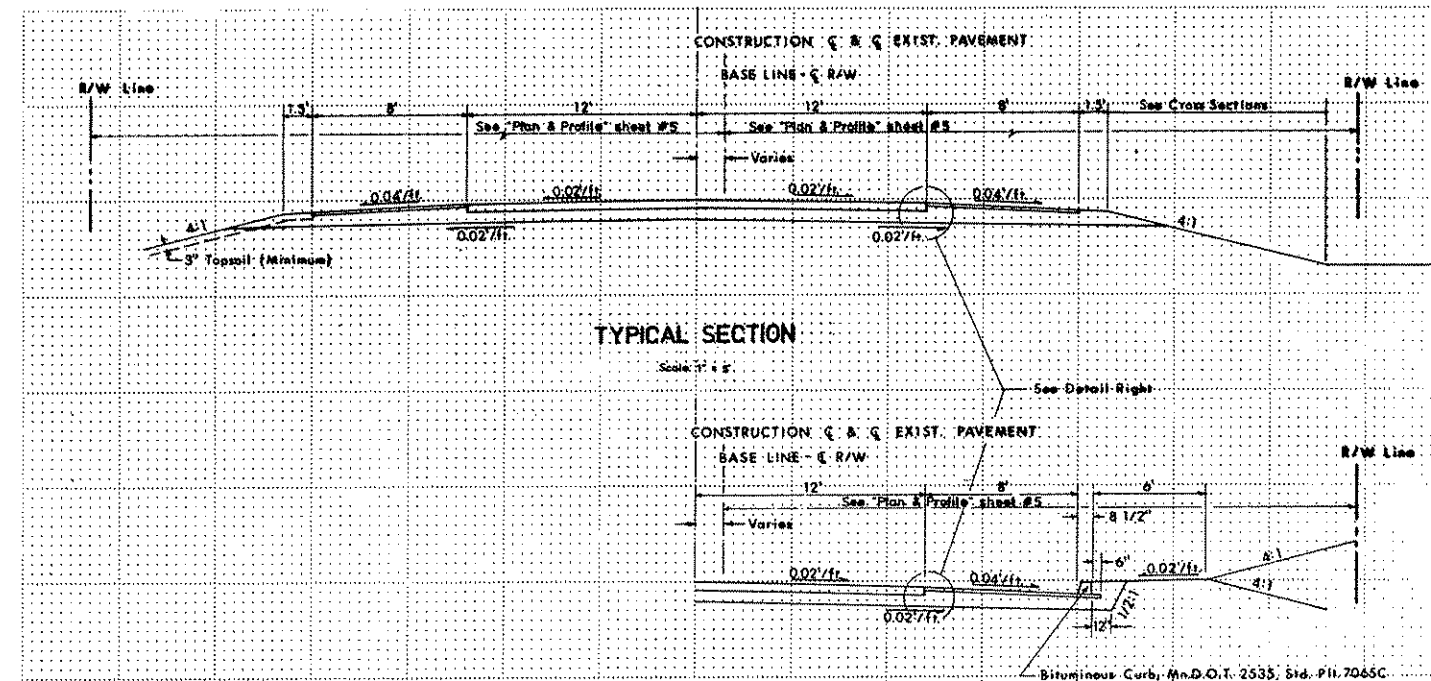


# ANOKA COUNTY - EAST BETHEL

## HYDRAULIC DATA

STREAM	CEDAR CREEK
DRAINAGE AREA	34.5 SQ. MI.
MAXIMUM DISCHARGE OF RECORD	UNKNOWN
MAXIMUM OBSERVED HIGHWATER ELEVATION	UNKNOWN
DESIGN DISCHARGE (100 YEAR FREQUENCY)	680 C.F.S.
a) DESIGN HIGHWATER ELEVATION	895.6
b) WATERWAY AREA BELOW ELEVATION 895.6	90.4 SQ. FT.
c) APPROXIMATE CHANNEL BOTTOM ELEVATION	888.9
d) MEAN VELOCITY THROUGH CULVERT	7.95 F.P.S.
e) MEAN VELOCITY IN NATURAL CHANNEL	2.1 F.P.S.
f) STAGE INCREASE/DECREASE VERSUS EXISTING BRIDGE	-0.5 FT.
g) SKEW	10°
h) PIPE CROWN AT CENTER LINE OF ROADWAY	894.9
i) FLOW LINE AT CENTER LINE OF ROADWAY	888.9
j) TAILWATER ELEVATION	894.1

FLOOD FLOW DATA WAS OBTAINED FROM THE CITY OF EAST BETHEL, FLOOD INSURANCE STUDY, PERFORMED BY THE U.S. GEOLOGICAL SURVEY NOVEMBER 1979.



COUNTY PROJECT NO. 88-23-74

FIELD BOOK	PAGE	PROJECT	DESCRIPTION	FILE NO.	DATE	DESCRIPTION	BY
REFERENCE							
REVISIONS							

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.

DATE \_\_\_\_\_ REG. NO. \_\_\_\_\_

**COMSTOCK & DAVIS, INC.**  
CONSULTING ENGINEERS & LAND SURVEYORS

1448 COUNTY ROAD J  
MINNEAPOLIS, MINNESOTA, 55438  
PHONE: 612-784-9348

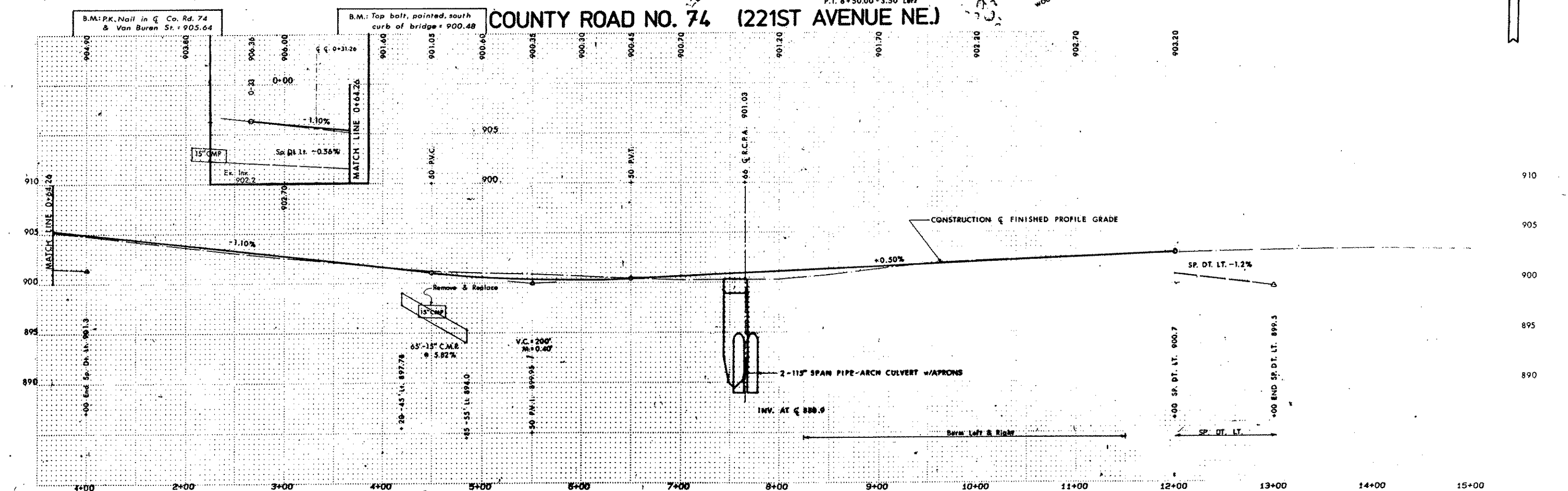
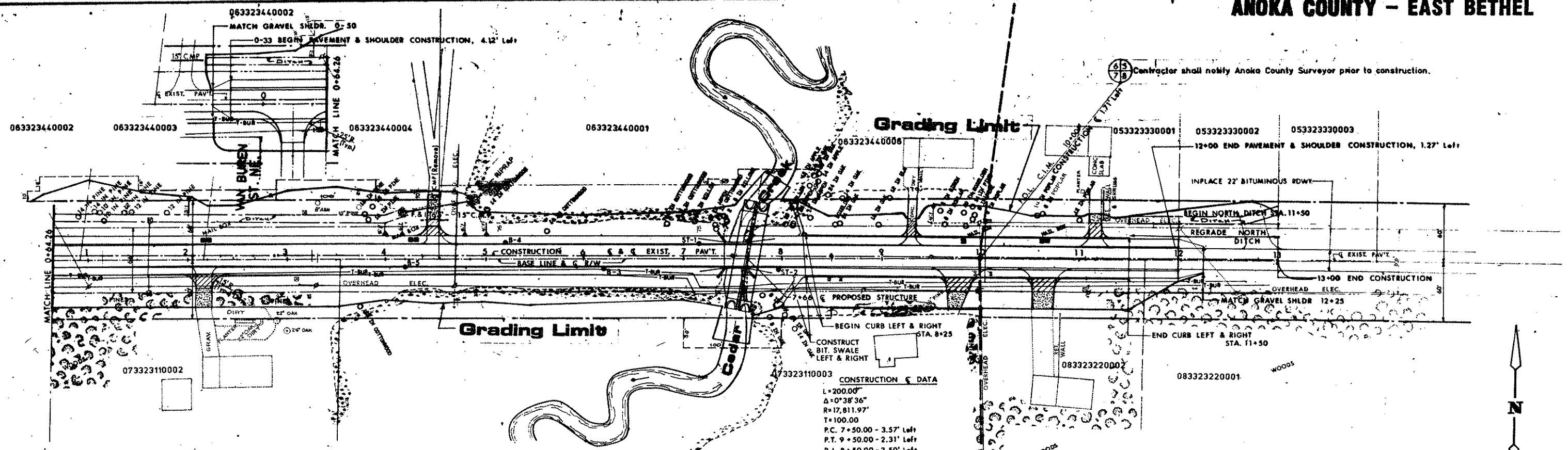
DESIGN BY *JGF*  
APPROVED BY \_\_\_\_\_

**TYPICAL SECTION & EROSION CONTROL**

DATE \_\_\_\_\_  
JOB NUMBER 8912  
SHEET 3 OF 11  
FILE

SCALE: \_\_\_\_\_  
INSPECTOR \_\_\_\_\_





COUNTY ROAD NO. 74 (221ST AVENUE NE.)

COUNTY PROJECT NO. 88-23-74

12A	56-61						
FIELD BOOK PAGE	PROJECT	DESCRIPTION	FILE NO.	DATE	DESCRIPTION	BY	
REFERENCE			REVISIONS				

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 CONSULTING ENGINEERS & LAND SURVEYORS

1448 COUNTY ROAD J  
 MINNEAPOLIS,  
 MINNESOTA, 55432  
 PHONE: 612-784-9348

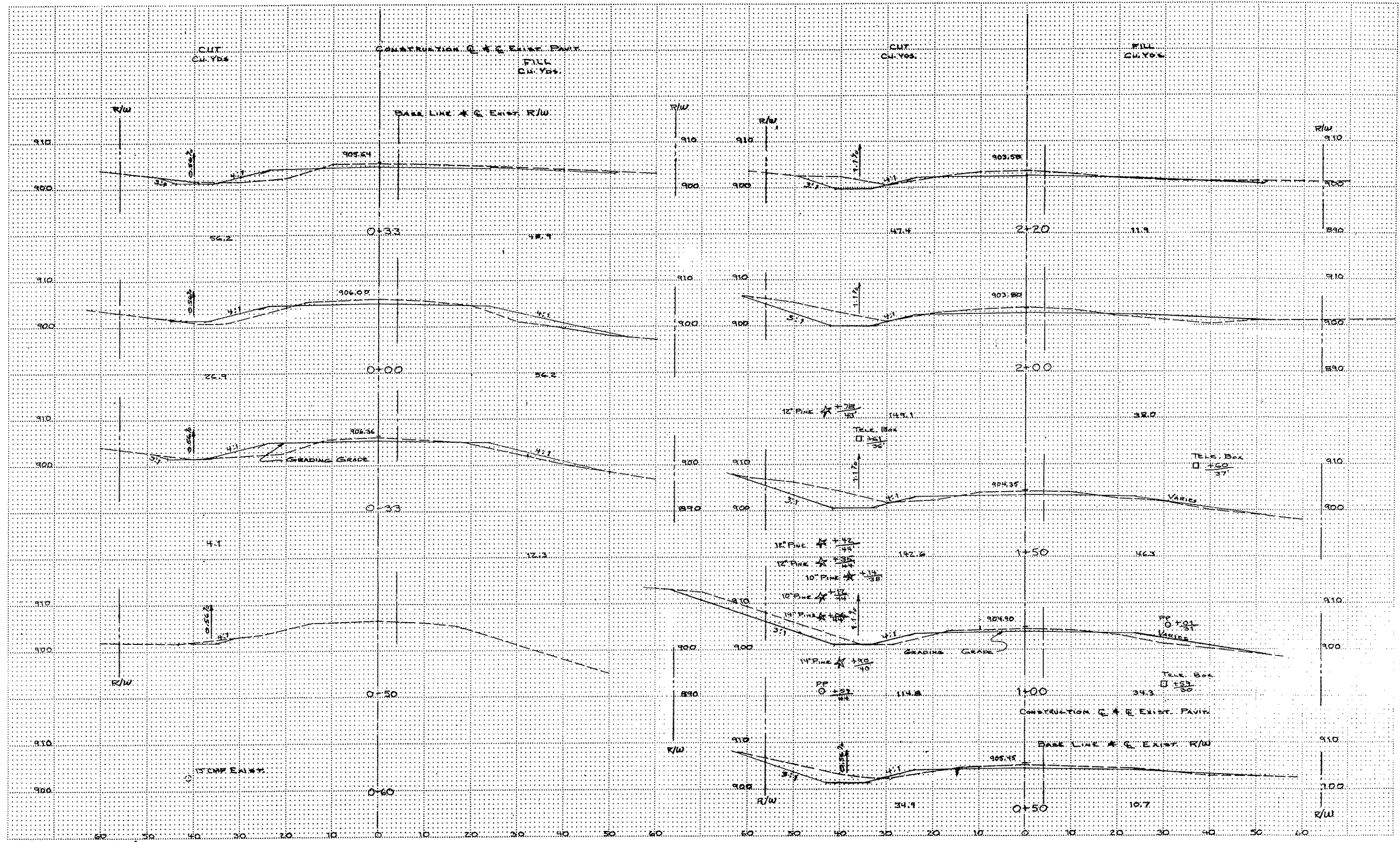
DESIGN BY JGF  
 APPROVED BY \_\_\_\_\_

**PLAN & PROFILE**

SCALE 1" = 50' HORIZ. 1" = 5' VERT.  
 INSPECTOR \_\_\_\_\_

DATE \_\_\_\_\_  
 JOB NUMBER 8912  
**SHEET 5 OF 11**  
 FILE \_\_\_\_\_





COUNTY PROJECT NO. 88-23-74

FIELD BOOK	PAGE	PROJECT	DESCRIPTION	FILE NO.	DATE	DESCRIPTION	BY
REFERENCE				REVISIONS			

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 MINNEAPOLIS, MINNESOTA, 55438  
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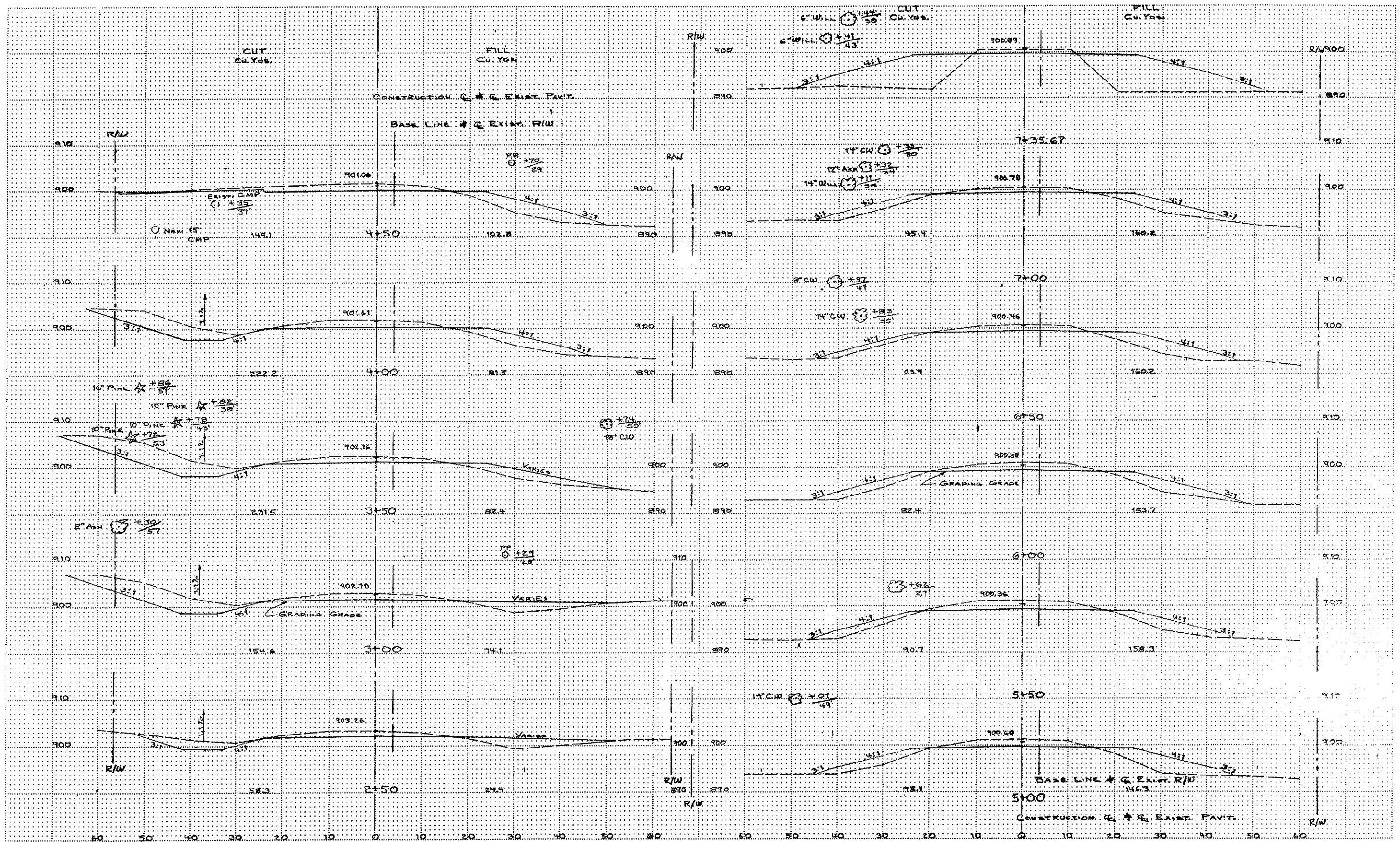
DESIGN BY \_\_\_\_\_  
 APPROVED BY \_\_\_\_\_

**CROSS SECTIONS**

DRAWN BY H.P. J  
 CHECKED BY \_\_\_\_\_

SCALE 1" = 10'  
 INSPECTOR \_\_\_\_\_

DATE \_\_\_\_\_  
 JOB NUMBER 8912  
**SHEET 6 OF 11**  
 FILE \_\_\_\_\_



COUNTY PROJECT NO. 88-23-74

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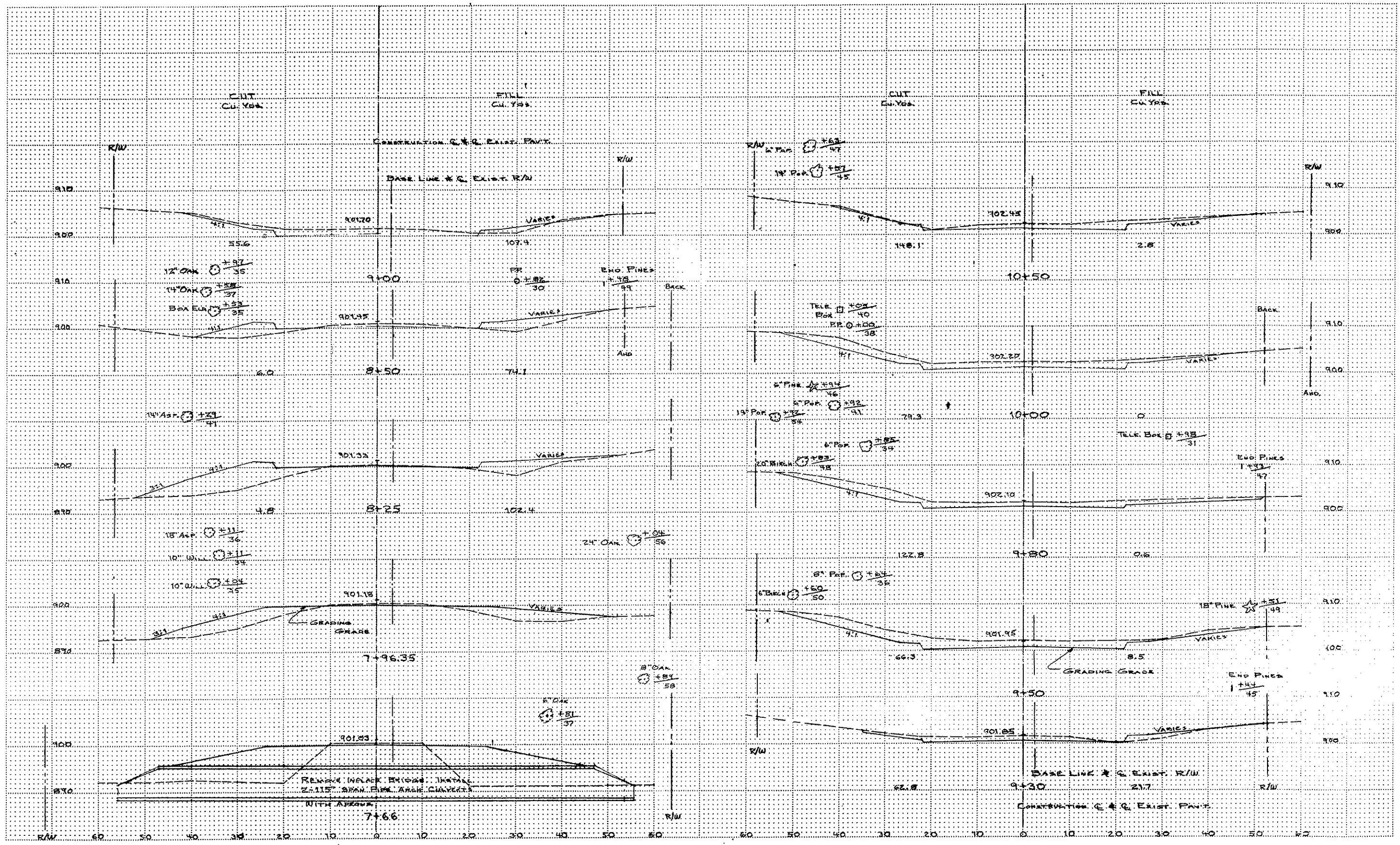
1448 COUNTY ROAD J  
 MINNEAPOLIS, MINNESOTA, 55438  
 PHONE: 812-784-8348

**CROSS SECTIONS**

DESIGN BY \_\_\_\_\_ DRAWN BY H.P. d  
 APPROVED BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_

SCALE 1" = 10'  
 INSPECTOR \_\_\_\_\_

DATE \_\_\_\_\_  
 JOB NUMBER 897  
**SHEET 7 OF 11**  
 FILE \_\_\_\_\_



COUNTY PROJECT NO. 88-23-74

FIELD BOOK	PAGE	PROJECT	DESCRIPTION	FILE NO.	DATE	DESCRIPTION	BY
REFERENCE				REVISIONS			

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DATE \_\_\_\_\_ REG. NO. \_\_\_\_\_

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1448 COUNTY ROAD J  
 MINNEAPOLIS,  
 MINNESOTA, 55432  
 PHONE: 612-784-9348

DESIGN BY \_\_\_\_\_  
 APPROVED BY \_\_\_\_\_

**CROSS SECTIONS**

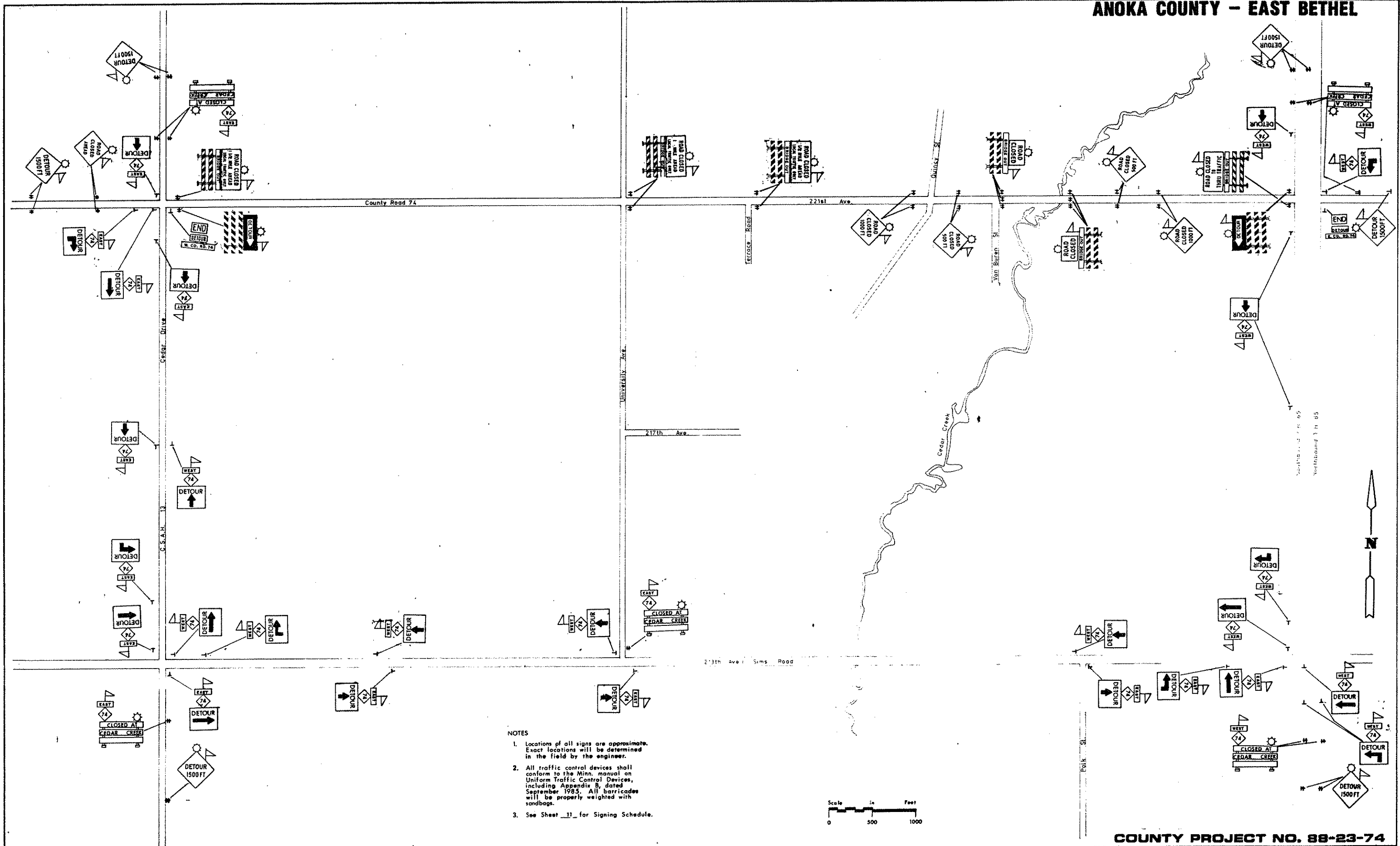
DATE \_\_\_\_\_  
 JOB NUMBER 8912  
 SHEET 8 OF 11  
 FILE \_\_\_\_\_

DRAWN BY H.P. d  
 CHECKED BY \_\_\_\_\_  
 SCALE 1" = 10'  
 INSPECTOR \_\_\_\_\_





# ANOKA COUNTY - EAST BETHEL



- NOTES**
1. Locations of all signs are approximate. Exact locations will be determined in the field by the engineer.
  2. All traffic control devices shall conform to the Minn. manual on Uniform Traffic Control Devices, including Appendix B, dated September 1983. All barricades will be properly weighted with sandbags.
  3. See Sheet 11 for Signing Schedule.

**COUNTY PROJECT NO. 88-23-74**

FIELD BOOK PAGE		PROJECT DESCRIPTION	FILE NO.	DATE	DESCRIPTION	BY	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	 CONSULTING ENGINEERS & LAND SURVEYORS	7448 COUNTY ROAD J MINNEAPOLIS, MINNESOTA, 55432 PHONE: 612-784-9348	<b>TRAFFIC CONTROL &amp; DETOURS</b>		DATE
REFERENCE		REVISIONS								DATE	REG NO.	DESIGN BY
											SHEET 10 OF 11	
											FILE	

MUT.C.D. CODE	SIZE	SIGN PANEL LEGEND	QUANTITY	MUT.C.D. CODE	SIZE	SIGN PANEL LEGEND	QUANTITY
YELLOW FLASHER R11-2	48" X 30"		6	YELLOW FLASHER W20-3	48" X 48"		2
TYPE III	8 FT.			YELLOW FLASHER M4-10(R)	48" X 18"		1
YELLOW FLASHER R11-3	60" X 30"		2	TYPE III	8 FT.		
TYPE III	8 FT.			YELLOW FLASHER M4-10(L)	48" X 18"		1
YELLOW FLASHER R11-3	60" X 30"		2	TYPE III	8 FT.		
TYPE III	8 FT.			M3-4 M3-2	24" X 12"		5 4
YELLOW FLASHER R11-3	60" X 30"		1	YELLOW FLASHER	8 FT.		9
TYPE III	8 FT.						
YELLOW FLASHER R11-4	60" X 30"		1				
TYPE III	8 FT.						
M4-6	24" X 12"		2				
M4-8	24" X 12"		NOTE				
*	*	* MINIMUM 4" HIGH LETTERS	1- East 1- West				
M3-4	24" X 12"		15				
M3-2	24" X 12"		13				
M4-9	30" X 24"		13				
		△ FURNISHED BY ANOKA COUNTY	4				
			3				
			3				
			5				
YELLOW FLASHER W20-3	48" X 48"		4				
YELLOW FLASHER W20-3	48" X 48"		4				
YELLOW FLASHER W20-2	48" X 48"		10				

COUNTY PROJECT NO. 88-23-74

FIELD BOOK	PAGE	PROJECT	DESCRIPTION	FILE NO.	DATE	DESCRIPTION	BY
					2/27/90	221st Avenue Co. Rd 74	aj
					3/6/90	Added 4 Signs	aj

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MINNEAPOLIS,  
MINNESOTA, 55432  
PHONE: 612-784-9348

**TRAFFIC CONTROL & DETOURS**

DESIGN BY JGF  
DRAWN BY DJ  
APPROVED BY \_\_\_\_\_  
CHECKED BY \_\_\_\_\_

DATE \_\_\_\_\_  
JOB NUMBER 8912  
SHEET 11 OF 11  
FILE