ANOKA COUNTY HIGHWAY DEPARTMENT

C.S.A.H. 17 (LEXINGTON AVENUE)

CONSTRUCTION PLAN FOR GRADING, STORM SEWER, BITUMINOUS PAVING, CONCRETE CURB & GUTTER, TRAIL, TRAFFIC SIGNALS

S.A.P. 62-651-39
LOCATED ON RAMSEY C.S.A.H. 51 (LEXINGTON AVE.)
FROM EMIL STREET **TO** C.S.A.H. 32 (CO. RD. J)

GROSS LENGTH	199.914 METERS
BRIDGES-LENGTH	0.000 METERS
EXCEPTIONS-LENGTH	0.000 METERS
NET LENGTH	199.914 METERS

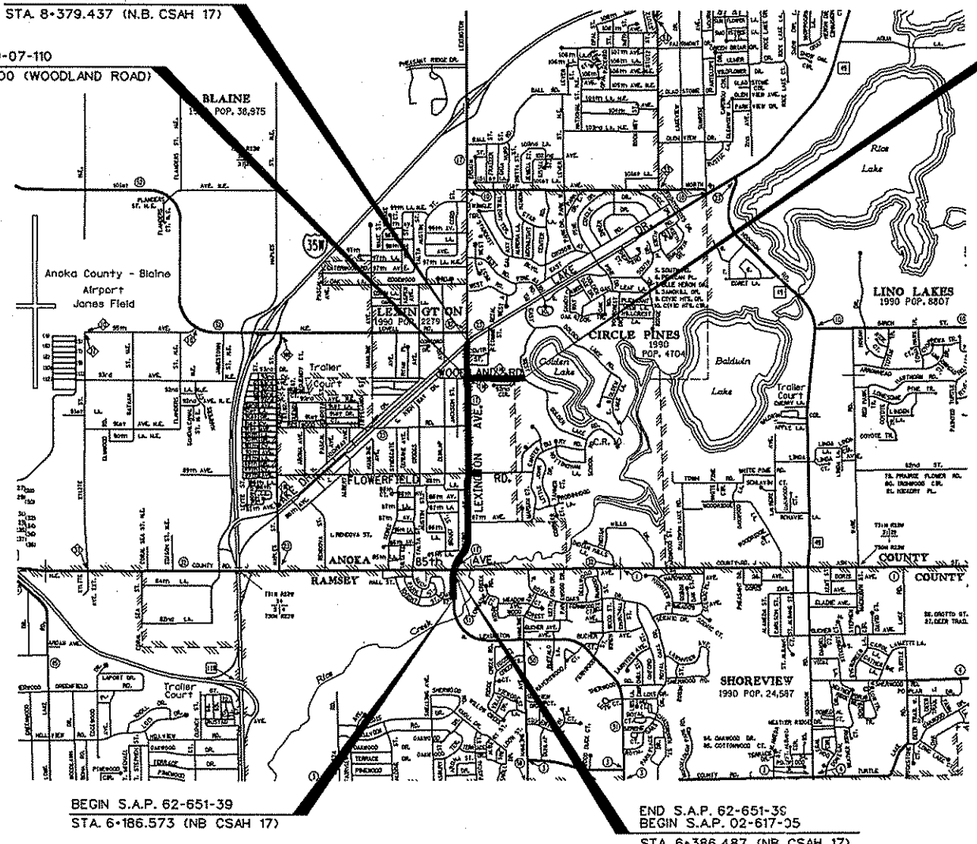
S.A.P. 02-617-05
LOCATED ON ANOKA C.S.A.H. 17 (LEXINGTON AVE.)
FROM C.S.A.H. 32 (CO. RD. J) **TO** C.S.A.H. 23 (LAKE DR.)

GROSS LENGTH	1992.950 METERS
BRIDGES-LENGTH	0.000 METERS
EXCEPTIONS-LENGTH	0.000 METERS
NET LENGTH	1992.950 METERS

END S.A.P. 02-617-05
STA. 8+379.437 (N.B. CSAH 17)

BEGIN C.P. 99-07-110
STA. 9+000.000 (WOODLAND ROAD)

END C.P. 99-07-110
STA. 9+472.125 (WOODLAND ROAD)



BEGIN S.A.P. 62-651-39
STA. 6+186.573 (NB CSAH 17)

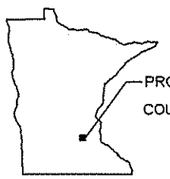
END S.A.P. 62-651-39
BEGIN S.A.P. 02-617-05
STA. 6+386.487 (NB CSAH 17)

SEE GENERAL LAYOUT FOR TRAFFIC SIGNAL LOCATIONS

SCALES

PLAN	10	
PROFILE	10 HORIZ.	1 VERT.
INDEX MAP	1000	
GENERAL LAYOUT	100	
X-SECTION	2 HORIZ.	2 VERT.

ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE



PROJECT LOCATION
COUNTY ANOKA
METRO DIVISION

minnesota metric

DESIGN DESIGNATION	C.S.A.H. 17 / C.S.A.H. 51
FUNCTIONAL CLASSIFICATION	HIGH DENSITY ARTERIAL
NO. OF TRAFFIC LANES	4
NO. OF PARKING LANES	0
STRUCTURAL DESIGN	10 TON
R-VALUE	50
DESIGN SPEED	STA. 6+186 TO STA. 7+137 73 Km/h STA. 7+137 TO STA. 8+380 65 Km/h

STOPPING SIGHT DISTANCE BASED ON:	
HEIGHT OF EYE	1070mm
HEIGHT OF OBJECT	150mm
ADT (CURRENT YEAR) (2001)	10650
ADT (FUTURE YEAR) (2021)	15800
ΣN18	1950000
HCADT	

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

PLAN SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT 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
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER / ORCHARD / BRUSH / NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame)
F-FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST-STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY

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 COMMUNICATION CABLE
BURIED TELEPHONE CABLE
BURIED ELECTRIC CABLE
AERIAL TELEPHONE CABLE
SEWER, (SANITARY)
SEWER, (STORM)
SEWER MANHOLE
HANDHOLE
CATCH BASIN

NAME: 2842.COV DATE: Apr. 11, 2001

MINN. PROJ. NO. .....

GOVERNING SPECIFICATIONS

THE 1995 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" (METRIC) SHALL GOVERN.

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, 1998.

INDEX

SHEET NO.	SHEET DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3-5	STATEMENT OF ESTIMATED QUANTITIES
6	CONSTRUCTION/SOILS NOTES, STD. PLATES
7-8	EARTHWORK SUMMARY AND TABULATION
9-18	TABULATIONS
19-20	TYPICAL SECTIONS
21-22A	DETAILS
23	TRAFFIC CONTROL SIGN TABULATION AND GENERAL NOTES
24-42	TRAFFIC CONTROL
43-44	ALIGNMENT PLAN
45-48	ALIGNMENT TABULATION
49-52	EXISTING TOPOGRAPHY
54-65	CONSTRUCTION PLAN AND PROFILE
66-68	INTERSECTION DETAILS
70-79	MISC. STORM SEWER PROFILES
81-84	DRAINAGE TABULATION
85-90	TURF ESTABLISHMENT/EROSION CONTROL PLAN
91-95	EROSION CONTROL DETAILS
96	SIGNING AND STRIPING GENERAL NOTES AND TABULATION
97-99	SIGNING AND STRIPING PLAN
102-104	SIGN DETAILS
105-117	TRAFFIC SIGNAL PLANS AND TABULATION
119-121	MISCELLANEOUS GRADING PLAN
122-156	CROSS SECTIONS

THIS PLAN CONTAINS 136 SHEETS.

SHEETS 16, 30, 31, 37, 38, 47, 52, 53, 60-63, 69, 71, 72, 80, 88, 89, 100, 101, 118 AND 157-183 ARE NOT INCLUDED IN THE PLAN.

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

ENGR. Mark D. Zuercher
Reg. No. 21364 Date 4-16-2001

SRF CONSULTING GROUP, INC.

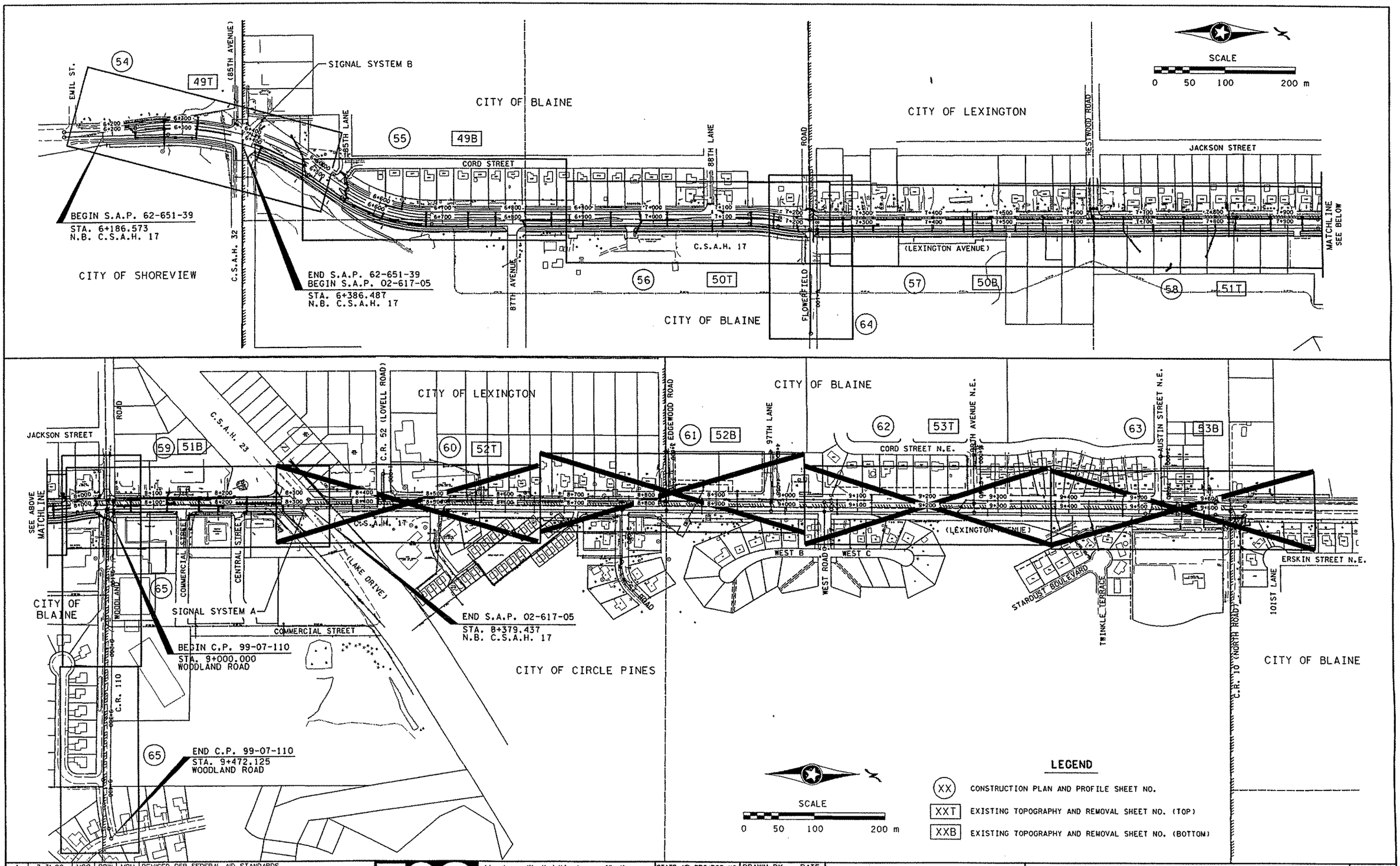
ANOKA COUNTY HIGHWAY ENGINEER	4/17/01 DATE
RAMSEY COUNTY HIGHWAY ENGINEER	4/12/01 DATE
CITY OF BLAINE	4/13/01 DATE
CITY OF CIRCLE PINES	4/12/01 DATE
CITY OF LEXINGTON	4/12/01 DATE
CITY OF SHOREVIEW	4/12/01 DATE
METRO ASSISTANT DIVISION ENGINEER - STATE AID: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY	4/18/01 DATE
APPROVED FOR STATE AID FUNDING: STATE AID ENGINEER	4/18/01 DATE

I HEREBY CERTIFY THAT THE FINAL REVISIONS, IF ANY, OF THIS PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ENGR. .....
Reg. No. ..... Date .....

S.A.P. 02-617-05 ANOKA CO. (C.S.A.H. 17)
S.A.P. 62-651-39 RAMSEY CO. (C.S.A.H. 51)
S.A.P. 106-020-14 CITY OF BLAINE (LEXINGTON AVE.)
C.P. 99-07-110 ANOKA CO. (CO. RD. 110)

SHEET NO. 1 OF 136 SHEETS



NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.GLA DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 11-98
DESIGNED BY M. HANSEN 11-98
CHECKED BY M. HANSEN 2-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
GENERAL LAYOUT
C.S.A.H. 17 RECONSTRUCTION

SHEET 2 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouthLKOP\2842.gia
PRF FILE: n:\civil\047\2842\PlanSouthLKOP\2842.prf
PLOTTER: HP DesignJet 650C
PLOT SCALE: 128.283000
PLOT DATE/TIME: 04/16/2001 07:53:54

STATEMENT OF ESTIMATED QUANTITIES

TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	ANOKA COUNTY			RAMSEY COUNTY		BLAINE		CIRCLE PINES	LEXINGTON
						SAP 02-617-05		CP 99-07-110	SAP 62-651-39		SAP 106-020-14	NON-PART	NON-PART	NON-PART
						LEXINGTON AVE	DRAINAGE	WOODLAND RD	LEXINGTON AVE	DRAINAGE	LEXINGTON AVE		LEXINGTON AVE	LEXINGTON AVE
						QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
		2013.602	CELLULAR MOBILE TELEPHONE	EACH	2	2								
		2015.601	COMPUTER EQUIPMENT	LUMP SUM	1	1								
		2021.501	MOBILIZATION	LUMP SUM	1	1								
	22	2031.501	FIELD OFFICE TYPE D	EACH	1	1								
A		2101.501	CLEARING	ha	0.32	0.28			0.04					
A		2101.502	CLEARING	TREE	137	135			2					
A		2101.506	GRUBBING	ha	0.32	0.28			0.04					
A		2101.507	GRUBBING	TREE	127	125			2					
C		2102.502	PAVEMENT MARKING REMOVAL	m	7053	5775			1278					
M		2104.501	REMOVE WATER MAIN	m	153	153.0								
B		2104.501	REMOVE PIPE SEWERS	m	950.8	920.5			30.3					
C		2104.501	REMOVE CONCRETE CURB AND GUTTER	m	1323	883			440					
J		2104.501	REMOVE FENCE	m	168	168								
C	5	2104.503	REMOVE BITUMINOUS PAVEMENT	m2	34601	30870			3731					
F		2104.503	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	m2	3939.7	3939.7								
F		2104.503	REMOVE CONCRETE PAVEMENT	m2	184.5	184.5								
C		2104.503	REMOVE BITUMINOUS WALK	m2	1686	635			1051					
C		2104.503	REMOVE CONCRETE MEDIAN	m2	388	388								
B		2104.509	REMOVE DRAINAGE STRUCTURE	EACH	27	24			3					
M		2104.509	REMOVE HYDRANT	EACH	3									3
B		2104.509	REMOVE PIPE APRON	EACH	6	4			2					
C		2104.511	SAWING CONCRETE PAVEMENT	m	21	21								
C		2104.513	SAWING BITUMINOUS PAVEMENT	m	614	580			34					
J		2104.521	SALVAGE CHAIN LINK FENCE	m	162.9	162.9								
J		2104.521	SALVAGE WIRE FENCE	m	428.8	428.8								
J		2104.521	SALVAGE WOODEN FENCE	m	103.1	103.1								
J		2104.521	SALVAGE WOOD RAIL FENCE	m	50.5	50.5								
T	1	2104.523	SALVAGE SIGN TYPE C	EACH	10	10								
M		2104.523	SALVAGE HYDRANT	EACH	1	1								
	20, 21	2104.601	HAUL SALVAGED MATERIALS	LUMP SUM	1	1								
R		2105.501	COMMON EXCAVATION	m3	(P) 28087	24159			3928					
R		2105.505	MUCK EXCAVATION	m3	5656	1497			4159					
H		2105.543	STABILIZING AGGREGATE	t	12150	11200			950					
R	2	2105.607	SPECIAL EXCAVATION	m3	16500	16500								
F		2118.501	AGGREGATE SURFACING CLASS 5	t	59	59								
	3	2130.501	WATER	m3	1240	1140			100					
H	18	2211.503	AGGREGATE BASE (CV) CLASS 5	m3	(P) 12721	10823			1113		729		56	
C		2232.501	MILL BITUMINOUS SURFACE (40 mm)	m2	2291			2291						
H		2331.603	SAWED / SEALED JOINT	m	4650.0	4200			450					
F	14	2350.604	TYPE LV 4 BITUMINOUS MIXTURE FOR DRIVEWAYS	m2	1337.1	1337.1								
H	12	2350.609	TYPE LV 3 BITUMINOUS MIXTURE FOR TEMPORARY PAVEMENT	t	145	124			21					
H	23	2350.609	TYPE LV 3 WEARING COURSE MIXTURE	t	490			490						
H	23	2350.609	TYPE MV 3 WEARING COURSE MIXTURE	t	4220	3848			372					
H	17	2350.609	TYPE MV 3 NON-WEARING COURSE MIXTURE	t	4855	4428			427					
H	17	2350.609	TYPE LV 3 NON-WEARING COURSE MIXTURE	t	8545	7793			752					
H		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	L	21988	19232		900	1856					
E		2411.604	CONCRETE BLOCK RETAINING WALL	m2	155	76			79					
Q		2501.515	300mm RC PIPE APRON	EACH	2		1			1				
Q		2501.515	375mm RC PIPE APRON	EACH	3		3							
Q		2501.515	525mm RC PIPE APRON	EACH	2		1			1				
Q		2501.515	600mm RC PIPE APRON	EACH	2		2							
Q		2501.515	675mm RC PIPE APRON	EACH	2		2							
Q		2501.515	750mm RC PIPE APRON	EACH	1		1							
Q		2501.602	TRASH GUARD FOR 300mm PIPE APRON	EACH	1					1				
Q		2501.602	TRASH GUARD FOR 375mm PIPE APRON	EACH	3		3							
Q		2501.602	TRASH GUARD FOR 525mm PIPE APRON	EACH	2		1			1				
Q		2501.602	TRASH GUARD FOR 600mm PIPE APRON	EACH	1		1							
Q		2501.602	TRASH GUARD FOR 675mm PIPE APRON	EACH	2		2							
Q		2501.602	TRASH GUARD FOR 750mm PIPE APRON	EACH	1		1							

NO	DATE	BY	CKD	APPR	REVISION
6	3-23-01	SJP	BRW	MDH	REVISED PER ANOKA COUNTY COMMENTS
1	8-08-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS
3	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
4	2-05-01	ELB	BRW	MDH	REVISED PER ANOKA COUNTY COMMENTS
5	2-20-01	BRW	BRW	MDH	REVISED PER MNDOT AND ANOKA COUNTY COMMENTS

NAME: 2842.EQA DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-23-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	V. GRAF	1-99
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	B. WESTBY	1-99
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	M. HANSEN	1-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STATEMENT OF ESTIMATED QUANTITIES

C.S.A.H. 17 RECONSTRUCTION

DESIGN FILE: n:\civil\1047\2842\PlanSouth\NO~2842.eqa
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PLOTTER: HP DesignJet 755CM
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PLOT DATE/TIME: 04/23/2001 08:21:32

STATEMENT OF ESTIMATED QUANTITIES

TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	ANOKA COUNTY			RAMSEY COUNTY		BLAINE		CIRCLE PINES	LEXINGTON
						SAP 02-617-05		CP 99-07-110	SAP 62-651-39		SAP 106-020-14	NON-PART	NON-PART	NON-PART
						LEXINGTON AVE	DRAINAGE	WOODLAND RD	LEXINGTON AVE	DRAINAGE	LEXINGTON AVE		LEXINGTON AVE	LEXINGTON AVE
						QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
Q		2503.541	300 mm RC PIPE SEWER DESIGN 3006	m	1217.9		1206.7			11.2				
Q		2503.541	300 mm RC PIPE SEWER DESIGN 3006 CLASS III	m	150.5		143.8			6.7				
Q		2503.541	300 mm RC PIPE SEWER DESIGN 3006 CLASS IV	m	20.9		20.9							
Q		2503.541	375 mm RC PIPE SEWER DESIGN 3006	m	369.5		238.2			131.3				
Q		2503.541	375 mm RC PIPE SEWER DESIGN 3006 CLASS III	m	13.3		13.3							
Q		2503.541	450 mm RC PIPE SEWER DESIGN 3006	m	164.5		123.4			41.1				
Q		2503.541	450 mm RC PIPE SEWER DESIGN 3006 CLASS III	m	102.0		102.0							
Q		2503.541	525 mm RC PIPE SEWER DESIGN 3006	m	103.8		103.8							
Q		2503.541	525 mm RC PIPE SEWER DESIGN 3006 CLASS III	m	7.2					7.2				
Q		2503.541	525 mm RC PIPE SEWER DESIGN 3006 CLASS IV	m	38.3		38.3							
Q		2503.541	600 mm RC PIPE SEWER DESIGN 3006	m	106.8		106.8							
Q		2503.541	600 mm RC PIPE SEWER DESIGN 3006 CLASS III	m	170.5		170.5							
Q		2503.541	600 mm RC PIPE SEWER DESIGN 3006 CLASS IV	m	147.0		147.0							
Q		2503.541	675 mm RC PIPE SEWER DESIGN 3006 CLASS III	m	346.2		346.2							
Q		2503.541	675 mm RC PIPE SEWER DESIGN 3006 CLASS IV	m	28.0		28.0							
Q		2503.541	750 mm RC PIPE SEWER DESIGN 3006	m	74.0		74.0							
Q		2503.541	750 mm RC PIPE SEWER DESIGN 3006 CLASS III	m	154.0		154.0							
Q		2503.541	750 mm RC PIPE SEWER DESIGN 3006 CLASS IV	m	37.7		37.7							
L		2503.602	REPAIR SANITARY SEWER	EACH	4									4
L,M		2503.604	50mm INSULATION	m2	48							48		
M	20	2504.602	HYDRANT	EACH	2	1								1
M		2504.602	ADJUST HYDRANT	EACH	1	1								
M		2504.602	ADJUST VALVE BOX	EACH	8	8								
M		2504.602	INSTALL HYDRANT	EACH	1	1								
M		2504.602	RELOCATE CURB STOP AND BOX	EACH	1	1								
	4	2504.602	REVISE IRRIGATION SYSTEM	EACH	1	1								
M		2504.603	150 mm WATERMAIN DUCT. IRON CL 52	m	289	167						115		7
M		2504.603	200 mm WATERMAIN DUCT. IRON CL 52	m	37							37		
M		2504.608	WATERMAIN FITTINGS	kg	880	220						620		40
Q		2506.501	CONST DRAINAGE STRUCTURE DESIGN F	m	109.14		109.14							
Q		2506.501	CONST DRAINAGE STRUCTURE DESIGN G	m	101.28		87.89			13.39				
Q		2506.501	CONST DRAINAGE STRUCTURE DESIGN 1350 mm 4020	m	17.22		14.86			2.36				
Q		2506.501	CONST DRAINAGE STRUCTURE DESIGN 1500 mm 4020	m	8.13		8.13							
Q		2506.501	CONST DRAINAGE STRUCTURE DESIGN 1650 mm 4020	m	8.59		8.59							
Q		2506.501	CONST DRAINAGE STRUCTURE DESIGN 1800 mm 4020	m	1.76		1.76							
Q		2506.501	CONST DRAINAGE STRUCTURE DESIGN 2700 mm 4020	m	4.62		4.62							
Q		2506.502	CONST DRAINAGE STRUCTURE DESIGN SPECIAL 2	EACH	1		1							
Q		2506.502	CONST DRAINAGE STRUCTURE DESIGN SPECIAL 3	EACH	1		1							
Q		2506.502	CONST DRAINAGE STRUCTURE DESIGN SPECIAL 4	EACH	1		1							
P		2506.516	CASTING ASSEMBLY	EACH	160		146			14				
L, Q	19	2506.522	ADJUST FRAME AND RING CASTING	EACH	21	19			2					
L		2506.603	RECONSTRUCT SANITARY MANHOLES	m	13.5	13.5								
Q	13	2511.501	RANDOM RIP RAP CLASS III	m3	61		56.2			4.8				
G		2521.501	100 mm CONCRETE WALK	m2	2472	2306			166					
G	15	2521.501	150 mm CONCRETE WALK	m2	42	38			4					
G	10	2521.511	50 mm BITUMINOUS WALK	m2	13459				1030		8986		3443	
G		2531.501	CONCRETE CURB AND GUTTER DESIGN B412	m	1875	1577			298					
G		2531.501	CONCRETE CURB AND GUTTER DESIGN B418	m	2224	897			430		897			
G		2531.501	CONCRETE CURB AND GUTTER DESIGN B612	m	864	864								
G		2531.501	CONCRETE CURB AND GUTTER DESIGN B618	m	3883	1273					968		783	859
F		2531.507	150 mm CONCRETE DRIVEWAY PAVEMENT	m2	203.4	132.3							71.1	
F		2531.507	200 mm CONCRETE DRIVEWAY PAVEMENT	m2	227.6						131.0		96.6	
		2557.602	RELOCATE MAILBOX	EACH	39	39								
J		2557.603	WOODEN FENCE	m	130.0	60.0			70.0					
J		2557.603	INSTALL CHAIN LINK FENCE	m	162.9	162.9								
J		2557.603	INSTALL WIRE FENCE	m	428.8	428.8								
J		2557.603	INSTALL WOODEN FENCE	m	103.1	103.1								
J		2557.603	INSTALL WOOD RAIL FENCE	m	50.5	50.5								
		2563.601	TRAFFIC CONTROL STAGE 1	LUMP SUM	1	1								
		2563.601	TRAFFIC CONTROL STAGE 2	LUMP SUM	1	1								
		2563.601	TRAFFIC CONTROL STAGE 3	LUMP SUM	1	1								

NO	DATE	BY	CKD	APPR	REVISION
6	3-23-01	SJP	BRW	MDH	REVISED PER ANOKA COUNTY COMMENTS
1	8-08-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS
3	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
4	2-05-01	ELB	BRW	MDH	REVISED PER ANOKA COUNTY COMMENTS
5	2-20-01	BRW	BRW	MDH	REVISED PER MNDOT AND ANOKA COUNTY COMMENTS

NAME: 2842.EQB DATE: Apr. 12, 2001

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY B. WESTBY 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STATEMENT OF ESTIMATED QUANTITIES
C.S.A.H. 17 RECONSTRUCTION

STATEMENT OF ESTIMATED QUANTITIES

TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	ANOKA COUNTY			RAMSEY COUNTY		BLAINE		CIRCLE PINES	LEXINGTON
						SAP 02-617-05		CP 99-07-110	SAP 62-651-39		SAP 106-020-14	NON-PART	NON-PART	NON-PART
						LEXINGTON AVE	DRAINAGE	WOODLAND RD	LEXINGTON AVE	DRAINAGE	LEXINGTON AVE		LEXINGTON AVE	LEXINGTON AVE
						QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
S	11	2564.531	SIGN PANELS TYPE C	m2	93.0	86.1			6.9					
T		2564.537	INSTALL SIGN TYPE C	EACH	10	10								
D	16	2564.602	PAVEMENT MESSAGE (ONLY) PAINT	EACH	2				2					
D	16	2564.602	PAVEMENT MESSAGE (LEFT ARROW) PAINT	EACH	28	24			4					
D	16	2564.602	PAVEMENT MESSAGE (RIGHT ARROW) PAINT	EACH	24	24								
D	16	2564.603	100 mm SOLID LINE WHITE PAINT	m	1770	1604			166					
D	6, 16	2564.603	100 mm BROKEN LINE WHITE PAINT	m	9142	7432			1710					
D	16	2564.603	300 mm SOLID LINE WHITE PAINT (CROSSWALK)	m	694	694								
D	16	2564.603	600 mm SOLID WHITE PAINT (STOP LINE)	m	262	218			44					
D	16	2564.603	100 mm SOLID LINE YELLOW PAINT	m	9142	7432			1710					
D	6, 16	2564.603	100 mm BROKEN LINE YELLOW PAINT	m	2470	2470								
D	16	2564.603	600 mm SOLID LINE YELLOW PAINT	m	12				12					
D	16	2564.604	ZEBRA CROSSWALK WHITE PAINT	m2	556	438			118					
		2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM A	SIG SYS	1	1								
		2565.601	SALVAGE SIGNAL SYSTEM A	LUMP SUM	1	1								
		2565.601	EMERGENCY VEHICLE PREEMPTION SYS A	LUMP SUM	1								0.5	0.5
		2565.602	LOOP DETECTOR 1.7 m X 1.7 m	EACH	1	1								
		2565.616	REVISE SIGNAL SYSTEM B	SYSTEM	1.0	0.5			0.5					
U	9	2573.502	SILT FENCE TYPE HEAVY DUTY	m	1430	1220			210					
U	9	2573.503	SILT FENCE, TYPE MACHINE SLICED	m	82.0	70			12					
U		2575.501	SEEDING	ha	2.5	2.38			0.11					
U		2575.502	SEED MIXTURE 20A	kg	35.0	35.0								
U		2575.502	SEED MIXTURE 90A	kg	89.5	83.8			5.7					
U		2575.505	SODDING TYPE LAWN	m2	9460	8420			1040					
U		2575.505	SODDING TYPE SALT RESISTANT	m2	7790	6920			870					
Q, U		2575.505	SODDING TYPE EROSION	m2	28	21			7					
U		2575.511	MULCH MATERIAL TYPE I	t	2.3	2.3								
U		2575.519	DISK ANCHORING	ha	0.51	0.51								
U	8,9	2575.523	EROSION CONTROL BLANKET (STRAW 2S)	m2	19811	18719			1092					
U		2575.532	COMMERCIAL FERT ANALYSIS 10-10-10	kg	1394.4	1332.8			61.6					
D	7	2581.501	REMOVABLE PREFORMED PLASTIC MARKING	m	11960	9840			2120					

NOTES:

1 SEE SIGNING AND STRIPING PLAN SHEETS.
2 QUANTITY CONSISTS OF PONDS B, C AND D.
3 FOR DUST CONTROL.
4 IRRIGATION SYSTEM AT WALGREENS.
5 THICKNESS RANGES FROM 75 mm TO 250 mm.
6 LENGTH INCLUDES GAP.
7 FOR TRAFFIC CONTROL PURPOSES DURING CONSTRUCTION.
8 TO BE USED WHERE NECESSARY WHEN DIRECTED BY THE ENGINEER.
9 INCLUDES MAINTENANCE.
10 CONSTRUCTION OF BITUMINOUS PEDESTRIAN CURB RAMPS SHALL BE INCIDENTAL TO CONSTRUCTION OF BITUMINOUS WALK.
11 SEE SIGN DETAILS. QUANTITY INCLUDES DELINEATORS X4-2.
12 TEMPORARY 90 mm BITUMINOUS PAVEMENT FOR STAGE 1 OF TRAFFIC CONTROL.
13 THE REQUIRED GRANULAR FILTER MATERIAL AND/OR FILTER FABRIC SHALL BE CONSIDERED INCIDENTAL.
14 QUANTITY CONSISTS OF BITUMINOUS SURFACED DRIVES. QUANTITY COMPUTATIONS ASSUME 100 mm AVERAGE PAVEMENT THICKNESS @ 0.0023 t/m2/mm. ALL AGGREGATE BASE CLASS 5 AND EMBANKMENT MATERIALS REQUIRED FOR DRIVEWAY CONSTRUCTION SHALL BE INCIDENTAL TO BITUMINOUS DRIVEWAY CONSTRUCTION.
15 QUANTITY FOR CONCRETE APPROACH NOSES ON MEDIANS.
16 QUANTITIES REFLECT TWICE THE PLAN QUANTITY DUE TO WINTER SUSPENSION STRIPING.
17 QUANTITY BASED ON PLAN THICKNESS PLUS 6 mm.
18 INCLUDES 10 m3 FOR CITY OF LEXINGTON BITUMINOUS DRIVEWAY APRONS UNDER SAP 02-617-05, AS WELL AS 103 m3 FOR WALKS IN RAMSEY COUNTY UNDER SAP 62-651-39.
19 INCLUDES 1 EA. FOR DRAINAGE STRUCTURE UNDER SAP 62-651-39 AND 2 EA. FOR DRAINAGE STRUCTURES UNDER SAP 02-617-05.
20 PAID FOR WITH LOCAL FUNDS ONLY.
21 QUANTITY CONSISTS OF HAULING SALVAGED SIGNAL SYSTEM "A". COORDINATE WITH COUNTY FORCES.
22 QUANTITY CONSISTS OF FURNISHING AND INSTALLING THREE (3) TELEPHONES, THREE (3) TELEPHONE SERVICE LINES, AND AN ANSWERING MACHINE IN THE SPACE RENTED BY ANOKA COUNTY AT THE CITY OF LEXINGTON OFFICE BUILDING AT LOVELL ROAD AND CSAH 17.
23 ALL PAVEMENT SURFACES ON THIS PROJECT ARE EXEMPT FROM PROFILOGRAPH TESTING. SEE TABLE 2350-12 OF THE SPECIAL PROVISIONS FOR PROFILOGRAPH EXCLUSIONS.
(P) PLAN QUANTITY.

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NOTE: "I", "K" AND "O" NOT USED

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NAME: 2842.EQC DATE: Apr. 12, 2001

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
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SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STATEMENT OF ESTIMATED QUANTITIES
C.S.A.H. 17 RECONSTRUCTION

SHEET 5 OF 136

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CONSTRUCTION /SOILS NOTES

1 SELECTED GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF SLOPE DRESSING, DEBRIS, ORGANIC MATERIAL, MUCK AND OTHER UNSUITABLE MATERIAL.

2 ITEMS REFERRED TO AS INCIDENTAL ON THIS PROJECT SHALL BE CONSIDERED INCIDENTAL WITH NO DIRECT COMPENSATION MADE THEREFORE.

3 SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B2. ACCORDING TO SOIL BORING INFORMATION, IT IS ANTICIPATED THAT ON-SITE SELECTED GRADING MATERIAL WILL MEET THE SELECT GRANULAR MATERIAL SPECIFICATIONS. IT MAY BE NECESSARY TO INCORPORATE STABILIZING AGGREGATE.

4 BITUMINOUS AND CONCRETE SURFACING REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED OR DISPOSED OF OFF THE PROJECT, IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2104.3C3 AND 2105 WITH NO DIRECT COMPENSATION MADE THEREFORE.

5 UNSUITABLE MATERIALS SHALL BE PLACED IN EMBANKMENTS OUTSIDE OF A 1V:1-1/2H SLOPE EXTENDING DOWN AND OUTWARD FROM THE GRADING PI OR THE BACK OF CURB. PLACEMENT OF UNSUITABLE MATERIALS WITHIN RESIDENTIAL LOT EMBANKMENTS SHALL BE DIRECTED BY THE ENGINEER IN THE FIELD.

6 COMPACTION OF THE GRADING ITEMS OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD", EXCEPT WHEN WITHIN 1 m OF THE WATER TABLE, THEN BY THE "QUALITY COMPACTION METHOD".

7 COMPACTION OF THE AGGREGATE BASE ITEMS OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD" EXCEPT WHEN THE CONTRACTOR ELECTS TO USE RECYCLED MATERIALS FOR THE AGGREGATE BASE ITEMS, THEN THE "QUALITY COMPACTION METHOD" SHALL BE UTILIZED.

8 TEST ROLLING SHALL NOT BE REQUIRED.

9 STABILIZING AGGREGATE SHALL BE INCORPORATED INTO THE SUBGRADE TO ACHIEVE SATISFACTORY SURFACE STABILITY AT LOCATIONS DEEMED NECESSARY BY THE ENGINEER, IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2105.3G. GRANULAR MATERIAL WHICH IS EITHER ON SITE OR FURNISHED BY THE CONTRACTOR SHALL BE STABILIZED, IF NECESSARY. WHERE STABILIZING AGGREGATE IS DEEMED NECESSARY, IT SHALL BE APPLIED AT A RATE OF APPROXIMATELY 470 KILOGRAMS PER SQUARE METER.

10 WHERE WIDENING ADJACENT TO EXISTING PAVEMENT, CUT VERTICALLY TO THE BOTTOM OF THE AGGREGATE BASE AND THEN AT A 1V:1/2H SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION (AS SHOWN ON THE TYPICAL SECTIONS AND THE CROSS SECTIONS). BACKFILL PROMPTLY TO AVOID UNDERMINING THE EXISTING PAVEMENT.

11 PROVIDE 1V:20H LONGITUDINAL TAPERS BETWEEN CHANGES IN SUBGRADE AND SUBCUT DEPTHS.

12 USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES PRIOR TO PLACING BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON EXISTING CONCRETE OR BITUMINOUS SURFACES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT UNIFORM RATE OF 0.23 L/m2 BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSION (AS SUPPLIED FROM THE REFINERY); ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357.

13 STRIP AND REUSE AS SLOPE DRESSING ALL EXISTING TOPSOIL, WHERE PRESENT, IN AREAS TO BE DISTURBED BY CONSTRUCTION. TOPSOIL STRIPPING IS CONSIDERED TO BE COMMON EXCAVATION.

14 PLACE A MINIMUM OF 100 MILLIMETERS OF SLOPE DRESSING ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT. ALL EXCESS TOPSOIL SHALL BE USED AS SLOPE DRESSING BY PROVIDING A THICKNESS GREATER THAN 100 mm. TOPSOIL BORROW TO BE USED AT THE DISCRETION OF THE ENGINEER IN THE FIELD.

15 SEEDING AND SODDING REQUIREMENTS ON THIS PROJECT SHALL BE AS FOLLOWS:

a. SEED MIXTURES 20A AND 90A SHALL BE APPLIED AT A RATE OF 50 KILOGRAMS PER HECTARE.
b. MULCH MATERIAL TYPE I SHALL BE APPLIED AT A RATE OF 4.5 METRIC TONS PER HECTARE.
c. COMMERCIAL FERTILIZER ANALYSIS 10-10-10 SHALL BE APPLIED AT A RATE OF 560 KILOGRAMS PER HECTARE IN AREAS TO BE SEEDED. FERTILIZER USED IN AREAS TO BE SODDED SHALL BE CONSIDERED INCIDENTAL.
d. SOD ALL MAINTAINED LAWNS DISTURBED BY CONSTRUCTION.
e. ALL SOD UTILIZED WITHIN THE PROJECT LIMITS SHALL MEET THE REQUIREMENTS OF SPEC. 3878.2A (LAWN AND SOD).

16 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.

17 COMMON BORROW MATERIAL SHALL HAVE A MINIMUM R-VALUE OF 50. BORROW MATERIAL PLACED WITHIN THE UPPER 1.2 m OF THE EMBANKMENT BELOW THE GRADING GRADE SHALL BE GRANULAR MATERIAL.

18 THE EXISTING CSAH 17 BITUMINOUS PAVEMENT THICKNESS VARIES FROM 75 mm TO 250 mm. AGGREGATE BASE THICKNESS IS APPROXIMATELY 150 mm. CONTRACTOR SHALL INVESTIGATE AND MAKE OWN DETERMINATION OF PAVEMENT DEPTH.

19 GRADING GRADE ON THIS PROJECT SHALL BE DEFINED AS THE BOTTOM OF THE AGGREGATE BASE AS SHOWN IN THE PAVEMENT DETAILS.

20 DISPOSITION OF EXCESS EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF 2105.3D WITH NO DIRECT COMPENSATION THEREFORE.

21 ALL SILT FENCING AS SHOWN IN THE PLANS SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF GRADING OPERATIONS.

22 SLOTTED SILT FENCE SHALL BE INSTALLED ALONG DITCH RUNS FOR EROSION CONTROL AS DIRECTED BY THE ENGINEER IN THE FIELD.

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

STANDARD PLATES

PLATE NO.	DESCRIPTION
M 3000 L	REINFORCED CONCRETE PIPE
M 3006 G	GASKET JOINT FOR R.C. PIPE
M 3007 C	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
M 3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
M 3133 C	RIPRAP AT RCP OUTLETS
M 3145 E	CONCRETE PIPE TIES
M 4005 L	MANHOLE OR CATCH BASIN
M 4006 L	MANHOLE OR CATCH BASIN
M 4010 H	CONC. SHORT CONE & ADJUSTING RING
M 4011 E	PRECAST CONCRETE BASE
M 4018 A	MH OR CB REDUCER CONE SECTION
M 4020 H	MANHOLE OR CATCH BASIN COVER
M 4026 A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
M 4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN
M 4110 F	COVER CASTING FOR MANHOLE
M 4126 F	CATCH BASIN FRAME CASTING
M 4143 E	STOOL GRATE & CONCRETE FRAME
M 4149 C	GRATE CASTING FOR CATCH BASIN
M 4161 F	CURB BOX CASTING FOR CATCH BASIN
M 4180 J	MANHOLE OR CATCH BASIN STEP
M 7035 K	CONCRETE WALK & CURB RETURNS AT ENTRANCES
M 7036 D	PEDESTRIAN CURB RAMP
M 7100 G	CONCRETE CURB & GUTTER
M 7111 J	INSTALLATION OF CATCH BASIN CASTINGS
M 7113 A	CONCRETE APPROACH NOSE DETAIL
M 8000 I	STANDARD BARRICADES
M 8110 D	TRAFFIC SIGNAL BRACKETING
M 8114 A	P.V.C. HANDHOLE / PULLBOX
M 8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
M 8119 C	GROUND MOUNTED CABINET FOUNDATION
M 8121 D	TRANSFORMER BASE AND POLE BASE PLATE
M 8123 D	POLE AND MAST ARM
M 8124 E	MAST ARM SIGNAL HEAD MOUNTS
M 8126 F	POLE FOUNDATION
M 8130 D	SAW CUT LOOP DETECTORS
M 8337 A	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER
M 9102 D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)
M 9322 J	CHAIN LINK FENCE

BASIS OF ESTIMATED QUANTITIES

STABILIZING AGGREGATE UNIT WEIGHT = 470 kg/m2

BITUMINOUS MIXTURE UNIT WEIGHT = 0.0023 t\m2\mm

SEED MIXTURE 20A AND 90A APPLICATION RATE = 50 kg/ha

MULCH MATERIAL TYPE I APPLICATION RATE = 4.5 t/ha

FERTILIZER 10-10-10 (SEEDED) APPLICATION RATE = 560 kg/ha

TACK COAT APPLICATION RATE = 0.23 L/m2

NO	DATE	BY	CKD	APPR	REVISION
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NAME: 2842.CSN DATE: Apr. 12, 2001

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S.A.P. 62-651-39	CHECKED BY M. HANSEN 1-99
S.A.P. 106-020-14	COMM. NO. 0972842
CO. PROJECT NO. C.P. 99-07-110	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION/SOILS NOTES, STANDARD PLATES
C.S.A.H. 17 RECONSTRUCTION

SHEET 6 OF 136

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R EARTHWORK TABULATION

STATION	EXCAVATION COMMON (m3)	EXCAVATION TOPSOIL STRIPPING (m3)	EXCAVATION MUCK (m3)	EMBANKMENT SELECTED GRADING (m3)	EMBANKMENT SELECT GRANULAR (m3)	EMBANKMENT SLOPE DRESSING (m3)
CSAH 51 (LEXINGTON AVE) SOUTH OF CSAH 32 - RAMSEY COUNTY						
6+187.0						
6+200.0	175	13	99	174	0	8
6+220.0	414	36	337	617	0	26
6+240.0	520	45	411	828	4	38
6+260.0	571	47	490	1038	16	36
6+280.0	542	49	546	1196	46	36
6+300.0	428	50	569	1186	62	37
6+320.0	288	47	567	1036	37	34
6+340.0	276	46	573	987	16	33
6+360.0	335	46	567	972	7	33
SUBTOTAL	3549	379	4159	8034	188	281
CSAH 17 (LEXINGTON AVE) CSAH 32 TO CSAH 23 - ANOKA COUNTY						
6+420.0	314	49	387	662	38	29
6+440.0	296	52	226	401	57	26
6+460.0	346	53	222	409	27	25
6+480.0	371	55	288	391	9	24
6+500.0	373	56	277	462	3	28
6+520.0	258	51	97	606	1	34
6+532.0	120	19	0	418	0	20
6+540.0	76	15	0	304	0	14
6+560.0	131	68	0	788	2	45
6+580.0	144	85	0	801	4	54
6+600.0	155	91	0	461	9	58
6+620.0	194	92	0	402	7	58
6+640.0	253	87	0	542	1	56
6+660.0	254	77	0	262	0	46
6+680.0	206	64	0	91	0	30
6+700.0	150	52	0	29	0	18
6+720.0	154	49	0	16	0	15
6+740.0	181	49	0	12	0	17
6+760.0	185	47	0	10	0	17
6+780.0	169	47	0	12	0	17
6+799.5	162	36	0	8	0	12
6+820.0	153	43	0	103	3	17
6+840.0	110	53	0	168	10	23
6+860.0	97	51	0	122	15	20
6+880.0	79	50	0	80	17	20
6+900.0	65	50	0	66	15	20
6+920.0	52	50	0	71	17	19
6+940.0	44	51	0	95	17	20
6+960.0	48	52	0	122	15	21
6+980.0	60	50	0	119	11	21
7+000.0	63	50	0	122	13	21
7+020.0	44	48	0	120	28	22
7+040.0	34	46	0	134	40	22
7+060.0	26	49	0	157	34	22
7+082.0	45	44	0	179	22	21
7+100.0	35	37	0	165	14	18
7+120.0	24	51	0	160	12	22
7+140.0	49	50	0	126	5	21
7+160.0	95	48	0	101	0	21
7+180.0	95	47	0	96	6	20

R EARTHWORK TABULATION

STATION	EXCAVATION COMMON (m3)	EXCAVATION TOPSOIL STRIPPING (m3)	EXCAVATION MUCK (m3)	EMBANKMENT SELECTED GRADING (m3)	EMBANKMENT SELECT GRANULAR (m3)	EMBANKMENT SLOPE DRESSING (m3)
7+200.0	61	48	0	115	14	20
7+240.0	152	91	0	290	26	45
7+249.0	53	22	0	78	2	11
7+260.0	84	27	0	64	0	12
7+277.0	167	38	0	26	0	14
7+280.0	33	7	0	4	0	2
7+300.0	229	42	0	24	0	18
7+306.0	78	13	0	3	0	4
7+320.0	182	32	0	7	0	10
7+330.0	119	24	0	13	0	8
7+340.0	101	27	0	40	0	11
7+362.0	183	63	0	196	4	29
7+380.0	123	52	0	201	10	24
7+400.0	122	55	0	241	48	31
7+420.0	133	51	0	242	86	27
7+440.0	135	47	0	209	97	23
7+460.0	140	44	0	160	75	20
7+480.0	204	41	0	59	22	16
7+500.0	344	40	0	6	0	15
7+520.0	311	42	0	6	0	18
7+525.0	83	11	0	1	0	4
7+540.0	315	33	0	4	0	10
7+544.0	76	9	0	1	0	3
7+560.0	257	34	0	4	0	9
7+580.0	292	41	0	5	0	10
7+600.0	264	45	0	9	0	14
7+615.0	124	34	0	11	0	11
7+620.0	25	12	0	12	0	5
7+628.0	34	23	0	41	1	9
7+640.0	57	36	0	78	2	15
7+660.0	73	60	0	161	1	36
7+674.5	42	47	0	218	37	25
7+680.0	16	17	0	115	29	9
7+699.0	63	56	0	343	80	26
7+710.0	46	32	0	147	23	15
7+722.0	69	33	0	119	9	14
7+740.0	153	43	0	75	0	15
7+751.0	122	24	0	6	0	7
7+760.0	111	19	0	4	0	5
7+772.0	166	25	0	3	0	6
7+780.0	119	17	0	3	0	5
7+796.0	241	34	0	6	0	9
7+800.0	60	8	0	1	0	2
7+821.0	274	44	0	5	0	11
7+840.0	249	39	0	5	0	10
7+860.0	295	38	0	6	0	13
7+867.0	110	15	0	2	0	4
7+880.0	193	29	0	4	0	9
7+900.0	260	41	0	8	0	17
7+916.0	225	35	0	3	0	5
7+920.0	54	8	0	1	0	1
7+940.0	216	35	0	25	0	14
7+943.5	36	8	0	4	0	2
7+950.5	58	14	0	5	0	3

R EARTHWORK TABULATION

STATION	EXCAVATION COMMON (m3)	EXCAVATION TOPSOIL STRIPPING (m3)	EXCAVATION MUCK (m3)	EMBANKMENT SELECTED GRADING (m3)	EMBANKMENT SELECT GRANULAR (m3)	EMBANKMENT SLOPE DRESSING (m3)
7+960.0	62	18	0	11	0	7
7+980.0	135	44	0	25	0	13
8+000.0	133	341	0	30	0	12
8+020.0	177	340	0	37	0	18
8+033.0	166	28	0	14	0	7
8+040.0	87	12	0	2	0	2
8+060.0	253	35	0	40	0	14
8+079.0	293	40	0	34	0	9
8+100.0	328	42	0	28	0	10
8+120.0	316	39	0	57	0	19
8+142.0	482	22	0	34	0	11
8+160.0	407	15	0	23	0	7
8+180.0	334	32	0	48	0	17
8+200.0	282	31	0	33	0	17
8+220.0	227	29	0	12	0	11
8+240.0	212	22	0	4	0	6
8+260.0	229	18	0	13	0	8
8+280.0	230	20	0	13	0	9
SUBTOTAL	17795	5047	1497	13258	1018	1942
FLOWERFIELD						
8+020.0						
8+030.0	0	10	0	80	146	9
8+040.0	0	10	0	90	150	11
8+050.0	0	11	0	87	160	12
8+060.0	0	12	0	65	150	13
8+070.0	0	12	0	39	133	12
8+080.0	0	10	0	32	84	11
8+090.0	1	6	0	13	28	7
8+100.0	13	3	0	1	2	4
8+110.0	23	1	0	0	0	1
SUBTOTAL	37	75	0	407	843	80
POND B	4050	310	0	150	0	310
POND C	8650	575	0	725	0	575
POND D	3800	320	0	0	0	320
SUBTOTAL	16500	1205	0	875	0	1205
TOTAL	37881	6706	5656	22574	2049	3508

NO	DATE	BY	CKD	APPR	REVISION
1	8-08-00	VGC	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGC	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	2-20-01	BRW	BRW	MDH	DELETED SUBGRADE EXCAVATION PER ANOKA COUNTY COMMENTS

NAME: 2842.ETA DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF 1-99
DESIGNED BY B. WESTBY 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

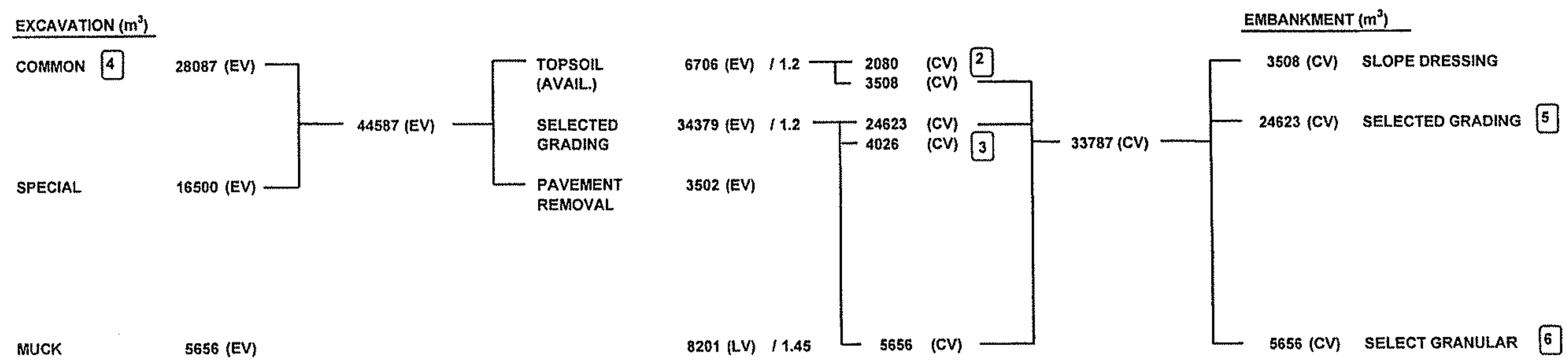
SRF CONSULTING GROUP, INC.

ANOKA COUNTY
EARTHWORK TABULATION
C.S.A.H. 17 RECONSTRUCTION

SHEET 7 OF 136

DESIGN FILE: h:\civil\047\2842\PlanSouthLkDr\2842.eta
PRF FILE: h:\civil\047\2842\PlanSouthLkDr\2842.prf
PLOTTER: HP5SIMX
PLOT SCALE: 1.000 '/ IN.
PLOT DATE/TIME: 04/12/2001 08:36:04

[1] EARTHWORK BALANCE



NOTES: SEE CONSTRUCTION/SOIL NOTES FOR MATERIAL DEFINITIONS AND ADDITIONAL INFORMATION.

[1] 120% SHRINKAGE FACTOR USED FROM EXCAVATED VOLUME (EV) TO COMPACTED VOLUME (CV), EXCEPT FOR TOPSOIL AND MUCK.
145% SHRINKAGE FACTOR USED FROM LOOSE VOLUME (LV) TO COMPACTED VOLUME (CV), EXCEPT FOR TOPSOIL. SHRINKAGE FACTORS ARE ASSUMED VALUES, USED ONLY FOR THE PURPOSE OF ESTIMATED QUANTITIES. IT SHALL BE UNDERSTOOD THAT NO WARRANTY IS MADE OR IMPLIED AS TO THE ACCURACY, SUFFICIENCY, OR RELIABILITY OF THE SHRINKAGE FACTOR.

[2] EXCESS TOPSOIL.

[3] EXCESS MATERIAL.

[4] INCLUDES 2266 m^3 FOR STAGE 1 AND 2151 m^3 FOR STAGE 2 AND 6706 m^3 FOR TOPSOIL STRIPPING.

[5] INCLUDES 405 m^3 FOR STAGE 1 AND 569 m^3 FOR STAGE 2.

[6] EMBANKMENT MATERIAL FOR MUCK EXCAVATION BACKFILL.

NO	DATE	BY	CKD	APPR	REVISION
1	8-08-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	2-05-01	ELB	BRW	MDH	REVISED PER ANOKA COUNTY COMMENTS
4	2-20-01	BRW	BRW	MDH	DELETED SUBGRADE EXCAVATION PER ANOKA COUNTY COMMENTS
5	3-23-01	SJP	BRW	MDH	ADDED TOPSOIL STRIPPING TO COMMON EXCAVATION

NAME: 2842.ETB DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO. S.A.P. 02-617-05, S.A.P. 62-651-39, S.A.P. 106-020-14
CO. PROJECT NO. C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY B. WESTBY 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
EARTHWORK TABULATION
C.S.A.H. 17 RECONSTRUCTION

A — CLEARING & GRUBBING

STATION	TO STATION	OFFSET LEFT	OFFSET RIGHT	CLEARING TREE	CLEARING hectare	GRUBBING TREE	GRUBBING hectare	NOTES / REMARKS
NB CSAH 51								
6+249		21		1		1		DECIDUOUS
6+271			24	1		1		DECIDUOUS
6+275	6+281	23			0.02		0.02	DECIDUOUS
6+277	6+328		10-12		0.02		0.02	DECIDUOUS
SUB-TOTAL:				2	0.04	2	0.04	(1)
NB CSAH 17								
6+460	6+554		6-18		0.07		0.07	DECIDUOUS
6+509	6+567		9-22		0.04		0.04	DECIDUOUS
6+537			7	2		1		DECIDUOUS
6+540			9	1		1		DECIDUOUS
6+554		30		1		1		DECIDUOUS
6+555			14	1		1		DECIDUOUS
6+559			13	1		1		DECIDUOUS
6+559			11	1		1		DECIDUOUS
6+560			12	1		1		DECIDUOUS
6+561			11	1		1		DECIDUOUS
6+586			12	1		1		DECIDUOUS
6+602			14	1		1		DECIDUOUS
6+635	6+681		10-22		0.03		0.03	DECIDUOUS
6+718			12	1		1		DECIDUOUS
6+812			12					SHRUB
6+812			15	1		1		DECIDUOUS
6+813			8					SHRUB
6+844			13	2		1		DECIDUOUS
6+849			13	2		1		DECIDUOUS
6+853			12	1		1		DECIDUOUS
6+854			13	2		1		DECIDUOUS
6+864			12	2		1		DECIDUOUS
6+870			14	1		1		DECIDUOUS
6+878			8	1		1		DECIDUOUS
6+895			12	1		1		CONIFEROUS
6+902			11	1		1		CONIFEROUS
6+907			11	1		1		CONIFEROUS
6+909			9	1		1		CONIFEROUS
6+910			7	1		1		DECIDUOUS
6+913			6					SHRUB
6+914			8					SHRUB
6+922			10	1		1		DECIDUOUS
6+982			4	1		1		DECIDUOUS
7+121			3	1		1		DECIDUOUS
7+136	7+144	20-23			0.02		0.02	DECIDUOUS
7+163	7+192		0		0.02		0.02	DECIDUOUS
7+163	7+204	0-2			0.02		0.02	DECIDUOUS
7+213	7+215		0		0.02		0.02	DECIDUOUS
7+213	7+215	0			0.02		0.02	DECIDUOUS
7+251		3		1		1		CONIFEROUS
7+263			3	1		1		DECIDUOUS
7+275			4	1		1		DECIDUOUS
7+285		0		1		1		CONIFEROUS
7+285			8	1		1		CONIFEROUS
7+292			6	1		1		DECIDUOUS
7+293		3		1		1		DECIDUOUS
7+304		3		2		1		DECIDUOUS
7+305			3	1		1		DECIDUOUS
7+503			7	1		1		DECIDUOUS
7+521		2						SHRUB
7+530		2		1		1		CONIFEROUS
7+535			4	1		1		CONIFEROUS
7+535			6	1		1		CONIFEROUS
7+535			7	1		1		CONIFEROUS
7+541		1		1		1		CONIFEROUS
7+549		1		1		1		CONIFEROUS
7+572		5						SHRUB
7+574		4		1		1		CONIFEROUS
7+575		5						SHRUB
7+578		5		1		1		CONIFEROUS
7+582			2	1		1		DECIDUOUS
7+584			1	1		1		DECIDUOUS
7+585			2	1		1		DECIDUOUS
7+586			5	1		1		DECIDUOUS

A — CLEARING & GRUBBING

STATION	TO STATION	OFFSET LEFT	OFFSET RIGHT	CLEARING TREE	CLEARING hectare	GRUBBING TREE	GRUBBING hectare	NOTES / REMARKS
7+588			0	1		1		CONIFEROUS
7+589		2		1		1		CONIFEROUS
7+589			12	1		1		DECIDUOUS
7+590			6	1		1		DECIDUOUS
7+591			11	1		1		DECIDUOUS
7+594			9	1		1		DECIDUOUS
7+595			4	1		1		DECIDUOUS
7+598			7	1		1		DECIDUOUS
7+603			8	1		1		CONIFEROUS
7+604			10	1		1		DECIDUOUS
7+605			8	1		1		DECIDUOUS
7+606			2	1		1		DECIDUOUS
7+610			4	1		1		DECIDUOUS
7+611			2	1		1		DECIDUOUS
7+613			2	1		1		DECIDUOUS
7+614			2	1		1		DECIDUOUS
7+614			7	1		1		DECIDUOUS
7+635		1		1		1		DECIDUOUS
7+640			7	1		1		DECIDUOUS
7+642		3		1		1		CONIFEROUS
7+645		3		1		1		CONIFEROUS
7+659		3		1		1		CONIFEROUS
7+671			6	1		1		CONIFEROUS
7+679	7+715	0			0.02		0.02	DECIDUOUS
7+679	7+715		0		0.02		0.02	DECIDUOUS
7+712			9	1		1		DECIDUOUS
7+722	7+739	2-5						HEDGES
7+729			0	1		1		DECIDUOUS
7+735			0	1		1		DECIDUOUS
7+737			9	1		1		DECIDUOUS
7+738			0	1		1		DECIDUOUS
7+741			5	1		1		DECIDUOUS
7+750		0		1		1		DECIDUOUS
7+754		0		1		1		DECIDUOUS
7+755		24-25						HEDGES
7+756		0		1		1		DECIDUOUS
7+757			7	1		1		CONIFEROUS
7+760			3	1		1		CONIFEROUS
7+762		2		2		1		DECIDUOUS
7+764			7	1		1		CONIFEROUS
7+765		2						SHRUB
7+768		3						SHRUB
7+771			5	1		1		DECIDUOUS
7+774			6	1		1		CONIFEROUS
7+775		0		1		1		CONIFEROUS
7+776		0		1		1		DECIDUOUS
7+784		2						SHRUB
7+785			4	1		1		DECIDUOUS
7+790	7+791	0						HEDGES
7+790	7+791		0					HEDGES
7+813		1		1		1		CONIFEROUS
7+822		1		1		1		CONIFEROUS
7+827			7	1		1		CONIFEROUS
7+835		1		1		1		CONIFEROUS
7+842		1		1		1		CONIFEROUS
7+858		1		1		1		CONIFEROUS
7+866		1		1		1		CONIFEROUS
7+867			3	1		1		CONIFEROUS
7+867			4	1		1		CONIFEROUS
7+867			5	1		1		CONIFEROUS
7+867			6	1		1		CONIFEROUS
7+867			8	1		1		CONIFEROUS
7+867			10	1		1		CONIFEROUS
7+867			12	1		1		CONIFEROUS
7+873			3	1		1		CONIFEROUS
7+874		1						SHRUB
7+876		1						SHRUB
7+876			2	1		1		DECIDUOUS
7+876			11	1		1		DECIDUOUS
7+878		0		1		1		CONIFEROUS
7+881			2	1		1		DECIDUOUS

NO	DATE	BY	CKD	APPR	REVISION
1	8-08-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	11-16-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS

NAME: 2842.TBA DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21564

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY A. DeBRUIN 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 17 RECONSTRUCTION

SHEET 9 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouth\KDr\2842.tpa
PRF FILE: n:\civil\047\2842\PlanSouth\KDr\2842.prf
PLOTTER: HP-55SMX
PLOT SCALE: 1.258700
PLOT DATE/TIME: 04/12/2001 08:37:25

A — CLEARING & GRUBBING

STATION	TO STATION	OFFSET LEFT	OFFSET RIGHT	CLEARING TREE	CLEARING hectare	GRUBBING TREE	GRUBBING hectare	NOTES / REMARKS
7+882		1						SHRUB
7+884		1						SHRUB
7+885			3	1		1		DECIDUOUS
7+885		0		1		1		CONIFEROUS
7+887		1						SHRUB
7+888			3	1		1		DECIDUOUS
7+899			2	1		1		CONIFEROUS
7+919			1	1		1		CONIFEROUS
7+921			1	1		1		CONIFEROUS
7+937			2	1		1		CONIFEROUS
7+941			2	2		1		CONIFEROUS
7+962		23						SHRUB
7+964		3						SHRUB
7+968		3						SHRUB
7+972		23						SHRUB
7+973		22						SHRUB
7+975		23						SHRUB
7+976		2						SHRUB
7+980		1						SHRUB
7+984		1						SHRUB
7+984			1					SHRUB
7+987								SHRUB
7+990			3	1		1		DECIDUOUS
7+991			0					SHRUB
7+995			1					SHRUB
7+995		21		1		1		CONIFEROUS
7+999			2					SHRUB
8+003			2					SHRUB
8+004		19		1		1		CONIFEROUS
8+007			2					SHRUB
8+011			3					SHRUB
8+011		22		3		1		DECIDUOUS
8+012		18		1		1		CONIFEROUS
8+016			4					SHRUB
8+020			4					SHRUB
8+023			5					SHRUB
8+025			8					SHRUB
8+042		22						CONIFEROUS (3)
8+050		22						CONIFEROUS (3)
8+057		22						CONIFEROUS (3)
8+119			8	1		1		DECIDUOUS
8+232			6					SHRUB
8+267			8					SHRUB
8+307			22	1		1		DECIDUOUS
8+311			24	1		1		DECIDUOUS
SUB-TOTAL:				135	0.28	125	0.28	(2)
PROJECT TOTALS:				137	0.32	127	0.32	

NOTES: TREES WITHIN THE CONSTRUCTION LIMITS WILL BE DESIGNATED FOR REMOVAL BY THE ENGINEER.
ALL TREES TO BE TRANSPLANTED WILL BE TRANSPLANTED BY OTHERS.
REMOVAL OF MISCELLANEOUS SHRUBS AND LANDSCAPING SHALL BE CONSIDERED INCIDENTAL.

(1) RAMSEY COUNTY.
(2) ANOKA COUNTY.
(3) DO NOT DISTURB TREE.

NO	DATE	BY	CKD	APPR	REVISION
1	8-08-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	11-16-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS

NAME: 2842.TBB DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
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S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY A. DeBRUIN 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 17 RECONSTRUCTION

SHEET 10 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouthLKDr\2842.tbb
PREFERENCE: n:\civil\047\2842\PlanSouthLKDr\2842.prf
PLOT SCALE= 2.567000
PLOT DATE/TIME= 04/12/2001 08:37:46

B DRAINAGE REMOVALS

STATION TO STATION	OFFSET LEFT (m)	OFFSET RIGHT (m)	REMOVE DRAINAGE STRUCTURE (EACH)	REMOVE PIPE APRON (EACH)	REMOVE PIPE SEWERS (m)	NOTES / REMARKS
NB CSAH 51						
6+274	0-16				16.0	PIPE
6+274	11		1			CB
6+274	18			1		APRON
6+274		0-11			11.0	PIPE
6+274		4	1			CB
6+274		13		1		APRON
6+371	26		1			CB
6+371 6+374	26-25				3.3	PIPE
SUB-TOTAL:			3	2	30.3	(1)
NB CSAH 17						
6+399	11		1			CB
6+399 6+401	11-14				4.0	PIPE
6+401	14		1			MH
6+401	14-21				6.5	PIPE
6+522	18			1		APRON
6+522 6+541	18				18.0	PIPE
6+535	18		1			MH
6+535 6+536	18-30				13.0	PIPE
6+541	18			1		APRON
7+211	21		1			CB
7+211	8-21				12.0	PIPE
7+211	8		1			CB
7+211 7+216	4-8				6.0	PIPE
7+216	4		1			MH
7+216	4				4.0	PIPE
7+216		37			6.0	PIPE
7+460	21		1			CB
7+460 7+461	8-21				13.0	12" RCP
7+461	8		1			CB
7+461 7+628	8				167.0	15" RCP
7+619	21		1			CB
7+619 7+623	21-28				8.0	PIPE
7+619 7+628	8-21				17.0	PIPE
7+623	28		1			CB
7+623 7+634	28				12.0	12" RCP
7+628	8		1			CB
7+628	8				8.0	18" RCP
7+628		17			7.0	18" RCP
7+628 7+708	8				81.0	15" RCP
7+634	28		1			CB
7+705	22		1			CB
7+705 7+708	8-22				11.0	12" RCP
7+708	8		1			CB
7+708 7+827	8				119.0	15" RCP
7+827	8		1			CB
7+827	8-22				13.0	12" RCP
7+827	22		1			CB
8+028		16	1			MH
8+028 8+033		16			17.0	PIPE
8+033 8+038	16				18.0	PIPE
8+038	16		1			MH
8+038	16-30				14.0	PIPE
8+131	21			1		APRON
8+131 8+155	21				22.0	PIPE
8+155	21			1		APRON
8+193	21		1			CB
8+193	13		1			CB
8+193	3		1			CB
8+193		4	1			CB
8+193	21				21.0	12" RCP
8+193		4			4.0	12" RCP
8+193 8+275	3				83.0	PIPE
8+275	3		1			MH
8+275 8+285	3				10.0	PIPE

B DRAINAGE REMOVALS

STATION TO STATION	OFFSET LEFT (m)	OFFSET RIGHT (m)	REMOVE DRAINAGE STRUCTURE (EACH)	REMOVE PIPE APRON (EACH)	REMOVE PIPE SEWERS (m)	NOTES / REMARKS
8+275 8+338	3	69			96.0	18" RCP
8+338		69	1			MH
8+338 8+355		69-64			18.0	12" RCP
8+338 8+399		69-138			92.0	18" RCP
SUB-TOTAL:			24	4	920.5	(2)
PROJECT TOTALS:			27	6	950.8	

NOTES: (1) RAMSEY COUNTY.
(2) ANOKA COUNTY.

C MISCELLANEOUS REMOVALS, MILL AND SAWING

NOTES	LOCATION	PAVEMENT MARKING REMOVAL (m)	REMOVE CONCRETE CURB & GUTTER (m)	REMOVE CONCRETE MEDIAN (m2)	REMOVE BITUMINOUS WALK (m2)	REMOVE BITUMINOUS PAVEMENT (1) (m2)	SAWING BITUMINOUS PAVEMENT (2) (m)	SAWING CONCRETE PAVEMENT (3) (m)	MILL BITUMINOUS SURFACE (40 mm) (m2)
	RAMSEY COUNTY	1278	440		1051	3731	34		
(4)	ANOKA COUNTY (CSAH 32 TO CSAH 23)	5775	883	388	635	30870	580	21	
	ANOKA COUNTY (WOODLAND)								2291
PROJECT TOTALS:		7053	1323	388	1686	34601	614	21	2291

NOTES: (1) DRIVEWAYS NOT INCLUDED. SEE DRIVEWAY CONSTRUCTION TABULATION.
(2) DRIVEWAYS AND MAINLINE INCLUDED.
(3) DRIVEWAYS ONLY.
(4) CSAH 17 SOUTH OF CSAH 23 ELIGIBLE FOR STATE AID FUNDING.

NO	DATE	BY	CKD	APPR	REVISION
1	8-08-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	11-16-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS

NAME: 2842.TBC DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY A. DeBRUIN 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 17 RECONSTRUCTION

SHEET 11 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouthLKD\2842.tbc
PREFILE: n:\civil\047\2842\PlanSouthLKD\2842.prf
PLOTTER: HP-DESIGNJET 750C PLUS
PLOT SCALE: 2.567000
PLOT DATE/TIME: 04/12/2001 08:38:06

D PAVEMENT MARKINGS

ALIGNMENT	PAVEMENT MESSAGE (2)			SOLID LINE (2)					BROKEN LINE (2)		REMOVABLE PREFORMED PLASTIC MARKING	ZEBRA CROSSWALK MARKING (2)
					CROSSWALK	STOP LINE						
	LEFT ARROW	RIGHT ARROW	ONLY	100 mm WHITE	300 mm WHITE	600 mm WHITE	100 mm YELLOW	600 mm YELLOW	100 mm WHITE	100mm YELLOW		
	(EACH)	(EACH)	(EACH)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m2)
RAMSEY COUNTY	4		2	166		44	1720	12	1710		2120	118
ANOKA COUNTY (1)												
CSAH 17 - CSAH 32 TO CSAH 23	24	24		1604	694	218	7482		7432	2470	9840	438
PROJECT TOTALS:	28	24	2	1770	694	262	9202	12	9142	2470	11960	556

NOTES: ALL STRIPING AND MESSAGES SHALL BE PAINT.
(1) CSAH 17 SOUTH OF CSAH 23 ELIGIBLE FOR STATE AID FUNDING.
(2) QUANTITIES REFLECT TWICE THE PLAN QUANTITY DUE TO WINTER SUSPENSION STRIPING.

E RETAINING WALL CONSTRUCTION

ALIGNMENT	STATION TO STATION		OFFSET		ADDRESS	FURNISH & INSTALL CONCRETE BLOCK WALL	NOTES / REMARKS
			LT	RT		(m2)	
NB CSAH 17	6+200.0	6+270.0	17-23			79.0	(1) (2) WALL D, MAX. HT. = 1.1 m
NB CSAH 17	6+974.0	7+034.0		11	GOLF COURSE	76.0	(2) WALL C, MAX. HT. = 0.9 m
PROJECT TOTALS:						155.0	

NOTES: (1) RAMSEY COUNTY.
(2) CSAH 17 SOUTH OF CSAH 23 ELIGIBLE FOR STATE AID FUNDING.

F DRIVEWAY CONSTRUCTION

NOTES	ALIGNMENT	STATION	ADDRESS	LT	RT	EXISTING SURFACING	REMOVE CONCRETE PAVEMENT	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	CONCRETE DRIVEWAY APRON (6)	DRIVEWAY WIDTH (7)	AGGREGATE SURFACING CL. 5 (1)	BITUMINOUS MIXTURE FOR DRIVEWAYS (2)	CONCRETE DRIVEWAY PAVEMENT
							(m2)	(m2)	(m2)	(m)	(t)	(m2)	(m2)
	NB CSAH 17	6+886.0			X	AGGREGATE				4.9	23.0	45.0	
(5) (8)	NB CSAH 17	6+967.0	GOLF COURSE		X	BITUMINOUS		223.7	47.0	11.0		153.3	
	NB CSAH 17	7+176.0	8898	X		CONCRETE	36.9			4.9			56.7
	NB CSAH 17	7+248.0	8800	X		CONCRETE	19.3			5.0			42.0
(4)	NB CSAH 17	7+257.0	8801		X	BITUMINOUS		205.4					
(4)	NB CSAH 17	7+277.0	8802	X		BITUMINOUS		14.1					
	NB CSAH 17	7+305.0	8802	X		BITUMINOUS		15.6		4.9		41.2	
(4)	NB CSAH 17	7+316.0	8803		X	BITUMINOUS		223.4					
	NB CSAH 17	7+329.0	8804	X		BITUMINOUS		20.0		4.9		41.2	
	NB CSAH 17	7+361.0	8808	X		BITUMINOUS		18.7		4.9		41.2	
	NB CSAH 17	7+507.0	8983		X	BITUMINOUS		129.9		5.4		46.1	
	NB CSAH 17	7+525.0	8884	X		CONCRETE	18.2			5.5			33.6
	NB CSAH 17	7+545.0	8992	X		AGGREGATE				4.9	18.0		
(4)	NB CSAH 17	7+556.0	8989		X	CONCRETE	110.1						
(4)	NB CSAH 17	7+563.0	8993		X	BITUMINOUS		109.0					
	NB CSAH 17	7+580.0	8994	X		BITUMINOUS		15.2		4.9		41.2	
	NB CSAH 17	7+613.0	8996	X		BITUMINOUS		17.9		4.9		41.2	
(4)	NB CSAH 17	7+623.0	8997		X	BITUMINOUS		202.5					
(4)	NB CSAH 17	7+631.0	9003		X	BIT/AGG		14.9					
(4)	NB CSAH 17	7+667.0	9003		X	BIT/AGG		84.3					
	NB CSAH 17	7+674.0	9028	X		BITUMINOUS		13.2		4.9		41.2	
	NB CSAH 17	7+698.0	9030	X		BITUMINOUS		14.6		4.9		41.2	
(4)	NB CSAH 17	7+717.0	9031		X	BIT/AGG		16.0					
	NB CSAH 17	7+722.0	9032	X		AGGREGATE				4.9	18.0		
(4)	NB CSAH 17	7+744.0	9031/9033		X	AGGREGATE							
	NB CSAH 17	7+752.0	9034	X		BITUMINOUS		21.0		5.5		46.2	
	NB CSAH 17	7+772.0	9036	X		BITUMINOUS		17.0		4.9		41.2	
(4)	NB CSAH 17	7+788.0	9033		X	AGGREGATE							
	NB CSAH 17	7+797.0	9092	X		BITUMINOUS		18.8		5.0		42.0	
(4)	NB CSAH 17	7+805.0	9095		X	BITUMINOUS		99.1					
	NB CSAH 17	7+821.0	9104	X		BITUMINOUS		16.8		4.9		41.2	
(4)	NB CSAH 17	7+853.0	9103		X	BITUMINOUS		131.8					
	NB CSAH 17	7+867.0	9116/9128	X		BITUMINOUS		26.7		8.0		67.2	
(4)	NB CSAH 17	7+870.0	9127		X	BIT/AGG		18.0					
(4)	NB CSAH 17	7+893.0	9127		X	BITUMINOUS		86.9					
	NB CSAH 17	7+915.0	9140/9152	X		BITUMINOUS		35.2		10.0		84.0	
	NB CSAH 17	7+945.0	9164	X		BITUMINOUS		22.8		7.0		58.8	
(5) (8)	NB CSAH 17	7+917.0	CHURCH		X	BITUMINOUS		1067.9	27.0	9.0		66.2	
(8)	NB CSAH 17	7+980.0	9180	X		BITUMINOUS		58.8		8.0		86.5	
(8)	NB CSAH 17	8+082.0	NEW BLDG	X		BITUMINOUS		67.2		8.0		65.9	
(8)	NB CSAH 17	8+082.0	PKG LOT		X	BITUMINOUS		735.0	57.0	17.0		80.9	
(8)	NB CSAH 17	8+148.0	WALGREENS	X		BITUMINOUS		178.5		9.0		124.2	
(9)	PROJECT TOTALS:						184.5	3939.7	131.0	177.1	59.0	1336.6	132.3

NOTES: BITUMINOUS DRIVE APRONS SHALL EXTEND 3 m FROM FACE OF CURB AND SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN ON STD PL M7035.
(1) AGGREGATE DRIVE SURFACING SHALL BE 175 mm THICK.
(2) BITUMINOUS DRIVEWAY PAVEMENT SHALL MATCH EXISTING THICKNESS BUT SHALL BE A MINIMUM OF 50 mm THICK.
(3) BEGIN DRIVEWAY PROFILE AT FACE OF CURB.
(4) CLOSE DRIVEWAY.
(5) RELOCATE DRIVEWAY TO SOUTH END OF PARKING LOT.
(6) NON-PARTICIPATING COST. PAID FOR BY CITY.
(7) MATCH INPLACE DRIVEWAY WIDTH. MINIMUM WIDTH OF NEW CONSTRUCTION SHALL BE 4.9 m.
(8) CONSTRUCT COMMERCIAL DRIVEWAY APRON WITH 200 mm CONCRETE DRIVEWAY PAVEMENT.
(9) CSAH 17 SOUTH OF CSAH 23 ELIGIBLE FOR STATE AID FUNDING.

NO	DATE	BY	CKD	APPR	REVISION
6	3-23-01	SJP	BRW	MDH	REVISED PER ANOKA COUNTY COMMENTS
1	8-08-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	11-16-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS
4	2-05-01	ELB	BRW	MDH	REVISED TAB C MILL QUANTITY
5	2-20-01	BRW	BRW	MDH	REVISED TAB F PER ANOKA COUNTY COMMENTS

NAME: 2842.TBD DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY A. DeBRUIN 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 17 RECONSTRUCTION

SHEET 12 OF 136

DESIGN FILE: n:\civil\1047\2842\PlanSouthLKDF\2842.tbd
PRF FILE: n:\civil\1047\2842\PlanSouthLKDF\2842.prf
PLOTTER: HP-HPGL2/1000
PLOT SCALE: 2.5000 '/ In.
PLOT DATE/TIME: 04/12/2001 08:38:28

G — WALK and CURB & GUTTER CONSTRUCTION

NOTES	LOCATION	100 mm CONCRETE WALK (m2)	150 mm CONCRETE WALK (m2)	3.0 m WIDTH 50 mm BITUMINOUS WALK (1) (m2)	2.4 m WIDTH 50 mm BITUMINOUS WALK (1) (m2)	B412 C & G (2) (4) (m)	B418 C & G (2) (4) (m)	B612 C & G (4) (m)	B618 C & G (4) (m)
(3)	RAMSEY COUNTY	166	4		1030	298	430		
	ANOKA COUNTY -								
(3)	CSAH 17 - CSAH 32 TO CSAH 23	2306	38			1577	897	864	1273
(3)	CITY OF BLAINE			5040	2243		897		520
(3)	CITY OF CIRCLE PINES				560				169
(3)	CITY OF LEXINGTON								584
	PROJECT TOTALS:	2472	42	5040	3833	1875	2224	864	2546

NOTES: (1) CONSTRUCTION OF BITUMINOUS PEDESTRIAN CURB RAMPS SHALL BE INCIDENTAL TO CONSTRUCTION OF BITUMINOUS WALK.
(2) ALL B4 C&G IS LOCATED SOUTH OF FLOWERFIELD ROAD.
(3) CSAH 17 SOUTH OF CSAH 23 ELIGIBLE FOR STATE AID FUNDING.
(4) B418 AND B618 C&G SHALL BE PAID FOR USING 50% CITY AND 50% COUNTY FUNDING SPLIT. B412 AND B612 C&G SHALL BE PAID FOR USING 100% COUNTY FUNDING.

H — BITUMINOUS PAVEMENT CONSTRUCTION

NOTES	LOCATION	40 mm WEAR COURSE MVWE35035B (t)	40 mm WEAR COURSE LVWE35035B (t)	40 mm NON-WEAR COURSE MVNW35035B (1) (t)	75 mm NON-WEAR COURSE LVNW35030B (1) (t)	AGGREGATE BASE (CV) CLASS 5 (2) (m3)	STABILIZING AGGREGATE (3) (t)	SAWED \ SEALED JOINT (4) (m)	BITUMINOUS MATERIAL FOR TACK COAT (L)	90 mm WEAR COURSE LVWE35035B (5) (t)
	RAMSEY COUNTY	372		427	752	1113	950	450	1856	21
	ANOKA COUNTY									
	CSAH 17 - CSAH 32 TO CSAH 23	3848		4428	7793	10823	11200	4200	19232	124
	CR 110 - ANOKA COUNTY (WOODLAND)		490						900	
(6)	CITY OF BLAINE					729				
(6)	CITY OF CIRCLE PINES					56				
	PROJECT TOTALS:	4220	490	4855	8545	12721	12150	4650	21988	145

NOTES: (1) QUANTITY BASED ON PLAN THICKNESS PLUS 6 mm.
(2) INCLUDES THE FOLLOWING MISCELLANEOUS QUANTITIES:
- 10 m3 CITY OF LEXINGTON UNDER BITUMINOUS DRIVEWAY APRONS.
- 103 m3 RAMSEY COUNTY UNDER BITUMINOUS WALKS.
- 186 m3 RAMSEY COUNTY AND 1112 m3 ANOKA COUNTY UNDER TEMPORARY PAVEMENT.
- 17 m3 RAMSEY COUNTY AND 235 m3 ANOKA COUNTY UNDER CONCRETE MEDIAN WALK.

(3) ASSUMES ONE-HALF OF PROJECT WILL REQUIRE STABILIZING AGGREGATE.
(4) ASSUMES AVERAGE PAVEMENT WIDTH OF 21.6 m WITH 10 m SPACING BETWEEN JOINTS.
(5) TEMPORARY PAVEMENT TO BE USED DURING STAGE 1 OF TRAFFIC CONTROL.
(6) UNDER BITUMINOUS WALKS.

NO	DATE	BY	CKD	APPR	REVISION
1	8-08-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	11-16-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS
4	2-05-01	ELB	BRW	MDH	REVISED TAB H PER ANOKA COUNTY COMMENTS

NAME: 2842.TBE DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-23-2001 Reg. No. 21364

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DRAWN BY V. GRAF DATE 1-99
DESIGNED BY A. DeBRUIN 1-99
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ANOKA COUNTY
TABULATIONS
C.S.A.H. 17 RECONSTRUCTION

SHEET 13 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouthLkDr\2842.tbe
PRF FILE: n:\civil\047\2842\PlanSouthLkDr\2842.prf
PLOTTER: HS-HP55300
PLOT SCALE: 2.5000 '/ In.
PLOT DATE/TIME: 04/23/2001 08:23:17

J — FENCE CONSTRUCTION

ALIGNMENT	STATION TO STATION	OFFSET LEFT (m)	OFFSET RIGHT (m)	REMOVE (m)	SALVAGE (m)	INSTALL (m)	F&I WOODEN FENCE (m)	NOTES / REMARKS
NB CSAH 17	6+200 TO 6+270	17.6 - 23.6					70.0	(1), (3), RETAINING WALL D
NB CSAH 17	6+581 TO 6+609	21 - 25			28.4	28.4		WOODEN FENCE
NB CSAH 17	6+665 TO 6+673	24			9.5	9.5		CHAIN LINK FENCE
NB CSAH 17	6+818 TO 7+023		4 - 9		205.0	205.0		BARBED WIRE FENCE
NB CSAH 17	6+886 TO 6+937	24 - 25			52.5	52.5		CHAIN LINK FENCE
NB CSAH 17	6+974 TO 7+034		10.4				60.0	(3), RETAINING WALL C
NB CSAH 17	7+090	25			20.0	20.0		WOODEN FENCE
NB CSAH 17	7+032 TO 7+175		0 - 7		146.1	146.1		BARBED WIRE FENCE
NB CSAH 17	7+112 TO 7+136	19			29.4	29.4		WOODEN FENCE
NB CSAH 17	7+136 TO 7+185	19 - 22			55.7	55.7		CHAIN LINK FENCE
NB CSAH 17	7+175 TO 7+215	0 - 4			44.1	44.1		BARBED WIRE FENCE
NB CSAH 17	7+177 TO 7+179	23 - 29			5.3	5.3		CHAIN LINK FENCE
NB CSAH 17	7+215		0	21.0				BARBED WIRE FENCE
NB CSAH 17	7+231 TO 7+253		3 - 9		39.9	39.9		CHAIN LINK FENCE
NB CSAH 17	7+308 TO 7+310	0 - 6			7.4	7.4		WOOD RAIL FENCE
NB CSAH 17	7+308 TO 7+310		0 - 7		8.4	8.4		WOOD RAIL FENCE
NB CSAH 17	7+582	0			5.3	5.3		WOODEN FENCE
NB CSAH 17	7+582		0		4.2	4.2		WOODEN FENCE
NB CSAH 17	7+582		9		2.1	2.1		WOODEN FENCE
NB CSAH 17	7+616 TO 7+619	1 - 4			6.3	6.3		WOOD RAIL FENCE
NB CSAH 17	7+628		1		14.7	14.7		WOOD RAIL FENCE
NB CSAH 17	7+676	0			4.2	4.2		WOVEN WIRE FENCE
NB CSAH 17	7+676		0		14.7	14.7		WOVEN WIRE FENCE
NB CSAH 17	7+730	6			1.1	1.1		WOODEN FENCE
NB CSAH 17	7+746 TO 7+751	0 - 2			7.4	7.4		WOVEN WIRE FENCE
NB CSAH 17	7+747 TO 7+750		0 - 4		5.3	5.3		WOVEN WIRE FENCE
NB CSAH 17	7+790	0			2.1	2.1		WOOD RAIL FENCE
NB CSAH 17	7+790		0		11.6	11.6		WOOD RAIL FENCE
NB CSAH 17	7+807 TO 7+809	2			2.1	2.1		WOODEN FENCE
NB CSAH 17	7+816 TO 7+818	2			2.1	2.1		WOODEN FENCE
NB CSAH 17	7+825 TO 7+827	1			2.1	2.1		WOODEN FENCE
NB CSAH 17	7+905		5		6.3	6.3		WOODEN FENCE
	SUB-TOTAL:			21.0	745.3	745.3	60.0	(2)
	PROJECT TOTALS:			21.0	745.3	745.3	130.0	

NOTES: F & I CHAIN LINK FENCE INCLUDES THE REQUIRED ELECTRICAL GROUNDS, BRACE ASSEMBLIES, AND METAL POST EXTENSIONS
SALVAGE / INSTALL BARBED WIRE FENCE SHALL BE PAID FOR UNDER THE PAY ITEM SALVAGE / INSTALL WIRE FENCE.
(1) RAMSEY COUNTY
(2) ANOKA COUNTY.
(3) SEE CONCRETE BLOCK RETAINING WALL DETAIL FOR FENCE CONSTRUCTION INFORMATION.

L — SANITARY SEWER CONSTRUCTION

ALIGNMENT	STATION	OFFSET LT	OFFSET RT	OWNER	PROPOSED RIM ELEV.	ADJUST FRAME & RING CASTING (EACH)	RECONSTRUCT SANITARY MANHOLES (m)	REPAIR SANITARY SEWER (1) (EACH)	NOTES / REMARKS
NB CSAH 17	6+233.000	13.0		MET COUNCIL	269.920	1			(2)
NB CSAH 17	6+387.000	24.0		MET COUNCIL	270.978	1			
NB CSAH 17	6+396.000	41.0		MET COUNCIL	270.450	1			
NB CSAH 17	6+403.000	43.0		MET COUNCIL	270.500	1			
NB CSAH 17	6+405.000	45.0		MET COUNCIL	270.600	1			
NB CSAH 17	6+406.000	44.0		MET COUNCIL	270.500	1			
NB CSAH 17	6+496.000	1.0		MET COUNCIL	271.275		1.79		
NB CSAH 17	6+595.000		7.0	MET COUNCIL	273.828		1.80		
NB CSAH 17	6+705.000		2.0	MET COUNCIL	276.097	1			
NB CSAH 17	6+716.000		12.0	MET COUNCIL	276.692		1.41		
NB CSAH 17	7+225.000	20.0		LEXINGTON	278.024	1			
SB CSAH 17	7+300.000	7.0		LEXINGTON				1	ROOT BLOCKAGE
NB CSAH 17	7+358.000	20.0		LEXINGTON	277.623	1			
NB CSAH 17	7+523.000	20.0		LEXINGTON	277.127	1			
SB CSAH 17	7+572.000	7.0		LEXINGTON				1	ROOT BLOCKAGE
NB CSAH 17	7+628.000	20.0		LEXINGTON	277.718		1.89		
SB CSAH 17	7+727.000	7.0		LEXINGTON				1	ROOT BLOCKAGE
NB CSAH 17	7+731.000	20.0		LEXINGTON	277.251		1.69		
NB CSAH 17	7+831.000	20.0		LEXINGTON	276.831	1			
NB CSAH 17	7+932.000	20.0		LEXINGTON	277.266		1.69		
NB CSAH 17	8+033.000	12.0		LEXINGTON	277.276	1			
NB CSAH 17	8+033.000		4.0	BLAINE	277.076	1			
NB CSAH 17	8+050.000		3.0	CIRCLE PINES	277.011	1			
NB CSAH 17	8+058.000	4.2		CIRCLE PINES	277.091	1			
NB CSAH 17	8+140.000	12.0		LEXINGTON	276.624		1.55		
NB CSAH 17	8+160.000		5.0	CIRCLE PINES	276.653		1.68		
NB CSAH 17	8+216.000	13.0		LEXINGTON	276.751	1			
NB CSAH 17	8+229.000		5.0	CIRCLE PINES	276.716	1			
SB CSAH 17	6+233.285	1.8		SHOREVIEW	276.921	1			
	SUB-TOTAL:					17	13.50	3	(3)
	PROJECT TOTALS:					18	13.50	3	

NOTES: (1) NOT ELIGIBLE FOR STATE AID FUNDING.
(2) RAMSEY COUNTY.
(3) ANOKA COUNTY.

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	2-05-01	ELB	BRW	MDH	REVISED TAB J PER ANOKA COUNTY COMMENTS

NAME: 2842.TBF DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY A. DeBRUIN 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 17 RECONSTRUCTION

SHEET 14 OF 136

DESIGN FILE: n:\civil\047\2842\Plan\South\KDF\2842.tbf
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PLOTTER: MS-PPS5100
PLOT SCALE: 2.5000 '/ Inch
PLOT DATE/TIME: 04/12/2001 08:39:19

M — WATERMAIN CONSTRUCTION

ALIGNMENT	STATION TO STATION	OFFSET LT	OFFSET RT	OWNER	F & I DIP WM (CL 52) 150 mm (m)	F & I DIP WM (CL 52) 200 mm (m)	F & I 50 mm INSULATION BOARD (m2)	REMOVE HYDRANT (EACH)	F & I HYDRANT (EACH)	SALVAGE HYDRANT (EACH)	INSTALL HYDRANT (EACH)	RELOCATE CURB STOP & BOX (EACH)	ADJUST HYDRANT (EACH)	ADJUST VALVE BOX (EACH)	WATERMAIN FITTINGS (kg)	REMOVE WATERMAIN (m)	NOTES
NB CSAH 17	7+084	25	12	BLAINE		37	12								200		STUB OUT TO EAST UNDER STORM
NB CSAH 17	7+088	25		BLAINE										1			
NB CSAH 17	7+088	25		BLAINE									1				
NB CSAH 17	7+228	25-15		LEXINGTON	10												STUB OUT TO EAST
NB CSAH 17	7+228	15	17	BLAINE	32		12								140		STUB OUT TO EAST UNDER STORM
NB CSAH 17	7+454.5	29-19		LEXINGTON	10												STUB OUT TO EAST
NB CSAH 17	7+454.5	19	7	BLAINE	26		12								140		STUB OUT TO EAST UNDER STORM
NB CSAH 17	7+618	25		BLAINE													VALVE BOX LEAVE AS IS
NB CSAH 17	7+637	25		LEXINGTON													HYDRANT LEAVE AS IS
NB CSAH 17	7+638	25		LEXINGTON													VALVE BOX LEAVE AS IS
NB CSAH 17	7+819	25-10		LEXINGTON	15												STUB OUT TO EAST
NB CSAH 17	7+819	10	12	BLAINE	22		12								140		STUB OUT TO EAST UNDER STORM
NB CSAH 17	8+022	15		LEXINGTON										1			
NB CSAH 17	8+024	16		LEXINGTON				1									(2)
NB CSAH 17	8+024	22		LEXINGTON	6				1						40		(1)
NB CSAH 17	8+030	17		LEXINGTON										1			
NB CSAH 17	8+041	0		CIRCLE PINES										1			
NB CSAH 17	8+043		3	CIRCLE PINES													VALVE BOX LEAVE AS IS
NB CSAH 17	8+043		3	CIRCLE PINES													HYDRANT LEAVE AS IS
NB CSAH 17	8+045	10		LEXINGTON										1			
NB CSAH 17	8+062 TO 8+215	10		CIRCLE PINES	155									1	140	153	LOWER WATERMAIN UNDER STORM SEWER
NB CSAH 17	8+150		9	CIRCLE PINES						1							
NB CSAH 17	8+150		15	CIRCLE PINES	6						1				40		(1)
NB CSAH 17	8+151		7	CIRCLE PINES										1			
NB CSAH 17	8+216	18		LEXINGTON													HYDRANT LEAVE AS IS
NB CSAH 17	8+232		6	CIRCLE PINES													HYDRANT LEAVE AS IS
NB CSAH 17	8+258		5	CIRCLE PINES								1					
NB CSAH 17	8+260		1	CIRCLE PINES										1			
PROJECT TOTALS:					282	37	48	1	1	1	1	1	1	8	840	153	(3)

NOTES: (1) F & I 6" GATE VALVE - INCIDENTAL
(2) AFTER REMOVING HYDRANT CONTACT THE CITY OF LEXINGTON UTILITIES DEPARTMENT. CITY FORCES TO PICK UP HYDRANT FOR SPARE PARTS.
(3) CSAH 17 SOUTH OF CSAH 23 ELIGIBLE FOR STATE AID FUNDING.

T — SALVAGE AND INSTALL SIGNS

ALIGNMENT	STATION	OFFSET (m) LT	OFFSET (m) RT	SALVAGE SIGN TYPE C (EACH)	INSTALL SIGN TYPE C (EACH)	NOTES
NB CSAH 17	6+539	24		1	1	
NB CSAH 17	6+791		12	1	1	
NB CSAH 17	7+089	24		1	1	
NB CSAH 17	7+217		12	1	1	
NB CSAH 17	7+230	24		1	1	
NB CSAH 17	7+636	24		1	1	
NB CSAH 17	8+026		11	1	1	
NB CSAH 17	8+040	24		1	1	
NB CSAH 17	8+133		11	1	1	
NB CSAH 17	8+214		11	1	1	
PROJECT TOTALS:				10	10	(1)

NOTES: LOCATIONS LISTED IN THIS TABULATION ARE APPROXIMATE. SEE SIGNING AND STRIPING PLANS FOR PLAN LOCATIONS OF INSTALLED SIGNS.
SALVAGED SIGNS SHALL BE INSTALLED PRIOR TO TURF ESTABLISHMENT.
(1) CSAH 17 SOUTH OF CSAH 23 ELIGIBLE FOR STATE AID FUNDING.

U — TURF ESTABLISHMENT / EROSION CONTROL

NOTES	LOCATION	SEEDING (ha)	SEED MIXTURE 20A MIX (kg)	SEED MIXTURE 90A MIX (kg)	MULCH MATERIAL TYPE I (t)	MACHINE SLICED SILT FENCE (m)	SILT FENCE HEAVY DUTY (m)	DISK ANCHOR. (ha)	EROSION CONTROL BLANKET (STRAW 2S) (m2)	SODDING TYPE EROSION (m2)	SODDING TYPE SALT RESISTANT (m2)	SODDING TYPE LAWN (m2)	COMM. FERT. ANALYSIS 10-10-10 (kg)
	ANOKA COUNTY												
	CSAH 17 - CSAH 32 TO CSAH 23	0.99		49.5	2.3	40	1220	0.51	4819		6920	8420	554.4
	POND B	0.31	8.1	7.5		10			3100	7			173.6
	POND C	0.68	15.1	18.8		10			6800	7			380.8
	POND D	0.40	11.8	8.0		10			4000	7			224.0
(1)	SUB-TOTAL:	2.38	35.0	83.8	2.3	70	1220	0.51	18719	21	6920	8420	1332.8
	RAMSEY COUNTY	0.11		5.7		12	210		1092	7	870	1040	61.6
PROJECT TOTALS:		2.49	35.0	89.5	2.3	82	1430	0.51	19811	28	7790	9460	1394.4

NOTES: QUANTITIES ARE BASED ON 110 % OF THE COMPUTED AREA.
SODDING TYPE EROSION INCLUDES SOD AT PIPE APRONS IDENTIFIED IN DRAINAGE TABULATION.
EROSION CONTROL BLANKET (STRAW 2S) TO BE PLACED ON ALL POND SEEDING AREAS.
(1) CSAH 17 SOUTH OF CSAH 23 ELIGIBLE FOR STATE AID FUNDING.

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGC	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	11-16-00	VGC	BRW	MDH	REVISED PER FEDERAL AID COMMENTS
3	2-05-01	ELB	BRW	MDH	REVISED TAB U PER ANOKA COUNTY COMMENTS
4	3-23-01	SJP	BRW	MDH	REVISED TAB T PER ANOKA COUNTY COMMENTS

NAME: 2842.TBG DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

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S.A.P. 02-617-05
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S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY A. DeBRUIN 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 17 RECONSTRUCTION

SHEET 15 OF 136

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PLOT DATE/TIME: 04/12/2001 08:39:40

PRIVATE UTILITIES

STATION TO STATION NB CSAH 17	OFFSET LEFT (m)	OFFSET RIGHT (m)	IN PLACE UTILITY	LEAVE AS IS	ADJUST AND/OR RELOCATE UTILITY	UTILITY OWNER	REMARK
6+224	26		TELE	X		QWEST	PEDESTAL
6+225		10	ELEC		X	XCEL ENERGY	POWER POLE
6+265		6	ELEC		X	XCEL ENERGY	POWER POLE
6+277		5	ELEC		X		HAND HOLE
6+314	25		TELE		X	QWEST	PEDESTAL
6+316	13		ELEC		X	XCEL ENERGY	POWER POLE
6+324		5	ELEC		X		HAND HOLE
6+360 6+381	48	41	GAS	X		WILLIAMS PIPELINE	8" LINE
6+370	29		ELEC		X	XCEL ENERGY	POWER POLE
6+372	20		ELEC		X		HAND HOLE
6+372 6+485		8-0	TV		X	AT&T BROADBAND	BURIED LINE
6+381 6+424		41-27	GAS	X		WILLIAMS PIPELINE	8" LINE
6+392 6+482	23-24		TELE		X	QWEST	BURIED LINE
6+403		12	ELEC		X		HAND HOLE
6+410	15		ELEC		X		HAND HOLE
6+412	15		ELEC		X		METER
6+414	15		ELEC		X		HAND HOLE
6+424 6+584		27-29	GAS	X		WILLIAMS PIPELINE	8" LINE
6+448	13		ELEC		X		HAND HOLE
6+485 6+594	0-22		TV		X	AT&T BROADBAND	BURIED LINE
6+495	15		ELEC		X		HAND HOLE
6+520 7+033	23-25		TELE		X	QWEST	BURIED LINE
6+522	22		ELEC		X	XCEL ENERGY	POWER POLE
6+522	23		TV		X	AT&T BROADBAND	PEDESTAL
6+584 6+791		29-7	GAS	X		WILLIAMS PIPELINE	8" LINE
6+791 6+790		7-49	GAS	X		WILLIAMS PIPELINE	8" LINE
6+594	22		ELEC		X	XCEL ENERGY	POWER POLE
6+608	23		TELE		X	QWEST	PEDESTAL
6+665	24		TELE		X	QWEST	PEDESTAL
6+667	20		ELEC		X	XCEL ENERGY	POWER POLE
6+740	21		ELEC		X	XCEL ENERGY	POWER POLE
6+765	23		TELE		X	QWEST	PEDESTAL
6+808 7+171		11-0	TELE		X	QWEST	BURIED LINE
6+809 6+828		11-3	TV		X	AT&T BROADBAND	BURIED LINE
6+810		4	ELEC		X		LIGHT
6+814	23		TELE		X	QWEST	PEDESTAL
6+814	21		ELEC		X	XCEL ENERGY	POWER POLE
6+827		3	ELEC		X		LIGHT
6+863	23		TELE		X	QWEST	PEDESTAL
6+887	21		ELEC		X	XCEL ENERGY	POWER POLE
6+931		9	ELEC		X	XCEL ENERGY	POWER POLE
6+960	23		TELE		X	QWEST	PEDESTAL
6+960	21		ELEC		X	XCEL ENERGY	POWER POLE
7+009	23		TELE		X	QWEST	PEDESTAL
7+019		4	TELE		X	QWEST	PEDESTAL
7+032	21		ELEC		X	XCEL ENERGY	POWER POLE
7+078	30-0		GAS		X	CITY OF BLAINE	LINE
7+078		0-15	GAS		X	CITY OF BLAINE	LINE
7+091	21		ELEC		X	XCEL ENERGY	POWER POLE
7+091		3	ELEC		X	XCEL ENERGY	POWER POLE
7+160		1	ELEC		X	XCEL ENERGY	POWER POLE
7+171 7+231	0-24		TELE		X	QWEST	BURIED LINE
7+229 7+591	26-22		GAS		X	CITY OF LEXINGTON	LINE
7+230	6		ELEC		X	XCEL ENERGY	POWER POLE
7+271 7+284	25-6		TV		X	AT&T BROADBAND	BURIED LINE
7+284	6		ELEC		X	XCEL ENERGY	POWER POLE
7+347	6		ELEC		X	XCEL ENERGY	POWER POLE
7+347	23-6		TV		X	AT&T BROADBAND	BURIED LINE
7+405	6		ELEC		X	XCEL ENERGY	POWER POLE
7+473	6		ELEC		X	XCEL ENERGY	POWER POLE
7+537	6		ELEC		X	XCEL ENERGY	POWER POLE
7+628	20		SAN SWR		X	CITY OF LEXINGTON	MANHOLE
7+634		13	ELEC		X		LIGHT

PRIVATE UTILITIES

STATION TO STATION NB CSAH 17	OFFSET LEFT (m)	OFFSET RIGHT (m)	IN PLACE UTILITY	LEAVE AS IS	ADJUST AND/OR RELOCATE UTILITY	UTILITY OWNER	REMARK
7+636	6		ELEC		X	XCEL ENERGY	POWER POLE
7+649 8+213	22-23		GAS		X	CITY OF LEXINGTON	LINE
7+658		1	ELEC		X		LIGHT
7+676	6		ELEC		X	XCEL ENERGY	POWER POLE
7+721	6		ELEC		X	XCEL ENERGY	POWER POLE
7+770	6		ELEC		X	XCEL ENERGY	POWER POLE
7+811	6		ELEC		X	XCEL ENERGY	POWER POLE
7+811	6		ELEC		X		LIGHT
7+862	6		ELEC		X	XCEL ENERGY	POWER POLE
7+862	6		ELEC		X		LIGHT
7+907	5		ELEC		X		LIGHT
7+955	22-0		GAS		X	CITY OF LEXINGTON	LINE
7+955		0-3	GAS		X	CITY OF BLAINE	LINE
7+956	6		ELEC		X	XCEL ENERGY	POWER POLE
8+000		1	ELEC		X	XCEL ENERGY	POWER POLE
8+000 8+237		0-8	TELE		X	QWEST	BURIED LINE
8+024		10	ELEC		X	XCEL ENERGY	POWER POLE
8+039	26-0		TELE		X	QWEST	BURIED LINE
8+039		0-12	TELE		X	QWEST	BURIED LINE
8+039 8+137	19-31		TELE		X	QWEST	BURIED LINE
8+044		4	TELE		X	QWEST	PEDESTAL
8+045		3	ELEC		X	XCEL ENERGY	POWER POLE
8+048		3	TELE		X	QWEST	PEDESTAL
8+096	16		ELEC		X		LIGHT
8+124	24		ELEC		X		LIGHT
8+131		6	TELE		X	QWEST	PEDESTAL
8+132		6	ELEC		X	XCEL ENERGY	POWER POLE
8+168	24		ELEC		X		LIGHT
8+191		7	ELEC		X	XCEL ENERGY	POWER POLE
8+191		7	TELE		X	QWEST	PEDESTAL
8+192	24		ELEC		X		LIGHT
8+213		11-12	GAS		X	CITY OF CIRCLE PINES	LINE
8+228		7-10	TV		X	AT&T BROADBAND	BURIED LINE
8+228		7	ELEC		X	XCEL ENERGY	POWER POLE
8+229		7	TELE		X	QWEST	PEDESTAL
8+231		6	ELEC		X		HAND HOLE
8+214 8+281		8	ELEC		X	XCEL ENERGY	BURIED LINE
8+290		8	ELEC		X	XCEL ENERGY	POWER POLE

NOTES: THE REMARKS COLUMN IS BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. AN ACTUAL DETERMINATION AS TO EFFECTS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

ALL UTILITIES MAY NOT BE SHOWN. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL UTILITIES IN THE FIELD.

ALL UTILITIES WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS NOTED OTHERWISE.

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.TBI DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY A. DeBRUIN 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
PRIVATE UTILITY TABULATION
C.S.A.H. 17 RECONSTRUCTION

SHEET 17 OF 136

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PLOT SCALE: 2.000 '/ IN.
PLOT DATE/TIME: 04/12/2001 08:40:11

UTILITY COMPANY INFORMATION
CIRCLE PINES UTILITIES
ATTN: TROY DAHLIN
200 CIVIC HEIGHTS CIRCLE
CIRCLE PINES, MN 55014
PHONE 763-784-5898
CONNEXUS ENERGY
ATTN: CARY TRACY
14601 RAMSEY BOULEVARD
RAMSEY, MN 55303
PHONE 763-323-2765
AT&T BROADBAND
ATTN: KEVIN STROP
934 WOODHILL DRIVE
ROSEVILLE, MN 55113
PHONE 651-493-5148
MCES
ATTN: JOHN PETTIS
3565 KENNEBEC DRIVE
EAGAN, MN 55122
PHONE 651-602-4532
MINNEGASCO
ATTN: STEVE GUHANICK
700 LINDEN AVENUE WEST, PO BOX 1165
MINNEAPOLIS, MN 55440
PHONE 612-321-5421

UTILITY COMPANY INFORMATION
NORTHERN NATURAL GAS
ATTN: DIANNE STAHNKE
6579 420th STREET
NORTH BRANCH, MN 55056
PHONE 651-982-2121
XCEL ENERGY
ATTN: JEFF LIEN
1700 EAST COUNTY ROAD E
WHITE BEAR LAKE, MN 55110
PHONE 651-779-3181
QWEST
ATTN: JOHN MUNSON
425 MONROE STREET
ANOKA, MN 55303
PHONE 763-712-5006
WILLIAMS PIPELINE
ATTN: DON JENSEN
2728 PATTON ROAD
SAINT PAUL, MN 55113
PHONE 651-635-4272

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	11-16-00	VGG	BRW	MDH	REVISED UTILITY CONTACTS

NAME: 2842.TBJ DATE: Apr. 12, 2001

minnesota metric

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C.P. 99-07-110

		DATE
DRAWN BY	V. GRAF	1-99
DESIGNED BY	A. DeBRUIN	1-99
CHECKED BY	M. HANSEN	1-99
COMM. NO.	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

PRIVATE UTILITY TABULATION

C.S.A.H. 17 RECONSTRUCTION

SHEET 18 OF 136

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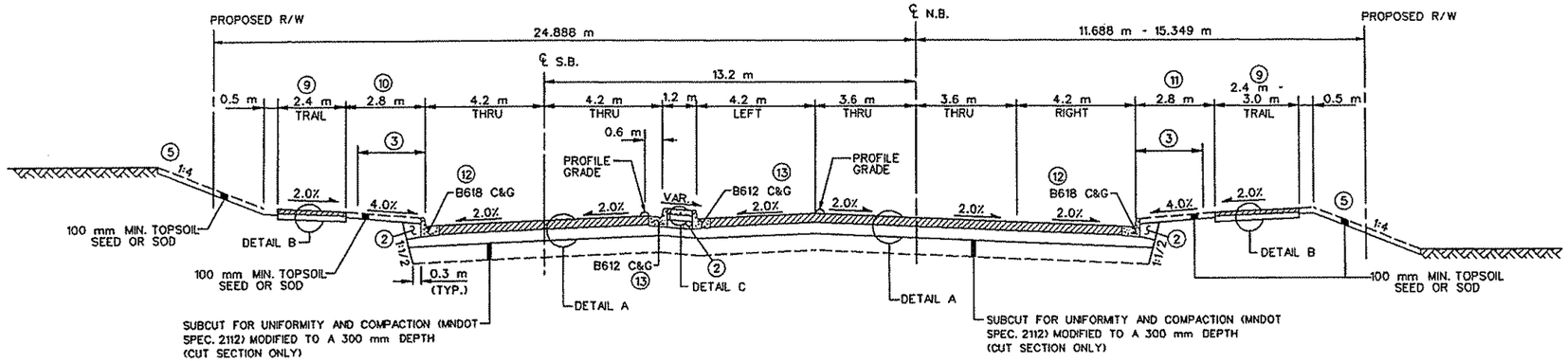
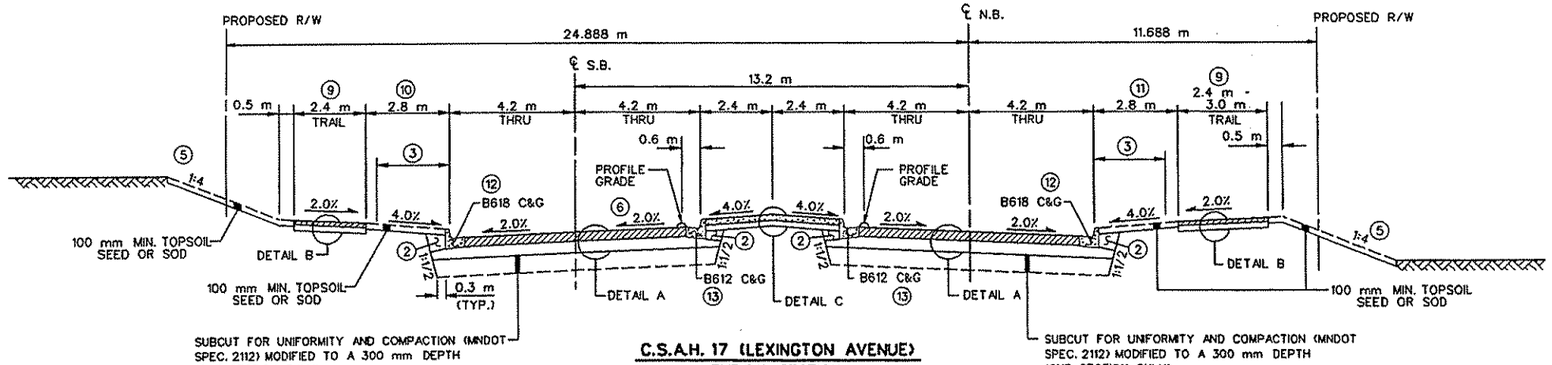


C.S.A.H. 17 (LEXINGTON AVENUE)
TYPICAL SECTION WITH TURN LANES



C.S.A.H. 17 (LEXINGTON AVENUE)
TYPICAL SECTION
STA. 6+186 TO STA. 7+322
STA. 7+955 TO STA. 8+297

NOTES:

(2) BACKFILL WITH SUITABLE GRADING MATERIAL.

(3) 0.5m OBSTACLE FREE CLEAR ZONE FROM FACE OF CURB.

(5) SEE CROSS SECTIONS FOR LOCATIONS OF VARIABLE SLOPES.

(6) SEE CONSTRUCTION PLANS FOR SUPERELEVATION TRANSITIONS.

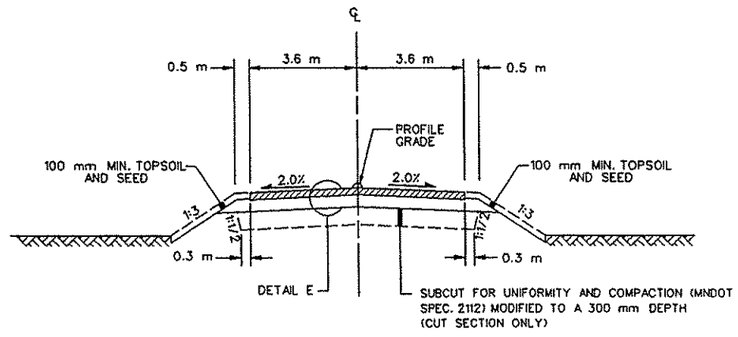
(9) SEE CONSTRUCTION PLANS FOR TRAIL LOCATION AND WIDTH. PROPOSED TRAIL SHALL BE 2.4 m WIDE WITHIN THE CITY OF CIRCLE PINES. PROPOSED TRAIL IN THE CITY OF BLAINE SHALL BE 2.4 m WIDE ON THE WEST SIDE OF C.S.A.H. 17 AND 3.0 m WIDE ON THE EAST SIDE OF C.S.A.H. 17. THERE SHALL BE NO PROPOSED TRAIL WITHIN THE CITY OF LEXINGTON.

(10) 1.8 m FROM STA. 6+186 TO STA. 6+386 LT.

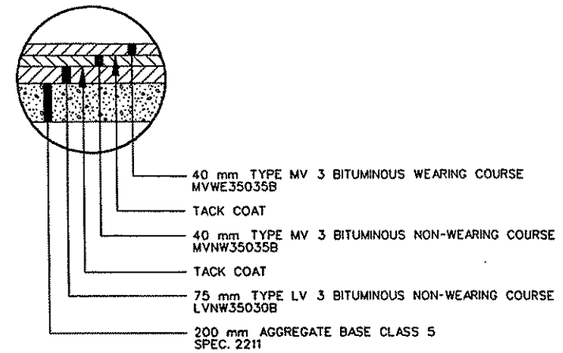
(11) 2.2 m FROM STA. 6+183 TO STA. 6+386 RT.

(12) CONSTRUCT B418 C&G FROM STA. 6+186 TO STA. 7+137.

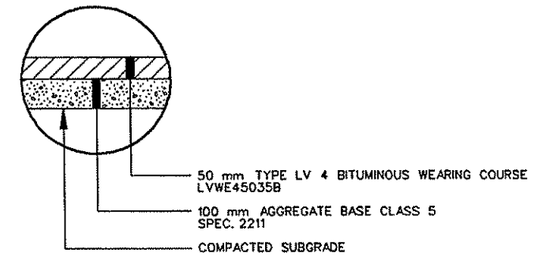
(13) CONSTRUCT B412 C&G FROM STA. 6+186 TO STA. 7+137.



FLOWERFIELD ROAD
TYPICAL SECTION



DETAIL A



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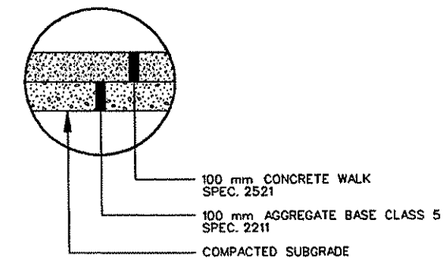

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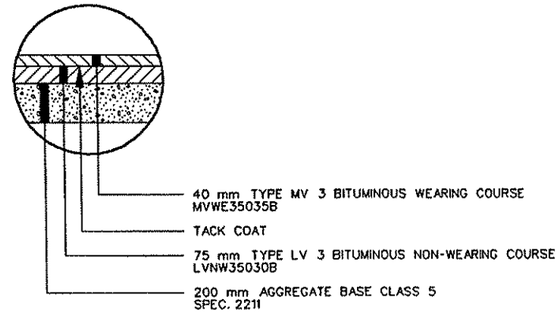

DETAIL E

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	11-18-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS
4	2-02-01	ELB	BRW	MDH	REVISED MIX DESIGNATION PER ANOKA COUNTY COMMENTS
5	2-20-01	BRW	BRW	MDH	DELETED SUBGRADE EXCAVATION PER ANOKA COUNTY COMMENTS

NAME: 2842.TSA DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05 S.A.P. 62-651-39 S.A.P. 106-020-14	V. GRAF	1-99
	DESIGNED BY B. WESTBY	1-99
CO. PROJECT NO. C.P. 99-07-110	CHECKED BY M. HANSEN	1-99
	COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TYPICAL SECTIONS
C.S.A.H. 17 RECONSTRUCTION

SHEET 19 OF 136

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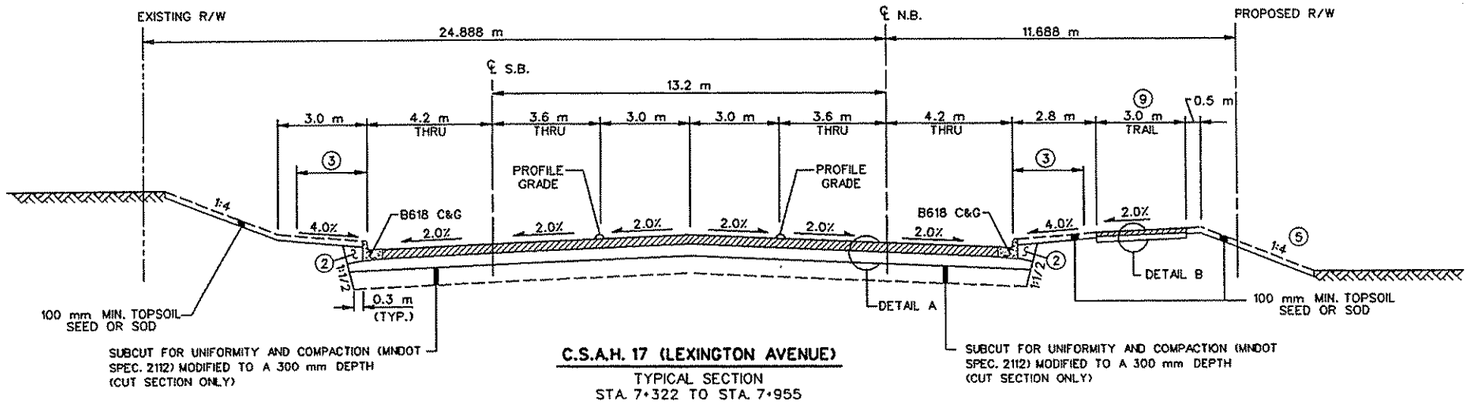
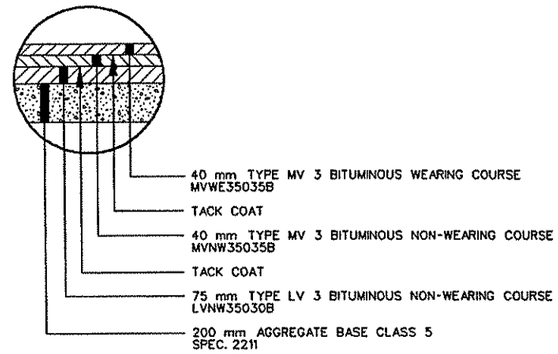


C.S.A.H. 17 (LEXINGTON AVENUE)

TYPICAL SECTION
STA. 7+322 TO STA. 7+955



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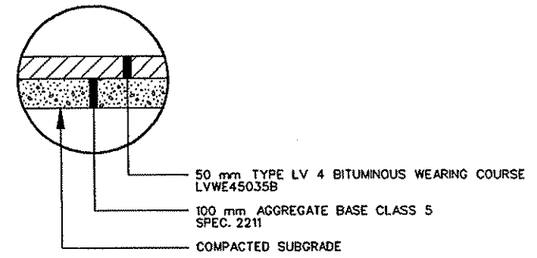

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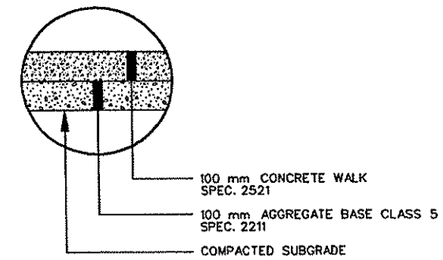

DETAIL C

NOTES:

1. REMOVE EXISTING MEDIAN.
2. BACKFILL WITH SUITABLE GRADING MATERIAL.
3. 0.5 m OBSTACLE FREE CLEAR ZONE FROM FACE OF CURB.
5. SEE CROSS SECTIONS FOR LOCATIONS OF VARIABLE SLOPES.
9. SEE CONSTRUCTION PLANS FOR TRAIL LOCATION AND WIDTH. PROPOSED TRAIL SHALL BE 2.4 m WIDE WITHIN THE CITY OF CIRCLE PINES. PROPOSED TRAIL IN THE CITY OF BLAINE SHALL BE 2.4 m WIDE ON THE WEST SIDE OF C.S.A.H. 17 AND 3.0 m WIDE ON THE EAST SIDE OF C.S.A.H. 17. THERE SHALL BE NO PROPOSED TRAIL WITHIN THE CITY OF LEXINGTON.

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	11-16-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS
4	2-05-01	ELB	BRW	MDH	REVISED MIX DESIGNATION PER ANOKA COUNTY COMMENTS
5	2-20-01	BRW	BRW	MDH	DELETED SUBGRADE EXCAVATION PER ANOKA COUNTY COMMENTS

NAME: 2842.TSB DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

	DATE
DRAWN BY V. GRAF	1-99
DESIGNED BY B. WESTBY	1-99
CHECKED BY M. HANSEN	1-99
COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TYPICAL SECTIONS
C.S.A.H. 17 RECONSTRUCTION

SHEET 20 OF 136

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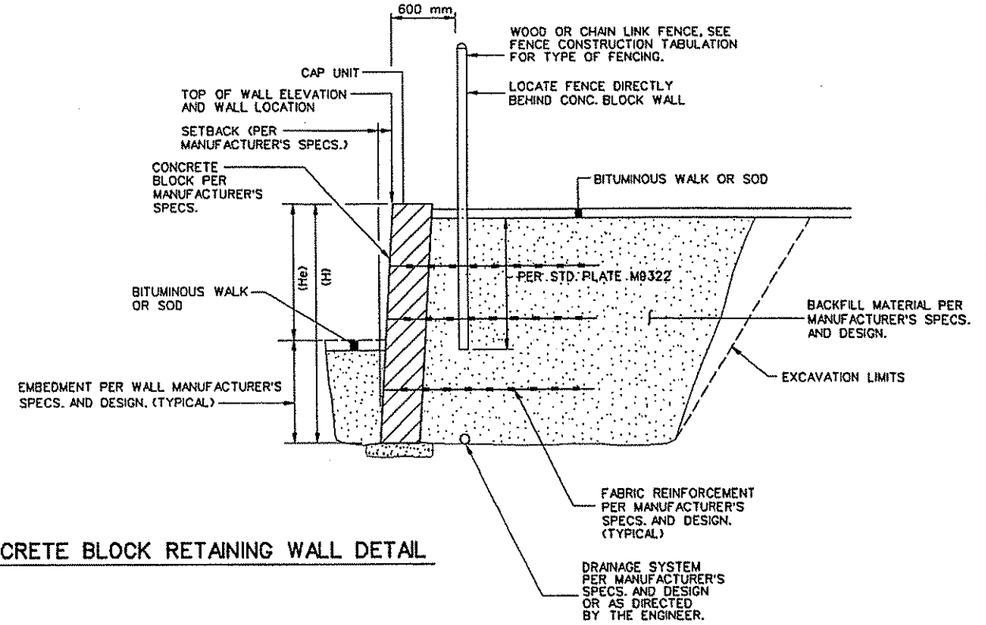
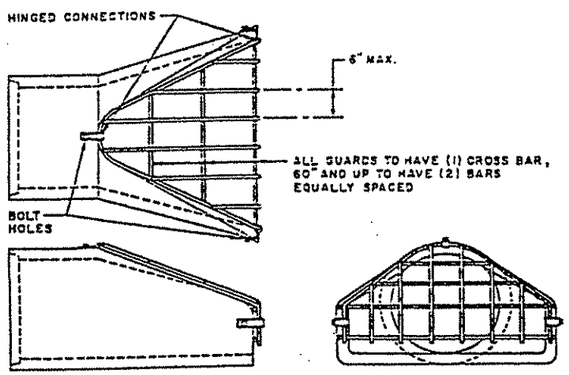


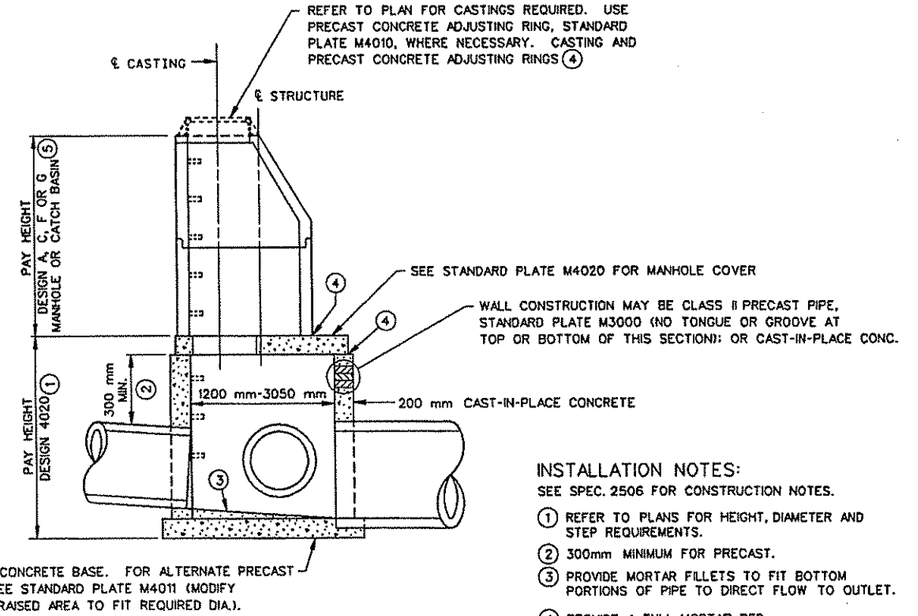
CONCRETE BLOCK RETAINING WALL DETAIL



Hot dip galvanized per Mn/DOT 3392 or ASTM-A153.

TRASH GUARD FOR FLARED ENDS

BAR SIZES				
HEAVY DESIGN				
	PIPE SIZE	HOLE DIA. SIZE	BOLT	BAR SIZE
ROUND	300mm-450mm	18mm	M16	20mm
	525mm-1200mm	24mm	M22	25mm
BOLT LG.=PIPE WALL THK + 64mm				



INSTALLATION NOTES:

SEE SPEC. 2506 FOR CONSTRUCTION NOTES.

1. REFER TO PLANS FOR HEIGHT, DIAMETER AND STEP REQUIREMENTS.
2. 300mm MINIMUM FOR PRECAST.
3. PROVIDE MORTAR FILLETS TO FIT BOTTOM PORTIONS OF PIPE TO DIRECT FLOW TO OUTLET.
4. PROVIDE A FULL MORTAR BED.
5. 4.57 m MAXIMUM. REFER TO PLANS FOR DESIGN HEIGHTS AND STEP REQUIREMENTS.

DRAINAGE STRUCTURE TYPE 4020

INSTALLATION DETAILS

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.DEB DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

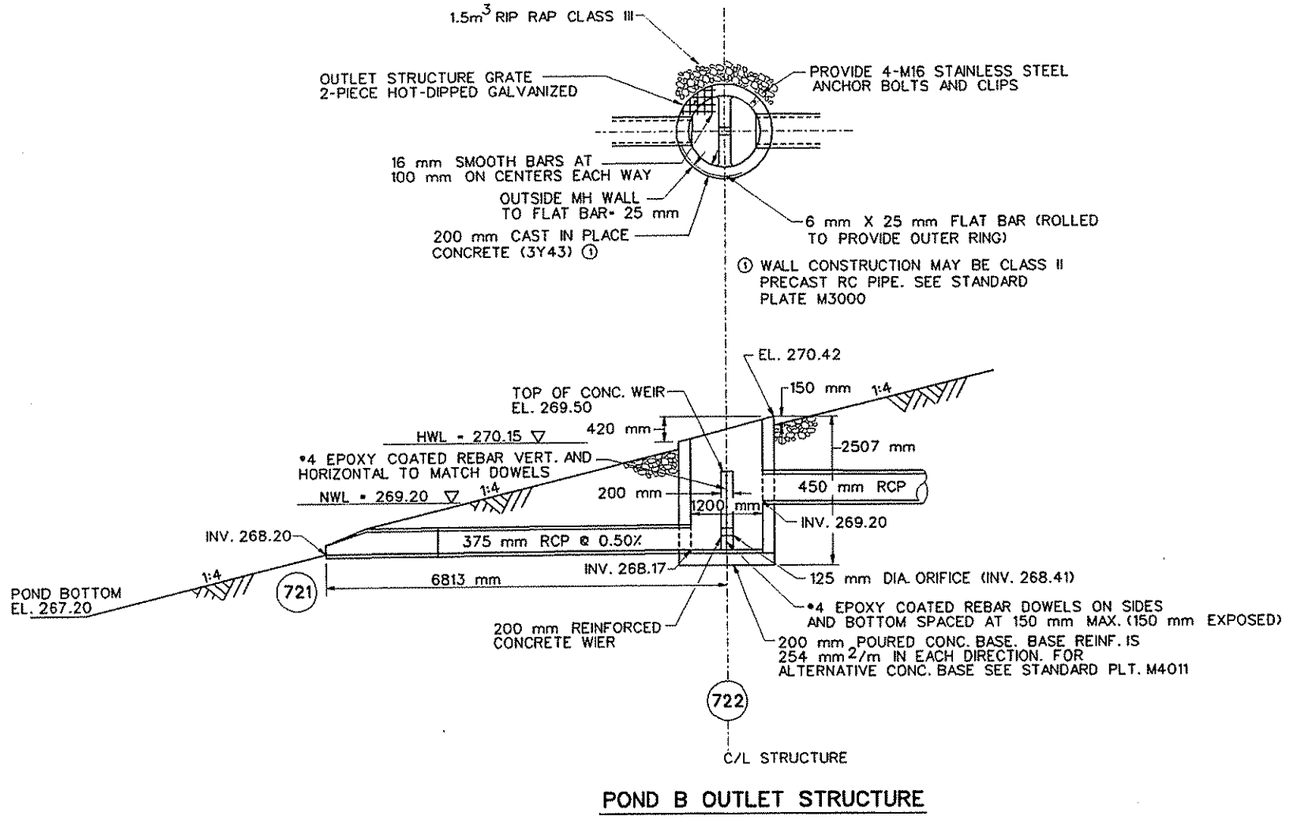
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 12-96
DESIGNED BY M. HANSEN 12-96
CHECKED BY D. DEMERS 1-97
COMM. NO. 0962842

SRF CONSULTING GROUP, INC.

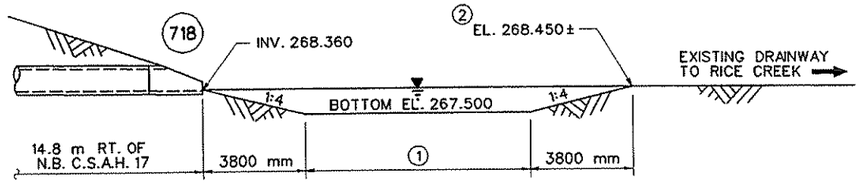
ANOKA COUNTY
DETAILS
C.S.A.H. 17 RECONSTRUCTION

SHEET 21 OF 136



POND B OUTLET STRUCTURE

(DRAINAGE STRUCTURE DESIGN SPECIAL 2)

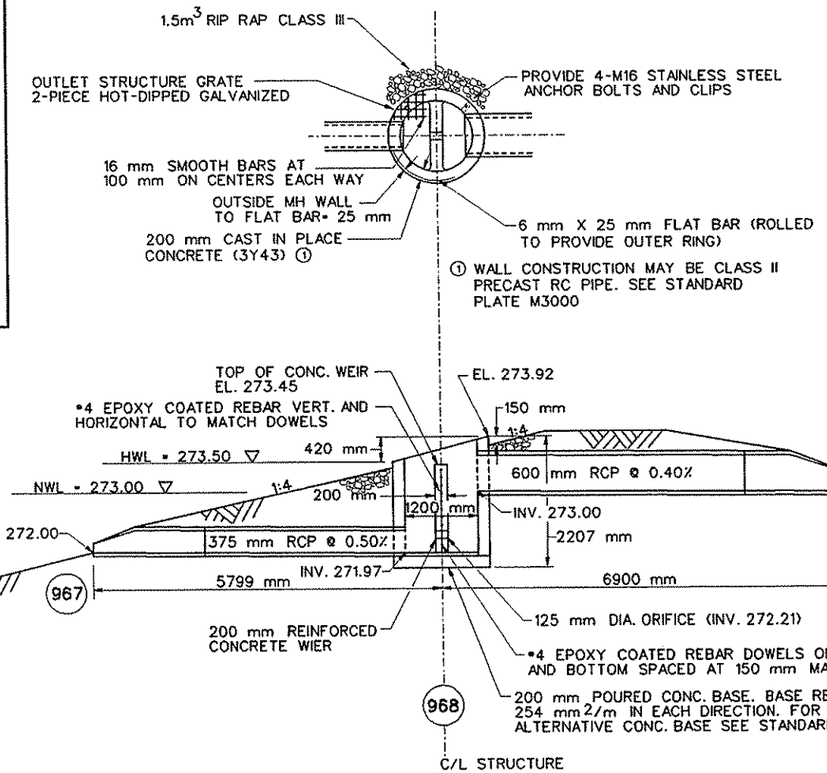


NOTES:

① 4000 mm PERPENDICULAR TO C.S.A.H. 17 X 12 000 mm PARALLEL TO C.S.A.H. 17. SEE CONSTRUCTION PLAN SHEET NO. 54 FOR LOCATION.

② APPROXIMATE EXISTING DRAINWAY SPILLOVER ELEVATION.

SEDIMENT TRAP DETAIL



POND C OUTLET STRUCTURE

(DRAINAGE STRUCTURE DESIGN SPECIAL 3)

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	11-16-00	VGG	BRW	MDH	ADD SEDIMENT TRAP DETAIL

NAME: 2842.DEC DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

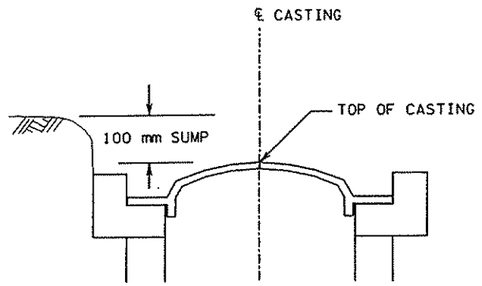
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 12-96
DESIGNED BY M. HANSEN 12-96
CHECKED BY D. DEMERS 1-97
COMM. NO. 0962842

SRF CONSULTING GROUP, INC.

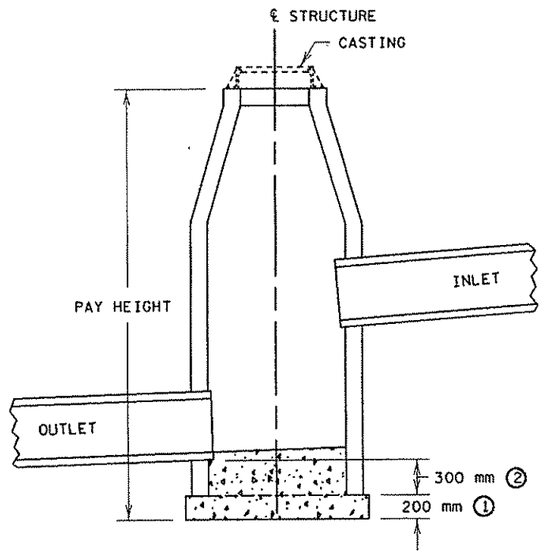
ANOKA COUNTY
DETAILS
C.S.A.H. 17 RECONSTRUCTION

SHEET 22 OF 136



CASTING ASSEMBLY M-11

STAKING DETAIL

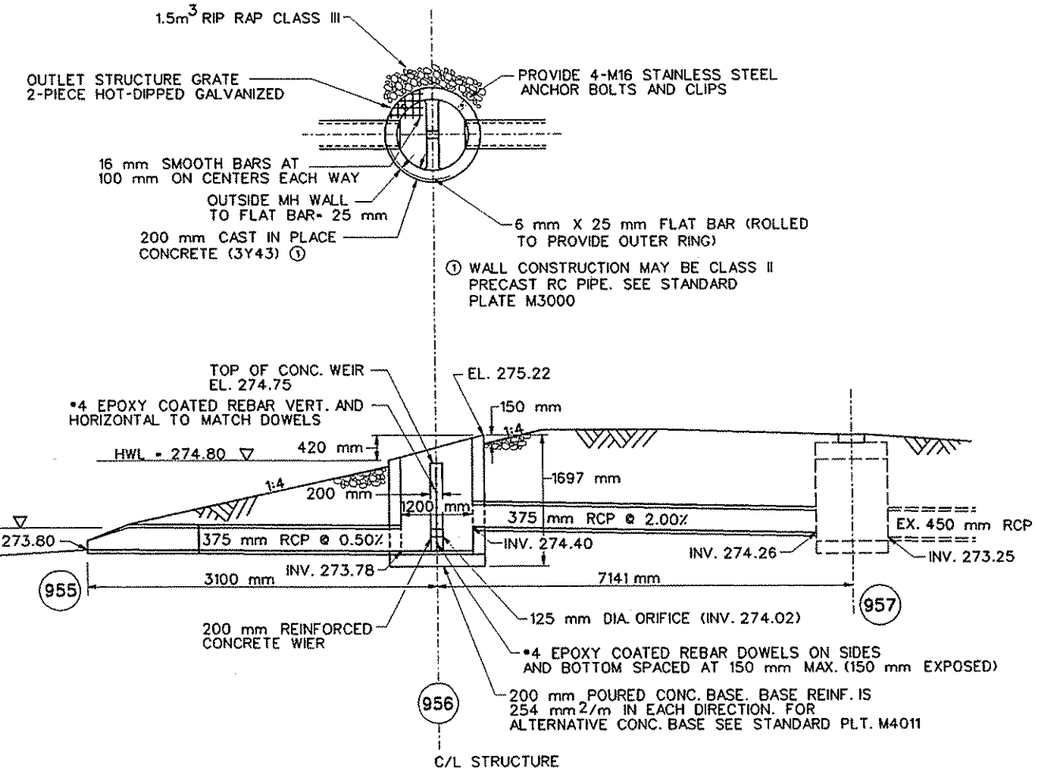


NOTES:

① NORMAL CONCRETE BASE. STANDARD PLATE M4000 OR M4005.

② 300 mm ADDITIONAL POURED CONCRETE. STANDARD PLATE M4000.

SUPER BASE CATCHBASIN



POND D OUTLET STRUCTURE

(DRAINAGE STRUCTURE DESIGN SPECIAL 4)

NO	DATE	BY	CKD	APPR	REVISION
1	7-28-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.DEE DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

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S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 07-00
DESIGNED BY B. WESTBY 04-99
CHECKED BY M. HANSEN 08-00
COMM. NO. 0962842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DETAILS
C.S.A.H. 17 RECONSTRUCTION

SHEET 22A OF 136

TRAFFIC SIGN TABULATION

SIGN LEGEND	SIGN DESIGNATION	SIGN SIZE	SIGN COLOR	QUANTITY		
				STAGE I	STAGE II	STAGE III
END ROAD WORK	G20-2A	48"X24"	BLACK ON ORANGE	3	3	1
STOP	R1-1	30"X30"	WHITE ON RED	23	29	0
YIELD	R1-2	36"X36"X36"	RED ON WHITE	1	0	0
ALL WAY	R1-4	18"X6"	WHITE ON RED	15	19	0
DO NOT PASS	R4-1	24"X30"	BLACK ON WHITE	8	6	0
	R4-7	24"X30"	BLACK ON WHITE	16	17	0
LEFT TURN LANE	R3-X2	30"X30"	BLACK ON WHITE	0	0	1
SIDEWALK CLOSED	R11-X1	30"X18"	BLACK ON WHITE	5	2	0
	W1-2L	48"X48"	BLACK ON ORANGE	1	1	0
	W1-2R	48"X48"	BLACK ON ORANGE	1	1	0
	W1-6	48"X24"	BLACK ON ORANGE	0	0	10
	W1-7	48"X24"	BLACK ON ORANGE	4	4	2
	W3-1a	36"X36"	BLACK, RED, WHITE ON YELLOW	7	8	0
	W4-2L	48"X48"	BLACK ON ORANGE	0	0	3
	W6-3	48"X48"	BLACK ON ORANGE	8	7	0
30 MLP.H.	W13-1	24"X24"	BLACK ON ORANGE	4	4	0
	W14-X7	24"X24"	BLACK ON ORANGE	2	0	0
ROAD WORK AHEAD	W20-1	48"X48"	BLACK ON ORANGE	18	18	17
MERGE	W20-X3	48"X48"	BLACK ON ORANGE	0	0	3
LEFT LANE CLOSED	W21-X5L	48"X48"	BLACK ON ORANGE	3	2	6
	W1-4L	30"X30"	BLACK ON ORANGE	2	0	0
	W1-4R	48"X48"	BLACK ON ORANGE	1	0	0
	TRPM		WHITE OR YELLOW	590	390	290

SEE TRAFFIC SIGN TABULATION AND GENERAL NOTES FOR GENERAL TRAFFIC CONTROL NOTES.

LEGEND

- REFLECTORIZED DRUMS (USED FOR CHANNELIZATION)
- REFLECTORIZED DRUM WITH STANDARD SIGN
- TYPE "A" LOW INTENSITY WARNING FLASHER
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE 3 BARRICADE - REFLECTORIZED BOTH SIDES (2.4m WIDE UNLESS NOTED OTHERWISE)
- TRAFFIC LOCATION AND DIRECTION
- —(1)— 100mm DOUBLE SOLID LINE YELLOW (PAINT)
- —(2)— 100mm BROKEN LINE WHITE (REMOVABLE POLY PREFORM)
- —(3)— 100mm SOLID LINE WHITE (REMOVABLE POLY PREFORM)
- —(4)— 100mm SOLID LINE YELLOW (REMOVABLE POLY PREFORM)
- —(5)— 100mm SOLID LINE WHITE PAINT

- STAGE I TEMPORARY PAVEMENT WIDENING
- CONSTRUCTION AREA
- CONSTRUCTION UNDER TRAFFIC

GENERAL TRAFFIC CONTROL NOTES:

1. ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES, ETC. SHALL CONFORM TO REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS DATED JANUARY 1998.
2. PAVEMENT MARKINGS SHALL BE PAINT OR REMOVABLE POLYMER PREFORMED. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE ALL PAVEMENT MARKINGS TO THE SATISFACTION OF THE ENGINEER. REMOVABLE PREFORMED PAVEMENT MARKINGS SHALL BE PAID FOR SEPARATELY FROM THE LUMP SUM FOR TRAFFIC CONTROL UNDER THE APPROPRIATE CONTRACT ITEMS INDICATED ON THE PROPOSAL.
3. ALL TRAFFIC THRU LANES SHALL BE A MINIMUM OF 3.6 METERS IN WIDTH UNLESS NOTED OTHERWISE.
4. REFLECTORIZED DRUMS USED FOR CHANNELIZATION SHALL TYPICALLY HAVE 3 METER SPACING IN INTERSECTION AREAS, 8 METER SPACING IN TAPERS, CORNERS AND RADII, AND 15 METER SPACING IN TANGENTS. DRUMS SPACED AT 8 METER INTERVALS SHALL BE SUPPLEMENTED WITH DOWN ARROWS ON EVERY OTHER DRUM. DRUM LOCATIONS AND SPACINGS SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE SUBJECT TO REVISION BY THE ENGINEER.
5. THE LOCATIONS AND QUANTITIES OF TRAFFIC CONTROL DEVICES SHOWN ON THESE PLANS ARE APPROXIMATE AND ARE SUBJECT TO REVISION BY THE ENGINEER.
6. ANY TEMPORARY PORTABLE TRAFFIC BARRIER USED ON THIS PROJECT SHALL HAVE BARRIER DELINEATORS SPACED AT 15.24 METERS. THE DELINEATORS SHALL HAVE A MINIMUM OF 0.0155 SQUARE METERS (24 SQ. INCHES.)
7. THE CONTRACTOR SHALL MAINTAIN A 0.6 METER MINIMUM CLEAR DISTANCE BETWEEN THE EDGE OF THE TRAVEL LANE AND THE NEAREST EDGE OF ANY ADJACENT TRAFFIC CONTROL DEVICES (DRUMS, BARRICADES, BARRIERS, ETC.)
8. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES TO THE SATISFACTION OF THE ENGINEER.
9. THE CONTRACTOR SHALL PROVIDE CHANNELIZING DEVICES (AND SIGNING IF NECESSARY) AT ALL PRIVATE ENTRANCE LOCATIONS WHERE NEEDED TO SAFELY GUIDE TRAFFIC TO AND FROM THE TRAVEL CORRIDOR, TO THE SATISFACTION OF THE ENGINEER.
10. THE CONTRACTOR SHALL REMOVE, SALVAGE, OR COVER AS APPROPRIATE, ALL EXISTING SIGNING WHICH CONFLICTS WITH THIS TRAFFIC CONTROL PLAN TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL APPROPRIATE ORIGINAL SIGNING WHEN AND AS DIRECTED BY THE ENGINEER.
11. THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THESE TRAFFIC CONTROL PLANS TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL APPROPRIATE ORIGINAL PAVEMENT MARKINGS WHEN AND AS DIRECTED BY THE ENGINEER.
12. THESE TRAFFIC CONTROL LAYOUTS DO NOT SHOW ALL INPLACE SIGNING. CONTRACTOR SHALL RELOCATE ALL APPROPRIATE INPLACE SIGNING TO MAINTAIN PROPER SIGN VISIBILITY DURING CONSTRUCTION AS DEEMED NECESSARY BY THE ENGINEER.
13. THE CONTRACTOR SHALL PROVIDE QUALIFIED FLAGGERS WITH TWO-WAY RADIOS AT ALL TIMES WHEN CONTRACTOR OPERATIONS REQUIRE ONE-LANE-TWO-WAY OPERATION OR WHEN, IN THE OPINION OF THE ENGINEER, ONE-LANE TWO-WAY OPERATIONS IS APPROPRIATE DUE TO SAFETY CONCERNS FROM OPEN EXCAVATIONS, ADJACENT EQUIPMENT, ETC..
14. THE CONTRACTOR SHALL NOT PLACE PAINTED TEMPORARY PAVEMENT MARKINGS ON PERMANENT FINAL SURFACING (OR ON OTHER SURFACING WHICH WILL NOT ULTIMATELY BE REPLACED OR COVERED BY PLANNED CONSTRUCTION), UNLESS THE TEMPORARY MARKINGS ARE IN THE SAME LOCATION AS THE PERMANENT MARKINGS.
15. 1:3 MAXIMUM TEMPORARY CONSTRUCTION EDGE SLOPES SHALL BE MAINTAINED AT ALL TIMES EXCEPT WHEN EXCAVATION WORK TEMPORARILY MANDATES STEEPER EDGE SLOPES. WHEN STEEPER EDGE SLOPES ARE NECESSARY (AS APPROVED BY THE ENGINEER).
16. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, AS APPROPRIATE, ALL SIGNS, PAVEMENT MARKINGS AND DEVICES SHOWN ON THESE PLANS TO THE SATISFACTION OF THE ENGINEER.
17. STORM SEWER LATERALS, MISCELLANEOUS SANITARY SEWER, AND WATERMAIN CROSSINGS SHALL BE CONSTRUCTED UNDER TRAFFIC AS REQUIRED. PROVIDE TEMPORARY PAVEMENT AS REQUIRED.
18. TEMPORARY PAVEMENT SHALL CONSIST OF 90 mm BITUMINOUS WEAR COURSE AND 150 mm OF AGGREGATE BASE CLASS 5.
19. TRAFFIC AT SIGNALIZED INTERSECTIONS SHALL BE CONTROLLED BY THE EXISTING SIGNAL FOR AS LONG AS SAFELY POSSIBLE. THE ENGINEER SHALL DETERMINE WHEN SIGNAL OPERATIONS WILL BE SHUT DOWN AND REPLACED BY ALL-WAY STOP CONDITIONS.
20. ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.
21. ALL LANE MARKINGS THROUGH TRANSITION AREAS AND TAPERS SHALL BE SUPPLEMENTED WITH TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S). TRPM'S SHALL BE THE SAME COLOR AS THE PAVEMENT MARKING BEING SUPPLEMENTED AND SHALL BE SPACED @ 3 METER INTERVALS.
22. ACHD SHALL REQUEST MN/DOT TO AUTHORIZE A TEMPORARY CONSTRUCTION ZONE SPEED LIMIT WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT. IF AUTHORIZED, WORK ZONE SPEED LIMIT SIGNS SHALL BE PLACED AT ALL MAJOR INTERSECTIONS WITH ADDITIONAL SIGNS BEING PLACED AT ½ MILE INTERVALS. ADVANCE SPEED ZONE SIGNING SHALL BE IN ACCORDANCE WITH MN/DOT'S A GUIDE TO ESTABLISHING SPEED LIMITS IN HIGHWAY WORK ZONES.

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-07-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: TCN 410.PLN DATE: Apr. 16, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	V. GRAF	1-99
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	A. DeBRUIN	1-99
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	M. HANSEN	1-99
	COMM. NO.	
	0962842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC CONTROL SIGN TABULATION AND GENERAL NOTES

C.S.A.H. 17 RECONSTRUCTION

SHEET 23 OF 136

DESIGN FILE: n:\civil\008\2410\Plan\South\KDR\TCN-410.PLN
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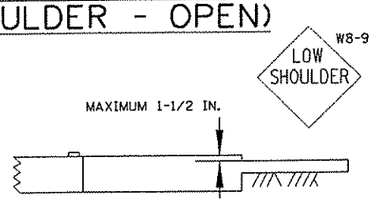
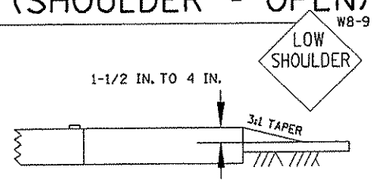
PLOT SCALE: 1.000
PLOT DATE/TIME: 04/16/2001 14:28:51

EDGE DROP OFF

NO TAPER (SHOULDER - OPEN)

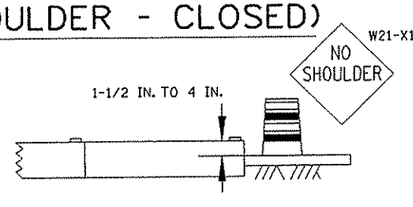


WITH 3:1 TAPER (SHOULDER - OPEN)



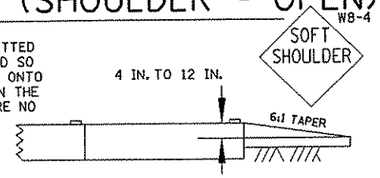
NO TAPER (SHOULDER - CLOSED)

SHOULDER SHALL BE CLOSED WITH APPROPRIATE WARNING SIGNS AND CHANNELIZING DEVICES AT A MAXIMUM OF 100 FT. SPACING.



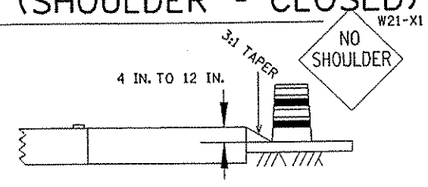
WITH 6:1 TAPER (SHOULDER - OPEN)

THIS CONDITION WILL NOT BE PERMITTED UNLESS THE 6:1 SLOPE IS COMPACTED SO THAT A VEHICLE MAY SAFELY DRIVE ONTO IT WITHOUT LOSING CONTROL AND IN THE OPINION OF THE ENGINEER THERE ARE NO OTHER HAZARDOUS CONDITIONS.



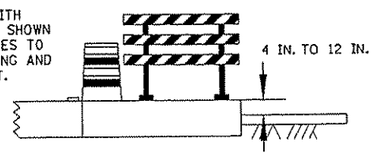
WITH 3:1 TAPER (SHOULDER - CLOSED)

SHOULDER SHALL BE CLOSED WITH APPROPRIATE WARNING SIGNS AND CHANNELIZING DEVICES AT A MAXIMUM OF 100 FT. SPACING.



NO TAPER (SHOULDER - CLOSED)

ADJACENT LANE SHALL BE CLOSED WITH APPROPRIATE LANE CLOSURE LAYOUT SHOWN IN APPENDIX B. CHANNELIZING DEVICES TO BE AT A MAXIMUM OF 100 FT. SPACING AND TYPE III BARRICADES EVERY 1000 FT.

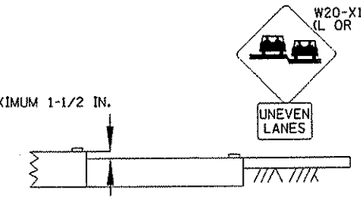


NOTE:

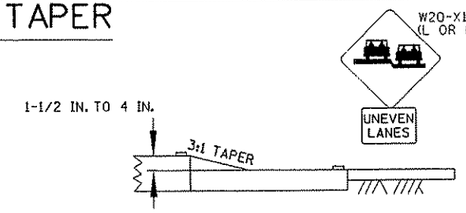
SIGNS ARE REQUIRED ONLY ON THE SIDE OF THE ROAD THAT IS AFFECTED BY CONSTRUCTION (EXCEPT SIGNS THAT ARE FOR A LANE CLOSURE ON DIVIDED HIGHWAYS).

UNEVEN LANES

NO TAPER

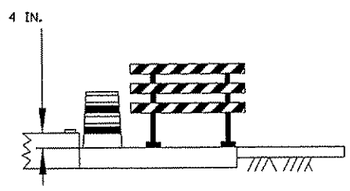


WITH 3:1 TAPER



NO TAPER

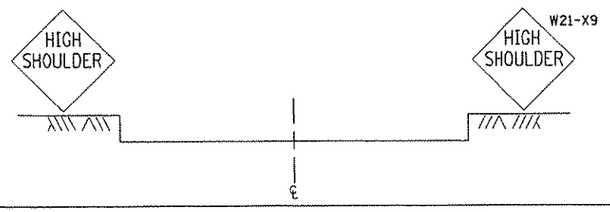
LANE SHALL BE CLOSED WITH APPROPRIATE LANE CLOSURE FROM APPENDIX B. CHANNELIZING DEVICES AT A MAXIMUM OF 100 FT. SPACING AND TYPE III BARRICADES EVERY 1000 FT.



NOTE:

FOR DIVIDED HIGHWAYS, USE SIGNS ON RIGHT AND LEFT SIDE. SIGN SEQUENCE SHOWN FOR ONE DIRECTION ONLY; OTHER DIRECTION SHALL BE IDENTICAL.

MILLED EDGE



NOTE:

MILLED EDGES SHOULD BE TREATED WITH TAPERS, CHANNELIZERS, AND SIGNING AS SHOWN ON EDGE DROP-OFF DETAILS.

GUIDELINES

THESE GUIDELINES ARE INTENDED TO INCREASE TRAFFIC SAFETY USING TRAFFIC CONTROL DEVICES, SAFETY RELATED APPURTENANCES, AND CONSTRUCTION TECHNIQUES FOR UNEVEN LANES, MILLED EDGES, AND EDGE DROP-OFFS THAT OCCUR IN HIGHWAY WORK ZONES. THE BEST WAY TO INCREASE TRAFFIC SAFETY IS TO MAKE EVERY ATTEMPT TO MINIMIZE EXPOSURE TO UNEVEN LANES, MILLED EDGES, AND EDGE DROP-OFFS; HOWEVER, IT IS REALIZED THAT THIS IS OFTEN NOT POSSIBLE OR FEASIBLE. ONLY WHEN UNEVEN LANES, MILLED EDGES, OR EDGE DROP-OFFS ARE DEEMED NECESSARY, SHALL THE APPROPRIATE PORTION(S) OF THESE GUIDELINES BE APPLIED TO ENHANCE TRAFFIC SAFETY.

1. FOR DROP-OFFS OF 1-1/2 INCHES OR LESS, APPROPRIATE WARNING SIGNS SHALL BE PROVIDED
2. FOR DROP-OFFS GREATER THAN 1-1/2 INCHES UP TO 4 INCHES:
   - A- THE EDGE SHALL BE TAPERED AND COMPACTED AT A RATE OF 3:1 AND APPROPRIATE WARNING SIGNS SHALL BE PROVIDED; OR
   - B- IF THE TAPER IS NOT PROVIDED, TRAFFIC SHALL NOT BE PERMITTED TO CROSS THE DROP-OFF AND THAT PORTION OF THE ROADWAY SHALL BE CLOSED TO TRAFFIC WITH THE APPROPRIATE WARNING SIGNS AND DEVICES.
3. FOR DROP-OFFS GREATER THAN 4 INCHES UP TO 12 INCHES:
   - A- THE EDGE SHALL BE TAPERED AND COMPACTED AT A RATE OF 6:1 AND APPROPRIATE WARNING SIGNS SHALL BE PROVIDED, (6:1 TAPER SHALL NOT BE USED AS A TRAFFIC CARRYING LANE);
   - B- THE EDGE SHALL BE TAPERED AND COMPACTED AT A RATE OF 3:1, TRAFFIC SHALL NOT BE ALLOWED TO CROSS THE DROP-OFF, AND THAT PORTION OF THE ROADWAY SHALL BE CLOSED TO TRAFFIC WITH APPROPRIATE WARNING SIGNS AND CHANNELIZING DEVICES; OR
   - C- IF A TAPER IS NOT PROVIDED, THE TRAFFIC OR AUXILIARY LANE ADJACENT TO THE DROP-OFF SHALL BE CLOSED TO TRAFFIC WITH THE APPROPRIATE WARNING SIGNS AND CHANNELIZING DEVICES OR A POSITIVE BARRIER, SUCH AS A PORTABLE PRECAST CONCRETE BARRIER, SHALL BE PROVIDED TO PREVENT TRAFFIC FROM CROSSING THE DROP-OFF.
4. FOR SHOULDER EDGE DROP-OFFS:
   - A - 0-2 FOOT SHOULDER WIDTH AND A 0-12 INCH DROP-OFF; USE GUIDELINES AS SHOWN
   - B - 2-8 FOOT SHOULDER WIDTH AND A 0-4 INCH DROP-OFF; INSTALL EDGELINE OR USE GUIDELINES AS SHOWN.
   - C - 8 FOOT OR GREATER SHOULDER WIDTH AND A 0-4 INCH DROP-OFF; NO TRAFFIC CONTROL REQUIRED
   - D - GREATER THAN 2 FOOT SHOULDER WIDTH AND A 4-12 INCH DROP-OFF; USE GUIDELINES AS SHOWN
5. AT NO TIME SHALL THERE BE MORE THAN ONE UNEVEN LANE CONDITION BETWEEN THE TRAFFIC CARRYING LANES WHICH INCLUDE AUXILIARY LANES, TURN LANES, AND RAMP ACCESS OR EGRESS AREAS. WEATHER PERMITTING, ALL EXPOSED UNEVEN LANE CONDITIONS WITHIN THE TRAFFIC CARRYING LANES SHALL BE "MATCHED" WITHIN 24 HOURS.
6. MILLING OPERATIONS SHALL BE REQUIRED TO COMPLETE THE FULL WIDTH OF THE SECTION UNDER CONSTRUCTION AT THE END OF EACH WORK PERIOD.

DROP-OFFS GREATER THAN 4 INCHES ADJACENT TO TRAFFIC CARRYING LANES ARE PERMITTED WITHOUT TAPERS OR POSITIVE BARRIERS FOR:
1. PROJECTS WITHIN URBAN AREAS WHEN THE SPEED LIMIT IS 30 MPH OR LESS; OR
2. SHORT TERM (7 CALENDAR DAYS OR LESS) CONCRETE OR UTILITY REPAIR, LESS THAN 50 FEET IN LENGTH WHEN THE SPEED LIMIT IS GREATER THAN 30 MPH.

APPROPRIATE UNEVEN LANE WARNING SIGNS OR SHOULDER WARNING SIGNS SHALL BE REPEATED AFTER EACH INTERSECTION.

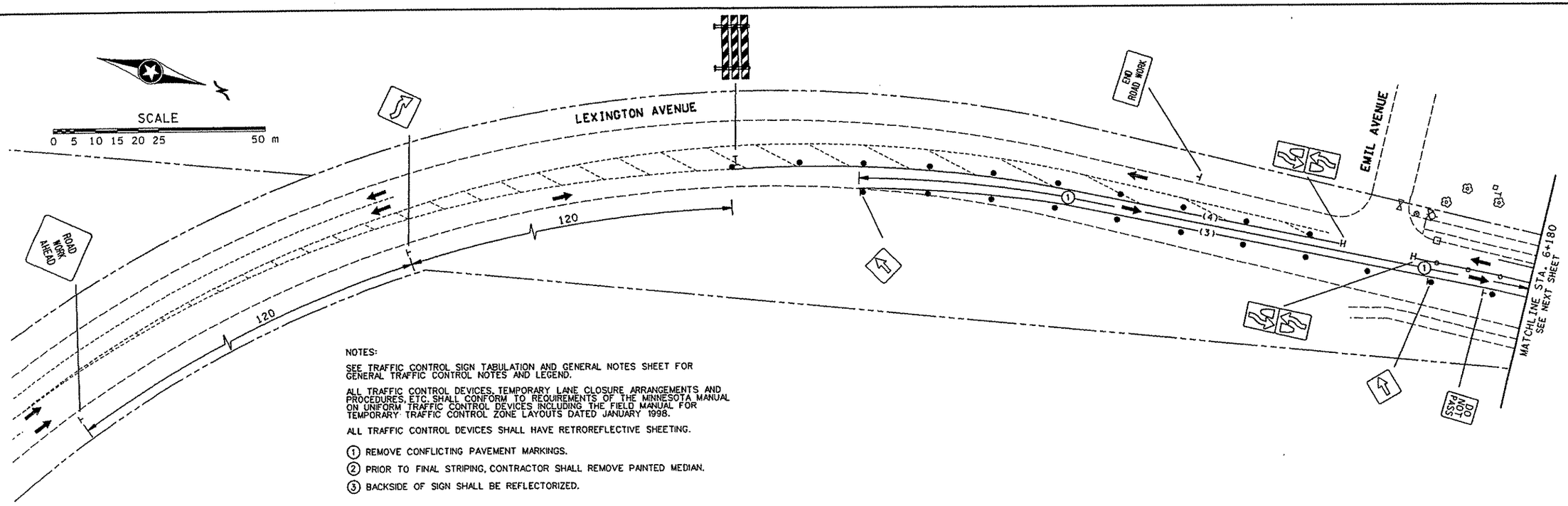
MAXIMUM WARNING SIGN SPACING SHALL BE:
1. 1 MILE WHEN THE SPEED LIMIT IS GREATER THAN 30 MPH AND
2. 1/4 MILE WHEN THE SPEED LIMIT IS 30 MPH OR LESS.

WHEN SPACE PERMITS, MINIMUM WARNING SIGN SIZE SHALL BE:
1. 48 INCHES X 48 INCHES WHEN THE SPEED LIMIT IS GREATER THAN 30 MPH AND
2. 36 INCHES X 36 INCHES WHEN THE SPEED LIMIT IS 30 MPH OR LESS.

NOTE: ENGLISH UNITS

TRAFFIC CONTROL SHEET NO.	TITLE: TYPICAL - TRAFFIC CONTROL TREATMENT OF LONGITUDINAL JOINTS AND EDGE DROP-OFFS IN WORK ZONES

NAME: 2842.DED DATE: Apr. 12, 2001



NOTES:

SEE TRAFFIC CONTROL SIGN TABULATION AND GENERAL NOTES SHEET FOR GENERAL TRAFFIC CONTROL NOTES AND LEGEND.

ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES, ETC. SHALL CONFORM TO REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS DATED JANUARY 1998.

ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

(1) REMOVE CONFLICTING PAVEMENT MARKINGS.

(2) PRIOR TO FINAL STRIPING, CONTRACTOR SHALL REMOVE PAINTED MEDIAN.

(3) BACKSIDE OF SIGN SHALL BE REFLECTORIZED.

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-08-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.TCD DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	
S.A.P. 02-617-05	
S.A.P. 62-651-39	
S.A.P. 106-020-14	
CO. PROJECT NO.	
C.P. 99-07-110	

DRAWN BY	DATE
S. MARTINS	10-98
DESIGNED BY	
M. HANSEN	10-98
CHECKED BY	
M. HANSEN	2-99
COMM. NO.	
0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC CONTROL-STAGE 1

C.S.A.H. 17 RECONSTRUCTION

SHEET 25 OF 136

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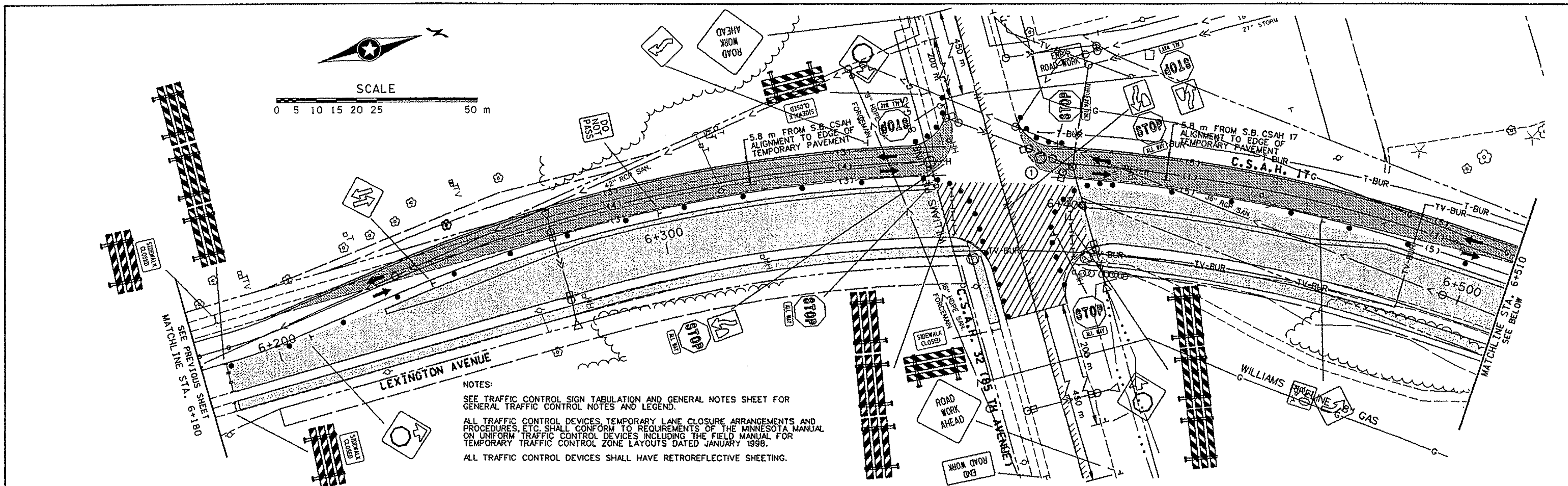

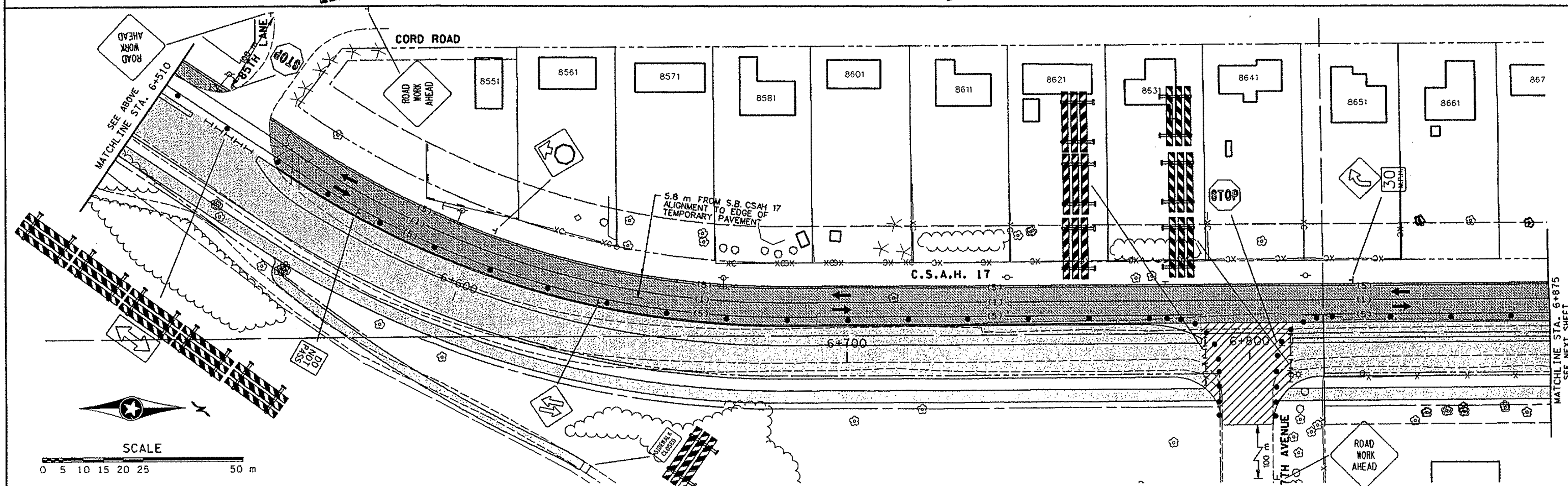

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-09-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.TCA DATE: Apr. 12, 2001

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

		DATE
DRAWN BY	S. MARTINS	10-98
DESIGNED BY	M. HANSEN	10-98
CHECKED BY	M. HANSEN	2-99
COMM. NO.	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC CONTROL-STAGE 1

C.S.A.H. 17 RECONSTRUCTION

STA. 6+186 TO STA. 6+875

SHEET 26 OF 136

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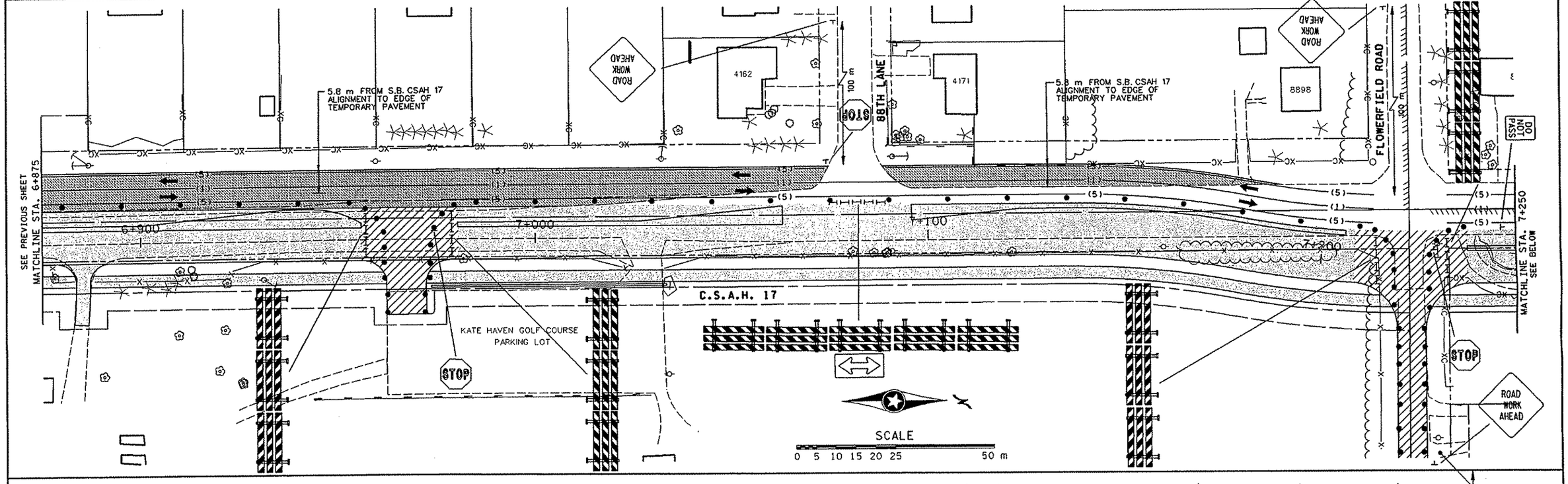

NOTES:

SEE TRAFFIC CONTROL SIGN TABULATION AND GENERAL NOTES SHEET FOR GENERAL TRAFFIC CONTROL NOTES AND LEGEND.

ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES, ETC. SHALL CONFORM TO REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS DATED JANUARY 1998.

ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-09-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.TCB DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	S. MARTINS	10-98
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	M. HANSEN	10-98
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	M. HANSEN	2-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TRAFFIC CONTROL-STAGE 1
C.S.A.H. 17 RECONSTRUCTION
STA. 6+875 TO STA. 7+600

SHEET 27 OF 136

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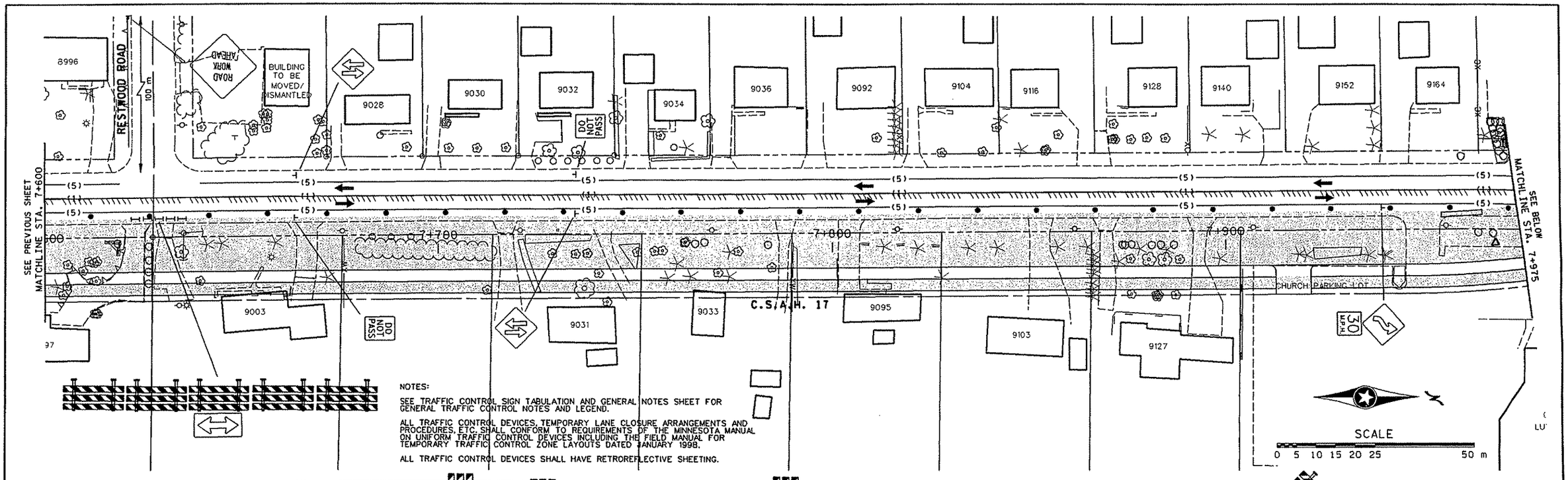

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-09-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.TCC DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	
S.A.P. 02-617-05	
S.A.P. 62-651-39	
S.A.P. 106-020-14	
CO. PROJECT NO.	
C.P. 99-07-110	

DRAWN BY	DATE
S. MARTINS	10-98
DESIGNED BY	
M. HANSEN	10-98
CHECKED BY	
M. HANSEN	2-99
COMM. NO.	
0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TRAFFIC CONTROL-STAGE 1
C.S.A.H. 17 RECONSTRUCTION
STA. 7+600 TO STA. 8+325

SHEET 28 OF 136

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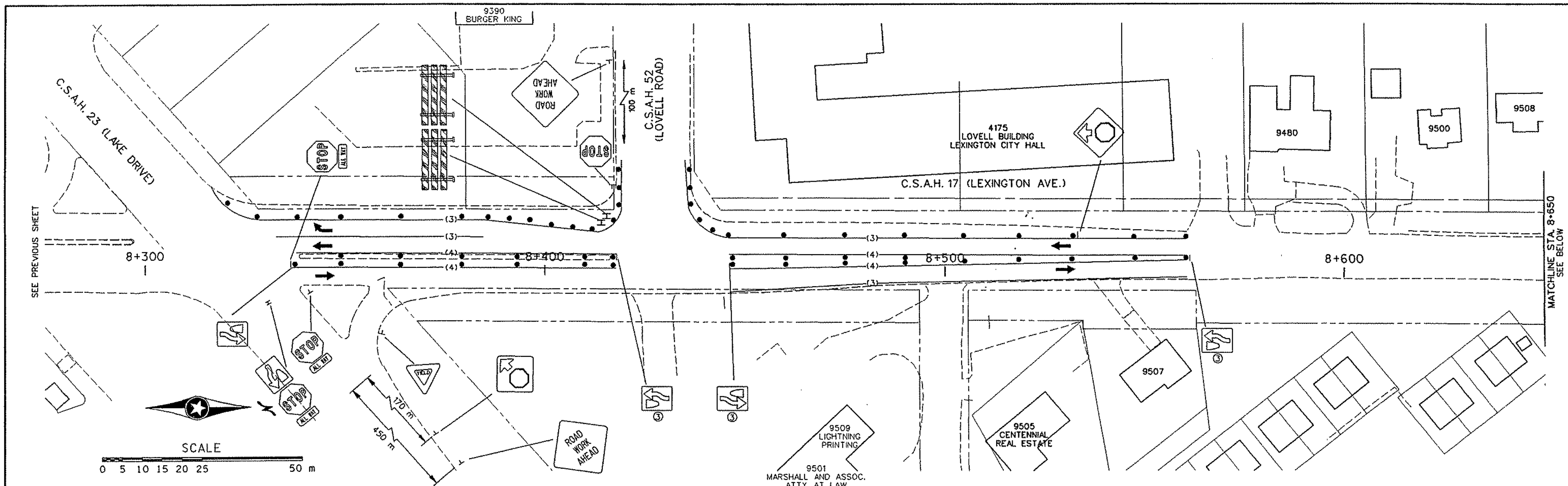

NOTES:

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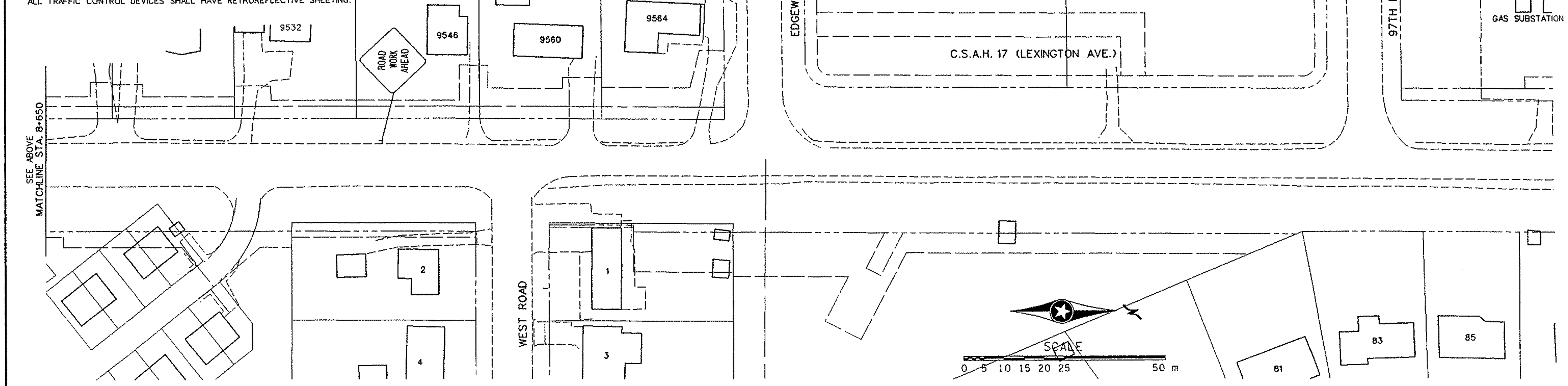

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-09-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: TC1A 410.PLN DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY M. IISAKKA DATE 12-96
DESIGNED BY D. DEMERS 12-96
CHECKED BY D. DEMERS 1-97
COMM. NO. 0962842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TRAFFIC CONTROL-STAGE 1
C.S.A.H. 17 RECONSTRUCTION
STA. 8+358 TO STA. 9+025

SHEET 29 OF 136

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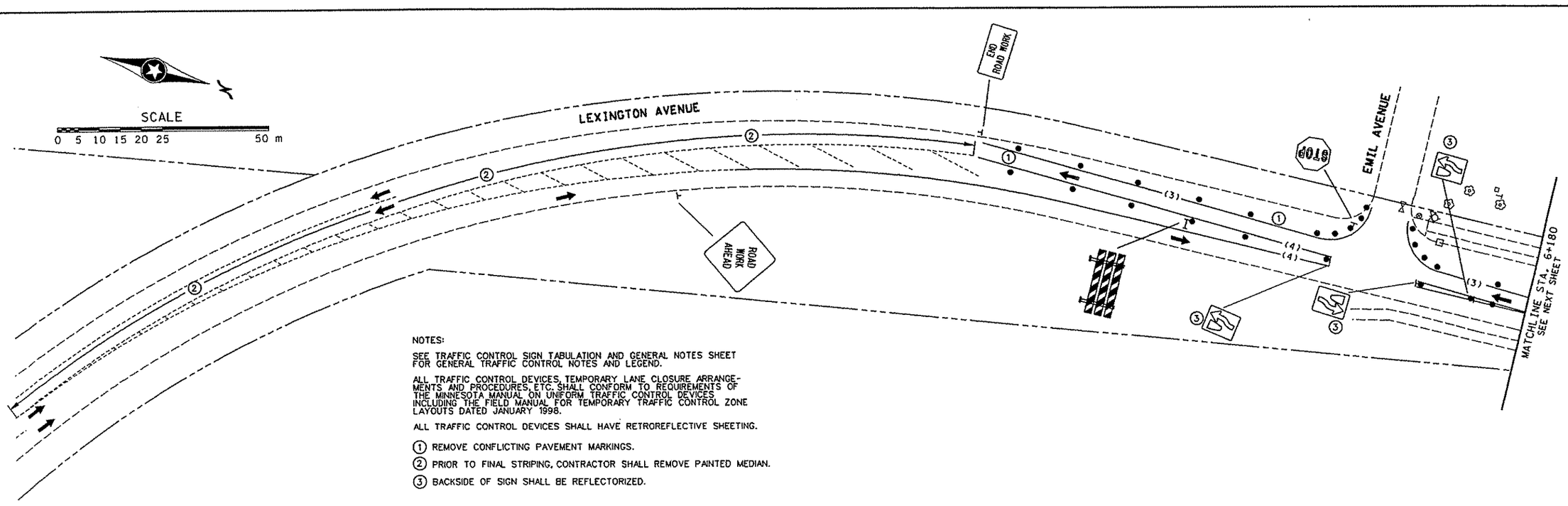

NOTES:

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(3) BACKSIDE OF SIGN SHALL BE REFLECTORIZED.

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-09-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.TCH DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

		DATE
DRAWN BY	S. MARTINS	10-98
DESIGNED BY	M. HANSEN	10-98
CHECKED BY	M. HANSEN	2-99
COMM. NO.	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC CONTROL-STAGE 2

C.S.A.H. 17 RECONSTRUCTION

SHEET 32 OF 136

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PLOT DATE/TIME: 04/12/2001 11:08:10

NOTES:

SEE TRAFFIC CONTROL SIGN TABULATION AND GENERAL NOTES SHEET FOR GENERAL TRAFFIC CONTROL NOTES AND LEGEND.

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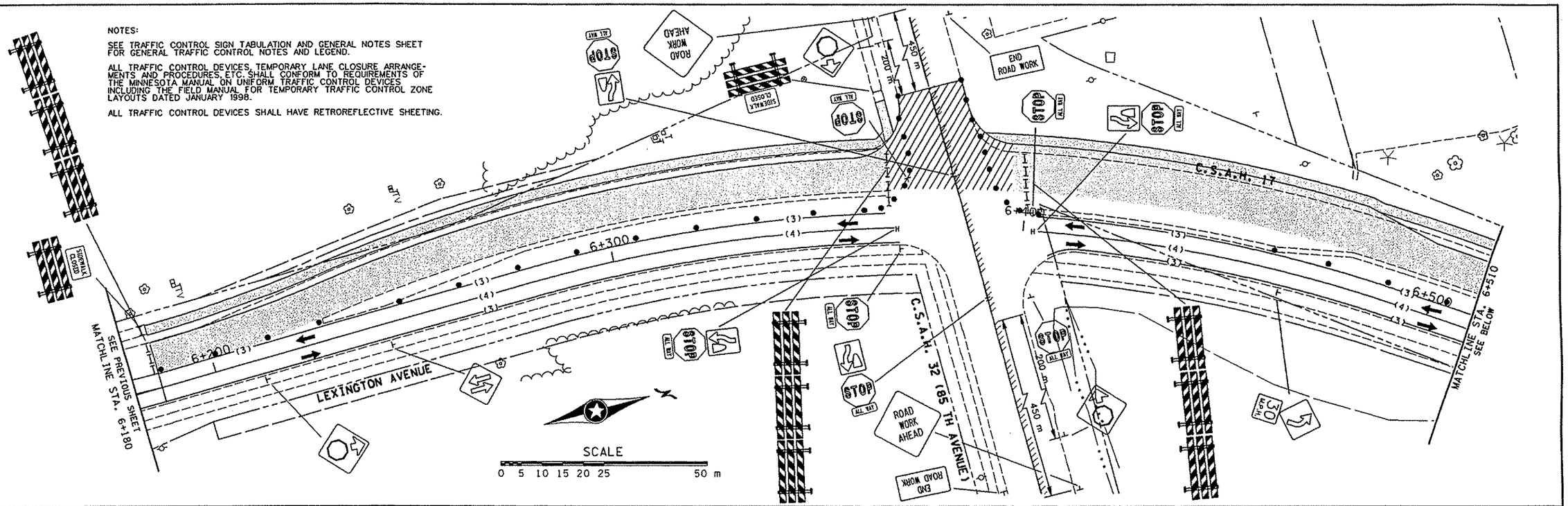
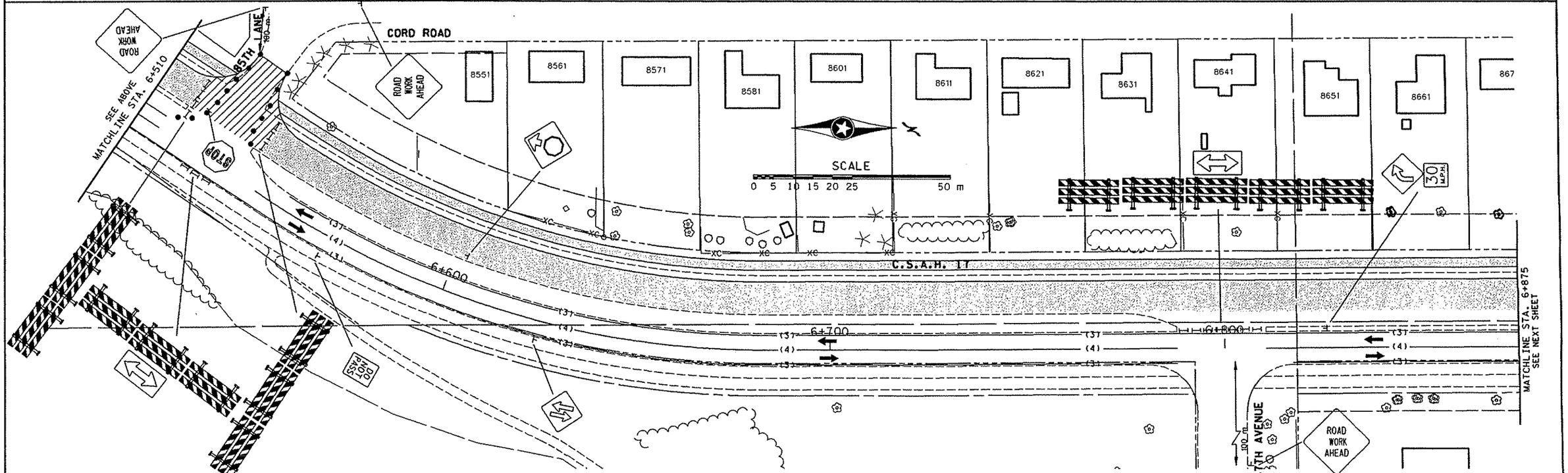
ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.





NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-09-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.TCE DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

	DATE
DRAWN BY S. MARTINS	10-98
DESIGNED BY M. HANSEN	10-98
CHECKED BY M. HANSEN	2-99
COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

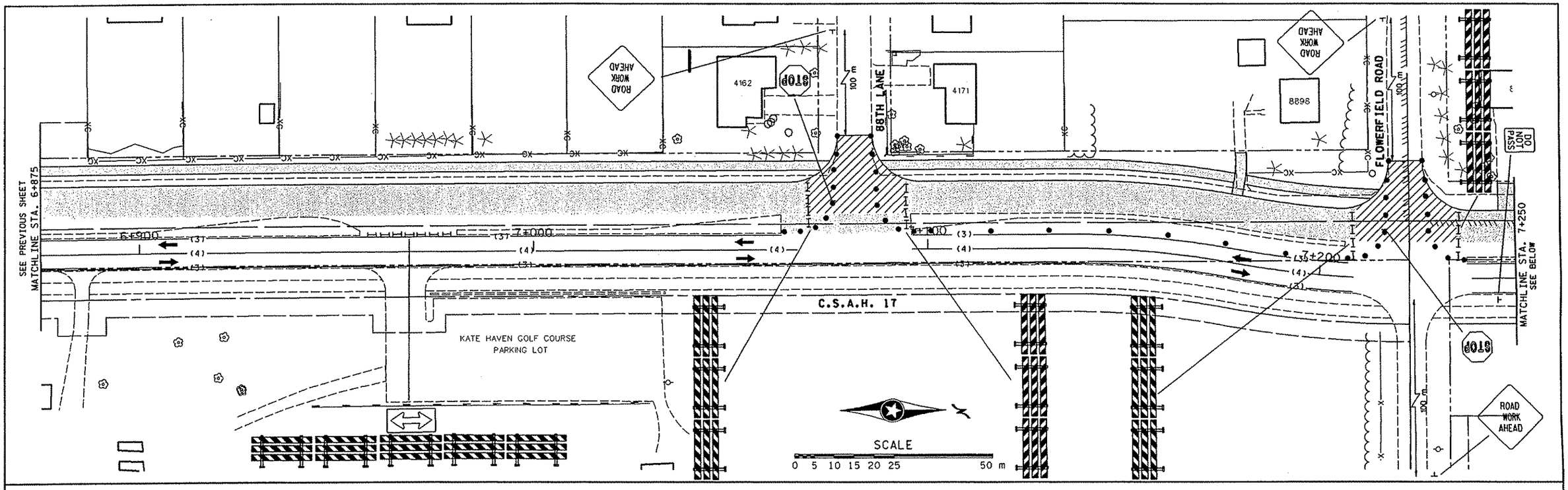
TRAFFIC CONTROL-STAGE 2

C.S.A.H. 17 RECONSTRUCTION

STA. 6+186 TO STA. 6+875

SHEET 33 OF 136

DESIGN FILE: h:\civil\047\2842\PlanSouth.k0r\2842.tce
PRF FILE: h:\civil\047\2842\PlanSouth.k0r\2842.prf
PLOTTER: MS-HPSSIMX
PLOT SCALE: 25.657000
PLOT DATE/TIME: 04/12/2001 11:27:07



NOTES:

SEE TRAFFIC CONTROL SIGN TABULATION AND GENERAL NOTES SHEET FOR GENERAL TRAFFIC CONTROL NOTES AND LEGEND.

ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES, ETC. SHALL CONFORM TO REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS DATED JANUARY 1998.

ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-09-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.TCF DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	S. MARTINS	10-98
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	M. HANSEN	10-98
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	M. HANSEN	2-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TRAFFIC CONTROL-STAGE 2
C.S.A.H. 17 RECONSTRUCTION
STA. 6+875 TO STA. 7+600

SHEET 34 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouth\k0n2842.tcf
PRE FILE: n:\civil\047\2842\Plan\South.kdr\2842.prf
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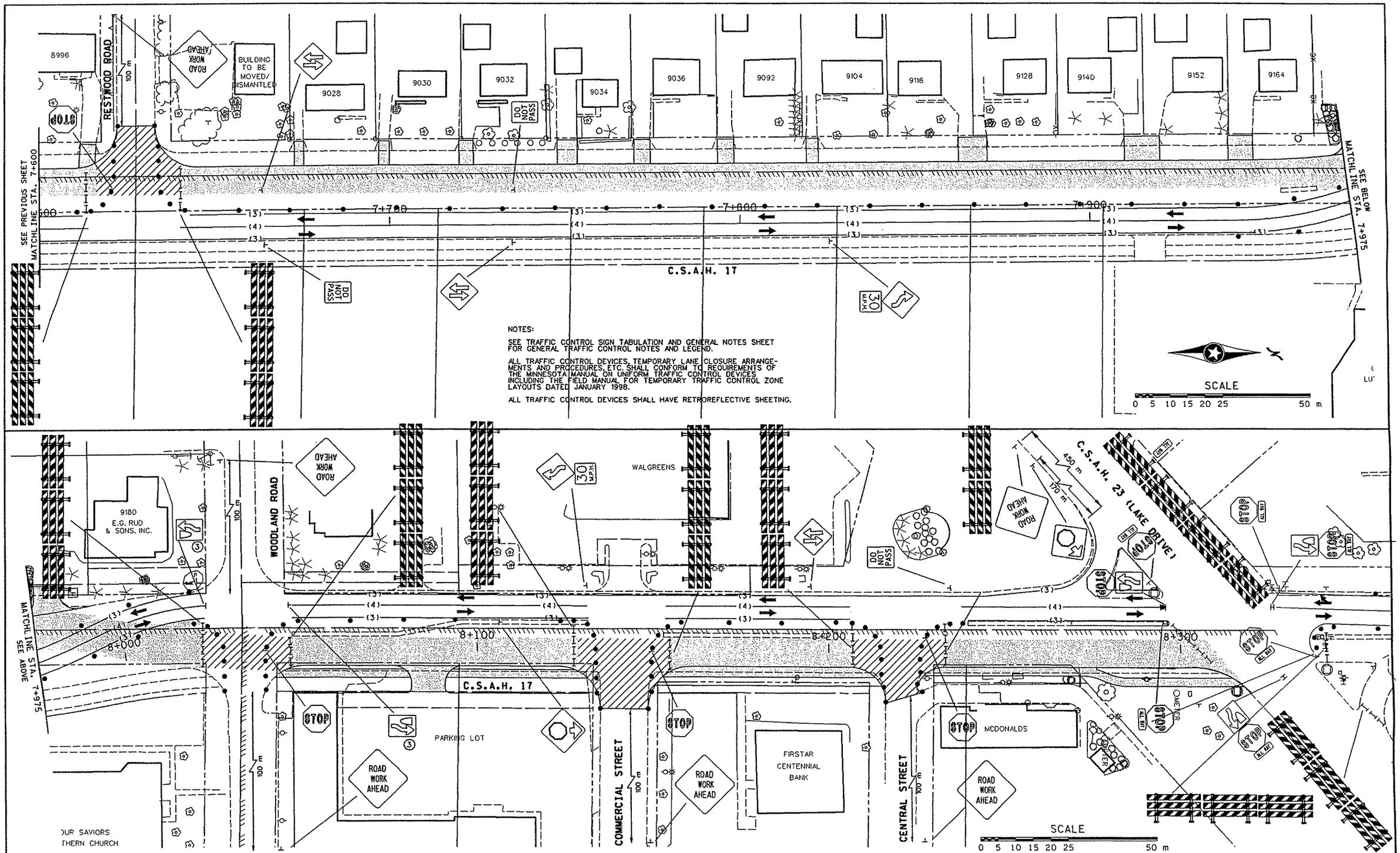

NOTES:

SEE TRAFFIC CONTROL SIGN TABULATION AND GENERAL NOTES SHEET FOR GENERAL TRAFFIC CONTROL NOTES AND LEGEND.

ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES, ETC. SHALL CONFORM TO REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS DATED JANUARY 1998.

ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGC	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGC	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-09-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.TCG DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	S. MARTINS	10-98
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	M. HANSEN	10-98
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	M. HANSEN	2-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC CONTROL-STAGE 2

C.S.A.H. 17 RECONSTRUCTION

STA. 7+600 TO STA. 8+325

SHEET 35 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouthLK0r\2842.tcg
PREFILE: n:\civil\047\2842\PlanSouthLK0r\2842.prf
PLOT TABLE: SRF.tbl
PLOTTED SCALE: 25.367000
PLOT DATE/TIME: 04/16/2001 10:58:12

NOTES:

SEE TRAFFIC CONTROL SIGN TABULATION AND GENERAL NOTES SHEET FOR GENERAL TRAFFIC CONTROL NOTES AND LEGEND.

ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES, ETC. SHALL CONFORM TO REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS DATED JANUARY 1998.

ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-12-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: TC2A 410.PLN DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	M. USAKKA	12-96
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	D. DEMERS	12-96
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	D. DEMERS	1-97
	COMM. NO.	
	0962842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

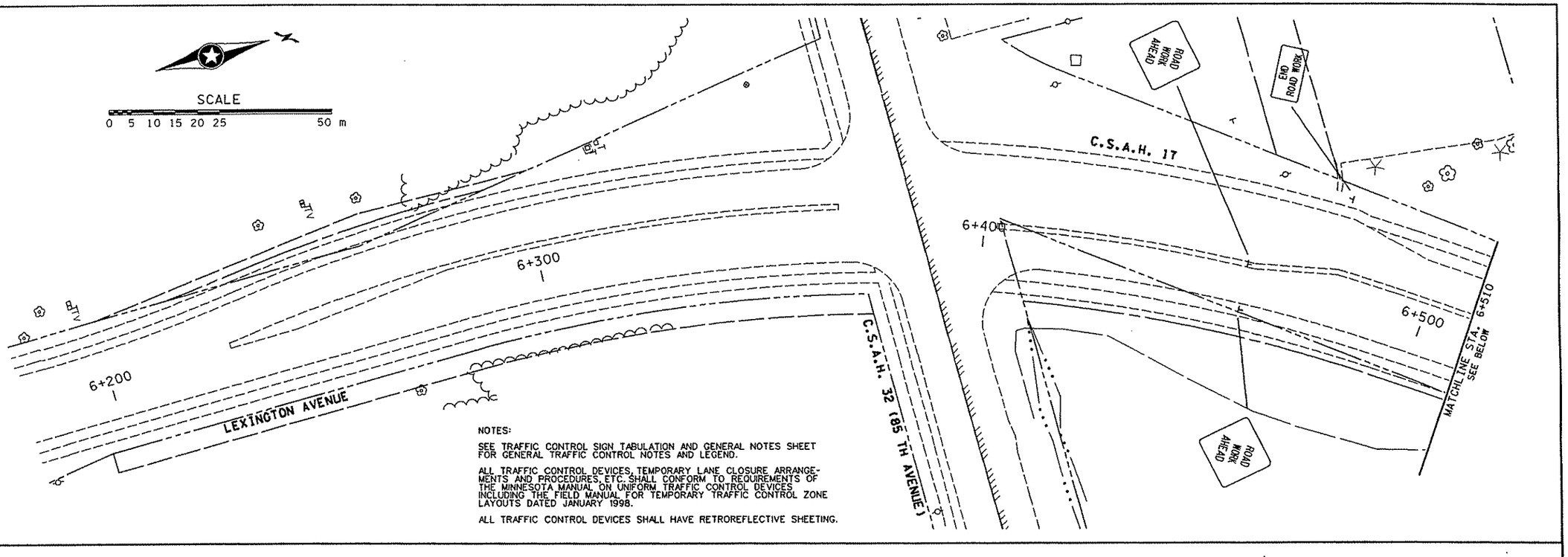
TRAFFIC CONTROL-STAGE 2

C.S.A.H. 17 RECONSTRUCTION

STA. 8+358 TO STA. 9+025

SHEET 36 OF 136

DESIGN FILE: n:\civil\1008\2410\Plansout\Mdh\TC2A-410.PLN
PROJECT NO. 1008.2410
PLOT FILE: HPGL.PLT
PLOT SCALE: 25.657000
PLOT DATE/TIME: 04/16/2001 10:53:14

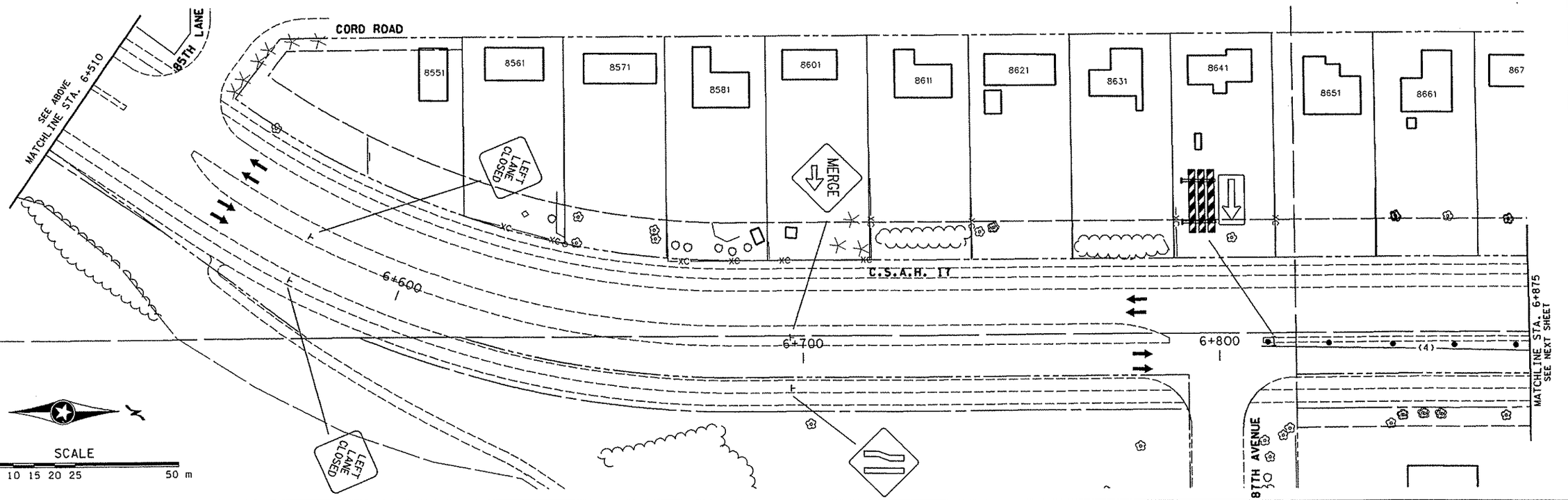


NOTES:

SEE TRAFFIC CONTROL SIGN TABULATION AND GENERAL NOTES SHEET FOR GENERAL TRAFFIC CONTROL NOTES AND LEGEND.

ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES, ETC. SHALL CONFORM TO REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS DATED JANUARY 1998.

ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGC	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGC	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-12-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.TCI DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

	DATE
DRAWN BY S. MARTINS	10-98
DESIGNED BY M. HANSEN	10-98
CHECKED BY M. HANSEN	2-99
COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC CONTROL-STAGE 3

C.S.A.H. 17 RECONSTRUCTION

STA. 6+186 TO STA. 6+875

SHEET 39 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouth\KBR\2842.tci
PRF FILE: n:\civil\047\2842\PlanSouth\KBR\2842.prf
PLOTTER: HP DesignJet 755CM
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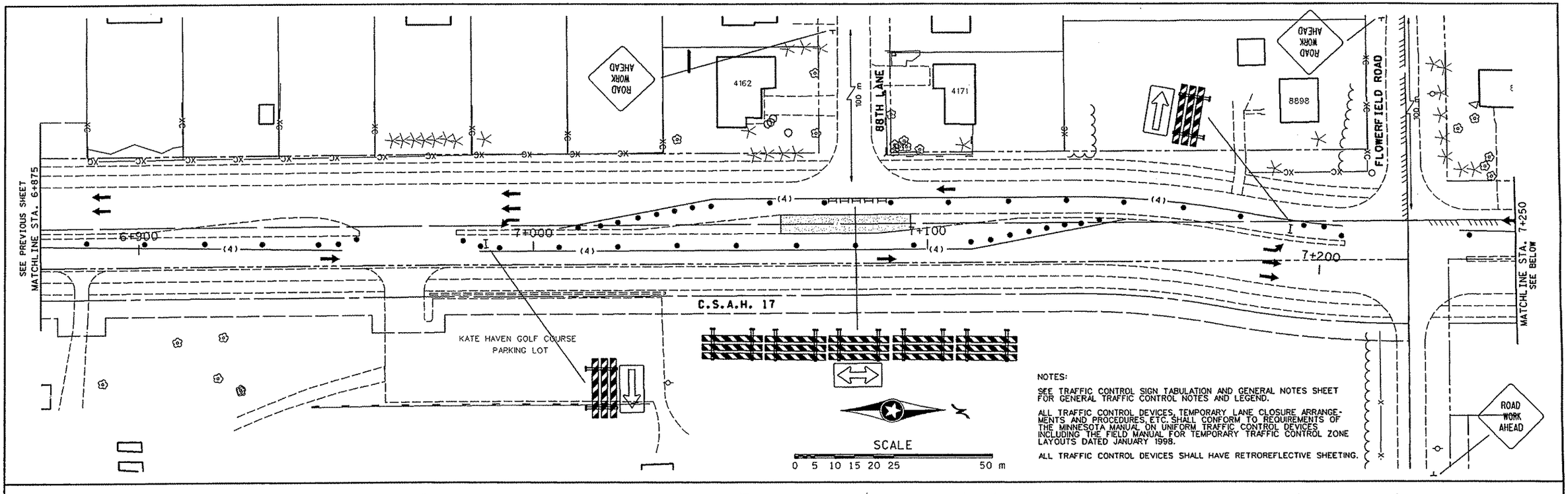

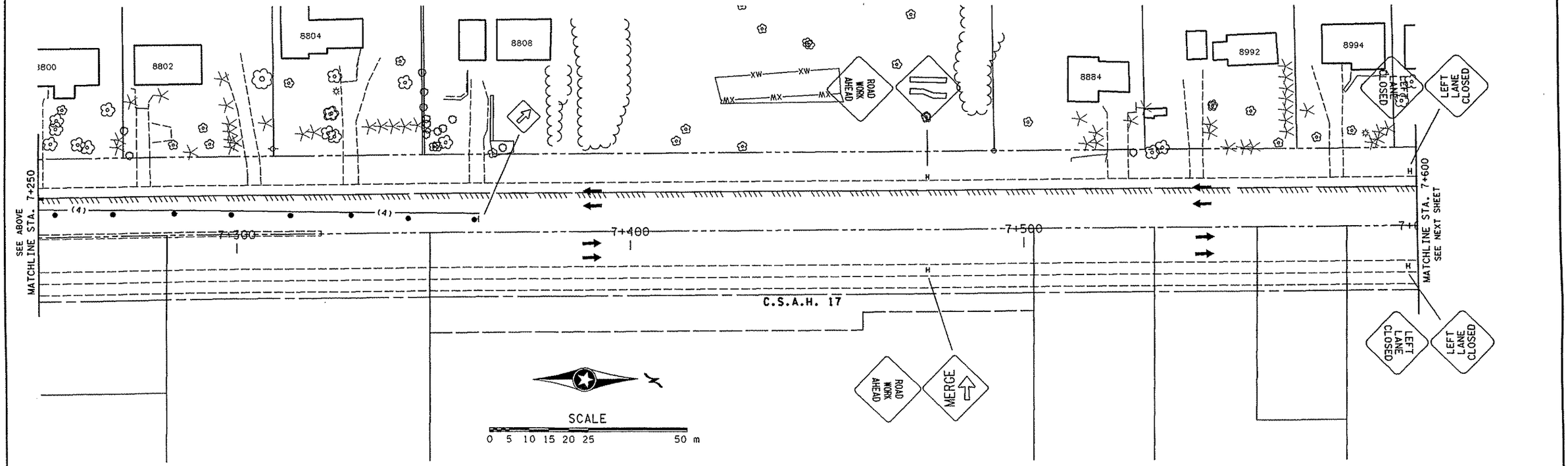

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-12-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.TCJ DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY M. HANSEN 2-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TRAFFIC CONTROL-STAGE 3
C.S.A.H. 17 RECONSTRUCTION
STA. 6+875 TO STA. 7+600

SHEET 40 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouthLkDr\2842.tcj
PRF FILE: n:\civil\047\2842\PlanSouthLkDr\2842.prf
PLOTTER: WS-HP55 IMX
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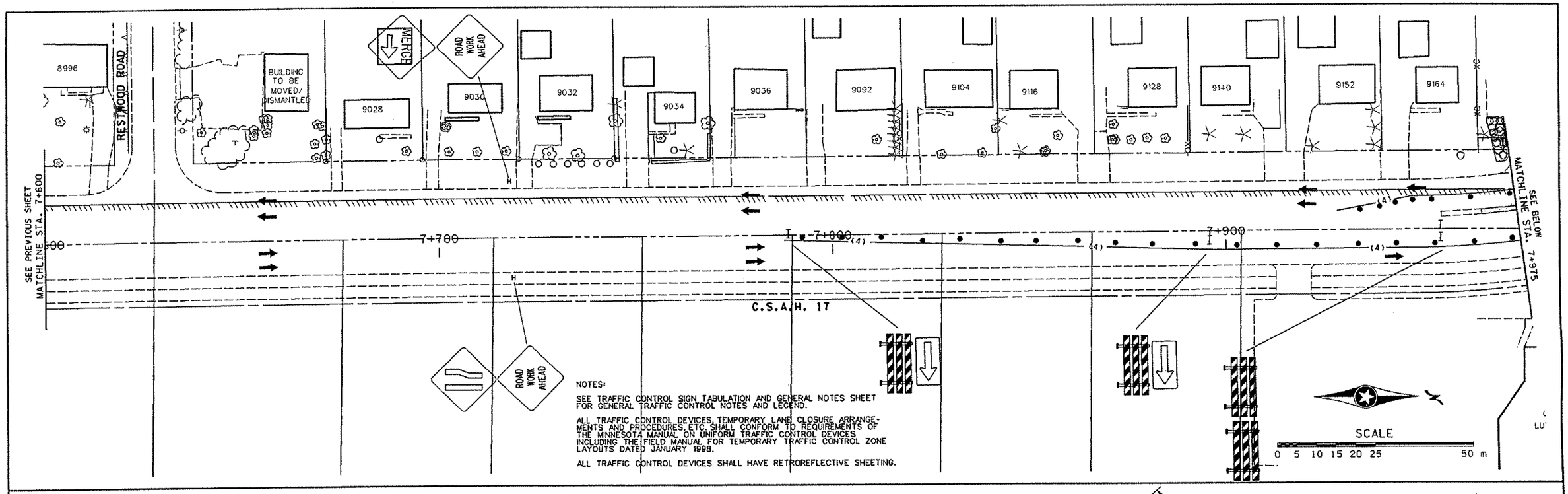

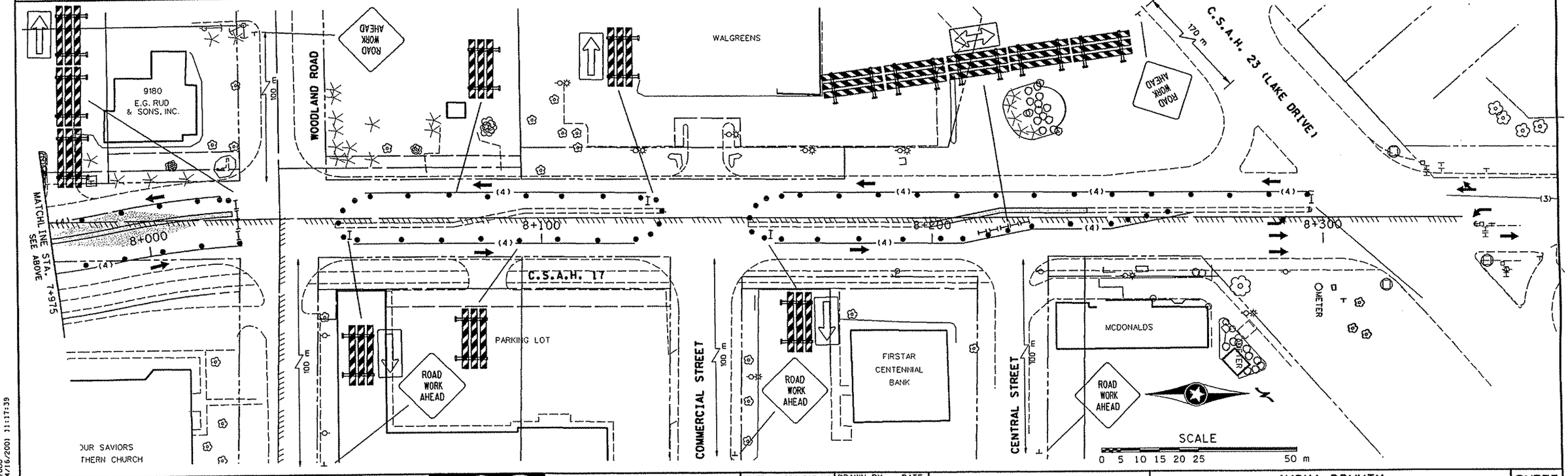

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-12-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.TCK DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY M. HANSEN 2-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TRAFFIC CONTROL-STAGE 3
C.S.A.H. 17 RECONSTRUCTION
STA. 7+600 TO STA. 8+325

SHEET 41 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouthNkDr\2842.tck
PRF FILE: n:\civil\047\2842\PlanSouthNkDr\2842.prf
PLOTTER: HP55130A
PLOT SCALE: 1" = 50'
PLOT DATE/TIME: 04/16/2001 11:17:39

NOTES:

SEE TRAFFIC CONTROL SIGN TABULATION AND GENERAL NOTES SHEET FOR GENERAL TRAFFIC CONTROL NOTES AND LEGEND.

ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES, ETC. SHALL CONFORM TO REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS DATED JANUARY 1998.

ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	03-12-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: TC3A 410.DGN DATE: Apr. 13, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-817-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY	DATE
M. IISAKKA	12-96
DESIGNED BY	
D. DEMERS	12-96
CHECKED BY	
D. DEMERS	1-97
COMM. NO.	
0962842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC CONTROL-STAGE 3

C.S.A.H. 17 RECONSTRUCTION

STA. 8+358 TO STA. 9+025

SHEET 42 OF 136

DESIGN FILE: n:\civil\008\2410\Plan\South\KDR\TC3C-410.dgn
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PLOTTER: MS-HPSS1MX
PLOT SCALE: 25.657000
PLOT DATE/TIME: 04/16/2001 11:18:21

HORIZONTAL CONTROL BASED ON ANOKA COUNTY COORDINATE SYSTEM.

SCALE
0 10 20 30 40 50 100 m

CITY OF BLAINE

RAMSEY COUNTY
ANOKA COUNTY

S.B. C.S.A.H. 17 PT STA. 6+500.689=
S.B. C.S.A.H. 17 POT STA. 6+492.351

S.B. C.S.A.H. 17 PT STA. 6+676.551=
S.B. C.S.A.H. 17 POT STA. 6+684.445

℄ S.B. C.S.A.H. 17

℄ N.B. C.S.A.H. 17

MATCHLINE STA. 7+100
SEE BELOW

CITY OF BLAINE

SCALE
0 10 20 30 40 50 100 m

CITY OF BLAINE

CITY OF LEXINGTON

S.B. C.S.A.H. 17 PT STA. 7+222.882=
S.B. C.S.A.H. 17 POT STA. 7+222.903

S.B. C.S.A.H. 17 PT STA. 8+034.937=
S.B. C.S.A.H. 17 POT STA. 8+034.813

SEE ABOVE
MATCHLINE STA. 7+100

℄ S.B. C.S.A.H. 17

℄ N.B. C.S.A.H. 17

℄ FLOWERFIELD ROAD

CITY OF BLAINE

CITY OF BLAINE

MATCHLINE STA. 8+050
SEE NEXT SHEET

INSET

SEE LEFT
MATCHLINE STA. 9+100

℄ WOODLAND ROAD

℄ WOODLAND ROAD

MATCHLINE STA. 9+100
SEE INSET

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.APA DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	
S.A.P. 02-617-05	
S.A.P. 62-651-39	
S.A.P. 106-020-14	
CO. PROJECT NO.	
C.P. 99-07-110	

DRAWN BY	DATE
S. MARTINS	11-98
DESIGNED BY	
M. HANSEN	11-98
CHECKED BY	
M. HANSEN	1-99
COMM. NO.	
0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
ALIGNMENT PLAN
C.S.A.H. 17 RECONSTRUCTION
C.S.A.H. 17 STA. 6+131.500 TO STA. 8+050.000

SHEET 43 OF 136

DESIGN FILE: n:\civil\047\2842\Plan\South\KDr\2842.dgn
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PLOT SCALE: 64.142000
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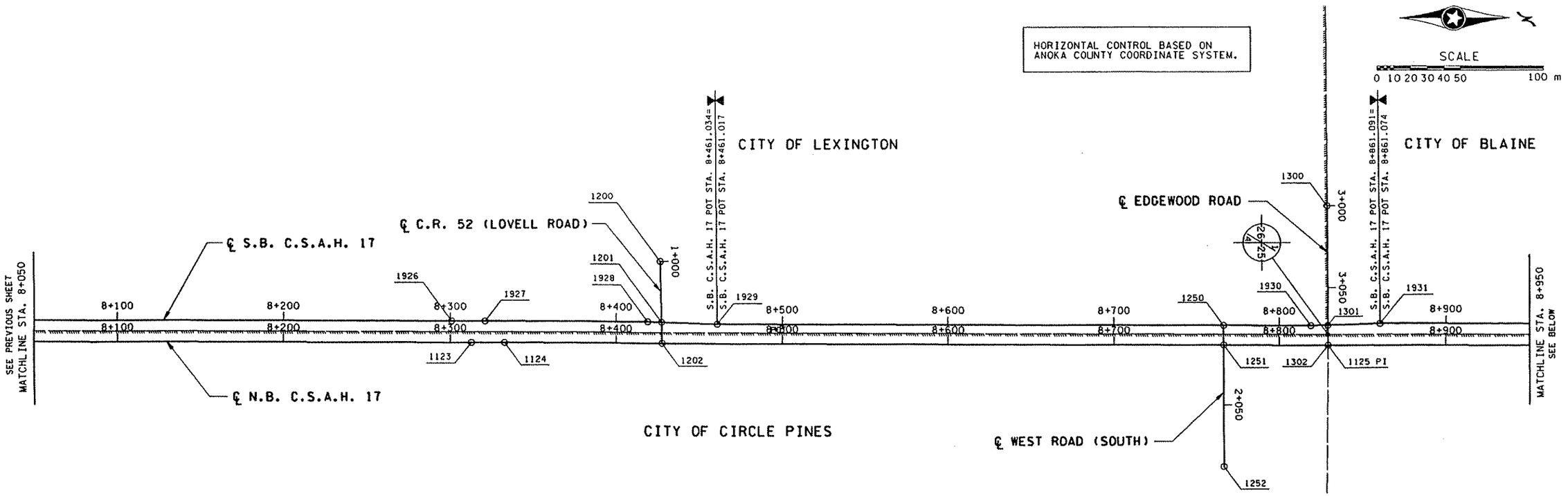

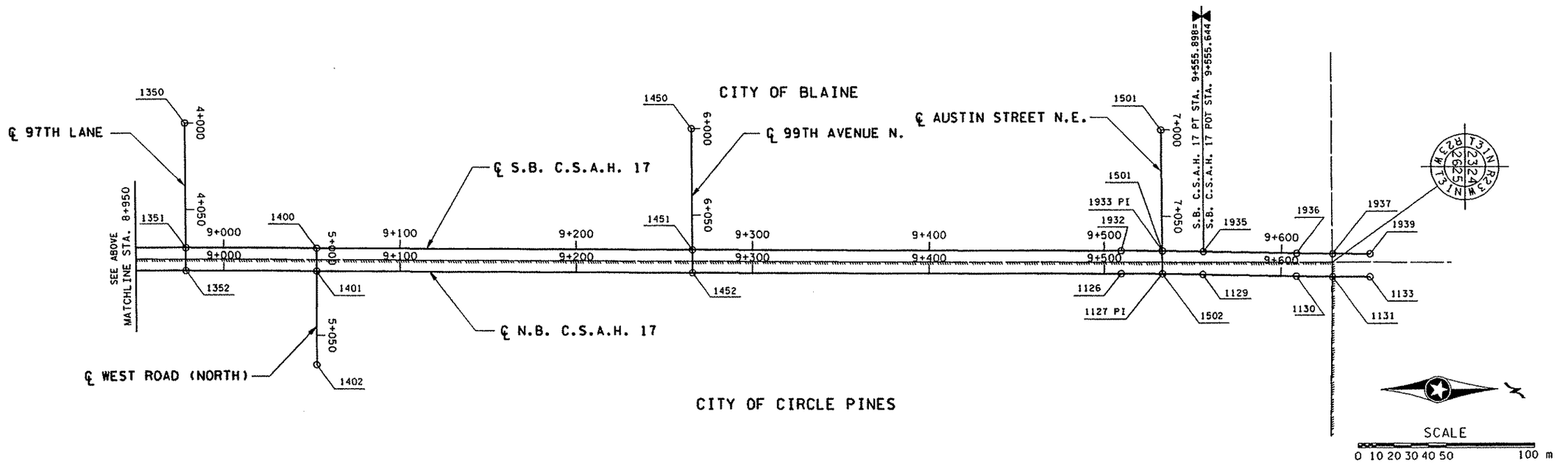

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.APB DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

	DATE
DRAWN BY S. MARTINS	11-98
DESIGNED BY M. HANSEN	11-98
CHECKED BY M. HANSEN	1-99
COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

ALIGNMENT PLAN

C.S.A.H. 17 RECONSTRUCTION

C.S.A.H. 17 STA. 8+050.000 TO STA. 9+651.016

SHEET 44 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouthNbr\2842.dgn
PRF FILE: n:\civil\047\2842\PlanSouthNbr\2842.prf
PLOTTER: HP-HPGL
PLOT SCALE: 1" = 50.000
PLOT DATE/TIME: 04/12/2001 12:43:53

CURVE NO.	POINT	STATION		CURVE DATA Δ	R	T	L	COORDINATES X	Y	AZIMUTH
		℄ N.B. C.S.A.H. 17								
1100	POT	C/L N.B. C.S.A.H. 17	6+131.500					279 092.0870	22 777.0310	358° 56' 14.7"
1101	PC		6+279.466					279 089.3430	22 924.9724	
1102	PI		6+389.361	35° 04' 12.5" RT	347.800	109.895	212.885	279 087.3051	23 034.8485	PI
1103	CC							279 437.0832	22 931.4221	34° 00' 27.2"
1104	PT		6+492.351					279 148.7696	23 125.9475	
1105	PC		6+549.935					279 180.9765	23 173.6825	
1106	PI		6+619.269	34° 16' 04.1" LT	224.901	69.334	134.510	279 219.7553	23 231.1582	PI
1107	CC							278 994.5415	23 299.4703	359° 44' 23.1"
1108	PT		6+684.445					279 219.4404	23 300.4918	
1109	PC		7+137.010					279 217.3848	23 753.0517	
1110	PI		7+157.823	11° 03' 31.7" RT	215.000	20.813	41.498	279 217.2902	23 773.8650	PI
1111	CC							279 432.3826	23 754.0283	10° 47' 54.8"
1112	PRC		7+178.508					279 221.1898	23 794.3099	
1113	PI		7+200.776	11° 08' 47.8" LT	228.200	22.268	44.395	279 225.3618	23 816.1835	PI
1114	CC							278 997.0308	23 837.0647	359° 39' 07.0"
1115	PT		7+222.903					279 225.2265	23 838.4509	
1010	POT	C/L N.B. C.S.A.H. 17	7+223.242=					279 225.2245	23 838.7906	
		A PT. ON C/L FLOWERFIELD ROAD POT	8+000.000							
1116	PC		7+947.294					279 220.8261	24 562.8286	
1117	PI		7+969.377	11° 03' 17.3" LT	228.200	22.083	44.030	279 220.6920	24 584.9115	PI
1118	CC							278 992.6304	24 561.4423	348° 35' 49.7"
1119	PRC		7+991.323					279 216.3260	24 606.5589	
1120	PI		8+013.143	11° 35' 23.1" RT	215.000	21.819	43.490	279 212.0121	24 627.9477	PI
1121	CC							279 427.0822	24 649.0657	0° 11' 12.9"
1030	POC	C/L N.B. C.S.A.H. 17	8+033.082=					279 212.0850	24 648.0360	
		A PT. ON C/L WOODLAND ROAD POT	9+000.000							
1122	PT		8+034.813					279 212.0833	24 649.7671	
1123	PI		8+312.592					279 212.9895	24 927.5439	0° 10' 53.4"
1124	PI		8+332.680					279 213.0531	24 947.6322	0° 11' 12.7"
1202	POT	C/L N.B. C.S.A.H. 17	8+427.664=					279 213.3629	25 042.6160	
		A PT. ON C/L C.R. 52 (LOVELL ROAD) POT	1+050.000							
1251	POT	C/L N.B. C.S.A.H. 17	8+766.140=					279 214.4667	25 381.0895	
		A PT. ON C/L WEST ROAD (SOUTH) POT	2+013.201							
1302	POT	C/L N.B. C.S.A.H. 17	8+829.373=					279 214.6729	25 444.3220	
		A PT. ON C/L EDGEWOOD ROAD POT	3+085.209							
1125	PI		8+829.394					279 214.6730	25 444.3430	0° 11' 23.4"
1352	POT	C/L N.B. C.S.A.H. 17	8+978.436=					279 215.1668	25 593.3850	
		A PT. ON C/L 97TH LANE POT	4+085.237							
1401	POT	C/L N.B. C.S.A.H. 17	9+052.587=					279 215.4125	25 667.5351	
		A PT. ON C/L WEST ROAD (NORTH) POT	5+013.200							
1452	POT	C/L N.B. C.S.A.H. 17	9+265.862=					279 216.1192	25 880.8090	
		A PT. ON C/L 99TH AVENUE N.E. POT	6+083.105							
1126	PC		9+509.586					279 216.9267	26 124.5314	
1127	PI		9+532.615	1° 03' 20.1" RT	2 500.000	23.030	46.058	279 217.0030	26 147.5610	PI
1128	CC							281 716.9130	26 116.2481	1° 14' 43.5"
1502	POC	C/L N.B. C.S.A.H. 17	9+532.793=					279 217.1113	26 147.7380	
		A PT. ON C/L AUSTIN STREET N.E. POT	7+083.020							
1129	PT		9+555.644					279 217.5035	26 170.5853	
1130	PC		9+608.829					279 218.6595	26 223.7578	
1131	PI		9+629.923	0° 58' 00.7" LT	2 500.000	21.094	42.187	279 219.1180	26 244.8470	PI
1132	CC							276 719.2501	26 278.0950	0° 16' 42.8"
1133	PT	C/L N.B. C.S.A.H. 17	9+651.016					279 219.2206	26 265.9409	
		℄ FLOWERFIELD ROAD								
1010	POT	C/L FLOWERFIELD ROAD	8+000.000=					279 225.2258	23 838.5740	89° 49' 47.9"
		A PT. ON C/L N.B. C.S.A.H. 17 POT	7+223.026							
1011	POT	C/L FLOWERFIELD ROAD	8+150.000					279 375.2251	23 839.0191	

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.ATA DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 11-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 11-98
DESIGNED BY M. HANSEN 11-98
CHECKED BY 2-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
ALIGNMENT TABULATIONS
C.S.A.H. 17 RECONSTRUCTION

SHEET 45 OF 136

DESIGN FILE: N:\CIVIL\047\2842\PlanSouth\KDP\2842.ora
PRF FILE: N:\CIVIL\047\2842\PlanSouth\KDP\2842.prf
PLOTTER: HP55.INX
PLOT SCALE: 1.000 '/ IN.
PLOT DATE/TIME: 04/12/2001 13:11:36

CURVE NO.	POINT	STATION		CURVE DATA Δ	R	T	L	COORDINATES X	Y	AZIMUTH
		℄ S.B. C.S.A.H. 17								
1900	POT	C/L S.B. C.S.A.H. 17	6+131.500					279 084.8882	22 776.8975	358° 56' 14.7"
1901	PC		6+186.580					279 083.8668	22 831.9678	
1902	PI		6+209.898	7° 23' 30.2" LT	361.000	23.319	46.573	279 083.4344	22 855.2824	PI
1903	CC							278 722.9289	22 825.2732	351° 32' 44.5"
1904	PRC		6+233.152					279 080.0061	22 878.3477	
1905	PI		6+373.399	42° 27' 42.7" RT	361.000	140.247	267.537	279 059.3869	23 017.0706	PI
1906	CC							279 437.0832	22 931.4221	34° 00' 27.2"
1907	PT	C/L S.B. C.S.A.H. 17	6+500.689=					279 137.8273	23 133.3302	
		A PT. ON C/L S.B. C.S.A.H. 17 POT	6+492.351							
1908	PC		6+549.935					279 170.0342	23 181.0653	
1909	PI		6+615.200	34° 16' 04.1" LT	211.701	65.265	126.616	279 206.5370	23 235.1676	PI
1910	CC							278 994.5415	23 299.4703	359° 44' 23.1"
1911	PT	C/L S.B. C.S.A.H. 17	6+676.551=					279 206.2405	23 300.4319	
		A PT. ON C/L S.B. C.S.A.H. 17 POT	6+684.445							
1912	PC		7+137.010					279 204.1849	23 752.9918	
1913	PI		7+159.101	11° 03' 31.7" RT	228.200	22.091	44.045	279 204.0846	23 775.0829	PI
1914	CC							279 432.3826	23 754.0283	10° 47' 54.8"
1915	PRC		7+181.055					279 208.2235	23 796.7830	
1916	PI		7+202.035	11° 08' 47.8" LT	215.000	20.980	41.827	279 212.1542	23 817.3913	PI
1917	CC							278 997.0308	23 837.0647	359° 39' 07.0"
1918	PT	C/L S.B. C.S.A.H. 17	7+222.882=					279 212.0268	23 838.3707	
		A PT. ON C/L S.B. C.S.A.H. 17 POT	7+222.903							
1919	PC		7+947.294					279 207.6264	24 562.7484	
1920	PI		7+968.100	11° 03' 17.3" LT	215.000	20.806	41.483	279 207.5000	24 583.5539	PI
1921	CC							278 992.6304	24 561.4423	348° 35' 49.7"
1922	PRC		7+988.777					279 203.3865	24 603.9491	
1923	PI		8+011.936	11° 35' 23.1" RT	228.200	23.159	46.160	279 198.8078	24 626.6511	PI
1924	CC							279 427.0822	24 649.0657	0° 11' 12.9"
1925	PT	C/L S.B. C.S.A.H. 17	8+034.937=					279 198.8834	24 649.8101	
		A PT. ON C/L S.B. C.S.A.H. 17 POT	8+034.813							
1926	PI		8+300.831					279 199.7512	24 915.8263	0° 10' 52.8"
1927	PI		8+320.919					279 199.8148	24 935.9145	0° 11' 12.7"
1928	PI		8+419.016					279 200.1347	25 034.0114	1° 49' 24.3"
1201	POT	C/L S.B. C.S.A.H. 17	8+427.410=					279 200.4018	25 042.4006	
		A PT. ON C/L C.R.52 (LOVELL ROAD) POT	1+037.037							
1929	PI	C/L S.B. C.S.A.H. 17	8+461.034=					279 201.4716	25 076.0073	0° 11' 12.7"
		A PT. ON C/L S.B. C.S.A.H. 17 POT	8+461.017							
1250	POT	C/L S.B. C.S.A.H. 17	8+766.140=					279 202.4667	25 381.1290	
		A PT. ON C/L WEST ROAD (SOUTH) POT	2+001.201							
1930	PI		8+819.074					279 202.6393	25 434.0624	358° 33' 09.0"
1301	POT	C/L S.B. C.S.A.H. 17	8+829.285=					279 202.3814	25 444.2698	
		A PT. ON C/L EDGEWOOD ROAD POT	3+072.917							
1931	PI	C/L S.B. C.S.A.H. 17	8+861.091=					279 201.5779	25 476.0661	0° 11' 23.3"
		A PT. ON C/L S.B. C.S.A.H. 17 POT	8+861.074							
1351	POT	C/L S.B. C.S.A.H. 17	8+978.380=					279 201.9666	25 593.3714	
		A PT. ON C/L 97TH LANE POT	4+072.037							
1400	POT	C/L S.B. C.S.A.H. 17	9+052.606=					279 202.2124	25 667.5970	
		A PT. ON C/L WEST ROAD (NORTH) POT	5+000.000							
1451	POT	C/L S.B. C.S.A.H. 17	9+265.795=					279 202.9187	25 880.7849	
		A PT. ON C/L 99TH AVENUE N.E. POT	6+069.905							
1932	PC		9+509.576					279 203.7263	26 124.5642	
1501	POC	C/L S.B. C.S.A.H. 17	9+532.642=					279 203.9085	26 147.6299	
		A PT. ON C/L AUSTIN STREET N.E. POT	7+069.817							
1933	PI		9+532.738	1° 03' 21.8" RT	2 513.200	23.162	46.322	279 203.8030	26 147.7260	PI
1934	CC							281 716.9125	26 116.2386	1° 14' 45.1"
1935	PT	C/L S.B. C.S.A.H. 17	9+555.898=					279 204.3066	26 170.8824	
		A PT. ON C/L S.B. C.S.A.H. 17 POT	9+555.644							
1936	PC		9+608.808					279 205.4625	26 224.0337	
1937	PI		9+629.802	0° 58' 02.6" LT	2 486.800	20.994	41.987	279 205.9190	26 245.0230	PI
1938	CC							276 719.2504	26 278.1035	0° 16' 42.5"
1939	PT	C/L S.B. C.S.A.H. 17	9+650.795					279 206.0210	26 266.0170	

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.ATB DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 11-98
DESIGNED BY M. HANSEN 11-98
CHECKED BY M. HANSEN 2-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
ALIGNMENT TABULATIONS
C.S.A.H. 17 RECONSTRUCTION

SHEET 46 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouth\KDr\2842.dgn
PRF FILE: n:\civil\047\2842\PlanSouth\KDr\2842.prf
PLOTTER: MS-HP55.INX
PLOT SCALE: 1.000000
PLOT DATE/TIME: 04/12/2001 13:10:17

CURVE NO.	POINT	STATION		CURVE DATA Δ	R	T	L	COORDINATES X	Y	AZIMUTH
		℄ C. R. 110 (WOODLAND ROAD)								
1030	POT	C/L WOODLAND ROAD	9+000.000=					279 212.0850	24 648.0360	90° 56' 46.2"
		A PT. ON C/L N.B. C.S.A.H. 17 POC	8+033.082							
1031	PC		9+387.689					279 599.7215	24 641.6340	
1032	PI		9+422.916	14° 14' 15.1" LT	282.062	35.227	70.090	279 634.9432	24 641.0523	PI
1033	CC							279 604.3792	24 923.6577	76° 42' 31.1"
1034	PT		9+457.779					279 669.2261	24 649.1510	
1035	POT	C/L WOODLAND ROAD	9+472.125					279 683.1870	24 652.4490	

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.ATD DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

	DATE
DRAWN BY S. MARTINS	11-98
DESIGNED BY M. HANSEN	11-98
CHECKED BY M. HANSEN	2-99
COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

ALIGNMENT TABULATIONS

C.S.A.H. 17 RECONSTRUCTION

SHEET 48 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouthLKD\2842.dgn
PRF FILE: n:\civil\047\2842\PlanSouthLKD\2842.prf
PLOTTER: HS-HP55 1MX
PLOT SCALE: 2.566000
PLOT DATE/TIME: 04/12/2001 13:21:18

NOTES:

ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.

SALVAGE CASTINGS ON ALL DRAINAGE STRUCTURES TO BE REMOVED.

SEE TABULATIONS FOR REMOVALS AND SALVAGED ITEMS.

DENOTES PERMANENT CONSTRUCTION

(A) SALVAGE SIGN PANEL.

(B) BUILDING REMOVAL UNDER SEPARATE CONTRACT. PROPERTY TO BE ACQUIRED BY ANOKA COUNTY HIGHWAY DEPARTMENT.

SCALE

0 5 10 15 20 25 50 m

EMIL STREET

CONST. LIMITS

PROP. R/W

T.E.

T.B.E.

42" RCP SAN.

6+200

6+300

6+400

6+500

6+510

SEE SIGNAL PLANS FOR SIGNAL SALVAGE AND REMOVAL ITEMS

18" HDPE SAN FORCEMAIN

8" PVC SAN

EX. R/W

℄ N.B. C.S.A.H. 17

BEGIN S.A.P. 62-651-39
STA. 6+186.573 (N.B. CSAH 17)

END S.A.P. 62-651-39
BEGIN S.A.P. 02-617-05
STA. 6+386.487 (N.B. CSAH 17)

SEE MISCELLANEOUS GRADING PLANS FOR POND CONSTRUCTION

℄ S.B. C.S.A.H. 17

T-BUR

TV-BUR

C.S.A.H. 32 (85TH AVENUE)

CITY OF BLAINE
ANOKA COUNTY
RAMSEY COUNTY
CITY OF SHOREVIEW

WILLIAMS PIPELINE 8" GAS

REMOVE BIT. TRAIL

ANOKA COUNTY PROPERTY

MATCHLINE STA. 6+510
SEE BELOW

CORD ROAD

85TH LANE

SEE ABOVE MATCHLINE STA. 6+510

8551 8561 8571 8581 8601 8611 8621 8631 8641 8651 8661 867

6+600 6+700 6+800

MATCHLINE STA. 6+875
SEE NEXT SHEET

87TH AVENUE

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	10-13-00	BRW	BRW	MDH	REVISED WILLIAMS PIPELINE ALIGNMENT @ 87TH AVE. SE QUAD
3	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.TPA DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21564

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

	DATE
DRAWN BY S. MARTINS	10-98
DESIGNED BY M. HANSEN	10-98
CHECKED BY B. WESTBY	1-99
COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EXISTING TOPOGRAPHY

C.S.A.H. 17 RECONSTRUCTION

STA. 6+186 TO STA. 6+875

SHEET 49 OF 136

DESIGN FILE: N:\CIVIL\047\2842\PlanSouth\K0r\2842.tpp
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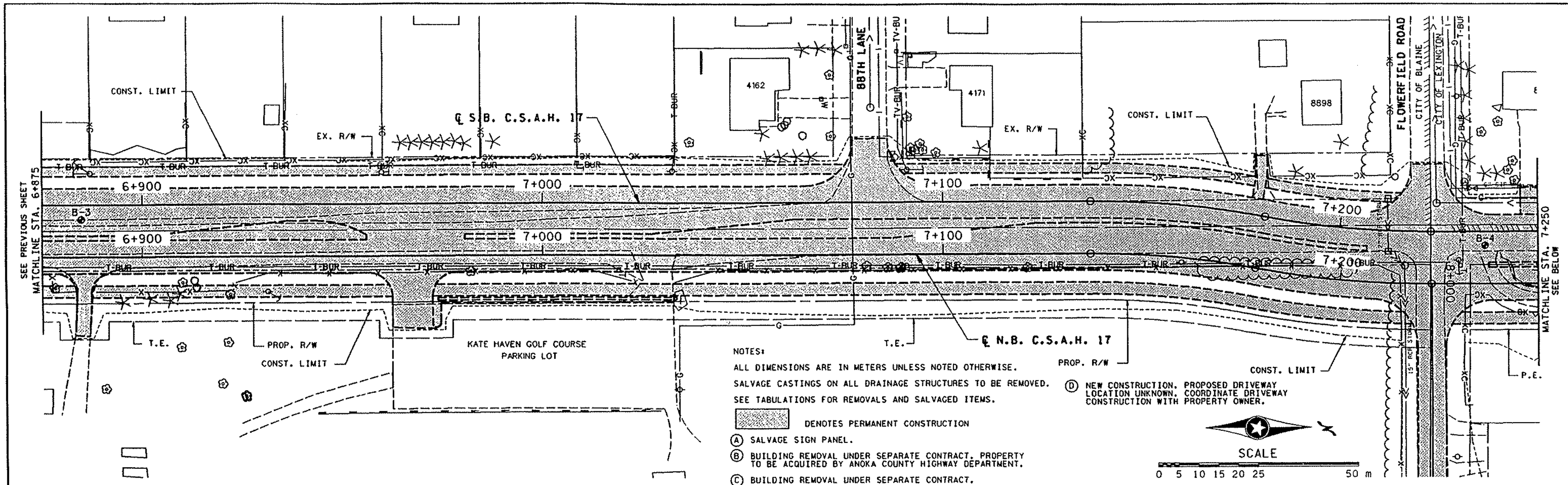


NOTES:

ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.

SALVAGE CASTINGS ON ALL DRAINAGE STRUCTURES TO BE REMOVED.

SEE TABULATIONS FOR REMOVALS AND SALVAGED ITEMS.

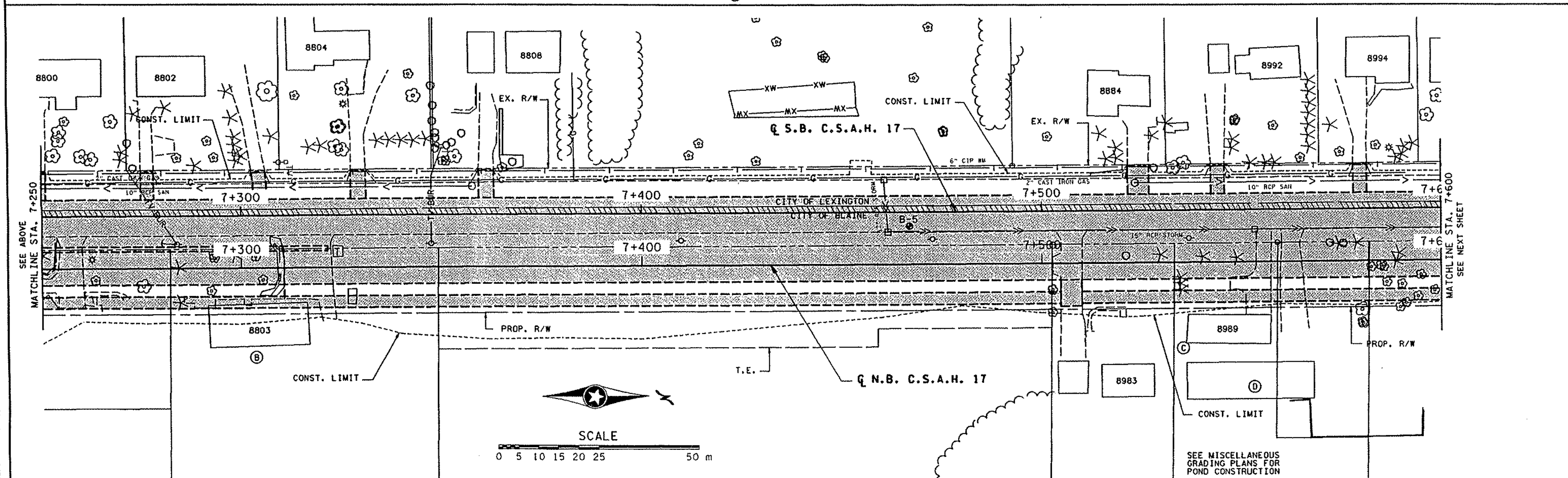
DENOTES PERMANENT CONSTRUCTION

(A) SALVAGE SIGN PANEL.

(B) BUILDING REMOVAL UNDER SEPARATE CONTRACT. PROPERTY TO BE ACQUIRED BY ANOKA COUNTY HIGHWAY DEPARTMENT.

(C) BUILDING REMOVAL UNDER SEPARATE CONTRACT.

(D) NEW CONSTRUCTION. PROPOSED DRIVEWAY LOCATION UNKNOWN. COORDINATE DRIVEWAY CONSTRUCTION WITH PROPERTY OWNER.



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PLOT SCALE: 25.857000
PLOT DATE/TIME: 04/12/2001 13:24:03

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.TPB DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 105-020-14

CO. PROJECT NO.
C.P. 99-07-110

	DATE
DRAWN BY S. MARTINS	10-98
DESIGNED BY M. HANSEN	10-98
CHECKED BY B. WESTBY	1-99
COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

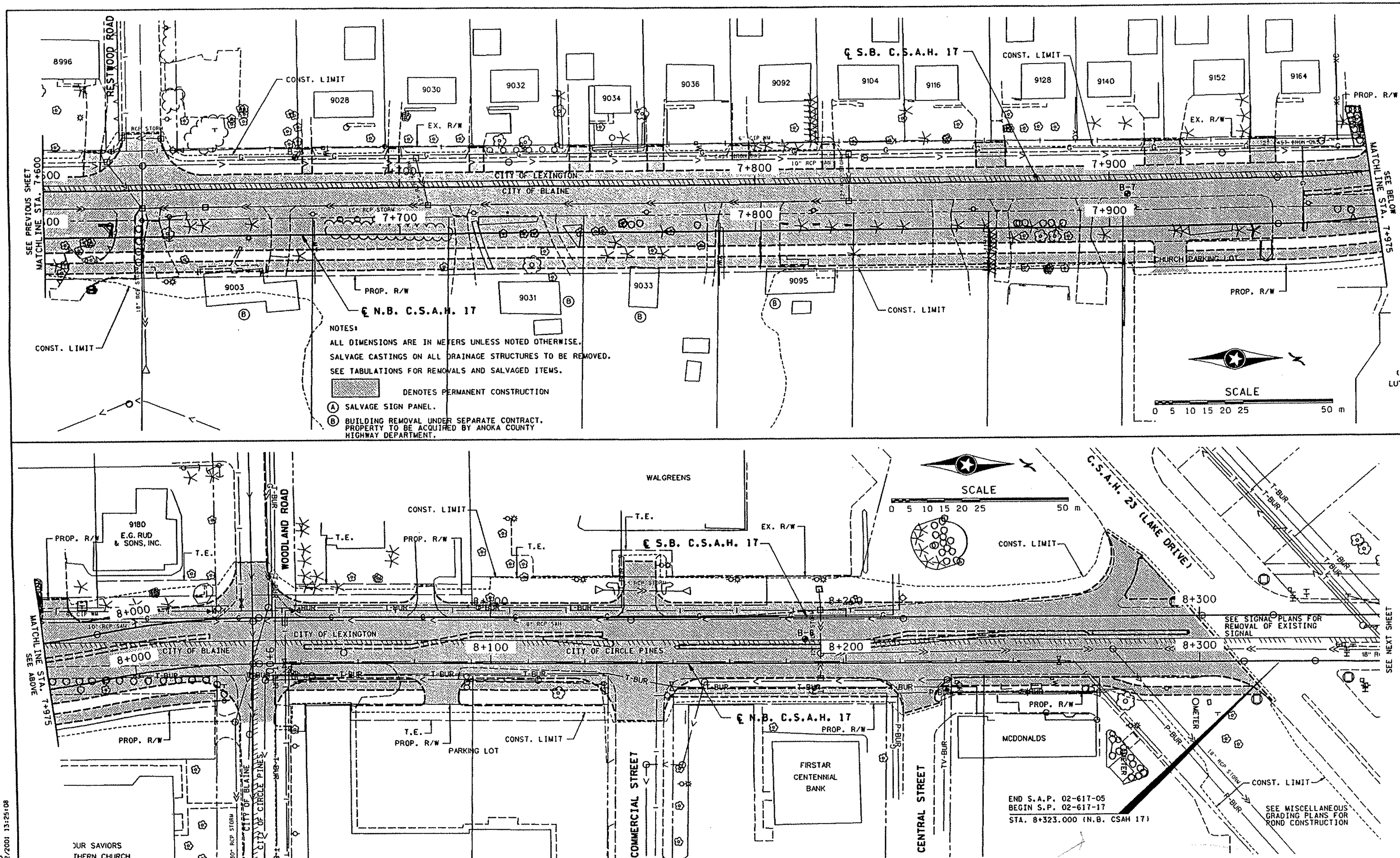
ANOKA COUNTY

EXISTING TOPOGRAPHY

C.S.A.H. 17 RECONSTRUCTION

STA. 6+875 TO STA. 7+600

SHEET 50 OF 136



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PRF FILE: n:\civil\047\2842\PlanSouth.kdr\2842.prf
PLOTTER: MS-HP55MX
PLOT SCALE: 25.657000
PLOT DATE/TIME: 04/12/2001 13:25:08

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.TPC DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

		DATE
DRAWN BY	S. MARTINS	10-98
DESIGNED BY	M. HANSEN	10-98
CHECKED BY	B. WESTBY	1-99
COMM. NO.	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EXISTING TOPOGRAPHY

C.S.A.H. 17 RECONSTRUCTION

STA. 7+600 TO STA. 8+325

SHEET 51 OF 136

NOTES:
ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
ALL STATION CALL OUTS ARE N.B. C.S.A.H. 17 UNLESS NOTED OTHERWISE.
ALL STREET DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
SEE SIGNAL PLANS FOR TRAFFIC SIGNAL CONSTRUCTION.
SEE DRAINAGE TABULATION AND STORM PROFILES FOR STORM SEWER CONSTRUCTION.
SEE TABULATIONS FOR MISCELLANEOUS CONSTRUCTION.
PAVEMENT CROSS SLOPES ARE IN METER PER METER UNLESS NOTED OTHERWISE.

(A) CONSTRUCT BITUMINOUS PEDESTRIAN CURB RAMP AND FORM CONCRETE CURB IN ACCORDANCE WITH DIMENSIONS GIVEN IN MN/DOT STD. PLATE MT036.

(B) CONSTRUCT CONCRETE APPROACH NOSE IN ACCORDANCE WITH MN/DOT STD. PLATE 7113

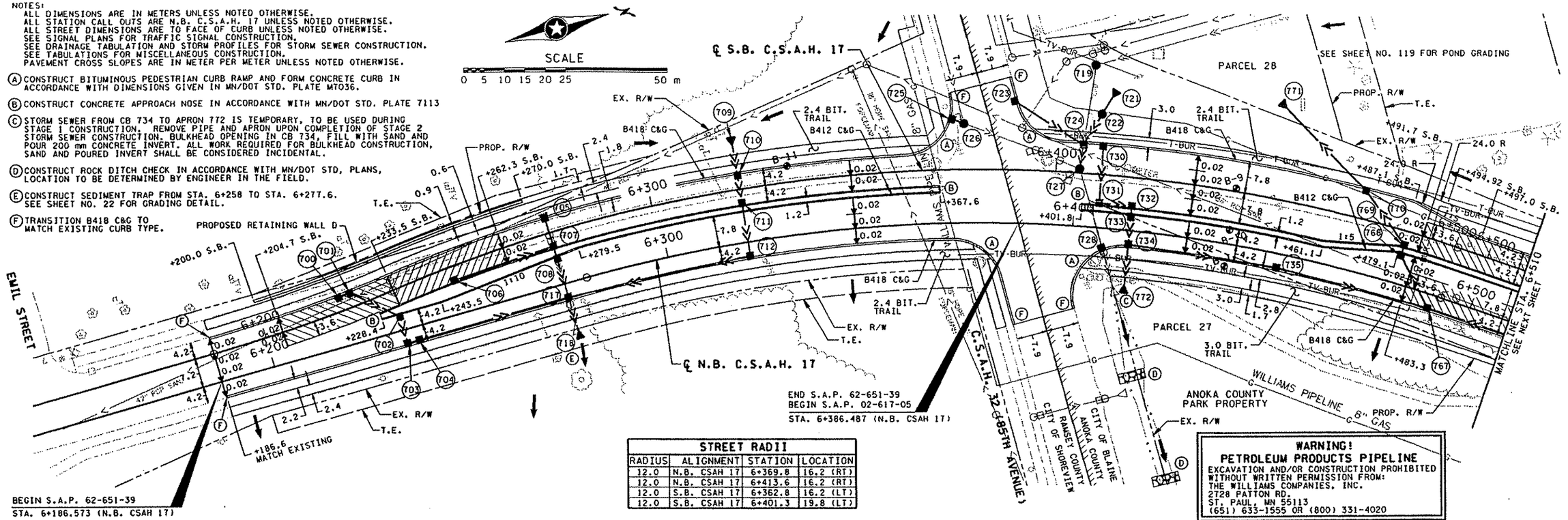
(C) STORM SEWER FROM CB 734 TO APRON 772 IS TEMPORARY, TO BE USED DURING STAGE 1 CONSTRUCTION. REMOVE PIPE AND APRON UPON COMPLETION OF STAGE 2 STORM SEWER CONSTRUCTION. BULKHEAD OPENING IN CB 734, FILL WITH SAND AND POUR 200 mm CONCRETE INVERT. ALL WORK REQUIRED FOR BULKHEAD CONSTRUCTION, SAND AND POURED INVERT SHALL BE CONSIDERED INCIDENTAL.

(D) CONSTRUCT ROCK DITCH CHECK IN ACCORDANCE WITH MN/DOT STD, PLANS, LOCATION TO BE DETERMINED BY ENGINEER IN THE FIELD.

(E) CONSTRUCT SEDIMENT TRAP FROM STA. 6+258 TO STA. 6+277.6. SEE SHEET NO. 22 FOR GRADING DETAIL.

(F) TRANSITION B418 C&G TO MATCH EXISTING CURB TYPE.

SCALE
0 5 10 15 20 25 50 m



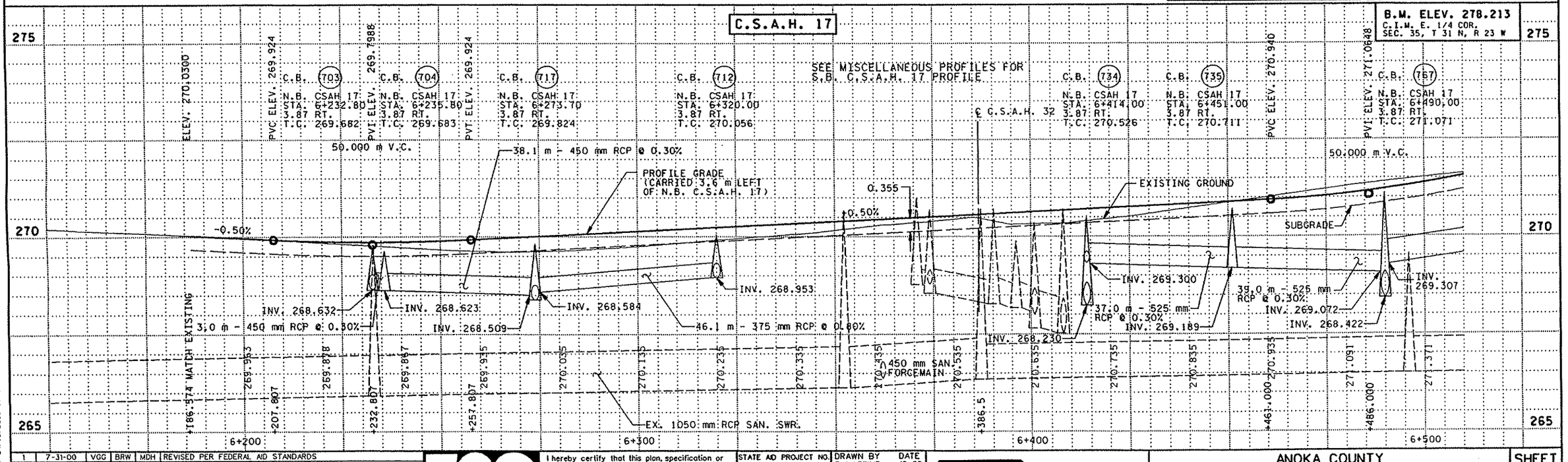
STREET RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
12.0	N.B. CSAH 17	6+369.8	16.2 (RT)
12.0	N.B. CSAH 17	6+413.6	16.2 (RT)
12.0	S.B. CSAH 17	6+362.8	16.2 (LT)
12.0	S.B. CSAH 17	6+401.3	19.8 (LT)

WARNING!
PETROLEUM PRODUCTS PIPELINE
EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT WRITTEN PERMISSION FROM:
THE WILLIAMS COMPANIES, INC.
2728 PATTON RD.
ST. PAUL, MN 55113
(651) 633-1555 OR (800) 331-4020

B.M. ELEV. 278.213
C.I.M. E. 1/4 COR.
SEC. 35, T 31 N, R 23 W

C.S.A.H. 17

C.B. (703) N.B. CSAH 17 STA. 6+232.80 3.87 RT. T.C. 269.682 ELEV. 270.0300
C.B. (704) N.B. CSAH 17 STA. 6+235.80 3.87 RT. T.C. 269.683 PVC ELEV. 269.924 PVI ELEV. 269.7988
C.B. (717) N.B. CSAH 17 STA. 6+273.70 3.87 RT. T.C. 269.824 PVT ELEV. 269.924
C.B. (712) N.B. CSAH 17 STA. 6+320.00 3.87 RT. T.C. 270.056
SEE MISCELLANEOUS PROFILES FOR S.B. C.S.A.H. 17 PROFILE
℄ C.S.A.H. 32
C.B. (734) N.B. CSAH 17 STA. 6+414.00 3.87 RT. T.C. 270.526
C.B. (735) N.B. CSAH 17 STA. 6+451.00 5.87 RT. T.C. 270.711
PVC ELEV. 270.940
C.B. (767) N.B. CSAH 17 STA. 6+490.00 3.87 RT. T.C. 271.071 PVI ELEV. 271.0648



NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	8-03-00	VGG	MDH	MDH	ADDED RETAINING WALL D
3	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
4	11-16-00	VGG	BRW	MDH	REVISED C&G TYPE AND ADDED SEDIMENT TRAP
5	2-01-01	ELB	BRW	MDH	ADDED EXISTING SAN. SWR. LABEL

NAME: 2842.CPA DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY B. WESTBY 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN AND PROFILE
C.S.A.H. 17 RECONSTRUCTION
STA. 6+186 TO STA. 6+510

SHEET 54 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouth\KDP\2842.cpa
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PLOTTER: HP-HPSS.HPX
PLOT SCALE: 1 = 1000
PLOT DATE/TIME: 04/12/2001 13:26:02

ISLAND RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
30.0	N.B. CSAH 17	6+554.1	34.2 (LT)
30.0	S.B. CSAH 17	6+773.7	34.2 (RT)

STREET RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
12.0	S.B. CSAH 17	6+515.1	16.2 (LT)
12.0	S.B. CSAH 17	6+547.8	16.2 (LT)
12.0	N.B. CSAH 17	6+780.9	16.2 (RT)
12.0	N.B. CSAH 17	6+817.4	16.2 (RT)

NOTES:
ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
ALL STATION CALL OUTS ARE N.B. C.S.A.H. 17 UNLESS NOTED OTHERWISE.
ALL STREET DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
SEE SIGNAL PLANS FOR TRAFFIC SIGNAL CONSTRUCTION.
SEE DRAINAGE TABULATION AND STORM PROFILES FOR STORM SEWER CONSTRUCTION.
SEE TABULATIONS FOR MISCELLANEOUS CONSTRUCTION.
PAVEMENT CROSS SLOPES ARE IN METER PER METER UNLESS NOTED OTHERWISE.

(A) CONSTRUCT BITUMINOUS PEDESTRIAN CURB RAMP AND FORM CONCRETE CURB IN ACCORDANCE WITH DIMENSIONS GIVEN IN MN/DOT STD. PLATE M7036.
(B) CONSTRUCT CONCRETE APPROACH NOSE IN ACCORDANCE WITH MN/DOT STD. PLATE 7113
(F) TRANSITION B418 C&G TO MATCH EXISTING CURB TYPE.

WARNING!
PETROLEUM PRODUCTS PIPELINE
EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT WRITTEN PERMISSION FROM:
THE WILLIAMS COMPANIES, INC.
2720 PATTON RD.
ST. PAUL, MN 55113
(651) 633-1555 OR (800) 331-4020

SCALE
0 5 10 15 20 25 50 m

B.M. ELEV. 278.213
C.I.M. E. 1/4 COR.
SEC. 35, T 31 N, R 23 W

C.S.A.H. 17

C.B. (766) N.B. CSAH 17 STA. 6+555.00 3.87 RT. T.C. 272.648
C.B. (759) N.B. CSAH 17 STA. 6+613.00 3.87 RT. T.C. 273.930
C.B. (752) N.B. CSAH 17 STA. 6+676.00 3.87 RT. T.C. 275.385
C.B. (749) N.B. CSAH 17 STA. 6+736.00 3.87 RT. T.C. 276.684
C.B. (747) N.B. CSAH 17 STA. 6+775.00 3.87 RT. T.C. 277.324
C.B. (804) N.B. CSAH 17 STA. 6+818.00 3.87 RT. T.C. 277.796
C.B. (806) N.B. CSAH 17 STA. 6+855.00 3.87 RT. T.C. 277.994

C 85TH LN.
C 87TH AVENUE
SEE MISCELLANEOUS PROFILES FOR S.B. C.S.A.H. 17 PROFILE
PROFILE GRADE (CARRIED 3.6 m LEFT OF N.B. C.S.A.H. 17)
EXISTING GROUND
SUBGRADE
+2.05%
+3.00%
+0.50%
0.355
50.000 m V.C.
140.000 m V.C.
53.0 m - 300 mm RCP @ 3.00%
62.0 m - 450 mm RCP @ 1.80%
61.0 m - 600 mm RCP @ 1.50%
60.0 m - 300 mm RCP @ 3.00%
39.0 m - 300 mm RCP @ 2.20%
37.0 m - 375 mm RCP @ 0.30%
45.0 m - 375 mm RCP @ 0.30%
INV. 271.488
INV. 270.372
INV. 270.222
INV. 271.638
INV. 273.528
INV. 275.328
INV. 276.186
INV. 276.600
INV. 276.489
PVI ELEV. 271.577
PVC ELEV. 273.976
PVI ELEV. 274.4883
PVT ELEV. 275.238
PVC ELEV. 275.598
PVI ELEV. 277.6980
PVI ELEV. 278.048
275
270
280
+511.000
+531.4
+628.000
+653.000
+678.000
+690.000
+760.000
+799.2
+830.000
6+600
6+700
6+800

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	10-13-00	BRW	BRW	MDH	REVISED WILLIAMS PIPELINE ALIGNMENT @ 87TH AVE. SE QUAD
3	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
4	11-16-00	VGG	BRW	MDH	REVISED C&G
5	2-01-01	ELB	BRW	MDH	ADDED CB's 744 AND 745

NAME: 2842.CPB DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21564

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 52-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY B. WESTBY 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN AND PROFILE
C.S.A.H. 17 RECONSTRUCTION
STA. 6+510 TO STA. 6+875

SHEET 55 OF 136

DESIGN FILE: n:\civil\047\2842\Plan&out\LKD\2842.cdd
PRF FILE: n:\civil\047\2842\Plan&out\LKD\2842.prf
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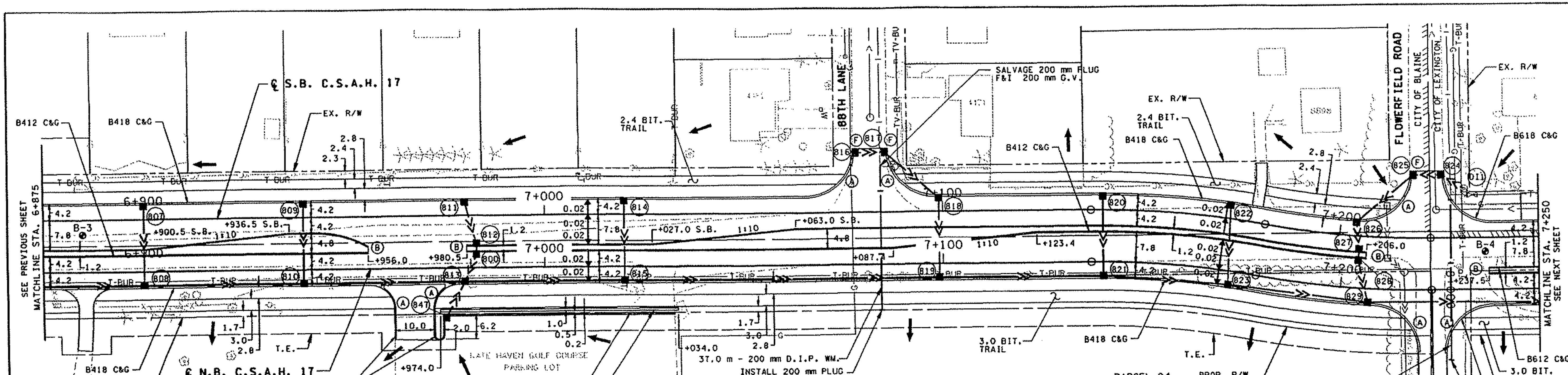


ISLAND RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
25.0	S.B. CSAH 17	6+943.1	29.2 (RT)

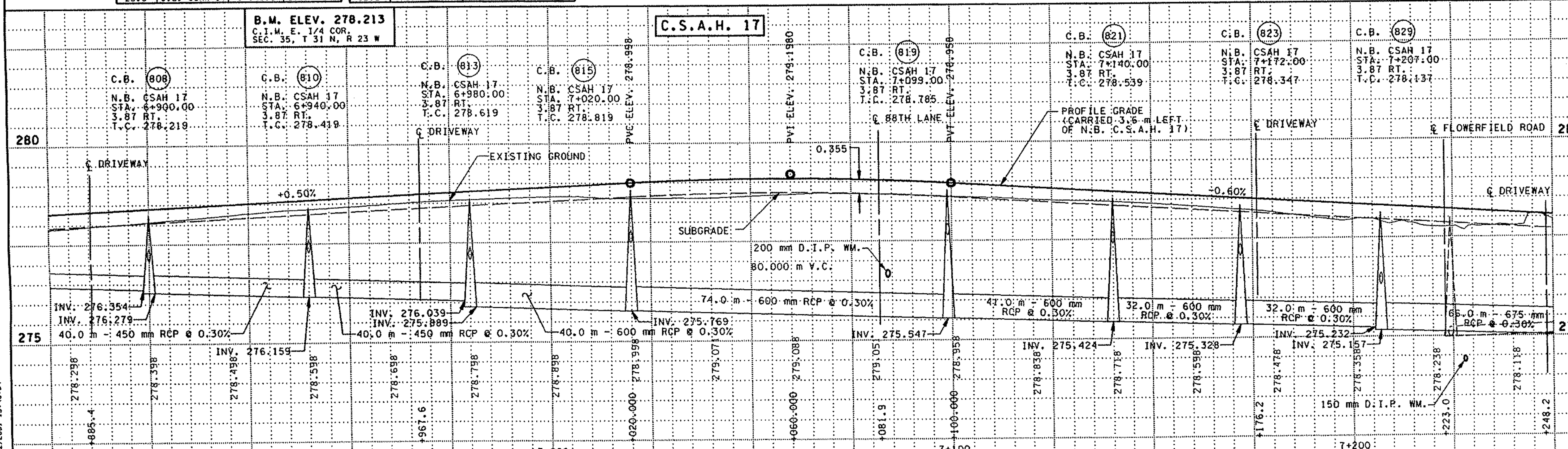
STREET RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
6.0	N.B. CSAH 17	6+956.4	10.2 (RT)
1.0	N.B. CSAH 17	6+973.4	17.1 (RT)
6.0	N.B. CSAH 17	6+978.4	10.2 (RT)
12.0	S.B. CSAH 17	7+065.6	16.2 (LT)
12.0	S.B. CSAH 17	7+098.3	16.2 (LT)
12.0	S.B. CSAH 17	7+204.6	16.2 (LT)
12.0	N.B. CSAH 17	7+208.4	16.2 (RT)
12.0	S.B. CSAH 17	7+238.5	16.2 (LT)
12.0	N.B. CSAH 17	7+238.6	16.2 (RT)

NOTES:
ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
ALL STATION CALL OUTS ARE N.B. C.S.A.H. 17 UNLESS NOTED OTHERWISE.
ALL STREET DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
SEE SIGNAL PLANS FOR TRAFFIC SIGNAL CONSTRUCTION.
SEE DRAINAGE TABULATION AND STORM PROFILES FOR STORM SEWER CONSTRUCTION.
SEE TABULATIONS FOR MISCELLANEOUS CONSTRUCTION.
PAVEMENT CROSS SLOPES ARE IN METER PER METER UNLESS NOTED OTHERWISE.

(A) CONSTRUCT BITUMINOUS PEDESTRIAN CURB RAMP AND FORM CONCRETE CURB IN ACCORDANCE WITH DIMENSIONS GIVEN IN MN/DOT STD. PLATE M7036.

(B) CONSTRUCT CONCRETE APPROACH NOSE IN ACCORDANCE WITH MN/DOT STD. PLATE 7113.

(F) TRANSITION B418 C&G TO MATCH EXISTING CURB TYPE.



NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	8-03-00	VGG	MDH	MDH	ADDED RETAINING WALL C
3	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
4	11-16-00	VGG	BRW	MDH	REVISED C&G

NAME: 2842.CPC DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY B. WESTBY 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN AND PROFILE
C.S.A.H. 17 RECONSTRUCTION
STA. 6+875 TO STA. 7+250

SEE PREVIOUS SHEET
MATCHLINE STA. 7+250

EX. R/W

B618 C&G

℄ S.B. C.S.A.H. 17

150 mm WET TAP AND GATE VALVE

EX. R/W

MATCHLINE STA. 7+600
SEE NEXT SHEET

7+300 7+400 7+500

CITY OF LEXINGTON
CITY OF BLAINE

L+321.7

PROP. R/W

B612 C&G

PARCEL 22

PARCEL 23

ANOKA COUNTY PROPERTY

B618 C&G

℄ N.B. C.S.A.H. 17

PARCEL 21

36.0 m - 150 mm D.I.P. WM.

150 mm PLUG

T.E.

PROP. R/W

3.0 BIT. TRAIL

PARCEL 20

PARCEL 19

PARCEL 18

PROP. R/W

PARCEL 17

ANOKA COUNTY PROPERTY

B-5

NOTES:
ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
ALL STATION CALL OUTS ARE N.B. C.S.A.H. 17 UNLESS NOTED OTHERWISE.
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SEE SIGNAL PLANS FOR TRAFFIC SIGNAL CONSTRUCTION.
SEE DRAINAGE TABULATION AND STORM PROFILES FOR STORM SEWER CONSTRUCTION.
SEE TABULATIONS FOR MISCELLANEOUS CONSTRUCTION.
PAVEMENT CROSS SLOPES ARE IN METER PER METER UNLESS NOTED OTHERWISE.

(A) CONSTRUCT BITUMINOUS PEDESTRIAN CURB RAMP AND FORM CONCRETE CURB IN ACCORDANCE WITH DIMENSIONS GIVEN IN MN/DOT STD. PLATE MT036.

(B) CONSTRUCT CONCRETE APPROACH NOSE IN ACCORDANCE WITH MN/DOT STD. PLATE 7113

SCALE
0 5 10 15 20 25 50 m

C.S.A.H. 17

C.B. (831) N.B. CSAH 17 STA. 7+270.00 3.87 RT. T.C. 277.759
C.B. (835) N.B. CSAH 17 STA. 7+313.00 3.87 RT. T.C. 277.501
C.B. (837) N.B. CSAH 17 STA. 7+355.00 3.87 RT. T.C. 277.249
C.B. (839) N.B. CSAH 17 STA. 7+398.00 3.87 RT. T.C. 276.991
C.B. (841) N.B. CSAH 17 STA. 7+442.00 3.87 RT. T.C. 276.727
C.B. (844) N.B. CSAH 17 STA. 7+479.70 3.87 RT. T.C. 276.567
C.B. (845) N.B. CSAH 17 STA. 7+482.70 3.87 RT. T.C. 276.566
C.B. (894) N.B. CSAH 17 STA. 7+516.00 3.87 RT. T.C. 276.686
C.B. (892) N.B. CSAH 17 STA. 7+555.00 3.87 RT. T.C. 276.959
C.B. (890) N.B. CSAH 17 STA. 7+596.00 3.87 RT. T.C. 277.242

PVC ELEV. 276.828
PVI ELEV. 276.858
PVC ELEV. 277.383

B.M. ELEV. 277.211
T.N.H. NW QUAD RESTWOOD RD. AND C.S.A.H. 17

℄ DRIVEWAY
PROFILE GRADE (CARRIED 3.6 m LEFT OF N.B. C.S.A.H. 17)
-0.60%
+0.70%
0.355
60.000 m V.C.
SUBGRADE
EXISTING GROUND

43.0 m - 675 mm RCP @ 0.30%
42.0 m - 675 mm RCP @ 0.30%
43.0 m - 675 mm RCP @ 0.30%
44.0 m - 675 mm RCP @ 0.30%
37.7 m - 750 mm RCP @ 0.30%
33.3 m - 750 mm RCP @ 0.30%
39.0 m - 750 mm RCP @ 0.30%
41.0 m - 750 mm RCP @ 0.30%

INV. 274.959
INV. 274.830
INV. 274.704
INV. 274.575
INV. 274.443
INV. 274.368
150 mm D.I.P. WM.
3.0 m - 750 mm RCP @ 0.30%
INV. 274.255
INV. 274.246
INV. 274.146
INV. 274.029
INV. 273.906
EX. 250 mm PLP SAN. SWR.

277.998 277.878 277.758 277.638 277.518 277.398 277.278 277.158 277.038 276.918 276.746 276.717 276.893 277.033 277.173 277.333 277.383
+276.5 +304.7 +329.5 +361.5 +455.000 +485.000 +515.000 +544.1 +544.0 +578.8 +590.000
7+300 7+400 7+500 7+600

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	11-18-00	VGG	BRW	MDH	ADDED PARCEL 20 DRIVEWAY
4	2-01-01	ELB	BRW	MDH	ADDED EXISTING SAN. SWR. LABELS

NAME: 2842.CPD DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY B. WESTBY 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN AND PROFILE
C.S.A.H. 17 RECONSTRUCTION
STA. 7+250 TO STA. 7+600

SHEET 57 OF 136

DESIGN FILE: N:\CIVIL\047\2842\PlanSheets\Dr\2842.cpd
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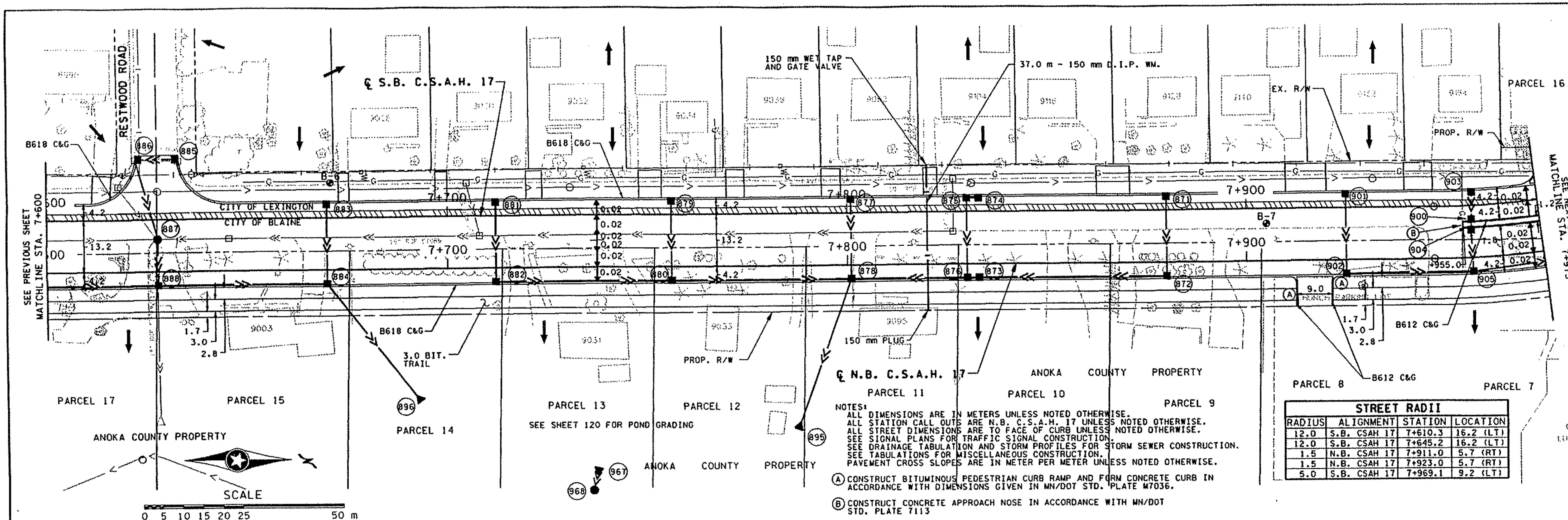
PLOT SCALE: 25.657000
PLOT DATE/TIME: 04/12/2001 13:43:12



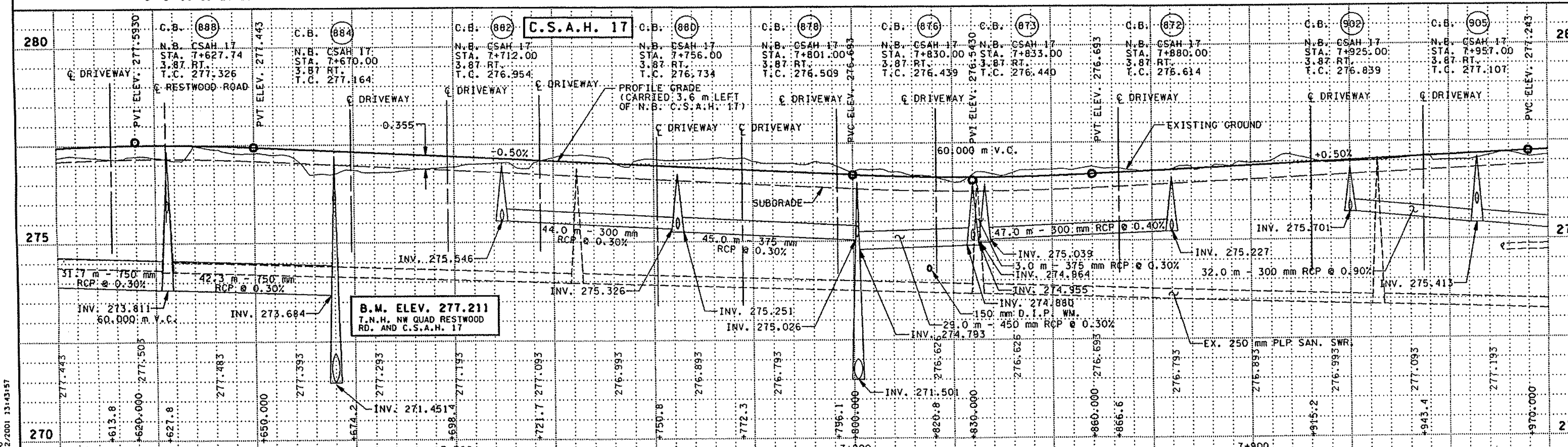
NOTES:
- ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
- ALL STATION CALL OUTS ARE N.B. C.S.A.H. 17 UNLESS NOTED OTHERWISE.
- ALL STREET DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
- SEE SIGNAL PLANS FOR TRAFFIC SIGNAL CONSTRUCTION.
- SEE DRAINAGE TABULATION AND STORM PROFILES FOR STORM SEWER CONSTRUCTION.
- SEE TABULATIONS FOR MISCELLANEOUS CONSTRUCTION.
- PAVEMENT CROSS SLOPES ARE IN METER PER METER UNLESS NOTED OTHERWISE.

(A) CONSTRUCT BITUMINOUS PEDESTRIAN CURB RAMP AND FORM CONCRETE CURB IN ACCORDANCE WITH DIMENSIONS GIVEN IN MN/DOT STD. PLATE M7036.

(B) CONSTRUCT CONCRETE APPROACH NOSE IN ACCORDANCE WITH MN/DOT STD. PLATE 7113

STREET RADII

RADIUS	ALIGNMENT	STATION	LOCATION
12.0	S.B. CSAH 17	7+610.3	16.2 (LT)
12.0	S.B. CSAH 17	7+645.2	16.2 (LT)
1.5	N.B. CSAH 17	7+911.0	5.7 (RT)
1.5	N.B. CSAH 17	7+923.0	5.7 (RT)
5.0	S.B. CSAH 17	7+969.1	9.2 (LT)



NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	2-01-01	ELB	BRW	MDH	ADDED EXISTING SAN. SWR. LABEL

NAME: 2842.CPE DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY B. WESTBY 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN AND PROFILE
C.S.A.H. 17 RECONSTRUCTION
STA. 7+600 TO STA. 7+975

SHEET 58 OF 136

DESIGN FILE: m:\civil\047\2842\PlanSouthLKDr\2842.cpe
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PLOTTER: MS-HPS3MX
PLOT SCALE: 1:5000
PLOT DATE/TIME: 04/12/2001 13:43:57

NOTES:
ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
ALL STATION CALL OUTS ARE N.B. C.S.A.H. 17 UNLESS NOTED OTHERWISE.
ALL STREET DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
SEE SIGNAL PLANS FOR TRAFFIC SIGNAL CONSTRUCTION.
SEE TABULATIONS FOR MISCELLANEOUS CONSTRUCTION.
SEE DRAINAGE TABULATION AND STORM PROFILES FOR STORM SEWER CONSTRUCTION.
PAVEMENT CROSS SLOPES ARE IN METER PER METER UNLESS NOTED OTHERWISE.

(A) CONSTRUCT BITUMINOUS PEDESTRIAN CURB RAMP AND FORM CONCRETE CURB IN ACCORDANCE WITH DIMENSIONS GIVEN IN MN/DOT STD. PLATE M7036.

(B) CONSTRUCT CONCRETE APPROACH NOSE IN ACCORDANCE WITH MN/DOT STD. PLATE 7113

NOTES:
(G) LOWER EXISTING WATERMAIN TO PROVIDE 0.5 m MINIMUM SEPARATION FROM STORM SEWER. SEE WATERMAIN PROFILE BELOW.
(H) F & I 150 mm 45° BEND.

DENOTES AREA OF 40 mm BITUMINOUS MILL AND OVERLAY (MVWE45035B)

HYDRANT
150 mm GATE VALVE
6.0 m - 150 mm D.I.P. WM

MATCHLINE STA. 7+975
SEE PREVIOUS SHEET

WOODLAND ROAD

PARCEL 16
PARCEL 7
OUR SAVIORS LUTHERAN CHURCH
PARCEL 5
PARCEL 6
PARCEL 4
PARCEL 3
PARCEL 2
PARCEL 1

℄ S.B. C.S.A.H. 17
℄ N.B. C.S.A.H. 17

PROP. R/W
EX. R/W
T.E.
3.0 BIT TRAIL
2.4 BIT TRAIL
B618 C&G
B612 C&G
PARKING LOT
BUSINESSES
CITY OF FOREST LAKE
CITY OF CIRCLE PINES
CITY OF LEXINGTON
COMMERCIAL STREET
CENTRAL STREET
MCDONALDS
SALVAGE HYDRANT
INSTALL HYDRANT
150 mm GATE VALVE
6.0 m - 150 mm
D.I.P. WM

SEE SHEET NO. 65
FOR OVERLAY PLAN

SEE NEXT SHEET

C.S.A.H. 23 (LAKE DRIVE)

SEE SHEET NO. 121
FOR POND GRADING

END S.A.P. 02-617-05
BEGIN S.P. 02-617-17
STA. 8+323.000 (N.B. CSAH 17)

SCALE
0 5 10 15 20 25 50 m

STREET RADII

RADIUS	ALIGNMENT	STATION	LOCATION
5.0	S.B. CSAH 17	7+987.2	9.2 (LT)
12.0	N.B. CSAH 17	8+015.9	16.2 (RT)
12.0	S.B. CSAH 17	8+017.9	16.2 (LT)
12.0	S.B. CSAH 17	8+049.1	16.2 (LT)
12.0	N.B. CSAH 17	8+050.8	16.2 (RT)
4.5	S.B. CSAH 17	8+074.9	8.7 (LT)
5.0	N.B. CSAH 17	8+076.4	9.2 (RT)
4.5	S.B. CSAH 17	8+088.7	8.7 (LT)
5.0	N.B. CSAH 17	8+096.0	9.2 (RT)
12.0	N.B. CSAH 17	8+123.0	16.2 (RT)

STREET RADII

RADIUS	ALIGNMENT	STATION	LOCATION
5.0	S.B. CSAH 17	8+132.7	9.2 (LT)
5.0	S.B. CSAH 17	8+151.7	9.2 (LT)
12.0	N.B. CSAH 17	8+160.5	16.2 (RT)
10.0	N.B. CSAH 17	8+206.0	14.2 (RT)
8.0	N.B. CSAH 17	8+232.7	12.2 (RT)
12.0	S.B. CSAH 17	8+263.1	18.14 (LT)
22.0	N.B. CSAH 17	8+303.8	26.2 (RT)

ISLAND RADII

RADIUS	ALIGNMENT	STATION	LOCATION
1.2	S.B. CSAH 17	8+280.5	6.0 (LT)
19.8	S.B. CSAH 17	8+263.1	18.1 (LT)

B.M. ELEV. 277.328
C.I.W. NW COR.
SEC. 35, T 31 N, R 23 W

C.S.A.H. 17

C.B. (909) N.B. CSAH 17 STA. 8+015.00 3.87 RT. T.C. 277.120 PVT ELEV. 277.393
C.B. (920) S.B. CSAH 17 STA. 8+088.00 3.87 LT. T.C. 276.874 PVT ELEV. 277.243
C.B. (925) S.B. CSAH 17 STA. 8+119.00 3.87 LT. T.C. 276.619
C.B. (930) S.B. CSAH 17 STA. 8+165.00 3.87 LT. T.C. 276.464 PVC ELEV. 276.718
C.B. (929) S.B. CSAH 17 STA. 8+168.00 3.87 LT. T.C. 276.465 PVI ELEV. 276.958
C.B. (935) S.B. CSAH 17 STA. 8+192.80 3.87 LT. T.C. 276.528 PVT ELEV. 276.718
C.B. (939) S.B. CSAH 17 STA. 8+233.00 3.87 LT. T.C. 276.729
C.B. (942) S.B. CSAH 17 STA. 8+281.50 3.87 LT. T.C. 276.972 ELEV. 277.2400

℄ DRIVEWAY
℄ WOODLAND ROAD
PROFILE GRADE (CARRIED 3.6 m LEFT OF N.B. C.S.A.H. 17)
℄ DRIVEWAY
℄ COMMERCIAL STREET
℄ CENTRAL STREET
EXISTING GROUND
SUBGRADE
EX. 150 mm WM.
EX. 200 mm PLP. SAN. SWR.
60.000 m V.C.
-0.50%
0.355
60.000 m V.C.
+0.50%
58.0 m - 300 mm RCP @ 0.90%
INV. 274.891
155 m - 150 mm WM.
51.0 m - 375 mm RCP @ 0.60%
INV. 275.348
INV. 275.042
INV. 274.799
46.0 m - 450 mm RCP @ 0.30%
INV. 274.661
INV. 274.586
3.0 m - 525 mm RCP @ 0.30%
INV. 274.577
24.8 m - 525 mm RCP @ 0.30%
INV. 274.503
40.2 m - 600 mm RCP @ 0.30%
INV. 274.428
48.5 m - 600 mm RCP @ 0.30%
INV. 274.307
INV. 274.162
INV. 274.087
MATCH EXISTING

280
275
270
8+000
8+100
8+200
8+300

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	11-16-00	VGG	BRW	MDH	REVISED NOTES FOR WATERMAIN LOWERING
4	2-01-01	ELB	BRW	MDH	ADDED EXISTING SAN. SWR. LABEL

NAME: 2842.CPF DATE: Apr. 12, 2001

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

minnesota metric

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY B. WESTBY 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN AND PROFILE
C.S.A.H. 17 RECONSTRUCTION
STA. 7+975 TO STA. 8+310

SHEET 59 OF 136

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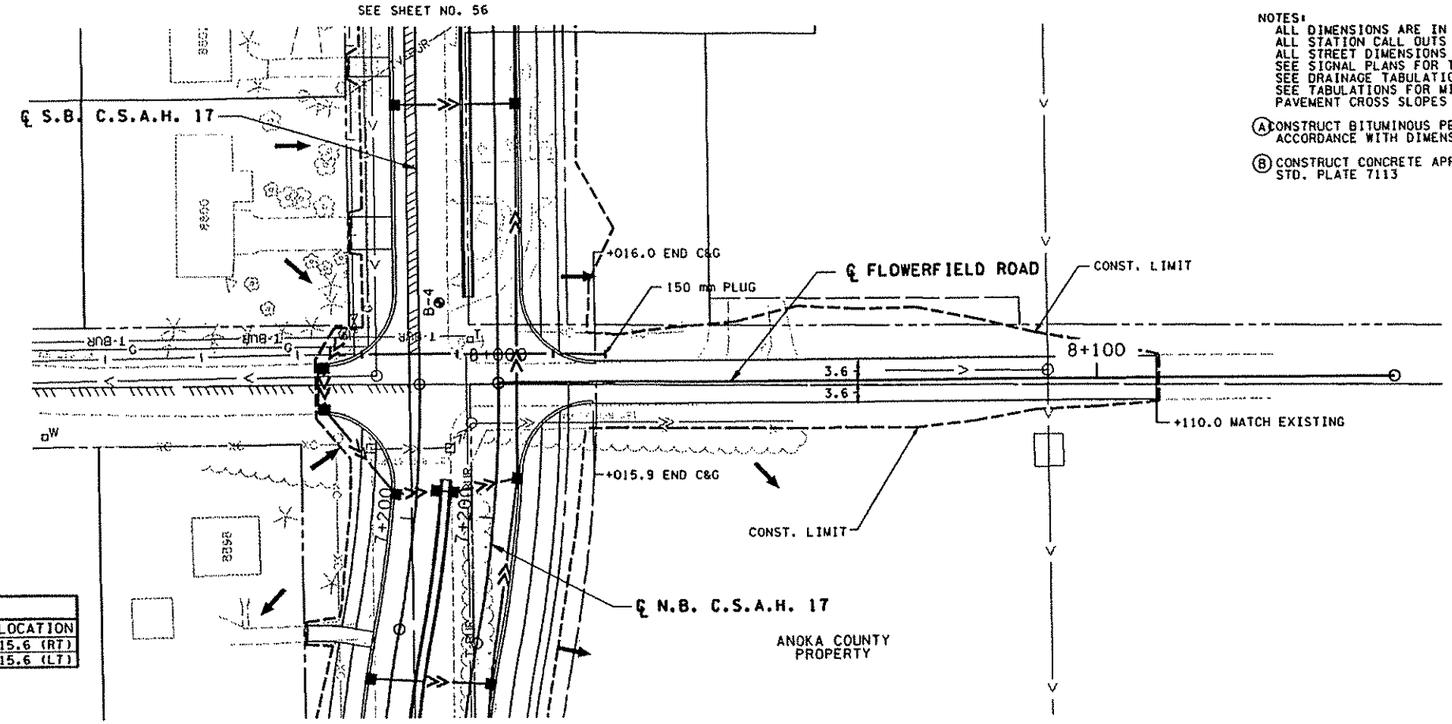


NOTES:
ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
ALL STATION CALL OUTS ARE N.B. C.S.A.H. 17 UNLESS NOTED OTHERWISE.
ALL STREET DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
SEE SIGNAL PLANS FOR TRAFFIC SIGNAL CONSTRUCTION.
SEE DRAINAGE TABULATION AND STORM PROFILES FOR STORM SEWER CONSTRUCTION.
SEE TABULATIONS FOR MISCELLANEOUS CONSTRUCTION.
PAVEMENT CROSS SLOPES ARE IN METER PER METER UNLESS NOTED OTHERWISE.

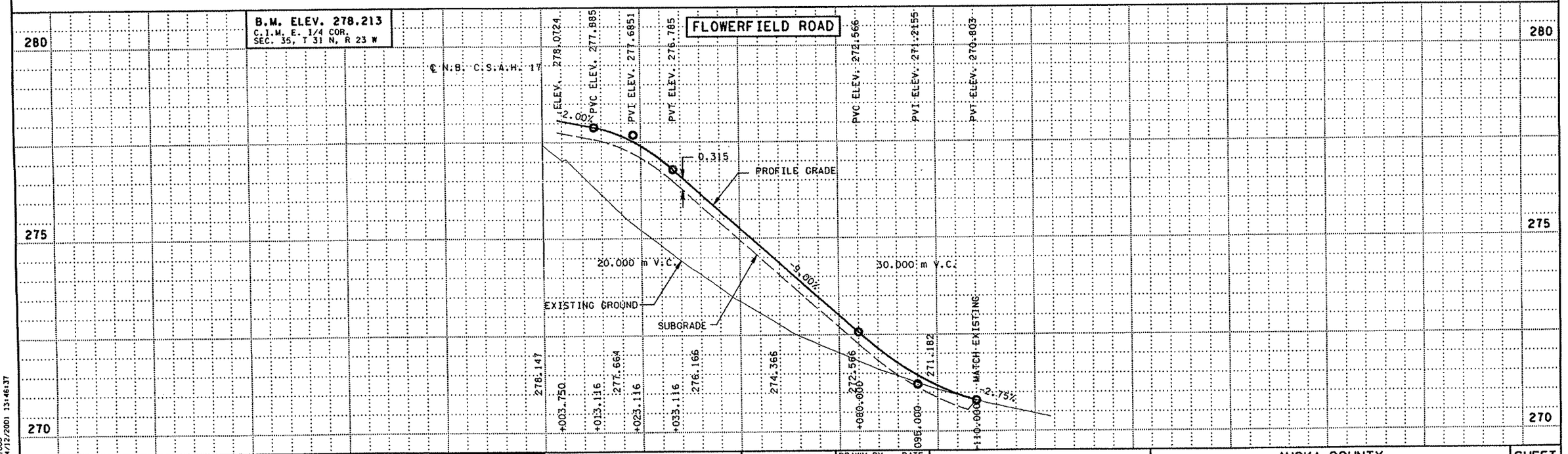
(A) CONSTRUCT BITUMINOUS PEDESTRIAN CURB RAMP AND FORM CONCRETE CURB IN ACCORDANCE WITH DIMENSIONS GIVEN IN MN/DOT STD. PLATE M7036.

(B) CONSTRUCT CONCRETE APPROACH NOSE IN ACCORDANCE WITH MN/DOT STD. PLATE 7113

STREET RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
12.0	FLOWERFIELD RD	8+015.9	15.6 (RT)
12.0	FLOWERFIELD RD	8+016.0	15.6 (LT)

SCALE
0 5 10 15 20 25 50 m

B.M. ELEV. 278.213
C.I.M. E. 1/4 COR.
SEC. 35, T 31 N, R 23 W



NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.CPH DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY B. WESTBY 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN AND PROFILE
C.S.A.H. 17 RECONSTRUCTION
FLOWERFIELD ROAD

SHEET 64 OF 136

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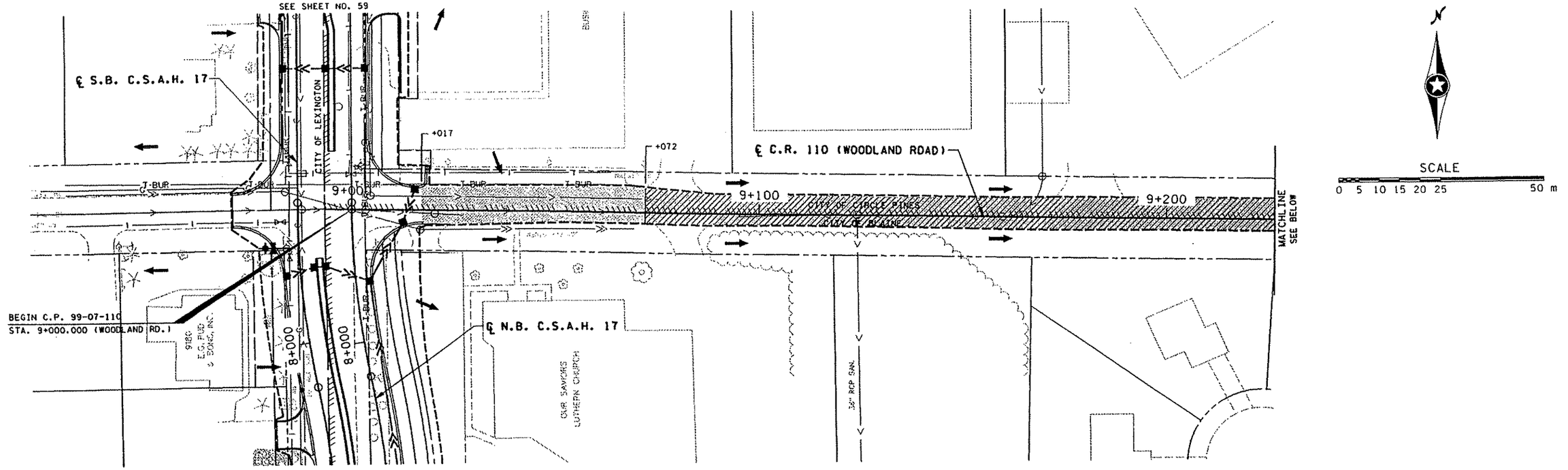


NOTES:
ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
ALL STATION CALL OUTS ARE N.B. C.S.A.H. 17 UNLESS NOTED OTHERWISE.
ALL STREET DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
SEE SIGNAL PLANS FOR TRAFFIC SIGNAL CONSTRUCTION.
SEE DRAINAGE TABULATION AND STORM PROFILES FOR STORM SEWER CONSTRUCTION.
SEE TABULATIONS FOR MISCELLANEOUS CONSTRUCTION.
PAVEMENT CROSS SLOPES ARE IN METER PER METER UNLESS NOTED OTHERWISE.

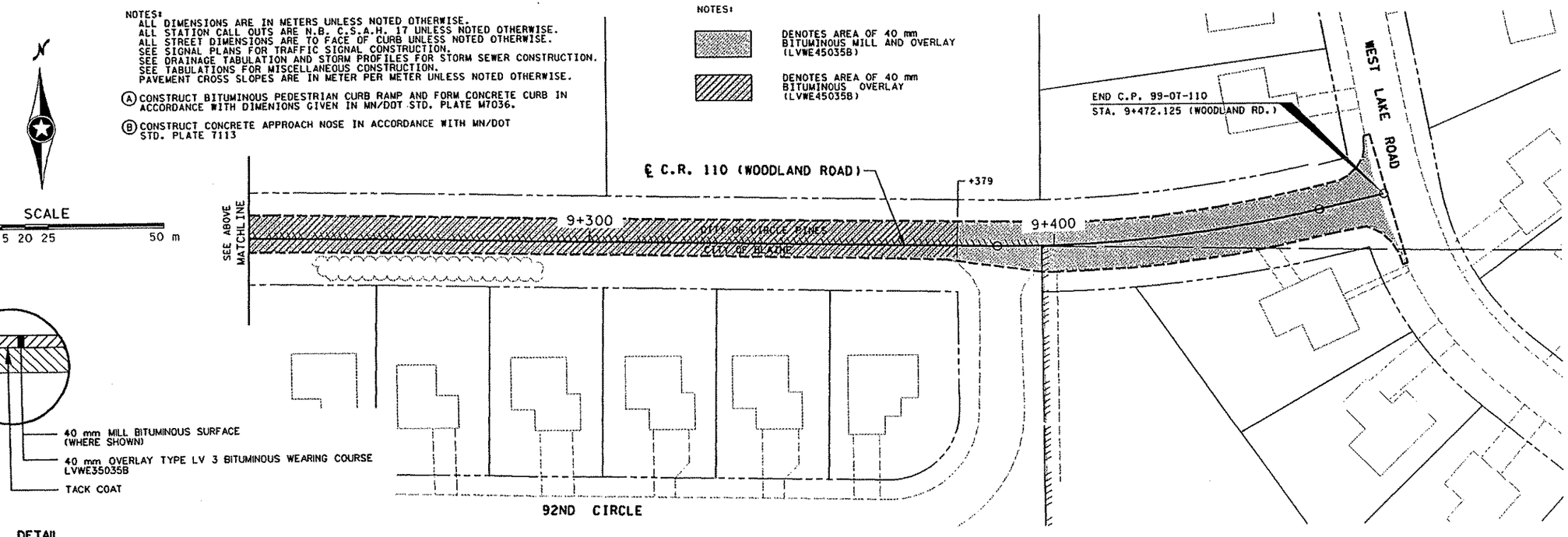
(A) CONSTRUCT BITUMINOUS PEDESTRIAN CURB RAMP AND FORM CONCRETE CURB IN ACCORDANCE WITH DIMENIONS GIVEN IN MN/DOT STD. PLATE M7036.

(B) CONSTRUCT CONCRETE APPROACH NOSE IN ACCORDANCE WITH MN/DOT STD. PLATE 7113

NOTES:

DENOTES AREA OF 40 mm BITUMINOUS MILL AND OVERLAY (LVWE45035B)

DENOTES AREA OF 40 mm BITUMINOUS OVERLAY (LVWE45035B)



DETAIL

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	2-05-01	ELB	BRW	MDH	REVISED MIX DESIGNATION PER ANOKA COUNTY COMMENTS

NAME: 2842.CPG DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	
S.A.P. 02-617-05	
S.A.P. 62-651-39	
S.A.P. 106-020-14	
CO. PROJECT NO.	
C.P. 99-07-110	

DRAWN BY	S. MARTINS	10-98
DESIGNED BY	M. HANSEN	10-98
CHECKED BY	B. WESTBY	1-99
COMM. NO.	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN
C.S.A.H. 17 RECONSTRUCTION
C.R. 110 (WOODLAND ROAD)

SHEET 65 OF 136

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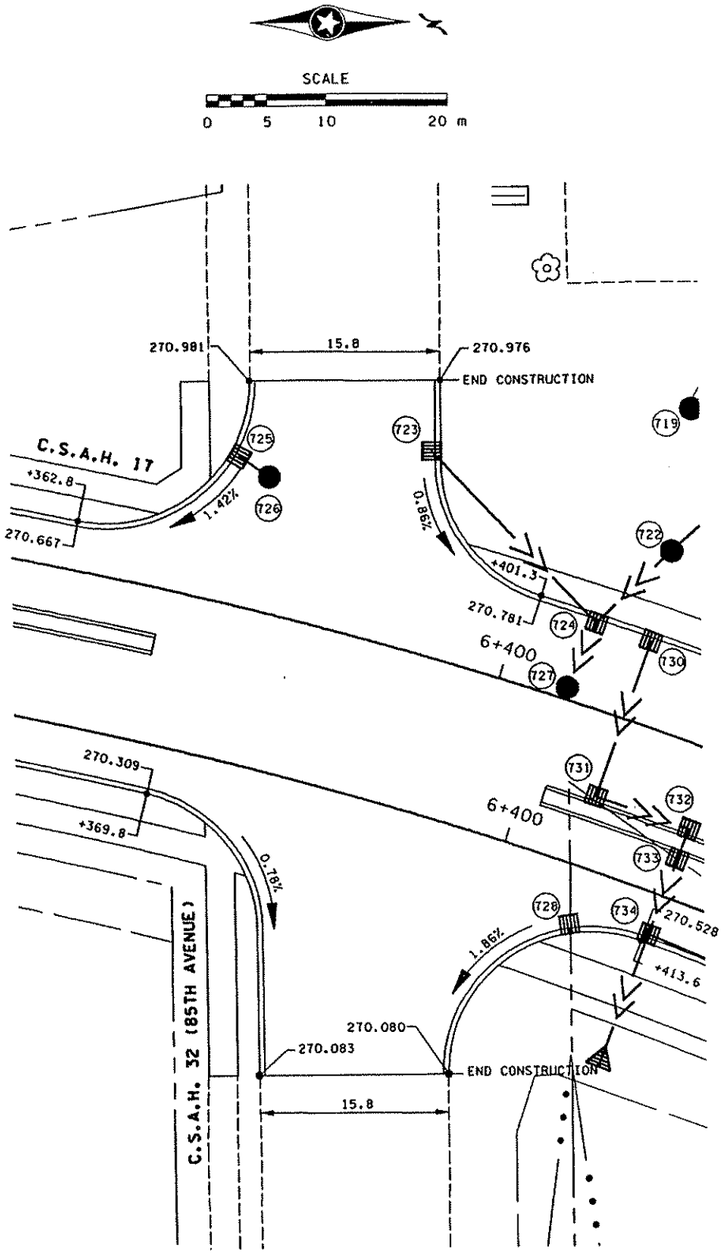

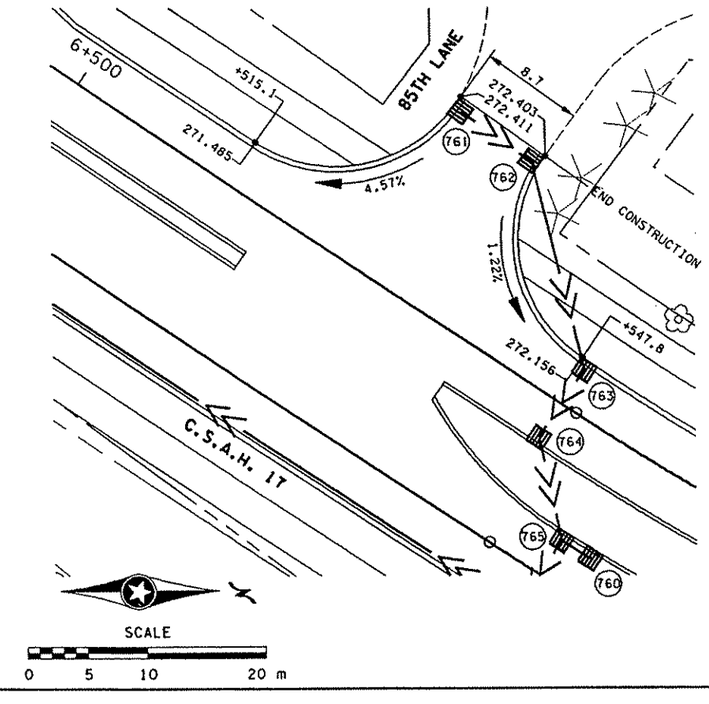

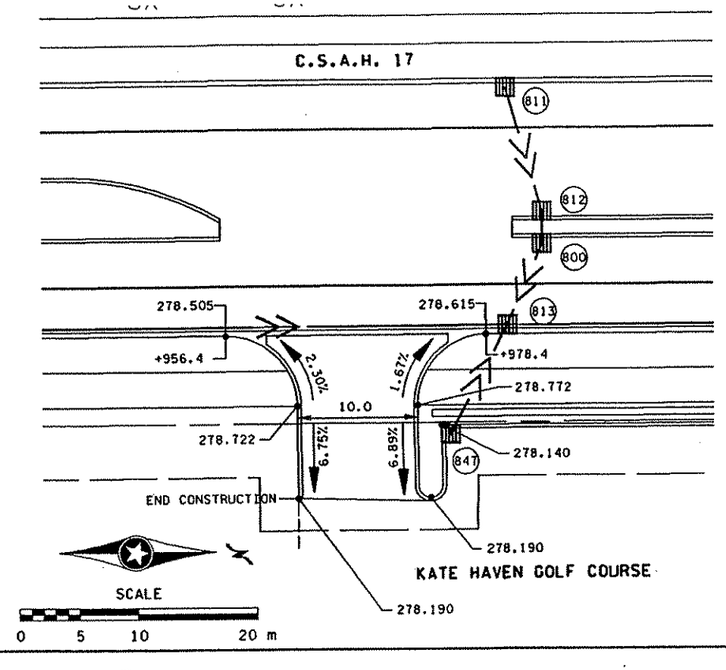

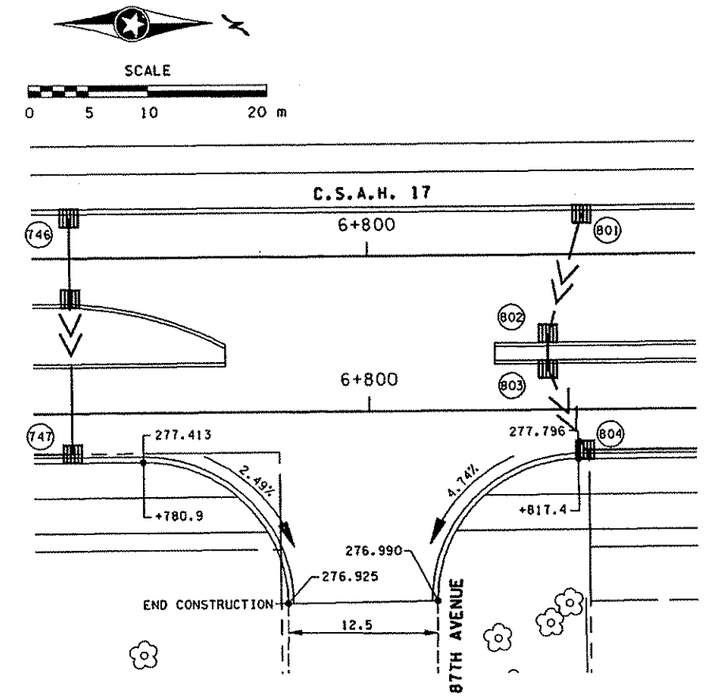

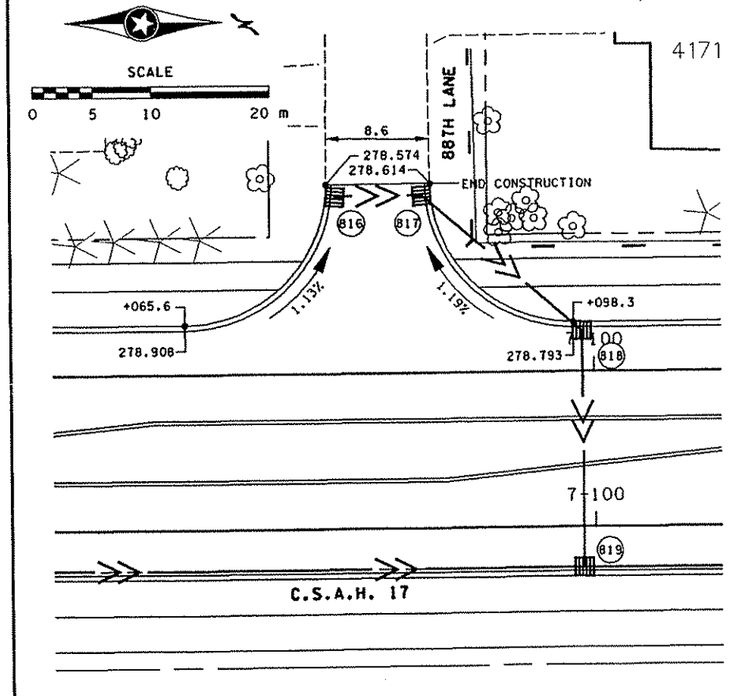

GENERAL NOTES:

ALL ELEVATIONS ARE AT THE FLOW LINE OF THE CURB.

X.XX% INDICATES FLOW LINE PROFILE GRADE.

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.CDA DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	
S.A.P. 02-617-05	
S.A.P. 62-651-39	
S.A.P. 106-020-14	
CO. PROJECT NO.	
C.P. 99-07-110	

DRAWN BY	DATE
S. MARTINS	10-98
DESIGNED BY	
M. HANSEN	10-98
CHECKED BY	
B. WESTBY	2-99
COMM. NO.	
0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

INTERSECTION DETAILS

C.S.A.H. 17 RECONSTRUCTION

SHEET 66 OF 136

DESIGN FILE: N:\GIV\104?\2842\PlanSouth\KDR\2842.cda
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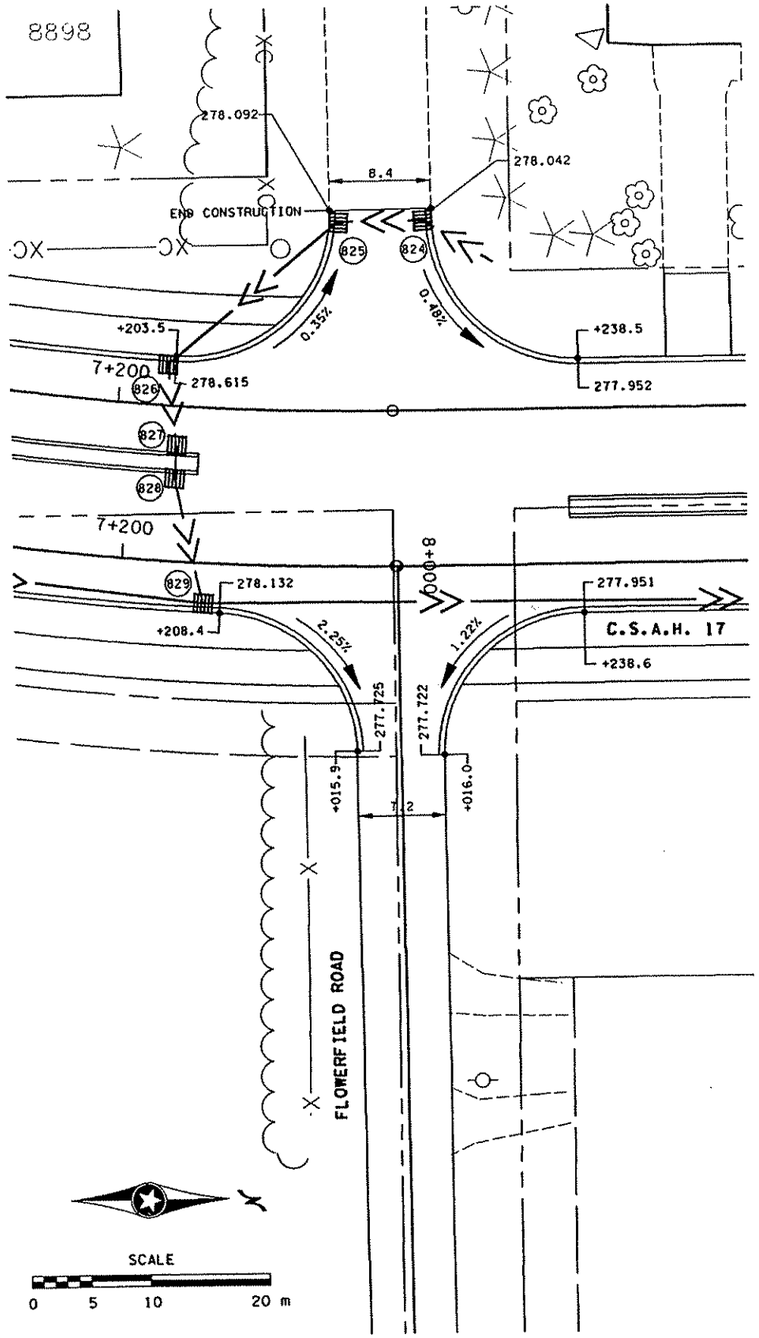

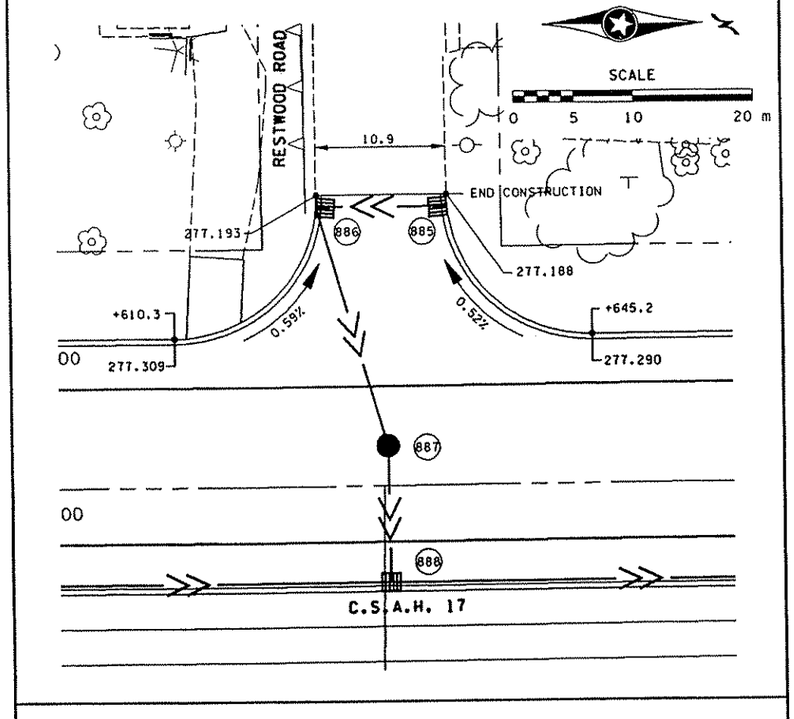

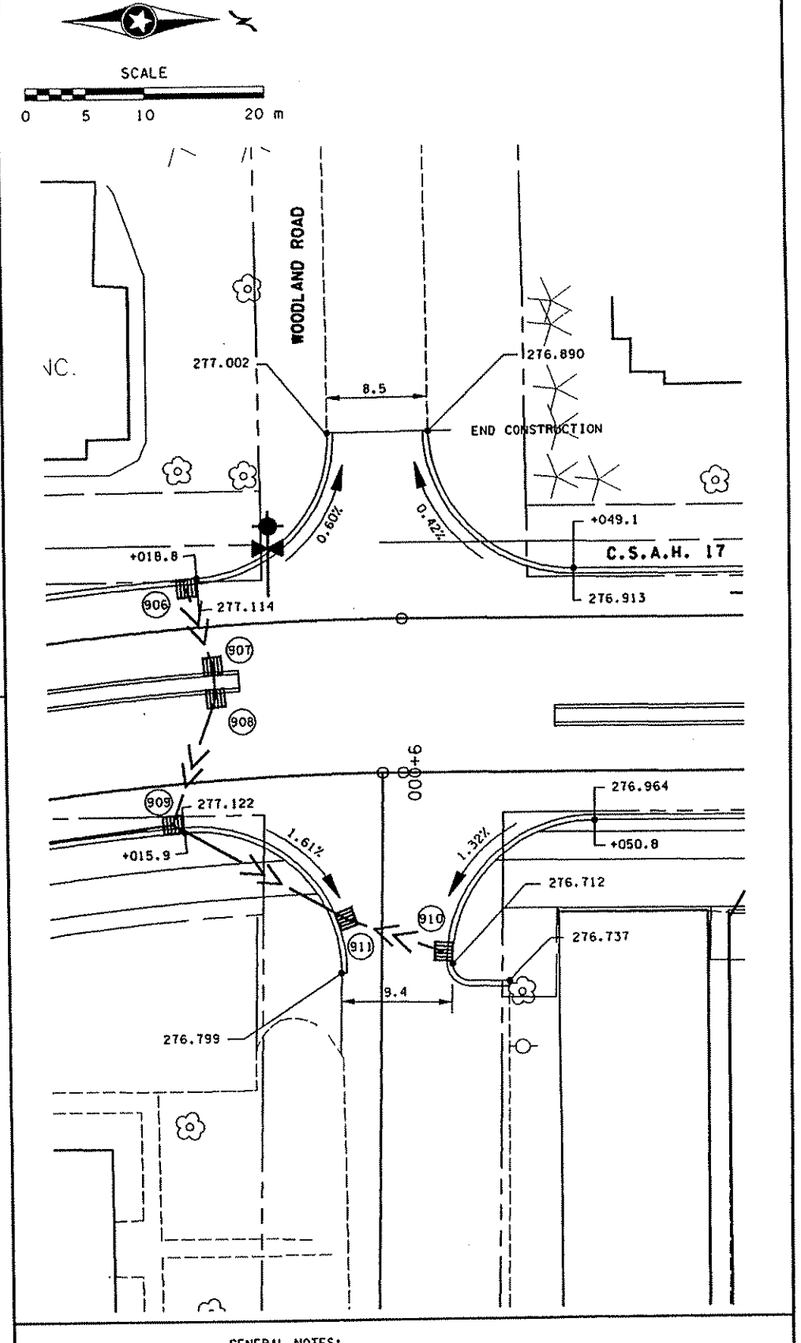

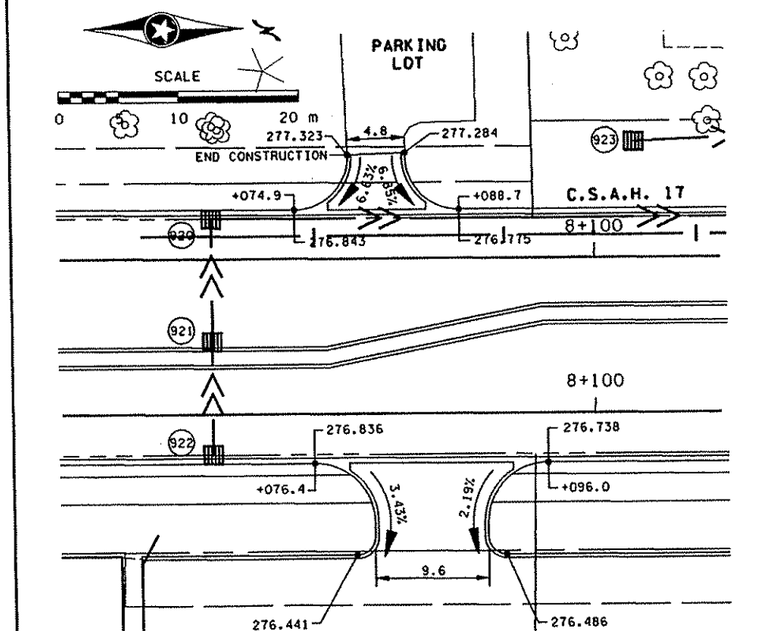

GENERAL NOTES:

ALL ELEVATIONS ARE AT THE FLOW LINE OF THE CURB.

X.XX% INDICATES FLOW LINE PROFILE GRADE.

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.CDB DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	S. MARTINS	10-98
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	M. HANSEN	10-98
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	B. WESTBY	2-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

INTERSECTION DETAILS

C.S.A.H. 17 RECONSTRUCTION

SHEET 67 OF 136

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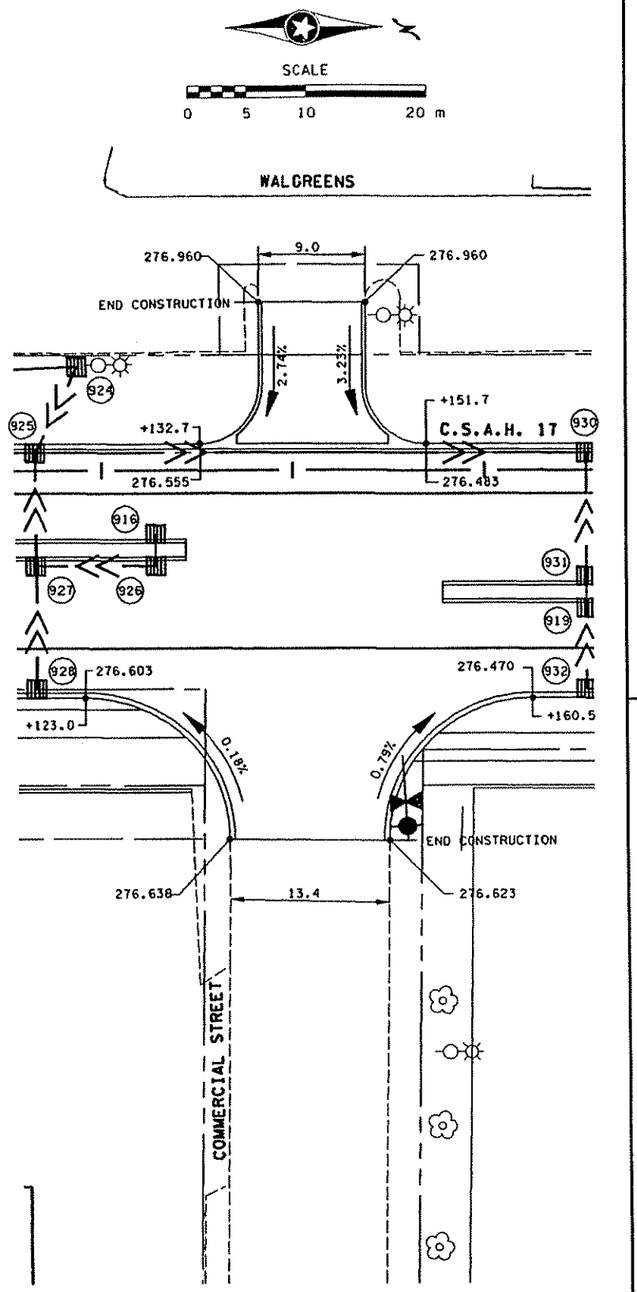

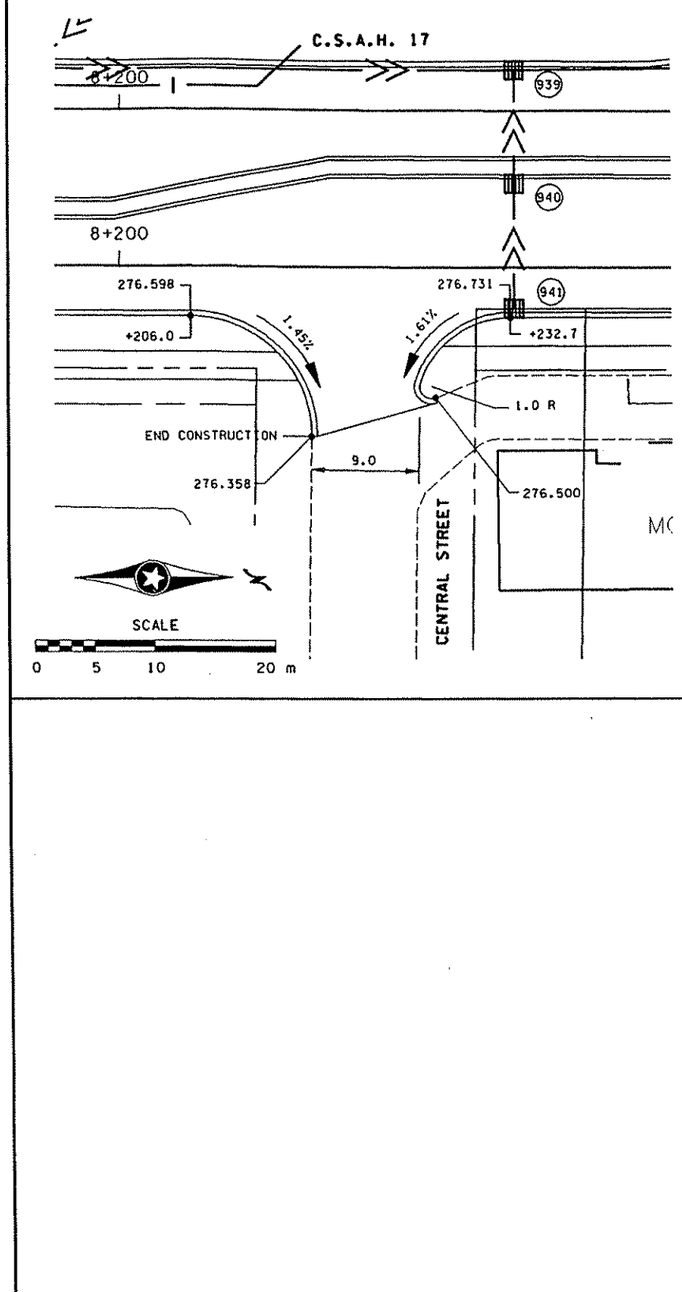

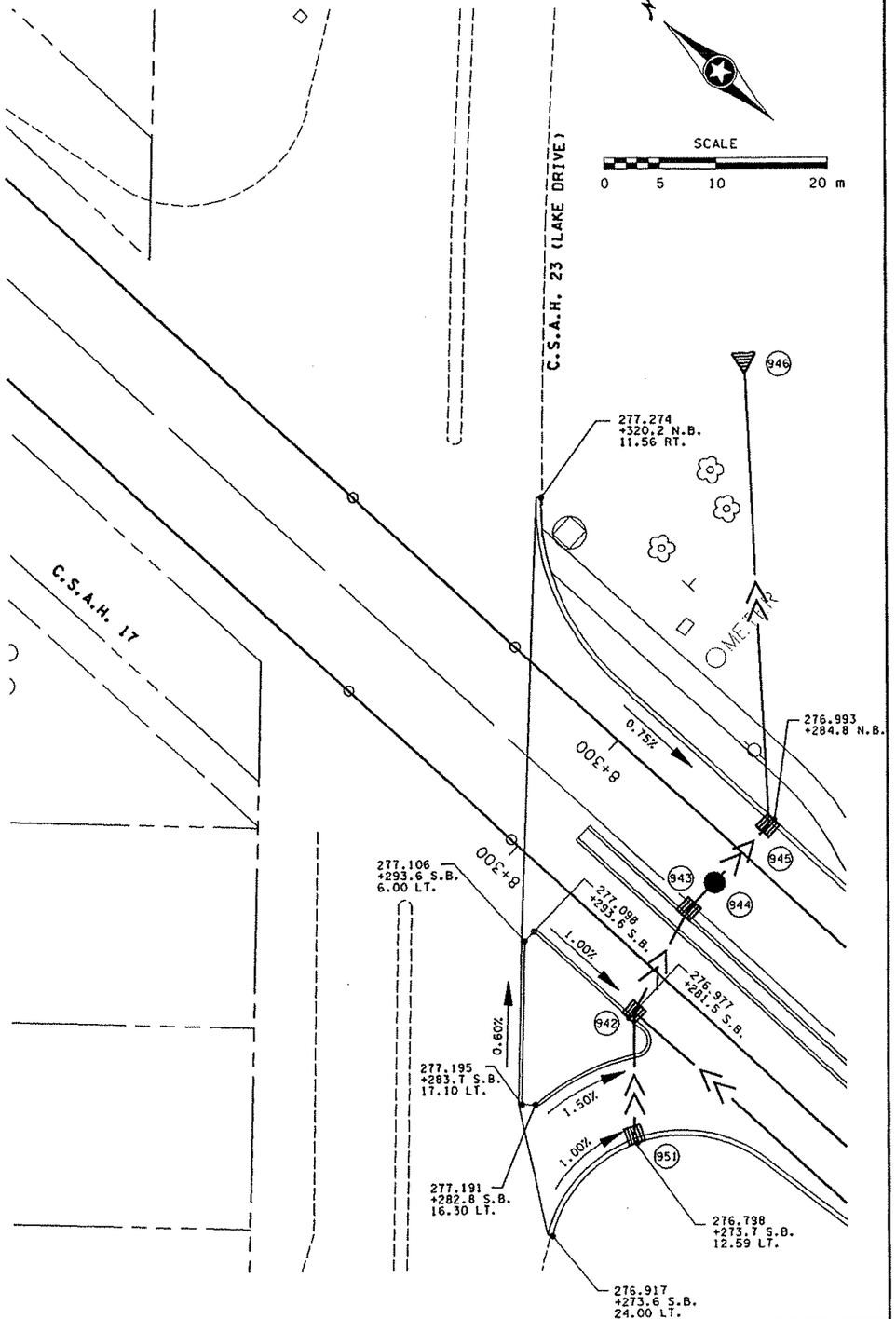

GENERAL NOTES:

ALL ELEVATIONS ARE AT THE FLOW LINE OF THE CURB.

X.XX% INDICATES FLOW LINE PROFILE GRADE.

NO	DATE	BY	CKD	APPR	REVISION
3	11-16-00	VGC	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.CDC DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

	DATE
DRAWN BY S. MARTINS	10-98
DESIGNED BY M. HANSEN	10-98
CHECKED BY B. WESTBY	2-99
COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

INTERSECTION DETAILS

C.S.A.H. 17 RECONSTRUCTION

SHEET 68 OF 136

DESIGN FILE: N:\CIVIL\047\2842\PlanSouth.KDR\2842.cdc
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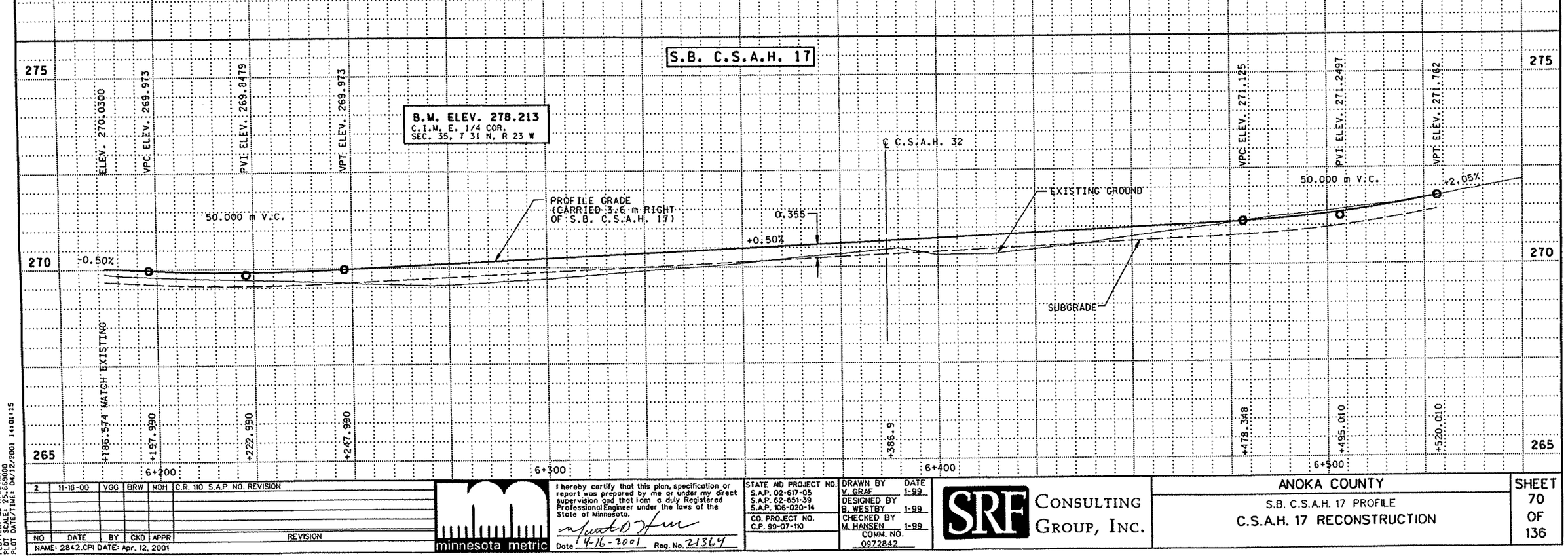

NO	DATE	BY	CKD	APPR	REVISION
2	11-16-00	VGC	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.CPI DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	V. GRAF	1-99
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	B. WESTBY	1-99
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	M. HANSEN	1-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

S.B. C.S.A.H. 17 PROFILE

C.S.A.H. 17 RECONSTRUCTION

SHEET 70 OF 136

DESIGN FILE: N:\CIVIL\047\2842\PlanSouthN.MDF\2842.cpl
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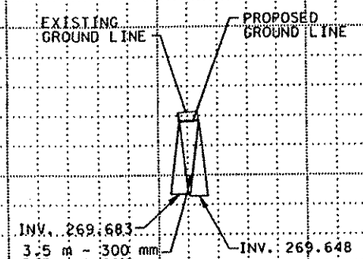

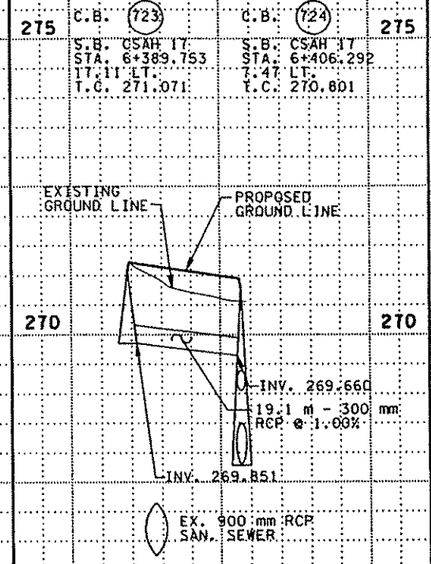

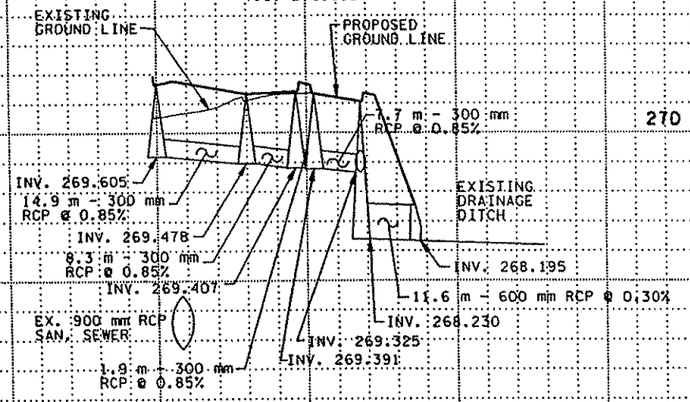

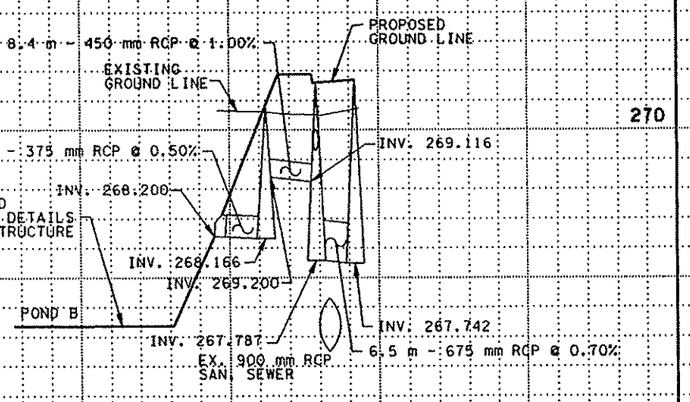

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.FAG DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY	DATE
W. ANDERSON	10-98
DESIGNED BY	
M. HANSEN	10-98
CHECKED BY	
B. WESTBY	1-99

COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MISC. STORM SEWER PROFILES
C.S.A.H. 17 RECONSTRUCTION

SHEET 73 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouthLkDr\2842.fog
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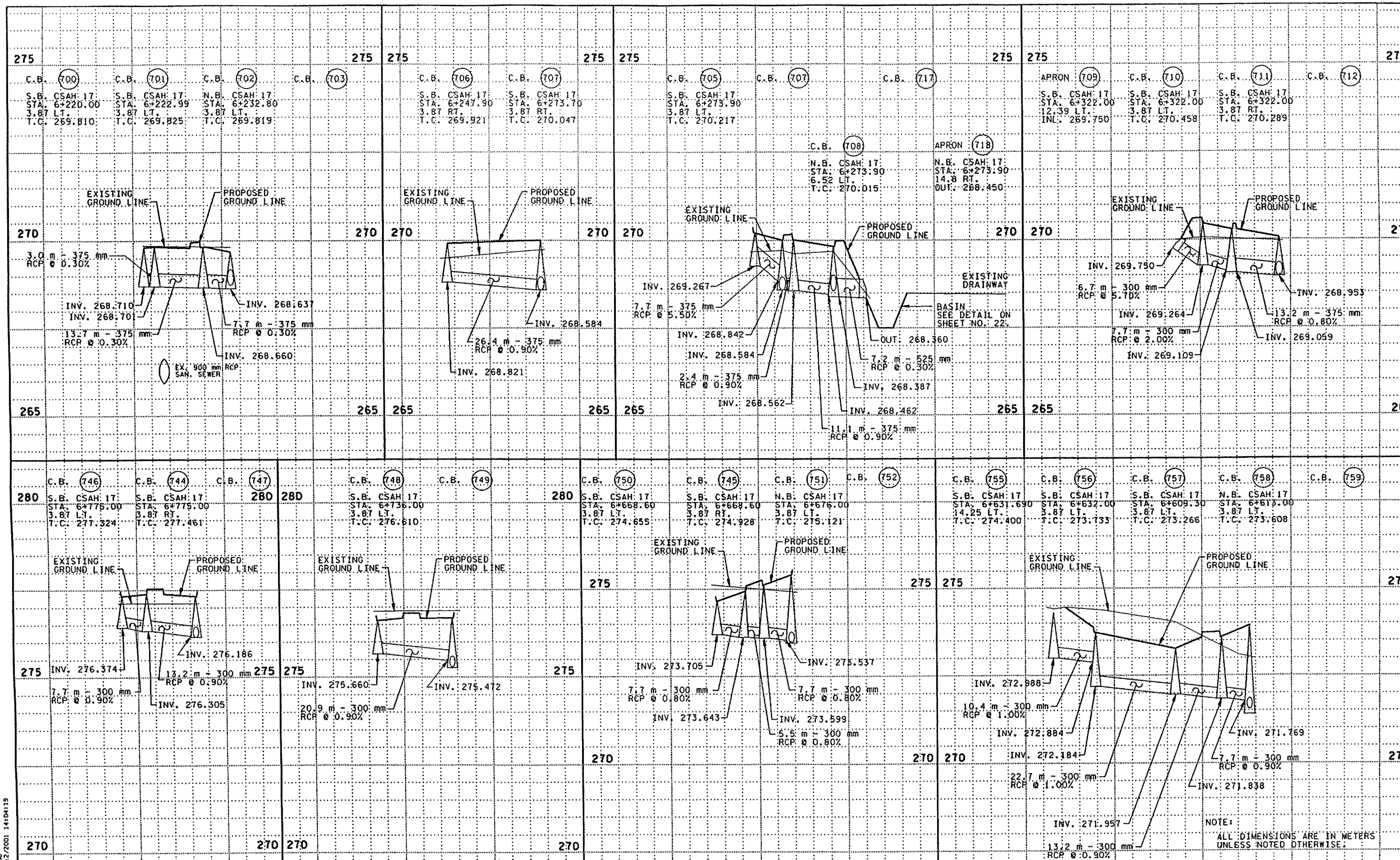


NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	11-16-00	VGG	BRW	MDH	REVISED STORM SEWER 706 - 718
3	2-05-01	ELB	BRW	MDH	ADDED CB's 744 AND 745 PER ANOKA COUNTY COMMENTS

NAME: 2842.FAA DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY W. ANDERSON 1-99
DESIGNED BY S. MILLER 1-99
CHECKED BY B. WESTBY 1-99
COMM. NO. 0972842

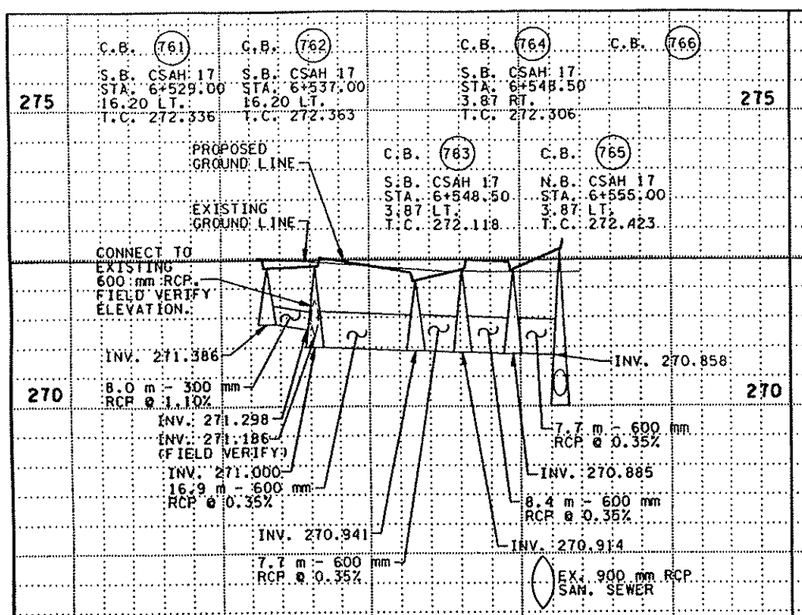
SRF CONSULTING GROUP, INC.

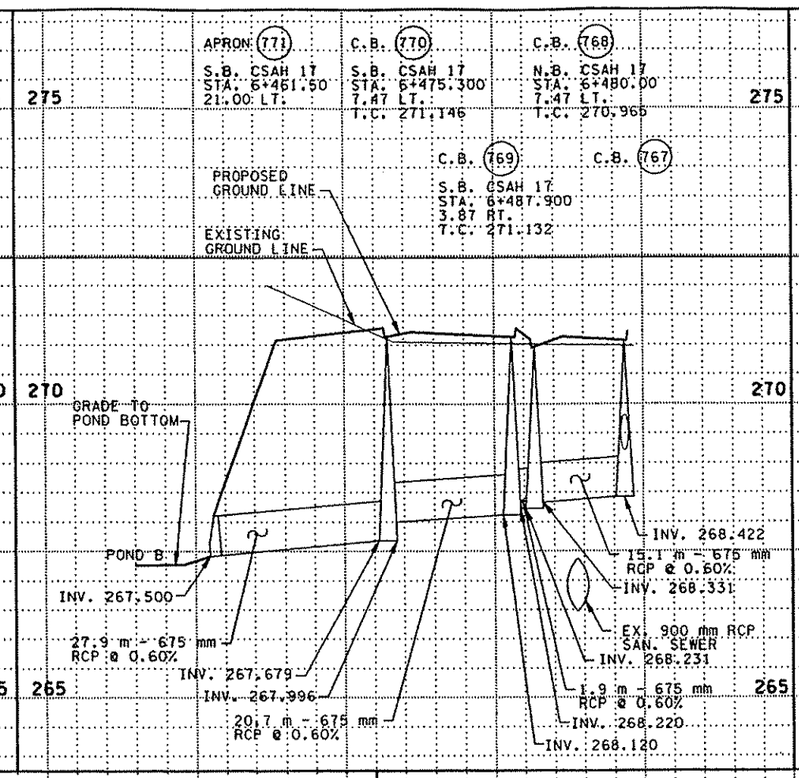
ANOKA COUNTY

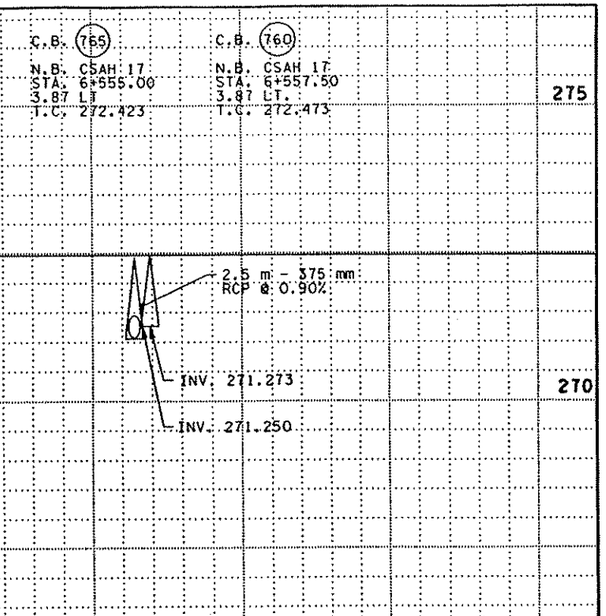
MISC. STORM SEWER PROFILES

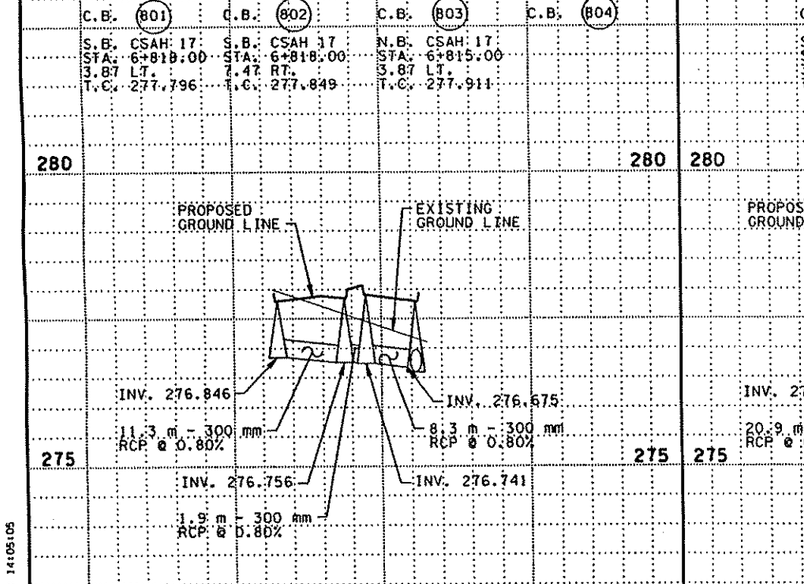
C.S.A.H. 17 RECONSTRUCTION

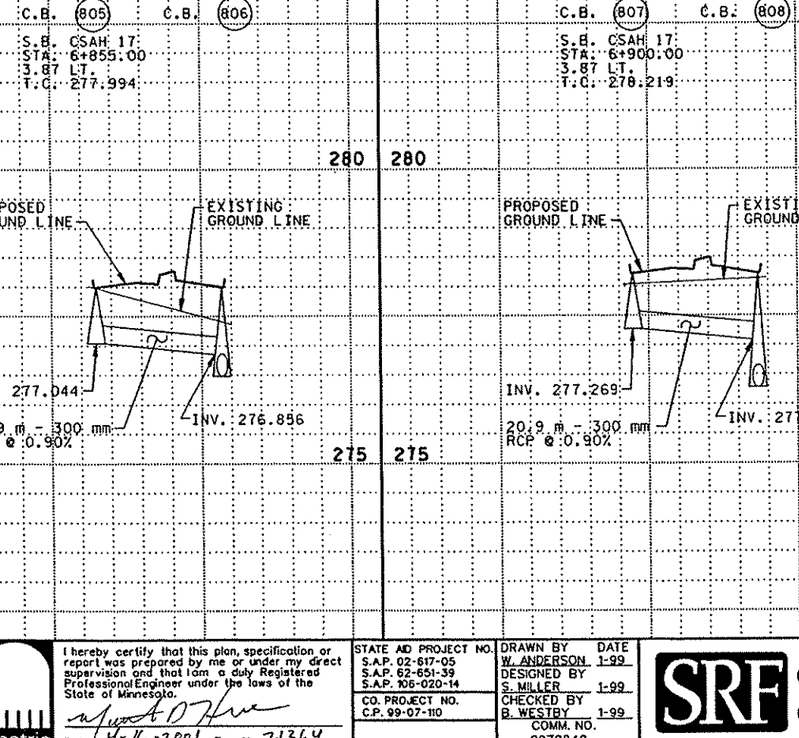
SHEET 74 OF 136

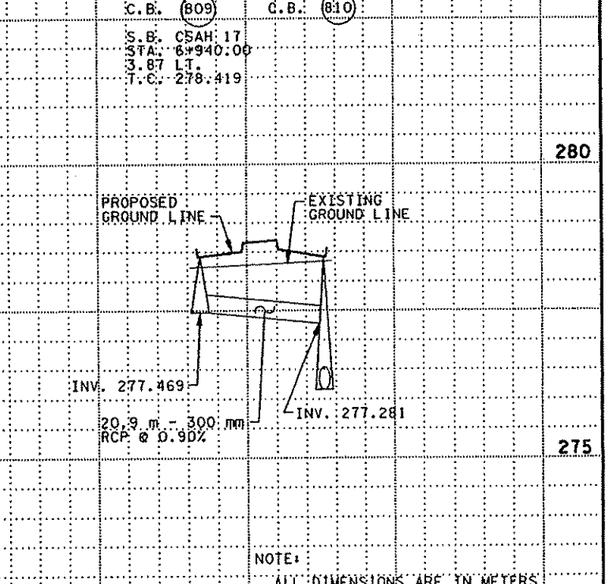












NOTE:
ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.FAB DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY	DATE
W. ANDERSON	1-99
DESIGNED BY	
S. MILLER	1-99
CHECKED BY	
B. WESTBY	1-99
COMM. NO.	
0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MISC. STORM SEWER PROFILES
C.S.A.H. 17 RECONSTRUCTION

SHEET 75 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouthLK0r\2842.t00
PRF FILE: n:\civil\047\2842\PlanSouthLK0r\2842.prf
PLOTTER: HS-HPSSINK
PLOT SCALE: 25.657000
PLOT DATE/TIME: 04/12/2001 14:05:05

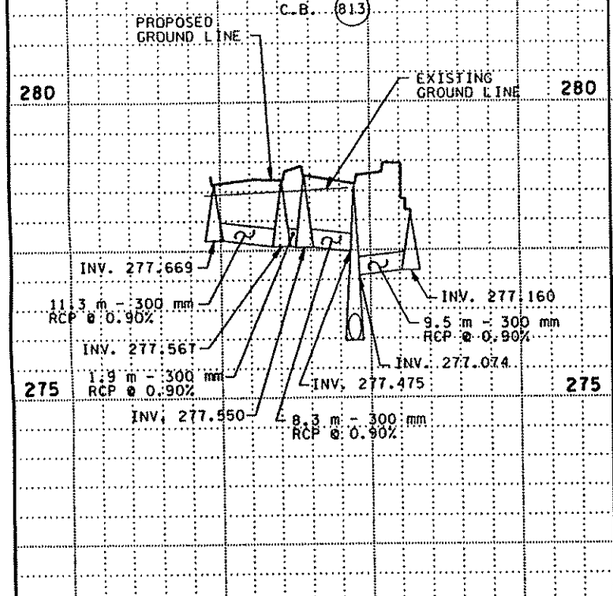
C.B. (811)
S.B. CSAH 17
STA. 6+980.00
3.87 LT.
T.C. 278.619

C.B. (812)
S.B. CSAH 17
STA. 6+983.00
7.47 RT.
T.C. 278.687

C.B. (800)
N.B. CSAH 17
STA. 6+983.00
3.87 LT.
T.C. 278.771

C.B. (847)
N.B. CSAH 17
STA. 6+975.70
12.23 RT.
T.C. 278.110

C.B. (813)



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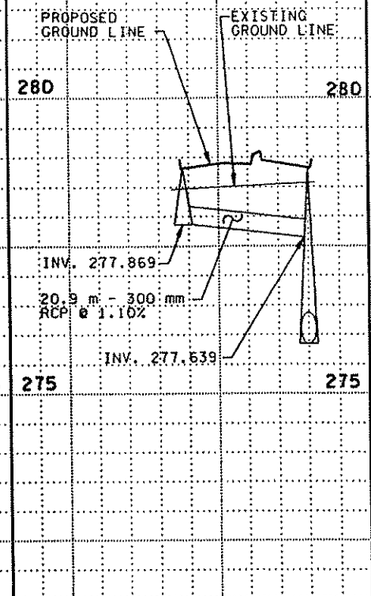
STA. 7+020.00
3.87 LT.
T.C. 278.819

C.B. (815)

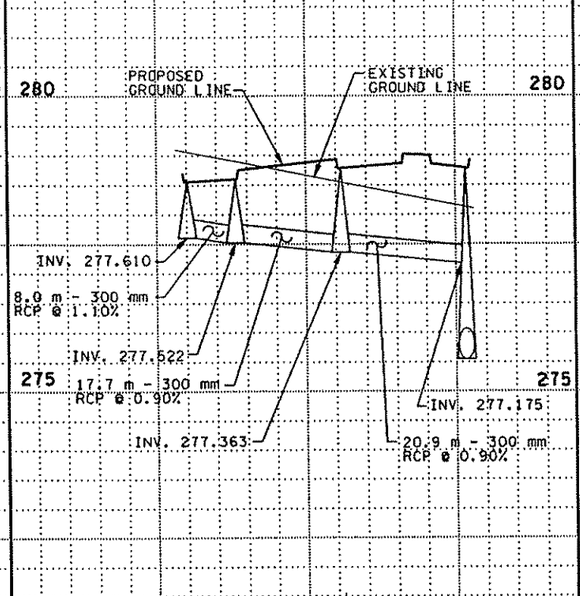


C.B. (816)
S.B. CSAH 17
STA. 7+078.00
16.20 LT.
T.C. 278.560

C.B. (817)
S.B. CSAH 17
STA. 7+086.00
16.20 LT.
T.C. 278.601

C.B. (818)
S.B. CSAH 17
STA. 7+099.00
3.87 LT.
T.C. 278.785

C.B. (819)



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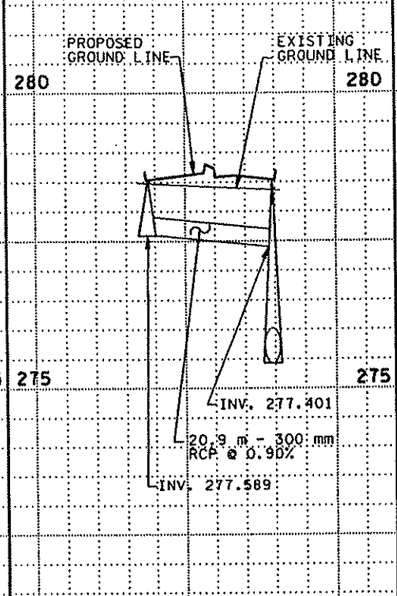
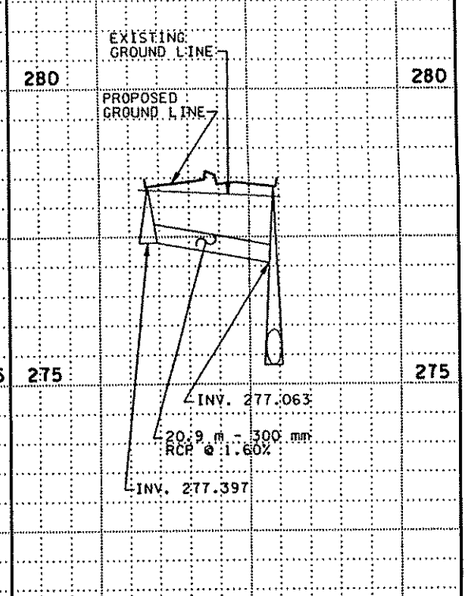
STA. 7+140.00
3.87 LT.
T.C. 278.639

C.B. (821)



C.B. (822)
S.B. CSAH 17
STA. 7+172.00
3.87 LT.
T.C. 278.347

C.B. (823)



C.B. (824)
S.B. CSAH 17
STA. 7+226.00
16.20 LT.
T.C. 278.020

C.B. (826)
S.B. CSAH 17
STA. 7+204.00
3.87 LT.
T.C. 278.155

C.B. (828)
N.B. CSAH 17
STA. 7+204.00
7.47 LT.
T.C. 278.364

C.B. (830)
S.B. CSAH 17
STA. 7+270.00
3.87 LT.
T.C. 277.759

C.B. (831)

C.B. (832)
S.B. CSAH 17
STA. 7+313.00
3.87 LT.
T.C. 277.501

C.B. (834)
S.B. CSAH 17
STA. 7+313.00
7.47 RT.
T.C. 277.554

C.B. (835)

C.B. (833)
S.B. CSAH 17
STA. 7+319.00
7.47 RT.
T.C. 277.518

C.B. (834)

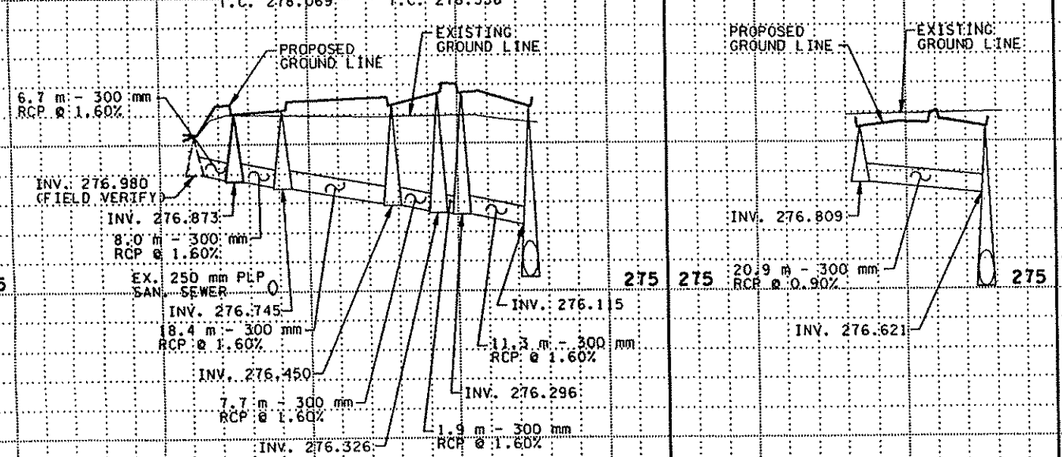
EXISTING C.B.
S.B. CSAH 17
STA. 6+231.54
12.49 LT.

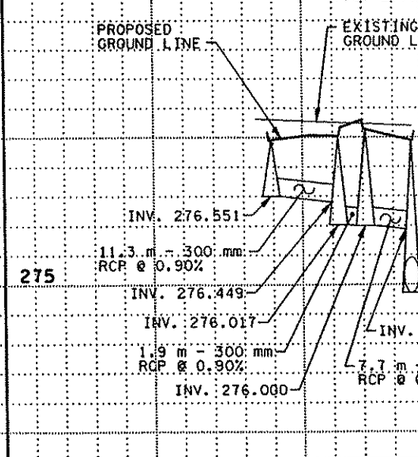
C.B. (825)
S.B. CSAH 17
STA. 7+217.00
16.20 LT.
T.C. 278.069

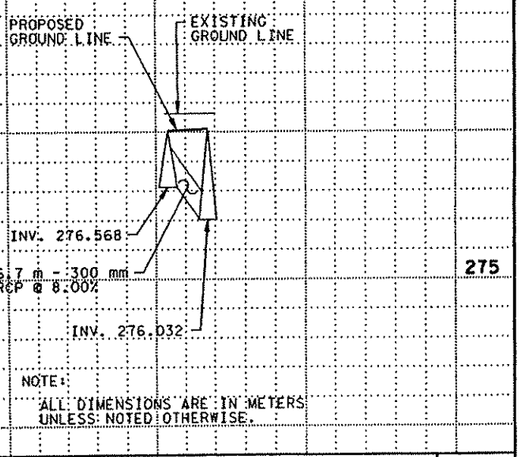
C.B. (827)
S.B. CSAH 17
STA. 7+205.10
7.47 RT.
T.C. 278.358

C.B. (829)

C.B. (846)
N.B. CSAH 17
STA. 7+313.00
3.87 LT.
T.C. 277.638







NOTE:
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NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.FAC DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 11364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY B. WESTBY 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MISC. STORM SEWER PROFILES
C.S.A.H. 17 RECONSTRUCTION

SHEET 76 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouth.kdr\2842.fac
PRF FILE: n:\civil\047\2842\PlanSouth.kdr\2842.prf
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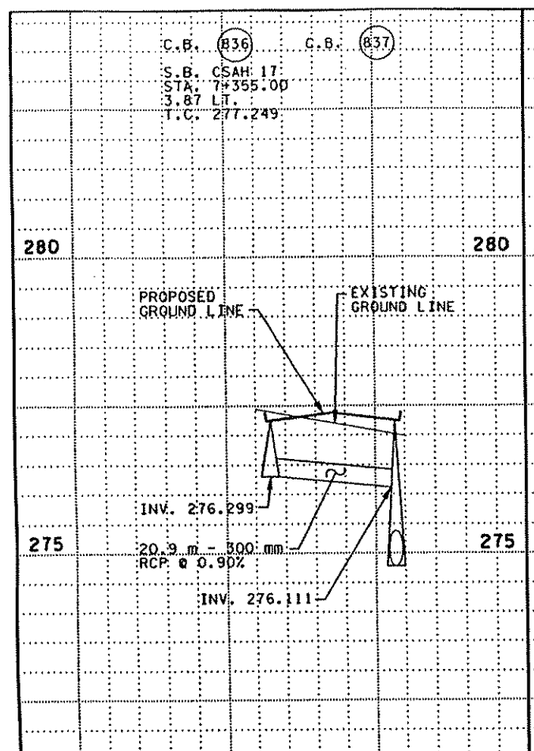
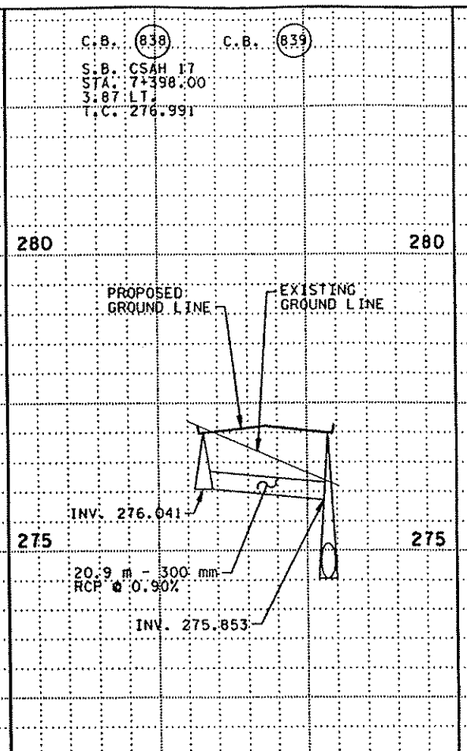
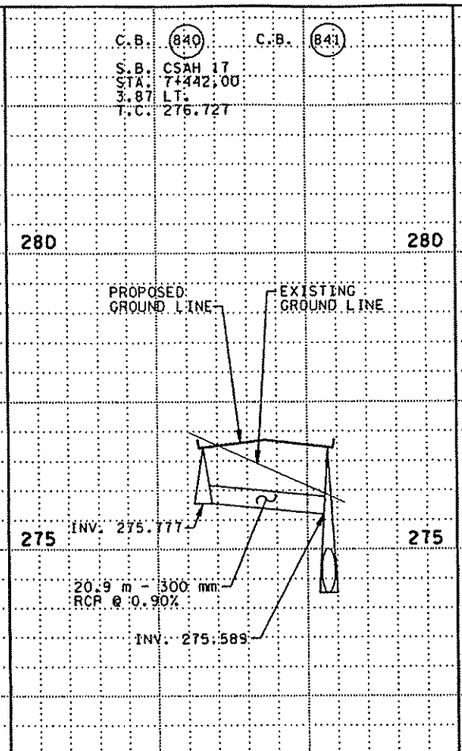
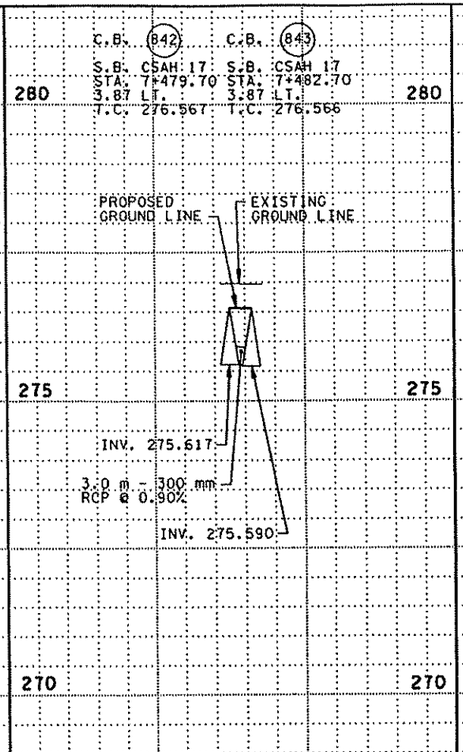
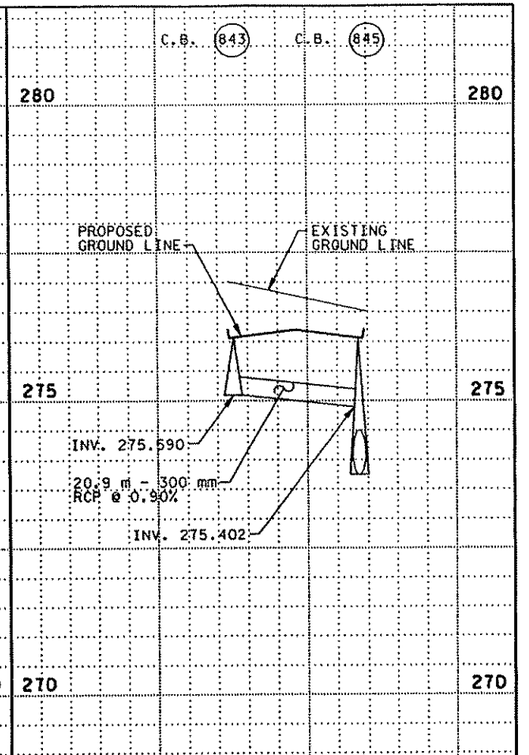
PLOT SCALE: 1" = 50.000'
PLOT DATE/TIME: 04/12/2001 14:05:51

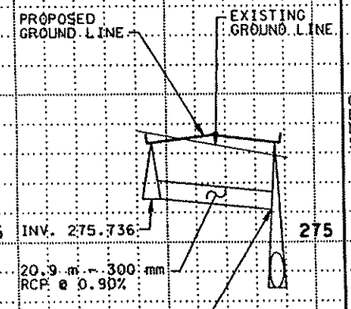


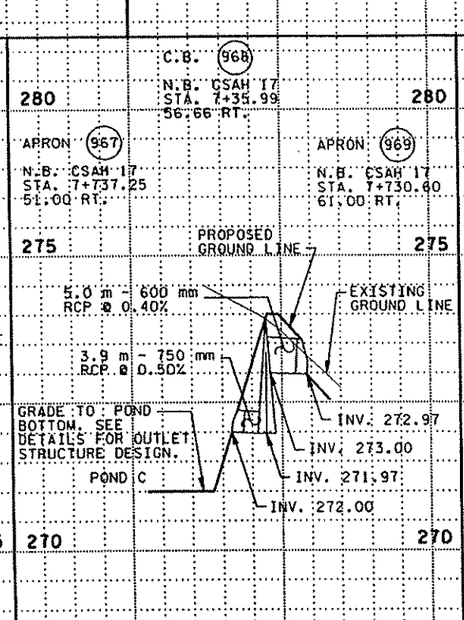


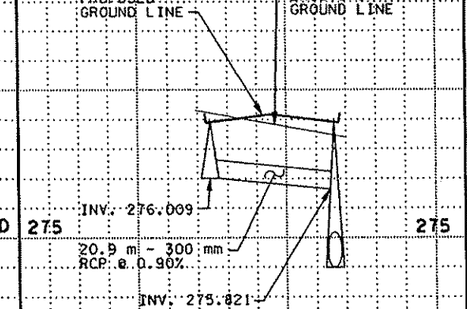


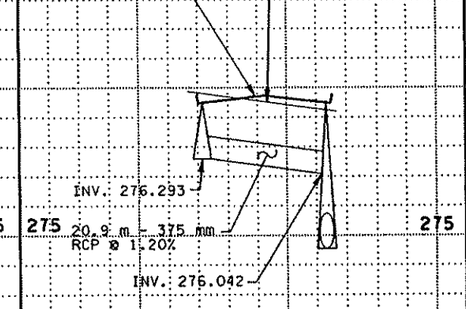


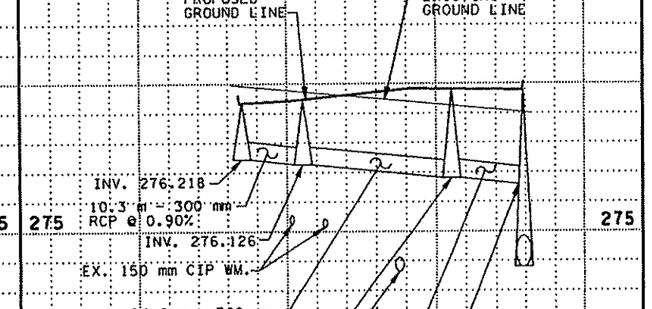












NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.FAD DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	
S.A.P. 02-617-05	
S.A.P. 62-651-39	
S.A.P. 105-020-14	
CO. PROJECT NO.	
C.P. 99-07-110	
DRAWN BY	DATE
S. MARTINS	10-98
DESIGNED BY	
M. HANSEN	10-98
CHECKED BY	
B. WESTBY	1-99
COMM. NO.	
0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MISC. STORM SEWER PROFILES
C.S.A.H. 17 RECONSTRUCTION

SHEET 77 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouth\LKD\r2842.tod
PRF FILE: n:\civil\047\2842\PlanSouth\LKD\r2842.prf
PLOTTER: HS-HP5SIMX
PLOT SCALE: 25.165/200
PLOT DATE/TIME: 04/12/2001 14:06:46

C.B. (883) C.B. (884) APRON (896)

S.B. CSAH 17
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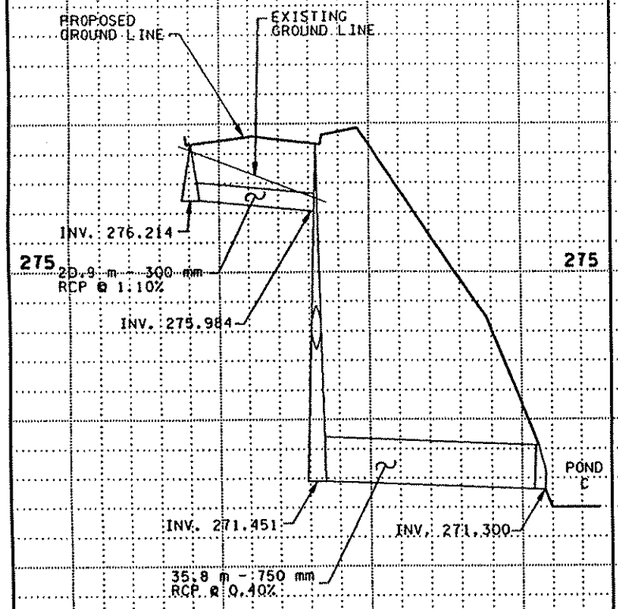
3.87 LT.
T.C. 277.164

N.B. CSAH 17
STA. 7+693.10
33.62 RT.
T.C. 277.164



C.B. (881) C.B. (882)

S.B. CSAH 17
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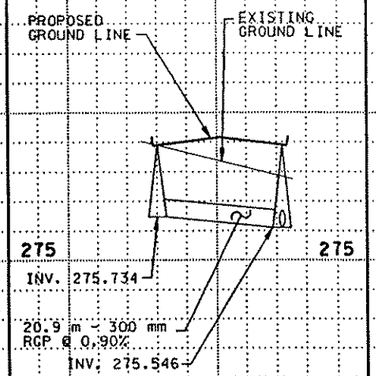
3.87 LT.
T.C. 276.954



C.B. (879) C.B. (880)

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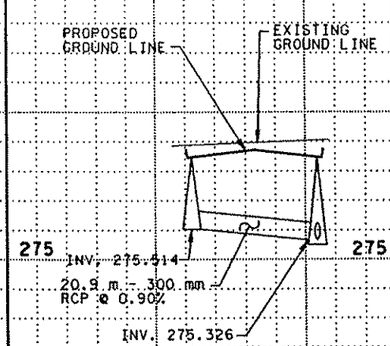
3.87 LT.
T.C. 276.734



C.B. (877) C.B. (878) APRON (895)

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T.C. 276.509

N.B. CSAH 17
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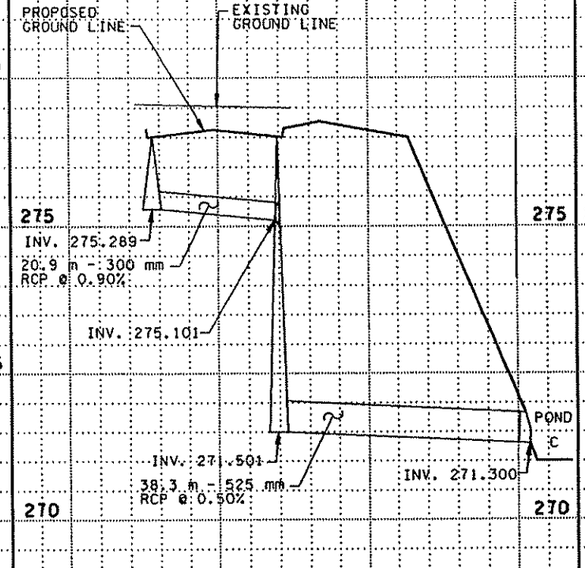
41.65 RT.



C.B. (874) C.B. (875) C.B. (876)

S.B. CSAH 17
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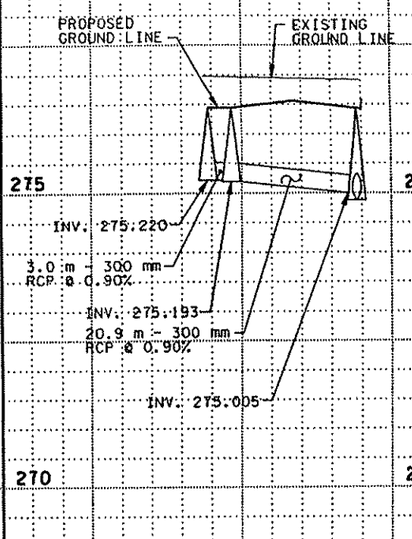
3.87 LT.
T.C. 276.440

S.B. CSAH 17
STA. 7+830.00
3.87 LT.
T.C. 276.439



C.B. (871) C.B. (872)

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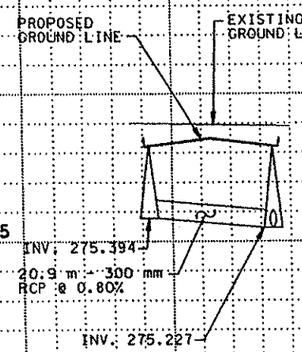
T.C. 276.614



C.B. (901) C.B. (902)

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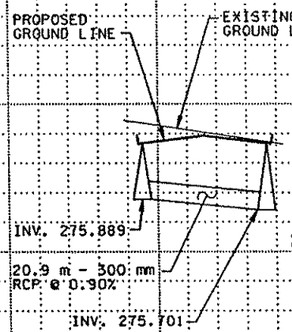
STA. 7+925.00
3.87 LT.
T.C. 276.839



C.B. (903) C.B. (904) C.B. (900) C.B. (905)

S.B. CSAH 17
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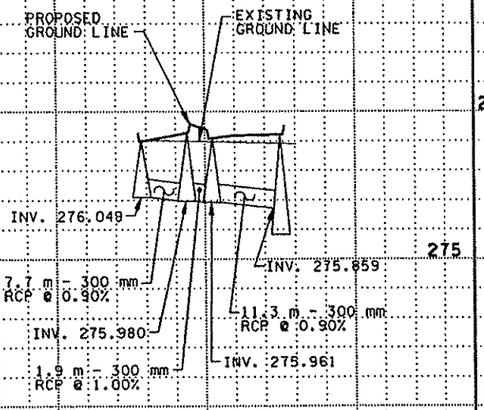
3.87 LT.
T.C. 276.999

N.B. CSAH 17
STA. 7+957.00
7.47 LT.
T.C. 277.052

S.B. CSAH 17
STA. 7+957.00
3.87 RT.
T.C. 277.136



C.B. (906) C.B. (907) C.B. (908) C.B. (909) C.B. (911) C.B. (910)

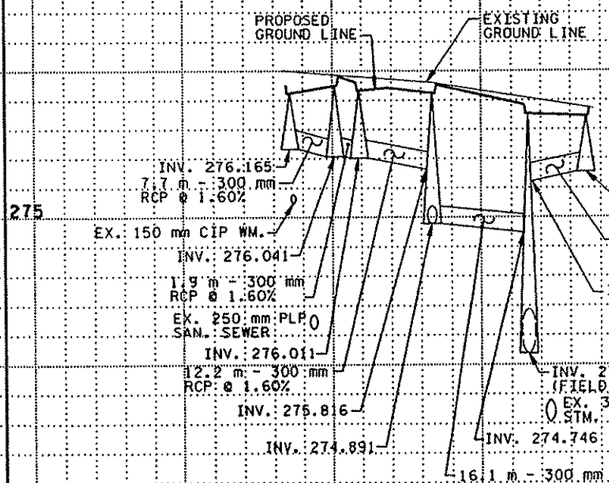
S.B. CSAH 17
STA. 8+017.00
3.87 LT.
T.C. 277.115

S.B. CSAH 17
STA. 8+018.71
3.87 RT.
T.C. 277.247

N.B. CSAH 17
STA. 8+019.50
7.47 LT.
T.C. 277.160

N.B. CSAH 17
STA. 8+028.71
12.88 RT.
T.C. 276.765

N.B. CSAH 17
STA. 8+038.50
15.38 RT.
T.C. 276.721



NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.FAE DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 105-020-14
CO. PROJECT NO.
C.P. 99-07-110

		DATE
DRAWN BY	S. MARTINS	10-98
DESIGNED BY	M. HANSEN	10-98
CHECKED BY	B. WESTBY	1-99
COMM. NO.	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MISC. STORM SEWER PROFILES
C.S.A.H. 17 RECONSTRUCTION

SHEET 78 OF 136

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PRF FILE: N:\CIVIL\047\2842\PlanSouth\MDR\2842.prf
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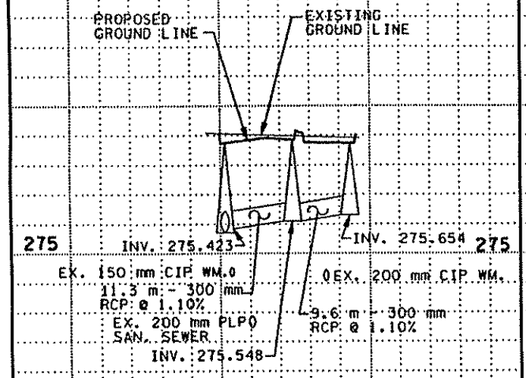
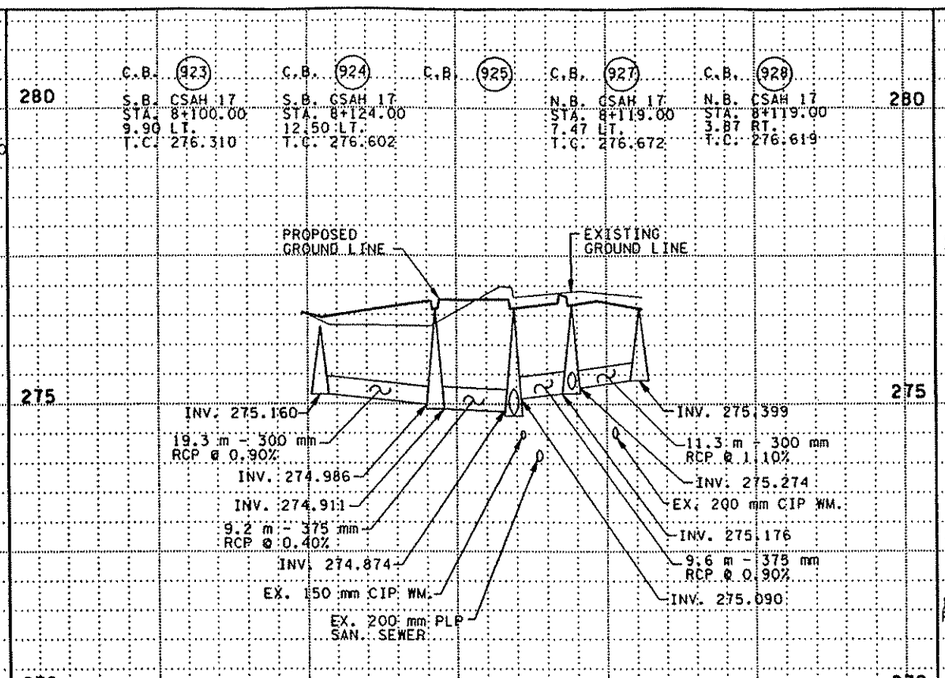
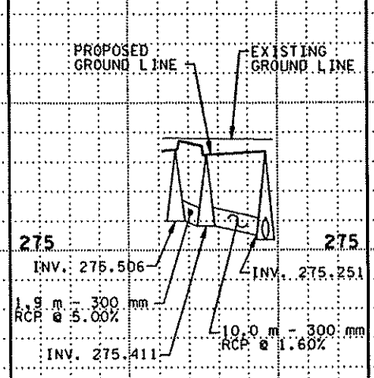
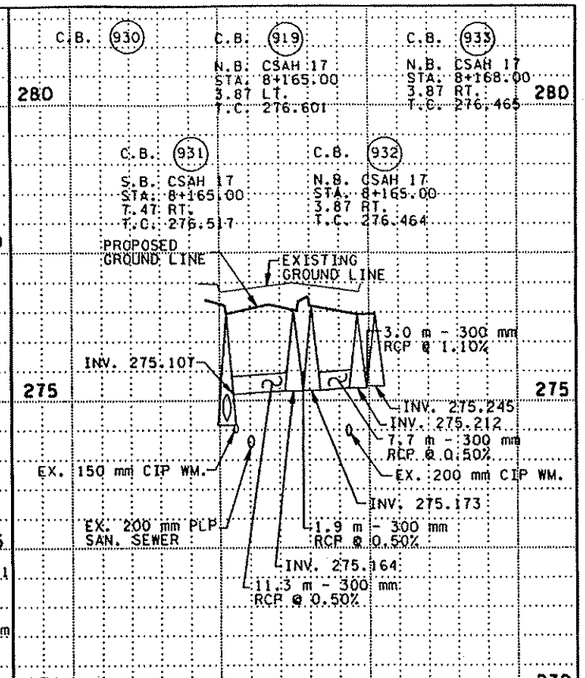
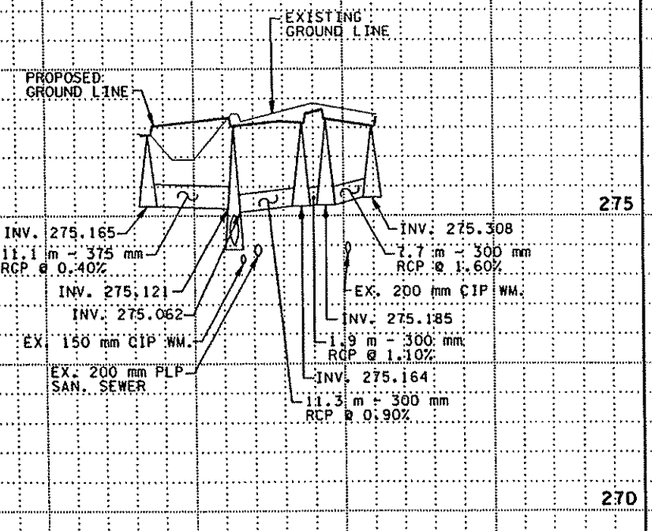
PLOT SCALE: 1" = 5.000'
PLOT DATE/TIME: 04/12/2001 14:07:41

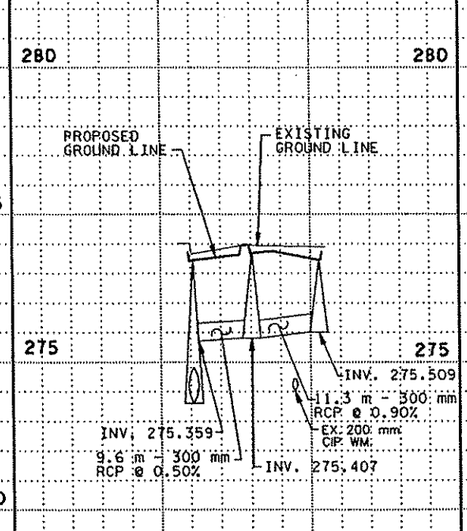


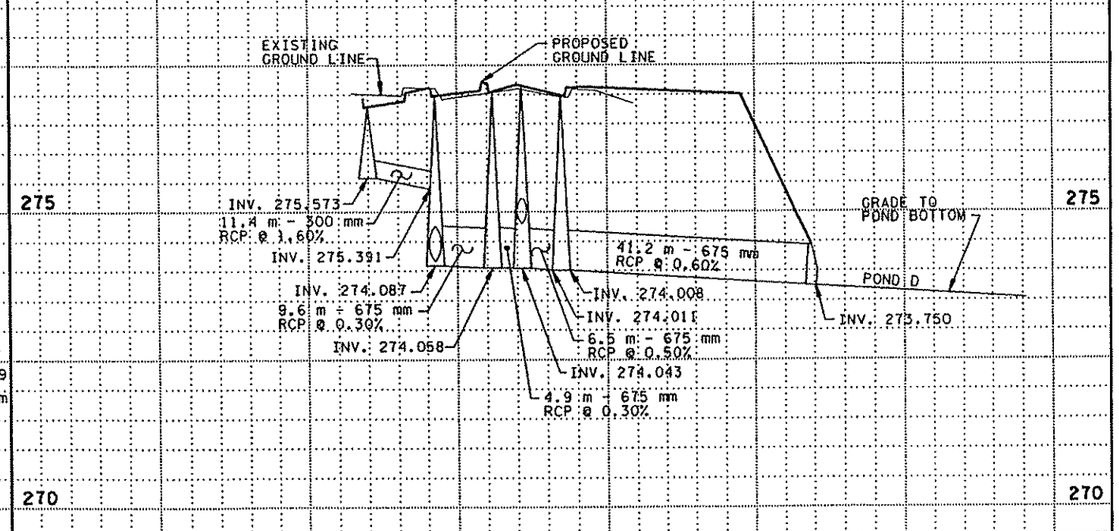












NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGC	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.FAF DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 02-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY W. ANDERSON DATE 1-99
DESIGNED BY S. MILLER 1-99
CHECKED BY B. WESTBY 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MISC. STORM SEWER PROFILES
C.S.A.H. 17 RECONSTRUCTION

SHEET 79 OF 136

DESIGN FILE: N:\CIVIL\047\2842\Plan\SouthLK\r2842.fdf
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PLOTTER: HP650C
PLOT SCALE: 1" = 20'
PLOT DATE/TIME: 04/12/2001 14:08:27

Q

FLOWS FROM: STR. OR APRON INLET	ALIGNMENT	STATION (A)	OFF SET (A)	L / R	TOP OF CAST-ING ELEV (A)	INV ELEV FROM	PIPE SLOPE	FLOWS TO: STR. OR APRON OUTLET	NEW STRUCTURE CONSTRUCTION DESIGN	PAY HT	F & I CASTING ASMBLY	CONE	STEPS RE-QUIRED (B)	DRAINAGE PIPE RCP (DESIGN 3006) 300 mm CL II		300 mm CL III		300 mm CL IV		375 mm CL II		375 mm CL III		450 mm CL II		450 mm CL III		525 mm CL II		525 mm CL III		525 mm CL IV		600 mm CL II		600 mm CL III		600 mm CL IV		675 mm CL III		675 mm CL IV		750 mm CL II		750 mm CL III		750 mm CL IV		SOD TYPE ERO-SION	RIP RAP (C) CLASS III	FOOT NOTES
			m		m	m	m/m			m	TYPE	TYPE		m	APR	m	APR	m	APR	m	APR	m	APR	m	APR	m	APR	m	APR	m	APR	m	APR	m	APR	m	APR	m	APR	m	APR	m	APR	m	APR	m2	m3	
700	SB CSAH 17	6+220.000	3.87	L	269.810	268.710	0.0030	701	G	1.04	B-1									3.0																											
701	SB CSAH 17	6+222.990	3.87	L	269.825	268.701	0.0030	702	G	1.06	B-1									13.7																											
702	NB CSAH 17	6+232.800	3.87	L	269.819	268.660	0.0030	703	G	1.09	B-1									7.7																											
703	NB CSAH 17	6+232.800	3.87	R	269.682	268.632	0.0030	704	1350-4020	0.99	B-1													3.0																							
	NB CSAH 17	6+232.480	3.87	R																																											
704	NB CSAH 17	6+235.800	3.87	R	269.683	268.623	0.0030	717	G	1.00	B-1													38.1																							
705	SB CSAH 17	6+273.900	3.87	L	270.217	269.267	0.0550	707	G	0.88	B-1									7.7																											
706	SB CSAH 17	6+247.900	3.87	R	269.921	268.821	0.0090	707	G	1.04	B-1									26.4																											
707	SB CSAH 17	6+273.700	3.87	R	270.047	268.584	0.0090	708	G	1.40	B-1									2.4																											
708	NB CSAH 17	6+273.900	6.52	L	270.015	268.562	0.0090	717	G	1.39	B-1									11.1																											
709	SB CSAH 17	6+322.000	12.39	L		269.750	0.0570	710	APRON						1	6.7																													7		(F) (G)
710	SB CSAH 17	6+322.000	3.87	L	270.458	269.264	0.0200	711	G	1.13	B-1			7.7																																
711	SB CSAH 17	6+322.000	3.87	R	270.289	269.059	0.0080	712	G	1.16	B-1									13.2																											
712	NB CSAH 17	6+320.000	3.87	R	270.056	268.953	0.0080	717	G	1.04	B-1									46.1																											
717	NB CSAH 17	6+273.700	3.87	R	269.824	268.387	0.0065	718	1350-4020	1.37	B-1																			7.2																(F)
	NB CSAH 17	6+274.020	3.87	R																																										
718	NB CSAH 17	6+273.900	14.80	R		268.328		TRAP	APRON																			1																4.8	(G)
719	SB CSAH 17	6+407.892	26.74	L	270.050			724	EX		A-7D																																		
721	SB CSAH 17	6+413.180	21.00	L		268.200	0.0050	722	APRON										1	5.0																								7		(F) (G)
722	SB CSAH 17	6+410.145	14.90	L	270.420	269.200	0.0100	724	SPECIAL 2															8.4																				1.5	(L)
723	SB CSAH 17	6+389.753	17.11	L	271.071	269.851	0.0100	724	G	1.16	B-1			19.1																																(F)
	SB CSAH 17	6+406.292	7.47	L	270.801	267.787	0.0070	727	F	2.95	B-1	B	Y																												6.5					(R)
725	SB CSAH 17	6+374.116	12.62	L	270.903	269.683	0.0100	726	G	1.16	B-1			3.5																																(R)
726	SB CSAH 17	6+377.378	11.37	L	270.919			727	EX																																					(K)
727	SB CSAH 17	6+405.711	1.04	L	270.854			728	EX																																					(K)
728	NB CSAH 17	6+407.377	4.70	R	270.476			EX OUTL	EX																																					(K)
730	SB CSAH 17	6+411.000	7.47	L	270.825	269.605	0.0085	731	G	1.16	B-1			14.9																																
731	SB CSAH 17	6+411.000	7.47	R	270.662	269.478	0.0085	732	G	1.12	B-1			8.3																																
732	SB CSAH 17	6+419.300	7.47	R	270.703	269.407	0.0085	733	G	1.23	B-1			1.9																																
733	NB CSAH 17	6+414.000	3.87	L	270.663	269.391	0.0085	734	G	1.21	B-1			7.7																																
734	NB CSAH 17	6+414.000	3.87	R		269.100	0.0030	735																																					
734	NB CSAH 17	6+414.000	3.87	R	270.526	268.230	0.0030	772	1350-4020	2.23	B-1		Y																																(F) (J)
734	NB CSAH 17	6+414.320	3.87	R																																								
735	NB CSAH 17	6+451.000	3.87	R	270.711	269.189	0.0030	767	F	1.46	B-1	C																																	
744	SB CSAH 17	6+775.000	3.87	R	277.461	276.305	0.0090	747	G	1.09	B-1			13.2																																
745	SB CSAH 17	6+668.600	3.87	R	274.928	273.643	0.0080	751	G	1.22	B-1			5.5																																
746	SB CSAH 17	6+775.000	3.87	L	277.324	276.374	0.0090	744	G	0.88	B-1			7.7																																
747	NB CSAH 17	6+775.000	3.87	R	277.324	276.186	0.0220	749	G	1.07	B-1			39.0																																
748	SB CSAH 17	6+736.000	3.87	L	276.610	275.650	0.0090	749	G	0.88	B-1			20.9																																
749	NB CSAH 17	6+736.000	3.87	R	276.684	275.328	0.0300	752	F	1.29	B-1	C		60.0																																
750	SB CSAH 17	6+668.600	3.87	L	274.655	273.705	0.0080	745	G	0.88	B-1			7.7																																
751	NB CSAH 17	6+676.000	3.87	L	275.121	273.599	0.0080	752	F	1.46	B-1	C		7.7																																
752	NB CSAH 17	6+676.000	3.87	R	275.385	273.528	0.0300	759	F	1.79	B-1	C	Y			63.0																														
755	SB CSAH 17	6+631.690	14.25	L	274.400	272.988	0.0100	756	F	1.38	M-11	C		10.4																																
756	SB CSAH 17	6+632.000	3.87	L	273.733	272.184	0.0100	757	F	1.48	B-1	C		22.7																																
757	SB CSAH 17	6+609.300	3.87	L	273.266	271.957	0.0090	758	F	1.24	B-1	C		13.2																																
758	NB CSAH 17	6+613.000	3.87	L	273.608	271.838	0.0090	759	F	1.71	B-1	C		7.7																																
759	NB CSAH 17	6+613.000	3.87	R	273.930	271.488	0.0180	766	1350-4020	2.38	B-1		Y														62.0																			
	NB CSAH 17	6+613.320	3.87	R																																										
760	NB CSAH 17	6+557.500	3.87	L	272.473	271.273	0.0090	765	G	1.13	B-1									2.5																										
761	SB CSAH 17	6+529.000	16.20	L	272.336	271.386	0.0110	762	G	0.88	B-1			8.0																																
762	SB CSAH 17	6+537.000	16.20	L	272.363	271.000	0.0035	763	1500-4020	1.30	B-1																																			
	SB CSAH 17	6+537.383	16.20	L																																										
763	SB CSAH 17	6+548.500	3.87	L	272.118	270.941	0.0035	764	G	1.11	B-1																																			
764	SB CSAH 17	6+548.500	3.87	R	272.306	270.914	0.0035	765	G	1.33	B-1																																			
765	NB CSAH 17	6+555.000	3.87	L	272.423	270.885	0.0035	766	1650-4020	1.47	B-1																																			
	NB CSAH 17	6+554.617	3.87	L																																										

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	11-16-00	VGG	BRW	MDH	REVISED PIPE SIZE 717 - 718
3	2-05-01	ELB	BRW	MDH	ADDED CB's 744 & 745 PER ANOKA COUNTY COMMENTS
4	3-23-01	SJP	BRW	MDH	REMOVE CB'S 340 & 341 AND PIPE BETWEEN

NAME: 2842.DTB DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY B. WESTBY 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE TABULATION
C.S.A.H. 17 RECONSTRUCTION

SHEET 81 OF 136

DESIGN FILE: n:\civil\047\2842\Plan South\KDP\2842.ctb
PRF FILE: n:\civil\047\2842\Plan South\KDP\2842.prf
PLOTTER: MS-PPS5100
PLOT SCALE: 2.5000 '/ In.
PLOT DATE/TIME: 04/12/2001 14:09:34

Q

FLOWS FROM. STR. OR APRON INLET	ALIGNMENT	STATION (A)	OFF SET (A)	L / R	TOP OF CAST-ING ELEV (A)	INV ELEV FROM	PIPE SLOPE	FLOWS TO: STR. OR APRON OUTLET	NEW STRUCTURE CONSTRUCTION DESIGN	PAY HT	F & I CASTING ASMBLY TYPE	CONE TYPE	STEPS RE-QUIRED (B)	DRAINAGE PIPE RCP (DESIGN 3006) 300 mm CL II m	APR	300 mm CL III m	APR	300 mm CL IV m	APR	375 mm CL II m	APR	375 mm CL III m	APR	450 mm CL II m	APR	450 mm CL III m	APR	525 mm CL II m	APR	525 mm CL III m	APR	525 mm CL IV m	APR	600 mm CL II m	APR	600 mm CL III m	APR	600 mm CL IV m	APR	675 mm CL III m	APR	675 mm CL IV m	APR	750 mm CL II m	APR	750 mm CL III m	APR	750 mm CL IV m	APR	SOD TYPE ERO-SION	RIP RAP (C) CLASS III	FOOT NOTES
			m		m	m	m/m			m	TYPE	TYPE	(B)																																m2	m3	
766	NB CSAH 17	6+555.000	3.87	R	272.648	270.222	0.0150	767	1650-4020	2.36	B-1		Y																			61.0																	
	NB CSAH 17	6+555.470	3.87	R																																											
767	NB CSAH 17	6+490.000	3.87	R	271.071	268.422	0.0060	768	2700-4020	2.58	B-1		Y																									15.1									
	NB CSAH 17	6+490.983	3.87	R																																											
768	NB CSAH 17	6+480.000	7.47	L	270.965	268.231	0.0060	769	F	2.67	B-1	B	Y																									1.9									
769	SB CSAH 17	6+487.900	3.87	R	271.132	268.120	0.0060	770	F	2.95	B-1	B	Y																									20.7									
770	SB CSAH 17	6+475.300	7.47	L	271.146	267.679	0.0060	771	F	3.40	B-1	B	Y																											28.0							(F)
771	SB CSAH 17	6+451.326	23.69	L		267.500		POND B	APRON																													1							6.7	(G)
772	NB CSAH 17	6+413.720	15.50	R		268.195		DITCH	APRON																									1												6.3	(J)
800	NB CSAH 17	6+983.000	3.87	L	278.771	277.550	0.0090	813	G	1.16	B-1			8.3																																		
801	SB CSAH 17	6+818.000	3.87	L	277.796	276.850	0.0080	802	G	0.88	B-1			11.7																																		
802	SB CSAH 17	6+815.000	7.47	R	277.827	276.756	0.0080	803	G	1.01	B-1			1.9																																		
803	NB CSAH 17	6+815.000	3.87	L	277.911	276.741	0.0080	804	G	1.11	B-1			8.3																																		
804	NB CSAH 17	6+818.000	3.87	R	277.796	276.600	0.0030	806	G	1.13	B-1									37.0																										
805	SB CSAH 17	6+855.000	3.87	L	277.994	277.044	0.0090	806	G	0.88	B-1			20.9																																		
806	NB CSAH 17	6+855.000	3.87	R	277.994	276.489	0.0030	808	F	1.44	B-1	C								45.0																										
807	SB CSAH 17	6+900.000	3.87	L	278.219	277.269	0.0090	808	G	0.88	B-1			20.9																																		
808	NB CSAH 17	6+900.000	3.87	R	278.219	276.279	0.0030	810	F	1.88	B-1	C	Y											40.0																						
809	SB CSAH 17	6+940.000	3.87	L	278.419	277.469	0.0090	810	G	0.88	B-1			20.9																																		
810	NB CSAH 17	6+940.000	3.87	R	278.419	276.159	0.0030	813	F	2.20	B-1	C	Y													40.0																				
811	SB CSAH 17	6+980.000	3.87	L	278.619	277.669	0.0090	812	G	0.88	B-1			11.3																																		
812	SB CSAH 17	6+983.000	7.47	R	278.687	277.567	0.0090	800	G	1.06	B-1			1.9																																		
813	NB CSAH 17	6+980.000	3.87	R	278.619	275.889	0.0030	815	F	2.67	B-1	B	Y																																		
814	SB CSAH 17	7+020.000	3.87	L	278.819	277.869	0.0110	815	G	0.88	B-1			20.9																																		
815	NB CSAH 17	7+020.000	3.87	R	278.819	275.769	0.0030	819	F	2.99	B-1	B	Y																																		
816	SB CSAH 17	7+078.000	16.20	L	278.560	277.610	0.0110	817	G	0.88	B-1			8.0																																		
817	SB CSAH 17	7+086.000	16.20	L	278.601	277.522	0.0090	818	G	1.01	B-1			17.7																																		
818	SB CSAH 17	7+099.000	3.87	L	278.785	277.363	0.0090	819	F	1.36	B-1	C		20.9																																		
819	NB CSAH 17	7+099.000	3.87	R	278.785	275.547	0.0030	821	F	3.17	B-1	B	Y																																		
820	SB CSAH 17	7+140.000	3.87	L	278.539	277.589	0.0090	821	G	0.88	B-1			20.9																																		
821	NB CSAH 17	7+140.000	3.87	R	278.539	275.424	0.0030	823	F	3.05	B-1	B	Y																																		
822	SB CSAH 17	7+172.000	3.87		278.347	277.397	0.0160	823	G	0.88	B-1			20.9																																		
823	NB CSAH 17	7+172.000	3.87	R	278.347	275.328	0.0030	829	F	2.95	B-1	B	Y																																		(R)
DI 1	SB CSAH 17	7+231.543	12.49	L	277.620	276.980	0.0160	824	EX DI																																						
824	SB CSAH 17	7+226.000	16.20	L	278.020	276.873	0.0160	825	G	1.08	B-1			8.0			6.7																														
825	SB CSAH 17	7+217.000	16.20	L	278.059	276.745	0.0160	826	G	1.26	B-1			18.4																																		
826	SB CSAH 17	7+204.000	3.87	L	278.155	276.450	0.0160	827	F	1.64	B-1	C		7.7																																		
827	SB CSAH 17	7+205.100	7.47	R	278.358	276.326	0.0160	828	F	1.97	B-1	B	Y	1.9																																		
828	NB CSAH 17	7+204.000	7.47	L	278.364	276.296	0.0160	829	F	2.00	B-1	C	Y	11.3																																		
829	NB CSAH 17	7+207.000	3.87	R	278.137	275.157	0.0030	831	F	2.92	B-1	B	Y																											66.0								
830	SB CSAH 17	7+270.000	3.87	L	277.759	276.609	0.0090	831	G	0.88	B-1			20.9																											43.0								
831	NB CSAH 17	7+270.000	3.87	R	277.759	274.959	0.0030	835	F	2.74	B-1	B	Y																																		
832	SB CSAH 17	7+313.000	3.87	L	277.501	276.551	0.0090	834	G	0.88	B-1			11.3																																		
833	SB CSAH 17	7+319.000	7.47	R	277.518	276.568	0.0800	834	G	0.88	B-1			6.7																																		
834	SB CSAH 17	7+313.000	7.47	R	277.554	276.017	0.0090	846	F	1.47	B-1	C		1.9																																		
835	NB CSAH 17	7+313.000	3.87	R	277.501	274.830	0.0030	837	F	2.61	B-1	B	Y																											42.0								
836	SB CSAH 17	7+355.000	3.87	L	277.249	276.299	0.0090	837	G	0.88	B-1			20.9																											43.0								
837	NB CSAH 17	7+355.000	3.87	R	277.249	274.704	0.0030	839	F	2.48	B-1	C	Y																																		
838	SB CSAH 17	7+398.000	3.87	L	276.991	276.041	0.0090	839	G	0.88	B-1			20.9																											44.0								
839	NB CSAH 17	7+398.000	3.87	R	276.991	274.575	0.0030	841	F	2.35	B-1	C	Y																																		
840	SB CSAH 17	7+442.000	3.87	L	276.727	275.777	0.0090	841	G	0.88	B-1			20.9																																		
841	NB CSAH 17	7+442.000	3.87	R	276.727	274.368	0.0030	844	F	2.29	B-1	C	Y																																		
842	SB CSAH 17	7+479.700	3.87	L	276.567	275.617	0.0090	843	G	0.88	B-1			3.0																																		
843	SB CSAH 17	7+482.700	3.87	L	276.566	275.590	0.0090	845	G	0.91	B-1			20.9																																		
844	NB CSAH 17	7+479.700	3.87	R	276.567	274.255	0.0030	845	F	2.25	B-1	C	Y																																		
845	NB CSAH 17	7+482.700	3.87	R	276.566	274.246	0.0030	894	F	2.26	B-1	C	Y																																		
846	NB CSAH 17	7+313.000	3.87	L	277.638	276.000	0.0090	835	G	1.57	B-1			7.7																																		
871	SB CSAH 17	7+880.000	3.87	L	276.614	275.394	0.0080	872	G	1.16	B-1			20.9																																		

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGC	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	2-05-01	ELB	BRW	MDH	ADDED CB's 744 & 745 PER ANOKA COUNTY COMMENTS
3	3-23-01	SJP	BRW	MDH	REMOVE CB'S 340 & 341 AND PIPE BETWEEN

NAME: 2842.DTC DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY B. WESTBY 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE TABULATION
C.S.A.H. 17 RECONSTRUCTION

SHEET 82 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouth\MDP-2842.dgn
PRF FILE: n:\civil\047\2842\PlanSouth\MDP2842.prf
PLOTTER: MS-HP5SI.MX
PLOT SCALE: 1" = 50.000'
PLOT DATE/TIME: 04/12/2001 14:17:05

Q

FLOWS FROM STR. OR APRON INLET	ALIGNMENT	STATION (A)	OFF SET (A)	L / R	TOP OF CAST-ING ELEV (A)	INV ELEV FROM	PIPE SLOPE	FLOWS TO STR. OR APRON OUTLET	NEW STRUCTURE CONSTRUCTION DESIGN	PAY HT	F & I CASTING ASMBLY TYPE	CONE TYPE	STEPS RE-QUIRED (B)	DRAINAGE PIPE RCP (DESIGN 3006) 300 mm CL II	300 mm CL III	300 mm CL IV	375 mm CL II	375 mm CL III	450 mm CL II	450 mm CL III	525 mm CL II	525 mm CL III	525 mm CL IV	600 mm CL II	600 mm CL III	600 mm CL IV	675 mm CL III	675 mm CL IV	750 mm CL II	750 mm CL III	750 mm CL IV	SOD TYPE ERO-SION	RIP RAP (C) CLASS III	FOOT NOTES
			m		m	m	m/m			m	TYPE			m APR	m APR	m APR	m APR	m APR	m APR	m APR	m APR	m APR	m APR	m APR	m APR	m APR	m APR	m APR	m APR	m APR	m2	m3	
872	NB CSAH 17	7+880.000	3.87	R	276.614	275.227	0.0040	873	G	1.32	B-1			47.0																			
873	NB CSAH 17	7+833.000	3.87	R	276.440	274.964	0.0030	876	G	1.41	B-1						3.0																
874	SB CSAH 17	7+833.000	3.87	L	276.440	275.220	0.0090	875	G	1.16	B-1			3.0																			
875	SB CSAH 17	7+830.000	3.87	L	276.439	275.193	0.0090	876	G	1.18	B-1			20.9																			
876	NB CSAH 17	7+830.000	3.87	R	276.439	274.880	0.0030	878	F	1.49	B-1	C							29.0													
877	SB CSAH 17	7+801.000	3.87	L	276.509	275.289	0.0090	878	G	1.16	B-1			20.9																			
878	NB CSAH 17	7+801.000	3.87	R	276.509	271.501	0.0050	895	1350-4020	5.54	B-1		Y									38.3											(F) (S)
	NB CSAH 17	7+801.320	3.87	R																													
879	SB CSAH 17	7+756.000	3.87	L	276.734	275.514	0.0090	880	G	1.16	B-1			20.9																			
880	NB CSAH 17	7+756.000	3.87	R	276.734	275.251	0.0050	878	F	1.42	B-1	C					45.0																
881	SB CSAH 17	7+712.000	3.87	L	276.954	275.734	0.0090	882	G	1.16	B-1			20.9																			
882	NB CSAH 17	7+712.000	3.87	R	276.954	275.546	0.0050	880	F	1.34	B-1	C		44.0																			
883	SB CSAH 17	7+670.000	3.87	L	277.164	276.214	0.0110	884	G	0.88	B-1			20.9																			
884	NB CSAH 17	7+670.000	3.87	R	277.164	271.451	0.0040	896	F	3.90	B-1	B	Y																		37.7		(F) (S)
	NB CSAH 17	7+670.320	3.87	R					1350-4020	2.35			Y																				
885	SB CSAH 17	7+632.900	16.20	L	277.168	276.218	0.0090	886	G	0.88	B-1			10.3																			
886	SB CSAH 17	7+622.600	16.20	L	277.173	276.126	0.0090	887	G	0.98	B-1			24.9																			(H) (P)
887	SB CSAH 17	7+627.739	4.99	R	277.605	275.902	0.0090	888	F	1.73	A-7D	C		12.0																			
888	NB CSAH 17	7+627.739	3.87	R	277.326	273.811	0.0030	884	F	3.45	B-1	B	Y																	42.3			
889	SB CSAH 17	7+596.000	3.87	L	277.243	276.293	0.0120	890	G	0.88	B-1						20.9																
890	NB CSAH 17	7+596.000	3.87	R	277.242	273.906	0.0030	888	F	3.27	B-1	B	Y																	31.7			
891	SB CSAH 17	7+555.000	3.87	L	276.959	276.009	0.0090	892	G	0.88	B-1			20.9																			
892	NB CSAH 17	7+555.000	3.87	R	276.959	274.029	0.0030	890	F	2.87	B-1	B	Y																	41.0			
893	SB CSAH 17	7+516.000	3.87	L	276.686	275.736	0.0090	894	G	0.88	B-1					20.9														39.0			
894	NB CSAH 17	7+516.000	3.87	R	276.686	274.146	0.0030	892	F	2.48	B-1	B	Y								1											4.8	(G)
895	NB CSAH 17	7+787.400	41.65	R		271.300		POND C	APRON																				1			8.3	(G)
896	NB CSAH 17	7+693.100	33.62	R		271.300		POND C	APRON																								
900	SB CSAH 17	7+957.000	3.87	R	277.136	275.980	0.0100	904	G	1.09	B-1			1.9																			
901	SB CSAH 17	7+925.000	3.87	L	276.839	275.889	0.0090	902	G	0.88	B-1			20.9																			
902	NB CSAH 17	7+925.000	3.87	R	276.839	275.701	0.0090	905	G	1.07	B-1			32.0																			
903	SB CSAH 17	7+957.000	3.87	L	276.999	276.049	0.0090	900	G	0.88	B-1			7.7																			
904	NB CSAH 17	7+957.000	7.47	L	277.052	275.961	0.0090	905	G	1.03	B-1			11.3																			
905	NB CSAH 17	7+957.000	3.87	R	277.107	275.413	0.0090	909	F	1.63	B-1	C			58.0																		
906	SB CSAH 17	8+017.000	3.87	L	277.115	276.165	0.0160	907	G	0.88	B-1			7.7																			
907	SB CSAH 17	8+018.700	3.87	R	277.247	276.041	0.0160	908	G	1.14	B-1			1.9																			
908	NB CSAH 17	8+019.500	7.47	L	277.160	276.011	0.0160	909	G	1.08	B-1			12.2																			
909	NB CSAH 17	8+015.000	3.87	R	277.120	274.891	0.0090	911	F	2.16	B-1	C	Y		16.1																		
910	NB CSAH 17	8+038.498	15.38	R	276.721	275.771	0.0160	911	G	0.88	B-1			9.7																			
911	NB CSAH 17	8+028.711	12.88	R	276.766	272.690	0.0026	EX	1500-4020	4.01	B-1		Y																				(E)
	NB CSAH 17	8+028.711	13.26	R																													
916	SB CSAH 17	8+129.000	3.87	R	276.706	275.506	0.0500	926	G	1.13	B-1			1.9																			
919	NB CSAH 17	8+165.000	3.87	L	276.601	275.173	0.0050	931	G	1.36	B-1			1.9																			
920	SB CSAH 17	8+068.000	3.87	L	276.874	275.346	0.0060	925	F	1.46	B-1	C						51.0															
921	SB CSAH 17	8+068.000	7.47	R	276.927	275.548	0.0110	920	G	1.31	B-1			11.3																			
922	NB CSAH 17	8+068.000	3.87	R	276.874	275.654	0.0110	921	G	1.16	B-1			9.6																			
923	SB CSAH 17	8+103.387	9.90	L	276.310	275.160	0.0090	924	G	1.11	M-11			19.3																			
924	SB CSAH 17	8+123.000	12.20	L	276.602	274.911	0.0040	925	1650-4020	1.63	B-1							9.2															
	SB CSAH 17	8+122.530	12.20	L																													
925	SB CSAH 17	8+119.000	3.87	L	276.619	274.799	0.0030	930	1600-4020	1.76	B-1		Y							46.0													
	SB CSAH 17	8+119.533	3.87	L																													
926	NB CSAH 17	8+129.000	7.47	L	276.622	275.411	0.0160	927	G	1.15	B-1			10.0																			
927	NB CSAH 17	8+119.000	7.47	L	276.672	275.176	0.0090	925	G	1.43	B-1							9.6															
928	NB CSAH 17	8+119.000	3.87	R	276.619	275.399	0.0110	927	G	1.16	B-1			11.3																			
929	SB CSAH 17	8+168.000	3.87	L	276.465	274.577	0.0030	935	F	1.82	B-1	C	Y																		24.8		
930	SB CSAH 17	8+165.000	3.87	L	276.464	274.586	0.0030	929	F	1.81	B-1	C	Y																		3.0		
931	SB CSAH 17	8+165.000	7.47	R	276.517	275.164	0.0050	930	G	1.29	B-1			11.3																			
932	NB CSAH 17	8+165.000	3.87	R	276.464	275.212	0.0050	919	G	1.19	B-1			7.7																			
933	NB CSAH 17	8+168.000	3.87	R	276.465	275.245	0.0110	932	G	1.16	B-1			3.0																			
934	SB CSAH 17	8+200.000	12.33	L	276.385	275.165	0.0040	935	G	1.15	B-1							11.1															

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	2-05-01	ELB	BRW	MDH	ADDED CB's 744 &745 PER ANOKA COUNTY COMMENTS
3	3-23-01	SJP	BRW	MDH	REMOVE CB'S 340 & 341 AND PIPE BETWEEN

NAME: 2842.DTD DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY V. GRAF DATE 1-99
DESIGNED BY B. WESTBY 1-99
CHECKED BY M. HANSEN 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE TABULATION
C.S.A.H. 17 RECONSTRUCTION

SHEET 83 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSaurtu.KDR\2842.dgn
PRE FILE: n:\civil\047\2842\PlanSaurtu.KDR\2842.prf
PLOTTER: HP55 1MX
PLOT SCALE: 2.556'/DD
PLOT DATE/TIME: 04/12/2001 14:18:12

Q

FLOWS FROM: STR. OR APRON INLET	ALIGNMENT	STATION (A)	OFF SET (A)	L / R	TOP OF CAST-ING ELEV (A)	INV ELEV FROM	PIPE SLOPE	FLOWS TO: STR. OR APRON OUTLET	NEW STRUCTURE CONSTRUCTION DESIGN	PAY HT	F & I CASTING ASMBLY	CONE	STEPS RE-QUIRED (B)	DRAINAGE PIPE RCP (DESIGN 3006) 300 mm CL II	APR	300 mm CL III	APR	300 mm CL IV	APR	375 mm CL II	APR	375 mm CL III	APR	450 mm CL II	APR	450 mm CL III	APR	525 mm CL II	APR	525 mm CL III	APR	525 mm CL IV	APR	600 mm CL II	APR	600 mm CL III	APR	600 mm CL IV	APR	675 mm CL III	APR	675 mm CL IV	APR	750 mm CL II	APR	750 mm CL III	APR	750 mm CL IV	APR	SOD TYPE ERO-SION	RIP RAP (C) CLASS III	FOOT NOTES
			m		m	m	m/m			m	TYPE	TYPE		m		m		m		m		m		m		m		m		m		m		m		m		m		m		m		m		m		m2	m3	
935	SB CSAH 17	8+192.800	3.87	L	276.529	274.428	0.0030	939	2700-4020	2.04	B-1		Y																					40.2																		
	SB CSAH 17	8+193.495	4.57	L																																														
936	SB CSAH 17	8+192.800	7.47	R	276.582	275.164	0.0090	935	G	1.35	B-1			11.3																																				
937	NB CSAH 17	8+192.800	3.87	L	276.653	275.185	0.0110	936	G	1.40	B-1			1.9																																				
938	NB CSAH 17	8+192.800	3.87	R	276.528	275.308	0.0160	937	G	1.16	B-1			7.7																																				
939	SB CSAH 17	8+233.000	3.87	L	276.729	274.307	0.0030	942	1350-4020	2.35	B-1		Y																					48.5																		
	SB CSAH 17	8+232.680	3.87	L																																													
940	NB CSAH 17	8+233.000	7.47	L	276.782	275.407	0.0050	939	G	1.31	B-1			9.6																																				
941	NB CSAH 17	8+233.000	3.87	R	276.729	275.509	0.0090	940	G	1.16	B-1			11.3																																				
942	SB CSAH 17	8+281.500	3.87	L	276.972	274.087	0.0030	943	1500-4020	2.82	B-1		Y																													9.6								
	SB CSAH 17	8+281.117	3.87	L																																												
943	NB CSAH 17	8+284.800	7.47	L	277.041	274.058	0.0030	944	F	2.92	B-1	B	Y																													4.9								
944	NB CSAH 17	8+284.800	2.60	L	277.147	274.043	0.0050	945	1650-4020	3.13	A-7D		Y																													6.5								(D)
	NB CSAH 17	8+285.270	2.60	L																																												
945	NB CSAH 17	8+284.800	3.87	R	276.988	274.008	0.0060	946	F	2.92	B-1	B	Y																													43.0								(F)
946	NB CSAH 17	8+315.906	33.63	R		273.750		POND D	APRON																																	1						6.7	(G)
951	SB CSAH 17	8+273.987	12.41	L	276.793	275.573	0.0160	942	G	1.16	B-1			11.4																																				12.6	(D) (F)
954	NB CSAH 17	8+353.841	64.35	R		275.000		POND D	APRON						1																																		(F) (G)
955	NB CSAH 17	8+392.028	130.24	R		273.800	0.0050	956	APRON													1.2	1																							7		(F) (G)
956	NB CSAH 17	8+394.171	132.48	R		274.400	0.0200	957	SPECIAL 4													7.1																									1.5	(L)
957	NB CSAH 17	8+399.108	137.64	R	274.850	273.250	0.0077	EX RCP	EX MH																																							(K) (R)
967	NB CSAH 17	7+737.250	51.00	R		272.000	0.0050	968	APRON											3.9	1																									7		(F) (G)
968	NB CSAH 17	7+735.990	56.66	R		273.000	0.0040	969	SPECIAL 3																																							1.5	(F) (L)
969	NB CSAH 17	7+730.200	61.38	R		272.972			APRON																																							6.3	(G)
STORM SEWER PIPE TOTALS														1217.9	2	150.5		20.9		369.5	2	13.3	1	164.5		102.0		103.8	2	7.2		38.3		106.8	2	170.5		147.0		346.2	2	28.0		74.0	1	154.0		37.7		28	61.0	

NOTES:

(A) STATIONS, OFFSETS, AND TOP OF CASTING ELEVATIONS ARE GIVEN TO CENTER OF CASTING. CENTER OF CATCH BASIN CASTING IS 0.33 m FROM FACE OF CURB. DESIGN 4020 STRUCTURES FURNISHED WITH TWO STATIONS AND OFFSETS; THE FIRST IDENTIFIES CASTING LOCATION, THE SECOND IDENTIFIES BASE LOCATION. SUMP DEPTH IS 25 mm ON OUTSIDE CURB AND 50 mm ON MEDIAN CURB. PIPE APRON LOCATIONS ARE GIVEN AT TOE OF APRON.
(B) FURNISHING AND INSTALLING STEPS CONSIDERED INCIDENTAL.
(C) GRANULAR FILTER BLANKET OR GEOTEXTILE MATERIAL REQUIRED CONSIDERED INCIDENTAL.
(D) CONNECT TO EXISTING PIPE AND MATCH ELEVATIONS. VERIFY EXISTING PIPE ELEVATION IN THE FIELD. CONNECTION TO EXISTING PIPE CONSIDERED INCIDENTAL.
(E) CONSTRUCT OVER EXISTING PIPE. VERIFY EXISTING PIPE ELEVATION IN THE FIELD. CONNECTION TO EXISTING PIPE CONSIDERED INCIDENTAL.
(F) TIE LAST THREE JOINTS AT APRON END. FURNISHING AND INSTALLING PIPE TIES CONSIDERED INCIDENTAL.
(G) FURNISH AND INSTALL TRASH GUARD.
(H) BULKHEAD HOLE UPON REMOVAL OF EXISTING PIPE. BULKHEAD CONSIDERED INCIDENTAL.
(J) TEMPORARY STORM SEWER TO BE IN PLACE DURING STAGE 1 CONSTRUCTION. REMOVE PIPE AND APRON, BULKHEAD OPENING IN CB 734, FILL WITH SAND AND POUR 200 mm CONCRETE INVERT ONCE GRADING AND STORM SEWER CONSTRUCTION FOR POND B IS COMPLETE. ALL WORK REQUIRED TO CONSTRUCT BULKHEAD, FILL CB WITH SAND AND POUR CONCRETE INVERT SHALL BE CONSIDERED INCIDENTAL TO STORM SEWER CONSTRUCTION.
(K) ADJUST EXISTING DRAINAGE STRUCTURE. VERIFY PROPOSED TOP OF CASTING ELEVATION WITH ENGINEER IN THE FIELD.
(L) OUTLET CONTROL STRUCTURE DESIGN SPECIAL. SEE DETAILS.
(P) CONNECT TO EXISTING PIPE DURING STAGE 1 CONSTRUCTION. REMOVE EXISTING PIPE AND BULKHEAD HOLE UPON COMPLETION OF STAGE 2 STORM SEWER CONSTRUCTION.
(R) CONNECT TO EXISTING DRAINAGE STRUCTURE. VERIFY EXISTING INVERT ELEVATION IN THE FIELD. CONNECTION TO EXISTING STRUCTURE CONSIDERED INCIDENTAL.
(S) CONSTRUCT SUPERBASE CATCH BASIN STRUCTURE. PAYMENT FOR ALL WORK REQUIRED TO CONSTRUCT SUPERBASE SHALL BE INCIDENTAL TO SUPERBASE PORTION OF STRUCTURE PAY HEIGHT. SEE DETAILS.

P

CASTING ASSEMBLIES SUMMARY

ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	STANDARD PLATE NO.	QUANTITY	NOTES / REMARKS
A-7D	700-7	715		M4101 M4110	3	MANHOLE
B-1	801	810	821B	M4126 M4149 M4161	155	CATCH BASIN
M-11	Round Conc.	731		M4143 M4143	2	CATCH BASIN
PROJECT TOTALS:					160	

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	11-16-00	VGG	BRW	MDH	REVISED PIPE AND RIPRAP TOTALS
3	2-05-01	ELB	BRW	MDH	ADDED CB's 744 & 745 PER ANOKA COUNTY COMMENTS
4	3-23-01	SJP	BRW	MDH	REMOVE CB'S 340 & 341 AND PIPE BETWEEN

NAME: 2842.DTE DATE: Apr. 12, 2001

minnesota metric

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SHEET 84 OF 136

DESIGN FILE: N:\CIVIL\047\2842\Plan\South\KDR\2842.dte
PRF FILE: N:\CIVIL\047\2842\Plan\South\KDR\2842.prf
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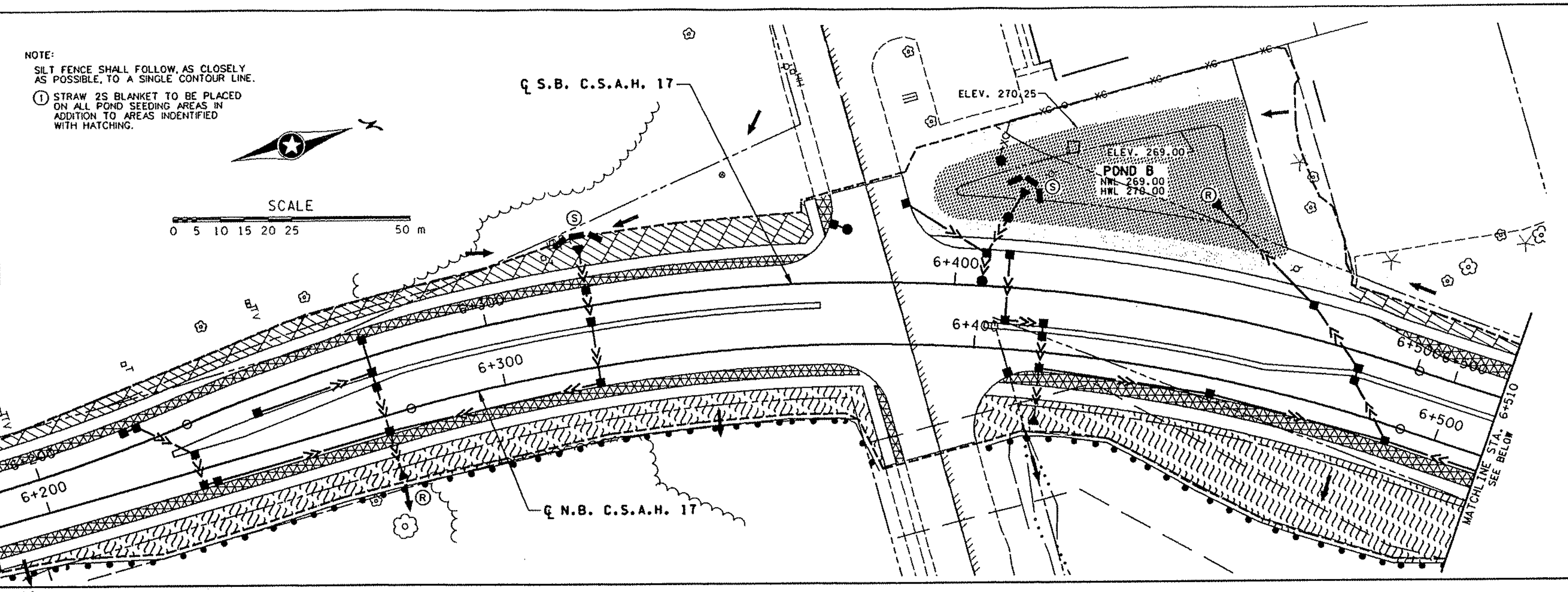
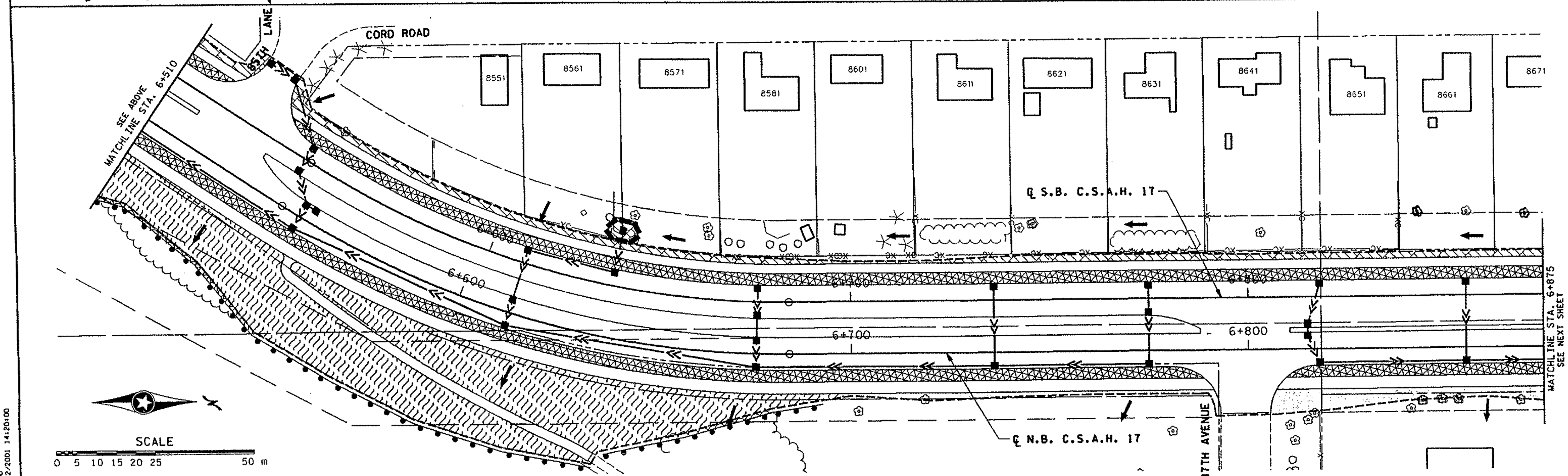
PLOT SCALE: 2.350000
PLOT DATE/TIME: 04/18/2001 14:18:57

LEGEND

HEAVY DUTY SILT FENCE	
MACHINE SLICED SILT FENCE	
SEED (MIXTURE 90A)	
SEED (MIXTURE 20A)	
SOD (TYPE LAWN)	
SOD (SALT RESISTANT)	
SEED (MIXTURE 90A) STRAW 2S BLANKET (1)	
PLACE SOD AT APRON END SEE STD. PLATE 9102	(S)
PLACE RIPRAP AT APRON END SEE STD. PLATE 3133	(R)
DRAINAGE DIRECTION	

NOTE:
SILT FENCE SHALL FOLLOW, AS CLOSELY AS POSSIBLE, TO A SINGLE CONTOUR LINE.
(1) STRAW 2S BLANKET TO BE PLACED ON ALL POND SEEDING AREAS IN ADDITION TO AREAS INDENTIFIED WITH HATCHING.





NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	2-05-01	ELB	BRW	MDH	ADDED POND STRAW BLANKET NOTE

NAME: 2842.TEA DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY	V. GRAF	1-99
DESIGNED BY	A. DeBRUIN	1-99
CHECKED BY	M. HANSEN	2-99
COMM. NO.	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

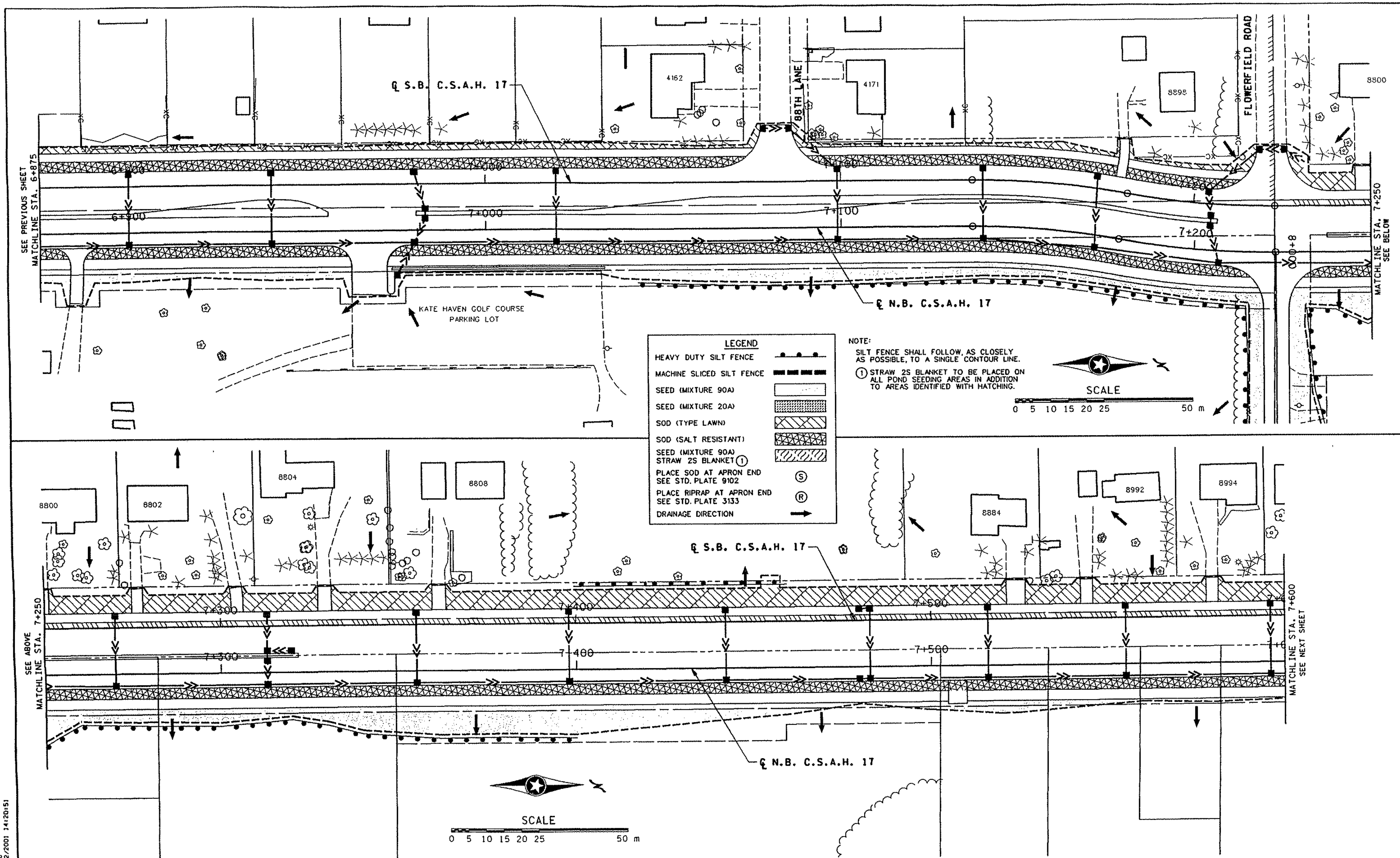
TURF ESTABLISHMENT / EROSION CONTROL

C.S.A.H. 17 RECONSTRUCTION

STA. 6+186 TO STA. 6+875

SHEET 85 OF 136

PLOT DATE/TIME: 04/12/2001 14:20:00



NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	2-05-01	ELB	BRW	MDH	ADDED POND STRAW BLANKET NOTE

NAME: 2842.TEB DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

		DATE
DRAWN BY	V. GRAF	1-99
DESIGNED BY	A. DeBRUIN	1-99
CHECKED BY	M. HANSEN	2-99
COMM. NO.	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TURF ESTABLISHMENT / EROSION CONTROL
C.S.A.H. 17 RECONSTRUCTION
STA. 6+875 TO STA. 7+600

SHEET 86 OF 136

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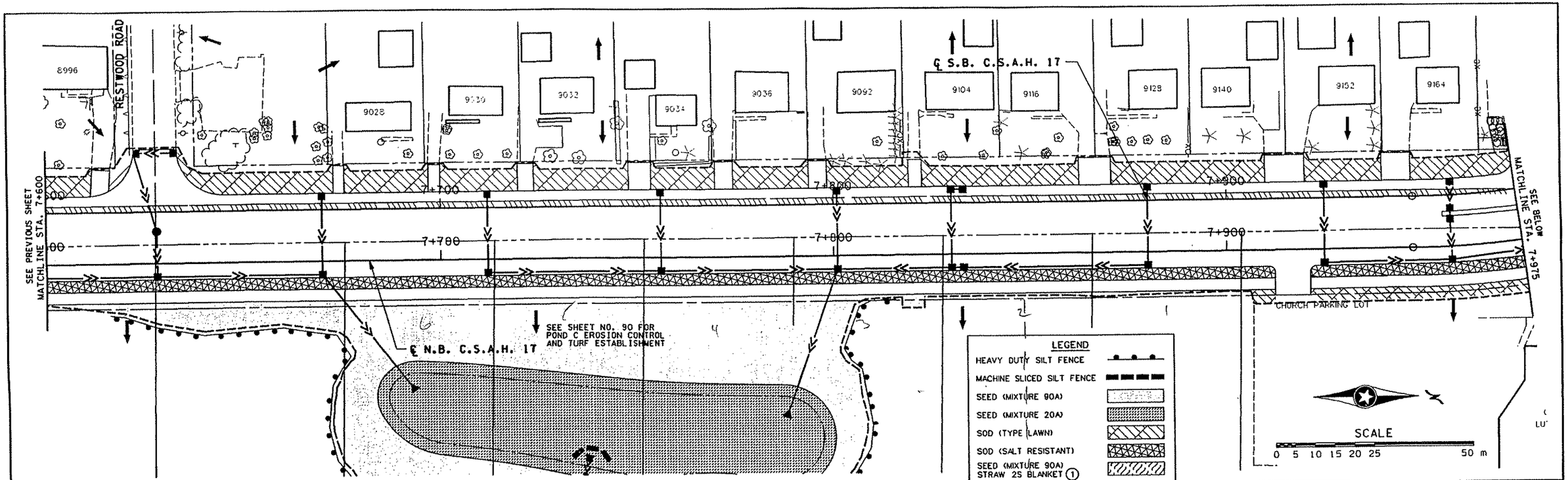

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	2-05-01	ELB	BRW	MDH	ADDED POND STRAW BLANKET NOTE

NAME: 2842.TEC DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	V. GRAF	1-99
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	A. DeBRUIN	1-99
CO. PROJECT NO. C.P. 99-07-110	CHECKED BY M. HANSEN	2-99
	COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TURF ESTABLISHMENT / EROSION CONTROL

C.S.A.H. 17 RECONSTRUCTION

STA. 7+600 TO STA. 8+325

SHEET 87 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouth\KDF\2842.tec
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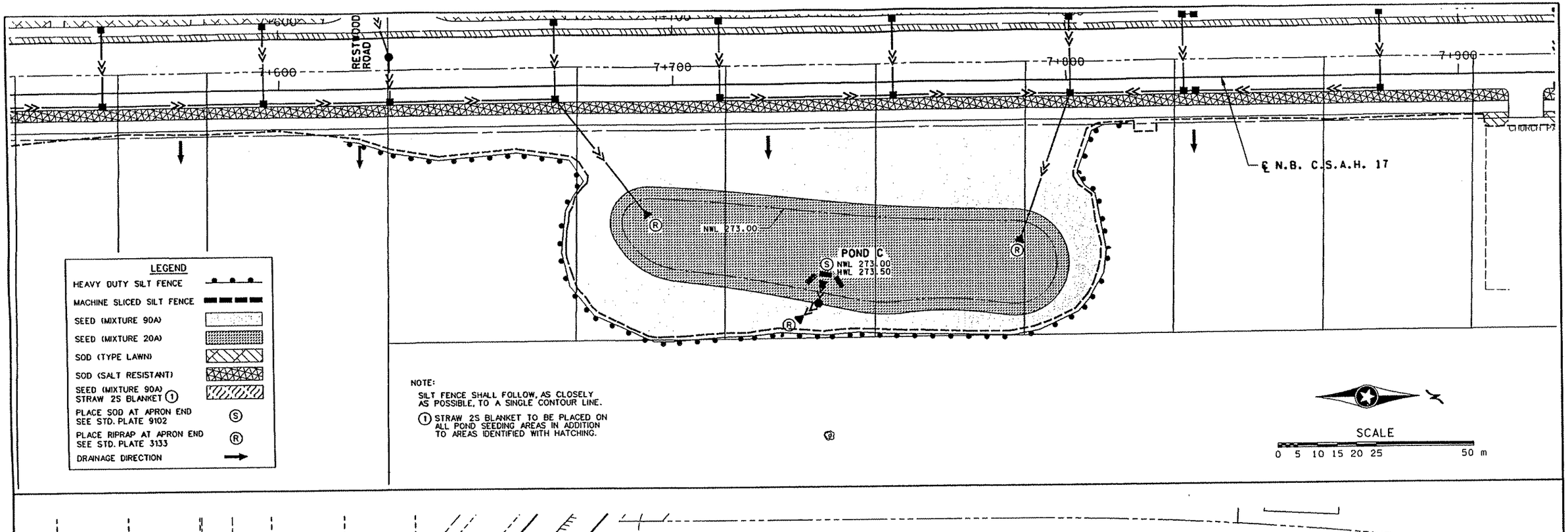

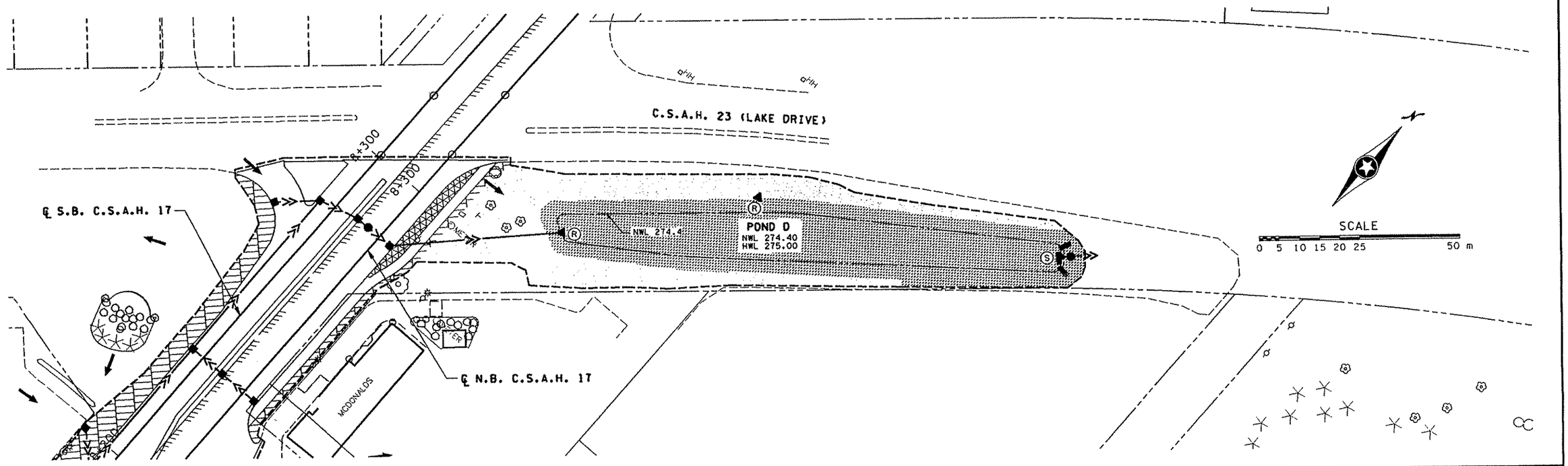

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	2-05-01	ELB	BRW	MDH	ADDED POND STRAW BLANKET NOTE

NAME: 2842.TED DATE: Apr. 12, 2001

minnesota metric

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Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

		DATE
DRAWN BY	V. GRAF	1-99
DESIGNED BY	A. DeBRUIN	1-99
CHECKED BY	M. HANSEN	2-99
COMM. NO.	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TURF ESTABLISHMENT / EROSION CONTROL
C.S.A.H. 17 RECONSTRUCTION
POND C AND POND D

SHEET 90 OF 136

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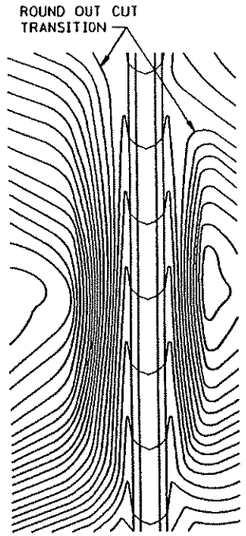
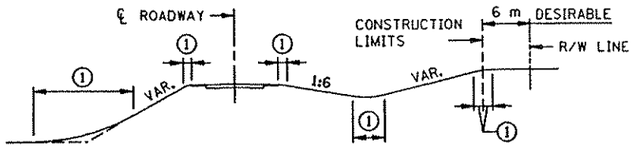
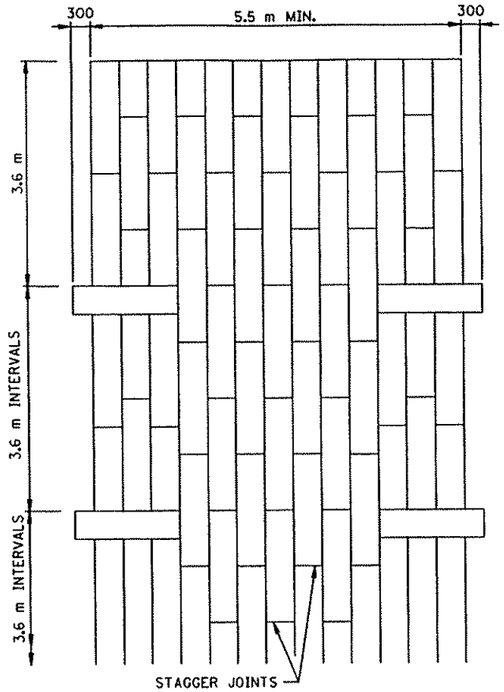


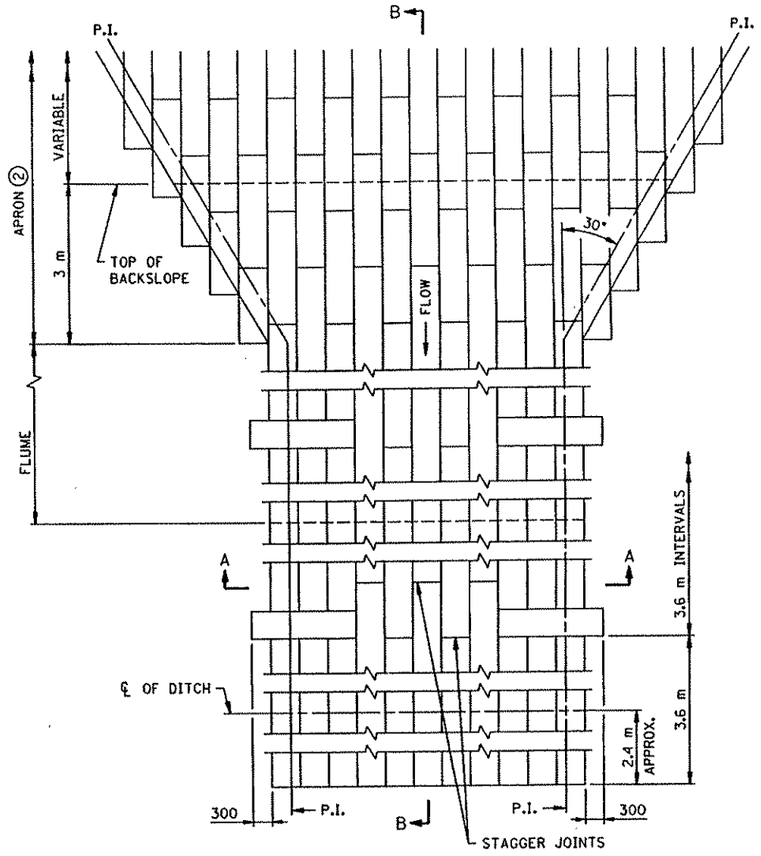
CONTOURING ROAD CUTS



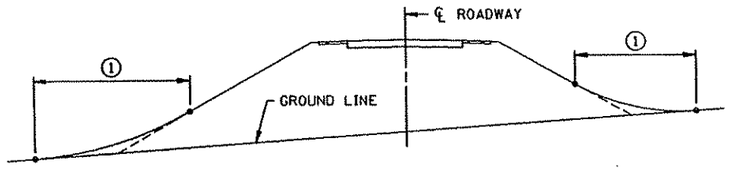
ROUNDING SHOULDERS AND BACKSLOPES



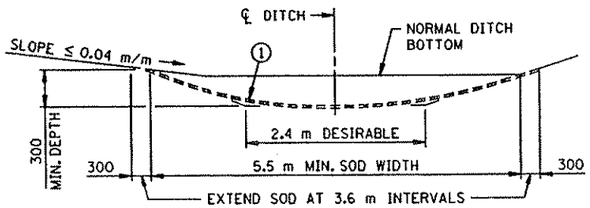
PLAN VIEW



PLAN VIEW

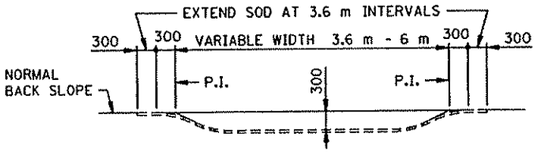


SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES

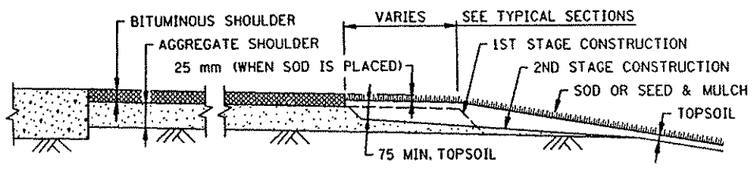


SODDED DITCH CROSS SECTION

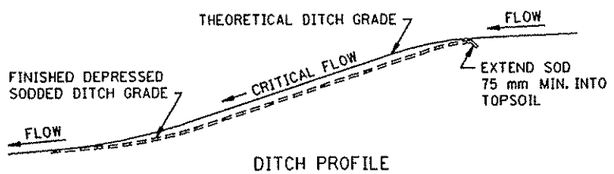
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 0.04 m/m), FIRST NOTCH DITCH AND THAN PROVIDE ROUNDING.



SECTION A-A

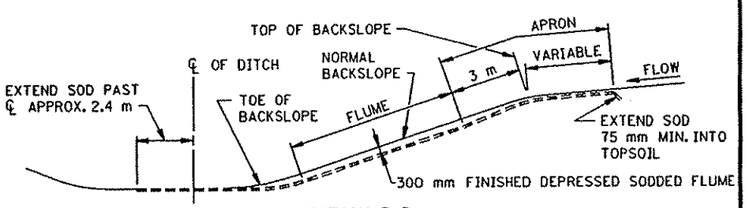


SHAPING AND TOPSOILING INSLOPES



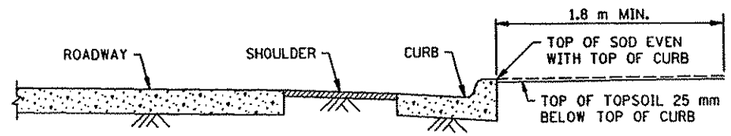
DITCH PROFILE

SODDED DITCH DETAILS



SECTION B-B

SODDED FLUME DETAILS



SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

NOTES:

SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.

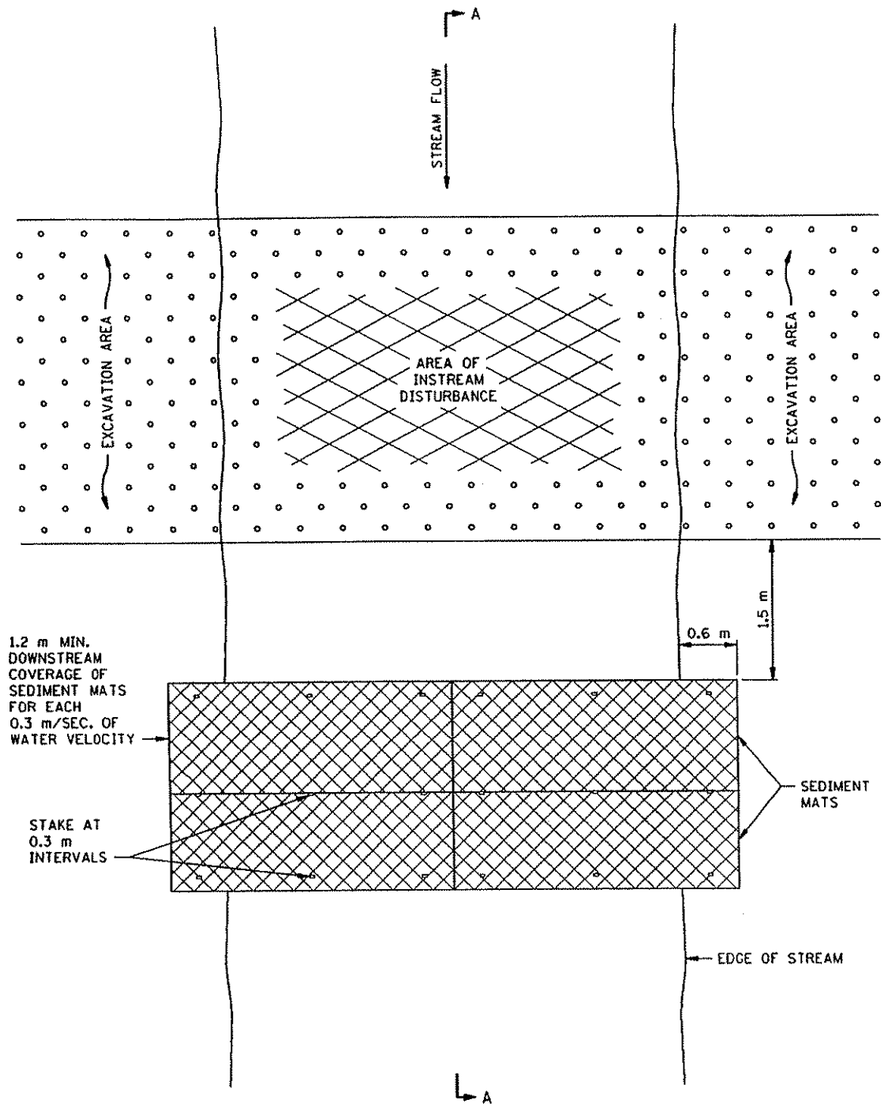
① FOR ROUNDING, SEE ROAD DESIGN MANUAL.

② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

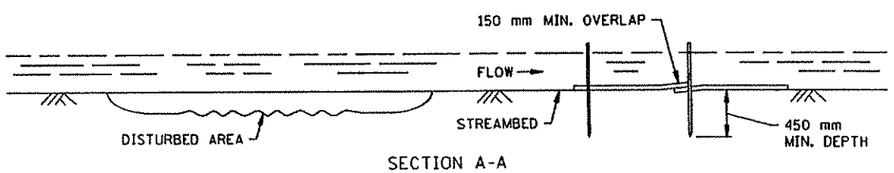
3-6-95

STANDARD SHEET NO. 5-297.404M	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: DECEMBER 19, 1990	
S.A.P. 02-617-05, et al.	SHEET NO. 91 OF 136 SHEETS

NAME: ECP1 410.PLN DATE: Apr. 12, 2001



PLAN VIEW

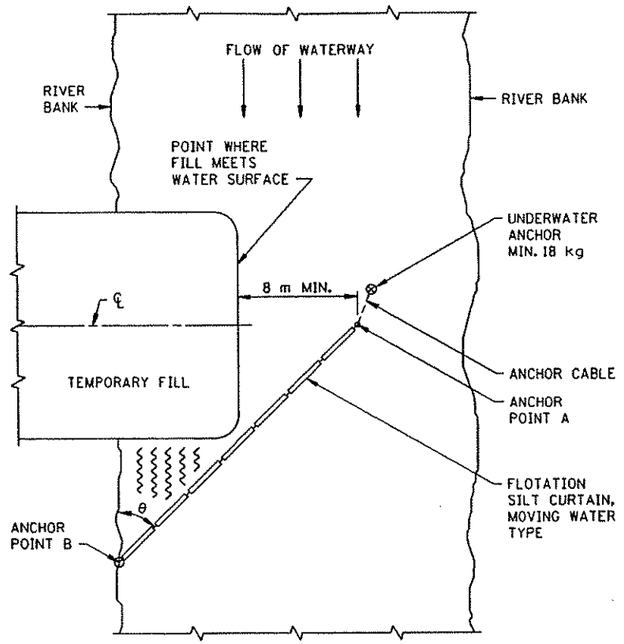


SECTION A-A

SEDIMENT MAT

TYPICAL STREAMBED INSTALLATION

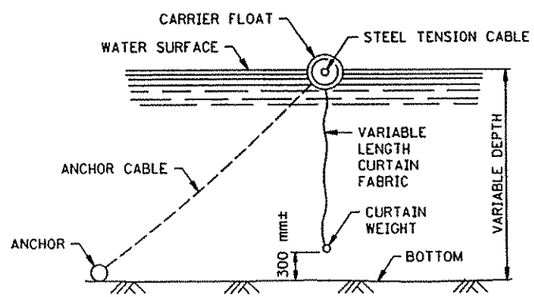
DESIGN CRITERIA:
MAXIMUM FLOW VELOCITY: 1.5 m/SEC.
MAXIMUM FLOW DEPTH: 0.6 m



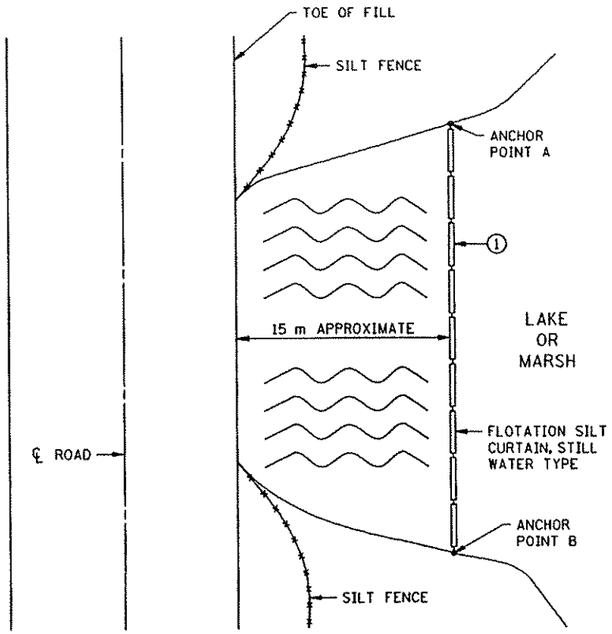
∠ θ	RIVER VELOCITY
45°	SLOW, LESS THAN 1.5 m/SEC.
35°	MODERATE, 1.5 m - 2 m/SEC.

PLAN VIEW OF SILT CURTAIN - MOVING WATER

DESIGN CRITERIA:
MAXIMUM WATER DEPTH: 3.6 m
MAXIMUM WATER VELOCITY: 2.1 m/SEC.

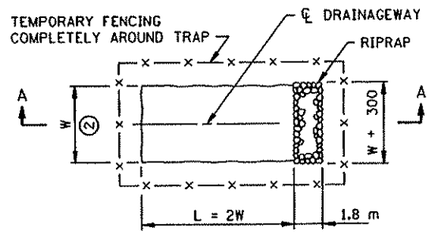


FLOTATION SILT CURTAIN DETAIL
(SEE SPEC. 3887)

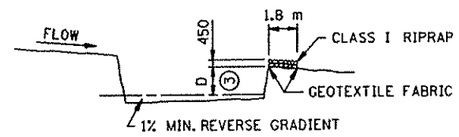


PLAN VIEW OF SILT CURTAIN - STILL WATER

DESIGN CRITERIA:
MAXIMUM WATER DEPTH: 3.6 m



PLAN



SECTION A-A

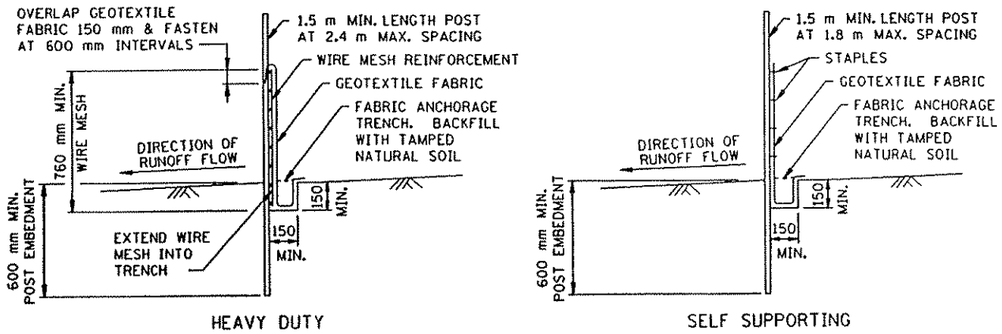
TEMPORARY SEDIMENT TRAP DETAIL

NOTES:
① CURTAIN 300 mm FROM BOTTOM
② W = 3 m MIN., 6 m MAX.
③ D = 1 m MIN., 1.8 m MAX.

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

STANDARD SHEET NO.	TITLE:
5-297.405M (1 OF 3)	TEMPORARY EROSION CONTROL
STANDARD APPROVED: MAY 1, 1995	
S.A.P. 02-617-05, et al.	SHEET NO. 92 OF 136 SHEETS

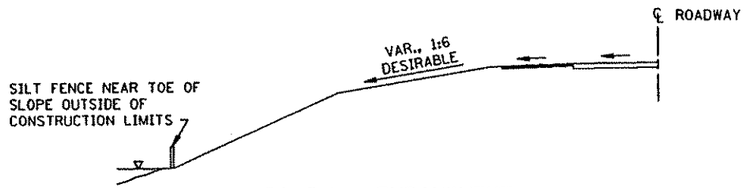
NAME: ECT1 410.PLN DATE: Apr. 12, 2001



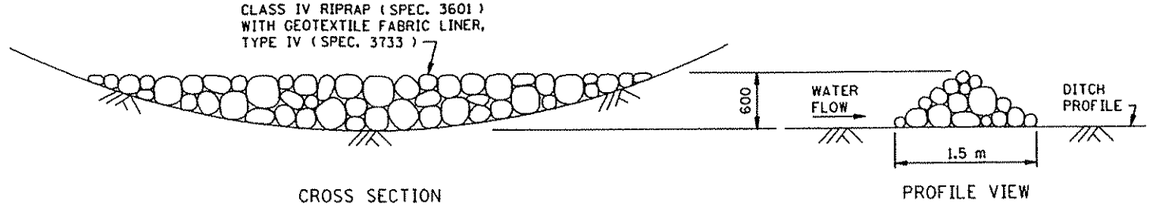
SILT FENCE DETAILS

TO PROTECT AREAS FROM SHEET FLOW
(SEE SPEC. 3886)

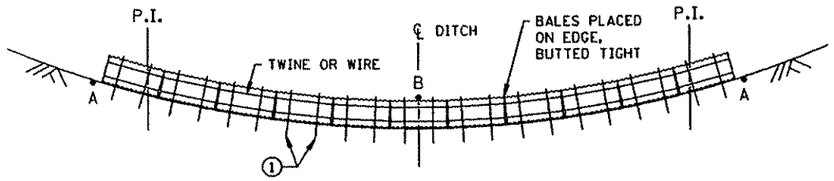
DESIGN CRITERIA:
MAXIMUM CONTRIBUTING AREA: 1.2 ha



ROADWAY EMBANKMENT

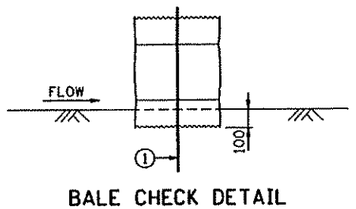


ROCK DITCH CHECK

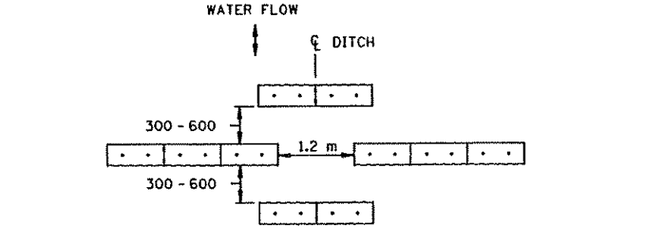


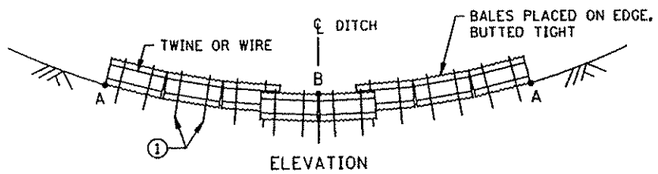
NOTE:
POINT A MUST BE HIGHER THAN POINT B

BALE DITCH SEDIMENT CHECK



BALE CHECK DETAIL





NOTE:
POINT A MUST BE HIGHER THAN POINT B

BALE DITCH VELOCITY CHECKS

(WILL REQUIRE A MINUMUM OF 10 BALES PER SITE)

RECOMMENDED SPACING BETWEEN DITCH CHECKS	
DITCH GRADE (%)	SPACING (m)
2	30
4	23
6	15
8	12
10	8

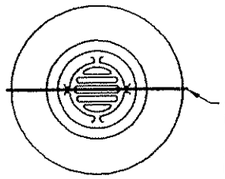
DESIGN CRITERIA:

	BALE	ROCK
STORM FREQUENCY:	2 YR. - 24 HR.	10 YR. - 24 HR.
MAX. FLOW VELOCITY:	1.5 m/SEC.	3.6 m/SEC.
MAX. DITCH GRADE:	5%	—
MAX. DRAINAGE AREA:	0.8 ha	2.0 ha

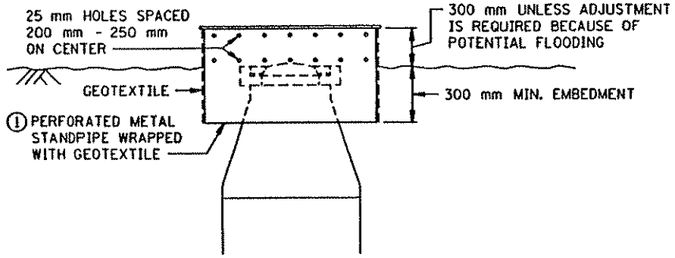
NOTE:
① TWO 50 mm X 50 mm WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 250 mm MINIMUM.

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

STANDARD SHEET NO. 5-297.405M (2 OF 3)	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: MAY 1, 1995	
S.A.P. 02-617-05, et al.	SHEET NO. 93 OF 136 SHEETS



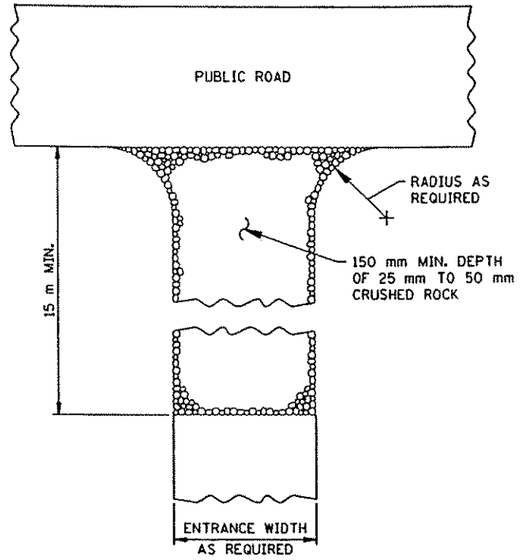
PLAN VIEW



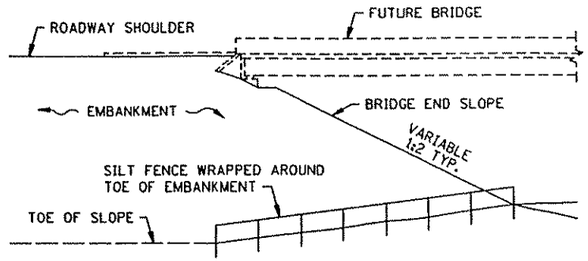
ELEVATION

TEMPORARY STANDPIPE
TO PROTECT DROP INLET

DESIGN CRITERIA:
STORM FREQUENCY: 10 YEAR. - 24 HOUR.

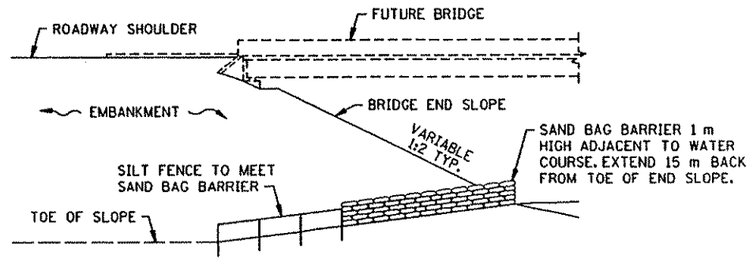


ROCK CONSTRUCTION ENTRANCE



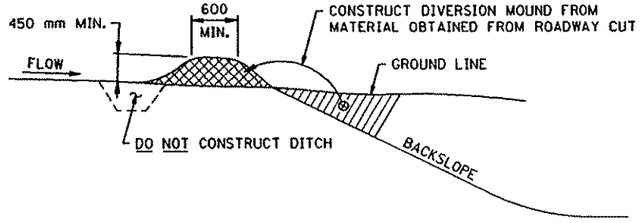
BRIDGE FILL

DESIGN CRITERIA:
WATER COURSE FLOW VELOCITY: STAGNANT
CONTRIBUTING SLOPE AREA: 0.2 ha



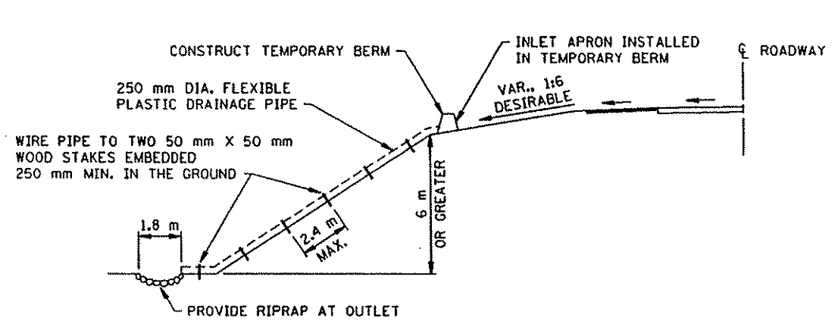
BRIDGE FILL

DESIGN CRITERIA:
MAX. WATER COURSE FLOW VELOCITY: 2 m/SEC.
CONTRIBUTING SLOPE AREA: 0.4 ha



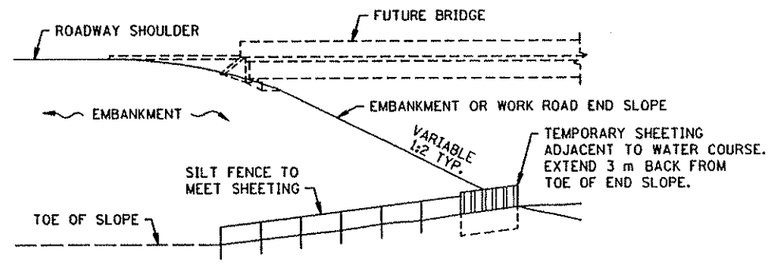
DIVERSION MOUND

DESIGN CRITERIA:
STORM FREQUENCY: 10 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 2 ha
MAXIMUM DIVERSION: GRADE 5%



TEMPORARY DRAIN ON FILL SLOPE

DESIGN CRITERIA:
STORM FREQUENCY: 2 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 1.2 ha



EMBANKMENT OR WORK ROAD FILL

DESIGN CRITERIA:
MAX. WATER COURSE FLOW VELOCITY: 4.5 m/SEC.
CONTRIBUTING SLOPE AREA: 1.2 ha

NOTE: ① PLASTIC STANDPIPE ACCEPTABLE.

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

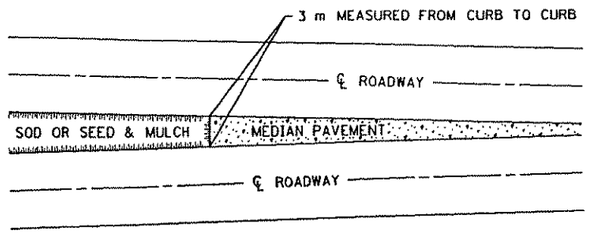
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STANDARD SHEET NO. 5-297.405M (3 OF 3)
STANDARD APPROVED: MAY 1, 1995

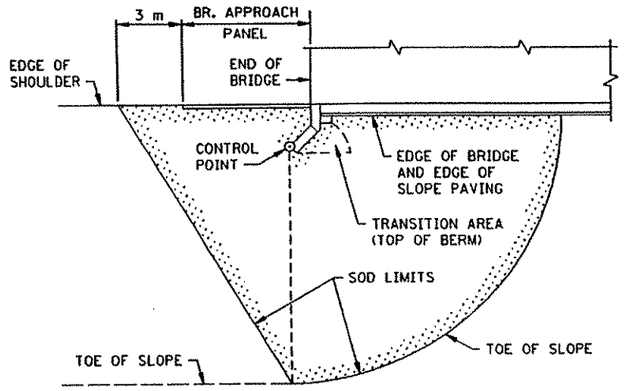
TITLE: TEMPORARY EROSION CONTROL

S.A.P. 02-617-05, et al.

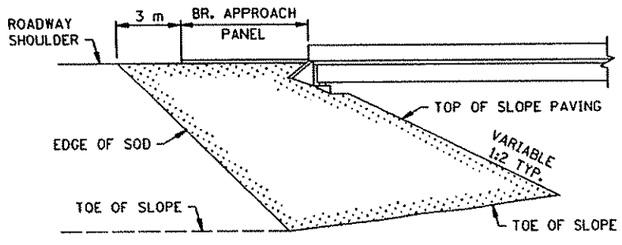
NAME: ECT3 410.PLN DATE: Apr. 12, 2001



SODDING LIMITS AT GORE AREA

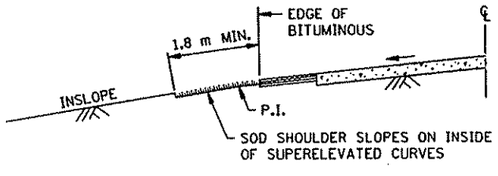


PLAN

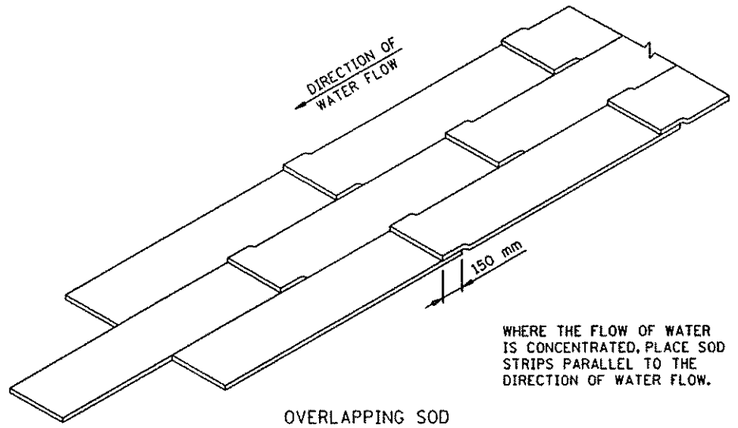


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

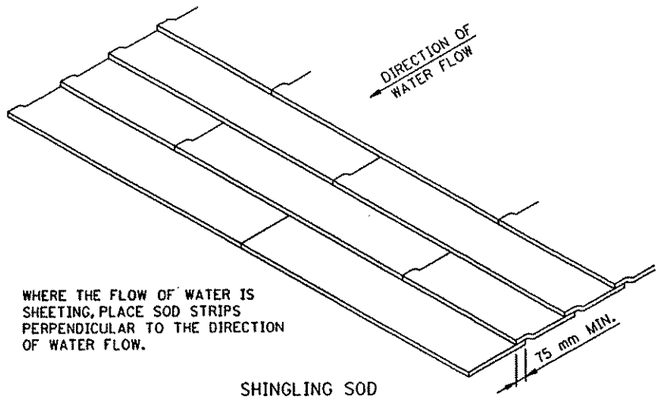


SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

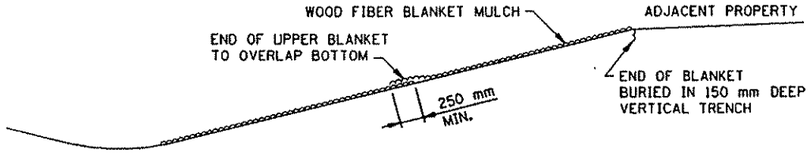
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.



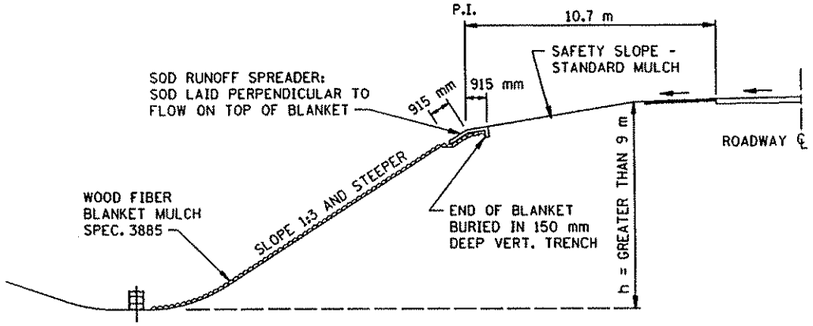
SHINGLING SOD

WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

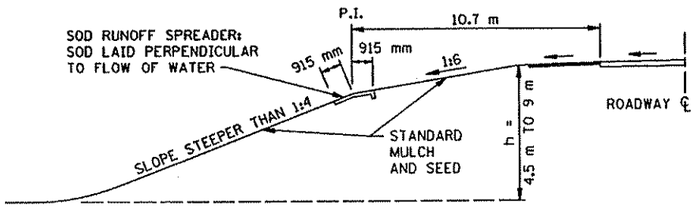
SPECIAL SOD PLACEMENT TECHNIQUES



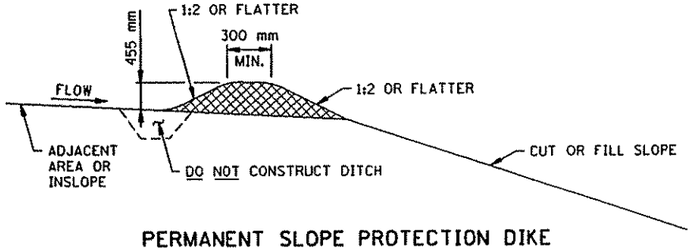
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE
(WHEN REQUIRED)



BROKEN-BACK SAFETY FILL SLOPE

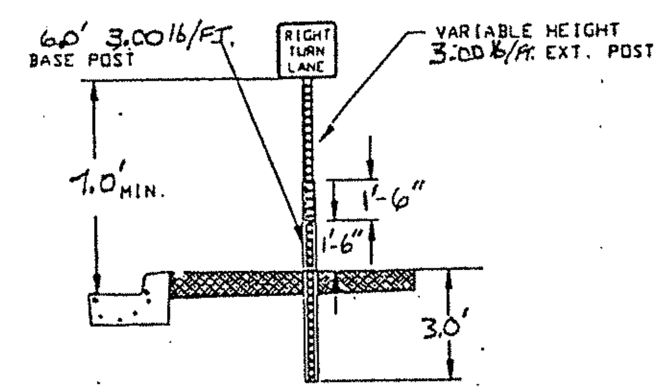


PERMANENT SLOPE PROTECTION DIKE

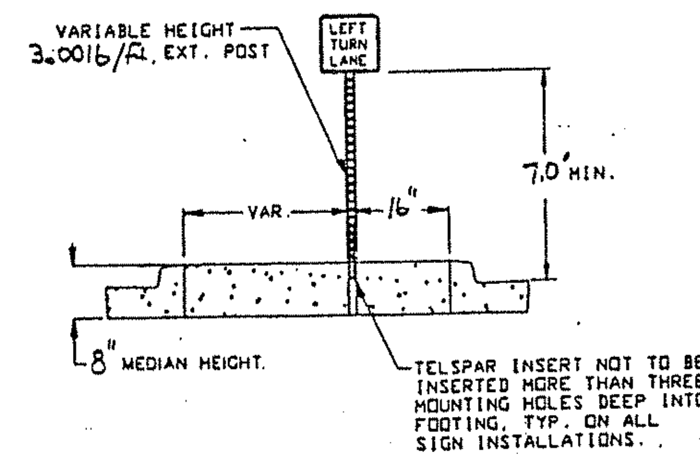
STANDARD SHEET NO. 5-297.406M	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
STANDARD APPROVED: JANUARY 31, 1985	
4-27-95 S.A.P. 02-617-05, et al.	SHEET NO. 95 OF 136 SHEETS

NAME: ECP2 410.PLN DATE: Apr. 12, 2001

GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
POST INSTALLATION TYPICAL
1- POST INSTALLATION (NO BASE POST)



GENERAL NOTES:

ALL STRIPING DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

ALL STRIPING SHALL BE PAINT UNLESS NOTED OTHERWISE.

PROPOSED SIGN DIMENSIONS ARE GIVEN IN ENGLISH UNITS OF INCHES.
[ENGLISH VALUE (ft^2)] X 0.092903 = METRIC VALUE (m^2)

ANY EXISTING SIGNING NOT SHOWN ON THIS PLAN WHICH FALLS WITHIN THE CONSTRUCTION LIMITS AND WHICH IS STILL APPROPRIATE UNDER THE PERMANENT CONDITION, IN THE OPINION OF THE ENGINEER, SHALL BE TEMPORARILY RELOCATED OUTSIDE OF THE CONSTRUCTION LIMITS BY THE CONTRACTOR. FOLLOWING CONSTRUCTION, THE CONTRACTOR SHALL RELOCATE THE SIGNS AS NEAR AS POSSIBLE TO THEIR ORIGINAL LOCATIONS.

EXISTING SIGNING NOT SHOWN ON THIS PLAN WHICH IS NOT APPROPRIATE UNDER THE PERMANENT CONDITION, IN THE OPINION OF THE ENGINEER, SHALL BE REMOVED BY THE CONTRACTOR. SUCH REMOVALS SHALL BE CONSIDERED INCIDENTAL TO PERMANENT SIGNING CONSTRUCTION AND NO DIRECT COMPENSATION SHALL BE MADE THEREFOR.

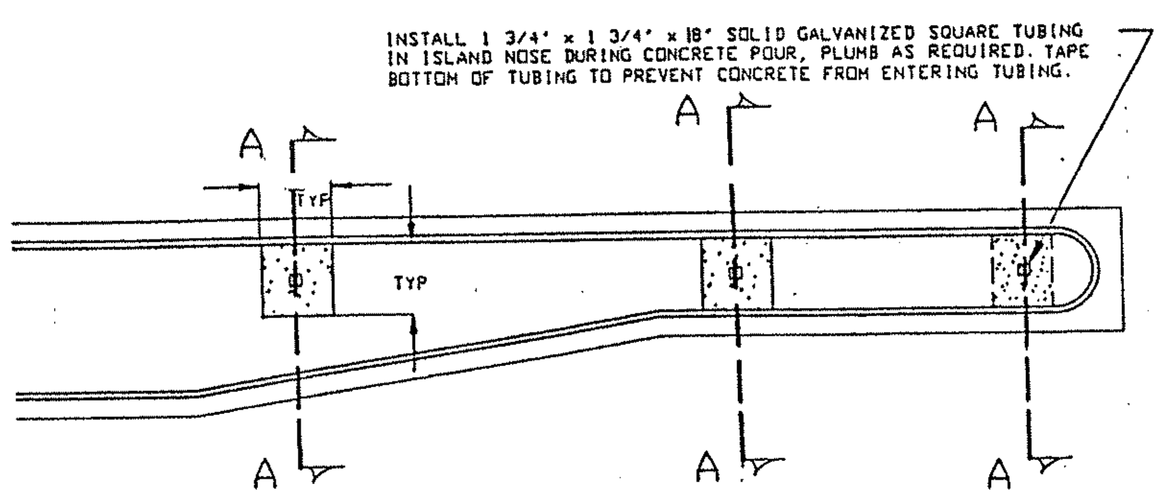
- (A) INSTALL SALVAGED SIGN PANEL.
- (B) SIGN TO REMAIN IN PLACE.
- (C) 100 mm SOLID LINE WHITE
- (D) 100 mm SOLID LINE YELLOW
- (E) 100 mm BROKEN LINE YELLOW. SKIP RATIO SHALL BE 2.0 m LINE FOLLOWED BY 8.0 m GAP.
- (F) 100 mm BROKEN LINE WHITE. SKIP RATIO SHALL BE 2.0 m OF LINE FOLLOWED BY 8.0 m GAP
- (H) 300 mm CROSSWALK LINE WHITE
- (J) 600 mm STOP LINE WHITE
- (K) PAVEMENT MESSAGE (ARROW)
- (L) PAVEMENT MESSAGE (ONLY)
- (N) CROSSWALK MARKING.
- (P) SIGN TO BE RELOCATED BY OTHERS.
- (R) MOUNTED ON BACK OF R4-7 SIGN POST ASSEMBLY
- (S) 19 SIGNS MOUNTED ON R1-1 SIGN POST ASSEMBLIES
- (T) 7 SIGNS MOUNTED ON R1-1 SIGN POST ASSEMBLIES.
- (U) MOUNTED ON R4-7 SIGN POST ASSEMBLIES.
- (V) SIGN MOUNTED ON M1-6 SIGN POST ASSEMBLY.

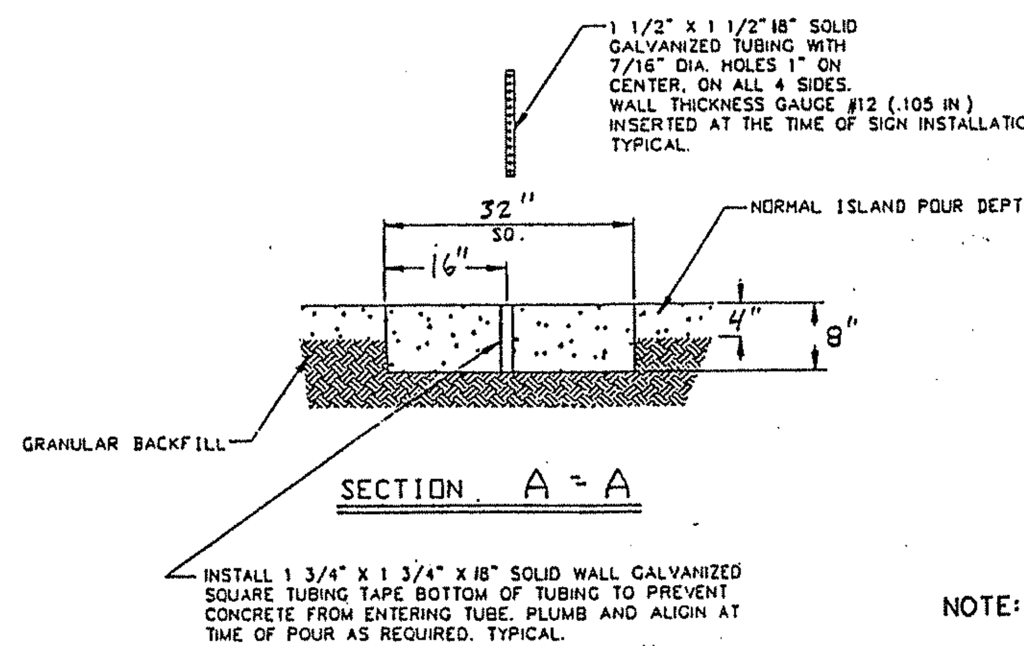
(G), (I), (M), (O) AND (Q) NOT USED

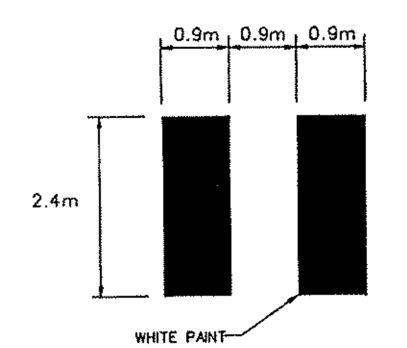
S — SIGN PANELS TYPE C

SIGN DESIGNATION	SIGN SIZE	SIGN AREA (FT^2)	SIGN AREA (m2)	RAMSEY COUNTY TOTAL INSTALLATIONS	RAMSEY COUNTY TOTAL AREA (m2)	ANOKA COUNTY TOTAL INSTALLATIONS (1)	ANOKA COUNTY TOTAL AREA (1) (m2)	POSTS PER INSTAL-LATION	NOTES (2)
M1-6	24"x24"	4.00	0.372	3	1.115	15	5.574	1	
M2-1A	21"x15"	2.19	0.203	1	0.203	4	0.814	1	V
M2-X1	24"x12"	2.00	0.186	0	0.000	2	0.372	1	V
M3-1A	24"x12"	2.00	0.186	0	0.000	2	0.372	1	V
M3-3A	24"x12"	2.00	0.186	1	0.186	2	0.372	1	V
M4-6	24"x12"	2.00	0.186	0	0.000	4	0.743	1	V
M6-1A	21"x15"	2.19	0.203	0	0.000	2	0.407	1	V
M6-4A	21"x15"	2.19	0.203	1	0.203	3	0.610	1	V
R1-1	30"x30"	6.25	0.581	0	0.000	13	7.548	1	
R1-1	36"x36"	9.00	0.836	0	0.000	1	0.836	2	
R1-2	36"x36"x36"	4.50	0.418	0	0.000	2	0.836	2	
R2-1	36"x48"	12.00	1.115	0	0.000	7	7.804	2	
R3-4	24"x24"	4.00	0.372	1	0.372	5	1.858	1	R
R3-9B	24"x36"	6.00	0.557	0	0.000	10	5.574	1	
R3-X1	30"x30"	6.25	0.581	0	0.000	2	1.161	1	
R3-X2	30"x30"	6.25	0.581	1	0.581	11	6.387	1	
R4-7	24"x30"	5.00	0.465	2	0.929	16	7.432	1	
R5-1	30"x30"	6.25	0.581	1	0.581	14	8.129	1	
R6-1L	36"x12"	3.00	0.279	0	0.000	7	1.951	2	T
R6-1L	48"x18"	6.00	0.557	0	0.000	4	2.230	2	
R6-1R	36"x12"	3.00	0.279	0	0.000	15	4.181	2	S
R8-3A	24"x24"	4.00	0.372	4	1.486	23	8.547	1	
W1-2L	36"x36"	9.00	0.836	0	0.000	2	1.672	2	
W1-2R	36"x36"	9.00	0.836	1	0.836	1	0.836	2	
W1-4L	36"x36"	9.00	0.836	0	0.000	2	1.672	2	
W1-4R	36"x36"	9.00	0.836	0	0.000	2	1.672	2	
W6-1	36"x36"	9.00	0.836	0	0.000	2	1.672	2	
W12-1	24"x24"	4.00	0.372	0	0.000	1	0.372	1	
X4-2	18"x18"	2.25	0.209	2	0.418	16	3.345	1	U
X4-4L	12"x36"	3.00	0.279	0	0.000	3	0.836	1	
X4-4R	12"x36"	3.00	0.279	0	0.000	1	0.279	1	
PROJECT TOTALS:				18	6.9	194	86.1		

NOTES: THIS TABLE ILLUSTRATES QUANTITIES FOR F&I NEW TYPE "C" SIGNS ONLY.
(1) CSAH 17 SOUTH OF CSAH 23 ELIGIBLE FOR STATE AID FUNDING.
(2) SEE SIGNING AND STRIPING GENERAL NOTES.







CROSSWALK MARKING DETAIL

NOTE: THIS SHEET CONTAINS BOTH ENGLISH AND METRIC DIMENSIONS

NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	11-16-00	VGG	BRW	MDH	REVISED TAB "S" PER FEDERAL AID COMMENTS
3	3-23-01	SJP	BRW	MDH	REVISE TAB AND NOTES PER ANOKA COUNTY COMMENTS

NAME: SSN 410.PLN DATE: Apr. 16, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY M. IISAKKA DATE 3-97
DESIGNED BY D. DEMERS 3-97
CHECKED BY D. DEMERS 3-97
COMM. NO. 0962842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
SIGNING AND STRIPING GENERAL NOTES AND TABULATION
C.S.A.H. 17 RECONSTRUCTION

SHEET 96 OF 136

DESIGN FILE: n:\civil\008\2410\PlanSouth.kd\SSN-410.PLN
PRF FILE: n:\civil\008\2410\PlanSouth.kd\SSN-410.prf
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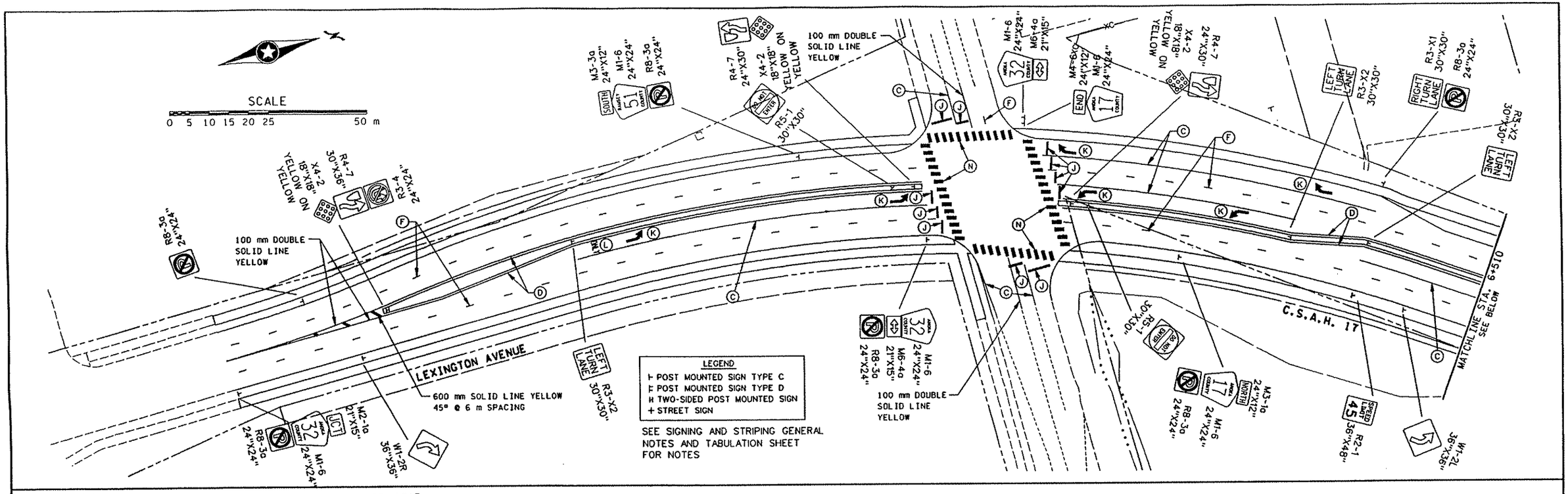
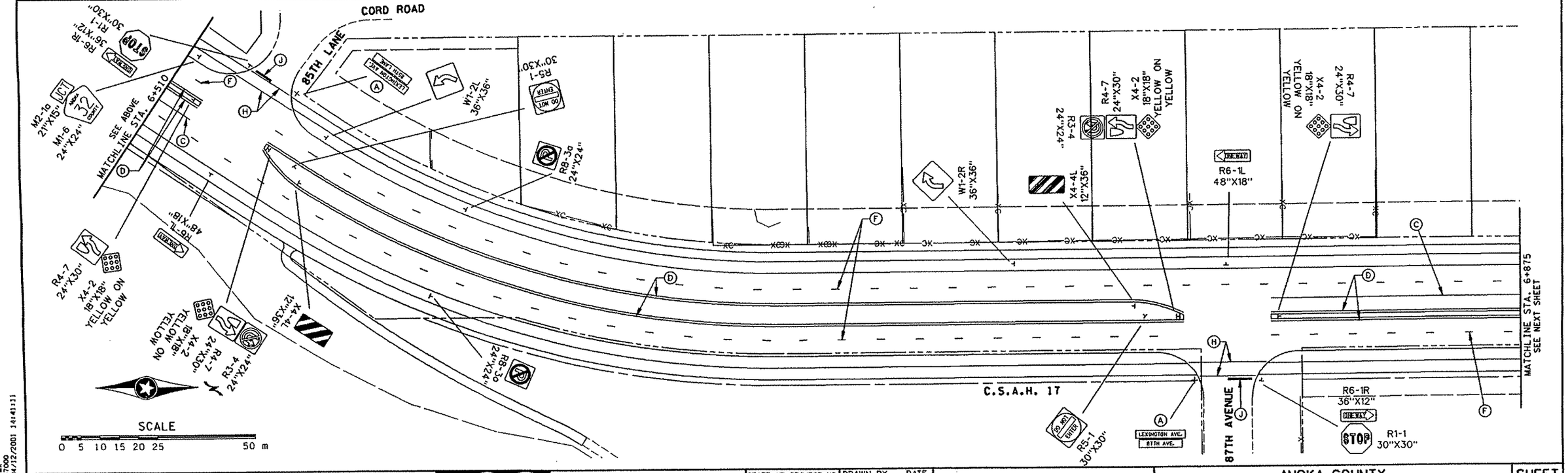
PLOT DATE/TIME: 04/16/2001 09:15:25





NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	11-16-00	VGG	BRW	MDH	REVISED SIGN X4-4 DIMENSIONS
3	03-07-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.SSA DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

	DATE
DRAWN BY S. MARTINS	10-98
DESIGNED BY M. HANSEN	10-98
CHECKED BY M. HANSEN	2-99
COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

SIGNING AND STRIPING PLAN

C.S.A.H. 17 RECONSTRUCTION

STA. 6+186 TO STA. 6+875

SHEET 97 OF 136

DESIGN FILE: n:\civil\047\2842\Plan\SouthLK0r\2842.dgn
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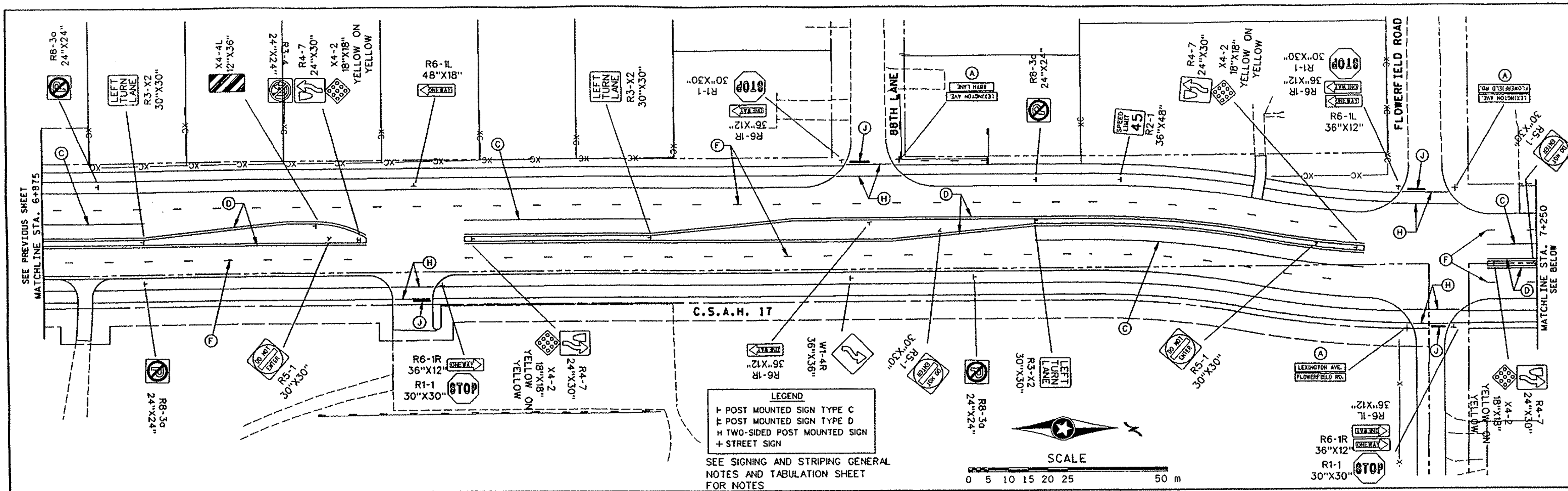
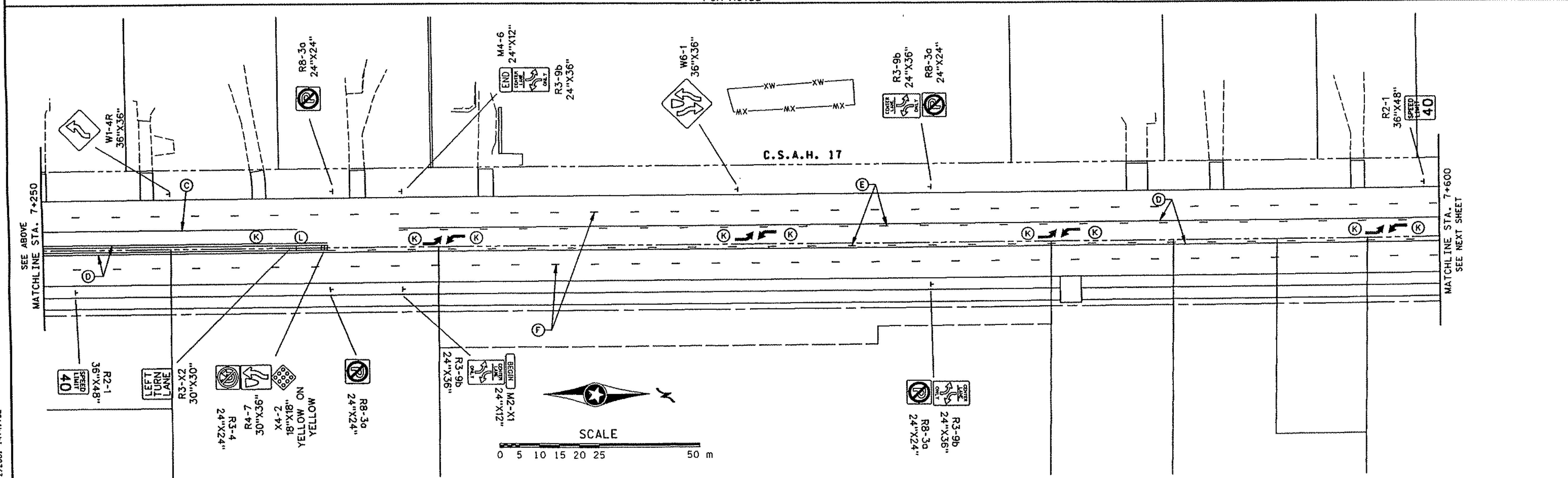




NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	11-16-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS
3	03-07-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.SSB DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

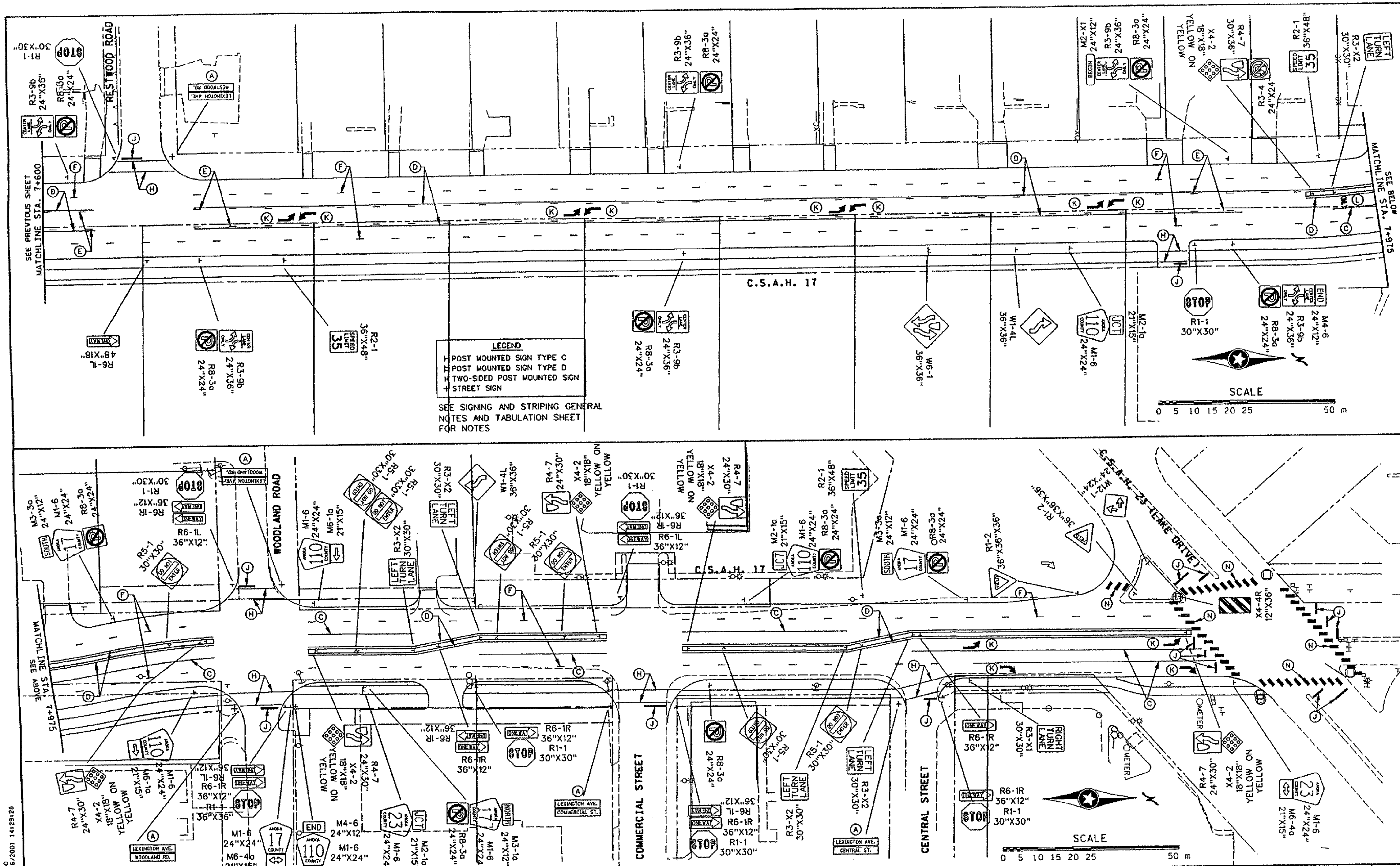
DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY M. HANSEN 2-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
SIGNING AND STRIPING PLAN
C.S.A.H. 17 RECONSTRUCTION
STA. 6+875 TO STA. 7+600

SHEET 98 OF 136

DESIGN FILE: h:\civil\047\2842\PlanSouth.kdr\2842.ssd
PRF FILE: h:\civil\047\2842\PlanSouth.kdr\2842.prf
PLOTTER: MS-HP55IMX
PLOT SCALE: 25.657000
PLOT DATE/TIME: 04/12/2001 14:41:52



NO	DATE	BY	CKD	APPR	REVISION
1	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
2	11-16-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS
3	03-08-01	SJP	BRW	MDH	REVISED PER ANOKA CO. COMMENTS

NAME: 2842.SSC DATE: Apr. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY M. HANSEN 10-98
CHECKED BY M. HANSEN 2-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

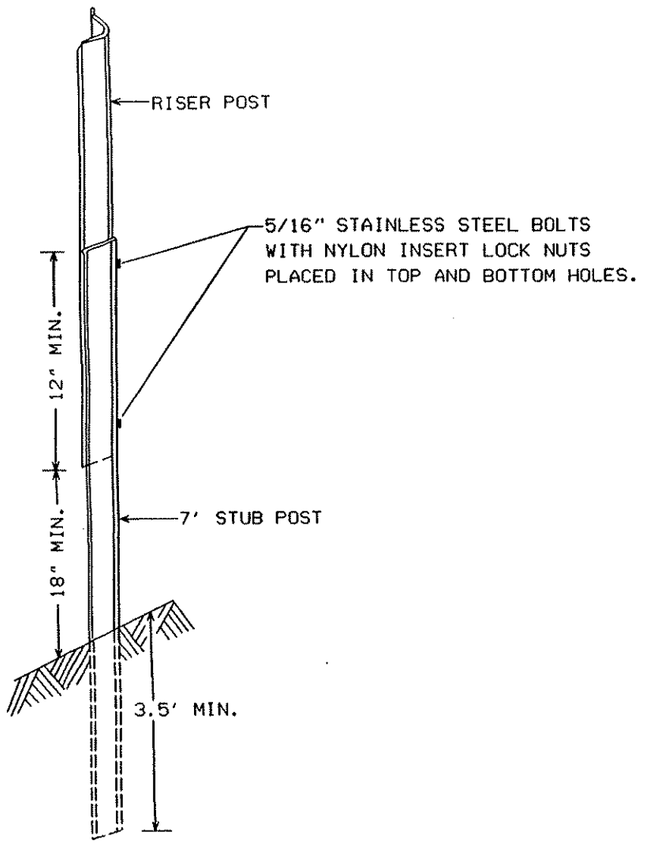
SIGNING AND STRIPING PLAN

C.S.A.H. 17 RECONSTRUCTION

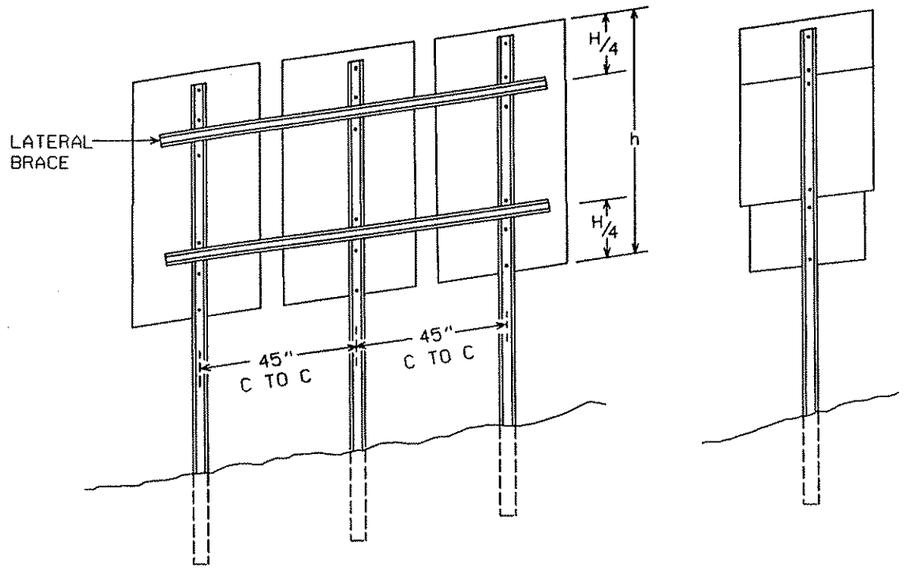
STA. 7+600 TO STA. 8+325

SHEET 99 OF 136

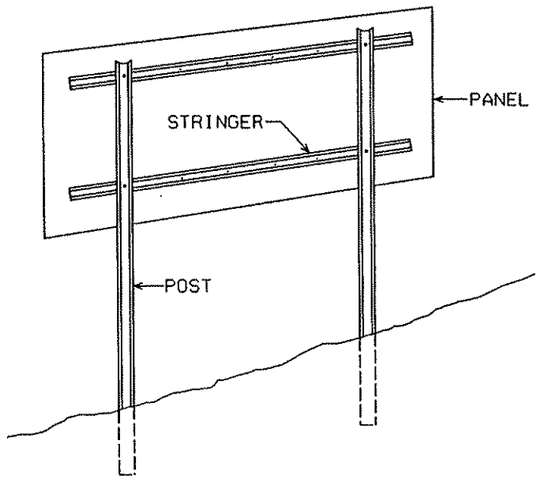
TYPE "C" & "D" POST



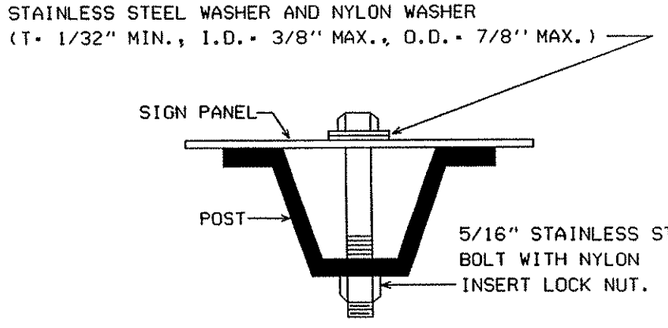
"U POST" SPLICE



TYPICAL TYPE "C" INSTALLATIONS



TYPICAL TYPE "D" INSTALLATION



"U POST" MOUNTING
TYPE "C" SIGNS

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 POST 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 3352.2A7.
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.

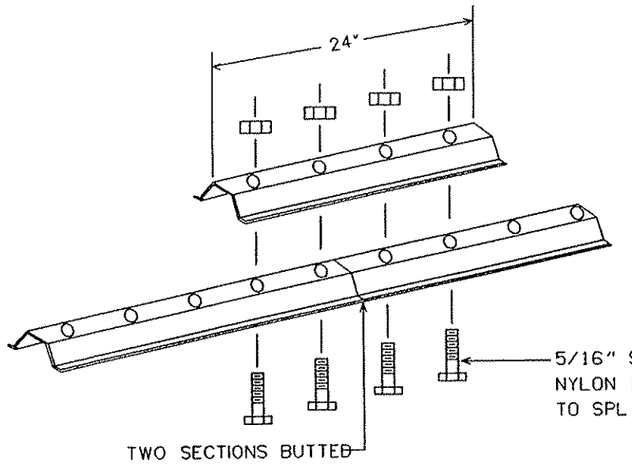
"C" & "D" SIGN DETAILS

DESIGN A
SHEET 1 OF 3

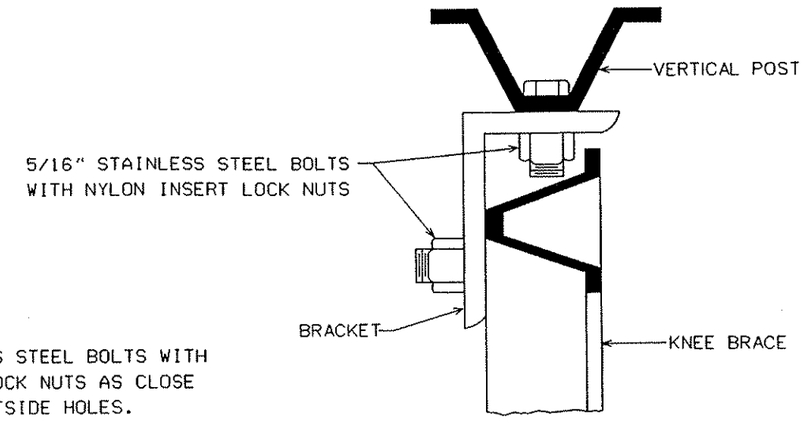
Rev. 7-20-93
Rev. 3-23-90

NOTE:THIS SHEET IN ENGLISH UNITS

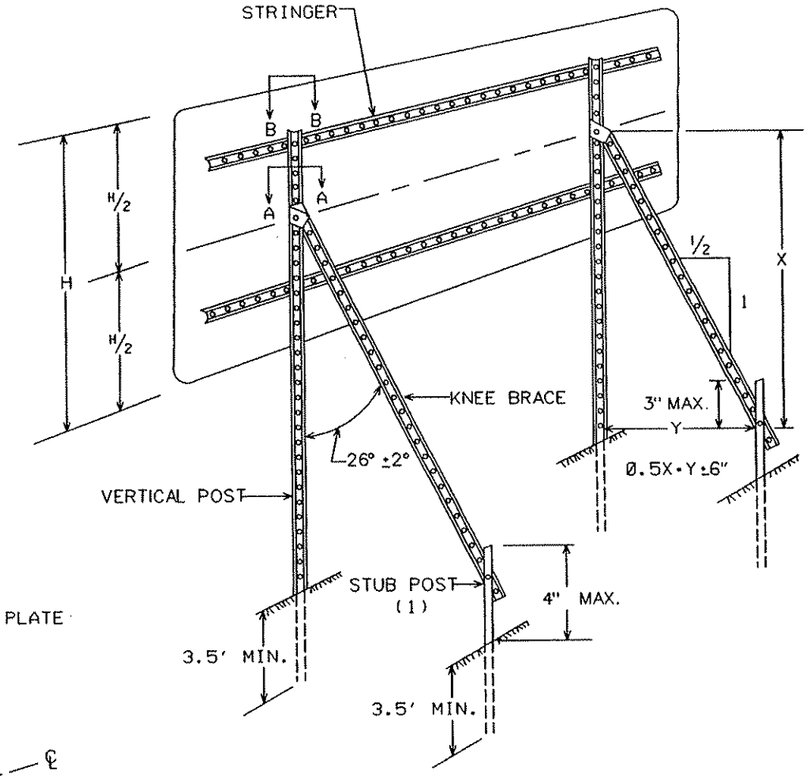
NAME: SGN5 410.PLN DATE: Apr. 12, 2001
DESIGN.SIR CDJ 6-9-94



LATERAL BRACE OR STRINGER. SPLICE DETAIL (EXPLODED VIEW)

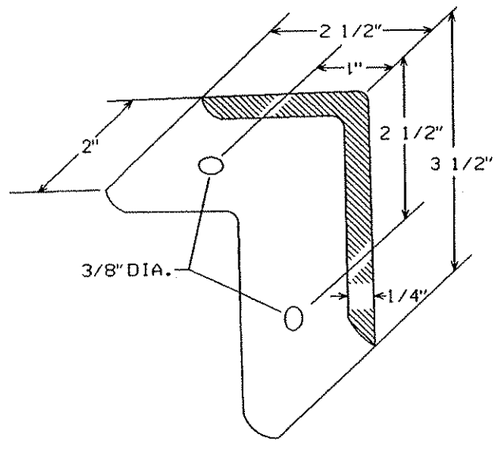


SECTION A-A



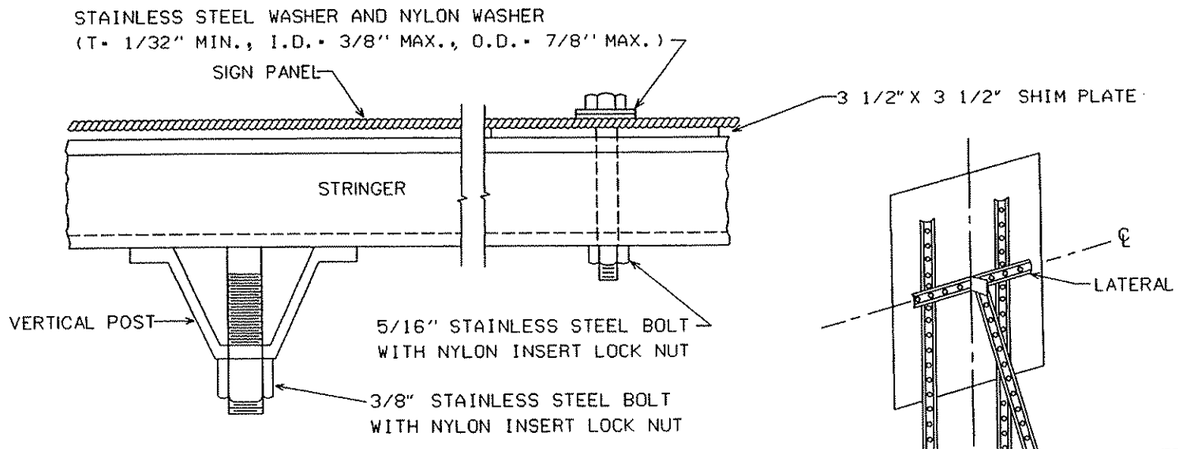
TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

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

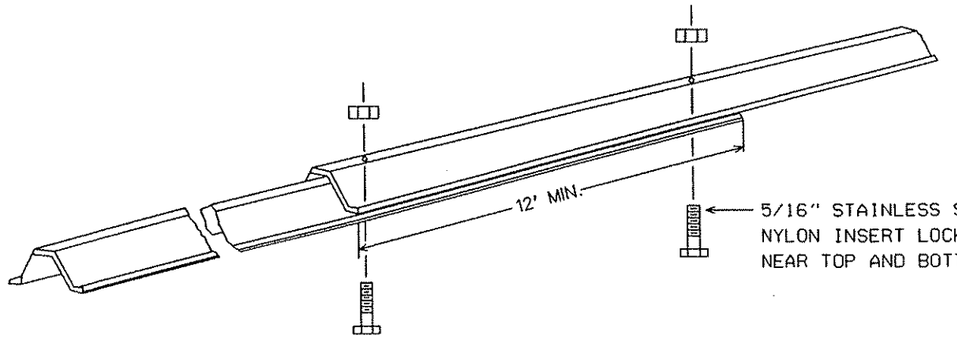


A-FRAME BRACKET

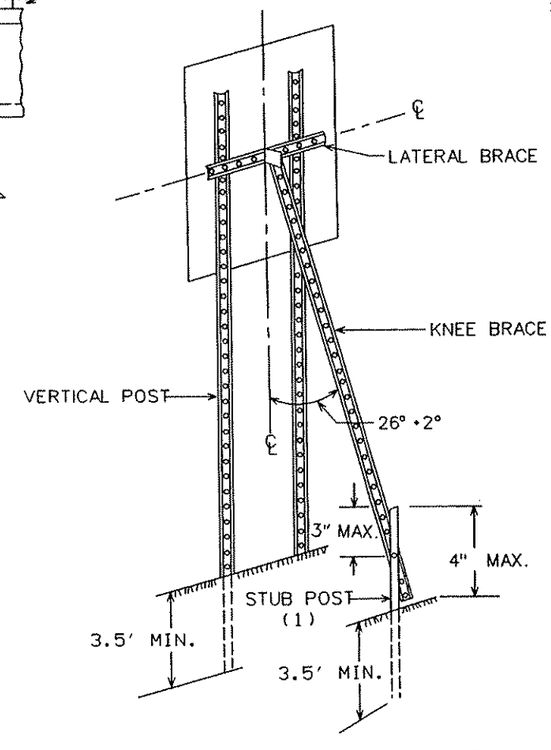
(Steel Mn/DOT 3306 galvanized per Mn/DOT 3394)



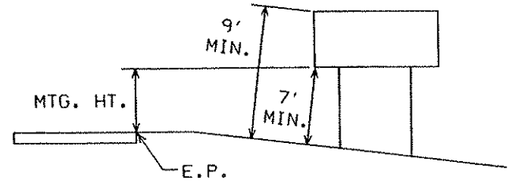
SECTION B-B



KNEE BRACE SPLICE



TYPICAL "A-FRAME" INSTALLATION
TYPE C SIGNS



TYPICAL MOUNTING

"C" & "D" SIGN DETAILS

DESIGN A
SHEET 2 OF 3

Rev. 3-31-93
Rev. 3-23-90

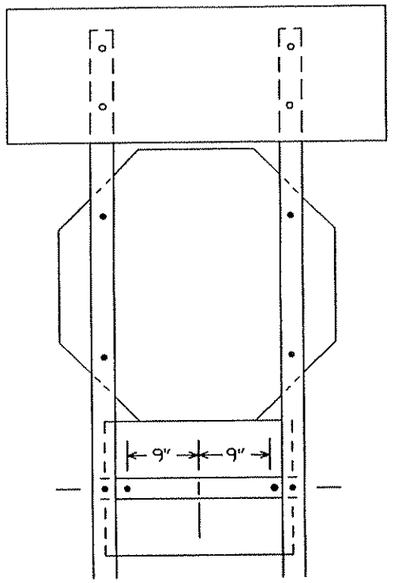
NOTE:THIS SHEET IN ENGLISH UNITS

S.A.P. 02-617-05, et al.

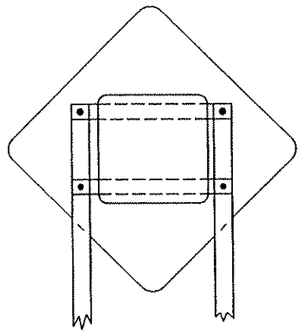
Sheet No. 103 of 136 Sheets

DESIGN_STR_C02 6-9-94

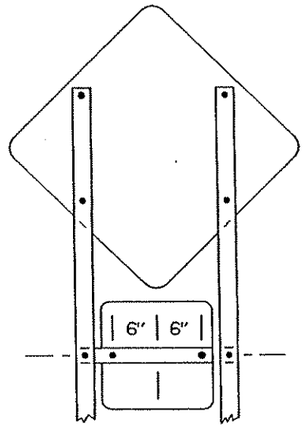
NAME: SGN6 410.PLN DATE: Apr. 12, 2001



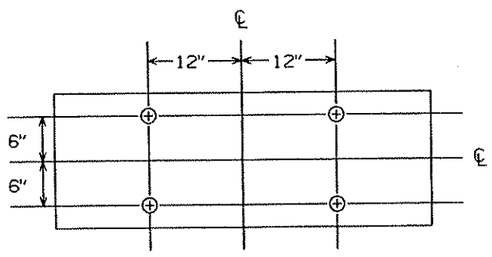
R6-1, R1-1 & (R6-3 OR R6-3A)
MOUNTING



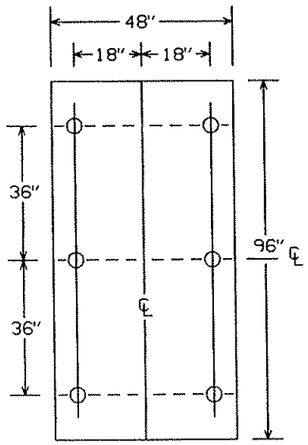
BACK TO BACK MOUNTING
OF R4-7 AND W9-2



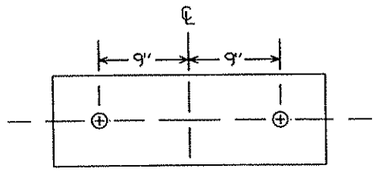
(W1-1, W1-2, W1-3, W1-4 OR W1-5) & W13-1
MOUNTING



PUNCHING FOR R6-1(48X18")



PUNCHING FOR R2-4A
SPEED LIMIT



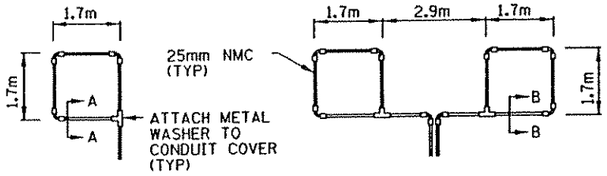
PUNCHING FOR R6-1(36X12")

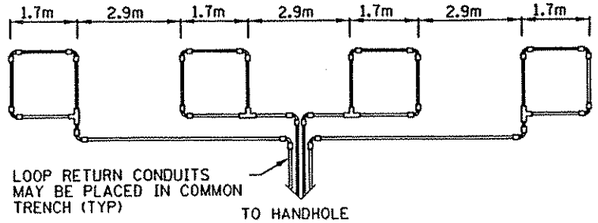
REV. 3-31-93
REV. 3-23-90

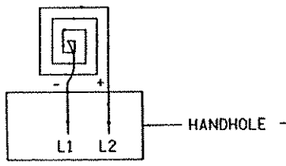
NOTE: THIS SHEET IN ENGLISH UNITS

"C" & "D" SIGN DETAILS

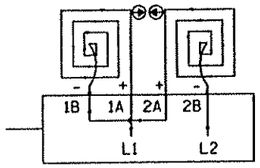
DESIGN A
SHEET 3 OF 3







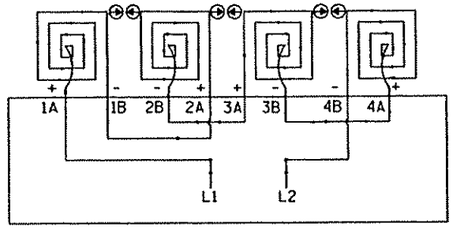
LOOP DETECTOR DETAIL 'A'



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

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

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

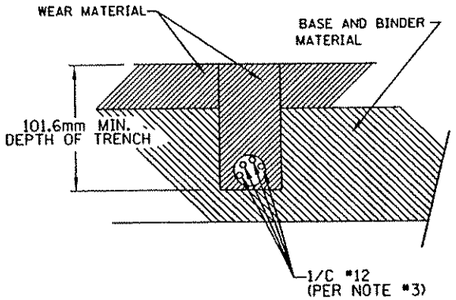


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

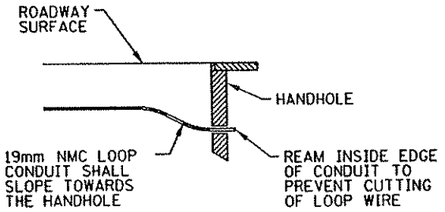
L1 TO 1A
1B TO 2A
2B TO 3A
3B TO 4A
4B TO L2

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

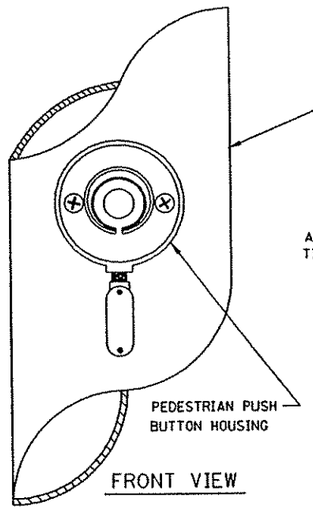
LOOP DETECTOR DETAIL 'C'
(LOOP PHASING FOR SERIES CONNECTION)



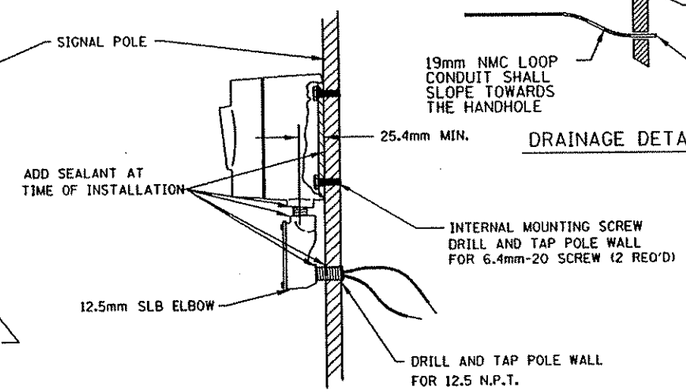
DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY



DRAINAGE DETAIL



FRONT VIEW



SIDE VIEW

MAST ARM POLE PEDESTRIAN PUSH BUTTON DETAIL

LOOP DETECTOR WIRING

1) ALL CORNERS SHALL BE 90 DEGREE 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 POLYETHLENE (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 1.7m x 1.7m THRU 1.7m x 4.3m SHALL HAVE (4) TURNS.

7) LOOPS 1.7m x 4.6m AND LARGER SHALL HAVE (2) TURNS.

LEGEND OF SYMBOLS

- CONTROLLER AND SERVICE EQUIP. NO's — (A)
- SIGNAL BASE NO. — (1)
- SIGNAL FACE NO. — (1)
- LUMINAIRE NO. — (1)
- 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 BACKROUND SHIELD
- SIGNAL FACE W/O BACKROUND 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 LUMMINAIRE
- STREET LIGHT POLE AND LUMMINAIRE - IN PLACE
- MAST ARM AND LUMMINAIRE
- MAST ARM AND LUMMINAIRE - 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
- EVP

ABBREVIATIONS

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

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

NO	DATE	BY	CKD	APPR	REVISION
1	8-7-00	RWS	GMS	GMS	REVISED PER FEDERAL AID STANDARDS
2	3-7-01	RWS	GMS	GMS	REVISED PER ANOKA COUNTY COMMENTS

NAME: 2842.DSA DATE: Mar. 07, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
George H. Thuemmig
Date 4/16/01 Reg. No. 21849

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	R. W. SMITH	1-99
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	A. POTTER	1-99
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	P. CORKLE	1-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

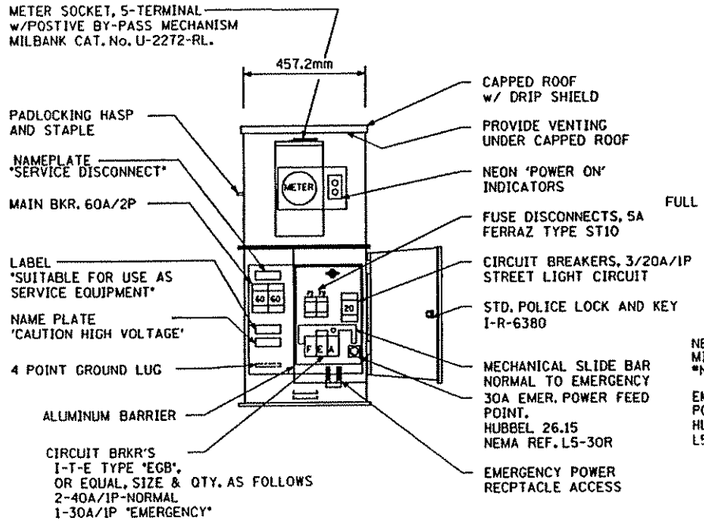
ANOKA COUNTY
LOOP DETECTOR AND MISCELLANEOUS DETAILS
C.S.A.H. 17 RECONSTRUCTION

SHEET 105 OF 136

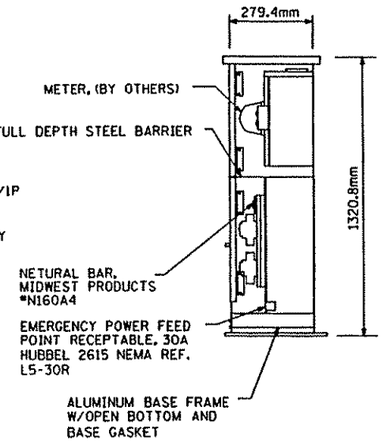
DESIGN FILE: N:\CIVIL\047\2842\SIGNALS\2842.dgn
PRF FILE: N:\CIVIL\047\2842\SIGNALS\2842.prf
PLOTTER: HP-DESIGNJET 650C
PLOT SCALE: 1.000 '/ IN.
PLOT DATE/TIME: 04/16/2001 14:59:36

CONSTRUCTION NOTES

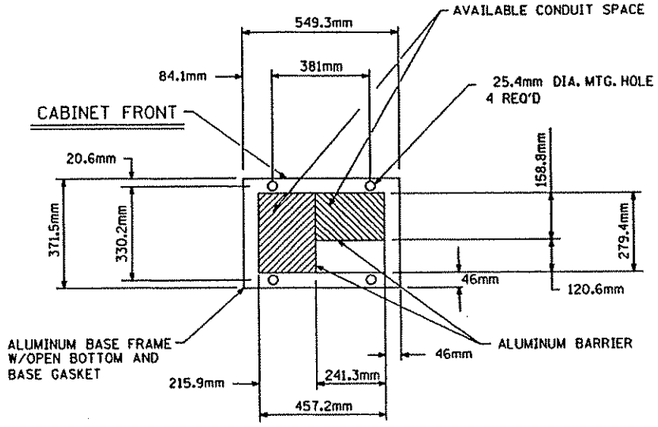
ENCLOSURE SHALL BE FABRICATED FROM 3.2 mm ALUMINUM FOR OUTDOOR WEATHER PROOF SERVICE. DOORS TO BE GASKETED. ALL HINGES, PINS AND LOCKS TO BE OF NON CORRODING CONSTRUCTION. CABINET TO BE PRIMED INSIDE AND OUT WITH RUST INHIBITTING PRIMER. FINISH PER MN/DOT *3527
ENCLOSURE SHALL BE 'UL' APPROVED



FRONT ELEV.

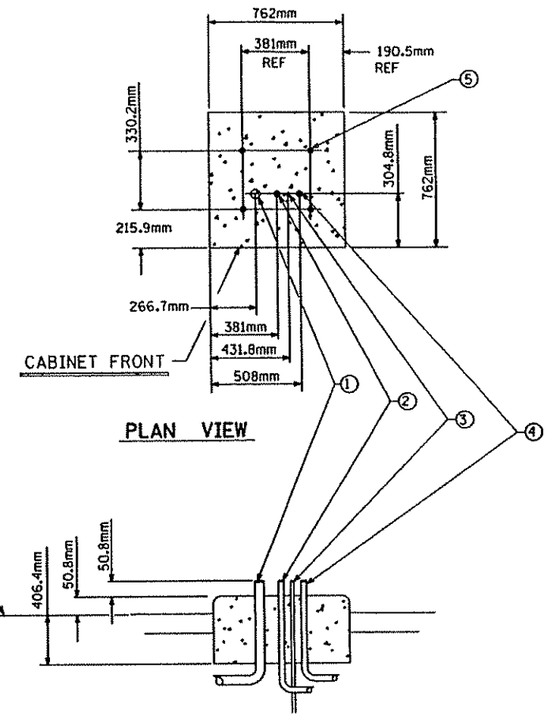


RIGHT SIDE ELEV.



BASE VIEW

SERVICE CABINET FOUNDATION



SIGNAL SERVICE CABINET

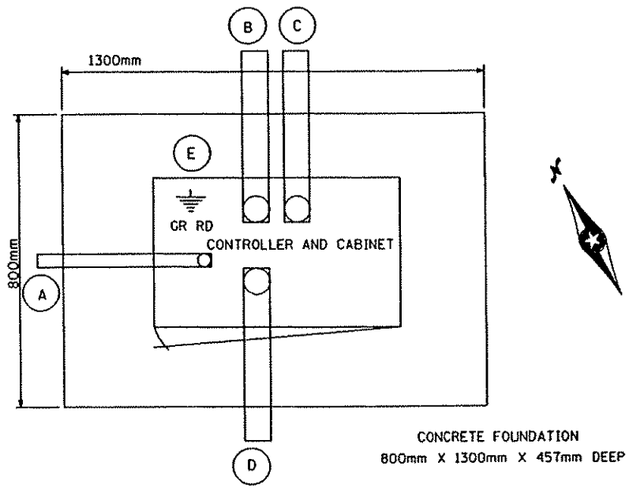
(A) 53mm RSC FOR SERVICE CONNECTION FROM H.H.

(B) 103mm RSC WITH SIGNAL CONDUCTORS

(C) 78mm RSC STUBOUT, THREAD AND CAP BOTH ENDS

(D) 103mm RSC WITH SIGNAL CONDUCTORS

(E) 15.9mm DIA X 4.6m GROUND ROD



SEE INTERSECTION LAYOUT FOR CONDUIT & CABLE INFORMATION

ELEV. VIEW

(1) 53mm RSC FROM S.O.P. (FOR POWER CABLE)

(2) 53mm RSC TO H.H. (FOR SERVICE CONNECTION)

(3) 15.9mm DIA x 3.0m GROUNDING ROD

(4) 53mm RSC FROM HH (STREET LIGHTING CONDUCTORS)

(5) ANCHOR BOLT LOCATIONS (4 REQUIRED)

CONTROLLER CABINET PAD LAYOUT (TYP.)

NO SCALE

NO	DATE	BY	CKD	APPR	REVISION
1	8-7-00	RWS	GMS	GMS	REVISED PER FEDERAL AID STANDARDS
2	3-7-01	RWS	GMS	GMS	REVISED PER ANOKA COUNTY COMMENTS

NAME: 2842.DSB DATE: Mar. 12, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
George M. Stuempfig
Date 4/16/01 Reg. No. 21849

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY R. W. SMITH DATE 1-99
DESIGNED BY A. POTTER 1-99
CHECKED BY P. CORKLE 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONTROLLER AND SERVICE CABINET DETAILS
C.S.A.H. 17 RECONSTRUCTION

SHEET 106 OF 136

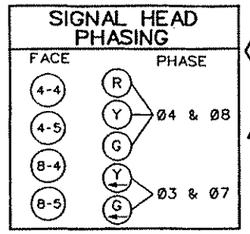
DESIGN FILE: N:\Civil\04T\2842\SIGNALS\2842.dgn
PRF FILE: N:\Civil\04T\2842\SIGNALS\2842.prf
PLOTTER: HP-HP800PS2
PLOT SCALE: 1.000000
PLOT DATE/TIME: 04/16/2001 15:00:06

SIGNAL INDICATION CHART

ALL SIGNAL INDICATIONS SHALL BE 300 mm
ALL CIRCULAR & ARROW INDICATIONS SHALL BE LED

SIGNAL FACE	R	Y	G	RLTA	YLTA	GLTA
1-1,1-2				←	←	←
2-1,2-2,2-3	●	●	●			
4-1,4-2,4-3	●	●	●			
4-4,4-5	●	●	●		←	←
5-1,5-2				←	←	←
6-1,6-2,6-3	●	●	●			
8-1,8-2,8-3	●	●	●			
8-4,8-5	●	●	●		←	←

SIGNAL HEAD PHASING



LOOP DETECTOR CHART

DESIGNATION	SIZE	FUNCTION	DISTANCE FROM STOP LINE
D1-1	2-1.7m x 1.7m	(1)	3.4, 12.2 m
D1-2	2-1.7m x 1.7m	(1)	-1, 7.8 m
D2-1	1-1.7m x 1.7m	(1)	107 m
D3-1	2-1.7m x 1.7m	(1)	3.4, 12.2 m
D3-2	2-1.7m x 1.7m	(1)	-1, 7.8 m
D4-1,D4-2	1-1.7m x 1.7m	(3)	73 m
D4-3,D4-4	2-1.7m x 1.7m	(1)	-1, 3.4 m
D5-1	2-1.7m x 1.7m	(1)	3.4, 12.2 m
D5-2	2-1.7m x 1.7m	(1)	-1, 7.8 m
D6-1	1-1.7m x 1.7m	(1)	107 m
D7-1	2-1.7m x 1.7m	(1)	3.4, 12.2 m
D7-2	2-1.7m x 1.7m	(1)	-1, 7.8 m
D8-1,D8-2	1-1.7m x 1.7m	(3)	73 m
D8-3	3-1.7m x 1.7m	(7)	-7.8,-3.4, 1 m
D8-4	2-1.7m x 1.7m	(1)	-1, 3.4 m

FUNCTIONS:
(1) CALL AND EXTEND
(3) EXTEND ONLY
(7) DELAY CALL, IMMEDIATE EXTEND

(2) PA100 FOUNDATION
TYPE PA100-A-10.7 m-D12 m-3 m (DAVIT AT 350°)
2 - ONE WAY SIGNALS (OVERHEAD)
(0 m AND 3.6 m FROM END OF MAST ARM)
TYPE 10B POLE MOUNTED AT 90°
TYPE 20B POLE MOUNTED AT 180°
LUMINAIRE - 200 WATT H.P.S. WITH P.E.C. AND TEST SWITCH
ONE WAY EVP DETECTOR AND LIGHT
(1.8 m FROM END OF MAST ARM), 19 mm HUB
2 - PEDESTRIAN PUSHBUTTONS
1 - R10-12 (24"x30") SIGN
EXTEND 78 mm RSC INTO HH-5 WITH:
3 - 12/C •12, 2 - 3/C •12
1 - 3/C •12 (LUM.) AND 1 - 3/C •20

(3) PA100 FOUNDATION
TYPE PA100-A-12.2 m-D12 m-3 m (DAVIT AT 350°)
2 - ONE WAY SIGNALS (OVERHEAD)
(0.2 m AND 4.0 m FROM END OF MAST ARM)
TYPE 10B POLE MOUNTED AT 90°
TYPE 20B POLE MOUNTED AT 180°
LUMINAIRE - 200 WATT H.P.S. WITH P.E.C. AND TEST SWITCH
ONE WAY EVP DETECTOR AND LIGHT
(1.8 m FROM END OF MAST ARM), 19 mm HUB
2 - PEDESTRIAN PUSHBUTTONS
EXTEND 78 mm RSC INTO HH-10 WITH:
3 - 12/C •12, 2 - 3/C •12
1 - 3/C •12 (LUM.) AND 1 - 3/C •20

(4) PA100 FOUNDATION
TYPE PA100-A-10.7 m-D12 m-3 m (DAVIT AT 350°)
2 - ONE WAY SIGNALS (OVERHEAD)
(0 m AND 3.4 m FROM END OF MAST ARM)
TYPE 10B POLE MOUNTED AT 90°
TYPE 20B POLE MOUNTED AT 180°
LUMINAIRE - 200 WATT H.P.S. WITH P.E.C. AND TEST SWITCH
ONE WAY EVP DETECTOR AND LIGHT
(1.8 m FROM END OF MAST ARM), 19 mm HUB
2 - PEDESTRIAN PUSHBUTTONS
1 - R10-12 (24"x30") SIGN
EXTEND 78 mm RSC INTO HH-13 WITH:
3 - 12/C •12, 2 - 3/C •12
1 - 3/C •12 (LUM.) AND 1 - 3/C •20

SIGNAL OPERATION NOTES

- NORMAL OPERATION IS 8 PHASE
- FLASH MODE SHALL BE ALL RED
- Ø1 & Ø5 SHALL BE PROTECTED LEFT TURNS
  LEFT TURNS
- Ø3 & Ø7 SHALL BE PROTECTED/PERMISSIVE
  LEFT TURNS
- Ø2 & Ø6 SHALL BE ON VEHICLE RECALL

CONTROLLER PHASING, PEDESTRIAN INDICATIONS & PUSHBUTTON LAYOUT

(A) CONTROLLER FOUNDATION - SEE DETAIL
CONTROLLER & CABINET
EXTEND 103 mm RSC INTO HH-1 WITH:
6 - 12/C •12, 4 - 3/C •12,
9 - 2/C •14 AND 2 - 3/C •20
EXTEND 103 mm RSC INTO HH-18 WITH:
6 - 12/C •12, 4 - 3/C •12,
10 - 2/C •14 AND 2 - 3/C •20
EXTEND 53 mm RSC INTO HH-19 WITH:
3 - 1/C •6
1 - 78 mm RSC STUB OUT OF CABINET
(THREAD AND CAP BOTH ENDS)

(B) SERVICE CABINET FOUNDATION
SIGNAL SERVICE CABINET
EXTEND 53 mm RSC INTO HH-19 WITH:
3 - 1/C •6
EXTEND 53 mm RSC INTO HH-1 WITH:
4 - 3/C •12 (LUM.)
EXTEND 53 mm RSC INTO HH-20 WITH:
3 - 1/C •2

(C) SOURCE OF POWER
INPLACE WOOD POLE
53 mm RSC RISER AND
WEATHERHEAD WITH:
3 - 1/C •2

(1) PA100 FOUNDATION
TYPE PA100-A-12.2 m-D12 m-3 m (DAVIT AT 350°)
2 - ONE WAY SIGNALS (OVERHEAD)
(0.2 m AND 4.0 m FROM END OF MAST ARM)
TYPE 10B POLE MOUNTED AT 90°
TYPE 20B POLE MOUNTED AT 180°
LUMINAIRE - 200 WATT H.P.S. WITH P.E.C. AND TEST SWITCH
ONE WAY EVP DETECTOR AND LIGHT
(1.8 m FROM END OF MAST ARM), 19 mm HUB
2 - PEDESTRIAN PUSHBUTTONS
EXTEND 78 mm RSC INTO HH-1 WITH:
3 - 12/C •12, 2 - 3/C •12
1 - 3/C •12 (LUM.) AND 1 - 3/C •20

NOTES:

1) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
3) INTERNATIONAL SYMBOLS SHALL BE USED FOR ALL PEDESTRIAN INDICATIONS (HAND AND WALKING PERSON). THE HAND AND WALKING PERSON INDICATION SHALL USE LED UNITS (SEE SPECIAL PROVISIONS).
4) EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS, AND CABINET SHALL BE DETERMINED BY TRAFFIC OFFICE PERSONNEL.
5) ALL LOOP DETECTORS SHALL BE INSTALLED IN NMC CONDUIT (SEE DETAIL SHEET), EXCEPT D4-1,2,3,4 AND D7-1,2, WHICH SHALL BE SAWCUT.
6) ALL SIGNAL INDICATIONS (RED, YELLOW AND GREEN CIRCULAR AND ARROW INDICATIONS) SHALL USE LED UNITS.
7) SEE SPECIAL PROVISIONS FOR REMOVALS EXISTING SIGNAL SYSTEM.
8) SEE SIGNING AND STRIPING PLAN FOR CROSSWALK AND STOP BAR INFORMATION.
9) HANDHOLES SHALL BE PVC TYPE WITH METAL FRAMES AND COVERS.
10) R10-4b SIGNS SHALL BE FURNISHED BY THE OWNER AND INSTALLED ABOVE PEDESTRIAN PUSHBUTTONS BY THE CONTRACTOR.
11) LOOP LEAD-IN CABLE FOR FUTURE D4-5 SHALL BE EXTENDED FROM THE CONTROLLER CABINET TO HH-10, WHERE IT SHALL BE COILED FOR FUTURE SPLICING AND PROTECTED TO THE SATISFACTION OF THE ENGINEER.

NO	DATE	BY	CKD	APPR	REVISION
1	8-7-00	RWS	GMS	GMS	REVISED PER FEDERAL AID STANDARDS
2	3-7-01	RWS	GMS	GMS	REVISED PER ANOKA COUNTY COMMENTS

NAME: 2842.ILA DATE: Apr. 11, 2001 TIME: 14:26:56

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
George M. Stiemphig
Date 4/16/01 Reg. No. 21847

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	M. BRESSLER	1-99
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	A. POTTER	1-99
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	P. CORKLE	1-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
INTERSECTION LAYOUT
C.S.A.H. 17 RECONSTRUCTION
(SYSTEM "A")

SHEET 107 OF 136

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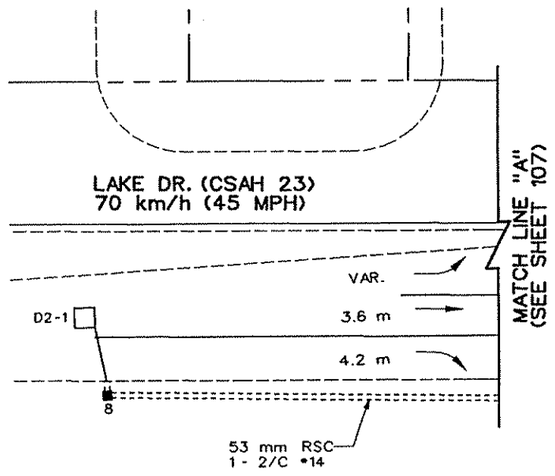
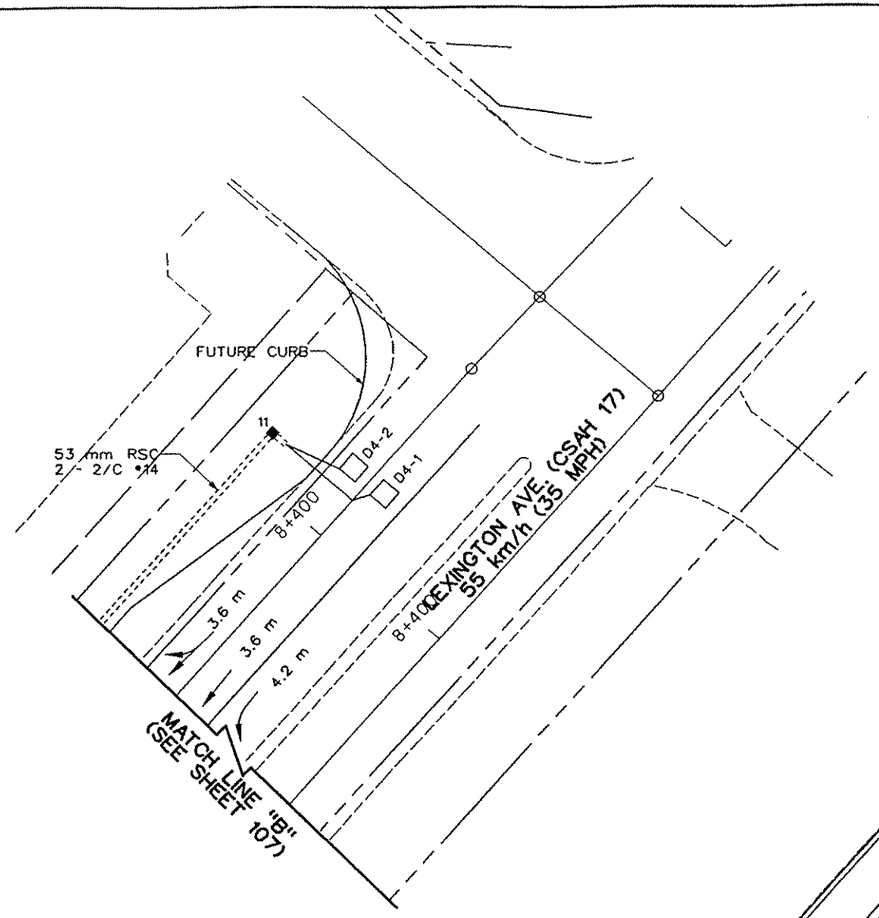
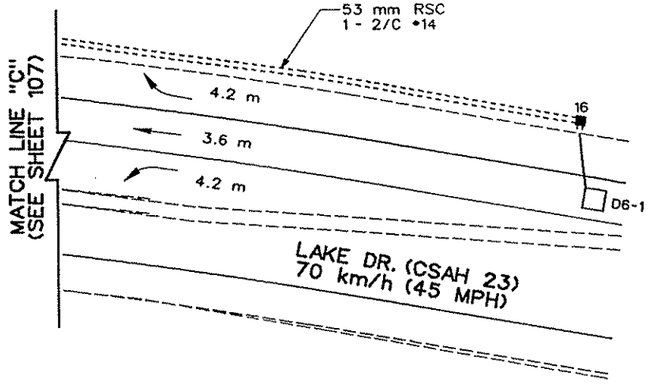
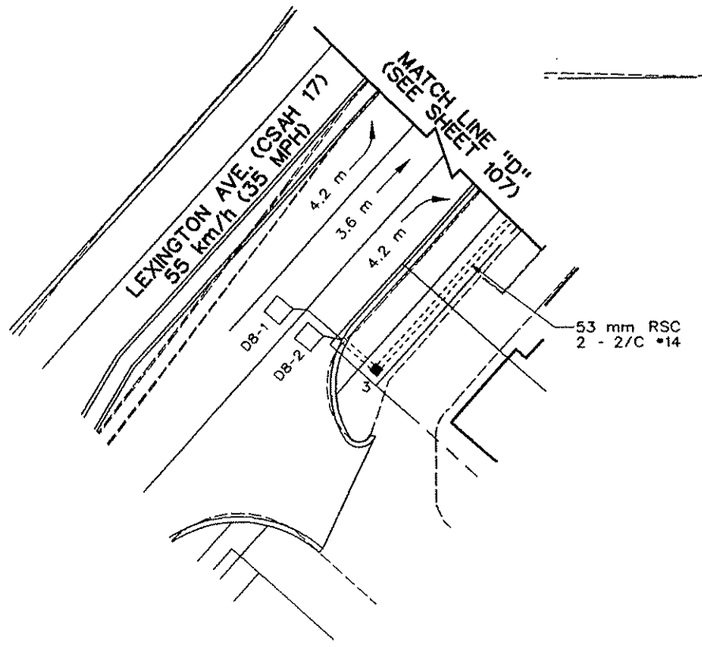
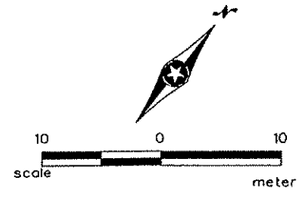
PLOT DATE/TIME: 04/16/2001 09:52:13











NO	DATE	BY	CKD	APPR	REVISION
1	8-7-00	RWS	GMS	GMS	REVISED PER FEDERAL AID STANDARDS

NAME: 2842.ILC DATE: Aug. 07, 2000

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
George M. Stuemplig
Date 4/16/01 Reg. No. 21849

STATE AID PROJECT NO.	
S.A.P. 02-617-05	
S.A.P. 62-651-39	
S.A.P. 106-020-14	
CO. PROJECT NO.	
C.P. 99-07-110	

DRAWN BY	M. BRESSLER	DATE 1-99
DESIGNED BY	A. POTTER	1-99
CHECKED BY	P. CORKLE	1-99
COMM. NO.	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MATCH LINE LAYOUT
C.S.A.H. 17 RECONSTRUCTION
(SYSTEM "A")

SHEET 108 OF 136

DESIGN FILE: n:\civil\047\2842\SIGNALS\2842.ilc
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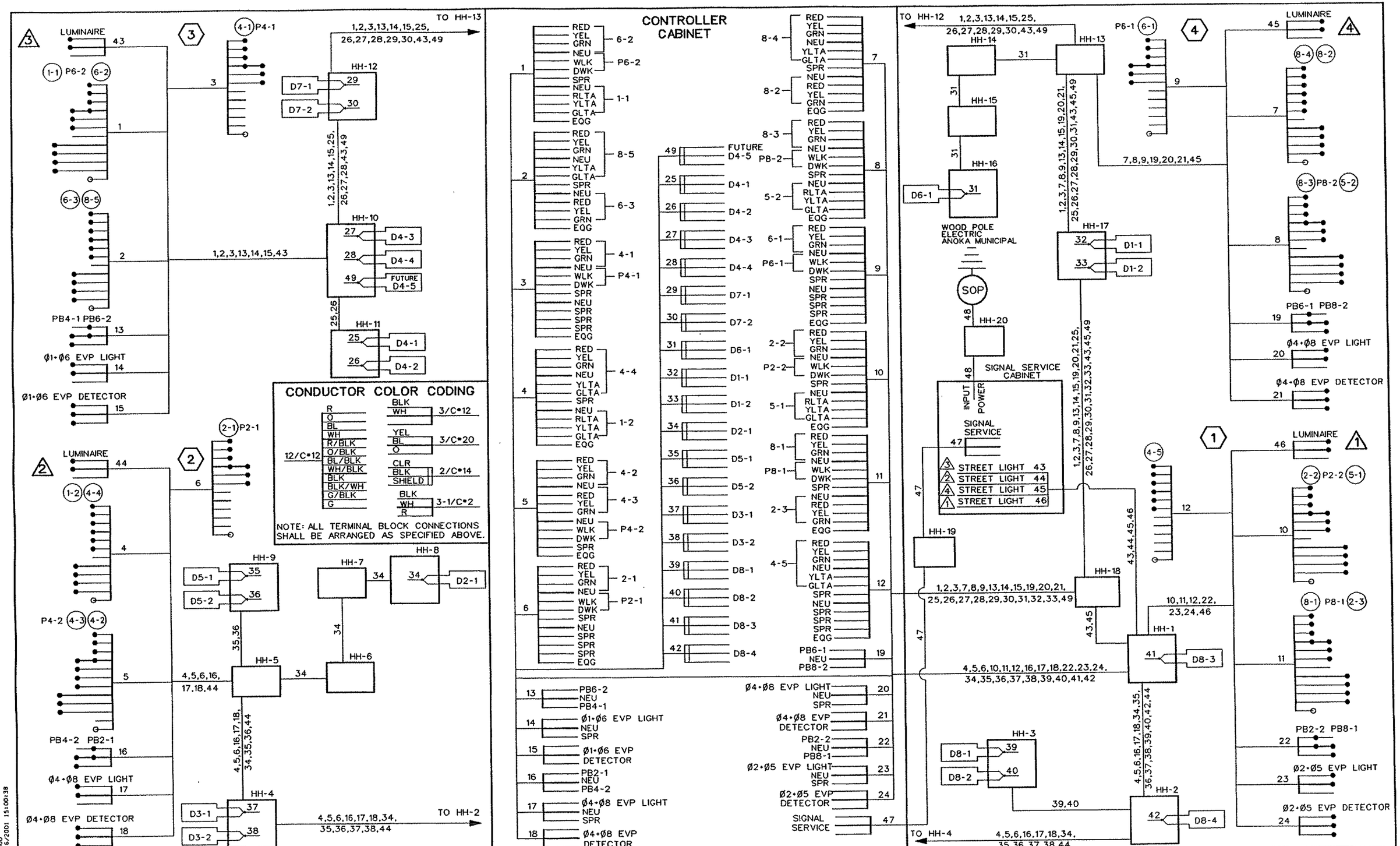

NO	DATE	BY	CKD	APPR	REVISION
1	8-7-00	RWS	GMS	GMS	REVISED PER FEDERAL AID STANDARDS

NAME: 2842.WDA DATE: Apr. 11, 2001 TIME: 15:30:51

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
George M. Stuempfig
Date 4/16/01 Reg. No. 21849

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	M. BRESSLER	1-99
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	A. POTTER	1-99
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	P. CORKLE	1-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
FIELD WIRING DIAGRAM
C.S.A.H. 17 RECONSTRUCTION
(SYSTEM "A")

SHEET 109 OF 136

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PLOTTER: MS-HP8000N2
PLOT SCALE: 101.010000
PLOT DATE/TIME: 04/16/2001 15:00:38

NOTES

1) ALL LOOP DETECTORS ARE IN 1 " N.M.C. (SEE DETAILS).
2) SEE SPECIAL PROVISIONS FOR THE INSTALLATION OF METAL GUARD POSTS.
3) SEE SPECIAL PROVISIONS FOR THE CONTRACTORS RESPONSIBILITY FOR THE LOCATION OF UTILITIES.
4) LOOP DETECTORS/CONDUCTORS SHALL BE CROSS LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
5) WOOD POLE (S.O.P.) TO BE RELOCATED DURING COUNTY CONSTRUCTION PROJECT.

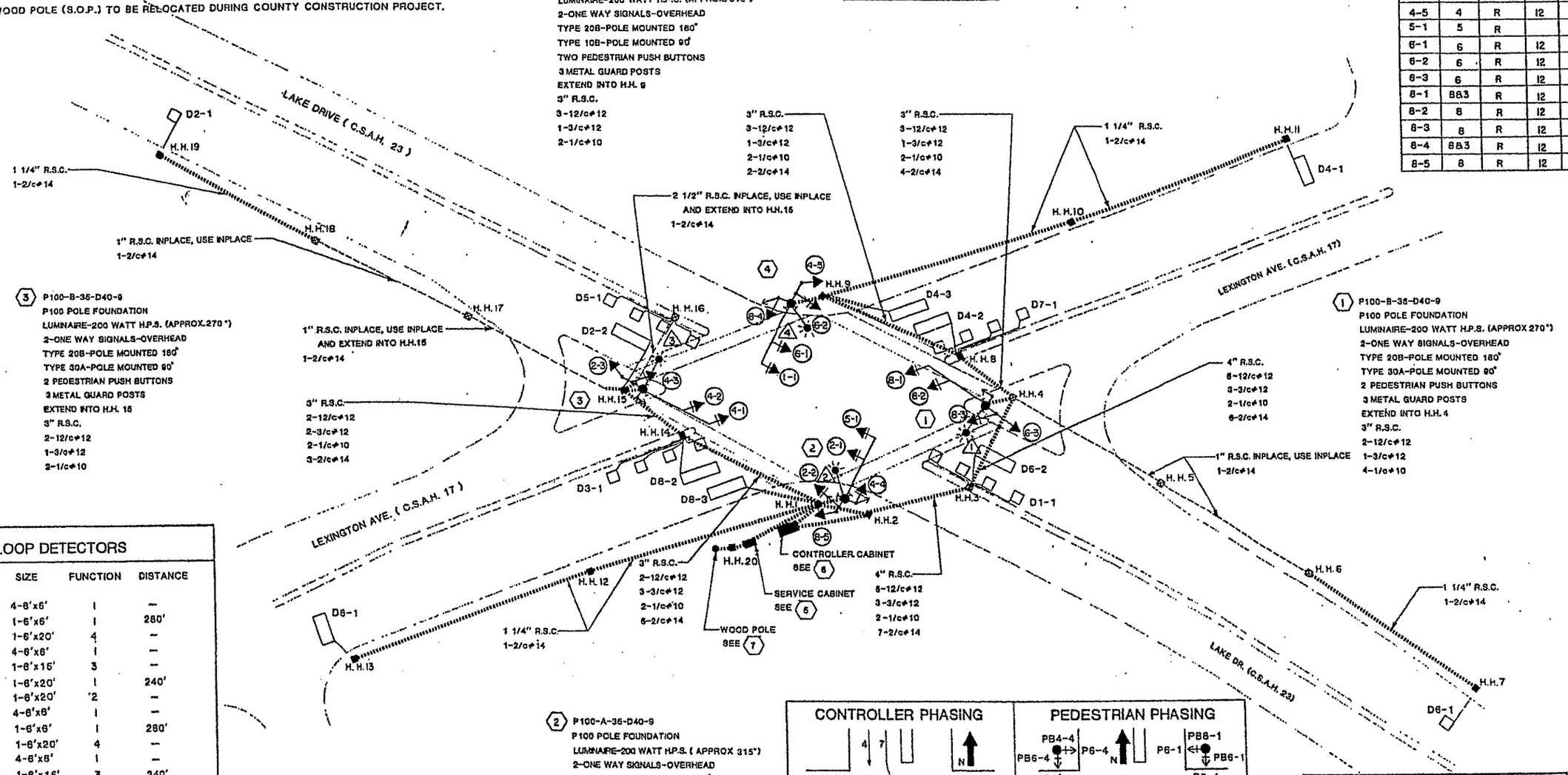
SIGNAL HEAD PHASING

HEADS 8-1 AND 8-4	HEADS 4-1 AND 4-4
Ø8 R, Y, G	Ø4 R, Y, G
Ø3 Y, G	Ø7 Y, G

SCALE IN FEET
0 30 60

SIGNAL INDICATIONS

FACE	PHASE	FLASH	R	Y	G	RLTA	YLTA	GLTA
1-1	1	R				12	12	12
2-1	2	R	12	12	12			
2-2	2	R	12	12	12			
2-3	2	R	12	12	12			
4-1	487	R	12	12	12		12	12
4-2	4	R	12	12	12			
4-3	4	R	12	12	12			
4-4	487	R	12	12	12		12	12
4-5	4	R	12	12	12			
5-1	5	R				12	12	12
6-1	6	R	12	12	12			
6-2	6	R	12	12	12			
6-3	6	R	12	12	12			
8-1	883	R	12	12	12		12	12
8-2	8	R	12	12	12			
8-3	8	R	12	12	12			
8-4	883	R	12	12	12		12	12
8-5	8	R	12	12	12			



4 P100-A-35-040-9
P100 POLE FOUNDATION
LUMINAIRE-200 WATT H.P.S. (APPROX. 315")
2-ONE WAY SIGNALS-OVERHEAD
TYPE 20B-POLE MOUNTED 180°
TYPE 10B-POLE MOUNTED 90°
TWO PEDESTRIAN PUSH BUTTONS
3 METAL GUARD POSTS
EXTEND INTO H.H. 9
3" R.S.C.
3-12/c#12
1-3/c#12
2-1/c#10

3 P100-B-35-D40-8
P100 POLE FOUNDATION
LUMINAIRE-200 WATT H.P.S. (APPROX.270°)
2-ONE WAY SIGNALS-OVERHEAD
TYPE 20B-POLE MOUNTED 180°
TYPE 30A-POLE MOUNTED 90°
2 PEDESTRIAN PUSH BUTTONS
3 METAL GUARD POSTS
EXTEND INTO H.H. 15
3" R.S.C.
2-12/c#12
1-3/c#12
2-1/c#10

2 P100-A-35-D40-9
P100 POLE FOUNDATION
LUMINAIRE-200 WATT H.P.S. (APPROX 315")
2-ONE WAY SIGNALS-OVERHEAD
TYPE 20B-POLE MOUNTED 180°
TYPE 10B-POLE MOUNTED 90°
2 PEDESTRIAN PUSH BUTTONS
3 METAL GUARD POSTS
EXTEND INTO H.H. 1
3" R.S.C.
3-12/c#12
1-3/c#12
4-1/c#10

1 P100-B-35-D40-9
P100 POLE FOUNDATION
LUMINAIRE-200 WATT H.P.S. (APPROX 270°)
2-ONE WAY SIGNALS-OVERHEAD
TYPE 20B-POLE MOUNTED 180°
TYPE 30A-POLE MOUNTED 90°
2 PEDESTRIAN PUSH BUTTONS
3 METAL GUARD POSTS
EXTEND INTO H.H. 4
3" R.S.C.
2-12/c#12
1-3/c#10
4-1/c#10

5 SERVICE CABINET
METERED SIGNAL POWER
EXTEND INTO H.H. 1
1 1/4" R.S.C.
3-1/c#6
1-1/c#6 Br. Gr.
UNMETERED STREET LIGHTING SERVICE
EXTEND INTO H.H. 1
1" R.S.C.
4-1/c#10
EXTEND INTO H.H.20
1 1/4" R.S.C.
2-1/c#6
1-1/c#6 Br. Gr.

6 CONTROLLER AND CABINET
CABINET FOUNDATION
EXTEND INTO H.H. 1
4" R.S.C.
6-12/c#12
3-3/c#12
7-2/c#14
3-1/c#6
1-1/c#6 Br. Gr.
EXTEND INTO H.H. 2
4" R.S.C.
6-12/c#12
3-3/c#12
7-2/c#14
BETWEEN H.H. 1 AND H.H.2
2" R.S.C.
2-1/c#10

7 WOOD POLE
1 1/4" R.S.C. AND WEATHERHEAD
2-1/c#6
1-1/c#6 Br. Gr.
EXTEND INTO H.H.20
2-1/c#6
1-1/c#6 Br. Gr.
SEE NOTE 5

LOOP DETECTORS

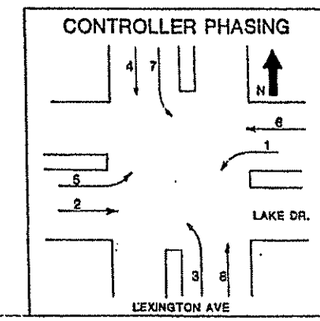
NUMBER	SIZE	FUNCTION	DISTANCE
D1-1	4-6'x6'	1	—
D2-1	1-6'x6'	1	280'
D2-2	1-6'x20'	4	—
D3-1	4-6'x6'	1	—
D4-1	1-6'x15'	3	—
D4-2	1-6'x20'	1	240'
D4-3	1-6'x20'	2	—
D5-1	4-6'x6'	1	—
D6-1	1-6'x6'	1	280'
D6-2	1-6'x20'	4	—
D7-1	4-6'x6'	1	—
D8-1	1-6'x16'	3	240'
D8-2	1-6'x20'	1	—
D8-3	1-6'x20'	2	—

FUNCTIONS

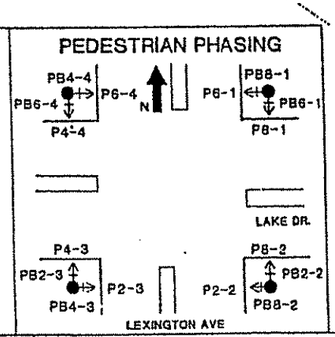
1 CALL AND EXTEND
2 DELAYED CALL, IMMEDIATE EXTEND
3 "EXTENDING" DETECTOR (STRETCH)
4 CALL ONLY

"ELECTRICAL ENGINEER CERTIFICATION"
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date: 7/24/85 Reg.No. 9089

CONTROLLER PHASING



PEDESTRIAN PHASING



FOR INFORMATION ONLY

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-15
CO. PROJECT NO.
C.P. 99-07-110

SHEET 110 OF 136

SURVEY. CO.	CHECKED BY:	NO.	DATE	REVISIONS
DESIGN: GVW	M.K.	1	6/15	Per Anoka County Review
DRAWN B.N.				

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE: 7/24/85 REG. NO. 9089

SEH
SHORT – ELLIOTT – HENDRICKSON, INC.
Saint Paul, Minnesota • Chippewa Falls, Wisconsin

SIGNAL SYSTEM
INTERSECTION LAYOUT

ANOKA COUNTY
C.S.A.H. 17 AND C.S.A.H. 23

FILE NO.: 85139
DATE: 7/24/85
~~15~~ ~~117~~

CONTROLLER CABINET

1: RLTA 6-1, YLTA 6-1, GLTA 6-1, N 6-1, R 2-1, Y 2-1, G 2-1, N 2-1 2-2, R 2-2, Y 2-2, G 2-2, EQG

2: R 4-4, Y 4-4, G 4-4, N 4-4, YLTA 4-4, GLTA 4-4, SPR, N 8-5, R 8-5, Y 8-5, G 8-5, EQG

3: R 8-1, Y 8-1, G 8-1, N 8-1 PB-1, YLTA 8-1, GLTA 8-1, WLK PB-1, N PB-1, DWK PB-1, WLK PB-1, DWK PB-1, EQG

4: R 8-2, Y 8-2, G 8-2, N 8-2 8-3, R 8-3, Y 8-3, G 8-3, N 8-3, R 8-3, Y 8-3, G 8-3, EQG

5: R 4-1, Y 4-1, G 4-1, N 4-1 P4-3, YLTA 4-1, GLTA 4-1, WLK P2-3, N P2-3, DWK P2-3, WKL P4-3, DWK P4-3, EQG

6: R 4-2, Y 4-2, G 4-2, N 4-2 4-3, R 4-3, Y 4-3, G 4-3, N 2-3, R 2-3, Y 2-3, G 2-3, EQG

10: WLK P4-4, DWK P4-4, SPR, N P4-4, WLK P6-4, DWK P6-4, SPR, N P6-4, SPR, SPR, SPR, EQG

1-1 RLTA, 1-1 YLTA, 1-1 GLTA, 1-1 N, 6-1 R, 6-1 Y, 6-1 G, 8-1 6-2 N, 6-2 R, 6-2 Y, 6-2 G, EQG → 7

8-4 R, 8-4 Y, 8-4 G, 8-4 N, 8-4 YLTA, 8-4 GLTA, SPR, 4-5 N, 4-5 R, 4-5 Y, 4-5 G, EQG → 8

PB-2 WLK, PB-2 DWK, SPR, PB-2 N, P2-2 WLK, P2-2 DWK, SPR, P2-2 N, SPR, SPR, SPR, EQG → 9

PB2-2 N, PB8-2 → 11

PB6-1 N, PB6-1 → 12

PB2-3 N, PB4-3 → 13

PB4-4 N, PB6-4 → 14

D1-1 → 16; D2-1 → 18; D2-2 → 17; D3-1 → 16; D4-1 → 19; D4-2 → 20; D4-3 → 21; D5-1 → 22; D6-1 → 23; D6-2 → 24; D7-1 → 25; D8-1 → 26; D8-2 → 27; D8-3 → 28

SIGNAL SERVICE, NEU, FLASH SERVICE → 40

SPR, N, SPR → 31

SPR, N, SPR → 32

TEST SWITCH (2) — 2 LUMINAIRE 30A — 30 — P.E.C. — 5-1 2-1 2-2 — 4-4 8-5 — 2 — 1

H.H.13 — 26 — 26 — H.H.12 — D8-1

PB2-2 PB8-2 — 11 — 9

P8-2 P2-2

1,2,3,4,9,11,12,16,18,22,26,27,32,40

H.H.1 — 26 — 28 — D8-3

29

29,30,40

3,4,12, 16,16,22,27,30A,32

H.H.14 — 27 — 16 — D8-2 — D3-1

3,4,12,16,22,30A,32

H.H.15 — 17 — D2-2

16 — H.H.17 — 16 — H.H.18 — 16 — H.H.19 — 16 — D2-1

22 — H.H 16 — 22 — D5-1

3 30A LUMINAIRE 3 — 8-1 P6-1 P6-1 — 8-2 8-3 8-3 — 3 4

PB6-1 PB6-1 — 12 32

SIGNAL SERVICE CABINET

LUMINAIRE 1 4 — 29

SIGNALS NEU LIGHTING — 39

LUMINAIRE 2 3 — 30

SIGNAL SERVICE — NEU — FLASH SERVICE — 40

H.H.20 — 39 — 39 — S.O.P.

1 — TEST SWITCH — 29 — 29A — LUMINAIRE — P.E.C. — 4-1 P4-3 P2-3 — 4-2 4-3 2-3 — 5 6

PB2-3 PB4-3 — 13 31

4 — 4 LUMINAIRE 29A — 1-1 6-1 6-2 — 6-4 4-5 — 8 — 7

P4-4 P6-4 — 10

PB4-4 PB6-4 — 14

29 — 5,6,7,8,10,13,14,15,19,20,21, 23,24,25,29,31 — H.H.2

5,6,7,8,10,13,14,15,19, 20,21,23,24,25,29,31 — H.H.3 — 15 — 24 — D1-1 — D6-2

5,6,7,8,10,13, 14,19,20,21, 23,25,29,31 — H.H.4

7,8,10,14,19, 20,21,25,29A — H.H.5 — 20 — 25 — D4-2 — D7-1

7,8,10,14,19,21,29A — H.H.9 — 21 — D4-3

H.H.10 — 19 — 19 — H.H.11 — 19 — D4-1

23 — H.H.5 — 23 — H.H.6 — 23 — H.H.7 — 23 — D6-1

FOR INFORMATION ONLY

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-15
CO. PROJECT NO.
C.P. 99-07-110

"ELECTRICAL ENGINEER CERTIFICATION"
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date: 7/29/85 Reg.No. 21615

SHEET 111 OF 136

SURVEY:	CHECKED BY:	NO.	DATE	REVISIONS
DESIGN: M.K.	G.V.W.	1	8/16	Per Anoka County Review
DRAWN: G.N.				

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE: 7/29/85 REG. NO. 9088

SHORT – ELLIOTT – HENDRICKSON, INC.
Saint Paul, Minnesota • Chippewa Falls, Wisconsin

SIGNAL SYSTEM
FIELD WIRING DIAGRAM

ANOKA COUNTY
C.S.A.H. 17 AND C.S.A.H. 23

FILE NO.: 85139
DATE: 7/24/85
~~16~~ / ~~17~~

LOOP DETECTOR CHART

DESIGNATION	SIZE	FUNCTION	DISTANCE FROM STOP LINE
D1-1	2-1.7m x 1.7m	(1)	0, 9.4m
D1-2	2-1.7m x 1.7m	(1)	4.7, 14.1m
D2-1	1-1.7m x 1.7m	(1)	113m
D3-1	2-1.7m x 1.7m	(1)	0, 9.4m
D3-2	2-1.7m x 1.7m	(1)	4.7, 14.1m
D4-1,D4-2	1-1.7m x 1.7m	(1)	101m
D4-3,D4-4	2-1.7m x 1.7m	(2)	-2, 3m
D4-5	2-1.7m x 1.7m	(7)	-2, 3m
D5-1	2-1.7m x 1.7m	(1)	0, 9.4m
D5-2	2-1.7m x 1.7m	(1)	4.7, 14.1m
D6-1	1-1.7m x 1.7m	(1)	113m
D7-1	2-1.7m x 1.7m	(1)	0, 9.4m
D7-2	2-1.7m x 1.7m	(1)	4.7, 14.1m
D8-1,D8-2	1-1.7m x 1.7m	(1)	101m
D8-3	2-1.7m x 1.7m	(2)	-2, 3m
D8-4	2-1.7m x 1.7m	(5)	-2, 3m

FUNCTIONS: (1) - CALL AND EXTEND
(2) - CALL ONLY
(5) - DELAY CALL ONLY
(7) - DELAY CALL, IMMEDIATE EXTEND

SIGNAL INDICATION CHART

ALL SIGNAL INDICATIONS SHALL BE 300 mm
ALL CIRCULAR AND ARROW INDICATIONS SHALL BE L.E.D.

SIGNAL FACE	R	Y	G	RLTA	YLTA	GLTA
SALVAGE & REINSTALL— 1-1,1-2				←	←	←
INP.— 2-1,2-2	●	●	●			
SALVAGE & REINSTALL— 3-1,3-2				←	←	←
SALVAGE & REINSTALL— 4-1,4-3	●	●	●			
F & I — 4-2	●	●	●			
INP. — 5-1				←	←	←
SALVAGE & REINSTALL— 5-2				←	←	←
SALVAGE & REINSTALL— 6-1,6-2	●	●	●			
SALVAGE & REINSTALL— 7-1				←	←	←
INP. — 7-2				←	←	←
SALVAGE & REINSTALL— 8-1,8-3	●	●	●			
F & I — 8-2	●	●	●			

1 REMOVE— PA100 POLE FOUNDATION
F & I— PA100 POLE FOUNDATION
SALVAGE & REINSTALL— TYPE PA100-A9.1m-D12m-3m (DAVIT AT 350°)
2-ONE WAY SIGNALS (OVERHEAD)
(0m AND 3.7m FROM END OF MAST ARM)
TYPE 10B AT 90°
TYPE 10B AT 270°
LUMINAIRE - 250 WATT H.P.S.
WITH P.E.C. AND TEST-SWITCH
2-PEDESTRIAN PUSHBUTTONS
1-ONE WAY EVP DETECTOR AND
CONFIRMATION LIGHT
F & I— EXTEND 78 mm RSC INTO HH1 WITH:
2-12/C•12, 3-3/C•12, 1-3/C•12 (LUM)
1-3/C•20

F & I— 53 mm RSC
2-2/C•14
1-3/C•20

F & I— 103 mm RSC
2-12/C•12
3-3/C•12
1-3/C•20
5-2/C•14
1-3/C•12 (LUM)

C SOURCE OF POWER
WOOD POWER POLE (INP.)
F & I— EXTEND 53 mm RSC INTO HH-20 WITH:
3-1/C•2

A REMOVE— CONTROLLER CABINET PAD
F & I— CONTROLLER CABINET PAD-SEE DETAIL
CONTROLLER & CABINET
SALVAGE & REINSTALL— EXTEND 103 mm RSC INTO HH-1 WITH:
4-12/C•12, 6-3/C•12, 10-2/C•14
AND 3-3/C•20
EXTEND 103 mm RSC INTO HH-18 WITH:
F & I— 6-3/C•12, 2-3/C•20, 9-2/C•14, 4-12/C•12
EXTEND 53 mm RSC INTO HH-19 WITH:
3-1/C•6
1 - 78 mm RSC STUB OUT OF CABINET
(THREAD AND CAP BOTH ENDS)

F & I— 53 mm RSC
2-3/C•12 (LUM)

F & I— 103 mm RSC
4-12/C•12
6-3/C•12
2-3/C•12 (LUM)
2-3/C•20
9-2/C•14

B REMOVE & SALVAGE— SERVICE CABINET
REMOVE— SERVICE CABINET FOUNDATION
SERVICE CABINET FOUNDATION-SEE DETAIL
SIGNAL SERVICE CABINET
EXTEND 53 mm RSC INTO HH-19 WITH:
F & I— 3-1/C•6
EXTEND 53 mm RSC INTO HH-20 WITH:
3-1/C•2
EXTEND 53 mm RSC INTO HH-1 WITH:
4-3/C•12 (LUM.)

F & I— 103 mm RSC
2-12/C•12
3-3/C•12
3-3/C•20
3-2/C•14
1-3/C•12 (LUM)

2 REMOVE— PA100 POLE FOUNDATION
F & I— PA100 POLE FOUNDATION
SALVAGE & REINSTALL— TYPE PA100-A
REMOVE & SALVAGE— 10.7 m (MAST ARM ONLY)
F & I— 16.7 m-D12 m-3 m
2-ONE WAY SIGNALS (OVERHEAD)
(0 m, 3.7 m FROM END OF MAST ARM)
TYPE 10B AT 90°
TYPE 10B AT 270°
1-ONE WAY EVP DETECTOR AND
CONFIRMATION LIGHT
2-PEDESTRIAN PUSHBUTTONS

SALVAGE & REINSTALL— 1-ONE WAY SIGNAL (OVERHEAD)
(7.3 m FROM END OF MAST ARM)
LUMINAIRE - 250 WATT H.P.S.
WITH P.E.C. AND TEST-SWITCH
F & I— EXTEND 78 mm RSC INTO HH-12 WITH:
2-12/C•12, 3-3/C•12, 1-3/C•20, 1-3/C•12 (LUM)

F & I— 53 mm RSC
1-2/C•14

INP.— 32 mm RSC
F & I— 1-2/C•14

INP.— 6

F & I— 53 mm RSC
1-2/C•14

4 REMOVE— PA100 POLE FOUNDATION
F & I— PA100 POLE FOUNDATION
SALVAGE & REINSTALL— TYPE PA100-A
REMOVE & SALVAGE— 10.7 m (MAST ARM ONLY)
F & I— 15.2 m-D12 m-3 m
2-ONE WAY SIGNALS (OVERHEAD)
(0 m, 3.7 m FROM END OF MAST ARM)
SALVAGE & REINSTALL— TYPE 10B AT 90°
TYPE 10B AT 270°
1-ONE WAY EVP DETECTOR AND
CONFIRMATION LIGHT
2-PEDESTRIAN PUSHBUTTONS

4 1-ONE WAY SIGNAL (OVERHEAD)
(7.3 m FROM END OF MAST ARM)
LUMINAIRE - 250 WATT H.P.S.
F & I— WITH P.E.C. AND TEST-SWITCH
EXTEND 78 mm RSC INTO HH-15 WITH:
2-12/C•12, 3-3/C•12, 1-3/C•20
1-3/C•12 (LUM.)

F & I— 53 mm RSC
1-2/C•14

F & I— 53 mm RSC
1-2/C•14

3 PA100 POLE FOUNDATION
TYPE PA100-A10.7m-D12m-3m (DAVIT AT 350°)
2-ONE WAY SIGNALS (OVERHEAD)
(0m AND 3.7m FROM END OF MAST ARM)
INP.— TYPE 10B AT 90°
TYPE 10B AT 270°
3 LUMINAIRE - 250 WATT H.P.S.
WITH P.E.C. AND TEST-SWITCH
2-PEDESTRIAN PUSHBUTTONS
1-ONE WAY EVP DETECTOR AND
CONFIRMATION LIGHT
REMOVE— EXTEND 78 mm RSC INTO INPLACE HH9 WITH:
F & I— 2-12/C•12, 3-3/C•12, 1-3/C•12 (LUM), 1-3/C•20
2-12/C•12, 3-3/C•12, 1-3/C•12 (LUM), 1-3/C•20

F & I— 103 mm RSC
1-3/C•20
4-2/C•14
2-12/C•12
3-3/C•12
1-3/C•12 (LUM)

F & I— 103 mm RSC
1-3/C•20
6-2/C•14
2-12/C•12
3-3/C•12
1-3/C•12 (LUM)

INP.— 32 mm RSC
F & I— 2-2/C•14

F & I— 103 mm RSC
2-12/C•12
3-3/C•12
2-3/C•20
10-2/C•14
1-3/C•12 (LUM)

Ø3•08 EVP
Ø1•06 EVP
Ø2•05 EVP
Ø4•07 EVP

MATCH LINE "F" (SEE SHEET 113)
MATCH LINE "E" (SEE SHEET 113)
MATCH LINE "G" (SEE SHEET 113)
MATCH LINE "H" (SEE SHEET 113)

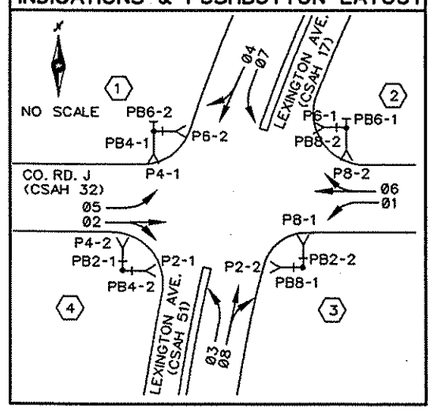
LEXINGTON AVE. (CSAH 17) 70 km/h (45 mph)
LEXINGTON AVE. (CSAH 51) 70 km/h (45 mph)
COUNTY ROAD J (CSAH 32) 80 km/h (50 mph)

4.2 m
3.6 m

D1-1 D1-2 D2-1 D3-1 D3-2 D4-1 D4-2 D4-3 D4-4 D4-5 D5-1 D5-2 D6-1 D7-1 D7-2 D8-1 D8-2 D8-3 D8-4

10 0 10
scale meter

CONTROLLER PHASING, PEDESTRIAN INDICATIONS & PUSHBUTTON LAYOUT



SIGNAL OPERATION NOTES

- NORMAL OPERATION IS 8 PHASE
- FLASH MODE SHALL BE ALL RED
- Ø1,Ø3,Ø5 AND Ø7 SHALL BE PROTECTED LEFT TURNS
- Ø2 & Ø6 SHALL BE ON VEHICLE RECALL

NOTES:

1) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
3) EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS, AND CABINET SHALL BE DETERMINED BY TRAFFIC OFFICE PERSONNEL.
4) ALL LOOP DETECTORS SHALL BE INSTALLED IN NMC CONDUIT (SEE DETAIL SHEET).
5) ALL ITEMS SHOWN AS INPLACE SHALL BE USED AS INPLACE, EXCEPT WHERE NOTED OTHERWISE. REMOVE AND SALVAGE ALL INPLACE WIRE NOT USED BY THE NEW SYSTEM.
6) ALL NEW SIGNAL INDICATIONS (RED,YELLOW AND GREEN CIRCULAR AND ARROW INDICATIONS) SHALL USE LED UNITS. REPLACE INPLACE INCANDESCENT INDICATIONS WITH LED UNITS.
7) RELABEL CONDUCTORS AS SHOWN.
8) SEE SPECIAL PROVISIONS FOR REMOVALS AT THE EXISTING SYSTEM.
9) HANDHOLES SHALL BE PVC TYPE WITH METAL FRAMES AND COVERS.
10) SEE SIGNING AND STRIPING PLAN FOR CROSSWALK AND STOP BAR INFORMATION.
11) SEE SPECIAL PROVISIONS FOR REPAINTING THE SIGNAL SYSTEM.
12) GROUNDWATER MIGHT BE ENCOUNTERED WHEN EXCAVATING FOR POLE FOUNDATIONS.
13) NEW R10-4b SIGNS SHALL BE FURNISHED BY THE OWNER AND INSTALLED ABOVE PEDESTRIAN PUSHBUTTONS BY THE CONTRACTOR.

NO	DATE	BY	CKD	APPR	REVISION
1	8-7-00	RWS	GMS	GMS	REVISED PER FEDERAL AID STANDARDS
2	3-7-01	RWS	GMS	GMS	REVISED PER ANOKA COUNTY COMMENTS

NAME: 2842.ILB DATE: Mar. 08, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
George M. Stuempfig
Date 4/19/01 Reg. No. 21547

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	R. W. SMITH	1-99
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	A. POTTER	1-99
CO. PROJECT NO. C.P. 99-07-110	CHECKED BY P. CORKLE	1-99
	COMM. NO. 0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
REVISED INTERSECTION LAYOUT
C.S.A.H. 17 RECONSTRUCTION
SYSTEM "B"

SHEET 112 OF 136

DESIGN FILE: h:\Civil\047\2842\SIGNALS\2842.11D
PRF FILE: h:\Civil\047\2842\SIGNALS\2842.prf
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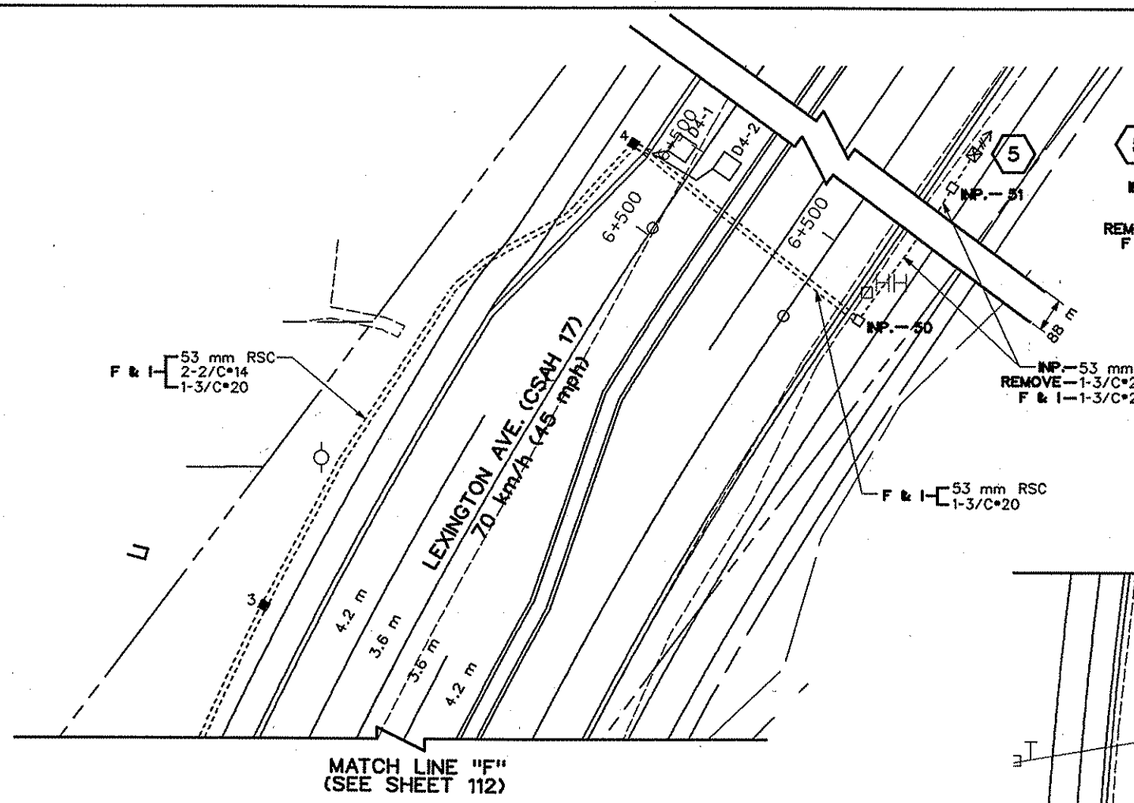


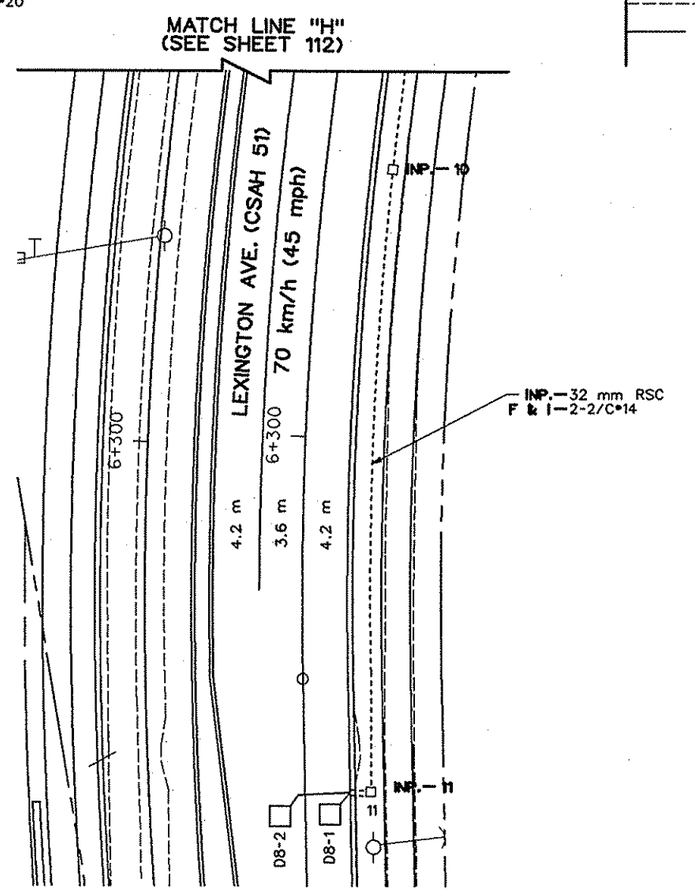
5 PEDESTAL FOUNDATION
10' PEDESTAL POLE AND BASE
ONE WAY EVP DETECTOR-MOUNT ON TOP OF PEDESTAL POLE (04,07)
EXTEND INTO INPLACE HH-51
INP.— 53 mm RSC
REMOVE— 1-3/C•20
F & I— 1-3/C•20

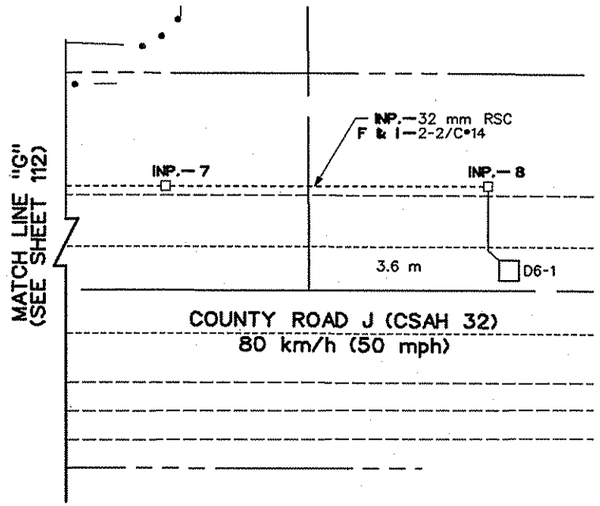
INP.— 31

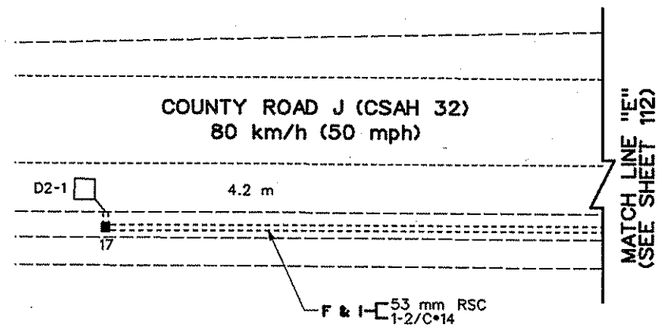
INP.— 50

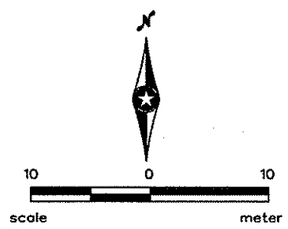
INP.— 53 mm RSC
REMOVE— 1-3/C•20
F & I— 1-3/C•20

F & I— 53 mm RSC 1-3/C•20









NO	DATE	BY	CKD	APPR	REVISION
1	8-7-00	RWS	GMS	GMS	REVISED PER FEDERAL AID STANDARDS

NAME: 2842.ILD DATE: Aug. 07, 2000

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
George M. Struempfig
Date 4/19/01 Reg. No. 21849

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14
CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY R. W. SMITH DATE 1-99
DESIGNED BY A. POTTER 1-99
CHECKED BY P. CORKLE 1-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
REVISED MATCHLINE LAYOUT
C.S.A.H. 17 RECONSTRUCTION
SYSTEM "B"

SHEET 113 OF 136

DESIGN FILE: N:\CIVIL\041\2842\SIGNALS\2842.ild
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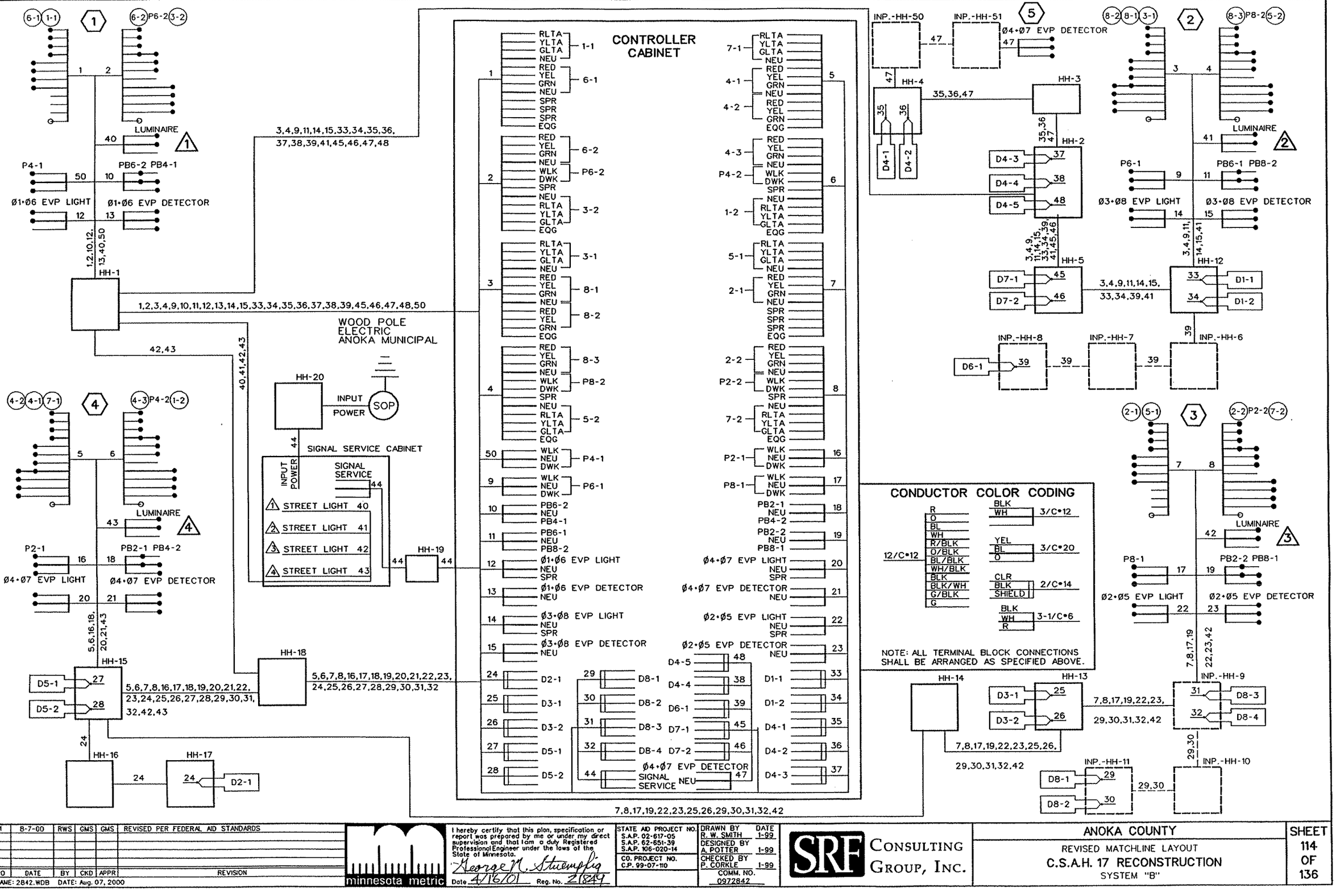


NO	DATE	BY	CKD	APPR	REVISION
1	8-7-00	RWS	GMS	GMS	REVISED PER FEDERAL AID STANDARDS

NAME: 2842.WDB DATE: Aug. 07, 2000

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
George M. Stuemplig
Date 4/16/01 Reg. No. 21844

STATE AID PROJECT NO.	
S.A.P. 02-617-05	
S.A.P. 62-651-39	
S.A.P. 106-020-14	
CO. PROJECT NO.	
C.P. 99-07-110	

DRAWN BY	R. W. SMITH	DATE 1-99
DESIGNED BY	A. POTTER	1-99
CHECKED BY	P. CORKLE	1-99
COMM. NO.	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
REVISED MATCHLINE LAYOUT
C.S.A.H. 17 RECONSTRUCTION
SYSTEM "B"

SHEET 114 OF 136

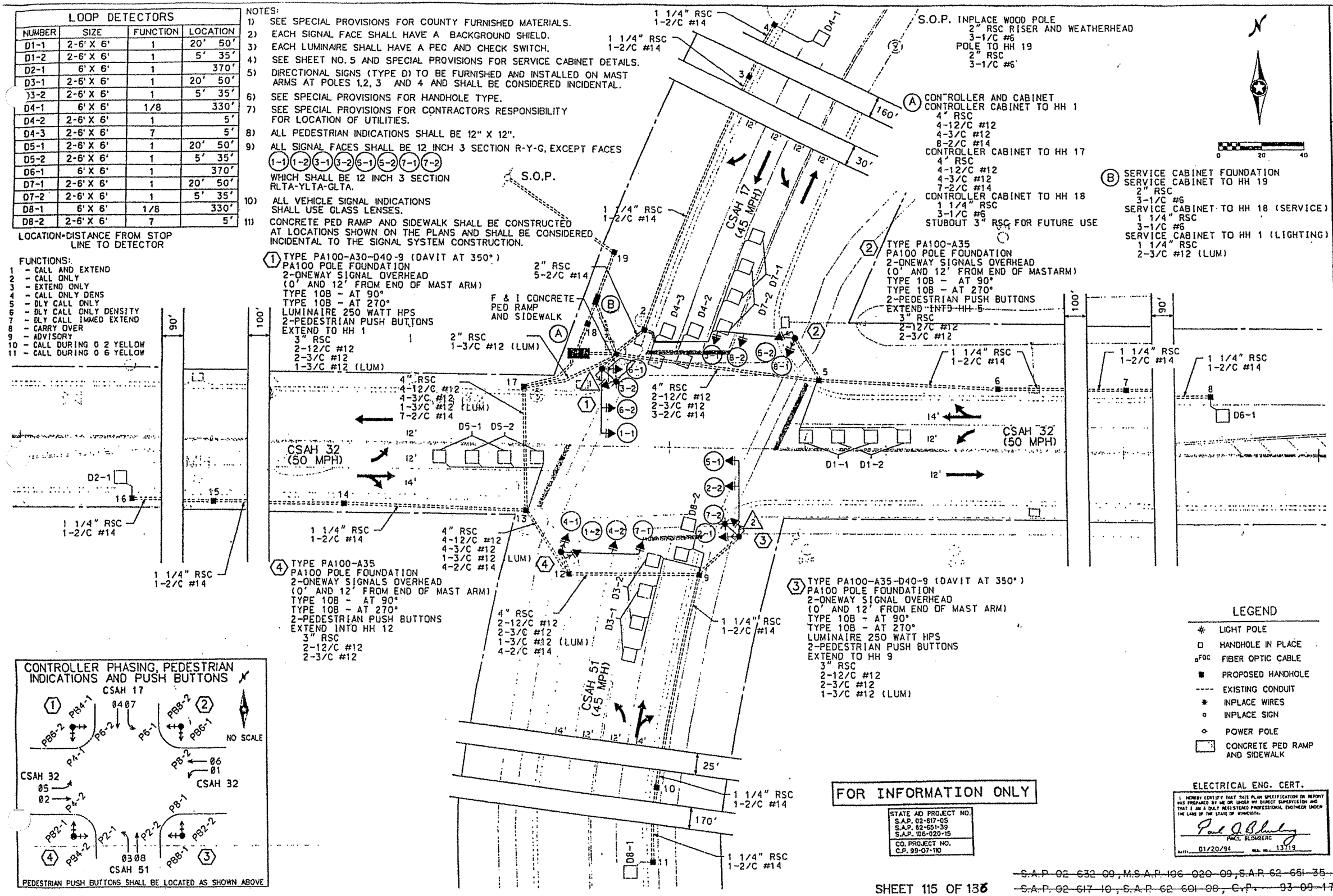
DESIGN FILE: n:\civil\047\2842\signals\2842.wdb
PRF FILE: n:\civil\047\2842\signals\2842.prf
PLOTTER: MS-HP8000N2D
PLOT SIZE: 34" x 44"
PLOT DATE/TIME: 04/16/2001 15:02:11

LOOP DETECTORS			
NUMBER	SIZE	FUNCTION	LOCATION
D1-1	2-6' X 6'	1	20' 50'
D1-2	2-6' X 6'	1	5' 35'
D2-1	6' X 6'	1	370'
D3-1	2-6' X 6'	1	20' 50'
D3-2	2-6' X 6'	1	5' 35'
D4-1	6' X 6'	1/8	330'
D4-2	2-6' X 6'	1	5'
D4-3	2-6' X 6'	7	5'
D5-1	2-6' X 6'	1	20' 50'
D5-2	2-6' X 6'	1	5' 35'
D6-1	6' X 6'	1	370'
D7-1	2-6' X 6'	1	20' 50'
D7-2	2-6' X 6'	1	5' 35'
D8-1	6' X 6'	1/8	330'
D8-2	2-6' X 6'	7	5'

LOCATION=DISTANCE FROM STOP LINE TO DETECTOR

FUNCTIONS:
1 - CALL AND EXTEND
2 - CALL ONLY
3 - EXTEND ONLY
4 - CALL ONLY DENS
5 - DLY CALL ONLY
6 - DLY CALL ONLY DENSITY
7 - DLY CALL IMMED EXTEND
8 - CARRY OVER
9 - ADVISORY
10 - CALL DURING 0 2 YELLOW
11 - CALL DURING 0 6 YELLOW

NOTES:
1) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
3) EACH LUMINAIRE SHALL HAVE A PEC AND CHECK SWITCH.
4) SEE SHEET NO. 5 AND SPECIAL PROVISIONS FOR SERVICE CABINET DETAILS.
5) DIRECTIONAL SIGNS (TYPE D) TO BE FURNISHED AND INSTALLED ON MAST ARMS AT POLES 1,2, 3 AND 4 AND SHALL BE CONSIDERED INCIDENTAL.
6) SEE SPECIAL PROVISIONS FOR HANDHOLE TYPE.
7) SEE SPECIAL PROVISIONS FOR CONTRACTORS RESPONSIBILITY FOR LOCATION OF UTILITIES.
8) ALL PEDESTRIAN INDICATIONS SHALL BE 12" X 12".
9) ALL SIGNAL FACES SHALL BE 12 INCH 3 SECTION R-Y-G, EXCEPT FACES (1-1) (1-2) (3-1) (3-2) (5-1) (5-2) (7-1) (7-2) WHICH SHALL BE 12 INCH 3 SECTION RLTA-YLTA-GLTA.
10) ALL VEHICLE SIGNAL INDICATIONS SHALL USE GLASS LENSES.
11) CONCRETE PED RAMP AND SIDEWALK SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON THE PLANS AND SHALL BE CONSIDERED INCIDENTAL TO THE SIGNAL SYSTEM CONSTRUCTION.



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

LEGEND
- LIGHT POLE
- HANDHOLE IN PLACE
- FOC FIBER OPTIC CABLE
- PROPOSED HANDHOLE
- EXISTING CONDUIT
- INPLACE WIRES
- INPLACE SIGN
- POWER POLE
- CONCRETE PED RAMP AND SIDEWALK

FOR INFORMATION ONLY

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-15
CO. PROJECT NO.
C.P. 99-07-110

ELECTRICAL ENG. CERT.
I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Paul J. Blomberg
PAUL BLOMBERG
DATE 01/20/94 REG. NO. 13719

SHEET 115 OF 136

~~S.A.P 02-632-09, M.S.A.P. 106-020-09, S.A.P. 62-651-35~~
~~S.A.P. 02-617-10, S.A.P. 62-601-08, C.P. 93-09-17~~

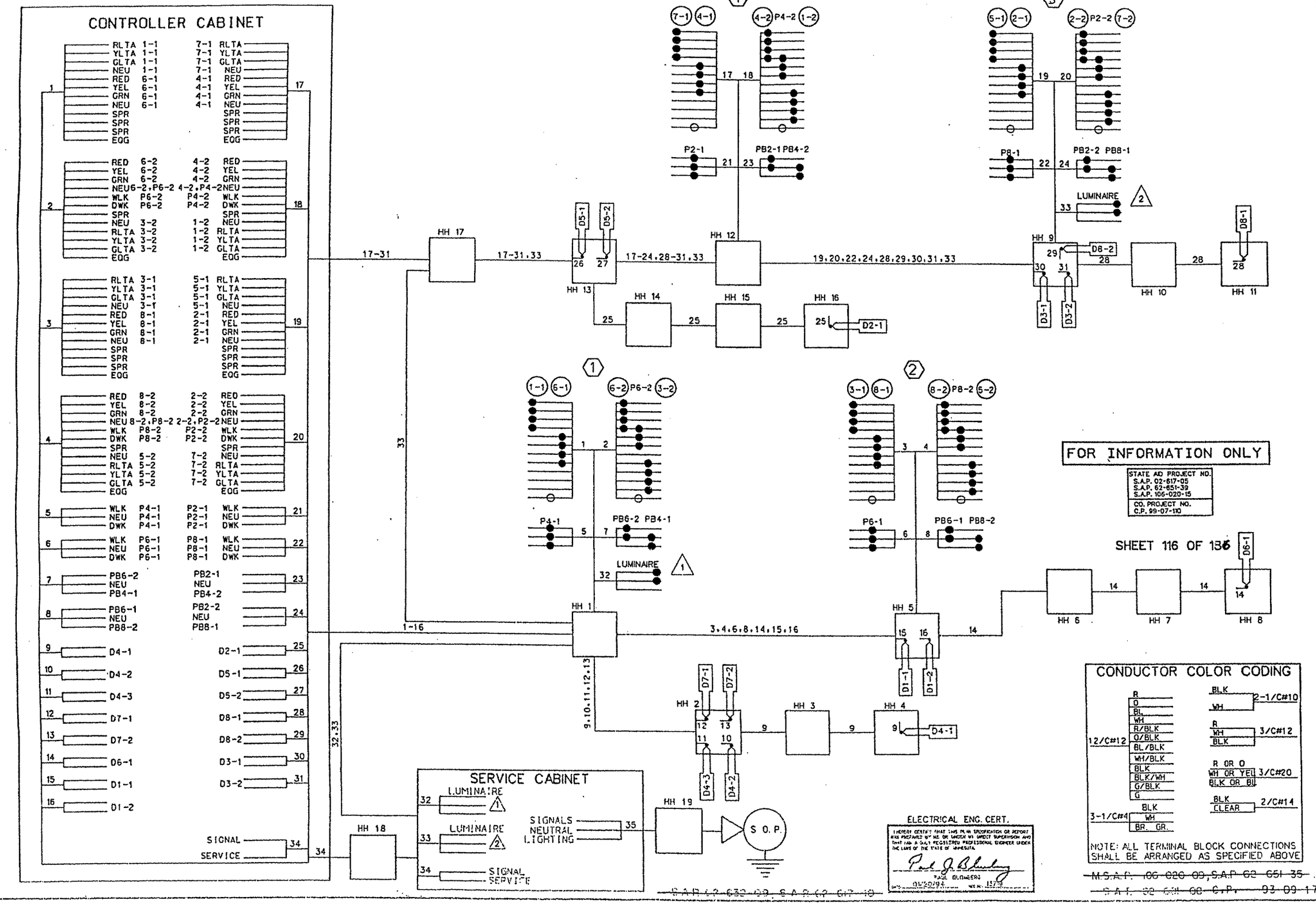
EXPLANATION
REVISION NO. DATE
SCALED AS NOTED
PLAN BY: CVR DESIGN BY: CVR
CHECKED BY: RBS QUANTITIES BY: 011402
RECORD COPY BY: DATE

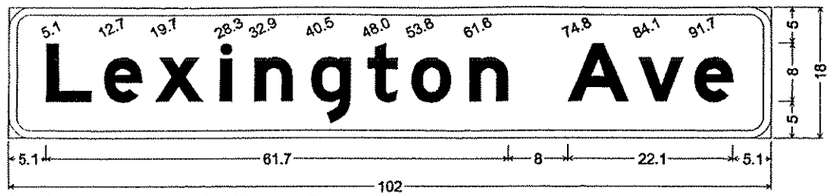
I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Ronald B. Bray
RONALD B. BRAY 18327
DATE 01/20/94

INTERSECTION LAYOUT
C.S.A.H. 17/C.S.A.H. 51 (LEXINGTON AVE)
AND C.S.A.H. 32 (COUNTY ROAD "J")
C.P. 93-09-17
BLAINE, MINNESOTA

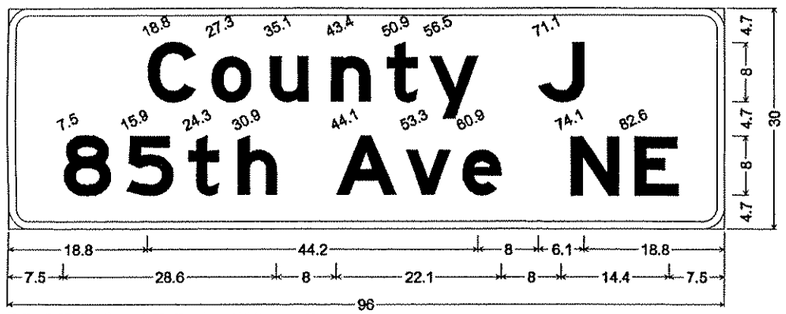
CSM Orr Schelen Mayeron & Associates, Inc.
Engineers ■ Architects ■ Planners ■ Surveyors
300 Park Place Center ■ 5775 Wayzata Boulevard
Minneapolis, MN 55416-1228 ■ 612-595-3775

PLAN NO. 3

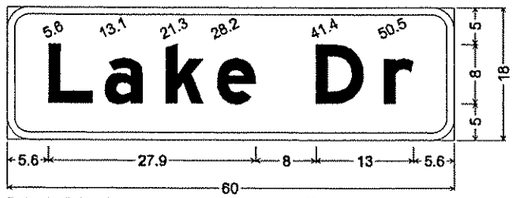

CONTROLLER CABINET
RLTA 1-1 7-1 RLTA
YLTA 1-1 7-1 YLTA
GLTA 1-1 7-1 GLTA
NEU 1-1 7-1 NEU
RED 6-1 4-1 RED
YEL 6-1 4-1 YEL
GRN 6-1 4-1 GRN
NEU 6-1 4-1 NEU
SPR SPR
SPR SPR
SPR SPR
EOG EOG
1
17
RED 6-2 4-2 RED
YEL 6-2 4-2 YEL
GRN 6-2 4-2 GRN
NEU 6-2,P6-2 4-2,P4-2 NEU
WLK P6-2 P4-2 WLK
DWK P6-2 P4-2 DWK
SPR SPR
NEU 3-2 1-2 NEU
RLTA 3-2 1-2 RLTA
YLTA 3-2 1-2 YLTA
GLTA 3-2 1-2 GLTA
EOG EOG
2
18
RLTA 3-1 5-1 RLTA
YLTA 3-1 5-1 YLTA
GLTA 3-1 5-1 GLTA
NEU 3-1 5-1 NEU
RED 8-1 2-1 RED
YEL 8-1 2-1 YEL
GRN 8-1 2-1 GRN
NEU 8-1 2-1 NEU
SPR SPR
SPR SPR
SPR SPR
EOG EOG
3
19
RED 8-2 2-2 RED
YEL 8-2 2-2 YEL
GRN 8-2 2-2 GRN
NEU 8-2,P8-2 2-2,P2-2 NEU
WLK P8-2 P2-2 WLK
DWK P8-2 P2-2 DWK
SPR SPR
NEU 5-2 7-2 NEU
RLTA 5-2 7-2 RLTA
YLTA 5-2 7-2 YLTA
GLTA 5-2 7-2 GLTA
EOG EOG
4
20
WLK P4-1 P2-1 WLK
NEU P4-1 P2-1 NEU
DWK P4-1 P2-1 DWK
5
21
WLK P6-1 P8-1 WLK
NEU P6-1 P8-1 NEU
DWK P6-1 P8-1 DWK
6
22
PB6-2 PB2-1
NEU NEU
PB4-1 PB4-2
7
23
PB6-1 PB2-2
NEU NEU
PB8-2 PB8-1
8
24
9 D4-1
10 D4-2
11 D4-3
12 D7-1
13 D7-2
14 D6-1
15 D1-1
16 D1-2
D2-1 25
D5-1 26
D5-2 27
D8-1 28
D8-2 29
D3-1 30
D3-2 31
SIGNAL
SERVICE
34
34
32,33
1-16
17-31
HH 17
17-31,33
D5-1
D5-2
26
27
HH 13
17-24,28-31,33
HH 12
19,20,22,24,28,29,30,31,33
HH 14
HH 15
HH 16
25
25
25
25
D2-1
4
7-1 4-1
4-2 P4-2 1-2
17 18
P2-1
PB2-1 PB4-2
21 23
3
5-1 2-1
2-2 P2-2 7-2
19 20
P8-1
PB2-2 PB8-1
22 24
LUMINAIRE
2
33
HH 9
29
D8-2
28
30 31
D3-1
D3-2
HH 10
28
D8-1
28
HH 11
1
1-1 6-1
6-2 P6-2 3-2
1 2
P4-1
PB6-2 PB4-1
5 7
LUMINAIRE
1
32
33
HH 1
2
3-1 8-1
8-2 P8-2 5-2
3 4
P6-1
PB6-1 PB8-2
6 8
HH 5
15 16
D1-1
D1-2
14
HH 6
14
HH 7
14
D6-1
14
HH 8
9,10,11,12,13
HH 2
D7-1
D7-2
12 13
11 10
D4-3
D4-2
9
HH 3
9
HH 4
9
D4-1
SERVICE CABINET
LUMINAIRE
32
1
LUMINAIRE
33
2
SIGNALS
NEUTRAL
LIGHTING
35
34
SIGNAL
SERVICE
HH 18
HH 19
S. O. P.
FOR INFORMATION ONLY
STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-15
CO. PROJECT NO.
C.P. 99-07-110
SHEET 116 OF 136
CONDUCTOR COLOR CODING
R
O
BL
WH
R/BLK
O/BLK
BL/BLK
WH/BLK
BLK
BLK/WH
G/BLK
G
12/C#12
BLK
WH
BR. GR.
3-1/C#4
BLK
2-1/C#10
WH
R
WH
BLK
3/C#12
R OR O
WH OR YEL
BLK OR BU
3/C#20
BLK
CLEAR
2/C#14
NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE
ELECTRICAL ENG. CERT.
I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PAUL BLOMBERG
01/30/04
13719
S.A.P. 62-651-03, S.A.P. 62-617-05
EXPLANATION
REVISION NO.
DATE
SCALE: AS NOTED
DESIGN BY: CTR
DRAWN BY: CJK
CHECKED BY: RSB
COMM. NO.: 511402
RECORD COPY BY: DATE
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
RONALD B. BRAT
DATE: 01/30/04
LIC. NO. 15337
WIRING DIAGRAM
C.S.A.H. 17/C.S.A.H. 51 (LEXINGTON AVE) AND C.S.A.H. 82 (COUNTY ROAD "J")
C.P. 98-09-17
BLAINE, MINNESOTA
Orr Schelen Mayeron & Associates, Inc.
Engineers ■ Architects ■ Planners ■ Surveyors
300 Park Place Center ■ 5775 Wayzata Boulevard
Minneapolis, MN 55416-1220 ■ 612-595-3775
PLAN NO. 4
M.S.A.P. 106-020-09, S.A.P. 62-651-35
C.S.A.P. 62-617-05, C.P. 98-09-17



D-1; 3.0" Radius, 1.0" Border, White on Green;
[Lexington Ave] E Mod;

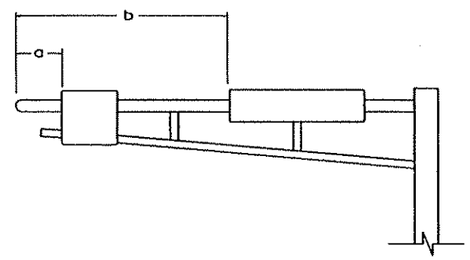


D-2; 3.0" Radius, 1.0" Border, White on Green;
[County J] E Mod; [85th Ave NE] E Mod;

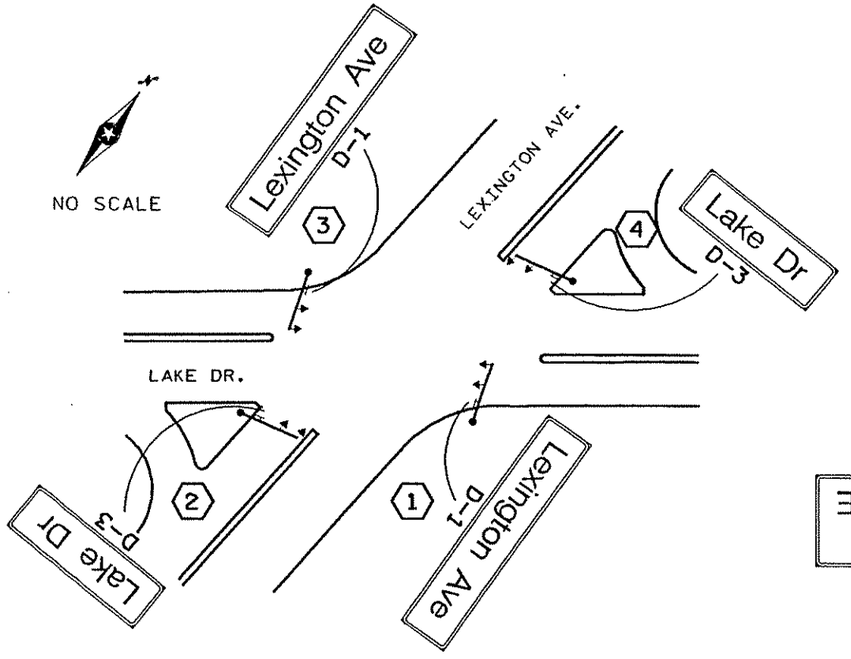


D-3; 3.0" Radius, 1.0" Border, White on Green;
[Lake Dr] E Mod;

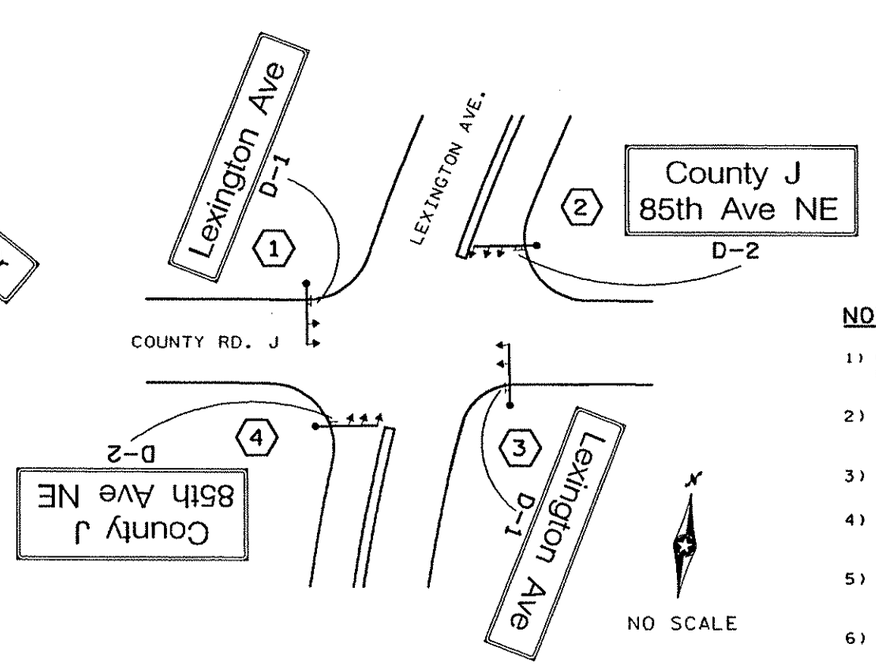
	SIGN PANEL	SIZE	NUMBER REQUIRED	BRACKETS PER SIGN	BRACKET SPACING	SQUARE FT. PER SIGN	a	b	POLE NUMBER
	TYPE "D" SIGNS								
SYS. A	D-1	102" x 18"	2	3	30"	12.75		19.5',21'	①③
	D-3	60" x 18"	2	2	30"	7.5		18',18'	②④
SYS. B	D-1	102" x 18"	2	3	30"	12.75		16',16'	①③
	D-2	96" x 30"	2	3	30"	20.0		31.5',29.5'	②④



MAST ARM SIGN DIMENSIONING DETAIL



LEXINGTON AVE. & LAKE DR.
(SYSTEM "A")
SIGN LAYOUT



LEXINGTON AVE. & COUNTY RD. J
(SYSTEM "B")
SIGN LAYOUT

NOTES:

1) COLOR - HIGH INTENSITY WHITE LEGEND AND BORDER ON HIGH INTENSITY GREEN BACKGROUND, FULLY REFLECTORIZED.
2) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
3) BORDERS SHALL BE AS SHOWN ON PLANS.
4) FOR STRUCTURAL DETAILS, TYPE "D" SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105B.
5) FOR TYPE "D" STRINGER AND PANEL - JOINT DETAIL, SEE STANDARD SIGNS MANUAL, PAGE 105.
6) LETTERING STYLE SHALL BE HIGHWAY GOTHIC CONFORMING TO MN/DOT STANDARDS.

THIS PLAN CONTAINS ENGLISH DIMENSIONS.

NO	DATE	BY	CKD	APPR	REVISION
1	8-7-00	RWS	CMS	GMS	REVISED PER FEDERAL AID STANDARDS

NAME: 2842.MSD DATE: Aug. 07, 2000

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
George M. Stuemplig
Date 4/18/01 Reg. No. 21849

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	M. BRESSLER	1-99
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	M. BRESSLER	1-99
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	P. CORKLE	1-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MAST ARM SIGN DETAILS
C.S.A.H. 17 RECONSTRUCTION
(SYSTEMS "A" & "B")

SHEET 117 OF 136

DESIGN FILE: N:\CIVIL\047\2842\SIGNALS\2842.msd
PROFILE: N:\CIVIL\047\2842\SIGNALS\2842.prf
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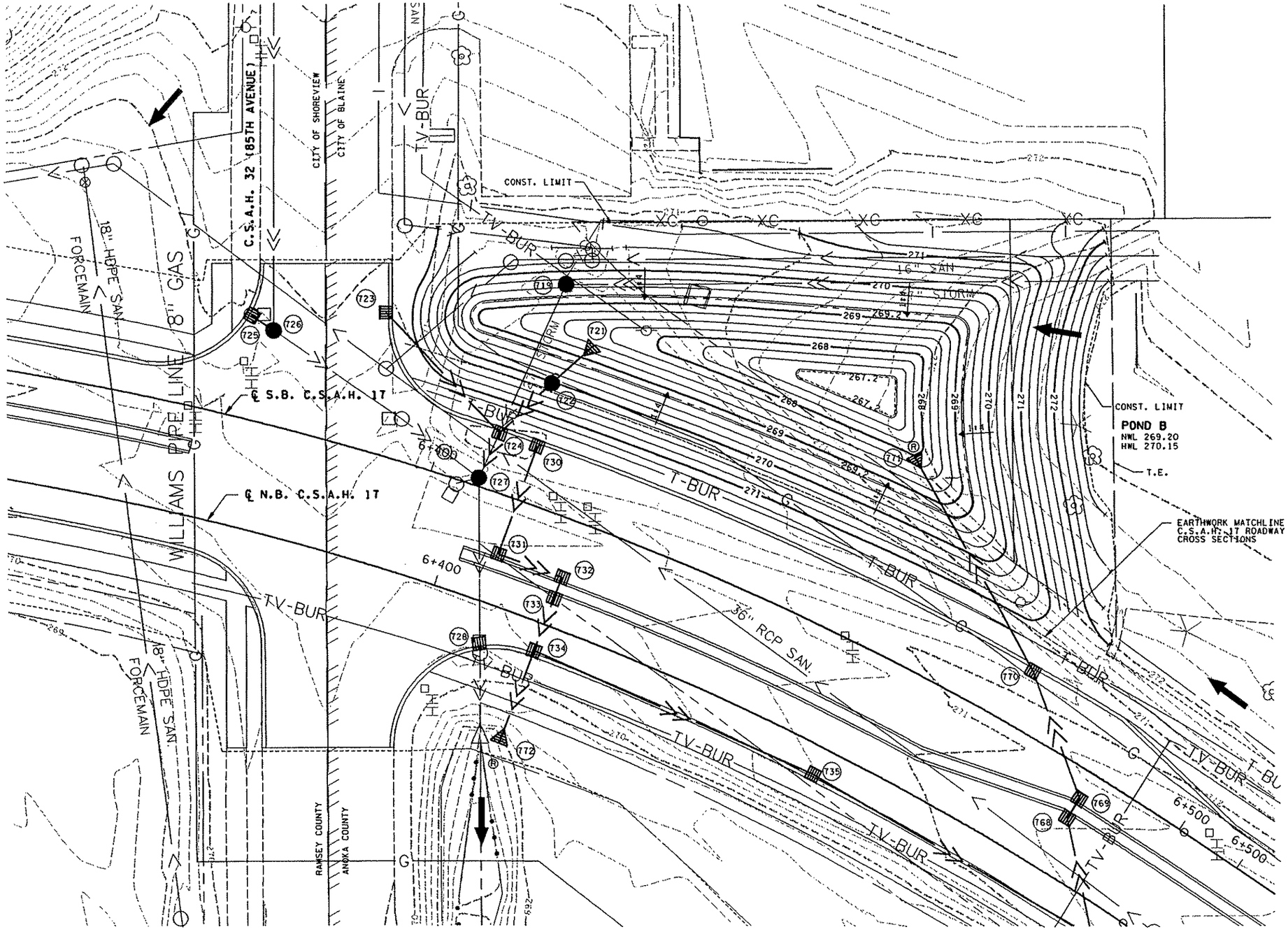
PLOT SCALE: 101.010000
PLOT DATE/TIME: 04/16/2001 15:02:42



NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.GPA DATE: Apr. 13, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	S. MARTINS	10-98
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	B. WESTBY	2-99
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	M. HANSEN	2-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MISCELLANEOUS GRADING PLAN
C.S.A.H. 17 RECONSTRUCTION
POND B

SHEET 119 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouth_kbr\2842.gpa
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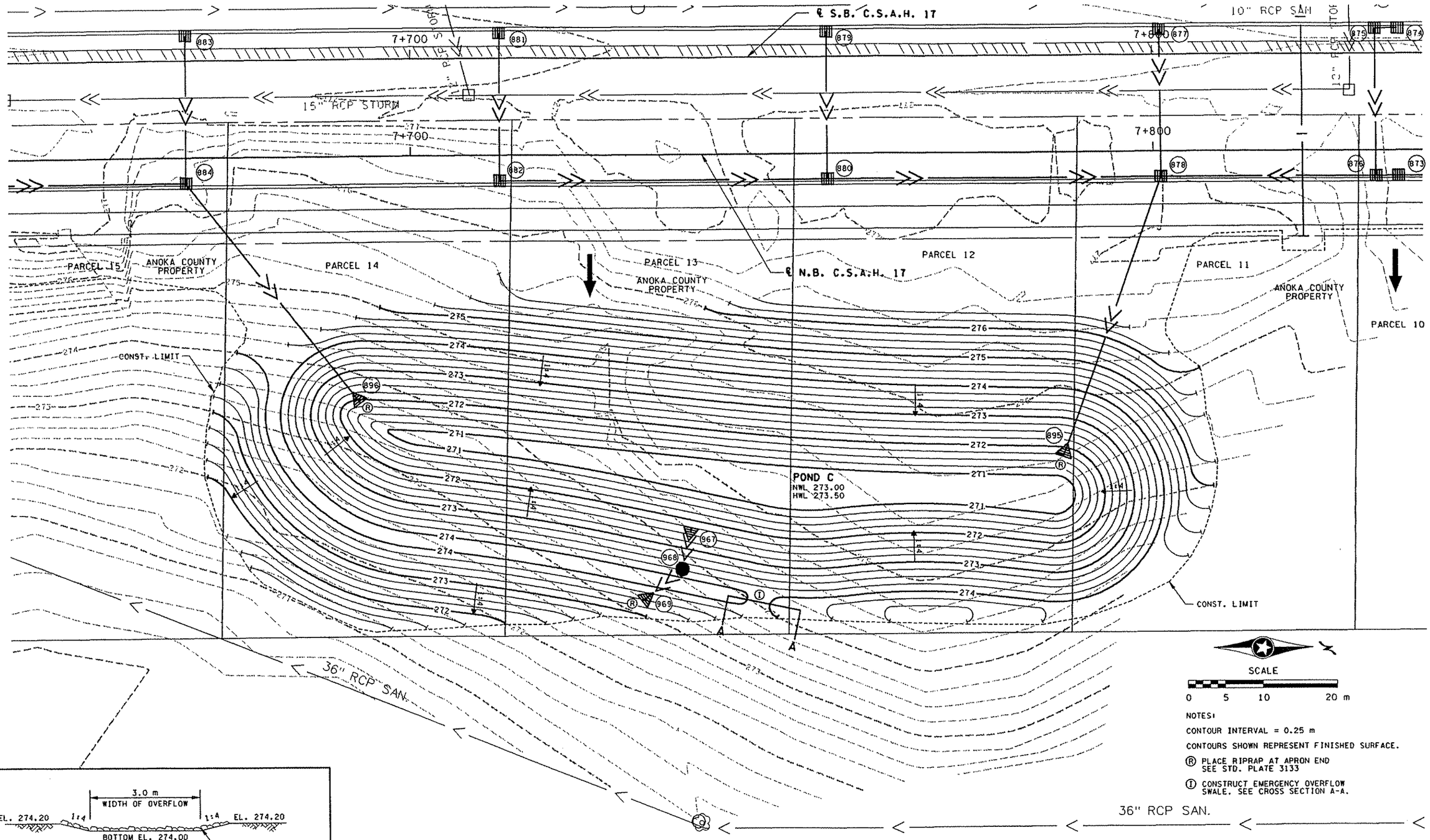

NOTES:

CONTOUR INTERVAL = 0.25 m

CONTOURS SHOWN REPRESENT FINISHED SURFACE.

Ⓡ PLACE RIPRAP AT APRON END SEE STD. PLATE 3133

Ⓘ CONSTRUCT EMERGENCY OVERFLOW SWALE. SEE CROSS SECTION A-A.

CROSS SECTION A-A

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION
3	11-16-00	VGG	BRW	MDH	REVISED PER FEDERAL AID COMMENTS

NAME: 2842.GPC DATE: Apr. 13, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-617-05	S. MARTINS	10-98
S.A.P. 62-651-39	DESIGNED BY	
S.A.P. 106-020-14	B. WESTBY	2-99
CO. PROJECT NO.	CHECKED BY	
C.P. 99-07-110	M. HANSEN	2-99
	COMM. NO.	
	0972842	

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

MISCELLANEOUS GRADING PLAN

C.S.A.H. 17 RECONSTRUCTION

POND C

SHEET 120 OF 136

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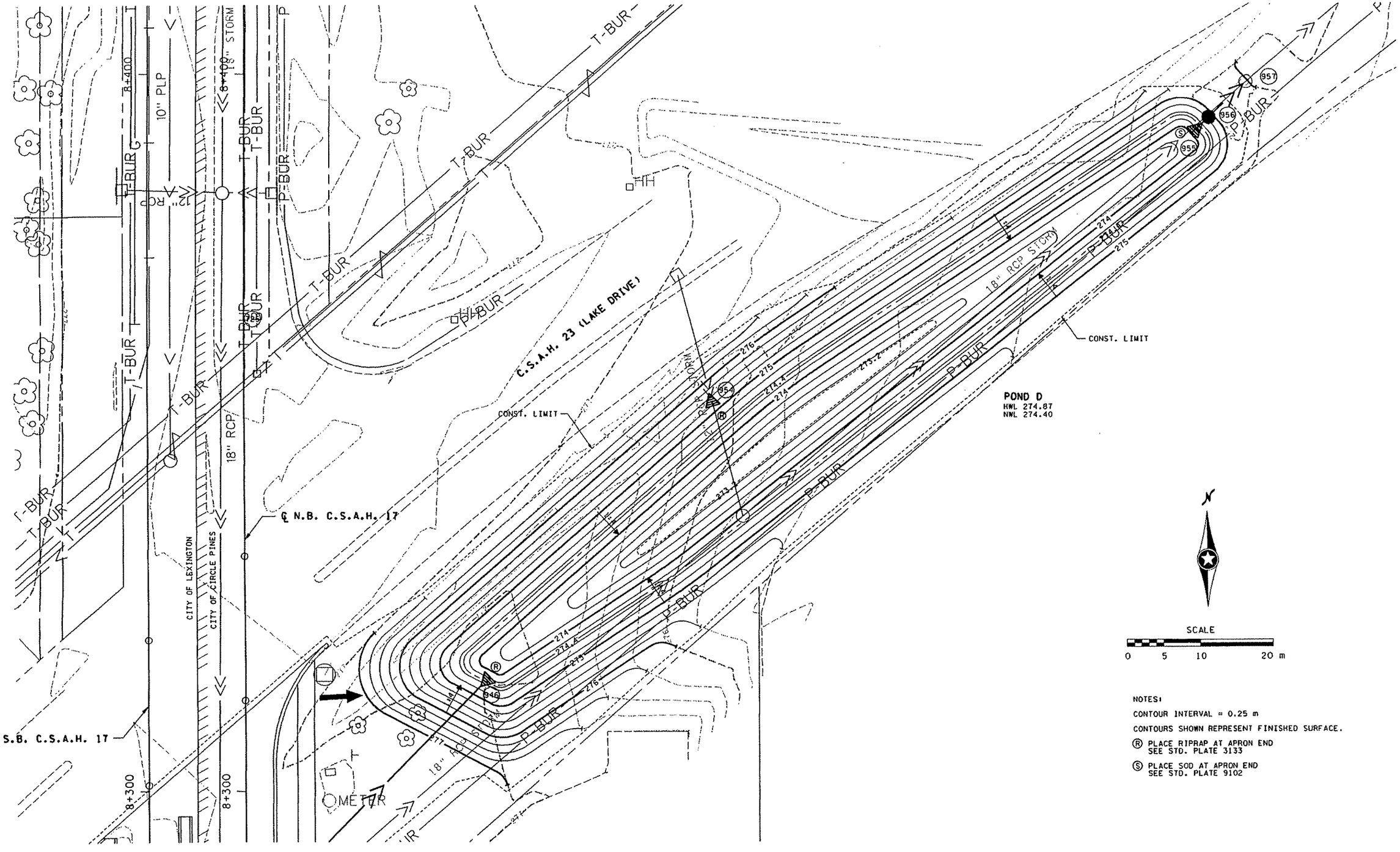
PLOT DATE/TIME: 04/13/2001 07:04:01



NOTES:

CONTOUR INTERVAL = 0.25 m

CONTOURS SHOWN REPRESENT FINISHED SURFACE.

Ⓡ PLACE RIPRAP AT APRON END SEE STD. PLATE 3133

Ⓢ PLACE SOD AT APRON END SEE STD. PLATE 9102

NO	DATE	BY	CKD	APPR	REVISION
1	7-31-00	VGG	BRW	MDH	REVISED PER FEDERAL AID STANDARDS
2	8-11-00	VGG	BRW	MDH	REVISED OUTLET STORM SEWER
3	11-16-00	VGG	BRW	MDH	C.R. 110 S.A.P. NO. REVISION

NAME: 2842.GPB DATE: Apr. 13, 2001

minnesota metric

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date 4-16-2001 Reg. No. 21364

STATE AID PROJECT NO.
S.A.P. 02-617-05
S.A.P. 62-651-39
S.A.P. 106-020-14

CO. PROJECT NO.
C.P. 99-07-110

DRAWN BY S. MARTINS DATE 10-98
DESIGNED BY B. WESTBY 2-99
CHECKED BY M. HANSEN 2-99
COMM. NO. 0972842

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

MISCELLANEOUS GRADING PLAN

C.S.A.H. 17 RECONSTRUCTION

POND D

SHEET 121 OF 136

DESIGN FILE: n:\civil\047\2842\PlanSouth\LKDr\2842.gpb
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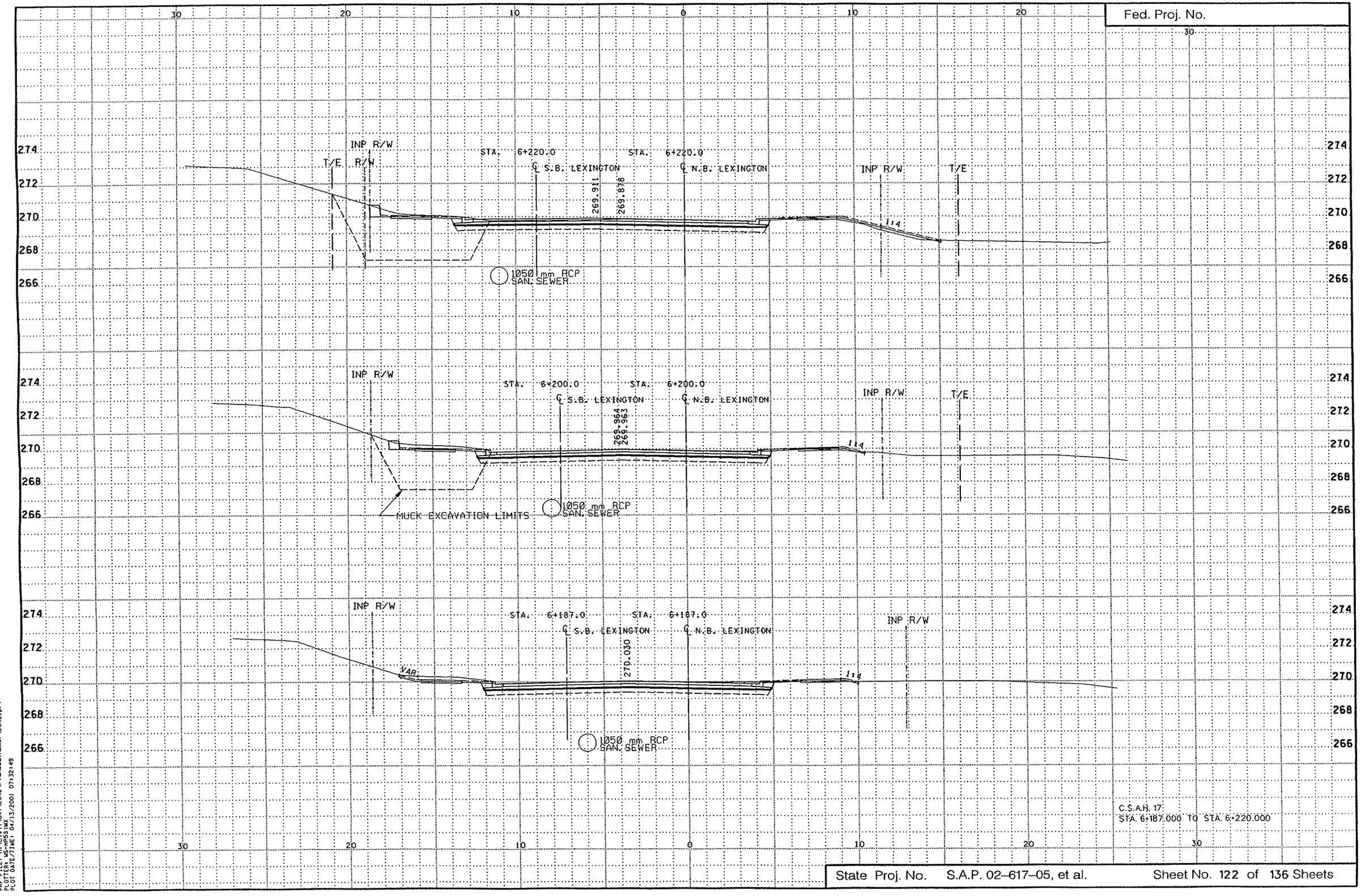

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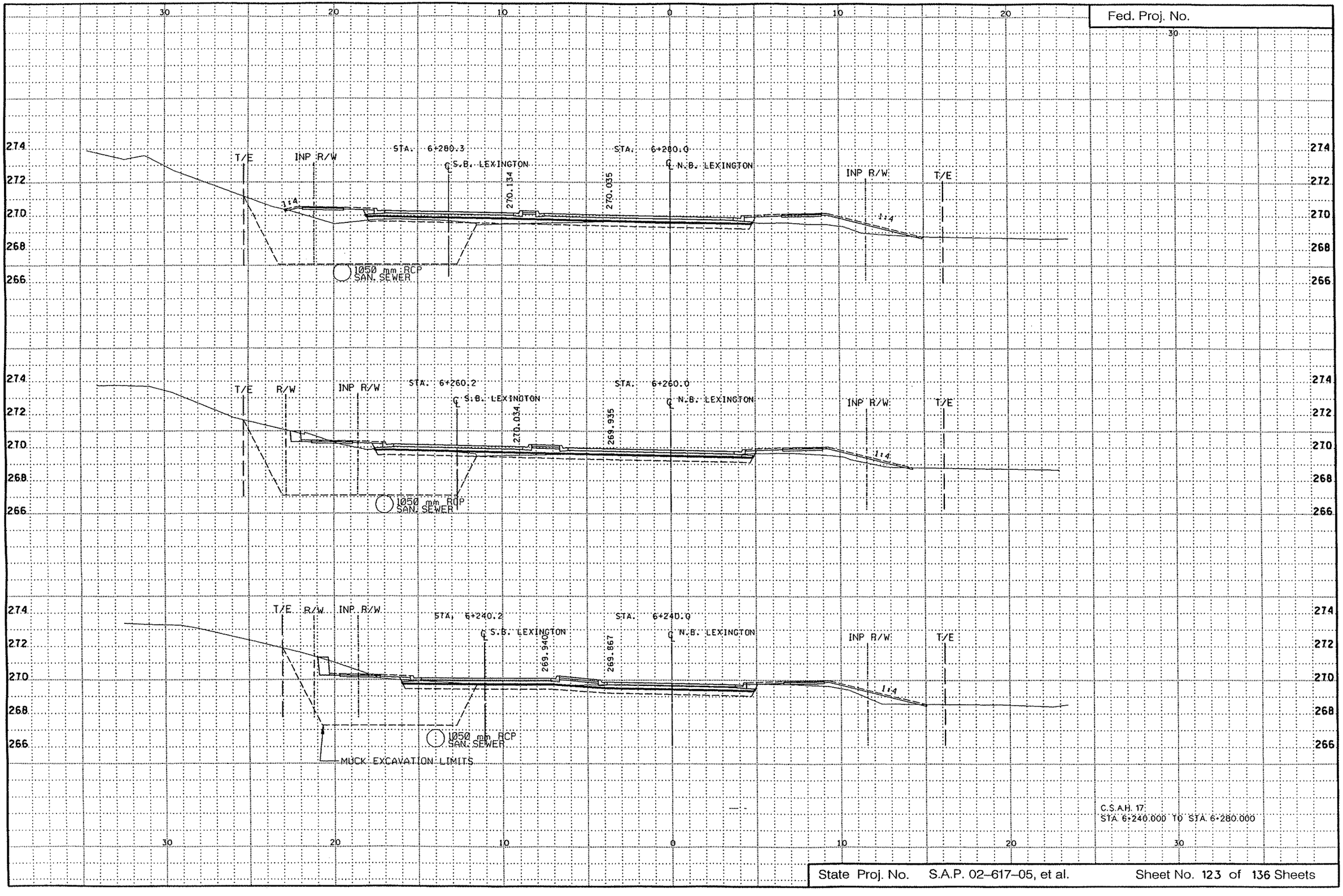

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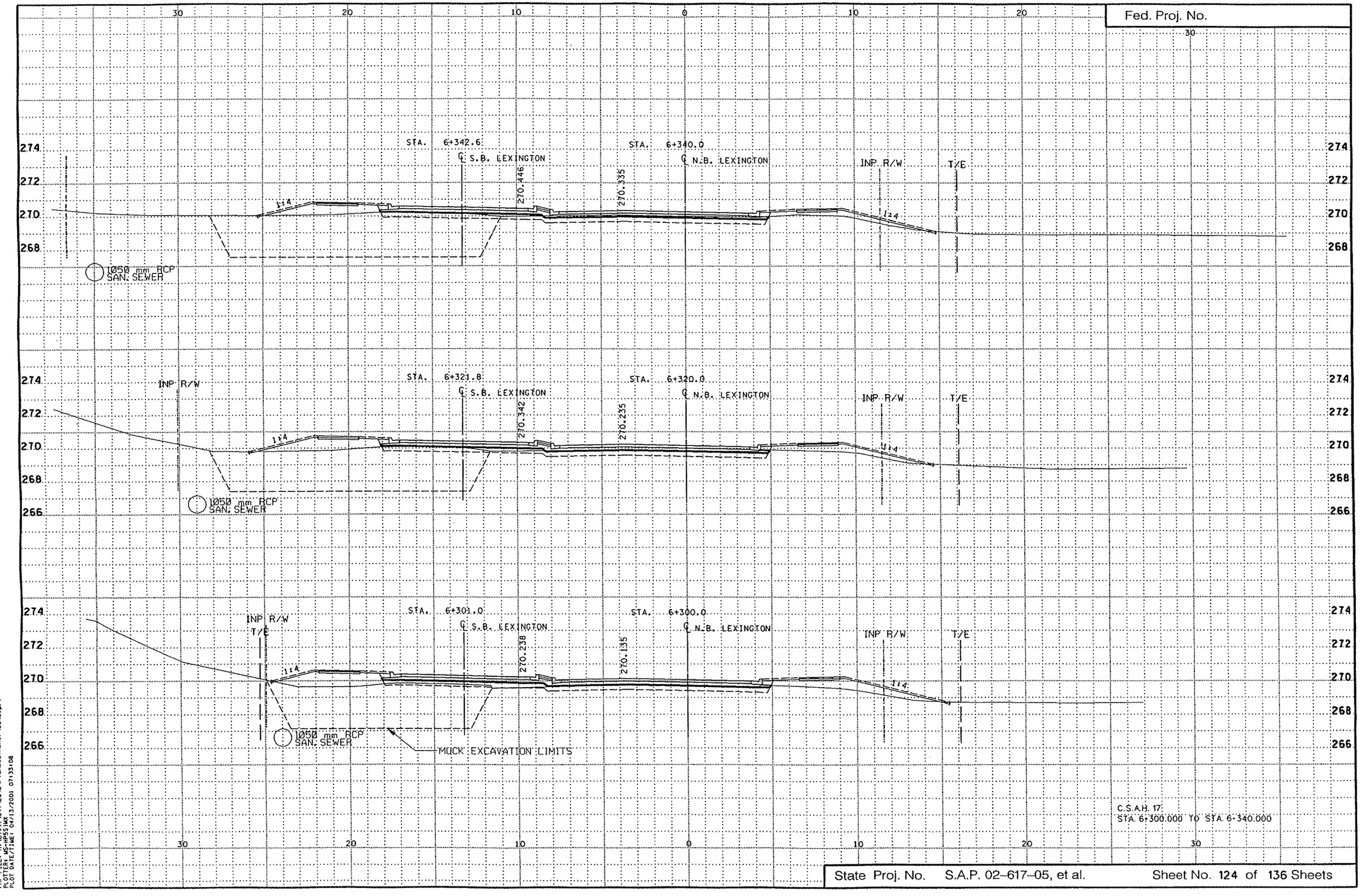
Fed. Proj. No.



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Fed. Proj. No.

STA. 6+404.8
℄ S.B. LEXINGTON
270.757

STA. 6+400.0
℄ N.B. LEXINGTON
270.635

C.S.A.H. 32 (85TH AVENUE)

1:4

1:20

°GAS

°T-BUR

600 mm RCP
STM. SEWER

300 mm RCP
SAN. SEWER

°TV-BUR

°PIPELINE

STA. 6+386.7
℄ S.B. LEXINGTON
270.672

STA. 6+386.3
℄ N.B. LEXINGTON
270.561

C.S.A.H. 32 (85TH AVENUE)

1:20

600 mm RCP
STM. SEWER

1050 mm RCP
SAN. SEWER

TV-BUR

1:20

°PIPELINE

STA. 6+363.3
℄ S.B. LEXINGTON
270.550

STA. 6+360.0
℄ N.B. LEXINGTON
270.435

INP R/W

T/E

1:4

1:4

MUCK EXCAVATION LIMITS

1050 mm RCP
SAN. SEWER

C.S.A.H. 17
STA. 6+360.000 TO STA. 6+400.000

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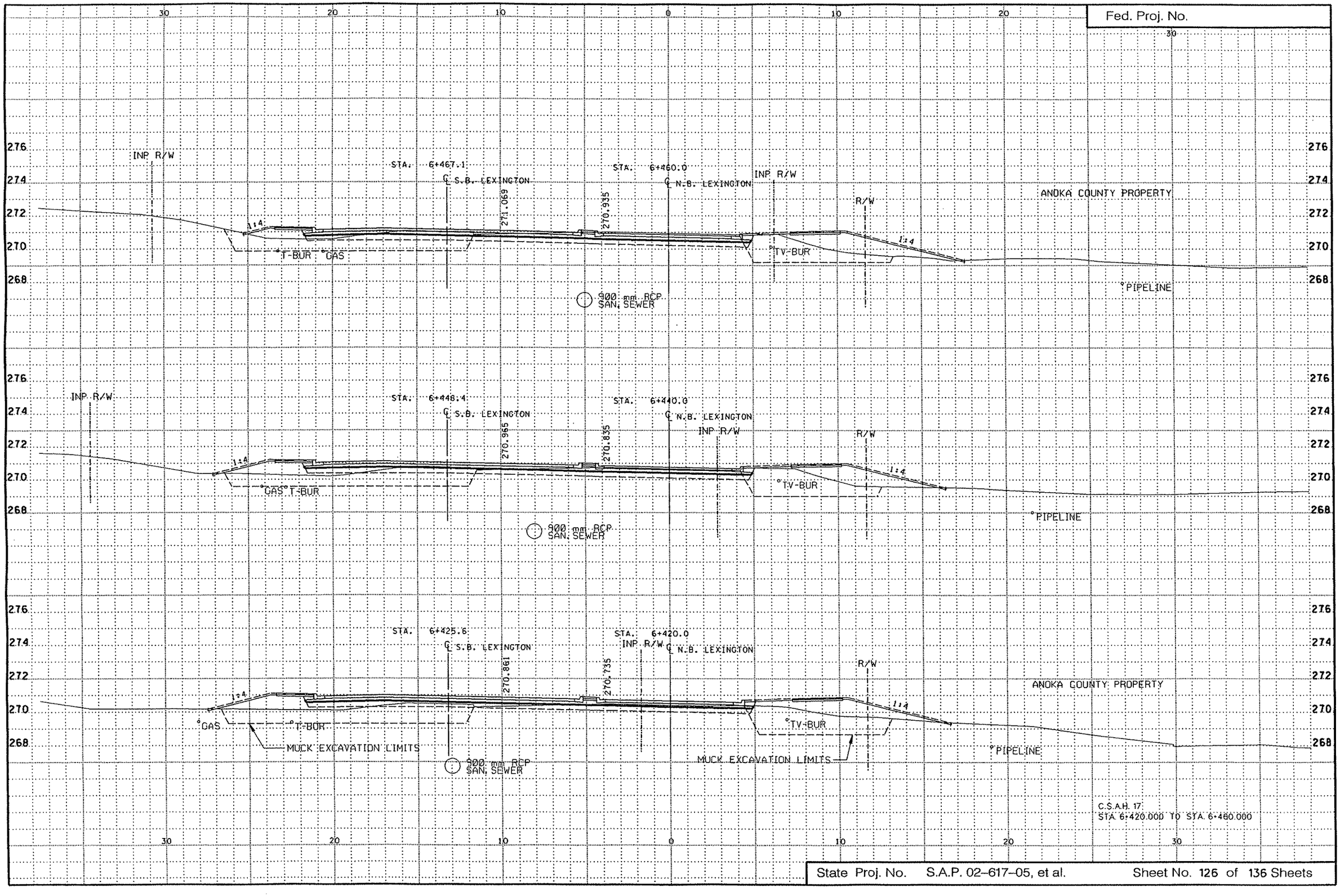
State Proj. No. S.A.P. 02-617-05, et al. Sheet No. 125 of 136 Sheets

Fed. Proj. No.



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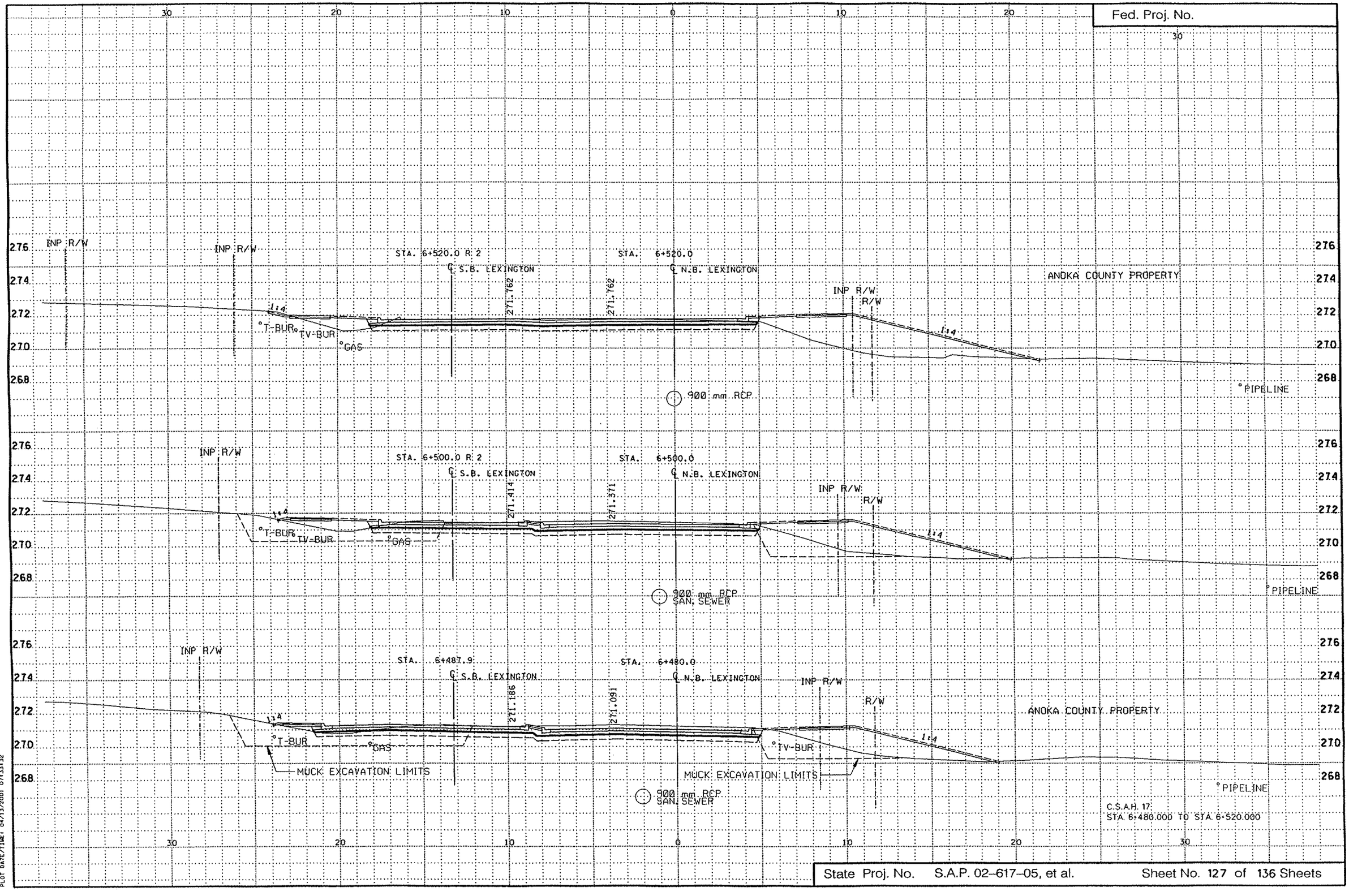
Fed. Proj. No.



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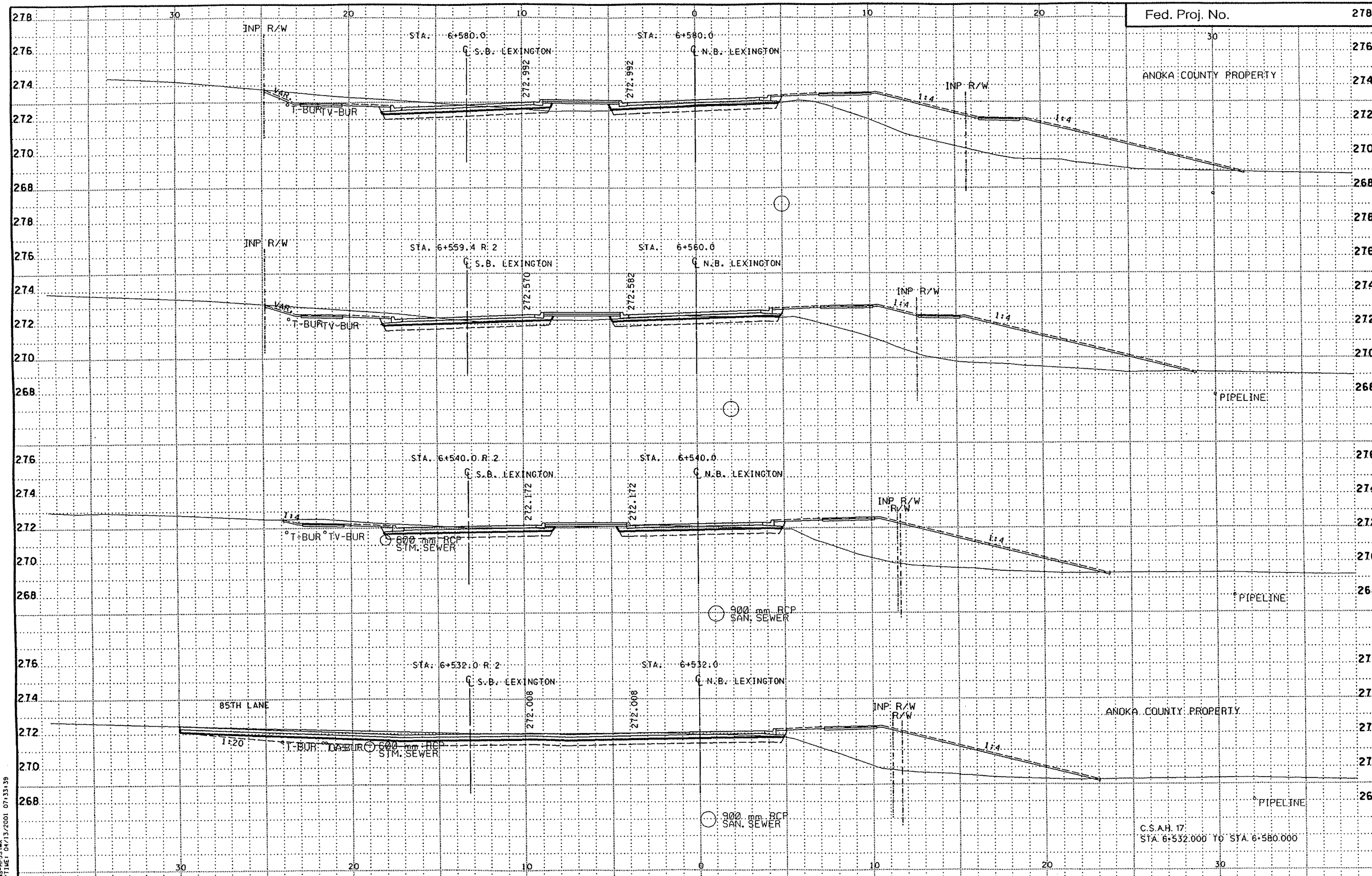
State Proj. No. S.A.P. 02–617–05, et al. Sheet No. 127 of 136 Sheets


INP R/W
STA. 6+580.0
℄ S.B. LEXINGTON
STA. 6+580.0
℄ N.B. LEXINGTON
272.992
272.992
VAR.
T-BUR TV-BUR
1:4
INP R/W
1:4
ANOKA COUNTY PROPERTY
INP R/W
STA. 6+559.4 R 2
℄ S.B. LEXINGTON
STA. 6+560.0
℄ N.B. LEXINGTON
272.570
272.582
VAR.
T-BUR TV-BUR
INP R/W
1:4
1:4
PIPELINE
STA. 6+540.0 R 2
℄ S.B. LEXINGTON
STA. 6+540.0
℄ N.B. LEXINGTON
272.172
272.172
1:4
T-BUR TV-BUR
600 mm RCP STM. SEWER
INP R/W
R/W
1:4
PIPELINE
900 mm RCP SAN. SEWER
STA. 6+532.0 R 2
℄ S.B. LEXINGTON
STA. 6+532.0
℄ N.B. LEXINGTON
85TH LANE
272.008
272.008
1:20
T-BUR OA-BUR
600 mm RCP STM. SEWER
INP R/W
R/W
1:4
ANOKA COUNTY PROPERTY
PIPELINE
900 mm RCP SAN. SEWER
C.S.A.H. 17
STA. 6+532.000 TO STA. 6+580.000

Fed. Proj. No.

280 278 276 274 272 270

30 20 10 0 10 20 30

INP R/W
STA. 6+660.0
℄ S.B. LEXINGTON
274.729
STA. 6+660.0
℄ N.B. LEXINGTON
INP R/W
274.729
R/W
ANOKA COUNTY PROPERTY
1:4
T-BUR
PIPELINE
1:4

INP R/W
STA. 6+640.0
℄ S.B. LEXINGTON
274.235
STA. 6+640.0
℄ N.B. LEXINGTON
INP R/W
274.235
R/W
VAR.
T-BUR
1:4
PIPELINE

INP R/W
STA. 6+620.0
℄ S.B. LEXINGTON
273.812
STA. 6+620.0
℄ N.B. LEXINGTON
INP R/W
273.812
R/W
1:4
T-BUR
1:4
1:4
PIPELINE

INP R/W
STA. 6+600.0
℄ S.B. LEXINGTON
273.402
STA. 6+600.0
℄ N.B. LEXINGTON
INP R/W
273.402
R/W
ANOKA COUNTY PROPERTY
VAR.
T-BUR
1:4
1:4
℄ C.S.A.H. 17
STA. 6+600.000 TO STA. 6+660.000

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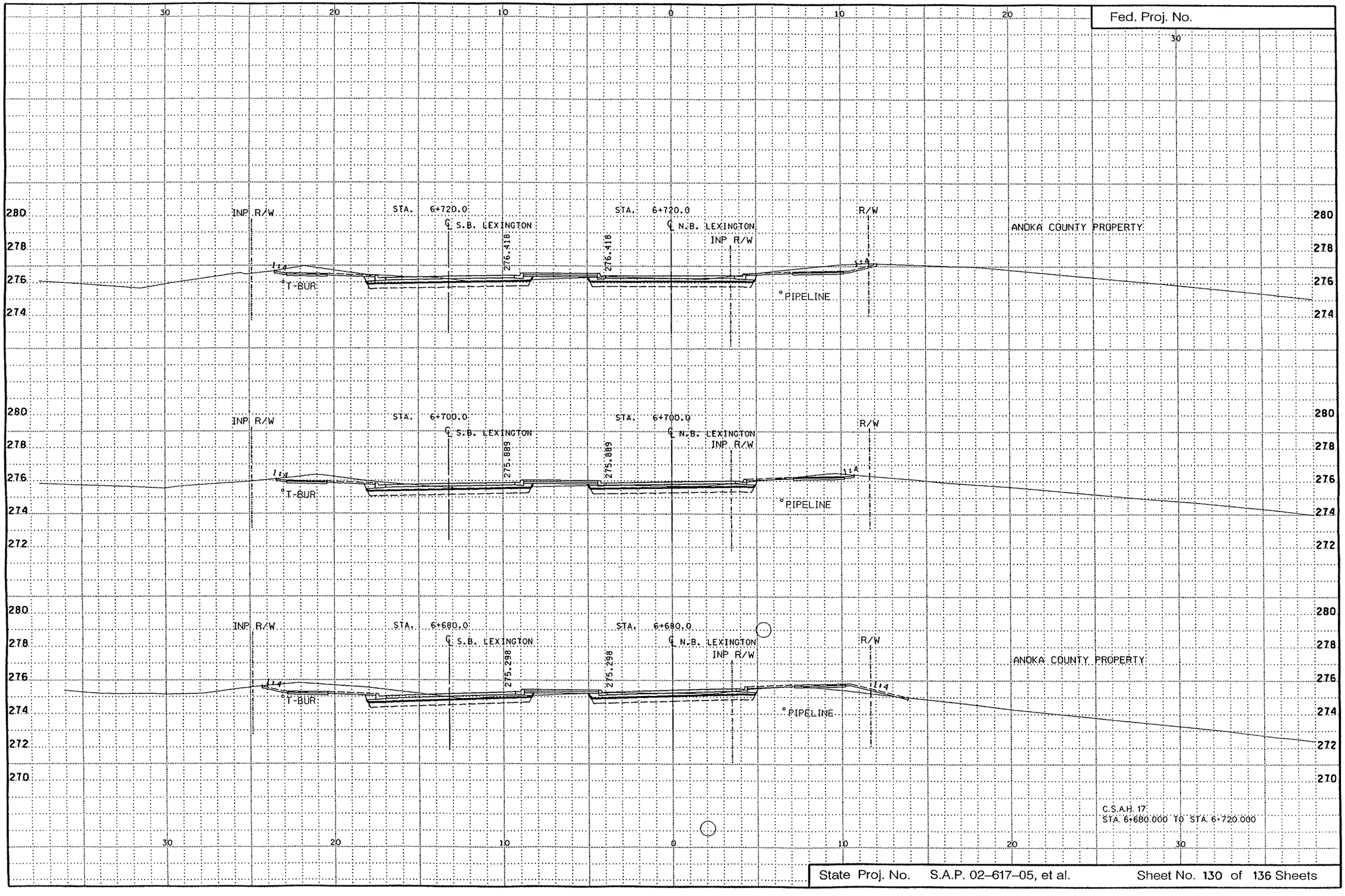
State Proj. No. S.A.P. 02–617–05, et al. Sheet No. 129 of 136 Sheets

Fed. Proj. No.



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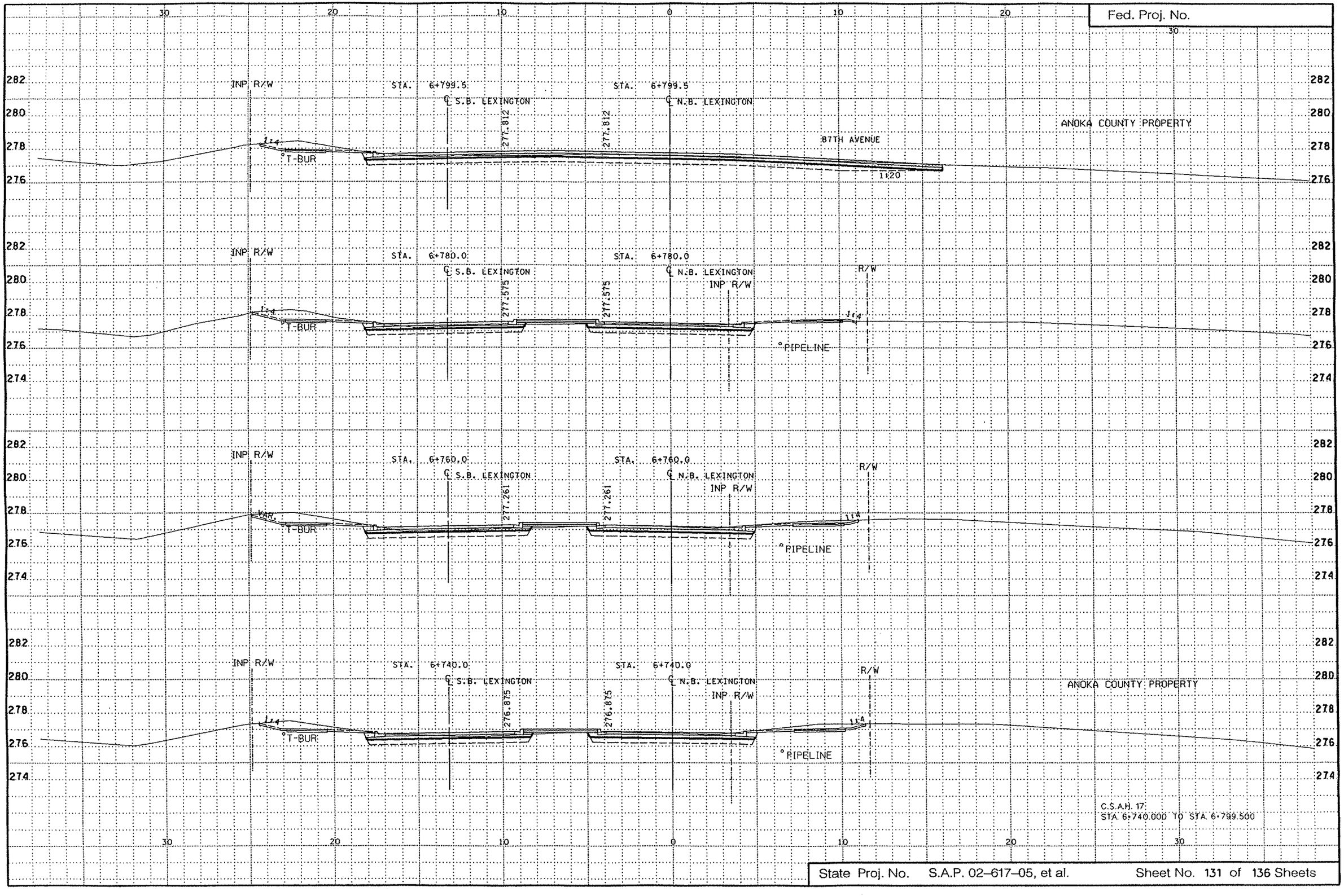
State Proj. No. S.A.P. 02–617–05, et al. Sheet No. 130 of 136 Sheets

Fed. Proj. No.



C.S.A.H. 17
STA. 6+740.000 TO STA. 6+799.500

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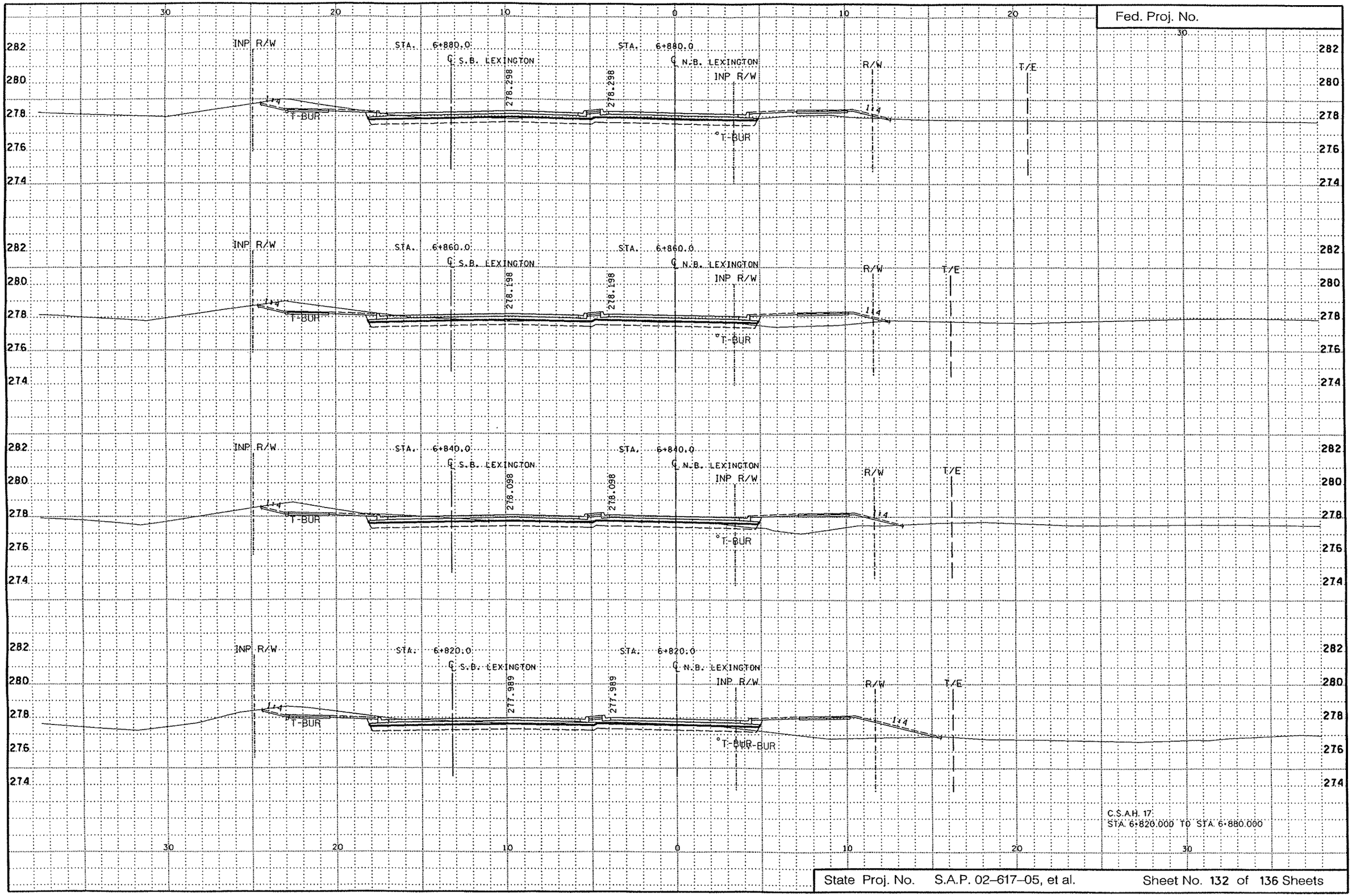
Fed. Proj. No.



C.S.A.H. 17
STA. 6+820.000 TO STA. 6+880.000

State Proj. No. S.A.P. 02–617–05, et al. Sheet No. 132 of 136 Sheets

DESIGN FILE: h:\civil\047\2842\PlanSouthNkD~\2842.xsg
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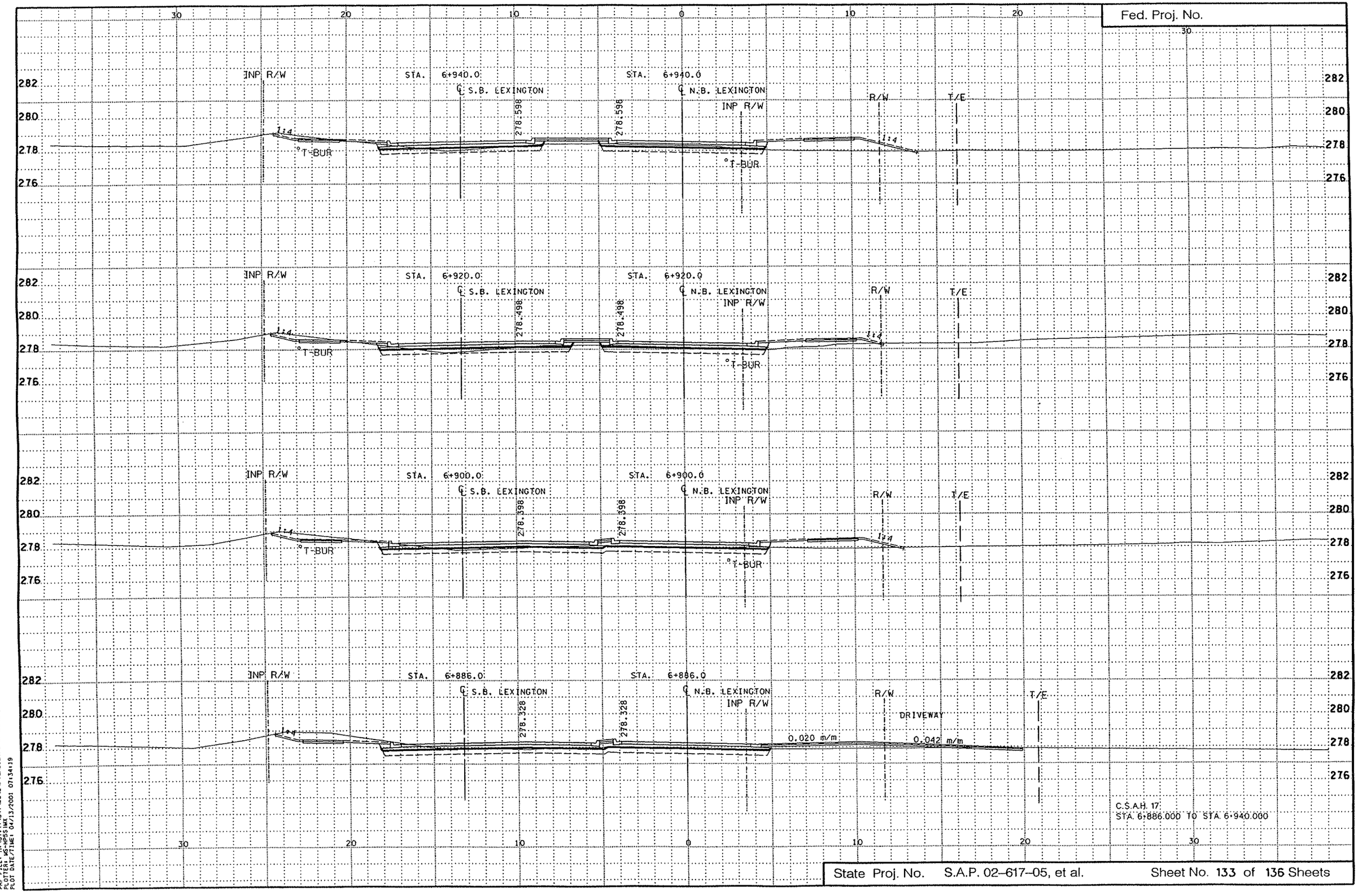
Fed. Proj. No.



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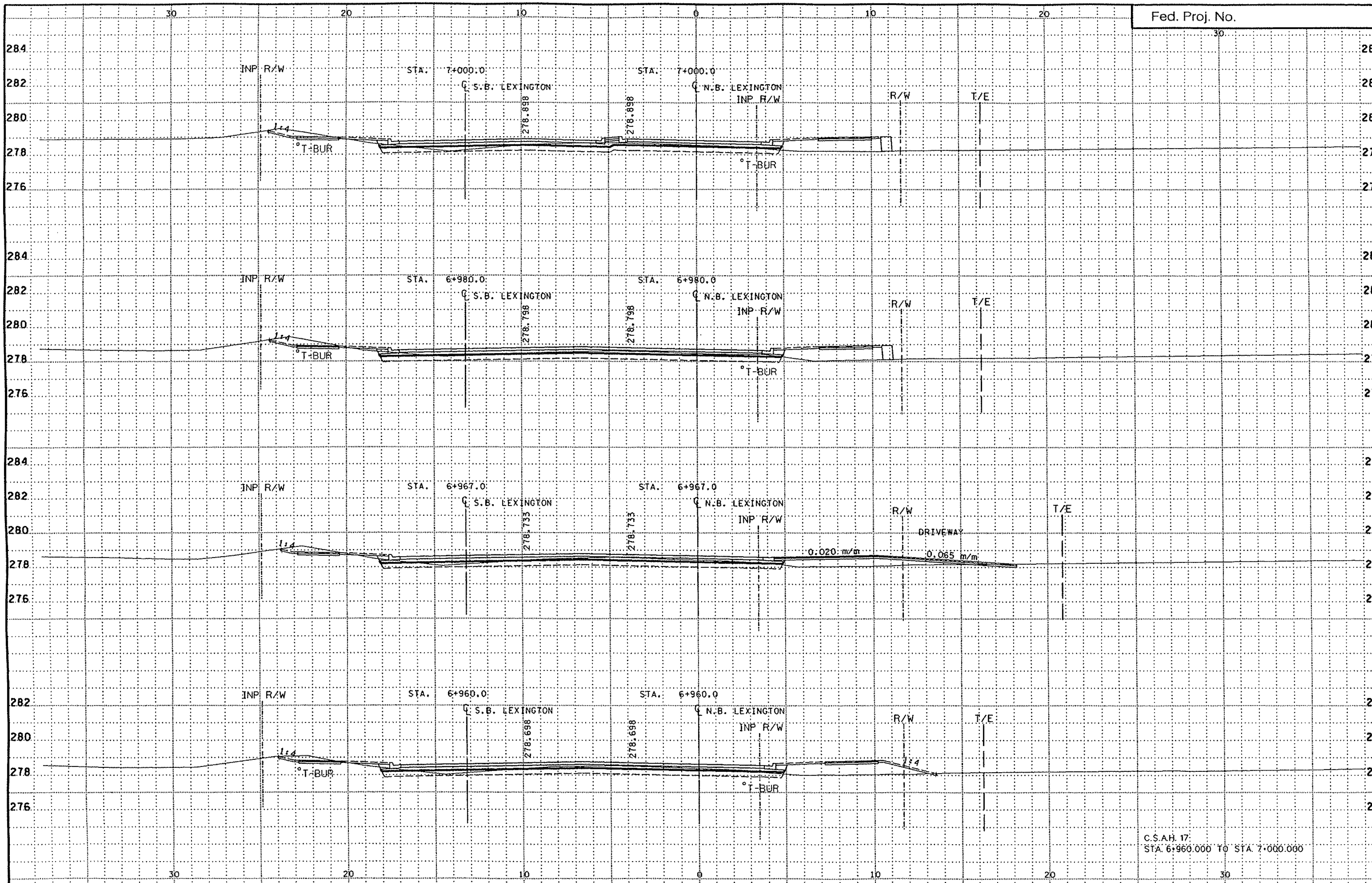
State Proj. No. S.A.P. 02–617–05, et al. Sheet No. 133 of 136 Sheets

Fed. Proj. No.



C.S.A.H. 17
STA. 6+960.000 TO STA. 7+000.000

State Proj. No. S.A.P. 02–617–05, et al.

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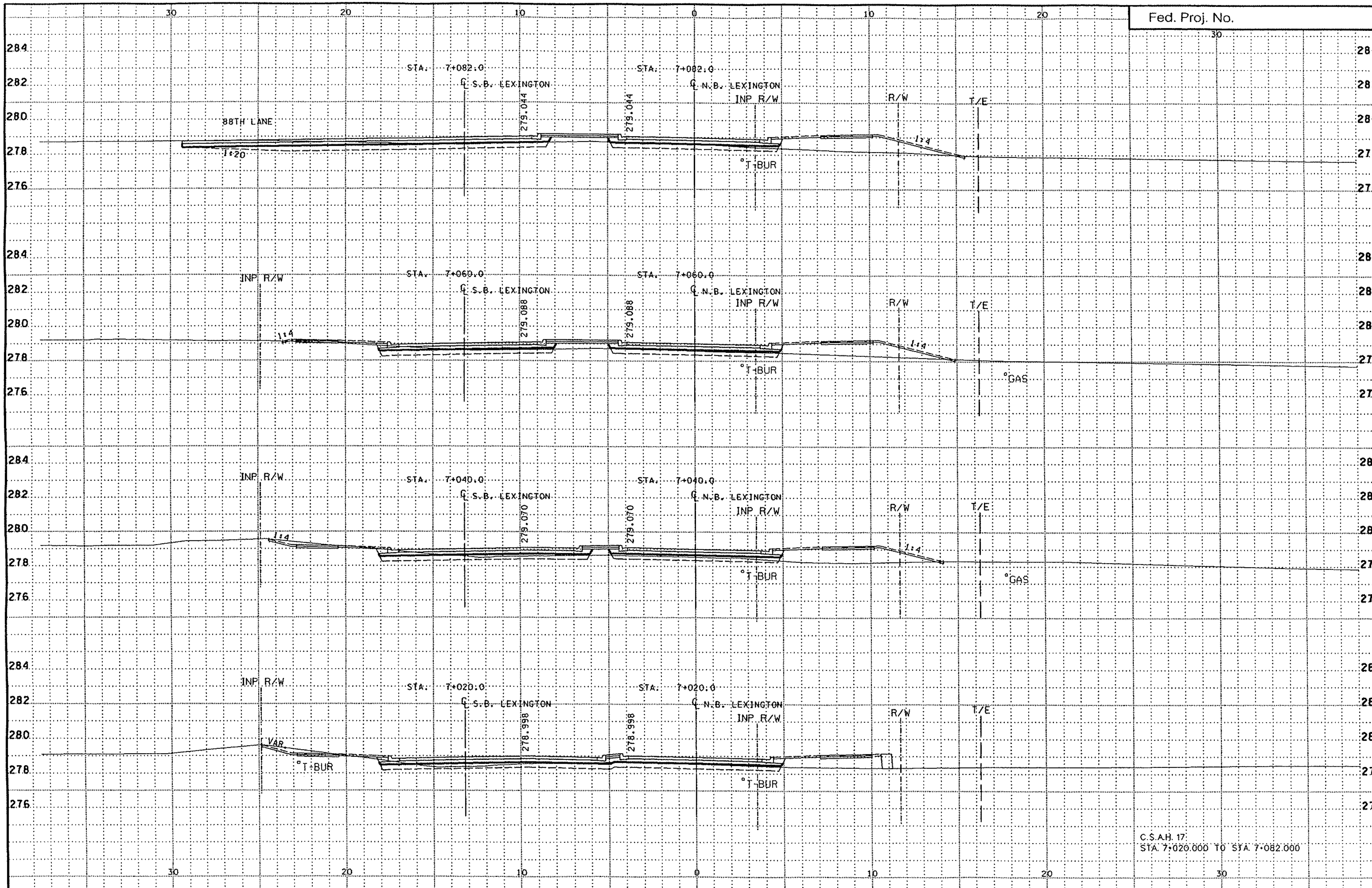

C.S.A.H. 17
STA. 7+020.000 TO STA. 7+082.000

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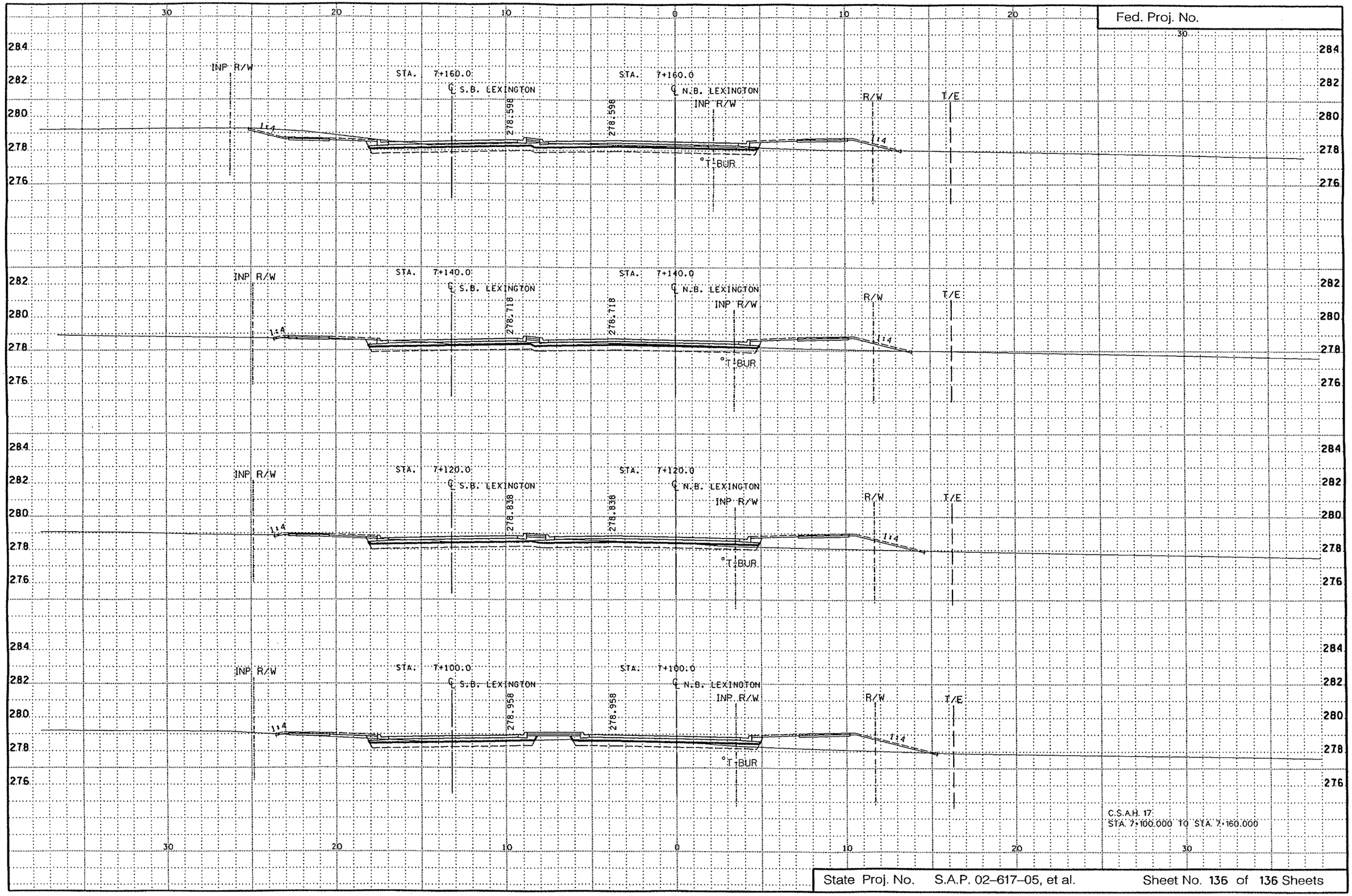
Fed. Proj. No.



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PRF FILE: h:\civil\047\2842\PlanSouthLKDF\2842.prf
PLOTTED BY: MARK SWANSON
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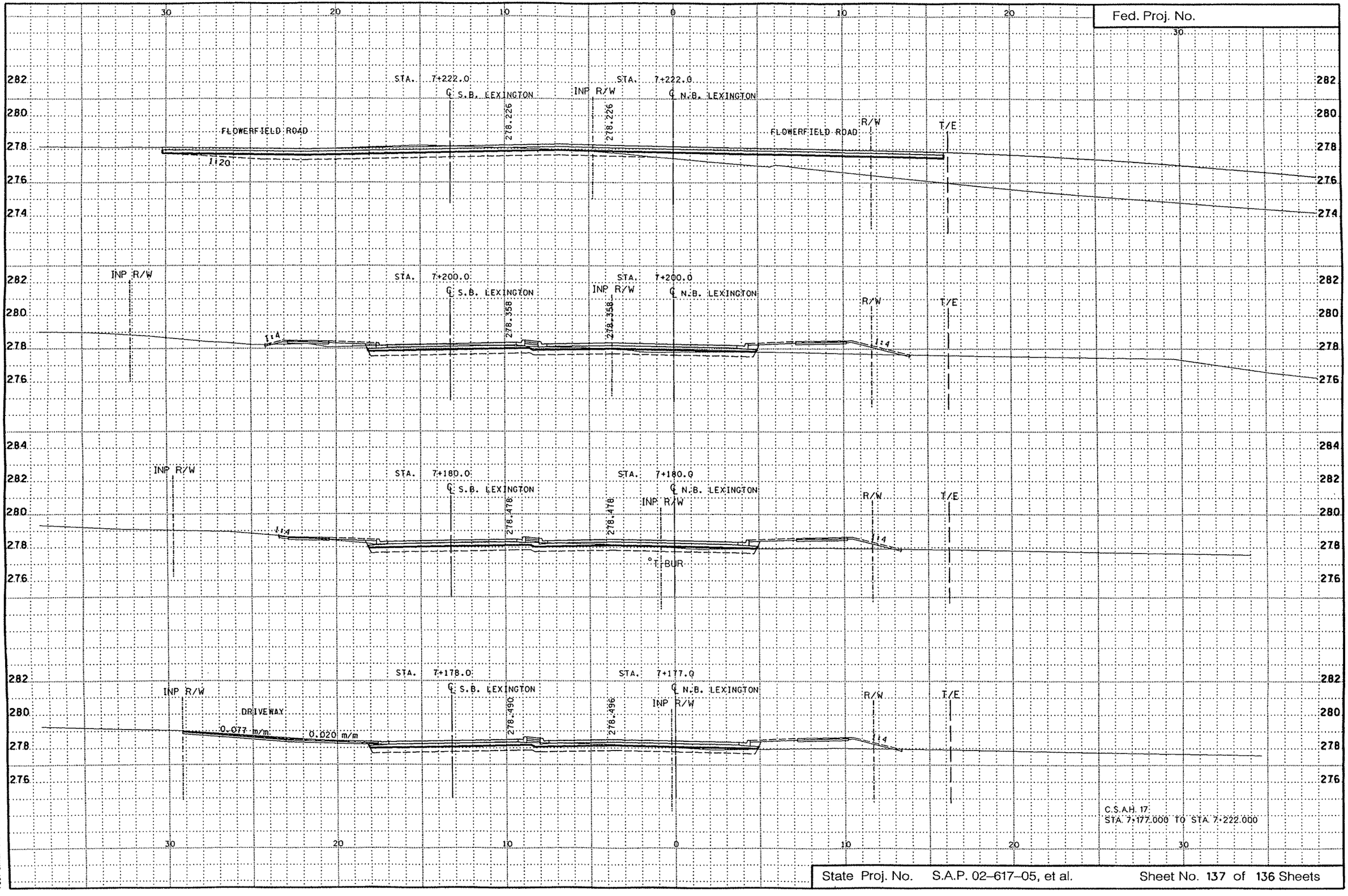
Fed. Proj. No.



C.S.A.H. 17
STA. 7+177.000 TO STA. 7+222.000

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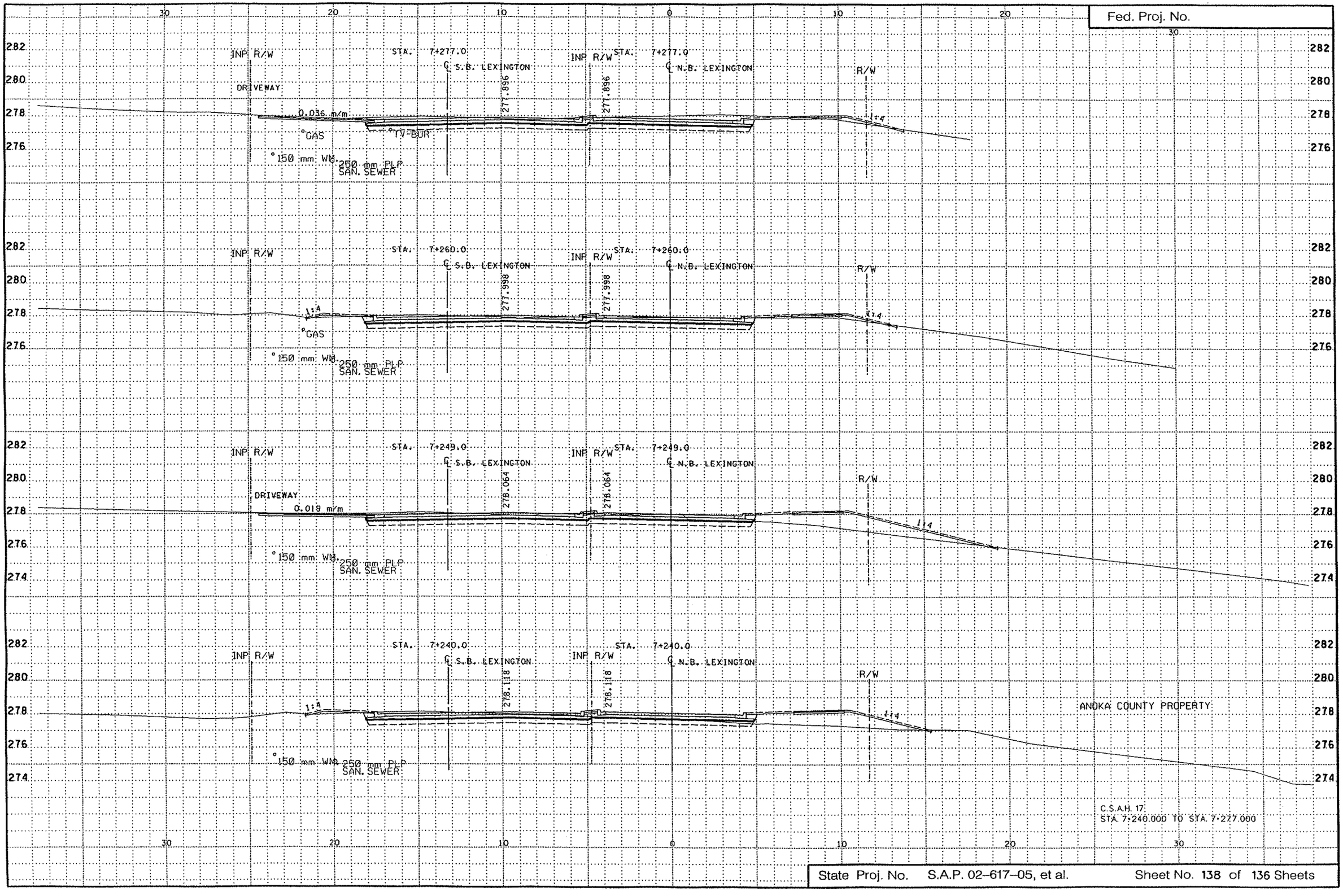
State Proj. No. S.A.P. 02–617–05, et al. Sheet No. 137 of 136 Sheets

Fed. Proj. No.



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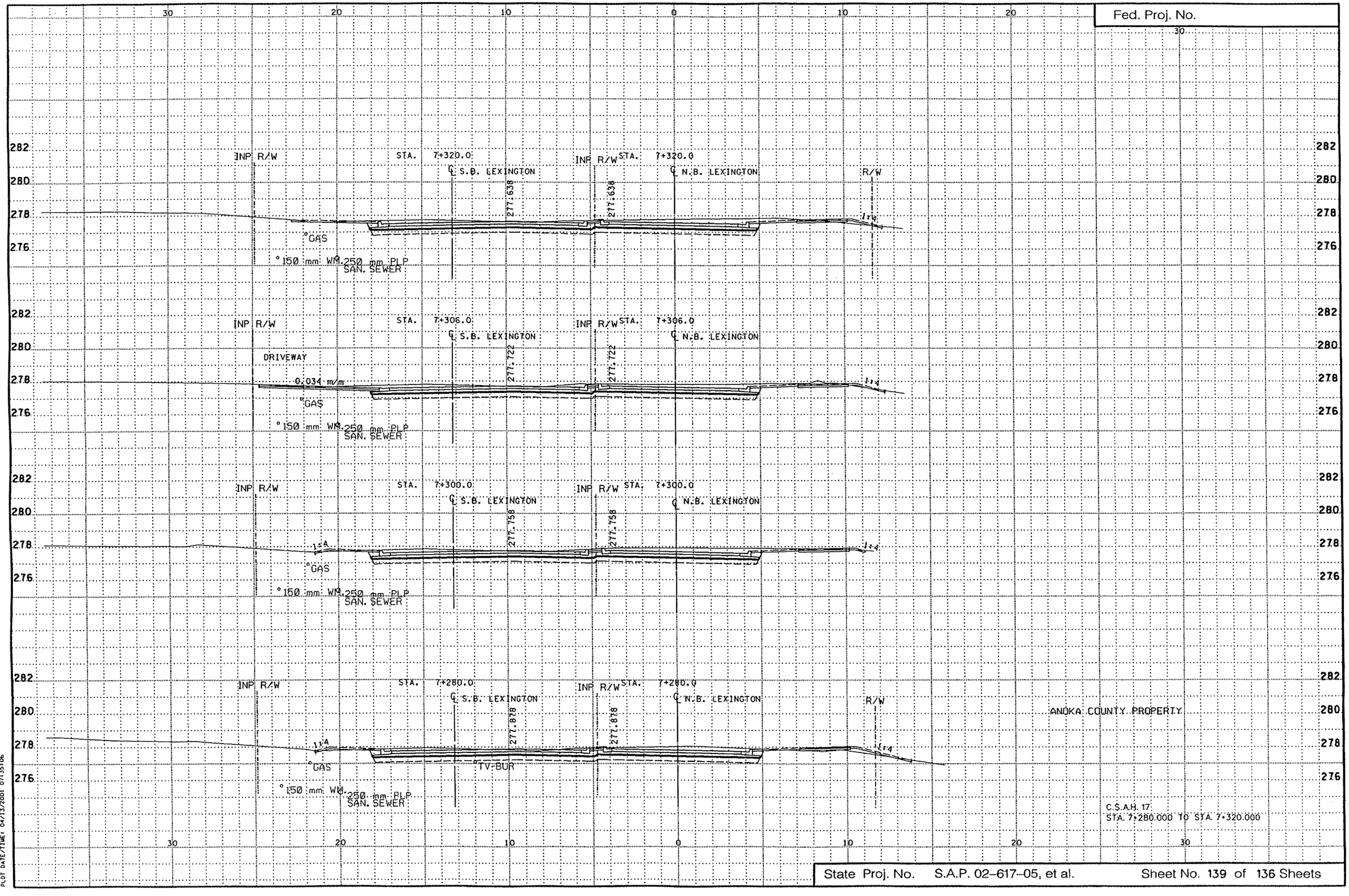
State Proj. No. S.A.P. 02–617–05, et al. Sheet No. 138 of 136 Sheets

Fed. Proj. No.



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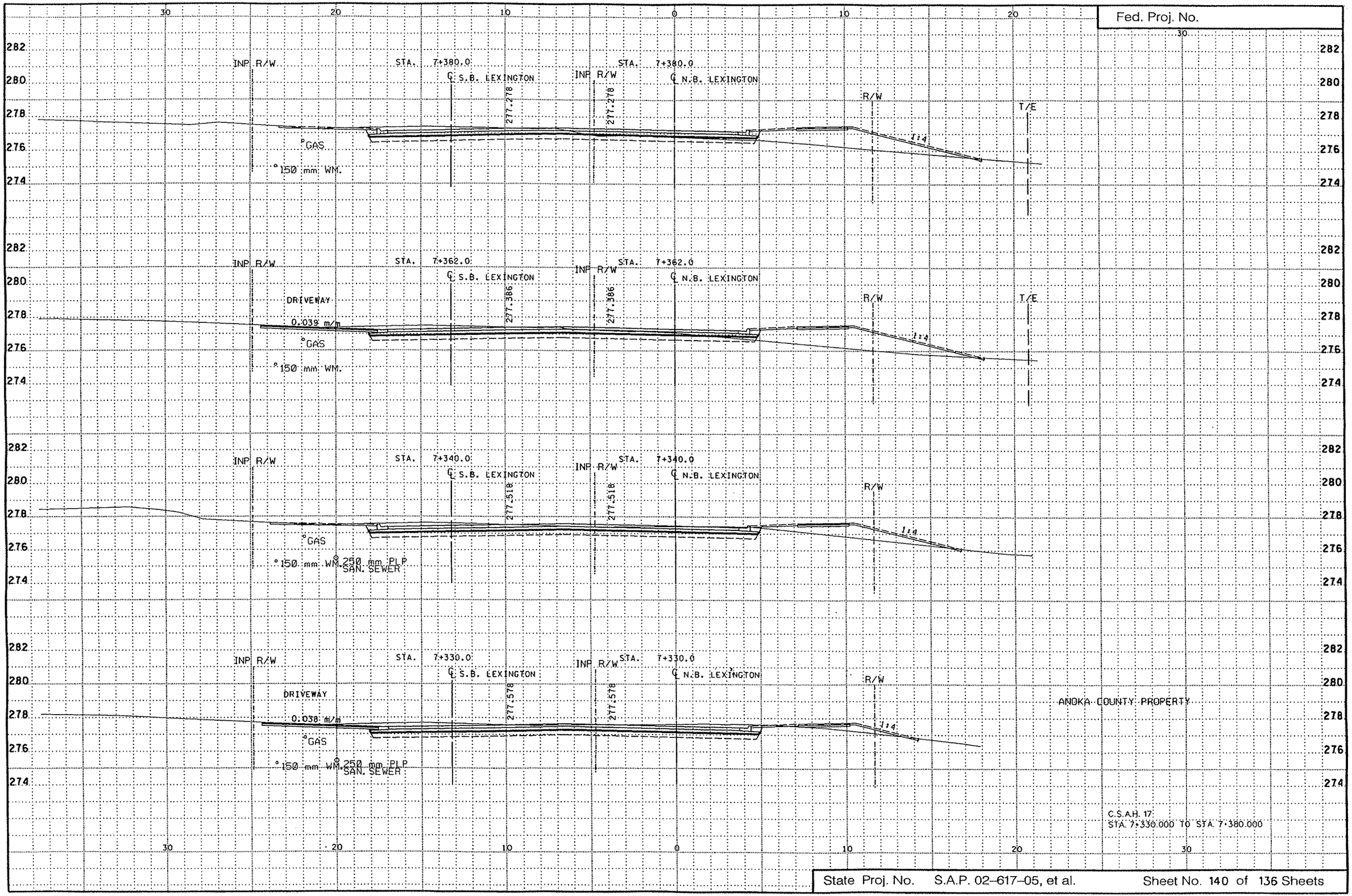
Fed. Proj. No.



C.S.A.H. 17
STA. 7+330.000 TO STA. 7+380.000

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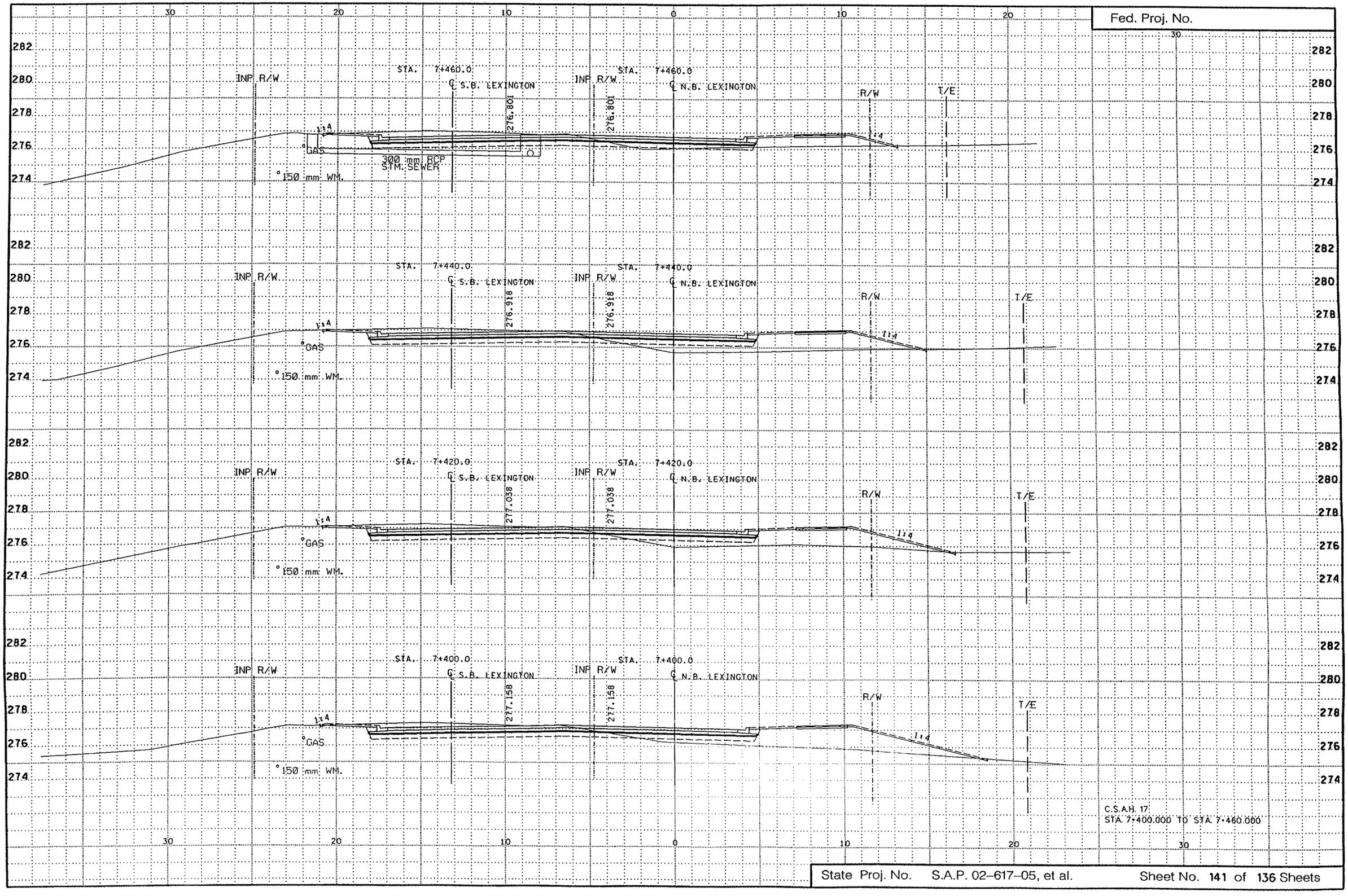
Fed. Proj. No.



C.S.A.H. 17
STA. 7+400.000 TO STA. 7+460.000

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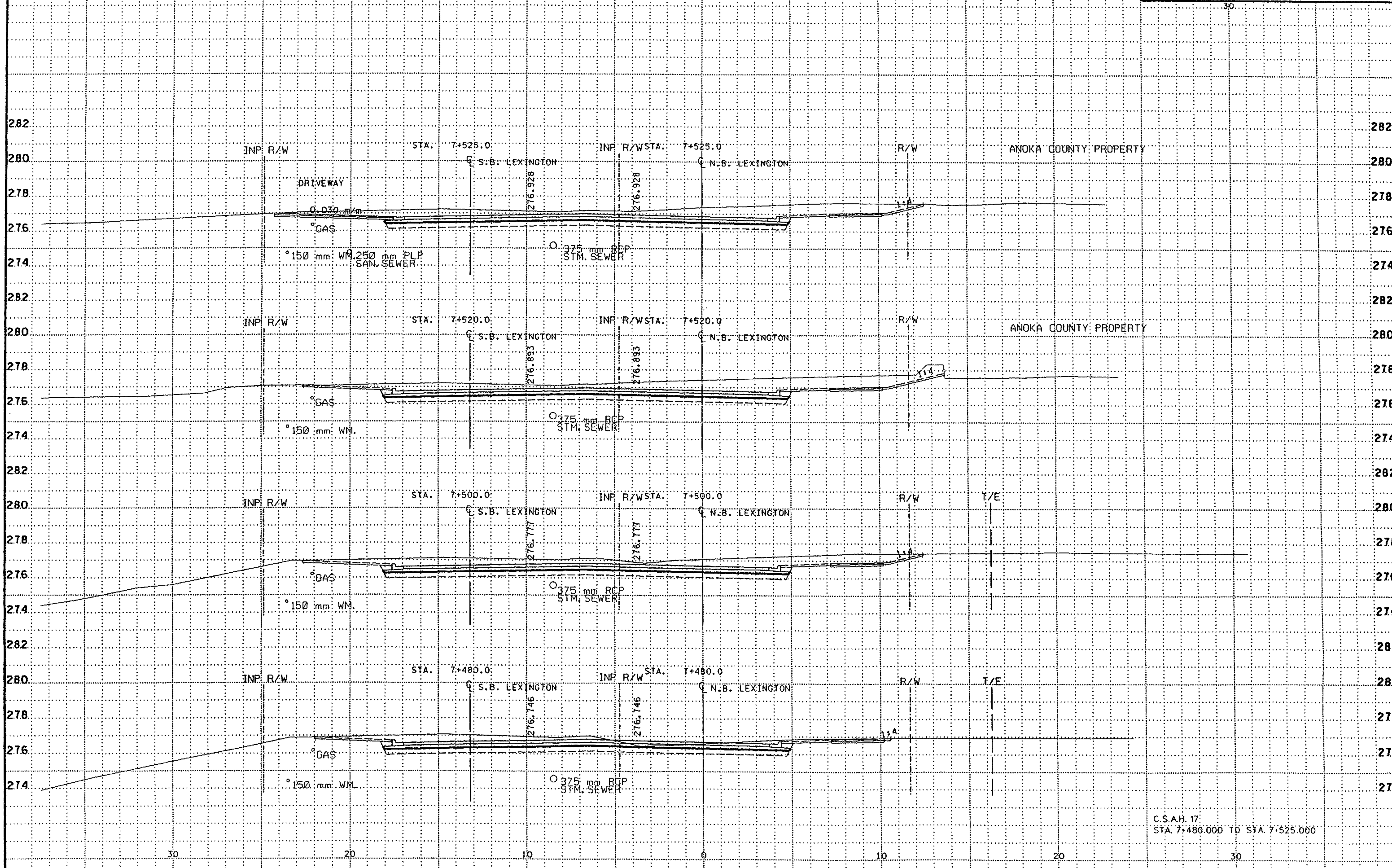
Fed. Proj. No.



C.S.A.H. 17
STA. 7+480.000 TO STA. 7+525.000

State Proj. No. S.A.P. 02-617-05, et al. Sheet No. 142 of 136 Sheets

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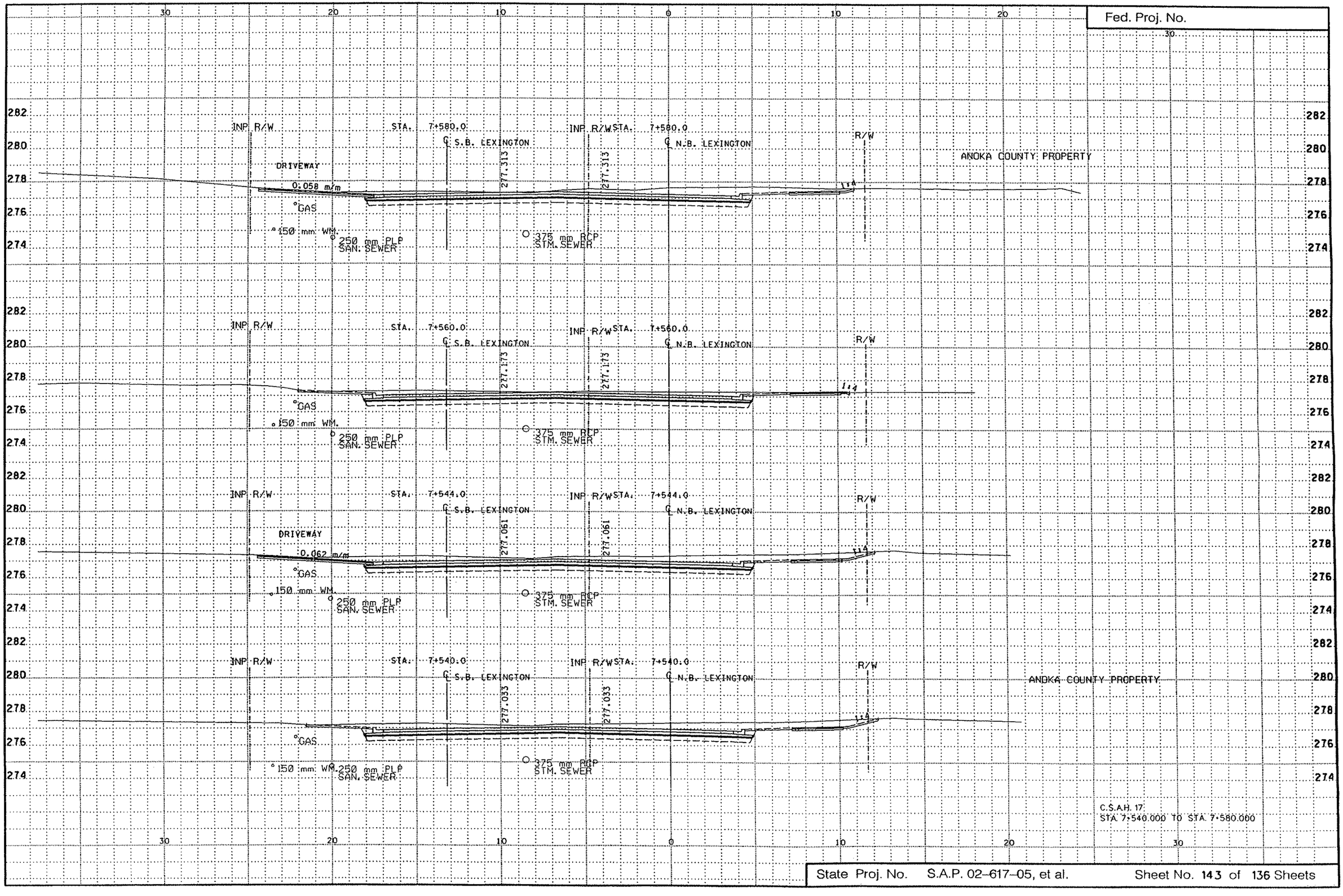
Fed. Proj. No.



C.S.A.H. 17
STA. 7+540.000 TO STA. 7+580.000

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PLOT DATE/TIME: 04/13/2001 07:35:38

Fed. Proj. No.

STA. 7+628.0 ℄ S.B. LEXINGTON

INP R/W

STA. 7+628.0 ℄ N.B. LEXINGTON

R/W

ANOKA COUNTY PROPERTY

RESTWOOD ROAD

277.505

277.505

1:4

1:20

150 mm WM.

250 mm PLP SAN. SEWER

450 mm RCP STM. SEWER

STA. 7+620.0 ℄ S.B. LEXINGTON

INP R/W

STA. 7+620.0 ℄ N.B. LEXINGTON

R/W

277.503

277.503

1:4

150 mm WM.

250 mm PLP SAN. SEWER

375 mm RCP STM. SEWER

STA. 7+615.0 ℄ S.B. LEXINGTON

INP R/W

STA. 7+615.0 ℄ N.B. LEXINGTON

R/W

INP R/W

DRIVEWAY

0.014 m/m

277.496

277.496

1:4

150 mm WM.

250 mm PLP SAN. SEWER

375 mm RCP STM. SEWER

STA. 7+600.0 ℄ S.B. LEXINGTON

INP R/W

STA. 7+600.0 ℄ N.B. LEXINGTON

R/W

ANOKA COUNTY PROPERTY

INP R/W

277.443

277.443

1:4

GAS

150 mm WM.

250 mm PLP SAN. SEWER

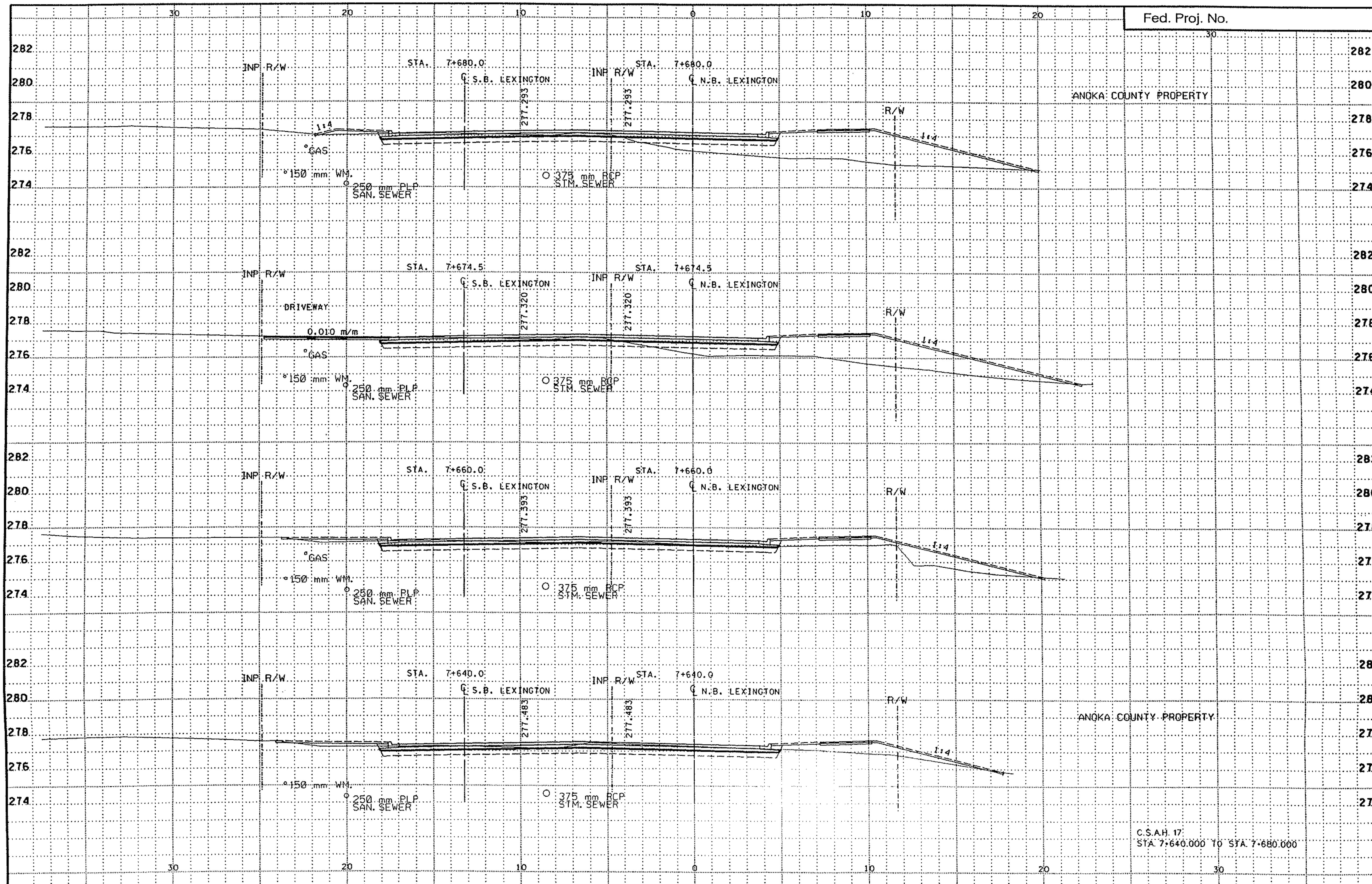
375 mm RCP STM. SEWER

C.S.A.H. 17
STA. 7+600.000 TO STA. 7+628.000

DESIGN FILE: n:\civil\047\2842\Plan\SouthN&D\2842.xsa
PRF FILE: n:\civil\047\2842\Plan\SouthN&D\2842.prf
PLOTTER: MS-HPSS (MA)
PLOT DATE/TIME: 04/13/2001 07:35:46

State Proj. No. S.A.P. 02–617–05, et al. Sheet No. 144 of 136 Sheets

Fed. Proj. No.



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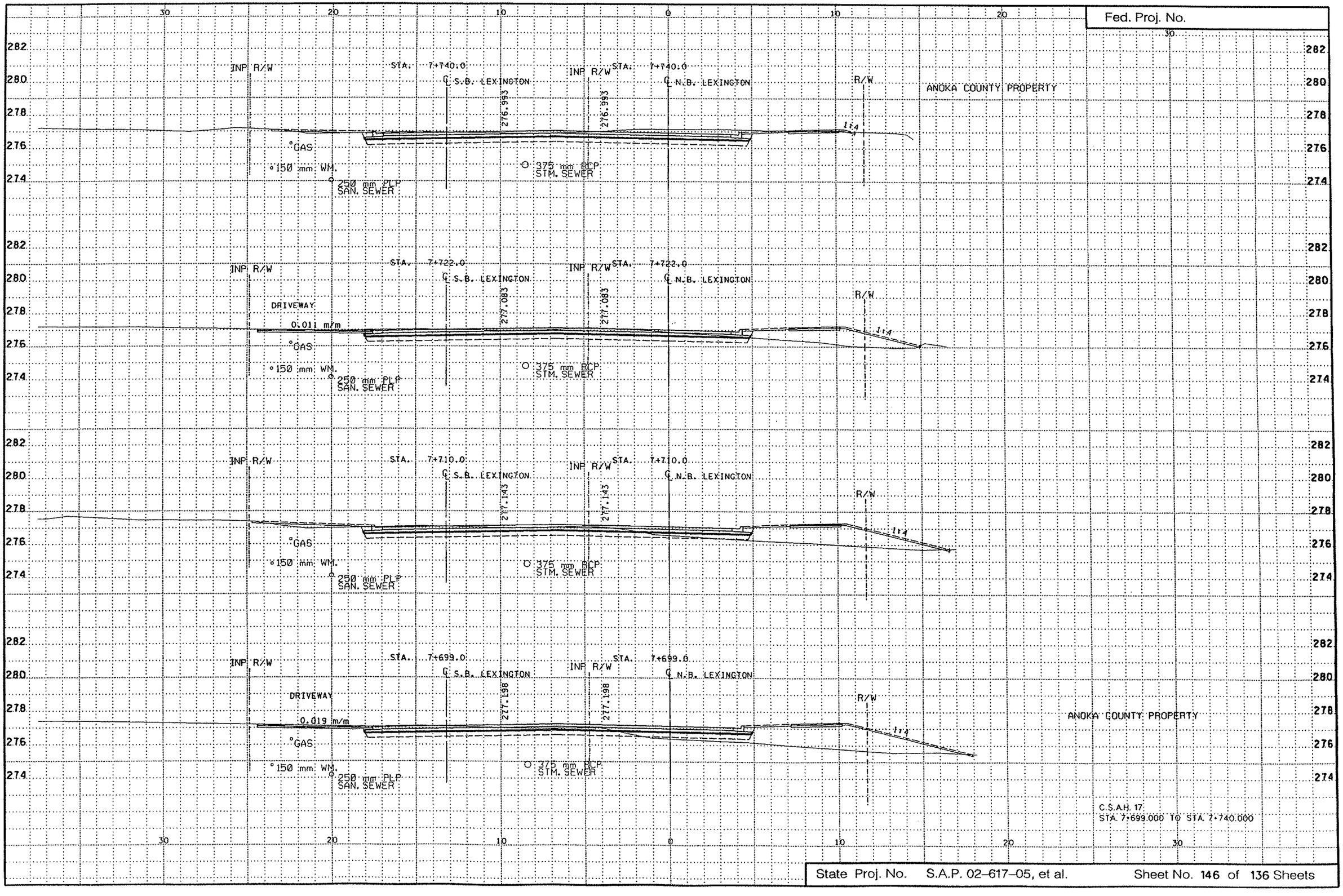
State Proj. No. S.A.P. 02-617-05, et al. Sheet No. 145 of 136 Sheets

Fed. Proj. No.



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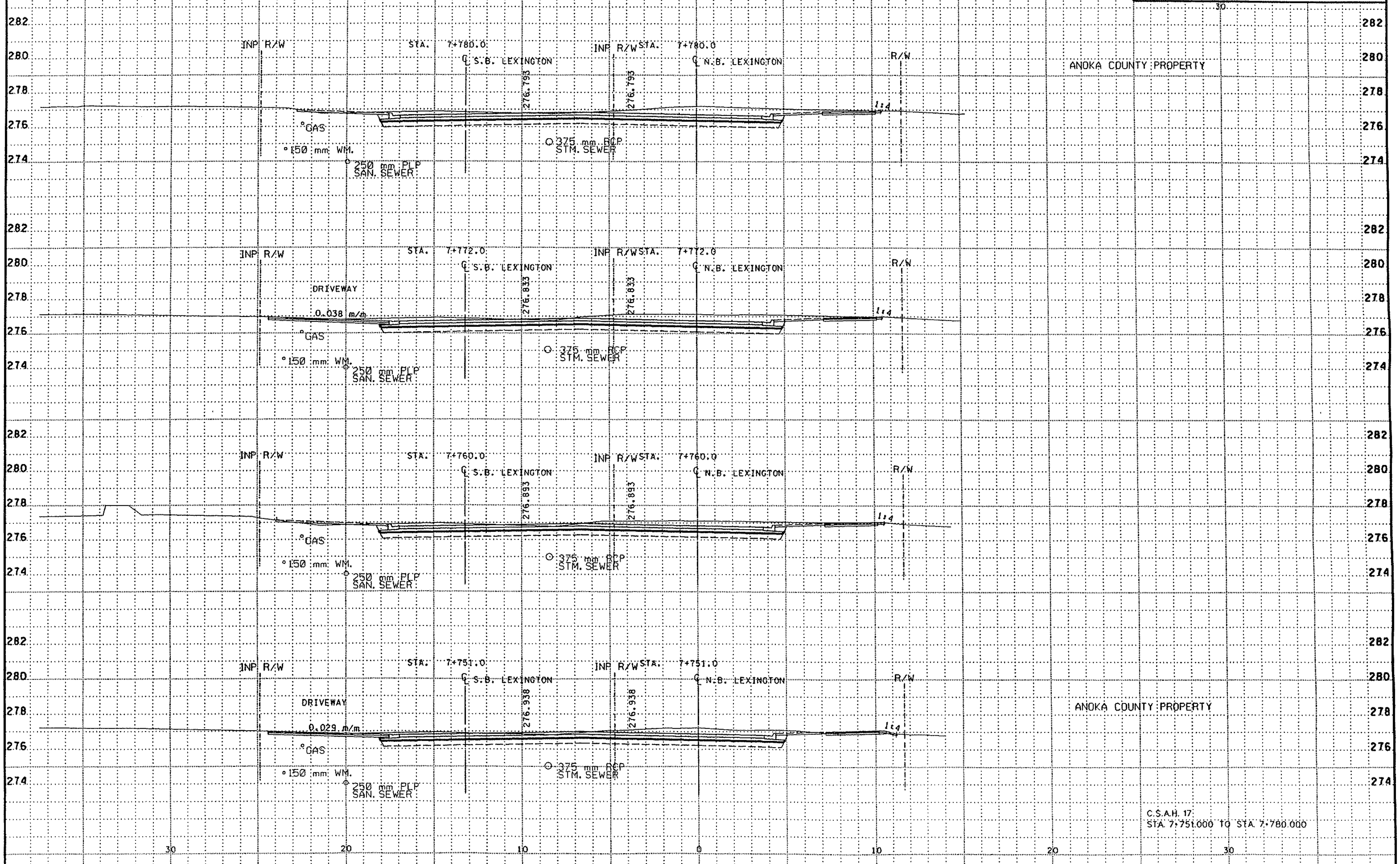
PLOTTER: MS-HP55.1MX
PLOT DATE/TIME: 04/13/2001 07:36:01

State Proj. No. S.A.P. 02–617–05, et al. Sheet No. 146 of 136 Sheets

Fed. Proj. No.



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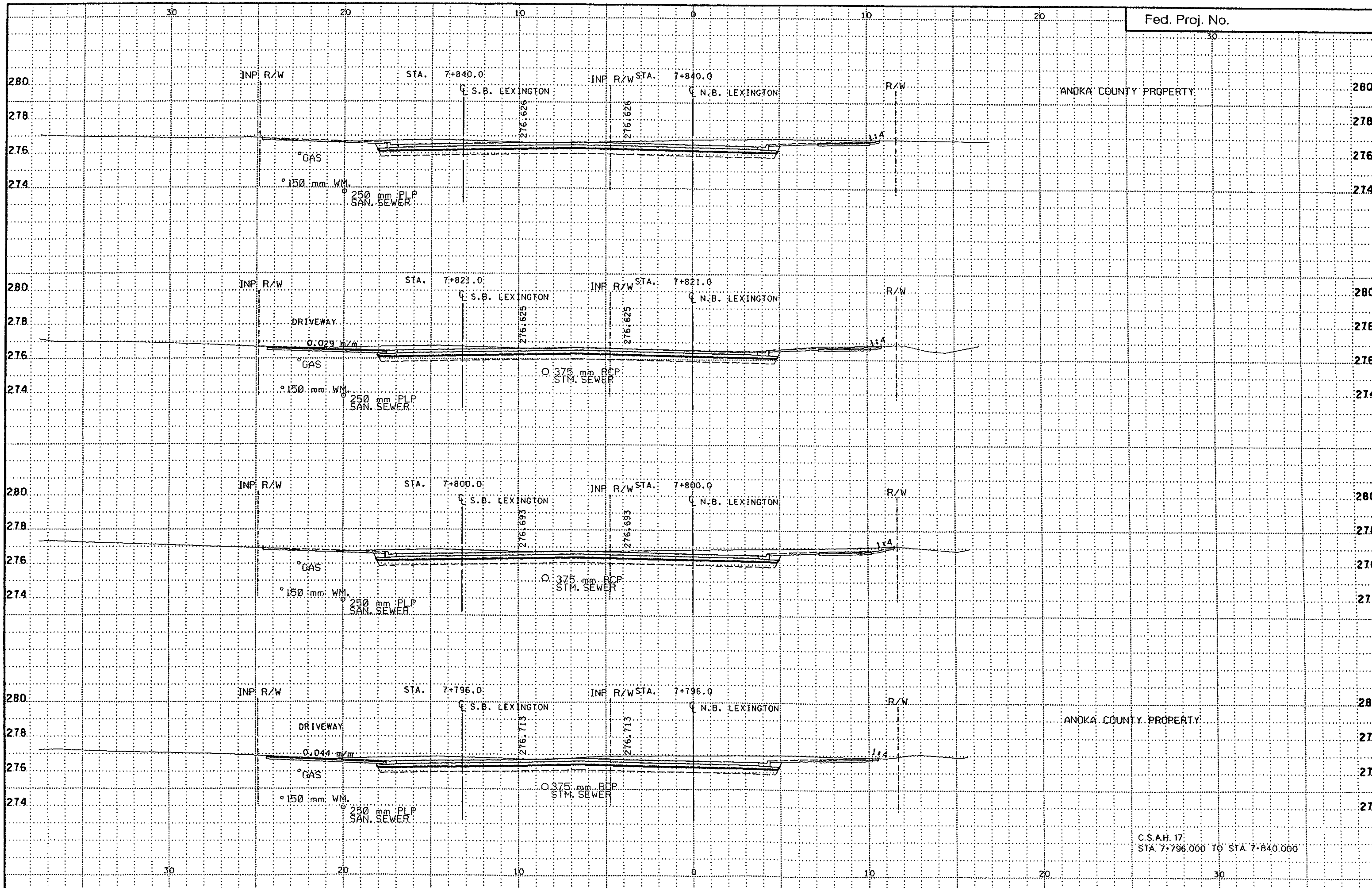
State Proj. No. S.A.P. 02-617-05, et al. Sheet No. 147 of 136 Sheets

Fed. Proj. No.



C.S.A.H. 17
STA. 7+796.000 TO STA. 7+840.000

State Proj. No. S.A.P. 02-617-05, et al. Sheet No. 148 of 183 Sheets

DESIGN FILE: h:\civil\047\2842\PlanSouthLKDr\2842.xso
PRF FILE: h:\civil\047\2842\PlanSouthLKDr\2842.prf
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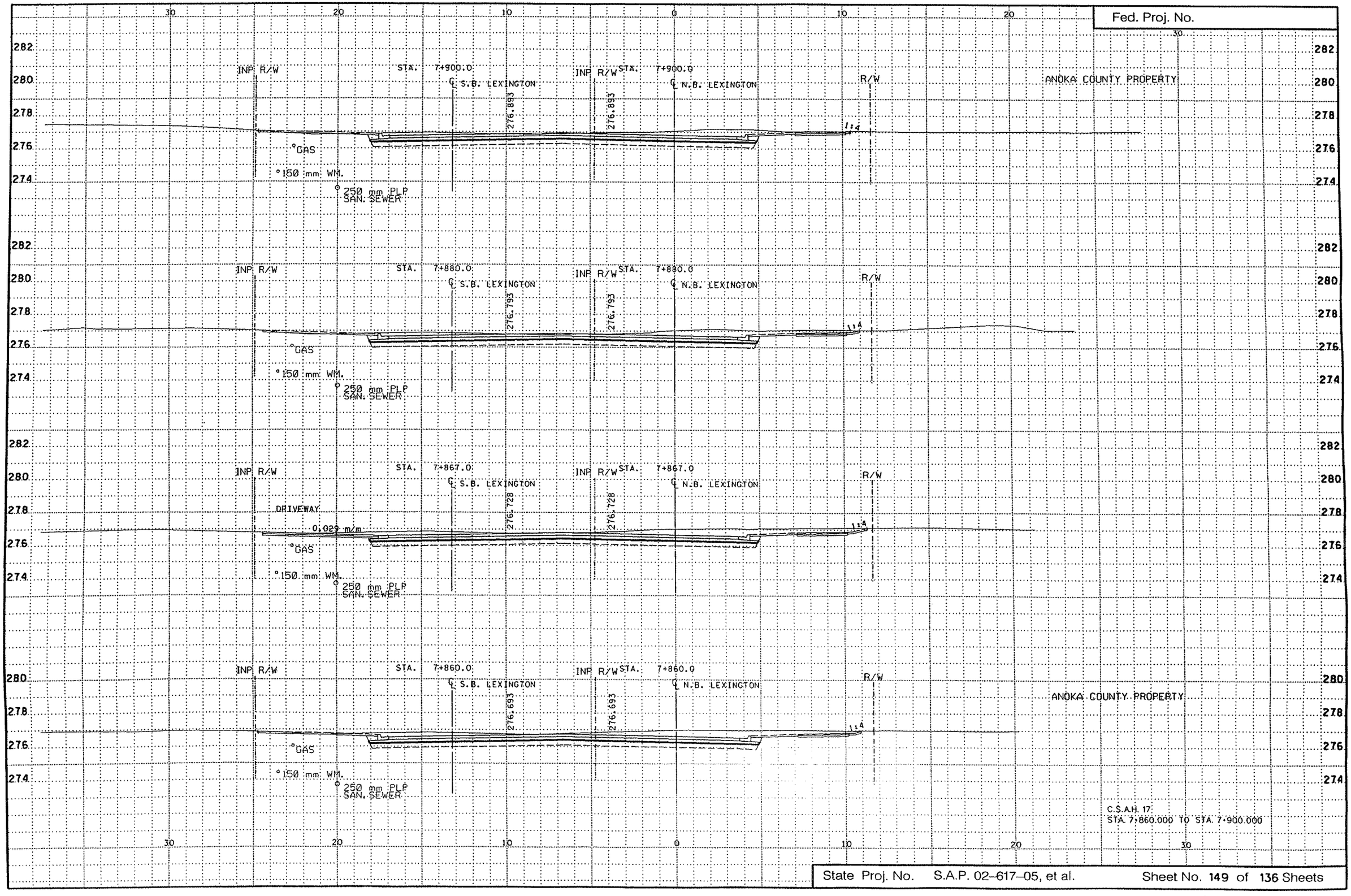
Fed. Proj. No.



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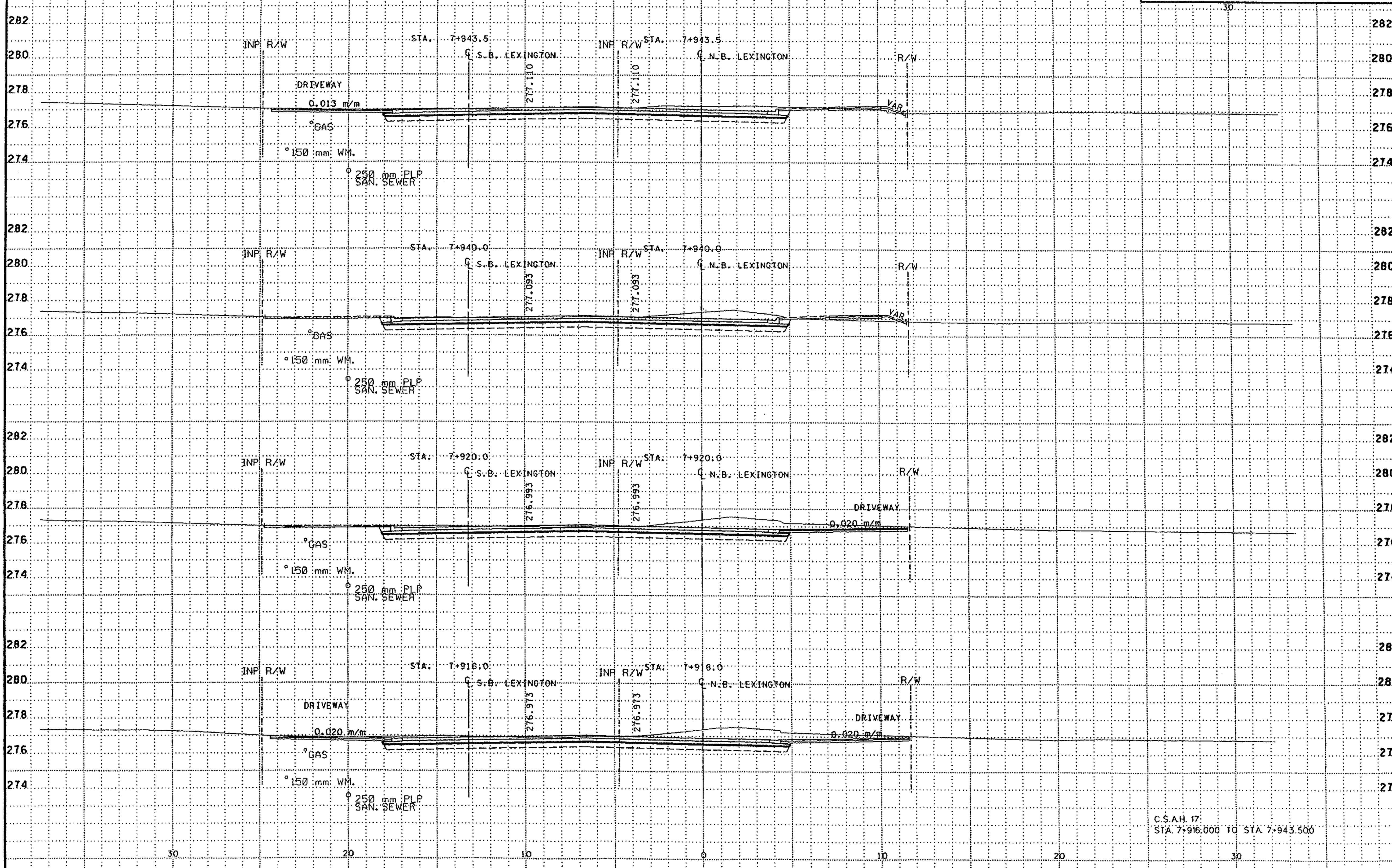
State Proj. No. S.A.P. 02–617–05, et al. Sheet No. 149 of 136 Sheets

Fed. Proj. No.



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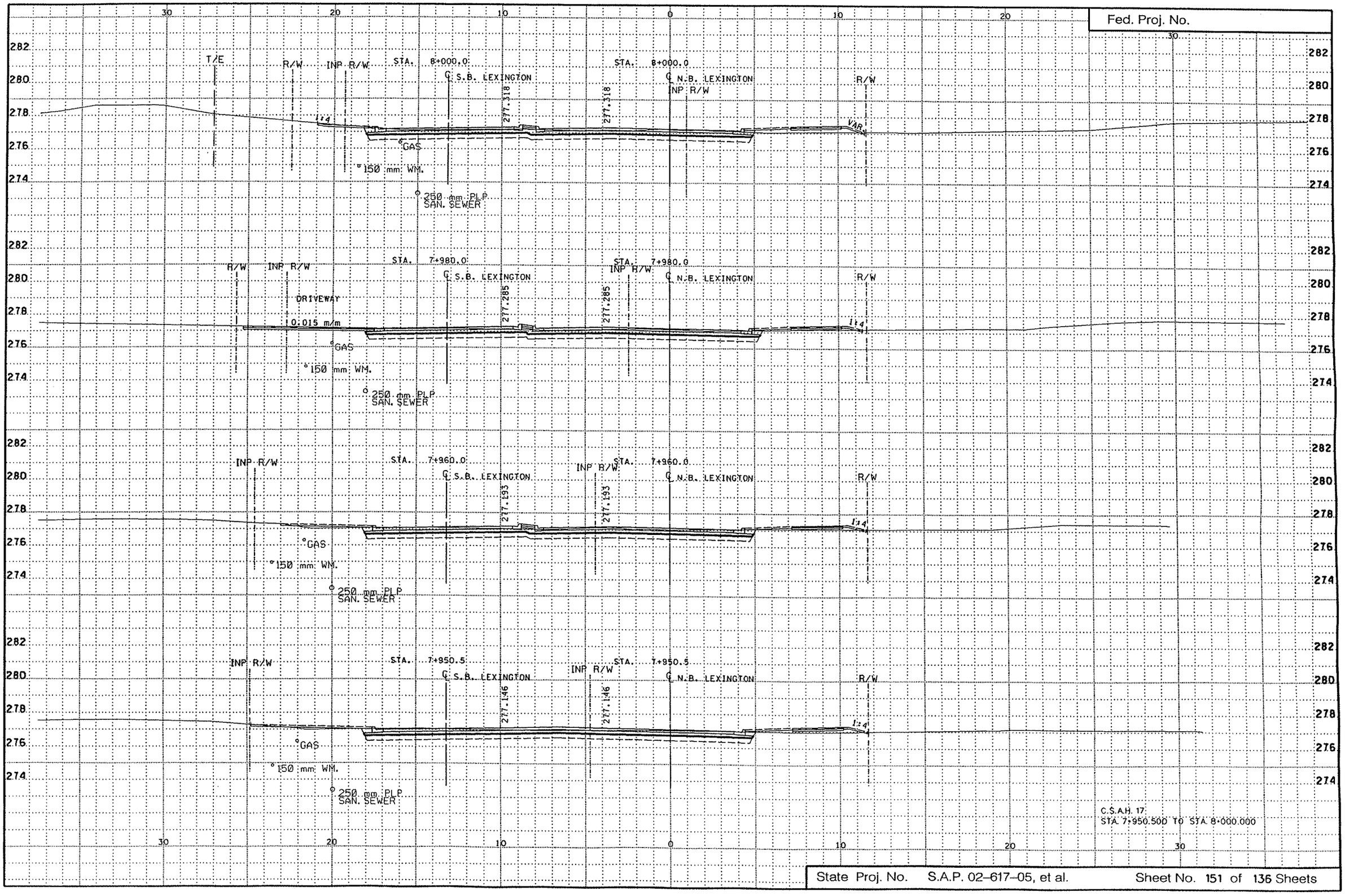
Fed. Proj. No.



C.S.A.H. 17
STA. 7+950.500 TO STA. 8+000.000

State Proj. No. S.A.P. 02-617-05, et al. Sheet No. 151 of 136 Sheets

DESIGN FILE: h:\civil\047\2842\Plan\SouthLK0r\2842.xsg
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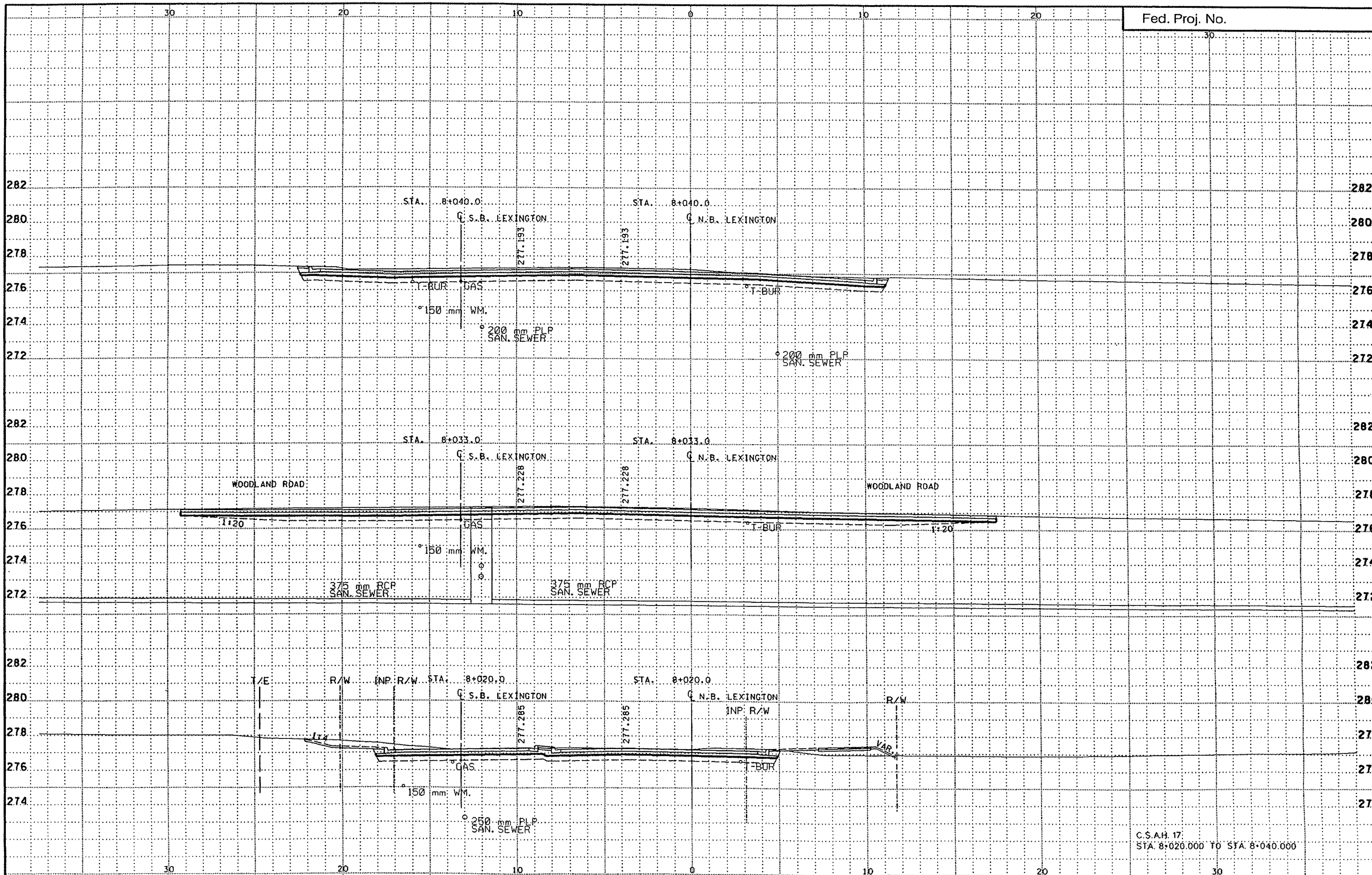
Fed. Proj. No.



C.S.A.H. 17
STA. 8+020.000 TO STA. 8+040.000

DESIGN FILE: h:\civil\04T\2842\PlanSouthLKDr\2842.xsa
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PLOT DATE/TIME: 04/13/2001 07:36:49

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Fed. Proj. No.

STA. 8+120.0 INP R/W
℄ S.B. LEXINGTON
276.793
T/E
R/W
VAR.
T-BUR GAS
150 mm WM.
200 mm PLP SAN. SEWER

STA. 8+120.0
℄ N.B. LEXINGTON
INP R/W
276.793
R/W
T/E
T-BUR
200 mm WM.

STA. 8+100.0 INP R/W
℄ S.B. LEXINGTON
276.893
T/E
R/W
VAR.
T-BUR GAS
150 mm WM.
200 mm PLP SAN. SEWER

STA. 8+100.0
℄ N.B. LEXINGTON
INP R/W
276.893
R/W
T/E
T-BUR
200 mm WM.
200 mm PLP SAN. SEWER

STA. 8+083.0 INP R/W
℄ S.B. LEXINGTON
276.978
T/E
R/W
DRIVEWAY
0.062 m/m
T-BUR GAS
150 mm WM.
200 mm PLP SAN. SEWER

STA. 8+083.0
℄ N.B. LEXINGTON
INP R/W
276.978
R/W
T/E
DRIVEWAY
0.040 m/m
T-BUR
200 mm WM.
200 mm PLP SAN. SEWER

STA. 8+060.0 INP R/W
℄ S.B. LEXINGTON
277.093
T/E
R/W
1:4
T-BUR GAS
150 mm WM.
200 mm PLP SAN. SEWER

STA. 8+060.0
℄ N.B. LEXINGTON
INP R/W
277.093
R/W
BUILDING +047 TO +060
T/E
1:4
T-BUR
200 mm WM.
200 mm PLP SAN. SEWER

C.S.A.H. 17
STA. 8+060.000 TO STA. 8+120.000

DESIGN FILE: h:\civil\047\2842\Plan\South\K01\2842.xsg
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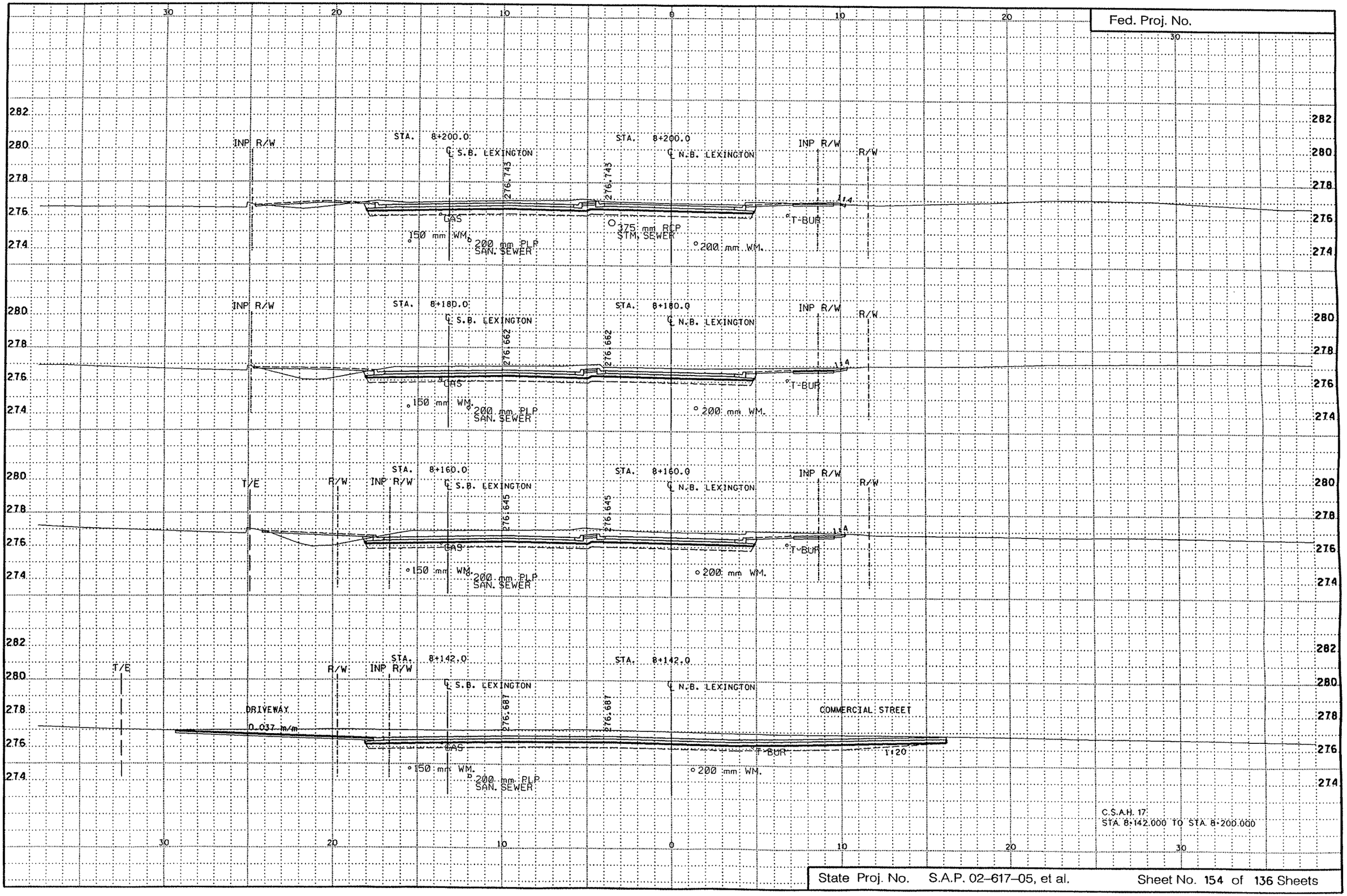
PLOT DATE/TIME: 04/13/2001 07:36:57

State Proj. No. S.A.P. 02-617-05, et al. Sheet No. 153 of 136 Sheets

Fed. Proj. No.



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PRF FILE: h:\civil\047\2842\PlanSout\L&Dr\2842.prf
PLOT SCALE: 1" = 5'
PLOT DATE/TIME: 04/13/2001 07:37:04

State Proj. No. S.A.P. 02–617–05, et al.

Fed. Proj. No.

STA. 8+280.0
℄ S.B. LEXINGTON
277.143
STA. 8+280.0
℄ N.B. LEXINGTON
277.143
INP R/W
1:4
P-BUR
450 mm RCP STM. SEWER
450 mm RCP STM. SEWER

STA. 8+260.0
℄ S.B. LEXINGTON
277.043
STA. 8+260.0
℄ N.B. LEXINGTON
277.043
INP R/W
R/W
1:4
375 mm RCP STM. SEWER
200 mm WM.

STA. 8+240.0
℄ S.B. LEXINGTON
276.943
STA. 8+240.0
℄ N.B. LEXINGTON
276.943
INP R/W
R/W
1:4
375 mm RCP STM. SEWER
200 mm WM.

STA. 8+220.0
℄ S.B. LEXINGTON
276.843
STA. 8+220.0
℄ N.B. LEXINGTON
276.843
CENTRAL STREET
T-BUR 1:20
375 mm RCP STM. SEWER
200 mm WM.

C.S.A.H. 17
STA. 8+220.000 TO STA. 8+280.000

DESIGN FILE: h:\civil\047\2842\Plan\South\LK0r\2842.xsg
PRF FILE: h:\civil\047\2842\Plan\South\LK0r\2842.prf
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PLOT DATE/TIME: 04/13/2001 07:37:12

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Fed. Proj. No.

30 20 10 0 10 20 30

282
280
278
276

STA. 8+360.0 ℄ S.B. LEXINGTON
T/E INP R/W
STA. 8+360.0 ℄ N.B. LEXINGTON

STA. 8+340.0 ℄ S.B. LEXINGTON
T/E INP R/W
STA. 8+340.0 ℄ N.B. LEXINGTON
R/W
R/W

STA. 8+330.0 ℄ S.B. LEXINGTON
T/E INP R/W
STA. 8+330.0 ℄ N.B. LEXINGTON
R/W
R/W

STA. 8+300.0 ℄ S.B. LEXINGTON
STA. 8+300.0 ℄ N.B. LEXINGTON
R/W
R/W
277.243
450 mm RCP STM. SEWER

C.S.A.H. 17
STA. 8+300.000 TO STA. 8+360.000

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