

PLAN SYMBOLS

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT-OF-WAY LINE
- EXISTING RIGHT-OF-WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE (Except Land Lines)
- VACATED PLATTED PROPERTY
- CORPORATE OR CITY LIMITS

- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT-OF-WAY LINE
- DRAINAGE DITCH
- DRAIN TILE
- CULVERT
- DROP INLET
- GUARD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- WOODEN FENCE
- CATCH BASIN
- FIRE HYDRANT
- BRIDGE
- BUILDING
- IRON PIPE OR ROD
- MONUMENT (STONE, CONCRETE, OR METAL)

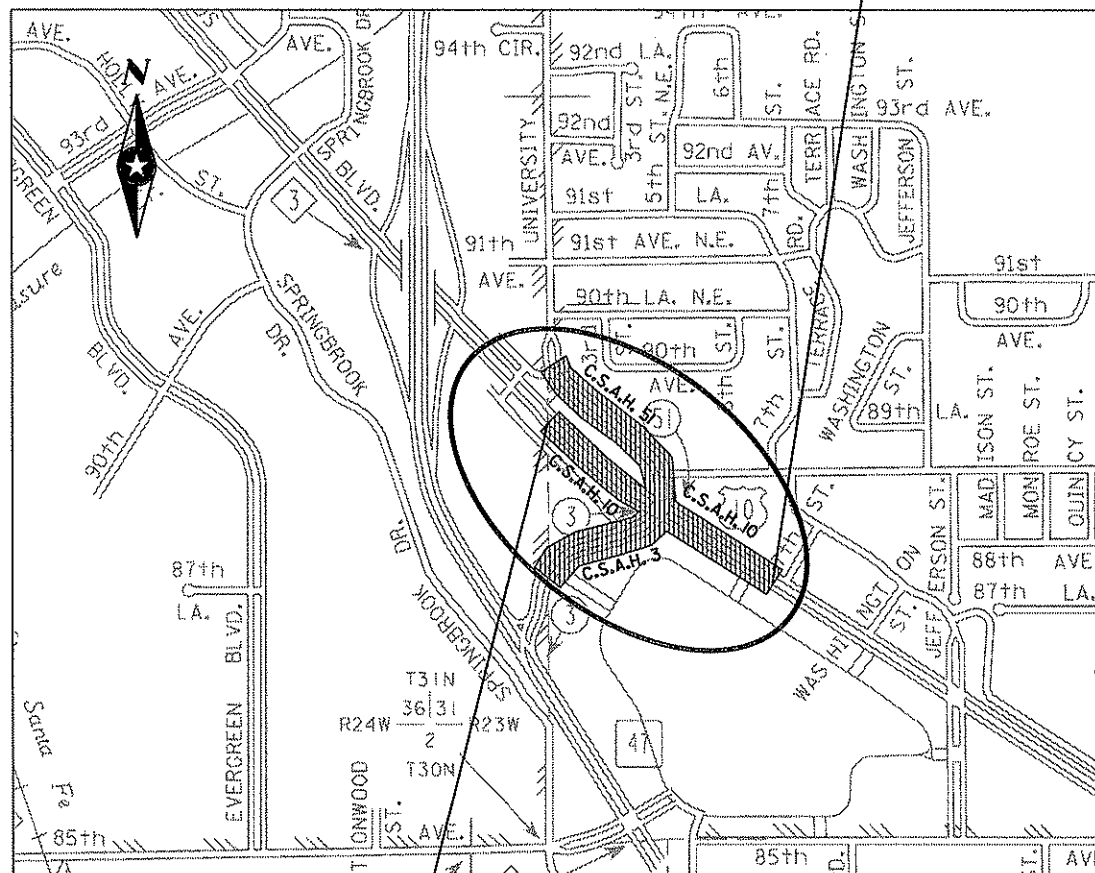
UTILITY SYMBOLS

- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE AND POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (TELEPHONE CABLE TERMINAL)
- GAS MAIN
- WATER MAIN
- CONDUIT
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEVISION CABLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- SEWER, (SANITARY)
- SEWER, (STORM)
- SEWER MANHOLE
- HANDHOLE
- CATCH BASIN

MINNESOTA DEPARTMENT OF TRANSPORTATION  
**ANOKA COUNTY HIGHWAY DEPARTMENT**  
**ANOKA COUNTY, MN**

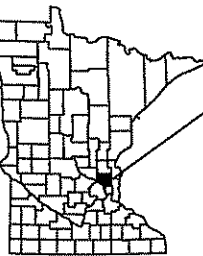
CONSTRUCTION PLAN FOR: GRADING, PAVING, DRAINAGE, AND TRAFFIC SIGNALS  
**S.P. NO. 02-610-11**  
**S.P. NO. 106-020-24**  
 LOCATED AT INTERSECTION OF  
**C.S.A.H. 10 AND C.S.A.H. 51 / C.S.A.H. 3 (UNIVERSITY AVE.)**

COON RAPIDS/BLAINE - LOCATION MAP



BEGIN S.P. 02-610-11  
 E.B. C.S.A.H. 10  
 STA. 60+00.00

END S.P. 02-610-11  
 E.B. C.S.A.H. 10  
 STA. 84+94.30

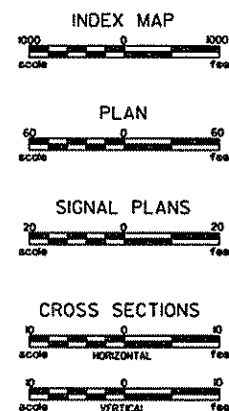


PROJECT LOCATION  
 ANOKA COUNTY  
 Mn/DOT TRANSPORTATION DISTRICT - METRO  
 SECTION 31  
 TOWNSHIP 31 NORTH  
 RANGE 23 WEST

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

STATE PROJ. NO. \_\_\_\_\_ CHARGE IDENTIFIER \_\_\_\_\_

SCALES



GOVERNING SPECIFICATIONS

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION 'STANDARD SPECIFICATIONS FOR CONSTRUCTION' SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE 'MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MUTCD) AND PART VI, 'FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.'

DESIGN DESIGNATION

BASED ON: STOPPING SIGHT DISTANCE  
 HEIGHT OF EYE: 3.5 FT. HEIGHT OF OBJECT: 0.5 FT.

S.P. 02-610-11 C.S.A.H. 10

GROSS LENGTH	2494.30 FT.	0.47 MILES
BRIDGE LENGTH	0 FT.	0 MILES
EXCEPTION LENGTH	0 FT.	0 MILES
FUNCTIONAL CLASSIFICATION	ARTERIAL	
NO. OF TRAFFIC LANES	4	
NO. OF PARKING LANES	0	
STRUCTURAL DESIGN	10 TON	
R VALUE	60	
ESALS	4,289,000	
EXISTING ADT (2004)	22,850	
20 YEAR PROJECTED ADT (2024)	31,900	
% HCADT IN PM	2.2%	

S.P. 02-610-11 - C.S.A.H. 51 (UNIVERSITY AVE.)

GROSS LENGTH	1373.21 FT.	0.26 MILES
BRIDGE LENGTH	0 FT.	0 MILES
EXCEPTION LENGTH	0 FT.	0 MILES
FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL	
NO. OF TRAFFIC LANES	4	
NO. OF PARKING LANES	0	
STRUCTURAL DESIGN	10 TON	
R VALUE	60	
ESALS	3,788,000	
EXISTING ADT (2004)	19,750	
20 YEAR PROJECTED ADT (2024)	27,600	
% HCADT IN PM	1.9%	

S.P. 02-610-11 - C.S.A.H. 3 (UNIVERSITY AVE.)

GROSS LENGTH	860.05 FT.	0.16 MILES
BRIDGE LENGTH	0 FT.	0 MILES
EXCEPTION LENGTH	0 FT.	0 MILES
FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL	
NO. OF TRAFFIC LANES	4	
NO. OF PARKING LANES	0	
STRUCTURAL DESIGN	10 TON	
R VALUE	60	
ESALS	3,788,000	
EXISTING ADT (2004)	21,100	
20 YEAR PROJECTED ADT (2024)	29,400	
% HCADT IN PM	1.9%	

NOTES:  
 THE EXACT LOCATION OF UNDERGROUND UTILITIES SUCH AS GAS, TELEPHONE, FIBEROPTIC, ELECTRIC, CABLE TV, AND PIPE LINES ARE UNKNOWN. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL BEFORE COMMENCING EXCAVATION.  
 GOPHER STATE ONE CALL SYSTEM...1-800-252-1166

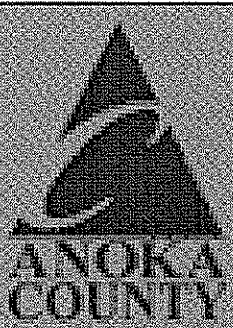
INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-3	STATEMENT OF ESTIMATED QUANTITIES
4	STANDARD PLATES AND CONSTRUCTION NOTES
5	QUANTITY TABULATIONS
6	EARTHWORK SUMMARY
7-8	INPLACE UTILITY TABULATIONS
9-10	TYPICAL SECTIONS
11-14	STANDARD PLAN SHEETS
15-16	ALIGNMENT PLAN AND TABULATION
17-20	TOPOGRAPHY, UTILITY, AND REMOVAL PLAN
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27-30	INPLACE ROAD PROFILES
31-36	DRAINAGE, TURF ESTABLISHMENT, AND EROSION CONTROL PLANS
37-50	SIGNING PLAN
51-57	PAVEMENT MARKINGS
58-69	TRAFFIC SIGNALS
70-92	STAGING AND TRAFFIC CONTROL
XS1-XS23	CROSS SECTIONS

THIS PLAN CONTAINS 115 SHEETS

ANOKA COUNTY HIGHWAY DEPARTMENT  
 1440 BUNKER LANE BLVD N.W.  
 ANDOVER, MN 55304

PHONE: (763)862-4200  
 FAX: (763) 862-4201



APPROVED *[Signature]* DATE 10/27/04  
 For DOUG VIERZBA: COON RAPIDS CITY ENGINEER

APPROVED *[Signature]* DATE 10/27/04  
 CHUCK LENTHE: BLAINE CITY ENGINEER

APPROVED *[Signature]* DATE 10/27/04  
 DOUGLAS W. FISCHER: ANOKA COUNTY ENGINEER

APPROVED *[Signature]* DATE 11-1-04  
 METRO-ASSISTANT DIVISION ENGINEER-STATE AND FEDERAL AID:  
 REVIEWED FOR COMPLIANCE WITH STATE AND FEDERAL AID RULES/POLICY

APPROVED *[Signature]* DATE 11-1-04  
 APPROVED FOR STATE AND FEDERAL AID FUNDING: STATE AID ENGINEER



PHONE: (651) 490-2000  
 3636 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

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.

*[Signature]* NAME: AARON P. MDNIZA

DATE 10/21/2004 LIC. NO. 41654

STATE PROJ. NO. 02-610-11  
 STATE PROJ. NO. 106-020-24

SHEET NO. 1 OF 92 SHEETS

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1/4/2005

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STATEMENT OF ESTIMATED QUANTITIES

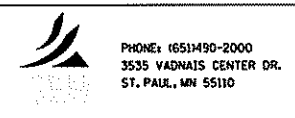
Main table with columns: TAB, NOTES, ITEM NO., ITEM DESCRIPTION, UNIT, TOTAL, ANOKA COUNTY S.P. 02-610-11, ANOKA COUNTY NON-PARTICIPATING, CITY OF BLANE S.P. 106-020-24, CITY OF BLAINE NON-PARTICIPATING, STORM SEWER S.P. 02-610-11 S.P. 106-020-24. Includes rows for items like CELLULAR MOBILE TELEPHONE, PAVEMENT MARKING REMOVAL, and CONCRETE WALK.

INDEX OF TABULATIONS table with columns: TAB, SHEET, DESCRIPTION. Lists sheets A through L and their corresponding descriptions like MISCELLANEOUS REMOVALS, PAVEMENT SAWING, etc.

- NOTES:
1. AT 89TH AVE NE
2. INPLACE BITUMINOUS PAVEMENT RECLAMATION: 12 In - CSAH 3, 11 In CSAH 5I
3. EXCESS RECLAMATION MATERIAL IS PROPERTY OF THE CONTRACTOR AND IS TO BE HAULED OFF-SITE. EXCESS RECLAMATION MATERIAL QUANTITIES PROVIDED FOR INFORMATIONAL PURPOSES ONLY.
4. INCLUDED PEDESTRIAN CURB RAMPS.
5. INCLUDES BITUMINOUS MEDIAN
6. LV4 MIXTURE, TO BE USED FOR TRANSITIONS THRU ISLAND REMOVALS AND FOR THE ROAD RESTORATION AFTER STORM SEWER CONSTRUCTION.

DESIGN TEAM table with columns: NO., BY, DATE, REVISIONS. Includes fields for DRAWN BY, DESIGNER, and CHECKED BY.

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.
Certified By: Aaron P. Moniza, License No. 41654
Printed Name: AARON P. MONIZA Date: 1/4/2005



ANOKA COUNTY, MINNESOTA
INTERSECTION IMPROVEMENTS:
CSAH 10 @ CSAH 51/CSAH 3

STATEMENT OF ESTIMATED QUANTITIES
STATE PROJECT NO. 02-610-11
STATE PROJECT NO. 106-020-24

Table with columns: FILE NO., ANOKC0410.00, DATE, 1/4/2005, and a large number 92.

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1/4/2005

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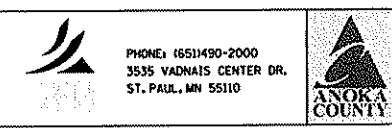
STATEMENT OF ESTIMATED QUANTITIES

TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL	ANOKA COUNTY S.P. 02-610-11		ANOKA COUNTY NON-PARTICIPATING		CITY OF BLAINE S.P. 106-020-24		CITY OF BLAINE NON-PARTICIPATING		STORM SEWER S.P. 02-610-11 S.P. 106-020-24		
						EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	
		2564.531	SIGN PANELS TYPE C	SQ FT	580	580										
		2564.531	SIGN PANELS TYPE D	SQ FT	14	14										
		2564.537	INSTALL SIGN TYPE C	EACH	3	3										
		2564.537	INSTALL SIGN TYPE SPECIAL	EACH	2	2										
		2564.550	INSTALL CYLINDER DELINEATOR	EACH	10	10										
		2564.552	HAZARD MARKER X4-2	EACH	8	8										
		2564.553	CLEARANCE MARKER X4-4	EACH	7	7										
		2564.602	PAVEMENT MESSAGE (LEFT ARROW) - PAINT	EACH	17	17										
		2564.602	PAVEMENT MESSAGE (RIGHT ARROW) - PAINT	EACH	2	2										
		2564.602	PAVEMENT MESSAGE (LEFT-THRU ARROW) - PAINT	EACH	2	2										
		2564.602	PVMT MSSG (RT ARROW) - PREFORMED THERMOPLASTIC	EACH	10	10										
		2564.602	PVMT MSSG (LT ARROW) - PREFORMED THERMOPLASTIC	EACH	21	21										
		2564.602	PVMT MSSG (ONLY) - PREFORMED THERMOPLASTIC	EACH	2					2						
		2564.603	4" SOLID LINE WHITE - PAINT	LIN FT	10,400	10,400										
		2564.603	6" SOLID LINE WHITE - PAINT	LIN FT	180	180										
		2564.603	8" SOLID LINE WHITE - PAINT	LIN FT	105	105										
		2564.603	24" SOLID LINE WHITE - PAINT	LIN FT	175	175										
		2564.603	4" BROKEN LINE WHITE - PAINT	LIN FT	130	130										
		2564.603	4" SOLID LINE YELLOW - PAINT	LIN FT	4,050	4,050										
		2564.603	4" DOUBLE SOLID YELLOW - PAINT	LIN FT	4,530	4,530										
		2564.603	4" SOLID LINE WHITE - EPOXY	LIN FT	10,960	10,960										
		2564.603	4" SOLID LINE YELLOW - EPOXY	LIN FT	6,200	6,200										
		2564.603	4" BROKEN LINE WHITE - EPOXY	LIN FT	1,405	1,405										
		2564.603	8" SOLID LINE WHITE - EPOXY	LIN FT	660	660										
		2564.603	24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	LIN FT	206	206										
		2564.618	ZEBRA CROSSWALK WHITE - PREFORMED THERMOPLASTIC	SO FT	882	882										
		2565.511	FULL TACT CONTROL SIGNAL SYSTEM	SIGS	1	1										
		2565.601	TRAFFIC CONTROL INTERCONNECTION	LS	1	1										
		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LS	1					1						
		2565.602	ADJUST HANDHOLE	EACH	7	7										
		2565.602	NMC LOOP DETECTOR 6' X 6'	EACH	4	4										
		2565.602	NMC LOOP DETECTOR 2-6' X 6'	EACH	1	1										
		2565.602	NMC LOOP DETECTOR 4-6' X 6'	EACH	2	2										
		2573.502	SILT FENCE, TYPE MACHINE SLICED	LIN FT	3,393	2,962					431					
		2573.530	INLET PROTECTION TYPE A	EACH	12	12										
		2575.501	SEEDING	ACRE	0.71	0.57										
		2575.502	SEED MIXTURE 250	POUND	36	29										
		2575.505	SODDING TYPE SALT RESISTANT	SO YD	916	916										
		2575.523	EROSION CONTROL BLANKETS, CATEGORY I	SO YD	3,643	2,965										
		2575.532	COMMERCIAL FERT ANALYSIS 22-5-10	POUND	225	193										

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 1/4/2005



ANOKA COUNTY, MINNESOTA  
 INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3

STATEMENT OF ESTIMATED QUANTITIES	
STATE PROJECT NO. 02-610-11	STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00	3
DATE 1/4/2005	92

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10/21/2004

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The following standard plates, approved by the Federal Highway Administration shall apply on this project.

STANDARD PLATES	
PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE
3007C	SHEAR REINFORCMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133C	RIPRAP AT RCP OUTLETS
4005L	MANHOLE OR CATCH BASIN
4006L	MANHOLE OR CATCH BASIN PRECAST (DESIGN G OR DESIGN H)
4010H	CONCRETE SHORT CONE AND ADJUSTING RING (SECTIONAL CONCRETE)
4011E	PRECAST CONCRETE BASE
4020I	MANHOLE OR CATCH BASIN COVER
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4101F	COVER CASTING FOR MANHOLE
4129G	CATCH BASIN FRAME CASTING
4132F	CATCH BASIN FRAME CASTING
4143E	STOOL GRATE & CONCRETE FRAME
4154B	CATCH BASIN GRATE CASTING
4160D	CURB BOX CASTING FOR CATCH BASIN
4180J	MANHOLE OR CATCH BASIN STEP
7036F	PEDESTRIAN CURB RAMP FOR THE HANDICAPPED
7065C	BITUMINOUS CURB
7100G	CONCRETE CURB & GUTTER
7111J	INSTALLATION OF CATCH BASIN CASTINGS
7113A	CONCRETE APPROACH NOSE DETAIL
8001I	STANDARD BARRICADES
8110D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8114A	P.V.C. HANDHOLE / PULLBOX
8115D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118C	SERVICE EQUIPMENT AND POLE - TRAFFIC CONTROL SIGNALS
8119C	GROUND MOUNTED CABINET FOUNDATION
8121D	TRANSFORMER BASE AND POLE BASE PLATE
8123E	POLE AND MAST ARM
8124E	MAST ARM SIGNAL HEAD MOUNTS
8126F	POLE FOUNDATION (PA90 AND PA100)

BASIS OF ESTIMATED QUANTITIES	
ITEM	BASIS
BITUMINOUS PAVEMENT	110 LBS/SY/INCH
BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL/SY
COMM. FERT. ANALYSIS 24-12-24	225 LBS/ACRE

UTILITY LOCATIONS	
GOPHER STATE ONE CALL	651-454-0002
NOTE: CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. ALL IN PLACE UTILITIES MAY NOT BE SHOWN ON THIS PLAN.	

### SOIL AND CONSTRUCTION NOTES

1. THE TOP OF THE "GRADING GRADE" IS DEFINED AS THE BOTTOM OF THE AGGREGATE BASE OR THE TOP OF THE SELECTED GRADING SOIL, THE GRANULAR MATERIAL (SPEC 3149.2B1) OR THE SELECT GRANULAR MATERIAL (SPEC 3149.2B2) AS IS APPROPRIATE.
2. UNSUITABLE MATERIALS ARE TOPSOILS, DEBRIS, PEAT, MUCK AND ORGANIC, OR OTHER UNSTABLE SOILS.
3. SUITABLE MATERIALS SHALL BE ALL OTHER MINERAL SOILS ENCOUNTERED ON THE PROJECT OR FROM BORROW, NOT PREVIOUSLY DEFINED AS BEING UNSUITABLE.
4. SELECT GRANULAR MATERIAL IS DEFINED AS MATERIAL MEETING THE REQUIREMENTS OF SPEC 3149.2B2.
5. STRIP SOD AND TOPSOIL FROM AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 0.5 FEET IN ALL AREAS.
6. ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE COMMON EXCAVATION.
7. IN FILL SECTIONS, TOPSOIL AND OTHER UNSUITABLE MATERIALS SHALL BE ELIMINATED FROM THE UPPER 3 FEET OF THE "GRADING GRADE" BENEATH THE ROADWAY, WITHIN THE LIMITS SHOWN IN THE TYPICAL SECTIONS.
8. PROVIDE FOR THE REMOVAL AND DISPOSAL OF ANY INPLACE SURFACING, GUARDRAIL, OTHER STRUCTURES, OR DEBRIS THAT WOULD INTERFERE WITH CONSTRUCTION. ALL SUCH MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED TO THE EXTENT ALLOWED OR DISPOSED OF OFF THE PROJECT LIMITS IN ACCORDANCE WITH SPEC 2104.03.C. PROVIDE FOR SAW CUTTING AS DEEMED NECESSARY BY THE ENGINEER.
9. PROVIDE FOR SUBGRADE CORRECTIONS AND SUBCUTS FOR UNIFORMITY AND COMPACTION AND EMBANKMENT CONSTRUCTION DETAILS AS INDICATED IN THE TYPICAL SECTIONS. SELECTED GRADING SOILS FROM THE ROADBED OR ADJACENT CUTS SHALL BE USED IN THE LOWER PORTION OF THE NEW CONSTRUCTION AND THE GRANULAR MATERIAL AND/OR SELECT GRANULAR MATERIAL SHALL BE USED IN THE UPPER PORTION.
10. COMPACTION OF THE GRADING AND AGGREGATE ITEMS SHALL BE BY THE "SPECIFIED DENSITY" METHOD, EXCEPT THAT, IN AREAS WHERE CRUSHED CONCRETE OR SALVAGED ASPHALT IS USED FOR AGGREGATE BASE, COMPACTION OF THE AGGREGATE BASE LAYER SHALL BE BY THE "DYNAMIC CORE PENETROMETER" METHOD.
11. WHERE WIDENING ADJACENT TO EXISTING PAVEMENT, EXCAVATIONS SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING OF THE EXISTING PAVEMENT. CUT VERTICALLY TO THE BOTTOM OF THE PROPOSED SURFACING OR NEW SURFACING, WHICHEVER IS DEEPER, THEN 2V:1H TO THE BOTTOM OF THE RECOMMENDED SUBGRADE TREATMENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT EXISTING PAVEMENT DESIGNATED TO REMAIN INPLACE IS NOT UNDERMINED BY ADJACENT EXCAVATION OR CONSTRUCTION ACTIVITY. ANY SUCH EXISTING PAVEMENT UNDERMINED OR OTHERWISE DAMAGED BY CONSTRUCTION ACTIVITY SHALL BE REMOVED AND REPLACED TO THE SATISFACTION OF THE ENGINEER, AT NO COST TO THE COUNTY.
12. WHERE MATCHING NEW SURFACING, AT CROSSROADS OR PROJECT TERMINI, TO EXISTING PAVEMENTS, CUT VERTICALLY TO THE BOTTOM OF THE PROPOSED SURFACING OR NEW SURFACING, WHICHEVER IS DEEPER, THEN 1V:20H TO THE BOTTOM OF THE RECOMMENDED SUBGRADE TREATMENT.
13. DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS, AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.
14. PLACE A MINIMUM OF 4 INCHES OF TOPSOIL ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.
15. SOD/SEED ALL AREAS AS INDICATED IN THE TURF ESTABLISHMENT AND EROSION CONTROL PLANS. PROVIDE MULCH MATERIAL TYPE 1 AND COMMERCIAL FERTILIZER, ANALYSIS 10-10-10 FOR AREAS TO BE SEEDED. PROVIDE COMMERCIAL FERTILIZER, ANALYSIS 24-12-24 ON ALL AREAS TO BE SODDED.
16. COMPACTION OF THE BITUMINOUS ITEMS OF THIS PROJECT SHALL BE BY THE "MAXIMUM DENSITY" METHOD, IN ACCORDANCE WITH THE PROVISIONS OF SPEC 2360.
17. PROVIDE FOR A UNIFORM BITUMINOUS TACK COAT BETWEEN ALL BITUMINOUS COURSES. THE TACK COAT SHALL BE IN ACCORDANCE WITH MN/DOT SPECIFICATION 2357 WITH THE FOLLOWING MODIFICATIONS:  
1) THE TACK COAT SHALL CONSIST OF EMULSIFIED ASPHALT (CSS-1 OR CSS-1H) AND SHALL BE APPLIED BETWEEN ALL BITUMINOUS COURSES.  
2) THE TACK COAT SHALL BE APPLIED AT A UNIFORM RATE OF 0.05 GAL/SY.
18. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, DATED JANUARY 2004.
19. THE CONTRACTOR IS HEREBY REMINDED OF THEIR RESPONSIBILITY UNDER STATE LAW TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL.
20. THE EXISTING PAVEMENT THICKNESSES ARE ASSUMED TO BE AS FOLLOWS:  
CSAH 10 - 6"  
CSAH 3 - 5.5"  
CSAH 51 - 7"
21. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK WILL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
22. NO WORK, INCLUDING THE STOCKPILING OF BITUMINOUS PAVEMENT, CONCRETE PAVEMENT, OF UNSUITABLE SOILS REMOVED FROM THE SITE SHALL EXTEND BEYOND THE RIGHT-OF-WAY OR TEMPORARY EASEMENT UNLESS THE CONTRACTOR HAS PROVIDED THE COUNTY WITH A COPY OF THE LANDOWNER'S PERMISSION FOR SUCH WORK. THIS MUST ALSO BE APPROVED BY THE ENGINEER.
23. EARTHWORK TABULATION QUANTITIES FOR RECLAIMED BITUMINOUS PAVEMENT RECLAMATION ARE GIVEN IN CUBIC YARDS, WHICH DOES NOT CORRESPOND TO THE BID ITEM FOR BITUMINOUS PAVEMENT RECLAMATION, GIVEN IN SQUARE YARDS. THE EARTHWORK TABULATION IS FOR INFORMATIONAL PURPOSES ONLY AND IS INTENDED TO ASSIST THE CONTRACTOR IN PLANNING FOR CONSTRUCTION. HOWEVER, THE BITUMINOUS PAVEMENT RECLAMATION WILL BE PAID FOR ACCORDING TO THE SURFACE AREA IN SQUARE YARDS (SY) OF EXISTING PAVEMENT.
24. FOR ESTIMATING QUANTITIES IN THE EARTHWORK TABULATION, AN EXPANSION FACTOR OF 1.35 WAS APPLIED TO THE VOLUME OF IN-PLACE EXISTING PAVEMENT TO DETERMINE THE LOOSE VOLUME OF THE RECLAIMED BITUMINOUS PAVEMENT. A SHRINKAGE FACTOR OF 1.15 WAS APPLIED TO THE LOOSE VOLUME OF RECLAIMED BITUMINOUS PAVEMENT TO DETERMINE A COMPACTED VOLUME OF AGGREGATE BASE.

DESIGN TEAM		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.	 PHONE: (651)490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY, MINNESOTA <b>INTERSECTION IMPROVEMENTS:</b> <b>CSAH 10 @ CSAH 51/CSAH 3</b>	FILE NO.	4
DRAWN BY: JMT		Certified By: <i>Aaron P. Moniza</i> Lic. No. 41654			CONSTRUCTION NOTES & STANDARD PLATES	ANOKC0410.00
DESIGNER: JEO		Printed Name: AARON P. MONIZA Date: 10/21/2004			DATE	92
CHECKED BY: APM					STATE PROJECT NO. 02-610-11	
	NO.	BY	DATE	REVISIONS	STATE PROJECT NO. 106-020-24	10/21/2004

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TURF ESTABLISHMENT AND EROSION CONTROL						E
STATION TO STATION	LOCATION	AREA	SILT FENCE TYPE MACHINE SLICED	SODDING TYPE MINERAL	COMMERCIAL FERTILIZER ANALYSIS 24-12-24 @ 225LBS/AC (SOD)	INLET PROTECTION
		SF	LF	SQ YD	LB	EACH
CSAH 3 100+70 - 120+69	LT & RT	2706	1512	301	73.0	
CSAH 51 / 89TH ST 109+51 - 121+34	LT & RT	5536	1371	615	152.0	11
CSAH 10 63+60 - 80+83	LT & RT		510			1
<b>PROJECT TOTALS</b>		<b>8242</b>	<b>3393</b>	<b>916</b>	<b>225</b>	<b>12</b>

CONCRETE ITEMS						D
STATION TO STATION	LOCATION	B424 CURB & GUTTER	B418 CURB & GUTTER	4" CONCRETE WALK	CONCRETE MEDIAN NOSE DESIGN 7113	PEDESTRIAN CURB RAMP (TRUNCATED DOME)
		LF	LF	SQ FT	SQ FT	EACH
CSAH 3 100+70 - 120+69	LT / RT	968	678	9389	36	3
CSAH 10 63+61 - 80+77	LT	825	0	1535	65	0
CSAH 51 109+25 - 121+34	LT / RT	2633	472	8809	221	2
89TH STREET 0+00 - 1+50.00	LT / RT	785	0	3905	0	0
<b>PROJECT TOTALS</b>		<b>5211</b>	<b>1150</b>	<b>23638</b>	<b>322</b>	<b>5</b>

MISCELLANEOUS REMOVALS											A
STATION TO STATION	LOCATION	REMOVE CONCRETE WALK	REMOVE CURB & GUTTER	RECYCLE EXISTING PAVEMENT	REMOVE BIT MEDIAN CURB	REMOVE BIT WALK	REMOVE CONCRETE CULVERT	REMOVE CATCH BASIN	CLEAR & GRUB TREE	REMOVE CONCRETE APRON	MILL BITUMINOUS SURFACE (2")
		SQ FT	LN FT	SQ YD	SQ FT	SQ FT	LN FT	EACH	EACH	EACH	SQ YD
CSAH 10 63+61 - 80+63	LT / RT		1177					3			
CSAH 3 100+70 - 120+69	LT / RT	5627	1632	8012							836
CSAH 51/89TH AVE. NE 109+25 - 121+34	LT & RT	320	1025	8661	3012	1323	75	2	4	3	2900
<b>PROJECT TOTAL</b>		<b>5,947</b>	<b>3,834</b>	<b>16,673</b>	<b>3,012</b>	<b>1,323</b>	<b>75</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>3,736</b>

PAVEMENT SAWING		B
STATION TO STATION	LOCATION	SAWING BIT. PAVEMENT (FULL DEPTH)
		LN FT
E.B. C.S.A.H. 10 63+61 - 71+80	LT	1051
71+65 - 74+05	RT	271
W.B. C.S.A.H. 10 69+47 - 70+54	LT	57
71+37 - 73+00	LT	154
72+89 - 80+63	RT	866
N.B. C.S.A.H. 3/51 103+64	LT & RT	92
113+63 - 117+05	RT	305
118+85	LT & RT	71
S.B. C.S.A.H. 3/51 105+61 - 105+91	LT	33
89th AVE. NE 1+63	LT & RT	44
<b>SUBTOTAL</b>		<b>2944</b>

BITUMINOUS PAVEMENT											C
STATION TO STATION	LOCATION	DESCRIPTION	AREA	2360 TYPE SP 12.5 WEARING COURSE DEPTH (MVWE45035F)	2360 TYPE SP 19.0 NON-WEARING COURSE DEPTH (MVNW35035B)	BIT MATERIAL FOR TACK COAT	2360 TYPE SP 12.5 WEARING COURSE (MVWE45035F)	2360 TYPE SP 19.0 NON-WEARING COURSE (MVNW35035B)	BIT MATERIAL FOR TACK COAT	BIT PAVEMENT FOR TRENCH RESTORATION	AGGREGATE SHOULDERING CLASS 7B
			SQ YD	INCHES	INCHES	COURSES	TON	TON	GAL	SQ FT	TON
CSAH 10 63+62 - 80+78	LT & RT		1760	1.5	4.5	3	837	435	264	763	
CSAH 3 100+70 - 120+69	RT & LT		7976	2.0	4.5	3	1,569	937	1,341	141	35
CSAH 51/89TH STREET 100+70 - 121+34	RT & LT		9122	2.0	4.5	3	1,694	1,221	1,410	540	50
<b>PROJECT TOTALS</b>							<b>4,100</b>	<b>2,593</b>	<b>3,015</b>	<b>1,444</b>	<b>85</b>

MISCELLANEOUS REMOVALS  
PAVEMENT SAWING  
BITUMINOUS PAVEMENT  
CONCRETE ITEMS  
TURF ESTABLISHMENT & EROSION CONTROL

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10/22/2004

DESIGN TEAM				
DRAWN BY: JMT				
DESIGNER: JEO				
CHECKED BY: APM				
NO.	BY	DATE	REVISIONS	

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.  
Certified By: *Aaron P. Moniza* Lic. No. 41654  
Printed Name: AARON P. MONIZA Date: 10/22/2004



PHONE: (651)490-2000  
3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

QUANTITY TABULATIONS	FILE NO. ANOKC0410.00	5
STATE PROJECT NO. 02-610-11 STATE PROJECT NO. 106-020-24	DATE 10/22/2004	92

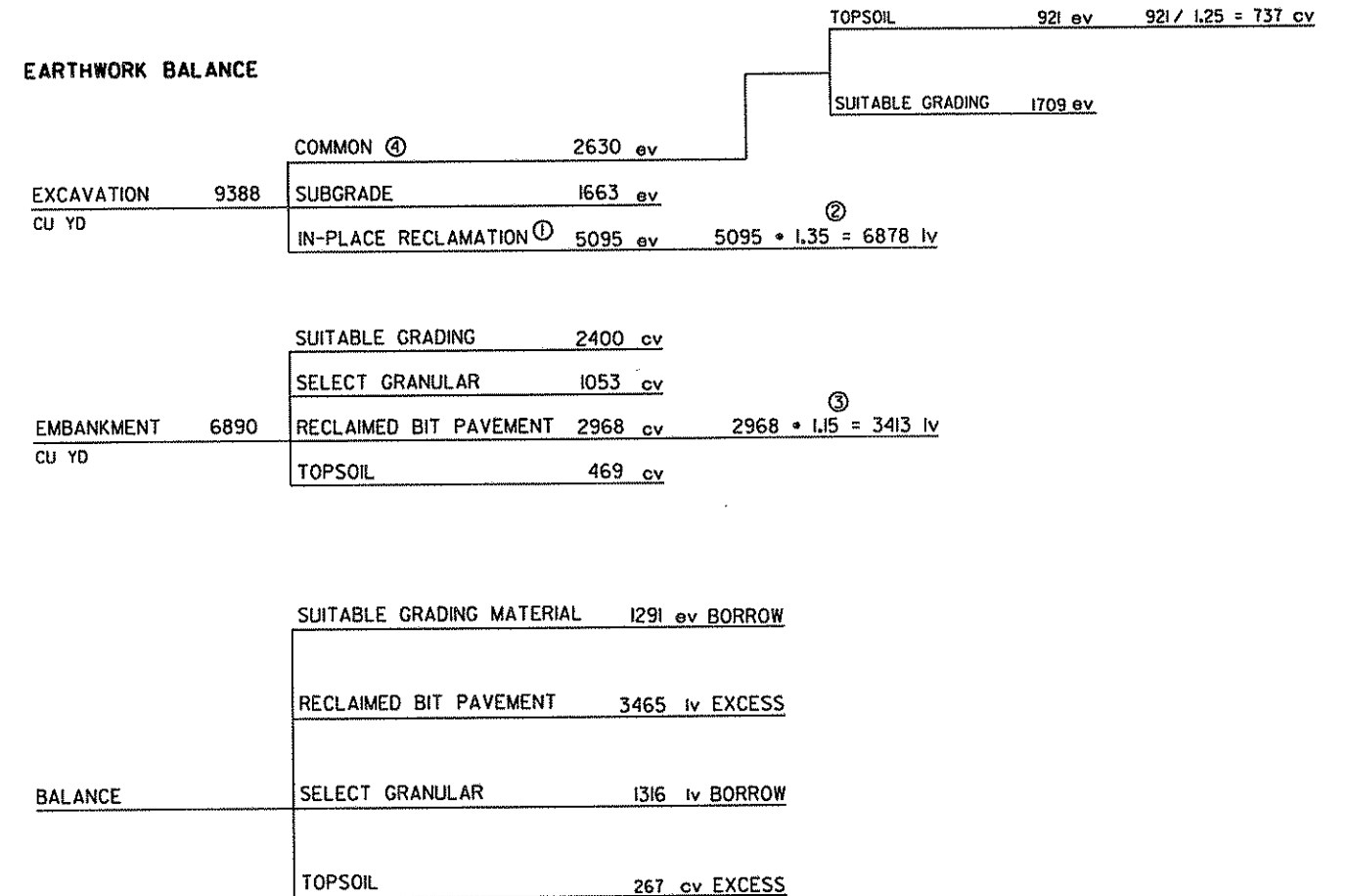
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EARTHWORK QUANTITIES				F			
ALIGNMENT	EXCAVATION (E.V.)			EMBANKMENT (C.V.)			
	COMMON	SUBGRADE	IN-PLACE RECLAMATION	ROADWAY			
				SUITABLE GRADING	GRANULAR	TOPSOIL	RECLAIMED BITUMINOUS PAVEMENT
CUYD	CUYD	CUYD	CUYD	CUYD	CUYD	CUYD	CUYD
CSAH 10	1,213	1,063	0	9	1,053	0	402
CSAH 3 (UNIVERSITY EXIT)	500	37	2,449	149	0	125	1,282
CSAH 51 / 89TH STREET	917	563	2,646	2,242	0	344	1,284
<b>PROJECT TOTALS</b>	<b>2,630</b>	<b>1,663</b>	<b>5,095</b>	<b>2,400</b>	<b>1,053</b>	<b>469</b>	<b>2,968</b>

**EARTHWORK BALANCE**



**NOTES:**

- ① MILL EXISTING BITUMINOUS PAVEMENT AND A PORTION OF EXISTING AGGREGATE BASE. CRUSH AND SCREEN TO MEET CLASS 5 GRADING.
- ② AN EXPANSION FACTOR OF 1.35 WAS APPLIED TO THE VOLUME OF IN-PLACE EXISTING PAVEMENT TO DETERMINE THE LOOSE VOLUME OF THE RECLAIMED BITUMINOUS PAVEMENT.
- ③ A SHRINKAGE FACTOR OF 1.15 WAS APPLIED TO THE LOOSE VOLUME OF RECLAIMED BITUMINOUS PAVEMENT TO DETERMINE A COMPACTED VOLUME OF AGGREGATE BASE.
- ④ ASSUME 33% OF COMMON EX. IS TOPSOIL AND 125% SHRINKAGE FACTOR.
- ⑤ ALL EXCESS MATERIAL IS PROPERTY OF THE CONTRACTOR

DESIGN TEAM				
DRAWN BY: JMT				
DESIGNER: JEO				
CHECKED BY: APM				
NO.	BY	DATE	REVISIONS	

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.  
 Certified By: Aaron P. Moniza Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

<b>EARTHWORK TABULATION AND SUMMARY</b>	
STATE PROJECT NO. 02-610-11	DATE 10/21/2004
STATE PROJECT NO. 106-020-24	

FILE NO. ANOKC0410.00	6
DATE 10/21/2004	92

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INPLACE PUBLIC UTILITIES TABULATION				G
OWNER: CITY OF BLAINE (STORM SEWER)				
E.B. CSAH 10 STA. - STA.	OFFSET	ITEM	REMARKS	
69+18 TO 69+66	151' RT - 116' RT	CULVERT	LEAVE AS IS	
69+26 TO 69+70	156' RT - 122' RT	CULVERT	LEAVE AS IS	
70+71 TO 70+95	620' RT - 619' RT	STORM SEWER PIPE	LEAVE AS IS	
70+95 TO 71+30	619' RT - 618' RT	STORM SEWER PIPE	LEAVE AS IS	
71+55 TO 71+98	256' LT - 209' LT	PIPE/APRONS	REMOVE	
71+74 TO 72+99	192' RT - 217' RT	CULVERT	LEAVE AS IS	
71+75 TO 73+00	185' RT - 209' RT	CULVERT	LEAVE AS IS	
72+06 TO 72+10	216' LT - 229' LT	CB/PIPE	REMOVE	
72+06 TO 73+04	346' RT - 400' RT	STORM SEWER PIPE	LEAVE AS IS	
73+04 TO 73+17	400' RT - 439' RT	STORM SEWER PIPE	REMOVE	
74+95 TO 75+84	217' RT - 403' RT	STORM SEWER PIPE	LEAVE AS IS	
75+56 TO 76+01	451' LT - 437' LT	STORM SEWER PIPE	LEAVE AS IS	
77+11 TO 77+11	171' LT - 215' LT	STORM SEWER PIPE	LEAVE AS IS	
77+11 TO 76+01	215' LT - 371' LT	STORM SEWER PIPE	LEAVE AS IS	
76+01 TO 76+04	371' LT - 453' LT	STORM SEWER PIPE	LEAVE AS IS	
76+04 TO 77+76	453' LT - 568' LT	STORM SEWER PIPE	LEAVE AS IS	
77+76 TO 77+73	568' LT - 670' LT	STORM SEWER PIPE	LEAVE AS IS	
77+73 TO 77+73	671' LT - 693' LT	STORM SEWER PIPE	LEAVE AS IS	
77+62 TO 77+73	643' LT - 670' LT	STORM SEWER PIPE	LEAVE AS IS	
77+76 TO 77+84	568' LT - 599' LT	STORM SEWER PIPE	LEAVE AS IS	
76+54 TO 76+54	125' LT - 44' RT	CULVERT	LEAVE AS IS	
76+65 TO 76+65	125' LT - 44' RT	CULVERT	LEAVE AS IS	
77+70 TO 79+95	143' RT - 224' RT	STORM SEWER PIPE	LEAVE AS IS	

INPLACE PUBLIC UTILITIES TABULATION				G
OWNER: QWEST (TELEPHONE)				
E.B. CSAH 10 STA. - STA.	OFFSET	ITEM	REMARKS	
64+25 TO 67+43	249' LT - 289' LT	T-BUR	LEAVE AS IS	
67+43 TO 68+81	289' LT - 292' LT	T-BUR	LEAVE AS IS	
68+81 TO 69+90	292' LT - 277' LT	T-BUR	LEAVE AS IS	
69+90 TO 70+54	277' LT - 254' LT	T-BUR	LEAVE AS IS	
70+54 TO 70+90	254' LT - 237' LT	T-BUR	LEAVE AS IS	
66+83 TO 68+77	117' RT - 128' RT	T-BUR	LEAVE AS IS	
67+09 TO 70+34	22' RT - 24' RT	T-BUR	LEAVE AS IS	
70+34 TO 72+14	24' RT - 16' RT	T-BUR	LEAVE AS IS	
72+14 TO 72+04	16' RT - 183' RT	T-BUR	LEAVE AS IS	
72+04 TO 70+12	183' RT - 518' RT	T-BUR	LEAVE AS IS	
70+12 TO 69+71	518' RT - 586' RT	T-BUR / SBT	LEAVE AS IS	
68+62 TO 69+28	127' RT - 60' LT	T-BUR	LEAVE AS IS	
69+28 TO 70+75	60' LT - 224' LT	T-BUR	LEAVE AS IS	
70+75 TO 70+91	224' LT - 234' LT	T-BUR	LEAVE AS IS	
68+70 TO 69+35	128' RT - 56' LT	T-BUR	LEAVE AS IS	
69+35 TO 70+82	56' LT - 220' LT	T-BUR	LEAVE AS IS	
70+82 TO 70+99	220' LT - 230' LT	T-BUR	LEAVE AS IS	
68+77 TO 69+40	128' RT - 51' LT	T-BUR	LEAVE AS IS	
69+40 TO 70+88	51' LT - 215' LT	T-BUR	LEAVE AS IS	
70+88 TO 75+93	215' LT - 513' LT	T-BUR	LEAVE AS IS	

INPLACE PUBLIC UTILITIES TABULATION				G
OWNER: CITY OF BLAINE (SANITARY SEWER)				
E.B. CSAH 10 STA. - STA.	OFFSET	ITEM	REMARKS	
63+55 TO 63+36	149' LT - 218' LT	SAN SEWER	LEAVE AS IS	
63+36 TO 72+49	218' LT - 294' LT	SAN SEWER	LEAVE AS IS	
72+49 TO 73+32	294' LT - 306' LT	SAN SEWER	LEAVE AS IS	
73+32 TO 88+40	306' LT - 1284' LT	SAN SEWER	LEAVE AS IS	
88+40 TO 89+69	1284' LT - 1090' LT	SAN SEWER	LEAVE AS IS	
64+72 TO 68+84	42' RT - 47' RT	SAN SEWER	LEAVE AS IS	
68+84 TO 71+62	47' RT - 162' RT	SAN SEWER	LEAVE AS IS	
71+62 TO 70+51	162' RT - 355' RT	SAN SEWER	LEAVE AS IS	
70+51 TO 69+93	355' RT - 488' RT	SAN SEWER	LEAVE AS IS	
69+93 TO 69+71	488' RT - 632' RT	SAN SEWER	LEAVE AS IS	
69+71 TO 69+73	632' RT - 752' RT	SAN SEWER	LEAVE AS IS	
69+73 TO 69+99	752' RT - 913' RT	SAN SEWER	LEAVE AS IS	
69+99 TO 70+65	913' RT - 1072' RT	SAN SEWER	LEAVE AS IS	
70+65 TO 72+08	1072' RT - 845' RT	SAN SEWER	LEAVE AS IS	
69+99 TO 72+08	913' RT - 845' RT	SAN SEWER	LEAVE AS IS	
64+23 TO 67+40	261' LT - 287' LT	SAN SEWER	LEAVE AS IS	
67+40 TO 69+41	287' LT - 285' LT	SAN SEWER	LEAVE AS IS	
69+41 TO 71+83	285' LT - 246' LT	SAN SEWER	LEAVE AS IS	
71+83 TO 72+64	246' LT - 246' LT	SAN SEWER	LEAVE AS IS	
72+64 TO 74+04	246' LT - 338' LT	SAN SEWER	LEAVE AS IS	
69+73 TO 71+19	756' RT - 750' LT	SAN SEWER	LEAVE AS IS	
71+19 TO 72+75	750' RT - 754' RT	SAN SEWER	LEAVE AS IS	
72+55	326' LT	HYDRANT	LEAVE AS IS	

INPLACE PUBLIC UTILITIES TABULATION				G
OWNER: CITY OF BLAINE (WATER)				
E.B. CSAH 10 STA. - STA.	OFFSET	ITEM	REMARKS	
63+00 TO 67+35	64' RT - 90' RT	WATER LINE	LEAVE AS IS	
67+35 TO 71+15	90' RT - 268' RT	WATER LINE	LEAVE AS IS	
71+15 TO 70+58	268' RT - 359' RT	WATER LINE	LEAVE AS IS	
70+58 TO 70+21	359' RT - 445' RT	WATER LINE	LEAVE AS IS	
70+21 TO 70+01	445' RT - 491' RT	WATER LINE	LEAVE AS IS	
70+01 TO 69+79	49' RT - 633' RT	WATER LINE	LEAVE AS IS	
69+79 TO 69+81	633' RT - 739' RT	WATER LINE	LEAVE AS IS	
69+81 TO 69+79	739' RT - 760' RT	WATER LINE	LEAVE AS IS	
69+79 TO 70+71	760' RT - 1066 RT	WATER LINE	LEAVE AS IS	
70+07 TO 70+21	437' RT - 445' RT	WATER LINE	LEAVE AS IS	
69+68 TO 69+81	739' RT - 739' RT	WATER LINE	LEAVE AS IS	
69+79 TO 70+90	760' RT - 761' RT	WATER LINE	LEAVE AS IS	
70+90 TO 71+73	761' RT - 760' RT	WATER LINE	LEAVE AS IS	
64+99 TO 67+49	50' RT - 56' RT	WATER LINE	LEAVE AS IS	
67+49 TO 67+42	56' RT - 91' RT	WATER LINE	LEAVE AS IS	
67+42 TO 71+15	91' RT - 268' RT	WATER LINE	LEAVE AS IS	
63+34 TO 72+46	291' LT - 304' LT	WATER LINE	LEAVE AS IS	
72+46 TO 73+44	304' LT - 237' LT	WATER LINE	LEAVE AS IS	
73+44 TO 78+79	237' LT - 378' RT	WATER LINE	LEAVE AS IS	
72+46 TO 88+15	304' LT - 1321' LT	WATER LINE	LEAVE AS IS	
73+86 TO 74+43	144' LT - 63' RT	WATER LINE	LEAVE AS IS	

DESIGN TEAM				
DRAWN BY: JMT				
DESIGNER: JEO				
CHECKED BY: APM				
NO.	BY	DATE	REVISIONS	

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**INPLACE UTILITY TABULATIONS**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00  
 DATE 10/21/2004  
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INPLACE PUBLIC UTILITIES TABULATION				G
OWNER: ANOKA (SIGNAL SYSTEM)				
E.B. CSAH 10 STA. - STA.	OFFSET	ITEM	REMARKS	
58+24 TO 71+52	20' RT - 33' RT	CONDUIT	REMOVE	
71+52 TO 71+99	33' RT - 56' RT	CONDUIT	REMOVE	
71+99 TO 72+50	56' RT - 48' RT	CONDUIT	REMOVE	
72+50 TO 73+02	48' RT - 45' RT	CONDUIT	REMOVE	
73+02 TO 73+53	45' RT - 52' RT	CONDUIT	REMOVE	
73+53 TO 89+31	52' RT - 29' RT	CONDUIT	REMOVE	
66+50 TO 68+06	26' LT - 43' LT	CONDUIT	REMOVE	
68+06 TO 69+59	43' LT - 44' LT	CONDUIT	REMOVE	
69+59 TO 71+30	44' LT - 43' LT	CONDUIT	REMOVE	
71+30 TO 71+58	43' LT - 41' LT	CONDUIT / I-PED	REMOVE	
71+10	125' LT	BOX	REMOVE	
71+14	122' LT	BOX	REMOVE	
71+14 TO 71+23	117' LT - 112' LT	CONDUIT	REMOVE	
71+14 TO 71+25	118' LT - 113' LT	CONDUIT	REMOVE	
71+25 TO 71+31	113' LT - 102' LT	CONDUIT	REMOVE	
71+31 TO 71+30	102' LT - 43' LT	CONDUIT	REMOVE	
71+18 TO 71+46	122' LT - 90' LT	CONDUIT	REMOVE	
71+46 TO 71+89	90' LT - 123' LT	CONDUIT	REMOVE	
71+89 TO 72+31	123' LT - 152' LT	CONDUIT	REMOVE	
72+31 TO 72+52	152' LT - 133' LT	CONDUIT	REMOVE	
72+52 TO 72+89	133' LT - 112' LT	CONDUIT	REMOVE	
72+89 TO 73+12	112' LT - 105' LT	CONDUIT	REMOVE	
73+12 TO 73+13	105' LT - 28' LT	CONDUIT	REMOVE	
73+13 TO 72+95	28' LT - 19' LT	I-PED	REMOVE	
71+30 TO 71+52	43' LT - 33' RT	CONDUIT	REMOVE	
71+30 TO 71+52	43' LT - 33' RT	CONDUIT	REMOVE	
71+30 TO 71+51	43' LT - 22' LT	CONDUIT	REMOVE	
71+51 TO 71+52	22' LT - 33' RT	CONDUIT	REMOVE	
71+52 TO 71+82	33' LT - 35' RT	CONDUIT	REMOVE	
72+52 TO 72+55	133' LT - 114' LT	CONDUIT	REMOVE	
72+49 TO 72+53	38' LT - 90' RT	CONDUIT	REMOVE	
72+84 TO 72+89	102' LT - 112' LT	CONDUIT	REMOVE	
72+95 TO 73+13	19' LT - 28' LT	CONDUIT	REMOVE	
73+02 TO 73+02	23' LT - 45' RT	CONDUIT	REMOVE	
71+10 TO 70+92	125' LT - 157' LT	CONDUIT	REMOVE	
70+92 TO 71+20	157' LT - 241' LT	CONDUIT	REMOVE	
71+20 TO 71+65	241' LT - 259' LT	CONDUIT	REMOVE	

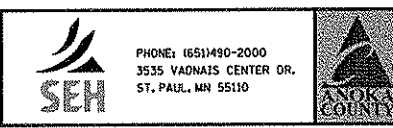
INPLACE PUBLIC UTILITIES TABULATION				G
OWNER: CONNEXUS ENERGY (POWER)				
E.B. CSAH 10 STA. - STA.	OFFSET	ITEM	REMARKS	
58+92 TO 67+78	141' RT - 41' LT	BUR-ELEC	LEAVE AS IS	
67+78 TO 79+47	41' LT - 821' LT	BUR-ELEC	LEAVE AS IS	
62+34 TO 68+00	12' RT - 11' RT	BUR-ELEC	LEAVE AS IS	
68+00 TO 79+77	11' RT - 775' LT	BUR-ELEC	LEAVE AS IS	
65+53 TO 68+80	324' RT - 12' RT	BUR-ELEC	LEAVE AS IS	
68+80 TO 76+33	12' RT - 10' RT	BUR-ELEC	LEAVE AS IS	
65+62 TO 67+76	335' RT - 120' RT	BUR-ELEC	LEAVE AS IS	
67+76 TO 70+23	120' RT - 77' RT	BUR-ELEC	LEAVE AS IS	
70+28 TO 72+12	77' LT - 85' RT	BUR-ELEC	LEAVE AS IS	
72+12 TO 73+37	85' LT - 306' RT	BUR-ELEC	LEAVE AS IS	
73+37 TO 80+01	306' LT - 737' RT	BUR-ELEC	LEAVE AS IS	
67+76 TO 70+97	120' RT - 272' RT	BUR-ELEC	LEAVE AS IS	
70+97 TO 70+61	272' RT - 1075' RT	BUR-ELEC	LEAVE AS IS	

INPLACE PUBLIC UTILITIES TABULATION				G
OWNER: NORTHERN NATURAL GAS (GAS)				
E.B. CSAH 10 STA. - STA.	OFFSET	ITEM	REMARKS	
60+36 TO 69+87	227' LT - 880' RT	GAS LINE	LEAVE AS IS	
69+87 TO 71+68	880' RT - 1013' RT	GAS LINE	LEAVE AS IS	

INPLACE PUBLIC UTILITIES TABULATION				G
OWNER: CENTERPOINT (GAS)				
E.B. CSAH 10 STA. - STA.	OFFSET	ITEM	REMARKS	
66+25 TO 67+56	193' RT - 66' RT	GAS LINE	LEAVE AS IS	
67+56 TO 71+25	66' RT - 257' RT	GAS LINE	LEAVE AS IS	
71+25 TO 70+22	257' RT - 425' RT	GAS LINE	LEAVE AS IS	
70+22 TO 69+83	425' RT - 572' RT	GAS LINE	LEAVE AS IS	
69+83 TO 69+65	572' RT - 786' RT	GAS LINE / VALVE	LEAVE AS IS	
68+05 TO 68+81	798' RT - 787' RT	GAS LINE	LEAVE AS IS	
68+81 TO 68+82	787' RT - 802' RT	GAS LINE	LEAVE AS IS	
68+55 TO 69+99	806' RT - 790' RT	GAS LINE	LEAVE AS IS	
69+99 TO 70+07	790' RT - 838' RT	GAS LINE	LEAVE AS IS	
70+07 TO 71+25	838' RT - 796' RT	GAS LINE	LEAVE AS IS	
71+25 TO 72+02	796' RT - 784' RT	GAS LINE	LEAVE AS IS	
68+61 TO 68+72	805' RT - 930' RT	GAS LINE	LEAVE AS IS	
69+43 TO 70+22	382' RT - 382' RT	GAS LINE	LEAVE AS IS	
73+03 TO 79+72	348' LT - 348' LT	GAS LINE	LEAVE AS IS	

DESIGN TEAM				
DRAWN BY: JMT				
DESIGNER: JEO				
CHECKED BY: APM				
NO.	BY	DATE	REVISIONS	

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.  
 Certified By: Aaron P. Moniza Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**INPLACE UTILITY TABULATIONS**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00  
 DATE 10/21/2004  
 8  
 92



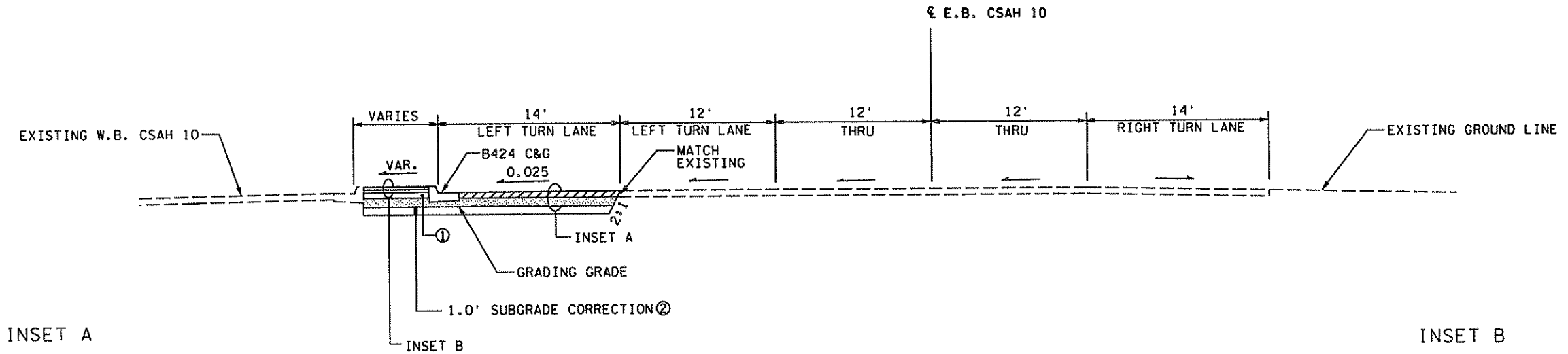
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10/21/2004

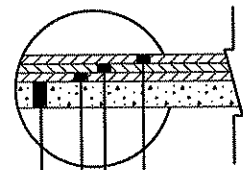
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### CSAH 10

E.B. CSAH 10 STA. 63+61.51 TO STA. 71+75.57



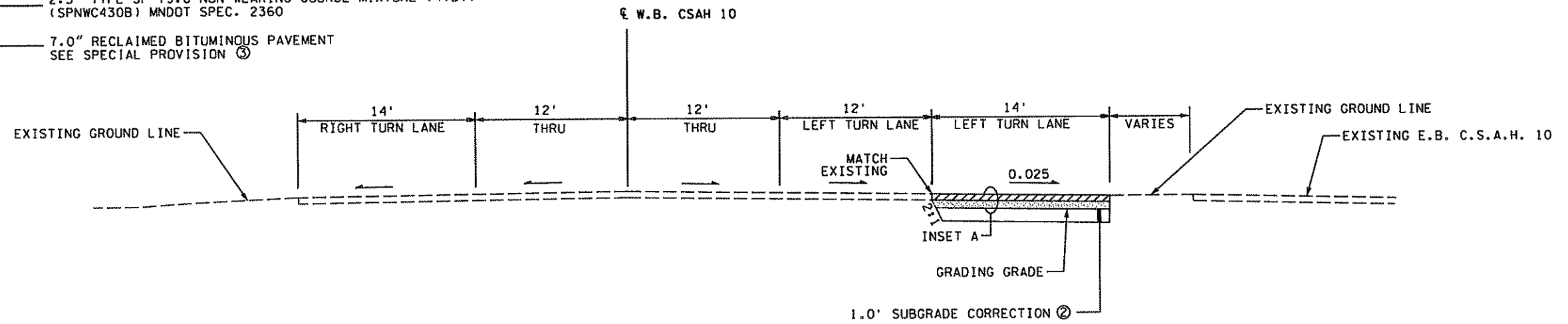
INSET A



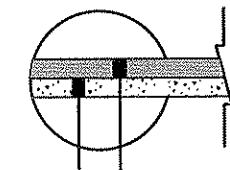
- 1.5" TYPE SP 12.5 WEARING COURSE MIXTURE (4.F), (SPWEB440F) MNDOT SPEC. 2360
- 2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (4.F), (SPWEB440F) MNDOT SPEC. 2360
- 2.5" TYPE SP 19.0 NON-WEARING COURSE MIXTURE (4.B), (SPNWC430B) MNDOT SPEC. 2360
- 7.0" RECLAIMED BITUMINOUS PAVEMENT SEE SPECIAL PROVISION ③

### CSAH 10

W.B. CSAH 10 STA. 72+74.09 TO STA. 81+54.58



INSET B



- 4.0" CONCRETE WALK MNDOT SPEC. 2521
- 4.0" RECLAIMED BITUMINOUS PAVEMENT MNDOT SPECIAL PROVISION S-130 ③

#### GENERAL NOTES:

- ALL CROSS SLOPES AFE IN FT./FT.
- MAXIMUM ROLLOVER 0.07 FT./FT.
- UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE.
- SEE CROSS SECTIONS FOR VARIABLE SIDE SLOPES AND SPECIFIC LIMITS OF SUBGRADE EXCAVATION.

#### NOTES:

- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
- ② BACKFILL WITH SELECT GRANULAR MATERIAL.
- ③ RECLAIM BITUMINOUS PAVEMENT AND EXISTING AGGREGATE BASE TO DEPTH OF 11 INCHES.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/21/2004

SEH  
 PHONE: (651) 490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

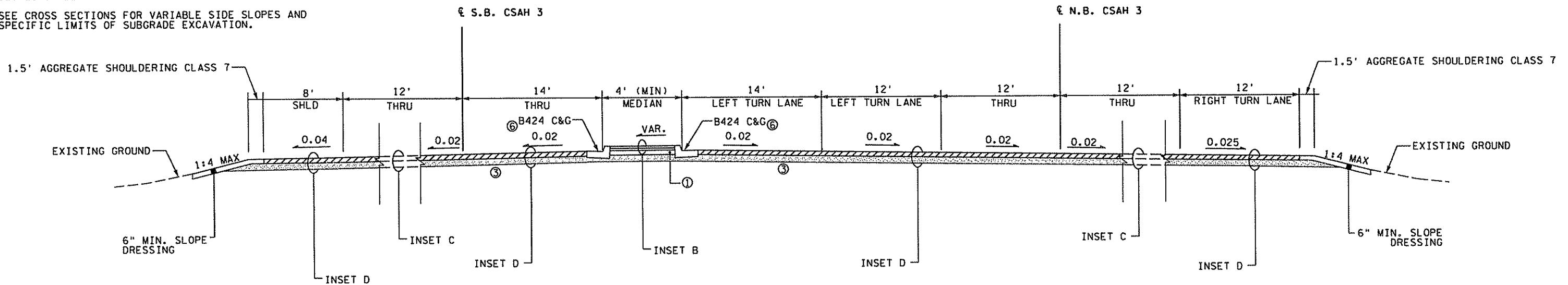
TYPICAL SECTIONS	
STATE PROJECT NO. 02-610-11	DATE
STATE PROJECT NO. 106-020-24	10/21/2004

FILE NO.	9
ANOKC0410.00	
DATE	10/21/2004
	92

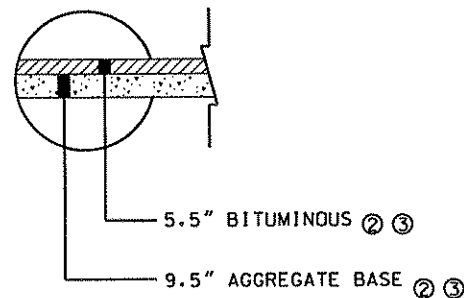
**GENERAL NOTES:**

ALL CROSS SLOPES AFE IN FT./FT.  
 MAXIMUM ROLLOVER 0.07 FT./FT.  
 UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE.  
 SEE CROSS SECTIONS FOR VARIABLE SIDE SLOPES AND SPECIFIC LIMITS OF SUBGRADE EXCAVATION.

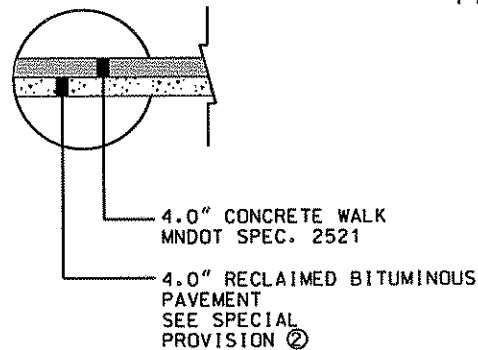
**CSAH 3**  
 N.B. CSAH 3 STA. 100+70 TO STA. 108+46



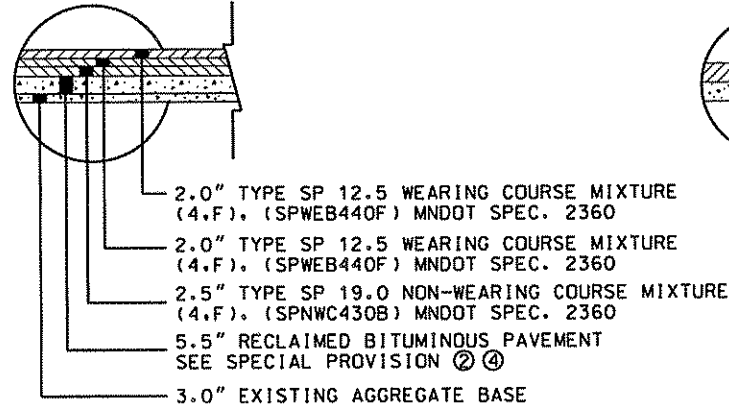
**INSET C**  
 CSAH 3 EXISTING PAVEMENT



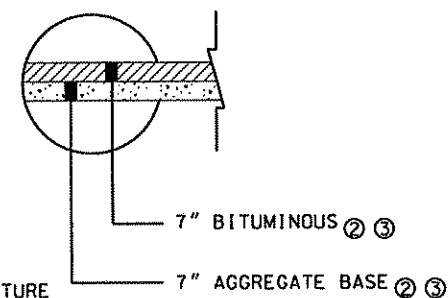
**INSET B**



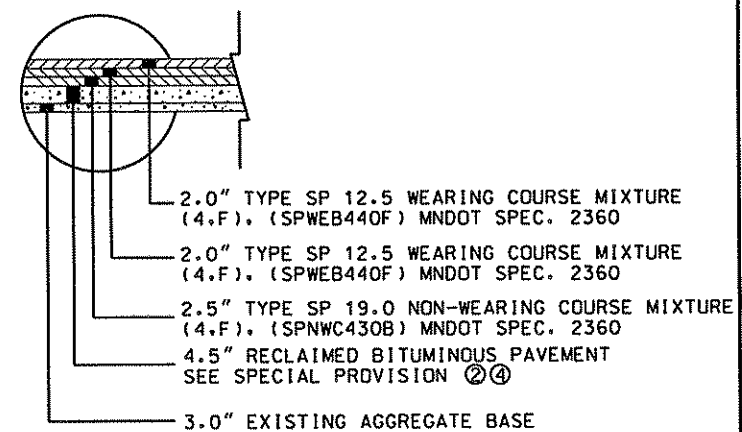
**INSET D**  
 PROPOSED PAVEMENT



**INSET E**  
 CSAH 51 EXISTING PAVEMENT

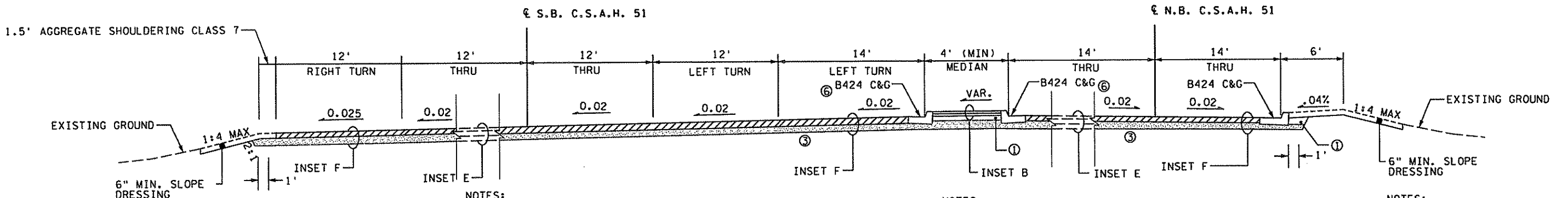


**INSET F**  
 PROPOSED PAVEMENT



**CSAH 51**

N.B. CSAH STA. 109+49 TO STA. 118+91



**NOTES:**

- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
- ② RECLAIM 11 INCHES OF BITUMINOUS PAVEMENT AND EXISTING AGGREGATE BASE. RECLAIMED MATERIALS MUST BE CRUSHED AND MIXED TO MEET THE GRADATION REQUIREMENTS IN THE SPECIFICATION.

**NOTES:**

- ③ RECLAIM OPERATIONS SHALL NOT EXTEND DEEPER THAN 11 INCHES AND SHALL NOT EXTEND BELOW THE EXISTING AGGREGATE BASE COURSE. IF THE RECLAIM OPERATIONS ENCOUNTER THE BOTTOM OF THE AGGREGATE BASE COURSE, STOP WORK AND CONTACT THE ENGINEER FOR FURTHER INSTRUCTIONS.

**NOTES:**

- ④ PLACE RECLAIMED BITUMINOUS AS AGGREGATE BASE TO THE THICKNESS SPECIFIED IN THE TYPICAL SECTIONS.
- ⑤ EXCESS RECLAIMED BITUMINOUS BECOMES THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.

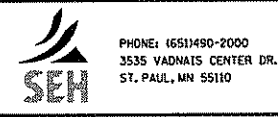
**NOTES:**

- ⑥ MATCH THE CURB AND GUTTER CROSS SLOPE TO THE ROADWAY CROSS SLOPE

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DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.  
 Certified By: *Jason E. Owens* Lic. No. 43475  
 Printed Name: JASON E. OWENS Date: 10/26/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

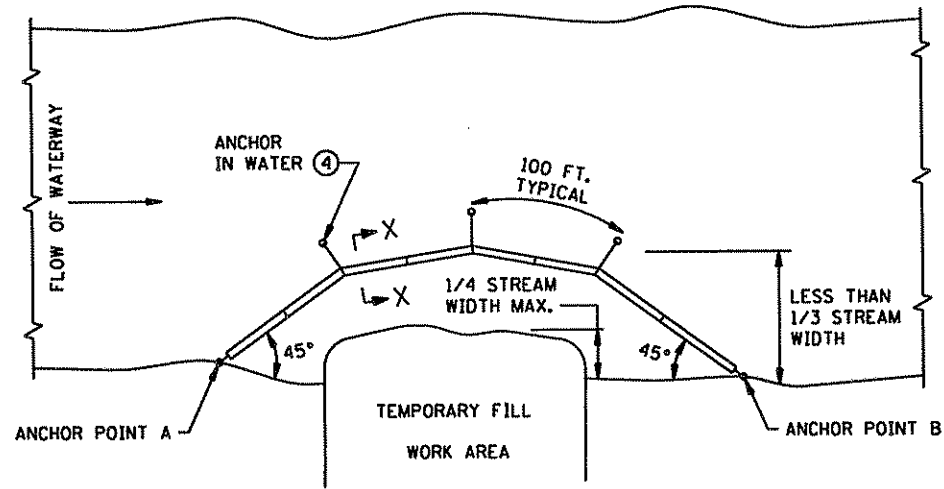
**TYPICAL SECTIONS**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	10
ANOKC0410.00	
DATE	10/26/2004
	<b>92</b>

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10/21/2004

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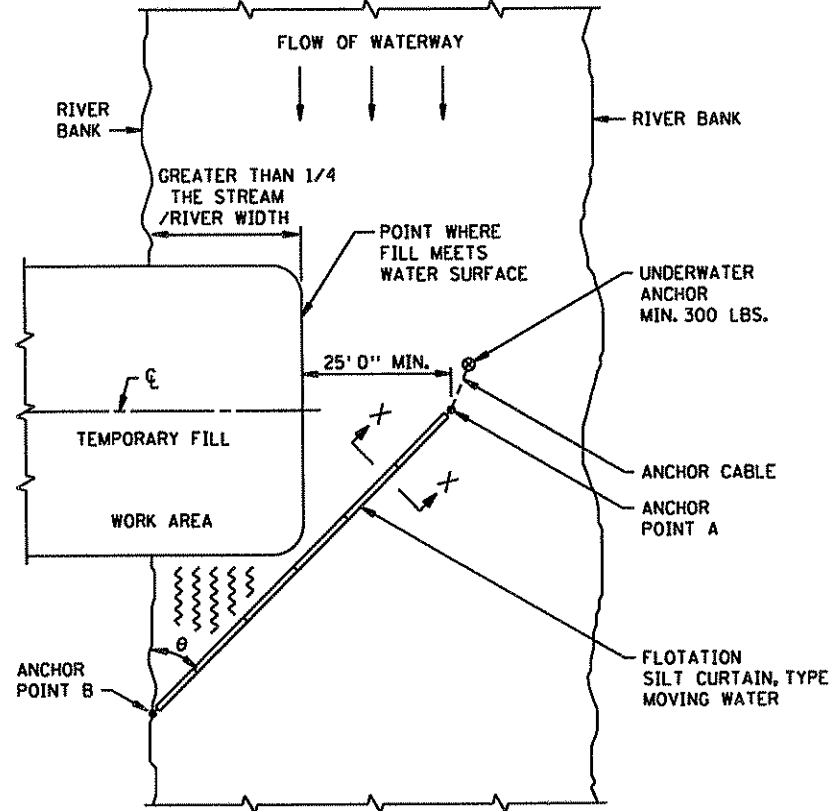


PLAN VIEW  
 FLOTATION SILT CURTAIN - TYPE WORK AREA  
 (SPEC. 3887)

FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS

DESIGN GUIDELINES:

WHEN TEMPORARY FILL ENCLOSES LESS THAN 1/4 OF THE WIDTH OF STREAM.  
 MAXIMUM WATER VELOCITY: 5 FT./SEC.  
 MAXIMUM WATER DEPTH: 11 FT.

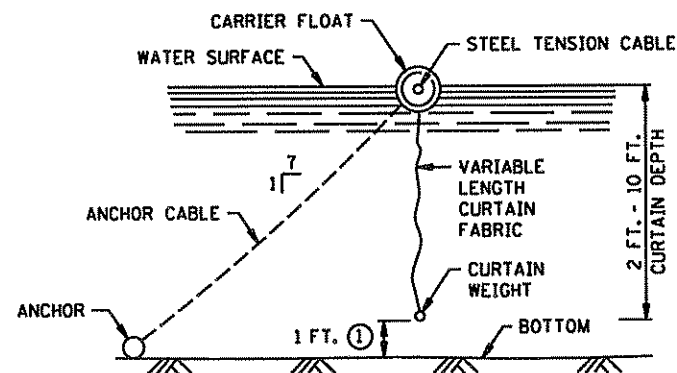


∠ θ	RIVER VELOCITY
45°	SLOW, LESS THAN 3 FT./SEC.
35°	MODERATE, 3 - 5 FT./SEC.

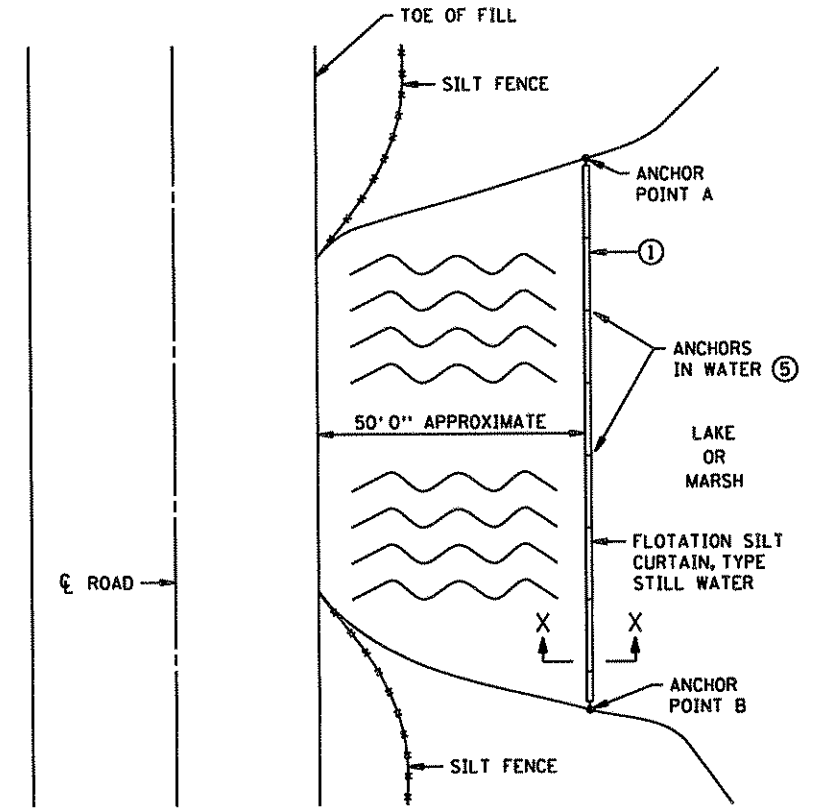
PLAN VIEW  
 FLOTATION SILT CURTAIN - TYPE MOVING WATER  
 (SPEC. 3887)

DESIGN GUIDELINES:

WHEN TEMPORARY FILL ENCLOSES MORE THAN 1/4 BUT LESS THAN 1/3 WIDTH OF THE STREAM.  
 MAXIMUM WATER DEPTH: 11 FT. ①  
 MINIMUM WATER DEPTH: 3 FT.  
 MAXIMUM WATER VELOCITY: 5 FT./SEC.



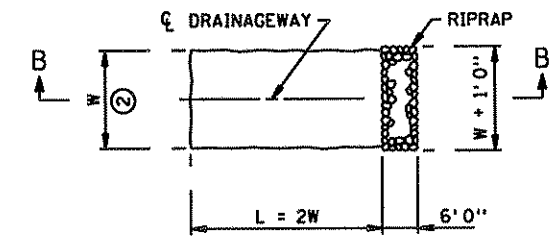
SECTION X-X  
 FLOTATION SILT CURTAINS  
 (SPEC. 3887)



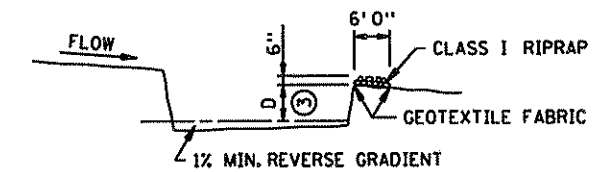
PLAN VIEW  
 FLOTATION SILT CURTAIN - TYPE STILL WATER  
 (SPEC. 3887)

DESIGN GUIDELINES:

MAXIMUM WATER DEPTH: 11 FT. ①  
 MINIMUM WATER DEPTH: 3 FT.



PLAN

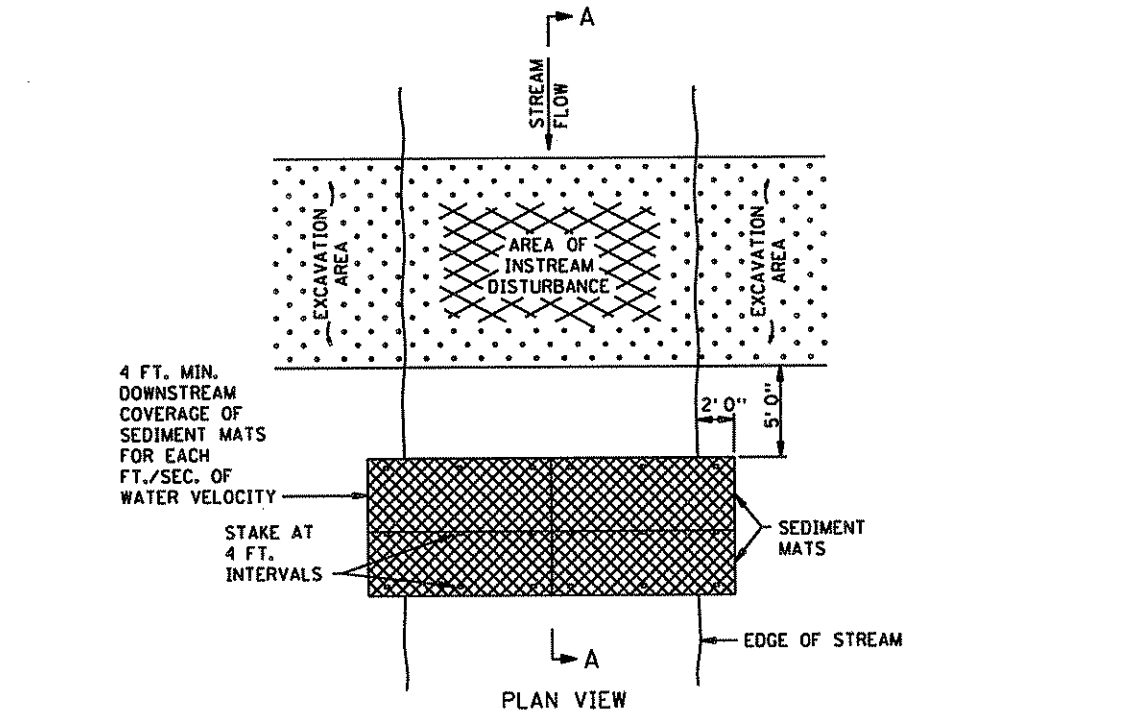


SECTION B-B  
 SEDIMENT TRAP DETAIL  
 (SPEC. 2573)

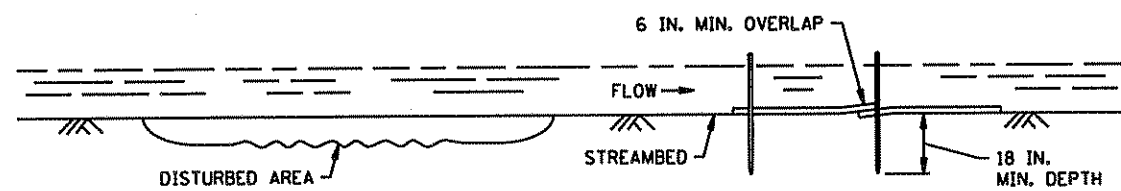
NOTES:

SEE SPECS. 2573, 3887 & 3894.

- ① CURTAIN 1 FT. FROM BOTTOM
- ② W = 10 FT. MIN., 20 FT. MAX.
- ③ D = 2 FT.
- ④ 100 FT. MAX. SPACING BETWEEN ANCHORS, MIN. 40 LBS.
- ⑤ USE ENOUGH ANCHORS TO HOLD SILT CURTAIN IN PLACE.



PLAN VIEW



SECTION A-A  
 SEDIMENT MAT  
 (SPEC. 3894)

TYPICAL STREAMBED INSTALLATION

DESIGN GUIDELINES:  
 MAXIMUM FLOW VELOCITY: 5 FT./SEC.  
 MAXIMUM FLOW DEPTH: 2 FT.

STANDARD SHEET NO.  
 5-297.405 (1 OF 4)

STANDARD APPROVED:  
 July 30, 2001

STATE PROJ. NO. 02-610-011  
 STATE PROJ. NO. 106-020-24

TITLE:

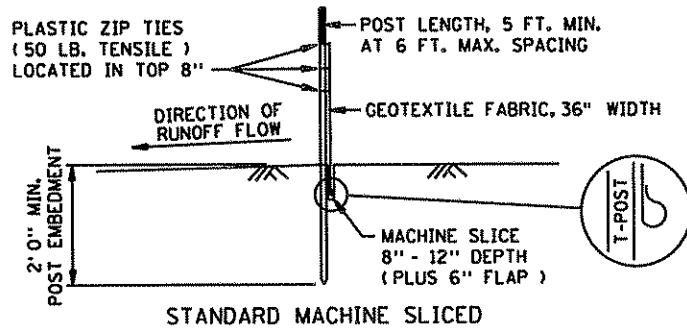
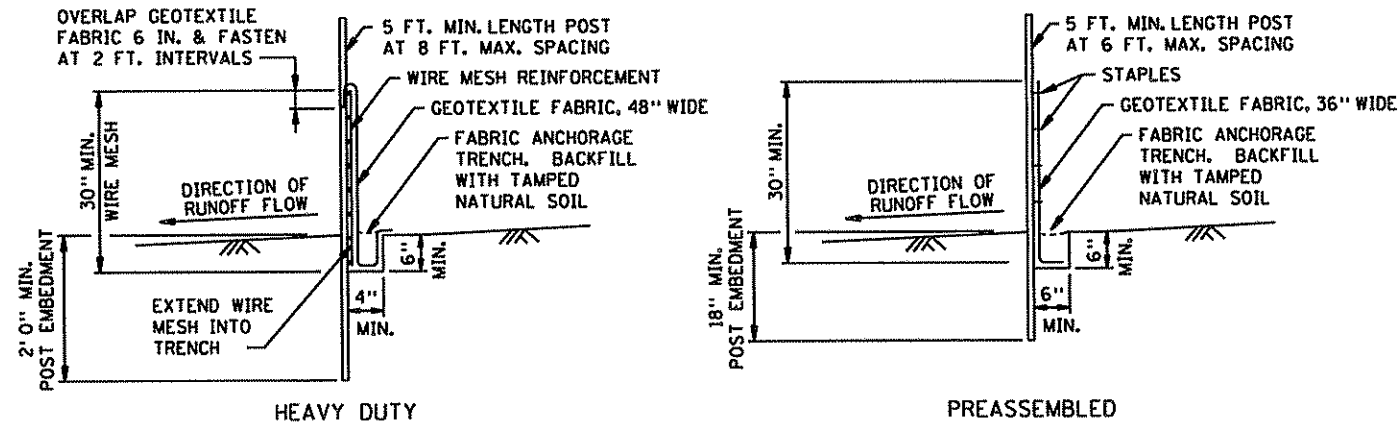
TEMPORARY EROSION CONTROL

SHEET NO. 11 OF 92 SHEETS

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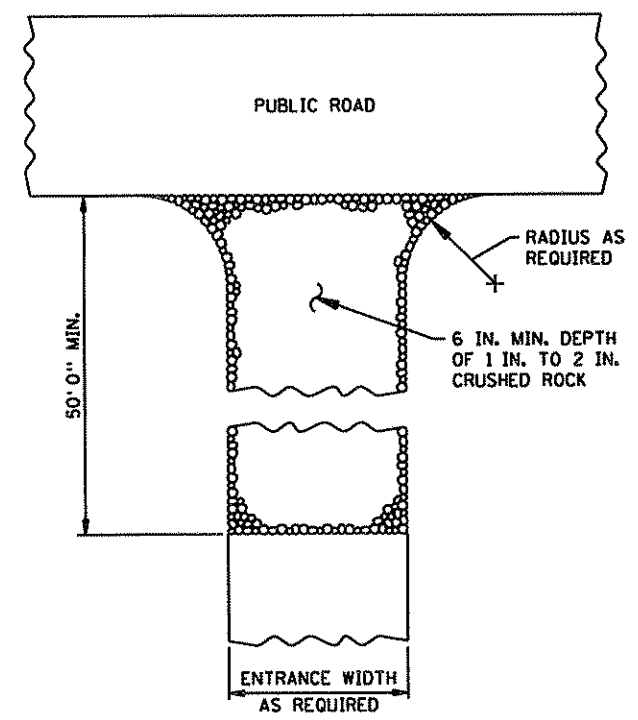
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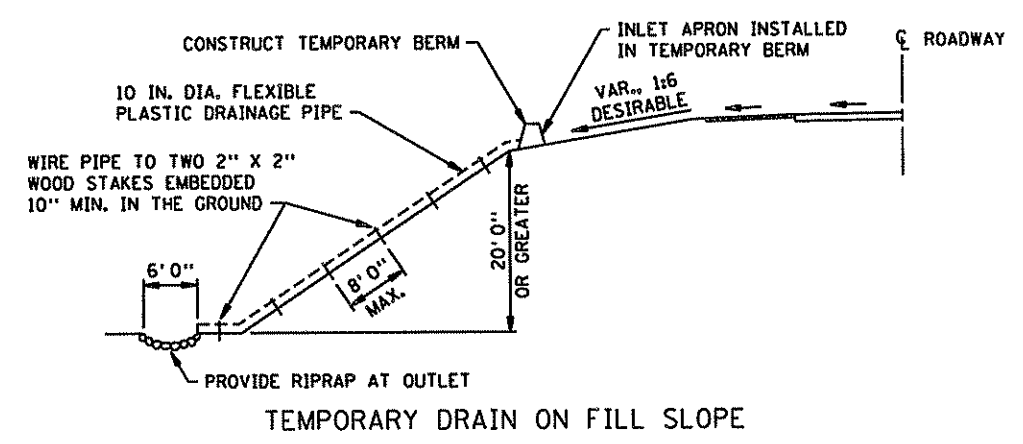
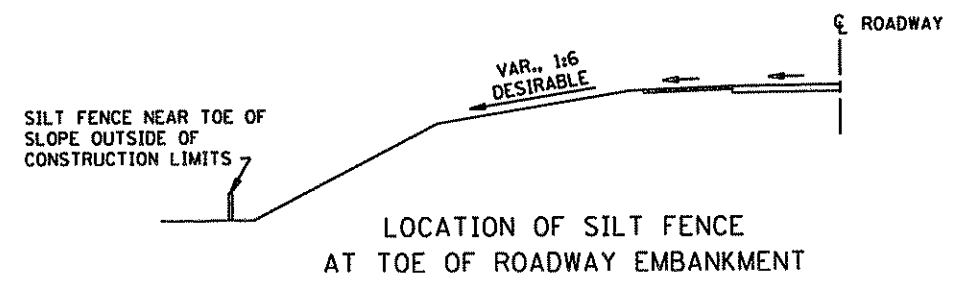


**SILT FENCE DETAILS TO PROTECT AREAS FROM SHEET FLOW (SEE SPEC. 3886)**

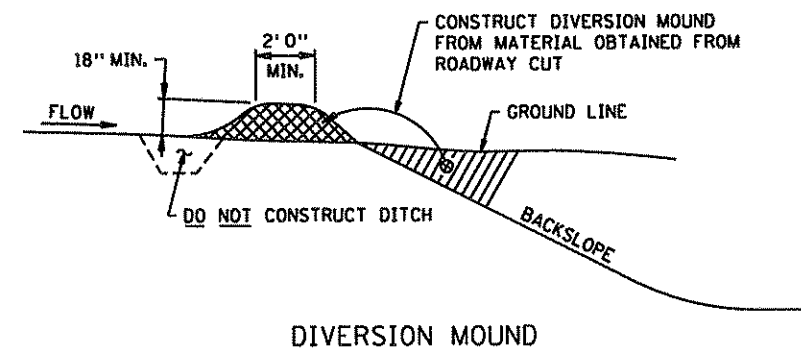
**DESIGN GUIDELINES:**  
MAXIMUM CONTRIBUTING AREA: 3 ACRES



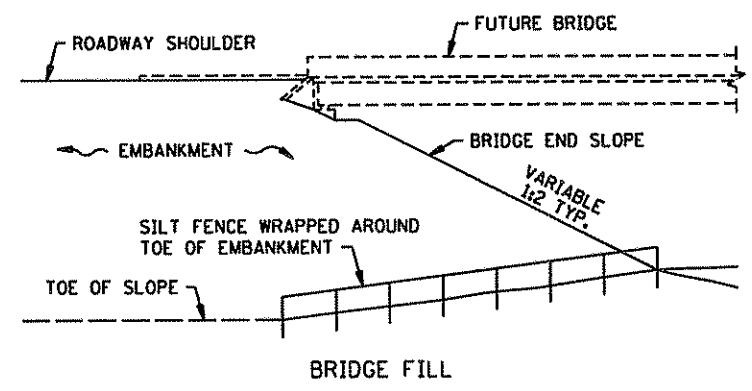
**ROCK CONSTRUCTION ENTRANCE ①**



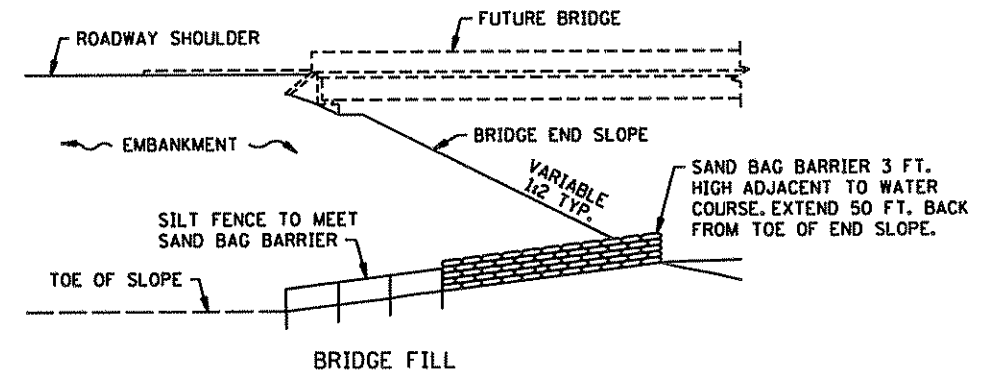
**DESIGN GUIDELINES:**  
STORM FREQUENCY: 2 YEAR - 24 HOUR  
MAXIMUM DRAINAGE AREA: 3 ACRES



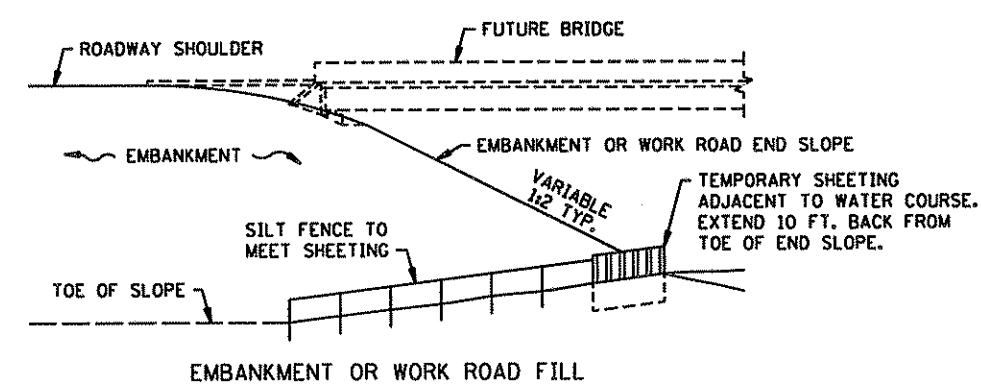
**DESIGN GUIDELINES:**  
STORM FREQUENCY: 10 YEAR - 24 HOUR  
MAXIMUM DRAINAGE AREA: 5 ACRES  
MAXIMUM DIVERSION: GRADE 5%



**DESIGN GUIDELINES:**  
WATER COURSE FLOW VELOCITY: STAGNANT  
CONTRIBUTING SLOPE AREA: 1/2 ACRE



**DESIGN GUIDELINES:**  
MAX. WATER COURSE FLOW VELOCITY: 7 FT./SEC.  
CONTRIBUTING SLOPE AREA: 1 ACRE



**DESIGN GUIDELINES:**  
MAX. WATER COURSE FLOW VELOCITY: 15 FT./SEC.  
CONTRIBUTING SLOPE AREA: 3 ACRES

**SILT FENCE AT BRIDGE EMBANKMENT**

**NOTES:**  
SEE SPECS. 2573 & 3886.

① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE DRIVING ON MAIN ROAD. THIS WILL PREVENT AUTO DAMAGE. WE NEED TO KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS.

STANDARD SHEET NO. 5-297.405 (2 OF 4)	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: JULY 30, 2001	
STATE PROJ. NO. 02-610-011 STATE PROJ. NO. 106-020-24	SHEET NO. 12 OF 92 SHEETS

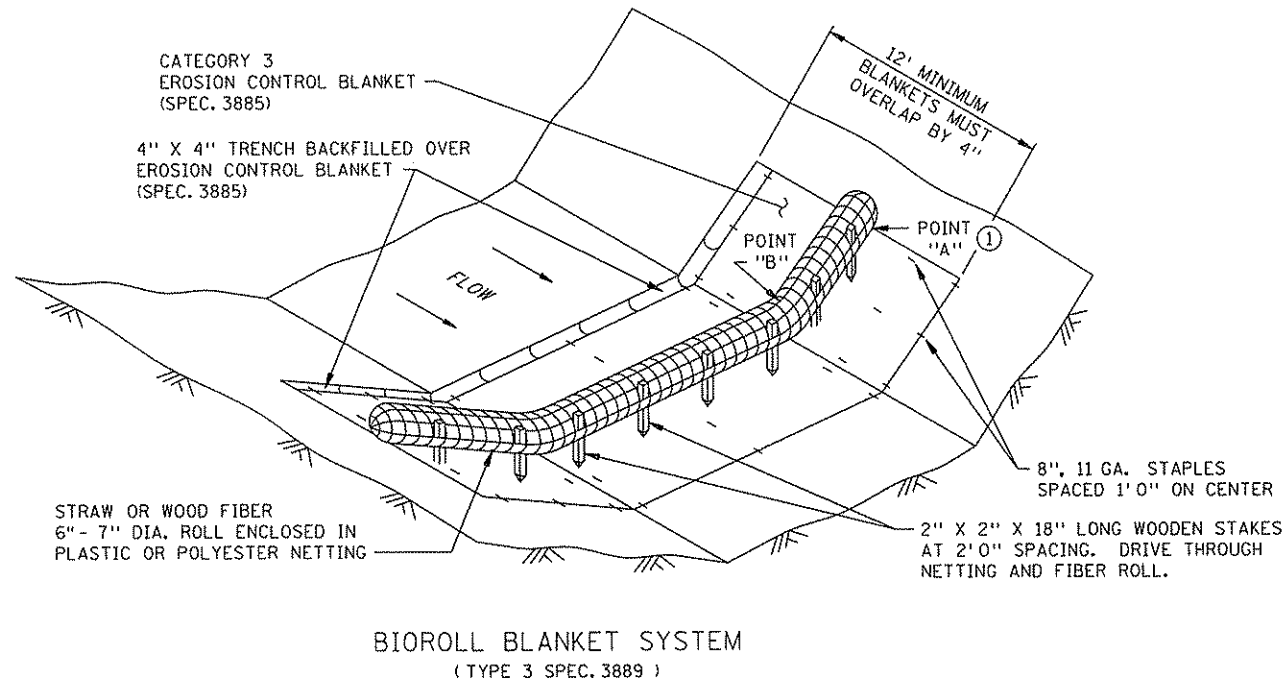
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PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

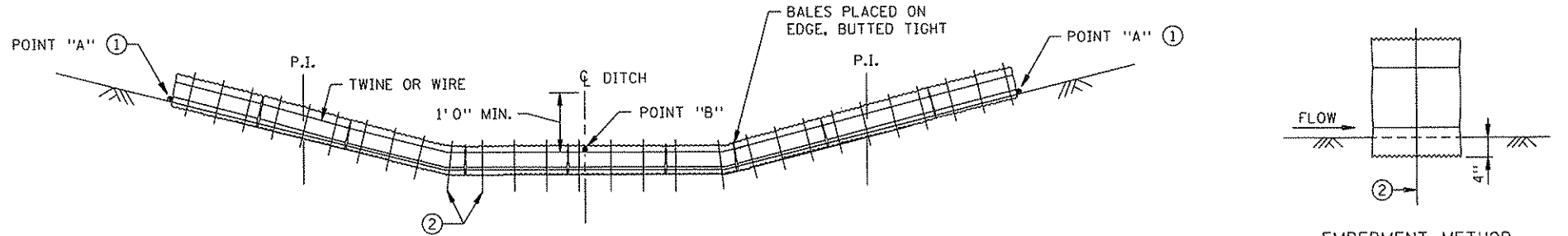
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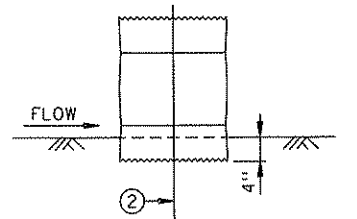
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FILE NAME S4053K02.SPN



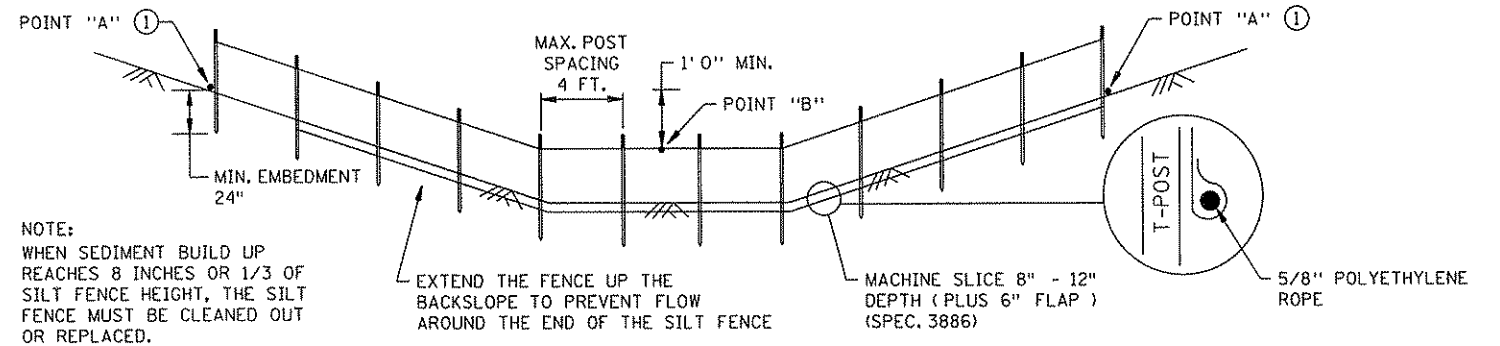
**BIOROLL BLANKET SYSTEM**  
(TYPE 3 SPEC. 3889)



**BALE DITCH CHECK**  
(USED ON ROUGH GRADED SOIL. REMOVE AFTER ROUGH GRADING IS COMPLETED. CAN BE USED AT WETLAND PERIMETERS ANYTIME)

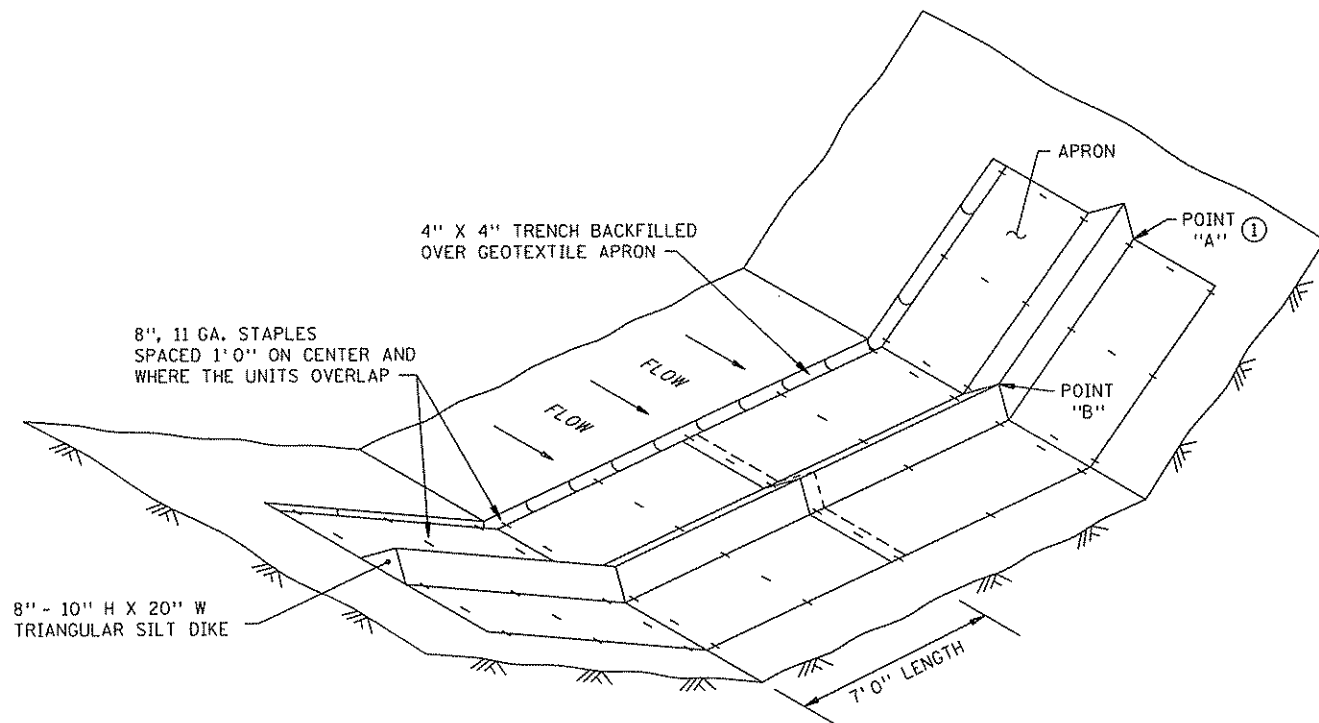


**EMBEDMENT METHOD  
BALE CHECK DETAIL**

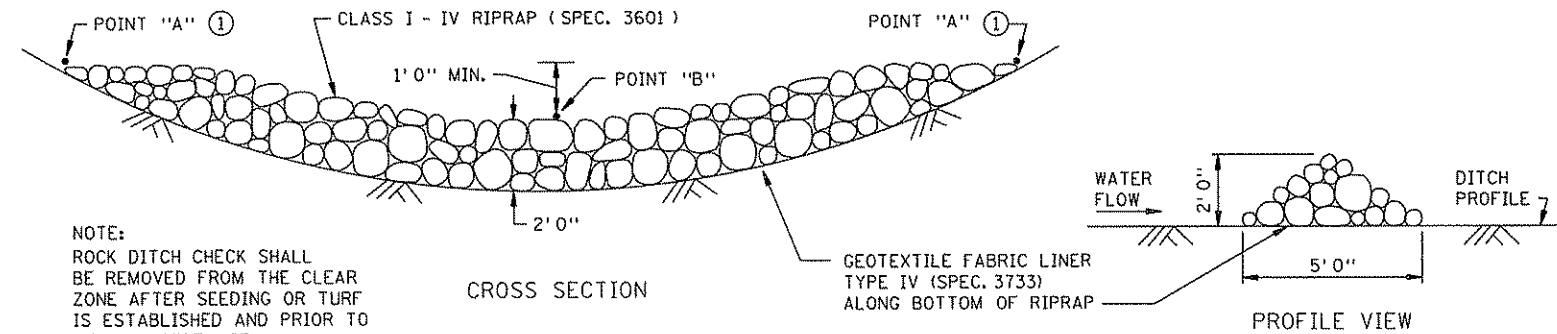


NOTE:  
WHEN SEDIMENT BUILD UP REACHES 8 INCHES OR 1/3 OF SILT FENCE HEIGHT, THE SILT FENCE MUST BE CLEANED OUT OR REPLACED.

**MACHINE SLICED SILT FENCE**  
(TYPE 1 SPEC. 3889)



**GEOTEXTILE TRIANGULAR DIKE**  
(TYPE 6 SPEC. 3889)



NOTE:  
ROCK DITCH CHECK SHALL BE REMOVED FROM THE CLEAR ZONE AFTER SEEDING OR TURF IS ESTABLISHED AND PRIOR TO FINAL ACCEPTANCE.

**ROCK CHECK**  
(TYPE 7 SPEC. 3889)

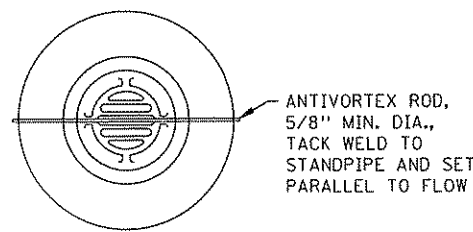
NOTES:  
SEE SPECS. 2573, 3882, 3885, 3886 & 3889.  
SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM SPACING FORMULA:  
$$\text{SPACING OF DITCH CHECKS (FT)} = \frac{(\text{HEIGHT OF DITCH CHECK (FT)} \times 100)}{\text{DITCH GRADE IN PERCENT}}$$

- ① POINT A MUST BE 1' 0" MIN. HIGHER THAN POINT B TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
- ② TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10 IN. MINIMUM.

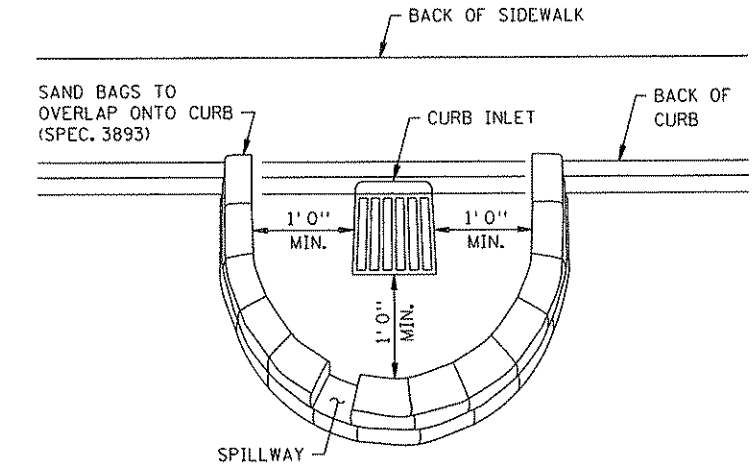
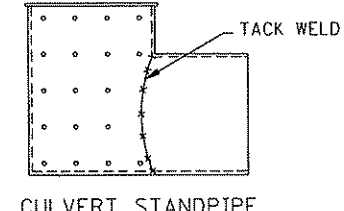
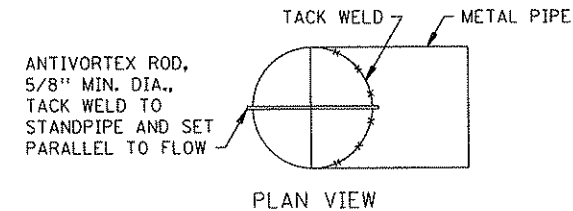
STANDARD SHEET NO.  
5-297.405 (3 OF 4)  
STANDARD APPROVED:  
NOVEMBER 5, 2002  
STATE PROJ. NO. 02-610-011  
STATE PROJ. NO. 106-020-24

TITLE:  
**TEMPORARY EROSION CONTROL  
DITCH CHECKS**  
SHEET NO. 13 OF 92 SHEETS

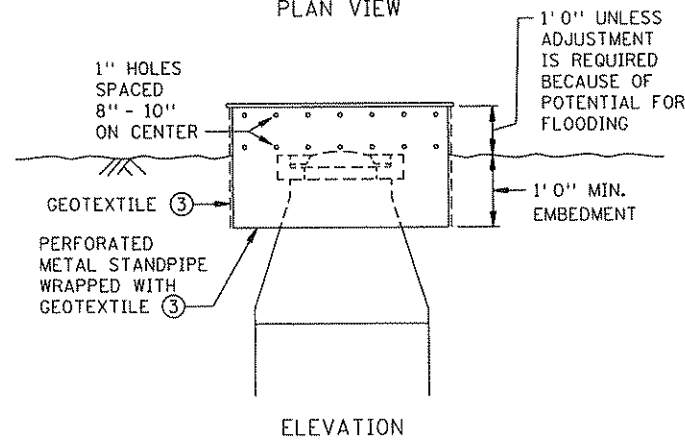
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 FILE NAME S4054K02.SPN



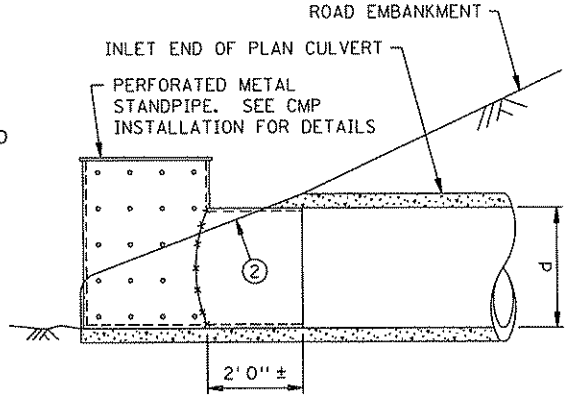
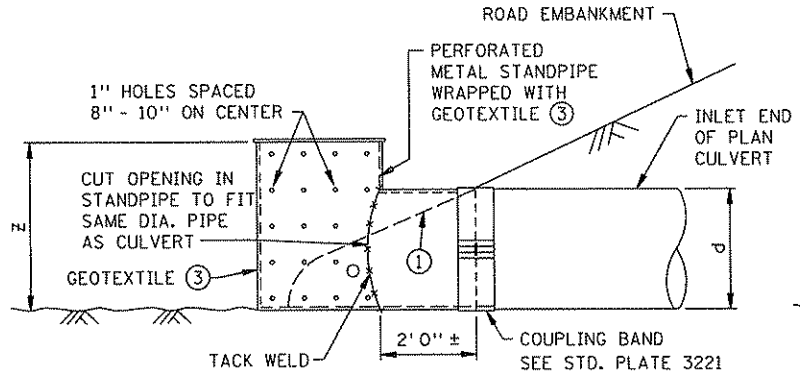
PLAN VIEW



**SANDBAG BARRIER AT STREET INLET**  
 THIS INLET PROTECTION IS USED DURING ROUGH GRADING  
 ONLY. USE BEFORE ROAD IS OPEN TO TRAFFIC OR IS PAVED.  
 (SPEC. 3893)

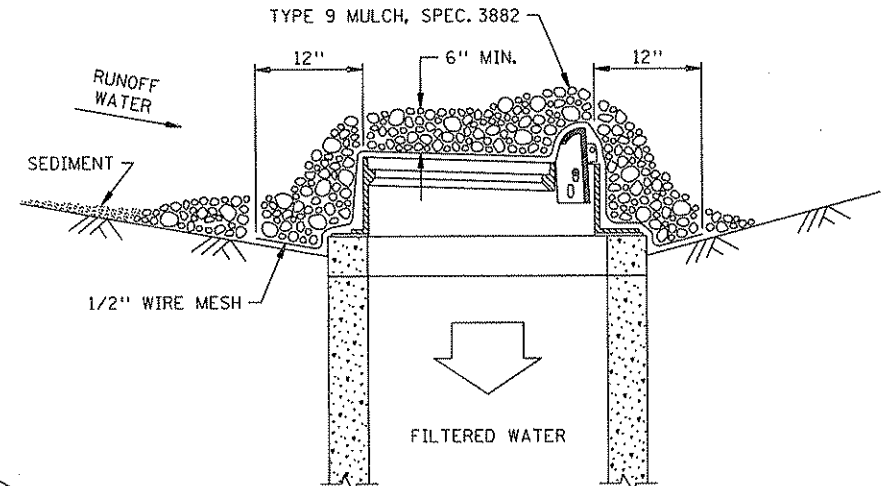


**RISER STANDPIPE  
TO PROTECT DROP INLET**

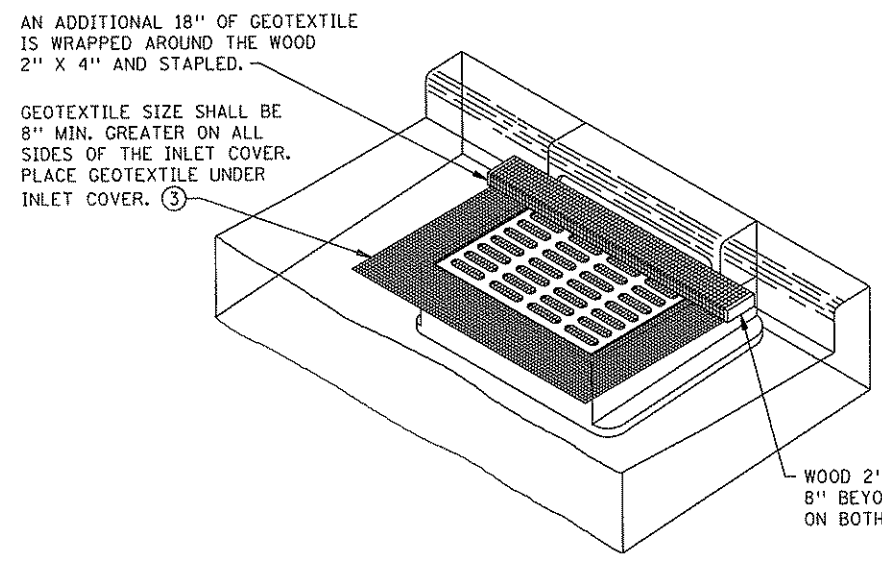


**CULVERT STANDPIPE PROTECTION**

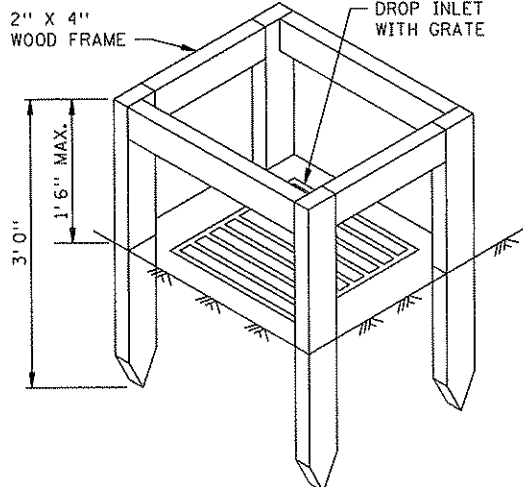
FOR SEDIMENT CONTROL ON CULVERT INLET  
 (TYPE D SPEC. 3891)  
 CULVERT SIZE: 12" - 36"  
 d = DIA. OF STANDPIPE EQUAL TO DIA. OF PLAN CULVERT  
 z = LENGTH OF PERFORATED STANDPIPE (d + 12")



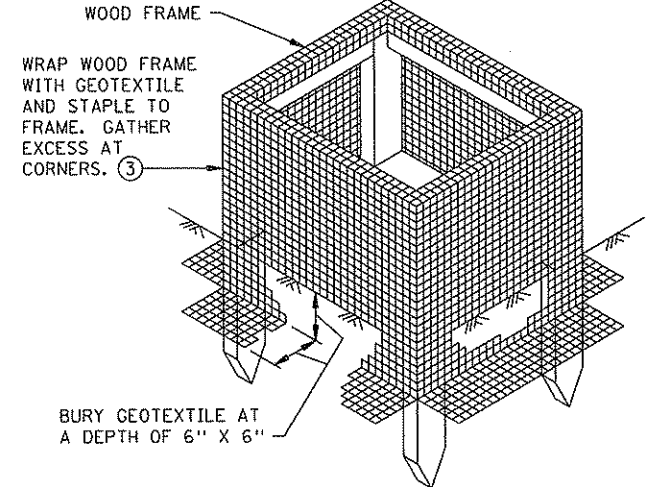
**AGGREGATE FILTER AT CURB INLET**  
 (TYPE B WITHOUT CURB SPEC. 3891)  
 (TYPE C WITH CURB SPEC. 3891)



**GEOTEXTILE FILTER AT STREET INLET WITH CURB BOX**  
 TYPE C SPEC. 3891



**SILT FENCE BOX TO PROTECT DROP INLETS**  
 USE WHERE INLET DRAINS AN AREA WITH SLOPES AT 1:3 OR LESS  
 (TYPE A SPEC. 3891)



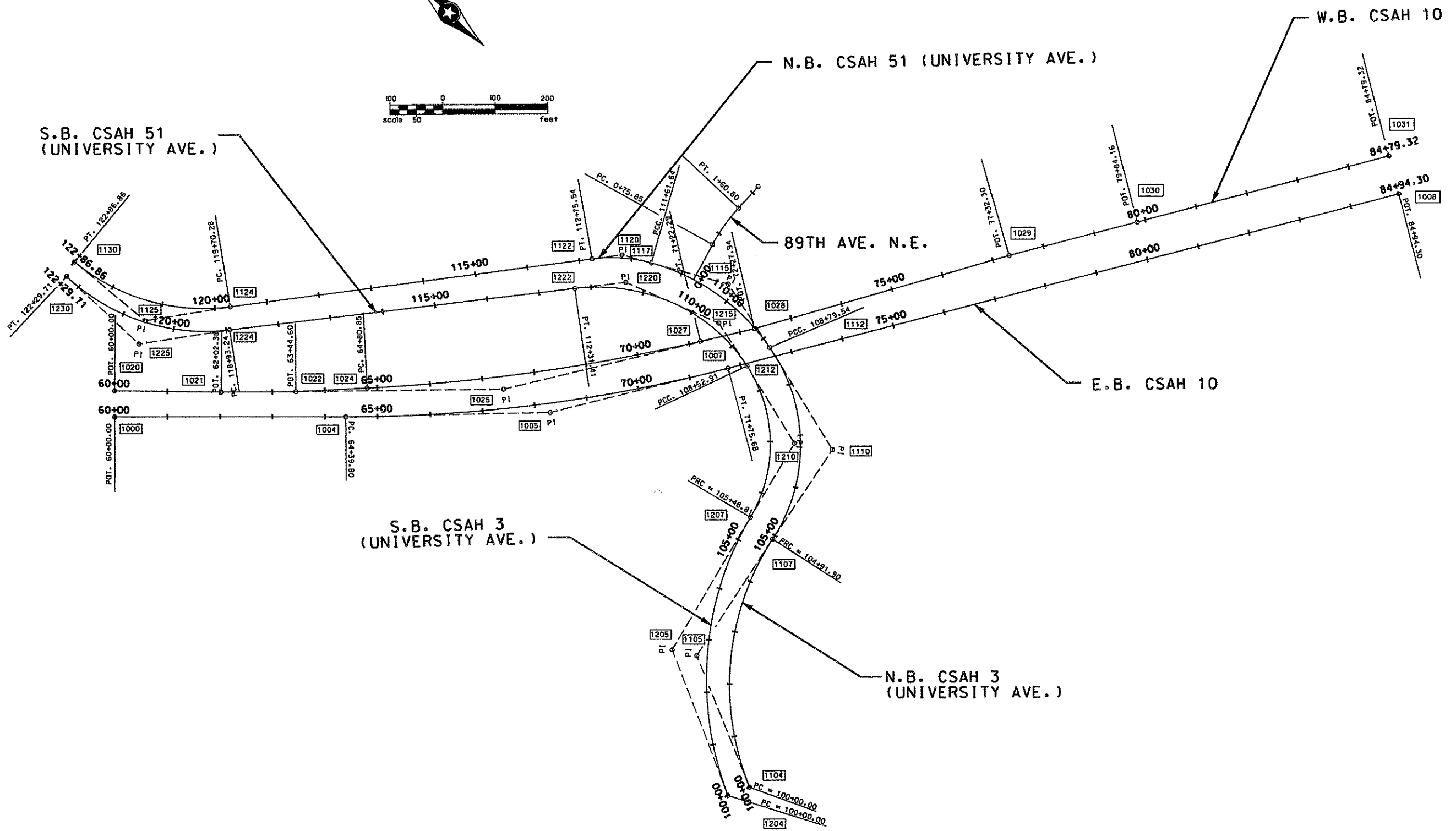
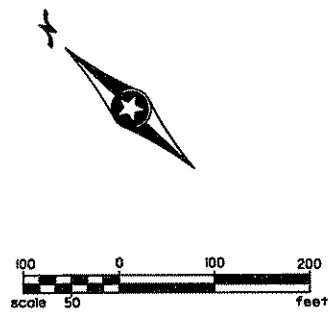
- NOTES:**  
 SEE SPECS. 2573, 3891 & 3893.  
 MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S  
 APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.
- ① FOR CSP, REMOVE TEMPORARY STANDPIPE AND INSTALL CULVERT APRON AFTER VEGETATION IS ESTABLISHED.
  - ② FOR RCP, INSTALL CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO RCP. AFTER VEGETATION IS ESTABLISHED REMOVE TEMPORARY STANDPIPE.
  - ③ ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.

STANDARD SHEET NO. 5-297.405 ( 4 OF 4 )	TITLE: TEMPORARY EROSION CONTROL TEMPORARY INLET PROTECTION
STANDARD APPROVED: NOVEMBER 5, 2002	
STATE PROJ. NO. 02-610-011 STATE PROJ. NO. 106-020-24	SHEET NO. 14 OF 92 SHEETS

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10/21/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Licensed Professional Engineer  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**ALIGNMENT PLAN**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	15
ANOKC0410.00	
DATE	10/21/2004
	92

03/07/22 PM

10/21/2004

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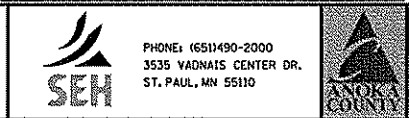
ALIGNMENT TABULATION											H
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y		
<b>E.B. CSAH 10</b>											
1000	POT	60+00.000						499,804.0101	135,793.6903		
1004	PC	64+39.800						500,101.9761	135,470.2087	S 42° 38' 55.88" E	
1005	PI	68+09.726	14° 32' 19.93" LT	1° 58' 32.58"	2,900.000'	369.926'	735.878'	500,352.6024	135,198.1206	PI	
1006	CC							502,234.9831	137,434.9685		
1007	PT	71+75.678						500,663.5071	134,997.6619	S 57° 11' 15.81" E	
1008	POT	84+94.298						501,771.7413	134,283.1177		
<b>W.B. CSAH 10</b>											
1020	POT	60+00.000						499,840.5745	135,827.3706		
1021	POT	62+02.380						499,975.7989	135,676.7985		
1022	POT	63+44.601						500,072.7221	135,572.7174		
1024	PC	64+80.854						500,169.9910	135,477.3057	S 45° 33' 08.07" E	
1025	PI	68+02.423	10° 12' 31.59" LT	1° 35' 29.58"	3,600.000'	321.569'	641.436'	500,399.5559	135,252.1240	PI	
1026	CC							502,690.9222	138,047.3069		
1027	PT	71+22.290						500,665.3966	135,071.1943	S 55° 45' 39.65" E	
1028	POT	72+27.944						500,752.7404	135,011.7486		
1029	POT	77+32.304						501,183.5454	134,749.4762		
1030	POT	79+84.156						501,395.3239	134,613.1702		
1031	POT	84+79.324						501,811.6484	134,345.0937		

ALIGNMENT TABULATION											H
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y		
<b>89TH AVENUE N.E.</b>											
1300	POT	0+00.000						500,742.8090	135,159.8470		
1304	PC	0+75.851						500,816.4387	135,178.0695	N 76° 05' 57.36" E	
1305	PI	1+18.541	14° 04' 01.93" RT	16° 33' 34.11"	346.000'	42.689'	84.950'	500,857.8779	135,188.3252	PI	
1306	CC							500,899.5619	134,842.2027		
1307	PT	1+60.801						500,900.5672	135,188.2012	S 89° 50' 00.71" E	
1308	POT	2+15.942						500,955.7080	135,188.0410		

ALIGNMENT TABULATION											H
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y		
<b>N.B. CSAH 3 / CSAH 51</b>											
1104	PC	100+00.000						500,104.0699	134,428.2310	N 25° 12' 02.11" E	
1105	PI	102+66.791	55° 02' 45.42" RT	11° 11' 26.09"	512.000'	266.791'	491.895'	500,217.6666	134,669.6300	PI	
1106	CC							500,567.3391	134,210.2272		
1107	PRC	104+91.895						500,480.6017	134,714.8267	N 80° 14' 47.53" E	
1107	PRC	104+91.895						500,480.6021	134,714.8268	N 80° 14' 47.53" E	
1110	PI	107+11.581	67° 18' 15.92" LT	17° 21' 44.49"	330.000'	219.685'	387.646'	500,697.1115	134,752.0434	PI	
1111	CC							500,424.6967	135,040.0568		
1112	PCC	108+79.541						500,746.3136	134,966.1479	N 12° 56' 31.61" E	
1112	PCC	108+79.541						500,746.3136	134,966.1479	N 12° 56' 31.61" E	
1115	PI	110+26.709	40° 18' 23.09" LT	14° 17' 17.21"	401.000'	147.168'	282.095'	500,779.2742	135,109.5769	PI	
1116	CC							500,355.5003	135,055.9584		
1117	PCC	111+61.636						500,711.6292	135,240.2767	N 27° 21' 51.48" W	
1117	PCC	111+61.636						500,711.6292	135,240.2767	N 27° 21' 51.48" W	
1120	PI	112+19.352	22° 49' 05.99" LT	20° 02' 00.56"	286.000'	57.715'	113.901'	500,685.1005	135,291.5338	PI	
1121	CC							500,457.6320	135,108.8178		
1122	PT	112+75.537						500,640.7700	135,328.4914	N 50° 10' 57.47" W	
1124	PC	119+70.281						500,107.1450	135,773.3650	N 50° 10' 57.47" W	
1125	PI	121+38.206	47° 16' 21.63" RT	14° 55' 56.33"	383.703'	167.926'	316.580'	499,978.1630	135,880.8950	PI	
1130	PT	122+86.860						499,969.6380	136,048.6042	N 2° 54' 35.93" W	
<b>S.B. CSAH 3 / CSAH 51</b>											
1204	PC	100+00.000						500,064.6119	134,447.7009	N 26° 15' 47.81" E	
1205	PI	102+94.574	51° 33' 09.15" RT	9° 23' 33.90"	610.000'	294.574'	548.855'	500,194.9599	134,711.8660	PI	
1206	CC							500,611.6418	134,177.7779		
1207	PRC	105+48.855						500,482.8983	134,774.0372	N 77° 48' 56.96" E	
1207	PRC	105+48.855						500,482.8983	134,774.0372	N 77° 48' 56.96" E	
1210	PI	107+18.530	63° 20' 57.71" LT	20° 50' 05.38"	275.000'	169.676'	304.055'	500,648.7519	134,809.8481	PI	
1211	CC							500,424.8582	135,042.8426		
1212	PCC	108+52.910						500,691.1391	134,974.1440	N 14° 27' 59.25" E	
1212	PCC	108+52.910						500,691.1391	134,974.1440	N 14° 27' 59.25" E	
1215	PI	109+49.429	33° 34' 08.28" LT	17° 54' 17.75"	320.000'	96.519'	187.485'	500,715.2508	135,067.6029	PI	
1216	CC							500,381.2850	135,054.0842		
1217	PCC	110+40.394						500,683.6640	135,158.8072	N 19° 06' 09.03" W	
1217	PCC	110+40.394						500,683.6640	135,158.8072	N 19° 06' 09.03" W	
1220	PI	111+38.209	30° 24' 05.57" LT	15° 54' 55.78"	360.000'	97.815'	191.019'	500,651.6532	135,251.2360	PI	
1221	CC							500,343.4876	135,040.9938		
1222	PT	112+31.413						500,577.2695	135,314.7565	N 49° 30' 14.60" W	
1224	PC	118+93.242						500,073.9802	135,744.5448	N 49° 30' 14.60" W	
1225	PI	120+73.068	50° 04' 22.41" RT	14° 52' 55.27"	385.000'	179.826'	336.465'	499,937.2310	135,861.3230	PI	
1226	CC							500,323.9970	136,037.3188		
1230	PT	122+29.707						499,939.0160	136,041.1404	N 0° 34' 07.62" E	

DESIGN TEAM					
DRAWN BY:	JMT				
DESIGNER:	JEO				
CHECKED BY:	APM				
	NO.	BY	DATE	REVISIONS	

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.  
 Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

<b>ALIGNMENT TABULATIONS</b>		FILE NO. <b>16</b>
STATE PROJECT NO. 02-610-11 STATE PROJECT NO. 106-020-24		DATE 10/21/2004
		<b>92</b>



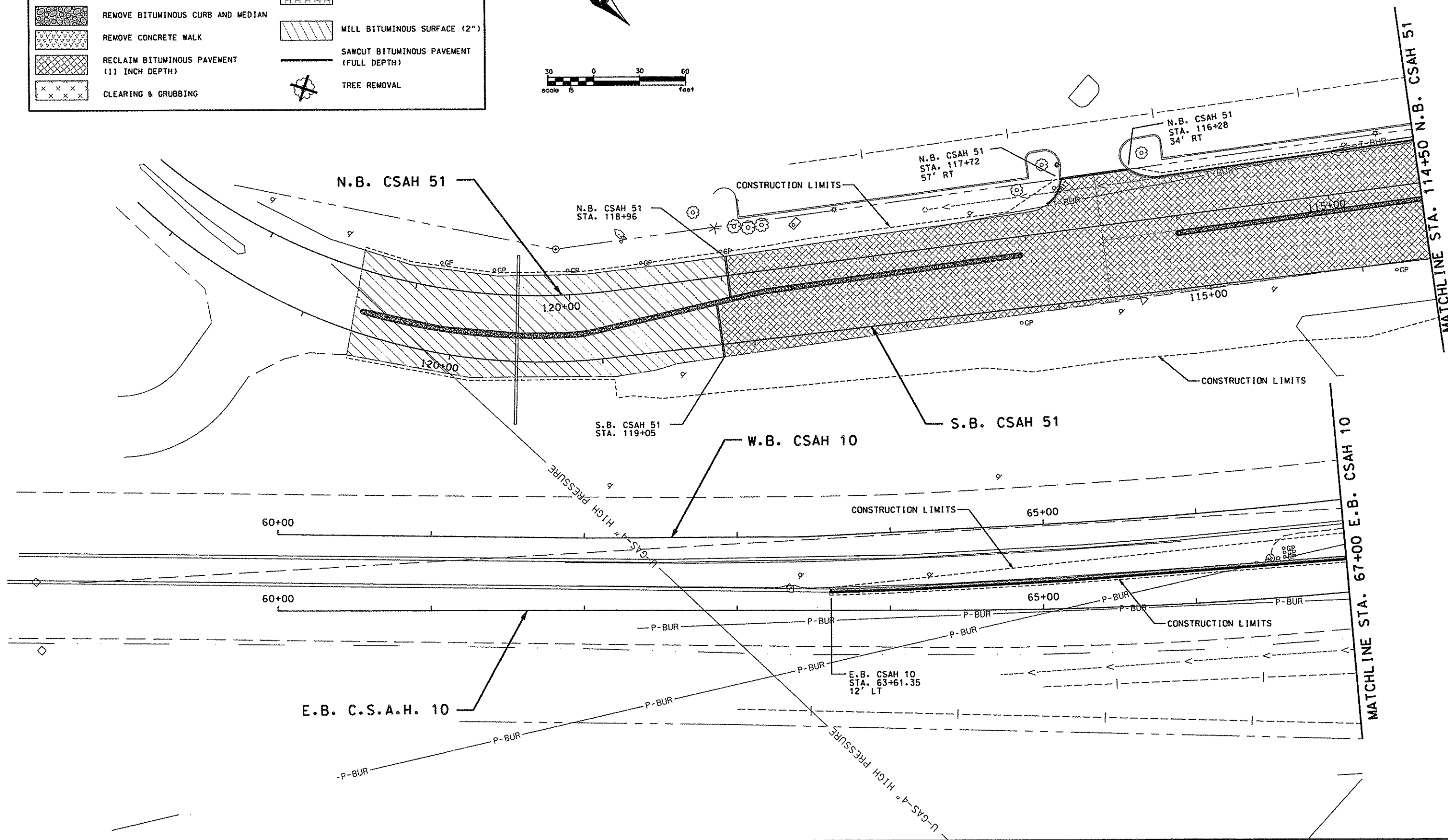
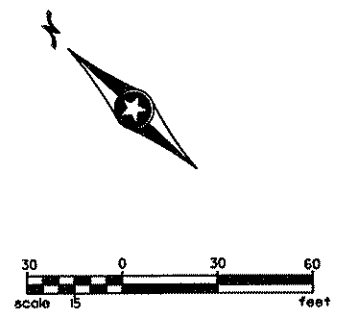
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**LEGEND**

	REMOVE CURB AND GUTTER		REMOVE BITUMIONOUS TRAIL
	REMOVE BITUMIONOUS CURB AND MEDIAN		MILL BITUMIONOUS SURFACE (2")
	REMOVE CONCRETE WALK		SAWCUT BITUMIONOUS PAVEMENT (FULL DEPTH)
	RECLAIM BITUMIONOUS PAVEMENT (11 INCH DEPTH)		TREE REMOVAL
	CLEARING & GRUBBING		



DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Jason E. Owens* Lic. No. 43475  
 Printed Name: JASON E. OWENS Date: 10/27/2004

PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA

**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**TOPOGRAPHY, UTILITY  
 AND REMOVAL PLAN**

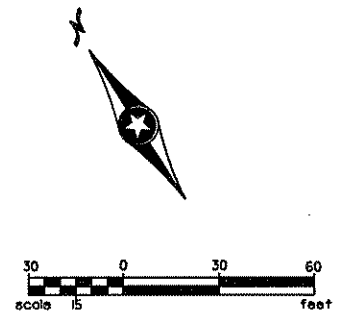
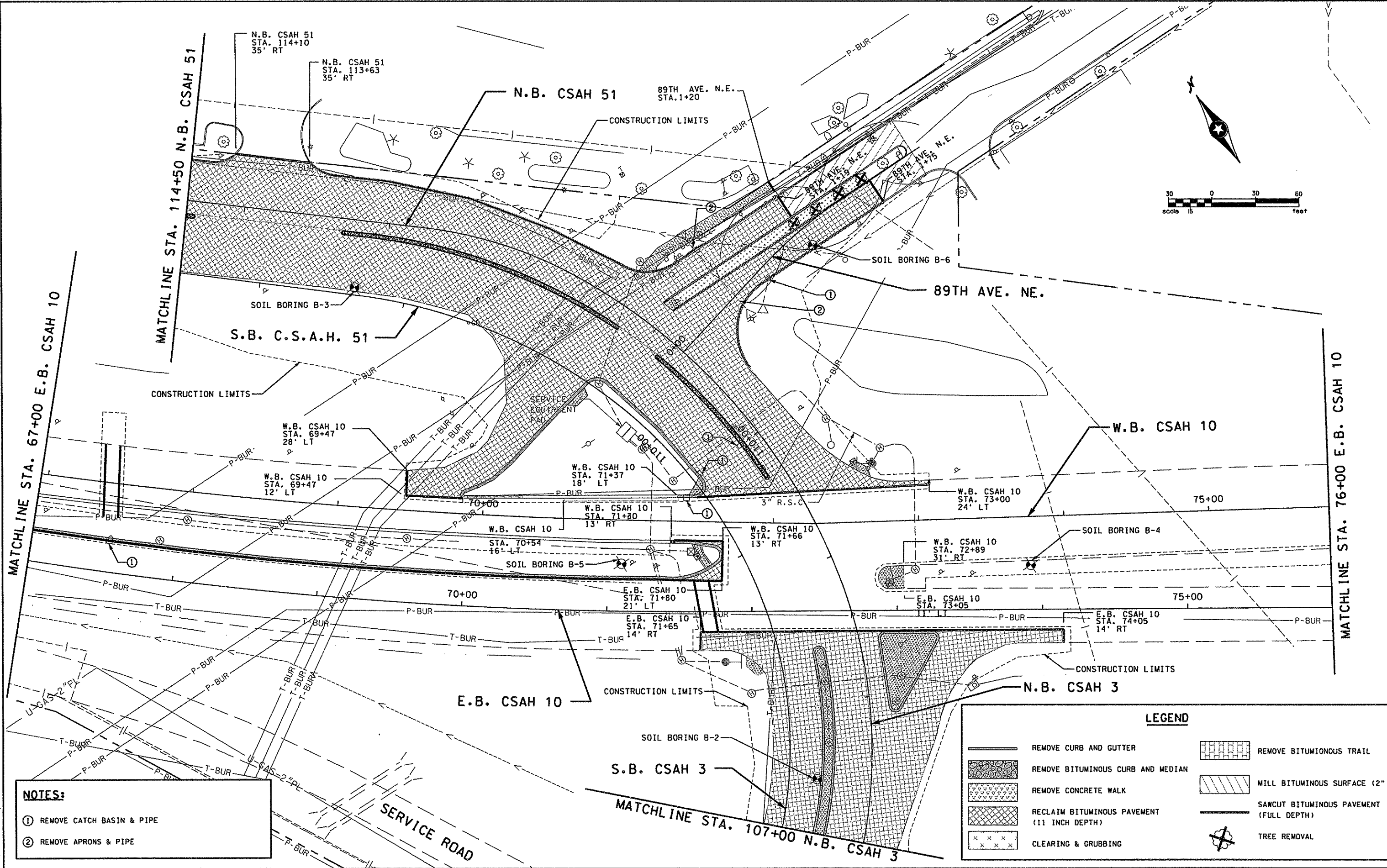
STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	17
ANOKC0410.00	
DATE	10/27/2004
	92

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10/27/2004

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**NOTES:**

① REMOVE CATCH BASIN & PIPE

② REMOVE APRONS & PIPE

LEGEND	
	REMOVE CURB AND GUTTER
	REMOVE BITUMINOUS CURB AND MEDIAN
	REMOVE CONCRETE WALK
	RECLAIM BITUMINOUS PAVEMENT (11 INCH DEPTH)
	CLEARING & GRUBBING
	REMOVE BITUMINOUS TRAIL
	MILL BITUMINOUS SURFACE (2")
	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
	TREE REMOVAL

DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.

Certified By: *Jason E. Owens* Lic. No. 43475  
 Licensed Professional Engineer  
 Printed Name: JASON E. OWENS Date: 10/27/2004



ANOKA COUNTY, MINNESOTA

**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

TOPOGRAPHY, UTILITY AND REMOVAL PLANS		FILE NO.	18
STATE PROJECT NO. 02-610-11		ANOKC0410.00	
STATE PROJECT NO. 106-020-24		DATE	92
		10/27/2004	

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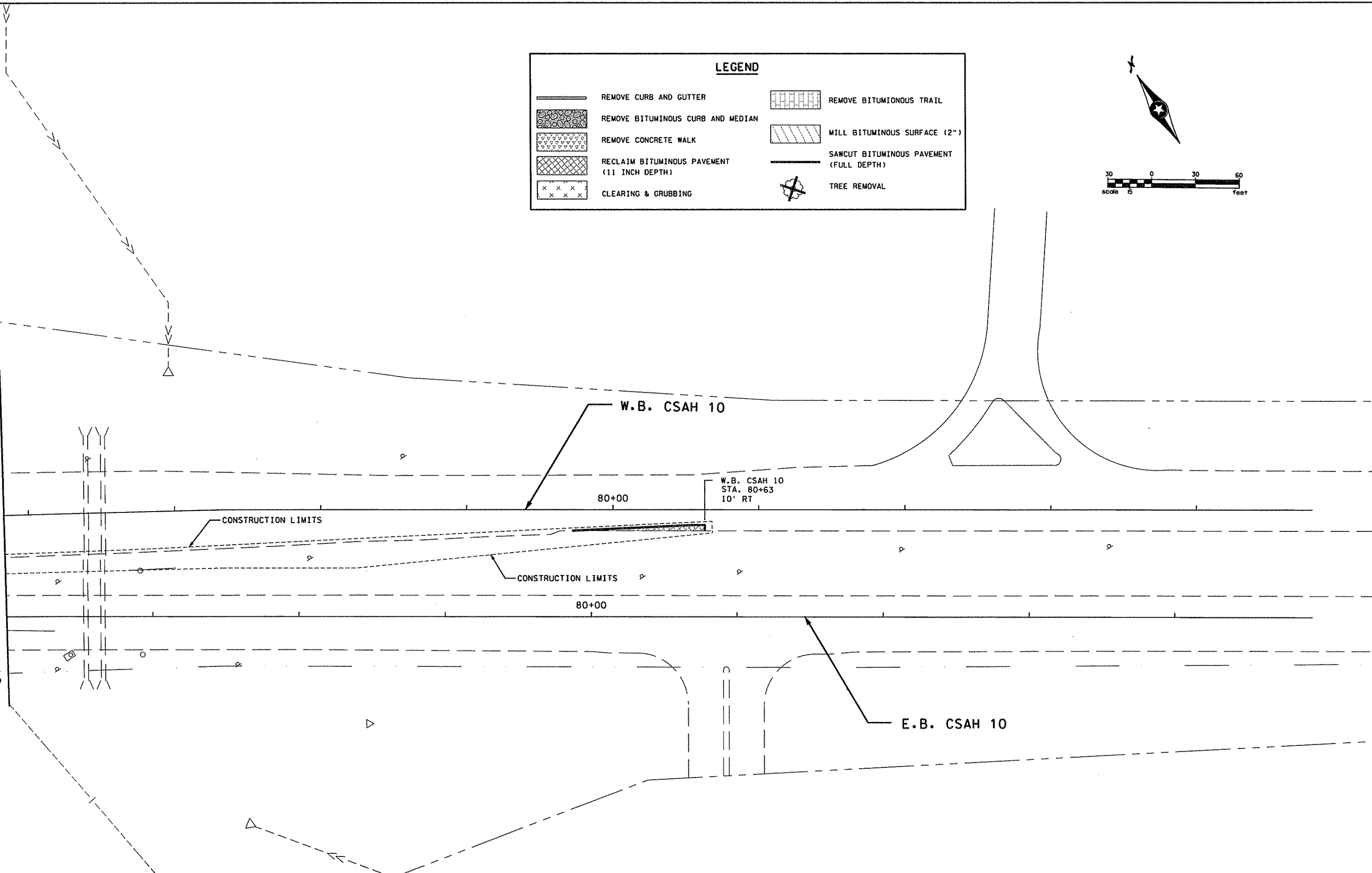
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**LEGEND**

	REMOVE CURB AND GUTTER		REMOVE BITUMIONOUS TRAIL
	REMOVE BITUMIONOUS CURB AND MEDIAN		MILL BITUMIONOUS SURFACE (2")
	REMOVE CONCRETE WALK		SAWCUT BITUMIONOUS PAVEMENT (FULL DEPTH)
	RECLAIM BITUMIONOUS PAVEMENT (11 INCH DEPTH)		TREE REMOVAL
	CLEARING & GRUBBING		

scale 15 30 60 feet

MATCHLINE STA. 76+00 E.B. CSAH 10



DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JED		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/21/2004

PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**TOPOGRAPHY, UTILITY  
 AND REMOVAL PLAN**

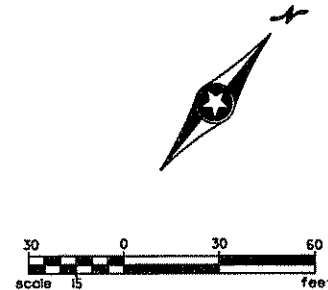
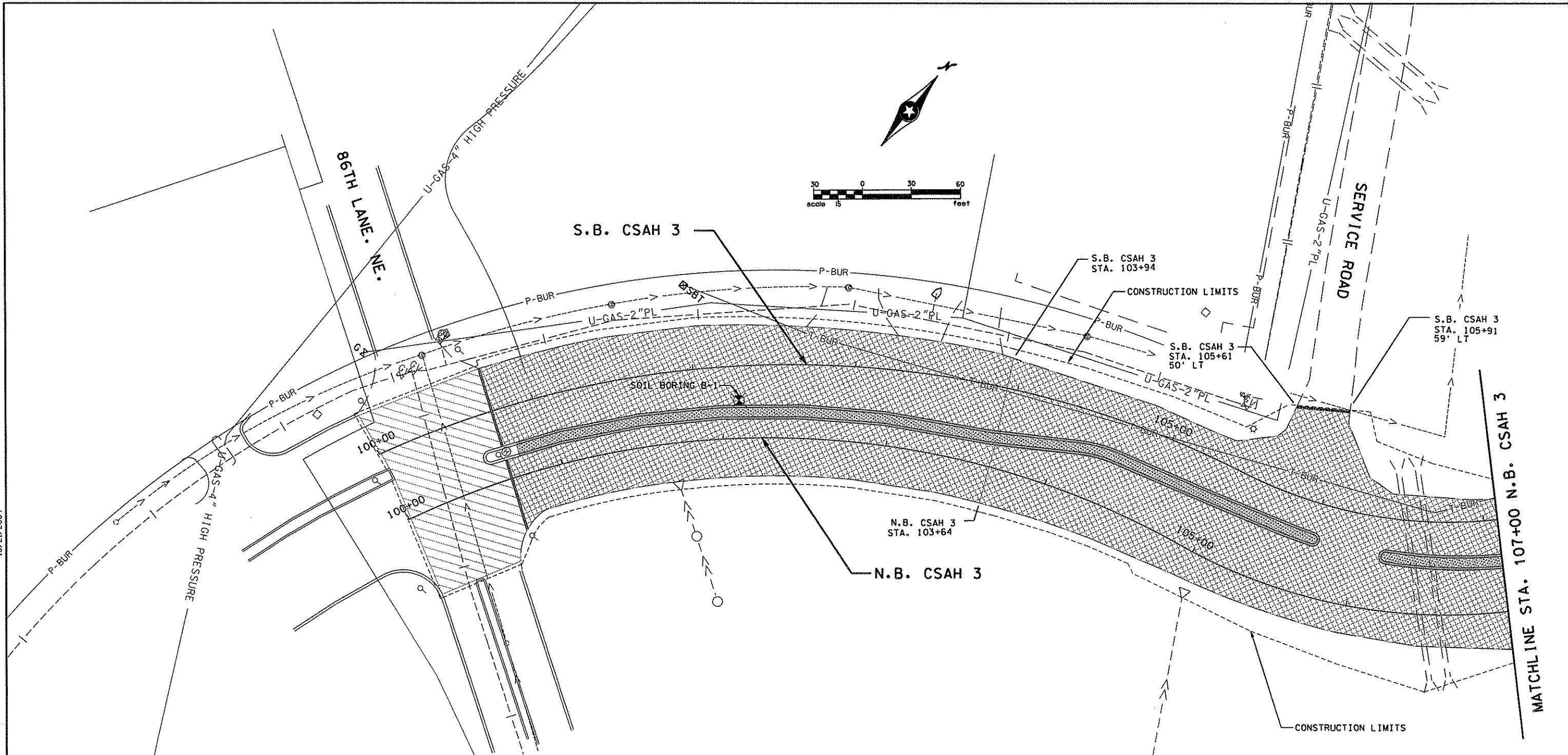
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 STATE PROJECT NO. 106-020-24

FILE NO.	19
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DATE	10/21/2004
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LEGEND	
	REMOVE CURB AND GUTTER
	REMOVE BITUMINOUS CURB AND MEDIAN
	REMOVE CONCRETE WALK
	RECLAIM BITUMINOUS PAVEMENT (11 INCH DEPTH)
	CLEARING & GRUBBING
	REMOVE BITUMINOUS TRAIL
	MILL BITUMINOUS SURFACE (2")
	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
	TREE REMOVAL

DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/21/2004

PHONE: (651)490-2000  
 3535 VADNATS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**TOPOGRAPHY, UTILITY  
 AND REMOVAL PLAN**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24




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ANOKC0410.00	
DATE	10/21/2004
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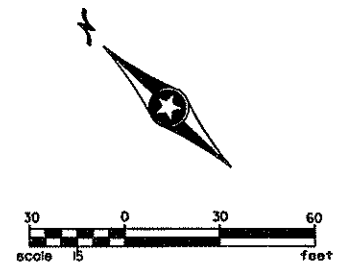
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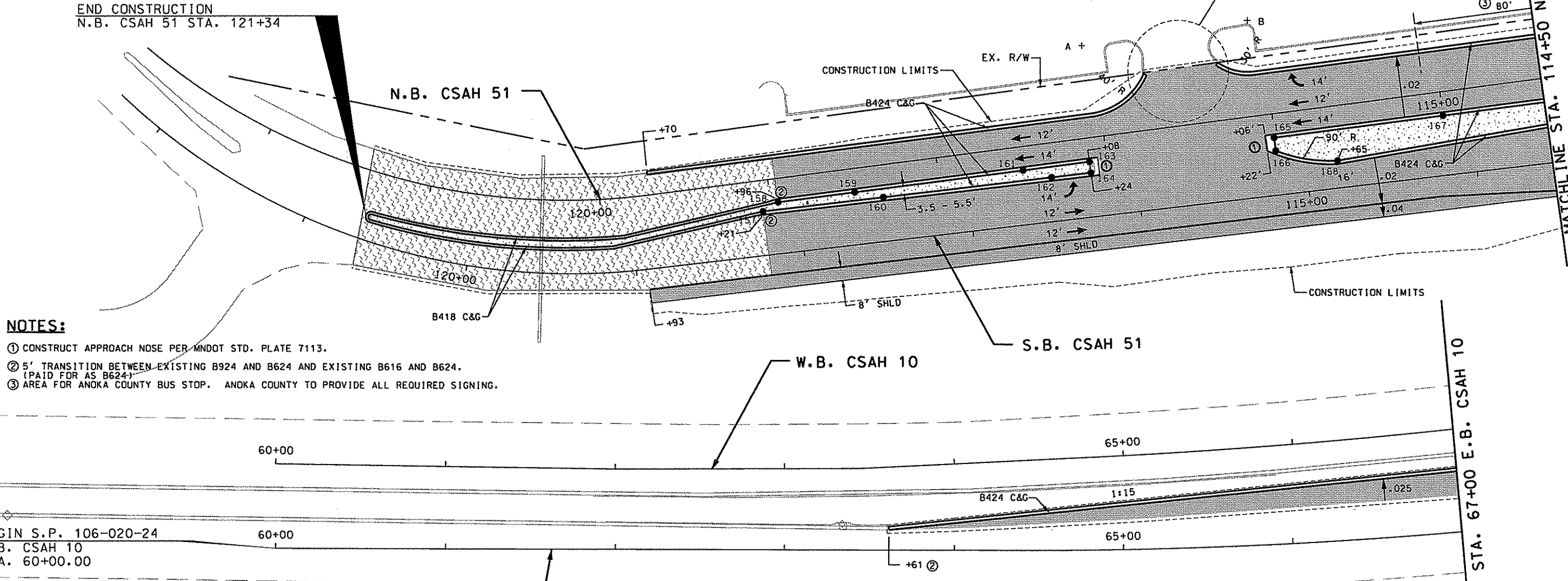
**LEGEND**

	BITUMINOUS PAVEMENT (FULL DEPTH)
	BITUMINOUS PAVEMENT (2")
	4" CONCRETE WALK



END CONSTRUCTION  
N.B. CSAH 51 STA. 121+34

SEE CONSTRUCTION  
DETAILS SHEETS



**NOTES:**

- ① CONSTRUCT APPROACH NOSE PER MNDOT STD. PLATE 7113.
- ② 5' TRANSITION BETWEEN EXISTING B924 AND B624 AND EXISTING B616 AND B624. (PAID FOR AS B624)
- ③ AREA FOR ANOKA COUNTY BUS STOP. ANOKA COUNTY TO PROVIDE ALL REQUIRED SIGNING.

**GUTTER POINTS**

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION
157	SB CSAH 51	118+21.38	26.00' (RT)	894.23
158	NB CSAH 51	118+95.81	14.00' (LT)	894.12
159	NB CSAH 51	118+50.00	14.00' (LT)	894.32
160	SB CSAH 51	117+50.00	26.00' (RT)	894.76
161	NB CSAH 51	117+50.00	14.00' (LT)	895.66
162	SB CSAH 51	116+50.00	26.00' (RT)	896.26
163	NB CSAH 51	117+08.10	14.00' (LT)	896.58
164	SB CSAH 51	116+24.34	26.00' (RT)	896.65
165	NB CSAH 51	116+00.62	14.00' (LT)	898.88
166	SB CSAH 51	115+16.78	26.11' (RT)	898.03
167	NB CSAH 51	115+00.00	14.00' (LT)	899.96
168	SB CSAH 51	114+81.13	16.07' (RT)	898.14

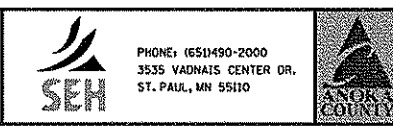
**STREET RADII**

	RADIUS	ALIGNMENT	STATION	LOCATION
A	40'	NB CSAH 51	117+21.16	52.0' RT
B	30'	NB CSAH 51	116+06.35	56.0' RT

**DESIGN TEAM**

DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Licensed Professional Engineer  
 Printed Name: AARON P. MONIZA Date: 10/22/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**CONSTRUCTION PLAN**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00  
 DATE 10/22/2004  
 21  
 92

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SEE CONSTRUCTION DETAILS SHEETS

**LEGEND**

- BITUMINOUS PAVEMENT (FULL DEPTH)
- BITUMINOUS PAVEMENT (2")
- 4" CONCRETE WALK

SEE CONSTRUCTION DETAILS SHEETS

EX. R/W

END CONSTRUCTION  
89TH AVE. N.E. STA. 1+67.40



**GUTTER POINTS**

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION
169	NB CSAH 51	114+00.00	14.00' (LT)	900.41
170	SB CSAH 51	113+00.00	25.78' (RT)	899.83
171	NB CSAH 51	112+75.53	14.00' (LT)	899.93
172	SB CSAH 51	111+73.58	38.00' (RT)	899.05
173	NB CSAH 51	108+01.11	38.00' (LT)	894.63
174	SB CSAH 51	107+92.43	13.95' (RT)	893.51

MATCHLINE STA. 67+00 E.B. CSAH 10

MATCHLINE STA. 114+50 N.B. CSAH 51

MATCHLINE STA. 76+00 E.B. CSAH 10

**STREET RADII**

RADIUS	ALIGNMENT	STATION	LOCATION	
C	25'	NB CSAH 51	114+29.4	51.0' RT
D	40'	NB CSAH 51	113+33.9	66.0' RT
E	50'	NB CSAH 51	111+86.7	64.0' RT
F	58'	89TH ST.	0+35.3	18.4' LT
G	42'	89TH ST.	0+35.3	18.4' LT
H	67'	89TH ST.	1+17.9	93.4' LT
I	83'	89TH ST.	1+17.9	93.4' LT
J	100'	89TH ST.	1+66.3	99.5' LT
K	5'	NB CSAH 51	111+37.5	19.0' RT
L	20'	NB CSAH 51	111+25.8	34.0' RT
M	2'	89TH ST.	0+65.6	2.9' LT
N	5'	NB CSAH 51	110+89.9	19.0' RT
O	2'	NB CSAH 51	110+43.4	16.0' RT
P	41'	SB CSAH 51	111+50.0	65.2' LT
Q	79'	SB CSAH 51	111+50.0	65.2' LT
R	50'	NB CSAH 51	109+67.5	76.0' RT
S	50'	NB CSAH 51	110+17.3	81.8' RT

E.B. CSAH 10

END CONSTRUCTION  
N.B. CSAH 3 STA. 108+46  
S.B. CSAH 3 STA. 108+43

S.B. CSAH 3  
CONSTRUCTION LIMITS

MATCHLINE STA. 107+00 N.B. CSAH 3

SERVICE ROAD

- NOTES:**
- ① CONSTRUCT APPROACH NOSE PER MNDOT STD. PLATE 7113.
  - ② CONSTRUCT PEDESTRIAN RAMPS PER MNDOT STD. PLATE 7036F.
  - ③ FOR ANOKA COUNTY BUS STOP. ANOKA COUNTY TO PROVIDE ALL REQUIRED SIGNING.

**DESIGN TEAM**

DRAWN BY:	JMT
DESIGNER:	JEO
CHECKED BY:	APM

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
Printed Name: AARON P. MONIZA Date: 10/22/2004



PHONE: (651)90-2000  
3635 VADNAIS CENTER DR.  
ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

**CONSTRUCTION PLAN**




STATE PROJECT NO. 02-610-11  
STATE PROJECT NO. 106-020-24

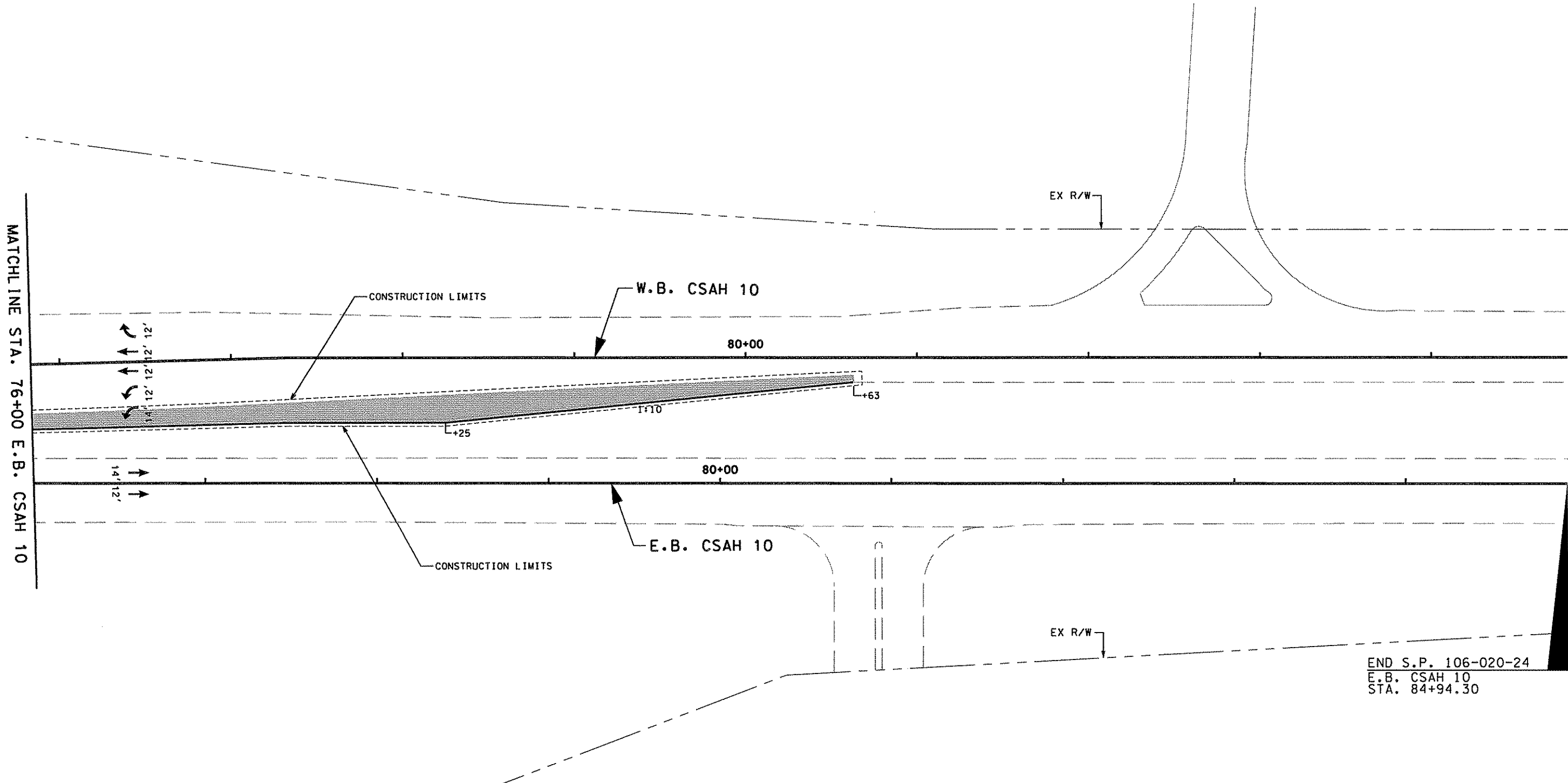
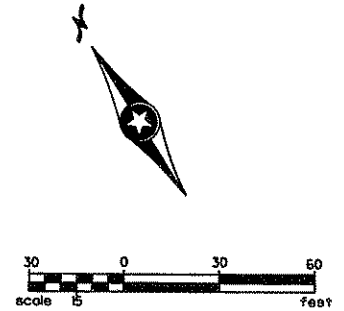
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ANOKC0410.00	
DATE	10/22/2004
	92

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10/22/2004

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LEGEND	
	BITUMINOUS PAVEMENT (FULL DEPTH)
	BITUMINOUS PAVEMENT (2")
	4" CONCRETE WALK



END S.P. 106-020-24  
 E.B. CSAH 10  
 STA. 84+94.30

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/22/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

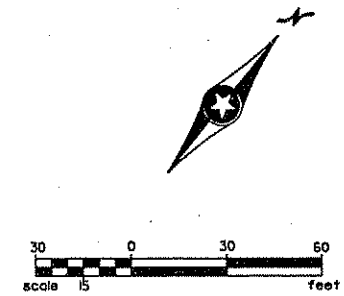
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 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

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10/22/2004

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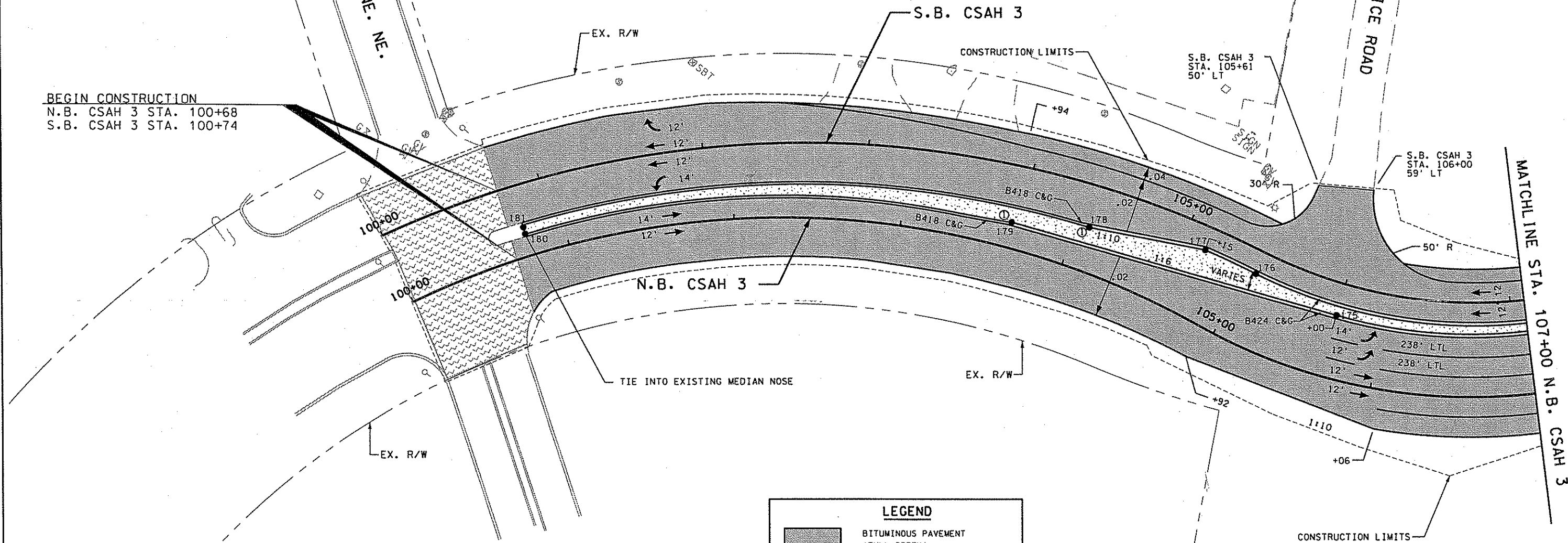


BEGIN CONSTRUCTION  
 N.B. CSAH 3 STA. 100+68  
 S.B. CSAH 3 STA. 100+74

89TH LANE. NE.

SERVICE ROAD

MATCHLINE STA. 107+00 N.B. CSAH 3



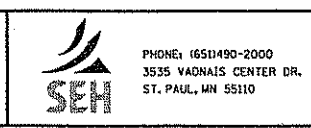
GUTTER POINTS				
POINTS	ALIGNMENT	STATION	LOCATION	ELEVATION
175	NB CSAH 3	105+68.47	38.00' (LT)	891.17
176	SB CSAH 3	105+48.81	14.00' (RT)	890.64
177	SB CSAH 3	105+14.54	14.00' (RT)	890.57
178	SB CSAH 3	104+41.98	25.50' (RT)	890.66
179	NB CSAH 3	103+64.35	15.51' (LT)	890.17
180	NB CSAH 3	100+60.10	13.50' (LT)	889.46
181	SB CSAH 3	100+64.61	25.50' (RT)	889.89

LEGEND	
	BITUMINOUS PAVEMENT (FULL DEPTH)
	BITUMINOUS PAVEMENT (2")
	4" CONCRETE WALK

NOTES:  
 ① 5' TRANSITION FROM B624 TO B618 C&G (PAID FOR AS B624)

DESIGN TEAM				
NO.	BY	DATE	REVISIONS	
1	JMT			
2	JEO			
3	APM			

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.  
 Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/22/2004



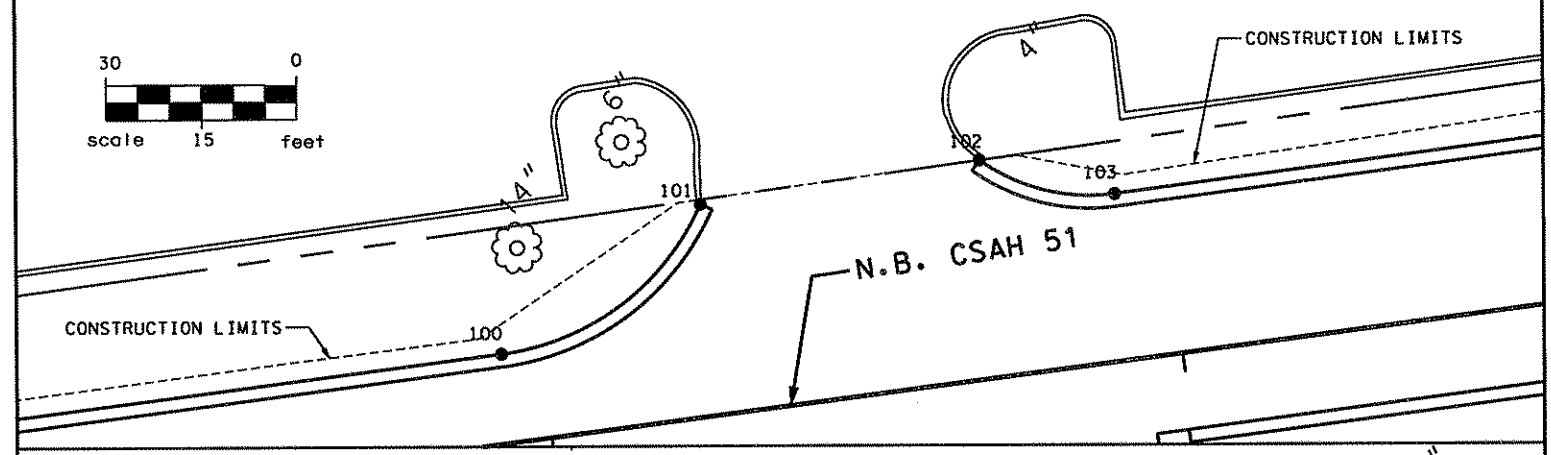
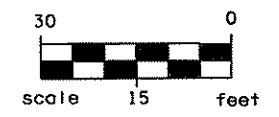
ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**CONSTRUCTION PLAN**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00	24
DATE 10/22/2004	92

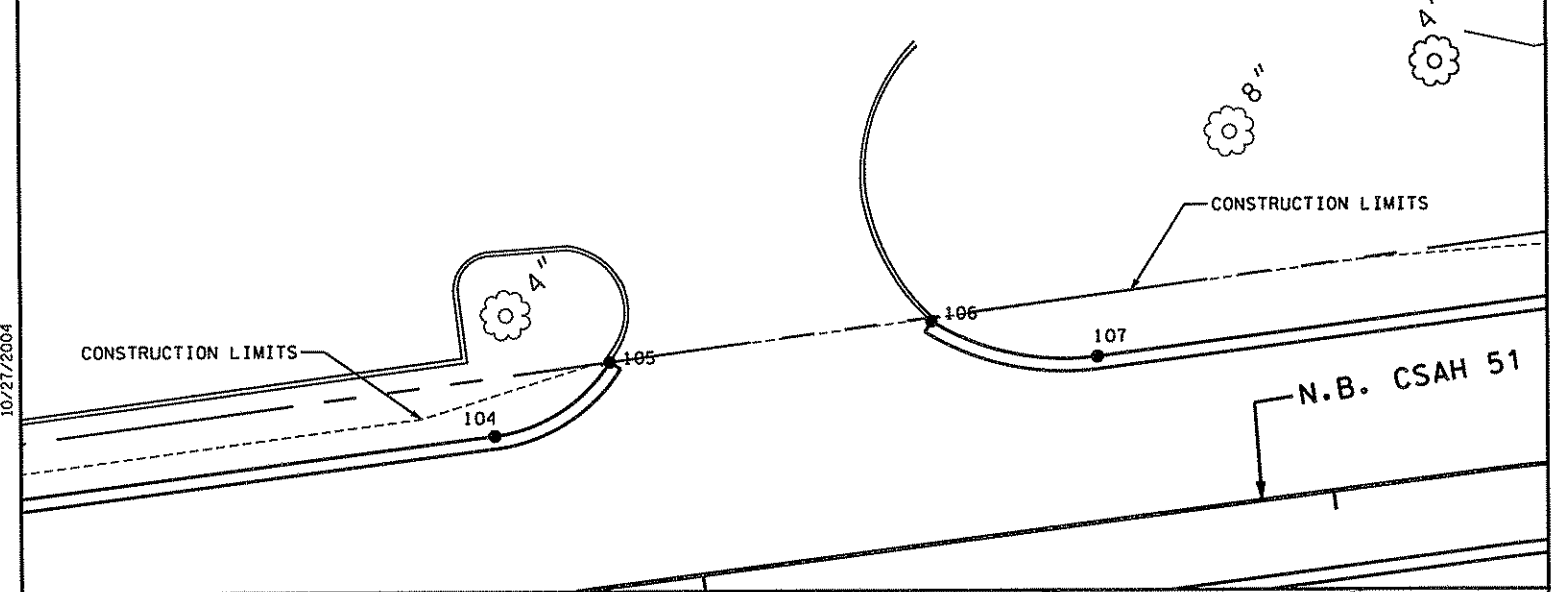


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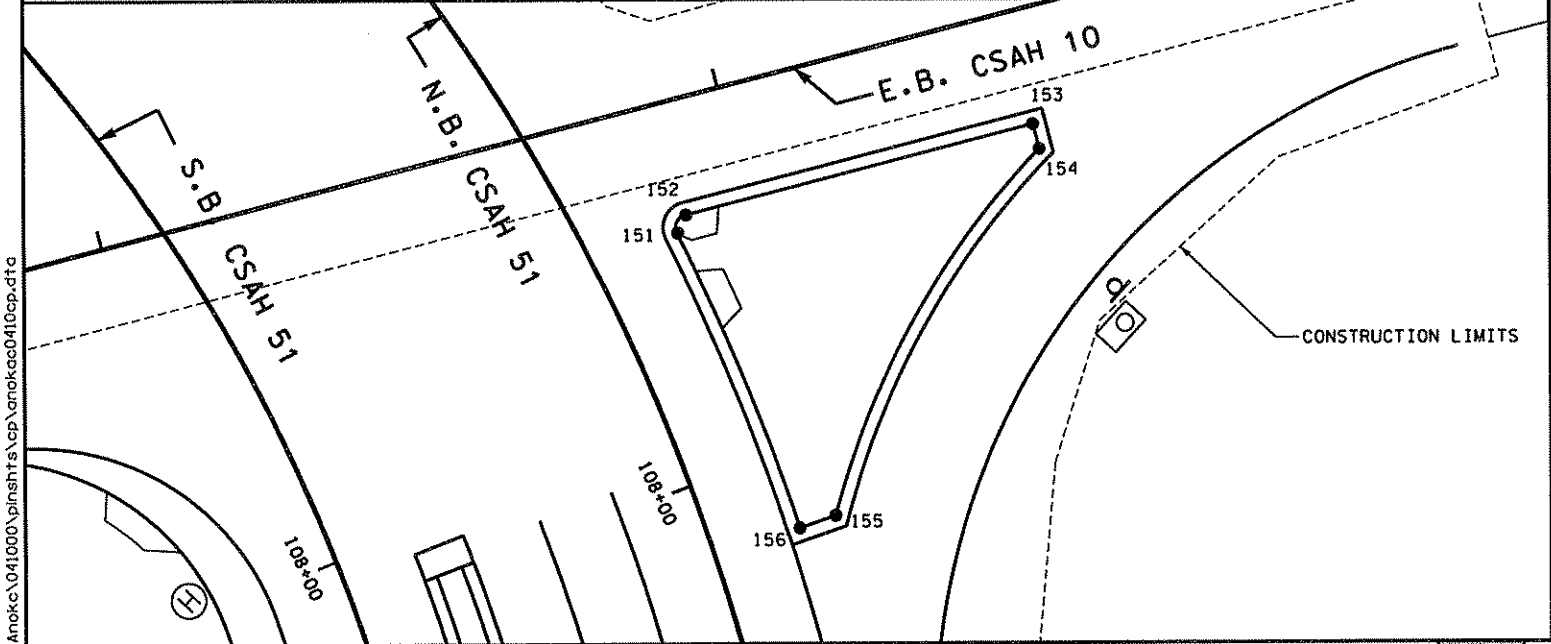
GUTTER PLAN POINTS				
POINT	ALIGNMENT NAME	STATION	OFFSET	ELEVATION
100	NB CSAH 51	117+06.06	14.00' (RT)	895.98
101	NB CSAH 51	116+72.02	32.98' (RT)	898.54
102	NB CSAH 51	116+27.56	33.93' (RT)	899.11
103	NB CSAH 51	116+07.24	26.00' (RT)	897.87
104	NB CSAH 51	114+29.44	26.00' (RT)	899.46
105	NB CSAH 51	114+10.07	35.19' (RT)	899.92
106	NB CSAH 51	113+59.04	34.90' (RT)	900.57
107	NB CSAH 51	113+33.88	26.00' (RT)	899.34

10/27/2004



GUTTER PLAN POINTS				
POINT	ALIGNMENT NAME	STATION	OFFSET	ELEVATION
151	NB CSAH 51	108+36.00	14.00' (RT)	894.25
152	NB CSAH 51	108+37.87	16.43' (RT)	894.72
153	NB CSAH 51	108+27.71	71.82' (RT)	894.22
154	NB CSAH 51	108+24.47	71.08' (RT)	894.18
155	NB CSAH 51	107+88.38	21.46' (RT)	893.12
156	NB CSAH 51	107+88.38	14.00' (RT)	893.24

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DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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.  
 Certified By: Jason E. Owens Lic. No. 43475  
 Printed Name: JASON E. OWENS Date: 10/27/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

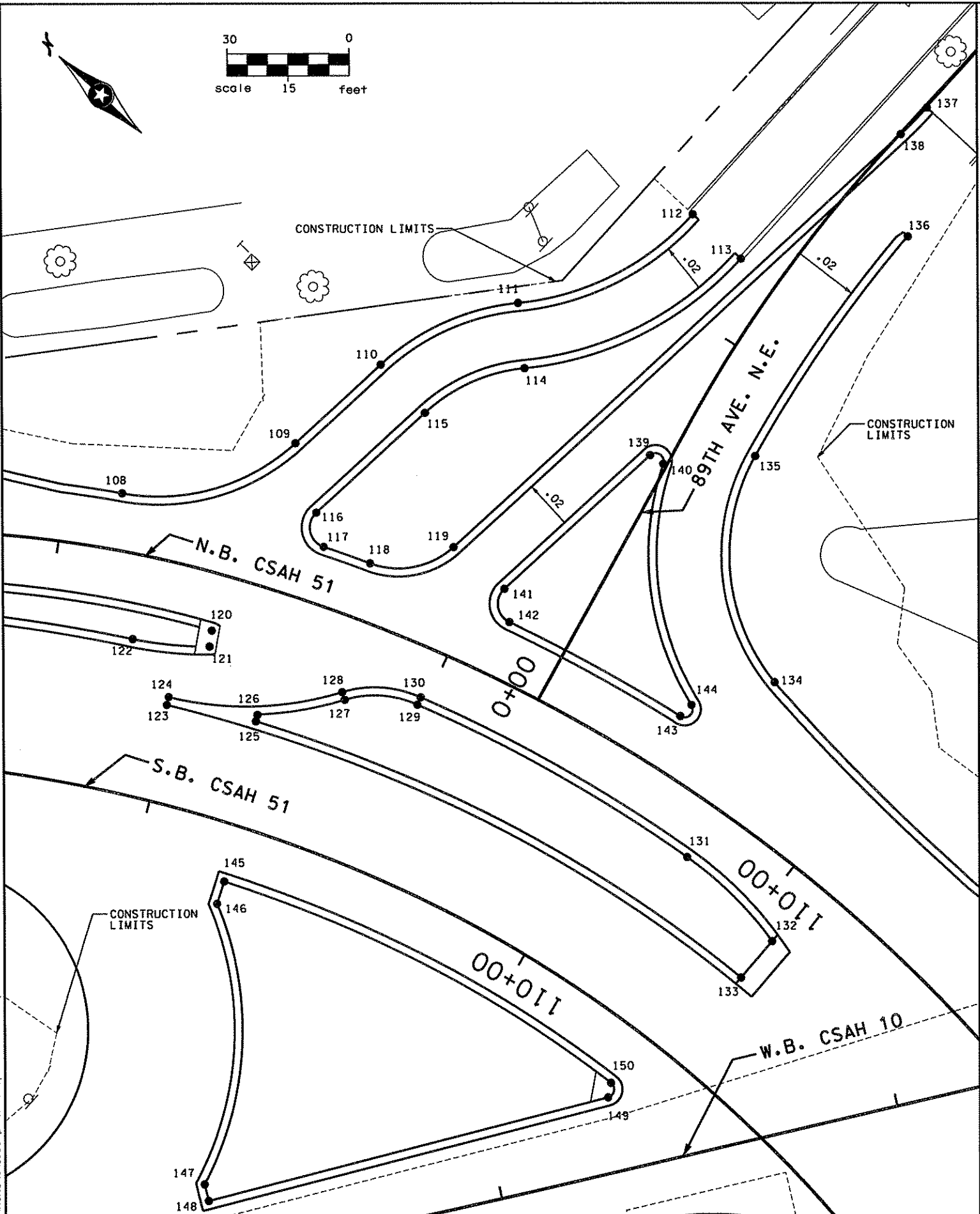
**CONSTRUCTION  
 DETAILS**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00  
 DATE 10/27/2004  
**25**  
**92**

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10/27/2004

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GUTTER PLAN POINTS				
POINT	ALIGNMENT NAME	STATION	OFFSET	ELEVATION
108	NB CSAH 51	111+86.69	14.00' (RT)	897.74
109	NB CSAH 51	111+50.92	36.16' (RT)	895.90
110	89TH STREET	0+53.94	73.37' (LT)	896.19
111	89TH STREET	0+82.27	51.20' (LT)	896.56
112	89TH STREET	1+19.63	26.72' (LT)	897.06
113	89TH STREET	1+17.93	10.82' (LT)	897.30
114	89TH STREET	0+71.65	13.18' (LT)	896.80
115	89TH STREET	0+49.44	60.11' (LT)	896.43
116	NB CSAH 51	111+41.62	21.43' (RT)	896.30
117	NB CSAH 51	111+37.46	14.00' (RT)	896.15
118	NB CSAH 51	111+25.76	14.00' (RT)	895.76
119	NB CSAH 51	111+09.00	25.26' (RT)	895.37
120	NB CSAH 51	111+57.67	14.00' (LT)	897.29
121	NB CSAH 51	111+57.09	17.93' (LT)	896.84
122	SB CSAH 51	111+12.27	36.00' (RT)	897.07
123	NB CSAH 51	111+64.02	32.66' (LT)	896.51
124	SB CSAH 51	111+01.50	24.00' (RT)	896.47
125	SB CSAH 51	110+80.66	26.00' (RT)	895.75
126	NB CSAH 51	111+39.78	30.45' (LT)	896.51
127	NB CSAH 51	111+19.60	19.77' (LT)	896.01
128	NB CSAH 51	111+20.91	18.20' (LT)	896.13
129	NB CSAH 51	111+02.36	14.00' (LT)	895.63
130	NB CSAH 51	111+02.36	12.00' (LT)	895.59
131	NB CSAH 51	110+22.81	14.00' (LT)	893.99
132	NB CSAH 51	109+92.45	17.68' (LT)	894.07
133	SB CSAH 51	109+54.81	26.00' (RT)	894.61
134	NB CSAH 51	110+29.41	33.75' (RT)	893.53
135	89TH STREET	0+71.11	18.00' (RT)	895.90
136	89TH STREET	1+40.38	18.07' (RT)	897.87
137	89TH STREET	1+67.23	0.51' (RT)	897.66
138	89TH STREET	1+70.20	0.44' (LT)	897.48
139	89TH STREET	0+66.20	4.78' (LT)	896.15
140	89TH STREET	0+65.90	0.92' (LT)	895.85
141	NB CSAH 51	110+94.29	20.90' (RT)	895.17
142	NB CSAH 51	110+89.89	14.00' (RT)	894.58
143	NB CSAH 51	110+43.41	14.00' (RT)	893.55
144	NB CSAH 51	110+42.58	17.80' (RT)	894.09
145	SB CSAH 51	110+76.42	14.00' (LT)	894.82
146	SB CSAH 51	110+76.43	17.74' (LT)	894.71
147	WB CSAH 10	70+28.91	18.82' (LT)	894.62
148	WB CSAH 10	70+29.11	14.68' (RT)	894.69
149	WB CSAH 10	71+31.03	18.13' (LT)	894.71
150	SB CSAH 51	109+64.13	14.00' (LT)	893.57

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Jason E. Owens* Lic. No. 43475  
 Printed Name: JASON E. OWENS Date: 10/27/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**CONSTRUCTION  
 DETAILS**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

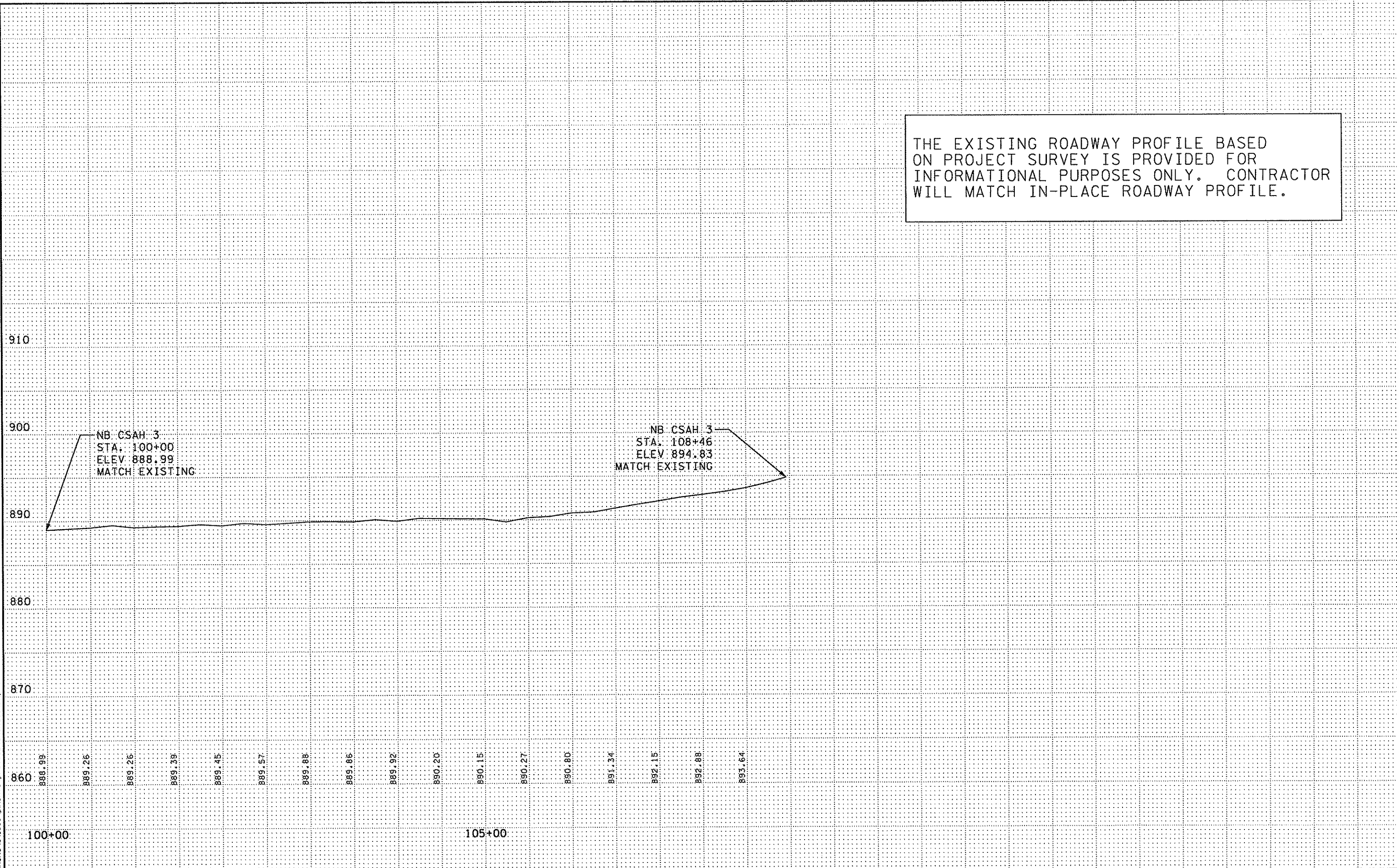
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 DATE **10/27/2004**  
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THE EXISTING ROADWAY PROFILE BASED ON PROJECT SURVEY IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR WILL MATCH IN-PLACE ROADWAY PROFILE.



DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Licensed Professional Engineer  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

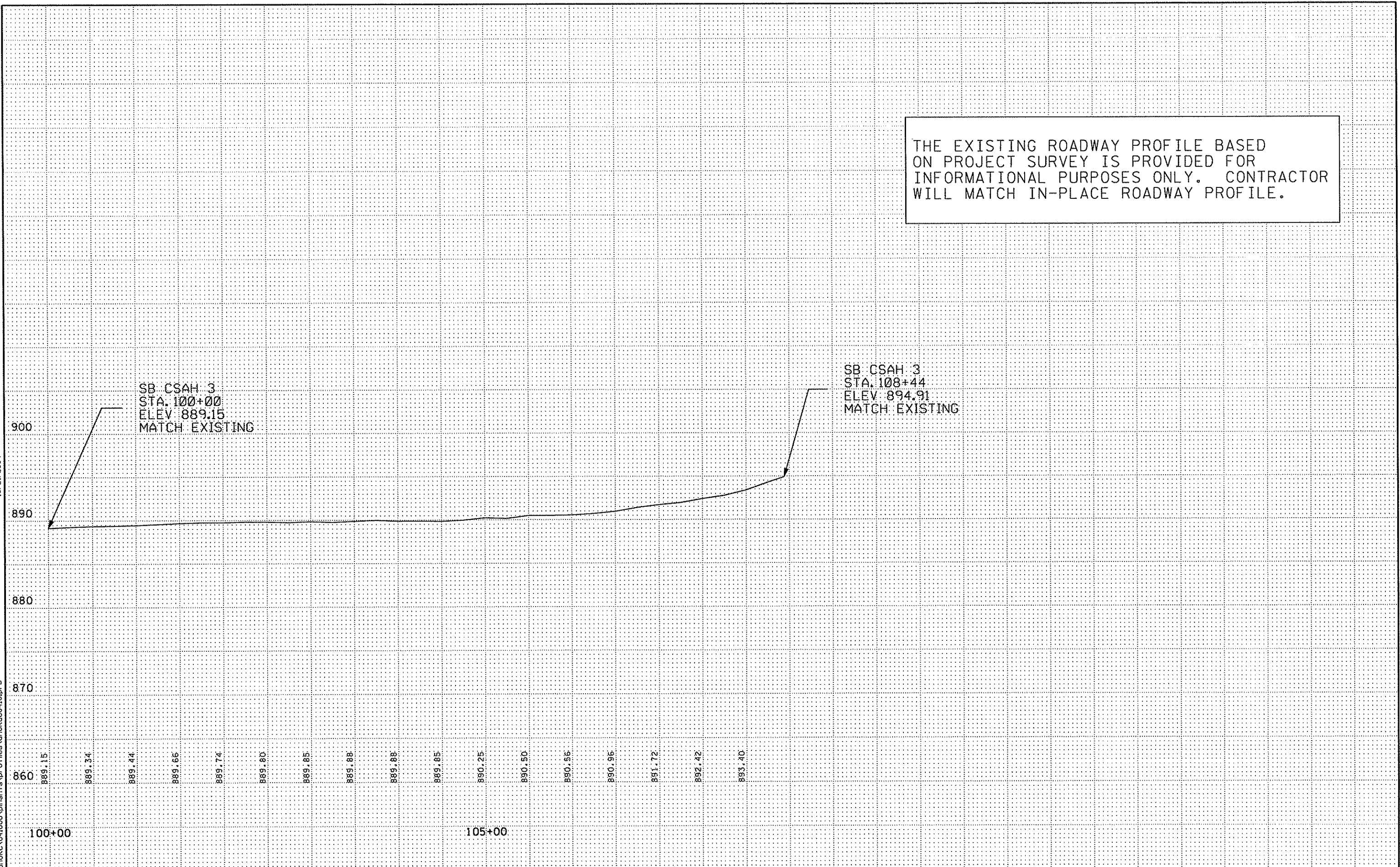
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STATE PROJECT NO. 106-020-24		27
		DATE
		10/21/2004
		92

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10/21/2004

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THE EXISTING ROADWAY PROFILE BASED ON PROJECT SURVEY IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR WILL MATCH IN-PLACE ROADWAY PROFILE.



SB CSAH 3  
STA. 100+00  
ELEV 889.15  
MATCH EXISTING

SB CSAH 3  
STA. 108+44  
ELEV 894.91  
MATCH EXISTING

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JED		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



PHONE: (651) 490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**EXISTING SB CSAH 3 PROFILE**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

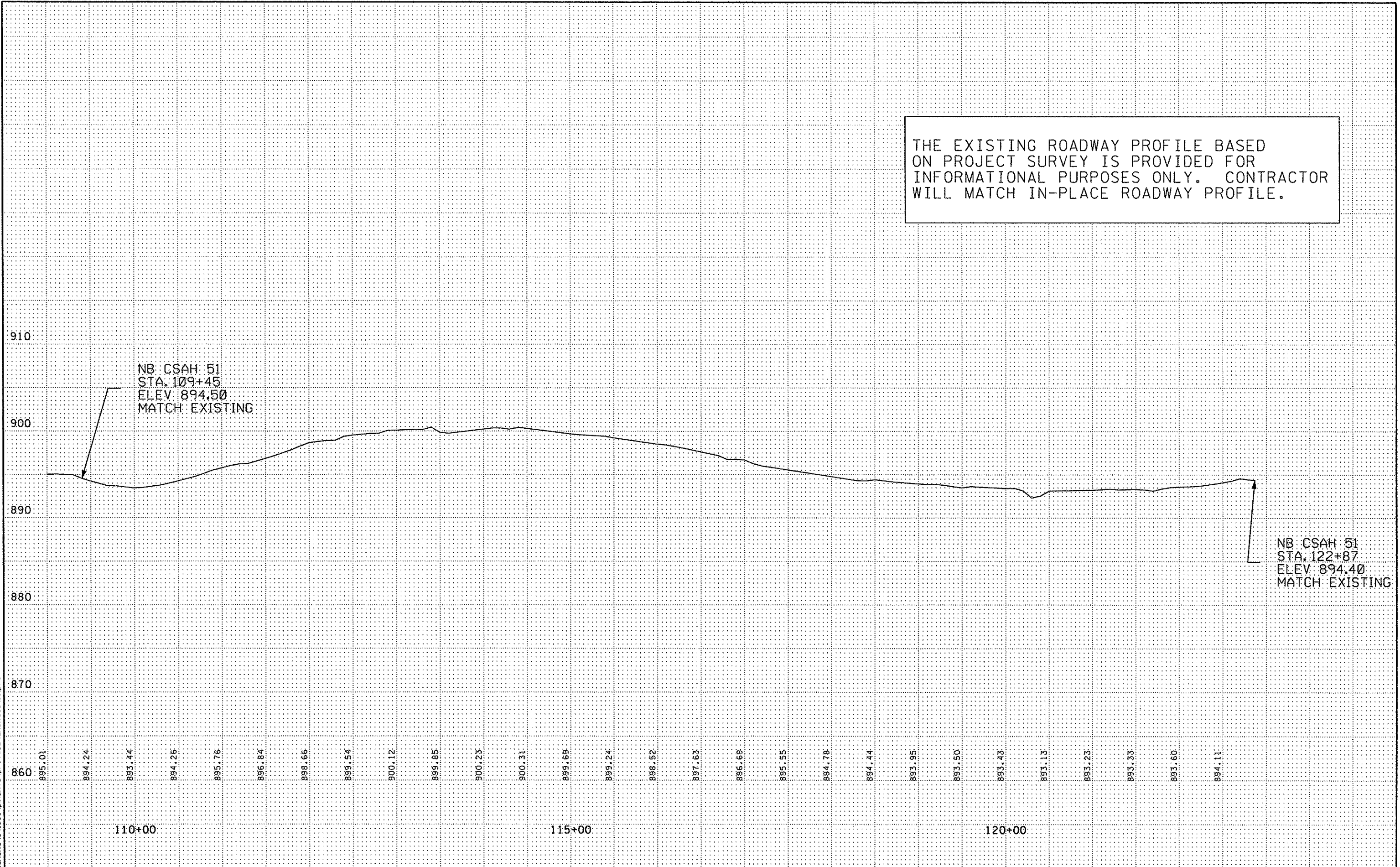
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10/21/2004

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THE EXISTING ROADWAY PROFILE BASED ON PROJECT SURVEY IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR WILL MATCH IN-PLACE ROADWAY PROFILE.



NB CSAH 51  
STA. 109+45  
ELEV 894.50  
MATCH EXISTING

NB CSAH 51  
STA. 122+87  
ELEV 894.40  
MATCH EXISTING

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

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 Licensed Professional Engineer  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**EXISTING NB CSAH 51 PROFILE**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

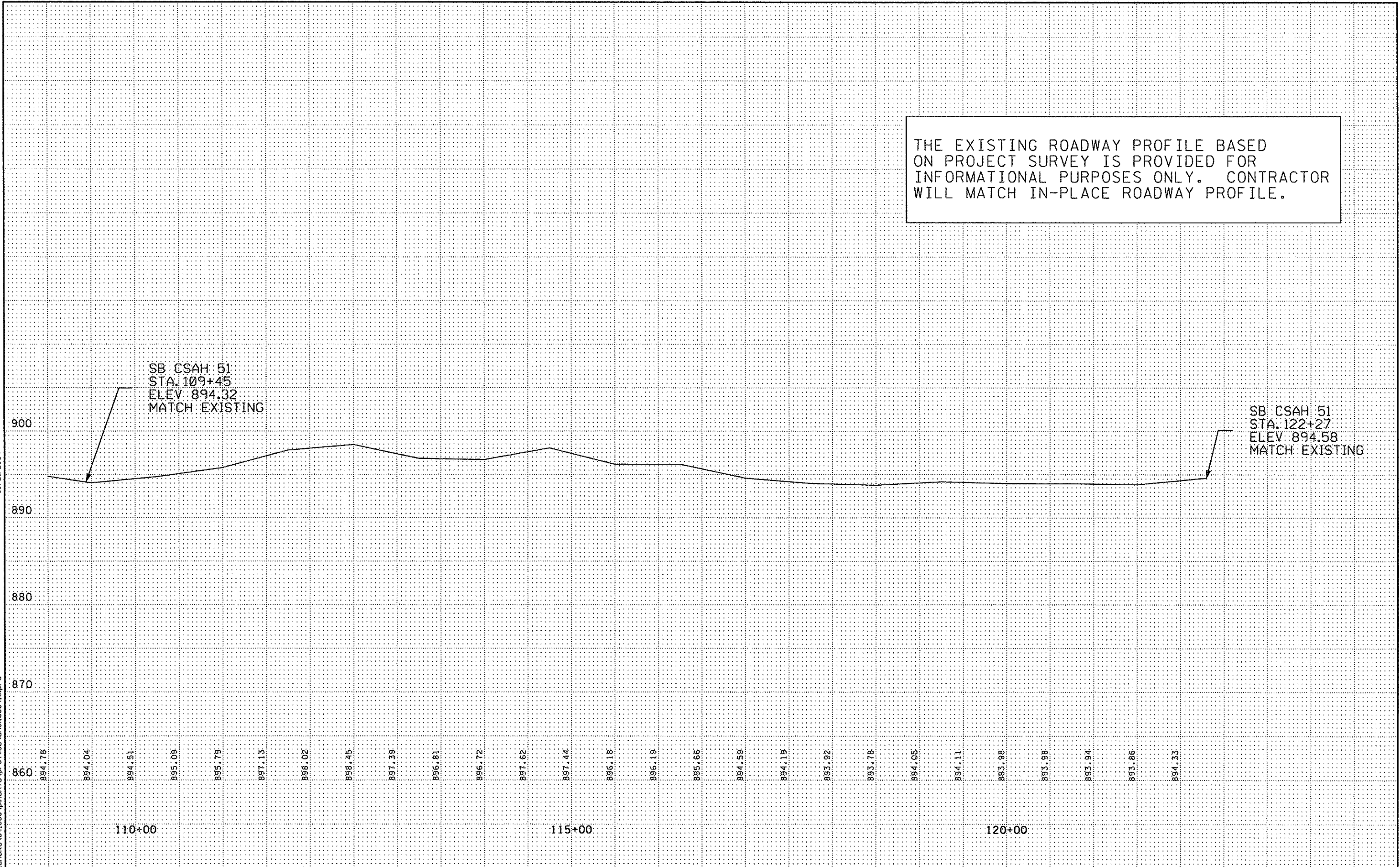
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10/21/2004

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THE EXISTING ROADWAY PROFILE BASED ON PROJECT SURVEY IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR WILL MATCH IN-PLACE ROADWAY PROFILE.



SB CSAH 51  
STA. 109+45  
ELEV. 894.32  
MATCH EXISTING

SB CSAH 51  
STA. 122+27  
ELEV. 894.58  
MATCH EXISTING

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Licensed Professional Engineer  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



PHONE: (651)490-2000  
 3535 YADONIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**EXISTING SB CSAH 51 PROFILE**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24





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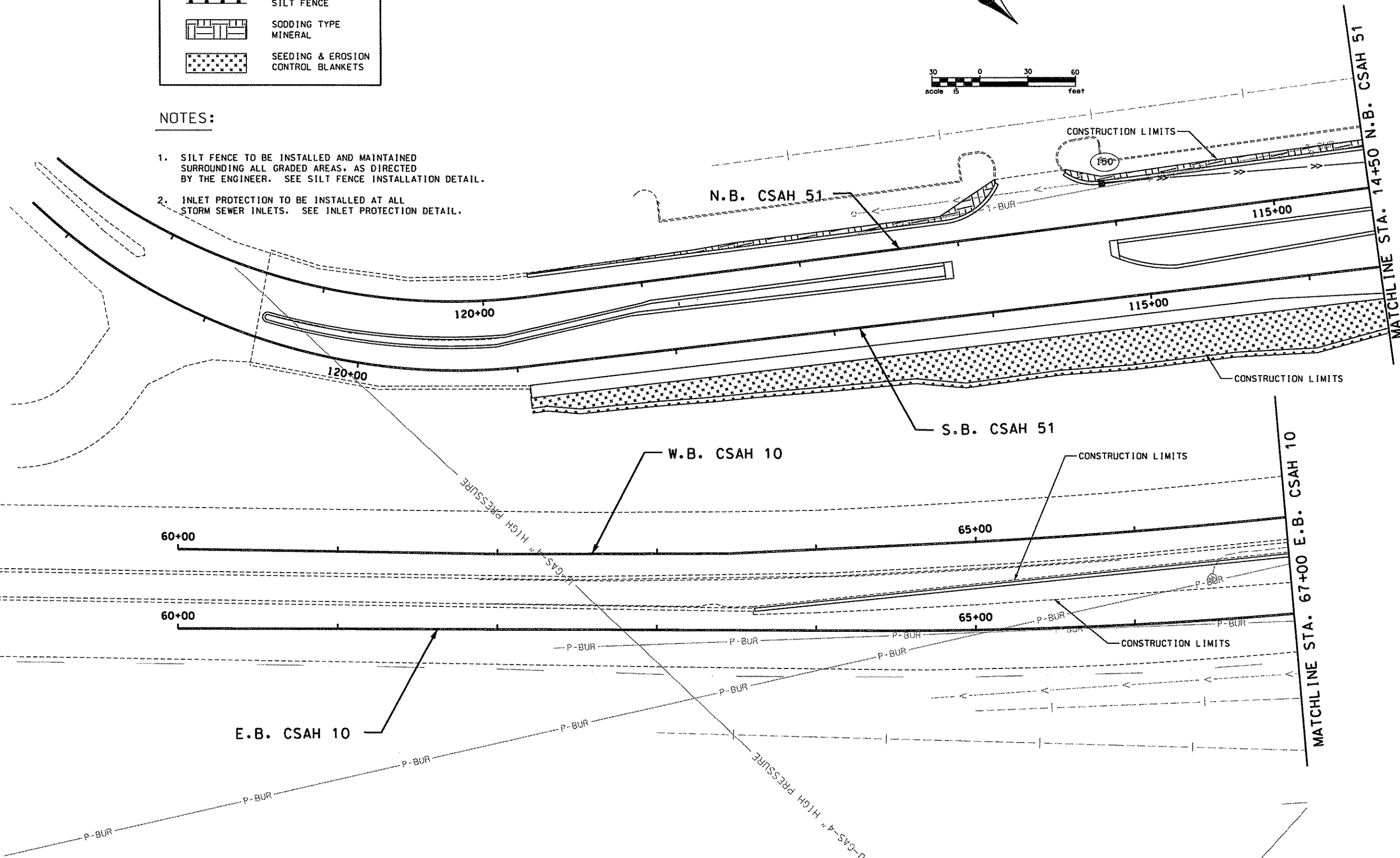
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**LEGEND**

-  DRAINAGE ARROW
-  SILT FENCE
-  SODDING TYPE MINERAL
-  SEEDING & EROSION CONTROL BLANKETS

**NOTES:**

1. SILT FENCE TO BE INSTALLED AND MAINTAINED SURROUNDING ALL GRADED AREAS, AS DIRECTED BY THE ENGINEER. SEE SILT FENCE INSTALLATION DETAIL.
2. INLET PROTECTION TO BE INSTALLED AT ALL STORM SEWER INLETS. SEE INLET PROTECTION DETAIL.



DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Licensed Professional Engineer  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



PHONE: 651490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**DRAINAGE, TURF ESTABLISHMENT  
 AND EROSION CONTROL PLAN**

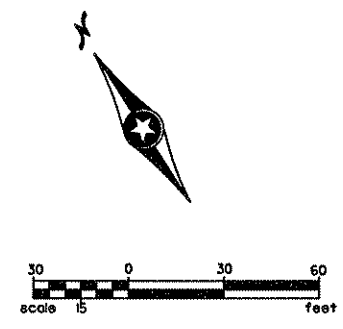
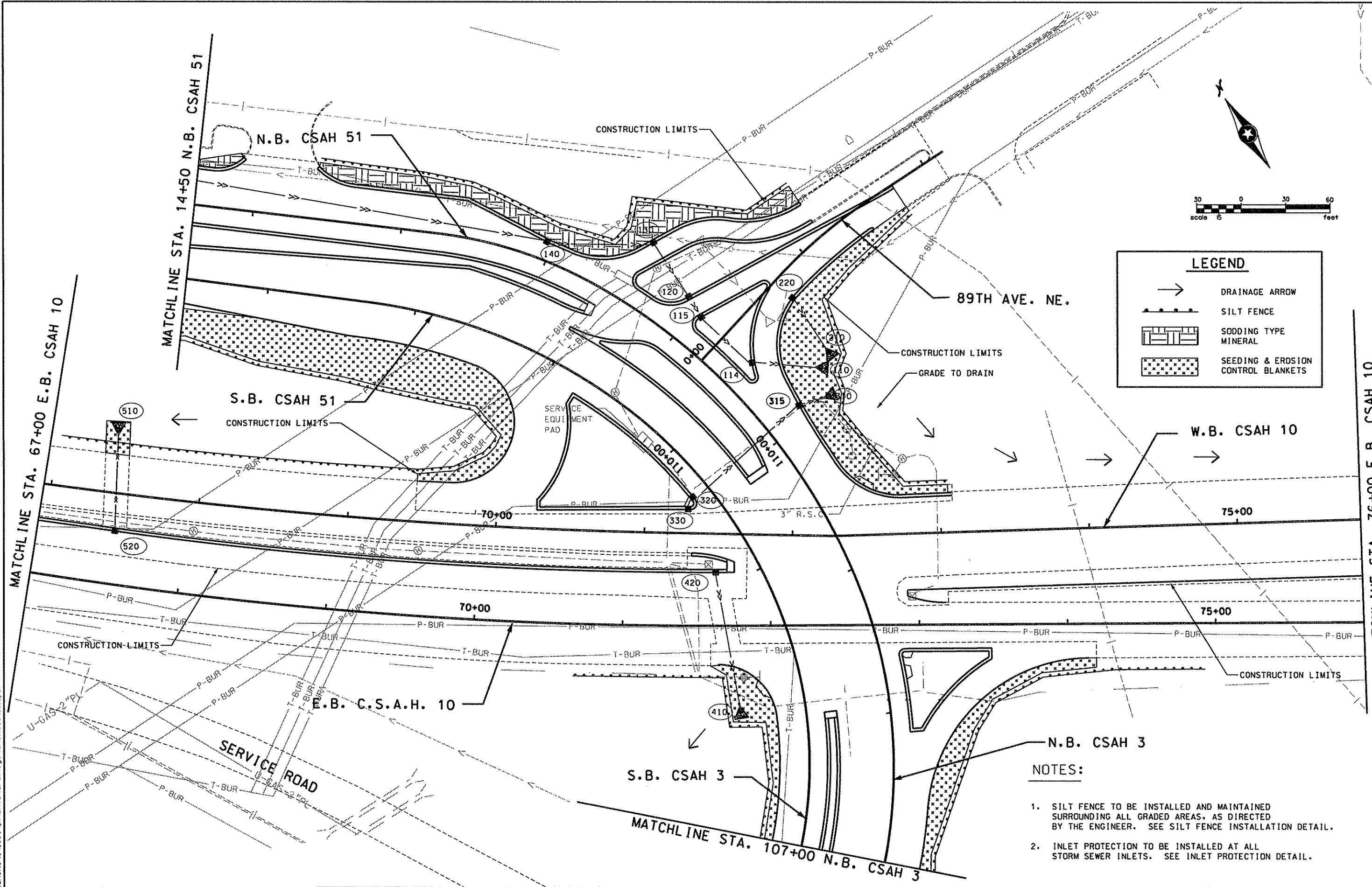
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 STATE PROJECT NO. 106-020-24

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DATE	10/21/2004
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10/21/2004

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**LEGEND**

- DRAINAGE ARROW
- SILT FENCE
- SODDING TYPE MINERAL
- SEEDING & EROSION CONTROL BLANKETS

- NOTES:**
1. SILT FENCE TO BE INSTALLED AND MAINTAINED SURROUNDING ALL GRADED AREAS, AS DIRECTED BY THE ENGINEER. SEE SILT FENCE INSTALLATION DETAIL.
  2. INLET PROTECTION TO BE INSTALLED AT ALL STORM SEWER INLETS. SEE INLET PROTECTION DETAIL.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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 Printed Name: AARON P. MONIZA Date: 10/21/2004

PHONE: 651490-2000  
 5535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**DRAINAGE, TURF ESTABLISHMENT  
 AND EROSION CONTROL PLAN**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	32
ANOKC0410.00	
DATE	10/21/2004
	92




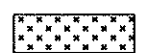


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10/21/2004

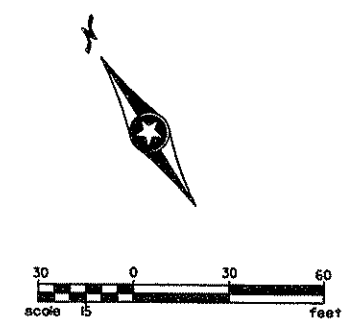
w:\a\anoke\041000\plans\10\drainage\anokcc0410.dpc

**LEGEND**

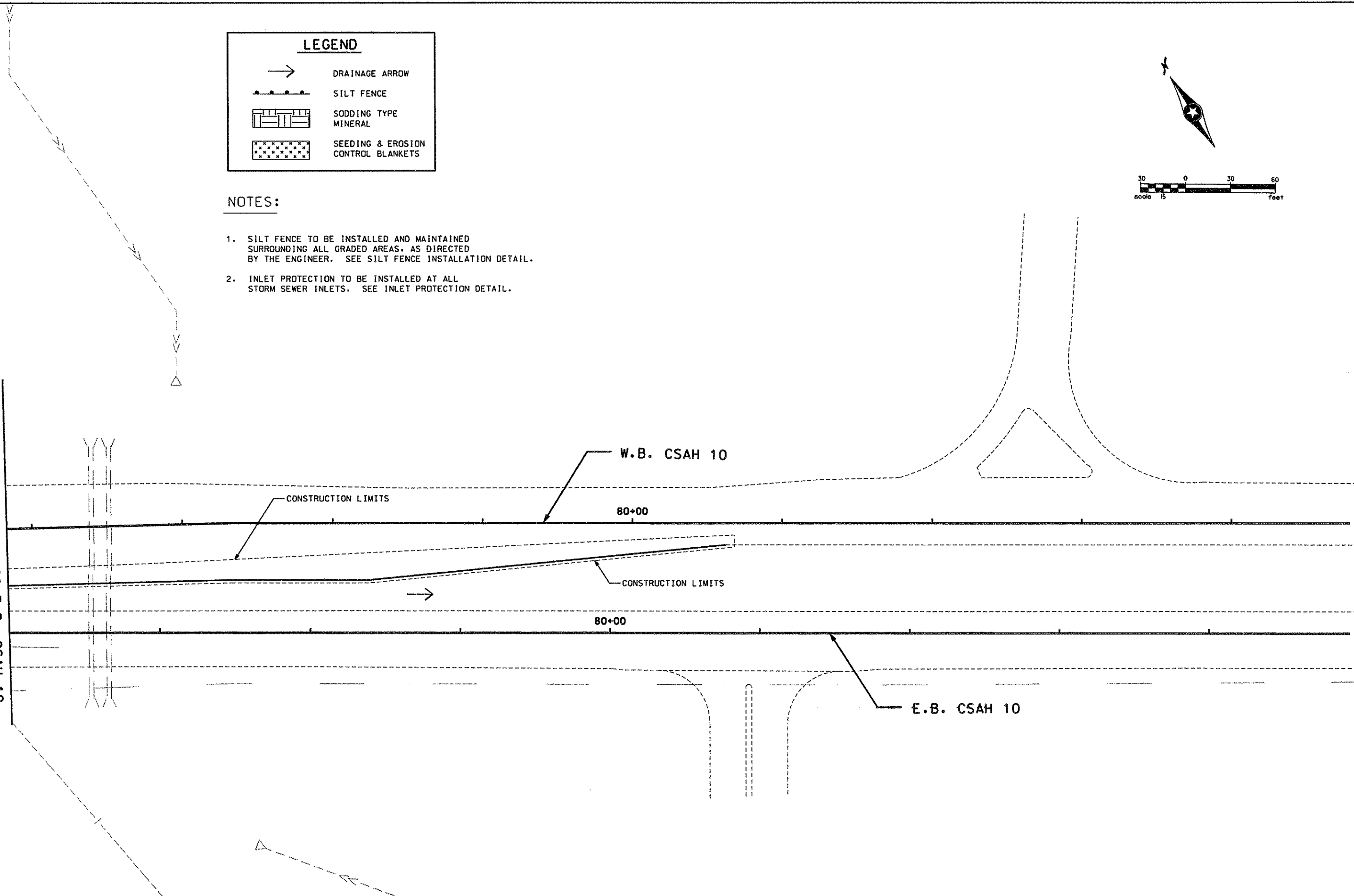
-  DRAINAGE ARROW
-  SILT FENCE
-  SODDING TYPE MINERAL
-  SEEDING & EROSION CONTROL BLANKETS

**NOTES:**

1. SILT FENCE TO BE INSTALLED AND MAINTAINED SURROUNDING ALL GRADED AREAS, AS DIRECTED BY THE ENGINEER. SEE SILT FENCE INSTALLATION DETAIL.
2. INLET PROTECTION TO BE INSTALLED AT ALL STORM SEWER INLETS. SEE INLET PROTECTION DETAIL.




MATCHLINE STA. 76+00 E.B. CSAH 10




DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**DRAINAGE, TURF ESTABLISHMENT  
 AND EROSION CONTROL PLAN**

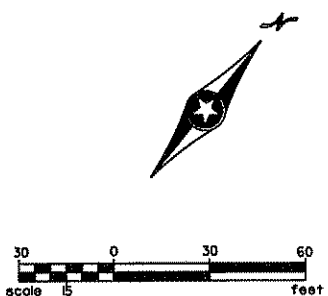
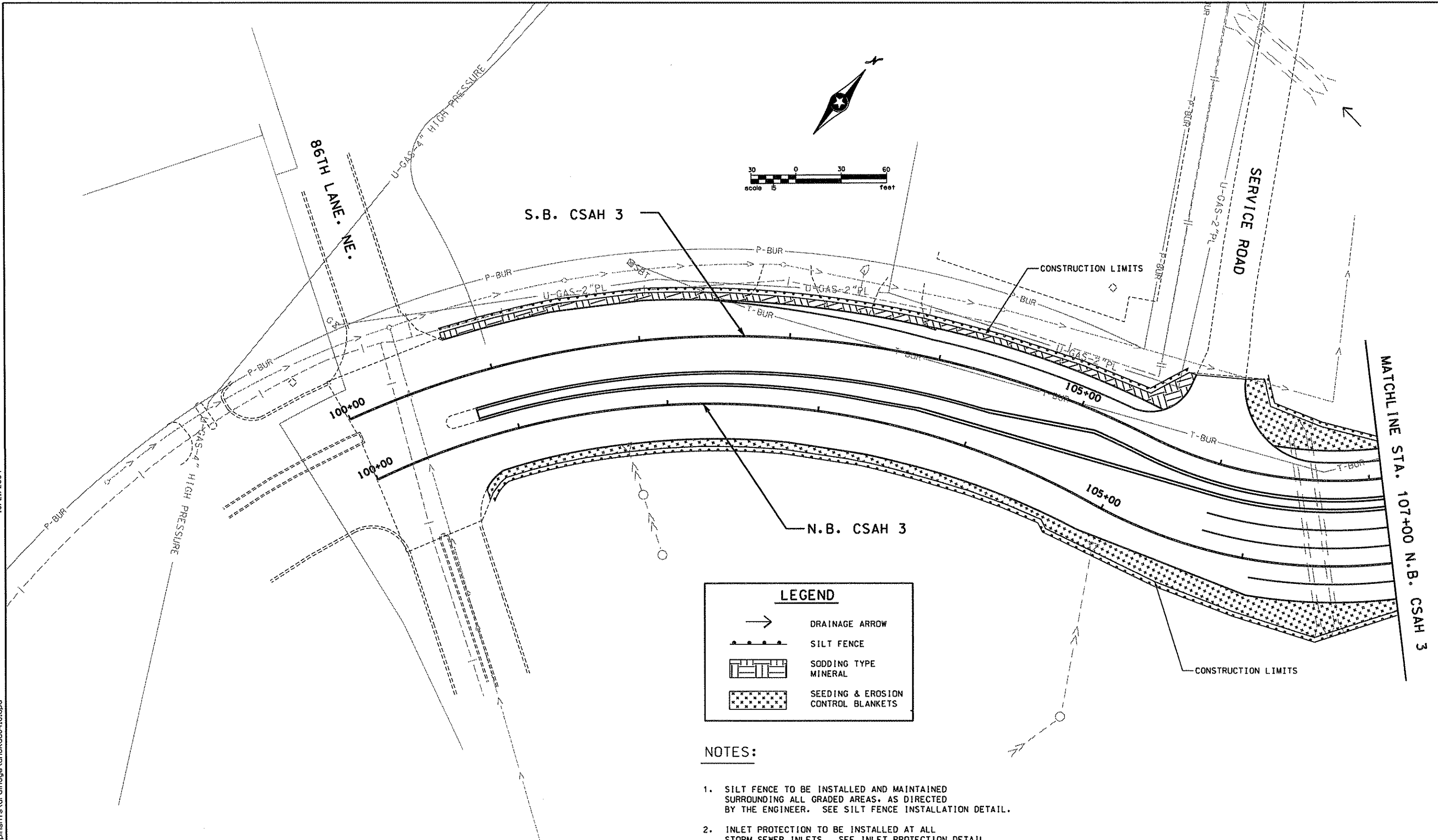
STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	33
ANOKC0410.00	
DATE	10/21/2004
	92

03:07:50 PM

10/21/2004

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LEGEND	
	DRAINAGE ARROW
	SILT FENCE
	SODDING TYPE MINERAL
	SEEDING & EROSION CONTROL BLANKETS

NOTES:

1. SILT FENCE TO BE INSTALLED AND MAINTAINED SURROUNDING ALL GRADED AREAS. AS DIRECTED BY THE ENGINEER. SEE SILT FENCE INSTALLATION DETAIL.
2. INLET PROTECTION TO BE INSTALLED AT ALL STORM SEWER INLETS. SEE INLET PROTECTION DETAIL.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Licensed Professional Engineer  
 Printed Name: AARON P. MONIZA Date: 10/21/2004

PHONE: 16511490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

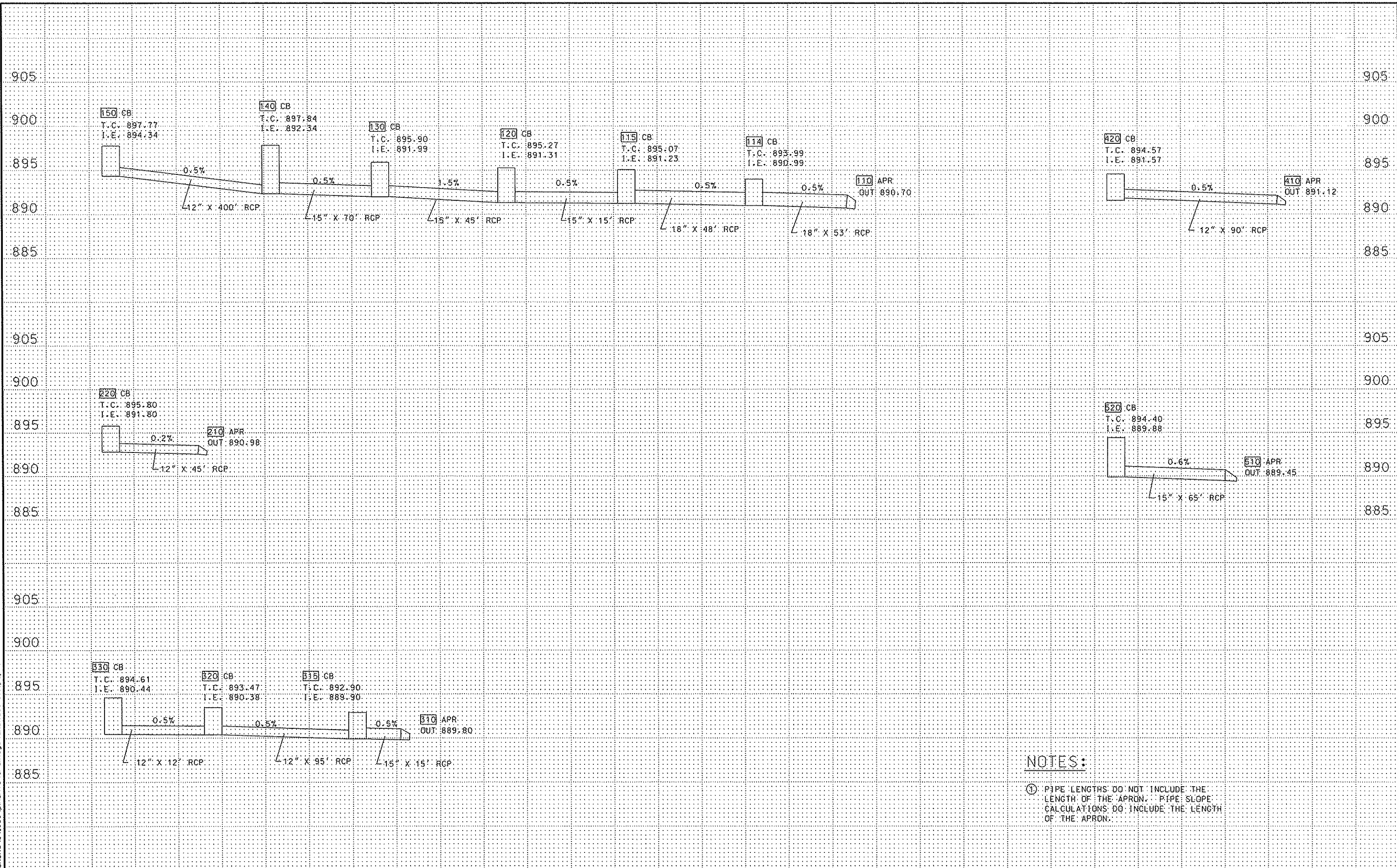
**DRAINAGE, TURF ESTABLISHMENT  
 AND EROSION CONTROL PLAN**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	34
ANOKC0410.00	
DATE	10/21/2004
	92

03/07/51 PM

10/21/2004

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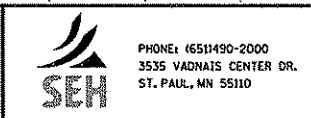
**NOTES:**

① PIPE LENGTHS DO NOT INCLUDE THE LENGTH OF THE APRON. PIPE SLOPE CALCULATIONS DO INCLUDE THE LENGTH OF THE APRON.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 10/21/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

DRAINAGE PROFILES		FILE NO.
STATE PROJECT NO. 02-610-11 STATE PROJECT NO. 106-020-24		ANOKC0410.00
DATE		35
10/21/2004		92

DRAINAGE - STORM SEWERS																	I			
STRUCT. NO.	REF. LINE	LOCATION ② ③		SPEC. 2506 CONSTRUCT DESIGN EACH	PAY HT. ⑥	CASTING ASSEMBLY EACH	INLET OR TOP OF CASTING	INVERT	DRAINS TO			RC PIPE SEWER DESIGN 3006 SPEC. 2503 ① ⑤			SPEC. 2501 RC PIPE APRON ④ EACH	SPEC. 2511 RIPRAP 24" CL. IV CU YD	GEOTEXT. FABRIC CL. IV SQ YD	REMARKS/NOTES	OWNER	
		STATION	OFFSET						STRUCT. NO.	% GRADE	INLET ELEV.	12"RCP CL. IV LIN FT	15"RCP CL. IV LIN FT	18"RCP CL. IV LIN FT						
110	NB 51	110+10.00	55.00 RT				890.70											18" RC APRON	BLAINE	
114	NB 51	110+42.58	17.50' RT	H	2.92	B-9	893.99	890.99	110	0.5	890.70								BLAINE	
115	NB 51	110+94.29	20.00' RT	G	3.76	B-9	895.07	891.23	114	0.5	890.99								BLAINE	
120	NB 51	111+09.00	23.00' RT	G	3.88	B-5	895.27	891.31	115	0.5	891.23		15						BLAINE	
130	NB 51	111+50.92	34.00' RT	G	3.83	B-5	895.90	891.99	120	1.5	891.31		45						BLAINE	
140	NB 51	111+86.69	13.00' RT	G	5.42	B-9	897.84	892.34	130	0.5	891.99		70						BLAINE	
150	NB 51	113+33.88	25.00' RT	G	3.35	B-9	897.77	894.34	140	0.5	892.34	400							ANOKA CO.	
210	89TH	0+71.11	62.00' RT				892.55							1	5.5	15	12" RC APRON	BLAINE		
220	89TH	0+71.11	17.00' RT	H	2.92	B-9	895.80	892.80	210	0.5	892.55	45							BLAINE	
310	NB 51	110+05	42.00' RT				889.80							1	5.8	17	15" RC APRON	ANOKA CO.		
315	NB 51	110+05	27.00' RT	H	2.92	B-9	892.90	889.90	310	0.5	889.80		15						ANOKA CO.	
320	SB 51	109+64.13	12.50' LT	G	3.01	B-9	893.47	890.38	315	0.5	889.90	95							ANOKA CO.	
330	WB10	71+31.03	17.50' LT	G	4.09	B-9	894.61	890.44	320	0.5	890.38	12							ANOKA CO.	
410	EB 10	071+75.00	62.00' LT				891.12							1	5.5	15	12" RC APRON	ANOKA CO.		
420	EB 10	071+70.00	35.00' LT	H	2.92	B-9	894.57	891.57	410	0.5	891.12	90							ANOKA CO.	
510	WB10	067+40.00	48.00' LT				889.45							1	5.8	17	15" RC APRON	ANOKA CO.		
520	EB 10	067+60.00	37.00' LT	G	4.44	B-9	894.40	889.88	510	0.6	889.45		65							
TOTAL											642.00	210.00	101.00	5.00	30.40	84.00				

NOTES:

- ① PIPE LENGTHS DO NOT INCLUDE THE LENGTH OF THE APRON. PIPE SLOPE CALCULATIONS DO INCLUDE THE LENGTH OF THE APRON.
- ② FOR APRONS LOCATION IS SPECIFIED TO THE END OF THE APRONS UNLESS OTHERWISE NOTED.
- ③ FOR CB STRUCTURES, LOCATION IS SPECIFIED TO THE CENTER OF THE CASTINGS.
- ④ STORM SEWER PIPE SHALL BE TIED TOGETHER AT THREE CONSECUTIVE JOINTS UPSTREAM OR DOWNSTREAM OF ANY APRON (INCIDENTAL TO PIPE).
- ⑤ CLASS B BEDDING (SPEC. 2451) WILL BE REQUIRED FOR ALL PIPE AND SHALL BE INCIDENTAL TO THE PIPE.
- ⑥ STRUCTURES DEEPER THAN 4 FEET REQUIRE STEPS.

DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Aaron P. Moniza* Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 12/28/2004



PHONE (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**STORM SEWER TABULATION**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.  
 ANOKCO410.00  
 DATE  
 12/28/2004

36  
 92

SIGN PANELS TYPE C

Table with columns: SIGN NO., QUANTITY, POSTS (NO. & TYPE, KNEE BRACES QUANT., LENGTH (FT)), MTG. HT. (FT), PANEL (SIZE (IN.), AREA (SQ FT), TOTAL AREA (SQ FT)), CODE NO., PANEL LEGEND. Includes rows C-1 through C-43 and a TOTAL row.

SIGN PANELS TYPE D

Table with columns: SIGN NO., QUANTITY, POSTS (NO. & TYPE, KNEE BRACES QUANT., LENGTH (FT), SPACING (IN)), MTG. HT. (FT), PANEL (SIZE (IN.), AREA (SQ FT), TOTAL AREA (SQ FT)), PANEL LEGEND. Includes row D-4 and a TOTAL row.

SALVAGE & INSTALL SIGN TYPE C

Table with columns: SIGN NO., TOTAL QUANTITY, POSTS (NO. & TYPE, KNEE BRACES QUANT., LENGTH (FT)), MOUNTING HEIGHT (FT), PANEL SIZE (IN.), PANEL LEGEND. Includes rows C-100, C-101, and a TOTAL row.

SALVAGE & INSTALL SIGN TYPE SPECIAL (STREET NAME SIGNS)

Table with columns: SIGN NO., QUANTITY, POSTS, PANEL LEGEND. Includes rows S-100, S-101, and a TOTAL row.

REMOVE SIGN TYPE C

Table with columns: TOTAL QUANTITY, 86.

REMOVE DELINEATORS & MARKERS

Table with columns: TYPE, QUANTITY, LOCATION. Includes rows X4-2, CYL DEL, and a TOTAL row.

MARKERS

Table with columns: TYPE, QUANTITY, LOCATION. Includes rows X4-2, X4-4L, X4-4R, and a TOTAL row.

INSTALL DELINEATORS (6)

Table with columns: TYPE, QUANTITY, LOCATION. Includes rows CYL DEL, and a TOTAL row.

GENERAL NOTES:

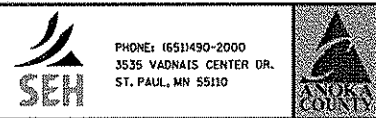
- 1. Post lengths are approximate and include embedment, but do not include additional length required for splice.
2. See Mn/DOT Standard Signs Manual for punching code and detailed drawings of Type C Signs.
3. See sheets 48 to 49 for structural details.
4. See sheet 47 for Delineator & Marker placement.

SPECIFIC NOTES:

- (1) Mounting height is minimum. See sheet 49 for typical mounting.
(2) Mount in concrete. The Anoka County Highway Department will stake signs to be mounted in concrete & install post base as concrete is poured.
(3) Mount back to back.
(4) Mount on right post of C-30.
(5) Contractor shall install County-furnished delineators.
(6) See standard signs manual for Hazard Marker (X4-2).
(7) Yellow on non-reflectorized yellow.
(8) Mount on 3 lb/ft post.
(9) 12" x 36".
(10) See Standard Signs Manual for Clearance Marker (X4-4).

DESIGN TEAM table with columns: NO., BY, DATE, REVISIONS. Includes rows for DRAWN BY, DESIGNER, CHECKED BY.

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.
Certified By: [Signature] Lic. No. 42607
Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004



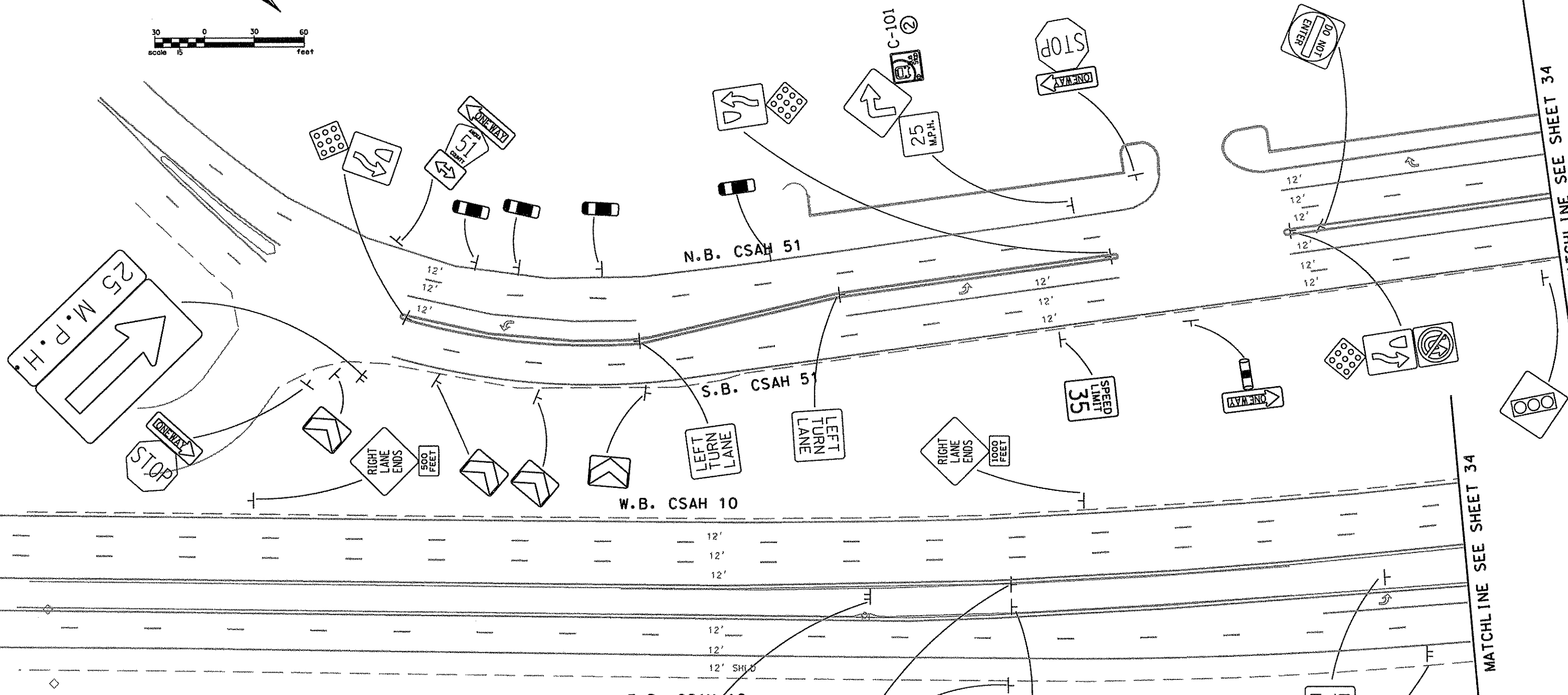
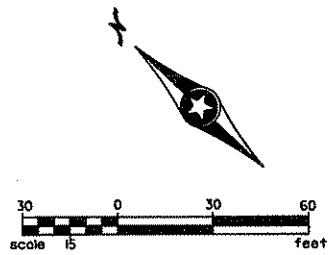
ANOKA COUNTY, MINNESOTA
INTERSECTION IMPROVEMENTS:
CSAH 10 @ CSAH 51/CSAH 3

SIGNING TABULATIONS table with columns: FILE NO., ANOKC0410.00, DATE, 10/22/2004, 37, 92.

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10/22/2004

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**SIGNING LEGEND**

- T TYPE C SIGN INSTALLATION
- F TYPE D SIGN INSTALLATION
- ② SALVAGE
- ③ REMAIN IN PLACE

ALL EXISTING SIGNS ARE TO BE REMOVED UNLESS OTHERWISE NOTED.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Michael J. Martinez* Lic. No. 42807  
 Licensed Professional Engineer  
 Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

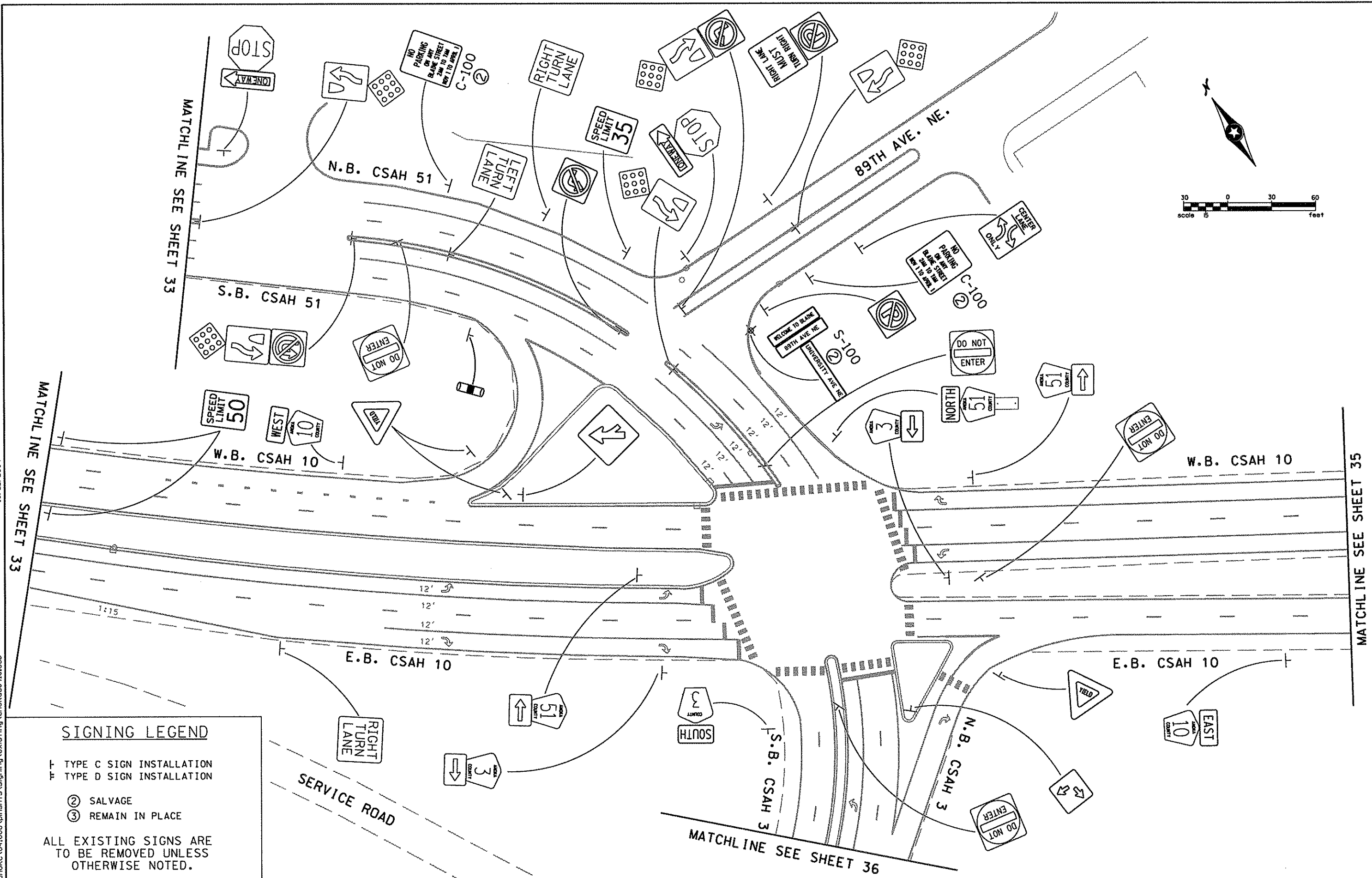
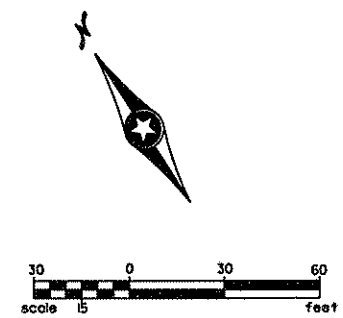
**EXISTING SIGN AND PAVEMENT MARKING PLAN**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	ANOKC0410.00	38
DATE	10/22/2004	92

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10/22/2004

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### SIGNING LEGEND

- ⊢ TYPE C SIGN INSTALLATION
- ⊢ TYPE D SIGN INSTALLATION

- ② SALVAGE
- ③ REMAIN IN PLACE

ALL EXISTING SIGNS ARE TO BE REMOVED UNLESS OTHERWISE NOTED.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Michael J. Martinez* Lic. No. 42807  
 Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004

SEH  
 PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

EXISTING SIGN AND PAVEMENT MARKING PLAN		FILE NO.
STATE PROJECT NO. 02-610-11		ANOKC0410.00
STATE PROJECT NO. 106-020-24		DATE
		10/22/2004

MATCHLINE SEE SHEET 35

MATCHLINE SEE SHEET 36

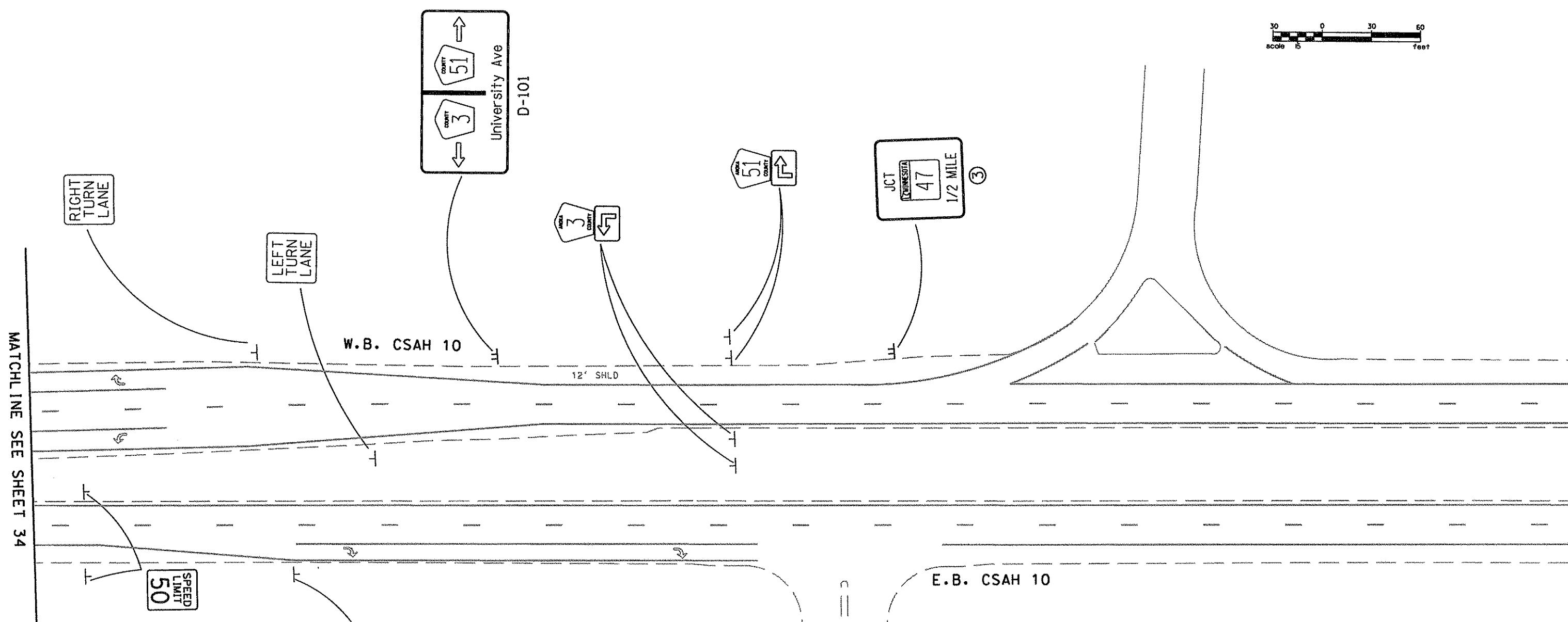
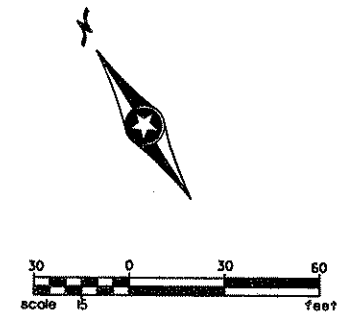
MATCHLINE SEE SHEET 33

MATCHLINE SEE SHEET 33

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10/22/2004

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MATCHLINE SEE SHEET 34

### SIGNING LEGEND

- F TYPE C SIGN INSTALLATION
- F TYPE D SIGN INSTALLATION
- ② SALVAGE
- ③ REMAIN IN PLACE

ALL EXISTING SIGNS ARE TO BE REMOVED UNLESS OTHERWISE NOTED.

③ RIGHT TURN LANE

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Michael J. Martine* Lic. No. 42807  
 Printed Name: MICHAEL J. MARTINE Date: 10/22/2004

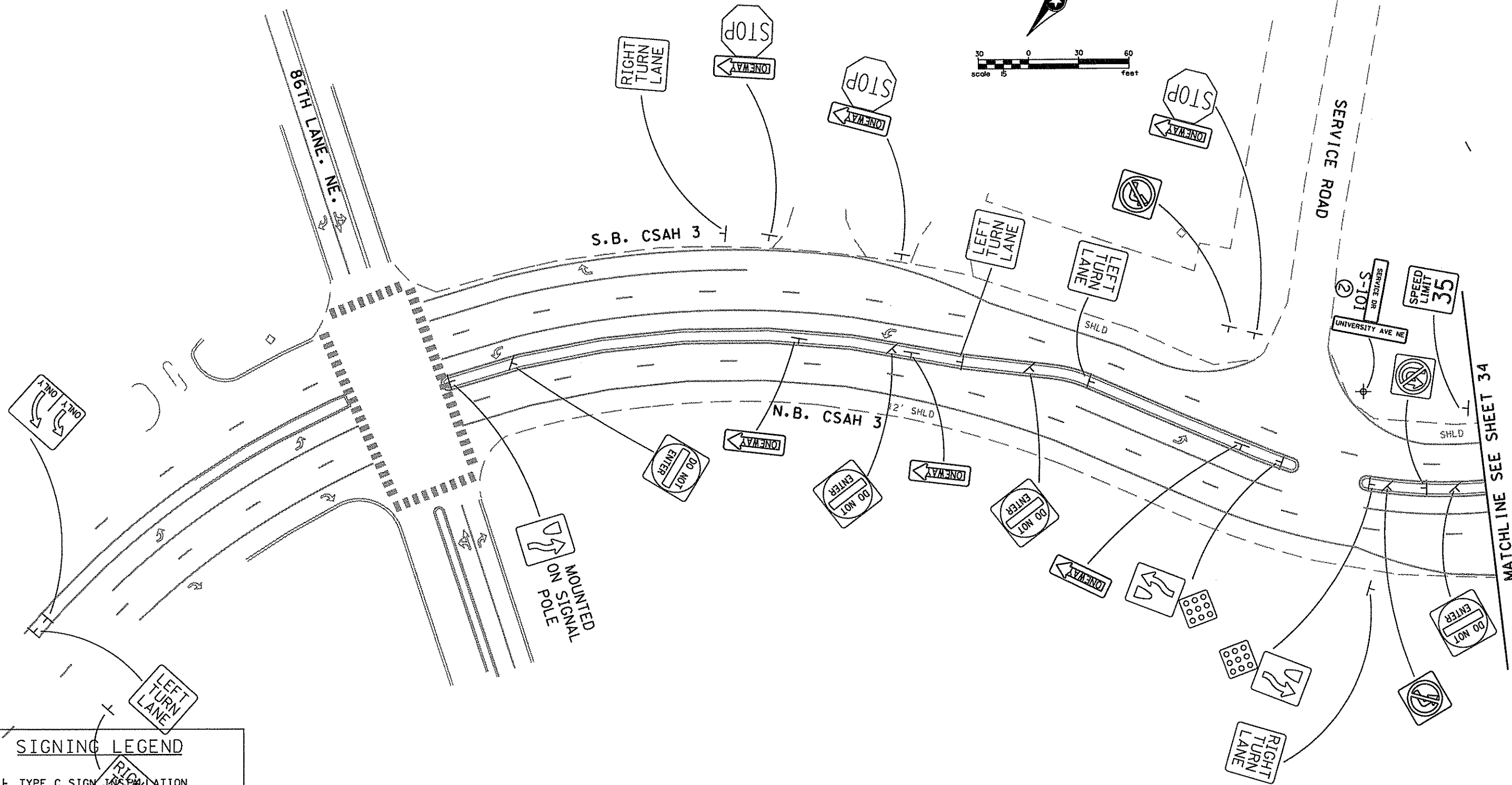
PHONE: 651490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA

**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

EXISTING SIGN AND PAVEMENT MARKING PLAN		FILE NO.
STATE PROJECT NO. 02-610-11		40
STATE PROJECT NO. 106-020-24		92
DATE		10/22/2004





### SIGNING LEGEND

- F TYPE C SIGN INSTALLATION
- F TYPE D SIGN INSTALLATION
- ② SALVAGE
- ③ REMAIN IN PLACE

ALL EXISTING SIGNS ARE TO BE REMOVED UNLESS OTHERWISE NOTED.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Michael J. Martinez* Lic. No. 42807  
 Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004



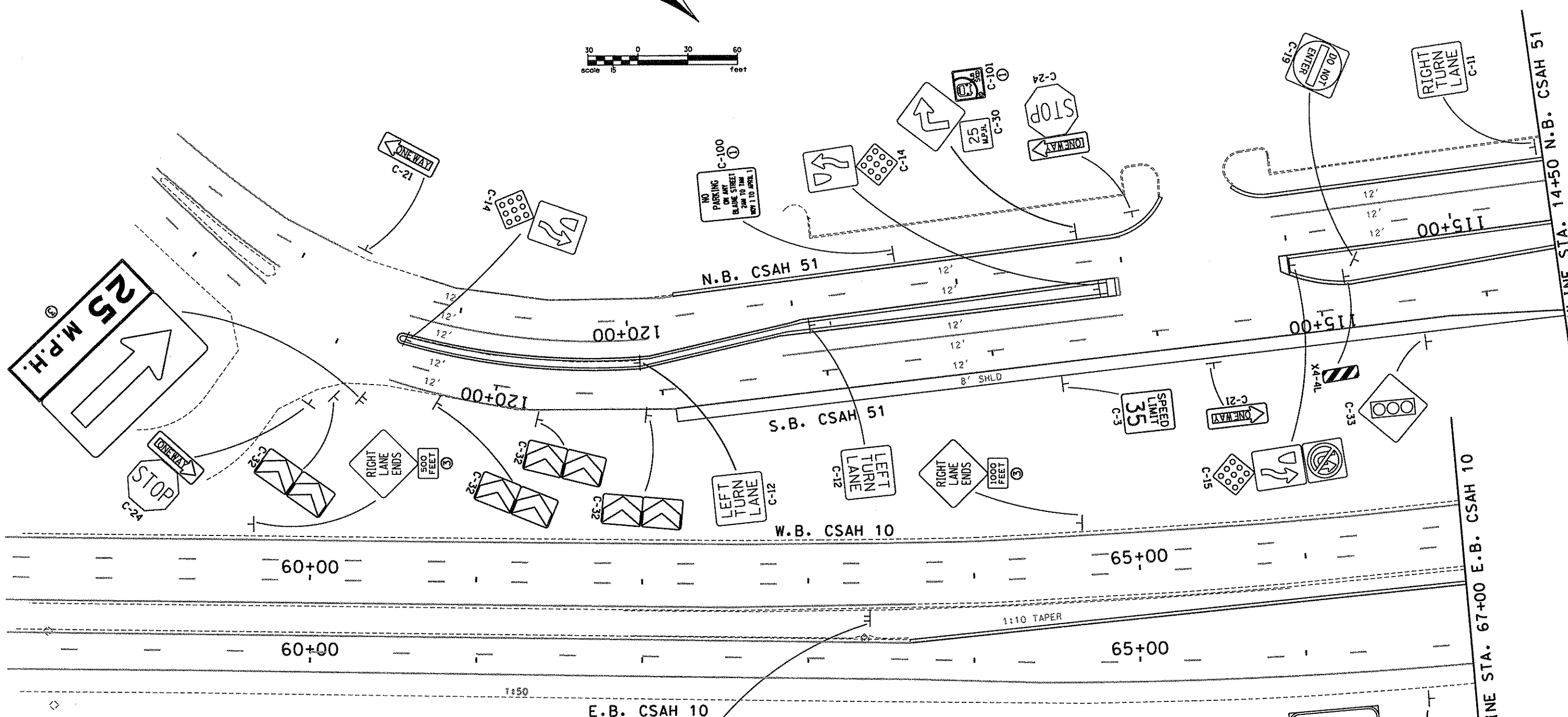
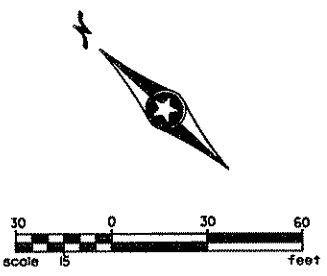
PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**EXISTING SIGN AND  
 PAVEMENT MARKING PLAN**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	41
ANOKC0410.00	
DATE	10/22/2004
	92

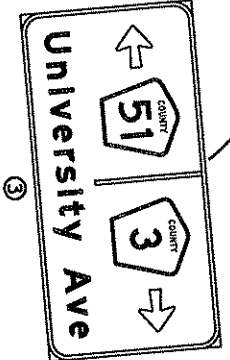
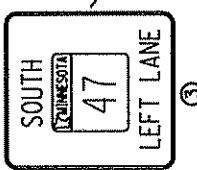


**SIGNING LEGEND**

┆ TYPE C SIGN INSTALLATION  
 ┆ TYPE D SIGN INSTALLATION

① INSTALL  
 ③ REMAIN IN PLACE

ALL SIGNS ARE TO BE FURNISHED & INTALLED UNLESS OTHERWISE NOTED.



DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Michael J. Martinez* Lic. No. 42807  
 Licensed Professional Engineer  
 Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004

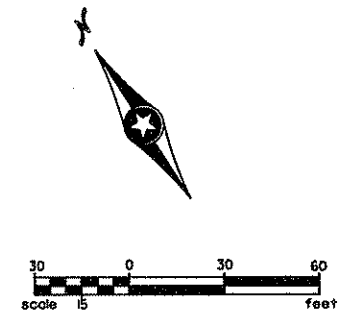
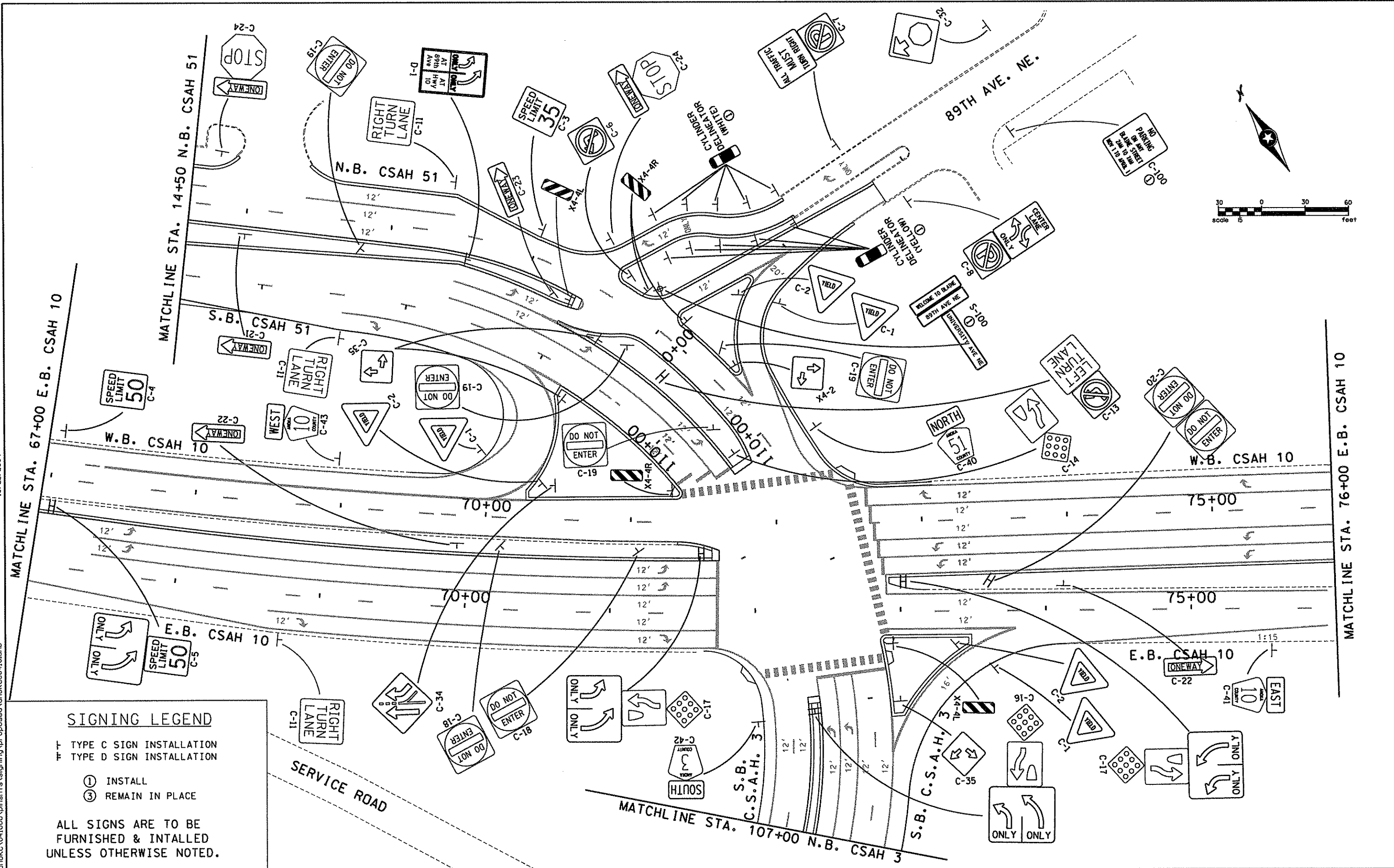
PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**SIGNING PLAN**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **42**  
 ANOKCO410.00  
 DATE 10/22/2004  
**92**



**SIGNING LEGEND**

T TYPE C SIGN INSTALLATION  
 F TYPE D SIGN INSTALLATION

① INSTALL  
 ③ REMAIN IN PLACE

ALL SIGNS ARE TO BE FURNISHED & INTALLED UNLESS OTHERWISE NOTED.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

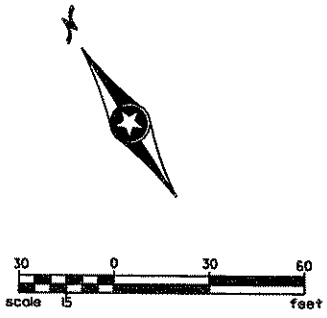
Certified By: *Michael J. Martinez* Lic. No. 42807  
 Licensed Professional Engineer  
 Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004



ANOKA COUNTY, MINNESOTA

**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

SIGNING PLAN		FILE NO.
STATE PROJECT NO. 02-610-11	STATE PROJECT NO. 106-020-24	ANOKC0410.00
DATE		43
10/22/2004		92



MATCHLINE STA. 76+00 E.B. C.S.A.H. 10

RIGHT TURN LANE C-11

University Ave

JCT  
 MINNESOTA  
 47  
 1/2 MILE

W.B. CSAH 10

80+00

80+00

E.B. CSAH 10

12'  
12'  
12'  
12'

C-9

C-4

C-3

### SIGNING LEGEND

- T TYPE C SIGN INSTALLATION
- F TYPE D SIGN INSTALLATION

- ① INSTALL
- ③ REMAIN IN PLACE

ALL SIGNS ARE TO BE FURNISHED & INTALLED UNLESS OTHERWISE NOTED.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Michael J. Martine* Lic. No. 42807  
 Printed Name: MICHAEL J. MARTINE Date: 10/22/2004

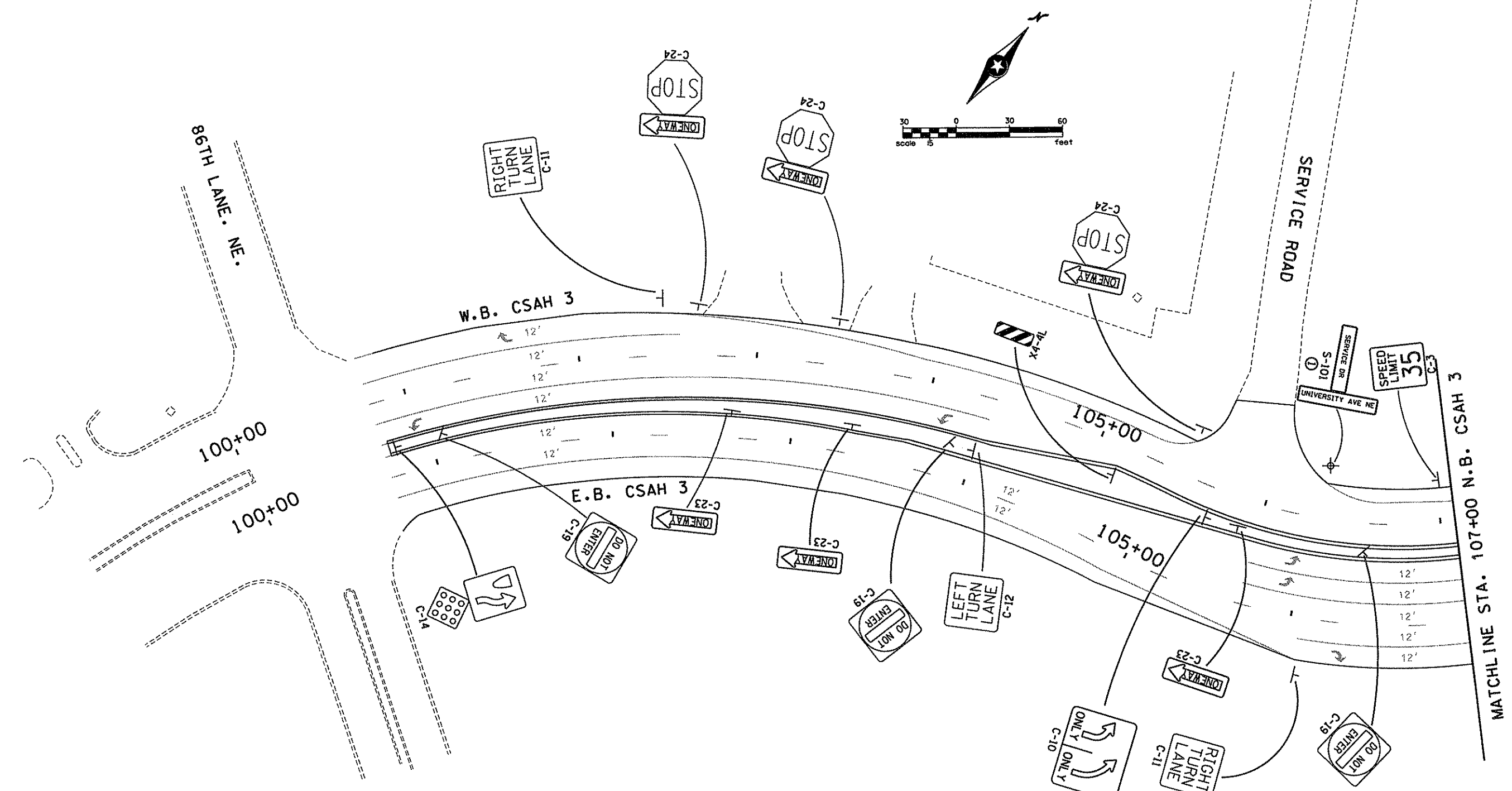


ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**SIGNING PLAN**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **44**  
 ANOKC0410.0D  
 DATE 10/22/2004  
**92**



### SIGNING LEGEND

⊢ TYPE C SIGN INSTALLATION  
 ⊢ TYPE D SIGN INSTALLATION

- ① INSTALL
- ③ REMAIN IN PLACE

ALL SIGNS ARE TO BE FURNISHED & INTALLED UNLESS OTHERWISE NOTED.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Michael J. Martinez* Lic. No. 42807  
 Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004

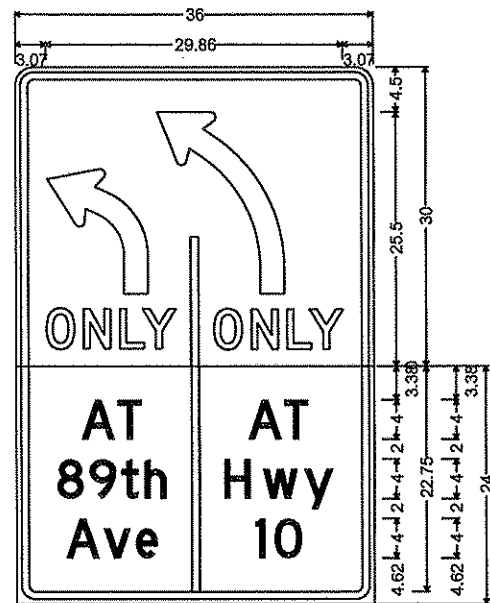
**SEH**  
 PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**SIGNING PLAN**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	45
ANOKCO410.00	
DATE	10/22/2004
	92



← 6.61 ← 6.02 ← 4.99 ← 4.99 ← 6.02 ← 6.61 →  
 0.76  
 | 4.12 | 11 | 5.76 | 11 | 4.12 |  
 ← 5.02 ← 9.2 ← 9.8 ← 4.72 ← 7.26 →  
 D-1;  
 1.88" Radius, 0.75" Border, 0.50" Indent, Black on White;  
 1.88" Radius, 0.75" Border, 0.50" Indent, White on Green;  
 [AT] D; [89th] D specified length; [Ave] D;  
 [AT] D; [Hwy] D specified length; [10] D;

- NOTES:
1. Corners of the sign panel extending beyond the border shall not be trimmed.
  2. See Standard Signs Manual for arrow details.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

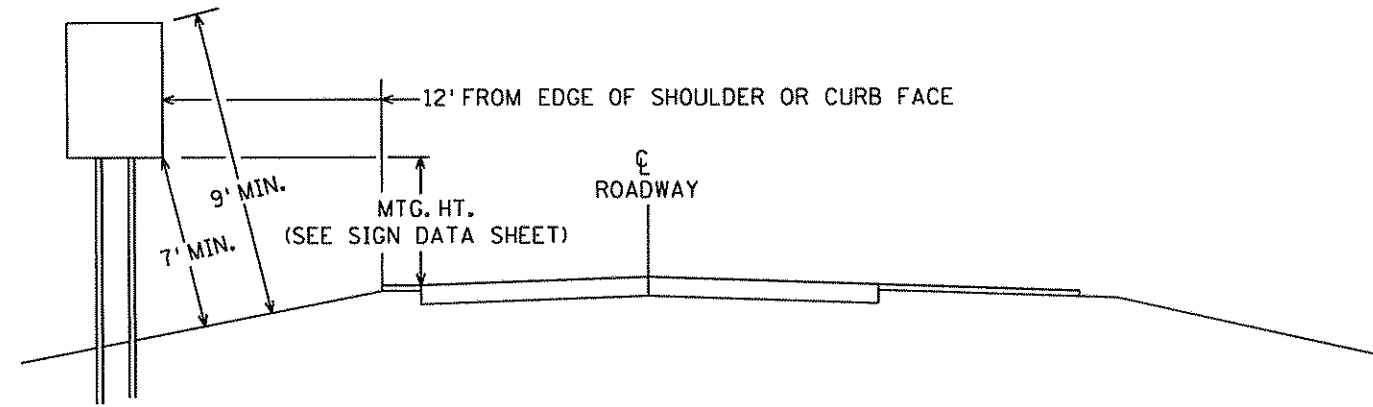


ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**TYPE D SIGN PANEL DETAILS**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	ANOKC0410.00	46
DATE	10/22/2004	92

### ROADSIDE PLACEMENT



ROUTE MARKER, REGULATORY & WARNING SIGNS - TYPE C  
 MINOR GUIDE SIGNS - TYPE D

#### NOTES:

1. IF A SECONDARY SIGN IS MOUNTED BELOW A MAJOR SIGN, THE MAJOR SIGN SHALL BE AT LEAST 8' ABOVE THE PAVEMENT EDGE AND THE SECONDARY SIGN AT LEAST 5'.
2. ALL ROUTE MARKERS, WARNING AND REGULATORY SIGNS SHALL BE AT LEAST 6' ABOVE PAVEMENT EDGE EXCEPT WHERE HEAVY PEDESTRIAN TRAFFIC IS ENCOUNTERED THEY SHALL BE 7'.
3. SIGN FACES SHALL BE VERTICAL.
4. OVERHEAD SIGNS SHALL BE POSITIONED AT RIGHT ANGLES TO THE THRU ROADWAY UNLESS OTHERWISE NOTED.
5. TO AVOID SPECULAR GLARE,  $\angle A$  SHALL BE APPROXIMATELY  $93^\circ$  FOR SIGNS LOCATED LESS THAN 30' FROM THE EDGE OF PAVEMENT AND APPROXIMATELY  $92^\circ$  FOR SIGNS LOCATED 30' OR MORE FROM EDGE OF PAVEMENT. THIS APPLIES TO SIGNS TYPE A, C, & D AND INCLUDES SIGNS IN THE GORE.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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 Certified By: *Michael J. Martinez* Lic. No. 42807  
 Licensed Professional Engineer  
 Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004



PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

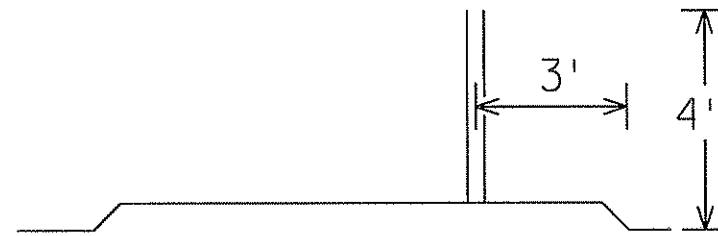
SIGN PLACEMENT	
STATE PROJECT NO. 02-610-11	DATE
STATE PROJECT NO. 106-020-24	10/22/2004

FILE NO. ANOKC0410.00	47
DATE 10/22/2004	92

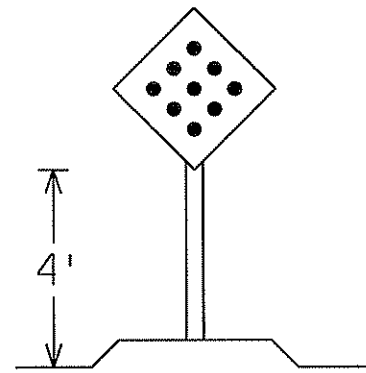
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10/22/2004

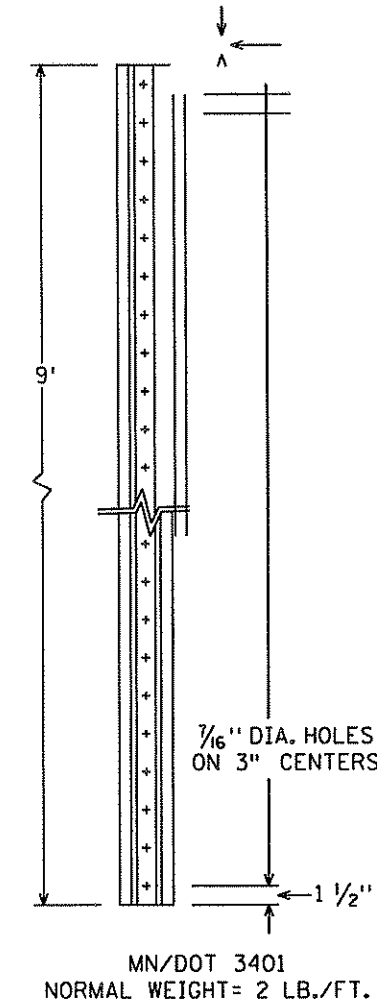
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RAISED ISLAND  
CLEARANCE MARKER  
(X4-4)



RAISED ISLAND  
HAZARD MARKER  
(X4-2)



DELINEATOR POST

DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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 Certified By: *Michael J. Martinez* Lic. No. 42807  
 Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004



PHONE: 651490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

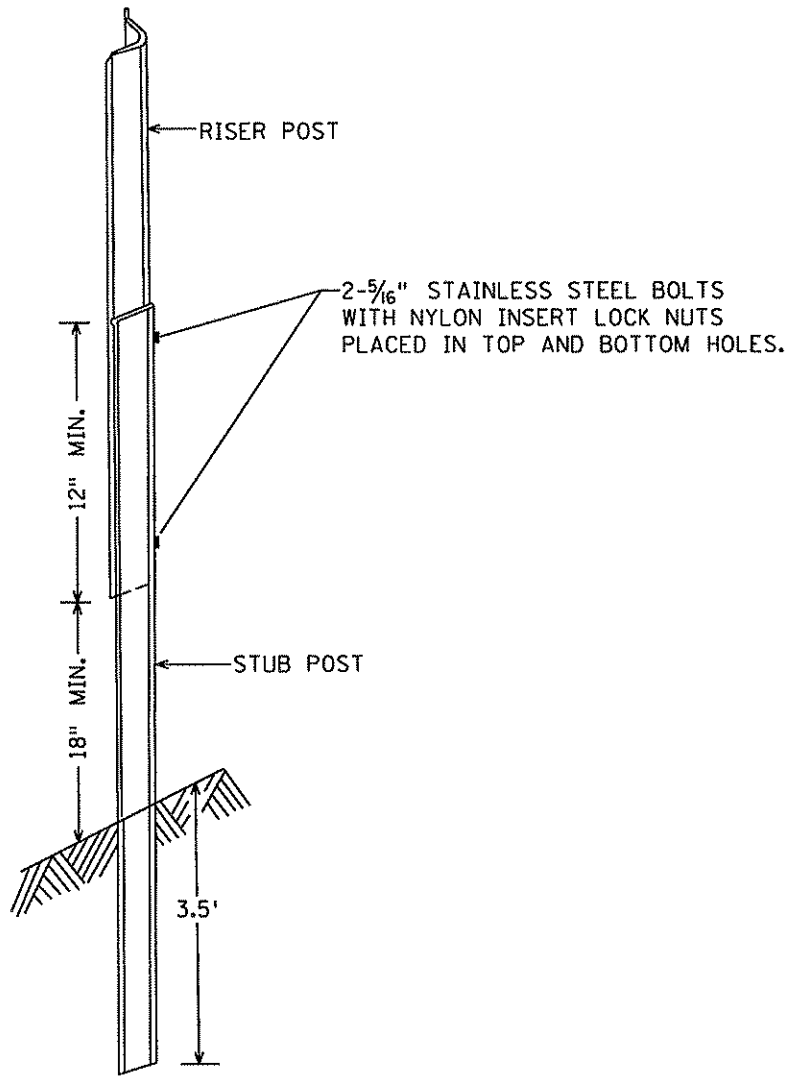
**DELINEATORS & MARKERS**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

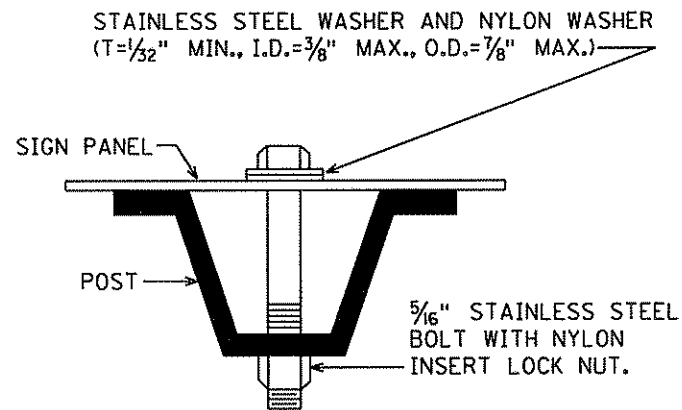
FILE NO. ANOKCO410.00	48
DATE 10/22/2004	92



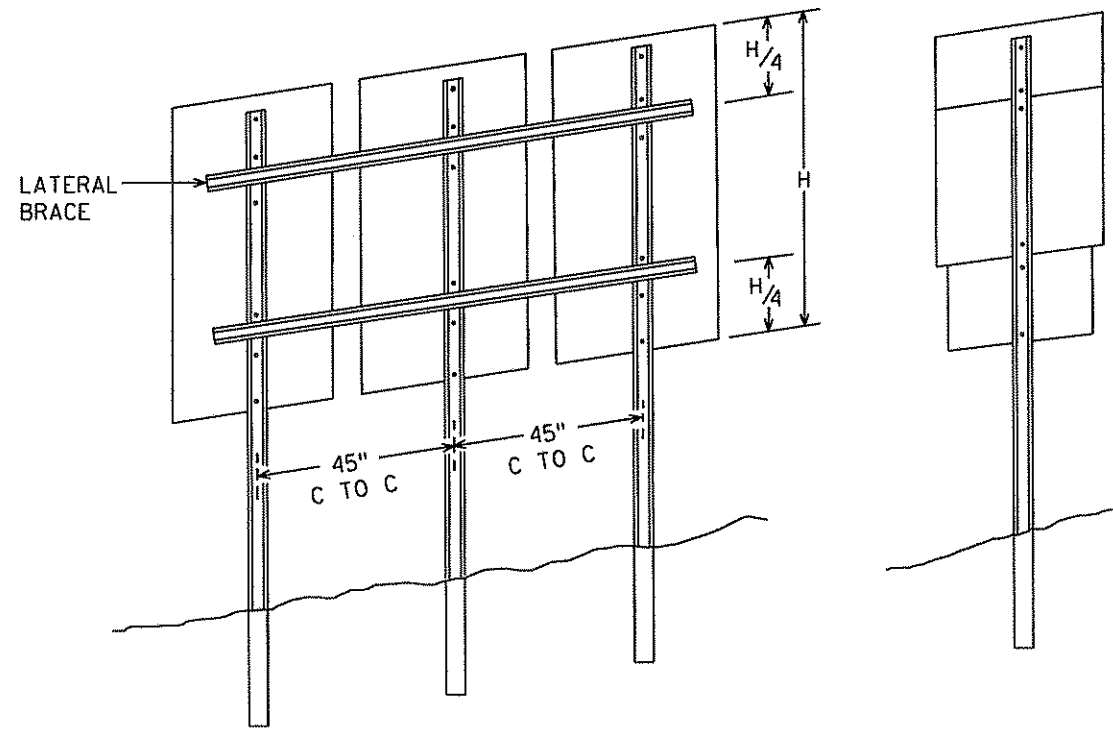
TYPE "C" & "D" POST



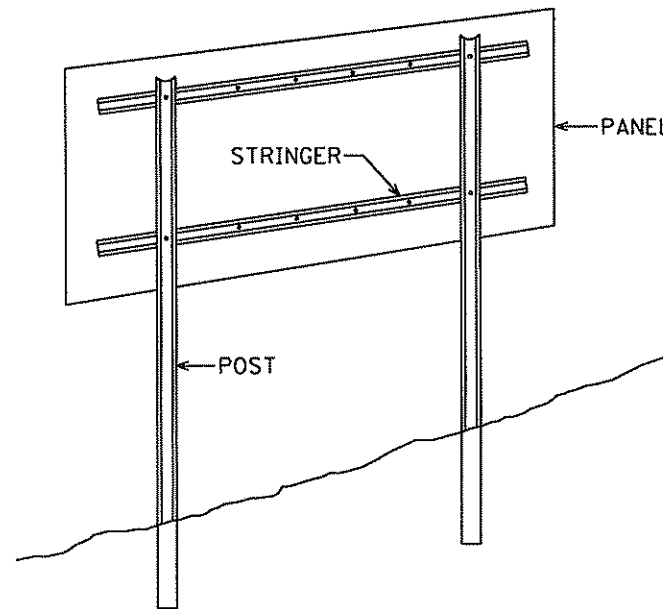
"U POST" SPLICE



"U POST" MOUNTING  
TYPE "C" SIGNS



TYPICAL TYPE "C" INSTALLATIONS

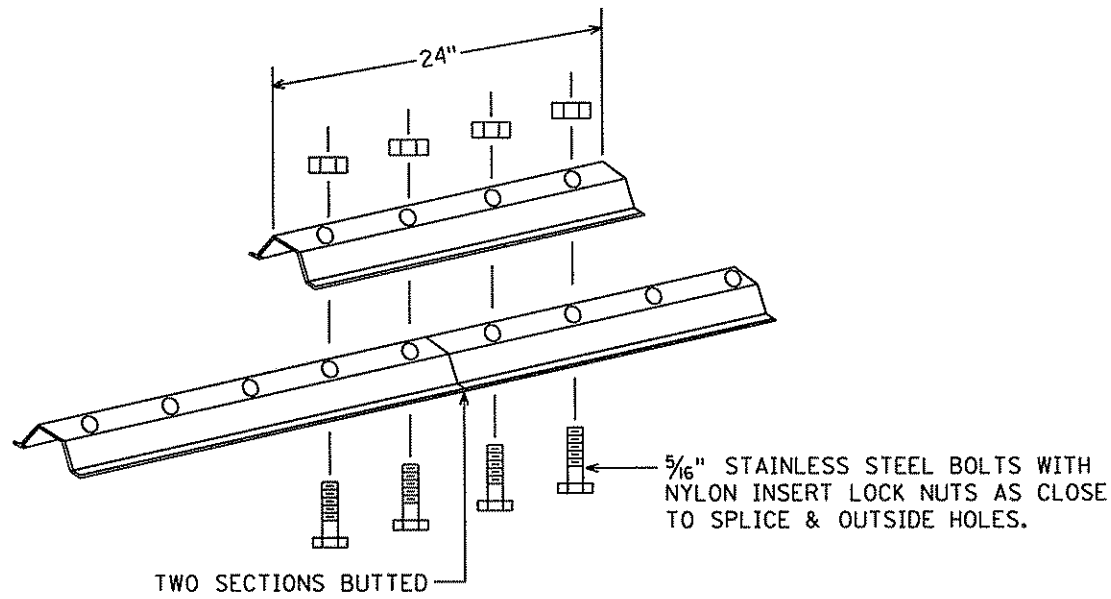


TYPICAL TYPE "D" INSTALLATION

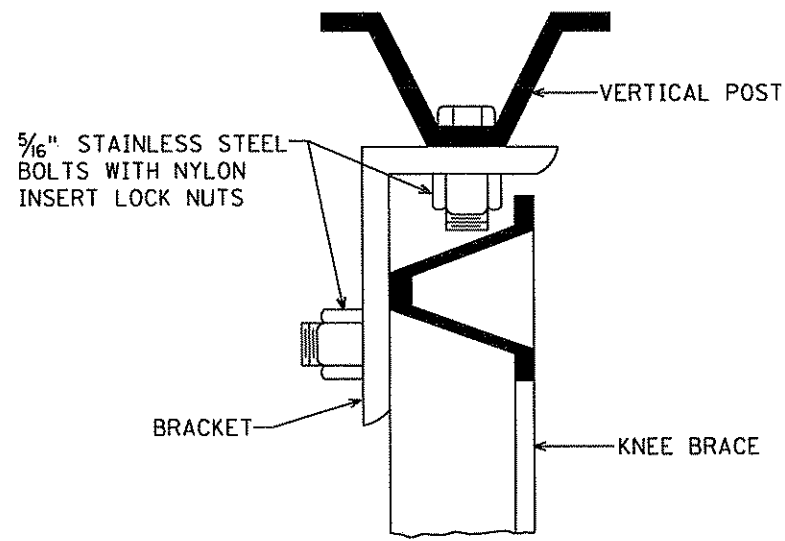
NOTES:

1. USE 3# STUB POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO MN/DOT 3401.
2. FOR TYPE "D" SIGN POSTS LENGTHS AND SPACINGS, SEE SIGN DATA SHEET.
3. TYPE "D" SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH TYPE "D" STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCHING CODE) FOR TYPE "C" SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
5. ALL RISER (VERTICAL) "U POSTS" SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
6. USE STAINLESS STEEL 5/16" BOLTS, WASHERS, AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 3 1/2'.
9. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MN/DOT 3352.2A5.
11. 2 AND 3 POST TYPE "C" SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
12. WHERE 2 OR MORE SINGLE POST SIGNS (TYPE "C") ARE MOUNTED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 POST SECTIONS, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN SKETCH.

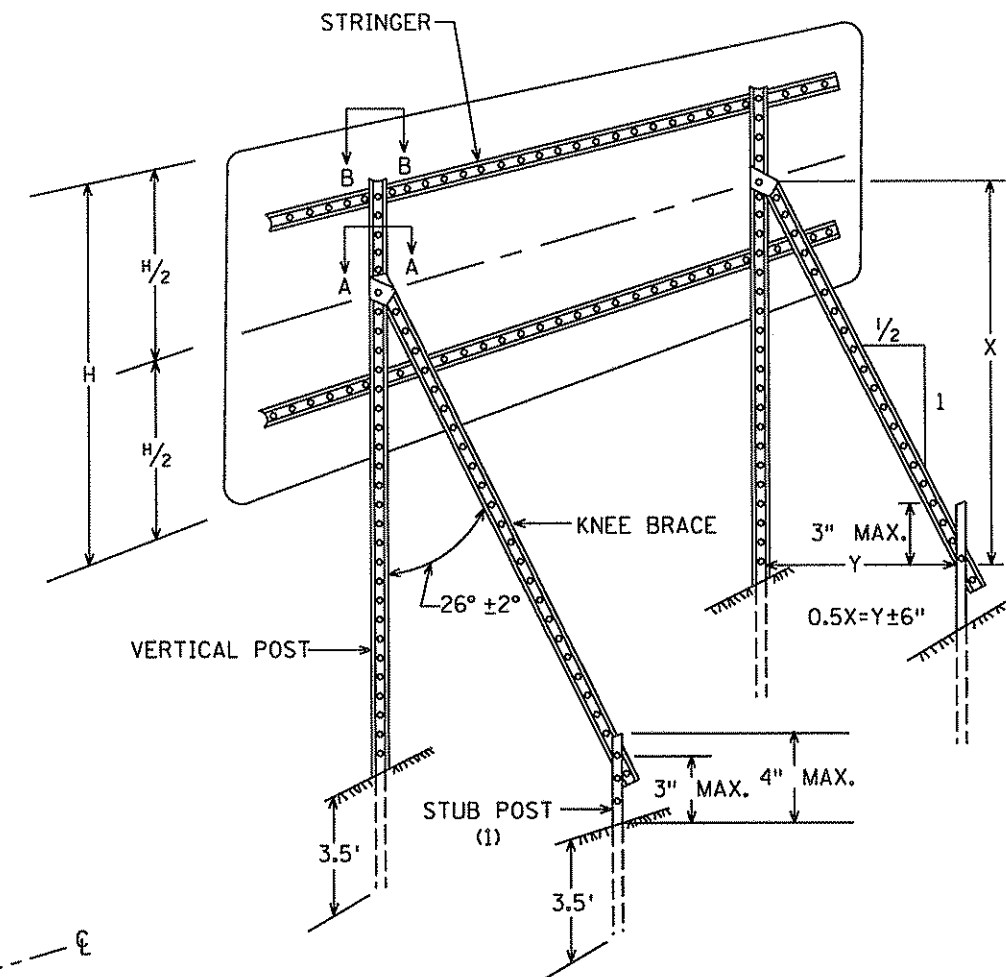
TYPE C & D SIGN  
STRUCTURAL DETAILS



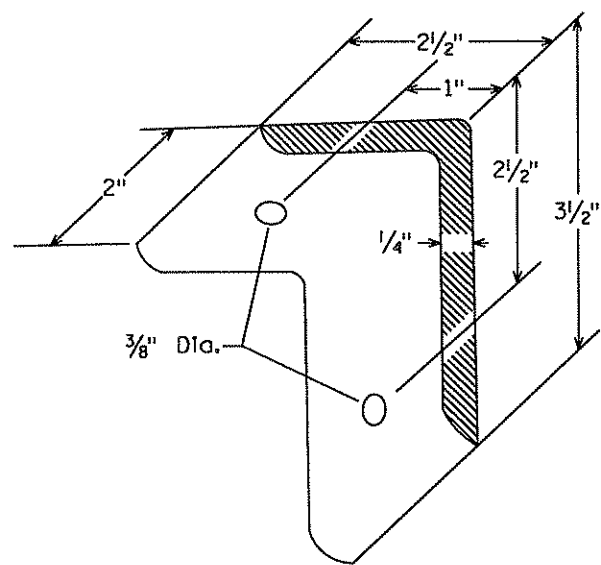
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

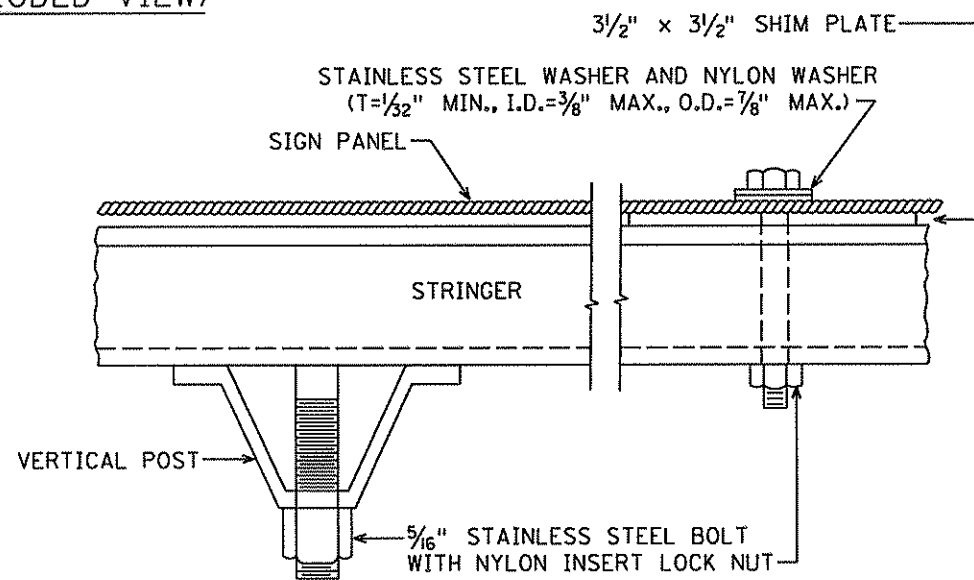


TYPICAL "A-FRAME" INSTALLATION TYPE "D" SIGNS

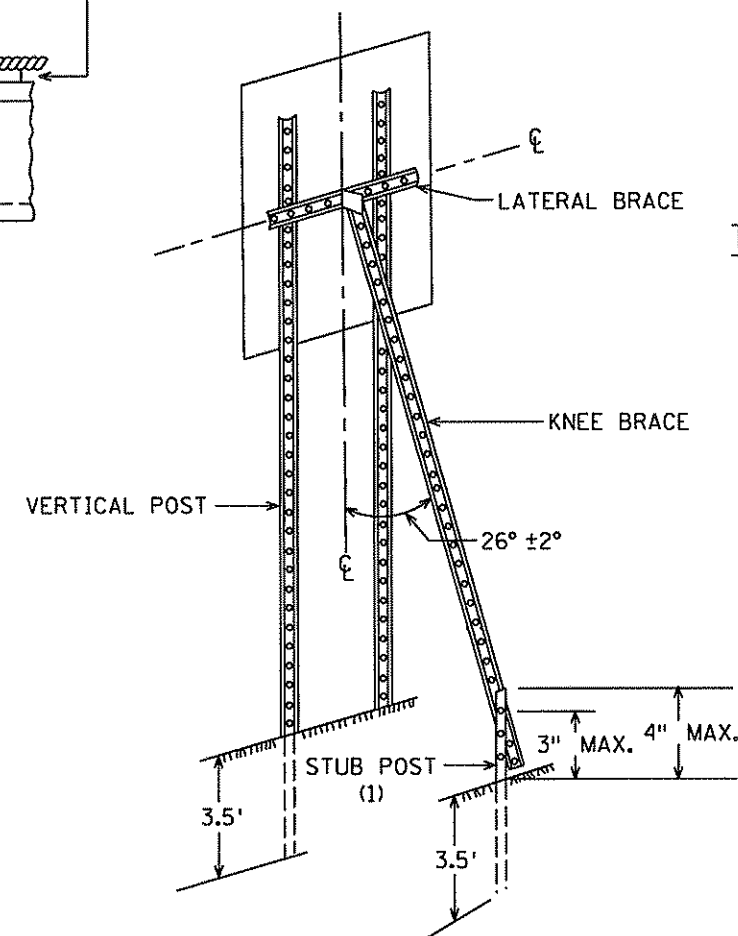


A-FRAME BRACKET

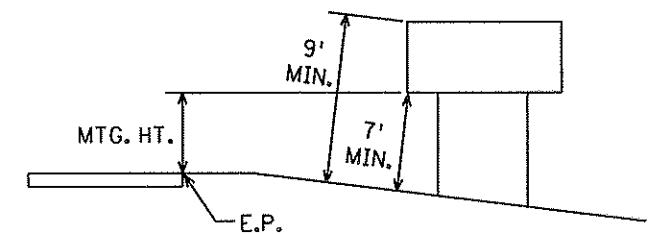
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B



TYPICAL "A-FRAME" INSTALLATION TYPE "C" SIGNS

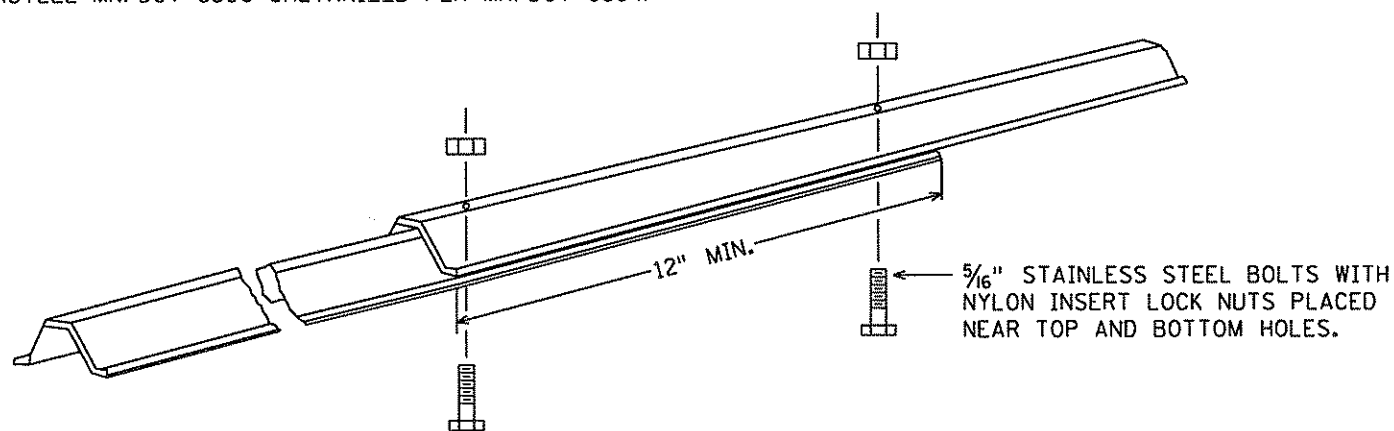


TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST.

TYPE C & D SIGN STRUCTURAL DETAILS



Sheet 2 of 2





KNEE BRACE SPLICE

**PAVEMENT MARKING TABULATIONS**

**SYMBOLS & MATERIALS LEGEND**

-  CROSSWALK BLOCK WHITE - PREFORMED THERMOPLASTIC
-  PAVEMENT MESSAGE (LEFT ARROW) - PREFORMED THERMOPLASTIC

**STRIPING KEY**

-  CIRCLE - EPOXY
-  SQUARE - PREFORMED THERMOPLASTIC

**GENERAL INFORMATION:**

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

**EPOXY:**

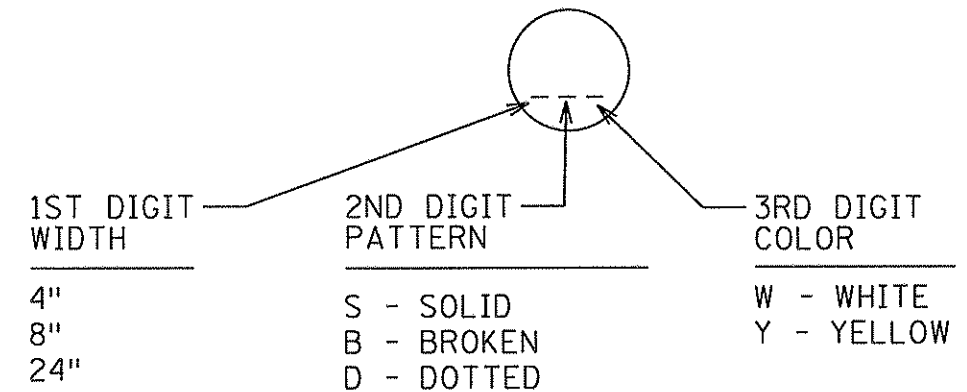
THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.


THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOXY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES F° OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.



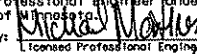
EXAMPLE:  = 4" SOLID LINE WHITE - EPOXY

PERMANENT PAVEMENT MARKING TABULATION SHEET		K
ITEM	UNIT	QUANTITY
PAVEMENT MESSAGE (RIGHT ARROW) - PREFORMED THERMOPLASTIC	EA	10
PAVEMENT MESSAGE (LEFT ARROW) - PREFORMED THERMOPLASTIC	EA	19
PAVEMENT MESSAGE (ONLY) - PREFORMED THERMOPLASTIC	EA	2
4" SOLID LINE WHITE - EPOXY	LF	10960
4" SOLID LINE YELLOW - EPOXY	LF	6200
4" BROKEN LINE WHITE - EPOXY	LF	1200
8" SOLID LINE WHITE - EPOXY	LF	660
24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	LF	206
ZEBRA CROSSWALK WHITE - PREFORMED THERMOPLASTIC	SF	882

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10/22/2004  
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DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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.

Certified By:  Lic. No. 42807

Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004



ANOKA COUNTY, MINNESOTA

**INTERSECTION IMPROVEMENTS:**  
CSAH 10 @ CSAH 51/CSAH 3

**PAVEMENT MARKING TABULATIONS**

STATE PROJECT NO. 02-610-11  
STATE PROJECT NO. 106-020-24

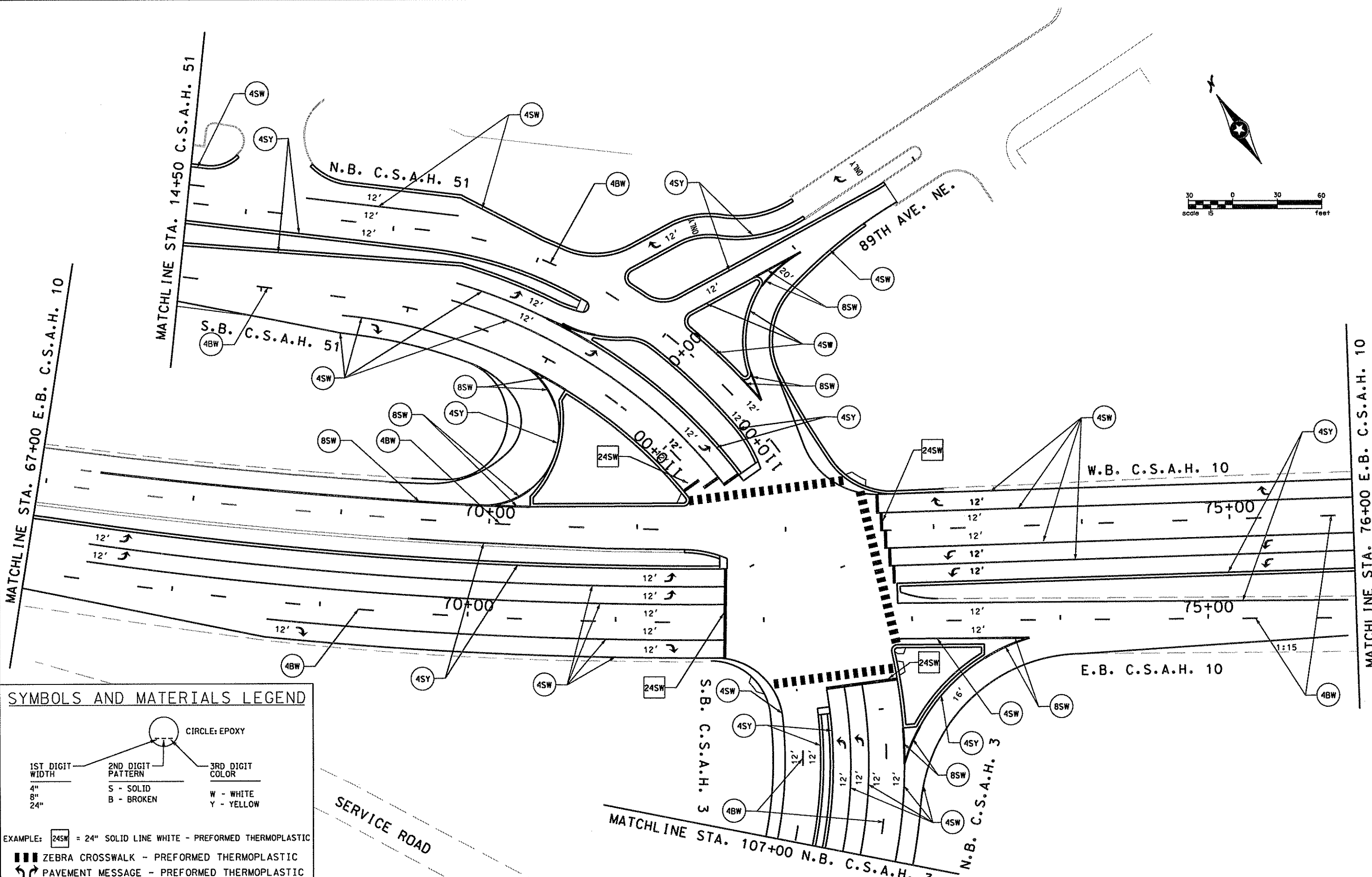
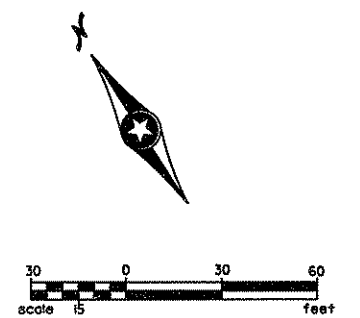
FILE NO. ANOKC0410.00 **51**

DATE 10/22/2004 **92**

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10/22/2004

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**SYMBOLS AND MATERIALS LEGEND**

1ST DIGIT WIDTH	2ND DIGIT PATTERN	3RD DIGIT COLOR
4"	S - SOLID	W - WHITE
8"	B - BROKEN	Y - YELLOW
24"		

EXAMPLE: **24SW** = 24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC

**|||||** ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC

**↔** PAVEMENT MESSAGE - PREFORMED THERMOPLASTIC

CIRCLE: EPOXY

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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 Licensed Professional Engineer  
 Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004



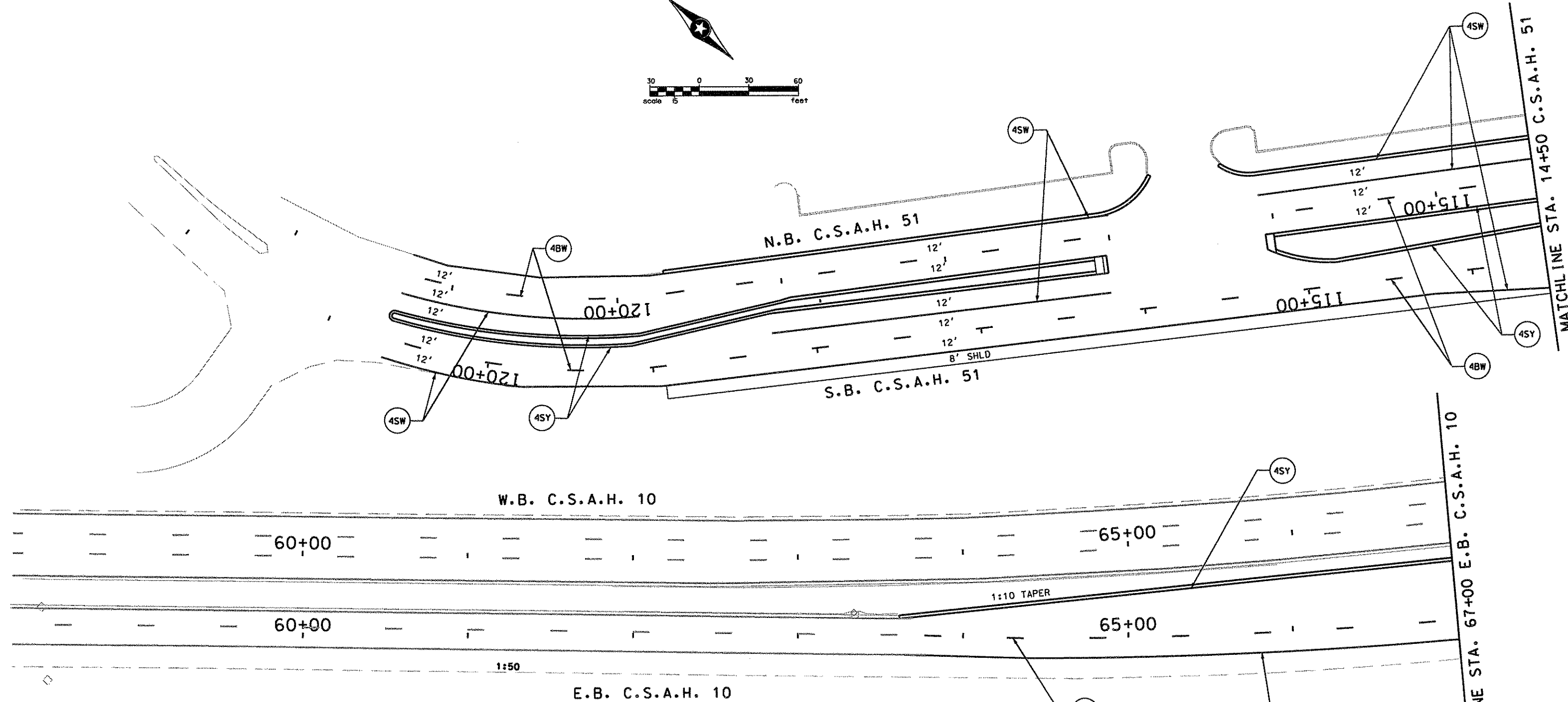
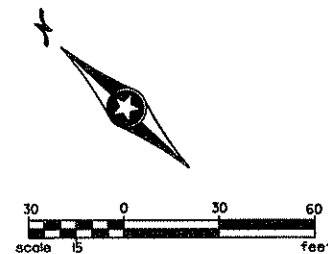
ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

PAVEMENT MARKING PLAN		FILE NO.
STATE PROJECT NO. 02-610-11	STATE PROJECT NO. 106-020-24	ANOKC0410.00
		DATE
		10/22/2004
		53
		92

09/22/07 AM

10/22/2004

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**SYMBOLS AND MATERIALS LEGEND**

1ST DIGIT WIDTH	2ND DIGIT PATTERN	3RD DIGIT COLOR
4"	S - SOLID	W - WHITE
8"	B - BROKEN	Y - YELLOW
24"		

CIRCLE: EPOXY

EXAMPLE: **24SW** = 24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC

**||||** ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC

**↔** PAVEMENT MESSAGE - PREFORMED THERMOPLASTIC

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
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NO.	BY	DATE	REVISIONS

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ANOKA COUNTY, MINNESOTA

**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

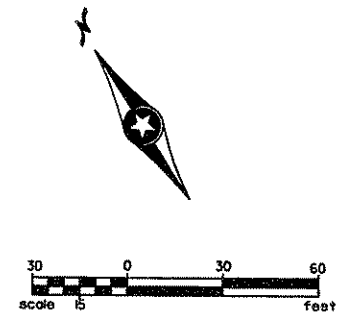
PAVEMENT MARKING PLAN	
STATE PROJECT NO. 02-610-11	STATE PROJECT NO. 106-020-24

FILE NO.	52
ANOKC0410.00	
DATE	10/22/2004
	92

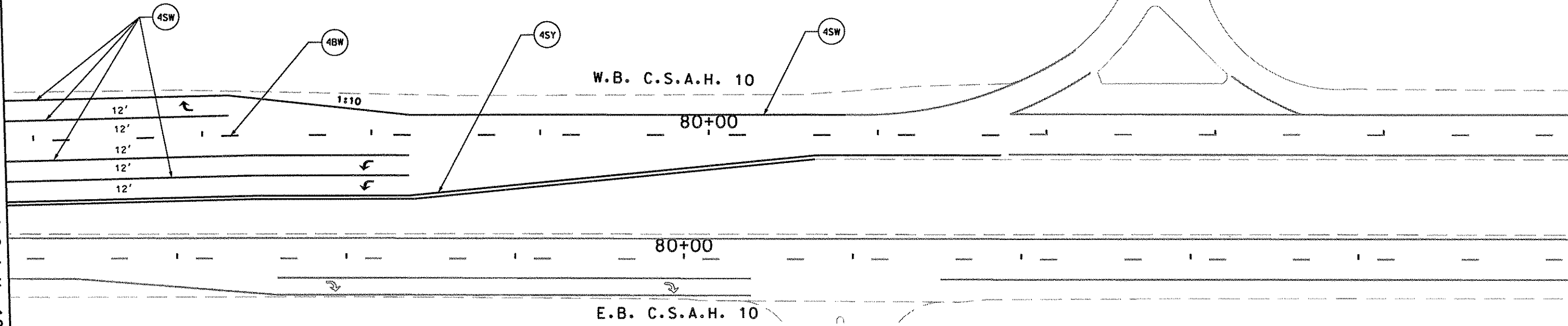
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10/22/2004

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MATCHLINE STA. 76+00 E.B. C.S.A.H. 10



**SYMBOLS AND MATERIALS LEGEND**

CIRCLE: EPOXY

1ST DIGIT WIDTH	2ND DIGIT PATTERN	3RD DIGIT COLOR
4"	S - SOLID	W - WHITE
8"	B - BROKEN	Y - YELLOW
24"		

EXAMPLE: 24SW = 24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC

▬▬▬ ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC

↔ PAVEMENT MESSAGE - PREFORMED THERMOPLASTIC

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
	NO.	BY	DATE
			REVISIONS

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Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004



ANOKA COUNTY, MINNESOTA

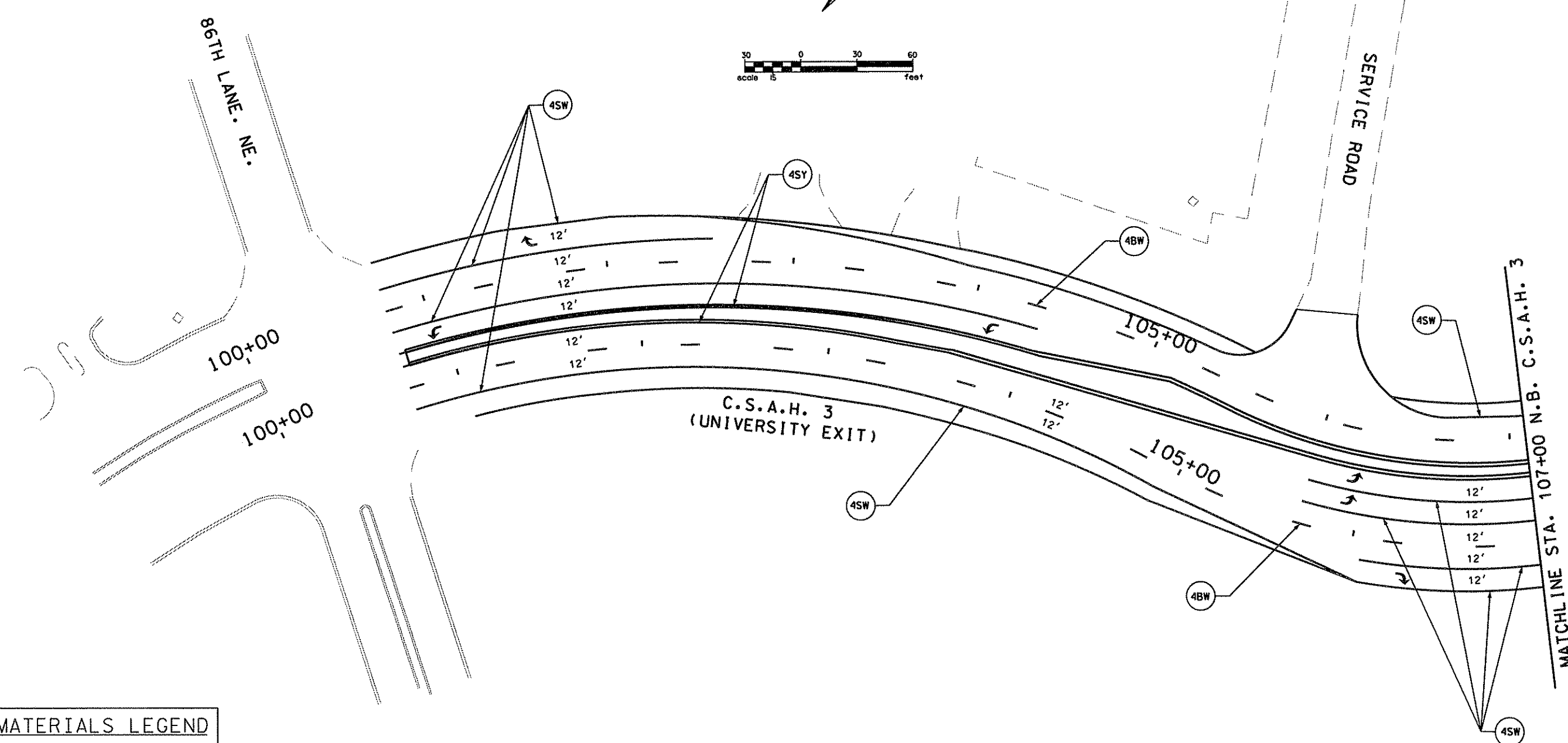
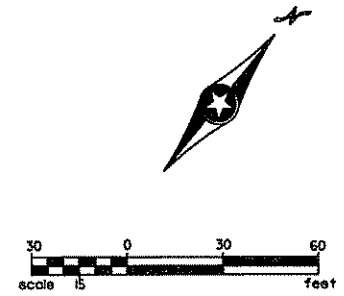
**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

**PAVEMENT MARKING PLAN**

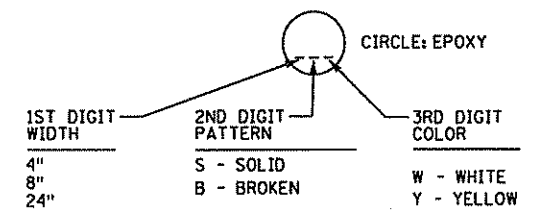
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STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00 **54**

DATE 10/22/2004 **92**



**SYMBOLS AND MATERIALS LEGEND**



EXAMPLE: **24SW** = 24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC

**||||** ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC

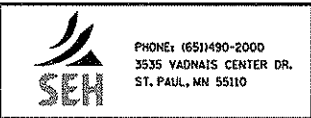
**↔** PAVEMENT MESSAGE - PREFORMED THERMOPLASTIC

DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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.

Certified By: *Michael J. Martinez* Lic. No. 42807

Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004



ANOKA COUNTY, MINNESOTA

**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

**PAVEMENT MARKING PLAN**

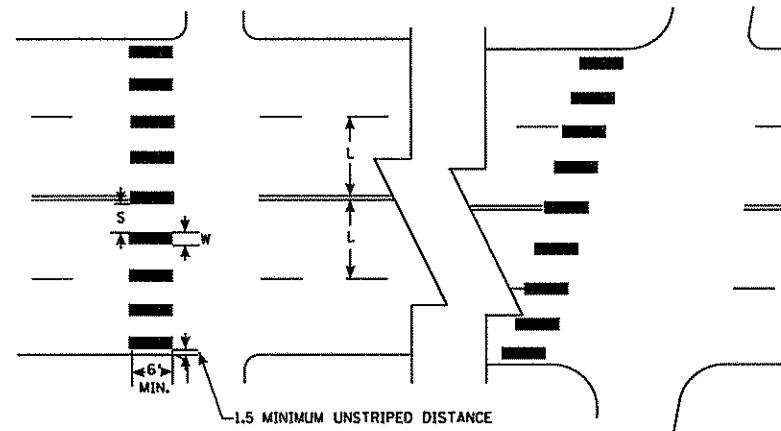
STATE PROJECT NO. 02-610-11  
STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00 **55**

DATE 10/22/2004 **92**

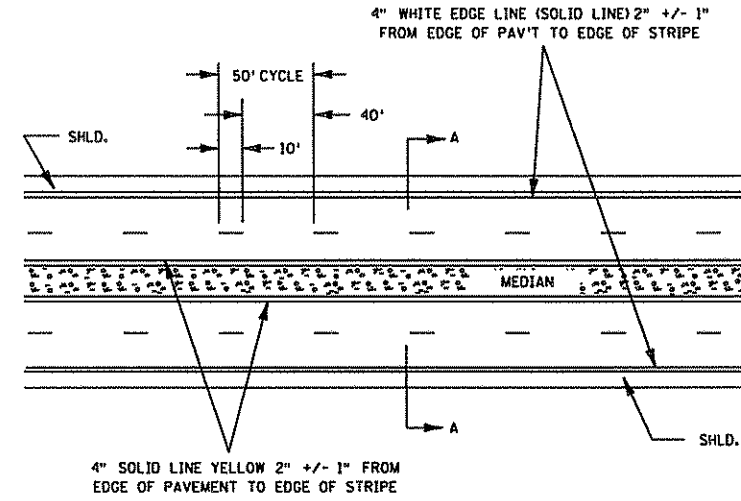
**MARKINGS FOR PEDESTRIAN CROSSWALKS**

(L) WIDTH OF INSIDE LANE	(W) WIDTH OF PAINTED AREA	(S) WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

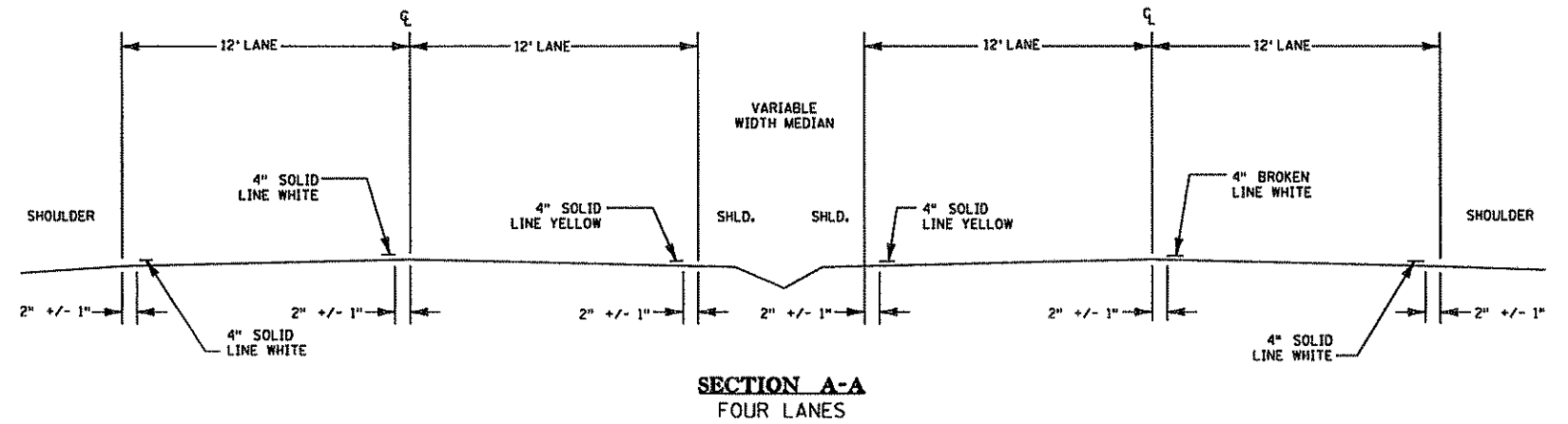


**NOTES:**

1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
2. A MINIMUM OF 1.5 FT. CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11 FT. INSIDE LANE.
4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.



**TYPICAL 4-LANE DIVIDED LANE MARKINGS**



DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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 Certified By: *Michael J. Martinez* Lic. No. 42807  
 Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**PAVEMENT MARKING DETAILS**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00  
 DATE 10/22/2004  
**56**  
**92**

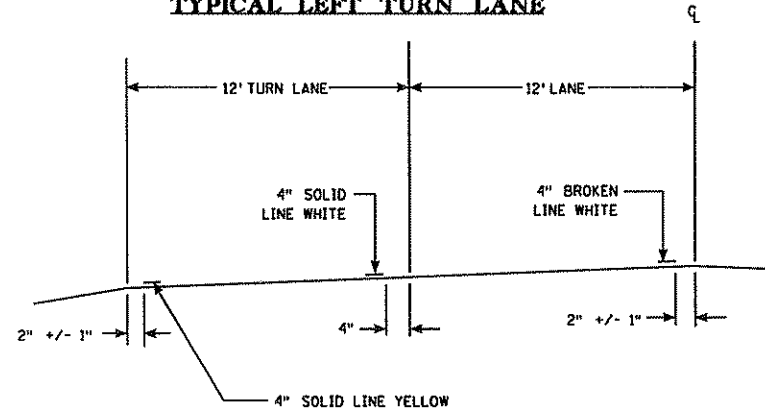


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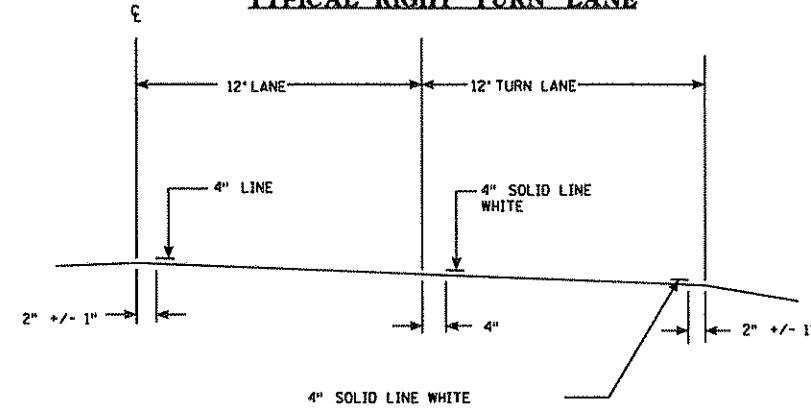
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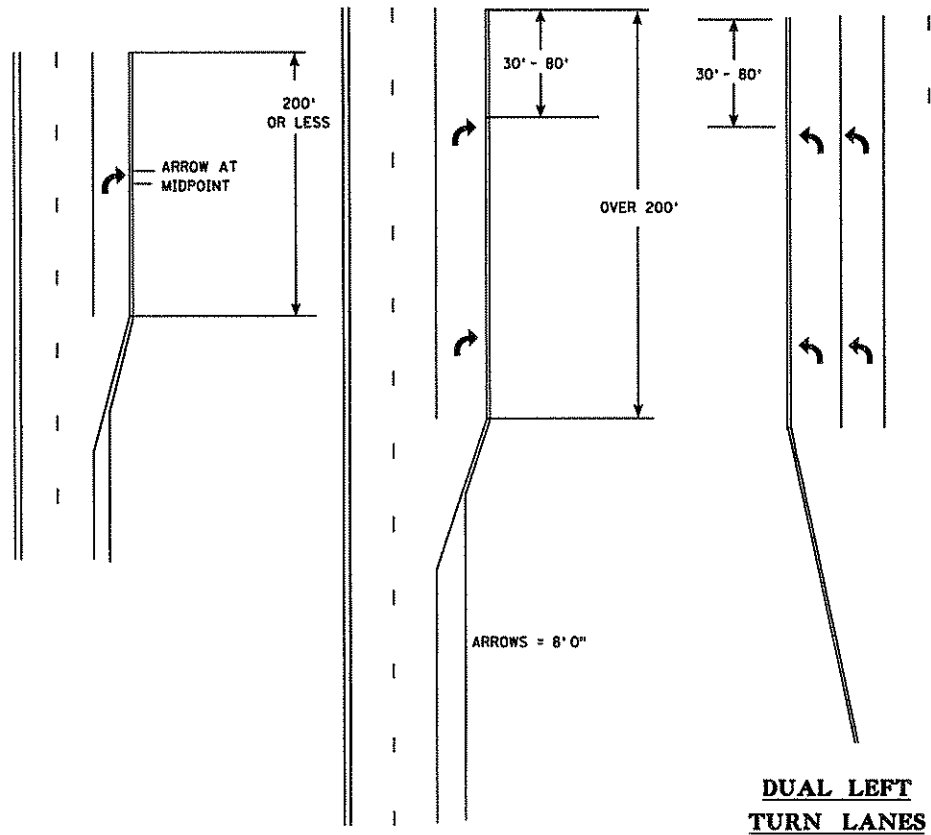
### TYPICAL LEFT TURN LANE



### TYPICAL RIGHT TURN LANE

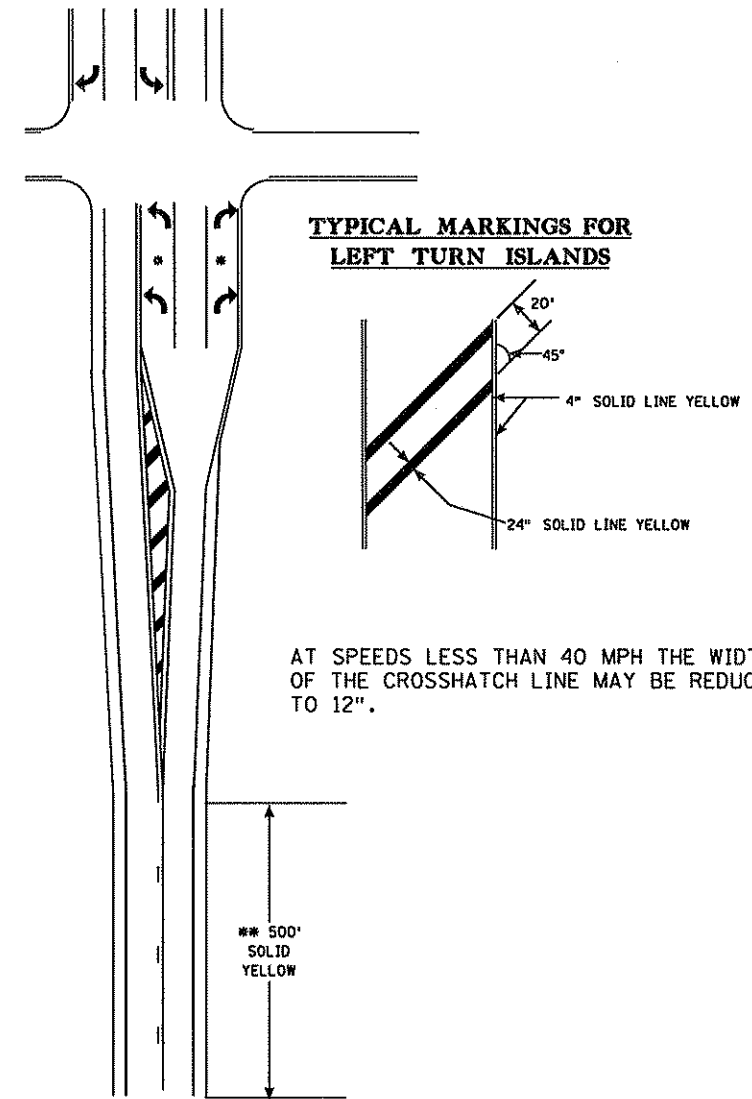


### TYPICAL MESSAGE PLACEMENT FOR TURN LANES



### DUAL LEFT TURN LANES

### TYPICAL MARKINGS FOR LEFT TURN ISLANDS



DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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Certified By: *Michael J. Martinez* Lic. No. 42807  
 Printed Name: MICHAEL J. MARTINEZ Date: 10/22/2004

PHONE: 651-450-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

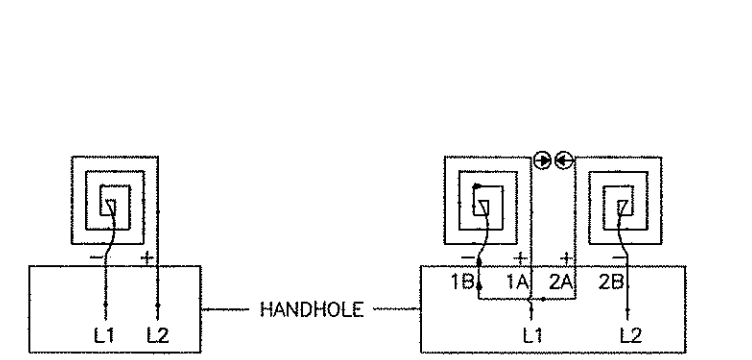
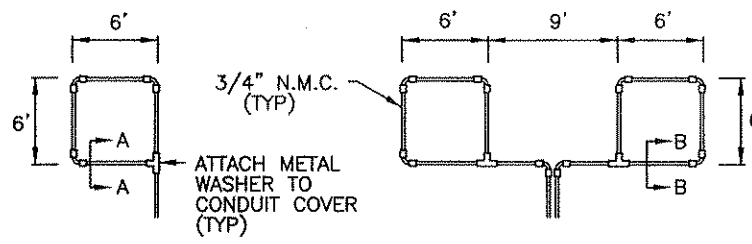


ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**PAVEMENT MARKING DETAILS**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	ANOKC0410.00	57
DATE	10/22/2004	92

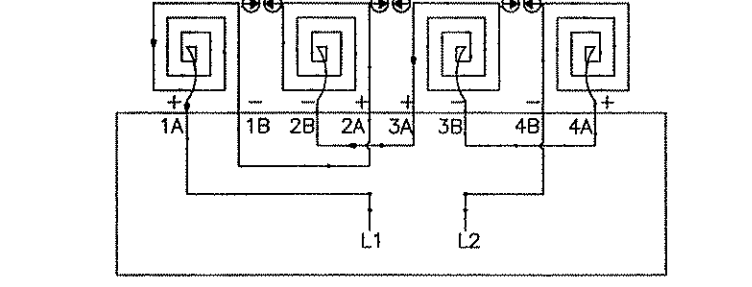
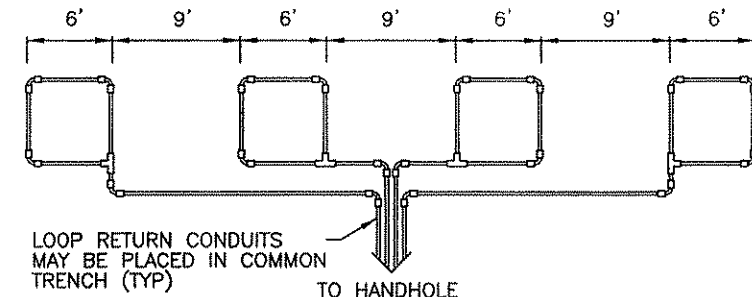


**LOOP DETECTOR DETAIL 'A'**  
(LOOP PHASING FOR SINGLE CONNECTION)

**LOOP DETECTOR DETAIL 'B'**  
(LOOP PHASING FOR SERIES CONNECTION)

LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A  
1B TO 2A  
2B TO L2

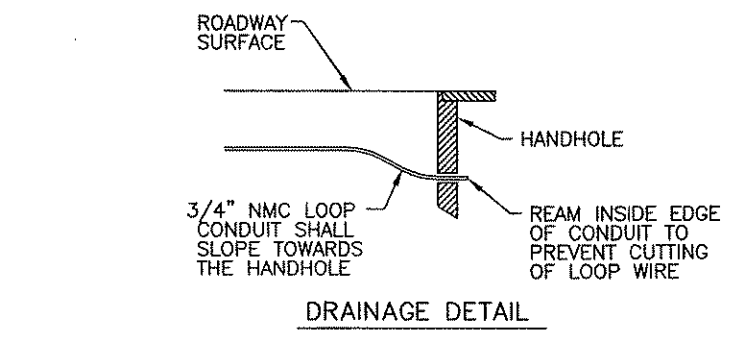
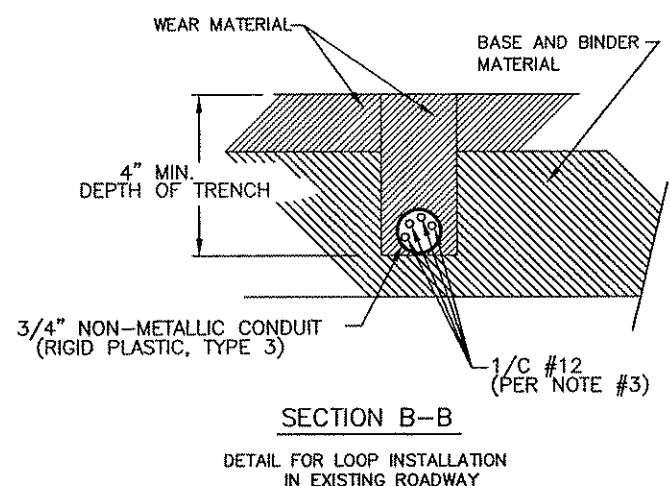
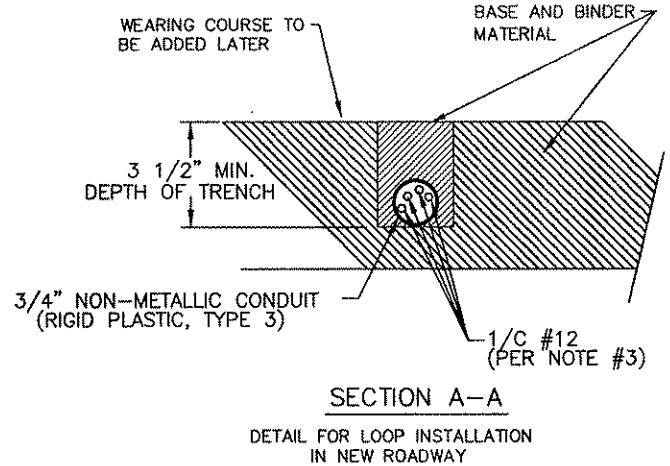


**LOOP DETECTOR DETAIL 'C'**  
(LOOP PHASING FOR SERIES CONNECTION)

LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A      3B TO 4A  
1B TO 2A      4B TO L2  
2B TO 3A

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE. ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE (1A, 1B, ECT)



- LOOP DETECTOR WIRING**
- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
  - 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
  - 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
  - 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
  - 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
  - 6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
  - 7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

10/21/04  
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STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:	
PLATE NO.	DESCRIPTION
* 8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8111 D	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
8112 C	PEDESTAL FOUNDATION
* 8114 A	PVC HANDHOLE/PULLBOX
* 8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
* 8117 F	PRECAST CONCRETE HANDHOLE (OR PULLBOX)
* 8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 K	PA85 POLE FOUNDATION
* 8121 D	TRANSFORMER BASE AND POLE BASE PLATE
8122 C	PEDESTAL AND PEDESTAL BASE
* 8123 E	POLE AND MAST ARM
* 8124 E	MAST ARM SIGNAL HEAD MOUNTS
* 8126 F	PA90 AND PA100 POLE FOUNDATION

\* - APPLIES TO THIS PROJECT

**CONDUCTOR COLOR CODE**

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

**LEGEND OF SYMBOLS**

CONTROLLER AND SERVICE EQUIP. NO's	Ⓐ
SIGNAL BASE NO.	Ⓛ
SIGNAL FACE NO.	Ⓜ
LUMINAIRE NO.	Ⓝ
CONTROLLER AND CABINET	Ⓚ
CONTROLLER AND CABINET - IN PLACE	Ⓚ
HANDHOLE	Ⓛ
HANDHOLE - IN PLACE	Ⓛ
RIGID STEEL CONDUIT (RSC)	—
RIGID STEEL CONDUIT (RSC) - IN PLACE	—
SIGNAL FACE WITH BACKGROUND SHIELD	→
SIGNAL FACE W/O BACKGROUND SHIELD	→
SIGNAL FACE - IN PLACE	→
PEDESTRIAN INDICATORS	→
PEDESTRIAN INDICATORS - IN PLACE	→
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	Ⓚ
PEDESTRIAN PUSH BUTTON STATION	Ⓚ
TRAFFIC SIGNAL PEDESTAL	Ⓚ
TRAFFIC SIGNAL PEDESTAL - INPLACE	Ⓚ
TRAFFIC SIGNAL POLE AND MAST ARM	Ⓚ
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	Ⓚ
STREET LIGHT POLE AND LUMINAIRE	Ⓚ
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	Ⓚ
MAST ARM AND LUMINAIRE	Ⓚ
MAST ARM AND LUMINAIRE - INPLACE	Ⓚ
WOOD POLE	Ⓚ
WOOD POLE - IN PLACE	Ⓚ
SOURCE OF POWER	Ⓚ
RAILROAD SIGNAL - IN PLACE	Ⓚ
RIGHT OF WAY LINE	Ⓚ
CENTERLINE	Ⓚ
EDGE OF ROADWAY	Ⓚ
SHOULDERLINE	Ⓚ
CURB LINE	Ⓚ
STOP BAR	Ⓚ
EMERGENCY VEHICLE PREEMPTION DETECTOR	Ⓚ

**ABBREVIATIONS**

3-1(EG)	SIGNAL HEAD PHASE "3" - NO "1"	P2-1(EG)	PED INDICATION PHASE "2" - NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2-1(EG)	PUSH BUTTON PHASE "2" - NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQQ	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		YTHA	YELLOW THRU ARROW

**DESIGN TEAM**

DRAWN BY:	JMG
DESIGNER:	JMG
CHECKED BY:	JMG

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.

Certified By: *John M. Gray* Lic. No. 22457  
Printed Name: John M. Gray Date: 10/21/04



ANDKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**TRAFFIC SIGNAL SYSTEM**  
**DETAILS & STANDARD PLATES**

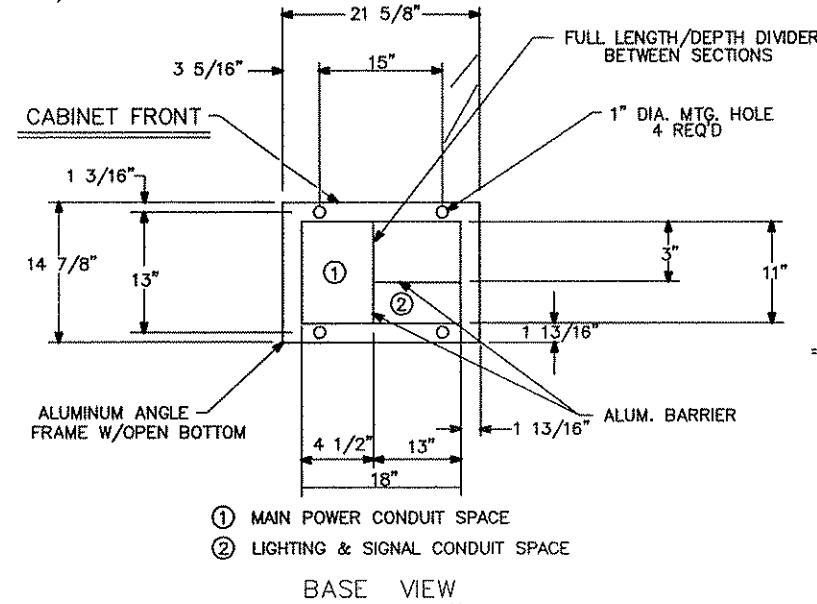
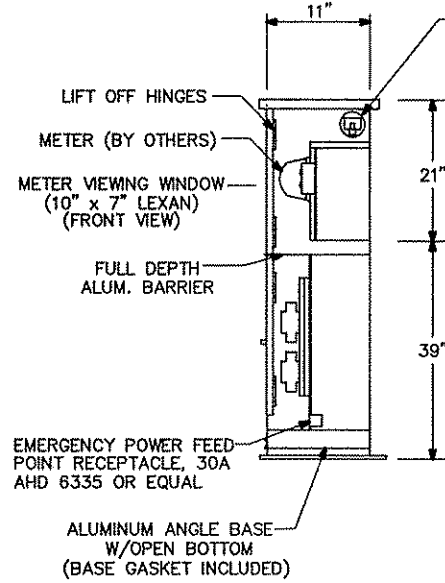
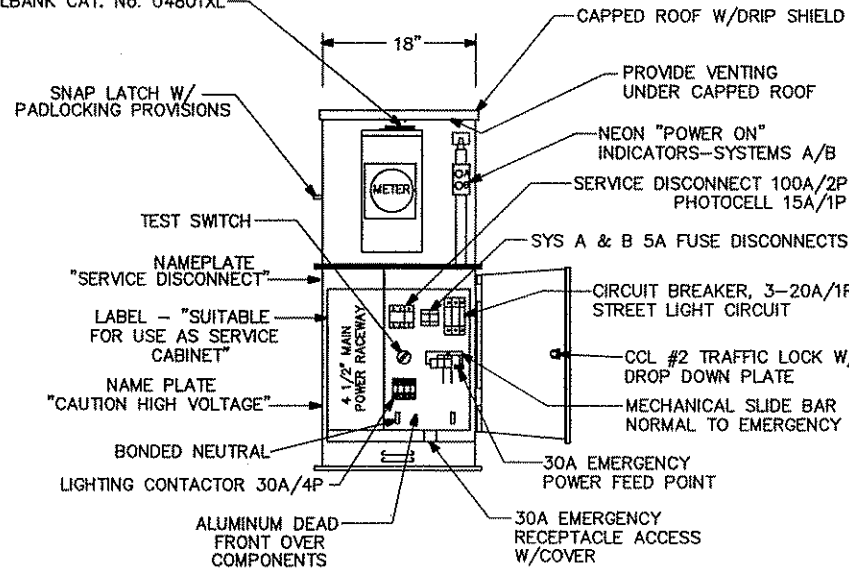
STATE PROJECT NO. 02-610-11  
STATE PROJECT NO. 106-020-24

FILE NO.	58
ANDKC0410.00	
DATE	10/21/04
	92

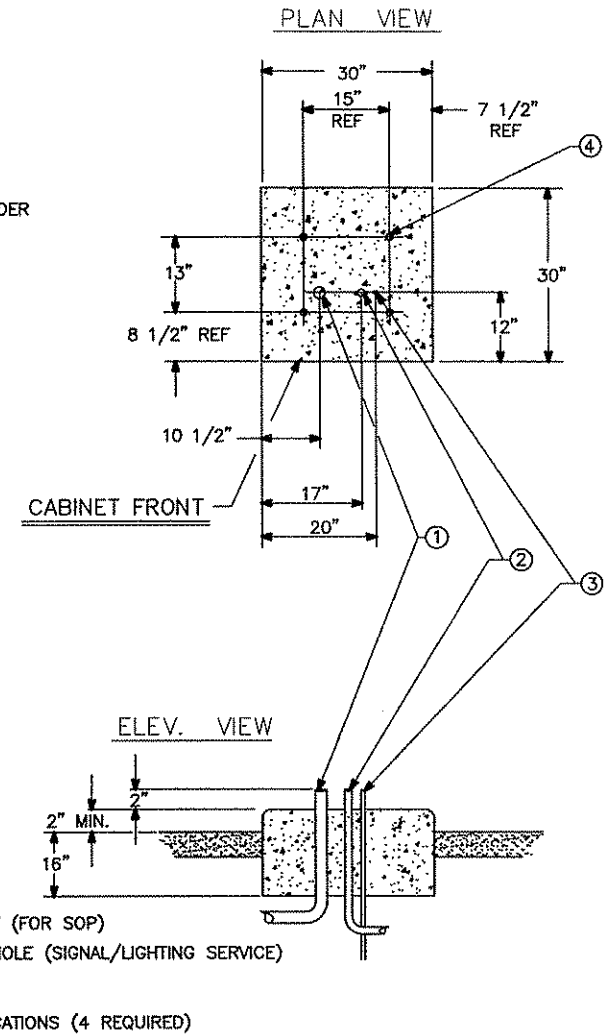
**SIGNAL SERVICE CABINET**

CIRCUIT BREAKERS I-T-E  
TYPE "BQ" OR EQUAL  
SIZE AND QTY. AS FOLLOWS:  
1-40A/1P-NORMAL  
1-50A/1P-NORMAL  
1-30A/1P-EMERGENCY

N.S.P. METER SOCKET, 5-TERMINAL  
w/POSITIVE BY-PASS MECHANISM  
MILBANK CAT. No. U4801XL



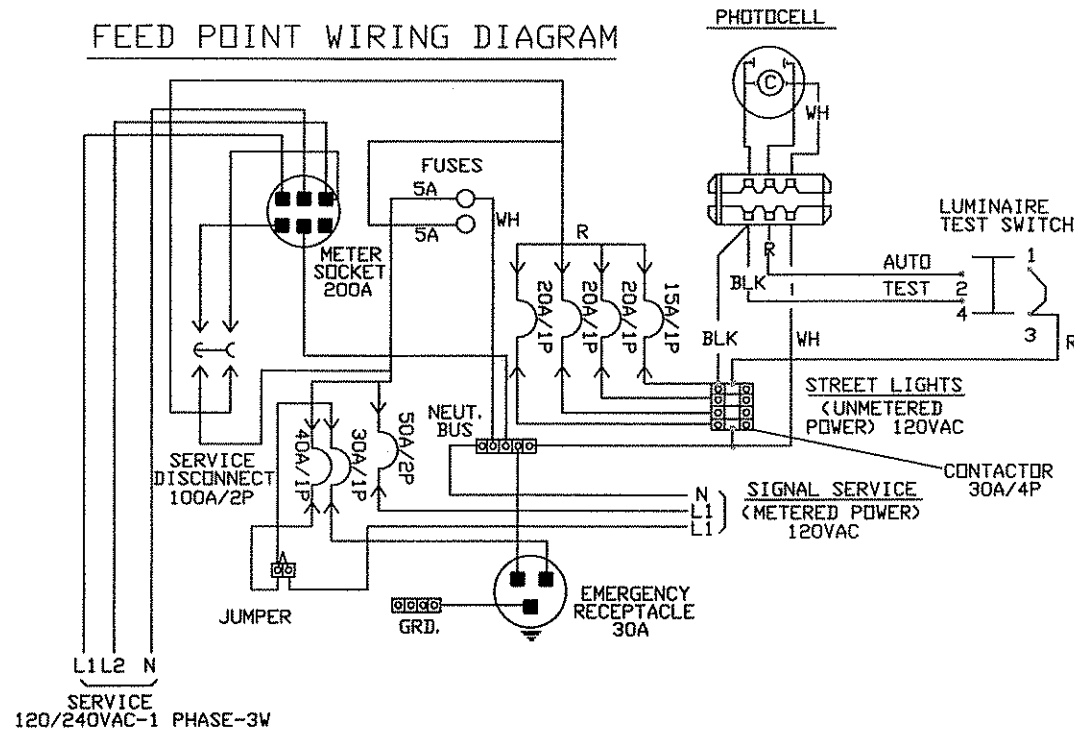
**SERVICE CABINET FOUNDATION**



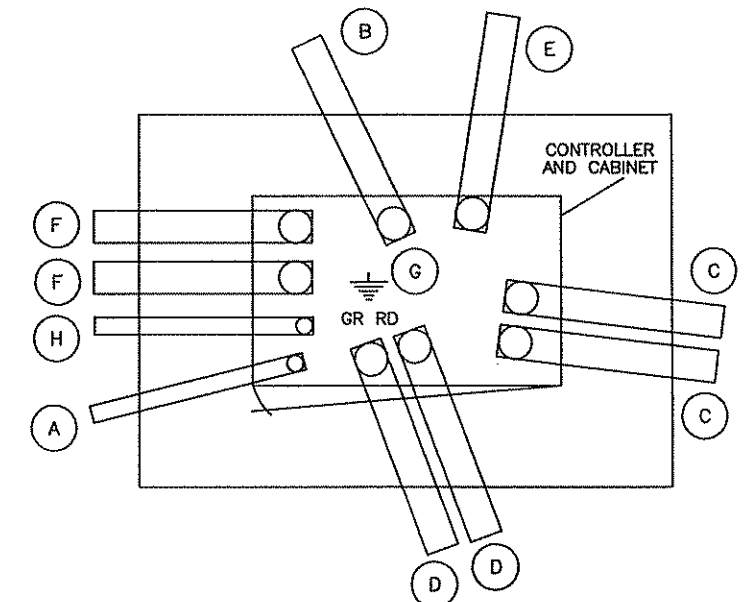
**CONSTRUCTION NOTES**

ENCLOSURE SHALL BE FABRICATED FROM 1/8" ALUMINUM FOR OUTDOOR WEATHERPROOF SERVICE.  
DOORS TO BE NEOPRENE GASKETED. ALL HINGES, PINS AND LOCKS TO BE OF NON-CORRODING CONSTRUCTION.  
CABINET SHALL HAVE ANODIC COATING FOR ALL ALUMINUM SURFACES. SEE SPECIAL PROVISIONS.  
NEMA 3R ENCLOSURE SHALL BE "UL" APPROVED.  
CABINET SHALL HAVE BASE GASKET INCLUDED.

**FEED POINT WIRING DIAGRAM**



- (A) 2" R.S.C. FOR SERVICE CONNECTION (VIA HH 19)
- (B) 3" R.S.C. TO HH 1
- (C) 4" R.S.C. TO HH 3
- (D) 4" R.S.C. TO HH 18
- (E) 4" R.S.C. TO HH 20
- (F) 3" R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE USE).
- (G) 5/8" DIA X 15' GROUND ROD
- (H) 1" R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE PHONE LINE).



SEE INTERSECTION LAYOUT FOR CONDUIT & CABLE INFORMATION

CONCRETE FOUNDATION  
SEE MN/DOT STANDARD PLATE NO. 8119C FOR DIMENSIONS.

10/21/04

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DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				

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.  
Certified By: *[Signature]* Lc. No. 22457  
Printed Name: John M. Gray Date: 10/21/04

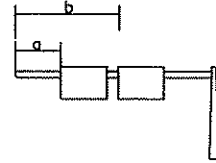
**SEH**  
PHONE: 651-490-2000  
3535 VANDIAIS CENTER DR.  
ST. PAUL, MN 55110

ANDKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

**TRAFFIC SIGNAL SYSTEM  
CABINET DETAILS**  
STATE PROJECT NO. 02-610-11  
STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.GD  
DATE 10/21/04  
**59**  
**92**

MAST ARM MOUNTED SIGNS								
SIGN PANELS - TYPE D								
SIGN PANEL	SIZE (In.)	NO. REQ.	NO. POSTS/STIFFENERS PER SIGN	BAND SPACING (**)	SQ. FT. PER SIGN	POLE NO.	a	b
D-1	108x24	1	4	-	18.00	1	34'	-
D-2	84x24	1	3	-	14.00	2	34'	-
D-3	108x24	1	4	-	18.00	3	34'	-
D-4	84x24	1	3	-	14.00	4	28'	-
TOTAL QUANTITIES		4			64.00			



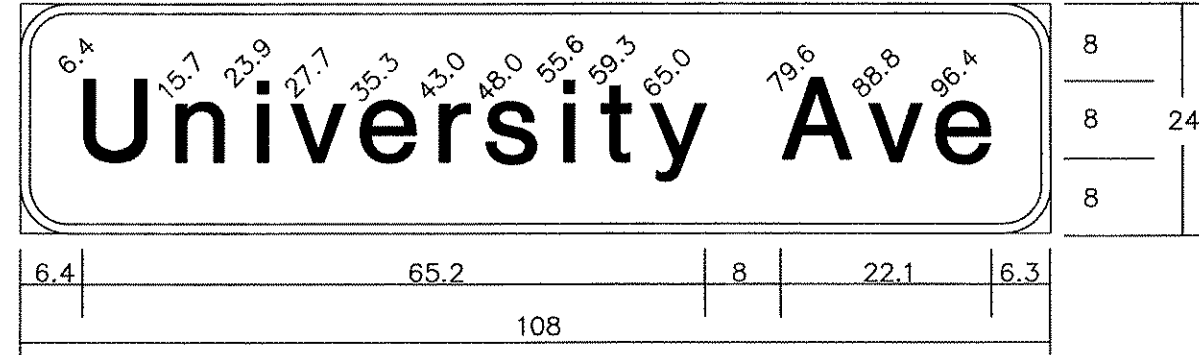
(\*\*)= SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE SPECIAL PROVISIONS AND STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 1/1/03) FOR BRACKET SPACING REQUIREMENTS.

SIGNAL POLE MOUNTED SIGNS							
SIGN PANELS - TYPE C							
SIGN PANEL	SIZE (In.)	NO. REQ.	NO. POSTS/STIFFENERS PER SIGN	BAND SPACING (**)	SQ. FT. PER SIGN	POLE NO.	a
R6-1L	36x12	4	①	-	3.00	1,2,3,4	-
R6-1R	36x12	4	①	-	3.00	1,2,3,4	-
R9-3a	18x18	2	①	-	2.25	1,4	-
TOTAL QUANTITIES		10			28.50		

NOTES:

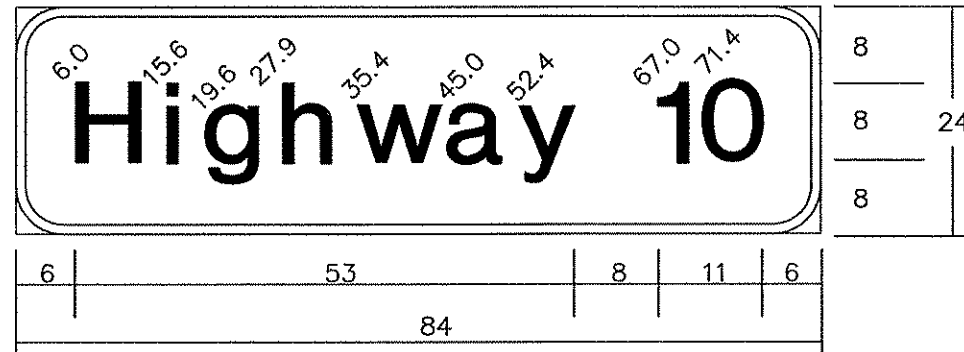
- COLOR FOR ALL TYPE D SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
- CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 1/1/03), AND SPECIAL PROVISIONS.
- SEE STANDARD SIGNS MANUAL FOR DETAILED DRAWINGS OF TYPE C SIGN PANELS.
- FURNISHING AND INSTALLING TYPE C AND D SIGNS SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 2565 (FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM). SEE SPECIAL PROVISIONS.
- ALL NEW TYPE C AND D SIGN PANELS SHALL BE FABRICATED USING VIP SHEETING. SEE SPECIAL PROVISIONS.
- ① = INSTALL SIGN PANEL ON TRAFFIC SIGNAL MAST ARM POLE.

D-1, D-3



D-1, D-3; 108" x 24", 3.0" Radius, 1.0" Border, White on Green "University Ave" E Mod.

D-2, D-4



D-2, D-4: 84" x 24", 3.0" Radius, 1.0" Border, White on Green "Highway 10" E Mod.

10/21/04

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DESIGN TEAM			
DRAWN BY:	JMG		
DESIGNER:	JMG		
CHECKED BY:	JMG		
NO.	BY	DATE	REVISIONS

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Certified By: *JMG* Lic. No. 22457  
 Printed Name: John M. Gray Date: 10/21/04



PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

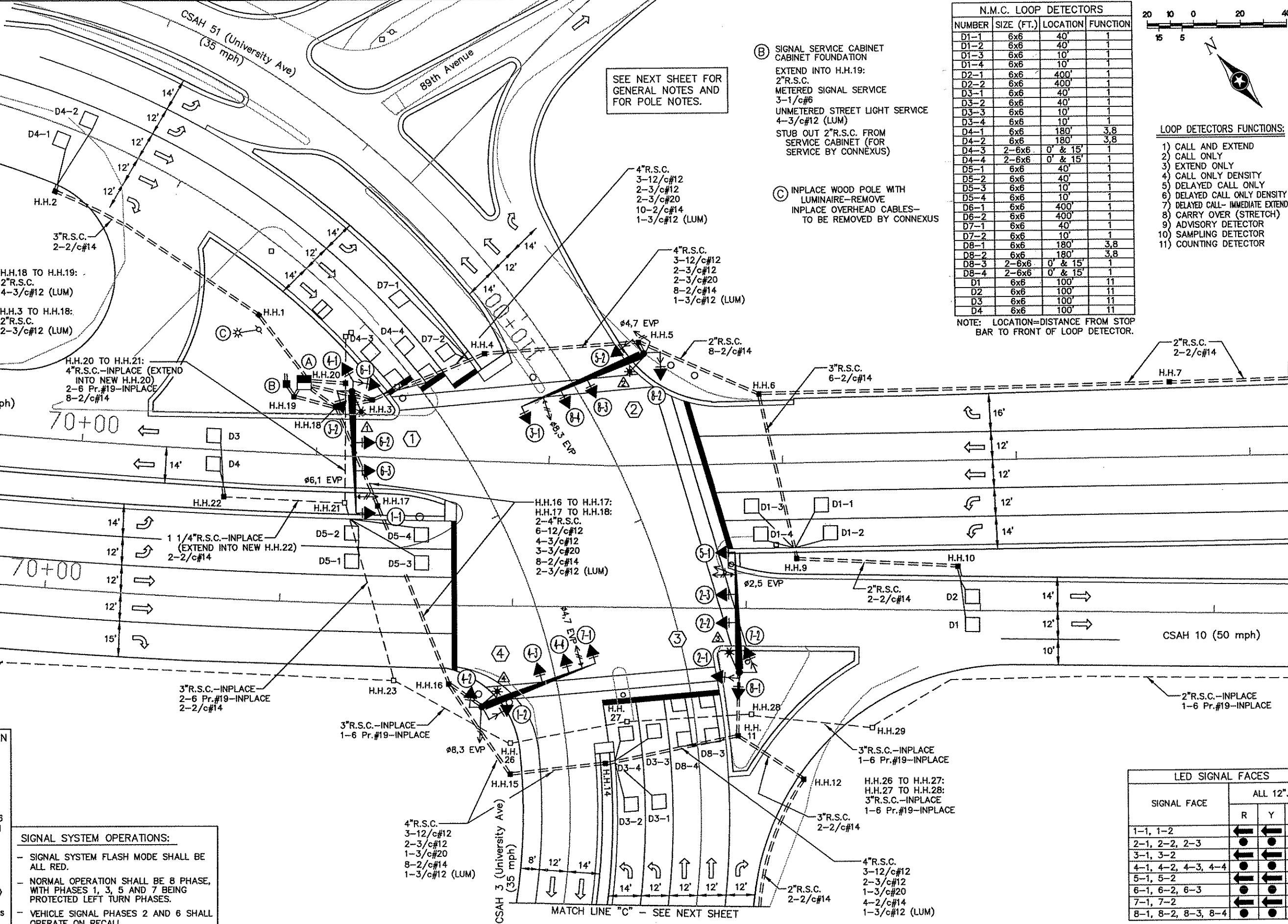
**TRAFFIC SIGNAL SYSTEM**  
**SIGNAL SIGNING DETAILS**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.  
 ANKCD410.00  
 DATE  
 10/21/04

60  
 92

**(A) INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)**  
**CABINET FOUNDATION**  
 EXTEND INTO H.H.19:  
 METERED SIGNAL SERVICE  
 2"R.S.C.  
 3-1/c#6  
 EXTEND INTO H.H.1:  
 3"R.S.C.  
 2-2/c#14  
 EXTEND INTO H.H.3:  
 2-4"R.S.C.  
 6-12/c#12  
 4-3/c#12  
 3-3/c#20  
 12-2/c#14  
 EXTEND INTO H.H.18:  
 2-4"R.S.C.  
 6-12/c#12  
 4-3/c#12  
 3-3/c#20  
 8-2/c#14  
 EXTEND INTO H.H.20:  
 4"R.S.C.  
 2-6 Pr.#19-INPLACE (SALVAGE AND INSTALL)  
 8-2/c#14  
 STUB OUT 2-3"R.S.C. FROM CABINET TO WEST (THREAD AND CAP-FOR FUTURE USE)  
 2"R.S.C.  
 8-2/c#14  
 STUB OUT 1"R.S.C. FROM CABINET TO WEST (THREAD AND CAP-FOR FUTURE PHONE LINE)



SEE NEXT SHEET FOR GENERAL NOTES AND FOR POLE NOTES.

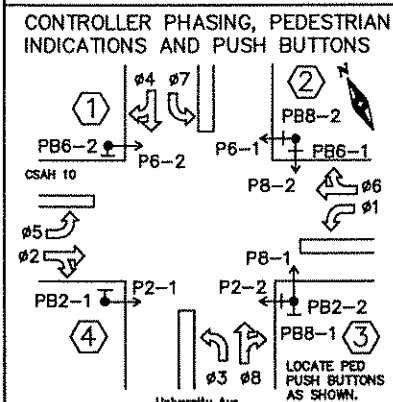
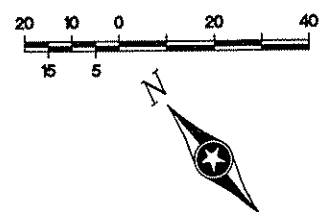
**(B) SIGNAL SERVICE CABINET**  
**CABINET FOUNDATION**  
 EXTEND INTO H.H.19:  
 2"R.S.C.  
 METERED SIGNAL SERVICE  
 3-1/c#6  
 UNMETERED STREET LIGHT SERVICE  
 4-3/c#12 (LUM)  
 STUB OUT 2"R.S.C. FROM SERVICE CABINET (FOR SERVICE BY CONNEXUS)

**(C) INPLACE WOOD POLE WITH LUMINAIRE-REMOVE**  
 INPLACE OVERHEAD CABLES- TO BE REMOVED BY CONNEXUS

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	6x6	40'	1
D1-2	6x6	40'	1
D1-3	6x6	10'	1
D1-4	6x6	10'	1
D2-1	6x6	400'	1
D2-2	6x6	400'	1
D3-1	6x6	40'	1
D3-2	6x6	40'	1
D3-3	6x6	10'	1
D3-4	6x6	10'	1
D4-1	6x6	180'	3,8
D4-2	6x6	180'	3,8
D4-3	2-6x6	0' & 15'	1
D4-4	2-6x6	0' & 15'	1
D5-1	6x6	40'	1
D5-2	6x6	40'	1
D5-3	6x6	10'	1
D5-4	6x6	10'	1
D6-1	6x6	400'	1
D6-2	6x6	400'	1
D7-1	6x6	40'	1
D7-2	6x6	10'	1
D8-1	6x6	180'	3,8
D8-2	6x6	180'	3,8
D8-3	2-6x6	0' & 15'	1
D8-4	2-6x6	0' & 15'	1
D1	6x6	100'	11
D2	6x6	100'	11
D3	6x6	100'	11
D4	6x6	100'	11

- LOOP DETECTORS FUNCTIONS:**
- 1) CALL AND EXTEND
  - 2) CALL ONLY
  - 3) EXTEND ONLY
  - 4) CALL ONLY DENSITY
  - 5) DELAYED CALL ONLY
  - 6) DELAYED CALL ONLY DENSITY
  - 7) DELAYED CALL- IMMEDIATE EXTEND
  - 8) CARRY OVER (STRETCH)
  - 9) ADVISORY DETECTOR
  - 10) SAMPLING DETECTOR
  - 11) COUNTING DETECTOR

NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.



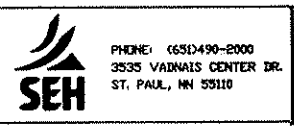
**SIGNAL SYSTEM OPERATIONS:**

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1, 3, 5 AND 7 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

LED SIGNAL FACES				
SIGNAL FACE	ALL 12"			
	R	Y	G	
1-1, 1-2	●	●	●	●
2-1, 2-2, 2-3	●	●	●	●
3-1, 3-2	●	●	●	●
4-1, 4-2, 4-3, 4-4	●	●	●	●
5-1, 5-2	●	●	●	●
6-1, 6-2, 6-3	●	●	●	●
7-1, 7-2	●	●	●	●
8-1, 8-2, 8-3, 8-4	●	●	●	●

DESIGN TEAM	1	JMG	09/04	REVISED GEOMETRICS
DRAWN BY:	2	JMG	01/05	REVISED LOOP LOCATIONS
DESIGNER:	JMG			
CHECKED BY:	JMG			
ND.	BY	DATE	REVISIONS	

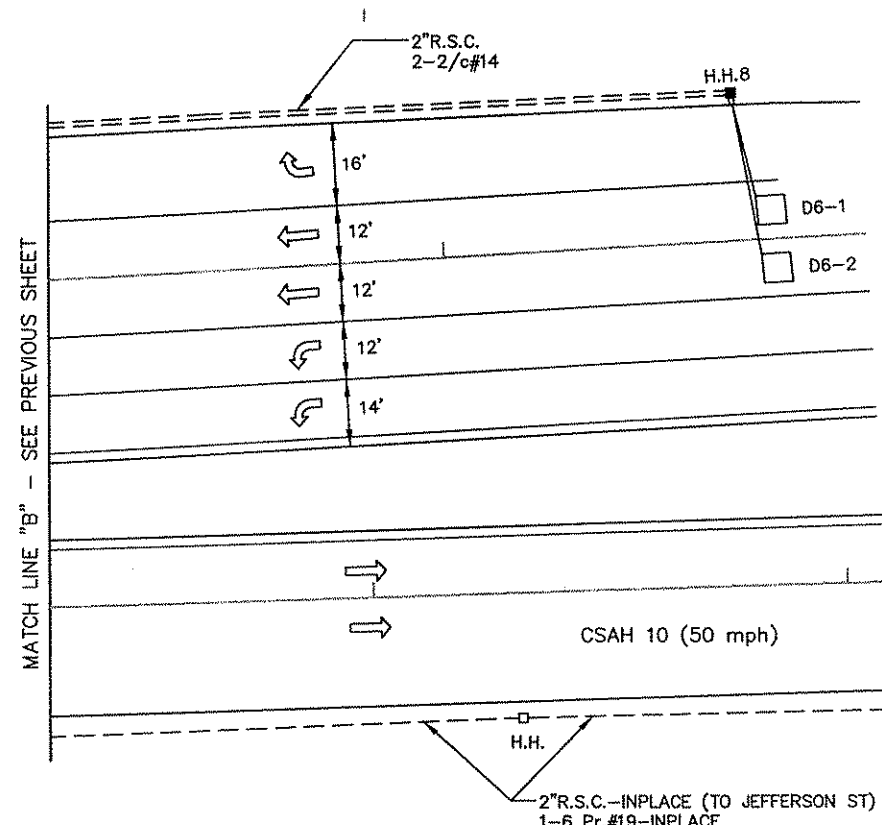
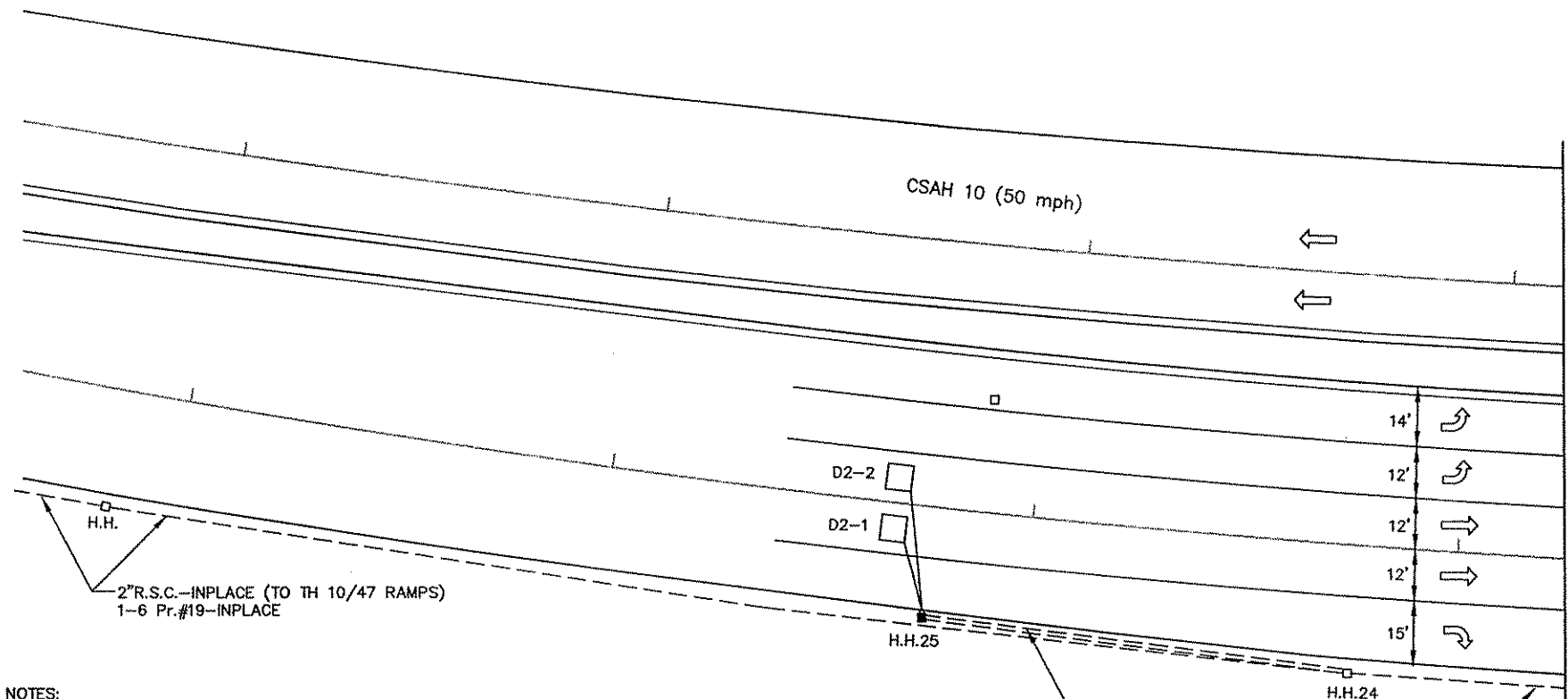
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
 Certified By: *John M. Gray* Lic. No. 22457  
 Printed Name: John M. Gray Date: 10/21/04



ANDOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**TRAFFIC SIGNAL SYSTEM**  
**INTERSECTION LAYOUT**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. ANDKO410.00  
 DATE 10/21/04  
 61  
 92



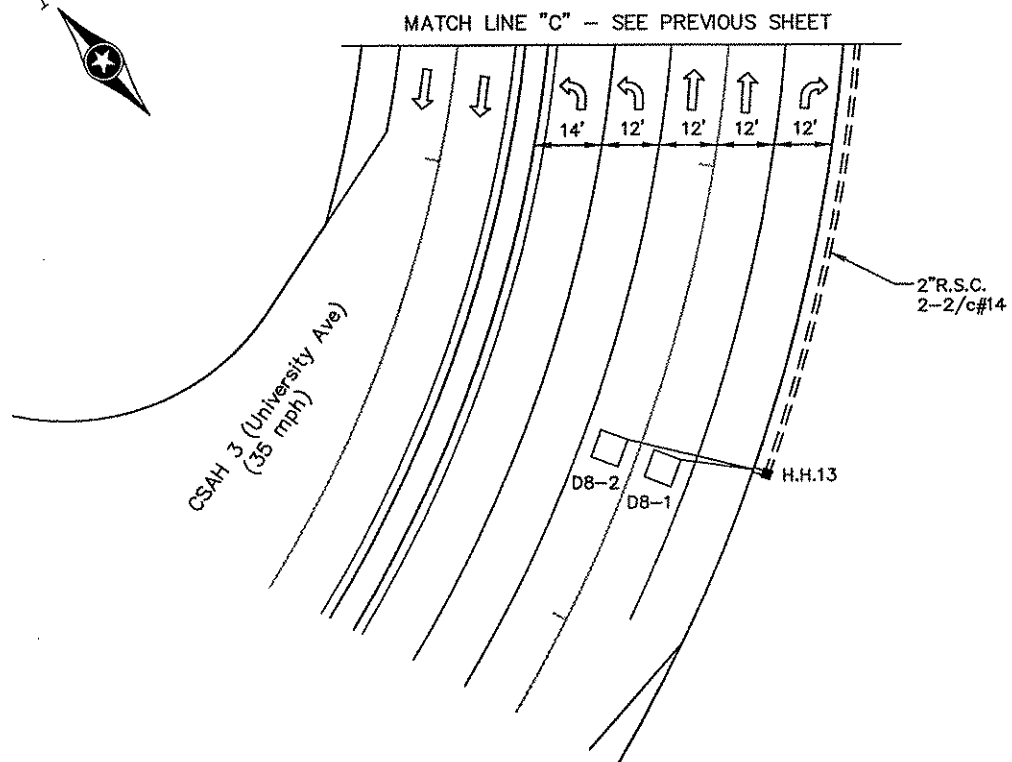
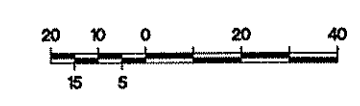
- NOTES:**
- 1) LOCATION OF POLES, CONTROLLER AND SERVICE CABINETS, LOOP DETECTORS & HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
  - 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
  - 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
  - 5) CONTRACTOR SHALL FURNISH & INSTALL NEW CONCRETE COVERS FOR INPLACE HANDHOLES 21, 23 AND 26.
  - 6) CONTRACTOR SHALL CUT HANDHOLE 27 DOWN BELOW ROADWAY, SHALL CONNECT INPLACE 3" R.S.C. WITHIN HANDHOLE (TO AID IN FUTURE CABLE PULLING THROUGH HANDHOLE), SHALL PULL ANY SLACK CABLE FROM HANDHOLE, SHALL PROVIDE METAL COVER OVER THE HANDHOLE, SHALL FILL HANDHOLE WITH SAND, AND SHALL PAVE OVER HANDHOLE, TO SATISFACTION OF ENGINEER.
  - 7) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
  - 8) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION HAND/WALKING PERSON INDICATION.
  - 9) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
  - 10) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNING TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO. 2565 FOR THIS SIGNAL SYSTEM).
  - 11) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACE.
  - 12) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE & CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6' FROM END OF EACH MAST ARM (FOR EVP).
  - 13) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
  - 14) CONTRACTOR SHALL MAINTAIN OPERATION OF SIGNAL SYSTEM AT ALL TIMES, UNTIL OTHERWISE APPROVED BY ENGINEER FOR SIGNAL SYSTEM TO BE TURNED OFF.
  - 15) CONTRACTOR SHALL REMOVE & SALVAGE ALL ITEMS OF INPLACE SIGNAL SYSTEM (EXCEPT FOR INTERCONNECT CABLES) (TO BE MEASURED AND PAID FOR SEPARATELY UNDER ITEM NO. 2104).
  - 16) CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING & HOLDING EXISTING SIGNAL POLES & FOUNDATIONS INPLACE WHEN INSTALLING NEW CONCRETE FOUNDATIONS (INCIDENTAL TO ITEM NO. 2565).
  - 17) CONTRACTOR SHALL NOTE PRESENCE OF HIGH WATER TABLE THROUGH AREA, AND SHALL BE RESPONSIBLE FOR ALL WORK (INCLUDING DEWATERING) REQUIRED FOR FOUNDATION INSTALLATIONS.

① PA100 POLE FOUNDATION  
 TYPE PA100-A-50-D40-9 (DAVT AT 350')  
 LUMINAIRE-250 W HPS  
 3-ONE WAY SIGNALS-OVERHEAD (0', 17' AND 29' FROM END OF MAST ARM)  
 TYPE 10A-POLE MOUNTED 90°  
 TYPE 20B-POLE MOUNTED 180°  
 1-PEDESTRIAN PUSH BUTTON  
 R9-3a SIGN PANEL-FACING POLE 4  
 TYPE D SIGN PANEL-OVERHEAD (D-1)  
 ONE WAY EVP DETECTOR AND LIGHT (#6,1)  
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°  
 EXTEND INTO H.H.3:  
 3"R.S.C.  
 3-12/c#12  
 2-3/c#12  
 1-3/c#20  
 1-3/c#12 (LUM)

② PA100 POLE FOUNDATION  
 TYPE PA100-A-55-D40-9 (DAVT AT 350')  
 LUMINAIRE-250 W HPS  
 3-ONE WAY SIGNALS-OVERHEAD (0', 17' AND 29' FROM END OF MAST ARM)  
 2-TYPE 10B-POLE MOUNTED 90° & 180°  
 2-PEDESTRIAN PUSH BUTTONS  
 TYPE D SIGN PANEL-OVERHEAD (D-2)  
 ONE WAY EVP DETECTOR AND LIGHT (#8,3)  
 ONE WAY EVP DETECTOR-POLE MOUNTED 90° (#4,7)  
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°  
 EXTEND INTO H.H.5:  
 3"R.S.C.  
 3-12/c#12  
 2-3/c#12  
 2-3/c#20  
 1-3/c#12 (LUM)

③ PA100 POLE FOUNDATION  
 TYPE PA100-A-50-D40-9 (DAVT AT 350')  
 LUMINAIRE-250 W HPS  
 3-ONE WAY SIGNALS-OVERHEAD (0', 17' AND 29' FROM END OF MAST ARM)  
 TYPE 10B-POLE MOUNTED 90°  
 TYPE 20B-POLE MOUNTED 180°  
 2-PEDESTRIAN PUSH BUTTONS  
 TYPE D SIGN PANELS-OVERHEAD (D-3)  
 TWO WAY EVP DETECTOR AND ONE WAY LIGHT (#2,5)  
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°  
 EXTEND INTO H.H.11:  
 3"R.S.C.  
 3-12/c#12  
 2-3/c#12  
 1-3/c#20  
 1-3/c#12 (LUM)

④ PA100 POLE FOUNDATION  
 TYPE PA100-A-50-D40-9 (DAVT AT 350')  
 LUMINAIRE-250 W HPS  
 3-ONE WAY SIGNALS-OVERHEAD (0', 11' AND 23' FROM END OF MAST ARM)  
 TYPE 10B-POLE MOUNTED 90°  
 TYPE 10A-POLE MOUNTED 180°  
 1-PEDESTRIAN PUSH BUTTON  
 R9-3a SIGN PANEL-FACING POLE 1  
 TYPE D SIGN PANEL-OVERHEAD (D-4)  
 ONE WAY EVP DETECTOR AND LIGHT (#4,7)  
 ONE WAY EVP DETECTOR-POLE MOUNTED 90° (#8,3)  
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°  
 EXTEND INTO H.H.16:  
 3"R.S.C.  
 3-12/c#12  
 2-3/c#12  
 2-3/c#20  
 1-3/c#12 (LUM)



10/21/04

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DESIGN TEAM	1	JMG	09/04	REVISED GEOMETRICS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
	NO.	BY	DATE	REVISIONS

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.  
 Certified By: *John M. Gray* Lic. No. 22457  
 Printed Name: John M. Gray Date: 10/21/04

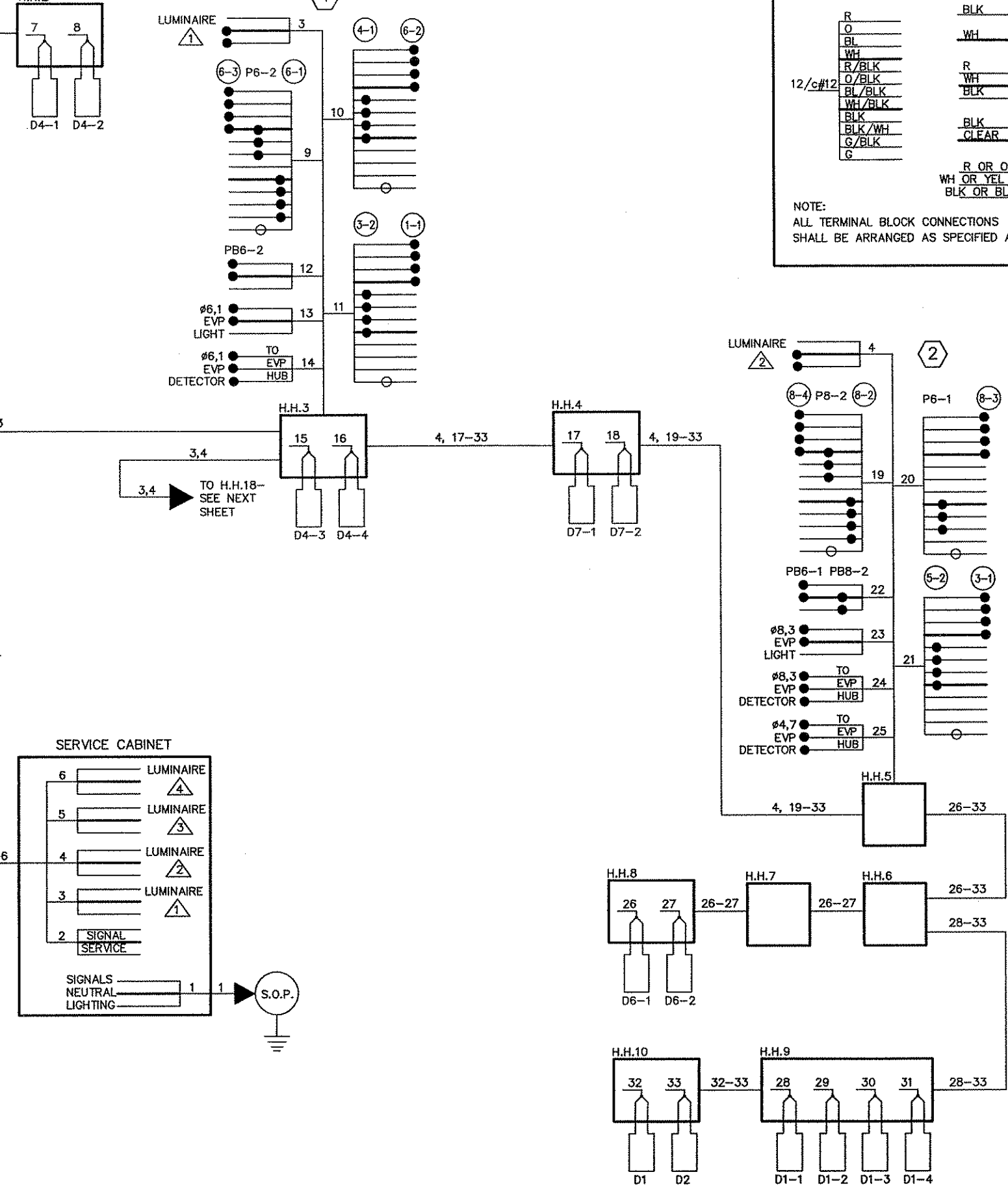
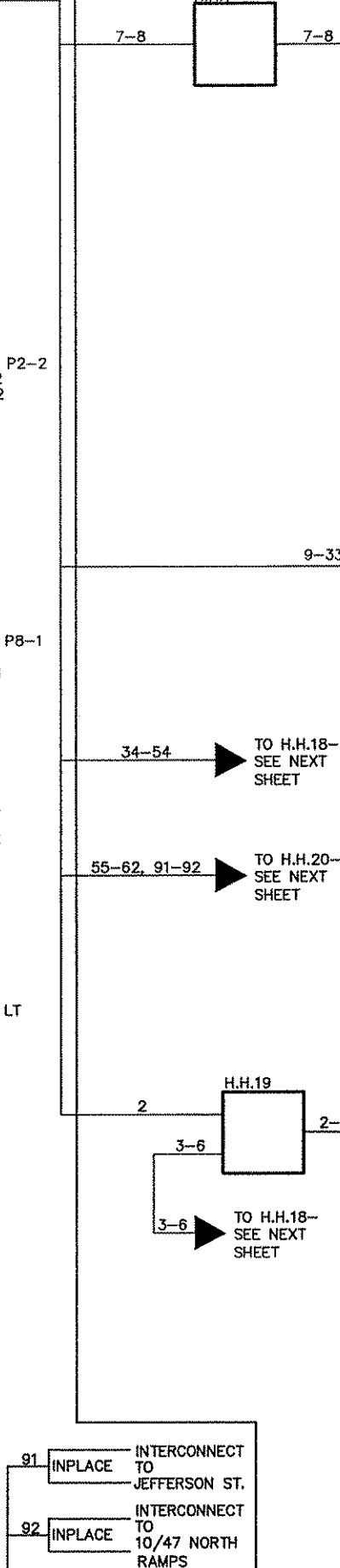
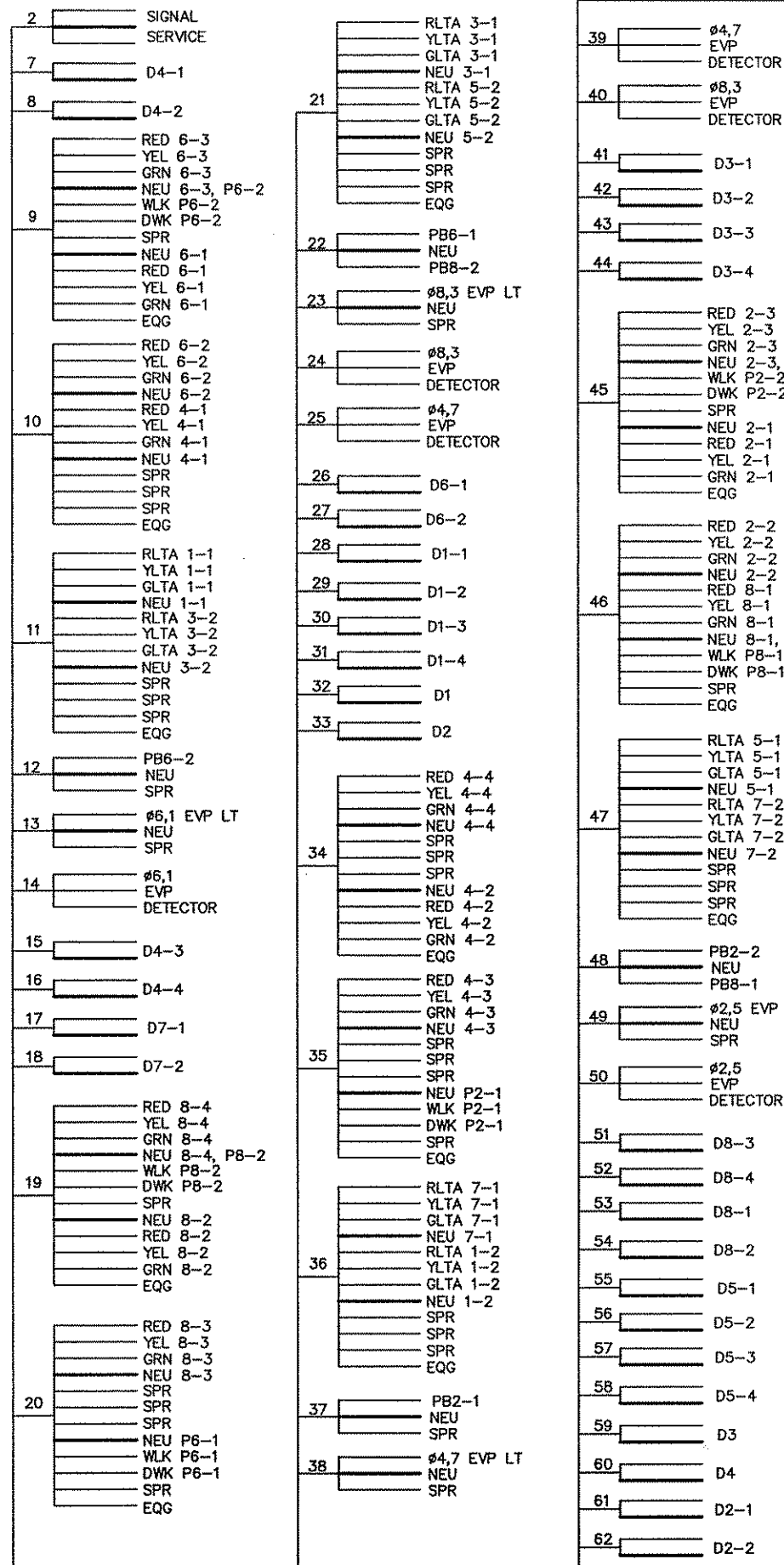


ANDKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**TRAFFIC SIGNAL SYSTEM  
 INTERSECTION LAYOUT**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	62
ANOKC0410.00	
DATE	10/21/04
	92

CONTROLLER CABINET



CONDUCTOR COLOR CODING

R	BLK	2-1/c#2
O	WH	2-1/c#6
BL	WH	2-1/c#10
WH	R	3/c#12
R/BLK	WH	3/c#12
O/BLK	BLK	2/c#14
BL/BLK	BLK	2/c#14
WH/BLK	BLK	2/c#14
BLK	BLK	2/c#14
BLK/WH	WH OR YEL	3/c#20
G/BLK	BLK OR BL	3/c#20
G		

NOTE:  
ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

10/21/04

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DESIGN TEAM	1	JMG	09/04	REVISED GEOMETRICS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
ND.	BY	DATE	REVISIONS	

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ANDOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

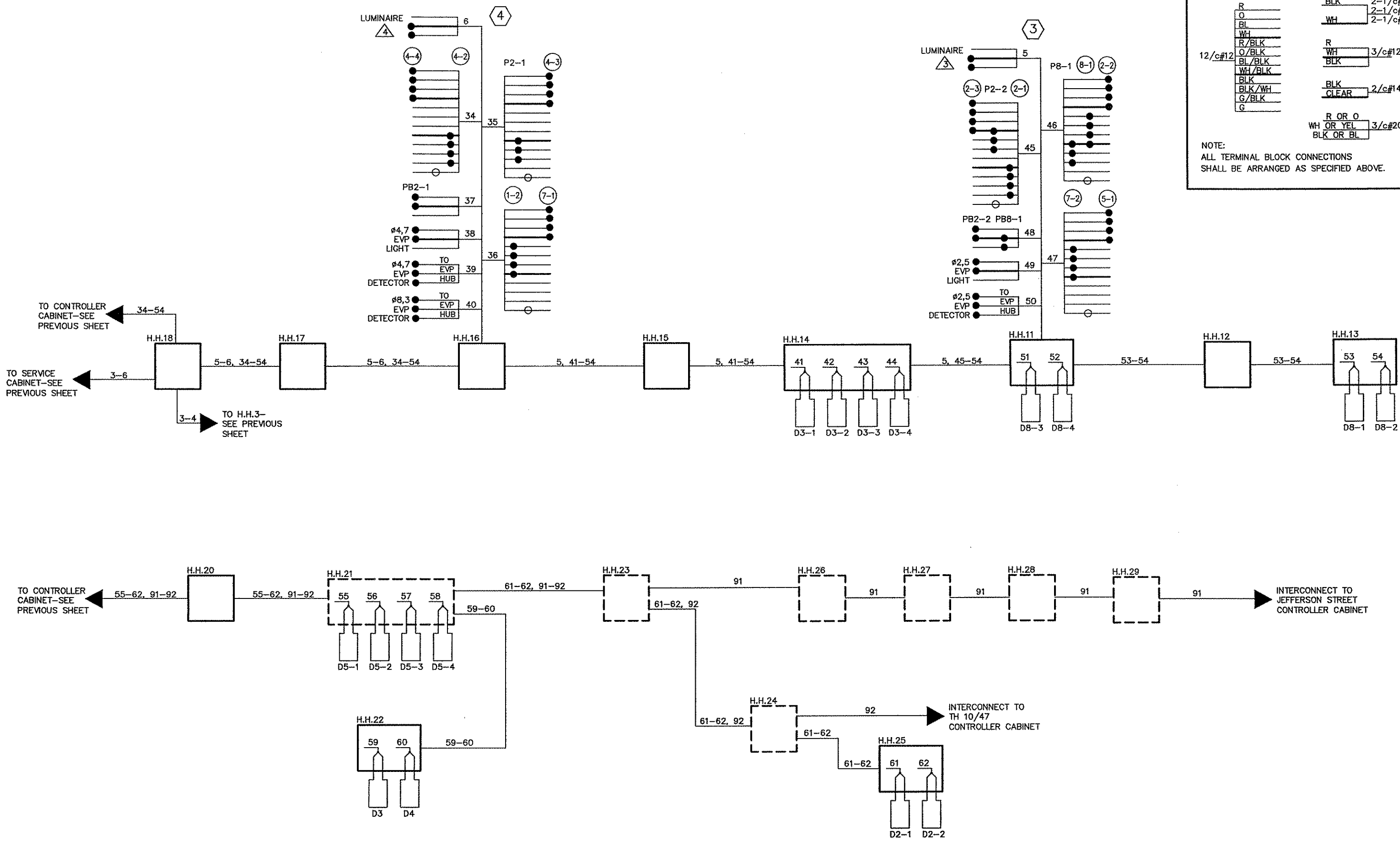
**TRAFFIC SIGNAL SYSTEM**  
**FIELD WIRING DIAGRAM**  
STATE PROJECT NO. 02-610-11  
STATE PROJECT NO. 106-020-24

FILE NO.	63
ANDK0410.00	
DATE	10/21/04
	92

CONDUCTOR COLOR CODING

R	BLK	2-1/c#2
O	WH	2-1/c#6
BL	WH	2-1/c#10
WH	R	
R/BLK	WH	3/c#12
O/BLK	BLK	
BL/BLK	BLK	
WH/BLK	BLK	
BLK	BLK	2/c#14
BLK/WH	CLEAR	
G/BLK		
G		
	R OR O	
	WH OR YEL	3/c#20
	BLK OR BL	

NOTE:  
ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.



10/21/04

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DESIGN TEAM	1	JMG	09/04	REVISED GEOMETRICS
DRAWN BY:	JMG			
DESIGNER:	JMG			
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ND.	BY	DATE	REVISIONS	

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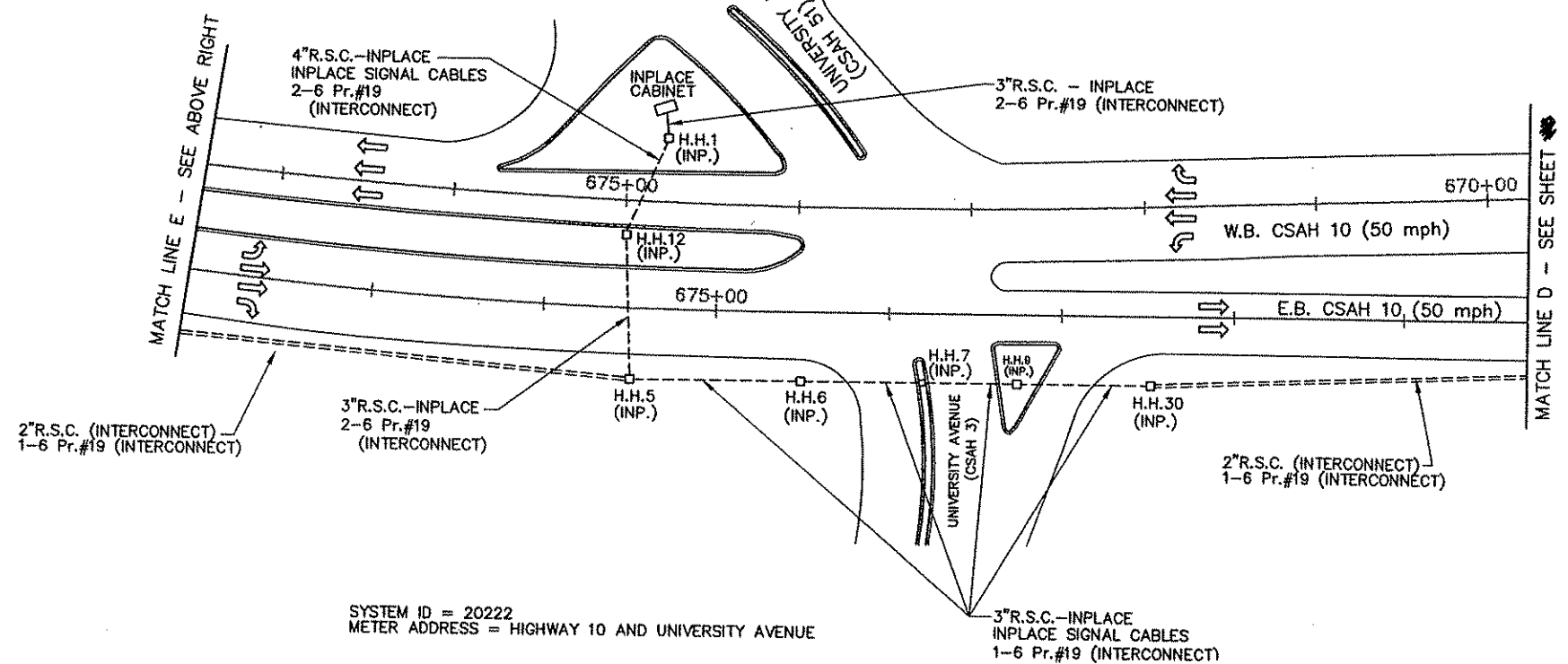
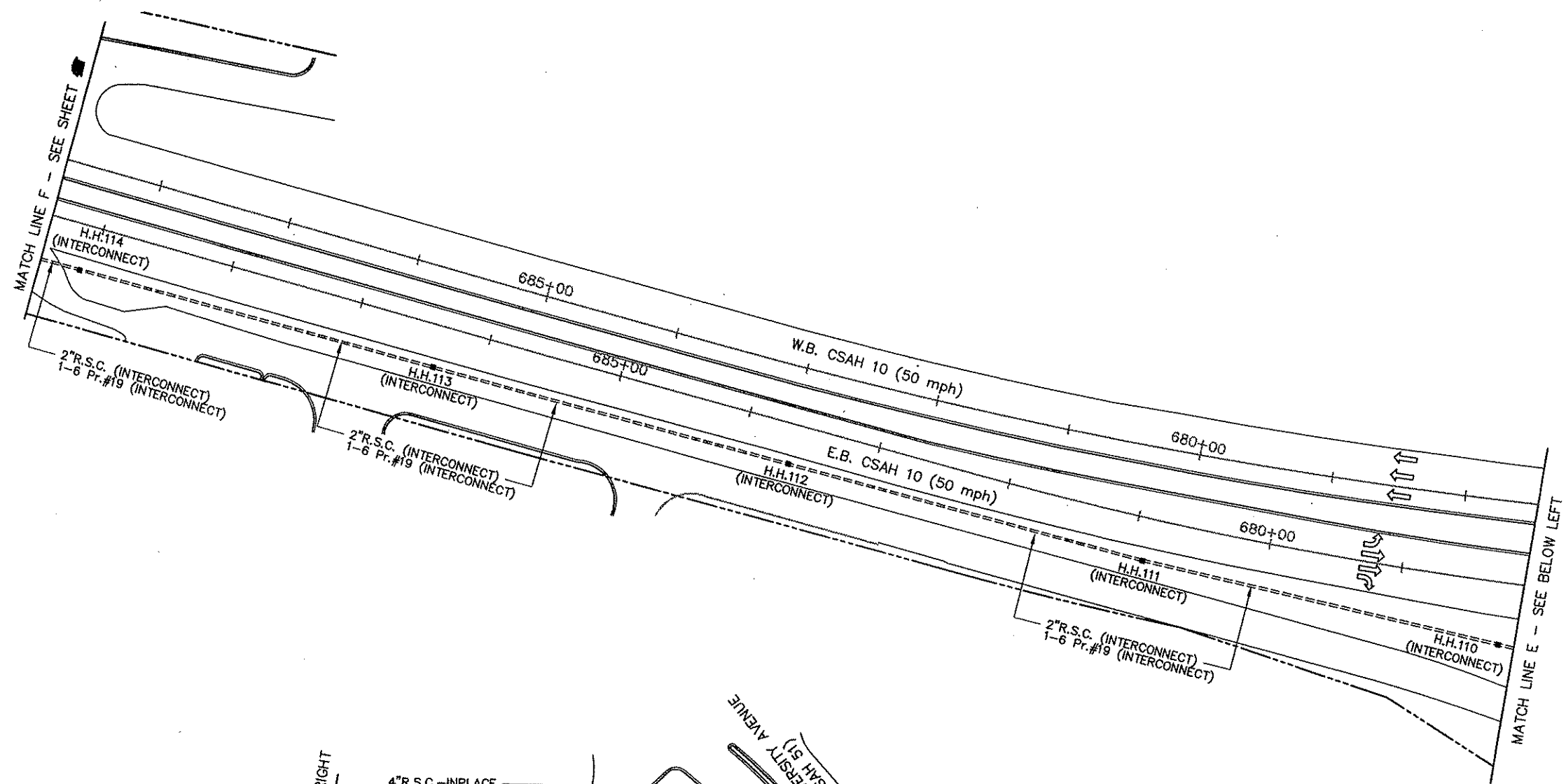


ANDKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

**TRAFFIC SIGNAL SYSTEM  
FIELD WIRING DIAGRAM**  
STATE PROJECT NO. 02-610-11  
STATE PROJECT NO. 106-020-24

FILE NO.	64
ANDK0410.00	
DATE	10/21/04
92	





SYSTEM ID = 20222  
METER ADDRESS = HIGHWAY 10 AND UNIVERSITY AVENUE

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATION ONLY.

10/21/04

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DESIGN TEAM		NO.	BY	DATE	REVISIONS
DRAWN BY:	JMG				
DESIGNER:	JMG				
CHECKED BY:	JMG				

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.

Certified By: *John M. Gray* Lic. No. 22457  
Printed Name: John M. Gray Date: 10/21/04

PHONE: (651)490-2000  
3535 VAHNAIS CENTER DR.  
ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

**INPLACE SIGNAL SYSTEM  
FOR INFORMATION ONLY**

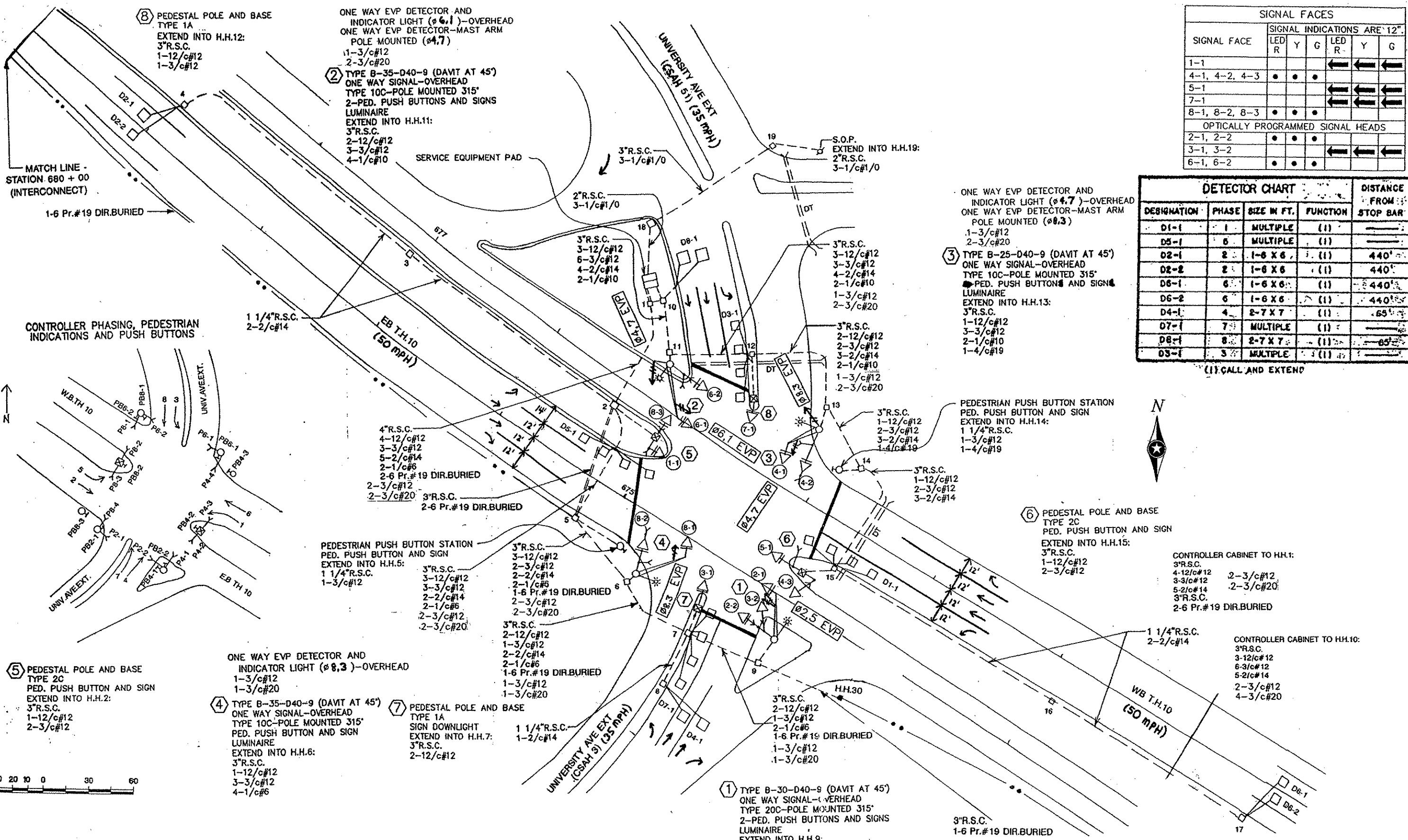
STATE PROJECT NO. 02-610-11  
STATE PROJECT NO. 106-020-24

FILE NO.	65
ANDKCO410.00	
DATE	10/21/04
	92

SIGNAL FACES						
SIGNAL FACE	SIGNAL INDICATIONS ARE 12"					
	LED R	Y	G	LED R	Y	G
1-1				←	←	←
4-1, 4-2, 4-3	•	•	•			
5-1				←	←	←
7-1				←	←	←
8-1, 8-2, 8-3	•	•	•			
OPTICALLY PROGRAMMED SIGNAL HEADS						
2-1, 2-2	•	•	•			
3-1, 3-2				←	←	←
6-1, 6-2	•	•	•			

DETECTOR CHART				DISTANCE FROM STOP BAR
DESIGNATION	PHASE	SIZE IN FT.	FUNCTION	
D1-1	1	MULTIPLE	(1)	---
D5-1	6	MULTIPLE	(1)	---
D2-1	2	1-6 X 6	(1)	440'
D2-2	2	1-6 X 6	(1)	440'
D6-1	6	1-6 X 6	(1)	440'
D6-2	6	1-6 X 6	(1)	440'
D4-1	4	2-7 X 7	(1)	65'
D7-1	7	MULTIPLE	(1)	---
D8-1	8	2-7 X 7	(1)	65'
D3-1	3	MULTIPLE	(1)	---

(1) CALL AND EXTEND



NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATION ONLY.

SYSTEM ID = 20222  
METER ADDRESS = HIGHWAY 10 AND UNIVERSITY AVENUE

DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				

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Certified By: *[Signature]* Lic. No. 22457  
Printed Name: John M. Gray Date: 10/21/04

**SEH**  
PHONE: 651-490-2000  
3535 VANDAL CENTER DR.  
ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

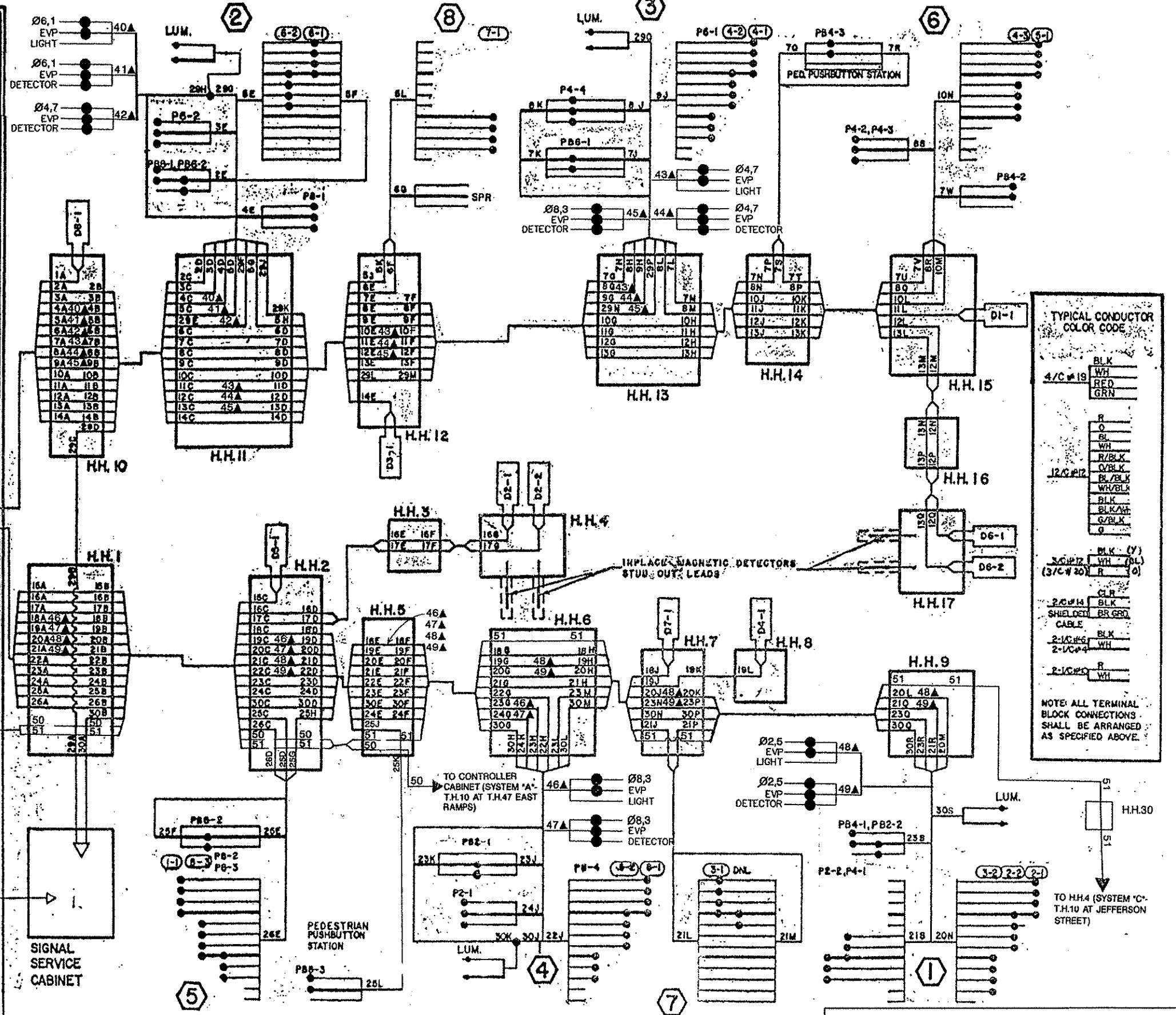
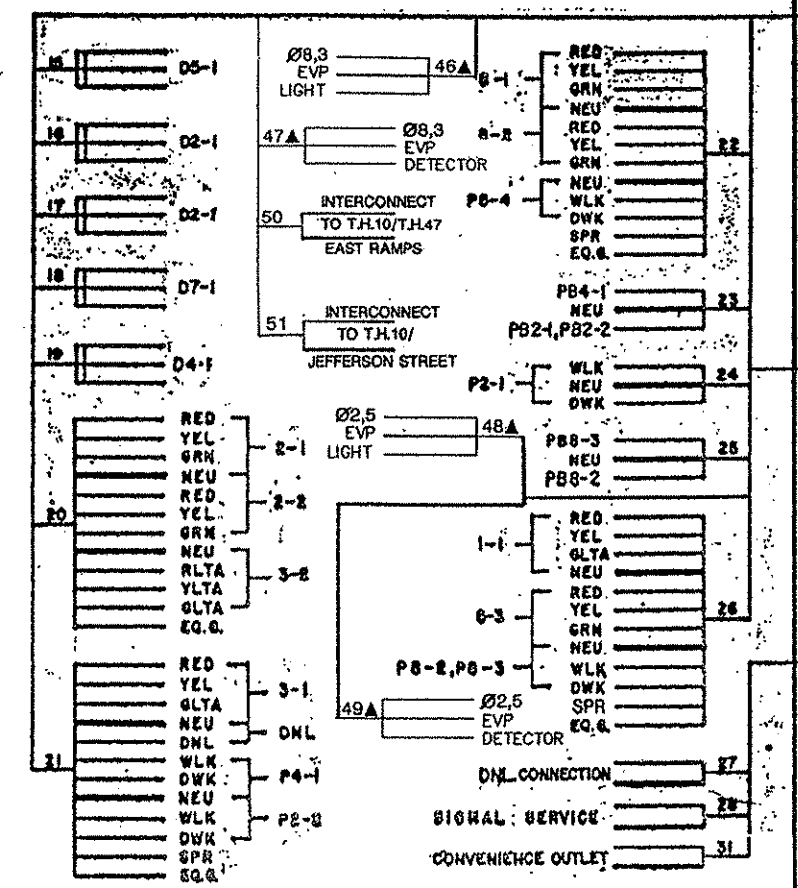
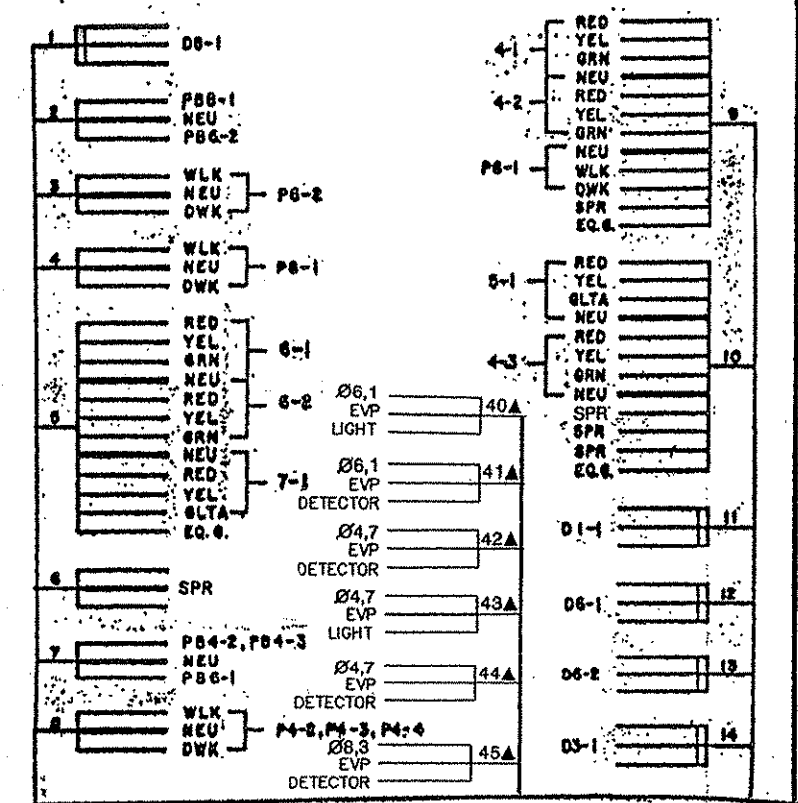
**INPLACE SIGNAL SYSTEM FOR INFORMATION ONLY**  
STATE PROJECT NO. 02-610-11  
STATE PROJECT NO. 106-020-24

FILE NO.	66
ANDKCO410.00	
DATE	10/21/04
	92

10/21/04

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# CONTROLLER CABINET



TYPICAL CONDUCTOR COLOR CODE	
4/C #19	BLK, WH, RED, GRN
12/C #12	R, O, BL, WH, R/BLK, O/BLK, BK/BLK, WH/BLK, BLK, BLK/WH, G/BLK, O
3/C #12 (3/C #20)	BLK (Y), WH (BL), R (O)
2/C #14	CLR, SHIELD, BR, GRN, CABLE
2-1/C #6	BLK
2-1/C #4	WH
2-1/C #5	R
2-1/C #3	WH

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATION ONLY.

10/21/04 w:\oe\anokc\041000\dwg\10univsiget.dwg

DESIGN TEAM				
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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 Printed Name: John M. Gray Date: 10/21/04

**SEH** PHONE: (651)490-2000  
 5535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**INPLACE SIGNAL SYSTEM FOR INFORMATION ONLY**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	67
ANDK0410.00	
DATE	10/21/04
	92

① P100-A-30-D-40-12  
 ONE-WAY SIGNAL OVERHEAD  
 2 - TYPE 10B POLE MOUNTED 0° & 270°  
 2 SETS PEDESTRIAN INDICATIONS  
 2 SETS PEDESTRIAN PUSH BUTTONS (PHASES 2 & 8)  
 LUMINAIRE - 200w HIGH PRESSURE SODIUM (350°)  
 3" R.S.C., 2-12/C#12, 4-3/C#12, 2-1/C#6,  
 1-3/C#20 EXTENDED INTO HH-1  
 EVP DETECTOR AND LIGHT (Ø2.5 EVP)

② P80-B-25  
 ONE-WAY SIGNAL OVERHEAD  
 2 SETS PEDESTRIAN INDICATIONS  
 2 SETS PEDESTRIAN PUSH BUTTONS (PHASES 2 & 4)  
 2 - TYPE 10B POLE MOUNTED 90° & 270°  
 3" R.S.C., 2-12/C#12, 2-3/C#12, 1-3/C#20  
 EXTENDED INTO HH-18  
 EVP DETECTOR AND LIGHT (Ø4 EVP)

③ TYPE 1A  
 3" R.S.C., 1-12/C#12, 1-3/C#12  
 EXTENDED INTO HH-7

④ P100-A-40-D40-12  
 2 - TYPE 10B POLE MOUNTED 0° & 270°  
 2 SETS PEDESTRIAN INDICATIONS  
 2 SETS PEDESTRIAN PUSH BUTTONS (PHASES 4 & 6)  
 LUMINAIRE - 200w HIGH PRESSURE SODIUM (350°)  
 3" R.S.C., 2-12/C#12, 4-3/C#12, 2-1/C#6, 1-3/C#20  
 EXTENDED INTO H.H.B  
 EVP DETECTOR + LIGHT (Ø6.1 EVP)

CABINET TO HH 1:  
 4" R.S.C.  
 7-12/C#12  
 8-3/C#12  
 3-3/C#20  
 7-2/C#14  
 2-1/C#6  
 1-6 Pr #19

CABINET TO HH 2:  
 4" R.S.C.  
 3-12/C#12  
 3-3/C#12  
 1-3/C#20  
 11-2/C#14

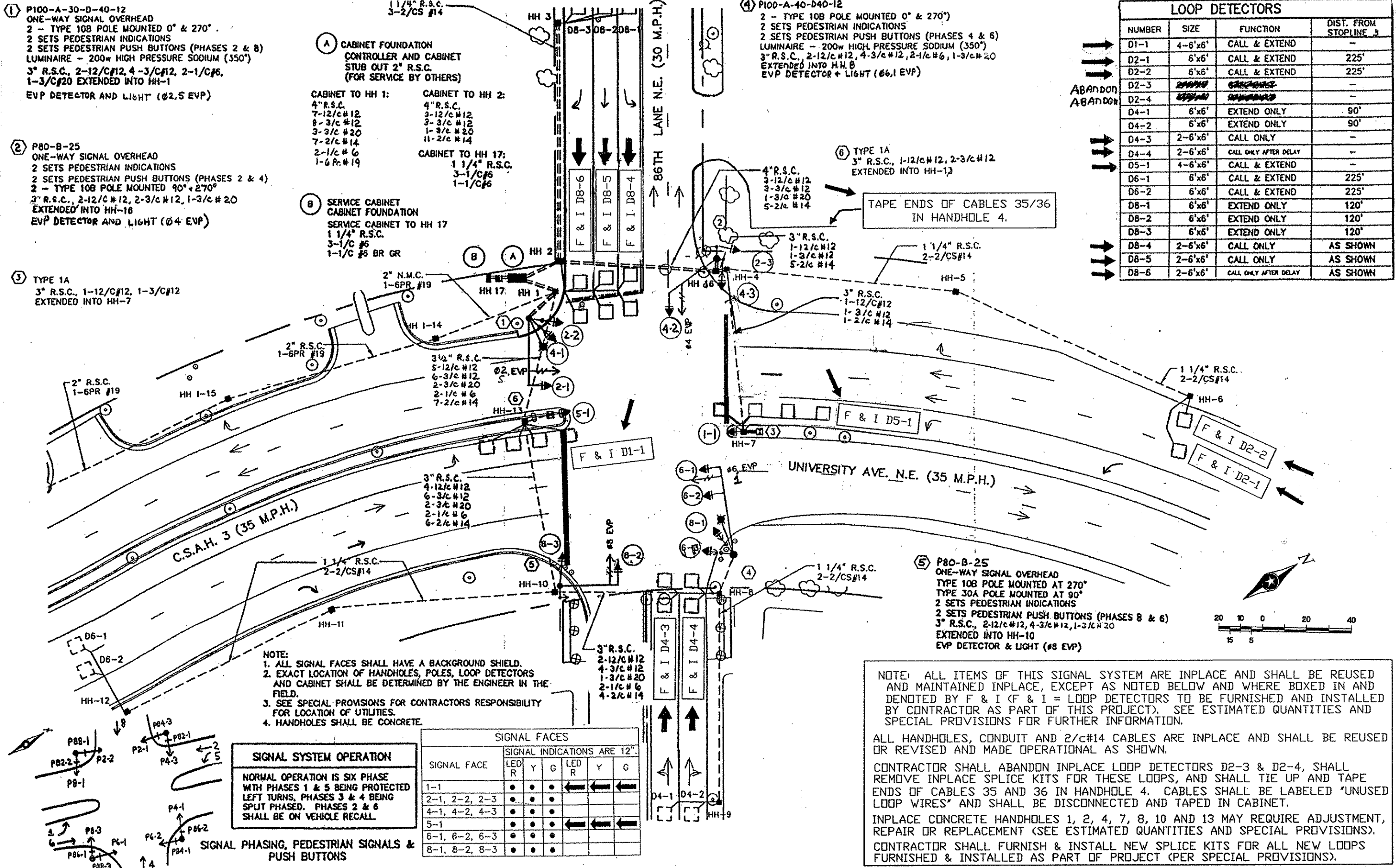
CABINET TO HH 17:  
 1 1/4" R.S.C.  
 3-1/C#6  
 1-1/C#6

⑤ SERVICE CABINET  
 CABINET FOUNDATION  
 SERVICE CABINET TO HH 17  
 1 1/4" R.S.C.  
 3-1/C#6  
 1-1/C#6 BR GR

⑥ TYPE 1A  
 3" R.S.C., 1-12/C#12, 2-3/C#12  
 EXTENDED INTO HH-13

TAPE ENDS OF CABLES 35/36  
 IN HANDHOLE 4.

LOOP DETECTORS			
NUMBER	SIZE	FUNCTION	DIST. FROM STOPLINE J
D1-1	4-6'x6'	CALL & EXTEND	-
D2-1	6'x6'	CALL & EXTEND	225'
D2-2	6'x6'	CALL & EXTEND	225'
D2-3	<del>6'x6'</del>	<del>CALL &amp; EXTEND</del>	-
D2-4	<del>6'x6'</del>	<del>CALL &amp; EXTEND</del>	-
D4-1	6'x6'	EXTEND ONLY	90'
D4-2	6'x6'	EXTEND ONLY	90'
D4-3	2-6'x6'	CALL ONLY	-
D4-4	2-6'x6'	CALL ONLY AFTER DELAY	-
D5-1	4-6'x6'	CALL & EXTEND	-
D6-1	6'x6'	CALL & EXTEND	225'
D6-2	6'x6'	CALL & EXTEND	225'
D8-1	6'x6'	EXTEND ONLY	120'
D8-2	6'x6'	EXTEND ONLY	120'
D8-3	6'x6'	EXTEND ONLY	120'
D8-4	2-6'x6'	CALL ONLY	AS SHOWN
D8-5	2-6'x6'	CALL ONLY	AS SHOWN
D8-6	2-6'x6'	CALL ONLY AFTER DELAY	AS SHOWN



NOTE:  
 1. ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD.  
 2. EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND CABINET SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.  
 3. SEE SPECIAL PROVISIONS FOR CONTRACTORS RESPONSIBILITY FOR LOCATION OF UTILITIES.  
 4. HANDHOLES SHALL BE CONCRETE.

**SIGNAL SYSTEM OPERATION**  
 NORMAL OPERATION IS SIX PHASE WITH PHASES 1 & 5 BEING PROTECTED LEFT TURNS, PHASES 3 & 4 BEING SPLIT PHASED. PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

**SIGNAL PHASING, PEDESTRIAN SIGNALS & PUSH BUTTONS**

SIGNAL FACES						
SIGNAL FACE	SIGNAL INDICATIONS ARE 12"					
	LED R	Y	G	LED R	Y	G
1-1	•	•	•	←	←	←
2-1, 2-2, 2-3	•	•	•			
4-1, 4-2, 4-3	•	•	•			
5-1	•	•	•	←	←	←
6-1, 6-2, 6-3	•	•	•			
8-1, 8-2, 8-3	•	•	•			

NOTE: ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT AS NOTED BELOW AND WHERE BOXED IN AND DENOTED BY F & I (F & I = LOOP DETECTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS FOR FURTHER INFORMATION.

ALL HANDHOLES, CONDUIT AND 2/C#14 CABLES ARE INPLACE AND SHALL BE REUSED OR REVISED AND MADE OPERATIONAL AS SHOWN.

CONTRACTOR SHALL ABANDON INPLACE LOOP DETECTORS D2-3 & D2-4, SHALL REMOVE INPLACE SPLICE KITS FOR THESE LOOPS, AND SHALL TIE UP AND TAPE ENDS OF CABLES 35 AND 36 IN HANDHOLE 4. CABLES SHALL BE LABELED "UNUSED LOOP WIRES" AND SHALL BE DISCONNECTED AND TAPED IN CABINET.

INPLACE CONCRETE HANDHOLES 1, 2, 4, 7, 8, 10 AND 13 MAY REQUIRE ADJUSTMENT, REPAIR OR REPLACEMENT (SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS).

CONTRACTOR SHALL FURNISH & INSTALL NEW SPLICE KITS FOR ALL NEW LOOPS FURNISHED & INSTALLED AS PART OF PROJECT (PER SPECIAL PROVISIONS).

10/21/04  
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DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				

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.  
 Certified By: *[Signature]* Lic. No. 22457  
 Printed Name: John M. Gray Date: 10/21/04

**SEH**  
 PHONE: (650)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

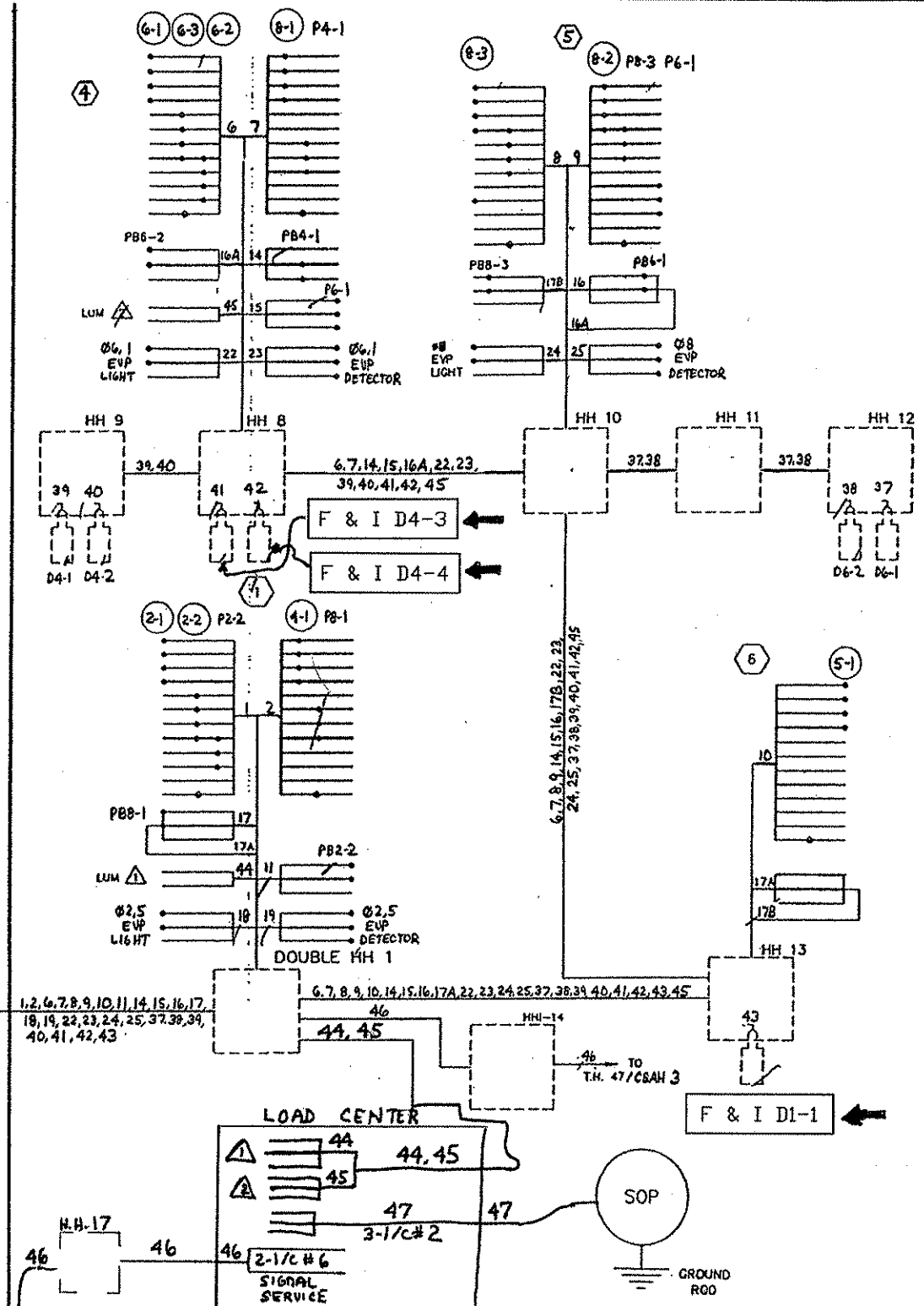
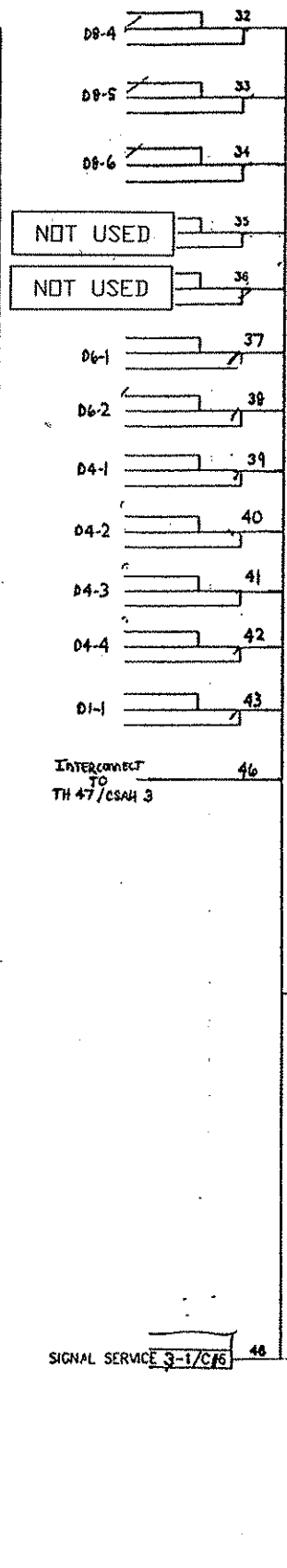
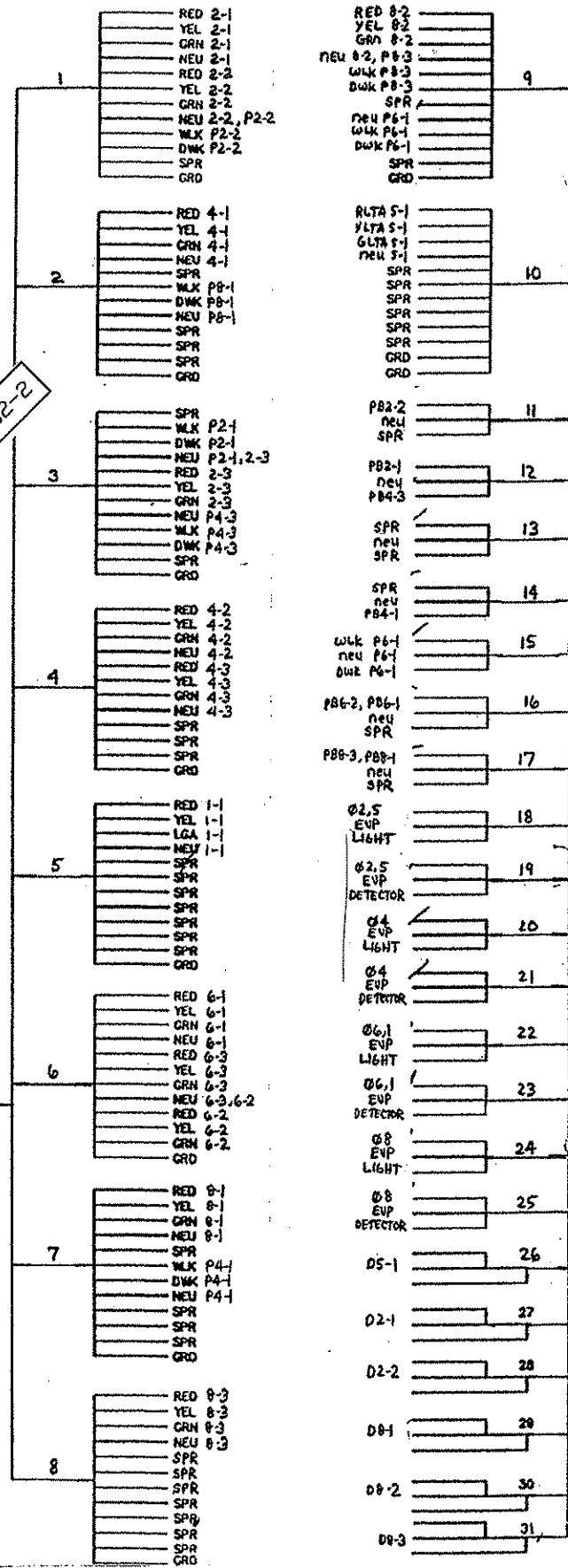
**LOOP DETECTOR REPLACEMENT  
 CSAH 3 AT 86TH LANE NE**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **68**  
 ANOKC0410.00  
 DATE 10/21/04  
**92**

10/21/04

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### CONTROLLER CABINET



NOTE: ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY F & I (F & I = LOOP DETECTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS FOR FURTHER INFORMATION.

ALL HANDHOLES, CONDUIT AND 2/c#14 CABLES ARE INPLACE AND SHALL BE REUSED AND MADE OPERATIONAL AS SHOWN.

ABANDON LOOPS D2-3/D2-4, TAPE ENDS OF CABLES 36/36.

Ø4 EVP LIGHT  
Ø4 EVP DETECTOR

HH 16  
5, 13, 26, 27, 28, 35, 36

HH 3  
29, 30, 31

HH 2  
32, 33, 34

Ø8-1 Ø8-2 Ø8-3

F & I D8-4

F & I D8-5

F & I D8-6

R	BLK	2-1/c#10
O	WH	
BL		
WH		
R/BLK		
O/BLK	BLK	3/c#12
BL/BLK	WH	3-1/c#6
WH/BLK		
BLK		
BLK/WH	CLEAR	2/c#14
G/BLK	BLK	SHIELDED CABLE
G	BR.GR.	
	Y	
	BL	3/c#20
	O	

NOTE: CONDUCTOR COLOR CODING ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

DESIGN TEAM				
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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.

Certified By: *John M. Gray* Lic. No. 22457  
 Licensed Professional Engineer  
 Printed Name: John M. Gray Date: 10/21/04



ANDKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**LOOP DETECTOR REPLACEMENT**  
**CSAH 3 AT 86TH LANE NE**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **69**  
 ANDKC0410.00  
 DATE 10/21/04  
**92**

## TRAFFIC CONTROL NOTES & GUIDELINES

### GENERAL INFORMATION:

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE PAVEMENT MARKINGS, PAVEMENT MARKING REMOVALS, SIGNS, AND DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MNMUTCD.
5. AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONTROLS WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT. THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER. READJUSTMENTS MAY AGAIN BE REQUIRED IN THE SPRING.
6. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

### SIGNING:



1. ALL TRAFFIC CONTROL DEVICES THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MNMUTCD. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE SIGNS SHALL BE MADE OF DIAMOND GRADE ORANGE REFLECTIVE SHEETING OR AN APPROVED SUBSTITUTE.
5. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS INSTALLED.

### PAVEMENT MARKING:

1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2. PAINT, POLYMER LANE TAPE AND/OR TRPM'S ARE ACCEPTABLE TEMPORARY STRIPING ALTERNATIVES ACCORDING TO ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER. GENERALLY, ONLY PAINT WILL BE USED BEFORE MAY 1ST OR WHEN THE OTHER MANUFACTURERS' SPECIFICATIONS CAN NOT BE MET.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND INSTALLATION OF TEMPORARY AND FINAL STRIPING.

### TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

NOTES:  
CONTRACTOR SHALL FURNISH AND INSTALL ALL DEVICES SHOWN UNLESS NOTED OTHERWISE. EXACT LOCATION OF TRAFFIC CONTROL DEVICES TO BE DETERMINED BY THE ENGINEER.

SYMBOL	DESCRIPTION
⊥	TRAFFIC CONTROL SIGN
┌	TYPE III BARRICADE 
• •	REFLECTORIZED DRUM 
=====	PROPOSED PERMANENT CONSTRUCTION
-----	EXISTING OR IN PLACE PAVEMENT MARKINGS
- - - - -	EXISTING TOPO
◇	EXISTING OR IN PLACE SIGN
←	DIRECTION OF TRAFFIC
■	PERMANENT CONSTRUCTION AREA
▨	CONSTRUCT UNDER TRAFFIC
▩	REMOVE MEDIAN AND CONSTRUCT TEMPORARY PAVEMENT
⊗	TRAFFIC SIGNAL

### TRAFFIC CONTROL - QUANTITIES SUMMARY

ITEM	UNIT	STAGE				TOTAL
		PHASE 1	PHASE 2	2	3	
PAVEMENT MARKING REMOVAL	LF		1450	4775	3765	9990
PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC *	EACH				2	2
PAVEMENT MESSAGE (LEFT ARROW) PAINT	EACH		12	3	2	17
PAVEMENT MESSAGE (RIGHT ARROW) PAINT	EACH			1	1	2
PAVEMENT MESSAGE (LEFT-THRU ARROW) PAINT	EACH			2		2
4" SOLID LINE WHITE-PAINT	LF		5125	3990	1285	10400
6" SOLID LINE WHITE-PAINT	LF				180	180
8" SOLID LINE WHITE-PAINT	LF			55	50	105
24" SOLID LINE WHITE-PAINT	LF		95	30	50	175
4" BROKEN LINE WHITE-PAINT	LF			40	90	130
4" SOLID LINE YELLOW-PAINT	LF		1580	1165	1305	4050
4" DOUBLE SOLID LINE YELLOW-PAINT	LF		2195	2335		4530
4" BROKEN LINE WHITE-EPOXY *	LF			145	60	205
PORTABLE CHANGEABLE MESSAGE SIGN **	UDAY					60

\* MARKINGS TO REPLACE EXISTING MARKINGS REMOVED FOR TEMPORARY TRAFFIC CONTROL.

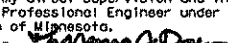
\*\* TO BE USED AT THE DIRECTION OF THE ENGINEER. QUANTITY ASSUMES 4 SIGNS AT 15 DAYS EACH.


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10/21/2004

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DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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.  
 Certified By:  License No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004

 PHONE: (651)490-2000  
3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**TRAFFIC CONTROL  
 TABULATIONS**

FILE NO. **70**  
 ANOKCO410.00  
 DATE  
 10/21/2004

TRAFFIC CONTROL SIGNS / DEVICES				ESTIMATED QUANTITY BY STAGE				REMARKS
SIGN OR DEVICE	CODE NO.	COLOR	SIZE IN.	STAGE 1 PHASE 1	STAGE 1 PHASE 2	STAGE 2	STAGE 3	
	R1-1	RED ON WHITE	30 x 30	-	3	1	-	
	R1-1	RED ON WHITE	48 x 48	8	6	6	-	
	R1-4	WHITE ON RED	18 x 6	8	6	6	-	
	R2-1	BLACK ON WHITE	24 x 30	-	2	1	-	
	R3-X1	BLACK ON WHITE	30 x 30	-	-	1	-	
	R3-X2	BLACK ON WHITE	30 x 30	-	5	3	1	
	R4-7	BLACK ON WHITE	24 x 30	5	6	3	2	
	R5-1	WHITE ON RED	30 x 30	2	2	-	-	
	R6-1R	BLACK ON WHITE	36 x 12	-	3	-	-	
	R11-2	BLACK ON WHITE	48 x 30	-	-	3	-	
	R11-4	BLACK ON WHITE	60 x 30	-	-	1	-	
	W1-1R	BLACK ON YELLOW	48 x 48	-	-	1	-	
	W1-2L	BLACK ON YELLOW	48 x 48	-	1	-	-	
	W1-4L	BLACK ON ORANGE	48 x 48	-	2	-	-	
	W1-6	BLACK ON ORANGE	48 x 24	-	6	2	-	
	W4-2L	BLACK ON ORANGE	48 x 48	-	2	-	1	
	W13-1	BLACK ON YELLOW	30 x 30	-	-	1	-	

TRAFFIC CONTROL SIGNS / DEVICES				ESTIMATED QUANTITY BY STAGE				REMARKS
SIGN OR DEVICE	CODE NO.	COLOR	SIZE IN.	STAGE 1 PHASE 1	STAGE 1 PHASE 2	STAGE 2	STAGE 3	
	W20-1	BLACK ON ORANGE	48 x 48	11	12	11	6	
	W20-3	BLACK ON ORANGE	48 x 48	-	-	1	-	
	W20-X3R	BLACK ON ORANGE	48 x 48	-	2	-	-	
	W21-X5L	BLACK ON ORANGE	48 x 48	-	4	-	2	
	W21-X5R	BLACK ON ORANGE	48 x 48	-	1	1	-	
	W3-1A	BLACK, RED WHITE ON YELLOW	48 x 48	6	6	6	-	
	M1-6	WHITE AND YELLOW ON BLUE	24 x 24	2	2	-	-	
	M1-6	WHITE AND YELLOW ON BLUE	24 x 24	2	3	-	-	
	M3-3	BLACK ON WHITE	24 x 12	-	1	-	-	
	M6-1R	BLACK ON WHITE	21 x 15	2	2	-	-	
	M6-1L	BLACK ON WHITE	21 x 15	2	2	-	-	
	-	BLACK ON ORANGE	48 x 48	6	6	6	-	
	TYPE III	WHITE ON ORANGE	96	-	14	22	3	
	REFLECTORIZED DRUM	WHITE ON ORANGE	18 x 36 min.	40	235	145	95	
	WARNING FLAG	-	-	6	6	6	-	

DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.  
 Certified By: *Tiffany J. Dagon* License No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004

PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

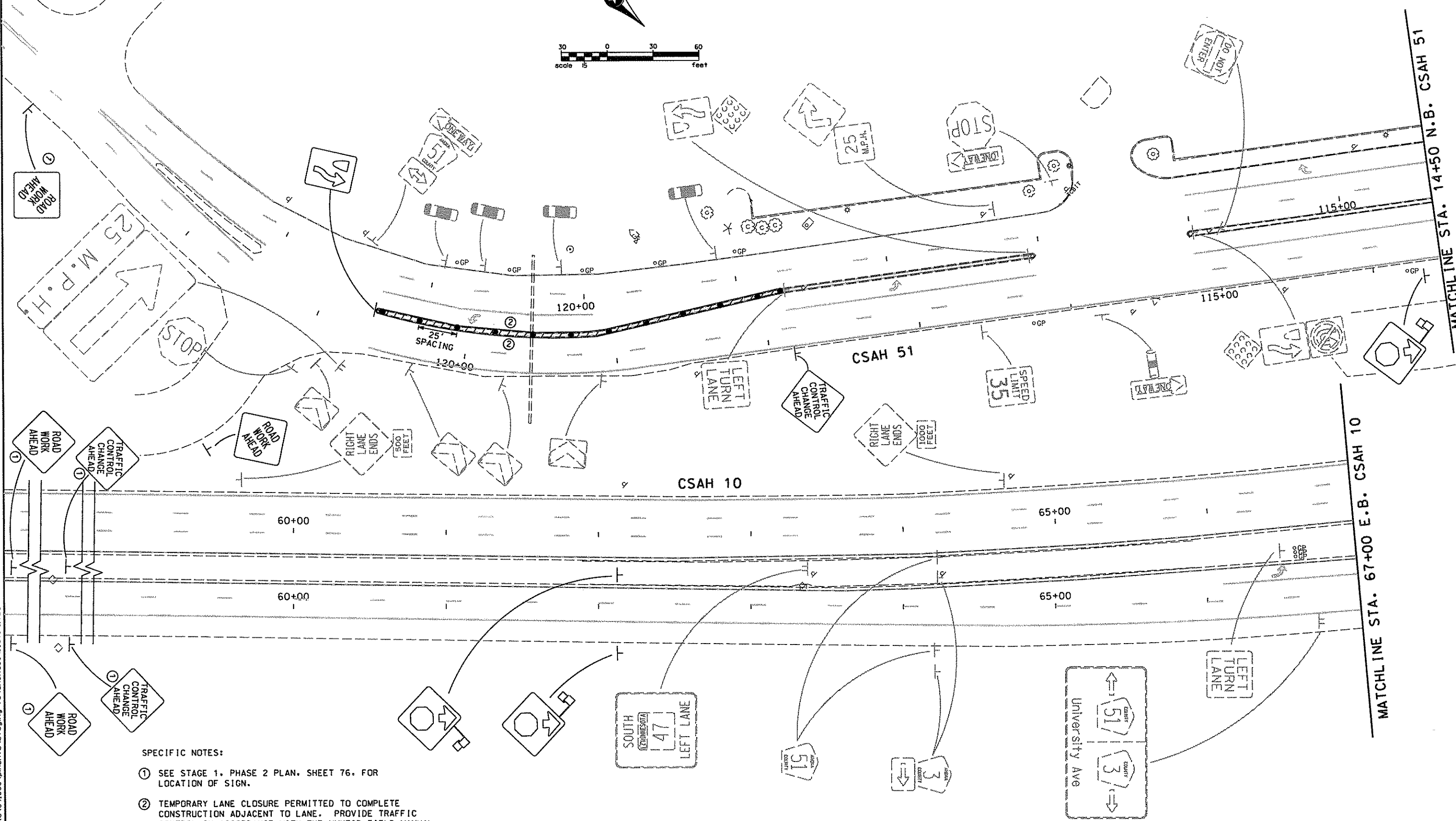
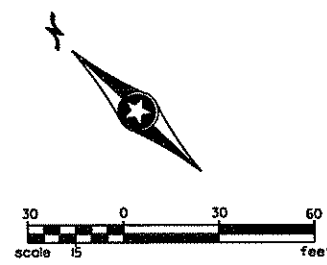
ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

<b>TRAFFIC CONTROL                  TABULATIONS</b>		FILE NO.	71
		ANOKC0410.00	
STATE PROJECT NO. 02-610-11 STATE PROJECT NO. 106-020-24		DATE	10/21/2004
			92

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10/21/2004

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- SPECIFIC NOTES:**
- ① SEE STAGE 1, PHASE 2 PLAN, SHEET 76, FOR LOCATION OF SIGN.
  - ② TEMPORARY LANE CLOSURE PERMITTED TO COMPLETE CONSTRUCTION ADJACENT TO LANE. PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE MMUTCD FIELD MANUAL.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* License No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004

PHONE: 651450-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



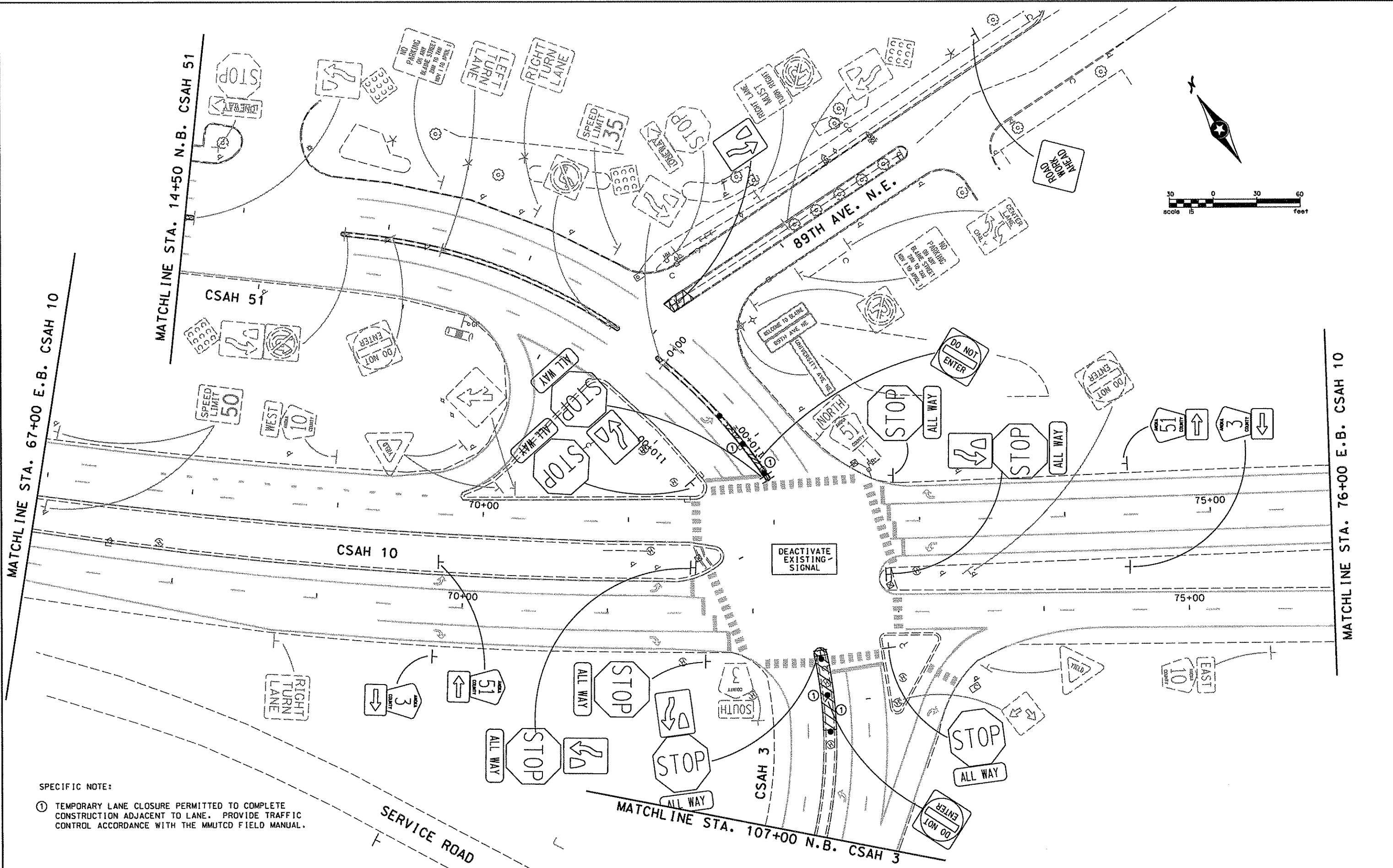
ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**STAGING AND TRAFFIC CONTROL  
 STAGE 1, PHASE 1**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	72
ANOKC0410.00	
DATE	10/21/2004
	92





SPECIFIC NOTE:

- ① TEMPORARY LANE CLOSURE PERMITTED TO COMPLETE CONSTRUCTION ADJACENT TO LANE. PROVIDE TRAFFIC CONTROL ACCORDANCE WITH THE MMUTCD FIELD MANUAL.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Tiffany J. Dagon* Lic. No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004

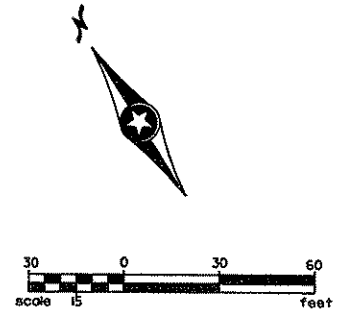
PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



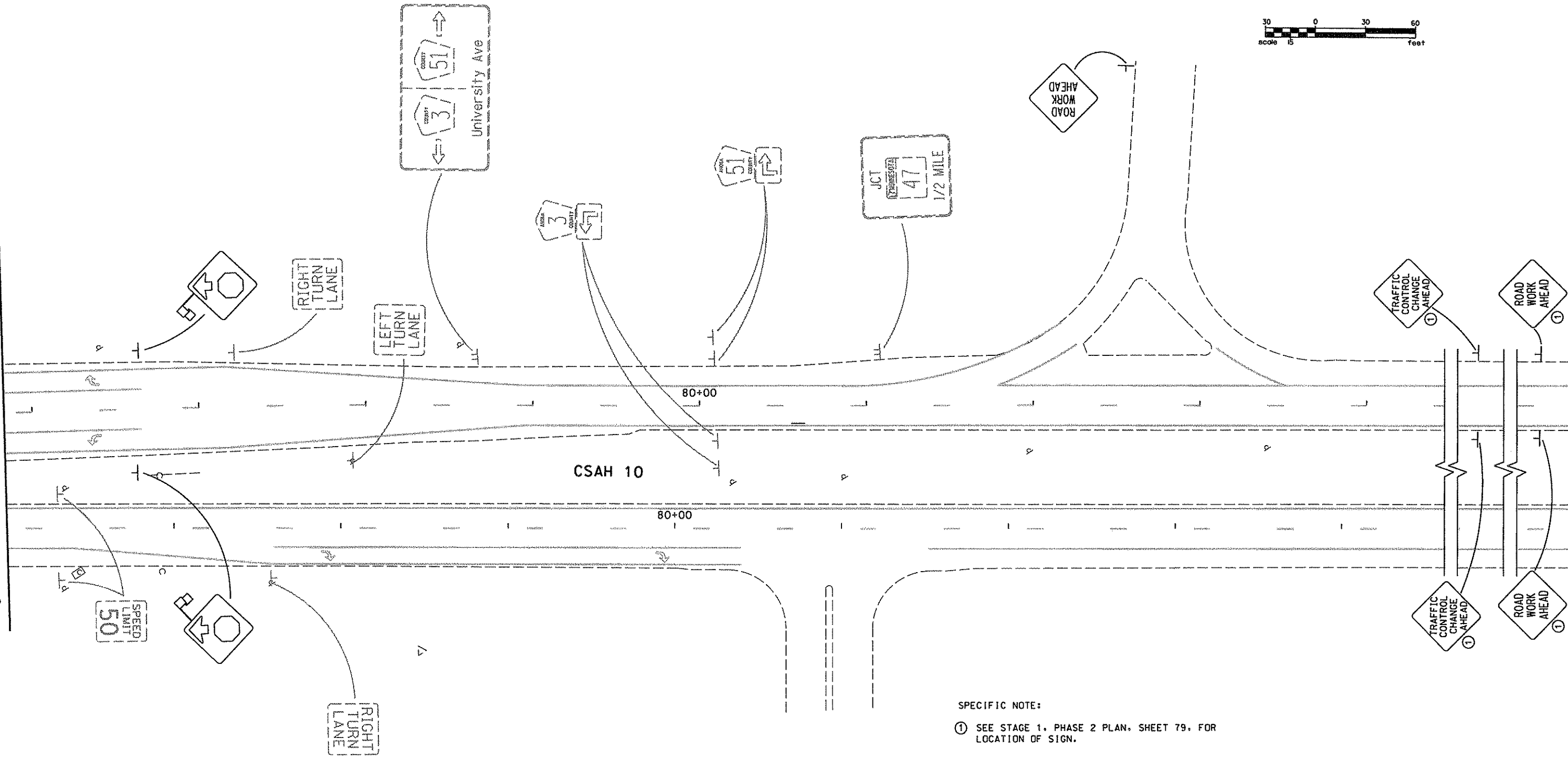
ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

<b>STAGING AND TRAFFIC CONTROL</b>	
<b>STAGE 1, PHASE 1</b>	
STATE PROJECT NO. 02-610-11	DATE
STATE PROJECT NO. 106-020-24	10/21/2004

FILE NO.	73
ANOKC0410.00	
DATE	10/21/2004
	92



MATCHLINE STA. 76+00 E.B. CSAH 10



SPECIFIC NOTE:  
 ① SEE STAGE 1, PHASE 2 PLAN, SHEET 79, FOR LOCATION OF SIGN.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Tiffany J. Dagon* Lic. No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004



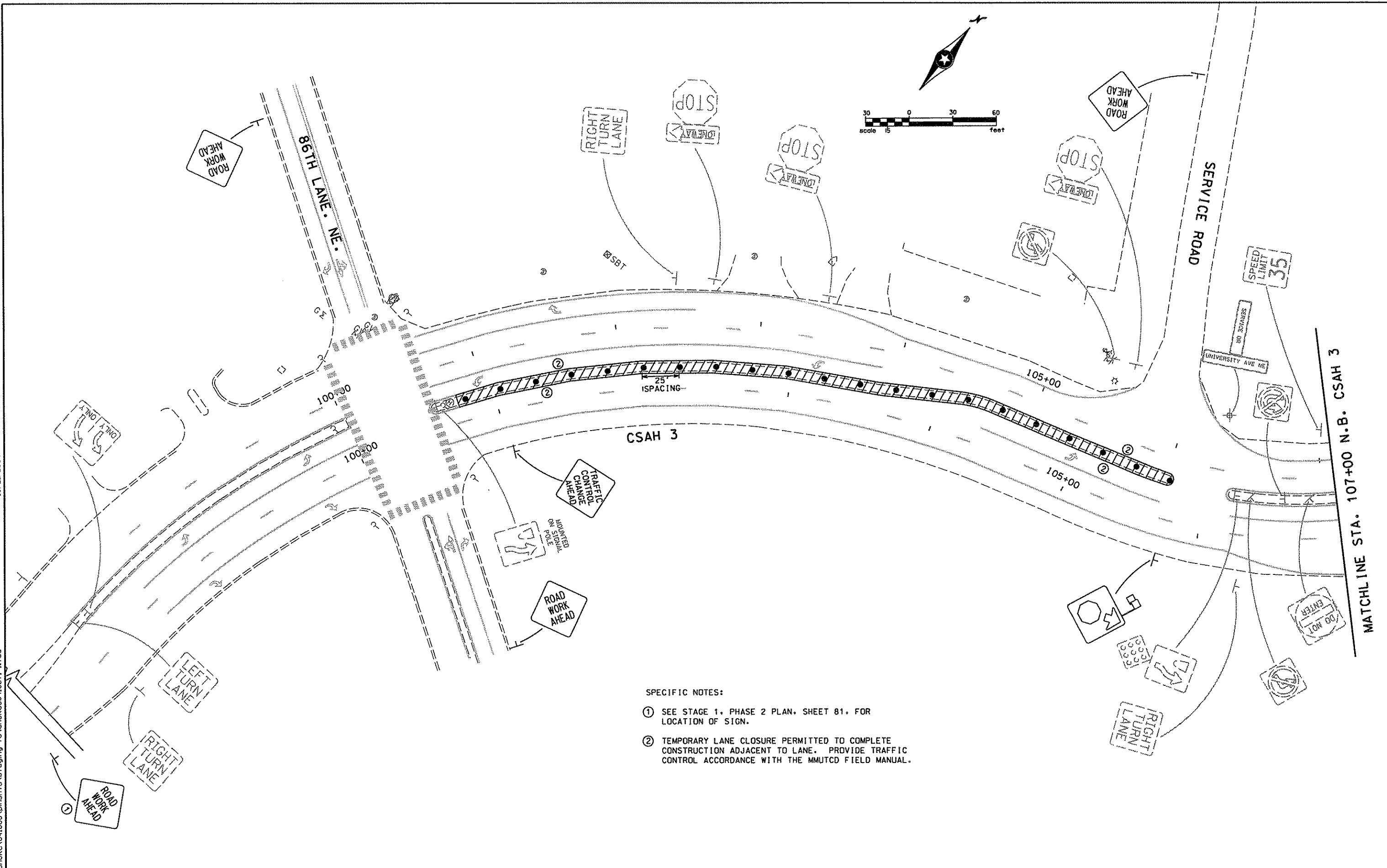
ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

STAGING AND TRAFFIC CONTROL STAGE 1, PHASE 1		FILE NO.
STATE PROJECT NO. 02-610-11 STATE PROJECT NO. 106-020-24		74 ANOKC0410.00
		DATE 10/21/2004
		92

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10/21/2004

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- SPECIFIC NOTES:
- ① SEE STAGE 1, PHASE 2 PLAN, SHEET 81, FOR LOCATION OF SIGN.
  - ② TEMPORARY LANE CLOSURE PERMITTED TO COMPLETE CONSTRUCTION ADJACENT TO LANE. PROVIDE TRAFFIC CONTROL ACCORDANCE WITH THE MMUTCD FIELD MANUAL.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* License No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004



PHONE: 651490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



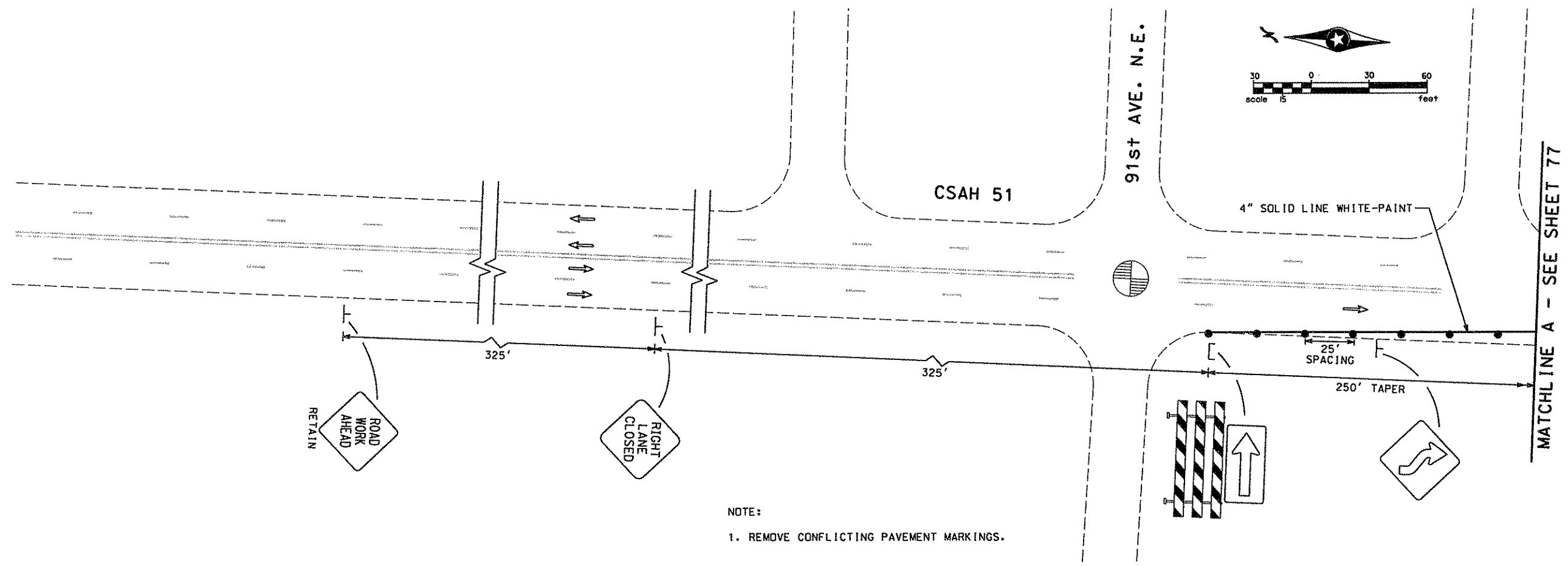
ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

STAGING AND TRAFFIC CONTROL STAGE 1, PHASE 1		FILE NO.
STATE PROJECT NO. 02-610-11		75
STATE PROJECT NO. 106-020-24		92
		DATE
		10/21/2004

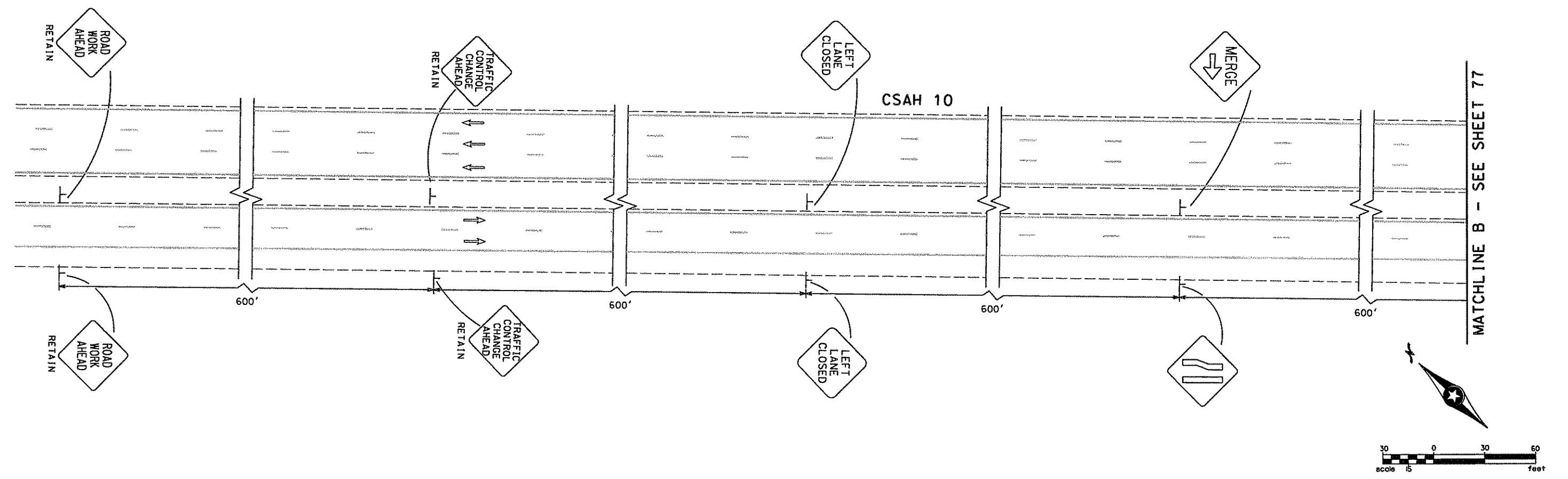
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10/21/2004

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NOTE:  
1. REMOVE CONFLICTING PAVEMENT MARKINGS.



DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Tiffany J. Dagon* Lic. No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004

**SEH**  
 PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

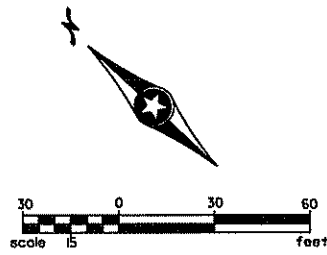
**STAGING AND TRAFFIC CONTROL  
 STAGE 1, PHASE 2**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00	<b>76</b>
DATE 10/21/2004	<b>92</b>

2:30:03 PM

10/21/2004

W:\oe\anoka\041000\pinshits\staging-1c\anokaco0410er1-2.rtc



MATCHLINE A - SEE SHEET 76

250' TAPER

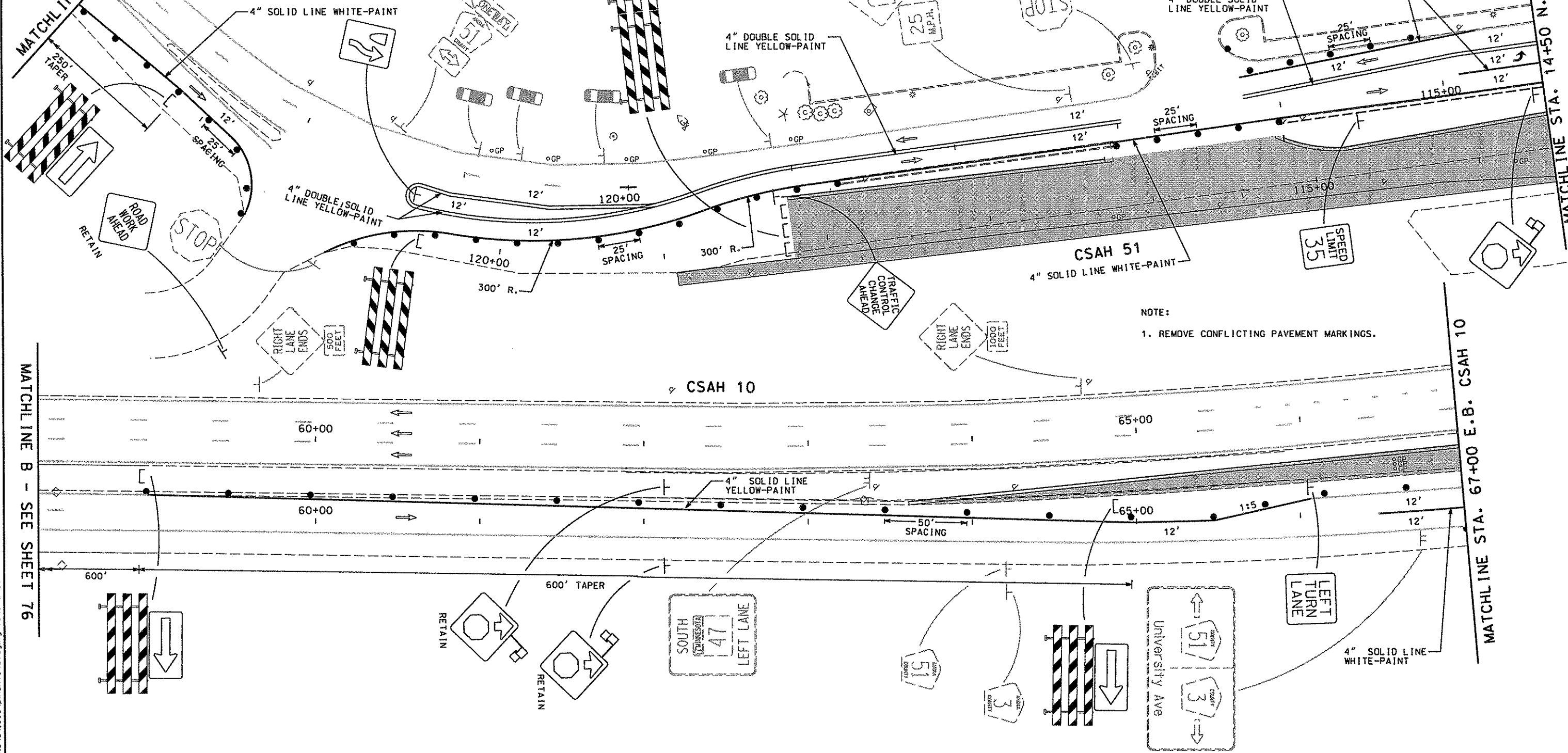
12' SPACING

MATCHLINE B - SEE SHEET 76

600'

MATCHLINE STA. 14+50 N.B. CSAH 51

MATCHLINE STA. 67+00 E.B. CSAH 10



NOTE:  
1. REMOVE CONFLICTING PAVEMENT MARKINGS.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535

Printed Name: TIFFANY J. DAGON Date: 10/21/2004

PHONE: (651)490-2000  
3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA

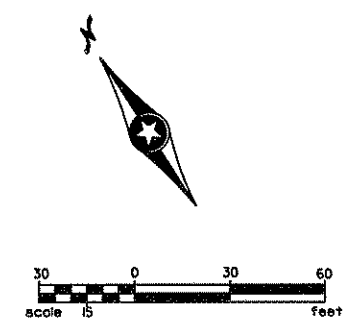
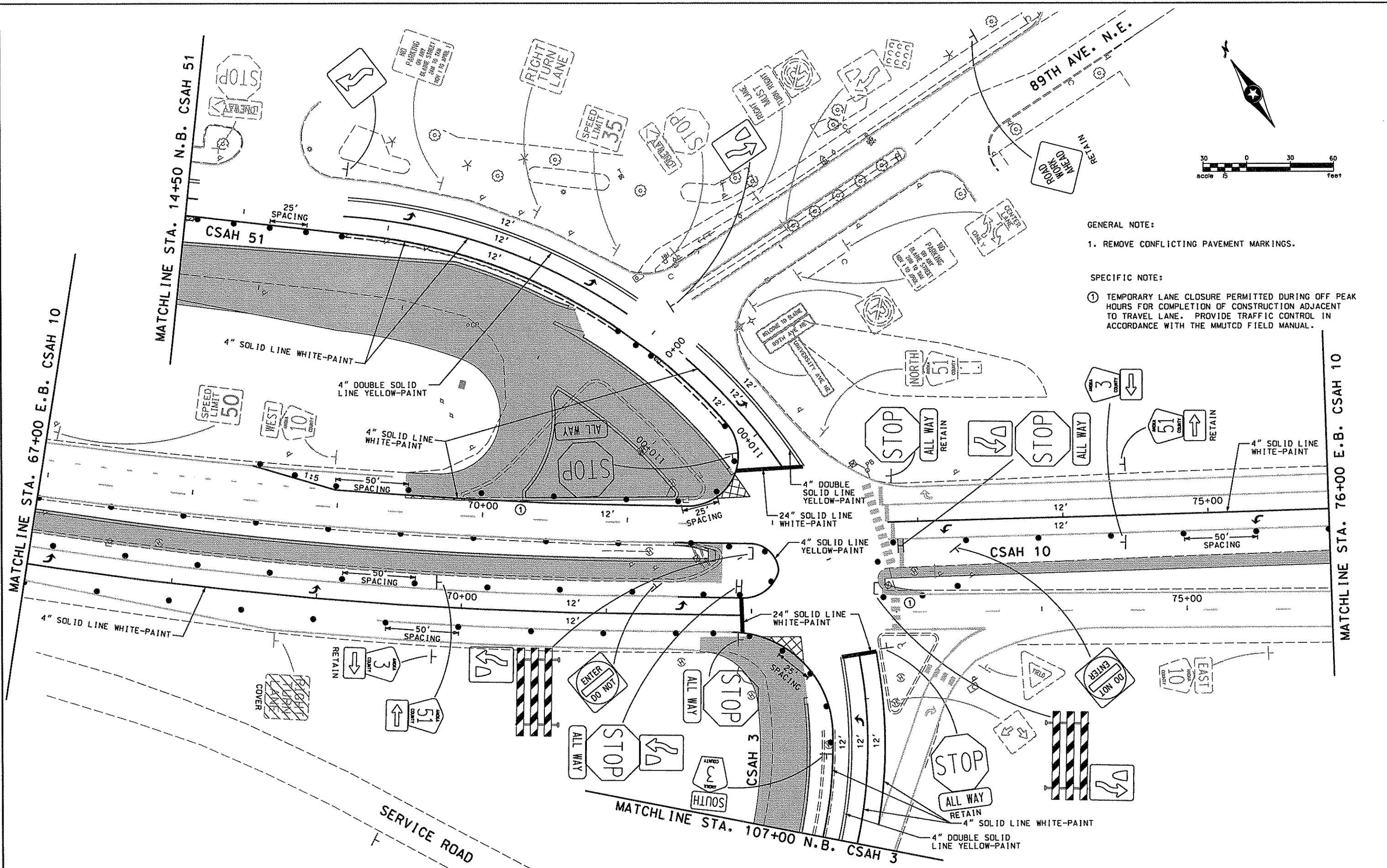
**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

STAGING AND TRAFFIC CONTROL STAGE 1, PHASE 2		FILE NO.
STATE PROJECT NO. 02-610-11 STATE PROJECT NO. 106-020-24		77
		DATE
		10/21/2004
		92

2:30:06 PM

10/21/2004

w:\oe\anoka\041000\p1mstts\staging-tc\anokaco0410s1-2.tcb



- GENERAL NOTE:  
 1. REMOVE CONFLICTING PAVEMENT MARKINGS.
- SPECIFIC NOTE:  
 ① TEMPORARY LANE CLOSURE PERMITTED DURING OFF PEAK HOURS FOR COMPLETION OF CONSTRUCTION ADJACENT TO TRAVEL LANE. PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE MMUTCD FIELD MANUAL.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

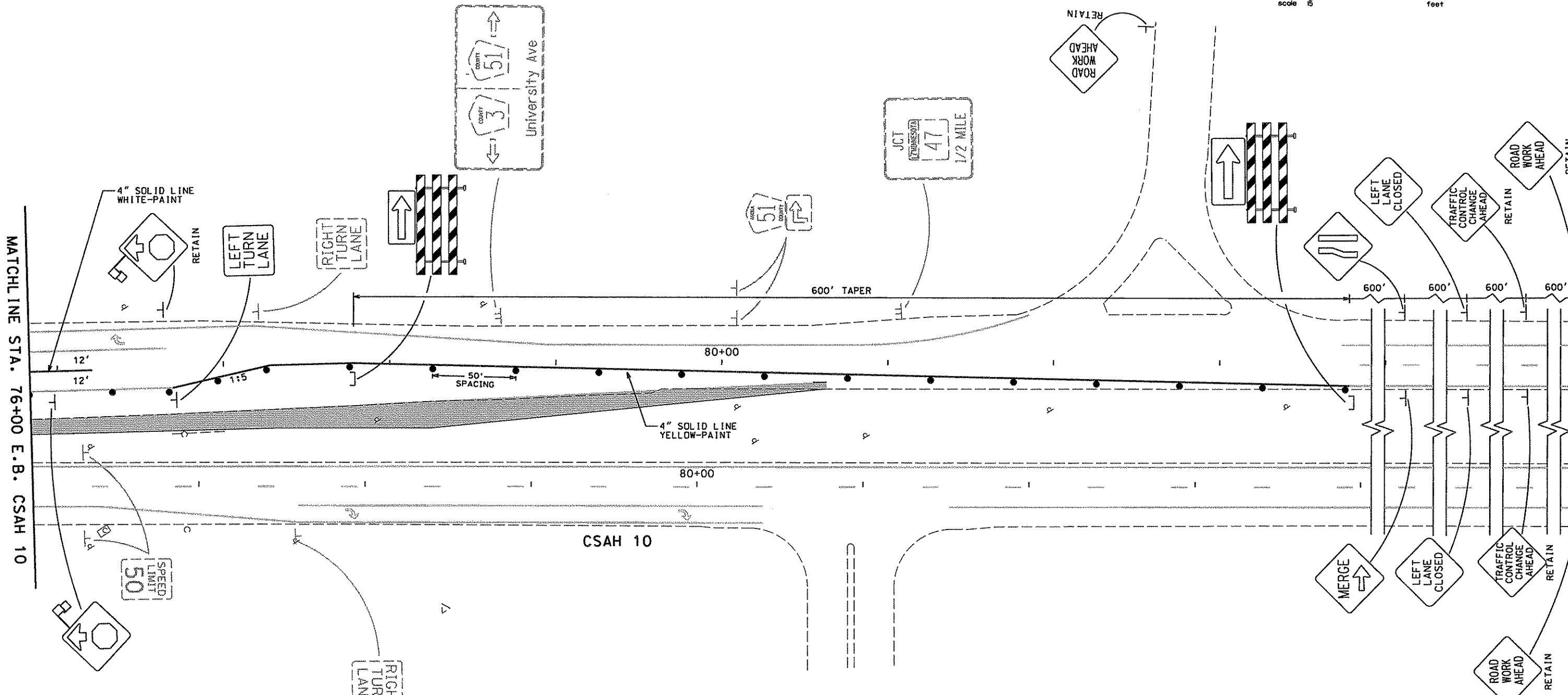
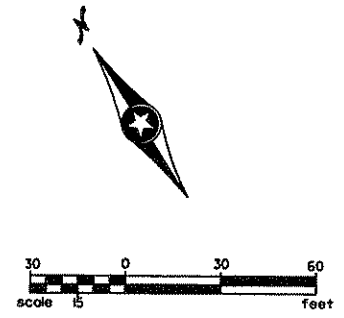
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
 Certified By: *Tiffany J. Dagon* Lic. No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004

PHONE: (651)490-2000  
 3535 VADNATS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

STAGING AND TRAFFIC CONTROL STAGE 1, PHASE 2		FILE NO.
STATE PROJECT NO. 02-610-11 STATE PROJECT NO. 106-020-24		78
DATE		92
10/21/2004		



MATCHLINE STA. 76+00 E.B. CSAH 10

NOTE:  
1. REMOVE CONFLICTING PAVEMENT MARKINGS.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Tiffany J. Dagon* Lic. No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

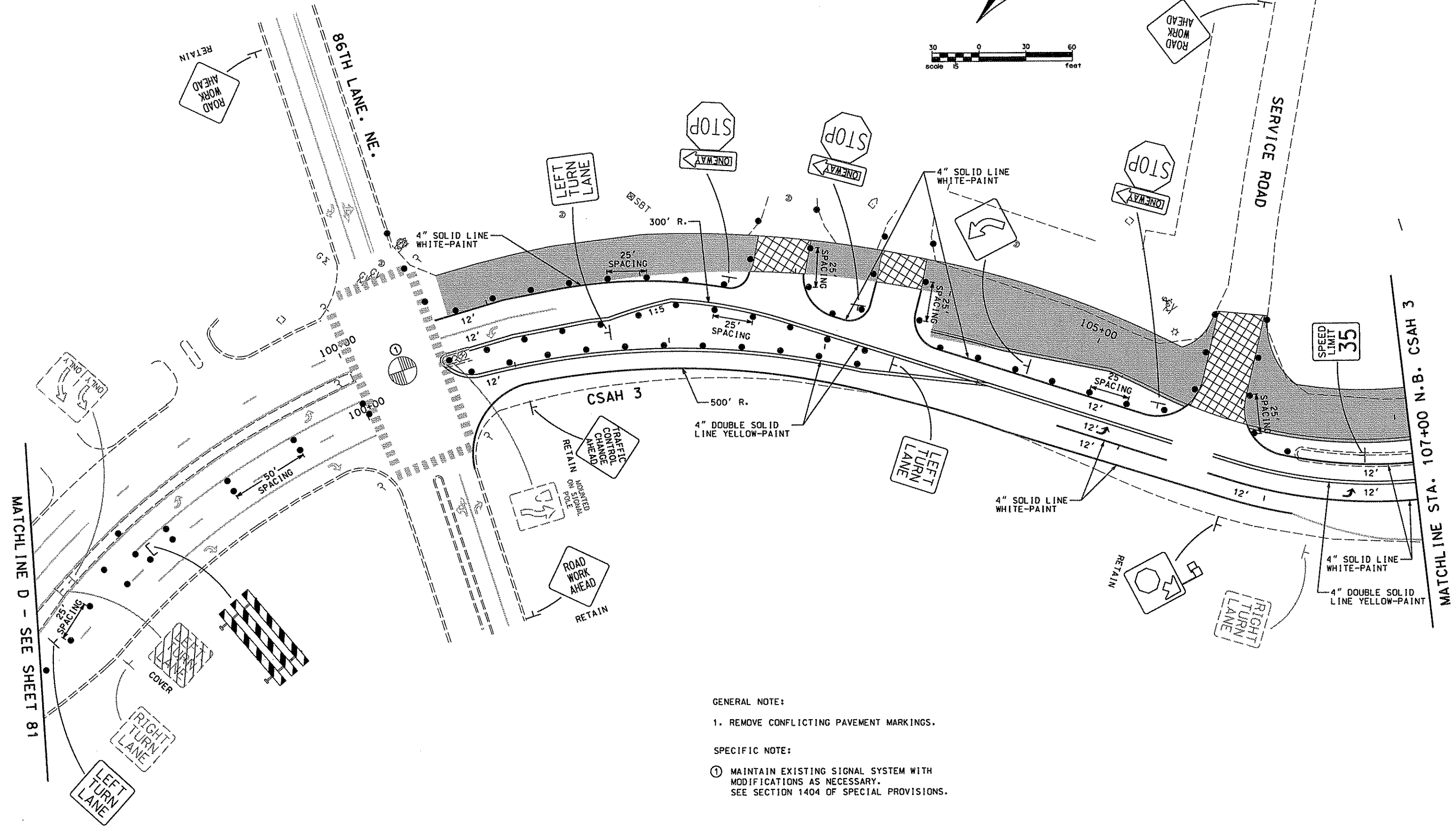
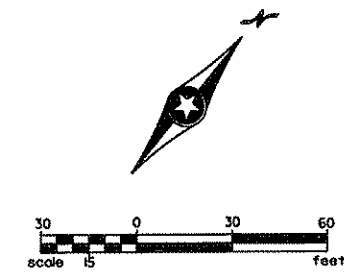
**STAGING AND TRAFFIC CONTROL  
 STAGE 1, PHASE 2**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	79
ANOKC0410.00	
DATE	10/21/2004
	92

3:15:23 PM

10/21/2004

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- GENERAL NOTE:
1. REMOVE CONFLICTING PAVEMENT MARKINGS.
- SPECIFIC NOTE:
- ① MAINTAIN EXISTING SIGNAL SYSTEM WITH MODIFICATIONS AS NECESSARY. SEE SECTION 1404 OF SPECIAL PROVISIONS.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JED		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Lifany J. Dagon* Lic. No. 40535  
 Printed Name: LIFANY J. DAGON Date: 10/21/2004

PHONE: 651490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

STAGING AND TRAFFIC CONTROL STAGE 1, PHASE 2		FILE NO.
STATE PROJECT NO. 02-610-11 STATE PROJECT NO. 106-020-24		80
		92

MATCHLINE D - SEE SHEET 81

MATCHLINE STA. 107+00 N.B. CSAH 3

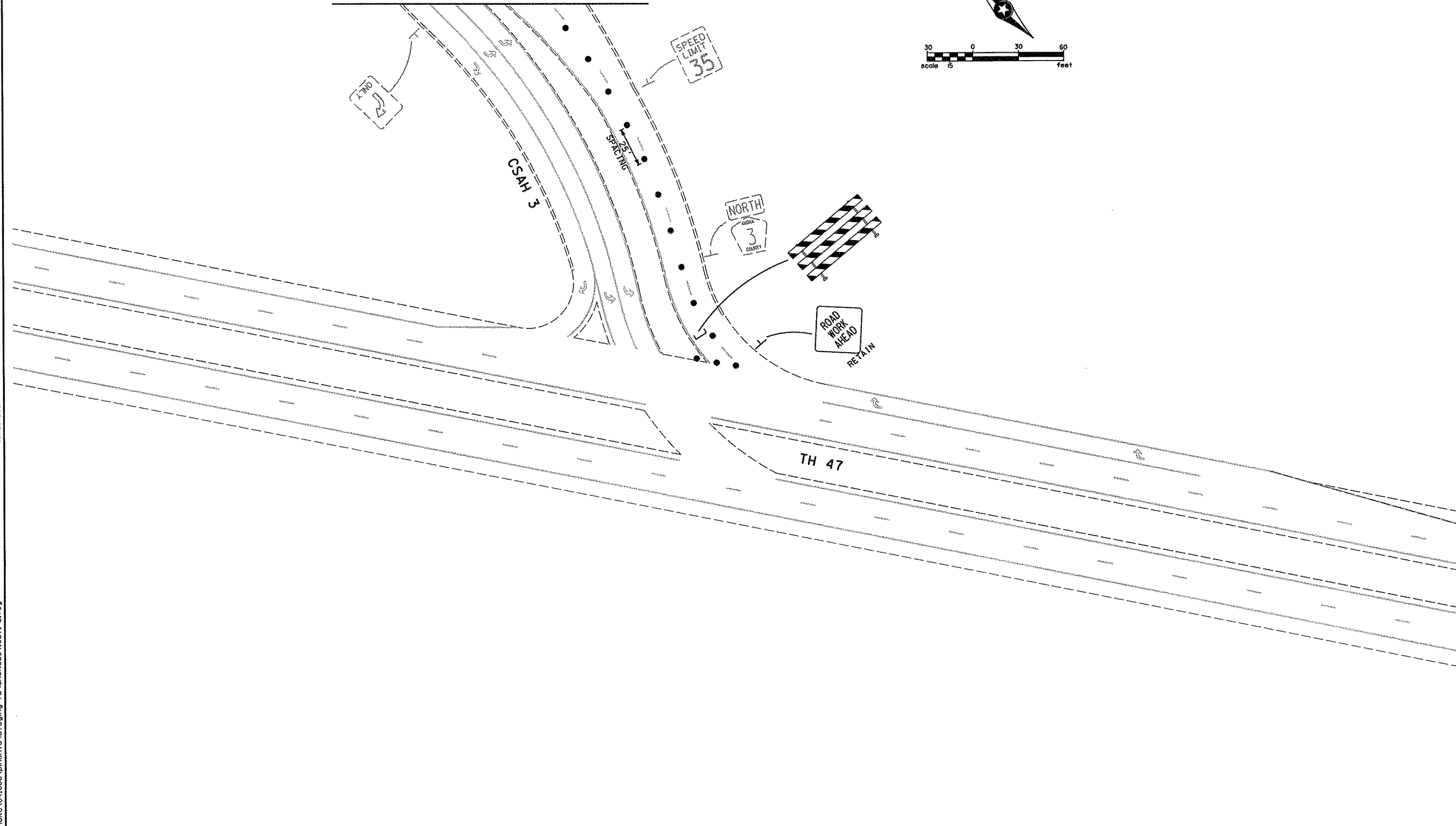
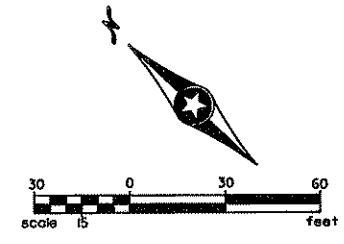


2:30:10 PM

10/21/2004

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MATCHLINE D - SEE SHEET 80



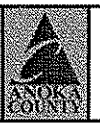
DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535  
 Tiffany J. Dagon, Professional Engineer  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004



PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

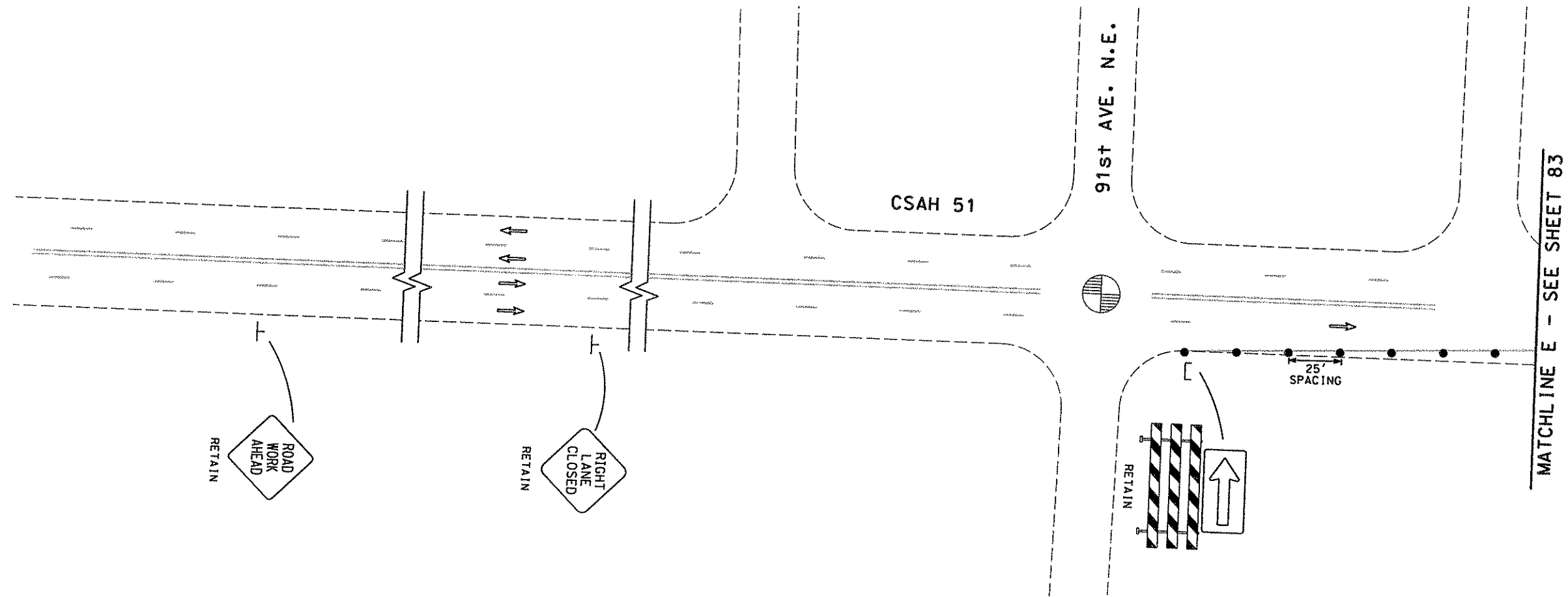
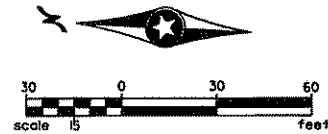
**STAGING AND TRAFFIC CONTROL  
 STAGE 1, PHASE 2**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	ANOKC0410.00	<b>81</b>
DATE	10/21/2004	<b>92</b>

2:30:11 PM

10/21/2004

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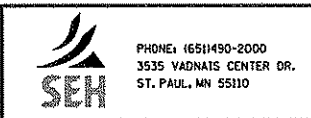


DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535  
 Licensed Professional Engineer

Printed Name: TIFFANY J. DAGON Date: 10/21/2004



ANOKA COUNTY, MINNESOTA

**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

**STAGING AND TRAFFIC CONTROL  
STAGE 2**

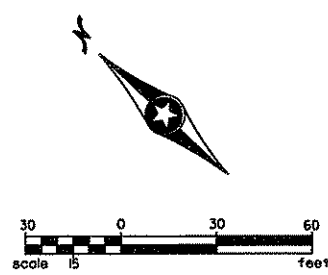
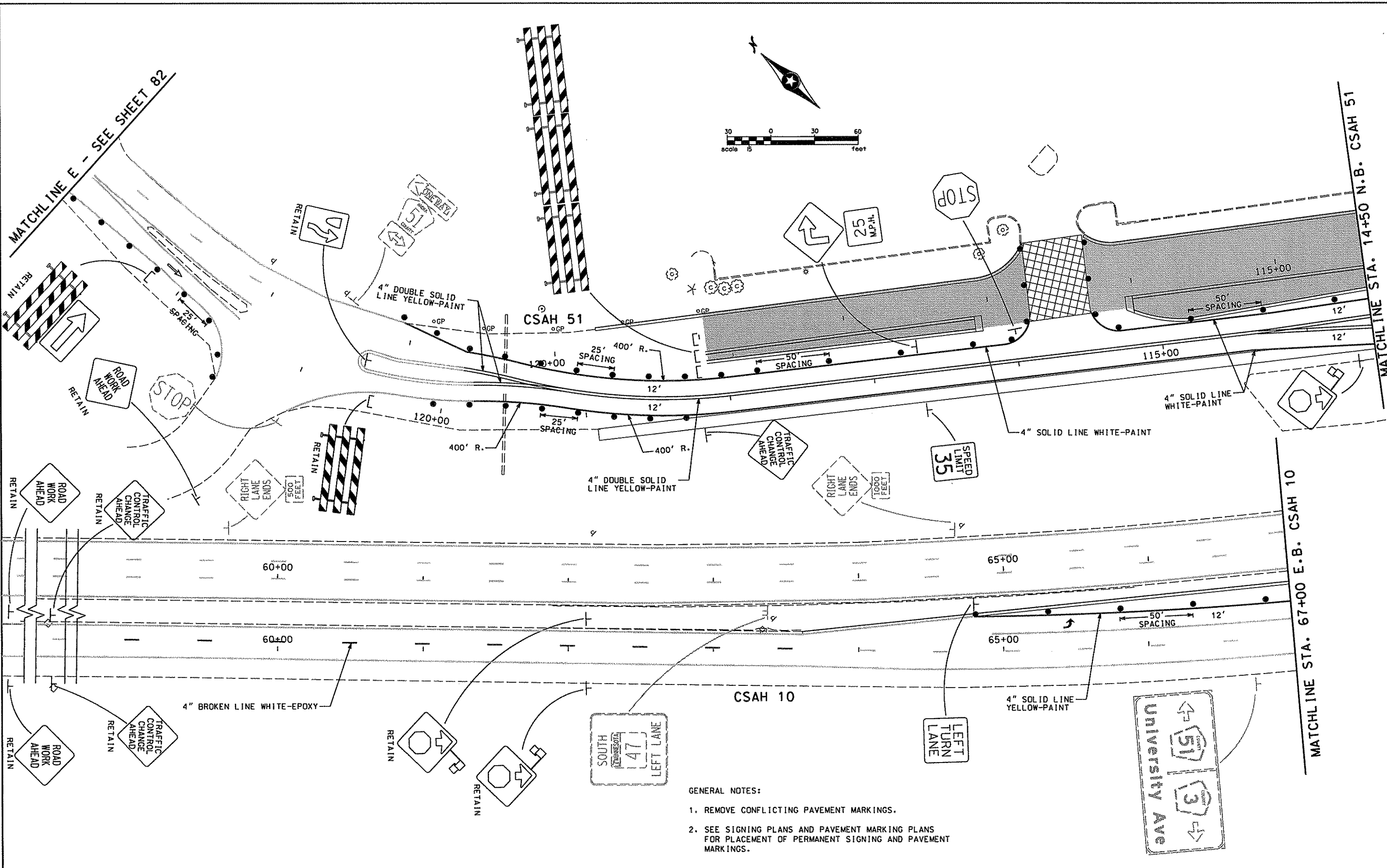
STATE PROJECT NO. 02-610-11  
STATE PROJECT NO. 106-020-24

FILE NO.	ANOKC0410.00	<b>82</b>
DATE	10/21/2004	<b>92</b>

2:30:13 PM

10/21/2004

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- GENERAL NOTES:
1. REMOVE CONFLICTING PAVEMENT MARKINGS.
  2. SEE SIGNING PLANS AND PAVEMENT MARKING PLANS FOR PLACEMENT OF PERMANENT SIGNING AND PAVEMENT MARKINGS.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Tiffany J. Dagon* License No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

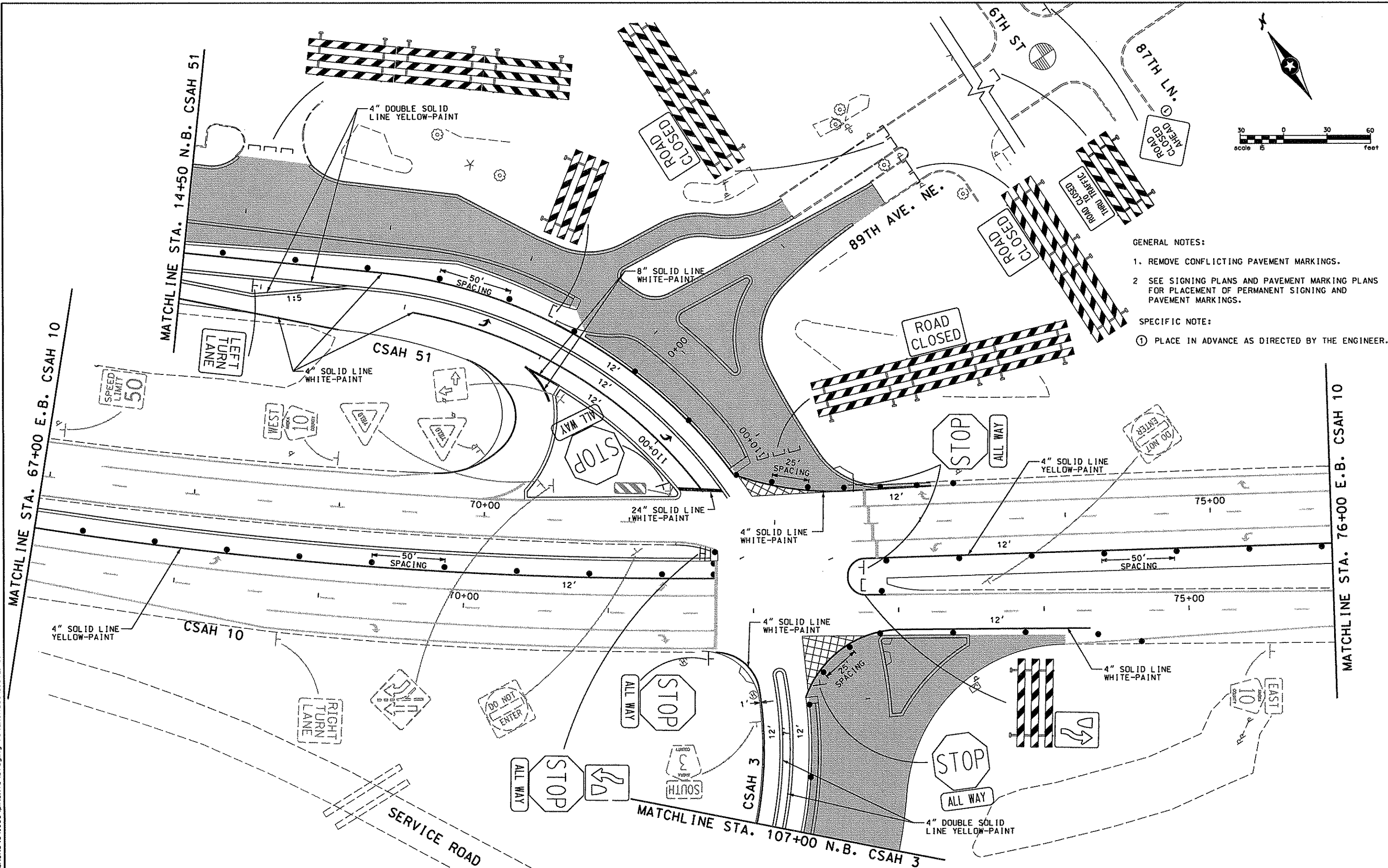
**STAGING AND TRAFFIC CONTROL  
 STAGE 2**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	83
ANOKC0410.00	
DATE	10/21/2004
	92

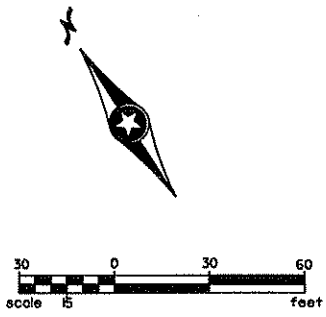
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10/21/2004

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- GENERAL NOTES:**
1. REMOVE CONFLICTING PAVEMENT MARKINGS.
  2. SEE SIGNING PLANS AND PAVEMENT MARKING PLANS FOR PLACEMENT OF PERMANENT SIGNING AND PAVEMENT MARKINGS.
- SPECIFIC NOTE:**
- ① PLACE IN ADVANCE AS DIRECTED BY THE ENGINEER.



DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *J. J. Dagon* Lic. No. 40535  
 Licensed Professional Engineer  
 Printed Name: JEFFANY J. DAGON Date: 10/21/2004

SEH  
 PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**STAGING AND TRAFFIC CONTROL  
 STAGE 2**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	ANOKCO410.00	<b>84</b>
DATE	10/21/2004	<b>92</b>

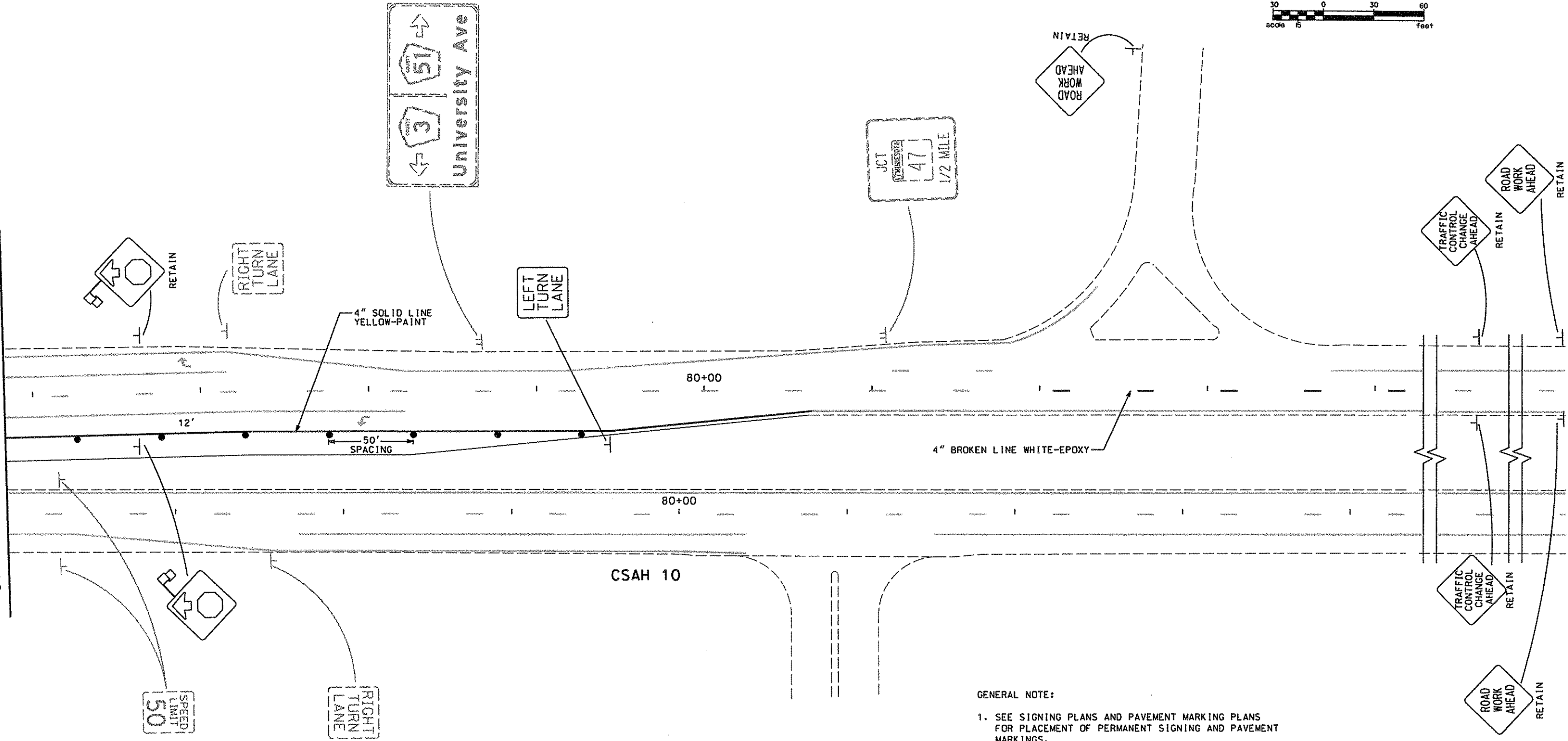
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10/21/2004

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MATCHLINE STA. 76+00 E.B. CSAH 10



GENERAL NOTE:  
 1. SEE SIGNING PLANS AND PAVEMENT MARKING PLANS FOR PLACEMENT OF PERMANENT SIGNING AND PAVEMENT MARKINGS.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Tiffany J. Dagon* Lic. No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004

PHONE: (651)490-2000  
 3535 VAONAS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

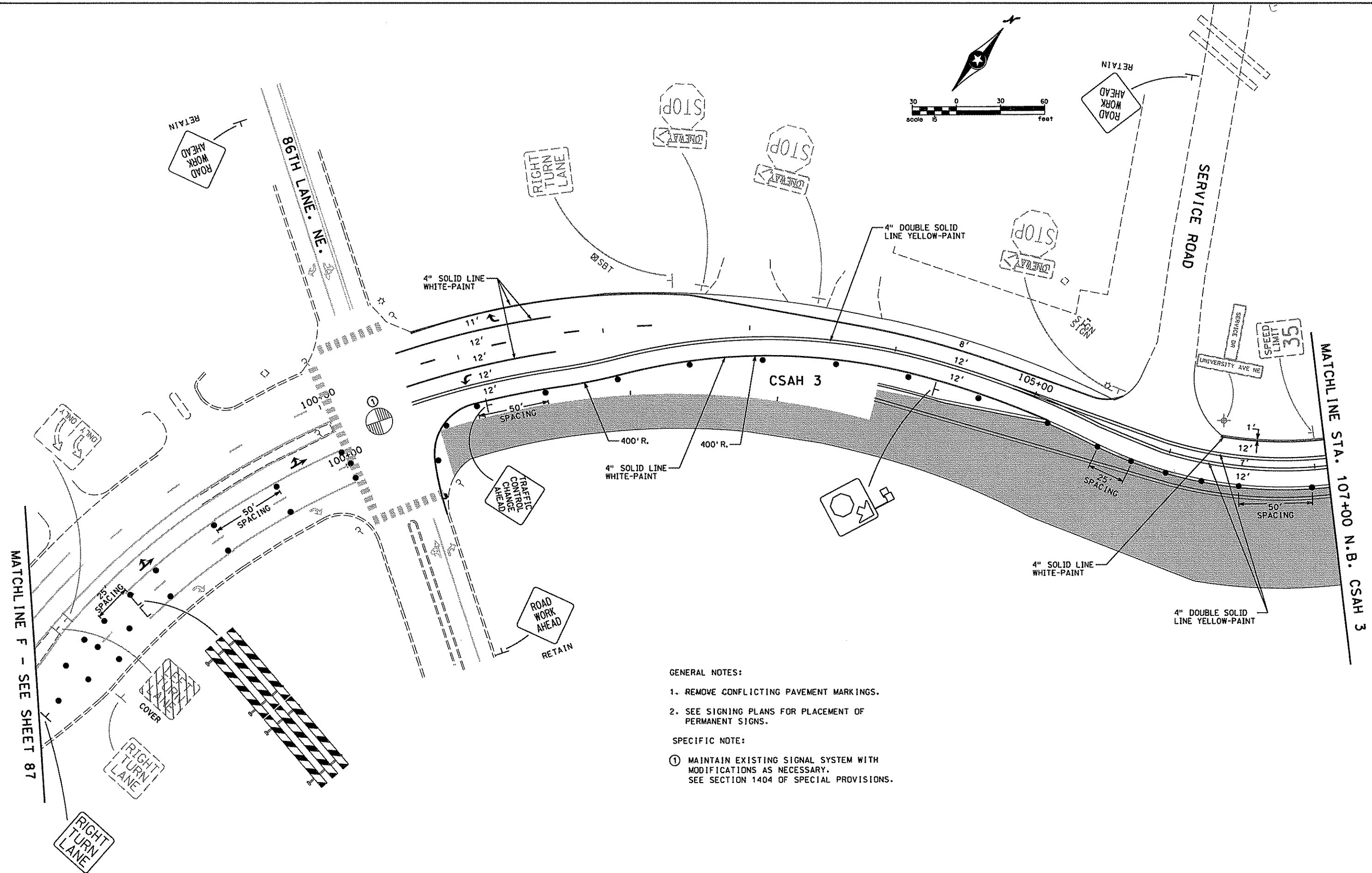
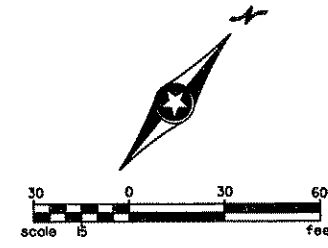
**STAGING AND TRAFFIC CONTROL  
 STAGE 2**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	85
ANOKC0410.00	
DATE	10/21/2004
	92

3:13:29 PM

10/21/2004

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GENERAL NOTES:

- 1. REMOVE CONFLICTING PAVEMENT MARKINGS.
- 2. SEE SIGNING PLANS FOR PLACEMENT OF PERMANENT SIGNS.

SPECIFIC NOTE:

- ① MAINTAIN EXISTING SIGNAL SYSTEM WITH MODIFICATIONS AS NECESSARY. SEE SECTION 1404 OF SPECIAL PROVISIONS.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004

PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**STAGING AND TRAFFIC CONTROL**  
**STAGE 2**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

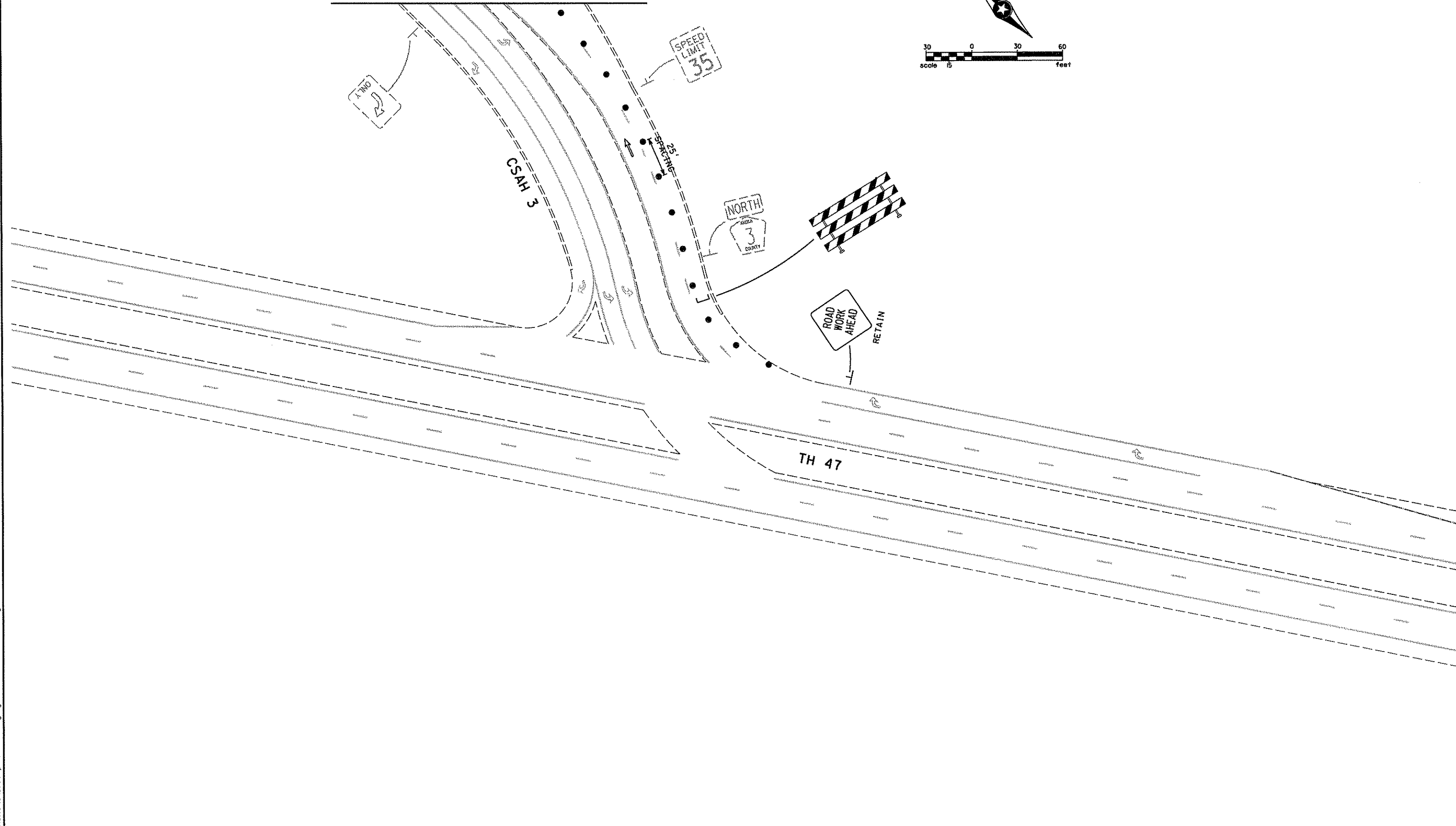
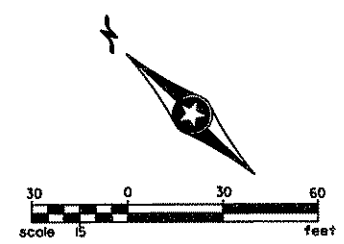
FILE NO.	86
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DATE	10/21/2004
	92

2:30:18 PM

10/21/2004

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MATCHLINE F - SEE SHEET 86



DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* License No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004



PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

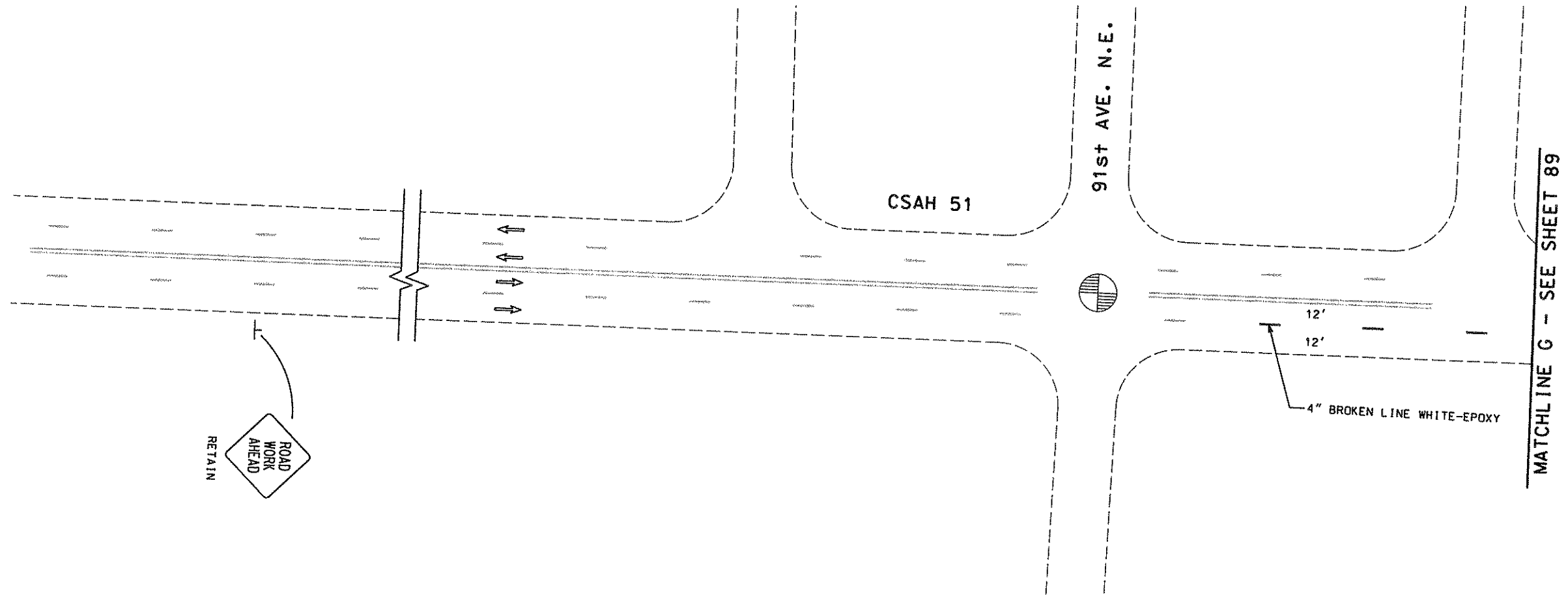
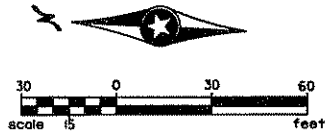
**STAGING AND TRAFFIC CONTROL  
 STAGE 2**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	ANOKC0410,00	<b>87</b>
DATE	10/21/2004	<b>92</b>

2:30:19 PM

10/21/2004

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DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Tiffany J. Dagon* Lic. No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004



PHONE: 651-490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**STAGING AND TRAFFIC CONTROL  
 STAGE 3**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00	<b>88</b>
DATE 10/21/2004	<b>92</b>

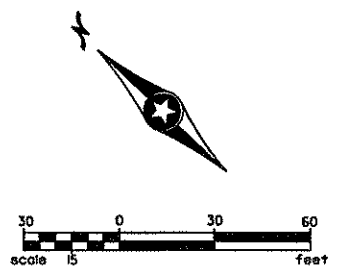
MATCHLINE G - SEE SHEET 89



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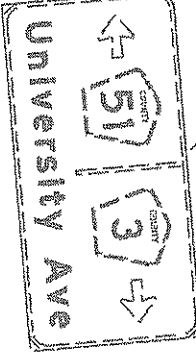
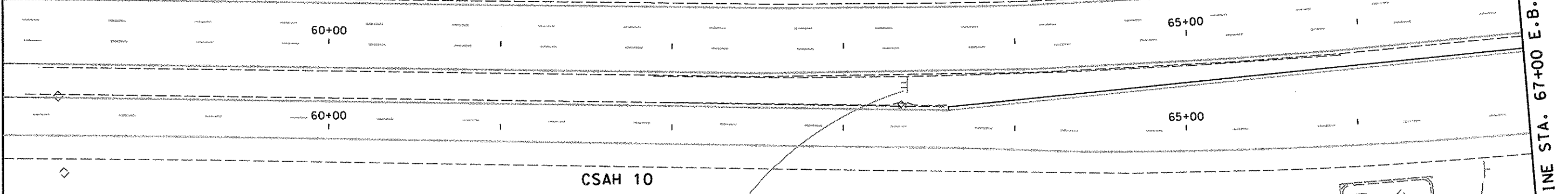
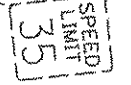
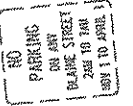
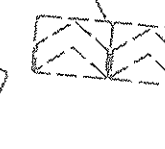
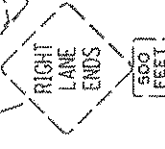
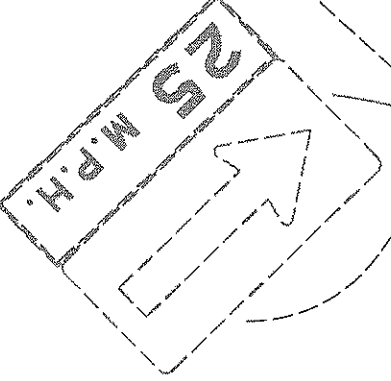
10/21/2004

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MATCHLINE G - SEE SHEET 88

4" BROKEN LINE WHITE-EPOXY



GENERAL NOTES:

1. TEMPORARY LANE CLOSURES PERMITTED FOR MEDIAN CONSTRUCTION AND FOR BITUMINOUS OVERLAY. PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE MMUTCD FIELD MANUAL.
2. SEE SIGNING PLANS AND PAVEMENT MARKINGS PLANS FOR PLACEMENT OF PERMANENT SIGNING AND PAVEMENT MARKINGS.

MATCHLINE STA. 67+00 E.B. CSAH 10

MATCHLINE STA. 14+50 N.B. CSAH 51

DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Liffany J. Dagon* Lic. No. 40535  
 Printed Name: LIFFANY J. DAGON Date: 10/21/2004



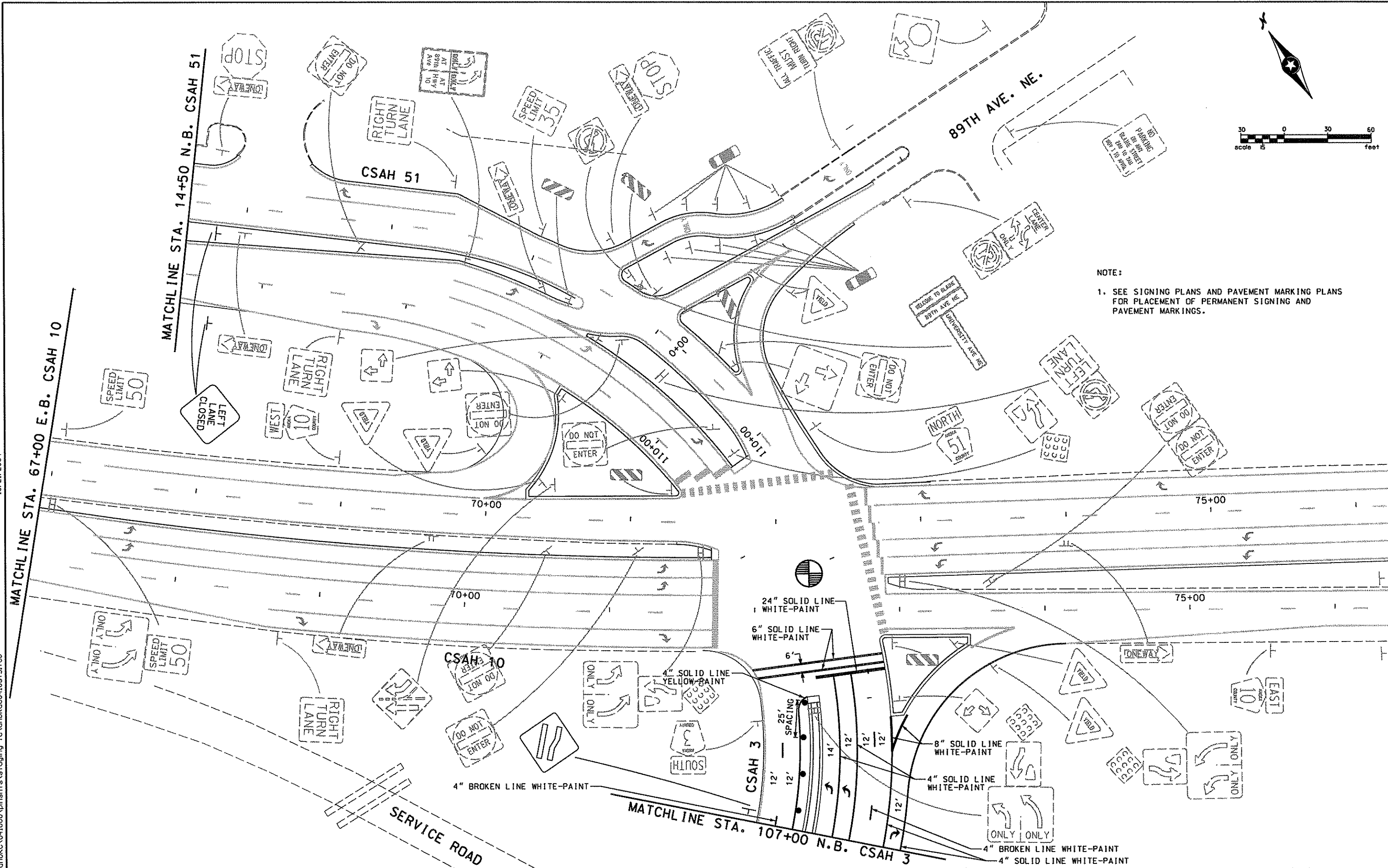
PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**STAGING AND TRAFFIC CONTROL  
 STAGE 3**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	ANOKC0410.00	89
DATE	10/21/2004	92



NOTE:  
 1. SEE SIGNING PLANS AND PAVEMENT MARKING PLANS FOR PLACEMENT OF PERMANENT SIGNING AND PAVEMENT MARKINGS.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: *Tiffany J. Dagon* Lic. No. 40535  
 Printed Name: TIFFANY J. DAGON Date: 10/21/2004

PHONE: (651)480-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

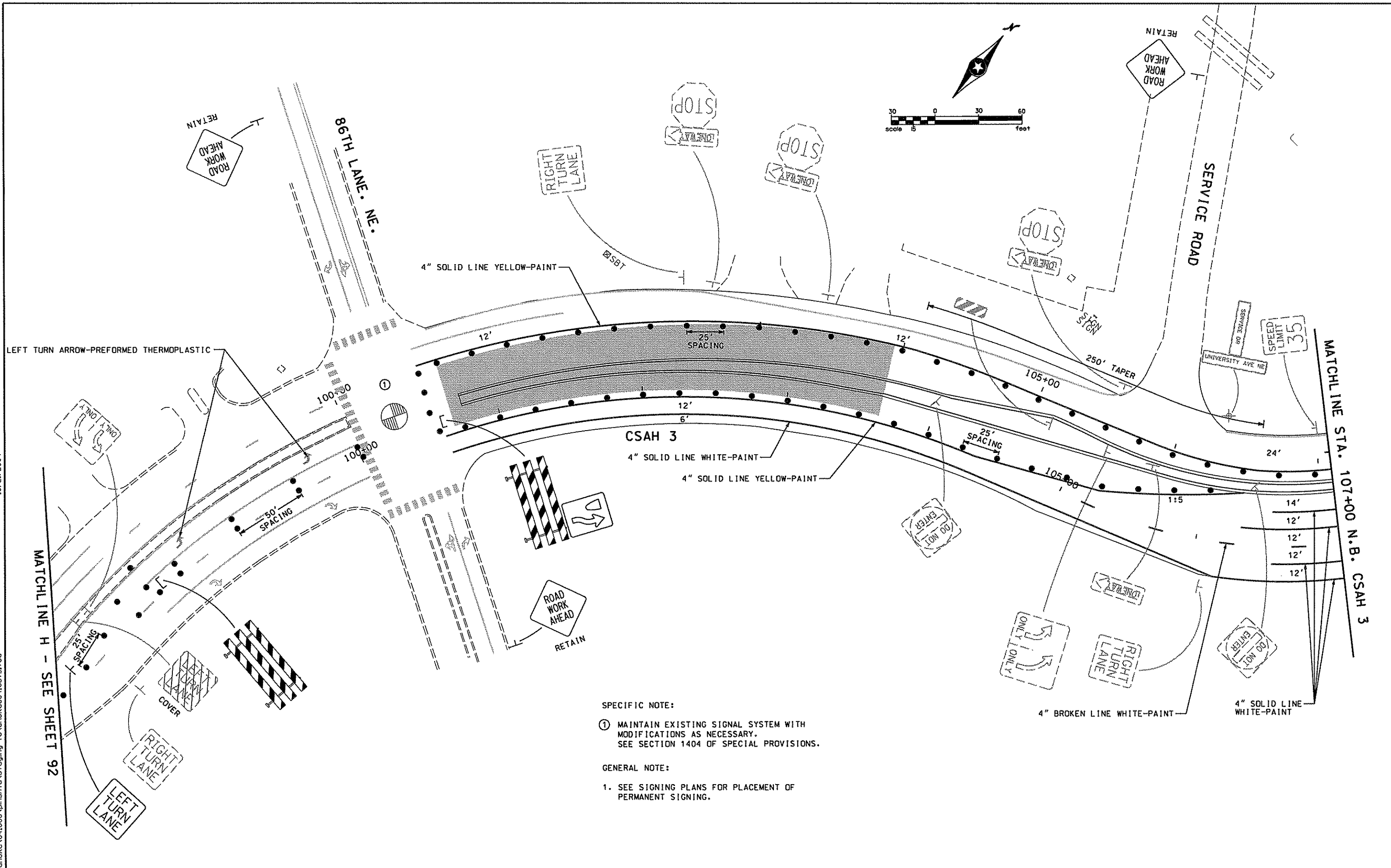
ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

STAGING AND TRAFFIC CONTROL STAGE 3		FILE NO.
STATE PROJECT NO. 02-610-11 STATE PROJECT NO. 106-020-24		90 ANOKC0410.00
		DATE 10/21/2004
		92

2:30:23 PM

10/21/2004

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SPECIFIC NOTE:

- ① MAINTAIN EXISTING SIGNAL SYSTEM WITH MODIFICATIONS AS NECESSARY. SEE SECTION 1404 OF SPECIAL PROVISIONS.

GENERAL NOTE:

- 1. SEE SIGNING PLANS FOR PLACEMENT OF PERMANENT SIGNING.

DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Lefany J. Dagon* Lic. No. 40535  
 Printed Name: LEFANY J. DAGON Date: 10/21/2004

PHONE: (651)490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**STAGING AND TRAFFIC CONTROL  
 STAGE 3**

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

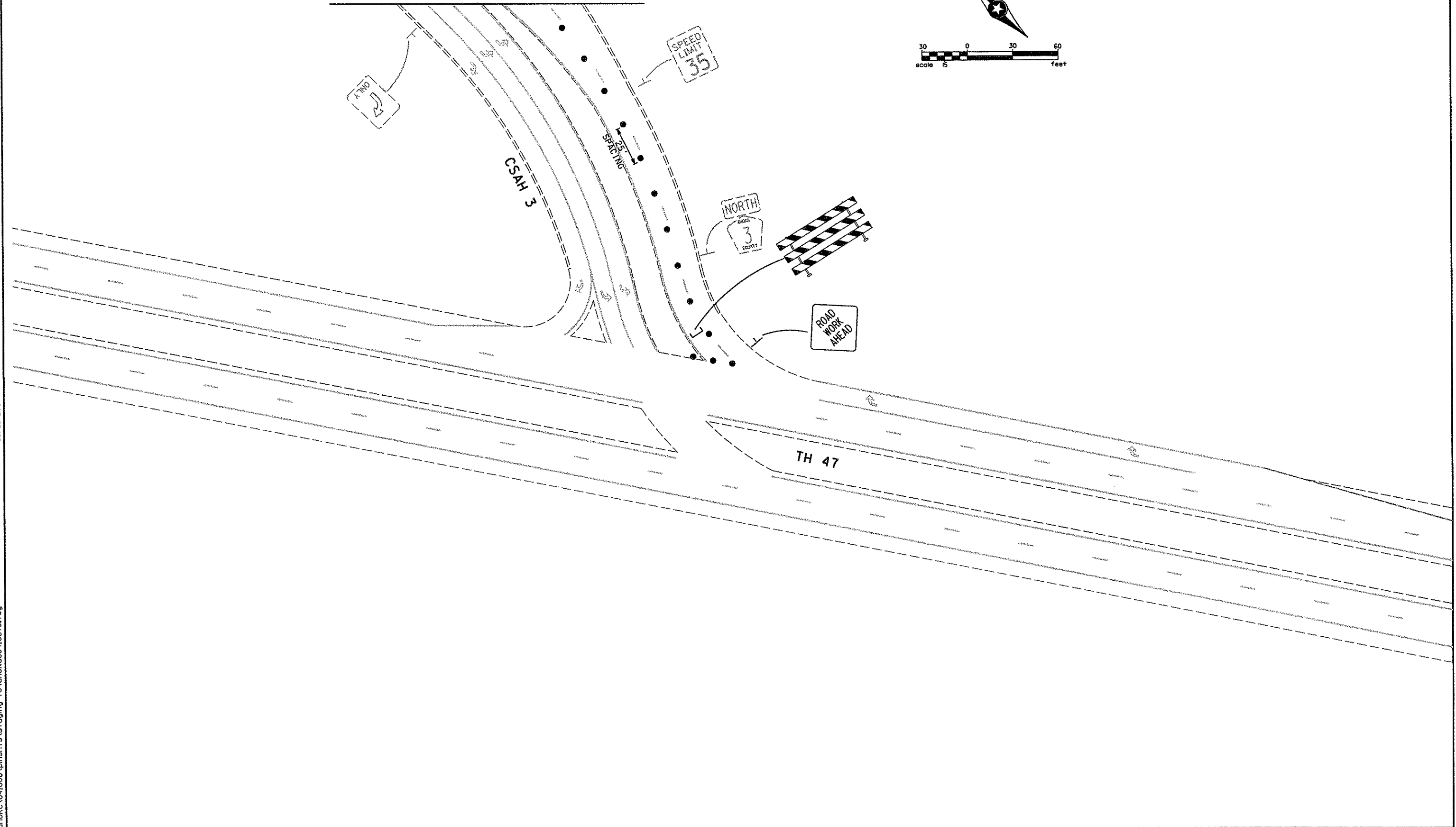
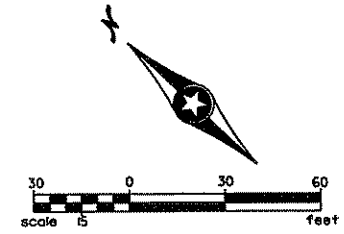
FILE NO.	91
ANOKC0410.00	
DATE	10/21/2004
	92

2:30:24 PM

10/21/2004

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MATCHLINE H - SEE SHEET 91



DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Jeffrey J. Dagon* Lic. No. 40535  
 Printed Name: JEFFREY J. DAGON Date: 10/21/2004



PHONE: 651490-2000  
 3535 YADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

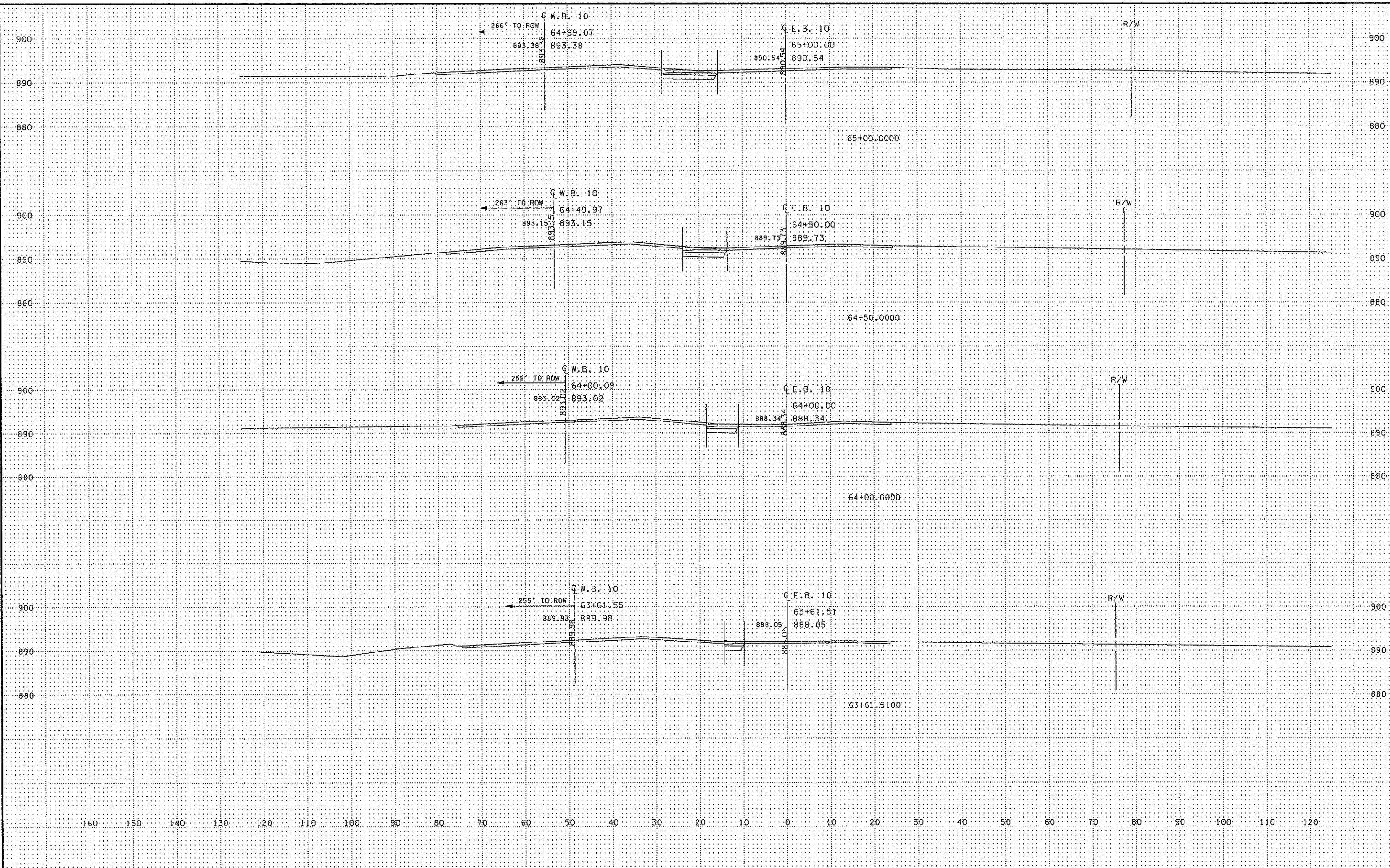
**STAGING AND TRAFFIC CONTROL  
 STAGE 3**  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. ANOKC0410.00	<b>92</b>
DATE 10/21/2004	<b>92</b>

9/5/2004

9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: MARIBEL GONZALEZ Lic. No. 82898  
 Printed Name: MARIBEL GONZALEZ Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

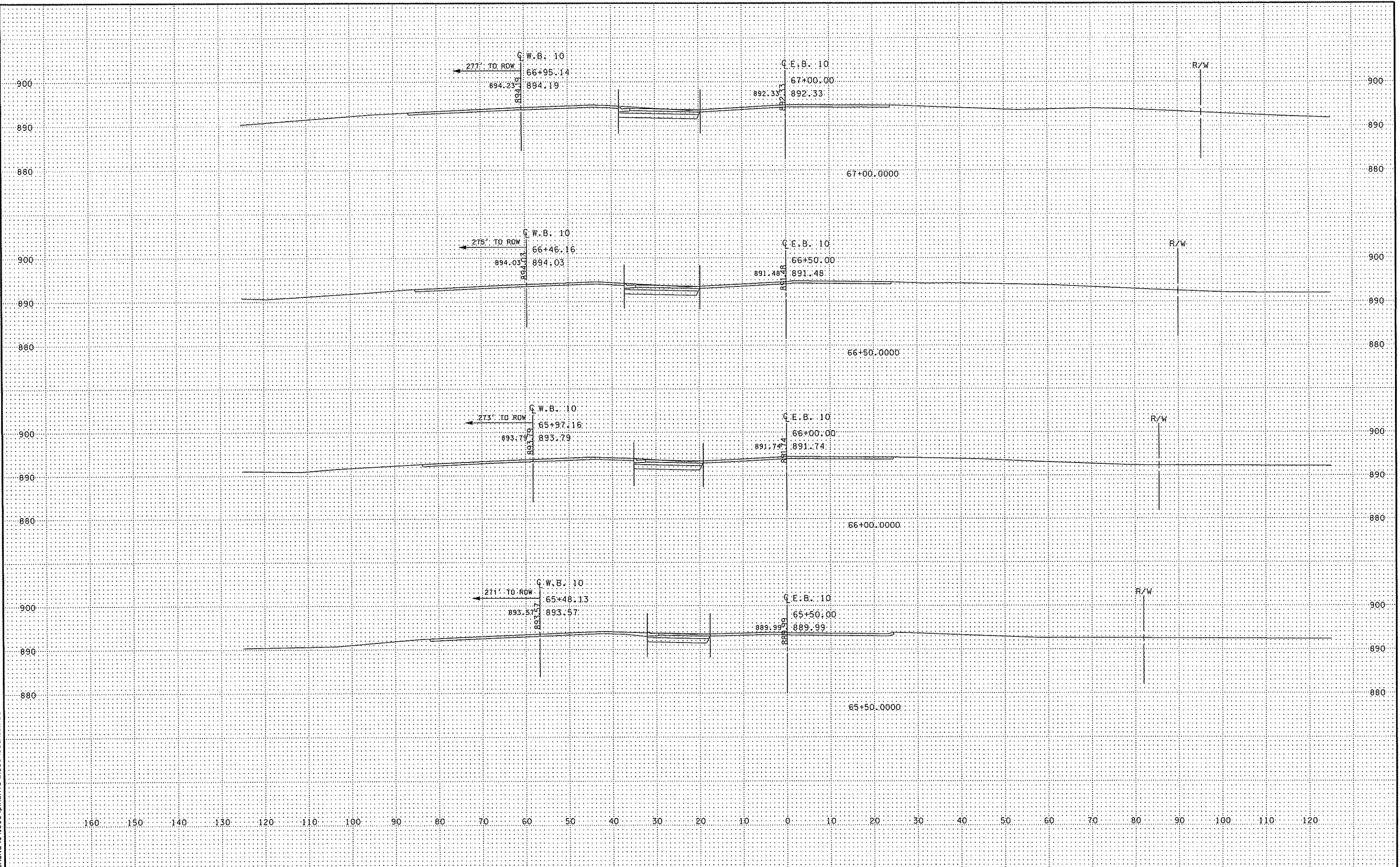
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 STA. 63+61.51 - 65+00.00  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. XS1  
 ANOKCO410.00  
 DATE 9/30/2004  
 XS23

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9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: MINOR RUIZ Lic. No. 82008  
 Printed Name: MINOR RUIZ Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

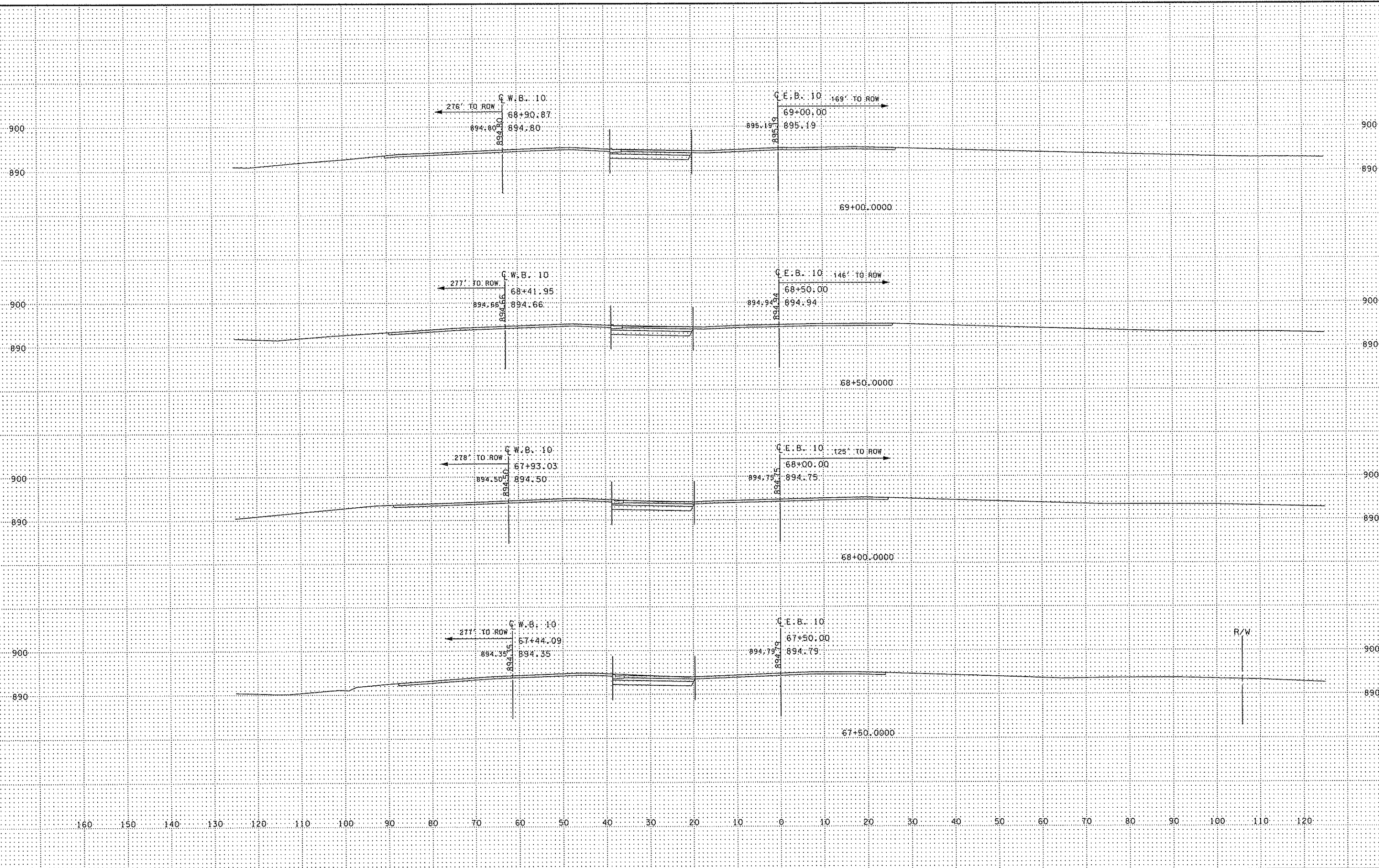
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 STA. 65+50.00 - 67+00.00  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS2**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

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9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: MARCELO R. GONZALEZ Lic. No. 82898

Printed Name: MARCELO R. GONZALEZ Date: 9/30/2004



ANOKA COUNTY, MINNESOTA

**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

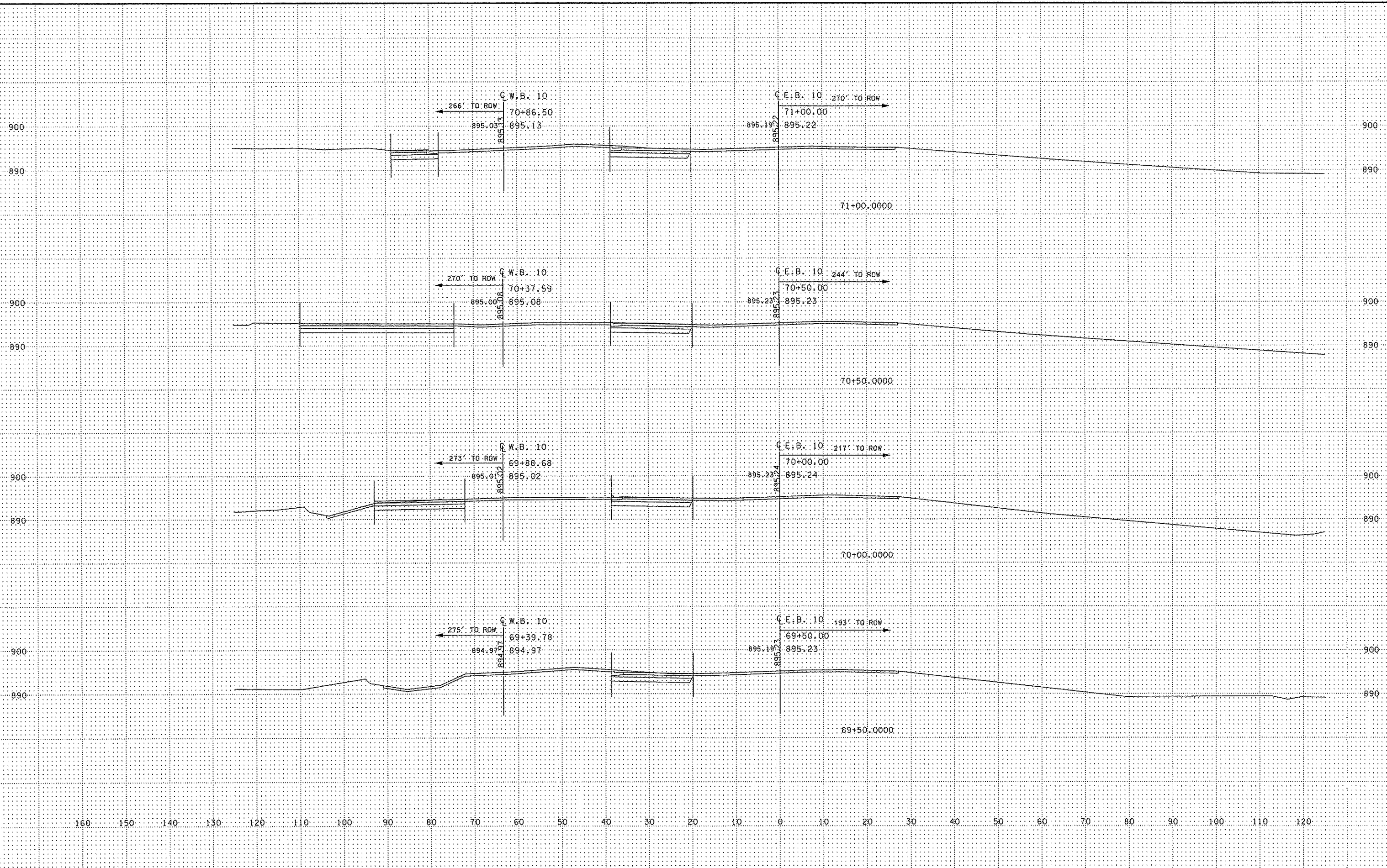
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 STA. 67+50.00 - 69+00.00  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS3**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

9/30/2004

9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: MARCELO J. GONZALEZ Lic. No. 82086  
 Printed Name: MARCELO J. GONZALEZ Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

**C.S.A.H. 10 CROSS SECTIONS**  
 STA. 69+50.00 - 71+00.00  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

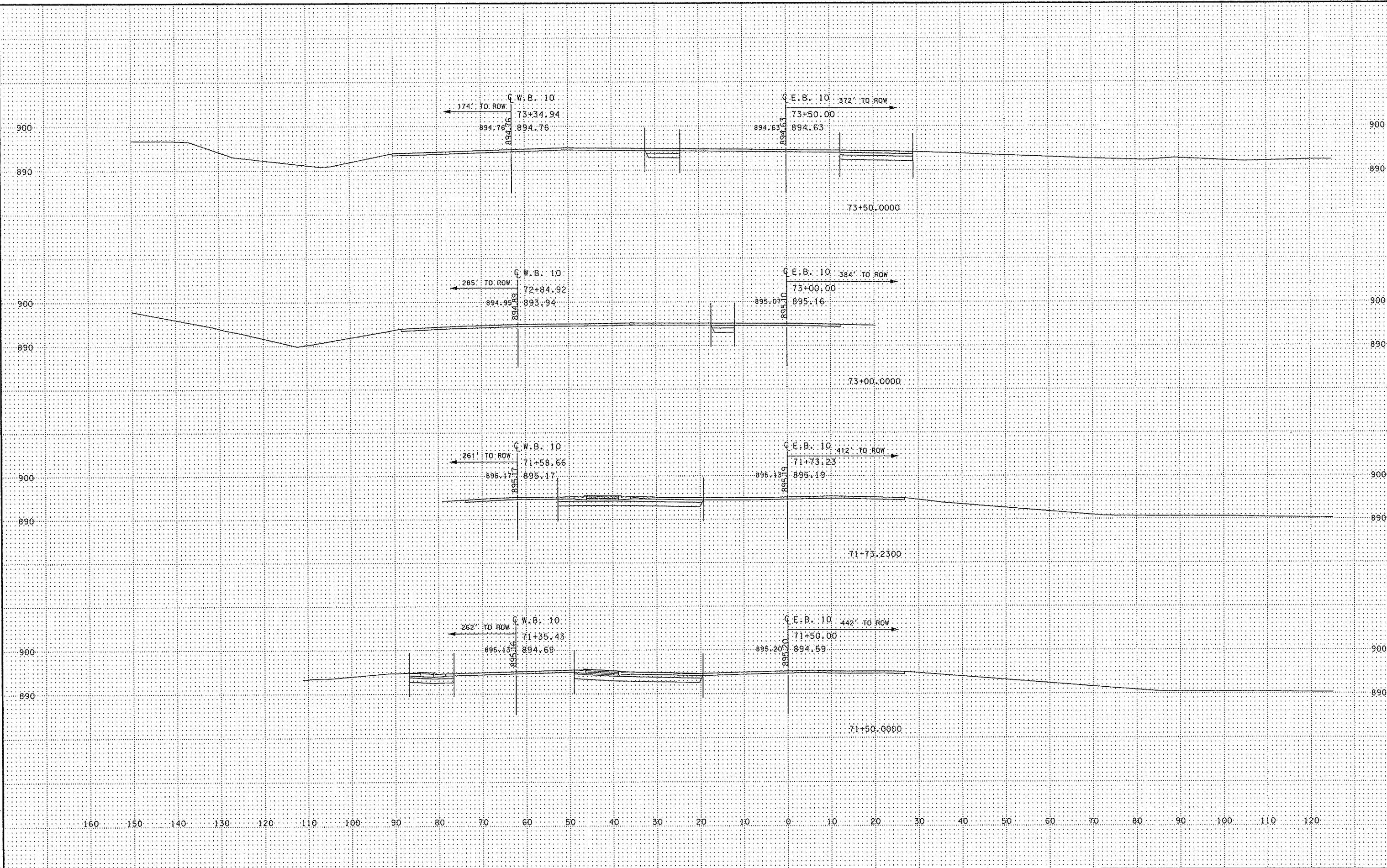
FILE NO. **XS4**  
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 DATE **9/30/2004**  
**XS23**



9/5/13 AM

9/30/2004

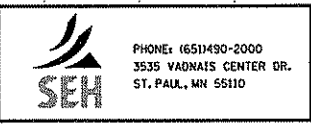
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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: MANUEL R. GONZALEZ Lic. No. 82084  
 Printed Name: MANUEL R. GONZALEZ Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

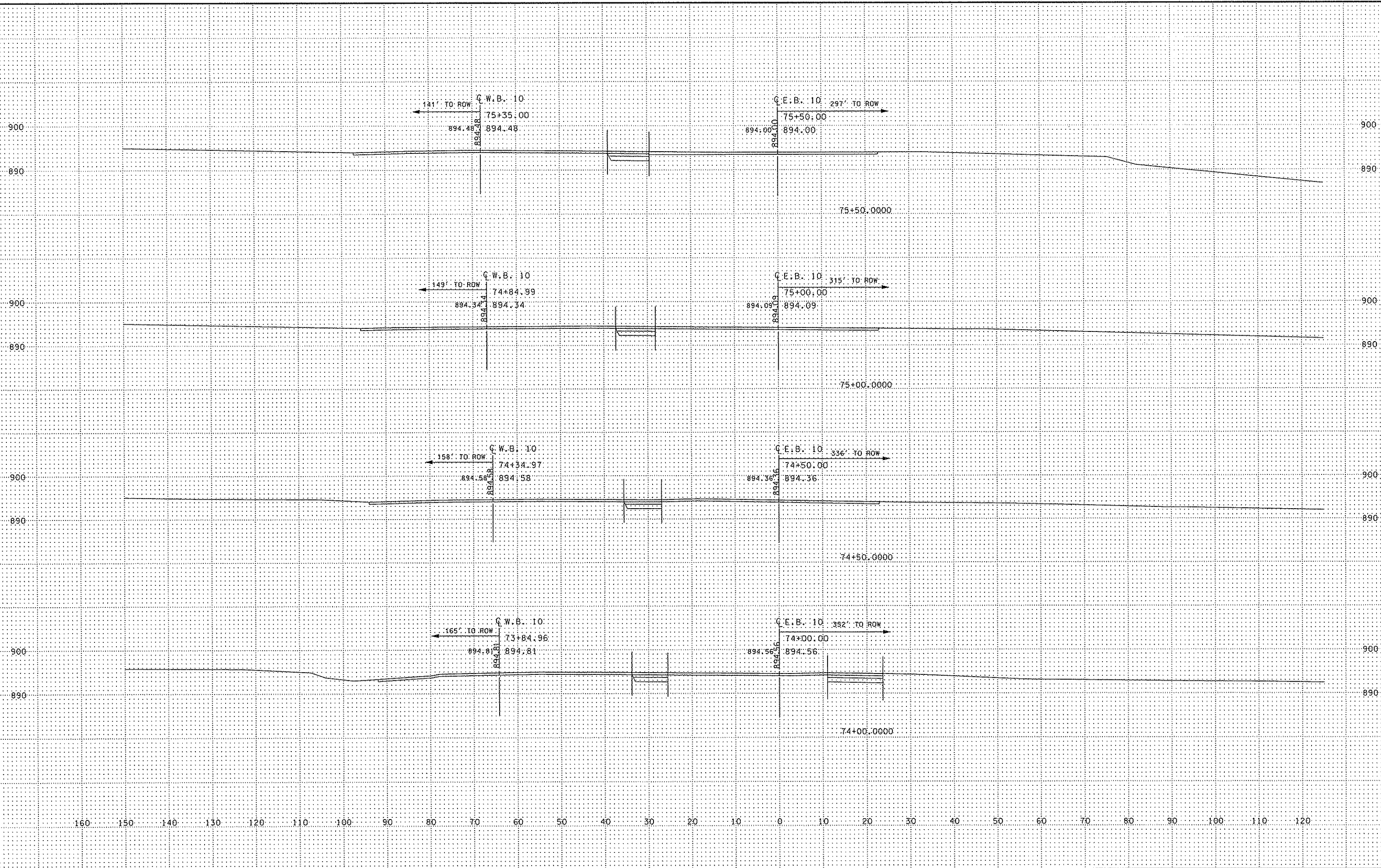
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 STA. 71+50.00 - 73+50.00  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS5**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

9:57:13 AM

9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: MANUEL J. GONZALEZ Lic. No. 22887  
 Printed Name: MANUEL J. GONZALEZ Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

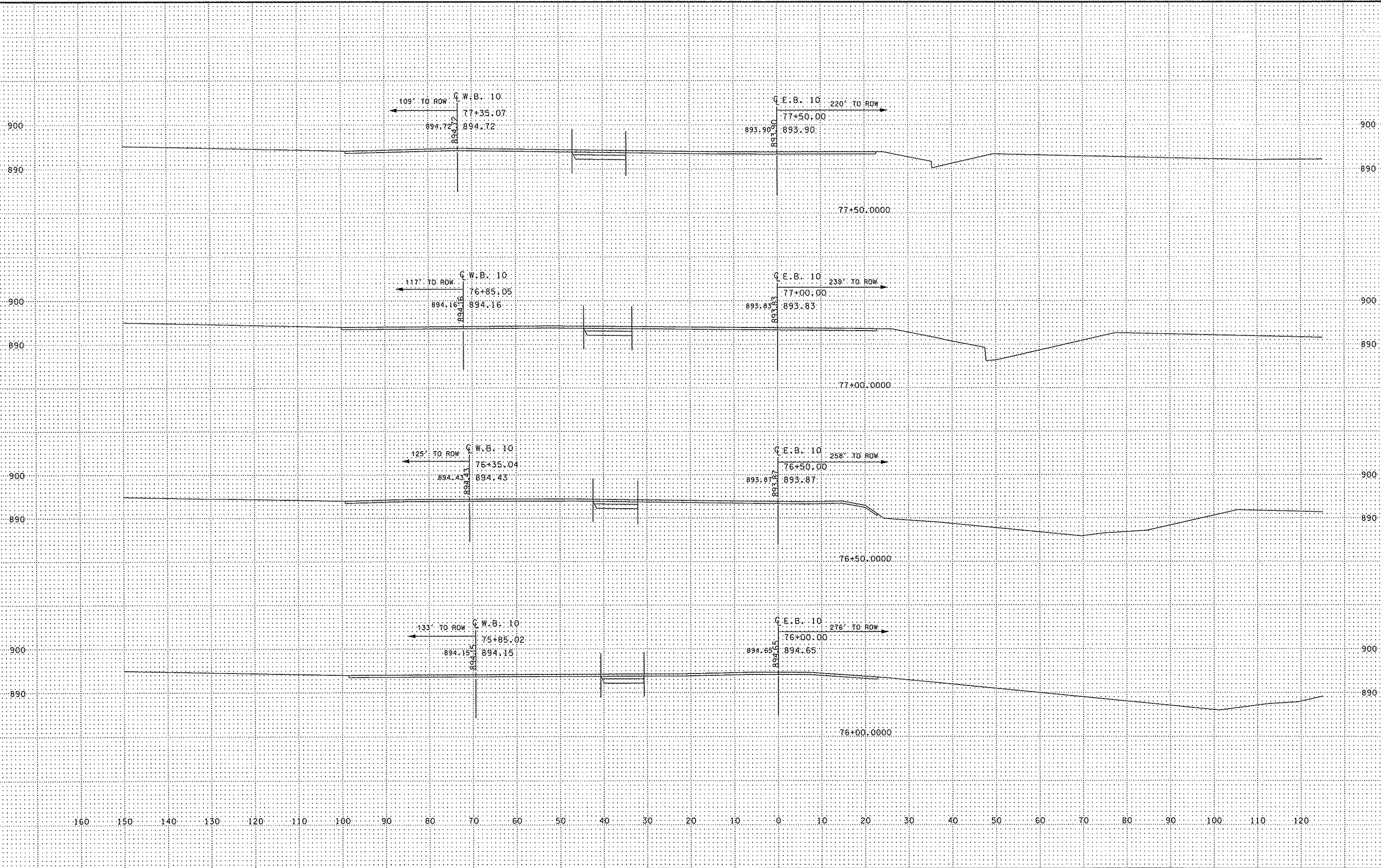
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 STA. 74+00.00 - 75+50.00  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 105-020-24

FILE NO. **XS6**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

9/30/2004

9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: MARINER L. GONZALEZ Lic. No. 82088  
 Printed Name: MARINER L. GONZALEZ Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

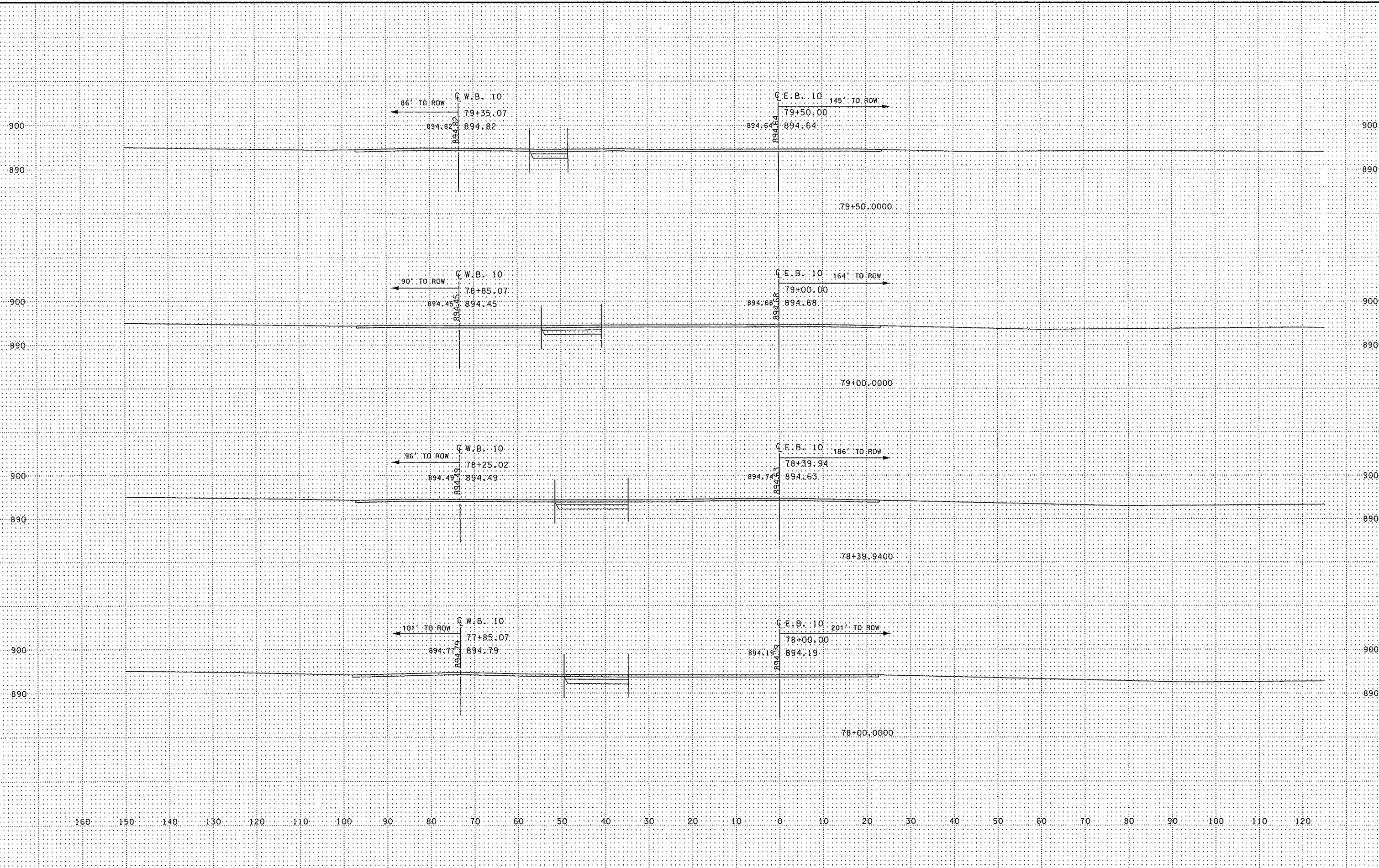
**C.S.A.H. 10 CROSS SECTIONS**  
 STA. 76+00.00 - 77+50.00  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS7**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

9/30/2004

9/30/2004

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DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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.  
 Certified By: MANUEL RUIZ Lic. No. 82888  
 Printed Name: MANUEL RUIZ Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:  
 CSAH 10 @ CSAH 51/CSAH 3**

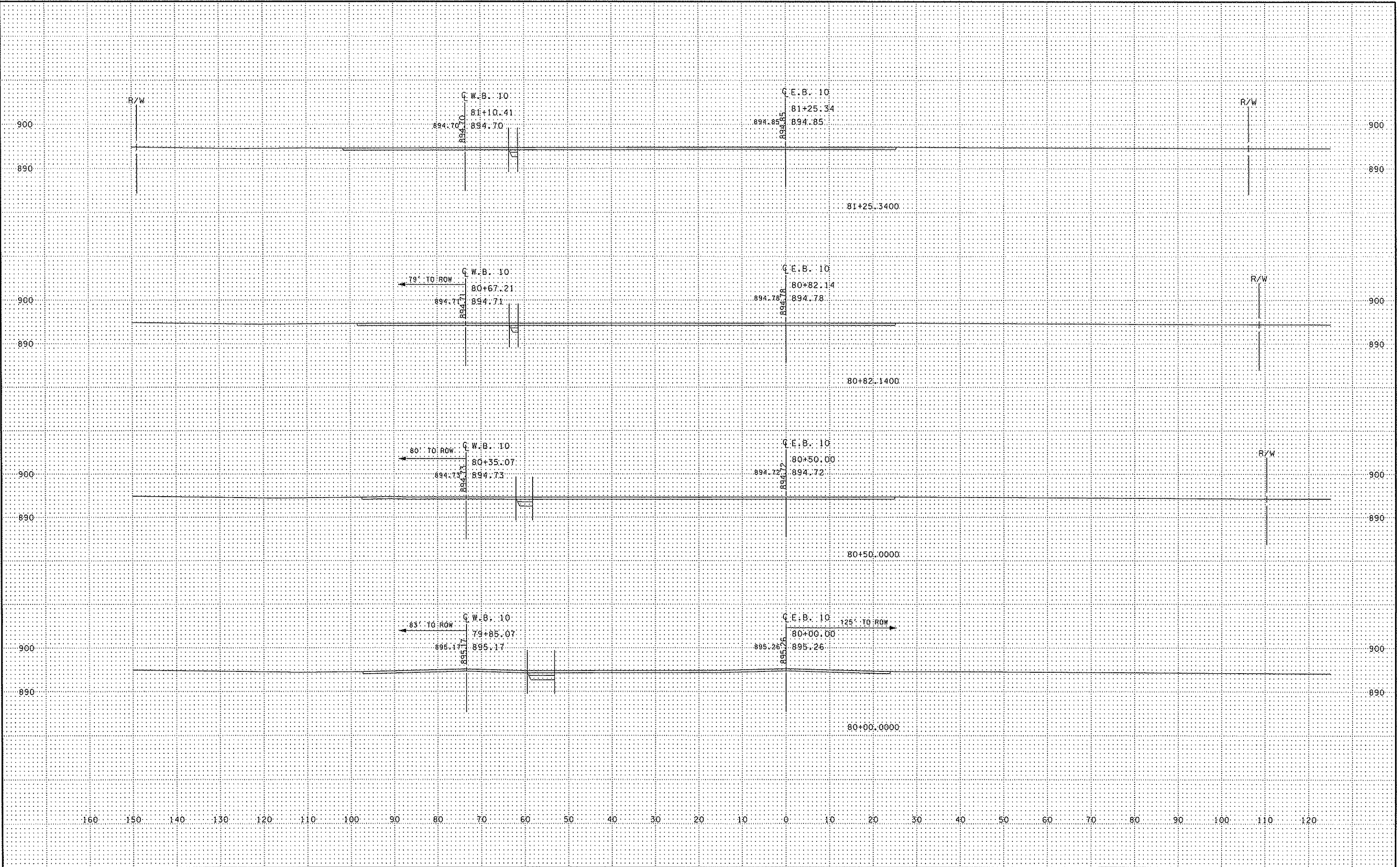
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 STA. 78+00.00 - 79+50.00  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS8**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

9/5/14 AM

9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: MINOR R. RUIZ Lic. No. 12899

Printed Name: MINOR R. RUIZ Date: 9/30/2004



ANOKA COUNTY, MINNESOTA

**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

C.S.A.H. 10 CROSS SECTIONS

STA. 80+00.00 - 81+25.34

STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS9**

ANOKC0410.00

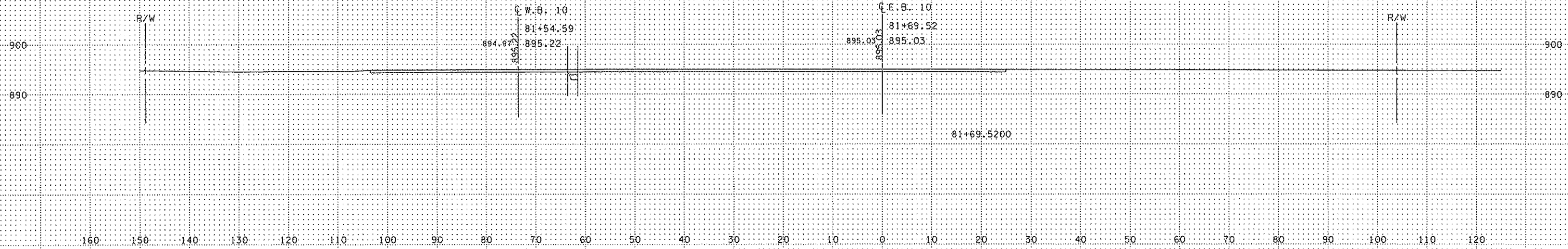
DATE **9/30/2004**

**XS23**

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9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: MARIBEL GONZALEZ Lic. No. 82886  
 Printed Name: MARIBEL GONZALEZ Date: 9/30/2004



PHONE: 651-490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

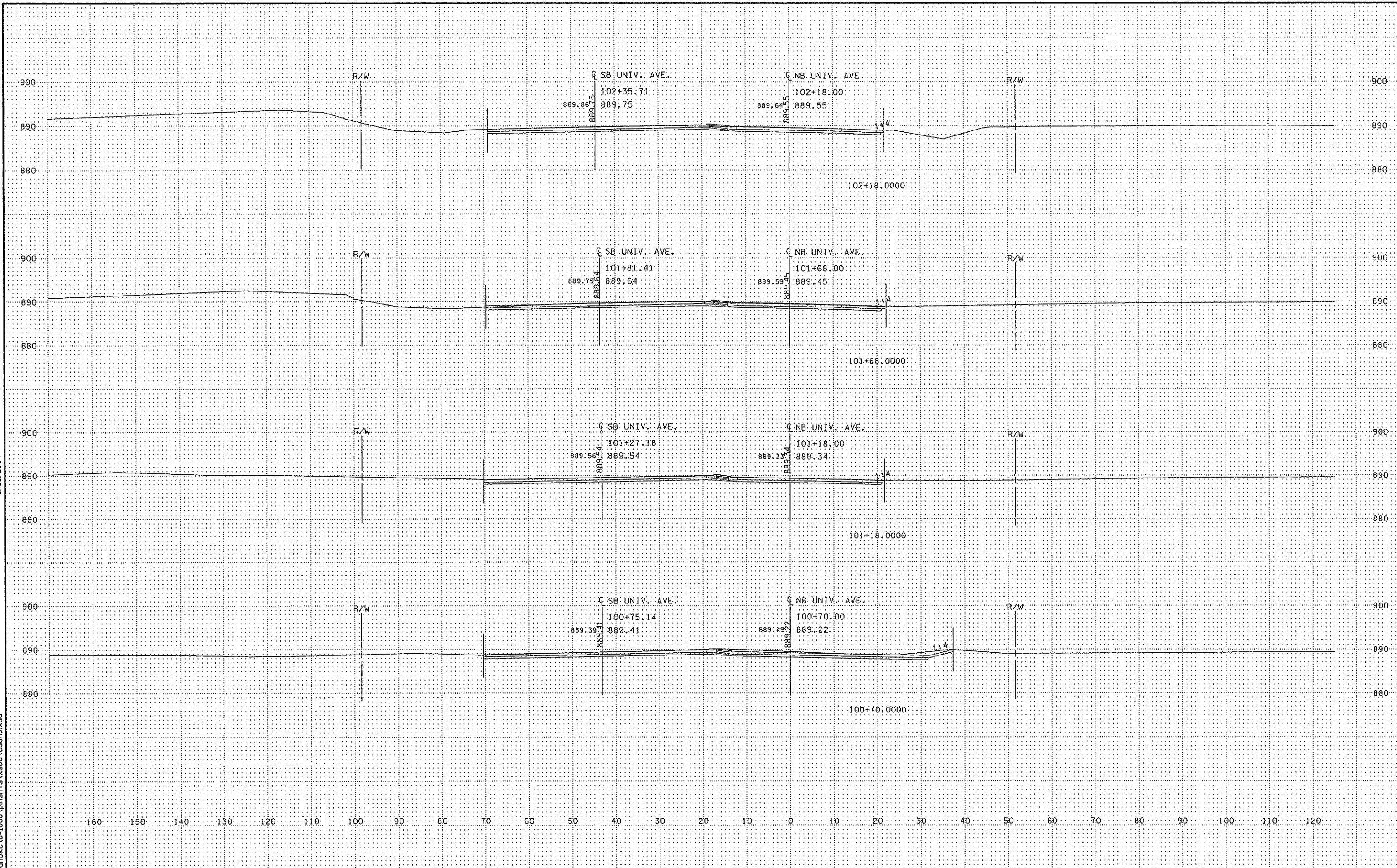
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 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS10**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

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9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: AARON P. MONIZA Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

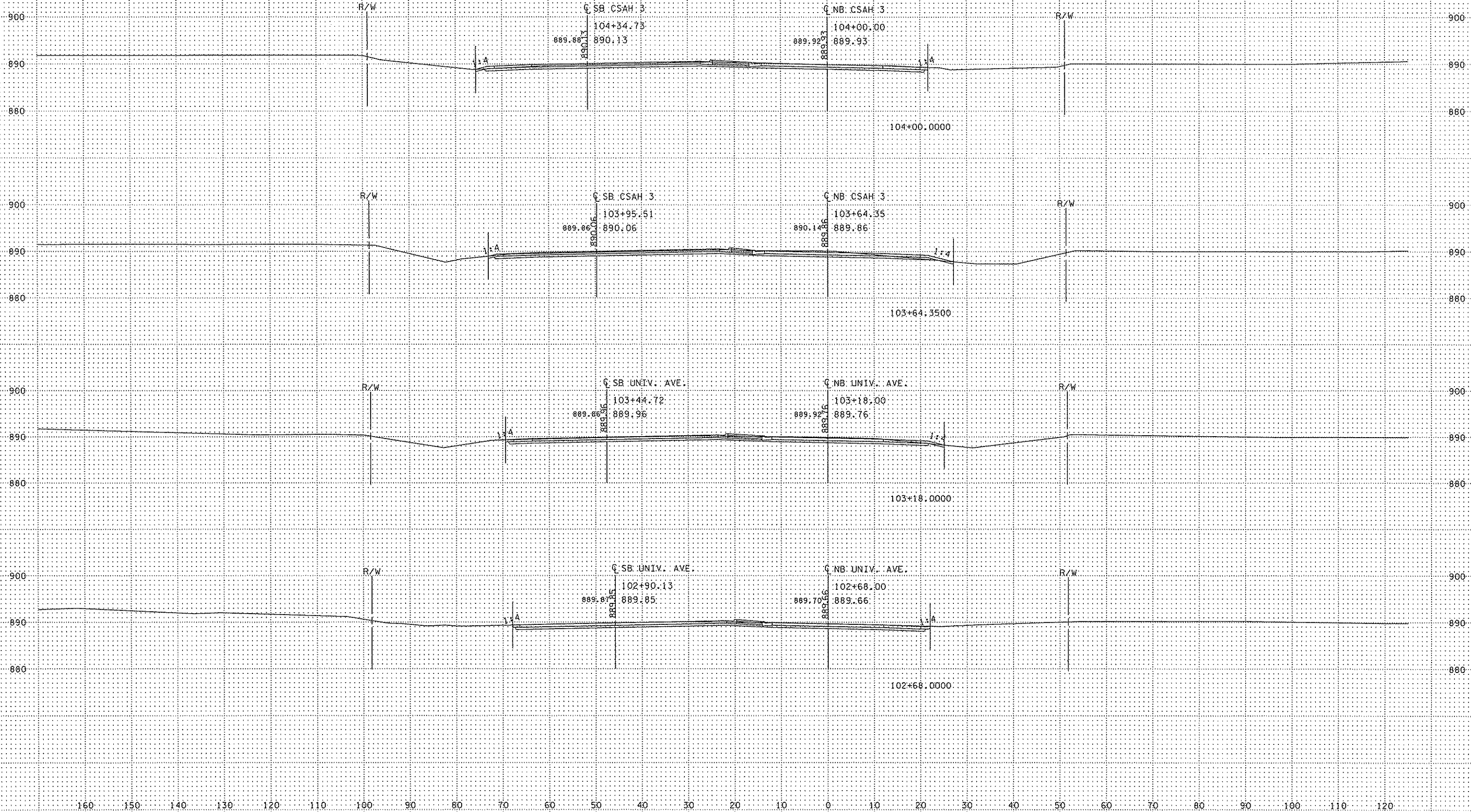
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 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 105-020-24

FILE NO. **XS11**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

9/5/15 AM

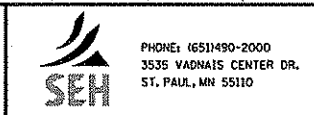
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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.  
 Certified By: Aaron P. Moniza Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**C.S.A.H. 3 CROSS SECTIONS**  
 STA. 102+68.00 - 104+00.00  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

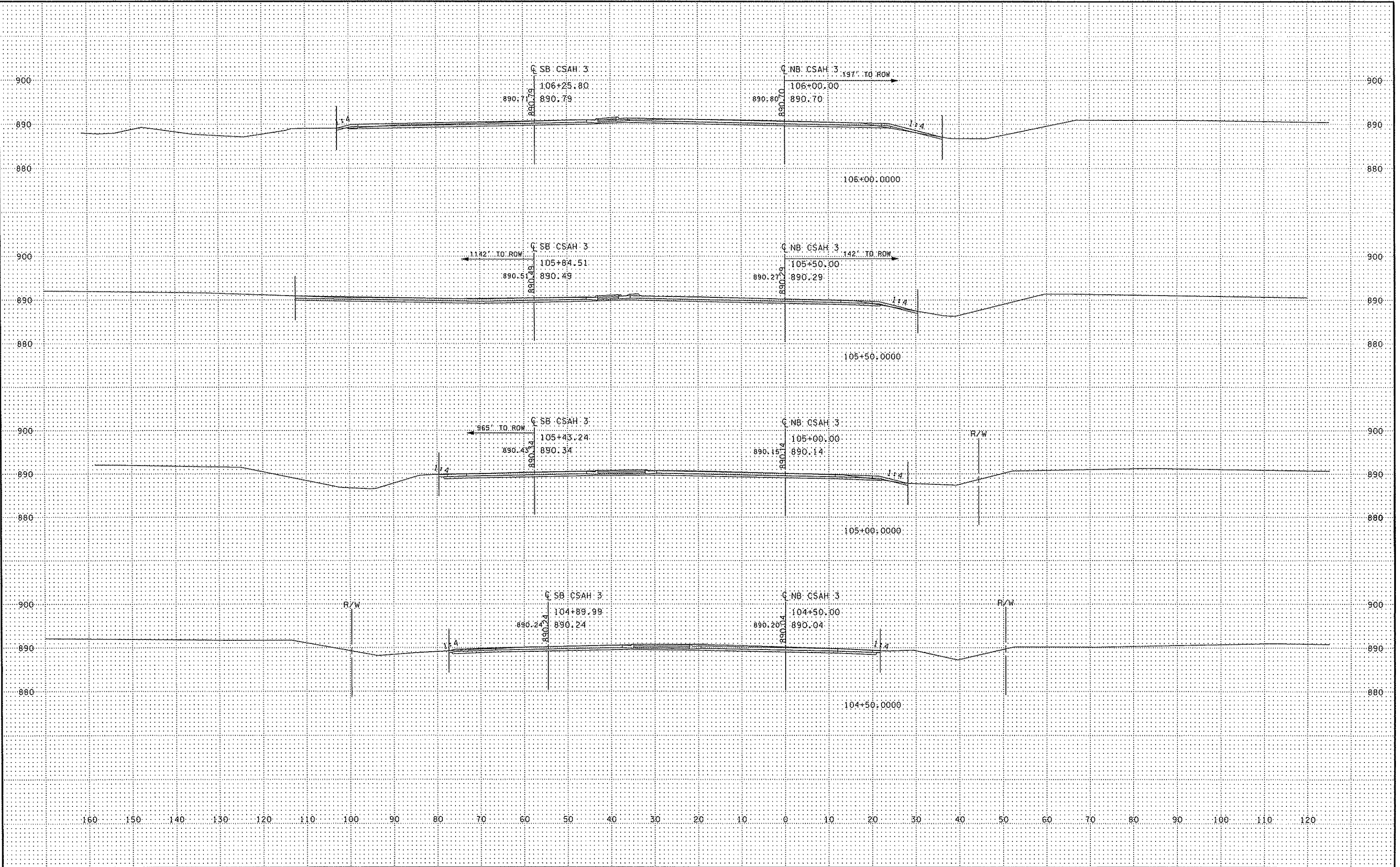
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 DATE **9/30/2004**  
**XS23**



9/30/2004

9/30/2004

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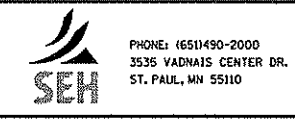


DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.

Certified By: AARON P. MONIZA Lic. No. 41654

Printed Name: AARON P. MONIZA Date: 9/30/2004



ANOKA COUNTY, MINNESOTA

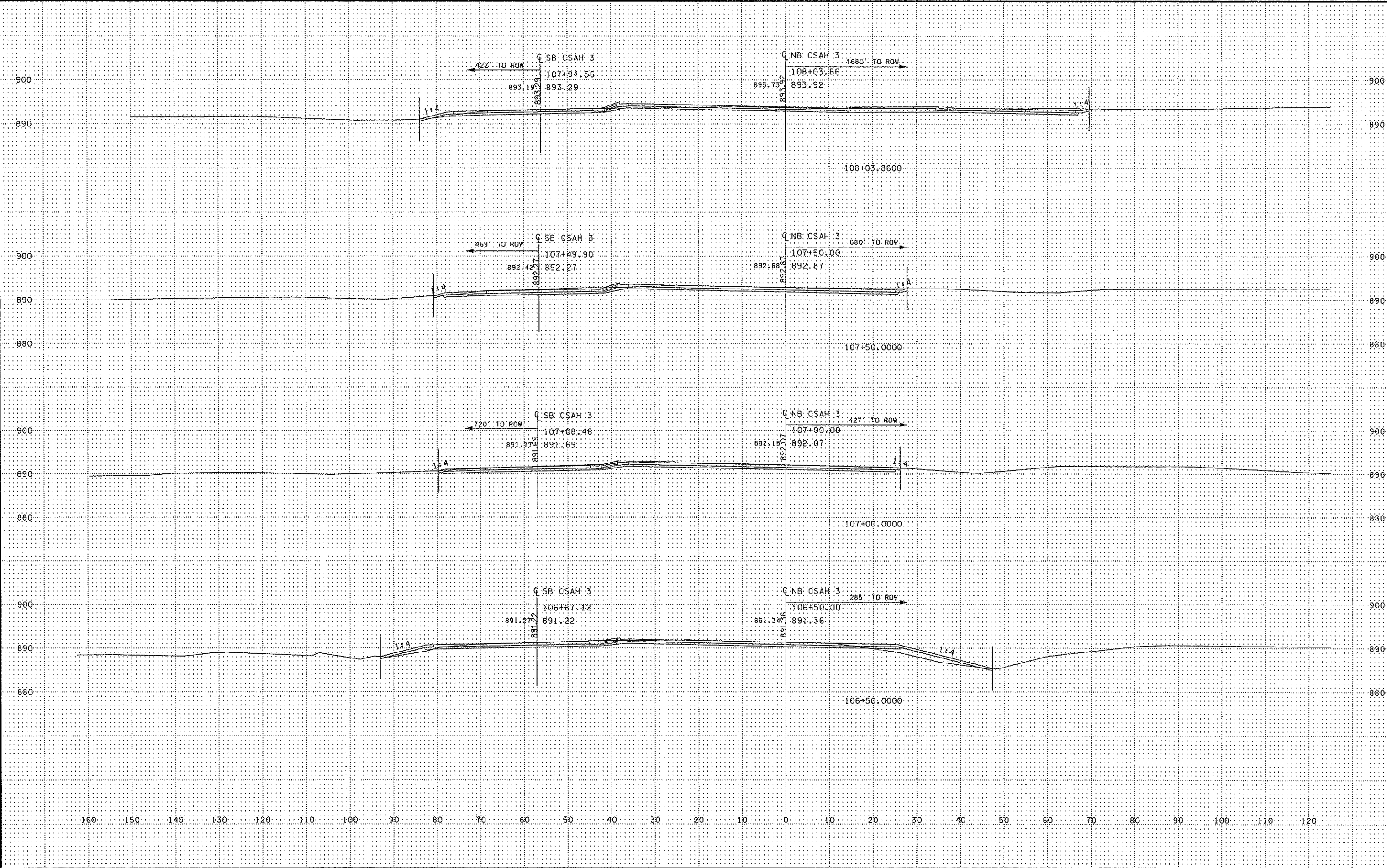
**INTERSECTION IMPROVEMENTS:  
CSAH 10 @ CSAH 51/CSAH 3**

C.S.A.H. 3 CROSS SECTIONS		FILE NO.
STA. 104+50.00 - 106+00.00		XS13
STATE PROJECT NO. 02-610-11		DATE
STATE PROJECT NO. 106-020-24		9/30/2004

9/27/15 AM

9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: AARON P. MONIZA Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

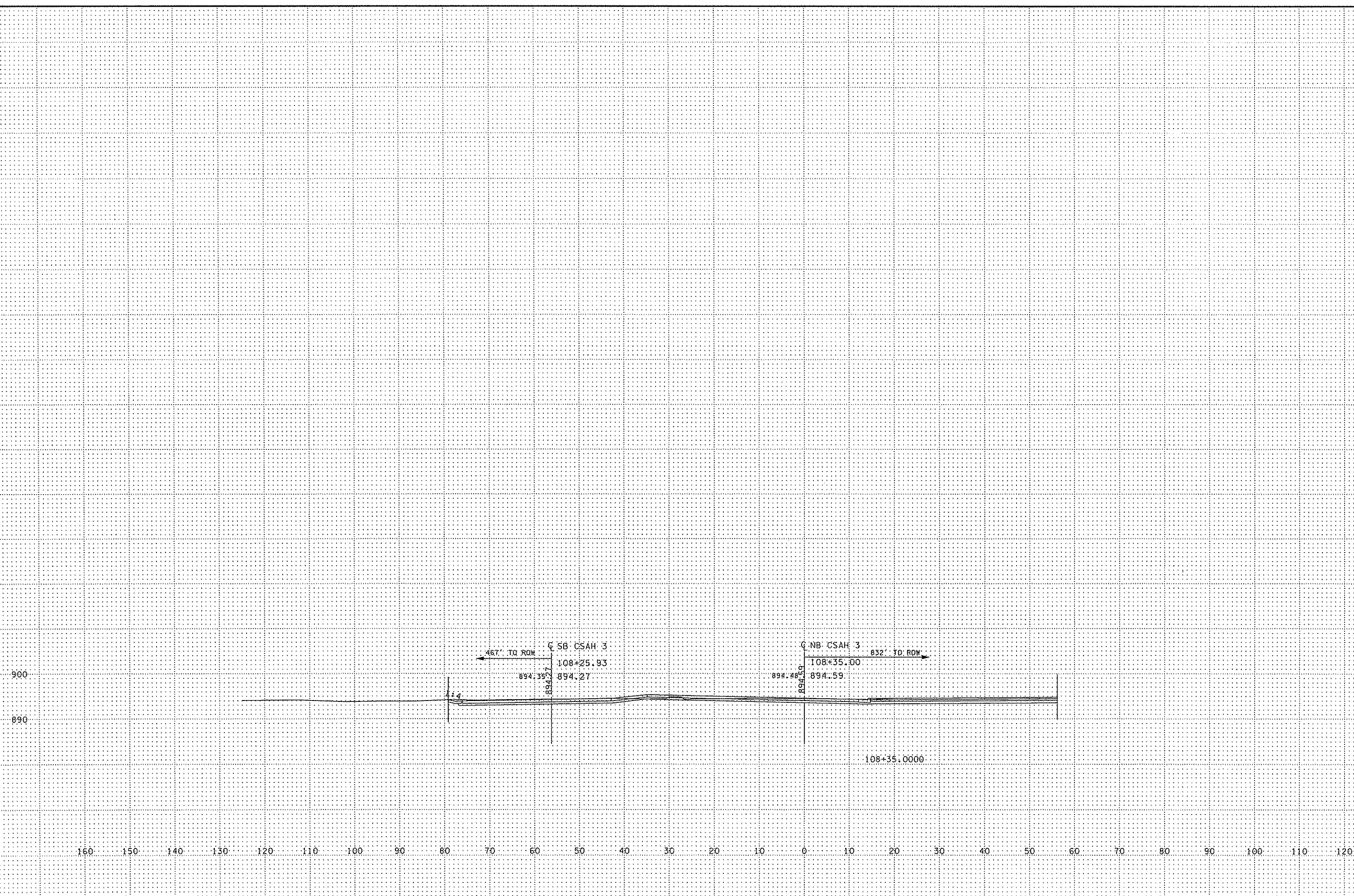
**C.S.A.H. 3 CROSS SECTIONS**  
 STA. 106+50.00 - 108+03.86  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	XS14
ANOKC0410.00	
DATE	9/30/2004
	<b>XS23</b>

9/30/2004

9/30/2004

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DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.

Certified By: WARREN J. MICHLEZ Lic. No. #1698  
 Printed Name: WARREN J. MICHLEZ Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**C.S.A.H. 3 CROSS SECTIONS**  
 STA. 108+35.00  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS15**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

9/30/2004

9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

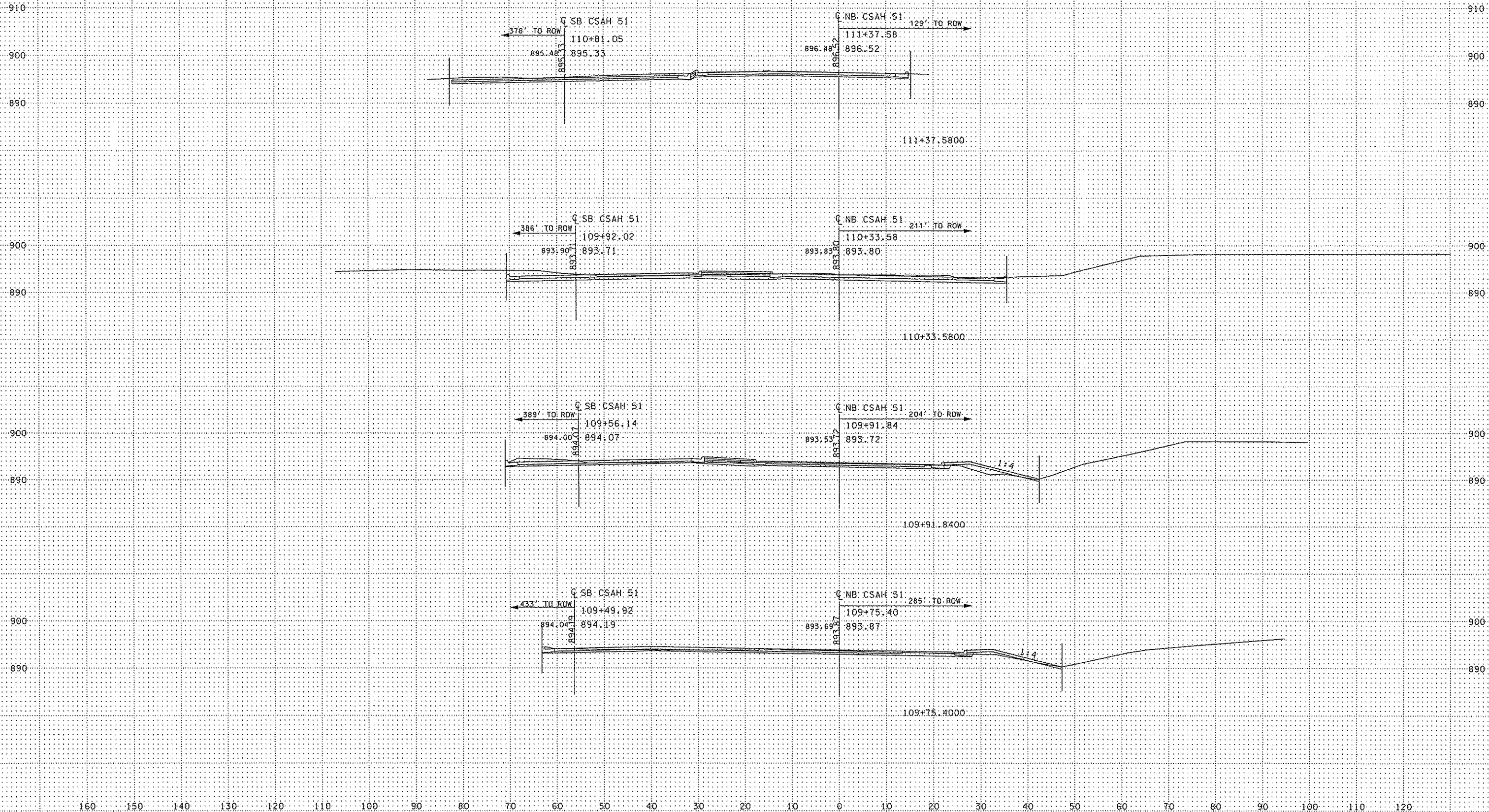
Certified By: AARON P. MONIZA Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**CSAH 51 CROSS SECTIONS**  
 STA. 109+75 - 111+37.58  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

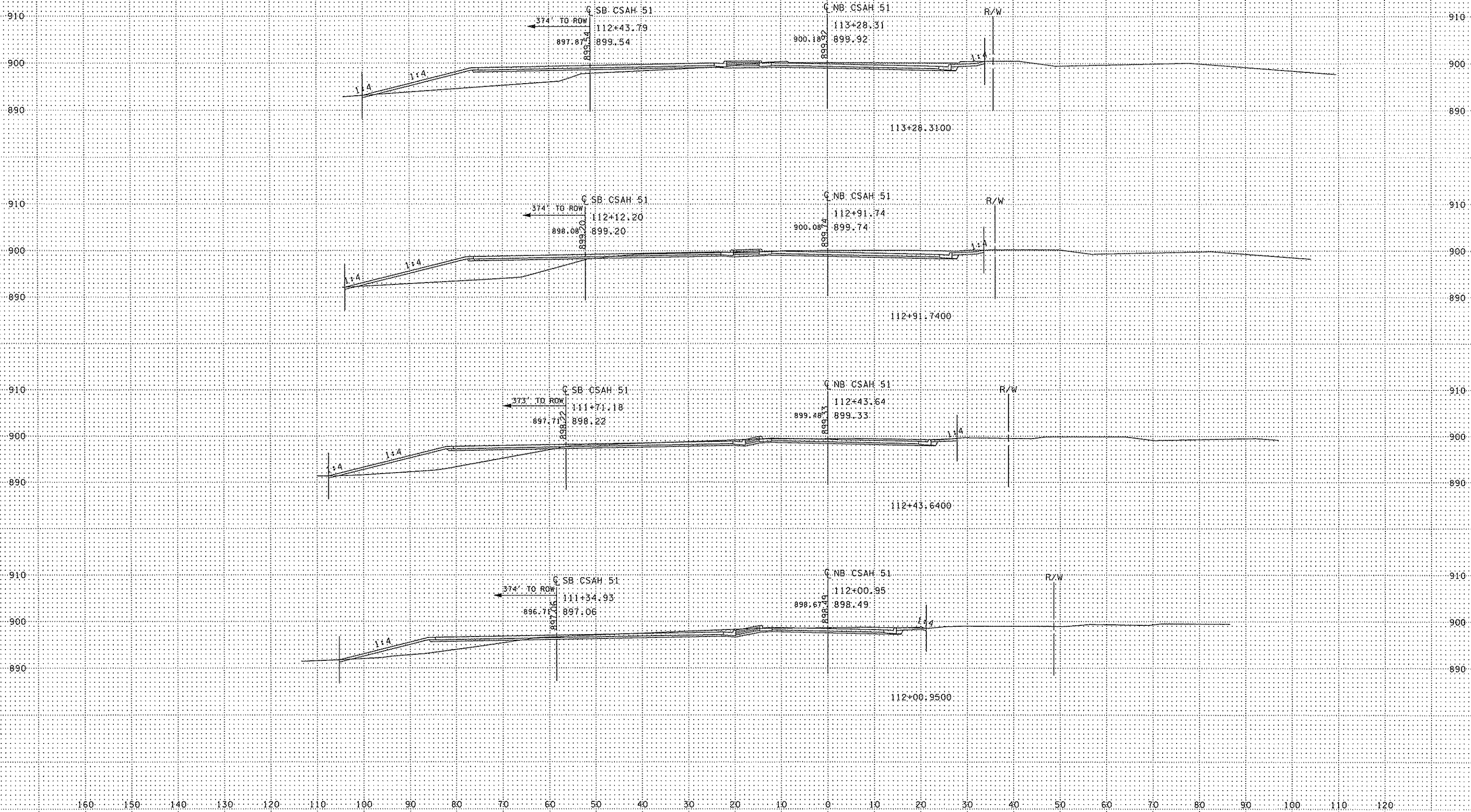
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 DATE **9/30/2004**  
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9/5/17 AM

9/30/2004

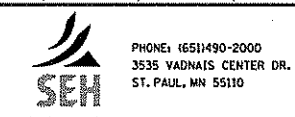
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DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.

Certified By: AARON P. MONIZA Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

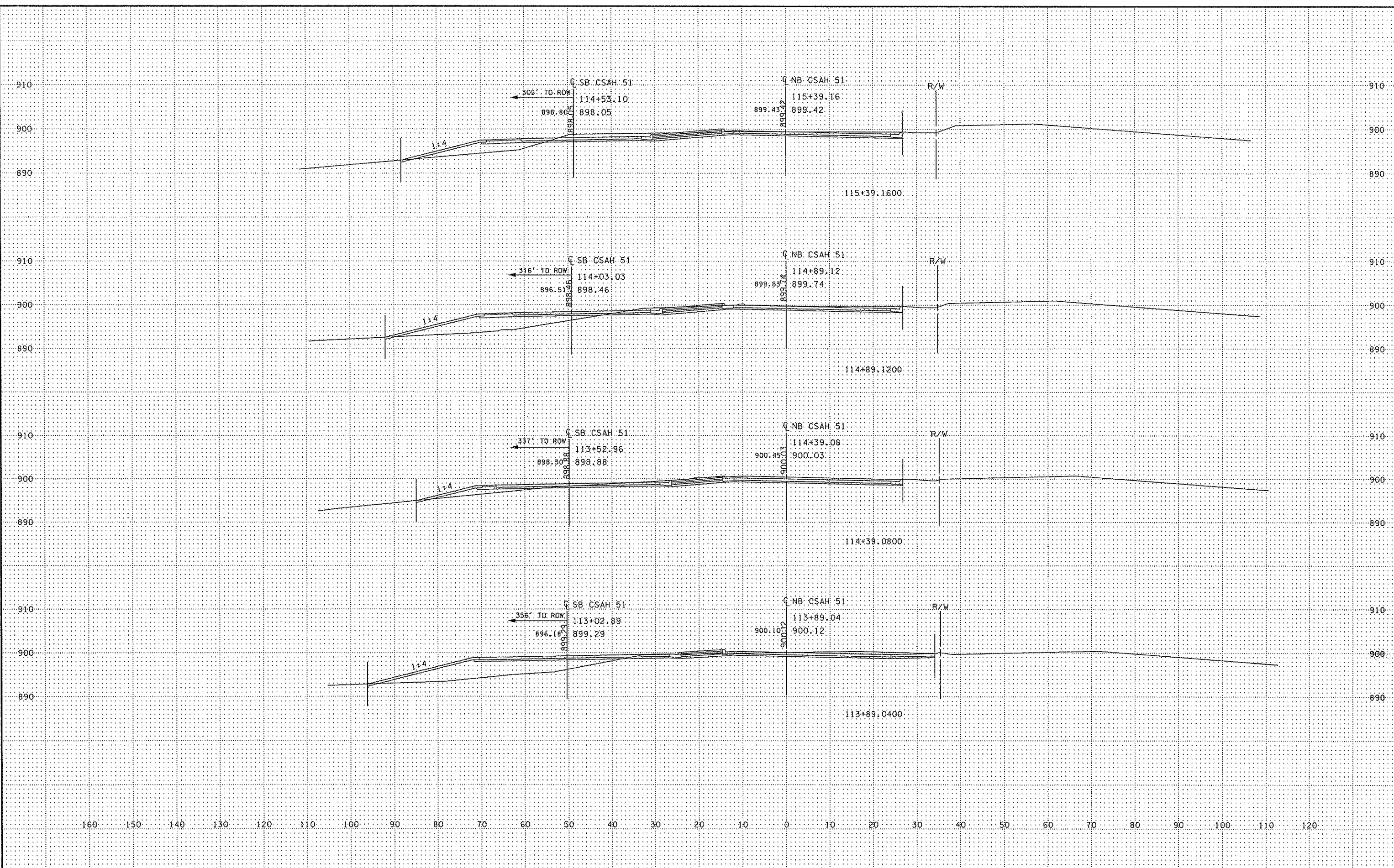
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 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO.	XS17
ANOKC0410.00	
DATE	9/30/2004
	XS23

9/5/17 AM

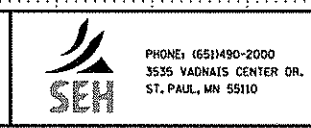
9/30/2004

w:\ae\anokc\041000\p\rights\sect\csah51.xso



DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.  
 Certified By: AARON P. MONIZA Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

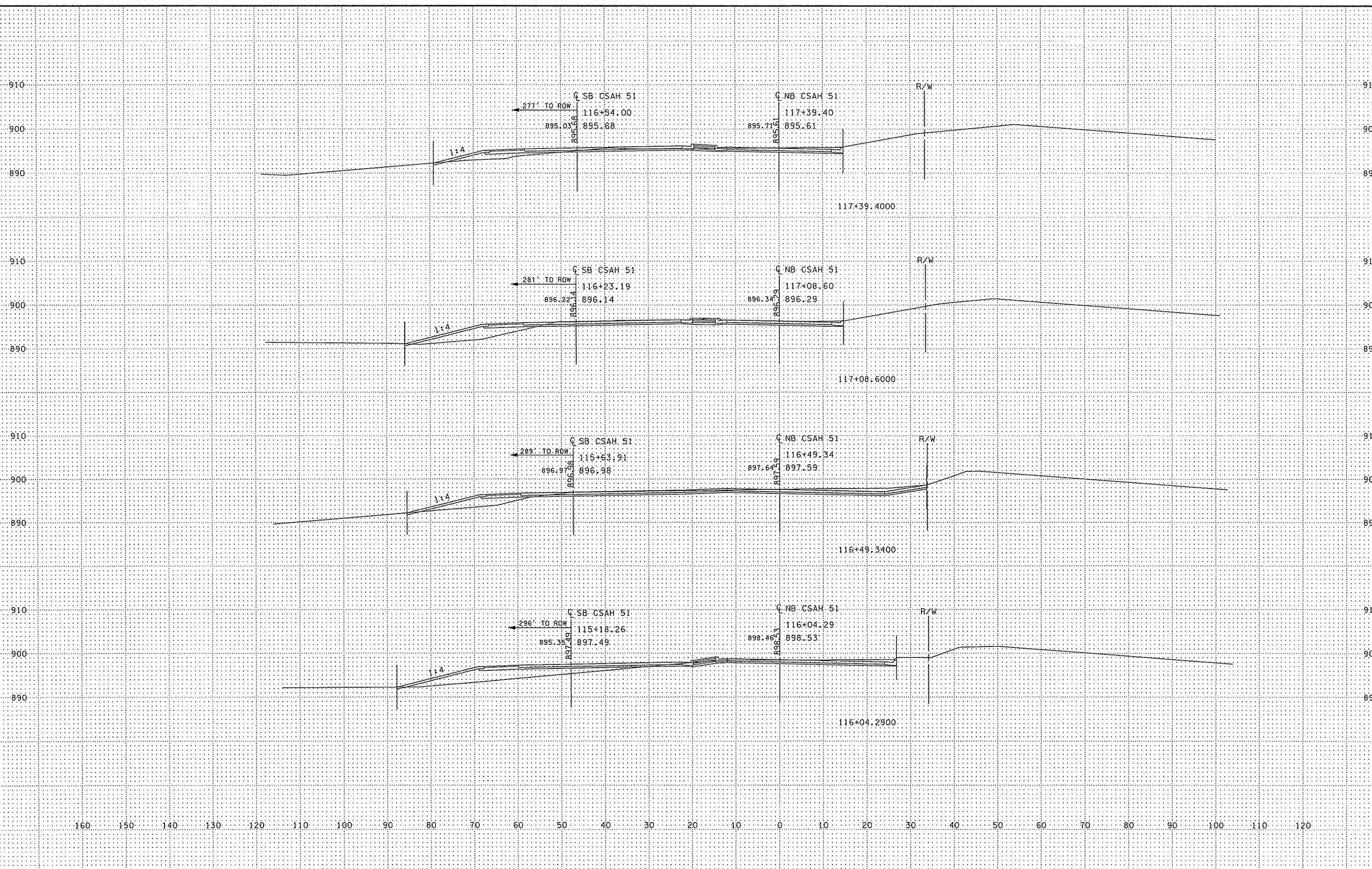
**CSAH 51 CROSS SECTIONS**  
 STA. 113+89.04 - 115+39.16  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS18**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

9/27/17 AM

9/30/2004

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DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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Certified By: AARON P. MONIZA Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

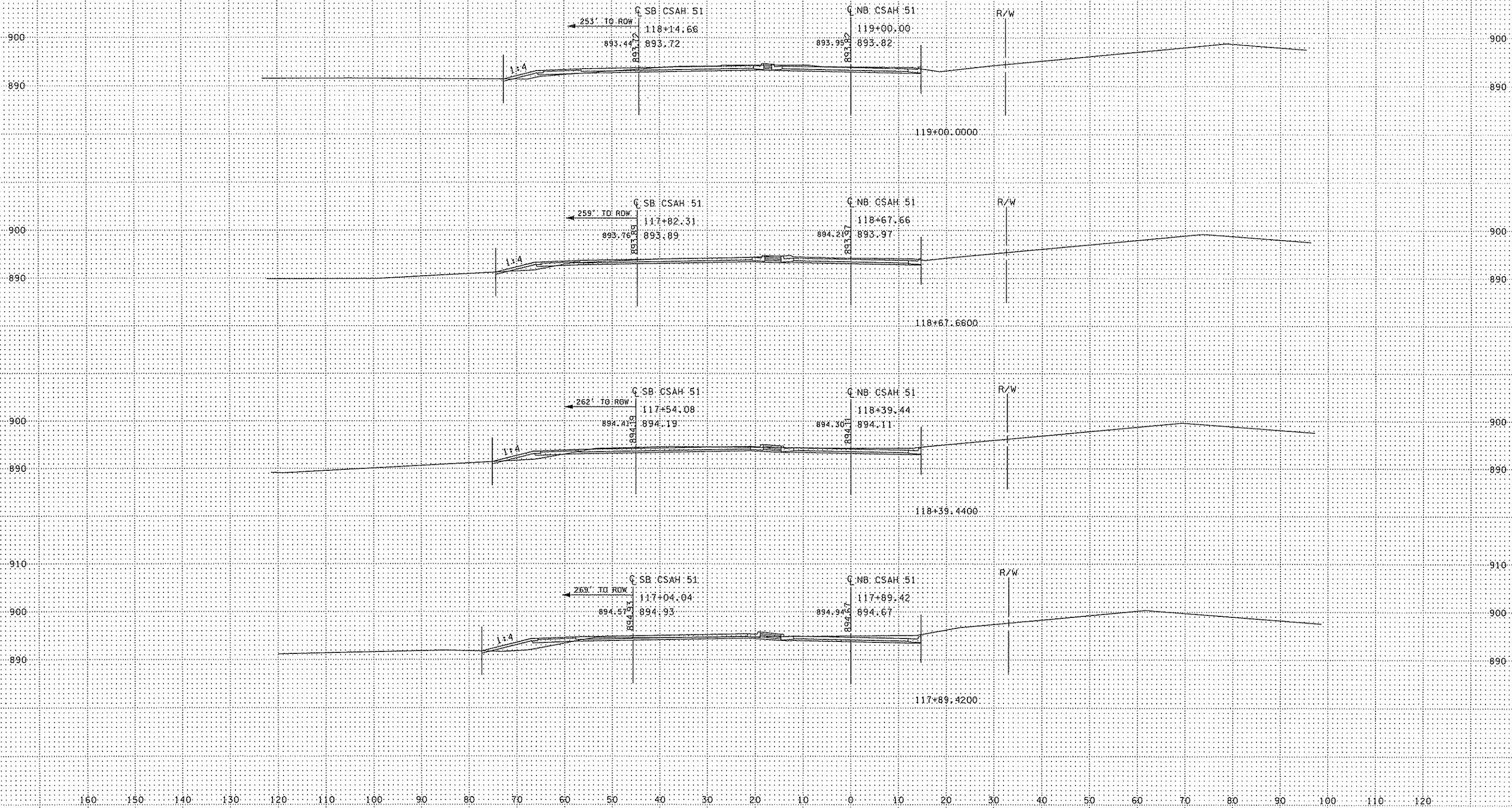
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 STA. 116+04.29 - 117+39.40  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS19**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

9/5/17 AM

9/30/2004

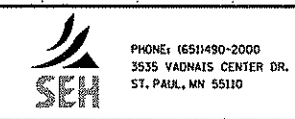
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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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Certified By: AARON P. MONIZA Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**CSAH 51 CROSS SECTIONS**  
 STA. 117+89.42 - 119+00.00  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS20**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**



9/30/2004

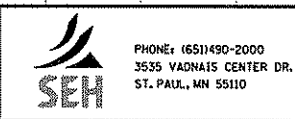
9/30/2004

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DESIGN TEAM			
DRAWN BY:	JMT		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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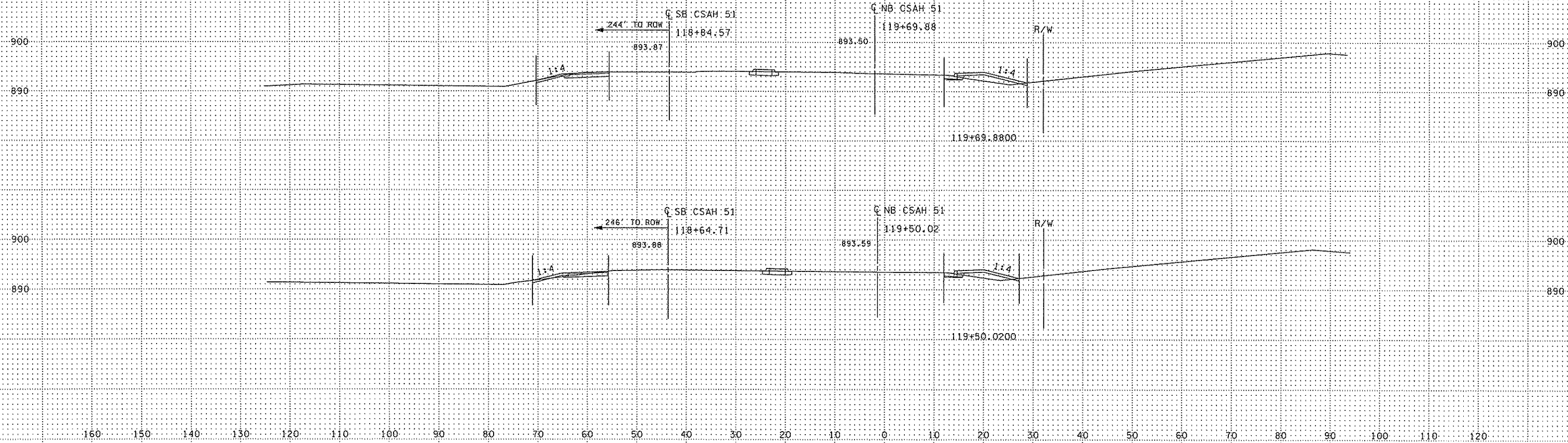
Certified By: AARON P. MONIZA Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**CSAH 51 CROSS SECTIONS**  
 STA. 119+50.02 - 119+69.88  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

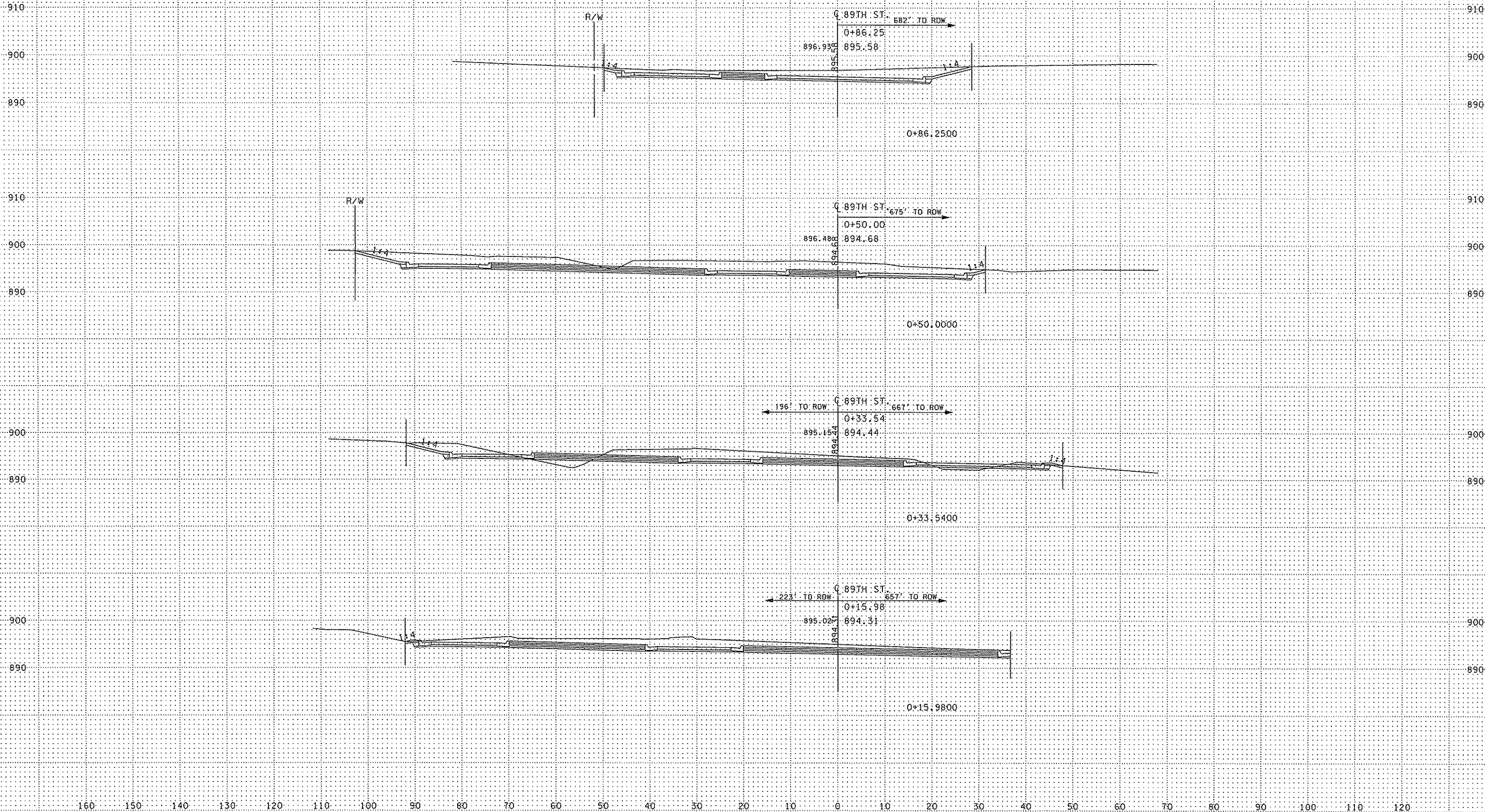
FILE NO. **XS21**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**



9/30/2004

9/30/2004

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DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.

Certified By: AARON P. MONIZA Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 9/30/2004

SEH  
 PHONE: 651/490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

ANOKA COUNTY

ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

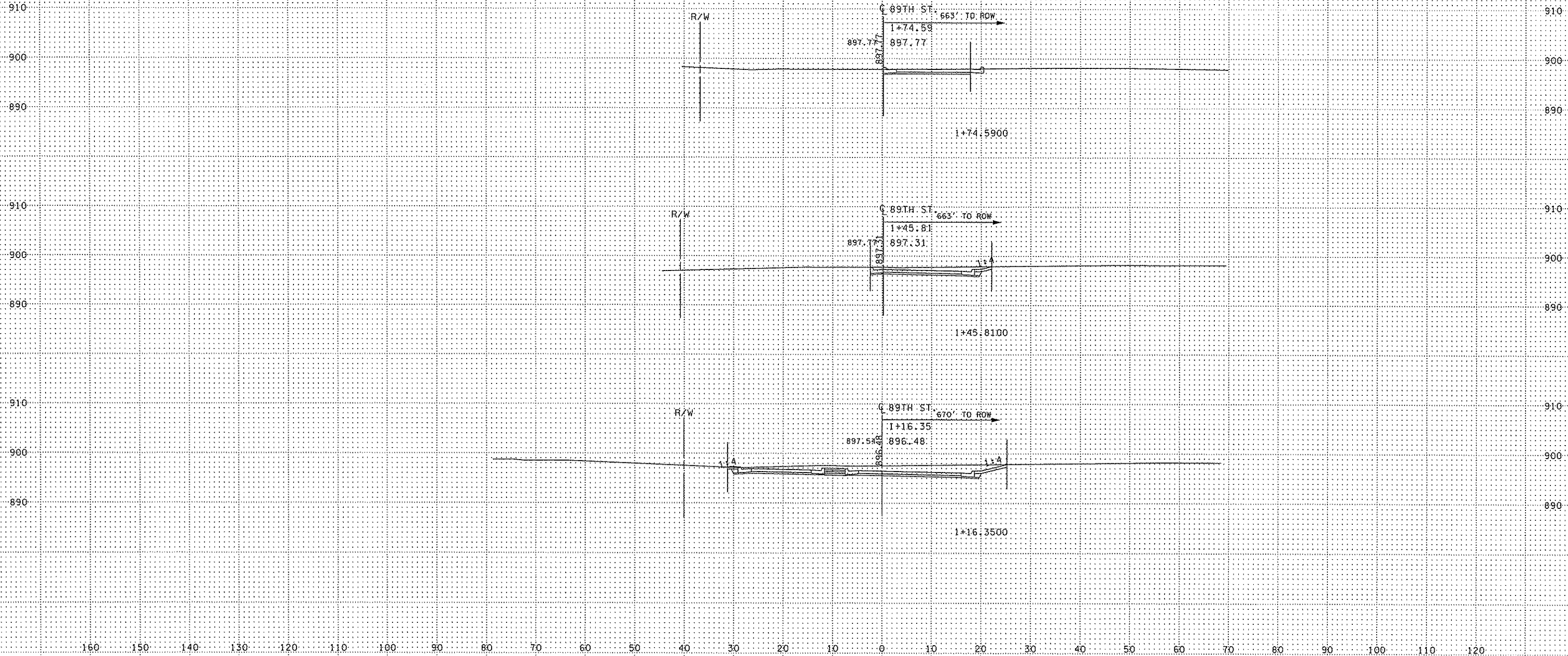
**89TH STREET CROSS SECTIONS**  
 STA. 0+15.98 - 0+86.25  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS22**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**

9/5/19 AM

9/30/2004

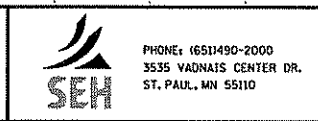
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DESIGN TEAM				
DRAWN BY:	JMT			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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Certified By: AARON P. MONIZA Lic. No. 41654  
 Printed Name: AARON P. MONIZA Date: 9/30/2004



ANOKA COUNTY, MINNESOTA  
**INTERSECTION IMPROVEMENTS:**  
**CSAH 10 @ CSAH 51/CSAH 3**

**89TH STREET CROSS SECTIONS**  
 STA. 1+16.35 - 1+74.59  
 STATE PROJECT NO. 02-610-11  
 STATE PROJECT NO. 106-020-24

FILE NO. **XS23**  
 ANOKC0410.00  
 DATE **9/30/2004**  
**XS23**