MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, AGG. BASE, BIT. SURFACING, BIT. PATH, CONCRETE WALK, CONCRETE CURB & GUTTER, DRAINAGE, SIGNAL SYSTEMS, BOX CULVERT 02J31

LOCATED ON HANSON BLVD. FROM 121ST AVE. N.W. TO 139TH AVE. N.W.

C.S.A.H. 78 - S.P. 02-678-16, S.P. 198-020-25, S.P. 114-020-29

GROSS LENGTH	11,663.77	FEET	2.209	MILES	
BRIDGES-LENGTH	0.0	FEET	0.0	MILES	
EXCEPTIONS-LENGTH	0.0	FEET	0.0	MILES	
NET LENGTH	11,663.77	FEET	2.209	MILES	
REF. POINT		TO REF. POINT			

LENGTH AND DESCRIPTION BASED UPON (N.B. C.S.A.H. 78)

C.S.A.H. 116 - S.P. 02-716-10, S.P. 198-020-25

GROSS LENGTH	3,727.56	FEET	0.706	MILES	
BRIDGES-LENGTH	0.0	FEET	0.0	MILES	
EXCEPTIONS-LENGTH	205.64	FEET	0.039	MILES	
NET LENGTH	3521.92	FEET	0.667	MILES	
REF. POINT		TO REF. POINT			

LENGTH AND DESCRIPTION BASED UPON (E.B. C.S.A.H. 116)

C.S.A.H. 78 - S.A.P. 198-020-27

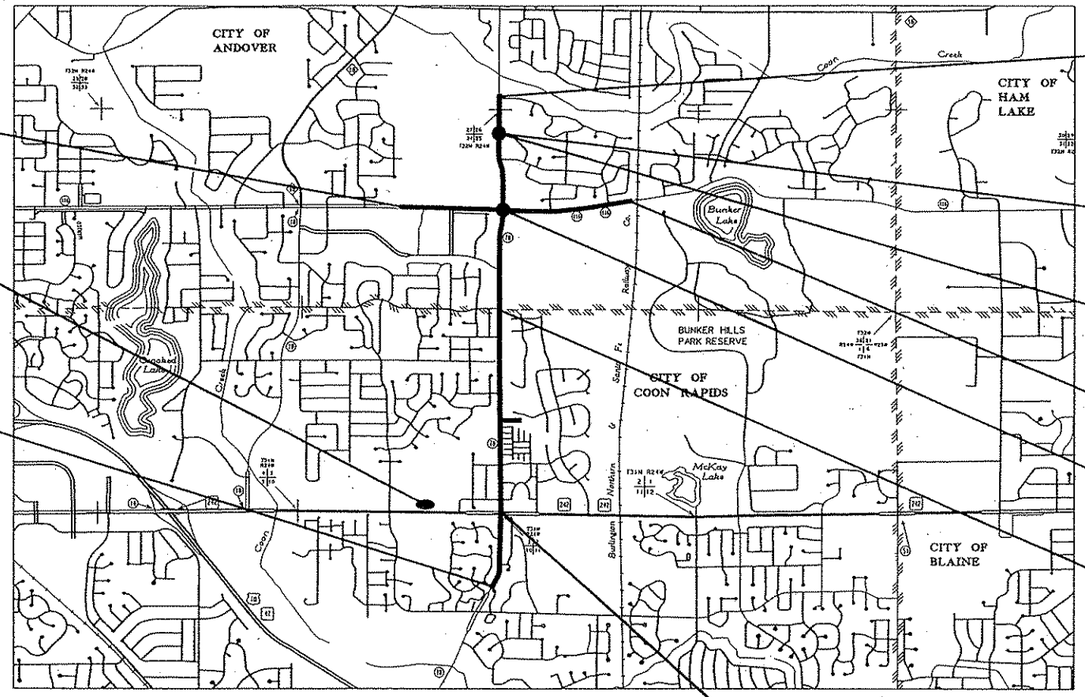
GROSS LENGTH	983.99	FEET	0.186	MILES	
BRIDGES-LENGTH	0.0	FEET	0.0	MILES	
EXCEPTIONS-LENGTH	0.0	FEET	0.0	MILES	
NET LENGTH	983.99	FEET	0.186	MILES	
REF. POINT		TO REF. POINT			

LENGTH AND DESCRIPTION BASED UPON (N.B. C.S.A.H. 78)

BEGIN S.P. 02-716-10
S.P. 198-020-25
E.B. STA. 10+13.37

S.P. 02-678-16
T.H. 242 POND

BEGIN S.P. 02-678-16
S.P. 114-020-29
N.B. STA. 54+75.00



END S.A.P. 198-020-27
N.B. STA. 181+22.76

S.A.P. 198-020-27
SIGNAL SYSTEM

END S.P. 02-678-16
BEGIN S.A.P. 198-020-27
N.B. STA. 171+38.77

END S.P. 02-716-10
S.P. 198-020-25
E.B STA. 47+40.93

S.P. 02-678-16
S.P. 02-716-10
SIGNAL SYSTEM

END S.P. 114-020-29
BEGIN S.P. 198-020-25
N.B. STA. 125+63.70

S.P. 02-678-16
S.P. 0212-48
S.P. 114-020-29
SIGNAL SYSTEM

STATION EQUATION

S.B. C.S.A.H. 78 STA. 138+02.24 BACK= STA. 138+02.11 AHEAD

DESIGN DESIGNATION FOR:

	C.S.A.H. 78	C.S.A.H. 116	T.H. 242	TRAILS
R-VALUE	62	62	62	N/A
ADT (Current Year) 2006 =	17,370	12,170	21,954	N/A
ADT (Future Year) 2026 =	26,230 (2026)	18,030 (2026)	26,492 (2026)	N/A
PAVEMENT DESIGN	10 TON	10 TON	10 TON	N/A
FUNCTIONAL CLASSIFICATION	"A" MINOR ARTERIAL	"A" MINOR ARTERIAL	"A" MINOR ARTERIAL	N/A
NO. OF TRAFFIC LANES	4	4	2	N/A
NO. OF PARKING LANES	0	0	0	N/A
ESALS (20)	2,350,000	1,610,000	2,580,000	N/A
Design Speed (Sta 54+75.00-Sta 89+00.00)	45 MPH	55 MPH	55 MPH	20 MPH
(Sta 89+00.00-Sta 181+22.76)	55 MPH			
Based on Sight Distance	STOPPING	STOPPING	STOPPING	STOPPING
Height of eye / Height of Object	3.5' / 2.0'	3.5' / 2.0'	3.5' / 2.0'	4.5' / 0.0'
Design Speed not achieved at:	N/A	N/A	N/A	N/A

SCALES

INDEX MAP	1000'	
GENERAL LAYOUT	500'	
PLAN	50'	
PROFILE	50' HORIZ.	5' VERT.
X-SECTION	10' HORIZ.	10' VERT.

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

PROJECT LOCATION
COUNTY : ANOKA
DISTRICT : METRO

DESIGN EXCEPTION AT:

N.B. C.S.A.H. 78 STA. 95+00.00 PEDESTRIAN CROSSING DESIGN EXCEPTION FROM BIKEWAY STANDARDS FOR HORIZONTAL AND VERTICAL CLEARANCE (LOCAL FUNDING).

AGREMENT NO. 89684
ANOKA COUNTY
S.P. 0212-48 (TH242=242)
STATE FUNDS
METRO DISTRICT

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO.	CHARGE IDENTIFIER

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

SIGNATURE _____
DATE _____ LIC. NO. _____ PRINT NAME _____

THIS PLAN AND/OR SPECIFICATION WAS PREPARED SPECIFICALLY FOR THIS PROJECT, AND ANY RE-USE OF DETAILS OR SPECIFICATIONS ON OTHER PROJECTS IS NOT INTENDED OR AUTHORIZED BY THE DESIGNER. LIABILITY FOR ANY RE-USE ON OTHER PROJECTS IS THE RESPONSIBILITY OF THE PERSON, AGENCY, OR CORPORATION USING PLAN OR SPECIFICATION DATA FROM THIS PROJECT.

12:07:23 PM
10/10/2006
n:\projects\5404\...\plan\5404.cov

FED. PROJ. NO. STPX 0206-(133), STATE FUNDS

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

INDEX

THIS PLAN CONTAINS 400 SHEETS

SRF CONSULTING GROUP, INC.

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

SIGNATURE _____
DATE 10/10/06 LIC. NO. 41635 PRINT NAME CHRIS M. TRBOYEVICH

APPROVED _____ ANOKA COUNTY ENGINEER 10/25 20 06
APPROVED _____ CITY ENGINEER, CITY OF ANDOVER 10/31 20 06
APPROVED _____ CITY ENGINEER, CITY OF COON RAPIDS 11/1 20 06
RECOMMENDED FOR APPROVAL _____ METRO DISTRICT TRANSPORTATION ENGINEER 12-20 20 06
RECOMMENDED FOR APPROVAL _____ METRO DISTRICT MATERIALS ENGINEER 1/2 20 07
RECOMMENDED FOR APPROVAL _____ METRO DISTRICT WATER RESOURCES ENGINEER 12/14 20 06
RECOMMENDED FOR APPROVAL _____ METRO DISTRICT TRAFFIC ENGINEER 12/28 20 06
RECOMMENDED FOR APPROVAL _____ STATE PRELETTING ENGINEER 1/19 20 07
OFFICE OF LAND MANAGEMENT APPROVAL _____ DIRECTOR, LAND MANAGEMENT 3/9 20 07
APPROVED _____ STATE DESIGN ENGINEER Mar 12 20 07
DISTRICT STATE AID ENGINEER REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY _____ 1-10 20 07
APPROVED FOR STATE AND/OR FEDERAL AID FUNDING: STATE AID ENGINEER _____ 1-10 20 07

S.P. 198-020-25, S.A.P.198-020-27, S.P. 114-020-29, S.P. 02-678-16
S.P.02-716-10, S.P.0212-48 (TH242=242) SHEET NO. 1 OF 400 SHEETS

BEGIN CONSTRUCTION
S.P. 02-678-16
S.P. 114-020-29
N.B. STA. 54+75.00

BEGIN CONSTRUCTION
S.P. 02-716-10
S.P. 198-020-25
E.B. STA. 10+13.37

EQUATION
S.B. C.S.A.H. 78 138+02.24 BACK=
S.B. C.S.A.H. 138+02.11 AHEAD

END CONSTRUCTION
S.A.P. 198-020-27
N.B. STA. 181+22.76

121ST AVE. N.W.
124TH AVE. N.W.
IBIS ST.
HUMMINGBIRD ST.
122ND CIR.
127TH AVE.
128TH LANE
129TH LANE
131ST AVE. N.W.
GROUSE ST NW
132ND AVE. N.W.
133RD AVE. N.W.
JAY ST. N.W.
STATION PARKWAY
C.S.A.H. 116
137TH LANE N.W.
138TH LANE N.W.
139TH LANE N.W.
140TH LANE N.W.
WINTERGREEN ST.
T.H. 242

END CONSTRUCTION
S.P. 114-020-29
BEGIN CONSTRUCTION
S.P. 198-020-25
N.B. STA. 125+63.70

END CONSTRUCTION
S.P. 02-716-10
S.P. 198-020-25
E.B. STA. 47+40.93

END CONSTRUCTION
S.P. 02-678-16
S.P. 198-020-25
BEGIN CONSTRUCTION
S.A.P. 198-020-27
N.B. STA. 171+38.77

SIGNAL SYSTEM
S.P. 0212-48

LEGEND

- XXX — TOPOGRAPHY AND UTILITY PLAN SHEET NO.
- XXX — REMOVAL PLAN SHEET NO.
- XXX — CONSTRUCTION PLAN SHEET NO.

500 0 500
scale feet

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.GLA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
GENERAL LAYOUT
C.S.A.H. 78

SHEET 2 OF 400

12:07:26 PM
10/10/2006
h:\projects\5404\hl-mu\plan\5404.GLA

1 2 3 4 5 6 7 8 9 10 11

STATEMENT OF ESTIMATED QUANTITIES

TAB/ NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES EST	TOTAL PROJECT QUANTITIES FINAL	S.P. 02-678-16 C.S.A.H. 78 / C.S.A.H. 116 RECONSTRUCTION										
						PARTICIPATING-FEDERAL FUNDS						NON-PARTICIPATING-STATE AID FUNDS		NON-PARTICIPATING-LOCAL FUNDS		
						S.P. 02-678-16 ANOKA COUNTY (CSAH 78) QUANTITIES ESTIMATED	S.P. 198-020-25 ANDOVER (CSAH 78) QUANTITIES ESTIMATED	S.P. 114-020-29 COON RAPIDS (CSAH 78) QUANTITIES ESTIMATED	S.P. 02-716-10 ANOKA COUNTY (CSAH 116) QUANTITIES ESTIMATED	S.P. 198-020-25 ANDOVER (CSAH 116) QUANTITIES ESTIMATED	STORM SEWER (15) QUANTITIES ESTIMATED	S.A.P. 198-020-27 (139TH LANE) ROADWAY QUANTITIES ESTIMATED	S.P. 198-020-25 (SPUR ACCESS) ROADWAY QUANTITIES ESTIMATED	ANOKA COUNTY (LOCAL) ROADWAY QUANTITIES ESTIMATED	ANDOVER (LOCAL) ROADWAY QUANTITIES ESTIMATED	COON RAPIDS (LOCAL) ROADWAY QUANTITIES ESTIMATED
(1)	2021.501	MOBILIZATION	LUMP SUM	1		0.54	0.02	0.05	0.14	0.03	0.14	0.05		0.01	0.01	0.01
(1)	2031.501	FIELD OFFICE, TYPE D	EACH	1										1		
	2041.610	TRAINEES	HOUR	2300		2300										
R/(2)	2101.501	CLEARING	ACRE	5.57		4.93			0.64							
R/(2)	2101.502	CLEARING	TREE	253		122			131							
R/(2)	2101.506	GRUBBING	ACRE	5.57		4.93			0.64							
R/(2)	2101.507	GRUBBING	TREE	253		122			131							
W	2102.501	PAVEMENT MARKING REMOVAL	SQ FT	36185		18845			11940			5400				
S/(2)	2104.501	REMOVE CURB AND GUTTER	LIN FT	13145		8176			4705			264				
T/(2)	2104.501	REMOVE PIPE CULVERTS	LIN FT	1071		951			120							
	2104.501	REMOVE WATER MAIN	LIN FT	35												35
T/(2)	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	2201		1138			1063							
Z	2104.501	REMOVE FENCE	LIN FT	162		76			86							
S/(2),(3),(10)	2104.505	REMOVE BITUMINOUS SURFACING	SQ YD	105543		77005			23662			4425	451			
S/(2),(3)	2104.505	REMOVE CONCRETE SURFACING	SQ YD	5359		4016			1253			90				
(16)	2104.509	REMOVE SIGNAL SYSTEM "A"	EACH	1		1										
(16)	2104.509	REMOVE SIGNAL SYSTEM "B"	EACH	1		1										
(2)	2104.509	REMOVE BITUMINOUS FLUME	EACH	10		9			1							
T/(2)	2104.509	REMOVE MANHOLE OR CATCH BASIN	EACH	30		15			15							
	2104.509	REMOVE GATE VALVE	EACH	1												1
T/(2)	2104.509	REMOVE PIPE APRON	EACH	34		27			7							
S/(2),(6)	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	658		178			480							
S/(2),(6)	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	2892		1937			377			512	66			
U	2104.523	SALVAGE CASTINGS	EACH	10			3	7								
V	2104.523	SALVAGE GATE VALVE & BOX	EACH	4			2	1		1						
V	2104.523	SALVAGE HYDRANT	EACH	4			2	1		1						
GG,JJ/(12)	2104.523	SALVAGE SIGN TYPE C	EACH	164		126			38							
	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1										1		
(2)	2104.601	SALVAGE STONE PAVERS	LUMP SUM	1		1										
(12)	2104.602	SALVAGE SIGN SPECIAL	EACH	7		6			1							
A-P/(3)	2105.501	COMMON EXCAVATION (P)	CU YD	131677		118200			9807			3210	460			
A-P	2105.505	MUCK EXCAVATION	CU YD	12075		8624		3451								
A-P	2105.507	SUBGRADE EXCAVATION (P)	CU YD	35672		25616			8043			2013				
A-P	2105.522	SELECT GRANULAR BORROW (LV)	CU YD	19851		17777										2074
(9)	2105.604	GEOTEXTILE FABRIC TYPE V	SQ YD	425												425
A/(3)	2105.607	EXCAVATION SPECIAL	CU YD	25500							25500					
	2123.610	1.5 CU YD BACKHOE	HOUR	125		100			25							
	2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	100		75			25							
(4)	2130.501	WATER	MGAL	250		150			100							
X/(3)	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	35497		28483			5557			1275	182			
S/(7)	2232.501	MILL BITUMINOUS SURFACE (1.5")	SQ YD	465		465										
X/(3)	2350.503	TYPE LV4 BITUMINOUS MIXTURE FOR DRIVEWAYS, 6 INCH	SQ YD	297		271			26							
X/(3)	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	20371		15291			3969			986	125			
X/(3)	2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,E)	TON	32879		24681			6406			1590	202			
X/(3)	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (4,B)	TON	24298		18212			4791			1194	101			
(8)	2411.618	MODULAR BLOCK RETAINING WALL	SQ FT	2510				2510								
(9)	2412.511	10 X 8 PRECAST CONCRETE BOX CULVERT	LIN FT	138												138
(9)	2412.512	10 X 8 PRECAST CONCRETE BOX CULVERT END SECTION	EACH	1												1
B/(9)	2451.501	STRUCTURE EXCAVATION CLASS U (P)	CU YD	2855		781										2074

SEE SHEET 6 FOR NOTES.

NO	DATE	BY	CKD	APPR	REVISION
1	12-20-06	CMT	CMT	CMT	PAVEMENT DESIGN UPDATE PER MN/DOT COMMENTS
2	2-17-07	GMP	CMT	CMT	REVISED EARTHWORK QUANTITIES

...\5404\hi-mu\plan\5404.EQA

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.
Print Name: CHRIS M. TRBOYEVICH
Date 2/23/2007 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STATEMENT OF ESTIMATED QUANTITIES
C.S.A.H. 78

SHEET 3 OF 400

9:47:02 AM
2/23/2007
h:\projects\5404\hi-mu\plan\5404.EQA

STATEMENT OF ESTIMATED QUANTITIES

TAB/ NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES		S.P. 02-678-16 C.S.A.H. 78 / C.S.A.H. 116 RECONSTRUCTION										
						PARTICIPATING-FEDERAL FUNDS						NON-PARTICIPATING-STATE AID FUNDS		NON-PARTICIPATING-LOCAL FUNDS		
				EST	FINAL	S.P. 02-678-16 ANOKA COUNTY (CSAH 78) QUANTITIES ESTIMATED	S.P. 198-020-25 ANDOVER (CSAH 78) QUANTITIES ESTIMATED	S.P. 114-020-29 COON RAPIDS (CSAH 78) QUANTITIES ESTIMATED	S.P. 02-716-10 ANOKA COUNTY (CSAH 116) QUANTITIES ESTIMATED	S.P. 198-020-25 ANDOVER (CSAH 116) QUANTITIES ESTIMATED	STORM SEWER (15) QUANTITIES ESTIMATED	S.A.P. 198-020-27 (139TH LANE) ROADWAY QUANTITIES ESTIMATED	S.P. 198-020-25 (SPUR ACCESS) ROADWAY QUANTITIES ESTIMATED	ANOKA COUNTY (LOCAL) ROADWAY QUANTITIES ESTIMATED	ANDOVER (LOCAL) ROADWAY QUANTITIES ESTIMATED	COON RAPIDS (LOCAL) ROADWAY QUANTITIES ESTIMATED
(9)	2451.511	COARSE FILTER AGGREGATE (CV)	CU YD	122												122
CC	2501.515	12" RC PIPE APRON	EACH	11							11					
CC	2501.515	15" RC PIPE APRON	EACH	7							7					
CC	2501.515	18" RC PIPE APRON	EACH	4							4					
CC	2501.515	24" RC PIPE APRON	EACH	6							6					
CC	2501.515	27" RC PIPE APRON	EACH	1							1					
CC	2501.515	30" RC PIPE APRON	EACH	1							1					
CC	2501.515	36" RC PIPE APRON	EACH	2							2					
CC	2501.515	42" RC PIPE APRON	EACH	1							1					
CC	2501.515	48" RC PIPE APRON	EACH	1							1					
CC	2501.602	TRASH GUARD FOR 12" PIPE APRON	EACH	11							11					
CC	2501.602	TRASH GUARD FOR 15" PIPE APRON	EACH	7							7					
CC	2501.602	TRASH GUARD FOR 18" PIPE APRON	EACH	4							4					
CC	2501.602	TRASH GUARD FOR 24" PIPE APRON	EACH	5							5					
CC	2501.602	TRASH GUARD FOR 27" PIPE APRON	EACH	1							1					
CC	2501.602	TRASH GUARD FOR 30" PIPE APRON	EACH	1							1					
CC	2501.602	TRASH GUARD FOR 36" PIPE APRON	EACH	1							1					
CC	2501.602	TRASH GUARD FOR 42" PIPE APRON	EACH	1							1					
CC	2501.602	TRASH GUARD FOR 48" PIPE APRON	EACH	1							1					
(9)	2502.541	4" PERF PE PIPE DRAIN	LIN FT	375												375
CC	2503.541	12" RC PIPE SEWER DES 3006	LIN FT	5301							5301					
CC	2503.541	15" RC PIPE SEWER DES 3006	LIN FT	4717							4717					
CC	2503.541	15" RC PIPE SEWER DES 3006 CL III	LIN FT	287							287					
CC	2503.541	18" RC PIPE SEWER DES 3006	LIN FT	2302							2302					
CC	2503.541	21" RC PIPE SEWER DES 3006	LIN FT	1553							1553					
CC	2503.541	21" RC PIPE SEWER DES 3006 CL III	LIN FT	68							68					
CC	2503.541	24" RC PIPE SEWER DES 3006	LIN FT	389							389					
CC	2503.541	24" RC PIPE SEWER DES 3006 CL III	LIN FT	521							521					
CC	2503.541	24" RC PIPE SEWER DES 3006 CL V	LIN FT	121							121					
CC	2503.541	27" RC PIPE SEWER DES 3006	LIN FT	622							622					
CC	2503.541	27" RC PIPE SEWER DES 3006 CL V	LIN FT	1122							1122					
CC	2503.541	30" RC PIPE SEWER DES 3006	LIN FT	818							818					
CC	2503.541	30" RC PIPE SEWER DES 3006 CL III	LIN FT	602							602					
CC	2503.541	33" RC PIPE SEWER DES 3006	LIN FT	224							224					
CC	2503.541	36" RC PIPE SEWER DES 3006	LIN FT	199							199					
CC	2503.541	36" RC PIPE SEWER DES 3006 CL IV	LIN FT	304							304					
CC	2503.541	42" RC PIPE SEWER DES 3006	LIN FT	114							114					
CC	2503.541	42" RC PIPE SEWER DES 3006 CL III	LIN FT	262							262					
CC	2503.541	48" RC PIPE SEWER DES 3006 CL IV	LIN FT	538							538					
CC	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	7							7					
CC	2503.602	CONNECT TO EXISTING MANHOLES (SAN)	EACH	2												2
U	2503.603	6" PVC PIPE SEWER	LIN FT	60												60
U	2503.603	10" DUCTILE IRON PIPE SEWER CL 52	LIN FT	167											167	
V/(7)	2504.602	ADJUST HYDRANT	EACH	7			1	1		4		1				
V/(7)	2504.602	ADJUST VALVE BOX	EACH	25			9	6		9		1				
V/(7)	2504.602	CONNECT TO EXISTING WATERMAIN	EACH	7			3	3				1				
V/(7)	2504.602	HYDRANT	EACH	1			1									
V/(7)	2504.602	INSTALL GATE VALVE & BOX	EACH	4			2	1		1						
V/(7)	2504.602	INSTALL HYDRANT	EACH	4			2	1		1						
V/(7)	2504.602	6" GATE VALVE AND BOX	EACH	1											1	
V/(7)	2504.602	8" GATE VALVE AND BOX	EACH	2											1	1
V/(7)	2504.602	12" BUTTERFLY VALVE AND BOX	EACH	1											1	
V/(7)	2504.602	6" MEGALUG	EACH	22											16	6
V/(7)	2504.602	8" MEGALUG	EACH	15											8	7
V/(7)	2504.602	10" MEGALUG	EACH	3											3	
V/(7)	2504.602	12" MEGALUG	EACH	3											3	
V/(7)	2504.602	6" X 6" WET TAP	EACH	1												1
V/(7)	2504.602	18" X 8" WET TAP	EACH	1												1
V/(7)	2504.603	6" WATERMAIN DUCTILE IRON CL 52	LIN FT	143											52	91
V/(7)	2504.603	8" WATERMAIN DUCTILE IRON CL 52	LIN FT	319											35	284

SEE SHEET 6 FOR NOTES.

NO	DATE	BY	CKD	APPR	REVISION
1	2-17-07	CMT	CMT	CMT	REVISED QUANTITIES PER ANOKA COUNTY COMMENTS

...\5404\HI-MU\Plan\5404.EQB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/23/2007 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STATEMENT OF ESTIMATED QUANTITIES
C.S.A.H. 78

SHEET 4 OF 400

9:54:18 AM
2/23/2007
H:\Projects\5404\HI-MU\Plan\5404.EQB

STATEMENT OF ESTIMATED QUANTITIES

TAB/ NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES		S.P. 02-678-16 C.S.A.H. 78 / C.S.A.H. 116 RECONSTRUCTION										
						PARTICIPATING-FEDERAL FUNDS						NON-PARTICIPATING-STATE AID FUNDS		NON-PARTICIPATING-LOCAL FUNDS		
				EST	FINAL	S.P. 02-678-16 ANOKA COUNTY (CSAH 78) QUANTITIES ESTIMATED	S.P. 198-020-25 ANDOVER (CSAH 78) QUANTITIES ESTIMATED	S.P. 114-020-29 COON RAPIDS (CSAH 78) QUANTITIES ESTIMATED	S.P. 02-716-10 ANOKA COUNTY (CSAH 116) QUANTITIES ESTIMATED	S.P. 198-020-25 ANDOVER (CSAH 116) QUANTITIES ESTIMATED	STORM SEWER (15) QUANTITIES ESTIMATED	S.A.P. 198-020-27 (139TH LANE) ROADWAY QUANTITIES ESTIMATED	S.P. 198-020-25 (SPUR ACCESS) ROADWAY QUANTITIES ESTIMATED	ANOKA COUNTY (LOCAL) ROADWAY QUANTITIES ESTIMATED	ANDOVER (LOCAL) ROADWAY QUANTITIES ESTIMATED	COON RAPIDS (LOCAL) ROADWAY QUANTITIES ESTIMATED
V/(7)	2504.603	10" WATERMAIN DUCTILE IRON CL 50	LIN FT	187											187	
V/(7)	2504.603	12" WATERMAIN DUCTILE IRON CL 50	LIN FT	160											160	
V/(7)	2504.603	18" STEEL CASING PIPE	LIN FT	95												95
U,V/(7)	2504.603	20" STEEL CASING PIPE	LIN FT	142												142
U/(7)	2504.603	22" STEEL CASING PIPE	LIN FT	109											104	5
U,V/(7)	2504.603	24" STEEL CASING PIPE	LIN FT	320											273	47
V/(7)	2504.603	30" STEEL CASING PIPE	LIN FT	36												36
V/(7)	2504.604	2" POLYSTYRENE INSULATION	SQ YD	662				638								24
V/(7)	2504.608	WATERMAIN FITTINGS	LB	812											182	630
CC	2506.501	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	235.1							235.1					
CC	2506.501	CONST DRAINAGE STRUCTURE DES 54-4020	LIN FT	96.9							96.9					
CC	2506.501	CONST DRAINAGE STRUCTURE DES 60-4020	LIN FT	70.6							70.6					
CC	2506.501	CONST DRAINAGE STRUCTURE DES 66-4020	LIN FT	77.9							77.9					
CC	2506.501	CONST DRAINAGE STRUCTURE DES 72-4020	LIN FT	5							5					
CC	2506.501	CONST DRAINAGE STRUCTURE DES 78-4020	LIN FT	8.2							8.2					
CC	2506.501	CONST DRAINAGE STRUCTURE DES 90-4020	LIN FT	18.3							18.3					
CC	2506.501	CONST DRAINAGE STRUCTURE DES 120-4020	LIN FT	23.1							23.1					
CC	2506.501	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	403							403					
CC	2506.501	CONST DRAINAGE STRUCTURE DESIGN H	LIN FT	169.4							169.4					
CC	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPECIAL 1	EACH	1							1					
DD	2506.516	CASTING ASSEMBLY	EACH	244							244					
U	2506.522	ADJUST FRAME & RING CASTING	EACH	3				2				1				
CC	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	2							2					
U	2506.603	RECONSTRUCT SANITARY MANHOLES	LIN FT	66.6				50.2		16.4						
CC/(14)	2511.501	RANDOM RIPRAP CLASS III	CU YD	131.2							131.2					
Y/(7)	2521.501	4" CONCRETE WALK	SQ FT	200573		156477		14521	25400			4175				
Y/(7)	2521.501	6" CONCRETE WALK	SQ FT	725		573			104			48				
Y/(7)	2521.501	8" CONCRETE WALK	SQ FT	532								532				
Y/(7)	2521.511	2.5" BITUMINOUS WALK	SQ FT	177088			73477	56470		35546		11595				
Y/(7)	2531.501	CONCRETE CURB & GUTTER DESIGN B418	LIN FT	25787		20813			4942			32				
Y/(7)	2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	29965		6864	4515	6864	8000	3147		565	10			
Y/(7)	2531.501	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	423		212	211									
Y/(7)	2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	3844		2312	14	182				842	494			
Y/(7)	2531.501	CONCRETE CURB & GUTTER DESIGN D418	LIN FT	12		6		6								
Y/(7)	2531.501	CONCRETE CURB & GUTTER DESIGN S512	LIN FT	615		308	176	131								
Y/(7),(8)	2531.602	PEDESTRIAN CURB RAMP	EACH	56			17	24		8		7				
Y/(7)	2531.618	TRUNCATED DOMES	SQ FT	392			128	192		16		56				
Y/(7)	2540.601	INSTALL STONE PAVERS	LUMP SUM	1		1										
KK/(2),(7)	2540.602	RELOCATE MAIL BOX SUPPORT	EACH	13		12			1							
(13)	2545.514	UNDERPASS LIGHTING FIXTURE TYPE L	EACH	3												3
(13)	2545.521	1" RIGID STEEL CONDUIT	LIN FT	194												194
(13)	2545.521	2" RIGID STEEL CONDUIT	LIN FT	22												22
(13)	2545.531	UNDERGROUND WIRE 1 COND NO 2	LIN FT	67												67
(13)	2545.531	UNDERGROUND WIRE 1 COND NO 8	LIN FT	724												724
(13)	2545.541	SERVICE CABINET SECONDARY TYPE L1	EACH	1												1
(13)	2545.545	EQUIPMENT PAD B	EACH	1												1
CC	2554.509	GUIDE POST TYPE B	EACH	32							32					
Z/(9)	2557.501	WIRE FENCE DESIGN SPECIAL VINYL COATED	LIN FT	625				550								75
BB/(1)	2563.601	DETOUR SIGNING	LUMP SUM	1		0.54	0.02	0.05	0.14	0.03	0.14	0.05		0.01	0.01	0.01
BB/(1)	2563.601	TRAFFIC CONTROL STAGE 1A,1,2,3	LUMP SUM	1		0.54	0.02	0.05	0.14	0.03	0.14	0.05		0.01	0.01	0.01
W	2563.602	RAISED PAVEMENT MARKER TEMPORARY	EACH	1080		663			417							
	2563.610	POLICE OFFICER	HOUR	100		54	2	5	14	3	14	5		1	1	1
HH/(11)	2564.531	SIGN PANELS TYPE C	SQ FT	1155.5		821.4			298.4			35.7				
JJ/(11)	2564.537	INSTALL SIGN TYPE C	EACH	12		11			1							
(11)	2564.537	INSTALL SIGN TYPE SPECIAL	EACH	7		6			1							
FF	2564.552	HAZARD MARKER X4-2	EACH	22		17			5							

SEE SHEET 6 FOR NOTES.

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	REVISED SIGNING, STRIPING, AND STAGING QUANTITIES PER ANOKA COUNTY COMMENTS.

...\5404\hl-mu\plan\5404.EQC

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.

Print Name: CHRIS M. TRBOYEVICH

Chris M. Trboyevich

Date 2/23/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STATEMENT OF ESTIMATED QUANTITIES

C.S.A.H. 78

SHEET 5 OF 400

9:47:03 AM
2/23/2007
h:\projects\5404\hl-mu\plan\5404.EQC

STATEMENT OF ESTIMATED QUANTITIES

TAB/ NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES		S.P. 02-678-16 C.S.A.H. 78 / C.S.A.H. 116 RECONSTRUCTION										
						PARTICIPATING-FEDERAL FUNDS						NON-PARTICIPATING-STATE AID FUNDS		NON-PARTICIPATING-LOCAL FUNDS		
				EST	FINAL	S.P. 02-678-16 ANOKA COUNTY (CSAH 78) QUANTITIES ESTIMATED	S.P. 198-020-25 ANDOVER (CSAH 78) QUANTITIES ESTIMATED	S.P. 114-020-29 COON RAPIDS (CSAH 78) QUANTITIES ESTIMATED	S.P. 02-716-10 ANOKA COUNTY (CSAH 116) QUANTITIES ESTIMATED	S.P. 198-020-25 ANDOVER (CSAH 116) QUANTITIES ESTIMATED	STORM SEWER (15) QUANTITIES ESTIMATED	S.A.P. 198-020-27 (139TH LANE) ROADWAY QUANTITIES ESTIMATED	S.P. 198-020-25 (SPUR ACCESS) ROADWAY QUANTITIES ESTIMATED	ANOKA COUNTY (LOCAL) ROADWAY QUANTITIES ESTIMATED	ANDOVER (LOCAL) ROADWAY QUANTITIES ESTIMATED	COON RAPIDS (LOCAL) ROADWAY QUANTITIES ESTIMATED
(16),(17)	2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM "A"	SIG SYS	1		0.5		0.5								
(16)	2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM "B"	SIG SYS	1		0.25			0.25	0.5						
(16)	2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM "C"	SIG SYS	1								1				
(16),(17)	2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM "A"	LUMP SUM	1				1								
(16)	2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM "B"	LUMP SUM	1		0.25			0.25	0.5						
(16)	2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM "C"	LUMP SUM	1								1				
(16)	2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	1		1										
(16)	2565.602	PVC HANDHOLE (METAL FRAME AND COVER)	EACH	12		6	3	3								
(16)	2565.602	NMC LOOP DETECTOR 6' X 6'	EACH	8		8										
(16)	2565.602	NMC LOOP DETECTOR 2-6' X 6'	EACH	2		2										
(16)	2565.603	2 INCH RIGID STEEL CONDUIT	LIN FT	375		187	94	94								
(16)	2565.603	4 INCH RIGID STEEL CONDUIT	LIN FT	450		226	112	112								
(16)	2565.616	TEMPORARY SIGNAL SYSTEM "A"	SYSTEM	1		0.5		0.5								
(16)	2565.616	TEMPORARY SIGNAL SYSTEM "B"	SYSTEM	1					0.5	0.5						
AA/(6),(14)	2573.502	SILT FENCE, TYPE MACHINE SLICED	LIN FT	19009		14918			2861			1230				
AA/(6)	2573.530	STORM DRAIN INLET PROTECTION	EACH	107		79			28							
(1),(6),(14)	2573.550	EROSION CONTROL SUPERVISOR	LUMP SUM	1		0.54	0.02	0.05	0.14	0.03	0.14	0.05		0.01	0.01	0.01
AA/(14)	2573.603	BIOROLL	LIN FT	372		372										
AA/(14)	2575.501	SEEDING	ACRE	19.4		15.1			3.4			0.8	0.1			
AA/(14)	2575.502	SEED MIXTURE 250	POUND	964		838			63			56	7			
AA/(14)	2575.502	SEED MIXTURE 310	POUND	129		63			66							
AA/(14)	2575.502	SEED MIXTURE 350	POUND	381		153			228							
AA/(14)	2575.502	SEED MIXTURE SPECIAL	POUND	5		5										
CC/(14)	2575.505	SODDING TYPE EROSION	SQ YD	153							153					
AA/(14)	2575.505	SODDING TYPE SALT RESISTANT	SQ YD	42360		33384			7403			900	673			
AA/(14)	2575.511	MULCH MATERIAL TYPE 3	TON	37.8		29.2			6.8			1.6	0.2			
AA/(14)	2575.519	DISK ANCHORING	ACRE	19.4		15.1			3.4			0.8	0.1			
AA/(14)	2575.523	EROSION CONTROL BLANKET CATEGORY 3	SQ YD	17658		17428			230							
AA/(14)	2575.532	COMMERCIAL FERTILIZER ANALYSIS 18-1-8	POUND	650		308			302				40			
AA/(14)	2575.532	COMMERCIAL FERTILIZER ANALYSIS 22-5-10	POUND	5463		4780			356			320	7			
AA/(6)	2575.571	RAPID STABILIZATION METHOD 3	M GAL	386		302			84							
W/6	2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LIN FT	17610		7620			5556			4434				
FF/(11)	2581.602	PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	EACH	27		18			8			1				
FF/(11)	2581.602	PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	EACH	18		12			4			2				
FF/(11)	2582.502	4" BROKEN LINE WHITE - EPOXY	LIN FT	5622		4590			1002			30				
FF/(11)	2582.502	4" DOUBLE SOLID LINE YELLOW - EPOXY	LIN FT	3254		1217			868			1169				
W/(6)	2582.502	4" DOUBLE SOLID LINE YELLOW - PAINT	LIN FT	14643		9672			4971							
FF/(11)	2582.502	4" SOLID LINE WHITE - EPOXY	LIN FT	42574		30615			9853			2106				
W/(6)	2582.502	4" SOLID LINE WHITE - PAINT	LIN FT	34684		22997			11687							
FF/(11)	2582.502	4" SOLID LINE YELLOW - EPOXY	LIN FT	26511		21363			5124			24				
W/(6)	2582.502	4" SOLID LINE YELLOW - PAINT	LIN FT	9779		4978			4801							
FF/(11)	2582.502	24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	LIN FT	505		245			125			135				
FF/(11)	2582.502	24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC	LIN FT	727		582			105			40				
FF/(11)	2582.503	ZEBRA CROSSWALK - WHITE PREFORMED THERMOPLASTIC	SQ FT	3420		2322			306			792				

NOTES:

(1) PRORATA ITEMS
(2) SEE REMOVAL PLAN AND CONSTRUCTION / SOILS NOTES.
(3) SEE CONSTRUCTION / SOILS NOTES.
(4) WATER TO BE USED ONLY FOR DUST CONTROL AS DIRECTED BY THE ENGINEER IN THE FIELD. ALL WATER USED FOR COMPACTION AND TURF ESTABLISHMENT SHALL BE INCIDENTAL.
(5) THE REQUIRED FILTER AGGREGATE (3149.2J) AND GEOTEXTILE WRAP 3733, TYPE 1, SHALL BE INCIDENTAL.
(6) SEE STAGING PLANS.
(7) SEE CONSTRUCTION PLAN FOR LOCATION.
(8) SEE MISCELLANEOUS DETAILS AND CONSTRUCTION PLAN FOR LOCATIONS.
(9) SEE BOX CULVERT PLANS AND DETAILS
(10) INCLUDES REMOVAL OF TEMPORARY PAVEMENT.
(11) SEE SIGNING AND STRIPING PLAN.
(12) SEE EXISTING SIGNING AND STRIPING PLAN.
(13) SEE BOX CULVERT LIGHTING PLAN SHEETS.
(14) SEE EROSION CONTROL / TURF ESTABLISMENT PLANS
(15) STORM SEWER COST SPLITS: ANOKA CO - 85.2%, COON RAPIDS - 11.9%, ANDOVER - 2.9%
(16) SEE SIGNAL PLANS AND SPECIFICATIONS.
(17) PAID UNDE S.P. 0212-48 AS A LUMP SUM AS PER COOPERATIVE AGREEMENT NUMBER 89684. THE REMAINING BALANCE WILL BE PAID BY S.P. 02-678-16

(P) INDICATES PLAN QUANTITY

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	REVISED SIGNING, STRIPING, AND STAGING QUANTITIES PER ANOKA COUNTY COMMENTS.

...\5404\hl-mu\plan\5404.EQD

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.
Print Name: CHRIS M. TRBOYEVICH
Date 2/23/2007 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STATEMENT OF ESTIMATED QUANTITIES
C.S.A.H. 78

SHEET 6 OF 400

9:47:04 AM
2/23/2007
hr\projects\5404\hl-mu\plan\5404.EQD

CONSTRUCTION / SOILS NOTES

GRADING, BASE AND SURFACE

1 TOP OF THE GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.

2 SUITABLE GRADING MATERIAL ON THIS PROJECT, WHETHER OBTAINED LOCALLY OR FROM BORROW, SHALL CONSIST OF ALL SOILS EXCEPT TOPSOIL, DEBRIS, PEAT, MUCK AND ORGANIC OR OTHER UNSTABLE MATERIAL.

3 UNSUITABLE MATERIALS ARE TOPSOILS, PAVEMENT OR CONCRETE DEBRIS, PEAT, MUCK AND ORGANIC OR OTHER UNSTABLE SOILS.

4 GRANULAR MATERIAL IS DEFINED AS MATERIAL MEETING THE REQUIREMENTS OF SPEC. 3149.2B1.
SELECT GRANULAR MATERIAL IS DEFINED AS MATERIAL MEETING THE REQUIREMENTS OF SPEC. 3149.2B2.

5 STRIP SOD AND TOPSOIL FROM AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 6 INCHES.

6 ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE COMMON EXCAVATION.

7 IN ALL AREAS OF NEW MAINLINE ROADWAY RECONSTRUCTION (PERMANENT AND TEMPORARY), PROVIDE FOR A MINIMUM 12 INCH COMPACTION SUBCUT UNLESS OTHERWISE NOTED. BACKFILL WITH SUITABLE GRADING MATERIAL. ANY UNCONTAMINATED SUITABLE GRANULAR MATERIAL REMOVED FROM THE EXISTING SUBGRADE AREA MAY BE USED IN OTHER AREAS DESIGNATED FOR THE SAME MATERIAL.

8 EXCESS TOPSOIL AND MUCK MATERIAL SHALL BE USED THROUGHOUT THE PROJECT AND AS DIRECTED BY THE ENGINEER.

9 IN FILL SECTIONS, TOPSOIL AND OTHER UNSUITABLE MATERIALS SHALL BE ELIMINATED FROM THE UPPER 4 FEET OF THE "GRADING GRADE" BENEATH THE ROADWAY, WITHIN THE LIMITS SHOWN ON THE TYPICAL SECTIONS.

10 OBTAIN COMPACTION ON THE GRADING PORTIONS OF PERMANENT CONSTRUCTION IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD" REQUIREMENTS.

11 COMPACTION OF THE AGGREGATE BASE LAYER SHALL BE OBTAINED IN ACCORDANCE WITH THE PENETRATION INDEX METHOD. THE TEST SHALL BE PERFORMED IN ACCORDANCE WITH SECTION C4 AND C4A OF THE (2211) AGGREGATE BASE SPECIFICATION, INCLUDED IN THE SPECIAL PROVISIONS. THIS WOULD INCLUDE ANY AREAS WHERE CRUSHED CONCRETE OR SALVAGED ASPHALT MAY BE USED FOR AGGREGATE BASE.

12 COMPACTION OF THE GRADING AND AGGREGATE ITEMS ON BYPASSES AND OTHER TEMPORARY WORK SHALL BE BY THE "QUALITY COMPACTION" METHOD.

13 TEST ROLLING SHALL BE REQUIRED ON THIS PROJECT PER MN/DOT 2111 (INCIDENTAL.)

14 THE BOTTOM OF ALL SUBCUTS SHALL BE SHAPED AND COMPACTED BY THE "QUALITY COMPACTION METHOD". THE CONTRACTOR SHALL USE A MINIMUM OF 4 PASSES OF AN APPROVED COMPACTION DEVICE.

15 AS A PRECAUTIONARY MEASURE FROM A SOILS STANDPOINT, TRAFFIC LANES TO BE USED DURING CONSTRUCTION MUST BE DELINEATED TO KEEP VEHICLES A SAFE DISTANCE AWAY FROM THE ADJACENT EXCAVATION. THE DELINEATION SHOULD COINCIDE WITH POINTS ESTABLISHED BY PROJECTING A 1(V):2(H) OR GREATER (FLATTER) SLOPE BETWEEN THE EDGE OF THE TRAFFIC SURFACE AND THE BOTTOM OF THE EXCAVATION.

16 WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING, WHICHEVER IS DEEPER, THEN 1V:20H TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION, UNLESS OTHERWISE NOTED.

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

18 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.

19 PROVIDE FOR A UNIFORM BITUMINOUS TACK COAT BETWEEN ALL BITUMINOUS COURSES. THE TACK COAT SHALL BE IN ACCORDANCE WITH MN/DOT SPECIFICATION 2357 WITH THE FOLLOWING MODIFICATIONS:

1. THE TACK COAT SHALL CONSIST OF EMULSIFIED ASPHALT (CSS-1 OR CSS-1H) AND SHALL BE APPLIED BETWEEN ALL BITUMINOUS COURSES.
2. THE TACK COAT SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GAL/SY BETWEEN BITUMINOUS LAYERS AND 0.07 TO 0.10 GAL/SY ON MILLED BITUMINOUS SURFACES PRIOR TO BEING OVERLAID.

20 PROVIDE A SAWCUT WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT.

REMOVALS

21 PROVIDE FOR THE REMOVAL AND DISPOSAL OF ANY INPLACE SURFACING, GUARDRAIL, OTHER STRUCTURES OR DEBRIS THAT WOULD INTERFERE WITH CONSTRUCTION. ALL SUCH MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED TO THE EXTENT ALLOWED OR DISPOSED OF OFF THE RIGHT OF WAY IN ACCORDANCE WITH SPEC. 2104.03.C. PROVIDE FOR SAW CUTTING AS DEEMED NECESSARY BY THE ENGINEER.

22 THE EXISTING PAVEMENT THICKNESSES ARE ASSUMED TO BE AS FOLLOWS:

C..S.A.H. 78 (HANSON BLVD.) - 5.5 - 6 INCHES PAVEMENT
C.S.A.H. 116 (BUNKER LAKE BLVD) - 5.5 - 6 INCHES BITUMINOUS PAVEMENT
127TH AVE, 129TH LANE, 133RD AVE - 3 INCHES (ASSUMED DEPTH)
STATION PARKWAY - 4 INCHES BITUMINOUS PAVEMENT
138TH LANE, 139TH LANE - 2.5 INCHES BITUMINOUS PAVEMENT

THE EXISTING TOPSOIL THICKNESS IS ASSUMED 4 INCHES. TOPSOIL THICKNESS FROM N.B. C.S.A.H. 78 STA 85+50.0 TO 95+00.0 IS KNOWN TO VARY IN THICKNESS FROM 4 INCHES TO 10 FEET.

THE CONTRACTOR SHALL INVESTIGATE AND MAKE HIS OWN DETERMINATION.

(INFORMATION TAKEN FROM THE PROJECT SOIL BORINGS AND RECORD DRAWINGS).

TURF ESTABLISHMENT

23 PLACE A MINIMUM OF 4 INCHES OF TOPSOIL ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.

24 PLACE A MINIMUM OF 4 INCHES OF MUCK REMOVAL MATERIAL ON ALL POND AREAS.

25 SOD ALL AREAS ADJACENT TO RESIDENCES OR BUSINESSES AND AREAS OF HEAVY DRAINAGE RUNOFF, AS INDICATED IN THE TURF ESTABLISHMENT AND EROSION CONTROL PLANS AND DETAILS.

27 SEEDING REQUIREMENTS ON THIS PROJECT ARE AS FOLLOWS:

A. ON PERMANENT SLOPES FLATTER THAN 1:3 USE SEED MIXTURE 250 AND TYPE 3 MULCH WITH DISK ANCHOR. SEE EROSION CONTROL AND TURF ESTABLISHMENT PLANS FOR SEED TYPE LOCATIONS.

B. ON PERMANENT SLOPES 1:3 OR STEEPER USE SEED MIXTURE 250 AND EROSION CONTROL BLANKET CATEGORY 3. DO NOT DISK ANCHOR.

C. ON DESIGNATED AREAS IN AND AROUND PONDS, USE SEED MIXTURE 310 OR 350 AND TYPE 3 MULCH WITH DISK ANCHOR.

D. PROVIDE COMMERCIAL FERTILIZER, ANALYSIS 22-5-10, SLOW RELEASE TYPE, OR EQUIVALENT ON ALL AREAS TO BE SEEDED OR SODDED. PROVIDE COMMERCIAL FERTILIZER , ANALYSIS 18-1-8 ON ALL AREAS SEEDED AT PONDING LOCATIONS IDENTIFIED.

MISCELLANEOUS

28 WHERE SEDIMENT DEPOSITS IN WATERS OF THE STATE THE MATERIAL MUST BE REMOVED IN 7 DAYS.

29 ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE CURRENT FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

30 THE CONTRACTOR IS HEREBY REMINDED OF HIS RESPONSIBILITY UNDER STATE LAW TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL.

31 WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK WILL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.CSA

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION/SOILS NOTES
C.S.A.H. 78

SHEET 7 OF 400

4/25/58 PM
9/15/2006
h:\projects\5404\hl...plan\5404.CSA

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

STANDARD PLATES

PLATE NO.	DESCRIPTION
3000 L	REINFORCED CONCRETE PIPE
3006 G	GASKET JOINT FOR R.C. PIPE
3007 D	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3014 J	REINFORCED CONCRETE PIPE ARCH
3020 F	REINFORCED PRECAST CONCRETE CATTLE PASS (60" & 72")
3022 C	PRECAST CONCRETE SAFETY APRON
3040 F	CORRUGATED METAL PIPE CULVERT
3041 D	CORRUGATED METAL PIPE
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133 C	RIPRAP AT RCP OUTLETS
3134 C	RIPRAP AT CMP OUTLETS
3139 A	RIPRAP AT PRECAST CONCRETE END SECTIONS
3145 F	CONCRETE PIPE TIES
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
4005 L	MANHOLE OR CATCH BASIN
4006 L	MANHOLE OR CATCH BASIN
4010 H	CONCRETE SHORT CONE & ADJUSTING RING
4011 E	PRECAST CONCRETE BASE
4017 C	CATCH BASIN
4018 A	MANHOLE OR CATCH BASIN
4020 J	MANHOLE OR CATCH BASIN FOR USE WITH OR WITHOUT TRAFFIC LOADS
4026 A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN
4108 F	ADJUSTING RINGS
4110 F	COVER CASTING FOR MANHOLE
4129 G	CATCH BASIN FRAME CASTING
4143 E	STOOL GRATE & CONCRETE FRAME
4154 B	CATCH BASIN GRATE CASTING
4160 D	CURB BOX CASTING FOR CATCH BASIN
4180 J	MANHOLE OR CATCH BASIN STEP
7035 M	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7036 F	PEDESTRIAN CURB RAMP
7065 C	BITUMINOUS CURB
7100 H	CONCRETE CURB & GUTTER
7111 J	INSTALLATION OF CATCH BASIN CASTINGS
7113 A	CONCRETE APPROACH NOSE DETAIL
8000 I	STANDARD BARRICADES
8110 D	TRAFFIC SIGNAL BRACKETING
8114 A	P.V.C. HANDHOLE / PULL BOX
8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
8117 F	PRECAST CONCRETE HANDHOLE (OR PULLBOX)
8118 C	SERVICE EQUIPMENT & POLE TRAFFIC CONTROL SIGNALS
8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 L	POLE FOUNDATION
8122 D	PEDESTAL AND PEDESTAL BASE
8123 E	POLE AND MAST ARM
8124 E	MAST ARM SIGNAL HEAD MOUNTS
8126 G	POLE FOUNDATION
8130 D	SAW CUT LOOP DETECTORS
8140 B	ROADWAY LIGHTING SERVICE CABINET
8150 C	INSTALLATION OF CULVERT MARKERS
8337 B	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER
9101 B	SHAPING AND SODDING OF SLOPES AT BOX CULVERT ENDS
9102 D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)
9322 J	CHAIN LINK FENCE

BASIS OF QUANTITIES

SPEC NO	DESCRIPTION	RATE
2123.610	1.5 CU YD BACKHOE	1 HR / 300 FT SILT FENCE / SEASON (2 PER SEASON)
2123.610	STREET SWEEPER (WITH PICKUP BROOM)	PROJECT LENGTH / 3 MPH FOR 90 DAYS
2350.503	TYPE LV4 WEARING COURSE MIXTURE	110 LBS / SQ YD / IN (2"-2.5" LIFT)
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.07 GAL / SQ YD / LIFT
2360.501	TYPE SP12.5 WEARING COURSE MIXTURE	113 LBS / SQ YD / IN (2" LIFT)
2360.502	TYPE SP12.5 NON-WEARING COURSE MIXTURE	113 LBS / SQ YD / IN (2" LIFT)
2573.623	RAPID STABILIZATION METHOD 3	6000 GALS / ACRE
2575.502	SEED MIXTURE 250	70 LBS / ACRE
2575.502	SEED MIXTURE 310	82 LBS / ACRE
2575.502	SEED MIXTURE 350	84.5 LBS / ACRE
2575.511	MULCH MATERIAL TYPE 3	2 TONS / ACRE
2575.532	COMMERCIAL FERTILIZER 22-5-10	400 LBS / ACRE
2575.532	COMMERCIAL FERTILIZER 18-1-8	120 LBS / ACRE

INDEX OF TABULATIONS

TABULATIONS "I", "II", AND "O" NOT USED

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.TBA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STANDARD PLATES & INDEX OF TABULATIONS

C.S.A.H. 78

SHEET 8 OF 400

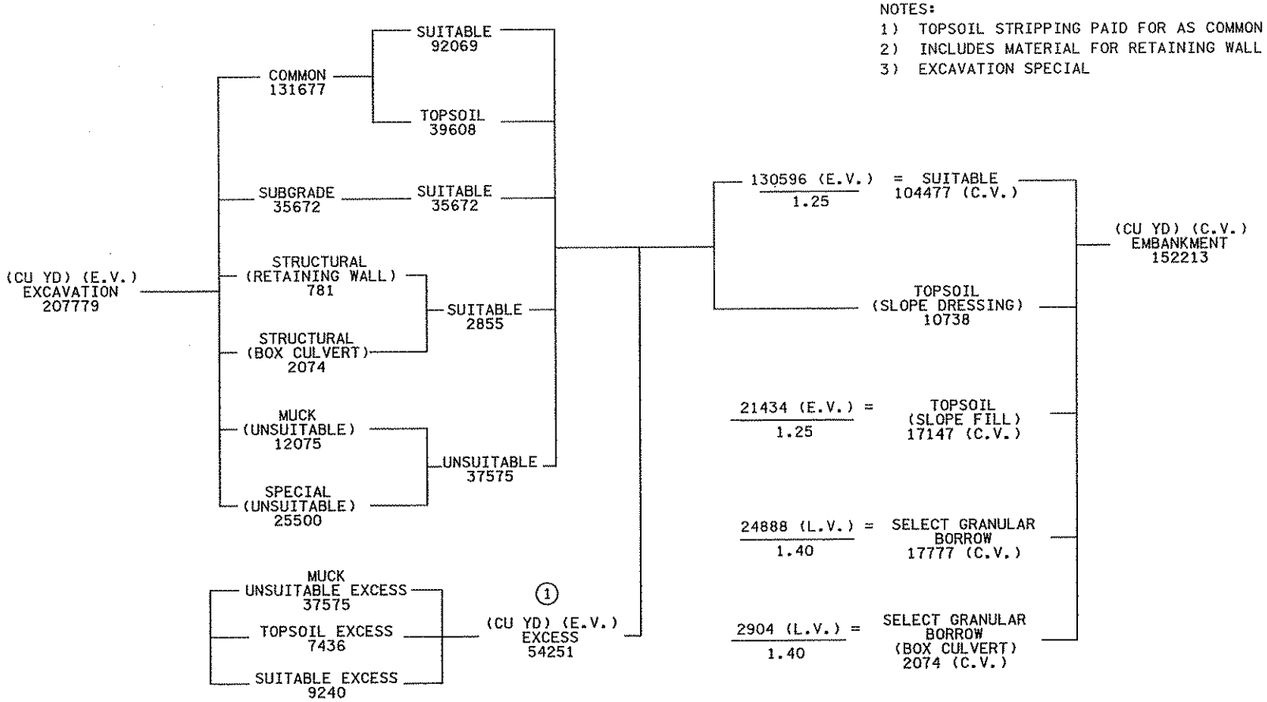
4:26:00 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.TBA

(A) EARTHWORK SUMMARY

ALIGNMENT	EXCAVATION TOTALS (EV)					EMBANKMENT TOTALS (CV)		
	COMMON (CY)	SUBGRADE (CY)	MUCK (CY)	STRUCTURE (2) (CY)	POND/CHANNEL (3) (CY)	SELECTED GRADING (2) (CY)	SLOPE DRESSING (CY)	SELECT GRANULAR (2) (CY)
C.S.A.H. 78 (SUBTOTAL A)	8135	6059	0	781	0	10841	805	0
C.S.A.H. 78 (SUBTOTAL B)	21628	2869	8482	2074	0	32904	1404	14052
C.S.A.H. 78 (SUBTOTAL C)	52548	5276	3593	0	0	21768	1767	5799
C.S.A.H. 78 (SUBTOTAL D)	19676	7621	0	0	0	19887	1444	0
C.S.A.H. 78 (SUBTOTAL E)	16522	5804	0	0	0	15516	1141	0
C.S.A.H. 116 (SUBTOTAL A)	2686	2776	0	0	0	3900	293	0
C.S.A.H. 116 (SUBTOTAL B)	6679	5267	0	0	0	13980	892	0
127TH AVE W.	220	0	0	0	0	5	18	0
127TH AVE E.	185	0	0	0	0	19	20	0
GROUSE ST.	93	0	0	0	0	588	38	0
129TH LANE	71	0	0	0	0	161	28	0
133RD AVE W.	65	0	0	0	0	27	12	0
133RD AVE E.	760	0	0	0	0	24	45	0
STATION PARKWAY	154	0	0	0	0	71	21	0
PARK ROAD (SUBTOTAL A)	806	0	0	0	0	9	38	0
PARK ROAD (SUBTOTAL B)	547	0	0	0	0	199	70	0
SERVICE ROAD	460	0	0	0	0	194	61	0
COUNTY DRIVE	442	0	0	0	0	11	21	0
T.H.242 DITCH GRADING	0	0	0	0	871	2	324	0
T.H.242 POND	0	0	0	0	5047	1225	906	0
POND 116A & B	0	0	0	0	15036	0	944	0
SUPER AMERICA POND	0	0	0	0	4546	250	489	0
TOTALS	131677	35672	12075	2855	25500	121581	10781	19851

NOTES:
1) TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION
2) INCLUDES MATERIAL FOR RETAINING WALL AND BOX CULVERT CONSTRUCTION
3) EXCAVATION SPECIAL

(B) EARTHWORK BALANCE



SPECIFIC NOTES:

(1) EXCESS MATERIAL SHALL BE REMOVED FROM THE PROJECT LIMITS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER BEFORE HAULING EXCESS MATERIAL OFF SITE.

GENERAL NOTES:

SEE CONSTRUCTION/SOILS NOTES FOR MATERIAL DEFINITIONS AND ADDITIONAL INFORMATION.

125% SHRINKAGE FACTOR USED FROM EXCAVATED VOLUME (E.V.) TO COMPACTED VOLUME (C.V.)
140% SHRINKAGE FACTOR USED FROM LOOSE VOLUME (L.V.) TO COMPACTED VOLUME (C.V.).
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. SHRINKAGE FACTORS DO NOT APPLY TO TOPSOIL.

EXCESS MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT LIMITS WITH NO DIRECT PAYMENT THEREFOR. THE EXCESS MATERIAL QUANTITY IS BASED ON ESTIMATED QUANTITIES. DISPOSAL SHALL BE IN ACCORDANCE WITH SPEC. 2105.

NO	DATE	BY	CKD	APPR	REVISION
1	2-17-07	GMP	CMT	CMT	REVISED EARTHWORK FOR NB CSAH 78 - REMOVED RET. WALL STA 118+00 TO 120+00

...\5404\HI-MU\Plan\5404.ETA

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.
Print Name: CHRIS M. TRBOYEVICH
Date 2/17/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
EARTHWORK SUMMARY, BALANCE, TABULATIONS
C.S.A.H. 78

SHEET 9 OF 400

2/21/23 PM
2/16/2007
H:\Projects\5404\HI-...\Plan\5404.ETA

(C) C.S.A.H. 78 - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)				EMBANKMENT TOTALS (CV)			
	COMMON (CY)	SUBGRADE (CY)	MUCK (CY)	STRUCTURE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)	GRANULAR (CY)	SELECT GRANULAR (CY)
54+75.00								
55+00.00	12	4	0	0	6	5	0	0
55+33.07	25	9	0	0	11	7	0	0
55+50.00	14	6	0	0	7	3	0	0
56+00.00	52	25	0	0	29	7	0	0
56+50.00	53	30	0	0	35	6	0	0
57+00.00	49	31	0	0	35	6	0	0
57+50.00	54	31	0	0	33	6	0	0
58+03.06	64	32	0	0	35	7	0	0
58+15.12	14	7	0	0	8	1	0	0
58+58.15	32	26	0	0	33	5	0	0
59+03.19	45	46	0	0	63	10	0	0
59+50.00	73	70	0	0	106	15	0	0
60+00.00	73	80	0	0	115	18	0	0
60+20.78	28	35	0	0	39	4	0	0
60+50.00	32	44	0	0	59	2	0	0
61+00.00	50	62	0	0	119	12	0	0
61+50.00	62	65	0	0	116	15	0	0
62+00.00	89	91	0	0	115	11	0	0
62+50.00	149	97	0	0	126	9	0	0
63+02.76	160	92	0	0	138	9	0	0
63+50.00	92	83	0	0	146	9	0	0
64+00.00	84	84	0	0	287	18	0	0
64+50.00	84	62	0	0	425	22	0	0
65+00.00	75	46	0	0	416	18	0	0
65+50.00	127	93	0	0	415	16	0	0
66+00.00	154	137	0	0	394	22	0	0
66+50.00	125	138	0	0	382	31	0	0
67+00.00	119	145	0	0	392	30	0	0
67+38.72	86	125	0	0	241	18	0	0
67+50.00	24	40	0	0	57	4	0	0
68+00.00	114	181	0	0	222	12	0	0
68+50.00	150	185	0	0	206	11	0	0
68+70.00	79	76	0	11	84	5	0	0
69+00.00	145	115	0	33	126	9	0	0
69+50.00	301	191	0	83	209	18	0	0
70+00.00	362	190	0	137	210	21	0	0
70+50.00	412	190	0	170	213	22	0	0
71+00.00	444	189	0	198	215	23	0	0
71+24.21	214	92	0	107	105	11	0	0
71+43.52	172	67	0	42	81	11	0	0
72+00.00	568	303	0	0	329	20	0	0
72+50.00	502	380	0	0	380	0	0	0
73+00.00	274	264	0	0	312	15	0	0
73+50.00	133	164	0	0	235	26	0	0
74+00.00	204	186	0	0	225	23	0	0
74+50.00	230	192	0	0	230	25	0	0
74+97.41	240	174	0	0	222	24	0	0
75+25.89	159	93	0	0	135	14	0	0
75+70.89	266	141	0	0	200	10	0	0
75+99.24	135	91	0	0	119	2	0	0
76+05.82	23	21	0	0	29	1	0	0
76+50.00	154	137	0	0	307	23	0	0
77+00.00	166	141	0	0	551	41	0	0
77+50.00	159	133	0	0	523	35	0	0
77+60.00	33	26	0	0	79	5	0	0
78+00.00	134	104	0	0	314	17	0	0
78+50.00	173	133	0	0	409	25	0	0
78+72.85	89	64	0	0	188	10	0	0
SUBTOTAL (A)	8135	6059	0	781	10841	805	0	0

(C) C.S.A.H. 78 - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)				EMBANKMENT TOTALS (CV)			
	COMMON (CY)	SUBGRADE (CY)	MUCK (CY)	STRUCTURE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)	GRANULAR (CY)	SELECT GRANULAR (CY)
79+00.00	103	75	0	0	214	11	0	0
79+20.00	68	56	0	0	143	9	0	0
79+50.00	107	87	0	0	159	10	0	0
79+64.00	61	42	0	0	55	4	0	0
79+66.79	14	8	0	0	11	1	0	0
79+92.08	138	76	0	0	98	6	0	0
80+00.00	47	24	0	0	30	1	0	0
80+44.57	177	138	0	0	172	9	0	0
81+10.76	275	214	0	0	249	12	0	0
81+50.00	323	132	0	0	142	8	0	0
82+00.00	676	172	0	0	184	20	0	0
82+18.97	298	66	0	0	70	7	0	0
82+50.00	447	108	0	0	114	10	0	0
82+74.54	410	85	0	0	89	8	0	0
83+00.00	455	87	0	0	92	9	0	0
83+48.16	830	165	0	0	174	23	0	0
84+00.00	882	177	0	0	186	24	0	0
84+38.08	557	121	0	0	128	16	0	0
84+83.81	563	182	0	0	189	9	0	0
85+43.68	629	239	0	0	248	11	0	0
86+00.00	552	166	0	0	214	21	0	0
86+50.00	499	107	0	0	250	19	0	0
86+82.35	345	33	0	0	232	9	0	0
87+16.66	402	15	0	0	355	8	0	0
87+50.00	404	3	0	0	434	11	0	0
88+00.00	615	2	0	0	791	19	0	0
88+50.00	595	2	0	0	972	22	0	0
89+00.00	576	2	0	0	1187	26	0	0
89+50.00	657	1	0	0	1512	32	0	0
90+00.00	697	0	0	0	1779	40	0	0
90+50.00	586	0	0	0	1798	47	0	0
91+00.00	546	0	0	0	1732	49	0	0
91+18.72	221	0	0	0	629	17	0	0
91+50.00	384	0	0	0	1022	26	0	0
92+00.00	592	0	0	0	1552	42	0	0
92+50.00	518	0	0	0	1404	40	0	0
93+00.00	498	0	0	0	1254	40	0	0
93+50.00	533	0	0	0	1202	35	0	0
94+00.00	598	0	0	0	1267	28	0	0
94+50.00	505	0	0	0	1199	29	0	0
95+00.00	791	4	0	0	941	55	0	0
95+24.34	328	5	0	0	389	27	0	0
95+50.00	72	8	0	0	406	15	0	0
96+00.00	185	19	0	0	775	35	0	0
96+50.00	238	25	0	0	731	40	0	0
97+00.00	290	34	0	0	671	41	0	0
97+50.00	380	41	0	0	613	45	0	0
98+00.00	478	48	0	0	569	48	0	0
98+39.30	381	42	0	0	399	31	0	0
98+65.79	206	27	0	0	256	17	0	0
98+83.93	90	13	0	0	181	13	0	0
99+00.00	46	7	0	0	158	10	0	0
99+50.00	111	11	0	0	513	28	0	0
100+00.00	97	0	0	0	681	29	0	0
100+50.00	102	0	159	0	566	33	0	499
101+00.00	107	0	1036	0	315	37	0	1744
101+50.00	112	0	2148	0	349	41	0	2908
102+00.00	116	0	2559	0	408	45	0	3365
102+50.00	115	0	2580	0	451	46	0	3462
SUBTOTAL (B)	21628	2869	8482	0	32904	1404	0	11978

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.ETB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EARTHWORK SUMMARY, BALANCE, TABULATIONS

C.S.A.H. 78

SHEET 10 OF 400

10:59:34 AM
10/10/2006
H:\projects\5404\hl-mu\plan\5404.ETB

(C) C.S.A.H. 78 - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)				EMBANKMENT TOTALS (CV)			
	COMMON (CY)	SUBGRADE (CY)	MUCK (CY)	STRUCTURE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)	GRANULAR (CY)	SELECT GRANULAR (CY)
102+92.65	94	0	1978	0	387	37	0	2823
102+99.89	15	0	281	0	65	6	0	433
103+35.95	72	0	960	0	321	24	0	1711
103+80.73	85	0	374	0	693	25	0	832
104+50.00	127	33	0	0	1160	36	0	0
105+00.00	186	55	0	0	537	24	0	0
105+50.00	271	63	0	0	484	26	0	0
106+00.00	245	62	0	0	446	26	0	0
106+26.35	116	29	0	0	224	14	0	0
106+50.00	78	19	0	0	202	11	0	0
107+00.00	100	14	0	0	455	20	0	0
107+30.15	47	5	0	0	256	11	0	0
107+50.00	31	13	0	0	128	7	0	0
108+00.00	190	94	0	0	218	18	0	0
108+50.00	585	140	0	0	154	23	0	0
109+00.00	1216	140	0	0	150	32	0	0
109+50.00	1912	140	0	0	150	41	0	0
110+00.00	2548	140	0	0	150	50	0	0
110+50.00	3104	140	0	0	150	60	0	0
111+00.00	3686	140	0	0	150	70	0	0
111+38.65	3224	108	0	0	116	58	0	0
111+76.99	3588	107	0	0	114	45	0	0
112+00.00	2144	64	0	0	68	26	0	0
112+15.86	1362	44	0	0	48	23	0	0
112+50.00	2943	95	0	0	102	50	0	0
113+00.00	4190	140	0	0	150	71	0	0
113+50.00	3809	140	0	0	150	64	0	0
114+00.00	3308	140	0	0	150	55	0	0
114+50.00	2787	140	0	0	150	48	0	0
115+00.00	2200	140	0	0	150	43	0	0
115+50.00	1511	140	0	0	150	34	0	0
116+00.00	949	140	0	0	150	24	0	0
116+50.00	580	139	0	0	198	25	0	0
116+69.23	149	46	0	0	109	11	0	0
117+00.00	197	53	0	0	270	21	0	0
117+50.00	235	70	0	0	725	33	0	0
118+00.00	156	69	0	0	965	33	0	0
118+50.00	117	60	0	0	1163	40	0	0
119+00.00	98	39	0	0	1322	37	0	0
119+50.00	101	20	0	0	1355	30	0	0
120+00.00	103	13	0	0	1220	31	0	0
120+50.00	94	14	0	0	842	31	0	0
120+89.59	70	33	0	0	378	19	0	0
121+50.00	210	102	0	0	393	25	0	0
122+00.00	261	109	0	0	284	20	0	0
122+50.00	262	121	0	0	273	19	0	0
123+00.00	274	129	0	0	267	19	0	0
123+55.93	349	148	0	0	283	22	0	0
124+00.00	277	116	0	0	218	16	0	0
124+50.00	233	130	0	0	271	21	0	0
124+96.48	164	122	0	0	255	22	0	0
125+44.95	205	130	0	0	238	19	0	0
126+00.00	368	199	0	0	254	10	0	0
126+54.99	363	183	0	0	245	11	0	0
127+00.00	214	111	0	0	236	20	0	0
127+50.00	223	140	0	0	372	28	0	0
128+00.00	190	136	0	0	491	34	0	0
128+50.00	173	116	0	0	603	36	0	0
129+00.00	159	103	0	0	560	32	0	0
SUBTOTAL (C)	52548	5276	3593	0	21768	1767	0	5799

(C) C.S.A.H. 78 - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)				EMBANKMENT TOTALS (CV)			
	COMMON (CY)	SUBGRADE (CY)	MUCK (CY)	STRUCTURE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)	GRANULAR (CY)	SELECT GRANULAR (CY)
129+50.00	126	96	0	0	422	22	0	0
129+85.97	88	58	0	0	304	15	0	0
130+50.00	172	123	0	0	513	31	0	0
130+72.83	75	54	0	0	135	7	0	0
131+00.00	127	66	0	0	148	9	0	0
131+50.00	365	124	0	0	352	35	0	0
132+00.00	536	128	0	0	395	44	0	0
132+50.00	696	135	0	0	300	36	0	0
133+00.00	763	139	0	0	229	36	0	0
133+50.00	576	136	0	0	268	36	0	0
134+00.00	292	120	0	0	301	29	0	0
134+50.00	255	121	0	0	305	30	0	0
135+00.00	429	140	0	0	312	35	0	0
135+34.83	389	99	0	0	219	27	0	0
136+00.00	648	176	0	0	333	34	0	0
136+45.46	591	126	0	0	181	33	0	0
136+72.27	421	76	0	0	105	31	0	0
137+00.00	317	78	0	0	109	29	0	0
137+50.00	434	134	0	0	213	46	0	0
138+00.00	366	124	0	0	239	33	0	0
138+50.00	329	120	0	0	268	27	0	0
139+00.00	311	118	0	0	307	29	0	0
139+50.00	356	115	0	0	325	32	0	0
139+74.15	205	55	0	0	154	13	0	0
140+00.00	216	58	0	0	165	12	0	0
140+50.00	396	114	0	0	333	28	0	0
141+00.00	391	116	0	0	353	29	0	0
141+50.00	372	118	0	0	366	30	0	0
142+00.00	341	124	0	0	379	30	0	0
142+50.00	320	113	0	0	392	30	0	0
143+03.79	347	100	0	0	423	33	0	0
143+50.00	308	100	0	0	348	36	0	0
144+00.00	343	140	0	0	291	35	0	0
144+50.00	323	120	0	0	246	21	0	0
145+00.00	305	96	0	0	304	19	0	0
145+50.00	331	114	0	0	376	21	0	0
146+00.00	375	138	0	0	500	25	0	0
146+34.73	296	107	0	0	443	20	0	0
146+80.13	469	174	0	0	670	27	0	0
147+27.09	511	191	0	0	711	31	0	0
147+50.00	234	84	0	0	334	18	0	0
148+00.00	514	190	0	0	679	38	0	0
148+50.00	510	193	0	0	560	33	0	0
149+00.00	496	198	0	0	423	23	0	0
149+50.00	458	200	0	0	360	17	0	0
149+94.59	340	169	0	0	360	17	0	0
150+50.00	319	194	0	0	531	24	0	0
151+00.00	224	174	0	0	509	24	0	0
151+50.00	384	286	0	0	447	12	0	0
152+00.00	596	394	0	0	394	0	0	0
152+50.00	436	297	0	0	326	9	0	0
153+00.00	178	177	0	0	316	17	0	0
153+50.00	102	144	0	0	395	19	0	0
153+69.82	36	50	0	0	169	8	0	0
153+90.14	36	47	0	0	182	9	0	0
154+00.00	17	21	0	0	91	4	0	0
154+50.00	110	96	0	0	412	17	0	0
155+00.00	103	82	0	0	326	14	0	0
155+50.00	72	41	0	0	336	15	0	0
SUBTOTAL (D)	19676	7621	0	0	19887	1444	0	0

NO	DATE	BY	CKD	APPR	REVISION
1	2-17-07	GMP	CMT	CMT	REVISED EARTHWORK FOR NB CSAH 78 - REMOVED RET. WALL STA 118+00 TO 120+00

...\5404\hl-mu\plan\5404.ETC

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/17/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EARTHWORK SUMMARY, BALANCE, TABULATIONS

C.S.A.H. 78

SHEET 11 OF 400

8:58:19 AM
2/21/2007
h:\projects\5404\hl-mu\plan\5404.ETC

(E) 127TH AVE W. - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
301+73.28				
301+75.00	2	0	0	0
302+00.00	83	0	2	7
302+25.00	96	0	2	8
302+35.24	39	0	1	3
302+35.24	0	0	0	0
TOTAL	220	0	5	18

NOTE: TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION

(F) 127TH AVE E. - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
351+00.00				
351+25.00	59	0	2	5
351+50.00	47	0	4	5
351+75.00	41	0	6	5
352+00.00	38	0	7	5
TOTAL	185	0	19	20

NOTE: TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION

(G) GROUSE ST. - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
21+28.81				
21+50.00	32	0	220	13
21+75.00	38	0	243	16
21+90.60	23	0	125	9
TOTAL	93	0	588	38

NOTE: TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION

(C) C.S.A.H. 78 - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)				EMBANKMENT TOTALS (CV)			
	COMMON (CY)	SUBGRADE (CY)	MUCK (CY)	STRUCTURE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)	GRANULAR (CY)	SELECT GRANULAR (CY)
156+00.00	77	7	0	0	478	18	0	0
156+50.00	83	4	0	0	648	24	0	0
156+61.62	20	1	0	0	171	6	0	0
157+00.00	66	3	0	0	614	21	0	0
157+45.76	79	22	0	0	750	25	0	0
157+50.00	10	4	0	0	67	2	0	0
158+00.00	117	71	0	0	723	26	0	0
158+50.00	153	111	0	0	563	24	0	0
159+00.00	288	159	0	0	330	16	0	0
159+50.00	432	166	0	0	251	18	0	0
160+00.00	600	140	0	0	274	27	0	0
160+50.00	747	140	0	0	204	23	0	0
161+00.00	837	140	0	0	157	18	0	0
161+11.30	198	32	0	0	34	4	0	0
161+50.00	678	108	0	0	117	13	0	0
162+00.00	888	140	0	0	166	19	0	0
162+41.10	679	115	0	0	165	19	0	0
163+00.00	761	165	0	0	330	33	0	0
163+50.00	463	139	0	0	382	30	0	0
164+00.00	337	133	0	0	452	33	0	0
164+50.00	249	121	0	0	496	36	0	0
165+00.00	177	122	0	0	466	34	0	0
165+50.00	143	132	0	0	436	31	0	0
166+00.00	191	123	0	0	573	37	0	0
166+44.00	232	104	0	0	621	37	0	0
167+00.00	382	137	0	0	785	45	0	0
167+50.00	444	122	0	0	644	41	0	0
168+00.00	520	137	0	0	541	41	0	0
168+50.00	537	152	0	0	429	39	0	0
169+02.64	560	170	0	0	335	36	0	0
169+50.00	529	161	0	0	214	26	0	0
169+99.48	625	168	0	0	186	22	0	0
170+50.00	652	172	0	0	180	21	0	0
171+00.00	558	170	0	0	181	18	0	0
171+50.00	494	169	0	0	188	18	0	0
172+00.00	439	176	0	0	198	17	0	0
172+50.00	367	164	0	0	192	15	0	0
173+00.00	305	144	0	0	184	21	0	0
173+50.00	232	141	0	0	179	21	0	0
173+98.48	161	129	0	0	174	15	0	0
174+50.00	144	128	0	0	203	19	0	0
175+00.00	138	119	0	0	206	24	0	0
175+50.00	120	112	0	0	162	19	0	0
176+00.00	100	105	0	0	114	10	0	0
176+50.00	103	102	0	0	108	10	0	0
177+02.91	103	106	0	0	111	10	0	0
177+50.00	88	93	0	0	109	11	0	0
178+00.00	98	97	0	0	112	13	0	0
178+24.67	46	50	0	0	54	7	0	0
178+45.65	42	42	0	0	53	6	0	0
179+00.00	89	64	0	0	89	13	0	0
179+50.00	52	24	0	0	35	10	0	0
180+00.00	48	24	0	0	44	11	0	0
180+50.00	41	24	0	0	38	8	0	0
SUBTOTAL (E)	16522	5804	0	0	15516	1141	0	0
TOTAL	118509	27629	12075	781	100916	6561	0	17777

NO	DATE	BY	CKD	APPR	REVISION
1	2-17-07	GMP	CMT	CMT	REVISED EARTHWORK FOR NB CSAH 78 - REMOVED RET. WALL STA 118+00 TO 120+00
...\5404\hl-mu\plan\5404.ETD					

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.
Print Name: CHRIS M. TRBOYEVICH
Date 2/17/2007 License 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
EARTHWORK SUMMARY, BALANCE, TABULATIONS
C.S.A.H. 78

SHEET 12 OF 400

8:58:20 AM
2/21/2007
H:\projects\5404\hl-mu\plan\5404.ETD

(H) 129TH LANE - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
400+68.50				
400+75.00	7	0	2	1
401+00.00	22	0	6	4
401+25.00	12	0	12	5
401+50.00	9	0	32	6
401+75.00	12	0	68	8
401+85.38	9	0	41	4
TOTAL	71	0	161	28

NOTE: TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION

(J) 133RD AVE W. - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
502+00.00				
502+25.00	34	0	14	6
502+50.00	31	0	13	6
TOTAL	65	0	27	12

NOTE: TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION

(K) 133RD AVE E. - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
503+75.00				
504+00.12	140	0	2	6
504+25.12	153	0	2	7
504+50.12	138	0	2	7
504+75.12	109	0	2	7
505+00.12	81	0	2	5
505+25.12	60	0	3	4
505+50.12	44	0	4	4
505+75.12	35	0	7	5
TOTAL	760	0	24	45

NOTE: TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION

(D) C.S.A.H. 116 - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
10+22.53				
10+50.00	8	0	2	2
11+00.00	18	0	11	6
11+50.00	17	0	11	6
12+00.00	15	0	6	5
12+50.00	51	35	45	9
13+00.00	81	70	85	11
13+50.00	79	70	112	13
14+00.00	79	70	128	15
14+50.00	73	70	116	12
14+63.50	18	19	31	3
15+00.00	50	51	79	7
15+43.50	58	61	91	8
16+00.00	70	79	115	11
16+50.00	65	70	105	11
17+00.00	73	74	120	11
17+33.39	73	78	107	5
17+50.00	44	52	66	2
18+00.00	117	163	210	12
18+50.00	104	172	216	12
19+00.00	124	184	246	15
19+50.00	162	192	288	20
19+73.89	90	92	154	12
20+00.00	104	100	168	14
20+31.02	118	119	185	12
20+62.02	114	119	160	10
20+89.01	109	104	114	5
21+00.00	47	42	44	1
21+50.00	207	192	231	9
22+00.00	202	192	254	13
22+50.00	199	192	251	13
22+79.58	117	114	149	8
SUBTOTAL (A)	2686	2776	3900	293

(L) STATION PARKWAY - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
604+76.00				
605+00.00	34	0	19	5
605+25.00	34	0	20	5
605+50.00	38	0	18	5
605+75.00	48	0	14	6
TOTAL	154	0	71	21

NOTE: TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION

(D) C.S.A.H. 116 - EARTHWORK TABULATION

STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
24+92.14	0	0	0	0
25+50.00	218	187	596	34
26+00.00	177	163	400	19
26+50.00	188	169	362	16
26+87.67	150	128	275	13
27+15.76	106	94	212	9
27+46.90	113	104	243	11
28+00.00	204	176	391	21
28+50.00	197	160	312	20
29+00.00	205	156	269	21
29+50.00	214	150	230	20
30+00.00	202	139	202	19
30+50.00	196	131	197	18
31+00.00	204	125	200	18
31+50.00	210	121	208	19
31+75.63	105	64	122	11
32+00.00	92	64	103	8
32+36.47	140	106	169	12
33+00.00	236	180	479	32
33+50.00	161	134	429	26
34+00.00	172	148	377	24
34+50.00	185	153	322	21
35+00.00	198	149	285	19
35+50.00	231	148	260	19
36+00.00	250	152	233	19
36+33.71	155	101	146	12
37+00.00	282	166	271	17
37+57.88	189	128	249	14
38+00.00	89	99	200	14
38+50.00	87	107	235	17
39+00.00	68	83	245	18
39+50.00	65	57	305	21
40+00.00	72	41	387	23
40+50.00	76	37	467	25
41+00.00	78	46	523	27
41+50.00	77	52	504	27
42+00.00	73	52	438	24
42+50.00	71	55	395	22
43+00.00	70	62	382	21
43+50.00	75	78	396	23
44+00.00	84	93	382	24
44+50.00	118	109	287	17
45+00.00	126	112	227	14
45+50.00	104	102	221	17
46+00.00	104	103	211	16
46+50.00	101	103	207	17
47+00.00	93	100	214	17
47+40.80	68	80	212	16
SUBTOTAL (B)	6679	5267	13980	892
TOTAL	9365	8043	17880	1185

NOTE: TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.ETE

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
EARTHWORK SUMMARY, BALANCE, TABULATIONS
C.S.A.H. 78

SHEET 13 OF 400

10:59:37 AM
10/10/2006
h:\projects\5404\hi-mu\plan\5404.ETE

(P)	COUNTY DRIVE - EARTHWORK TABULATION			
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
900+78.73				
901+00.00	49	0	1	2
901+50.00	216	0	5	11
902+00.00	177	0	5	8
TOTAL	442	0	11	21

NOTE: TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION

(M)	PARK ROAD - EARTHWORK TABULATION			
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
701+11.87				
702+11.68	806	0	9	38
SUBTOTAL (A)	806	0	9	38
709+03.78	0	0	0	0
709+44.23	70	0	13	8
709+68.34	52	0	7	5
709+93.34	60	0	14	6
710+18.34	61	0	22	7
710+43.34	57	0	25	8
710+68.34	54	0	29	8
710+93.34	50	0	24	7
711+18.34	47	0	17	6
711+43.34	48	0	23	7
711+68.34	48	0	25	8
SUBTOTAL (B)	547	0	199	70
TOTAL	1353	0	208	108

NOTE: TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION
STA 702+11.68 - 709+03.78 INCLUDED WITH C.S.A.H 78 EARTHWORK.

(N)	SERVICE ROAD - EARTHWORK TABULATION			
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)	
	COMMON (CY)	SUBGRADE (CY)	SELECTED GRADING (CY)	SLOPE DRESSING (CY)
800+50.00				
800+75.00	21	0	4	2
801+03.61	44	0	16	6
801+28.61	37	0	21	7
801+53.61	36	0	22	7
801+78.61	32	0	24	6
802+03.61	32	0	25	6
802+28.61	35	0	26	6
802+53.61	35	0	24	6
802+75.05	27	0	16	4
803+16.61	80	0	14	7
803+41.61	81	0	2	4
TOTAL	460	0	194	61

NOTE: TOPSOIL STRIPPING PAID FOR AS COMMON EXCAVATION

10:59:38 AM
10/10/2006
H:\projects\5404\hl-mu\plan\5404.ETF

NO	DATE	BY	CKD	APPR	REVISION
...\5404\hl-mu\plan\5404.ETF					

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
EARTHWORK SUMMARY, BALANCE, TABULATIONS
C.S.A.H. 78

SHEET 14 OF 400

(R) CLEARING & GRUBBING

ALIGNMENT	STATION TO STATION	OFFSET		CLEARING		GRUBBING		NOTES
		LEFT	RIGHT	(TREE)	(ACRE)	(TREE)	(ACRE)	
N.B. C.S.A.H. 78	55+71.3 - 56+13.7		31.2-36.4		0.01		0.01	
N.B. C.S.A.H. 78	58+17.1		35.9	1		1		
N.B. C.S.A.H. 78	58+20.9		36.2	1		1		
N.B. C.S.A.H. 78	61+22.3 - 65+97.1		10.0-61.7		0.32		0.32	
N.B. C.S.A.H. 78	66+36.4 - 71+36.7		7.0-57.6		0.38		0.38	
N.B. C.S.A.H. 78	72+89.6		60.7	1		1		
N.B. C.S.A.H. 78	73+43.2		14.7	1		1		
N.B. C.S.A.H. 78	73+49.9		14.6	1		1		
N.B. C.S.A.H. 78	73+97.5		43.4	1		1		
N.B. C.S.A.H. 78	74+26.5		45.7	1		1		
N.B. C.S.A.H. 78	74+73.9		35.9	1		1		
N.B. C.S.A.H. 78	75+10.0		37.0	1		1		
N.B. C.S.A.H. 78	76+01.0		54.0	1		1		
N.B. C.S.A.H. 78	76+09.1		33.5	1		1		
N.B. C.S.A.H. 78	76+10.5		60.6	1		1		
N.B. C.S.A.H. 78	76+19.9		49.1	1		1		
N.B. C.S.A.H. 78	76+21.6		29.6	1		1		
N.B. C.S.A.H. 78	76+31.7		43.1	1		1		
N.B. C.S.A.H. 78	76+32.3		19.6	1		1		
N.B. C.S.A.H. 78	76+56.5		20.7	1		1		
N.B. C.S.A.H. 78	76+75.6		18.3	1		1		
N.B. C.S.A.H. 78	76+99.1		21.7	1		1		
N.B. C.S.A.H. 78	77+55.3		44.0	1		1		
N.B. C.S.A.H. 78	77+75.9		59.3	1		1		
N.B. C.S.A.H. 78	77+97.9		28.8	1		1		
N.B. C.S.A.H. 78	78+07.5		56.8	1		1		
N.B. C.S.A.H. 78	78+20.4		21.5	1		1		
N.B. C.S.A.H. 78	78+36.1		55.4	1		1		
N.B. C.S.A.H. 78	78+59.0		28.5	1		1		
N.B. C.S.A.H. 78	79+01.2		58.0	1		1		
N.B. C.S.A.H. 78	79+33.7		18.2	1		1		
N.B. C.S.A.H. 78	79+50.4		11.8	1		1		
N.B. C.S.A.H. 78	79+50.4		14.7	1		1		
N.B. C.S.A.H. 78	79+50.4		21.2	1		1		
N.B. C.S.A.H. 78	79+58.2	87.1		1		1		
N.B. C.S.A.H. 78	79+64.0		21.2	1		1		
N.B. C.S.A.H. 78	79+70.6		17.9	1		1		
N.B. C.S.A.H. 78	79+70.6		14.9	1		1		
N.B. C.S.A.H. 78	79+87.6		17.9	1		1		
N.B. C.S.A.H. 78	79+90.9		24.8	1		1		
N.B. C.S.A.H. 78	80+12.0		17.4	1		1		
N.B. C.S.A.H. 78	80+18.0		27.4	1		1		
N.B. C.S.A.H. 78	80+68.3		31.1	1		1		
N.B. C.S.A.H. 78	80+77.0		18.9	1		1		
N.B. C.S.A.H. 78	80+90.9		16.2	1		1		
N.B. C.S.A.H. 78	81+05.4		16.3	1		1		
N.B. C.S.A.H. 78	81+24.6		19.1	1		1		
N.B. C.S.A.H. 78	81+40.4		19.1	1		1		
N.B. C.S.A.H. 78	81+54.4		19.1	1		1		
N.B. C.S.A.H. 78	81+68.3	79.7		1		1		
N.B. C.S.A.H. 78	81+70.8		19.1	1		1		
N.B. C.S.A.H. 78	81+80.8	84.8		1		1		
N.B. C.S.A.H. 78	81+82.5		22.4	1		1		
N.B. C.S.A.H. 78	81+97.0		22.4	1		1		
N.B. C.S.A.H. 78	82+05.4		38.7	1		1		
N.B. C.S.A.H. 78	82+45.2	7.7		1		1		
N.B. C.S.A.H. 78	84+43.5		9.7	1		1		
N.B. C.S.A.H. 78	85+56.4		43.4	1		1		
N.B. C.S.A.H. 78	87+03.0	2.8		1		1		
N.B. C.S.A.H. 78	88+05.7		1.9	1		1		
N.B. C.S.A.H. 78	88+47.7	6.1		1		1		
N.B. C.S.A.H. 78	88+54.4	12.3		1		1		
N.B. C.S.A.H. 78	89+49.8	17.0		1		1		
N.B. C.S.A.H. 78	90+93.7	111.3		1		1		
N.B. C.S.A.H. 78	91+06.0	111.5		1		1		
SUBTOTAL				62	0.71	62	0.71	

(R) CLEARING & GRUBBING

ALIGNMENT	STATION TO STATION	OFFSET		CLEARING		GRUBBING		NOTES
		LEFT	RIGHT	(TREE)	(ACRE)	(TREE)	(ACRE)	
N.B. C.S.A.H. 78	100+56.2		44.9	1		1		
N.B. C.S.A.H. 78	100+74.7	10.3		1		1		
N.B. C.S.A.H. 78	100+74.7		3.7	1		1		
N.B. C.S.A.H. 78	100+86.8	0.4		1		1		
N.B. C.S.A.H. 78	100+93.3		51.0	1		1		
N.B. C.S.A.H. 78	101+16.8		50.9	1		1		
N.B. C.S.A.H. 78	101+62.7		59.2	1		1		
N.B. C.S.A.H. 78	101+92.4		63.1	1		1		
N.B. C.S.A.H. 78	102+06.4		59.0	1		1		
N.B. C.S.A.H. 78	102+16.3		50.1	1		1		
N.B. C.S.A.H. 78	102+22.3		8.3	1		1		
N.B. C.S.A.H. 78	102+27.5		11.9	1		1		
N.B. C.S.A.H. 78	102+27.5		20.7	1		1		
N.B. C.S.A.H. 78	102+27.6		31.0	1		1		
N.B. C.S.A.H. 78	102+27.6		43.1	1		1		
N.B. C.S.A.H. 78	102+43.6		3.4	1		1		
N.B. C.S.A.H. 78	103+09.8	113.0		1		1		
N.B. C.S.A.H. 78	103+14.1	125.3		1		1		
N.B. C.S.A.H. 78	103+16.0	147.0		1		1		
N.B. C.S.A.H. 78	103+16.6	134.9		1		1		
N.B. C.S.A.H. 78	104+86.3		7.4	1		1		
N.B. C.S.A.H. 78	105+01.3		7.4	1		1		
N.B. C.S.A.H. 78	105+13.7		7.3	1		1		
N.B. C.S.A.H. 78	105+24.2		7.3	1		1		
N.B. C.S.A.H. 78	105+37.3		3.1	1		1		
N.B. C.S.A.H. 78	105+45.9		3.1	1		1		
N.B. C.S.A.H. 78	105+48.8		3.0	1		1		
N.B. C.S.A.H. 78	105+58.3		3.0	1		1		
N.B. C.S.A.H. 78	105+67.3		3.0	1		1		
N.B. C.S.A.H. 78	105+97.7		2.8	1		1		
N.B. C.S.A.H. 78	105+97.7		10.7	1		1		
N.B. C.S.A.H. 78	106+06.0		18.2	1		1		
N.B. C.S.A.H. 78	106+09.7		5.8	1		1		
N.B. C.S.A.H. 78	106+18.3		5.8	1		1		
N.B. C.S.A.H. 78	106+38.9		5.7	1		1		
N.B. C.S.A.H. 78	106+38.9	1.4		1		1		
N.B. C.S.A.H. 78	106+43.0	8.6		1		1		
N.B. C.S.A.H. 78	107+62.0		19.4	1		1		
N.B. C.S.A.H. 78	109+83.5		57.9	1		1		
N.B. C.S.A.H. 78	110+11.2	1.7		1		1		
N.B. C.S.A.H. 78	110+11.3		9.5	1		1		
N.B. C.S.A.H. 78	111+06.4		33.2	1		1		
N.B. C.S.A.H. 78	112+37.4	122.3		1		1		
N.B. C.S.A.H. 78	112+47.0		28.7	1		1		
N.B. C.S.A.H. 78	112+87.9		29.1	1		1		
N.B. C.S.A.H. 78	115+25.7 - 120+71.8		7.19-24.5		0.67		0.67	
N.B. C.S.A.H. 78	120+81.1 - 124+08.9	0.7	21.0		0.35		0.35	
N.B. C.S.A.H. 78	125+75.2 - 126+01.3		89.82-201.0	1	0.04	1	0.04	
N.B. C.S.A.H. 78	125+97.2 - 126.01.3		210.9-201.0	1	0.01	1	0.01	
N.B. C.S.A.H. 78	126+40.7 - 143+52.5		4.19-176.5	1	3.15	1	3.15	
N.B. C.S.A.H. 78	130+63.3	109.1		1		1		
N.B. C.S.A.H. 78	130+91.1	115.8		1		1		
N.B. C.S.A.H. 78	131+37.7	123.2		1		1		
N.B. C.S.A.H. 78	131+37.8	114.4		1		1		
N.B. C.S.A.H. 78	131+37.8	114.4		1		1		
N.B. C.S.A.H. 78	132+37.2	125.2		1		1		
N.B. C.S.A.H. 78	133+00.8	158.4		1		1		
N.B. C.S.A.H. 78	133+12.4	120.5		1		1		
N.B. C.S.A.H. 78	133+35.4	119.2		1		1		
N.B. C.S.A.H. 78	135+59.3	150.2		1		1		
N.B. C.S.A.H. 78	153+76.8		42.2	1		1		
N.B. C.S.A.H. 78	154+18.4		42.2	1		1		
SUBTOTAL				60	4.22	60	4.22	

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

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TBB

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 78

SHEET 15 OF 400

10:56:11 AM
10/10/2006
H:\projects\5404\hl-mu\plan\5404.TBB

(R) CLEARING & GRUBBING

ALIGNMENT	STATION TO STATION	OFFSET LEFT	OFFSET RIGHT	CLEARING (TREE)	CLEARING (ACRE)	GRUBBING (TREE)	GRUBBING (ACRE)	NOTES
E.B. C.S.A.H. 116	10+93.2	87.5		1		1		
E.B. C.S.A.H. 116	17+61.4	92.8		1		1		
E.B. C.S.A.H. 116	17+93.3	94.0		1		1		
E.B. C.S.A.H. 116	18+05.6	94.1		1		1		
E.B. C.S.A.H. 116	18+15.2	95.5		1		1		
E.B. C.S.A.H. 116	18+26.8	96.2		1		1		
E.B. C.S.A.H. 116	18+67.7	92.2		1		1		
E.B. C.S.A.H. 116	18+76.6	92.0		1		1		
E.B. C.S.A.H. 116	26+81.5		45.1	1		1		
E.B. C.S.A.H. 116	27+01.2		50.3	1		1		
E.B. C.S.A.H. 116	27+39.3		36.4	1		1		
E.B. C.S.A.H. 116	27+41.8		52.8	1		1		
E.B. C.S.A.H. 116	27+93.9 - 28+72.0		53.5		0.07		0.07	
E.B. C.S.A.H. 116	29+19.9 - 31+66.4		99.7		0.53		0.53	
E.B. C.S.A.H. 116	32+50.9		72.4	1		1		
E.B. C.S.A.H. 116	32+62.4		102.8	1		1		
E.B. C.S.A.H. 116	32+72.9		44.5	1		1		
E.B. C.S.A.H. 116	32+95.0		78.3	1		1		
E.B. C.S.A.H. 116	33+14.6		42.8	1		1		
E.B. C.S.A.H. 116	33+32.3		100.5	1		1		
E.B. C.S.A.H. 116	33+34.5	90.8		1		1		
E.B. C.S.A.H. 116	33+40.9		75.3	1		1		
E.B. C.S.A.H. 116	33+46.6		43.0	1		1		
E.B. C.S.A.H. 116	33+53.2	89.7		1		1		
E.B. C.S.A.H. 116	33+67.8		67.0	1		1		
E.B. C.S.A.H. 116	33+75.8	89.1		1		1		
E.B. C.S.A.H. 116	33+83.4		95.8	1		1		
E.B. C.S.A.H. 116	33+91.8		44.3	1		1		
E.B. C.S.A.H. 116	34+10.9		85.8	1		1		
E.B. C.S.A.H. 116	34+21.8		54.7	1		1		
E.B. C.S.A.H. 116	34+39.1		100.0	1		1		
E.B. C.S.A.H. 116	34+53.9	88.1		1		1		
E.B. C.S.A.H. 116	34+62.4		109.0	1		1		
E.B. C.S.A.H. 116	34+71.0	89.3		1		1		
E.B. C.S.A.H. 116	34+77.6		48.3	1		1		
E.B. C.S.A.H. 116	34+85.1	91.9		1		1		
E.B. C.S.A.H. 116	34+90.4		78.5	1		1		
E.B. C.S.A.H. 116	34+92.7		107.2	1		1		
E.B. C.S.A.H. 116	35+10.1		98.9	1		1		
E.B. C.S.A.H. 116	35+17.7		87.9	1		1		
E.B. C.S.A.H. 116	35+18.7		70.4	1		1		
E.B. C.S.A.H. 116	35+21.1	86.5		1		1		
E.B. C.S.A.H. 116	35+34.5		78.6	1		1		
E.B. C.S.A.H. 116	35+34.6	86.9		1		1		
E.B. C.S.A.H. 116	35+49.7	88.3		1		1		
E.B. C.S.A.H. 116	35+60.6	88.6		1		1		
E.B. C.S.A.H. 116	35+64.2		109.7	1		1		
E.B. C.S.A.H. 116	35+65.4		84.3	1		1		
E.B. C.S.A.H. 116	35+65.7		89.8	1		1		
E.B. C.S.A.H. 116	35+68.5		61.1	1		1		
E.B. C.S.A.H. 116	35+69.8		55.3	1		1		
E.B. C.S.A.H. 116	35+71.9	88.8		1		1		
E.B. C.S.A.H. 116	35+75.5		91.0	1		1		
E.B. C.S.A.H. 116	35+79.5		59.2	1		1		
E.B. C.S.A.H. 116	35+82.1		49.4	1		1		
E.B. C.S.A.H. 116	35+82.2		69.2	1		1		
E.B. C.S.A.H. 116	35+82.9		44.0	1		1		
E.B. C.S.A.H. 116	35+84.5		58.7	1		1		
E.B. C.S.A.H. 116	35+85.1		78.6	1		1		
E.B. C.S.A.H. 116	35+89.3		73.4	1		1		
E.B. C.S.A.H. 116	35+89.6		67.5	1		1		
E.B. C.S.A.H. 116	35+90.2		33.5	1		1		
E.B. C.S.A.H. 116	36+01.0		42.7	1		1		
E.B. C.S.A.H. 116	36+01.3		38.0	1		1		
E.B. C.S.A.H. 116	36+03.6		99.1	1		1		
E.B. C.S.A.H. 116	36+03.9	85.6		1		1		
E.B. C.S.A.H. 116	36+07.0		70.7	1		1		
SUBTOTAL				**65**	**0.60**	**65**	**0.60**	

(R) CLEARING & GRUBBING

ALIGNMENT	STATION TO STATION	OFFSET LEFT	OFFSET RIGHT	CLEARING (TREE)	CLEARING (ACRE)	GRUBBING (TREE)	GRUBBING (ACRE)	NOTES
E.B. C.S.A.H. 116	36+08.5		57.8	1		1		
E.B. C.S.A.H. 116	36+18.3		84.2	1		1		
E.B. C.S.A.H. 116	36+18.9		72.0	1		1		
E.B. C.S.A.H. 116	36+19.0		98.7	1		1		
E.B. C.S.A.H. 116	36+19.5		61.3	1		1		
E.B. C.S.A.H. 116	36+21.5	85.1		1		1		
E.B. C.S.A.H. 116	36+27.7		88.7	1		1		
E.B. C.S.A.H. 116	36+27.8		44.8	1		1		
E.B. C.S.A.H. 116	36+33.7		79.4	1		1		
E.B. C.S.A.H. 116	36+39.1	85.4		1		1		
E.B. C.S.A.H. 116	36+47.4		48.2	1		1		
E.B. C.S.A.H. 116	36+51.2		128.6	1		1		
E.B. C.S.A.H. 116	36+62.5		41.9	1		1		
E.B. C.S.A.H. 116	36+63.4	84.2		1		1		
E.B. C.S.A.H. 116	36+65.0		156.2	1		1		
E.B. C.S.A.H. 116	36+72.0		70.8	1		1		
E.B. C.S.A.H. 116	36+74.4	86.6		1		1		
E.B. C.S.A.H. 116	36+75.2	98.5		1		1		
E.B. C.S.A.H. 116	36+90.0		155.0	1		1		
E.B. C.S.A.H. 116	36+93.5		106.9	1		1		
E.B. C.S.A.H. 116	37+09.3		147.1	1		1		
E.B. C.S.A.H. 116	37+10.4		45.1	1		1		
E.B. C.S.A.H. 116	37+10.5		88.9	1		1		
E.B. C.S.A.H. 116	37+16.9		117.7	1		1		
E.B. C.S.A.H. 116	37+24.8		67.1	1		1		
E.B. C.S.A.H. 116	37+35.6		91.6	1		1		
E.B. C.S.A.H. 116	37+37.8		115.9	1		1		
E.B. C.S.A.H. 116	37+40.4		97.8	1		1		
E.B. C.S.A.H. 116	37+45.5		116.6	1		1		
E.B. C.S.A.H. 116	37+50.4		69.0	1		1		
E.B. C.S.A.H. 116	37+51.0		35.8	1		1		
E.B. C.S.A.H. 116	37+51.1		107.6	1		1		
E.B. C.S.A.H. 116	37+54.0		62.1	1		1		
E.B. C.S.A.H. 116	37+57.0		75.8	1		1		
E.B. C.S.A.H. 116	37+57.7		34.0	1		1		
E.B. C.S.A.H. 116	37+57.9		98.4	1		1		
E.B. C.S.A.H. 116	37+58.6		39.5	1		1		
E.B. C.S.A.H. 116	37+65.9		112.9	1		1		
E.B. C.S.A.H. 116	37+66.6		100.3	1		1		
E.B. C.S.A.H. 116	37+66.8		40.4	1		1		
E.B. C.S.A.H. 116	37+67.5		36.3	1		1		
E.B. C.S.A.H. 116	37+71.0		105.8	1		1		
E.B. C.S.A.H. 116	37+79.9		36.4	1		1		
E.B. C.S.A.H. 116	37+81.3		40.4	1		1		
E.B. C.S.A.H. 116	37+98.9		106.4	1		1		
E.B. C.S.A.H. 116	37+99.5		100.7	1		1		
E.B. C.S.A.H. 116	38+00.4		113.7	1		1		
E.B. C.S.A.H. 116	38+02.3		69.6	1		1		
E.B. C.S.A.H. 116	38+09.6		70.7	1		1		
E.B. C.S.A.H. 116	38+10.6		64.2	1		1		
E.B. C.S.A.H. 116	38+15.8		62.1	1		1		
E.B. C.S.A.H. 116	39+22.4	65.8		1		1		
E.B. C.S.A.H. 116	29+26.4 - 39+75.9		114.82-85.8		0.04		0.04	
E.B. C.S.A.H. 116	39+32.4	65.8		1		1		
E.B. C.S.A.H. 116	39+52.7		49.9	1		1		
E.B. C.S.A.H. 116	42+11.3	63.7		1		1		
E.B. C.S.A.H. 116	42+21.2	64.3		1		1		
E.B. C.S.A.H. 116	42+24.4	66.4		1		1		
E.B. C.S.A.H. 116	42+33.6	66.3		1		1		
E.B. C.S.A.H. 116	42+60.1	65.5		1		1		
E.B. C.S.A.H. 116	43+00.0	65.3		1		1		
SUBTOTAL				**60**	**0.04**	**60**	**0.04**	

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

10:56:14 AM
10/10/2006
h:\projects\5404\hl-mu\plan\5404.TBC

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TBC

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 78

SHEET 16 OF 400

(U)

SANITARY SEWER

ALIGNMENT	STATION	OFFSET LEFT (FT)	OFFSET RIGHT (FT)	EXISTING ITEM	OWNER	SALVAGE (SPEC. 2206.5(b)) CASTING (EACH)	PROPOSED RIM ELEV (FT)	EXISTING RIM ELEV (FT)	ADJUST FRAME & RING CASTING (EACH)	(A) RECONSTRUCT STRUCTURE (SPEC. 2506) (LIN FT)	FURNISH AND INSTALL 6" PVC SDR 35 (LIN FT)	FURNISH AND INSTALL 10" DIP SEWER (LIN FT)	FURNISH AND INSTALL (D) 20" CASING (LIN FT)	FURNISH AND INSTALL (D) 22" CASING (LIN FT)	FURNISH AND INSTALL (D) 24" CASING (LIN FT)	NOTES
N.B. C.S.A.H. 78	72+69 - 72+76	132.6	26.5	10" PVC w/ Unk. Casing	COON RAPIDS									5		(B)
N.B. C.S.A.H. 78	72+69.01		35.2	MH	COON RAPIDS	1	886.84	885.00		5.8						
N.B. C.S.A.H. 78	75+73	13-139		8" PVC w/ Unk. Casing	COON RAPIDS											(B)
N.B. C.S.A.H. 78	75+73.43	8.7		MH	COON RAPIDS		890.04	889.87	1							
N.B. C.S.A.H. 78	75+75 - 75+93	4.4	56.2	8" PVC	COON RAPIDS								46			(B)
N.B. C.S.A.H. 78	75+78 - 79+69	8.4-12.3		8" PVC	COON RAPIDS											(B)
N.B. C.S.A.H. 78	79+72.72	12.3		MH	COON RAPIDS		899.47	899.53	1							
N.B. C.S.A.H. 78	79+77 - 83+67	12.3-11.6		8" PVC	COON RAPIDS											(B)
N.B. C.S.A.H. 78	83+71.00	11.7	48.0		COON RAPIDS						60					(E)
N.B. C.S.A.H. 78	83+70.96	11.7		MH	COON RAPIDS	1	904.81	906.13		6.7						
N.B. C.S.A.H. 78	84+83.70	151.8		MH	COON RAPIDS	1	905.24	906.41		6.8						
N.B. C.S.A.H. 78	94+70.22	134.3		MH	COON RAPIDS			875.61								(B)
N.B. C.S.A.H. 78	94+70 - 94+72	134.3	0.7	8" PVC w/ Unk. Casing	COON RAPIDS								14			(B)
N.B. C.S.A.H. 78	94+72		0.73-43.5	12" PVC	COON RAPIDS										24	(B)
N.B. C.S.A.H. 78	94+72.05		0.7	MH	COON RAPIDS	1	889.17	885.48		7.7						
N.B. C.S.A.H. 78	94+72 - 97+93		0.73-0.95	12" PVC	COON RAPIDS											(B)
N.B. C.S.A.H. 78	97+93.54		1.0	MH	COON RAPIDS	1	885.92	886.95		7.0						
N.B. C.S.A.H. 78	97+94 - 99+92		0.95 - 1.36	12" PVC	COON RAPIDS											(B)
N.B. C.S.A.H. 78	99+92.98		1.4	MH	COON RAPIDS	1	883.90	878.66		9.2						
N.B. C.S.A.H. 78	99+94 - 100+19	113.8	1.4	12" PVC w/ Unk. Casing	COON RAPIDS										23	(B)
N.B. C.S.A.H. 78	100+18.99	113.8		MH	COON RAPIDS			877.23								(B)
N.B. C.S.A.H. 78	124+50.74	107.5		MH	COON RAPIDS			891.18								(B)
N.B. C.S.A.H. 78	124+50 - 124+52	107.5	39.4	8" PVC w/ Unk. Casing	COON RAPIDS								46			(B)
N.B. C.S.A.H. 78	124+52.04		39.4	MH	COON RAPIDS	1	893.85	890.82		7.0						
N.B. C.S.A.H. 78	172+12.30	82.4		MH	ANDOVER		898.17	899.35	1							(B),(E)
N.B. C.S.A.H. 78	172+12.30 - 172+17.00	82.4	84.2		ANDOVER							167				(C)
E.B. C.S.A.H. 116	27+19.42	115.5		MH	ANDOVER			896.71								(B)
E.B. C.S.A.H. 116	27+19 - 31+20	115-114		8" PVC	ANDOVER											(B)
E.B. C.S.A.H. 116	31+20.15	118.4		MH	ANDOVER			895.96								(B)
E.B. C.S.A.H. 116	31+20 - 32+68	118-97		8" PVC	ANDOVER											(B)
E.B. C.S.A.H. 116	32+68.48	97.3		MH	ANDOVER	1	893.10	890.11		6.0						
E.B. C.S.A.H. 116	32+69 - 34+31	97-96		10" PVC	ANDOVER											(B)
E.B. C.S.A.H. 116	33+34.35		13.6	MH	ANDOVER	1	896.03	894.46		5.6						
E.B. C.S.A.H. 116	33+34 - 34+31		13.5-14.8	10" PVC	ANDOVER											(B)
E.B. C.S.A.H. 116	34+31.40		14.8	MH	ANDOVER	1	896.87	896.11		4.8						
E.B. C.S.A.H. 116	34+31	96.1	14.8	10" PVC	ANDOVER									104		(B)
E.B. C.S.A.H. 116	34+31.90	96.1		MH	ANDOVER			892.82								(B)
PROJECT TOTALS						10			3	66.6	60	167	106	109	47	

NOTES:
(A) RECONSTRUCT STRUCTURE INCLUDES SALVAGING AND INSTALLING CASTINGS.
(B) LEAVE IN PLACE.
(C) DUCTILE IRON PIPE SHALL BE CLASS 52.
(D) INSTALL BY SPLIT CASING.
(E) CONNECT TO EXISTING MANHOLE.

(R)

CLEARING & GRUBBING

ALIGNMENT	STATION TO STATION	OFFSET LEFT	OFFSET RIGHT	CLEARING (TREE)	CLEARING (ACRE)	GRUBBING (TREE)	GRUBBING (ACRE)	NOTES
E.B. C.S.A.H. 116	43+19.4	63.5		1		1		
E.B. C.S.A.H. 116	44+23.0		46.7	1		1		
E.B. C.S.A.H. 116	44+35.8		45.7	1		1		
E.B. C.S.A.H. 116	44+47.7	57.7		1		1		
E.B. C.S.A.H. 116	47+06.8	53.1		1		1		
E.B. C.S.A.H. 116	47+18.5	56.9		1		1		
SUBTOTAL				6		6		
PROJECT TOTAL				253	5.57	253	5.57	

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

NO	DATE	BY	CKD	APPR	REVISION
...\5404\hl-mu\plan\5404.TBD					

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 78

SHEET 17 OF 400

10:56:15 AM
10/10/2006
h:\projects\5404\hl-mu\plan\5404.TBD

NOTES:
(A) BITUMINOUS MIXTURE DESIGNATION SHALL BE LVWE45030B (MN/DOT SPEC 2350).
SEE AGGREGATE AMD BITUMINOUS SUMMARY FOR BITUMINOUS MATERIAL QUANTITY.
(B) QUANTITY FOR 4" CONCRETE PEDESTRIAN WALKS.
(C) QUANTITY FOR 6" CONCRETE APPROACH NOSES ON MEDIANS (SEE STD. PLT. 7113).
(D) INSTALLATION OF TRUNCATED DOMES (PER STD. PLT. 7036)
(E) PAID FOR AS 4" CONCRETE WALK
(F) SEE CONCRETE WALK DETAIL ON SHEET 49

(Z) FENCING (SPEC. 2557)

ALIGNMENT	STATION TO STATION	OFFSET		REMOVE		FURNISH AND INSTALL	NOTES
		LEFT (FT)	RIGHT (FT)	CHAIN LINK (LIN FT)	WOOD (LIN FT)	WIRE FENCE (VINYL COATED) (LIN FT)	
N.B. C.S.A.H. 78	66+80 - 66+83	114-101		14			
N.B. C.S.A.H. 78	66+83 - 67+45	99			62		
N.B. C.S.A.H. 78	95+04.4	95				37.5	1
N.B. C.S.A.H. 78	95+04.8		51			37.5	1
N.B. C.S.A.H. 78	86+50.0 - 90+00.0		40			350	1
N.B. C.S.A.H. 78	118+00.0 - 120+00.0		40			200	1
SUBTOTAL				**14**	**62**	**625**	
E.B. C.S.A.H. 116	39+13 - 39+35	81-83			22		
E.B. C.S.A.H. 116	39+77 - 40+64	84-82					2
E.B. C.S.A.H. 116	41+20 - 41+84	81-79		64			
SUBTOTAL				**64**	**22**		
PROJECT TOTALS				**78**	**84**	**625**	

NOTES:
1) FENCE POST ACHORAGE TO BE INCIDENTAL TO WIRE FENCE DESIGN SPECIAL VINYL COATED
2) LEAVE AS IS

(Y) CURB & GUTTER AND WALK

ALIGNMENT	STATION TO STATION	WALK (B) 4" CONCRETE (SQ. FT.)	WALK (C) 6" CONCRETE (SQ. FT.)	WALK (F) 8" CONCRETE (SQ. FT.)	WALK (A) 2.5" BITUMINOUS (SQ. FT.)	PEDESTRIAN CURB RAMP (EACH)	TRUNCATED DOMES (D) (SQ. FT.)	CURB AND GUTTER B418 (LIN FT.)	B424 (LIN FT.)	B612 (LIN FT.)	B618 (LIN FT.)	D418 (LIN FT.)	S512 (LIN FT.)	4" CONCRETE MEDIAN (E) (SQ. FT.)
N.B. C.S.A.H. 78	50+00.0 - 126+00.0	30754	351		56470	24	192	12225	13626		36	12	40	84117
N.B. C.S.A.H. 78	126+00.0 - 171+38.8		222		73477	17	128	8588	9032	60	15		353	52843
N.B. C.S.A.H. 78	171+38.8 - 180+50.0	2935	48	532	11595	7	56	32	565		842			1240
127 AVE W.	300+00.0 - 302+25.4								17		112			
127 AVE E.	351+00.0 - 352+00.0								5		174			
129TH LANE	400+00.0 - 401+85.4								28				222	
133RD AVE W	500+00.0 - 502+26.8	187							16		55			
133RD AVE E	503+73.9 - 506+00.0								15					
E.B. STATION PARKWAY	604+76.0 - 605+75.0	1547							21	363				1550
PARK DRIVE	701+05.1 - 711+73.6								59		2116			
SERVICE ROAD	800+50.0 - 803+44.5								10		494			
SUBTOTAL		**35423**	**621**	**532**	**141542**	**48**	**376**	**20845**	**23394**	**423**	**3844**	**12**	**615**	**139750**
E.B. C.S.A.H. 116	12+50.0 - 22+79.6				13871	2		1602	1617					10470
E.B. C.S.A.H. 116	24+92.1 - 47+37.2		104		21675	6	16	3340	4676					14930
COUNTY ACCESS	900+00.0 - 901+97.2								278					
SUBTOTAL			**104**		**35546**	**8**	**16**	**4942**	**6571**					**25400**
PROJECT TOTALS		35423	725	532	177088	56	392	25787	29965	423	3844	12	615	165150

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.TBE

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 78

SHEET 18 OF 400

10:56:15 AM
10/10/2006
h:\projects\5404\hl-mu\plan\5404.TBE

(V)

WATERMAIN (SPEC. 2504)

ALIGNMENT	STATION TO STATION	OFFSET		OWNER	REMOVE (SPEC. 2104)		SALVAGE (SPEC. 2104)		INSTALL		ADJUST		DUCTILE IRON PIPE WATERMAIN (3)			
					WATERMAIN	GATE VALVE	HYDRANT	GATE VALVE & BOX	HYDRANT	GATE VALVE & BOX	HYDRANT	VALVE BOX	6" CL 52	8" CL 52	10" CL 50	12" CL 50
		LT	RT		(LF)	(EACH)	(EACH)	(EACH)	(EACH)	(EACH)	(EACH)	(EACH)	(LF)	(LF)	(LF)	(LF)
N.B. C.S.A.H. 78	72+57.6 - 73+12.7	780.9-781.4		COON RAPIDS												
N.B. C.S.A.H. 78	72+79.2 - 75+63.5		72.0-3.5	COON RAPIDS												
N.B. C.S.A.H. 78	75+65.4 - 75+83.1		3.5-57.0	COON RAPIDS												
N.B. C.S.A.H. 78	75+70.3		3.4	COON RAPIDS								1				
N.B. C.S.A.H. 78	75+63.5 - 81+30.0	3.5	3.5	COON RAPIDS												
N.B. C.S.A.H. 78	75+61.2 - 75+63.3	139.6-13.0		COON RAPIDS												
N.B. C.S.A.H. 78	75+61.9	99.6		COON RAPIDS								1				
N.B. C.S.A.H. 78	75+63.3 - 75+63.5	13.0	3.5	COON RAPIDS												
N.B. C.S.A.H. 78	78+79.4		5.4	COON RAPIDS			1	1	1	1			38.0			
N.B. C.S.A.H. 78	81+30.0 - 84+73.1	3.5-6.6		COON RAPIDS												
N.B. C.S.A.H. 78	81+68.5 - 81+68.9	3.3-91.9		COON RAPIDS												
N.B. C.S.A.H. 78	83+29.6 - 83+30.5	92.5-4.1		COON RAPIDS												
N.B. C.S.A.H. 78	83+60.0	4.5	48.0	COON RAPIDS									53.0			
N.B. C.S.A.H. 78	83+66.3 - 83+67.4	92.4-4.6		COON RAPIDS												
N.B. C.S.A.H. 78	84+69.0	6.5		COON RAPIDS								1				
N.B. C.S.A.H. 78	84+70.8 - 84+73.1	163.4-6.6		COON RAPIDS												
N.B. C.S.A.H. 78	84+71.7	99.9		COON RAPIDS								1				
N.B. C.S.A.H. 78	84+73.1 - 85+49.0	6.6	46.4	COON RAPIDS												
N.B. C.S.A.H. 78	85+48.1	7.6	28.0	COON RAPIDS												
N.B. C.S.A.H. 78	85+48.1 - 86+18.8	7.6	48.4	COON RAPIDS												
N.B. C.S.A.H. 78	86+18.2	8.3	28.0	COON RAPIDS												
N.B. C.S.A.H. 78	94+44.70 - 94+49.32	17.0	28.3	COON RAPIDS												
N.B. C.S.A.H. 78	94+44.70 - 95+34.42		28.3-28.0	COON RAPIDS												
N.B. C.S.A.H. 78	94+49.32 - 94+57.73	17.0-99.4		COON RAPIDS												
N.B. C.S.A.H. 78	95+34.42 - 95+56.81		28.0-28.2	COON RAPIDS	35	1								35.0		
N.B. C.S.A.H. 78	95+56.81 - 98+54.8		28.2-69.6	COON RAPIDS												
N.B. C.S.A.H. 78	98+54.9		49.9	COON RAPIDS								1				
N.B. C.S.A.H. 78	103+23.5	65.6-218.7		COON RAPIDS												
N.B. C.S.A.H. 78	103+23.5	119.4		COON RAPIDS							1	1				
N.B. C.S.A.H. 78	111+60.6 - 111+74.6	136.0	127.5	COON RAPIDS												
N.B. C.S.A.H. 78	132+21.2 - 136+08.7	116.0		ANDOVER												
N.B. C.S.A.H. 78	135+24.6	134.3		ANDOVER												
N.B. C.S.A.H. 78	136+08.7	116.4	70.1	ANDOVER									15.0		187.0	
N.B. C.S.A.H. 78	136+08.7 - 136+15.2	116.4-193.7		ANDOVER												
N.B. C.S.A.H. 78	136+08.7 - 136+51.3	116.4-116.9		ANDOVER												
N.B. C.S.A.H. 78	136+09.77	129.1		ANDOVER								1				
N.B. C.S.A.H. 78	152+53.7		39.9	ANDOVER								1				
N.B. C.S.A.H. 78	152+54.3	94.9		ANDOVER			1	1	1	1			23.0			
N.B. C.S.A.H. 78	152+57.5		39.2	ANDOVER								1				
N.B. C.S.A.H. 78	152+58.6	89.7		ANDOVER								1				
N.B. C.S.A.H. 78	152+57.5 - 165+35.6		39.3-47.9	ANDOVER												
N.B. C.S.A.H. 78	155+22.5		21.2	ANDOVER			1	1	1	1			6.0			
N.B. C.S.A.H. 78	155+22.6		19.0	ANDOVER								1				
N.B. C.S.A.H. 78	159+85.1		50.9	ANDOVER							1	1				
N.B. C.S.A.H. 78	164+01.7 - 165+07.3		322.7-41.9	ANDOVER												
N.B. C.S.A.H. 78	164+01.7		322.7	ANDOVER												
N.B. C.S.A.H. 78	164+36.4		344.9	ANDOVER												
N.B. C.S.A.H. 78	164+42.0		346.6	ANDOVER												
N.B. C.S.A.H. 78	164+68.8		214.0	ANDOVER								1				
N.B. C.S.A.H. 78	165+01.5		41.1	ANDOVER								1				
N.B. C.S.A.H. 78	165+07.3		41.8	ANDOVER								1				
N.B. C.S.A.H. 78	171+67.5	100.4		ANDOVER							1	1				
N.B. C.S.A.H. 78	172+00.6 - 172+02.4	166.2-75.6		ANDOVER												
N.B. C.S.A.H. 78	172+04.0	75.6	84.4	ANDOVER												160
N.B. C.S.A.H. 78	179+57.2 - 181+24.8		54.7-51.0	ANDOVER												
S.B. C.S.A.H. 78	84+71.6 - 87+43.0	34.6-49.5		COON RAPIDS										284.0		
SUBTOTAL					**35**	**1**	**3**	**3**	**3**	**3**	**3**	**16**	**135**	**319**	**187**	**160**
E.B. C.S.A.H. 116	10+23.8 - 34+21.8	74.3-74.0		ANDOVER												
E.B. C.S.A.H. 116	18+38.0	77.1		ANDOVER							1	1				
E.B. C.S.A.H. 116	19+06.2 - 19+15.4	79.8	44.9	ANDOVER												
E.B. C.S.A.H. 116	19+16.2	71.2		ANDOVER								1				
E.B. C.S.A.H. 116	25+56.3	92.8		ANDOVER							1	1				
E.B. C.S.A.H. 116	30+36.8	84.4		ANDOVER			1	1	1	1			8			
E.B. C.S.A.H. 116	31+68.8	78.2		ANDOVER								1				
E.B. C.S.A.H. 116	31+96.3 - 31+97.4	78.1	5.3	ANDOVER												
E.B. C.S.A.H. 116	31+96.5	63.4		ANDOVER								1				
E.B. C.S.A.H. 116	32+77.3	77.5		ANDOVER								1				
E.B. C.S.A.H. 116	34+14.6 - 44+19.1		2.1-30.0	ANDOVER												
E.B. C.S.A.H. 116	34+21.5 - 34+21.8	74.0	2.1	ANDOVER												
E.B. C.S.A.H. 116	34+43.9	61.5		ANDOVER								1				
E.B. C.S.A.H. 116	36+63.9		5.9	ANDOVER								1				
E.B. C.S.A.H. 116	39+43.4		26.3	ANDOVER							1					
E.B. C.S.A.H. 116	44+19.1		28.9	ANDOVER							1	1				
SUBTOTAL							**1**	**1**	**1**	**1**	**4**	**9**	**8**			
PROJECT TOTALS					**35**	**1**	**4**	**4**	**4**	**4**	**7**	**25**	**143**	**319**	**187**	**160**

NOTES:
(1) LEAVE IN PLACE
(2) RELOCATE. SEE CONSTRUCTION PLANS
(3) WATERMAIN LOWERING. SEE WATERMAIN PROFILE SHEETS.
(4) INSTALL WITH SPLIT CASING

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TBF

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 78

SHEET 19 OF 400

10:56:16 AM
10/10/2006
h:\projects\5404\hl-mu\plan\5404.TBF

(V)

WATERMAIN (SPEC. 2504) CONT.

ALIGNMENT	STATION TO STATION	OFFSET		OWNER	FURNISH AND INSTALL															INSULATION BOARD	WATERMAIN FITTINGS	CONNECT TO EXISTING
					STEEL CASING (4)				WET TAP		GATE VALVE & BOX		BUTTERFLY VALVE & BOX	HYDRANT	MEGALUGS							
					18"	20"	24"	30"	6" X 6"	18" X 8"	6"	8"	12"		6"	8"	10"	12"				
		LT	RT		(LF)	(LF)	(LF)	(LF)	EACH	EACH	(EACH)	(EACH)	(EACH)	(EACH)	(EACH)	(EACH)	(EACH)	(EACH)	(SY)	(LBS)	(EACH)
N.B. C.S.A.H. 78	72+57.6 - 73+12.7	780.9-781.4		COON RAPIDS																	
N.B. C.S.A.H. 78	72+79.2 - 75+63.5		72.0-3.5	COON RAPIDS																	
N.B. C.S.A.H. 78	75+65.4 - 75+83.1		3.5-57.0	COON RAPIDS	32														25		
N.B. C.S.A.H. 78	75+70.3		3.4	COON RAPIDS																	
N.B. C.S.A.H. 78	75+63.5 - 81+30.0	3.5	3.5	COON RAPIDS																	
N.B. C.S.A.H. 78	75+61.2 - 75+63.3	139.6-13.0		COON RAPIDS																	
N.B. C.S.A.H. 78	75+61.9	99.6		COON RAPIDS																	
N.B. C.S.A.H. 78	75+63.3 - 75+63.5	13.0	3.5	COON RAPIDS	17																
N.B. C.S.A.H. 78	78+79.4		5.4	COON RAPIDS											4						1
N.B. C.S.A.H. 78	81+30.0 - 84+73.1	3.5-6.6		COON RAPIDS															153		
N.B. C.S.A.H. 78	81+68.5 - 81+68.9	3.3-91.9		COON RAPIDS															40		
N.B. C.S.A.H. 78	83+29.6 - 83+30.5	92.5-4.1		COON RAPIDS															40		
N.B. C.S.A.H. 78	83+60.0	4.5	48.0	COON RAPIDS					1						2				24	35	
N.B. C.S.A.H. 78	83+66.3 - 83+67.4	92.4-4.6		COON RAPIDS															40		
N.B. C.S.A.H. 78	84+69.0	6.5		COON RAPIDS																	
N.B. C.S.A.H. 78	84+70.8 - 84+73.1	163.4-6.6		COON RAPIDS															70		
N.B. C.S.A.H. 78	84+71.7	99.9		COON RAPIDS																	
N.B. C.S.A.H. 78	84+73.1 - 85+49.0	6.6	46.4	COON RAPIDS															58		
N.B. C.S.A.H. 78	85+48.1	7.6	28.0	COON RAPIDS				36													
N.B. C.S.A.H. 78	85+48.1 - 86+18.8	7.6	48.4	COON RAPIDS															57		
N.B. C.S.A.H. 78	86+18.2	8.3	28.0	COON RAPIDS		36															
N.B. C.S.A.H. 78	94+44.70 - 94+49.32	17.0	28.3	COON RAPIDS	46																
N.B. C.S.A.H. 78	94+44.70 - 95+34.42		28.3-28.0	COON RAPIDS																	
N.B. C.S.A.H. 78	94+49.32 - 94+57.73	17.0-99.4		COON RAPIDS																	
N.B. C.S.A.H. 78	95+34.42 - 95+56.81		28.0-28.2	COON RAPIDS								1				8			4	220	2
N.B. C.S.A.H. 78	95+56.81 - 98+54.8		28.2-69.6	COON RAPIDS															151		
N.B. C.S.A.H. 78	98+54.9		49.9	COON RAPIDS																	
N.B. C.S.A.H. 78	103+23.5	65.6-218.7		COON RAPIDS																	
N.B. C.S.A.H. 78	103+23.5	119.4		COON RAPIDS																	
N.B. C.S.A.H. 78	111+60.6 - 111+74.6	136.0	127.5	COON RAPIDS																	
N.B. C.S.A.H. 78	132+21.2 - 136+08.7	116.0		ANDOVER																	
N.B. C.S.A.H. 78	135+24.6	134.3		ANDOVER																	
N.B. C.S.A.H. 78	136+08.7	116.4	70.1	ANDOVER			165				1			1	4		3			135	1
N.B. C.S.A.H. 78	136+08.7 - 136+15.2	116.4-193.7		ANDOVER																	
N.B. C.S.A.H. 78	136+08.7 - 136+51.3	116.4-116.9		ANDOVER																	
N.B. C.S.A.H. 78	136+09.77	129.1		ANDOVER																	
N.B. C.S.A.H. 78	152+53.7		39.9	ANDOVER																	
N.B. C.S.A.H. 78	152+54.3	94.9		ANDOVER											4						1
N.B. C.S.A.H. 78	152+57.5		39.2	ANDOVER																	
N.B. C.S.A.H. 78	152+58.6	89.7		ANDOVER																	
N.B. C.S.A.H. 78	152+57.5 - 165+35.6		39.3-47.9	ANDOVER																	
N.B. C.S.A.H. 78	155+22.5		21.2	ANDOVER											4						1
N.B. C.S.A.H. 78	155+22.6		19.0	ANDOVER																	
N.B. C.S.A.H. 78	159+85.1		50.9	ANDOVER																	
N.B. C.S.A.H. 78	164+01.7 - 165+07.3		322.7-41.9	ANDOVER																	
N.B. C.S.A.H. 78	164+01.7		322.7	ANDOVER																	
N.B. C.S.A.H. 78	164+36.4		344.9	ANDOVER																	
N.B. C.S.A.H. 78	164+42.0		346.6	ANDOVER																	
N.B. C.S.A.H. 78	164+68.8		214.0	ANDOVER																	
N.B. C.S.A.H. 78	165+01.5		41.1	ANDOVER																	
N.B. C.S.A.H. 78	165+07.3		41.8	ANDOVER																	
N.B. C.S.A.H. 78	171+67.5	100.4		ANDOVER																	
N.B. C.S.A.H. 78	172+00.6 - 172+02.4	166.2-75.6		ANDOVER																	
N.B. C.S.A.H. 78	172+04.0	75.6	84.4	ANDOVER			108						1				3			47	1
N.B. C.S.A.H. 78	179+57.2 - 181+24.8		54.7-51.0	ANDOVER																	
S.B. C.S.A.H. 78	84+71.6 - 87+43.0	34.6-49.5		COON RAPIDS						1		1				7				375	
SUBTOTAL					**95**	**36**	**273**	**36**	**1**	**1**	**1**	**2**	**1**	**1**	**18**	**15**	**3**	**3**	**662**	**812**	**7**
E.B. C.S.A.H. 116	10+23.8 - 34+21.8	74.3-74.0		ANDOVER																	
E.B. C.S.A.H. 116	18+38.0	77.1		ANDOVER																	
E.B. C.S.A.H. 116	19+06.2 - 19+15.4	79.8	44.9	ANDOVER																	
E.B. C.S.A.H. 116	19+16.2	71.2		ANDOVER																	
E.B. C.S.A.H. 116	25+56.3	92.8		ANDOVER																	
E.B. C.S.A.H. 116	30+36.8	84.4		ANDOVER											4						
E.B. C.S.A.H. 116	31+68.8	78.2		ANDOVER																	
E.B. C.S.A.H. 116	31+96.3 - 31+97.4	78.1	5.3	ANDOVER																	
E.B. C.S.A.H. 116	31+96.5	63.4		ANDOVER																	
E.B. C.S.A.H. 116	32+77.3	77.5		ANDOVER																	
E.B. C.S.A.H. 116	34+14.6 - 44+19.1		2.1-30.0	ANDOVER																	
E.B. C.S.A.H. 116	34+21.5 - 34+21.8	74.0	2.1	ANDOVER																	
E.B. C.S.A.H. 116	34+43.9	61.5		ANDOVER																	
E.B. C.S.A.H. 116	36+63.9		5.9	ANDOVER																	
E.B. C.S.A.H. 116	39+43.4		26.3	ANDOVER																	
E.B. C.S.A.H. 116	44+19.1		28.9	ANDOVER																	
SUBTOTAL															4						
PROJECT TOTALS					**95**	**36**	**273**	**36**	**1**	**1**	**1**	**2**	**1**	**1**	**22**	**15**	**3**	**3**	**662**	**812**	**7**

NOTES:
(1) LEAVE IN PLACE
(2) RELOCATE. SEE CONSTRUCTION PLANS
(3) WATERMAIN LOWERING.
SEE WATERMAIN PROFILE SHEETS.
(4) INSTALL WITH SPLIT CASING

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TBG

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 78

SHEET 20 OF 400

10:56:17 AM
10/10/2006
H:\projects\5404\hl-mu\plan\5404.TBG

(T) EXISTING STORM SEWER

ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	REMOVE (2)				NOTES
			PIPE SEWER (LIN FT)	PIPE CULVERT (LIN FT)	PIPE APRON (EACH)	MH OR CATCH BASIN (EACH)	
N.B. C.S.A.H. 78	62+06, 59' LT - 63+55, 68' LT	15" RCP					1
N.B. C.S.A.H. 78	62+06, 59' LT	CATCH BASIN					1
N.B. C.S.A.H. 78	63+55, 68' LT - 64+74, 68' LT	15" RCP					1
N.B. C.S.A.H. 78	63+55, 68' LT	DROP INLET					1
N.B. C.S.A.H. 78	64+74, 68' LT	CATCH BASIN					1
N.B. C.S.A.H. 78	64+74, 68' LT - 64+75, 9' LT	18" RCP					1
N.B. C.S.A.H. 78	64+74, 68' LT - 64+75, 93' LT	18" RCP					1
N.B. C.S.A.H. 78	64+74, 68' LT - 64+85, 68' LT	12" RCP					1
N.B. C.S.A.H. 78	64+75, 9' LT	CATCH BASIN					
N.B. C.S.A.H. 78	64+75, 9' LT - 64+75, 14' RT	18" RCP	22				
N.B. C.S.A.H. 78	64+75, 9' LT - 64+86, 8' LT	12" RCP	11				
N.B. C.S.A.H. 78	64+75, 14' RT	18" RCP			1		
N.B. C.S.A.H. 78	64+75, 93' LT - 64+76, 99' LT	18" RCP					1
N.B. C.S.A.H. 78	64+75, 93' LT - 65+19, 100' LT	18" RCP					1
N.B. C.S.A.H. 78	64+76, 99' LT	18" RCP			1		1
N.B. C.S.A.H. 78	64+85, 68' LT	CATCH BASIN					1
N.B. C.S.A.H. 78	64+86, 8' LT	CATCH BASIN					1
N.B. C.S.A.H. 78	65+19, 100' LT	CATCH BASIN					1
N.B. C.S.A.H. 78	65+19, 100' LT - 65+48, 101' LT	12" RCP					1
N.B. C.S.A.H. 78	65+19, 100' LT - 65+86, 266' LT	18" RCP					1
N.B. C.S.A.H. 78	65+48, 101' LT	CATCH BASIN				1	
N.B. C.S.A.H. 78	71+59, 252' RT - 71+81, 21' RT	18" RCP					1
N.B. C.S.A.H. 78	71+61, 119' LT - 71+81, 21' RT	18" RCP	142				
N.B. C.S.A.H. 78	71+63, 112' LT	UNKNOWN RCP			1		
N.B. C.S.A.H. 78	72+82, 4' LT	CATCH BASIN					
N.B. C.S.A.H. 78	72+82, 4' LT - 72+83, 86' LT	18" RCP	82				
N.B. C.S.A.H. 78	72+82, 4' LT - 72+84, 19' RT	18" RCP	23				
N.B. C.S.A.H. 78	72+82, 4' LT - 73+33, 10' LT	12" RCP	51				
N.B. C.S.A.H. 78	72+82, 138' LT - 72+83, 86' LT	18" RCP	52				
N.B. C.S.A.H. 78	72+83, 86' LT - 73+32, 82' LT	12" RCP	49				
N.B. C.S.A.H. 78	72+83, 86' LT	CATCH BASIN					
N.B. C.S.A.H. 78	72+83, 11' RT	UNKNOWN RCP			1		
N.B. C.S.A.H. 78	73+32, 82' LT	CATCH BASIN					
N.B. C.S.A.H. 78	73+33, 10' LT	CATCH BASIN					
N.B. C.S.A.H. 78	74+09, 5' LT - 76+20, 61' RT	24" RCP	221		1		
N.B. C.S.A.H. 78	75+52, 78' RT - 75+72, 110' RT	15" RCP					1
N.B. C.S.A.H. 78	75+52, 78' RT	CATCH BASIN					1
N.B. C.S.A.H. 78	75+72, 110' RT - 75+89, 93' RT	18" RCP					1
N.B. C.S.A.H. 78	75+72, 110' RT	CATCH BASIN					1
N.B. C.S.A.H. 78	75+89, 93' RT - 76+20, 74' RT	18" RCP					1
N.B. C.S.A.H. 78	75+89, 93' RT	CATCH BASIN					1
N.B. C.S.A.H. 78	76+20, 61' RT	DROP INLET				1	
N.B. C.S.A.H. 78	94+94, 145' LT - 94+95, 122' LT	15" RCP					1
N.B. C.S.A.H. 78	94+95, 122' LT	CATCH BASIN					
N.B. C.S.A.H. 78	95+10, 167' LT - 94+94, 145' LT	15" RCP					1
N.B. C.S.A.H. 78	94+94, 145' LT	CATCH BASIN					1
N.B. C.S.A.H. 78	98+37, 334' LT - 98+65, 109' LT	24" RCP					1
N.B. C.S.A.H. 78	98+65, 109' LT	STORM MANHOLE					1
N.B. C.S.A.H. 78	98+65, 109' LT - 98+89, 110' LT	12" RCP					1
N.B. C.S.A.H. 78	120+85, 12' LT - 120+45, 11' LT	18" CSP		42	2		
N.B. C.S.A.H. 78	123+07, 210' RT - 124+34, 89' RT	30" PVC					1
N.B. C.S.A.H. 78	124+34, 89' RT	30" PVC					1
N.B. C.S.A.H. 78	124+74, 59' RT	DROP INLET				1	
N.B. C.S.A.H. 78	125+51, 13' LT - 126+43, 12' LT	12" CSP		92	2		
N.B. C.S.A.H. 78	125+61, 16 LT - 126+49, 91' LT	STORM CASING					
N.B. C.S.A.H. 78	126+55, 102' LT - 125+52, 99' LT	18" CSP		104	2		
N.B. C.S.A.H. 78	126+86, 124' LT - 124+74, 59' RT	15" PVC		280	1		
N.B. C.S.A.H. 78	128+04, 20' LT - 128+02, 104' LT	24" RCP		84	2		
N.B. C.S.A.H. 78	132+25, 97' LT - 133+11, 95' LT	18" CSP		88	2		
N.B. C.S.A.H. 78	135+48, 104' LT - 136+84, 104' LT	18" RCP-A		138	2		
N.B. C.S.A.H. 78	145+66, 17' LT	12" RCP			1		
N.B. C.S.A.H. 78	145+66, 17' LT - 145+72, 53' LT	12" RCP	36				
N.B. C.S.A.H. 78	145+72, 53' LT	CATCH BASIN				1	
N.B. C.S.A.H. 78	145+72, 53' LT - 145+73, 59' LT	12" RCP	6				
N.B. C.S.A.H. 78	145+73, 59' LT	CATCH BASIN				1	
SUBTOTAL			**695**	**828**	**19**	**5**	

NOTES:
THE "LEAVE AS IS", "ADJUST", AND "RELOCATE" NOTES ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATION WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL UTILITIES IN THE FIELD.

ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS UNLESS NOTED.

UTILITIES WITH POINT NUMBERS WERE LOCATED BY MN/DOT SURVEY CREWS USING INFORMATION PROVIDED PROVIDED UTILITY COMPANY LOCATORS. UTILITIES WITHOUT POINT NUMBERS WERE DIGITIZED FROM MAPS FURNISHED BY UTILITY COMPANIES AND WERE NOT FIELD LOCATED.

THE QUALITY LEVEL IS ASSUMED TO BE "D". THE QUALITY LEVEL REPRESENTS THE RELIABILITY OF THE UTILITY INFORMATION AND DETERMINED BY THE MEANS AND METHODS OF THE DATA COLLECTION AND INTERPRETATION BY THE PROFESSIONAL. SEE "CONSTRUCTION INSTITUTE OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS" DOCUMENT CI/ASCE 38-02.

1) LEAVE AS IS.
2) REMOVE CB OR MH INCLUDES REMOVAL OF CASTING

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.TBI

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 78

SHEET 21 OF 400

10:56:17 AM
10/10/2006
h:\projects\5404\hi-mu\plan\5404.TBI

(T) EXISTING STORM SEWER

ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	REMOVE (2)				NOTES
			PIPE SEWER (LIN FT)	PIPE CULVERT (LIN FT)	PIPE APRON (EACH)	MH OR CATCH BASIN (EACH)	
N.B. C.S.A.H. 78	148+36, 32' RT - 148+39, 33' LT	12" RCP	66		1		
N.B. C.S.A.H. 78	148+39, 33' LT	CATCH BASIN				1	
N.B. C.S.A.H. 78	150+62, 32' LT - 150+62, 12' RT	12" RCP	44				
N.B. C.S.A.H. 78	150+62, 32' LT - 150+62, 36' LT	12" RCP	4				
N.B. C.S.A.H. 78	150+62, 32' LT	CATCH BASIN				1	
N.B. C.S.A.H. 78	150+62, 12' RT	12" RCP			1		
N.B. C.S.A.H. 78	150+62, 36' LT	CATCH BASIN				1	
N.B. C.S.A.H. 78	151+44, 40' RT	12" RCP			1		
N.B. C.S.A.H. 78	151+44, 40' RT - 151+82, 40' RT	12" RCP	37				
N.B. C.S.A.H. 78	151+82, 40' RT - 151+86, 40' RT	12" RCP	4				
N.B. C.S.A.H. 78	151+82, 40' RT	CATCH BASIN				1	
N.B. C.S.A.H. 78	151+86, 40' RT	CATCH BASIN				1	
N.B. C.S.A.H. 78	152+49, 47' RT - 152+53, 103' LT	21" RCP	150				
N.B. C.S.A.H. 78	154+33, 41' RT - 155+56, 42' RT	18" PVC		123	2		
N.B. C.S.A.H. 78	154+51, 163' RT - 154+81, 41' RT	12" PVC					
N.B. C.S.A.H. 78	154+81, 41' RT	STORM MANHOLE					1
N.B. C.S.A.H. 78	154+88, 22' RT	CATCH BASIN				1	
N.B. C.S.A.H. 78	155+46, 21' LT - 155+46, 25' LT	12" RCP	4				
N.B. C.S.A.H. 78	155+46, 21' LT - 155+63, 20' RT	12" RCP	45				
N.B. C.S.A.H. 78	155+46, 21' LT	CATCH BASIN				1	
N.B. C.S.A.H. 78	155+46, 25' LT	CATCH BASIN				1	
N.B. C.S.A.H. 78	155+60, 13' RT	12" RCP			1		
N.B. C.S.A.H. 78	156+97, 18' RT	12" RCP			1		
N.B. C.S.A.H. 78	156+97, 18' RT - 156+98, 19' LT	12" RCP	37				
N.B. C.S.A.H. 78	156+98, 19' LT - 156+98, 33' LT	12" RCP	14				
N.B. C.S.A.H. 78	156+98, 19' LT	CATCH BASIN				1	
N.B. C.S.A.H. 78	156+98, 33' LT - 156+99, 72' LT	12" RCP	38				
N.B. C.S.A.H. 78	156+98, 33' LT	CATCH BASIN				1	
N.B. C.S.A.H. 78	156+99, 72' LT	12" RCP			1		
N.B. C.S.A.H. 78	157+01, 69' RT	CATCH BASIN					1
E.B. C.S.A.H. 116	10+47, 19' RT	CATCH BASIN					1
E.B. C.S.A.H. 116	10+47, 19' RT - 13+56, 15' RT	30" RCP					1
E.B. C.S.A.H. 116	13+55, 23' LT	CATCH BASIN					1
E.B. C.S.A.H. 116	13+55, 23' LT - 13+55, 14' LT	18" RCP	9				
E.B. C.S.A.H. 116	13+55, 23' LT - 13+58, 70' LT	18" RCP					1
E.B. C.S.A.H. 116	13+55, 14' LT	CATCH BASIN				1	
E.B. C.S.A.H. 116	13+55, 14' LT - 13+56, 15' RT	18" RCP	29				
E.B. C.S.A.H. 116	13+56, 15' RT - 18+24, 17' RT	30" RCP	468				
E.B. C.S.A.H. 116	13+56, 15' RT	CATCH BASIN				1	
E.B. C.S.A.H. 116	13+58, 70' LT	CATCH BASIN					1
E.B. C.S.A.H. 116	18+24, 17' RT	CATCH BASIN				1	
E.B. C.S.A.H. 116	18+24, 17' RT - 18+25, 33' LT	18" RCP	50				
E.B. C.S.A.H. 116	18+24, 17' RT - 18+46, 17' RT	18" RCP	23				
E.B. C.S.A.H. 116	18+24, 72' LT - 18+25, 38' LT	18" RCP	34				
E.B. C.S.A.H. 116	18+24, 72' LT - 18+48, 72' LT	15" RCP	23				
E.B. C.S.A.H. 116	18+24, 72' LT	CATCH BASIN				1	
E.B. C.S.A.H. 116	18+25, 38' LT	CATCH BASIN				1	
E.B. C.S.A.H. 116	18+25, 38' LT - 18+25, 33' LT	18" RCP	5				
E.B. C.S.A.H. 116	18+25, 33' LT	CATCH BASIN				1	
E.B. C.S.A.H. 116	18+46, 17' RT - 20+76, 17' RT	18" RCP	229				
E.B. C.S.A.H. 116	18+26, 17' RT	CATCH BASIN				1	
E.B. C.S.A.H. 116	18+48, 72' LT	CATCH BASIN				1	
E.B. C.S.A.H. 116	20+76, 17' RT - 20+96, 33' LT	15" RCP	54				
E.B. C.S.A.H. 116	20+76, 18' RT	CATCH BASIN				1	
E.B. C.S.A.H. 116	20+96, 33' LT	CATCH BASIN				1	
E.B. C.S.A.H. 116	20+96, 33' LT - 21+18, 70' LT	15" RCP	43				
E.B. C.S.A.H. 116	21+18, 70' LT	CATCH BASIN				1	
E.B. C.S.A.H. 116	21+18, 70' LT - 21+31, 93' LT	15" RCP	26		1		
E.B. C.S.A.H. 116	27+39, 32' LT	CATCH BASIN				1	
E.B. C.S.A.H. 116	27+39, 32' LT - 27+39, 28' LT	12" RCP	4				
E.B. C.S.A.H. 116	27+39, 28' LT	CATCH BASIN				1	
E.B. C.S.A.H. 116	27+39, 28' LT - 27+41, 4' RT	12" RCP	32				
E.B. C.S.A.H. 116	27+41, 4' RT	12" RCP			1		
E.B. C.S.A.H. 116	30+71, 40' LT - 30+72, 34' LT	12" RCP	6				
E.B. C.S.A.H. 116	30+71, 40' LT	CATCH BASIN				1	
SUBTOTAL			**1478**	**123**	**10**	**24**	

NOTES:
THE "LEAVE AS IS", "ADJUST", AND "RELOCATE" NOTES ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATION WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL UTILITIES IN THE FIELD.

ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS UNLESS NOTED.

UTILITIES WITH POINT NUMBERS WERE LOCATED BY MN/DOT SURVEY CREWS USING INFORMATION PROVIDED PROVIDED UTILITY COMPANY LOCATORS. UTILITIES WITHOUT POINT NUMBERS WERE DIGITIZED FROM MAPS FURNISHED BY UTILITY COMPANIES AND WERE NOT FIELD LOCATED.

THE QUALITY LEVEL IS ASSUMED TO BE "D". THE QUALITY LEVEL REPRESENTS THE RELIABILITY OF THE UTILITY INFORMATION AND DETERMINED BY THE MEANS AND METHODS OF THE DATA COLLECTION AND INTERPRETATION BY THE PROFESSIONAL. SEE "CONSTRUCTION INSTITUTE OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS" DOCUMENT CI/ASCE 38-02.

1) LEAVE AS IS.
2) REMOVE CB OR MH INCLUDES REMOVAL OF CASTING

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.TBJ

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 78

SHEET 22 OF 400

10:56:18 AM
10/10/2006
h:\projects\5404\hi-mu\plan\5404.TBJ

(T)	EXISTING STORM SEWER						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	REMOVE (2)				NOTES
			PIPE SEWER (LIN FT)	PIPE CULVERT (LIN FT)	PIPE APRON (EACH)	MH OR CATCH BASIN (EACH)	
E.B. C.S.A.H. 116	30+72, 34' LT - 30+73, 6' LT	12" RCP	28				
E.B. C.S.A.H. 116	30+72, 34' LT	CATCH BASIN				1	
E.B. C.S.A.H. 116	30+73, 6' LT	12" RCP			1		
E.B. C.S.A.H. 116	31+52, 101' LT	CATCH BASIN					1
E.B. C.S.A.H. 116	31+52, 124' LT	CATCH BASIN					1
E.B. C.S.A.H. 116	32+39, 89' LT - 31+76, 83' LT	18" CSP		64	2		
E.B. C.S.A.H. 116	36+68, 67' LT - 37+26, 63' LT	15" UNKNOWN		56	2		
E.B. T.H. 242	17+47, 68' LT - 17+69, 63' LT	18" RCP					1
E.B. T.H. 242	17+47, 68' LT	18" RCP					1
E.B. T.H. 242	17+69, 63' LT	CATCH BASIN					1
E.B. T.H. 242	17+69, 63' LT - 17+98, 64' LT	18" RCP					1
E.B. T.H. 242	17+98, 64' LT - 18+20, 72' LT	18" RCP					1
E.B. T.H. 242	17+98, 64' LT	CATCH BASIN					1
E.B. T.H. 242	18+20, 72' LT	18" RCP					1
E.B. T.H. 242	20+63, 99' LT - 21+43, 135' LT	24" RCP					1
E.B. T.H. 242	21+38, 320' LT - 21+43, 135' LT	18" RCP					1
E.B. T.H. 242	21+43, 135' LT	CATCH BASIN					1
E.B. T.H. 242	27+52, 84' LT - 28+03, 85' LT	18" RCP					1
SUBTOTAL			**28**	**120**	**5**	**1**	
TOTAL			2201	1071	34	30	

NOTES:

THE "LEAVE AS IS", "ADJUST", AND "RELOCATE" NOTES ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATION WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL UTILITIES IN THE FIELD.

ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS UNLESS NOTED.

UTILITIES WITH POINT NUMBERS WERE LOCATED BY MN/DOT SURVEY CREWS USING INFORMATION PROVIDED BY UTILITY COMPANY LOCATORS. UTILITIES WITHOUT POINT NUMBERS WERE DIGITIZED FROM MAPS FURNISHED BY UTILITY COMPANIES AND WERE NOT FIELD LOCATED.

THE QUALITY LEVEL IS ASSUMED TO BE "D". THE QUALITY LEVEL REPRESENTS THE RELIABILITY OF THE UTILITY INFORMATION AND DETERMINED BY THE MEANS AND METHODS OF THE DATA COLLECTION AND INTERPRETATION BY THE PROFESSIONAL. SEE "CONSTRUCTION INSTITUTE OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS" DOCUMENT CI/ASCE 38-02

1) LEAVE AS IS.
2) REMOVE CB OR MH INCLUDES REMOVAL OF CASTING

10:56:18 AM
10/10/2006
H:\Projects\5404\hl-mu\plan\5404.TBK

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TBK

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TABULATIONS

C.S.A.H. 78

SHEET 23 OF 400

NOTES:
1) PAID FOR UNDER ITEM 2581- REMOVABLE PREFORMED PLASTIC MARKING.
2) NO PAVEMENT MARKING REVISIONS IN STAGE 1A.

(W) TEMPORARY PAVEMENT MARKINGS

ALIGNMENT	STATION TO STATION	PAINT			REMOVABLE (1)			PERMANENT MARKING REMOVAL	TRPM	NOTES
		4" SOLID WHITE (LIN FT)	4" SOLID YELLOW (LIN FT)	4" DOUBLE SOLID YELLOW (LIN FT)	4" SOLID WHITE (LIN FT)	4" SOLID YELLOW (LIN FT)	4" DOUBLE SOLID YELLOW (LIN FT)	(SQ FT)	(EACH)	
STAGE 1										
N.B. C.S.A.H. 78	50+00.0 - 126+00.0	2240		592	2100		1013	4040	167	
N.B. C.S.A.H. 78	126+00.0 - 171+52.8	7205		3444				5500	23	
N.B. C.S.A.H. 78	171+52.8 - 181+22.8	1210		622	920		500	2700	142	
STAGE 2										
N.B. C.S.A.H. 78	50+00.0 - 126+00.0	2372		1143	2921		578	1393	209	
N.B. C.S.A.H. 78	126+00.0 - 171+52.8	7278		3871				3500		
N.B. C.S.A.H. 78	171+52.8 - 181+22.8				2024		990	2700	122	
STAGE 3										
N.B. C.S.A.H. 78	50+00.0 - 126+00.0	2662	4927			972		1860		
N.B. C.S.A.H. 78	126+00.0 - 171+52.8	30	51			36		2552		
SUBTOTAL		**22997**	**4978**	**9672**	**7965**	**1008**	**3081**	**24245**	**663**	
STAGE 1										
E.B. C.S.A.H. 116	12+50.0 - 22+79.6	1269	1069	250	1225			700	136	
E.B. C.S.A.H. 116	24+92.1 - 47+37.2	2623		2242	451		225	5880	68	
STAGE 2										
E.B. C.S.A.H. 116	12+50.0 - 22+79.6	2134	1102	348	1076	222		1005	115	
E.B. C.S.A.H. 116	24+92.1 - 47+37.2	4726		2131	825		325	1725	98	
STAGE 3										
E.B. C.S.A.H. 116	12+50.0 - 22+79.6	935	1634		489	710		1130		
E.B. C.S.A.H. 116	24+92.1 - 47+37.2		996			8		1500		
SUBTOTAL		**11687**	**4801**	**4971**	**4066**	**940**	**550**	**11940**	**417**	
PROJECT TOTALS		**34684**	**9779**	**14643**	**12031**	**1948**	**3631**	**36185**	**1080**	

(DD) CASTING ASSEMBLIES SUMMARY

ASSEMBLY	RING OR FRAME CASTING	(A) COVER OR GRATE CASTING	(B) CURB BOX	STANDARD PLATE NO.	QUANTITY	REMARKS
B - 5	802A			4129	236	CATCH BASIN
		816		4154		
			823	4160		
A - 7D	700-7			4101	4	MANHOLE
		715		4110		
			N/A			
M - 11	ROUND CONC.			4143	4	DROP INLET
		731		4143		
			N/A			
PROJECT TOTALS					244	

NOTES:
A) USE BENT BOLT WITH 816 GRATES.
B) USE ELONGATED BOLT SLOTS ON CURB BOXES WITH 4 IN CURB.

(X) AGGREGATE AND BITUMINOUS SUMMARY

ALIGNMENT	STATION TO STATION	AGGREGATE BASE (SPEC. 2211) CLASS 5	BITUMINOUS 2350 TYPE LV 4 WEAR (A) (LVWE45030B)	BITUMINOUS 2360 TYPE SP 12.5 NON WEAR (SPNWB430B)	BITUMINOUS 2360 TYPE SP 12.5 WEAR (SPWEB440E)	TACK (SPEC. 2357)
		(CU. YD.)	(SY)	(TON)	(TON)	(GAL.)
N.B. C.S.A.H. 78	50+00.0 - 126+00.0	11578	264	9895	13197	8175
N.B. C.S.A.H. 78	126+00.0 - 171+38.8	8867	7	7615	10080	6247
N.B. C.S.A.H. 78	171+38.8 - 180+50.0	1275		1194	1590	986
127 AVE W.	300+00.0 - 302+25.4	40		22	44	27
127 AVE E.	351+00.0 - 352+00.0	74		43	86	53
129TH LANE	400+00.0 - 401+85.4	75		42	85	52
133RD AVE W	500+00.0 - 502+26.8	33		20	39	24
133RD AVE E	503+73.9 - 506+00.0	122		82	164	102
E.B. STATION PARKWAY	604+76.0 - 605+75.0	116		66	132	82
PARK DRIVE	701+05.1 - 711+73.6	7578		427	854	529
SERVICE ROAD	800+50.0 - 803+44.5	182		101	202	125
SUBTOTAL		**29940**	**271**	**19507**	**26473**	**16402**
E.B. C.S.A.H. 116	12+50.0 - 22+79.6	1470	18	1261	1678	1040
E.B. C.S.A.H. 116	24+92.1 - 47+37.2	3992	8	3478	4625	2865
COUNTY ACCESS	900+00.0 - 901+97.2	95		52	103	64
SUBTOTAL		**5557**	**26**	**4791**	**6406**	**3969**
PROJECT TOTALS		35497	297	24298	32879	20371

NOTES:
QUANTITIES INCLUDE MATERIAL FOR TEMPORARY PAVEMENT DURING CONSTRUCTION.
(A) BITUMINOUS DRIVEWAY PAVEMENT - 6" DEPTH (2" BITUMINOUS MIX., 4" AGGREGATE BASE CLASS 5 PAID UNDER ITEM 2211.503 AGGREGATE BASE (CV) CLASS 5.

NO	DATE	BY	CKD	APPR	REVISION
1	12/20/06	CMT	CMT	CMT	PAVEMENT DESIGN REVISION PER MN/DOT COMMENTS
2	02/21/07	CJH	CMT	CMT	STAGING REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.TBL

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.
Print Name: CHRIS M. TRBOYEVICH
Date 2/21/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 78

SHEET 24 OF 400

12:36:42 PM
2/21/2007
h:\projects\5404\hl-mu\plan\5404.TBL

(S) REMOVALS, SAWING AND MILLING

ALIGNMENT	STATION TO STATION	(B),(D),(E) REMOVE			(A), (B), (C) SAWING		(B) MILLING
		BITUMINOUS SURFACING (SQ YD)	CONCRETE SURFACING (SQ YD)	CURB & GUTTER (LIN FT)	BITUMINOUS PAVEMENT (LIN FT)	CONCRETE PAVEMENT (LIN FT)	BITUMINOUS SURFACE (1.5") (SQ YD)
N.B. C.S.A.H. 78	50+00.0 – 126+00.0	41773	2672	4780	1330	152	465
N.B. C.S.A.H. 78	126+00.0 – 171+38.8	31761	954	2608	360	8	
N.B. C.S.A.H. 78	171+38.8 – 180+50.0	4425	90	264	512		
127 AVE W.	300+00.0 – 302+25.4	232		131	30		
127 AVE E.	351+00.0 – 352+00.0	452		182	40		
129TH LANE	400+00.0 – 401+85.4	480	182	121	30		
133RD AVE W	500+00.0 – 502+26.8	219	35	22	45		
133RD AVE E	503+73.9 – 506+00.0	616			24		
E.B. STATION PARKWAY	604+76.0 – 605+75.0	573	173	332	54	18	
PARK DRIVE	701+05.1 – 711+73.6	899			24		
SERVICE ROAD	800+50.0 – 803+44.5	451			66		
SUBTOTAL		**81881**	**4106**	**8440**	**2515**	**178**	**465**
E.B. C.S.A.H. 116	12+50.0 – 22+79.6	8960	734	3410	184	480	
E.B. C.S.A.H. 116	24+92.1 – 47+37.2	14702	519	1295	193		
COUNTY ACCESS	900+00.0 – 901+97.2						
SUBTOTAL		**23662**	**1253**	**4705**	**377**	**480**	
PROJECT TOTAL		105543	5359	13145	2892	658	465

NOTES:
(A) ALL BITUMINOUS PAVEMENT & CONCRETE PAVEMENT SAWING IS FULL DEPTH.
(B) REFER TO CONSTRUCTION PLANS FOR EXACT LOCATIONS. VARIABLE DEPTH FROM 0" - 1.5".
(C) SAWCUTS TO REMOVE EXISTING PAVEMENT AT CONSTRUCTION TERMINUS AND TEMPORARY BYPASS PAVING.
(D) BITUMINOUS PAVEMENT & BITUMINOUS WALK PAID FOR AS REMOVE BITUMINOUS SURFACING.
(E) CONCRETE PAVEMENT & CONCRETE WALK PAID FOR AS CONCRETE SURFACING.

(KK) MAILBOXES

ALIGNMENT	STATION TO STATION	OFFSET LEFT (FT)	OFFSET RIGHT (FT)	RELOCATE (SPEC. 2540) (EACH)	NOTES
N.B. C.S.A.H. 78	60+32.7		6.9	1	1
N.B. C.S.A.H. 78	77+77.2	78.7		1	1
N.B. C.S.A.H. 78	78+88.1	80.1		1	1
N.B. C.S.A.H. 78	80+04.8	79.62		1	1
N.B. C.S.A.H. 78	81+27.1	78.4		1	1
N.B. C.S.A.H. 78	82+31.3	78.3		1	1
N.B. C.S.A.H. 78	82+88.4	78.0		1	1
N.B. C.S.A.H. 78	86+59.2	84.3		1	1
N.B. C.S.A.H. 78	130+89.9	86.6		1	1
N.B. C.S.A.H. 78	139+45.8	97.7		1	1
N.B. C.S.A.H. 78	139+50.0	105.6		1	1
N.B. C.S.A.H. 78	139+51.9	112.9		1	1
E.B. C.S.A.H. 116	44+86.3		7.7	1	1
PROJECT TOTALS				13	

NOTES:
1) SEE DETAIL FOR INSTALLATION ON SHEET 49

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.TBM

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TABULATIONS
C.S.A.H. 78

SHEET 25 OF 400

10:56:20 AM
10/10/2006
h:\projects\5404\hl-mu\plan\5404.TBM

EXISTING UTILITIES

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
E.B. C.S.A.H. 116	10+35, 91' LT - 16+90, 109' LT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	10+45, 32' RT - 19+73, 31' RT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 116	10+80, 80' LT	ELEC PED	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	10+86, 80' LT	ELEC PED	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	10+86, 80' LT - 11+01, 96' LT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 116	10+86, 80' LT - 16+32, 85' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	11+01, 96' LT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	11+01, 96' LT - 11+77, 97' LT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 116	11+40, 21' RT - 10+66, 19' RT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	11+77, 97' LT - 12+54, 100' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	11+77, 97' LT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	12+54, 100' LT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	12+54, 100' LT - 13+16, 113' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	13+16, 113' LT - 16+90, 109' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	13+16, 113' LT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	14+10, 59' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	14+10, 59' RT - 15+17, 58' RT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	15+17, 58' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	15+17, 58' RT - 16+68, 59' RT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	16+26, 257' LT - 16+75, 320' LT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	16+26, 257' LT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	16+32, 85' LT - 16+67, 81' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 14	16+39, 111' LT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	16+39, 111' LT - 16+26, 257' LT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	16+67, 81' LT - 22+41, 85' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 14	16+68, 59' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	16+68, 59' RT - 16+39, 111' LT	OH POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 14	16+68, 59' RT - 18+15, 57' RT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	16+70, 314' LT - 16+91, 278' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	16+70, 314' LT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	16+90, 109' LT - 21+65, 105' LT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	16+90, 109' LT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	16+91, 278' LT	ELEC PED	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	18+08, 63' LT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	18+08, 63' LT - 18+15, 57' RT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 14	18+15, 57' RT - 19+65, 57' RT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	18+15, 57' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	19+65, 57' RT - 21+02, 56' RT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	19+65, 57' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	19+73, 31' RT - 20+81, 55' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	20+11, 51' RT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	20+23, 41' RT - 19+73, 31' RT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	20+24, 71' RT - 20+23, 41' RT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	20+81, 55' LT - 20+97, 117' LT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 14	20+91, 94' LT - 21+02, 56' RT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 14	20+91, 94' LT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	20+97, 117' LT - 21+58, 168' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	21+02, 56' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	21+02, 56' RT - 22+20, 54' RT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	21+51, 62' RT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	21+65, 105' LT - 22+10, 132' LT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	22+20, 54' RT - 23+72, 53' RT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	22+20, 54' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	22+34, 13' RT - 11+40, 21' RT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 14	23+66, 83' LT - 27+14, 85' LT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 14	23+72, 53' RT - 23+66, 83' LT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 14	23+72, 53' RT - 24+91, 53' RT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	23+72, 53' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	24+91, 53' RT - 25+93, 51' RT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	24+91, 53' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	25+04, 84' LT - 26+18, 84' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	25+05, 74' LT - 27+73, 74' LT	OH POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 14	25+93, 51' RT - 26+69, 50' RT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	25+93, 51' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	26+18, 84' LT - 29+85, 88' LT	BURIED POWER	CONNEXUS ENERGY	3

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
E.B. C.S.A.H. 116	26+48, 115' LT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	26+48, 115' LT - 25+03, 115' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	26+69, 50' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	26+69, 50' RT - 27+53, 53' RT	OH POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 14	27+14, 85' LT - 27+53, 86' LT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 116	27+32, 138' LT - 27+38, 122' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	27+38, 122' LT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	27+38, 122' LT - 26+48, 115' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	27+56, 138' LT - 27+77, 108' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	27+77, 108' LT - 30+66, 110' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	30+66, 110' LT - 31+22, 127' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	31+22, 127' LT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	31+22, 127' LT - 31+23, 136' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	32+10, 133' LT - 32+11, 120' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	32+11, 120' LT	LIGHT	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	32+11, 120' LT - 32+74, 87' LT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 116	32+74, 87' LT - 34+49, 82' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	34+49, 82' LT - 35+12, 81' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	35+12, 81' LT - 35+89, 85' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	35+89, 85' LT - 35+93, 87' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	35+93, 87' LT - 35+98, 66' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	35+98, 66' LT	POWER POLE	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	35+98, 66' LT - 36+58, 63' LT	OH POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	36+58, 63' LT	POWER POLE	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	36+58, 63' LT - 36+74, 91' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	36+58, 63' LT - 38+47, 60' LT	OH POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	36+74, 91' LT - 36+78, 126' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	37+21, 113' LT - 37+21, 128' LT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	37+22, 80' LT - 37+21, 113' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	37+51, 73' LT - 37+22, 80' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	38+47, 60' LT - 37+51, 73' LT	BURIED POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	38+47, 60' LT - 39+81, 52' LT	OH POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	38+47, 60' LT	POWER POLE	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	39+31, 25' RT - 39+28, 59' RT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	39+80, 23' RT - 39+81, 52' LT	OH POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	39+80, 23' RT	POWER POLE	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	39+81, 52' LT	POWER POLE	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	39+81, 52' LT - 39+31, 25' RT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 116	39+81, 52' LT - 42+56, 51' LT	OH POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	42+56, 51' LT - 45+36, 46' LT	OH POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	42+56, 51' LT	POWER POLE	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	45+22, 57' RT - 45+36, 46' LT	BURIED POWER	CONNEXUS ENERGY	2
E.B. C.S.A.H. 116	45+36, 46' LT - 48+17, 42' LT	OH POWER	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	45+36, 46' LT	POWER POLE	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	48+17, 42' LT	POWER POLE	CONNEXUS ENERGY	3
E.B. C.S.A.H. 116	48+17, 42' LT - 50+88, 42' LT	OH POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	49+22, 32' RT - 50+83, 36' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	50+83, 36' RT - 52+45, 37' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	51+28, 63' LT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	52+45, 37' RT - 54+46, 36' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	54+46, 36' RT - 55+77, 33' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	55+77, 33' RT - 56+37, 36' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	56+37, 36' RT - 56+57, 34' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	56+55, 21' RT	LIGHT	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	56+57, 34' RT - 56+55, 21' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	56+57, 34' RT - 57+09, 36' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	56+57, 34' RT	ELEC PED	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	57+09, 36' RT - 57+69, 37' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	57+69, 37' RT - 58+21, 34' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	58+21, 34' RT - 58+37, 34' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	58+37, 34' RT - 58+40, 43' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	58+38, 70' RT - 58+41, 109' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	58+39, 54' RT - 58+38, 70' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	58+40, 43' RT - 58+39, 54' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	58+41, 109' RT - 58+42, 132' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	58+77, 24' RT - 58+84, 144' RT	BURIED POWER	CONNEXUS ENERGY	1

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.PUA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

UTILITIES TABULATION

C.S.A.H. 78

SHEET 26 OF 400

4:26:14 PM
9/26/2006
hl\projects\5404\hl-mu\plan\5404.PUA

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
N.B. C.S.A.H. 78	58+86, 28' RT - 58+86, 21' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	58+86, 28' RT - 58+93, 73' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	58+86, 28' RT	ELEC PED	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	58+86, 21' RT - 58+77, 24' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	58+86, 21' RT	LIGHT	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	58+93, 73' RT - 59+05, 110' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	59+01, 69' LT	POWER POLE	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	59+05, 110' RT - 59+63, 142' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	59+92, 92' RT - 61+37, 7' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	61+37, 7' RT - 64+78, 4' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	61+37, 7' RT	LIGHT	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	62+90, 92' LT - 63+05, 81' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	63+05, 81' LT - 64+14, 84' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	64+14, 84' LT - 65+29, 85' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	64+78, 4' RT - 69+05, 12' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	64+78, 4' RT	LIGHT	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	65+29, 85' LT - 65+42, 86' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	65+42, 86' LT - 65+54, 98' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	65+54, 98' LT - 65+54, 111' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	65+54, 111' LT	LIGHT	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	65+54, 111' LT - 65+55, 160' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	65+55, 160' LT - 65+67, 195' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	65+67, 195' LT - 65+80, 218' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	65+80, 218' LT - 65+94, 232' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	69+05, 12' RT - 69+05, 41' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	71+43, 98' LT - 71+49, 74' RT	OH POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	71+43, 98' LT - 73+21, 91' LT	OH POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	71+43, 98' LT	POWER POLE	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	71+45, 137' LT - 71+43, 98' LT	OH POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	72+84, 137' LT - 72+86, 98' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	72+86, 98' LT - 73+03, 93' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	73+03, 93' LT - 73+87, 92' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	73+21, 91' LT - 74+06, 87' LT	OH POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	73+87, 92' LT - 73+89, 95' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	74+06, 87' LT - 74+41, 86' LT	OH POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	74+41, 86' LT - 75+99, 78' LT	OH POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	74+96, 90' LT	POWER POLE	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	74+97, 89' LT - 75+00, 10' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+00, 10' RT - 75+01, 15' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+01, 15' RT - 75+09, 22' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+09, 22' RT - 75+16, 22' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+16, 22' RT - 75+27, 21' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+27, 21' RT - 75+35, 26' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+35, 26' RT - 75+39, 34' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+35, 26' RT - 75+45, 33' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+42, 90' RT - 75+46, 106' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	75+45, 33' RT - 75+48, 53' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	75+45, 69' RT - 75+42, 90' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	75+46, 106' RT - 75+59, 119' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	75+48, 53' RT - 75+45, 69' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	75+59, 119' RT - 75+73, 125' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	75+73, 125' RT - 75+82, 135' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	75+89, 13' RT - 75+89, 35' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+89, 35' RT - 75+89, 58' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+89, 58' RT - 75+89, 84' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+89, 9' RT - 75+89, 13' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+93, 7' RT - 75+89, 9' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+96, 7' RT - 75+93, 7' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+97, 7' RT	POWER POLE	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	75+97, 141' LT - 75+99, 78' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	75+99, 78' LT - 75+97, 7' RT	OH POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	79+59, 16' RT - 79+70, 6' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	79+59, 15' RT	ELEC PED	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	79+68, 81' LT	POWER POLE	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	79+69, 80' LT - 79+59, 16' RT	BURIED POWER	CONNEXUS ENERGY	2

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
N.B. C.S.A.H. 78	79+70, 6' RT - 80+39, 6' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	80+27, 17' RT	LIGHT	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	80+39, 6' RT - 80+63, 5' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	80+63, 5' RT - 80+63, 57' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	83+36, 17' LT - 83+81, 17' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	83+39, 79' LT - 83+36, 17' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	83+81, 17' LT - 83+85, 11' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	83+85, 11' LT - 84+12, 9' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	84+12, 9' RT - 84+27, 34' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	85+20, 20' LT	POWER POLE	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	85+20, 20' LT - 86+36, 24' LT	OH POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	85+24, 6' LT - 85+28, 12' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	85+27, 42' RT - 85+24, 6' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	85+28, 12' LT - 85+36, 11' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	85+35, 12' LT	ELEC PED	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	85+36, 11' LT - 87+15, 23' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	86+36, 24' LT	POWER POLE	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	86+36, 24' LT - 87+16, 86' LT	OH POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	87+10, 127' LT	POWER POLE	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	87+15, 23' LT - 87+21, 99' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	87+21, 100' LT	ELEC PED	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	87+21, 99' LT - 87+25, 93' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	87+25, 93' LT - 90+85, 97' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	90+85, 97' LT - 90+92, 97' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	90+92, 97' LT - 90+96, 102' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	90+97, 102' LT - 90+97, 97' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	90+97, 97' LT - 91+01, 94' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	90+97, 103' LT	ELEC PED	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	91+01, 94' LT - 92+96, 95' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	92+96, 95' LT - 96+56, 96' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	94+60, 88' LT - 94+61, 27' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	94+75, 188' RT - 94+76, 101' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	94+76, 101' LT	ELEC PED	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	95+23, 88' LT - 94+60, 88' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	96+56, 96' LT - 98+18, 95' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	98+18, 95' LT - 98+38, 95' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	98+38, 95' LT - 98+49, 100' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	98+49, 100' LT - 98+54, 102' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	98+50, 254' LT - 98+54, 102' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	98+54, 102' LT	ELEC PED	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	98+77, 10' LT - 98+69, 100' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	100+37, 30' LT - 102+73, 24' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	102+99, 13' LT - 103+10, 22' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	102+99, 13' LT - 98+77, 10' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	103+00, 87' LT - 103+10, 22' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	103+10, 22' LT	ELEC PED	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	103+12, 100' LT - 104+86, 102' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	103+16, 271' LT - 103+12, 100' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	103+54, 31' LT	LIGHT	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	103+54, 31' LT - 103+55, 21' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	103+55, 21' LT - 104+34, 22' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	104+34, 22' LT - 104+49, 19' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	104+49, 19' LT - 105+91, 22' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	104+49, 19' LT	ELEC PED	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	104+86, 102' LT - 106+94, 103' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	105+89, 138' RT - 105+91, 22' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	106+94, 103' LT - 107+32, 88' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	110+81, 136' LT - 111+38, 89' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	111+38, 89' LT	POWER POLE	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	111+38, 89' LT - 111+43, 17' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	111+41, 224' LT	POWER POLE	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	111+41, 224' LT - 111+38, 89' LT	OH POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	111+43, 17' LT	POWER POLE	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	111+43, 17' LT - 112+29, 25' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	111+43, 17' LT - 112+92, 85' RT	BURIED POWER	CONNEXUS ENERGY	3

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.PUB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY C.TRBOYEVICH

CHECKED BY M. TURNER

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

UTILITIES TABULATION

C.S.A.H. 78

SHEET 27 OF 400

4:26:15 PM
9/26/2006
h:\projects\5404\hi-mu\plan\5404.PUB

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
N.B. C.S.A.H. 78	111+43, 17' LT - 112+07, 93' LT	OH POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	111+44, 334' LT - 111+41, 224' LT	OH POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	111+44, 334' LT	POWER POLE	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	111+84, 133' LT - 112+07, 93' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	111+87, 275' LT - 111+84, 133' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	111+98, 299' LT - 111+87, 275' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	111+99, 365' LT - 111+98, 299' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	112+02, 397' LT - 112+09, 379' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	112+03, 449' LT - 112+02, 397' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	112+07, 93' LT	POWER POLE	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	112+07, 93' LT - 112+13, 99' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	112+09, 379' LT - 111+99, 365' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	112+09, 379' LT	ELEC PED	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	112+13, 99' LT - 112+22, 100' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	112+22, 100' LT - 114+08, 97' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	112+29, 25' LT - 118+26, 18' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	114+08, 97' LT - 114+59, 97' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	114+59, 97' LT - 115+88, 100' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	115+88, 100' LT - 116+70, 102' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	116+70, 102' LT - 117+99, 114' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	117+99, 114' LT - 118+82, 97' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	118+52, 120' LT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	118+52, 120' LT - 118+56, 7' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	118+56, 7' LT - 118+10, 18' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	118+56, 7' LT - 119+65, 15' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	118+56, 7' LT	ELEC PED	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	118+56, 344' LT - 118+52, 120' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	118+71, 355' LT	ELEC PED	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	118+71, 355' LT - 118+56, 344' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	118+82, 97' LT - 121+99, 98' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	119+65, 15' LT - 120+22, 15' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	120+22, 15' LT - 121+04, 16' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	121+04, 16' LT - 125+70, 7' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	121+99, 98' LT - 123+54, 99' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	123+54, 99' LT - 124+95, 96' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	124+95, 96' LT - 125+51, 98' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	125+51, 98' LT - 125+59, 117' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	125+59, 117' LT	ELEC PED	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	125+59, 117' LT - 126+57, 99' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	125+70, 7' LT	ELEC PED	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	125+70, 7' LT - 125+59, 117' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	125+70, 7' LT - 125+80, 12' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	125+80, 12' RT - 125+87, 49' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	125+87, 49' RT - 125+92, 87' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	125+92, 87' RT - 125+94, 109' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	126+23, 133' LT - 125+59, 117' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	126+30, 349' LT - 126+23, 133' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	126+57, 99' LT - 127+69, 99' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	127+69, 99' LT - 127+88, 107' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	127+88, 107' LT - 128+23, 98' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	128+23, 98' LT - 130+52, 98' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	128+93, 108' LT - 131+60, 106' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	128+93, 108' LT	ELEC PED	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	130+52, 98' LT - 132+17, 97' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	131+60, 106' LT - 131+91, 110' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	131+91, 110' LT - 132+04, 117' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	132+06, 119' LT	ELEC PED	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	132+17, 97' LT - 133+27, 101' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	133+27, 101' LT - 134+42, 105' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	134+42, 105' LT - 134+58, 93' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	134+58, 93' LT - 134+76, 104' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	134+76, 104' LT - 135+40, 103' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	135+40, 103' LT - 135+54, 125' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	135+46, 125' LT	ELEC PED	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	135+46, 125' LT - 138+75, 136' LT	BURIED POWER	CONNEXUS ENERGY	2

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
N.B. C.S.A.H. 78	135+51, 109' LT	LIGHT	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	135+54, 125' LT	ELEC PED	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	135+54, 125' LT - 135+65, 120' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	135+65, 120' LT - 137+56, 118' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	137+56, 118' LT - 138+54, 120' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	138+54, 120' LT - 138+75, 136' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	138+72, 179' LT - 138+75, 136' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	138+75, 136' LT - 138+83, 179' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	138+75, 136' LT - 139+03, 111' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	138+75, 136' LT - 140+16, 143' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	138+75, 136' LT	ELEC PED	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	139+03, 111' LT - 139+50, 119' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	139+50, 119' LT - 140+21, 129' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	140+16, 143' LT - 141+55, 146' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	140+21, 129' LT - 141+71, 140' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	141+55, 146' LT - 141+52, 195' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	141+71, 140' LT - 142+36, 147' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	142+36, 147' LT - 143+14, 139' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	143+14, 139' LT - 143+91, 136' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	143+91, 136' LT - 145+08, 128' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	145+08, 128' LT - 145+30, 171' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	145+25, 223' LT - 145+30, 171' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	145+29, 171' LT - 145+60, 124' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	145+30, 171' LT	ELEC PED	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	145+60, 124' LT - 147+13, 117' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	146+60, 114' RT - 146+61, 162' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	147+13, 117' LT - 148+86, 100' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	148+86, 100' LT - 151+22, 112' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	149+60, 178' LT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	149+93, 133' LT - 149+96, 116' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	149+96, 116' RT - 146+60, 114' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	149+97, 333' LT - 149+93, 133' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	150+35, 194' LT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	151+22, 112' LT - 152+13, 109' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	151+54, 165' LT - 151+55, 180' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	152+13, 109' LT - 152+16, 147' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	152+16, 147' LT - 153+29, 137' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	152+40, 132' LT - 152+31, 94' RT	OH POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	152+50, 156' LT - 151+54, 165' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	152+50, 156' LT - 152+40, 94' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	152+50, 156' LT - 153+69, 144' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	152+51, 170' LT - 152+50, 156' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	152+72, 94' RT - 152+73, 74' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	152+73, 74' RT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	152+73, 74' RT - 153+84, 62' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	153+11, 178' LT - 153+18, 166' LT	OH POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	153+18, 166' LT	POWER POLE	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	153+22, 126' LT - 152+40, 132' LT	OH POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	153+69, 144' LT	POWER POLE	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	153+69, 144' LT - 153+70, 17' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	153+70, 17' RT - 158+36, 18' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	153+84, 62' RT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	153+84, 62' RT - 154+05, 61' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	154+05, 61' RT - 154+93, 50' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	154+93, 50' RT - 155+91, 63' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	154+93, 50' RT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	155+91, 63' RT - 156+90, 64' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	155+91, 63' RT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	156+90, 64' RT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	156+90, 64' RT - 157+92, 66' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	157+92, 66' RT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	157+92, 66' RT - 158+77, 56' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	158+16, 18' RT - 159+87, 24' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	158+77, 56' RT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	158+77, 56' RT - 159+77, 57' RT	BURIED POWER	CONNEXUS ENERGY	1

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.PUC

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY C.TRBOYEVICH

CHECKED BY M. TURNER

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

UTILITIES TABULATION

C.S.A.H. 78

SHEET 28 OF 400

4:26:16 PM
9/28/2006
h:\projects\5404\hl-mu\plan\5404.PUC

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
N.B. C.S.A.H. 78	159+77, 57' RT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	159+77, 57' RT - 160+88, 74' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	159+87, 24' RT - 161+09, 29' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	160+88, 74' RT - 161+77, 90' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	160+88, 74' RT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	161+09, 29' RT - 162+24, 23' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	161+77, 90' RT - 165+43, 38' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	161+77, 90' RT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	162+24, 23' RT - 163+48, 17' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	162+39, 74' LT	POWER POLE	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	162+41, 120' LT	POWER POLE	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	163+48, 17' RT - 165+21, 12' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	165+21, 12' RT - 166+10, 26' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	165+43, 38' RT - 164+78, 337' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	165+43, 38' RT - 165+79, 32' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	165+43, 38' RT	LIGHT	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	165+65, 0' RT - 165+43, 38' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	165+79, 32' RT - 168+91, 51' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	166+10, 26' RT - 168+90, 42' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	168+90, 42' RT - 173+24, 43' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	168+91, 51' RT - 173+26, 51' RT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	168+93, 18' RT - 165+65, 0' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	168+93, 18' RT - 169+05, 185' LT	BURIED POWER	CONNEXUS ENERGY	2
N.B. C.S.A.H. 78	169+05, 185' LT - 169+76, 123' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	169+06, 185' LT - 177+02, 72' LT	OH POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	169+76, 123' LT - 169+79, 81' LT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	169+79, 81' LT - 171+73, 72' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	171+73, 72' LT	ELEC PED	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	171+73, 72' LT - 172+31, 74' LT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	172+31, 74' LT - 172+33, 173' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	173+24, 43' RT - 181+01, 44' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	173+26, 51' RT - 180+66, 55' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	177+02, 72' LT - 182+69, 72' LT	OH POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	180+66, 55' RT	ELEC PED	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	180+66, 55' RT - 181+10, 62' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	180+66, 55' RT - 181+17, 55' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	180+99, 44' RT - 181+17, 55' RT	BURIED POWER	CONNEXUS ENERGY	3
N.B. C.S.A.H. 78	181+10, 62' RT - 181+17, 86' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	181+17, 86' RT - 181+13, 218' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	181+17, 55' RT	LIGHT	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	181+17, 55' RT - 181+62, 59' RT	BURIED POWER	CONNEXUS ENERGY	1
N.B. C.S.A.H. 78	181+62, 59' RT - 181+61, 199' RT	BURIED POWER	CONNEXUS ENERGY	1
E.B. C.S.A.H. 116	19+64, 208' LT - 19+73, 31' RT	TRANS LINE	GREAT RIVER ENERGY	1
E.B. C.S.A.H. 116	19+73, 31' RT	TRANS TOWER	GREAT RIVER ENERGY	1
E.B. C.S.A.H. 116	19+73, 31' RT - 19+75, 73' RT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	55+30, 76' RT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	55+30, 76' RT - 58+03, 68' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	58+03, 68' LT - 59+01, 69' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	58+03, 68' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	59+01, 69' LT - 62+90, 92' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	62+90, 92' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	62+90, 92' LT - 67+29, 94' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	67+29, 94' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	67+29, 94' LT - 71+43, 98' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	71+43, 98' LT - 73+89, 96' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	73+89, 96' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	73+89, 96' LT - 74+96, 90' LT	TRANS LINE	GREAT RIVER ENERGY	3
N.B. C.S.A.H. 78	74+96, 90' LT - 75+99, 78' LT	TRANS LINE	GREAT RIVER ENERGY	3
N.B. C.S.A.H. 78	75+99, 78' LT	TRANS TOWER	GREAT RIVER ENERGY	3
N.B. C.S.A.H. 78	75+99, 78' LT - 79+69, 81' LT	TRANS LINE	GREAT RIVER ENERGY	3
N.B. C.S.A.H. 78	79+69, 81' LT - 83+38, 80' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	83+38, 80' LT - 87+16, 86' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	83+38, 80' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	87+16, 86' LT - 91+19, 87' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	87+16, 86' LT	TRANS TOWER	GREAT RIVER ENERGY	1

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
N.B. C.S.A.H. 78	91+19, 87' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	91+19, 87' LT - 95+64, 88' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	95+23, 88' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	95+64, 88' LT - 98+65, 86' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	98+65, 86' LT	TRANS TOWER	GREAT RIVER ENERGY	3
N.B. C.S.A.H. 78	98+65, 86' LT - 103+40, 87' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	103+00, 87' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	103+40, 87' LT - 107+60, 88' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	107+32, 88' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	107+60, 88' LT - 111+38, 89' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	111+38, 89' LT - 116+70, 87' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	116+70, 87' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	116+70, 87' LT - 123+55, 88' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	123+55, 88' LT - 124+95, 88' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	123+55, 88' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	124+95, 88' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	124+95, 88' LT - 129+85, 88' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	129+85, 88' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	129+85, 88' LT - 136+71, 88' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	136+71, 88' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	136+71, 88' LT - 143+03, 116' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	143+03, 116' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	143+03, 116' LT - 149+93, 133' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	149+93, 133' LT - 153+90, 105' LT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	149+93, 133' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	153+90, 105' LT	TRANS TOWER	GREAT RIVER ENERGY	3
N.B. C.S.A.H. 78	153+90, 105' LT - 162+08, 63' LT	TRANS LINE	GREAT RIVER ENERGY	3
N.B. C.S.A.H. 78	162+08, 63' LT	TRANS TOWER	GREAT RIVER ENERGY	3
N.B. C.S.A.H. 78	162+08, 63' LT - 165+99, 15' RT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	165+99, 15' RT - 170+04, 33' RT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	165+99, 15' RT	TRANS TOWER	GREAT RIVER ENERGY	3
N.B. C.S.A.H. 78	169+05, 185' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	170+04, 33' RT - 174+04, 33' RT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	170+04, 33' RT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	174+04, 33' RT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	174+04, 33' RT - 178+24, 33' RT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	177+02, 72' LT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	178+24, 33' RT	TRANS TOWER	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	178+24, 33' RT - 178+65, 32' RT	TRANS LINE	GREAT RIVER ENERGY	1
N.B. C.S.A.H. 78	182+52, 34' RT	TRANS TOWER	GREAT RIVER ENERGY	1
E.B. C.S.A.H. 116	10+20, 80' LT	HANDHOLE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	10+20, 77' LT	SIGNAL MAST ARM	ANOKA COUNTY	3
E.B. C.S.A.H. 116	10+20, 77' LT - 10+42, 71' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	10+23, 37' RT - 10+38, 25' RT	BUR SIGNAL WIRE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	10+28, 31' RT	SIGNAL MAST ARM	ANOKA COUNTY	1
E.B. C.S.A.H. 116	10+35, 80' LT	SIGNAL CABINET	ANOKA COUNTY	3
E.B. C.S.A.H. 116	10+38, 25' RT - 10+41, 16' LT	BUR SIGNAL WIRE	ANOKA COUNTY	1
E.B. C.S.A.H. 116	10+38, 25' RT	HANDHOLE	ANOKA COUNTY	1
E.B. C.S.A.H. 116	10+41, 16' LT	HANDHOLE	ANOKA COUNTY	1
E.B. C.S.A.H. 116	10+41, 16' LT - 10+42, 71' LT	BUR SIGNAL WIRE	ANOKA COUNTY	1
E.B. C.S.A.H. 116	10+42, 71' LT - 10+52, 80' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	10+42, 71' LT	HANDHOLE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	10+43, 80' LT	HANDHOLE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	10+52, 80' LT	SIGNAL CABINET	ANOKA COUNTY	3
E.B. C.S.A.H. 116	15+01, 71' LT	HANDHOLE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	17+59, 74' LT	HANDHOLE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	19+24, 22' RT	HANDHOLE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	19+24, 22' RT - 21+24, 22' RT	BUR SIGNAL WIRE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	20+99, 22' RT	HANDHOLE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	20+99, 22' RT - 22+33, 21' RT	BUR SIGNAL WIRE	ANOKA COUNTY	3
E.B. C.S.A.H. 14	23+44, 12' RT - 25+67, 17' RT	BUR SIGNAL WIRE	ANOKA COUNTY	1
E.B. C.S.A.H. 14	23+44, 12' RT	HANDHOLE	ANOKA COUNTY	1
E.B. C.S.A.H. 116	25+04, 81' LT - 26+47, 81' LT	BUR SIGNAL WIRE	ANOKA COUNTY	2
E.B. C.S.A.H. 14	25+67, 17' RT - 27+53, 17' RT	BUR SIGNAL WIRE	ANOKA COUNTY	1
E.B. C.S.A.H. 14	25+67, 17' RT	HANDHOLE	ANOKA COUNTY	1

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CMT	CMT	CMT	NOTE REVISION PER MN/DOT UTILITY COMMENTS DATED 1/17/2007

...\5404\HI-MU\Plan\5404.PUD

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/21/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

UTILITIES TABULATION

C.S.A.H. 78

SHEET 29 OF 400

1:40:08 PM
2/21/2007
H:\Projects\5404\HI-MU\Plan\5404.PUD

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
E.B. C.S.A.H. 116	26+47, 81' LT	HANDHOLE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	26+47, 81' LT - 28+57, 87' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	28+57, 87' LT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	70+17, 1' LT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	71+48, 90' LT - 71+56, 49' LT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	71+48, 90' LT - 71+81, 126' LT	BUR SIGNAL WIRE	MNDOT	2
N.B. C.S.A.H. 78	71+48, 90' LT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	71+55, 86' LT	SIGNAL MAST ARM	MNDOT	2
N.B. C.S.A.H. 78	71+56, 49' LT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	71+56, 49' LT - 71+57, 10' RT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	71+57, 28' RT	SIGNAL CABINET	MNDOT	3
N.B. C.S.A.H. 78	71+57, 28' RT - 71+78, 35' RT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	71+57, 28' RT - 71+82, 44' RT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	71+57, 28' RT - 71+57, 10' RT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	71+57, 10' RT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	71+78, 35' RT	SIGNAL MAST ARM	MNDOT	3
N.B. C.S.A.H. 78	71+78, 35' RT - 71+82, 44' RT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	71+81, 126' LT - 71+81, 138' LT	BUR SIGNAL WIRE	MNDOT	2
N.B. C.S.A.H. 78	71+81, 126' LT - 72+28, 127' LT	BUR SIGNAL WIRE	MNDOT	2
N.B. C.S.A.H. 78	71+81, 126' LT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	71+82, 44' RT - 72+13, 42' RT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	71+82, 44' RT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	72+13, 42' RT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	72+13, 42' RT - 72+58, 39' RT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	72+28, 127' LT - 72+62, 129' LT	BUR SIGNAL WIRE	MNDOT	1
N.B. C.S.A.H. 78	72+28, 127' LT	HANDHOLE	MNDOT	1
N.B. C.S.A.H. 78	72+57, 77' RT - 72+58, 39' RT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	72+58, 39' RT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	72+62, 129' LT	HANDHOLE	MNDOT	1
N.B. C.S.A.H. 78	72+62, 129' LT - 72+82, 95' LT	BUR SIGNAL WIRE	MNDOT	2
N.B. C.S.A.H. 78	72+69, 117' LT	SIGNAL MAST ARM	MNDOT	1
N.B. C.S.A.H. 78	72+82, 95' LT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	72+82, 95' LT - 72+91, 39' LT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	72+82, 95' LT - 74+03, 87' LT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	72+90, 2' LT	SIGNAL MAST ARM	MNDOT	3
N.B. C.S.A.H. 78	72+91, 39' LT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	72+91, 39' LT - 73+00, 2' RT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	73+00, 2' RT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	73+00, 2' RT - 72+58, 39' RT	BUR SIGNAL WIRE	MNDOT	3
N.B. C.S.A.H. 78	74+03, 87' LT	HANDHOLE	MNDOT	3
N.B. C.S.A.H. 78	147+48, 11' RT - 149+19, 19' RT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	147+48, 11' RT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	149+19, 19' RT - 150+99, 22' RT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	149+19, 19' RT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	150+99, 74' LT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	150+99, 74' LT - 150+99, 34' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	150+99, 74' LT - 151+44, 116' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	150+99, 34' LT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	150+99, 34' LT - 150+99, 22' RT	BUR SIGNAL WIRE	ANOKA COUNTY	2
N.B. C.S.A.H. 78	150+99, 22' RT - 151+24, 3' LT	BUR SIGNAL WIRE	ANOKA COUNTY	2
N.B. C.S.A.H. 78	150+99, 22' RT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	151+34, 81' LT	SIGNAL MAST ARM	ANOKA COUNTY	3
N.B. C.S.A.H. 78	151+34, 19' RT	SIGNAL MAST ARM	ANOKA COUNTY	3
N.B. C.S.A.H. 78	151+44, 116' LT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	151+44, 116' LT - 151+46, 181' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	151+44, 116' LT - 151+68, 104' LT	BUR SIGNAL WIRE	ANOKA COUNTY	2
N.B. C.S.A.H. 78	151+44, 116' LT - 152+39, 119' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	151+45, 63' RT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	151+45, 63' RT - 151+83, 63' RT	BUR SIGNAL WIRE	ANOKA COUNTY	2
N.B. C.S.A.H. 78	151+79, 63' RT - 152+38, 63' RT	BUR SIGNAL WIRE	ANOKA COUNTY	2
N.B. C.S.A.H. 78	151+83, 63' RT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+38, 63' RT - 152+37, 94' RT	BUR SIGNAL WIRE	ANOKA COUNTY	2
N.B. C.S.A.H. 78	152+38, 63' RT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+39, 119' LT - 152+44, 99' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+39, 119' LT	HANDHOLE	ANOKA COUNTY	3

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
N.B. C.S.A.H. 78	152+39, 36' RT - 152+62, 19' RT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+39, 36' RT - 152+38, 63' RT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+41, 25' RT	SIGNAL MAST ARM	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+44, 99' LT - 152+60, 84' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+50, 86' LT	SIGNAL MAST ARM	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+60, 84' LT - 152+77, 55' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+60, 84' LT - 152+61, 23' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+60, 84' LT - 154+56, 70' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+60, 84' LT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+61, 23' LT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+61, 23' LT - 152+62, 19' RT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+62, 19' RT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	152+74, 99' LT	SIGNAL CABINET	ANOKA COUNTY	1
N.B. C.S.A.H. 78	152+81, 97' LT	SIGNAL CABINET	ANOKA COUNTY	1
N.B. C.S.A.H. 78	154+56, 70' LT	HANDHOLE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	154+56, 70' LT - 156+44, 69' LT	BUR SIGNAL WIRE	ANOKA COUNTY	3
N.B. C.S.A.H. 78	156+31, 69' LT	HANDHOLE	ANOKA COUNTY	3
E.B. C.S.A.H. 116	10+19, 84' LT - 11+70, 80' LT	BURIED FIBER	QWEST	3
E.B. C.S.A.H. 116	10+19, 79' LT - 11+70, 75' LT	BURIED TEL	QWEST	3
E.B. C.S.A.H. 116	11+70, 80' LT	TEL PED	QWEST	3
E.B. C.S.A.H. 116	11+70, 75' LT - 20+63, 93' LT	BURIED TEL	QWEST	3
E.B. C.S.A.H. 116	11+70, 80' LT - 20+63, 98' LT	BURIED FIBER	QWEST	3
E.B. C.S.A.H. 116	20+63, 98' LT	TEL PED	QWEST	1
E.B. C.S.A.H. 116	20+63, 93' LT - 22+42, 92' LT	BURIED TEL	QWEST	1
E.B. C.S.A.H. 116	25+04, 94' LT - 32+67, 97' LT	BURIED TEL	QWEST	1
E.B. C.S.A.H. 116	25+19, 29' RT - 26+59, 28' RT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 14	26+14, 27' RT - 27+53, 28' RT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	26+59, 28' RT - 26+60, 56' RT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	26+59, 28' RT - 31+70, 26' RT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	31+70, 26' RT - 33+53, 28' RT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	31+70, 26' RT	TEL MH	QWEST	2
E.B. C.S.A.H. 116	32+67, 97' LT - 36+63, 89' LT	BURIED TEL	QWEST	1
E.B. C.S.A.H. 116	33+53, 28' RT	TEL PED	QWEST	1
E.B. C.S.A.H. 116	33+53, 28' RT - 33+53, 59' RT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	33+53, 28' RT - 37+18, 29' RT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	36+58, 67' RT - 36+63, 90' LT	BURIED TEL	QWEST	1
E.B. C.S.A.H. 116	36+63, 89' LT - 36+66, 109' LT	BURIED TEL	QWEST	1
E.B. C.S.A.H. 116	36+66, 111' LT - 36+67, 125' LT	BURIED TEL	QWEST	1
E.B. C.S.A.H. 116	36+66, 111' LT - 37+30, 108' LT	BURIED TEL	QWEST	1
E.B. C.S.A.H. 116	36+66, 111' LT	TEL PED	QWEST	1
E.B. C.S.A.H. 116	37+18, 29' RT - 38+70, 27' RT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	37+29, 85' LT - 37+30, 108' LT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	37+29, 85' LT - 37+52, 74' LT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	37+29, 85' LT	TEL PED	QWEST	2
E.B. C.S.A.H. 116	37+52, 74' LT - 41+81, 73' LT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	38+70, 27' RT - 44+87, 29' RT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	38+85, 61' RT - 38+89, 27' RT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	41+81, 73' LT	TEL PED	QWEST	2
E.B. C.S.A.H. 116	41+81, 73' LT - 46+65, 63' LT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	44+87, 29' RT - 50+88, 32' RT	BURIED TEL	QWEST	2
E.B. C.S.A.H. 116	44+90, 28' RT	TEL PED	QWEST	1
E.B. C.S.A.H. 116	46+65, 63' LT - 50+87, 60' LT	BURIED TEL	QWEST	1
N.B. C.S.A.H. 78	49+27, 18' RT - 53+65, 15' RT	BURIED TEL	QWEST	4
N.B. C.S.A.H. 78	49+28, 20' RT	TEL MH	QWEST	4
N.B. C.S.A.H. 78	53+65, 15' RT - 55+11, 15' RT	BURIED TEL	QWEST	4
N.B. C.S.A.H. 78	55+11, 15' RT - 56+46, 14' RT	BURIED TEL	QWEST	4
N.B. C.S.A.H. 78	56+46, 14' RT - 57+08, 16' RT	BURIED TEL	QWEST	4
N.B. C.S.A.H. 78	57+08, 16' RT - 57+94, 21' RT	BURIED TEL	QWEST	4
N.B. C.S.A.H. 78	57+94, 21' RT	TEL MH	QWEST	4
N.B. C.S.A.H. 78	57+94, 21' RT - 58+86, 30' RT	BURIED TEL	QWEST	4
N.B. C.S.A.H. 78	58+81, 74' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	58+86, 30' RT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	58+86, 30' RT - 58+88, 31' RT	BURIED TEL	QWEST	4
N.B. C.S.A.H. 78	58+88, 31' RT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	58+88, 31' RT - 67+10, 11' LT	BURIED TEL	QWEST	4

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.PUE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY C.TRBOYEVICH

CHECKED BY M. TURNER

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

UTILITIES TABULATION

C.S.A.H. 78

SHEET 30 OF 400

4:26:18 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.PUE

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
N.B. C.S.A.H. 78	59+83, 17' RT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	67+10, 11' LT	TEL MH	QWEST	4
N.B. C.S.A.H. 78	67+10, 11' LT - 67+24, 11' LT	BURIED TEL	QWEST	4
N.B. C.S.A.H. 78	67+24, 11' LT	TEL MH	QWEST	4
N.B. C.S.A.H. 78	67+24, 11' LT - 71+64, 4' LT	BURIED TEL	QWEST	4
N.B. C.S.A.H. 78	71+60, 74' RT - 71+61, 34' RT	BURIED TEL	QWEST	4
N.B. C.S.A.H. 78	71+61, 34' RT - 71+64, 4' LT	BURIED TEL	QWEST	4
N.B. C.S.A.H. 78	71+61, 34' RT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	71+64, 4' LT	TEL MH	QWEST	3
N.B. C.S.A.H. 78	71+64, 4' LT - 71+69, 15' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	71+64, 4' LT - 75+05, 8' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	71+69, 15' LT	TEL MH	QWEST	3
N.B. C.S.A.H. 78	71+69, 15' LT - 71+70, 138' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	75+05, 8' RT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	75+05, 8' RT - 75+48, 6' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	75+48, 6' RT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	75+48, 6' RT - 76+03, 3' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	76+00, 71' RT - 76+03, 3' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	76+03, 3' RT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	76+03, 3' RT - 81+08, 5' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	81+08, 5' RT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	81+08, 5' RT - 82+07, 6' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	82+07, 6' RT - 85+30, 11' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	82+07, 6' RT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	85+30, 11' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	85+30, 11' LT - 85+61, 1' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	85+61, 1' RT - 86+88, 17' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	85+61, 1' RT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	86+88, 17' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	86+88, 17' LT - 87+20, 24' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	87+20, 24' LT - 93+24, 25' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	87+20, 24' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	91+06, 106' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	93+24, 25' LT - 98+80, 22' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	93+24, 25' LT	TEL MH	QWEST	3
N.B. C.S.A.H. 78	98+46, 102' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	98+80, 22' LT - 103+69, 25' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	98+80, 22' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	103+69, 25' LT - 106+44, 21' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	103+69, 25' LT	TEL MH	QWEST	3
N.B. C.S.A.H. 78	103+69, 116' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	106+44, 21' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	106+44, 21' LT - 120+86, 1' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	120+86, 1' LT - 125+67, 7' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	120+86, 1' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	125+67, 7' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	125+67, 7' LT - 140+39, 25' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	138+79, 138' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	140+39, 25' LT - 143+03, 21' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	140+39, 25' LT	TEL MH	QWEST	3
N.B. C.S.A.H. 78	143+03, 21' LT - 147+16, 17' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	147+03, 170' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	147+16, 17' RT - 149+39, 27' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	148+68, 178' LT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	149+39, 27' RT - 151+29, 27' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	151+26, 104' RT - 151+29, 27' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	151+29, 27' RT - 153+58, 25' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	152+50, 94' RT - 152+52, 44' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	152+52, 44' RT - 152+58, 169' LT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	153+58, 25' RT - 159+32, 36' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	159+32, 36' RT - 161+82, 30' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	159+32, 36' RT	TEL PED	QWEST	3
N.B. C.S.A.H. 78	161+82, 30' RT - 165+24, 17' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	165+24, 17' RT - 166+65, 27' RT	BURIED TEL	QWEST	3
N.B. C.S.A.H. 78	166+65, 27' RT - 187+35, 40' RT	BURIED TEL	QWEST	3

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
N.B. C.S.A.H. 78	49+27, 21' RT - 49+22, 21' RT	BURIED FIBER	NORTHSTAR ACCESS	1
N.B. C.S.A.H. 78	50+55, 24' RT - 49+27, 21' RT	BURIED FIBER	NORTHSTAR ACCESS	1
N.B. C.S.A.H. 78	55+07, 20' RT - 50+55, 24' RT	BURIED FIBER	NORTHSTAR ACCESS	1
N.B. C.S.A.H. 78	56+30, 19' RT - 55+07, 20' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	57+08, 21' RT - 56+30, 19' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	57+94, 21' RT - 57+08, 21' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	58+98, 21' RT - 57+94, 21' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	63+59, 4' LT - 58+98, 21' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	63+59, 4' LT - 67+19, 2' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	67+19, 2' RT - 69+54, 5' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	69+54, 5' RT - 70+19, 4' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	70+19, 4' RT - 71+06, 1' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	71+06, 1' RT - 73+19, 5' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	73+19, 5' RT - 74+51, 8' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	74+51, 8' RT - 75+45, 16' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	75+45, 16' RT - 75+89, 13' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	75+89, 13' RT - 77+22, 1' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	77+22, 1' RT - 78+74, 2' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	78+74, 2' LT - 80+38, 1' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	80+38, 1' RT - 82+78, 1' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	82+78, 1' RT - 83+98, 0' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	83+98, 0' RT - 85+05, 11' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	85+05, 11' LT - 85+36, 11' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	85+36, 11' LT - 85+94, 21' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	85+94, 21' LT - 88+54, 21' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	88+54, 21' LT - 90+02, 21' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	90+02, 21' LT - 91+16, 19' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	91+16, 19' LT - 93+55, 19' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	93+55, 19' LT - 95+35, 18' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	95+35, 18' LT - 97+64, 16' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	97+64, 16' LT - 98+76, 19' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	98+76, 19' LT - 99+88, 20' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	99+88, 20' LT - 101+40, 22' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	101+40, 22' LT - 103+15, 20' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	103+15, 20' LT - 104+35, 19' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	104+35, 19' LT - 107+52, 18' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	107+52, 18' LT - 109+00, 20' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	109+00, 20' LT - 110+78, 23' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	110+78, 23' LT - 111+38, 24' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	111+38, 24' LT - 112+17, 23' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	112+17, 23' RT - 113+49, 23' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	113+49, 23' RT - 114+34, 20' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	114+34, 20' RT - 115+32, 24' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	115+32, 24' RT - 116+05, 20' RT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	116+05, 20' RT - 118+20, 4' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	118+20, 4' LT - 120+12, 9' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	120+12, 9' LT - 121+07, 6' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	121+07, 6' LT - 122+53, 7' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	122+53, 7' LT - 123+19, 10' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	123+19, 10' LT - 126+05, 6' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	126+05, 6' LT - 127+34, 6' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	127+34, 6' LT - 127+94, 5' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	127+94, 5' LT - 129+14, 5' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	129+14, 5' LT - 129+74, 5' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	129+74, 5' LT - 130+94, 6' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	130+94, 6' LT - 131+54, 6' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	131+54, 6' LT - 133+94, 7' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	133+94, 7' LT - 135+14, 9' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	135+14, 9' LT - 135+54, 9' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	135+54, 9' LT - 135+63, 144' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	135+63, 144' LT - 136+00, 281' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	136+00, 281' LT - 136+86, 408' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	136+86, 408' LT - 137+72, 547' LT	BURIED FIBER	NORTHSTAR ACCESS	3
N.B. C.S.A.H. 78	137+72, 547' LT - 138+04, 660' LT	BURIED FIBER	NORTHSTAR ACCESS	3
E.B. C.S.A.H. 116	13+23, 81' LT	TV PED	COMCAST CABLE	3

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.PUF

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

UTILITIES TABULATION

C.S.A.H. 78

SHEET 31 OF 400

10:30:58 AM
10/10/2006
N:\Projects\5404\hl-mu\plan\5404.PUF

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
E.B. C.S.A.H. 116	15+97, 88' LT	TV PED	COMCAST CABLE	3
E.B. C.S.A.H. 116	16+92, 87' LT	TV PED	COMCAST CABLE	3
E.B. C.S.A.H. 14	19+82, 60' RT	TV PED	COMCAST CABLE	1
E.B. C.S.A.H. 116	20+44, 87' LT	TV PED	COMCAST CABLE	3
E.B. C.S.A.H. 116	28+45, 99' LT	TV PED	COMCAST CABLE	1
E.B. C.S.A.H. 116	44+87, 29' RT	TV PED	COMCAST CABLE	3
N.B. C.S.A.H. 78	53+08, 73' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	54+44, 72' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	56+54, 77' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	58+74, 73' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	59+86, 16' RT	TV PED	COMCAST CABLE	3
N.B. C.S.A.H. 78	60+35, 84' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	61+96, 92' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	64+89, 101' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	65+63, 99' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	76+02, 79' LT	TV PED	COMCAST CABLE	3
N.B. C.S.A.H. 78	80+31, 83' LT	TV PED	COMCAST CABLE	3
N.B. C.S.A.H. 78	87+16, 100' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	89+63, 49' RT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	91+00, 102' LT	TV PED	COMCAST CABLE	3
N.B. C.S.A.H. 78	91+14, 50' RT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	91+95, 23' LT	TV PED	COMCAST CABLE	3
N.B. C.S.A.H. 78	92+52, 48' RT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	93+97, 45' RT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	96+92, 114' RT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	98+49, 98' LT	TV PED	COMCAST CABLE	3
N.B. C.S.A.H. 78	102+61, 96' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	103+69, 120' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	104+72, 90' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	106+16, 118' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	111+31, 91' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	120+79, 2' LT	TV PED	COMCAST CABLE	3
N.B. C.S.A.H. 78	123+48, 90' LT	TV PED	COMCAST CABLE	1
N.B. C.S.A.H. 78	152+48, 47' RT	TV PED	COMCAST CABLE	3
N.B. C.S.A.H. 78	155+07, 29' RT	TV PED	COMCAST CABLE	3
N.B. C.S.A.H. 78	162+32, 87' RT	TV PED	COMCAST CABLE	1
E.B. C.S.A.H. 116	35+89, 85' LT	DSL METER	QWEST	3
N.B. C.S.A.H. 78	72+61, 5' RT - 77+28, 2' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	77+28, 2' LT - 78+28, 30 ' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	78+28, 30' LT - 85+60, 34' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	83+07, 29' LT - 83+06, 49' RT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	85+60, 34' LT - 85+61, 221' RT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	83+49, 65' LT - 75+90, 70' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	75+90, 70' LT - 75+89, 335' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	85+60, 34' LT - 97+00, 37' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	97+00, 37' LT - 108+00, 35' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	108+00, 35' LT - 111+28, 38' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	111+28, 38' LT - 111+38, 33' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	111+38, 33' LT - 112+58, 33' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	112+58, 33' LT - 112+68, 38 ' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	112+68, 38 ' LT - 130+00, 5 ' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	130+00, 5' LT - 134+32, 2' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	134+32, 2' LT - 140+78, 36' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	140+78, 36' LT - 140+79, 15' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	140+79, 15' LT - 141+54, 19' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	141+54, 19' LT - 148+71, 26' RT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	148+71, 26' RT - 151+34, 27' RT	BURIED GAS	CENTERPOINT	3
E.B. C.S.A.H.116	24+42, 26' RT - 36+20, 23' RT	BURIED GAS	CENTERPOINT	3
E.B. C.S.A.H.116	36+20, 23' RT - 36+20, 2' LT	BURIED GAS	CENTERPOINT	3
E.B. C.S.A.H.116	36+20, 2' LT - 38+90, 7' RT	BURIED GAS	CENTERPOINT	3
E.B. C.S.A.H.116	38+90, 7' RT - 44+24, 12' RT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	140+78, 35' LT - 141+74, 42' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	141+74, 42' LT - 148+11, 6' RT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	148+11, 6' RT - 151+51, 11' RT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	151+51, 11' RT - 152+40, 11 RT	BURIED GAS	CENTERPOINT	3

EXISTING UTILITIES - CONTINUED

ALIGNMENT	LOCATION STATION AND OFFSET	IN PLACE UTILITY	UTILITY OWNER	NOTES
E.B. C.S.A.H.116	24+25, 10' RT - 31+36, 2' LT	BURIED GAS	CENTERPOINT	3
E.B. C.S.A.H.116	24+23, 79 LT - 10+00, 51' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	152+40, 11 RT - 155+99, 12' RT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	155+99, 12' RT - 156+00, 95' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	156+00, 95' LT - 153+35, 96' LT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	155+99, 12' RT - 159+67, 19' RT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	159+67, 19' RT - 161+11, 21' RT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	161+11, 21' RT - 165+02, 9' RT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	165+02, 9' RT - 165+80, 9' RT	BURIED GAS	CENTERPOINT	3
N.B. C.S.A.H. 78	165+80, 9' RT - 181+52, 22' RT	BURIED GAS	CENTERPOINT	3

NOTES:

THE "LEAVE AS IS", "ADJUST", AND "RELOCATE" NOTES ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATION WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL UTILITIES IN THE FIELD.

ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS UNLESS NOTED.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATE.

(1) LEAVE AS IS
(2) ADJUST
(3) RELOCATE
(4) LEAVE IN PLACE/OUT OF SERVICE

UTILITY COMPANIES
ANOKA COUNTY HIGHWAY DEPARTMENT
CENTERPOINT ENERGY MINNESOTA GAS
COMCAST CABLE COMMUNICATIONS INC.
CONNEXUS ENERGY
GREAT RIVER ENERGY
METROPOLITAN COUNCIL, ENVIRONMENTAL SERVICES
NORTHERN NATURAL GAS COMPANY
QWEST CORPORATION
NORTHSTAR ACCESS, LLC
MINNESOTA DEPARTMENT OF TRANSPORTATION

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CMT	CMT	CMT	NOTE REVISION PER MN/DOT UTILITY COMMENTS DATED 1/17/2007

...\5404\HI-MU\Plan\5404.PUG

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/21/2007 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

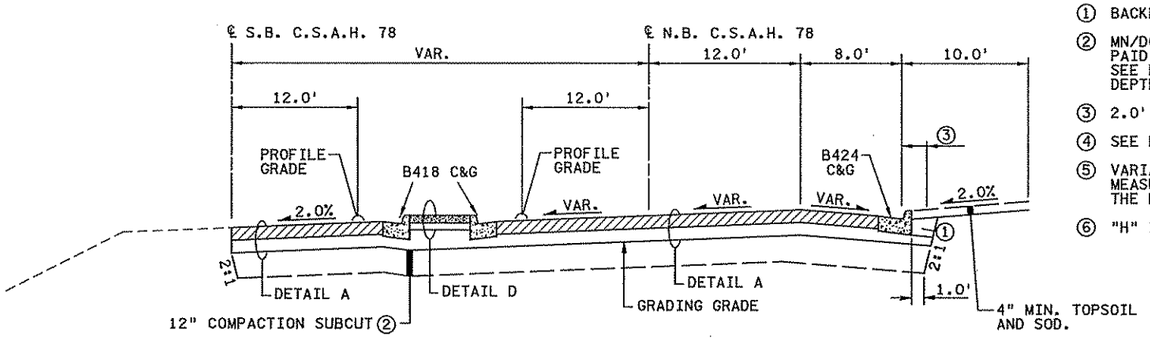
ANOKA COUNTY
UTILITIES TABULATION
C.S.A.H. 78

SHEET 32 OF 400

1:43:51 PM
2/21/2007
H:\Projects\5404\HI-MU\Plan\5404.PUG

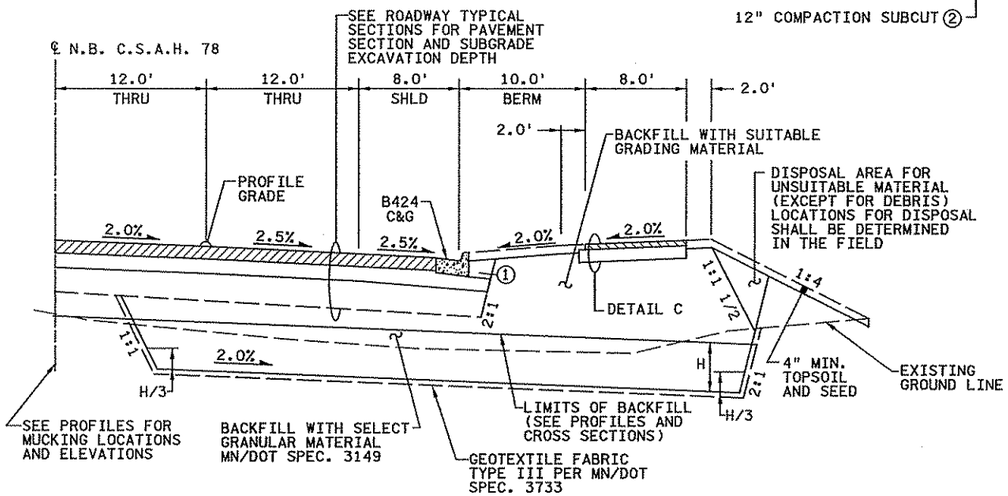
NOTES:

1. BACKFILL WITH SUITABLE GRADING MATERIAL.
2. MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.
3. 2.0' OBSTACLE FREE CLEAR ZONE.
4. SEE DETAILS FOR SUBGRADE DRAINAGE.
5. VARIABLE DEPTH MUCK EXCAVATION DEPTH MEASURED FROM SUBGRADE EXCAVATION AT THE PROFILE GRADE LOCATION.
6. "H" IS MEASURED AT TRAIL PI LOCATION.

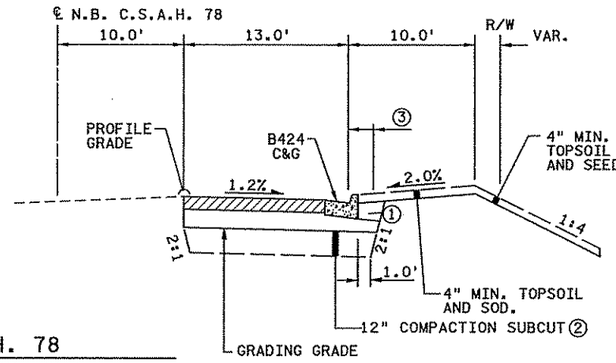


C.S.A.H. 78

STA. 61+99.62 TO STA. 62+12.83 (NO MEDIAN)
STA. 62+12.83 TO STA. 64+89.0

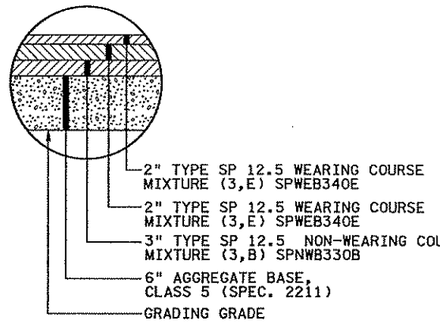


URBAN MUCK DETAIL

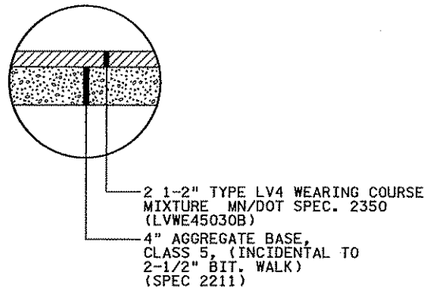


C.S.A.H. 78

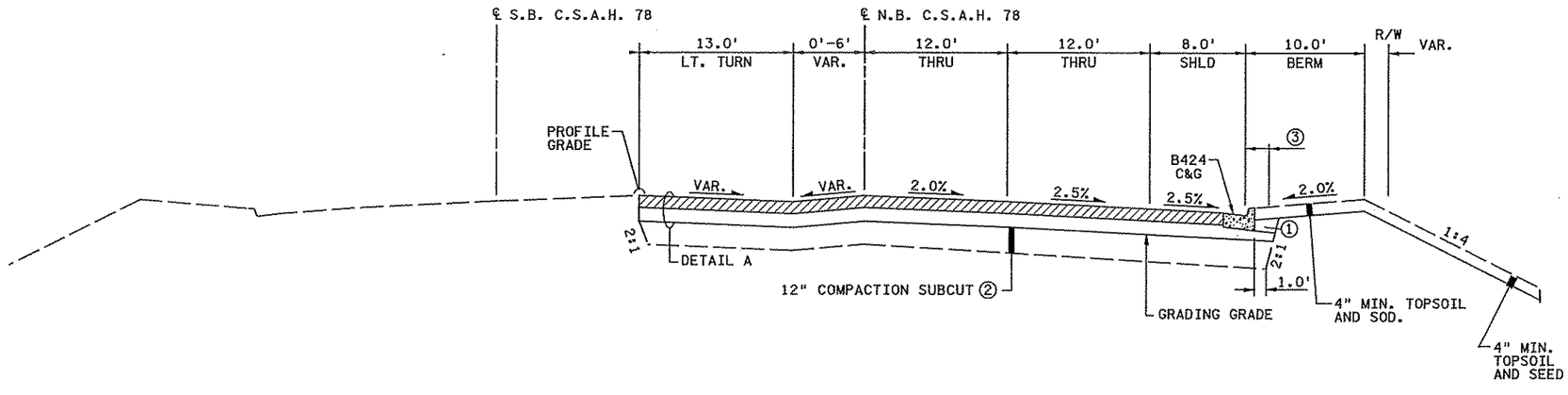
STA. 54+75.00 TO STA. 58+64.51



DETAIL A
C.S.A.H. 78

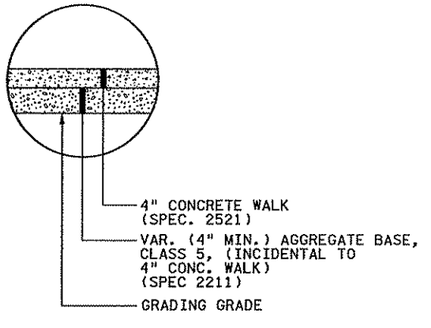


DETAIL C
BITUMINOUS WALK



C.S.A.H. 78

STA. 58+64.51 TO STA. 61+99.62



DETAIL D
CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hf-mu\plan\5404.TSA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

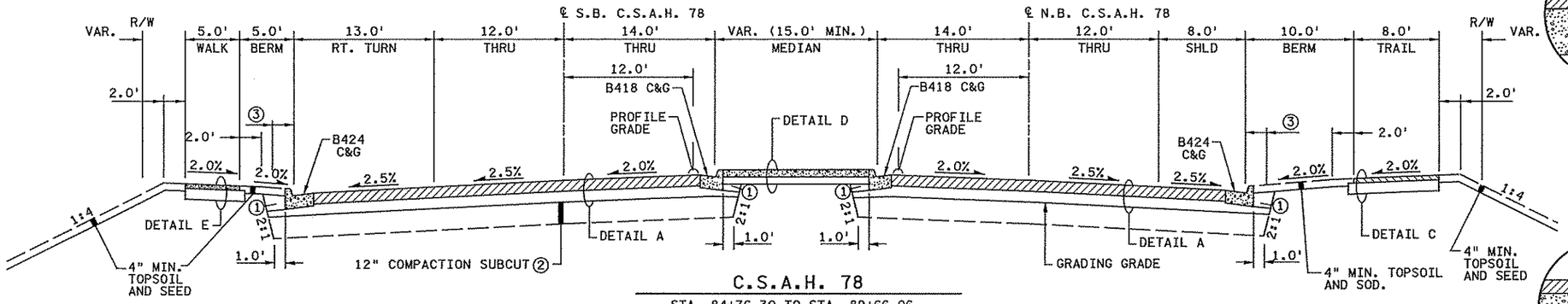
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TYPICAL SECTIONS
C.S.A.H. 78

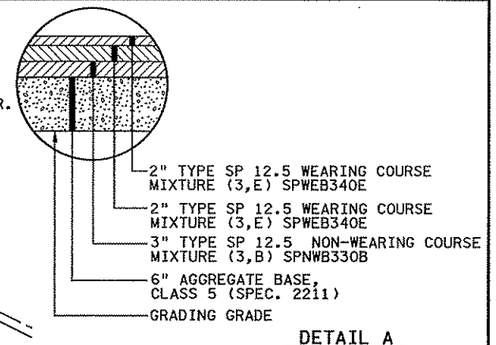
SHEET 33 OF 400

4126121 PM
9/26/2006
h:\projects\5404\hf-...plan\5404.TSA

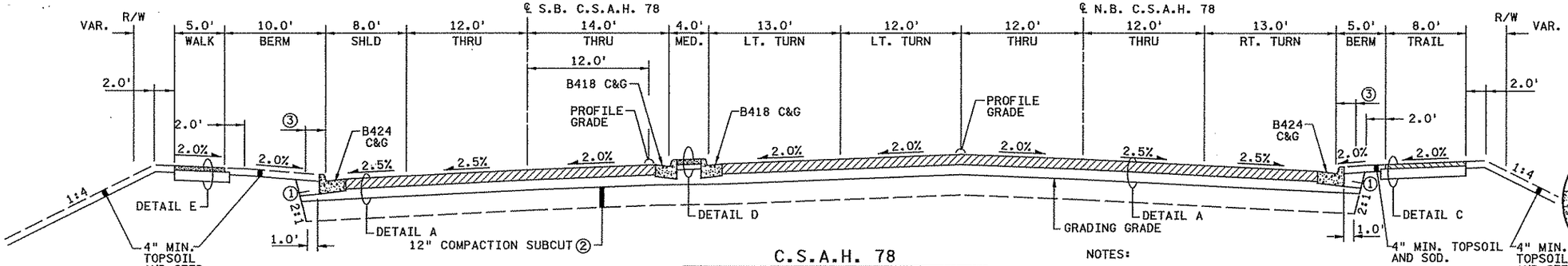


C.S.A.H. 78

STA. 84+76.30 TO STA. 89+66.06
STA. 103+74.71 TO STA. 108+16.11
STA. 141+08.56 TO STA. 143+80.00
STA. 158+14.35 TO STA. 158+67.47

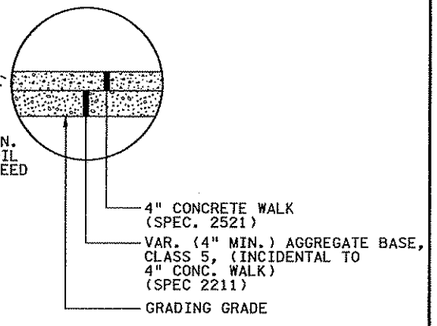


DETAIL A
C.S.A.H. 78

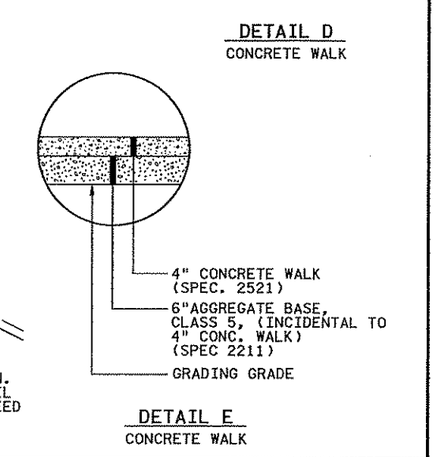


C.S.A.H. 78

STA. 64+89.0 TO STA. 71+27.81



DETAIL C
BITUMINOUS WALK



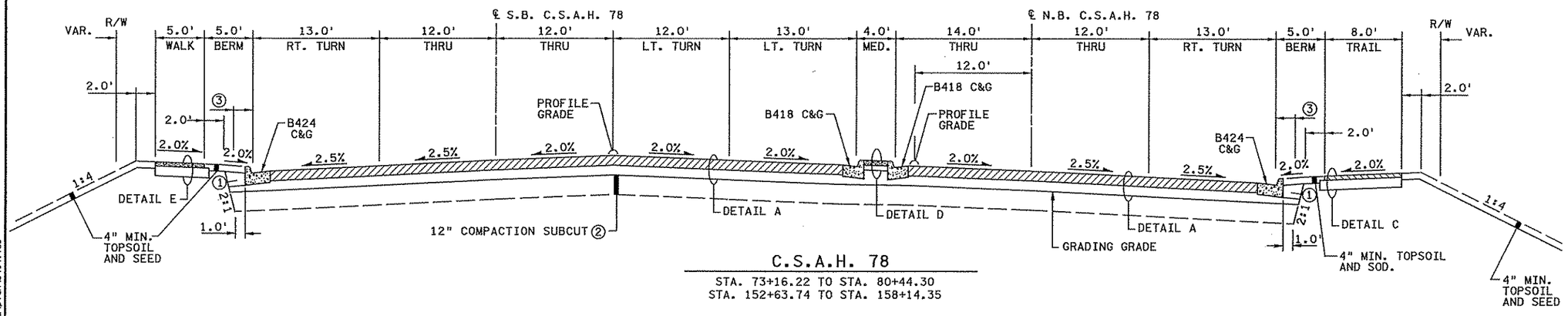
NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.



C.S.A.H. 78

STA. 73+16.22 TO STA. 80+44.30
STA. 152+63.74 TO STA. 158+14.35

DETAIL D
CONCRETE WALK

DETAIL E
CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.TSD

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

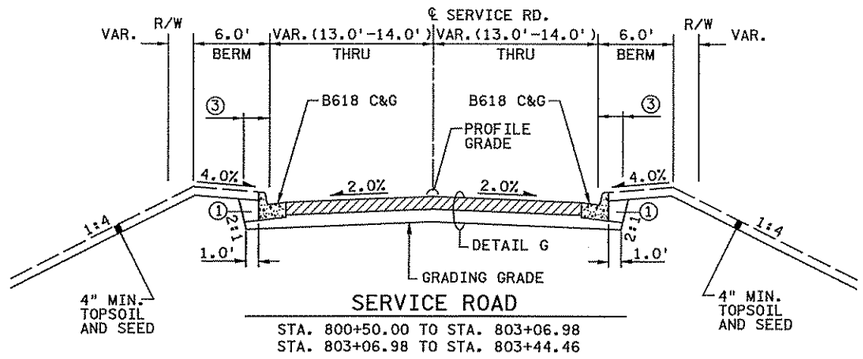
DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TYPICAL SECTIONS
C.S.A.H. 78

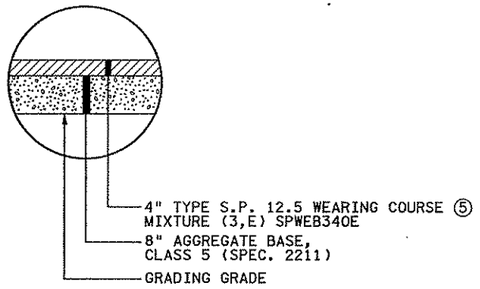
SHEET 34 OF 400

4:26:22 PM
9/26/2006
h:\projects\5404\hi-mu\plan\5404.TSD

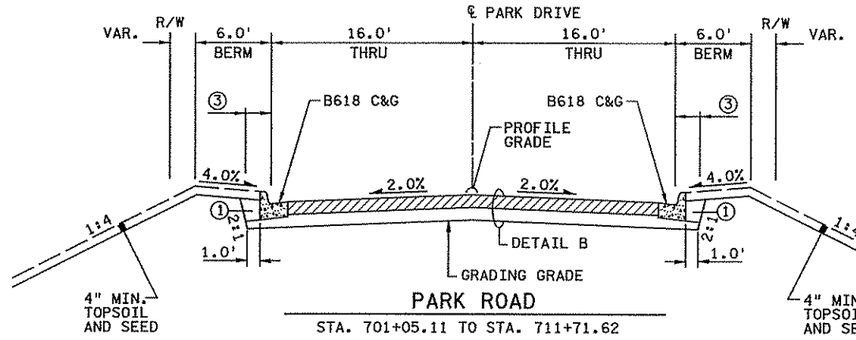


SERVICE ROAD

STA. 800+50.00 TO STA. 803+06.98
STA. 803+06.98 TO STA. 803+44.46

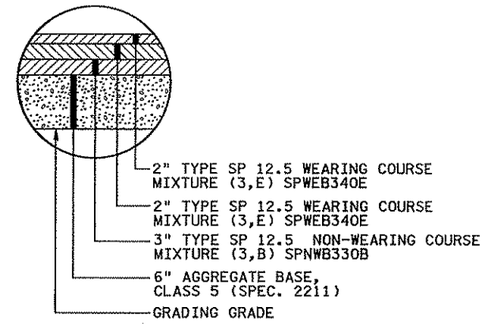


DETAIL G

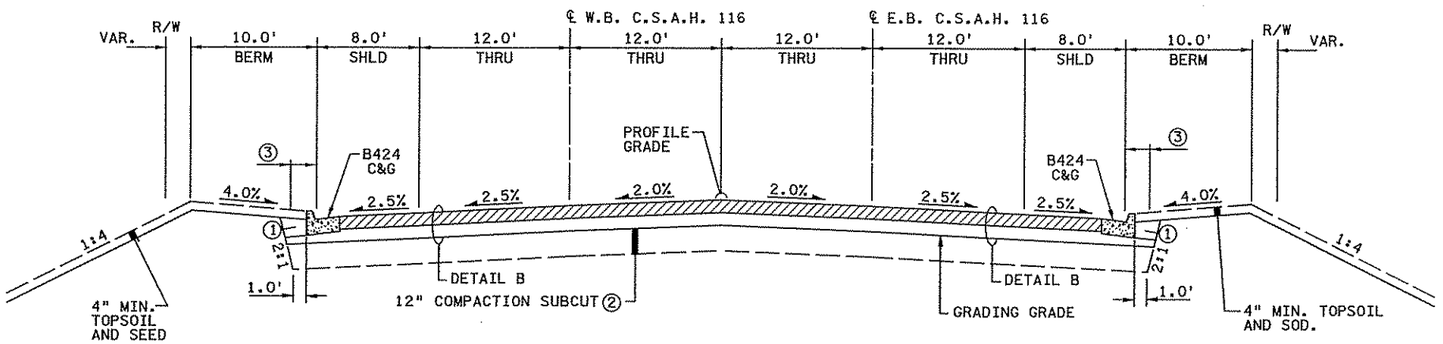


PARK ROAD

STA. 701+05.11 TO STA. 711+71.62



DETAIL B



C.S.A.H. 116

STA. 43+07.44 TO STA. 47+40.83

NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.

⑤ WEARING COURSE SHALL BE CONSTRUCTED IN TWO LIFTS.

NO	DATE	BY	CKD	APPR	REVISION
...\5404\hl-mu\plan\5404.TSG					

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

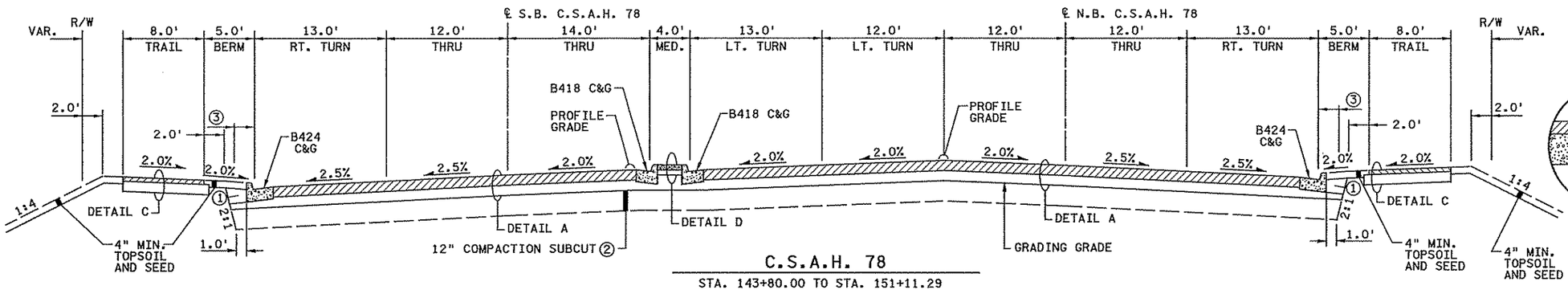
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TYPICAL SECTIONS
C.S.A.H. 78

SHEET 35 OF 400

4:26:23 PM
9/26/2006
h:\proj\cate\5404\hl-mu\plan\5404.TSG



C.S.A.H. 78

STA. 143+80.00 TO STA. 151+11.29

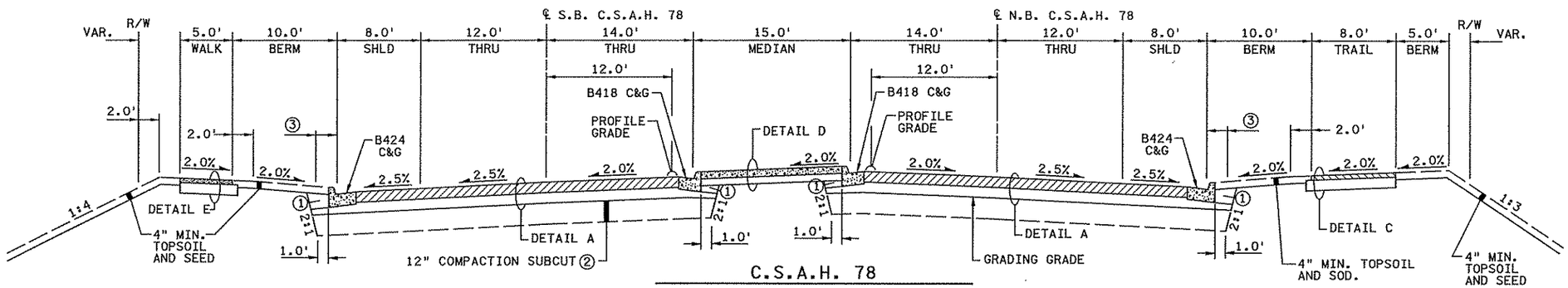
NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

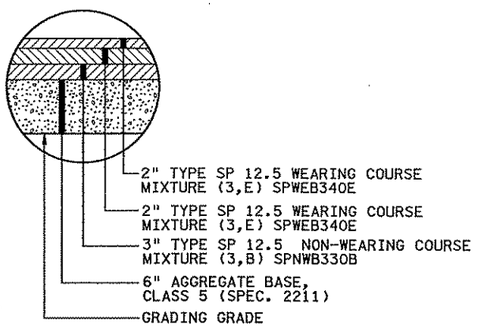
③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.

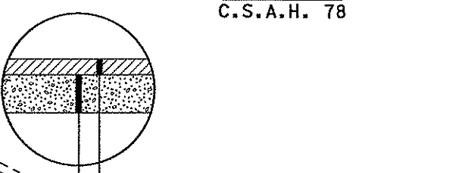


C.S.A.H. 78

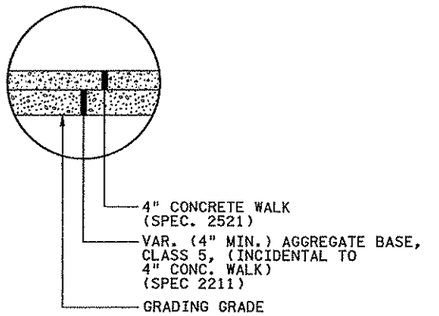
STA. 89+66.06 TO STA. 98+26.22
STA. 108+16.11 TO STA. 120+75.11
STA. 158+67.47 TO STA. 166+77.13
STA. 177+14.08 TO STA. 181+63.35



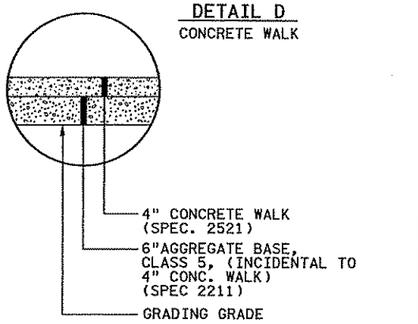
DETAIL A
C.S.A.H. 78



DETAIL C
BITUMINOUS WALK



DETAIL D
CONCRETE WALK



DETAIL E
CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TSB

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.
Print Name: CHRIS M. TRBOYEVICH
Date 6/10/2006 License # 41635

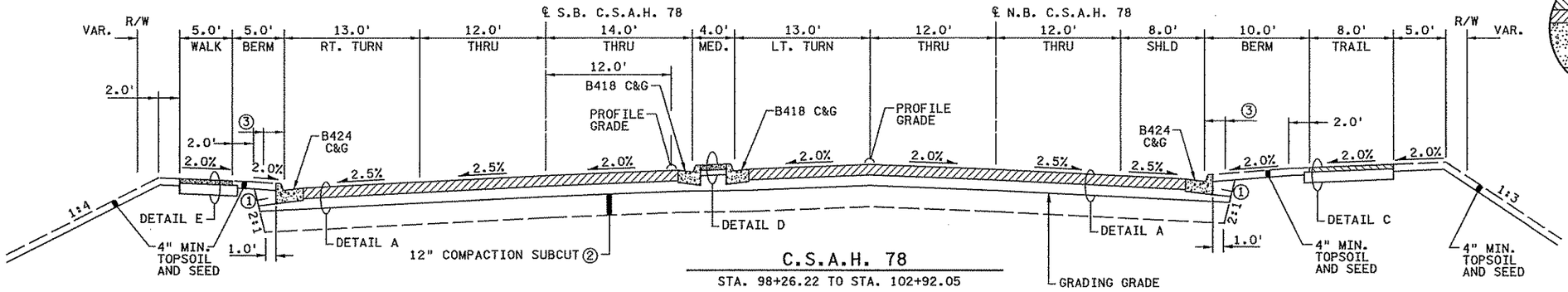
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TYPICAL SECTIONS
C.S.A.H. 78

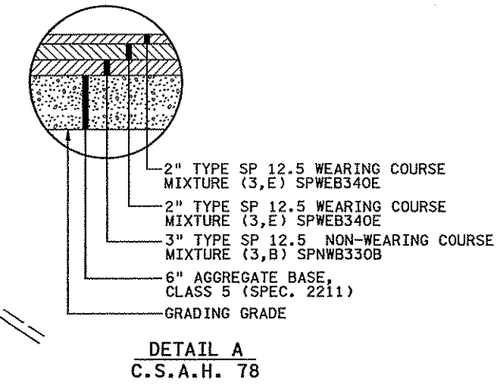
SHEET 36 OF 400

4:25:24 PM
5/25/2006
h:\projects\5404\hl-mu\plan\5404.TSB

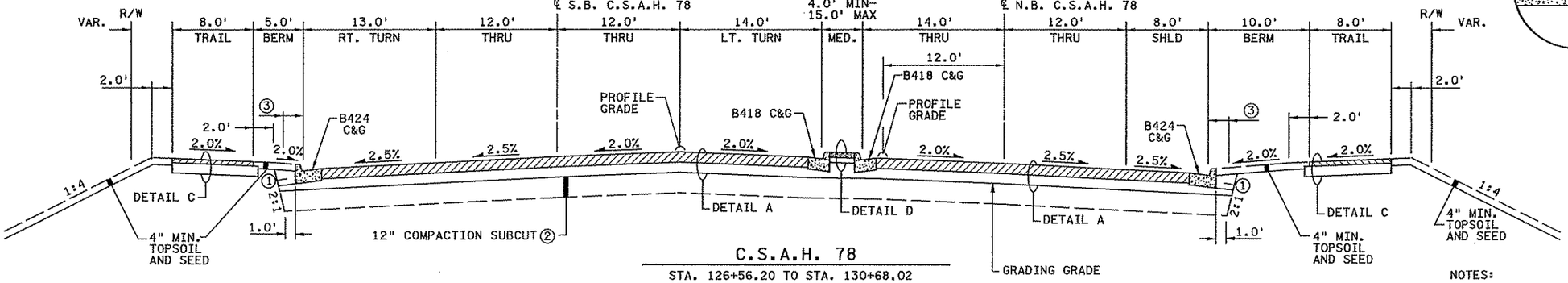


C.S.A.H. 78

STA. 98+26.22 TO STA. 102+92.05

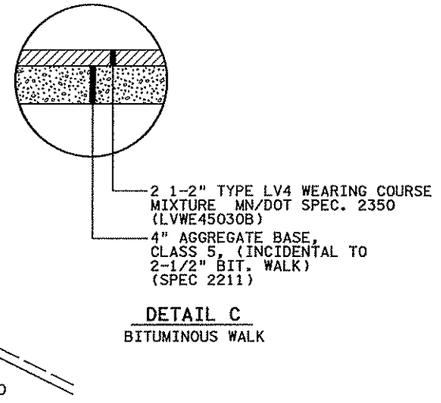


DETAIL A
C.S.A.H. 78



C.S.A.H. 78

STA. 126+56.20 TO STA. 130+68.02
STA. 136+44.70 TO STA. 141+08.56
STA. 172+46.17 TO STA. 177+14.08



DETAIL C
BITUMINOUS WALK

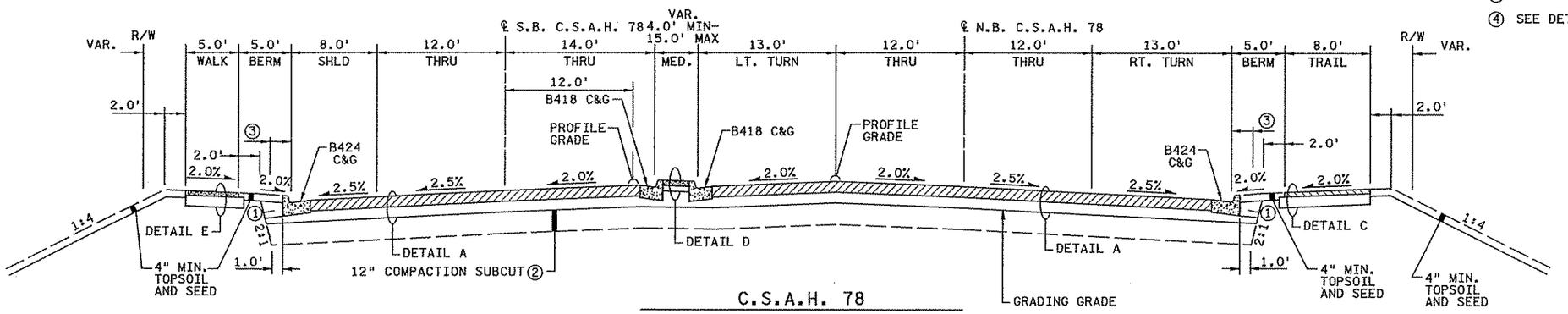
NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

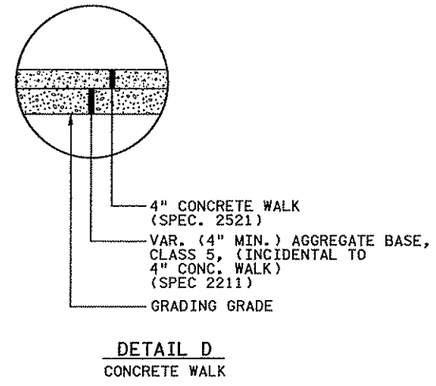
③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.



C.S.A.H. 78

STA. 80+44.30 TO STA. 84+37.35
STA. 120+75.11 TO STA. 125+40.00
STA. 130+68.02 TO STA. 135+33.07
STA. 166+77.13 TO STA. 171+50.68



DETAIL D
CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.TSC

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

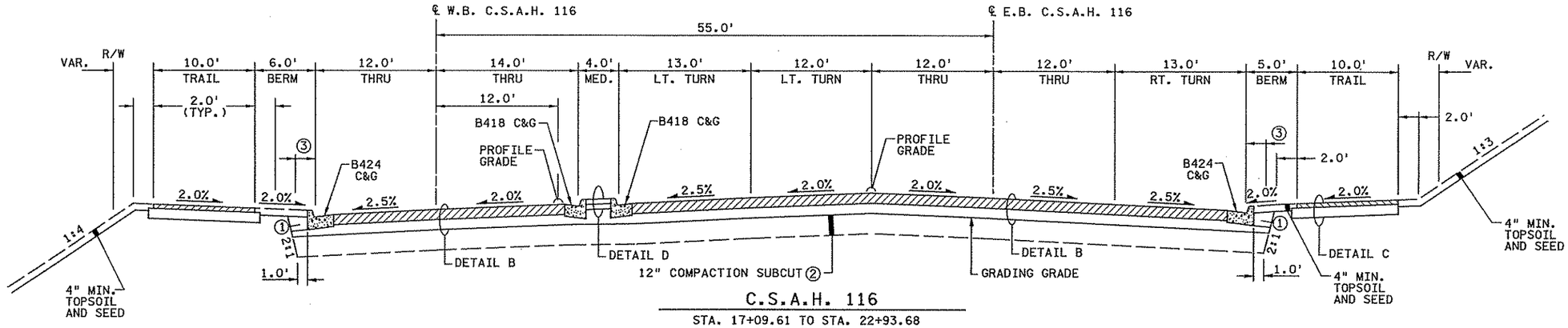
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TYPICAL SECTIONS
C.S.A.H. 78

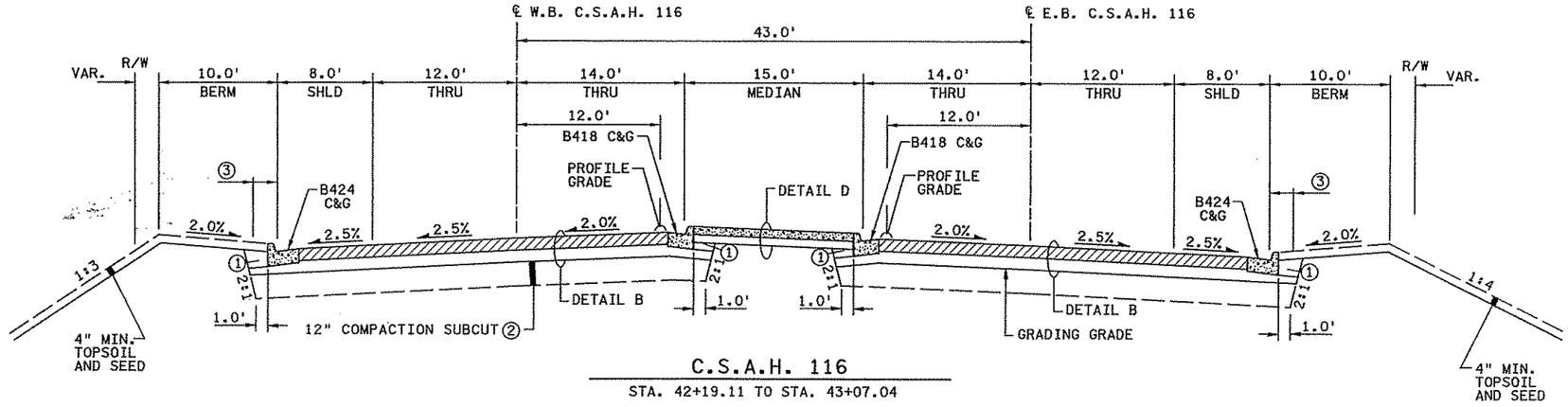
SHEET 37 OF 400

4126:25 PM
9/26/2006
h:\projects\5404\hi-mu\plan\5404.TSC



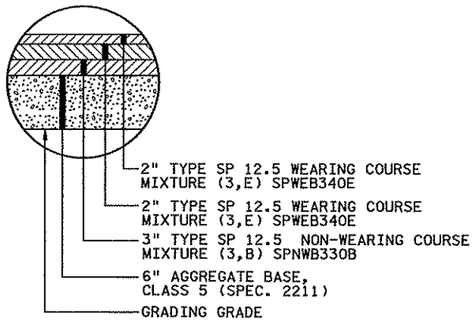
C.S.A.H. 116

STA. 17+09.61 TO STA. 22+93.68
STA. 24+56.70 TO STA. 31+16.91

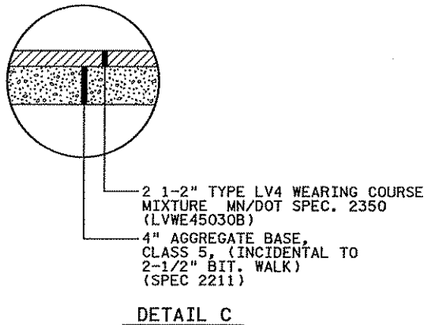


C.S.A.H. 116

STA. 42+19.11 TO STA. 43+07.04



DETAIL B
C.S.A.H. 116



DETAIL C
BITUMINOUS WALK

NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TSF

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

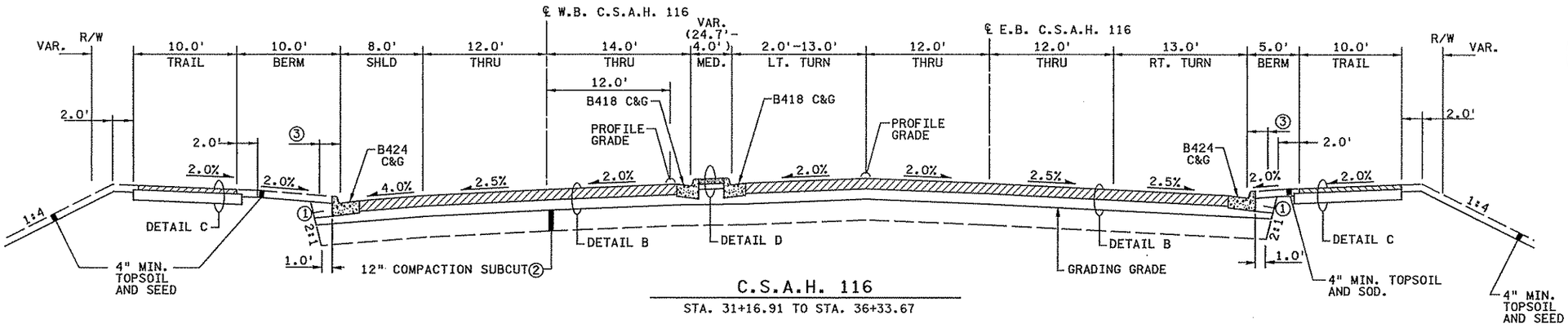
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TYPICAL SECTIONS
C.S.A.H. 78

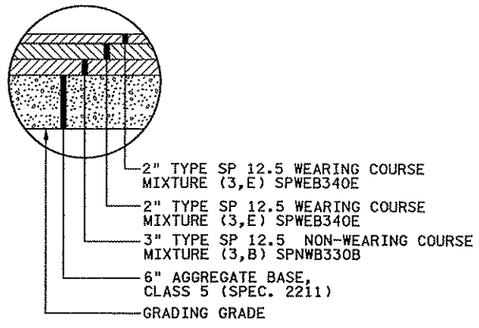
SHEET 38 OF 400

4:26:05 PM
9/26/2006
H:\projects\5404\hl-mu\plan\5404.TSF

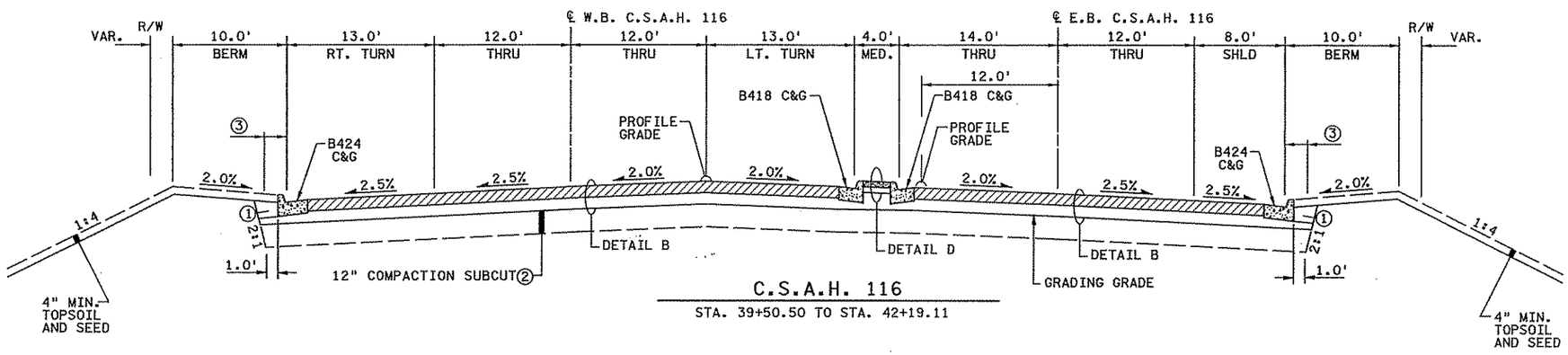


C.S.A.H. 116

STA. 31+16.91 TO STA. 36+33.67

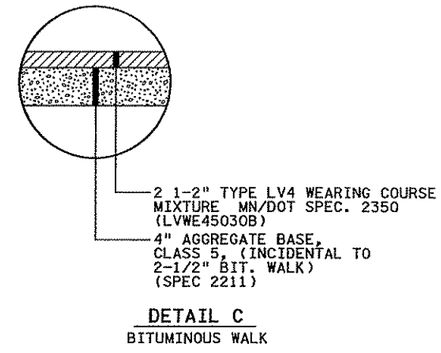


DETAIL B
C.S.A.H. 116

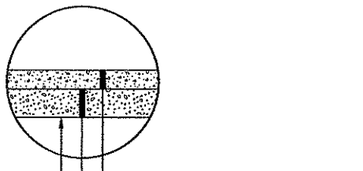


C.S.A.H. 116

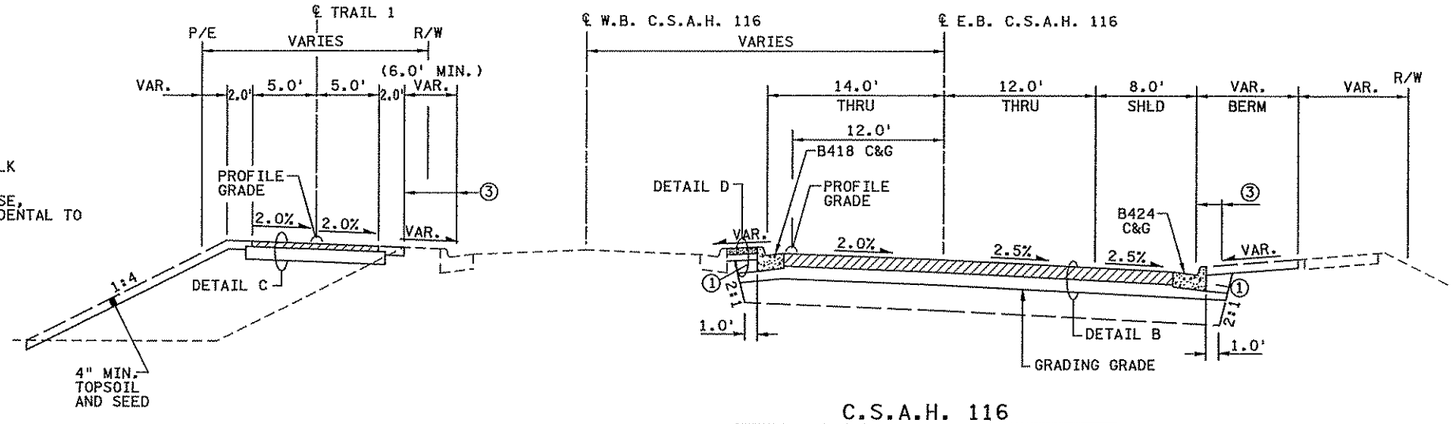
STA. 39+50.50 TO STA. 42+19.11



DETAIL C
BITUMINOUS WALK

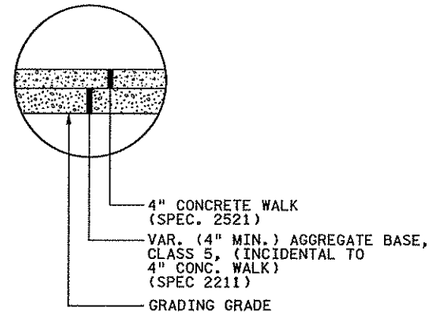


DETAIL E
CONCRETE WALK



C.S.A.H. 116

STA. 12+48.95 TO STA. 17+09.61



DETAIL D
CONCRETE WALK

NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TSE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

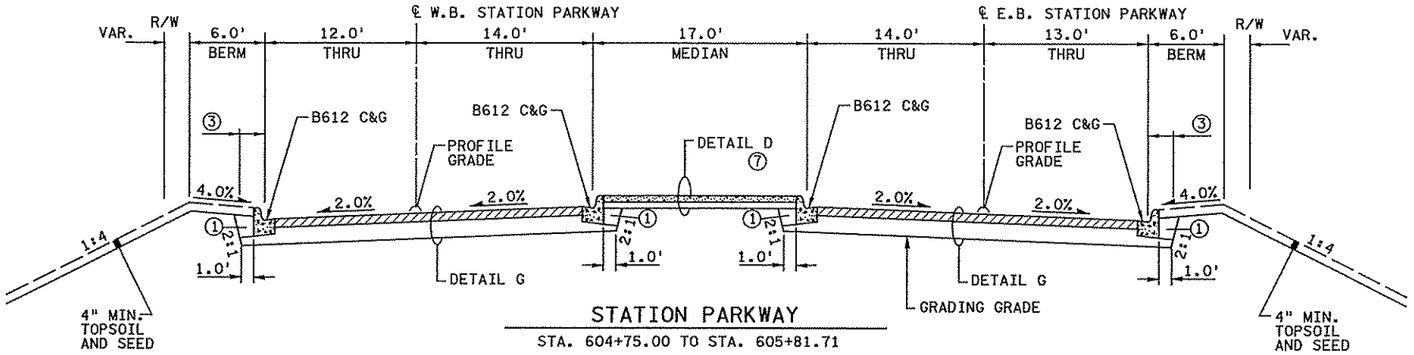
ANOKA COUNTY

TYPICAL SECTIONS

C.S.A.H. 78

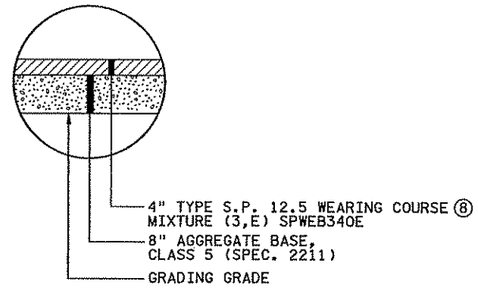
SHEET 39 OF 400

4126127 PM
9/26/2006
H:\projects\5404\hl-mu\...plan\5404.TSE

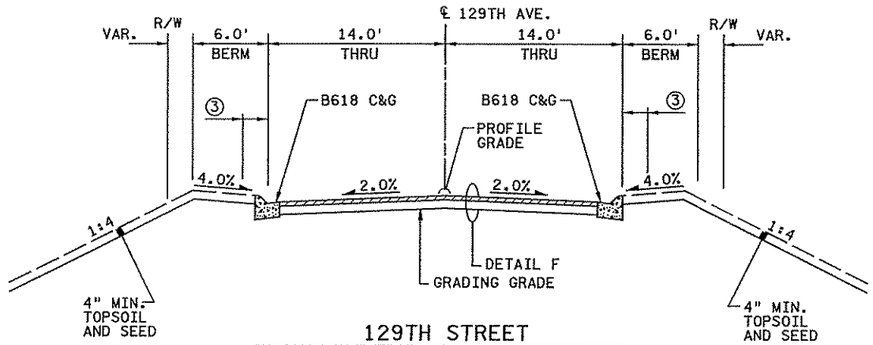


STATION PARKWAY

STA. 604+75.00 TO STA. 605+81.71

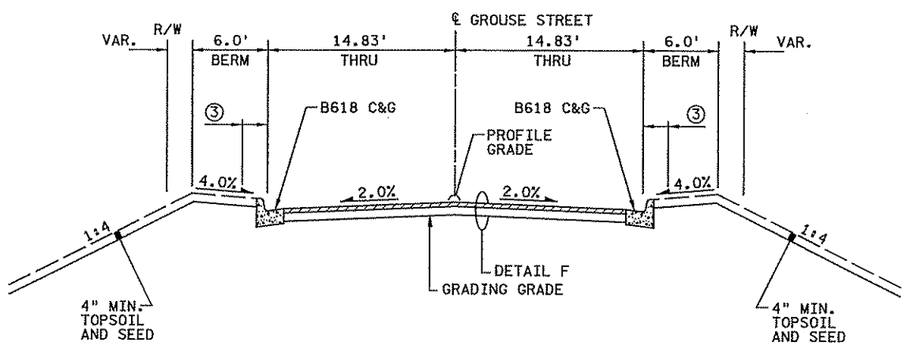


DETAIL G



129TH STREET

STA. 400+67.50 TO STA. 401+91.63



GROUSE STREET

STA. 21+27.61 TO STA. 21+94.23

NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

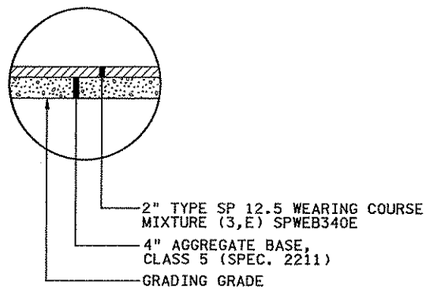
② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.

⑦ STA. 605+50.00-605+68.94. INSTALL SALVAGED STONE PAVERS. SEE CONSTRUCTION PLAN.

⑧ WEARING COURSE SHALL BE CONSTRUCTED IN TWO LIFTS.



DETAIL F

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.TSH

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

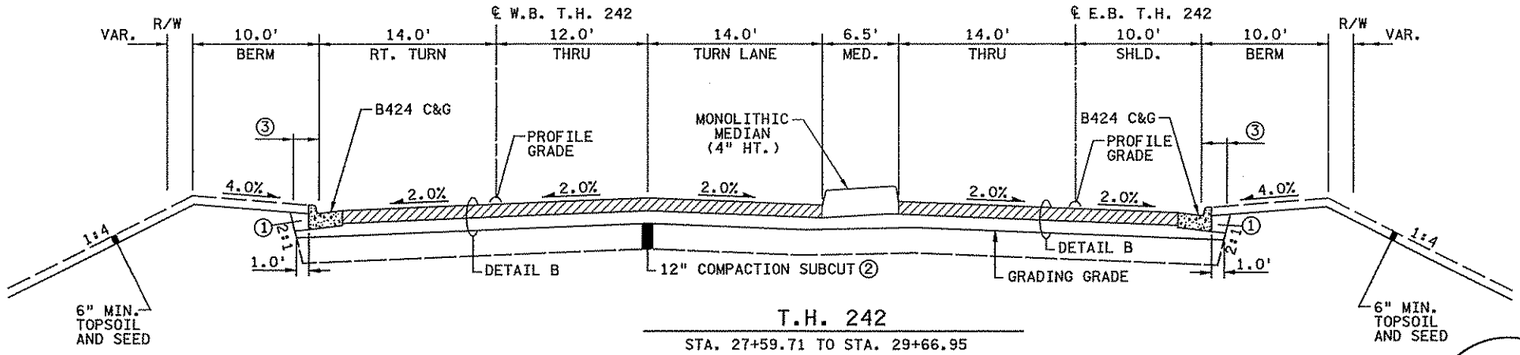
ANOKA COUNTY

TYPICAL SECTIONS

C.S.A.H. 78

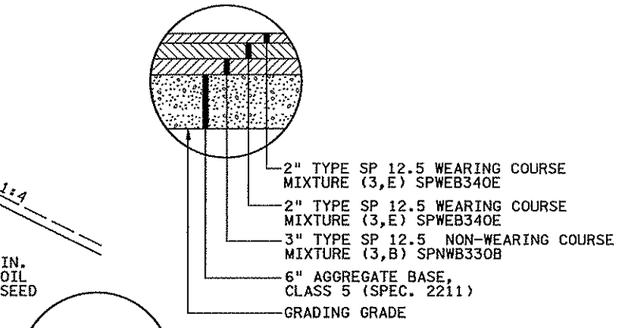
SHEET 40 OF 400

4126128 PM
9/26/2006
M:\projects\5404\hi-...plan\5404.TSH



T.H. 242

STA. 27+59.71 TO STA. 29+66.95



DETAIL B

NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

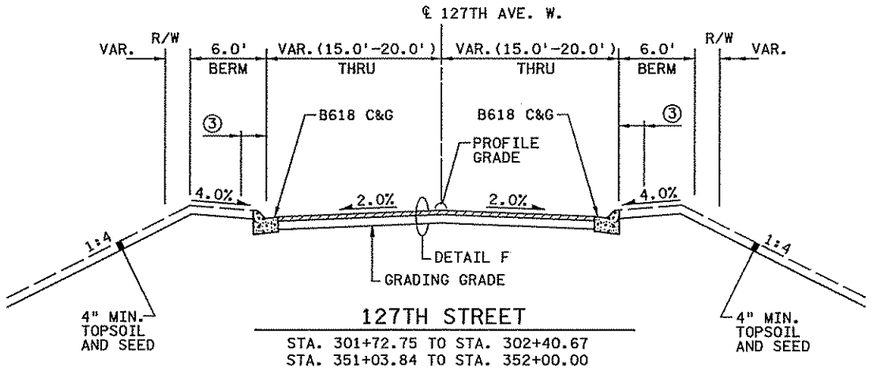
② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.

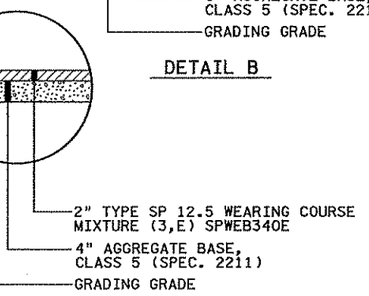
⑦ STA. 503+84.45-505+98.00 (NO CURB 12' TO EDGE OF PAVEMENT)

⑧ WEARING COURSE SHALL BE CONSTRUCTED IN TWO LIFTS.

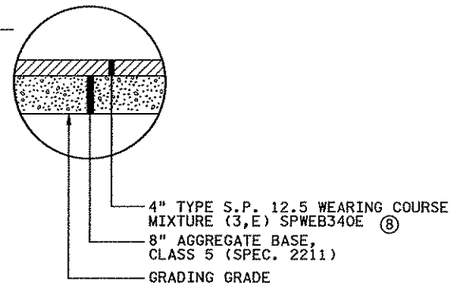


127TH STREET

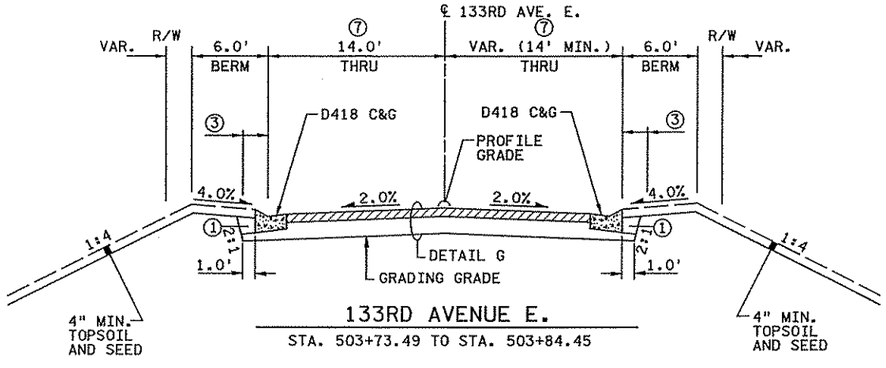
STA. 301+72.75 TO STA. 302+40.67
STA. 351+03.84 TO STA. 352+00.00



DETAIL F

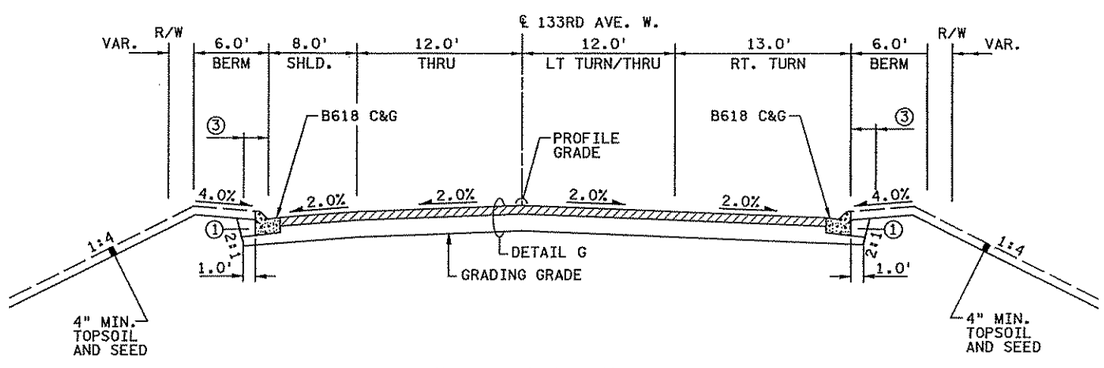


DETAIL G



133RD AVENUE E.

STA. 503+73.49 TO STA. 503+84.45



133RD AVENUE W.

STA. 501+91.46 TO STA. 502+31.76
STA. 503+73.49 TO STA. 505+98.00

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.TSI

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/6/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

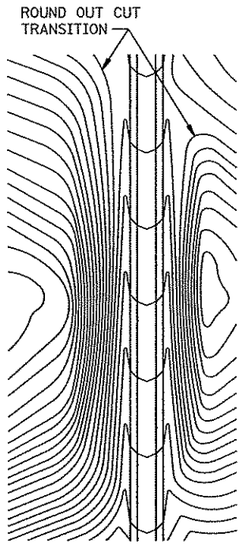
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

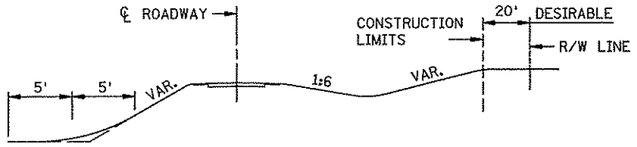
TYPICAL SECTIONS
C.S.A.H. 78

SHEET 41 OF 400

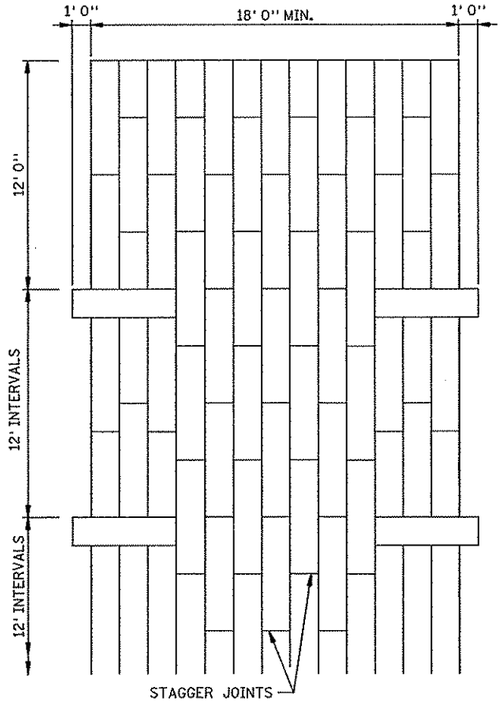
4126129 PM
9/26/2006
h:\projects\5404\hi-mu\plan\5404.TSI



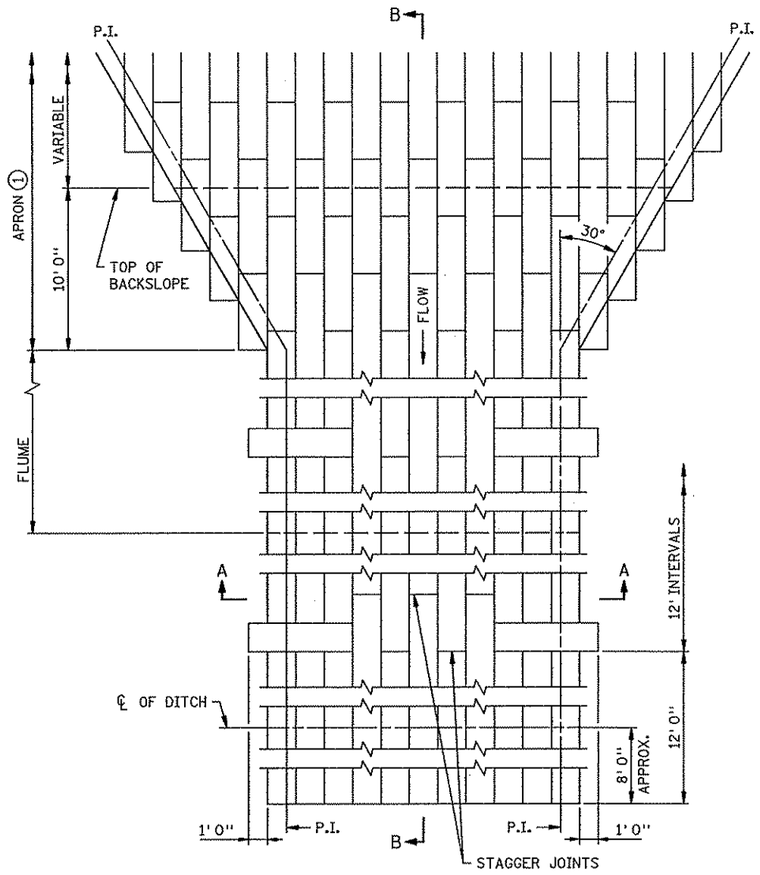
CONTOURING ROAD CUTS



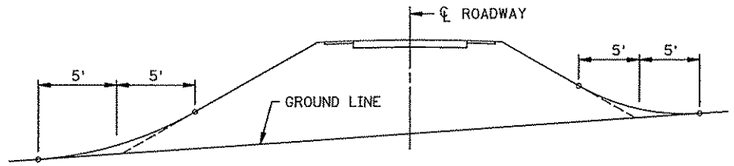
ROUNDING SHOULDERS AND BACKSLOPES



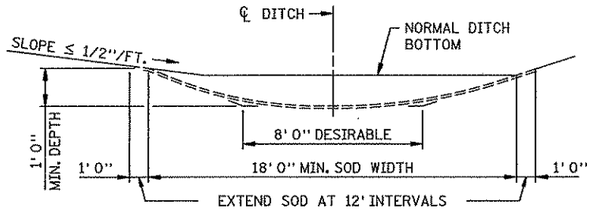
PLAN VIEW



PLAN VIEW

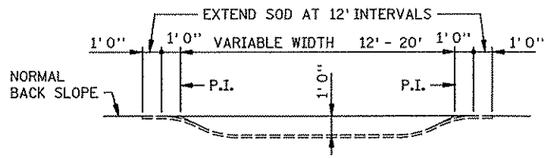


SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES

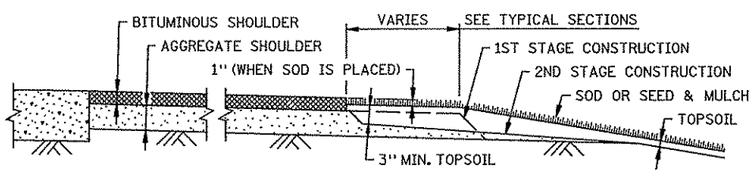


SODDED DITCH CROSS SECTION

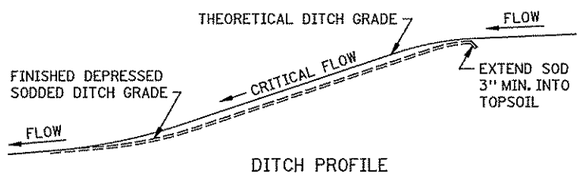
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



SECTION A-A

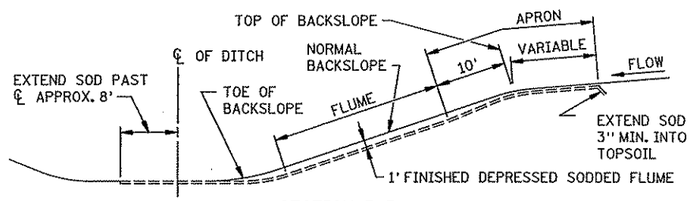


SHAPING AND TOPSOILING INSLOPES



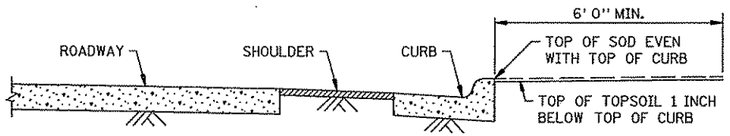
DITCH PROFILE

SODDED DITCH DETAILS



SECTION B-B

SODDED FLUME DETAILS



SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

NOTES:

SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.

(1) CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

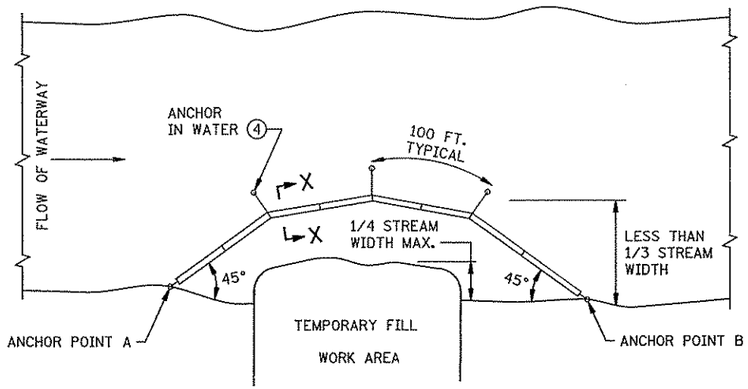
STANDARD SHEET NO. 5-297.404

STANDARD APPROVED: NOVEMBER 20, 2002

TITLE: PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES

STATE PROJ. NO. 02-678-16 ET. AL. SHEET NO. 42 OF 400 SHEETS

5404.MSA



PLAN VIEW

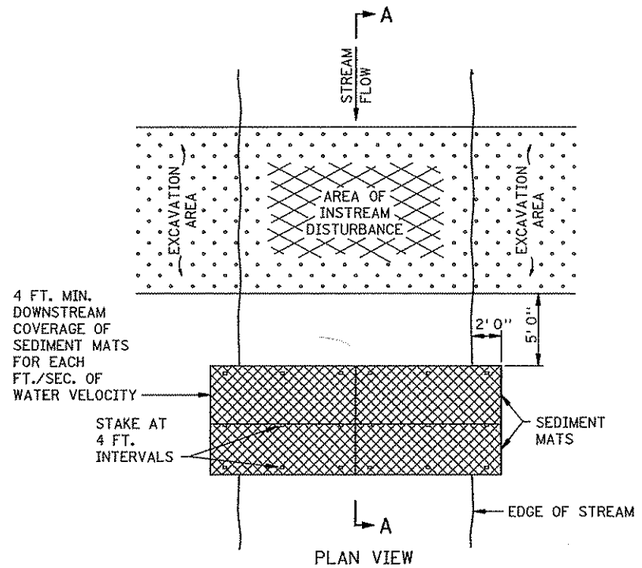
FLOTATION SILT CURTAIN - TYPE WORK AREA

(SPEC. 3887)

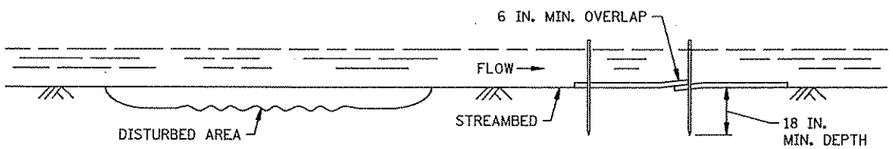
FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS

DESIGN GUIDELINES:

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



PLAN VIEW



SECTION A-A

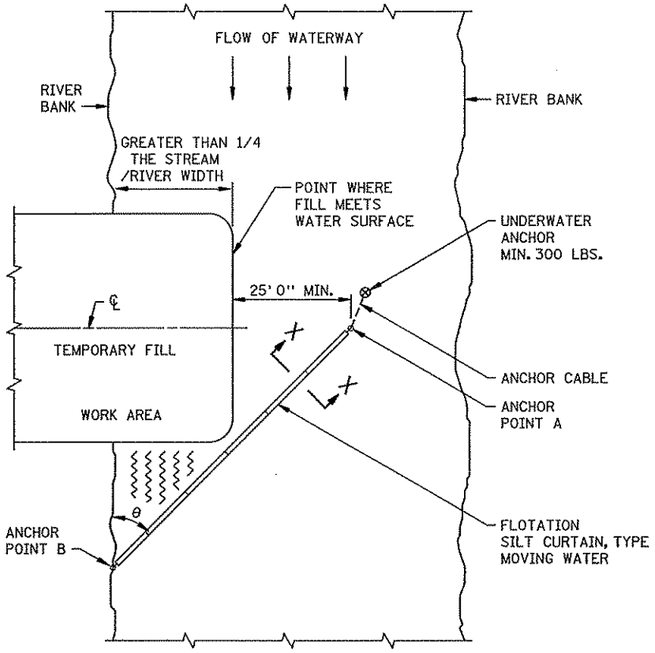
SEDIMENT MAT

(SPEC. 3894)

TYPICAL STREAMBED INSTALLATION

DESIGN GUIDELINES:

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



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

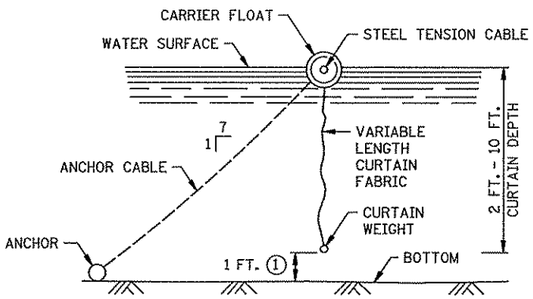
PLAN VIEW

FLOTATION SILT CURTAIN - TYPE MOVING WATER

(SPEC. 3887)

DESIGN GUIDELINES:

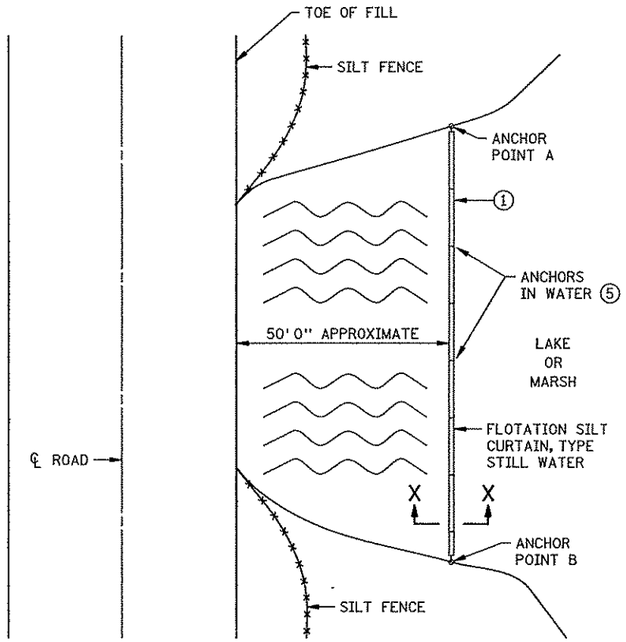
WHEN TEMPORARY FILL ENCROACHES MORE THAN 1/4 BUT LESS THAN 1/3 WIDTH OF THE STREAM.
MAXIMUM WATER DEPTH: 11 FT. (1)
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.



SECTION X-X

FLOTATION SILT CURTAINS

(SPEC. 3887)



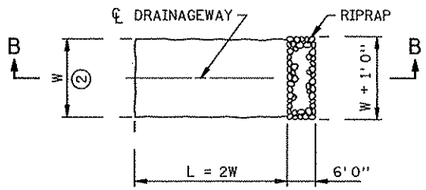
PLAN VIEW

FLOTATION SILT CURTAIN - TYPE STILL WATER

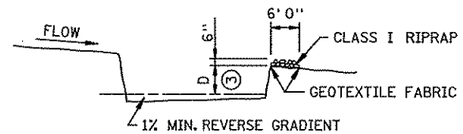
(SPEC. 3887)

DESIGN GUIDELINES:

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



PLAN



SECTION B-B

SEDIMENT TRAP DETAIL

(SPEC. 2573)

NOTES:

SEE SPECS. 2573, 3887 & 3894.

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

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.

Print Name: CHRIS M. TRBOYEVICH

Chris Trboyevich

Date 10/10/06 License # 41635

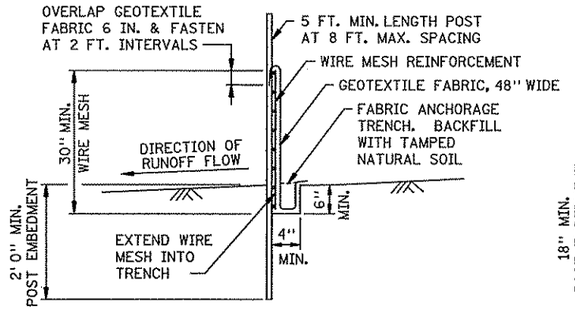
STANDARD SHEET NO. 5-297.405 (1 OF 4)

STANDARD APPROVED: July 30, 2001

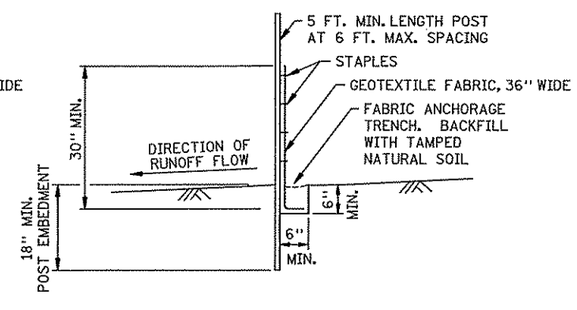
TITLE: TEMPORARY EROSION CONTROL

STATE PROJ. NO. 02-0678-16 ET. AL. SHEET NO. 43 OF 400 SHEETS

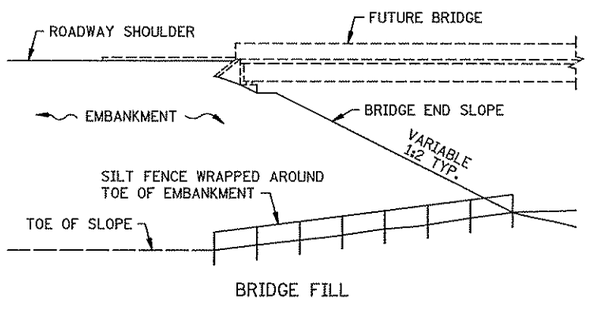
5404.MSB



HEAVY DUTY

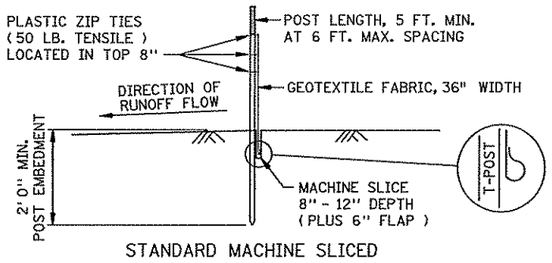


PREASSEMBLED



BRIDGE FILL

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

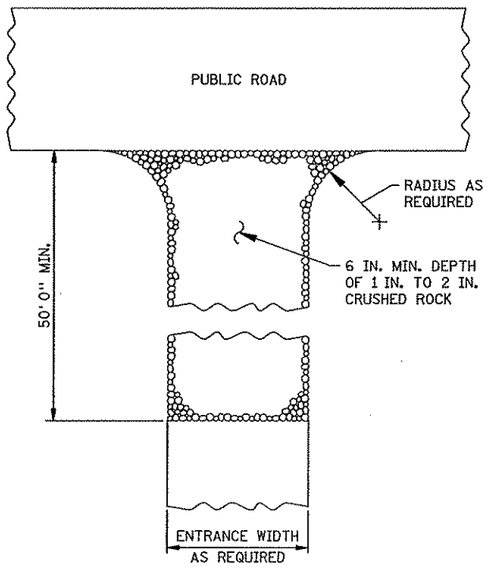


STANDARD MACHINE SLICED

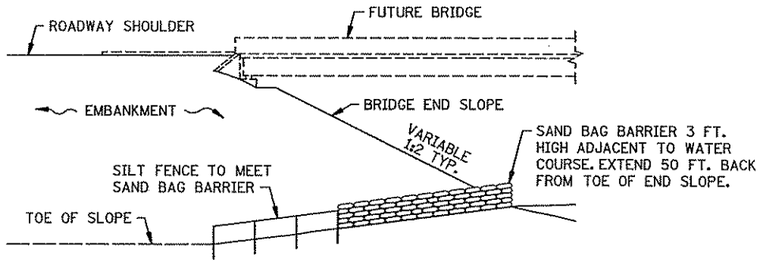
SILT FENCE DETAILS

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

DESIGN GUIDELINES:
MAXIMUM CONTRIBUTING AREA: 3 ACRES

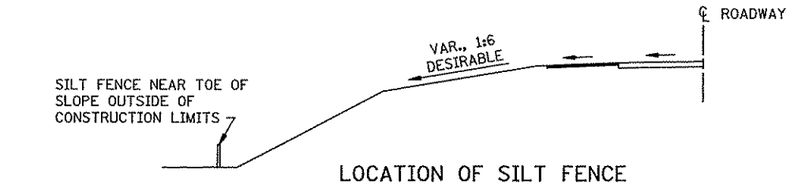


ROCK CONSTRUCTION ENTRANCE ①

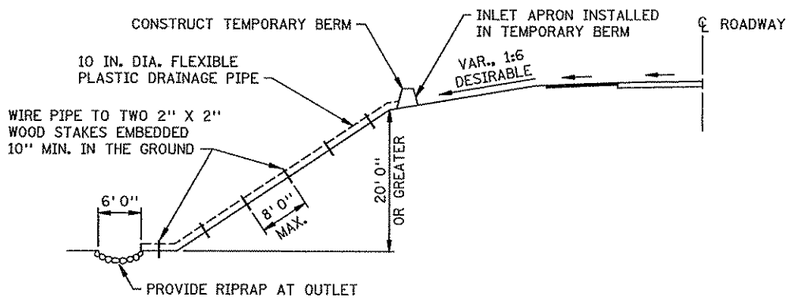


BRIDGE FILL

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

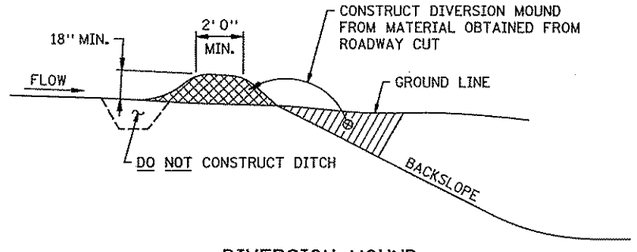


LOCATION OF SILT FENCE
AT TOE OF ROADWAY EMBANKMENT



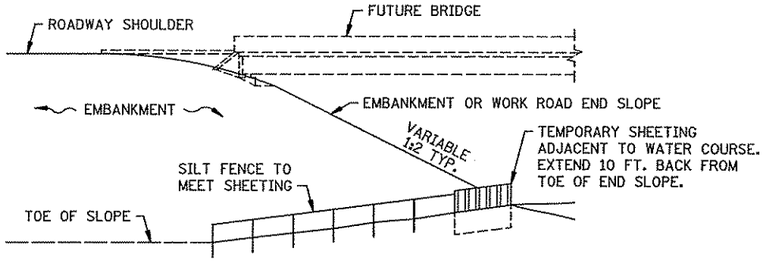
TEMPORARY DRAIN ON FILL SLOPE

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



DIVERSION MOUND

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



EMBANKMENT OR WORK ROAD FILL

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

SILT FENCE AT BRIDGE EMBANKMENT

NOTES:
SEE SPECS. 2573 & 3886.

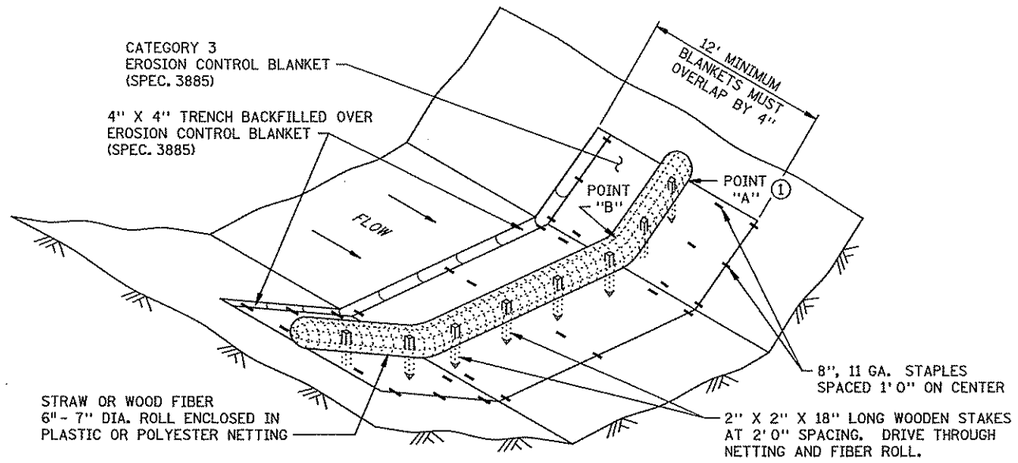
① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE DRIVING ON MAIN ROAD. THIS WILL PREVENT AUTO DAMAGE. WE NEED TO KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS.

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

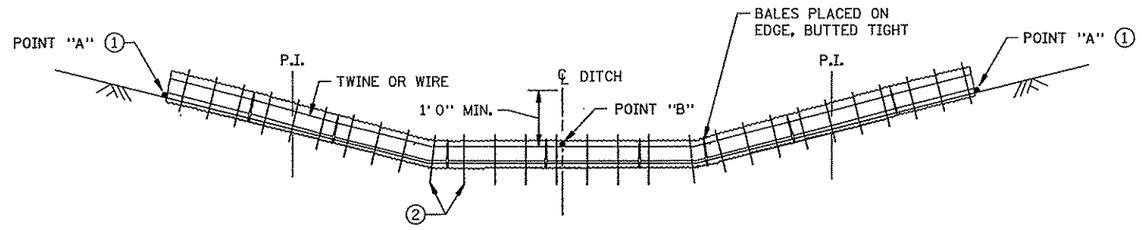
STANDARD SHEET NO. 5-297.405 (2 OF 4)
STANDARD APPROVED: JULY 30, 2001
TITLE: TEMPORARY EROSION CONTROL

STATE PROJ. NO. 02-678-16 ET. AL. SHEET NO. 44 OF 400 SHEETS

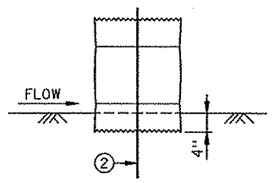
5404.MSC



BIOROLL BLANKET SYSTEM
(TYPE 3 SPEC. 3889)

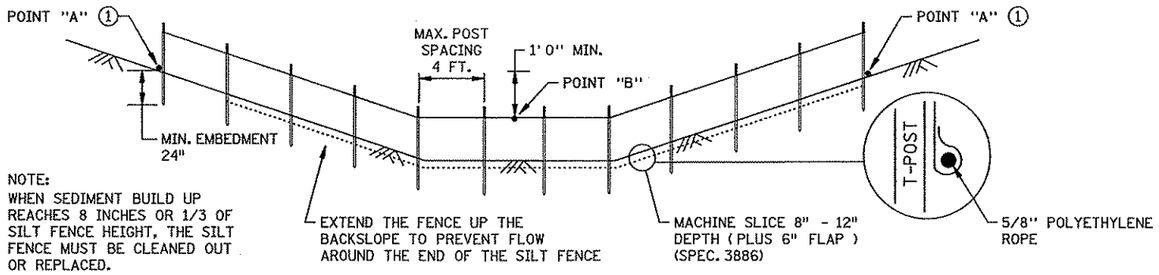


BALE DITCH CHECK
(USED ON ROUGH GRADED SOIL. REMOVE AFTER ROUGH GRADING IS COMPLETED. CAN BE USED AT WETLAND PERIMETERS ANYTIME)



EMBEDMENT METHOD

BALE CHECK DETAIL

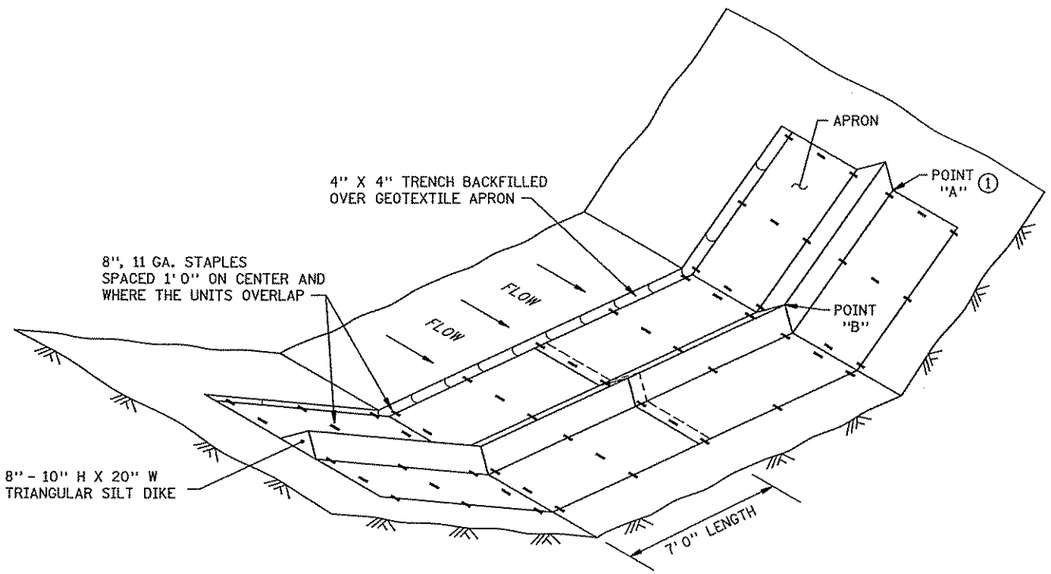


NOTE:
WHEN SEDIMENT BUILD UP REACHES 8 INCHES OR 1/3 OF SILT FENCE HEIGHT, THE SILT FENCE MUST BE CLEANED OUT OR REPLACED.

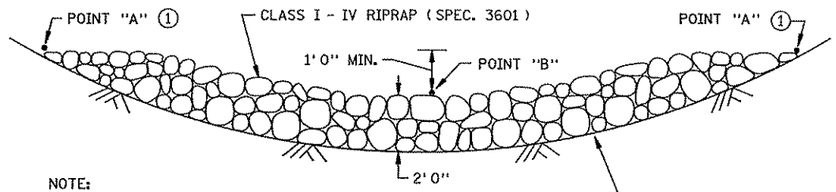
EXTEND THE FENCE UP THE BACKSLOPE TO PREVENT FLOW AROUND THE END OF THE SILT FENCE

MACHINE SLICE 8" - 12" DEPTH (PLUS 6" FLAP) (SPEC. 3886)

MACHINE SLICED SILT FENCE
(TYPE 1 SPEC. 3889)

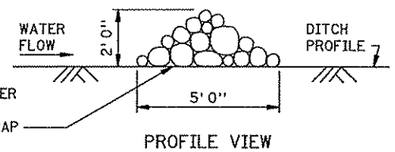


GEOTEXTILE TRIANGULAR DIKE
(TYPE 6 SPEC. 3889)



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

CROSS SECTION



PROFILE VIEW

ROCK CHECK
(TYPE 7 SPEC. 3889)

NOTES:

SEE SPECS. 2573, 3882, 3885, 3886 & 3889.

SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM SPACING FORMULA:

$$\text{SPACING OF DITCH CHECKS (FT)} = \left(\frac{\text{HEIGHT OF DITCH CHECK (FT) X 100}}{\text{DITCH GRADE IN PERCENT}} \right)$$

(1) POINT A MUST BE 1' 0" MIN. HIGHER THAN POINT B TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

(2) TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10 IN. MINIMUM.

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.

Print Name: CHRIS M. TRBOYEVICH

Chris Trboyevich

Date 10/10/2006 License # 41635

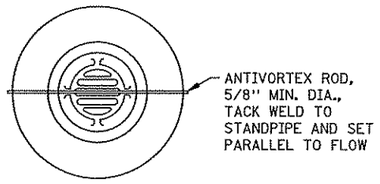
STANDARD SHEET NO. 5-297.405 (3 OF 4)

STANDARD APPROVED: NOVEMBER 5, 2002

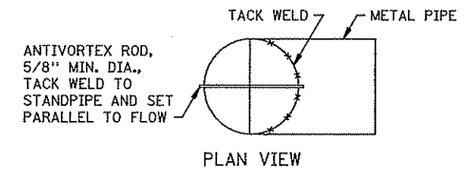
TITLE: TEMPORARY EROSION CONTROL
DITCH CHECKS

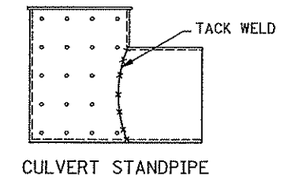
STATE PROJ. NO. 02-678-16 ET. AL. SHEET NO. 45 OF 400 SHEETS

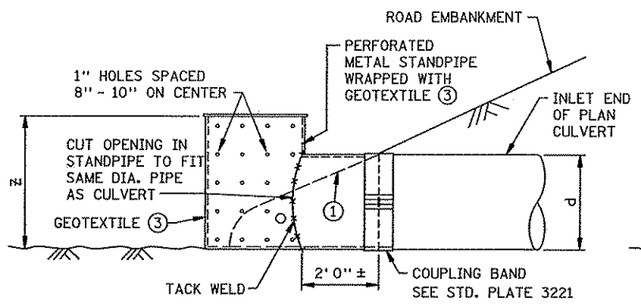
5404.MSD



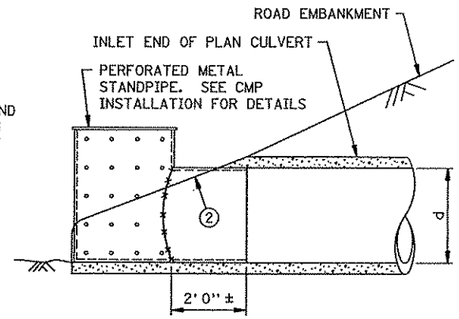
RISER STANDPIPE
TO PROTECT DROP INLET







ELEVATION OF CSP INSTALLATION

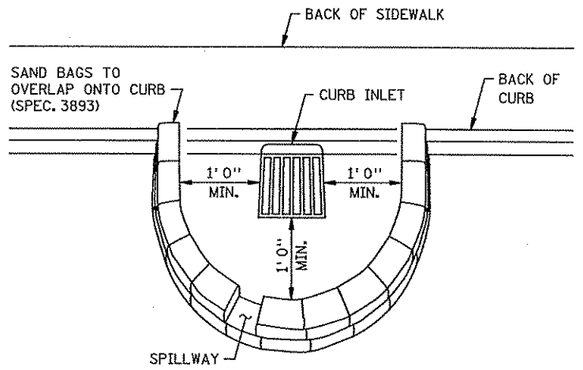


ELEVATION OF RCP INSTALLATION

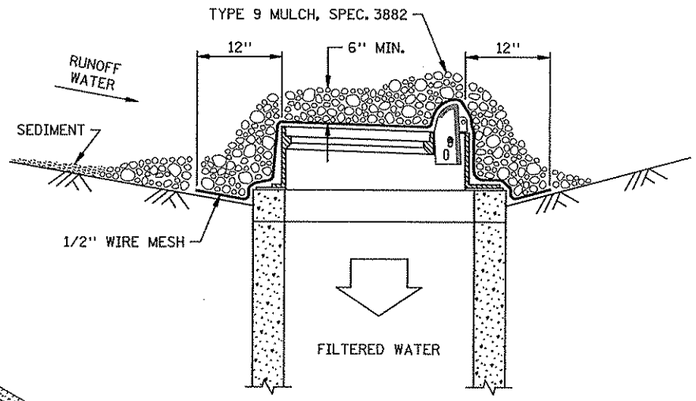
CULVERT STANDPIPE PROTECTION
FOR SEDIMENT CONTROL ON CULVERT INLET
(TYPE D SPEC. 3891)

CULVERT SIZE: 12" - 36"

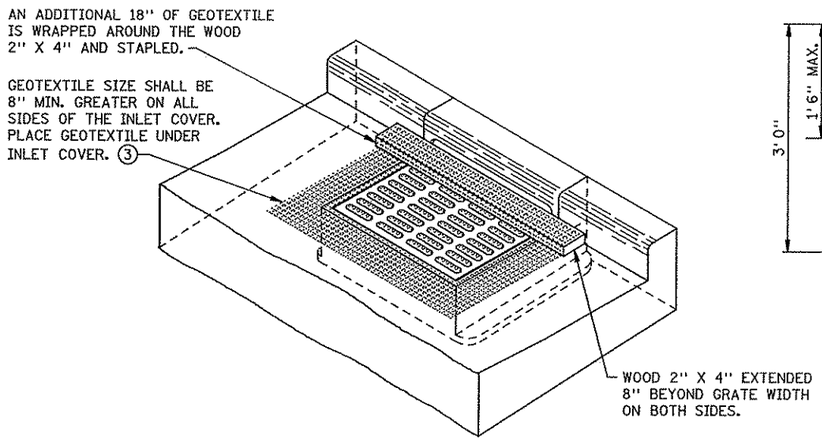
d = DIA. OF STANDPIPE EQUAL TO DIA. OF PLAN CULVERT
z = LENGTH OF PERFORATED STANDPIPE (d + 12")



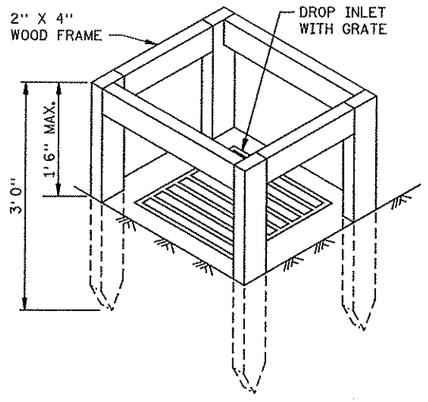
SANDBAG BARRIER AT STREET INLET
THIS INLET PROTECTION IS USED DURING ROUGH GRADING ONLY. USE BEFORE ROAD IS OPEN TO TRAFFIC OR IS PAVED.
(SPEC. 3893)

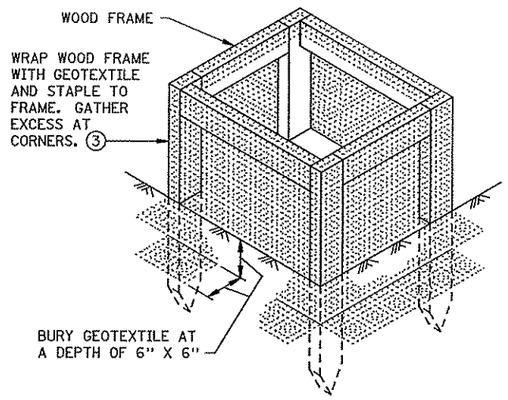


AGGREGATE FILTER AT CURB INLET
(TYPE B WITHOUT CURB SPEC. 3891)
(TYPE C WITH CURB SPEC. 3891)



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





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

NOTES:
SEE SPECS. 2573, 3891 & 3893.

MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.

(1) FOR CSP, REMOVE TEMPORARY STANDPIPE AND INSTALL CULVERT APRON AFTER VEGETATION IS ESTABLISHED.

(2) FOR RCP, INSTALL CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO RCP. AFTER VEGETATION IS ESTABLISHED REMOVE TEMPORARY STANDPIPE.

(3) ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.

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.

Print Name: CHRIS M. TRBOYEVICH

Chris Trboyevich

Date 10/10/2006 License # 41635

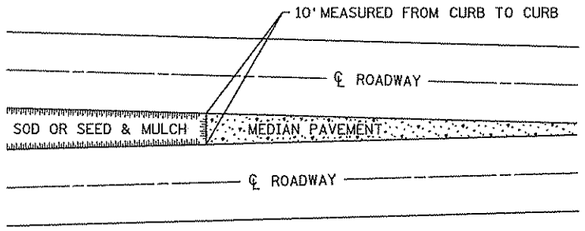
STANDARD SHEET NO. 5-297.405 (4 OF 4)

STANDARD APPROVED: NOVEMBER 5, 2002

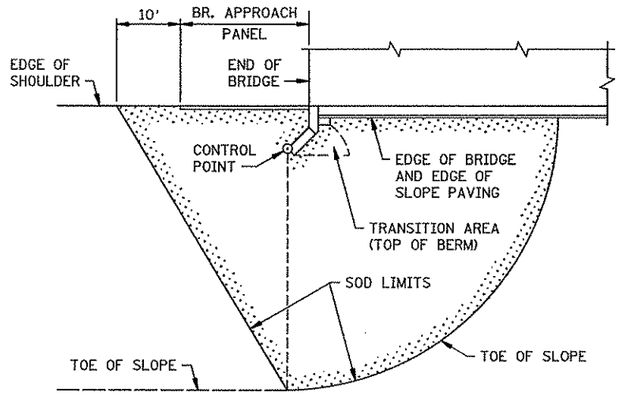
TITLE: TEMPORARY EROSION CONTROL
TEMPORARY INLET PROTECTION

STATE PROJ. NO. 02-678-16 ET. AL. SHEET NO. 46 OF 400 SHEETS

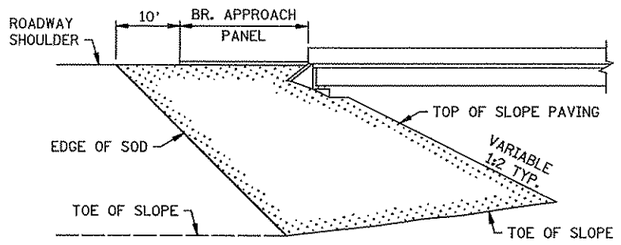
5404.MSE



SODDING LIMITS AT GORE AREA

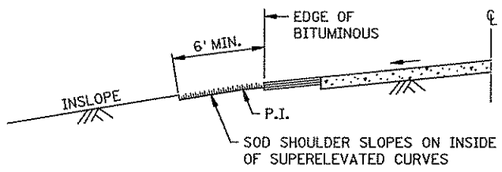


PLAN

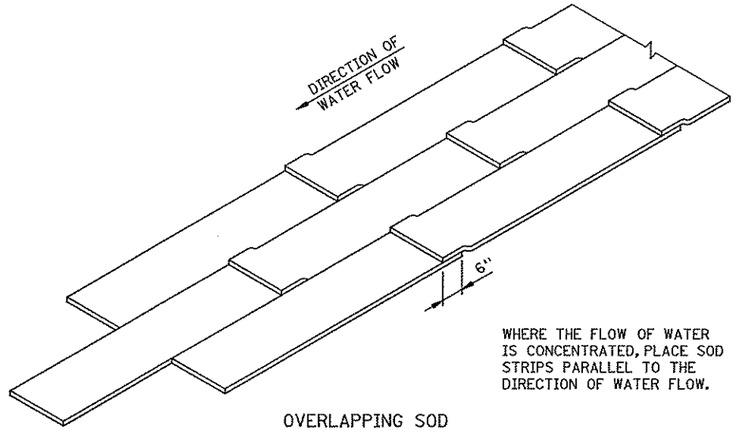


ELEVATION

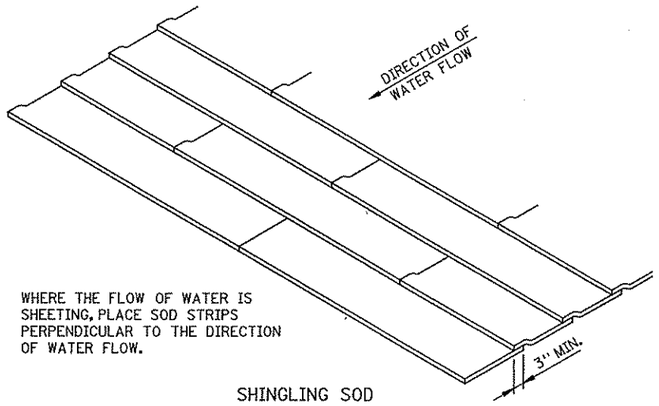
SODDING LIMITS AT BRIDGE APPROACH FILLS



SODDING INSLOPES OF SUPERELEVATED CURVES



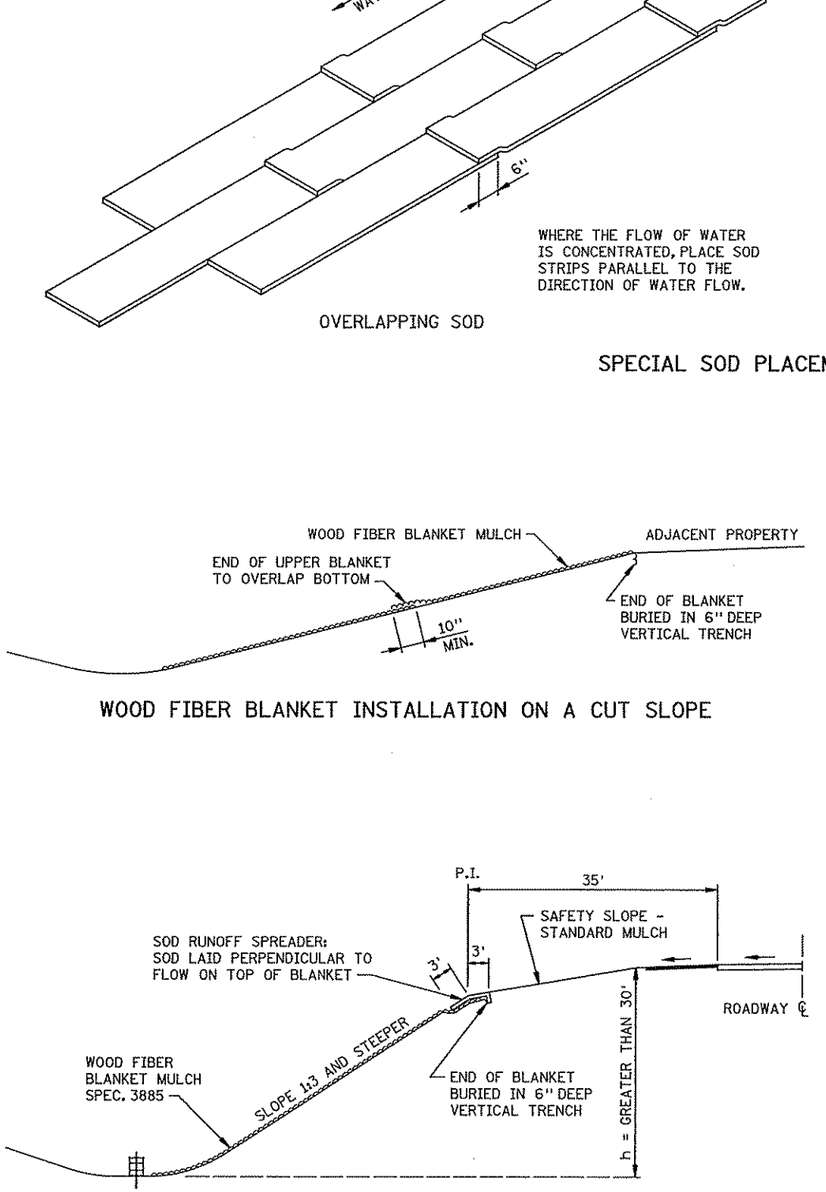
OVERLAPPING SOD



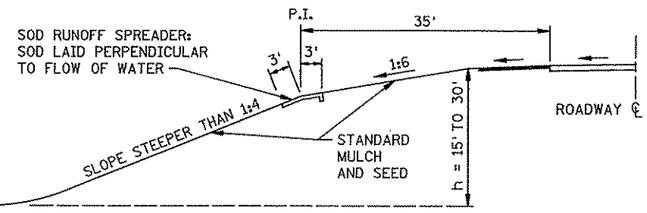
SHINGLING SOD

SPECIAL SOD PLACEMENT TECHNIQUES

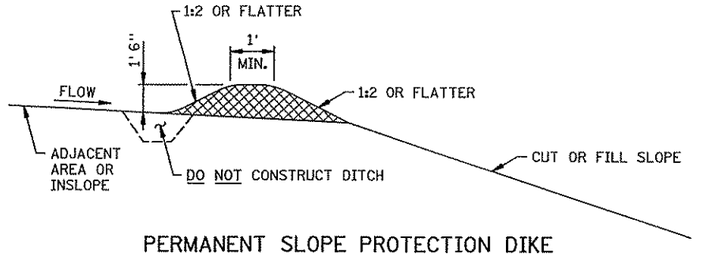
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE
(WHEN REQUIRED)



BROKEN-BACK SAFETY FILL SLOPE



PERMANENT SLOPE PROTECTION DIKE

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.

Print Name: CHRIS M. TRBOYEVICH

Chris Trboyevich

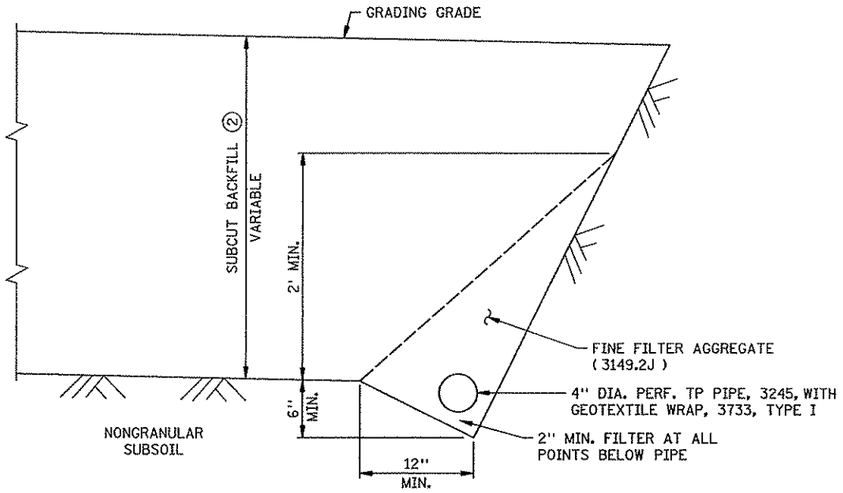
Date 10/10/2006 License # 41635

REVISION DATE
10-26-2000

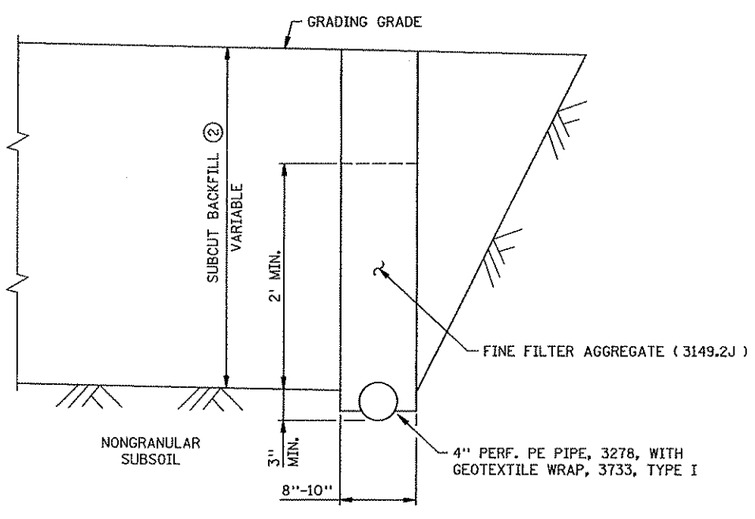
STANDARD SHEET NO.	TITLE:
5-297.406	PERMANENT EROSION CONTROL
STANDARD APPROVED: JANUARY 31, 1985	ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS

STATE PROJ. NO. 02-678-16 ET. AL. SHEET NO. 47 OF 400 SHEETS

5404.MSF



TYPICAL SECTION (OPTION NO. 1) ①



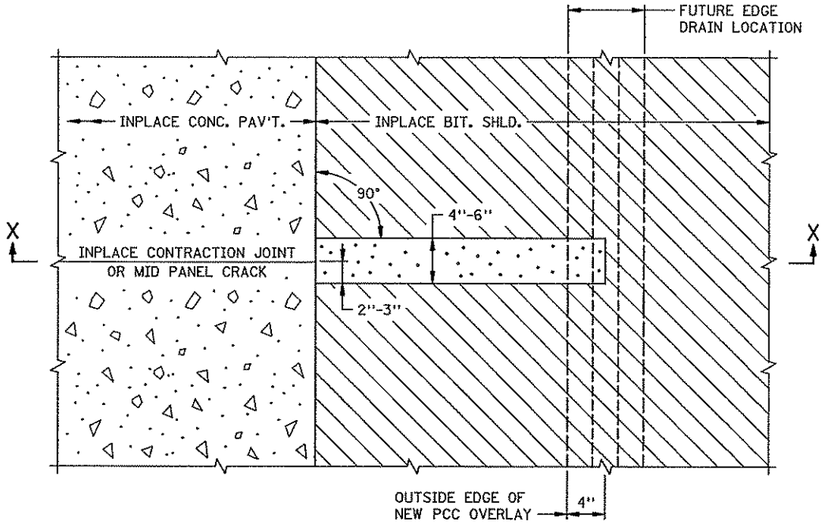
TYPICAL SECTION (OPTION NO. 2) ①

SUBSURFACE DRAIN, SUBCUT DRAIN TYPE

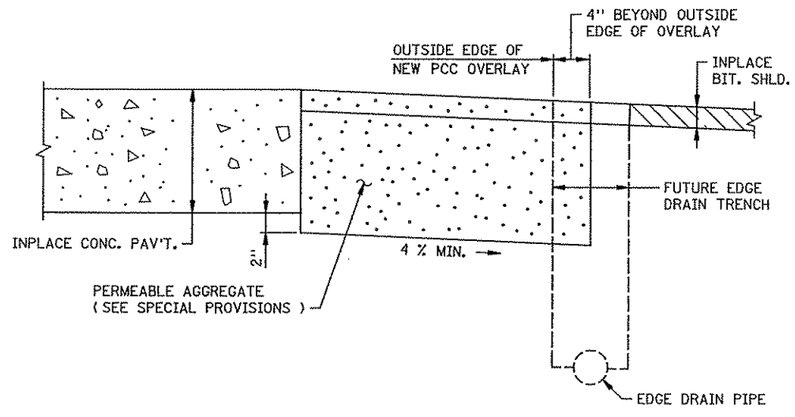
NOTES:

① MAY NEED TO BE MODIFIED FOR SPECIFIC PROJECTS. SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS. OPTION NO. 2 MAY ONLY BE USED WHEN PIPE IS TO BE PLACED BY MACHINE TRENCHER.

② GRANULAR, SELECT GRANULAR OR SELECT GRANULAR MODIFIED. (AS SHOWN IN DESIGN RECOMMENDATION LETTER).



PLAN VIEW



SECTION X-X

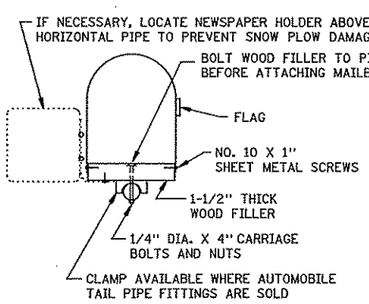
INTERCEPTOR DRAIN DETAIL ①

NOTE:

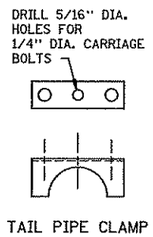
① SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.

STANDARD SHEET NO. 5-297.430	TITLE: SUBSURFACE DRAINS
STANDARD APPROVED: FEBRUARY 25, 1997	

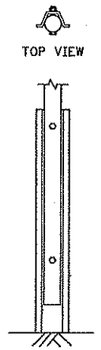
5404.MSG



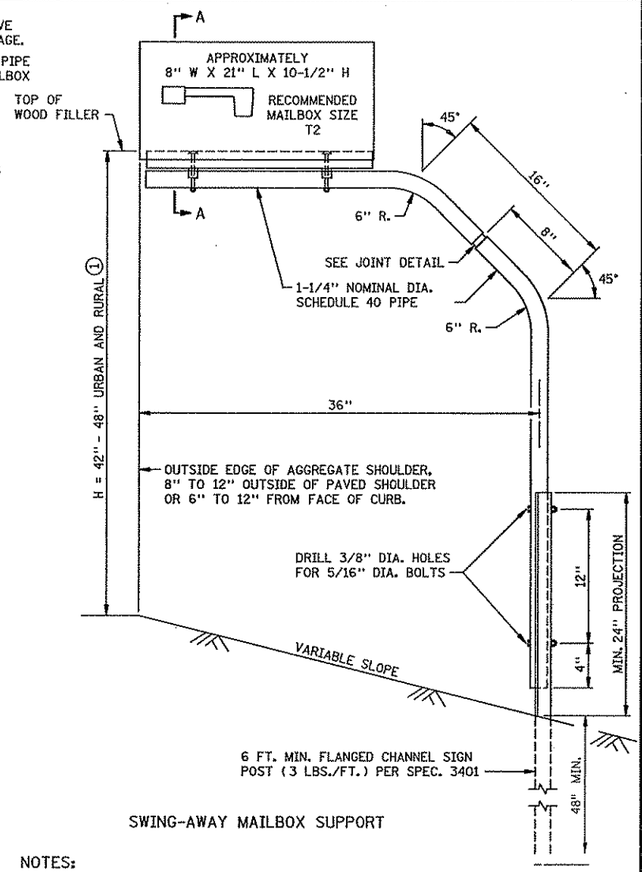
SECTION A-A



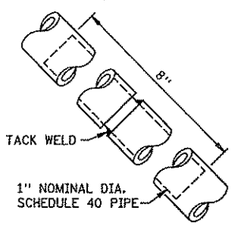
TAIL PIPE CLAMP DETAIL



PIPE/POST CONNECTION



SWING-AWAY MAILBOX SUPPORT



JOINT DETAIL

NOTES:

MAILBOX LOCATIONS SHOULD BE STAKED BEFORE INSTALLATION FOR PROPER HEIGHT AND DISTANCE FROM THE ROADWAY. ONCE STAKED, THE INSTALLER MUST NOTIFY THE ENGINEER AND THE POST OFFICE. THE ENGINEER AND THE POSTMASTER SHALL APPROVE THE STAKED LOCATIONS PRIOR TO FINAL INSTALLATION.

IN ACCORDANCE WITH THE CRASH TEST REPORT, THE RECOMMENDED MINIMUM SPACING CENTER TO CENTER BETWEEN MULTIPLE MAILBOXES OF THIS TYPE SHALL BE EQUAL TO THE HEIGHT OF EACH PARTICULAR MAILBOX. SEE NOTE 1.

OTHER MAILBOX SUPPORT DESIGNS MAY BE USED IF THEY SATISFY NCHRP REPORT 350 CRITERIA IN ACCORDANCE WITH FHWA ACCEPTANCE LETTER, MEET MINNESOTA RULES 8818 AND U.S. POST OFFICE RECOMMENDATIONS AND ARE IN COMPLIANCE WITH MN/DOT REQUIREMENTS WHICH MAY INCLUDE THE FOLLOWING:

PIPE SHALL CONFORM TO SPEC. 3362, SCHEDULE 40 OF ASTM A53/A53M.
ALL FASTENERS SHALL CONFORM TO SPEC. 3391.
PIPES, POST AND OTHER STEEL COMPONENTS SHALL BE GALVANIZED PER SPEC. 3392.

THE CONTRACTOR SHALL SEND THE PROJECT ENGINEER SHOP DRAWINGS FOR APPROVAL. FOR MAILBOX SUPPORTS SUBMITTED FOR APPROVAL, THE BASIC DESIGN DIMENSIONS SHALL BE AS SHOWN ON THIS DETAIL DRAWING.

FOR QUESTIONS REGARDING DESIGN ELEMENTS AND BREAKAWAY FEATURES, CONTACT THE DESIGN STANDARD UNIT.

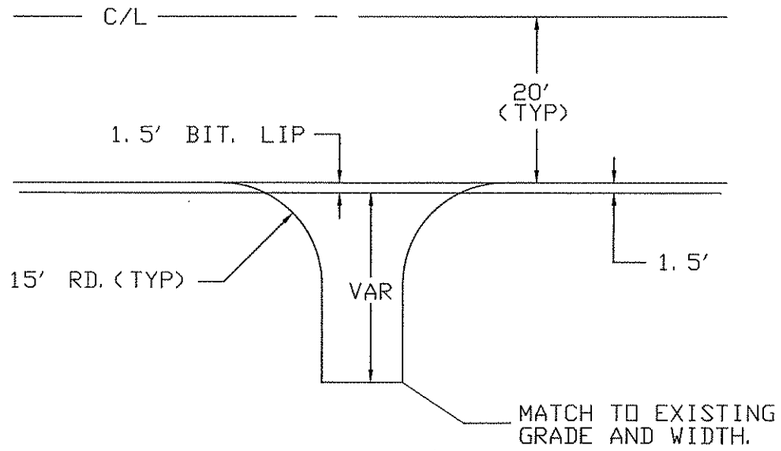
(1) ANY CHANGE IN HEIGHT MUST BE APPROVED BY LOCAL POSTMASTER.

MEETS NCHRP 350 CRASH TESTING FOR SPEEDS 40 MPH OR GREATER

MAILBOX SUPPORT

FILE NAME MAILBOXSUPPORT_UNA.DGN

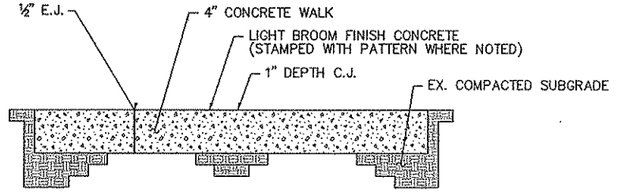
TYPICAL UNPAVED ENTRANCE



NOTE: ENTRANCE INSLOPE SHALL BE 6: 1.

NOTES:

1. PLACE CONTRACTION JOINTS EVERY 5' +/-.
2. PLACE EXPANSION JOINTS WHERE WALK ABUTS STRUCTURES, CURBS, EXIST WALKS, AND OTHER FIXED OBJECTS. 50' MAXIMUM SPACING.
3. TYPE A & D CONCRETE WALK SHALL BE COLORED AS NOTED BELOW AS MANUFACTURED BY DAVIS COLORS, OR APPROVED EQUAL. ALSO STAMPED WITH PATTERN LISTED BELOW AND SEALED.
4. ALL CONCRETE WALK PANELS SHALL HAVE A TROWELLED EDGE PATTERN OR "BOXED EDGE" PATTERN AFTER BROOM FINISH.

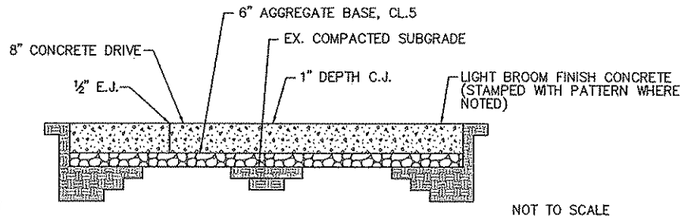


CONCRETE WALK

NOT TO SCALE

NOTES:

1. PLACE CONTRACTION JOINTS EVERY 5' +/-.
2. PLACE EXPANSION JOINTS WHERE WALK ABUTS STRUCTURES, CURBS, EXIST WALKS, AND OTHER FIXED OBJECTS. 50' MAXIMUM SPACING.
3. TYPE C CONCRETE WALK SHALL BE COLORED AS NOTED BELOW AS MANUFACTURED BY DAVIS COLORS, OR APPROVED EQUAL. ALSO STAMPED WITH PATTERN LISTED BELOW AND SEALED.
4. ALL CONCRETE WALK PANELS SHALL HAVE A TROWELLED EDGE PATTERN OR "BOXED EDGE" PATTERN AFTER BROOM FINISH.



CONCRETE WALK THROUGH DRIVE

NOT TO SCALE

CONCRETE WALK SCHEDULE						
LOCATION	TYPE	WIDTH	PAVEMENT THICKNESS	TOTAL AREA (SQ. FT.)	PATTERN	COLOR
AT 139TH LANE N. INTERSECTION	D	VARIES	8IN	532 SF.	HERRINGBONE	MOCHA
WEST LEG						

NO	DATE	BY	CKD	APPR	REVISION
...\5404\hl-mu\plan\5404.MSO					

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

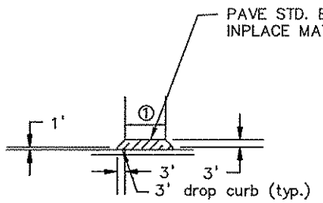
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

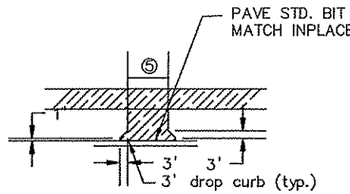
ANOKA COUNTY
DRIVEWAY DETAILS
C.S.A.H. 78

SHEET 49 OF 400

4126142 PM
9/26/2006
N:\projects\5404\h...plan\5404.MSO

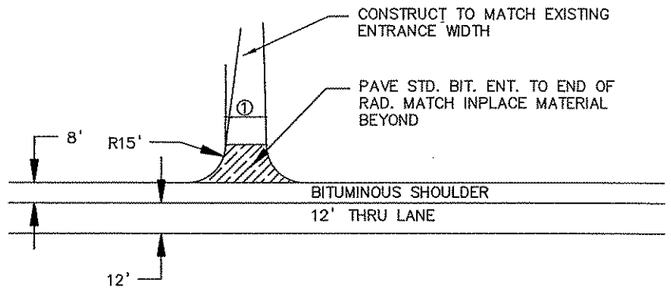


URBAN RESIDENTIAL ENTRANCE
WITHOUT BITUMINOUS PATH

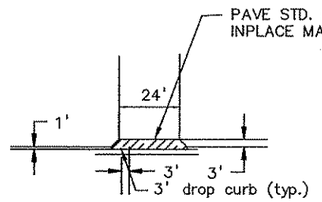


URBAN RESIDENTIAL ENTRANCE
WITH BITUMINOUS PATH

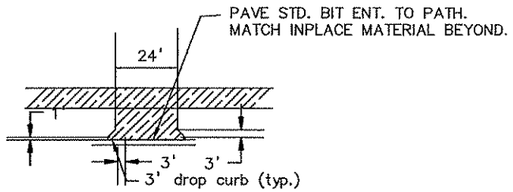
1) EXISTING WIDTH (16' MIN / 24' MAX) TO R/W LINE.
2) EXISTING WIDTH (32' MIN / 50'MAX) TO END OF RADII.
3) EXISTING WIDTH (20' MIN / 32' MAX).
4) FOR EXISTING CONCRETE DRIVEWAYS AND ENTRANCES. REPLACE IN KIND USING BITUMINOUS DRIVEWAY DIMENSIONS. FOR EXISTING CONCRETE APRONS, REPLACE IN KIND USING STANDARD PLATE 7035.
5) EXISTING WIDTH (16' MIN / 24' MAX) TO BACK OF PATH.



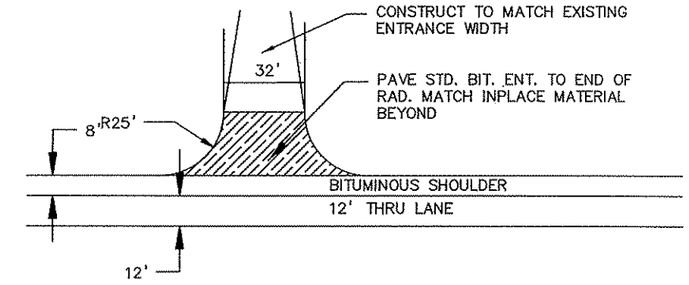
RURAL RESIDENTIAL ENTRANCE



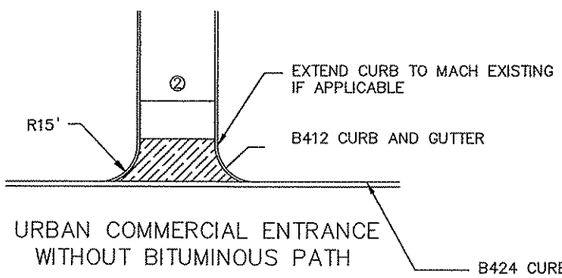
URBAN FIELD ENTRANCE
WITHOUT BITUMINOUS PATH



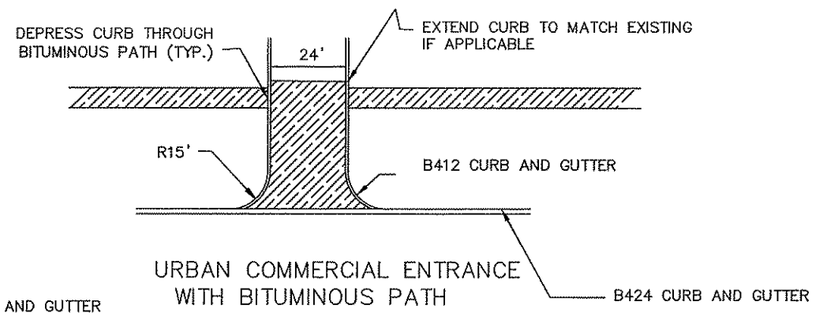
URBAN FIELD ENTRANCE
WITH BITUMINOUS PATH



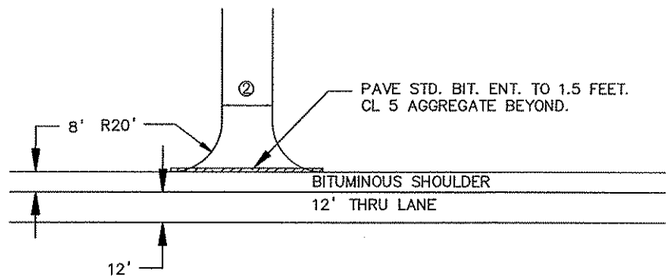
RURAL COMMERCIAL ENTRANCE



URBAN COMMERCIAL ENTRANCE
WITHOUT BITUMINOUS PATH



URBAN COMMERCIAL ENTRANCE
WITH BITUMINOUS PATH



RURAL FIELD ENTRANCE

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.MSP

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

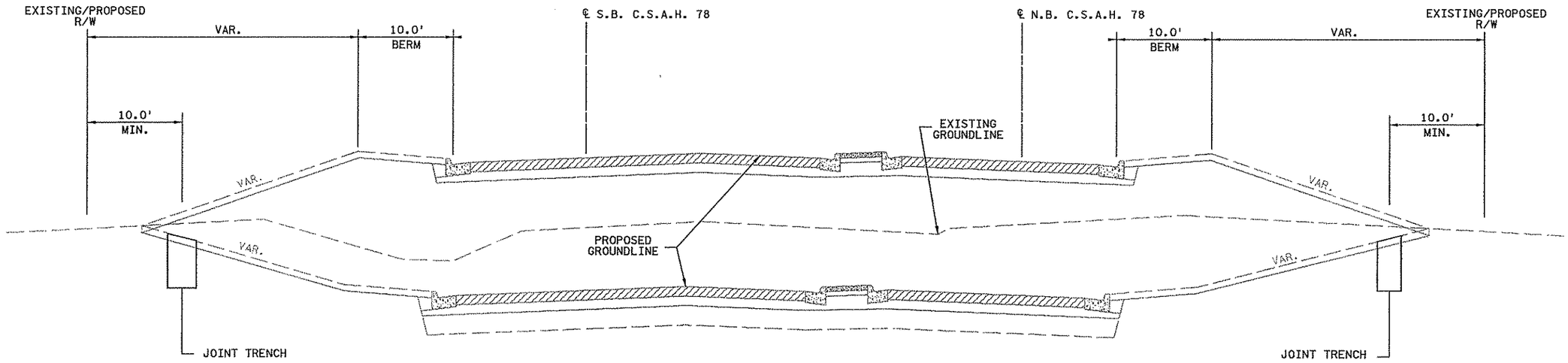
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

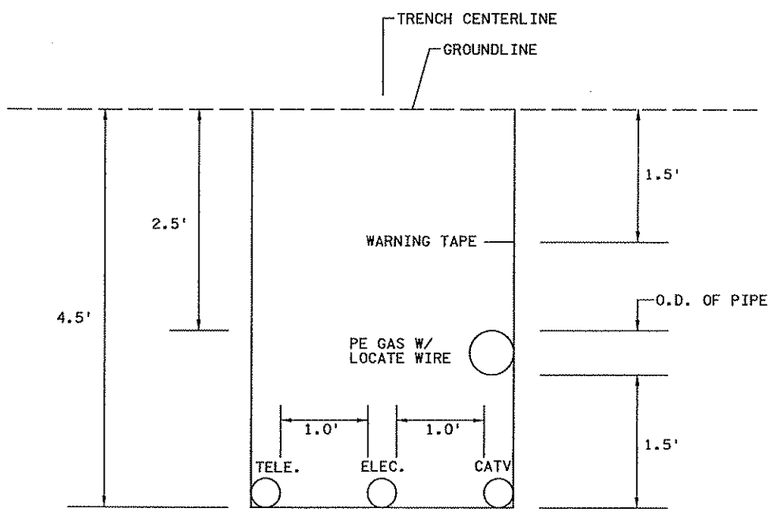
SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRIVEWAY DETAILS
C.S.A.H. 78

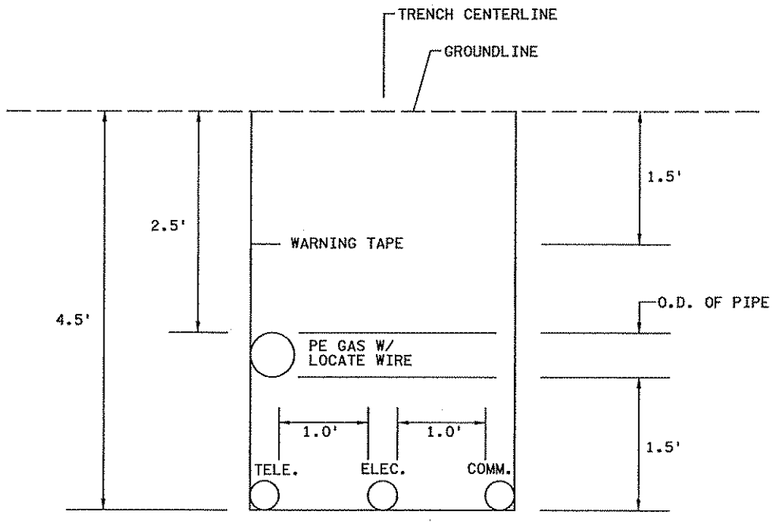
SHEET 50 OF 400

4126144 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.MSP





JOINT TRENCH (WEST)
NOT TO SCALE



JOINT TRENCH (EAST)
NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.MSQ

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

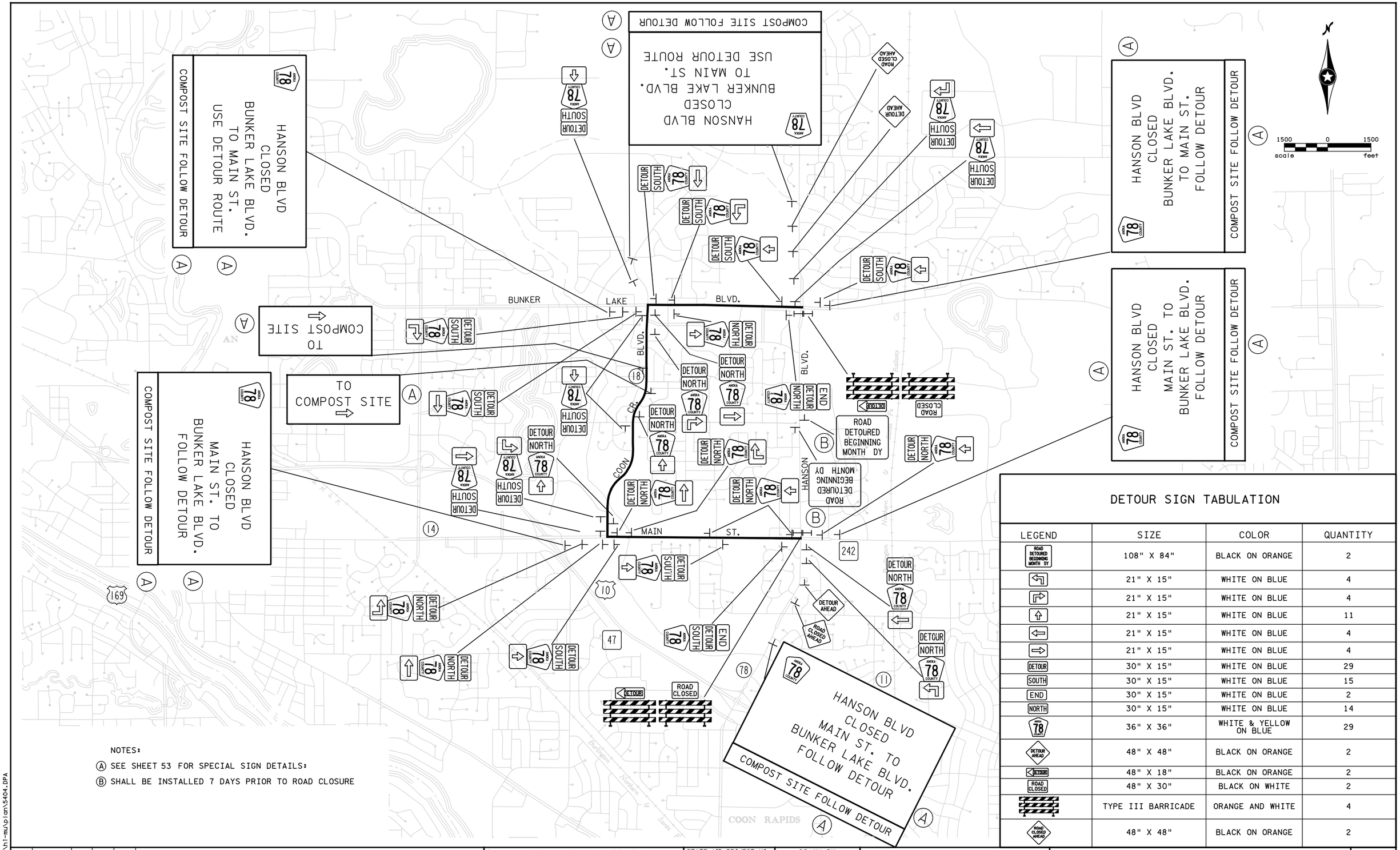
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
JOINT TRENCH DETAILS
C.S.A.H. 78

SHEET 51 OF 400

4:26:44 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.MSQ



NOTES:

Ⓐ SEE SHEET 53 FOR SPECIAL SIGN DETAILS:

Ⓑ SHALL BE INSTALLED 7 DAYS PRIOR TO ROAD CLOSURE

DETOUR SIGN TABULATION

LEGEND	SIZE	COLOR	QUANTITY
ROAD DETOURED BEGINNING MONTH DY	108" X 84"	BLACK ON ORANGE	2
	21" X 15"	WHITE ON BLUE	4
	21" X 15"	WHITE ON BLUE	4
	21" X 15"	WHITE ON BLUE	11
	21" X 15"	WHITE ON BLUE	4
	21" X 15"	WHITE ON BLUE	4
DETOUR	30" X 15"	WHITE ON BLUE	29
SOUTH	30" X 15"	WHITE ON BLUE	15
END	30" X 15"	WHITE ON BLUE	2
NORTH	30" X 15"	WHITE ON BLUE	14
ANOKA COUNTY 78	36" X 36"	WHITE & YELLOW ON BLUE	29
DETOUR AHEAD	48" X 48"	BLACK ON ORANGE	2
DETOUR	48" X 18"	BLACK ON ORANGE	2
ROAD CLOSED	48" X 30"	BLACK ON WHITE	2
	TYPE III BARRICADE	ORANGE AND WHITE	4
ROAD CLOSED AHEAD	48" X 48"	BLACK ON ORANGE	2

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	DETOUR PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.DPA

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	J. TOULOUSE
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

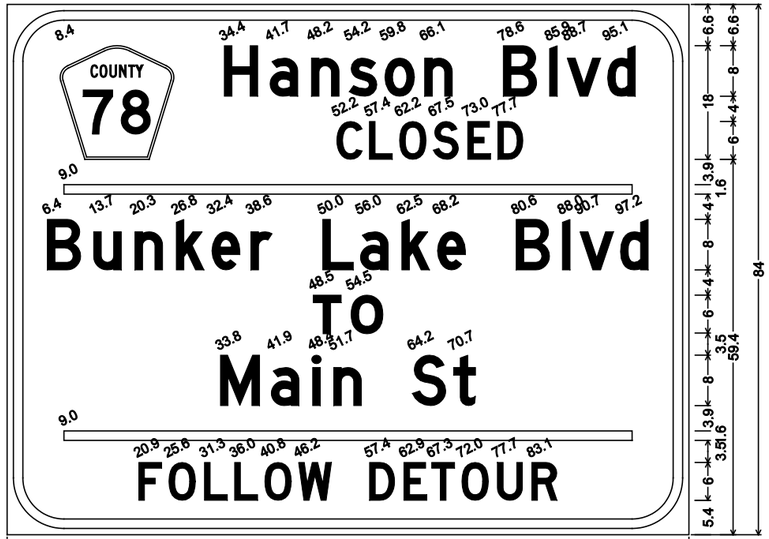
ANOKA COUNTY

DETOUR PLAN

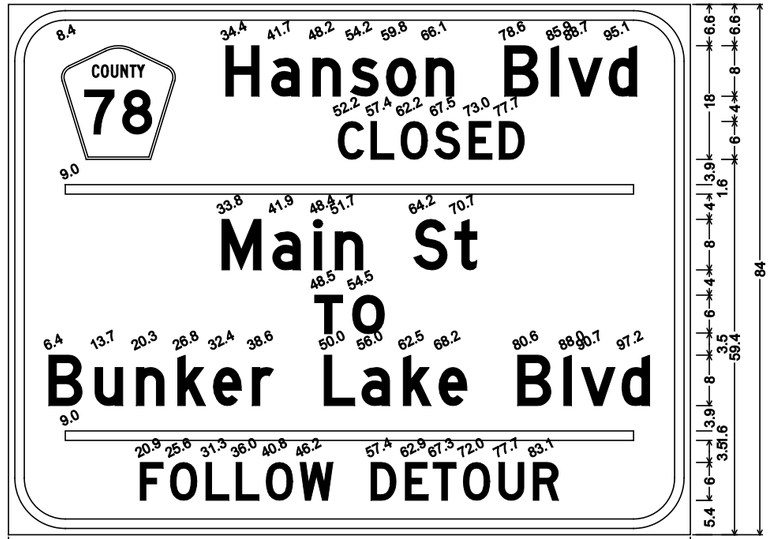
C.S.A.H. 78

SHEET 52 OF 400

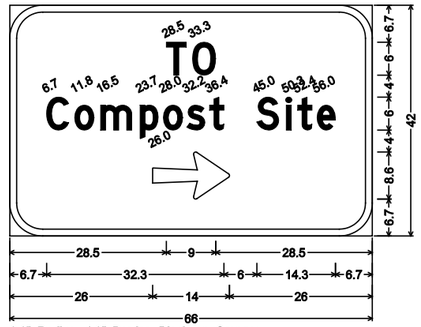
9:30:57 AM
6/8/2007
h:\projects\5404\hl-mu\plan\5404.DPA



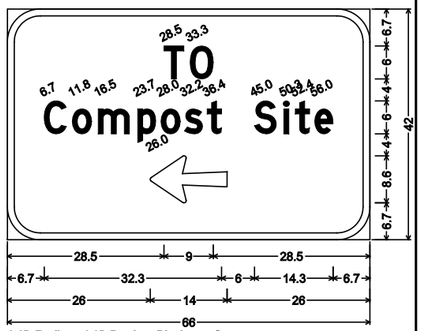
9.0" Radius, 1.5" Border, 1.0" Indent, Black on Orange;
[Hanson Blvd] D; [CLOSED] D; [Main St] D; [TO] E Mod; [Bunker Lake Blvd] D;
[FOLLOW DETOUR] D;



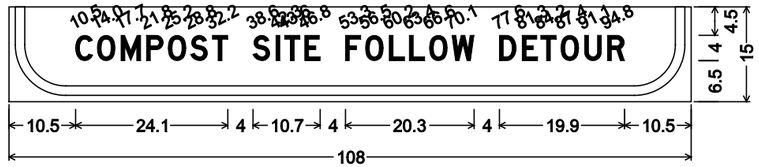
9.0" Radius, 1.5" Border, 1.0" Indent, Black on Orange;
[Hanson Blvd] D; [CLOSED] D; [Main St] D; [TO] E Mod; [Bunker Lake Blvd] D;
[FOLLOW DETOUR] D;



6.0" Radius, 1.3" Border, Black on Orange;
[TO] D; [Compost Site] D; Arrow 13 - 14.0" 0°;



6.0" Radius, 1.3" Border, Black on Orange;
[TO] D; [Compost Site] D; Arrow 13 - 14.0" 180°;



9.0" Radius, 1.5" Border, 1.0" Indent, Black on Orange;
[COMPOST SITE FOLLOW DETOUR] D;

NOTES:

1. Corners of the sign panels extending beyond the border shall not be trimmed unless otherwise noted.
2. See Standard Signs Manual for arrow and overlay details.

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.

2 IF CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

3 THE LOCATIONS AND QUANTITIES OF TRAFFIC CONTROL DEVICES SHOWN ON THESE PLANS ARE APPROXIMATE AND ARE SUBJECT TO REVISION BY THE ENGINEER.

4 PAVEMENT MARKINGS SHALL BE PAINT UNLESS NOTED OTHERWISE. BROKEN LINES SHALL CONSIST OF 10 FOOT LINE FOLLOWED BY 40 FOOT GAP.

5 ALL TRAFFIC THRU LANES SHALL BE A MINIMUM OF 12 FOOT IN WIDTH UNLESS NOTED OTHERWISE.

6 REFLECTORIZED DRUMS USED FOR CHANNELIZATION SHALL HAVE SPACING AS NOTED IN THE PLANS. DRUM LOCATIONS AND SPACINGS SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE SUBJECT TO REVISION BY THE ENGINEER.

7 THE CONTRACTOR SHALL MAINTAIN A 2 FOOT MINIMUM CLEAR DISTANCE BETWEEN THE EDGE OF THE TRAVEL LANE AND THE NEAREST EDGE OF ANY ADJACENT TRAFFIC CONTROL DEVICES (DRUMS, BARRICADES, BARRIERS, ETC.) UNLESS OTHERWISE NOTED.

8 THE 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 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 AFTER APPROVAL TO DO SO BY THE ENGINEER.

11 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 AFTER APPROVAL TO DO SO BY THE ENGINEER. REMOVAL AND SALVAGE OF SIGNS SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM. COVERING AND UNCOVERING OF SIGNS SHALL BE INCIDENTAL TO TRAFFIC CONTROL.

12 THESE TRAFFIC CONTROL LAYOUTS DO NOT SHOW ALL INPLACE SIGNING. THE 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 ARE 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, AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL MINIMIZE WORK LENGTHS TO FACILITATE IMMEDIATE REESTABLISHMENT OF 1:3 MAXIMUM TEMPORARY EDGE SLOPES FOLLOWING THE EXCAVATION WORK TO THE SATISFACTION OF THE ENGINEER. 1:1 MAXIMUM TEMPORARY CONSTRUCTION EDGE SLOPES MAY BE USED IF PROTECTED BY PORTABLE CONCRETE MEDIAN BARRIER.

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 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.

18 ALL ORANGE SIGNS SHALL BE MADE OF DIAMOND GRADE ORANGE REFLECTIVE SHEETING OR AN APPROVED SUBSTITUTE.

19 LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.

20 IN ALL WORK AREAS THAT REQUIRE "CONSTRUCTION UNDER TRAFFIC" THE CONTRACTOR SHALL PROTECT WORK AREAS AT ALL TIMES TO PROVIDE FOR SAFE TRAFFIC MOVEMENT TO THESATISFACTION OF THE ENGINEER.

21 ALL REQUIRED LANE CLOSURES ALONG C.S.A.H. 78, C.S.A.H. 116, AND T.H. 242 SHALL BE DONE DURING THE OFF PEAK HOURS (PREFERABLY AT NIGHT) TO MINIMIZE INCONVENIENCE TO THE TRAVELING PUBLIC.

22 FIELD CONDITIONS MAY REQUIRE MODIFICATION OF THE TRAFFIC CONTROL PLAN. ANY MODIFICATION SHALL BE APPROVED BY THE ENGINEER IN THE FIELD.

23 ADVANCE WARNING SIGNS SHALL BE MOUNTED ON STANDARD TYPE III BARRICADES OR POST MOUNTED OR AS APPROVED BY THE ENGINEER.

24 POSTS SHALL BE PLUMB, WITH SIGNS INSTALLED LEVEL AND AT PROPER MOUNTING HEIGHT IN ACCORDANCE WITH M.M.U.T.C.D. IF POST MOUNTING IS NOT POSSIBLE, SIGNS SHALL BE MOUNTED ON PORTABLE SUPPORTSAS APPROVED BY THE ENGINEER.

25 ALL SIGNS AND TRAFFIC CONTROL ITEMS SHALL BE LIKE NEW AND REFLECT UNIFORMLY AT NIGHT.

26 SPACING OF SIGNS AND TRAFFIC CONTROL DEVICES MAY BE ADJUSTED AS APPROVED BY THE ENGINEER.

27 THE CONTRACTOR SHALL PLACE PERMANENT PAVEMENT MARKINGS AND INSTALL PERMANENT SIGNING (TYPES C, D,AND OH) DURING EACH STAGE OF CONSTRUCTION AS APPROPRIATE AND CONSISTENT WITH THE REQUIREMENTS OF THE TEMPORARY TRAFFIC CONTROL.

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.TCB

9:31:01 AM
6/8/2007
H:\projects\5404\hl-mu\plan\5404.TCB

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC CONTROL NOTES AND STAGING NARRATIVE
C.S.A.H. 78
DETOUR SIGN DETAILS

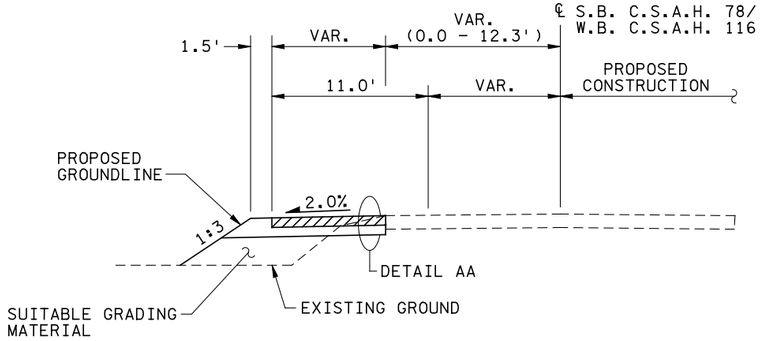
SHEET 53 OF 400

(BB) TRAFFIC CONTROL SIGN TABULATION

LEGEND	DESIGNATION	SIZE (ENGLISH DIMENSIONS)	COLOR	QUANTITY		
				STAGE 1	STAGE 2	STAGE 2A
ROAD WORK AHEAD	W20-1	48"X48"	BLACK ON ORANGE	16	16	14
END ROAD WORK	G20-2A	48"X24"	BLACK ON ORANGE	14	13	13
RIGHT LANE CLOSED	W21-X5R	48"X48"	BLACK ON ORANGE	5	2	3
	W1-6L	48"X24"	BLACK ON ORANGE	4	2	2
	R3-1	24"X24"	BLACK AND RED ON WHITE	1	1	1
	R3-2	24"X24"	BLACK AND RED ON WHITE	1	1	1
ROAD CLOSED	R11-2R	48"X30"	BLACK ON WHITE	19	19	19
	TYPE 'A'	FLASHER	AMBER	-	-	0
	TYPE III	6" MIN.	ORANGE ON WHITE	182	297	297
	DRUM	18"X36" MIN.	WHITE ON ORANGE	161	165	165
MERGE	W20-X3L	48"X48"	BLACK ON ORANGE	3	1	1
	W1-4L	48"X48"	BLACK ON ORANGE	3	6	0
	W1-4R	48"X48"	BLACK ON ORANGE	2	0	0
DETOUR	M4-10L	48"X18"	BLACK ON ORANGE	1	1	1
DETOUR	M4-10R	48"X18"	BLACK ON ORANGE	1	1	1
ROAD CLOSED TO THRU TRAFFIC	R11-4	60"X30"	BLACK ON WHITE	4	3	0
LEFT LANE CLOSED	W21-X5L	48"X48"	BLACK ON ORANGE	0	2	0
	W4-2L	48"X48"	BLACK ON ORANGE	0	1	0
	W4-2R	48"X48"	BLACK ON ORANGE	2	1	1
STOP	R1-1	48"X48"	WHITE ON RED	5	9	0
ROAD CLOSED AHEAD	W20-3	48"X48"	BLACK ON ORANGE	7	6	6
RIGHT TURN LANE	R3-X1	30"X30"	BLACK ON WHITE	1	0	0
LEFT TURN LANE	R3-X2	30"X30"	BLACK ON WHITE	0	1	0
MERGE	W20-X3R	48"X48"	BLACK ON ORANGE	0	1	0

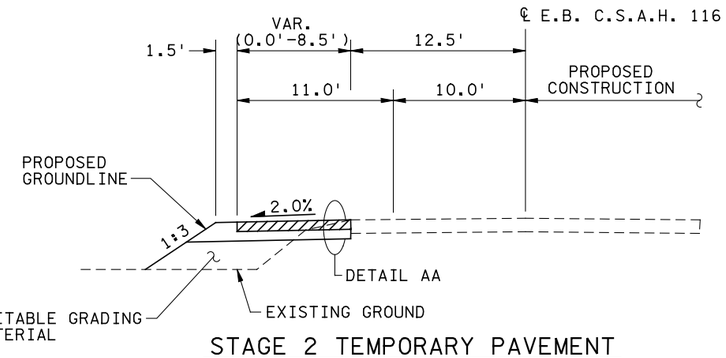
TRAFFIC CONTROL SIGN TABULATION

LEGEND	DESIGNATION	SIZE (ENGLISH DIMENSIONS)	COLOR	QUANTITY		
				STAGE 1	STAGE 2	STAGE 2A
STOP HERE ON RED	R10-6R	24"X36"	BLACK ON WHITE	7	7	7
	X4-4L	12"X36"	BLACK ON YELLOW	1	0	0
	R4-7	24"X30"	BLACK ON WHITE	1	0	0
	W1-7	48"X24"	BLACK ON ORANGE	2	0	0
ONLY	R3-30AD	36"X30"	BLACK ON ORANGE	4	4	5
ONLY ONLY	R3-30AA	36"X30"	BLACK ON ORANGE	1	1	2
ONLY ONLY ONLY	R3-30ACCA	66"X30"	BLACK ON ORANGE	0	0	2



STAGE 1 TEMPORARY PAVEMENT

S.B. C.S.A.H. 78
STA. 67+51.9 TO STA. 71+61.5
STA. 147+56.1 TO STA. 151+23.0
STA. 152+57.3 TO STA. 156+28.3
STA. 158+40.8 TO STA. 164+38.3
STA. 165+94.4 TO STA. 178+17.3
W.B. C.S.A.H. 116
STA. 24+28.4 TO STA. 28+12.3



STAGE 2 TEMPORARY PAVEMENT

E.B. C.S.A.H. 116
STA. 24+92.1 TO STA. 28+27.1

STAGING NARRATIVE

GENERAL NOTES:

* **DO NOT PAVE THE FINAL 2" BITUMINOUS WEARING COUSRE UNTIL ALL STAGES OF CONSTRUCTION HAVE BEEN COMPLETED.**
* **COMPLETE MILLING AS REQUIRED THROUGH ALL STAGES OF CONSTRUCTION AS SHOWN IN THE PLANS.**

INSTALL SIGNING AND STRIPING PER EACH STAGING AND TRAFFIC CONTROL PLAN.
INSTALL TEMPORARY AND/ OR PERMANENT SEDIMENT AND EROSION CONTROL MEASURES DURING AND AFTER COMPLETION OF EACH PARTIAL STAGE OF CONSTRUCTION.

STAGE 1

1. BEGIN CLEARING, GRUBBING, AND GRADING OPERATIONS NB CSAH 78 FROM STA 54+75.0 TO STA 71+50.0
   BEGIN CLEARING, GRUBBING, AND GRADING OPERATIONS NB CSAH 78 FROM STA 73+00.0 TO STA 143+50.0
2. BUILD RETAINING WALL FROM NB CSAH 78 STA 68+69.9 TO 71+29.4
3. COMPLETE MUCK OPERATIONS FROM NB CSAH 78 STA 101+25 TO 103+90
4. CONSTRUCT STORM SEWER AND STRUCTURES AS INDICATED IN STAGE1A
5. COMPLETE NECESSARY RAPID STABILIZATION BEFORE WINTER SEASON CLOSURE
6. CONSTRUCT TEMPORARY PAVEMENT AS SHOWN IN STAGE 1 STAGING AND TRAFFIC CONTROL PLANS.
7. START OPERATION OF TEMPORARY SIGNALS AT C.S.A.H. 116.
8. IMPLEMENT DETOUR IN STAGE 1.
9. CONSTRUCT CROSS-OVER FROM EB CSAH 116 TO WB CSAH 116.
10. CLOSE 127TH AVE. BETWEEN TH 242 AND STATION PARKWAY.
11. SHIFT NB CSAH 78 TRAFFIC ONTO SB CSAH 78 AS SHOWN IN STAGING PLANS.
12. SHIFT LOCAL ACCESS TRAFFIC ONTO SB CSAH 78 AS SHOWN IN STAGING PLANS.
13. CONSTRUCT PROPOSED STORM SEWER BETWEEN NB CSAH 78 STA. 57+00 AND 65+00.
14. CONSTRUCT PROPOSED STORM SEWER TO MEDIAN BETWEEN NB CSAH 78 STA. 68+00 AND 68+70.
15. CONSTRUCT PROPOSED STORM SEWER BETWEEN NB CSAH 78 STA. 73+00 AND 135+00.
16. CONSTRUCT PROPOSED STORM SEWER TO MEDIAN NB CSAH 78 BETWEEN STATION PARKWAY AND CSAH 116.
17. CONSTRUCT PROPOSED STORM SEWER ON PARK DRIVE.
18. CONSTRUCT PROPOSED STORM SEWER TO MEDIAN NB CSAH 78 BETWEEN CSAH 116 AND END OF PROJECT.
19. CONSTRUCT PERMANENT NB CSAH 78 ROADWAY BETWEEN STA. 55+00 AND TH 242.
20. CONSTRUCT PERMANENT NB AND SB CSAH 78 ROADWAY BETWEEN TH 242 AND STATION PARKWAY.
21. CONSTRUCT PERMANENT NB CSAH 78 ROADWAY BETWEEN STATION PARKWAY AND END OF PROJECT.
22. CONSTRUCT PERMANENT PARK DRIVE ROADWAY.
23. CONSTRUCT PROPOSED STORM SEWER TO MEDIAN BETWEEN EB CSAH 116 STA. 18+00 AND 43+00.
24. CONSTRUCT PERMANENT EB CSAH 116 ROADWAY BETWEEN STA 12+00 AND 47+00.
25. BEGIN CONSTRUCTION OF PERMANENT SIGNALS AT T.H. 242 AND C.S.A.H 116.
26. REVISE TEMPORARY SIGNALS AT T.H. 242 AND C.S.A.H. 116 FOR STAGE 2 OPERATION.

STAGE 2A

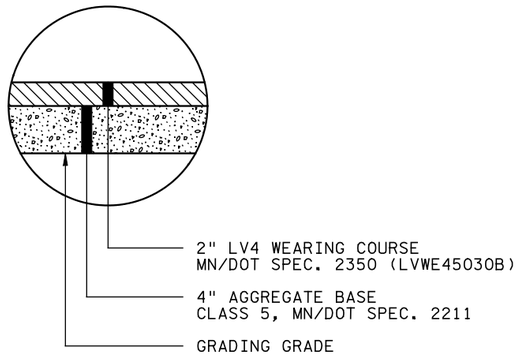
1. START OPERATION OF TEMPORARY SIGNALS AT T.H. 242
2. CONSTRUCT CROSS-OVER FROM EB CSAH 116 TO WB CSAH 116.
3. SHIFT CSAH 78 TRAFFIC ONTO NEW PERMANENT NB CSAH 78.
4. SHIFT CSAH 116 TRAFFIC ONTO NEW PERMANENT EB CSAH 116.
5. SHIFT LOCAL ACCESS TRAFFIC ONTO NB CSAH 78 BETWEEN STA. 77+00 AND 87+00.
6. SHIFT TRAFFIC ONTO NEW PARK DRIVE.
7. CONSTRUCT ALL REMAINING PROPOSED CSAH 78 STORM SEWER BETWEEN STATION PARKWAY AND END OF PROJECT.
8. CONSTRUCT ALL REMAINING PROPOSED CSAH 116 STORM SEWER.
9. COSTRUCT TEMPORARY SIGNALS AT T.H. 242 AND C.S.A.H 116.

STAGE 2B

1. CONTINUE TO KEEP CSAH 78 ROADWAY CLOSED BETWEEN 127TH AVE TO CSAH 116.
2. CONSTRUCT ALL REMAINING PROPOSED STORM SEWER BETWEEN NB CSAH 78 STA 68+00 AND TH 242 .
3. CONSTRUCT PERMANENT SB CSAH 78 ROADWAY BETWEEN STA 55+00 AND TH 242.
4. CONSTRUCT PERMANENT SB CSAH 78 ROADWAY BETWEEN STATION PARKWAY AND END OF PROJECT.
5. CONSTRUCT PERMANENT WB CSAH 116 ROADWAY.

STAGE 3

1. REMOVE TEMPORARY SIGNALS AT T.H. 242 AND C.S.A.H. 116. START OPERATION OF PERMANENT SIGNALS.
2. CONSTRUCT MEDIAN BETWEEN NB CSAH 78 STA. 65+00 AND 66+00.
3. CONSTRUCT MEDIAN BETWEEN EB CSAH 116 STA. 18+00 AND 20+00.
4. CONSTRUCT MEDIAN BETWEEN EB CSAH 116 STA. 24+00 AND 27+00.
5. CONSTRUCT FINAL 2" BITUMINOUS WEARING COURSE.
6. CONSTRUCT PERMANENT PAVEMENT MARKINGS AS SHOWN IN SIGNING AND STRIPING PLANS.



DETAIL AA

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\plan\5404.TCA

9:31:05 AM
6/8/2007
h:\projects\5404\h1-mu\plan\5404.TCA

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC CONTROL NOTES AND STAGING NARRATIVE
C.S.A.H. 78

SHEET 54 OF 400

LEGEND

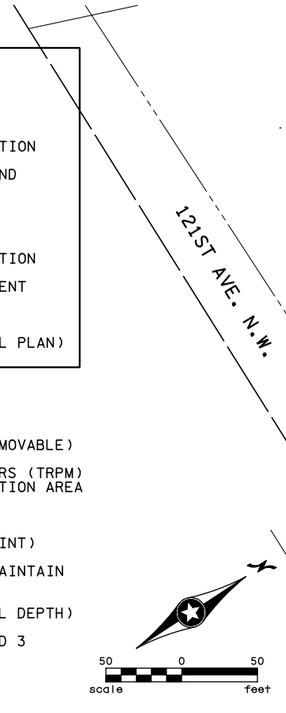
- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

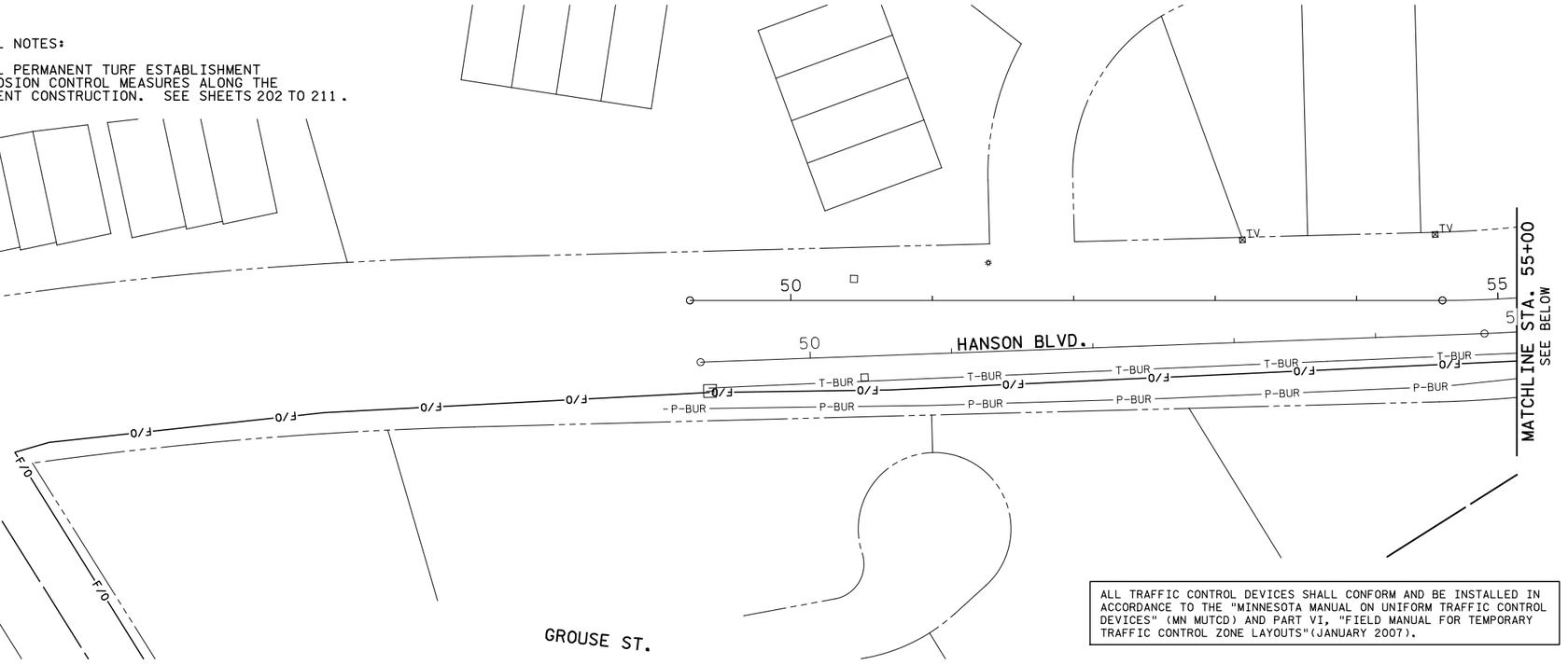
NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

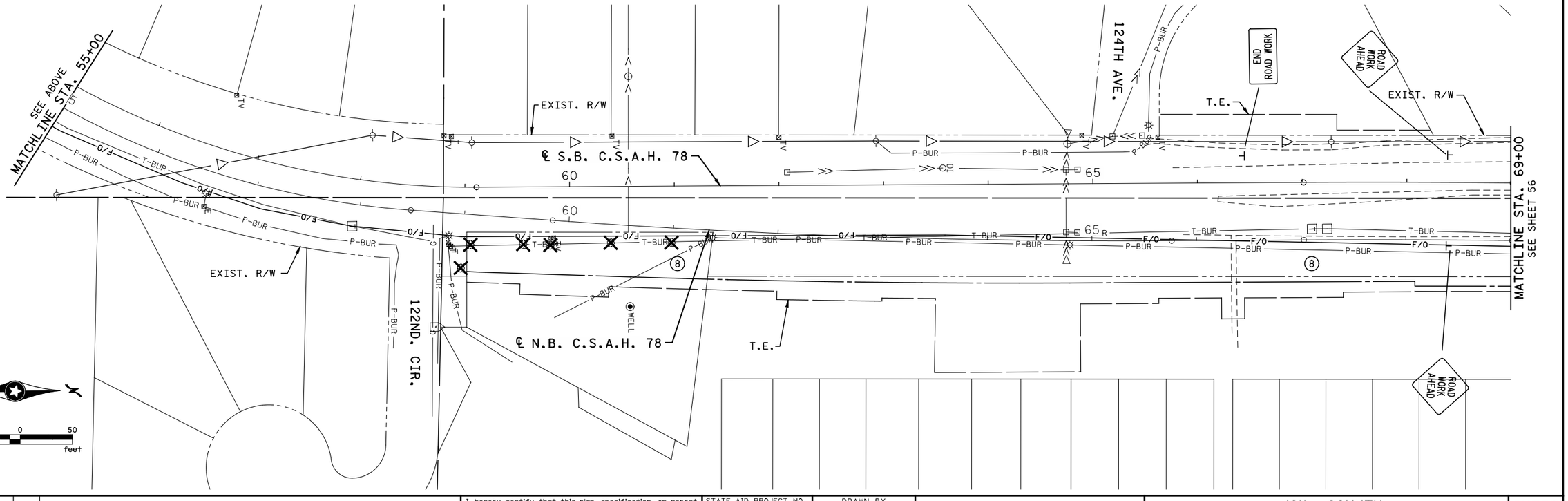
GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.





ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).



NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.H1A

9:31:22 AM
6/8/2007
h:\projects\5404\hl-mu\plan\5404.H1A

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 1

SHEET 55 OF 400

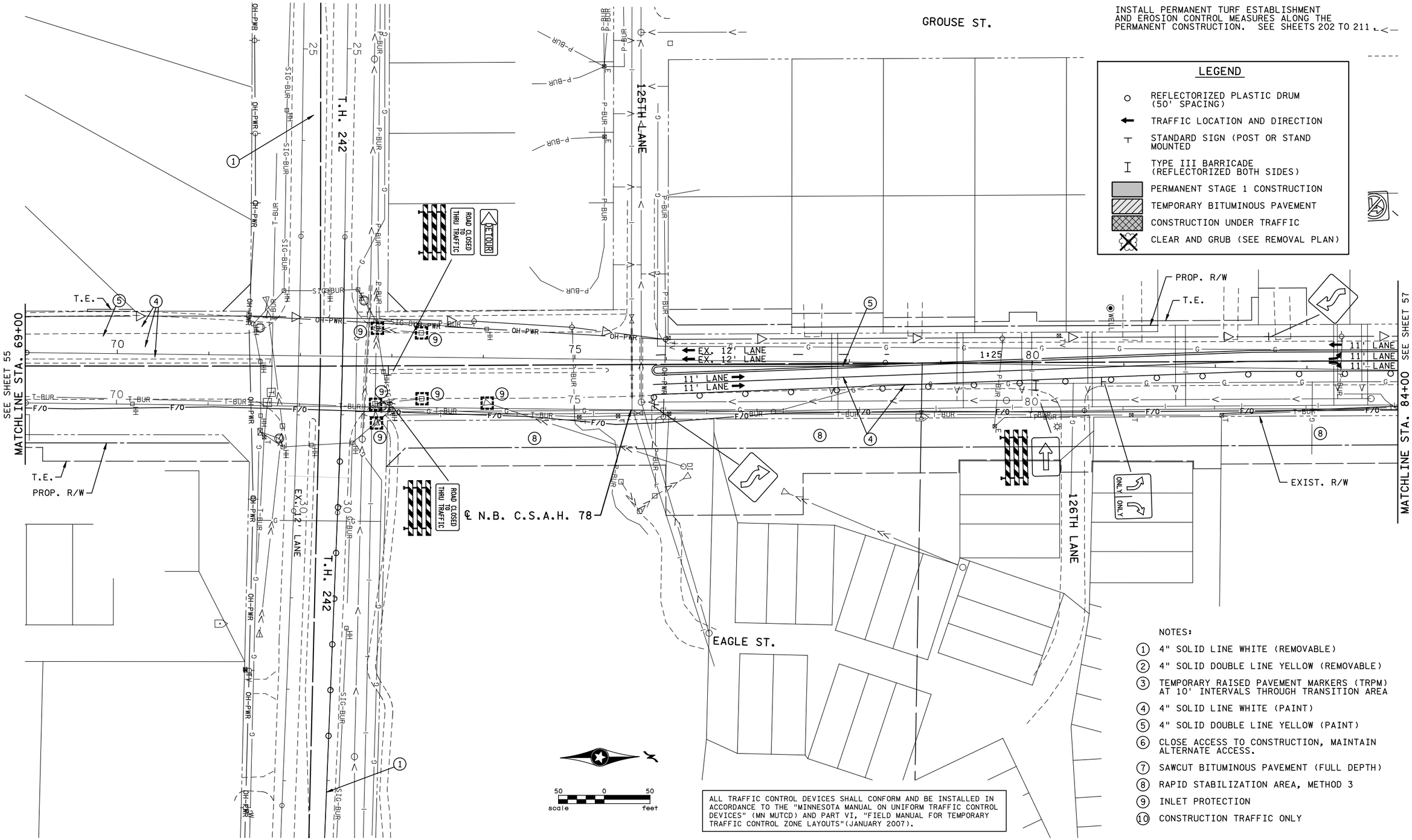
GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

GROUSE ST.

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)



NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.H1B

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 1

SHEET 56 OF 400

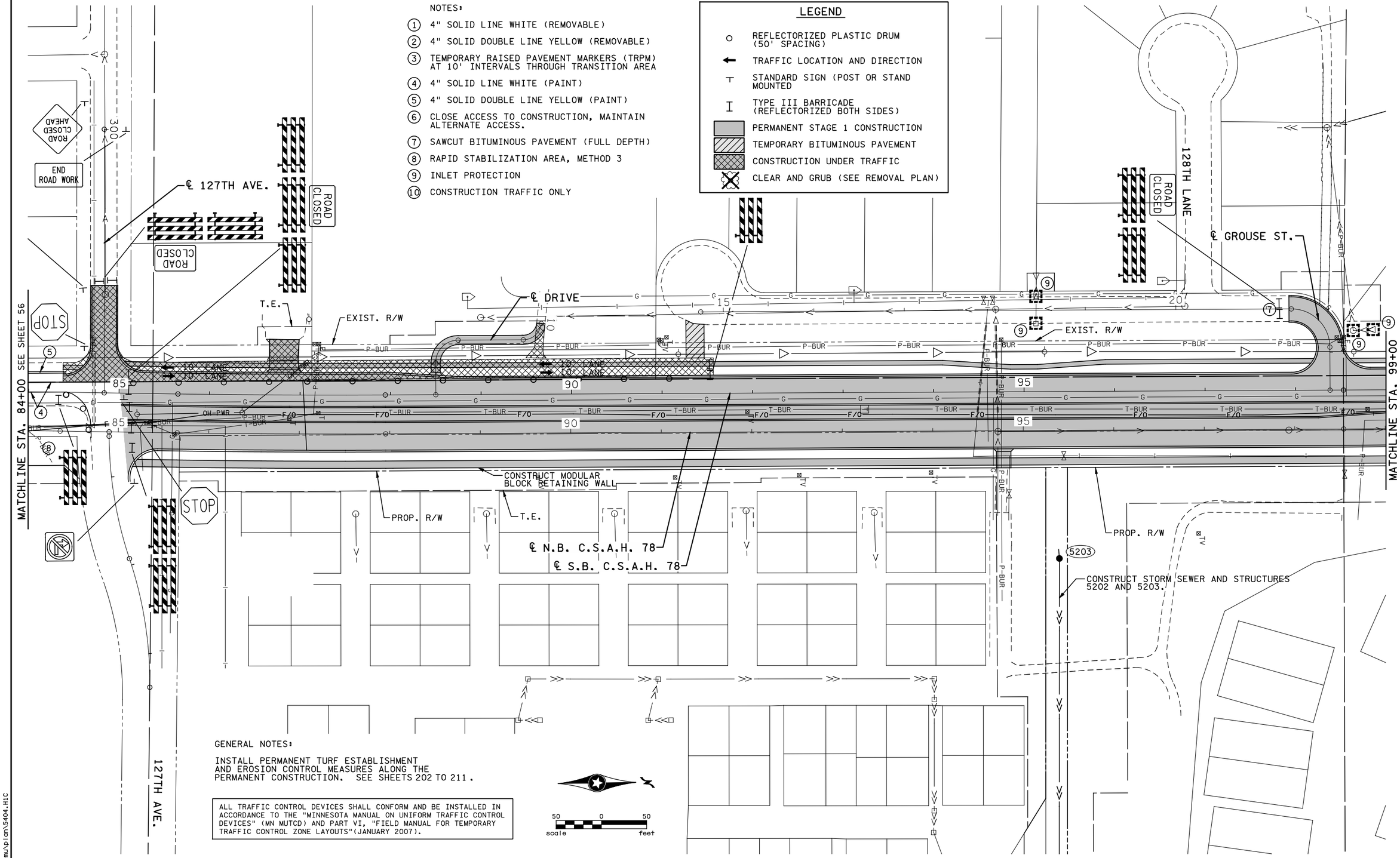
9:31:26 AM
6/8/2007
h:\projects\5404\hl-mu\plan\5404.H1B

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)



GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

50 0 50
scale feet

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.H1C

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

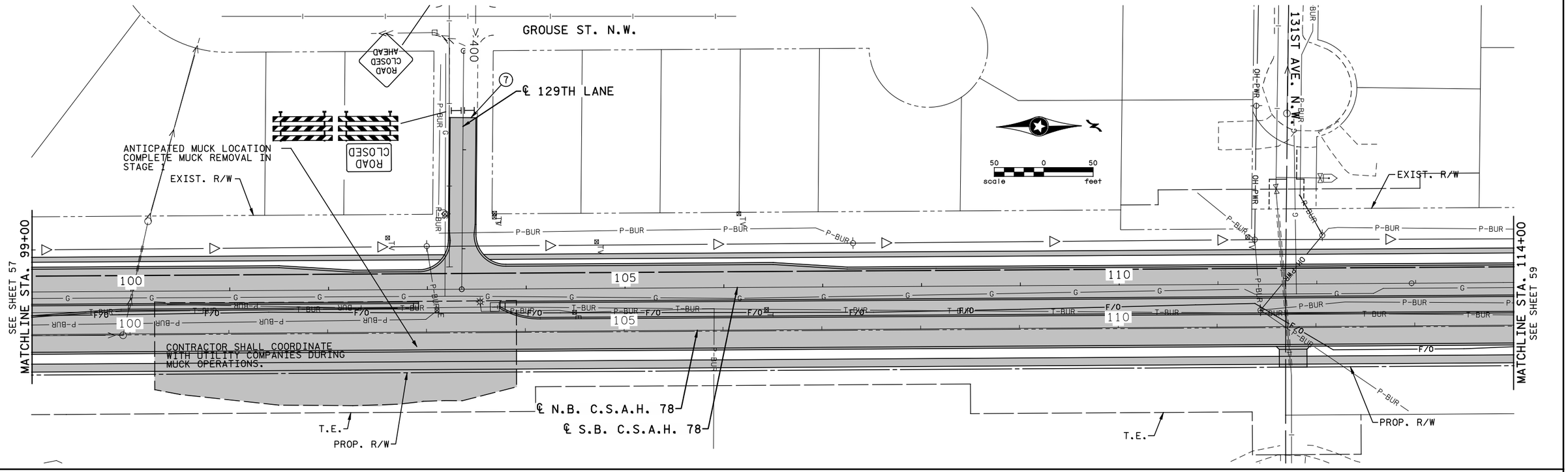
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 1

SHEET 57 OF 400

9:31:29 AM
6/8/2007
h:\projects\5404\hl-mu\plan\5404.H1C



NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\plan\5404.H1D

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

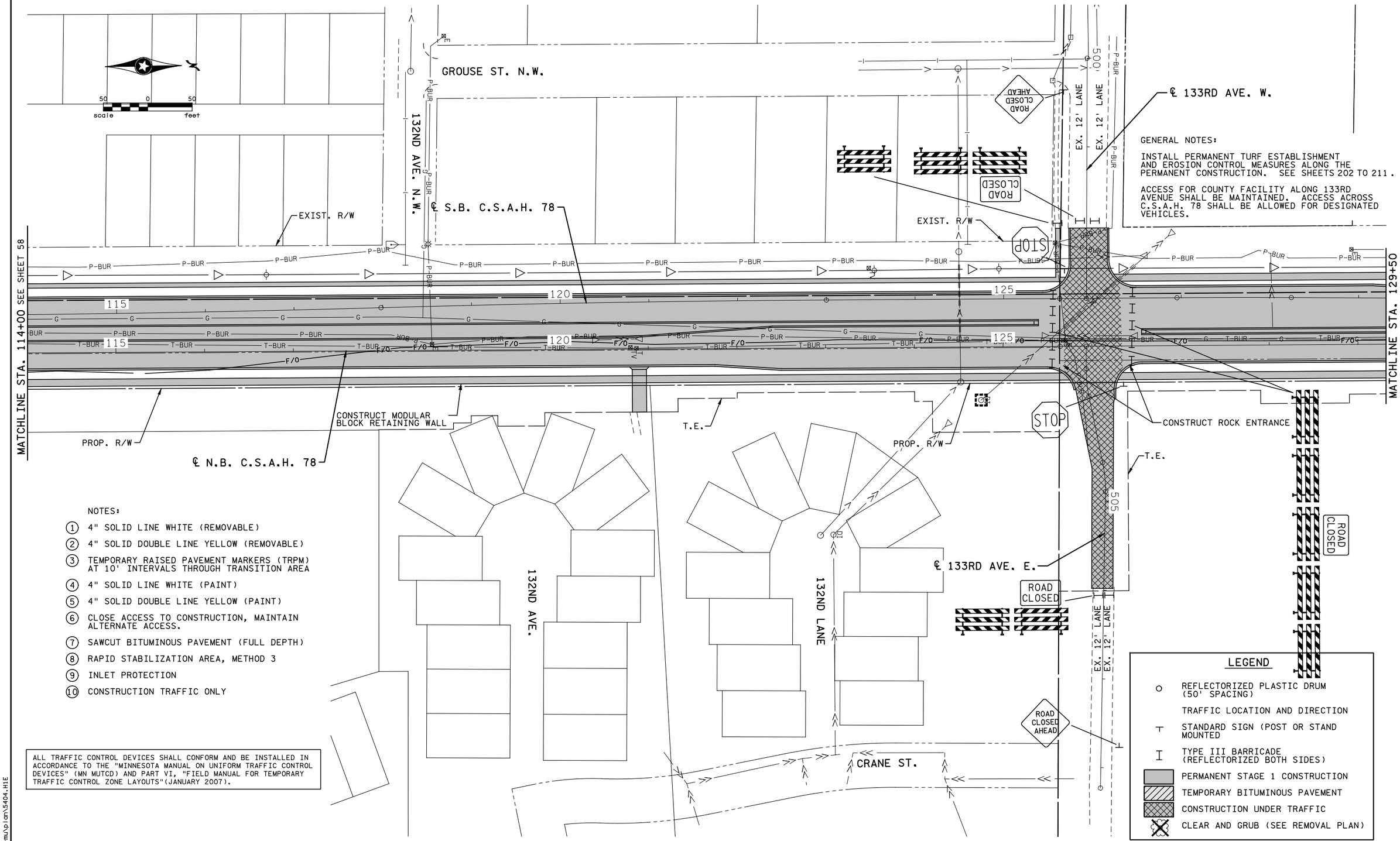
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 1

SHEET 58 OF 400

9:31:33 AM
6/8/2007
h:\projects\5404\h1-mu\plan\5404.H1D



ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.H1E

9:31:35 AM
6/8/2007
n:\projects\5404\hl-mu\plan\5404.H1E

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

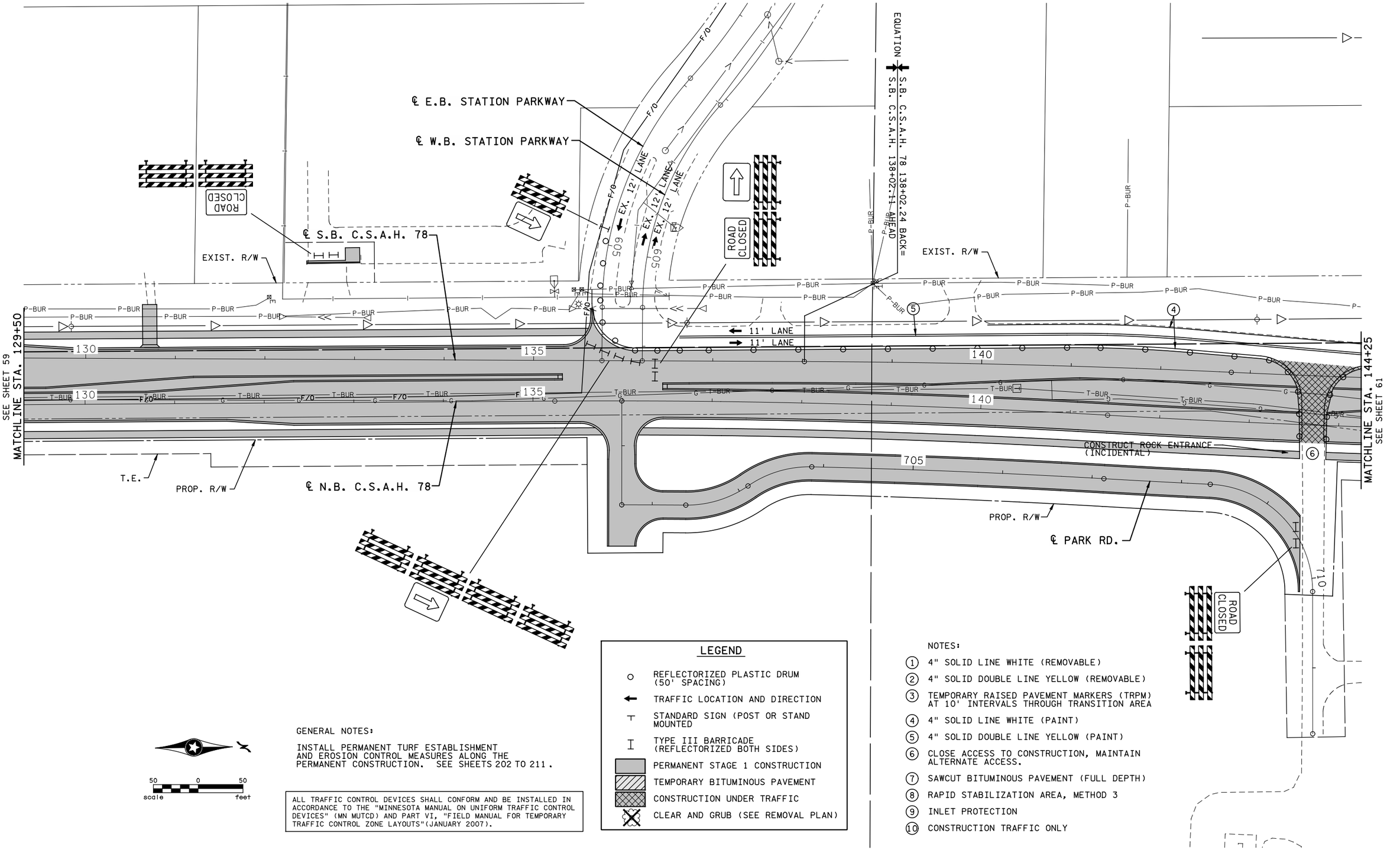
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLAN
C.S.A.H. 78
STAGE 1

SHEET 59 OF 400



GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.H1F

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 1

SHEET 60 OF 400

9:31:39 AM
6/8/2007
h:\projects\5404\hl-mu\plan\5404.H1F

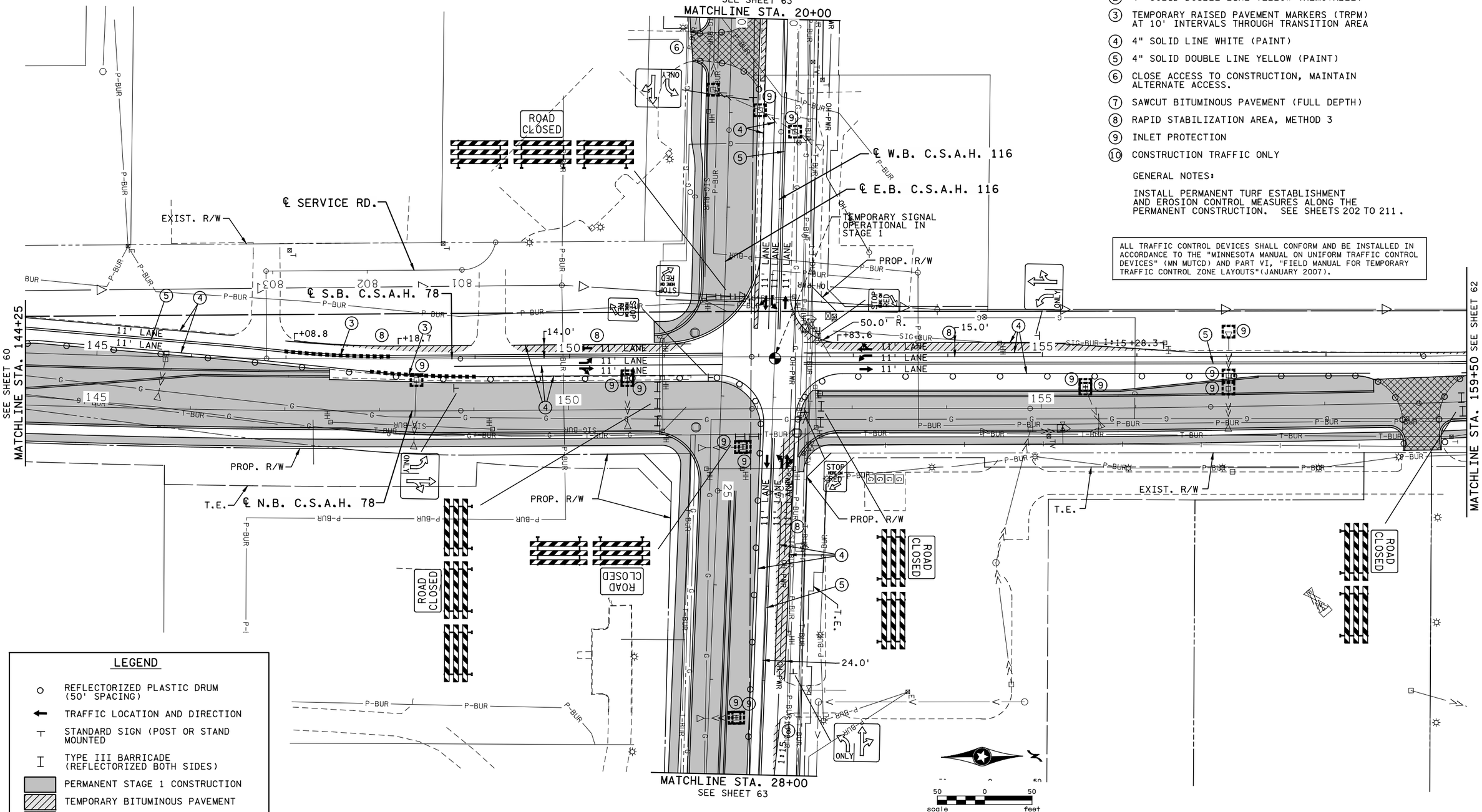
NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).



LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.H1G

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 1

SHEET 61 OF 400

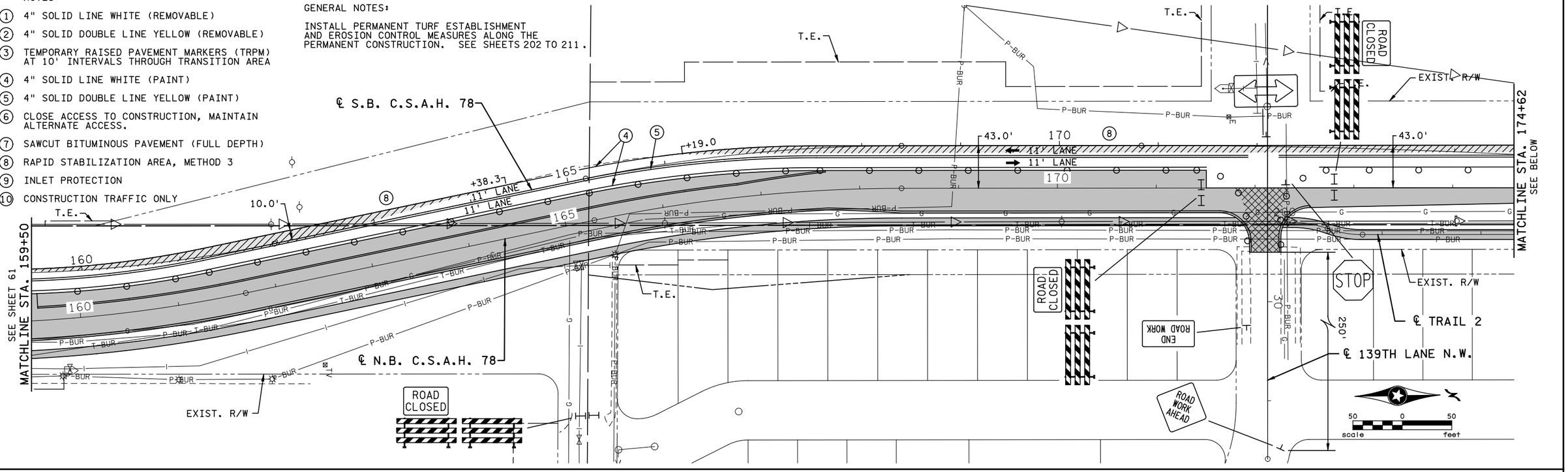
9:31:44 AM
6/8/2007
h:\projects\5404\hl-mu\plan\5404.H1G

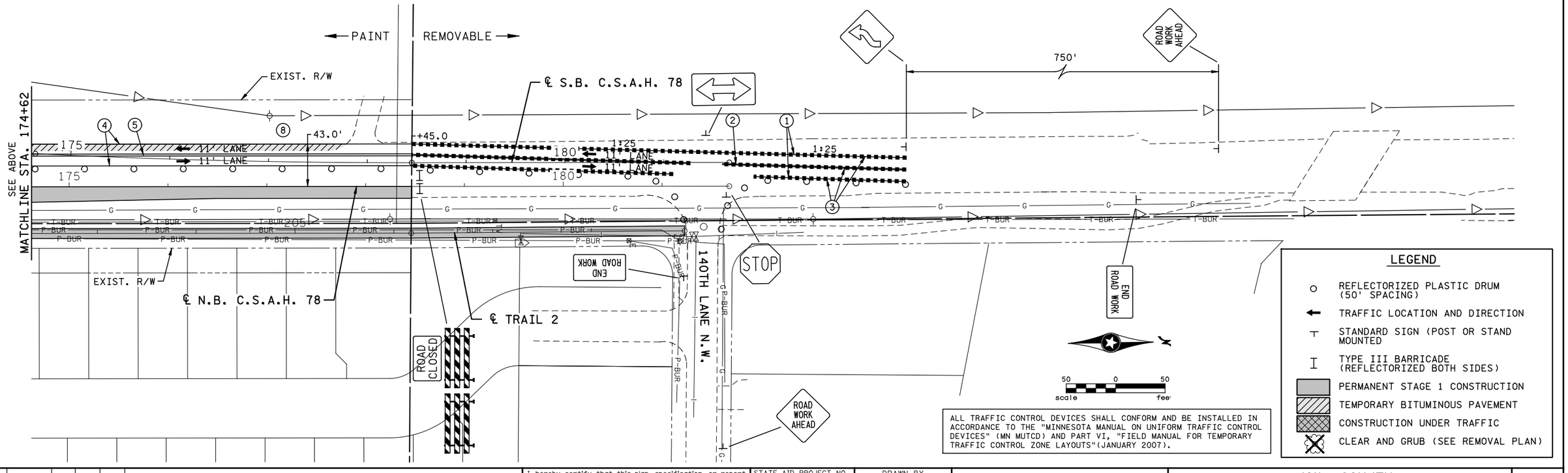
NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.





ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\plan\5404.H1H

9:31:49 AM
6/8/2007
h:\projects\5404\h1-mu\plan\5404.H1H

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 1

SHEET 62 OF 400

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

END ROAD WORK

← REMOVABLE — PAINT →

℄ TRAIL 1

℄ E.B. C.S.A.H. 116

℄ W.B. C.S.A.H. 116

EX. TRAIL EASE.

PROP. TRAIL EASE.

25' BARREL SPACING THROUGH TRANSITION

EXIST. R/W

T.E.

14' RT. TURN LANE

12' LANE

12' LANE

14' LT. TURN LANE

12' LANE

12' LANE

12' LANE

11' LANE

1000' R

1000' R

1:15

+43.5

JAY ST. N.W.

GROUSE ST. N.W.

ROAD CLOSED

MATCHLINE STA. 20+00
SEE SHEET 61

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY
11. 4" SOLID LINE YELLOW (PAINT)
12. RIGHT LANE CLOSURE, WORK SPACE BEYOND INTERSECTION MULTI-LANE DIVIDED ROAD WITH 750' SPACING. INCLUDES: 1 - R3-X1, 2 - W1-6L, 2 - TYPE III BARRICADES, 1 - W4-2R, 1 - W20-X3L, 2 - W21-X5R, 2 - W20-1

300'

50 0 50
scale feet

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

ROAD WORK AHEAD

℄ W.B. C.S.A.H. 116

℄ E.B. C.S.A.H. 116

CRANE ST.

250'

END ROAD WORK

11' LANE

11' LANE

MATCHLINE STA. 28+00
SEE SHEET 61

MATCHLINE STA. 42+00
SEE SHEET 64

PROP. R/W

PROP. R/W

ROAD CLOSED

ROAD CLOSED

ROAD CLOSED

C.O.

50 0 50
scale feet

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.H1I

9:31:54 AM
6/8/2007
h:\projects\5404\hl-mu\plan\5404.H1I

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

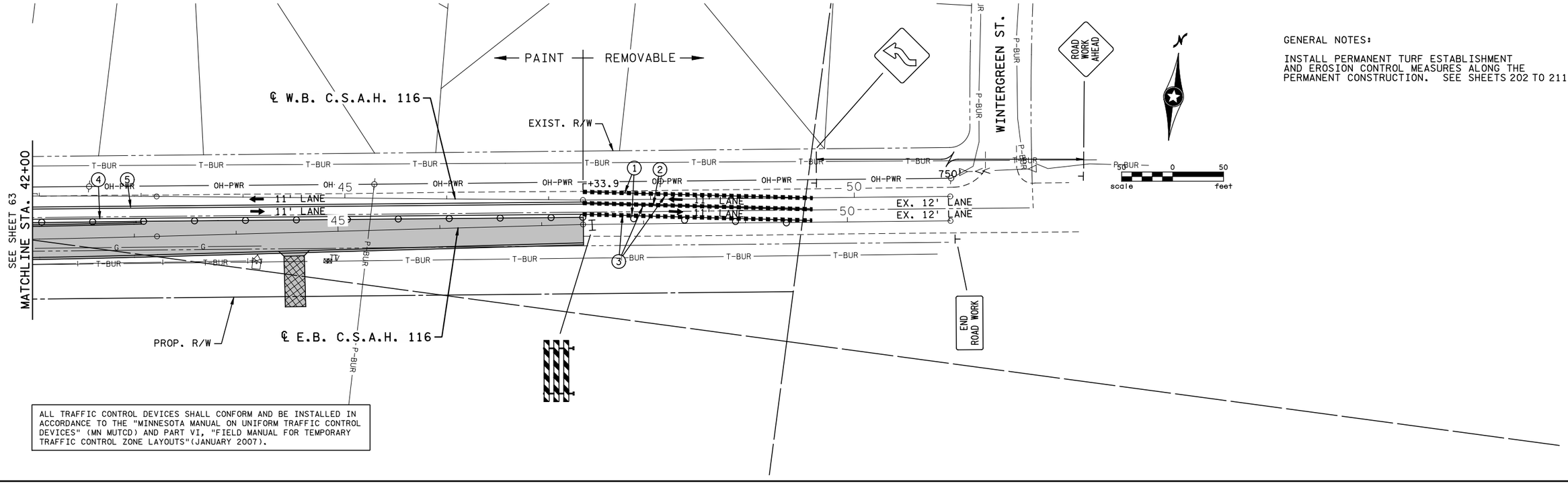
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
C.S.A.H. 116 STAGE 1

SHEET 63 OF 400



GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\plan\5404.H1J

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
C.S.A.H. 116 STAGE 1

SHEET 64 OF 400

9:32:01 AM
6/8/2007
h:\projects\5404\h1-mu\plan\5404.H1J

LEGEND

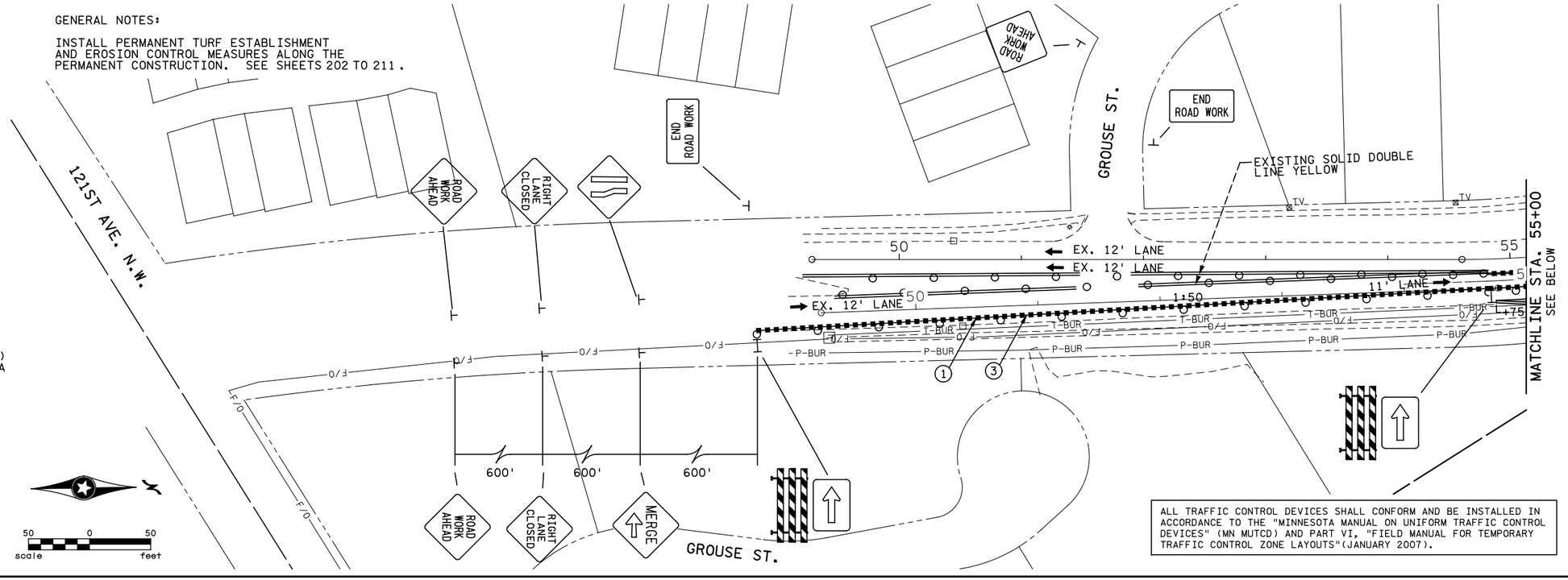
- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

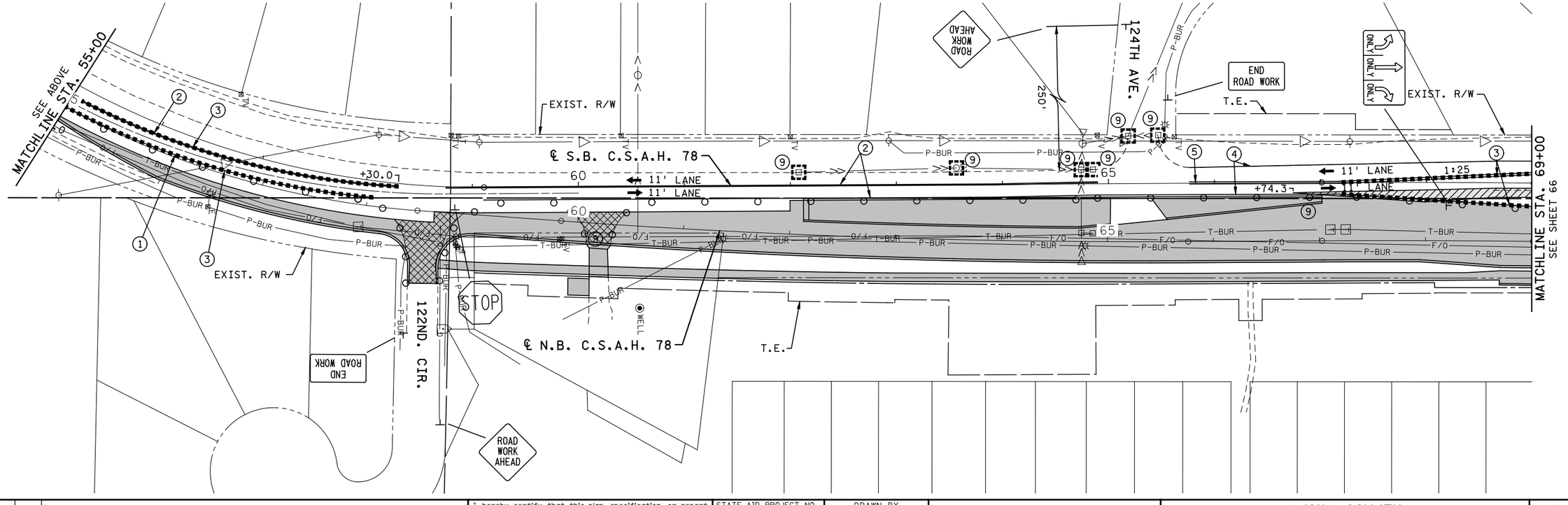
NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.





NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.h2a

9:32:06 AM
6/8/2007
h:\projects\5404\hl-mu\Plan\5404.h2a

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

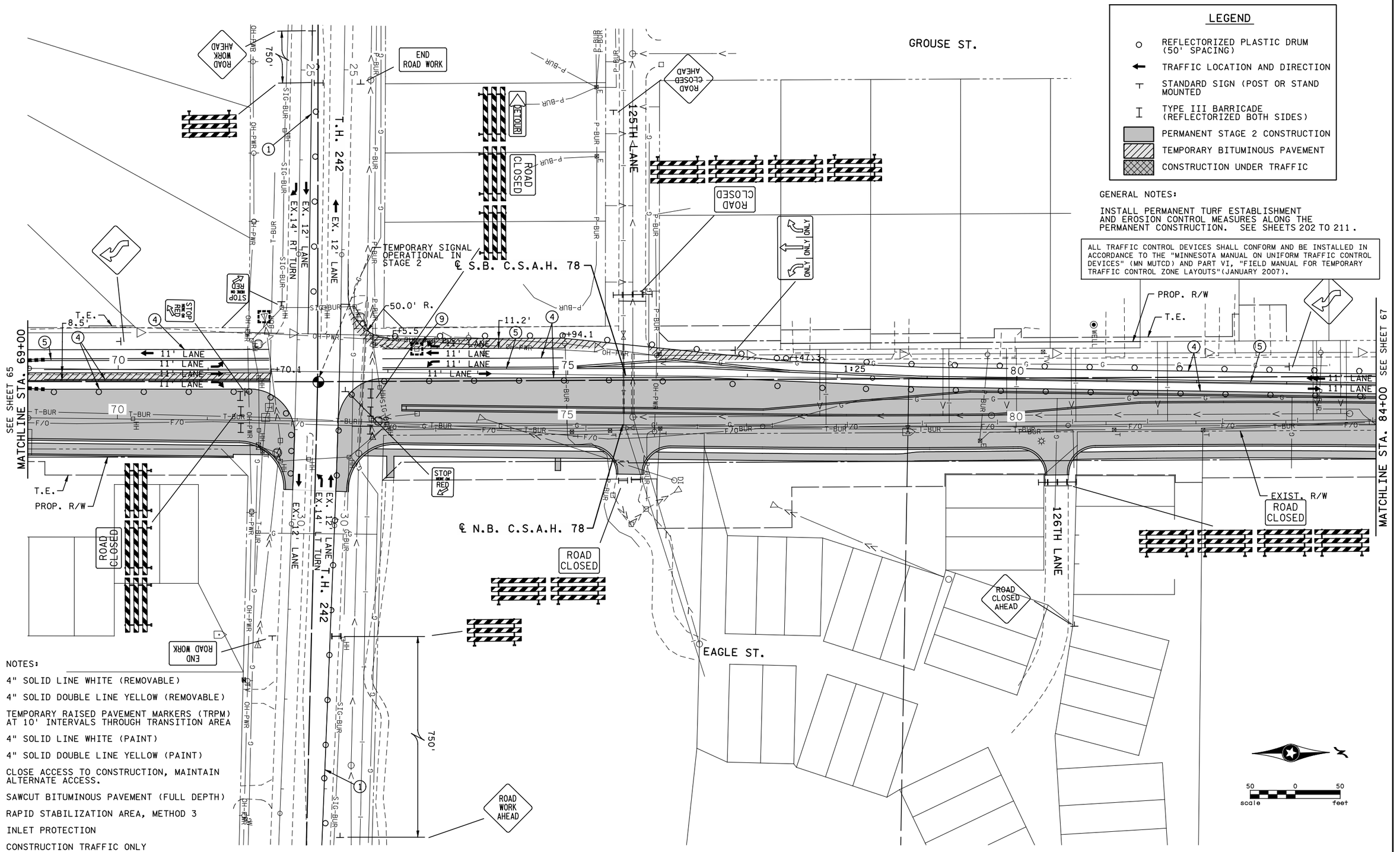
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 65 OF 400



NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2B

9:32:10 AM
6/8/2007
h:\projects\5404\hl-mu\Plan\5404.H2B

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

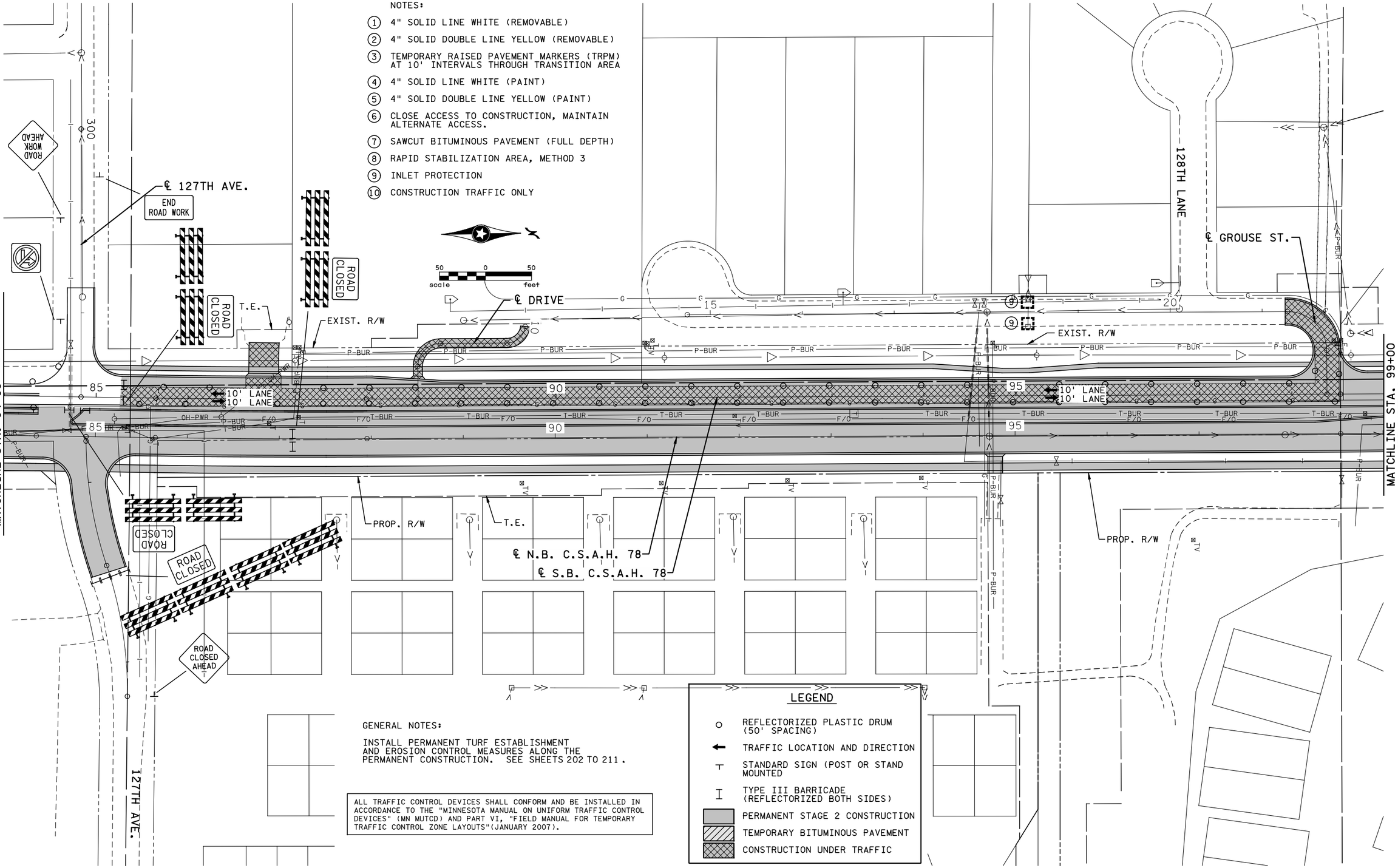
ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 66 OF 400

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY



GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2C

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

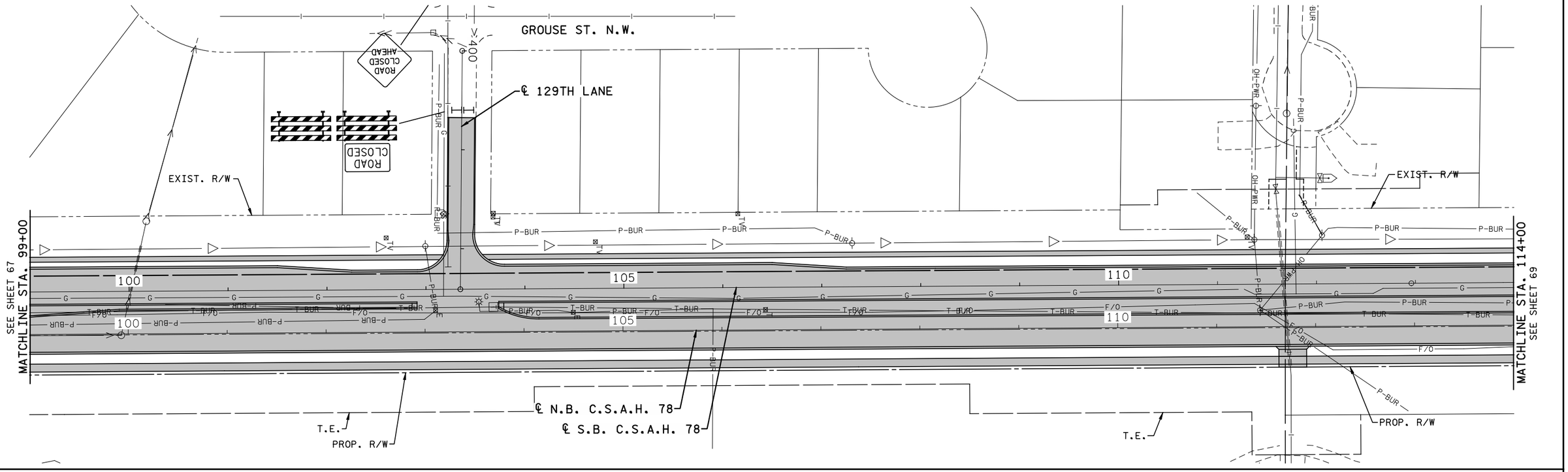
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 67 OF 400

9:32:14 AM
6/8/2007
H:\projects\5404\hl-mu\Plan\5404.H2C



50 0 50
scale feet

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\Plan\5404.H2D

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 68 OF 400

9:32:18 AM
6/8/2007
h:\projects\5404\h1-mu\Plan\5404.H2D

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

GROUSE ST. N.W.

132ND AVE. N.W.

℄ S.B. C.S.A.H. 78

EXIST. R/W

MATCHLINE STA. 114+00 SEE SHEET 68

PROP. R/W

℄ N.B. C.S.A.H. 78

T.E.

ROAD CLOSED AHEAD

ROAD CLOSED

500'

℄ 133RD AVE. W.

ACCESS FOR COUNTY FACILITY ALONG 133RD AVENUE SHALL BE MAINTAINED. ACCESS ACROSS C.S.A.H. 78 SHALL BE ALLOWED FOR DESIGNATED VEHICLES.

STOP

MATCHLINE STA. 129+50 SEE SHEET 70

505'

℄ 133RD AVE. E.

132ND AVE.

132ND LANE

CRANE ST.

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

50 0 50
scale feet

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2E

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

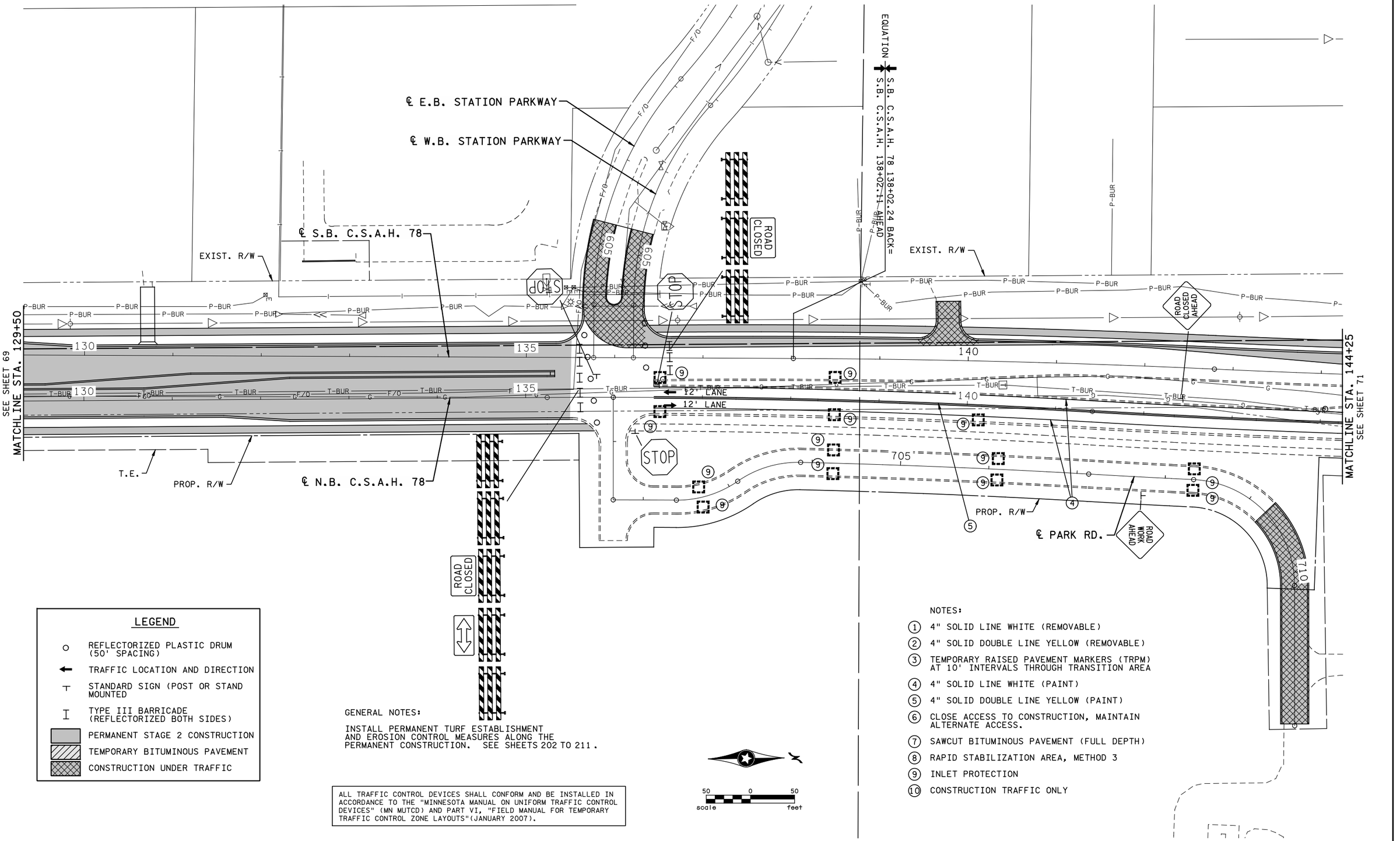
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLAN
C.S.A.H. 78
STAGE 2A

SHEET 69 OF 400

9:32:20 AM
6/8/2007
h:\projects\5404\hl-mu\Plan\5404.H2E



LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

50 0 50
scale feet

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\Plan\5404.H2F

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 70 OF 400

9:32:23 AM
6/8/2007
h:\projects\5404\h1-mu\Plan\5404.H2F

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

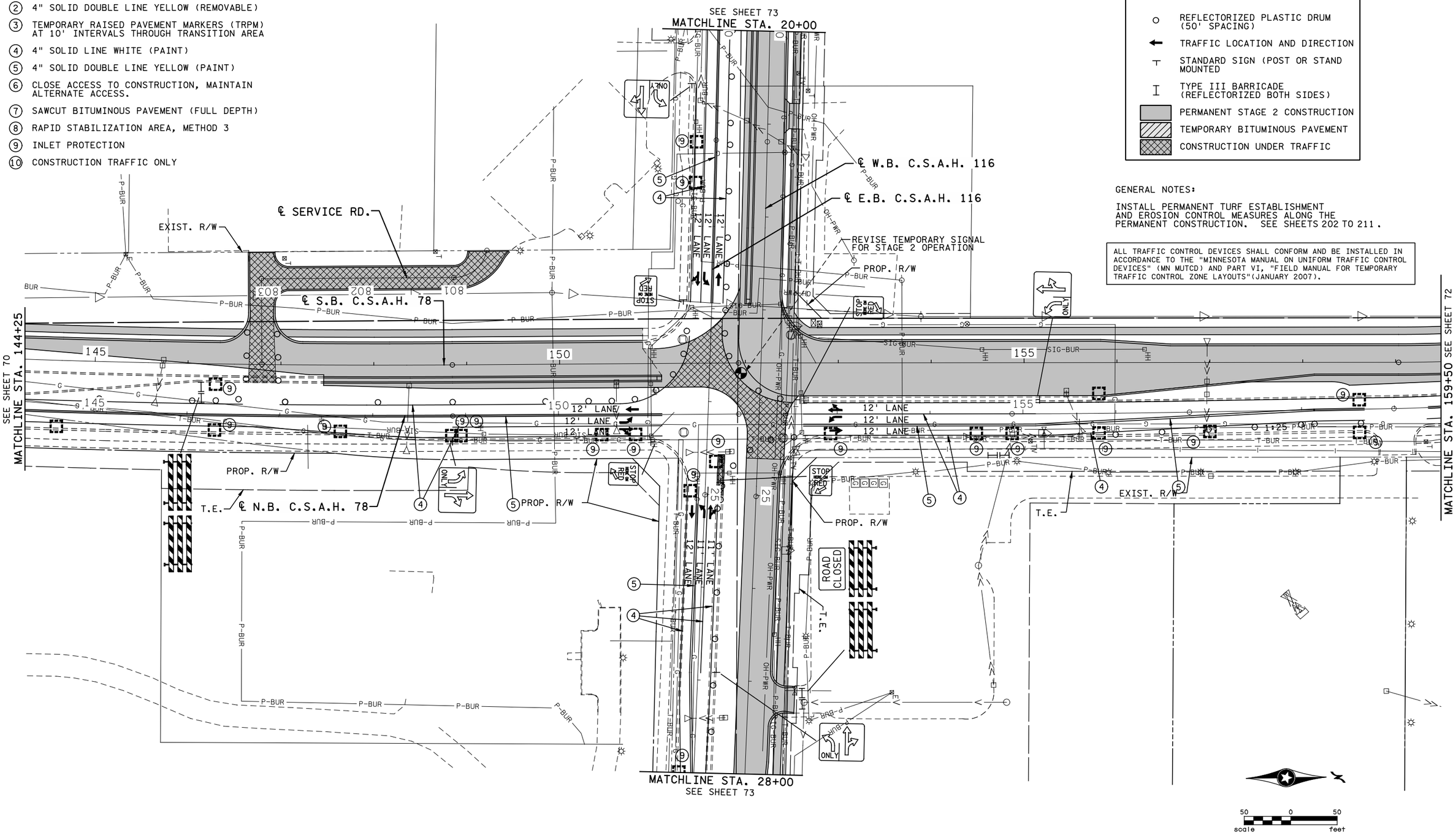
LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).



NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2G

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 71 OF 400

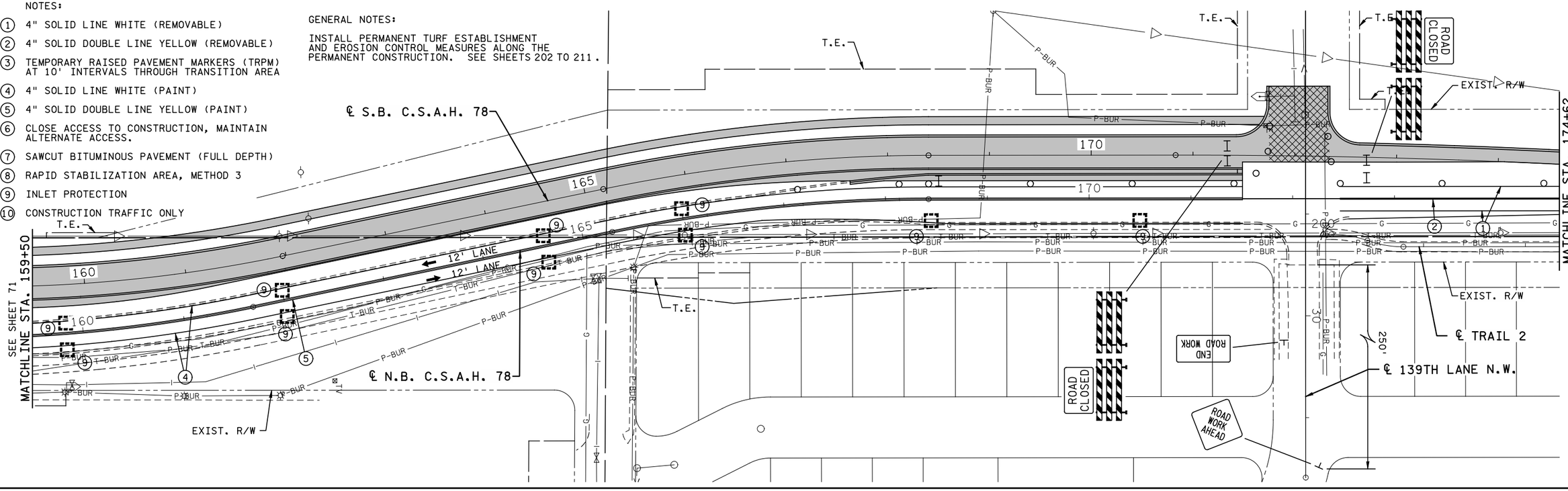
9:32:27 AM
6/8/2007
h:\projects\5404\hl-mu\Plan\5404.H2G

NOTES:

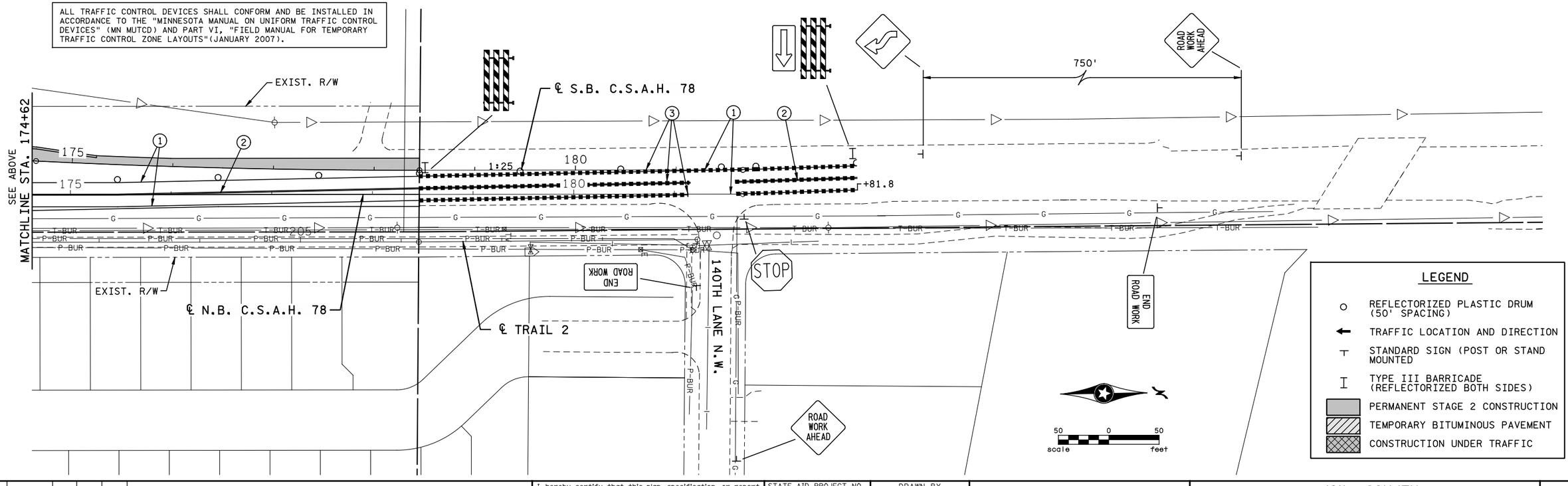
1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.



ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).



LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

50 0 50
scale feet

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2H

9:32:32 AM
6/8/2007
h:\projects\5404\hl-mu\Plan\5404.H2H

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

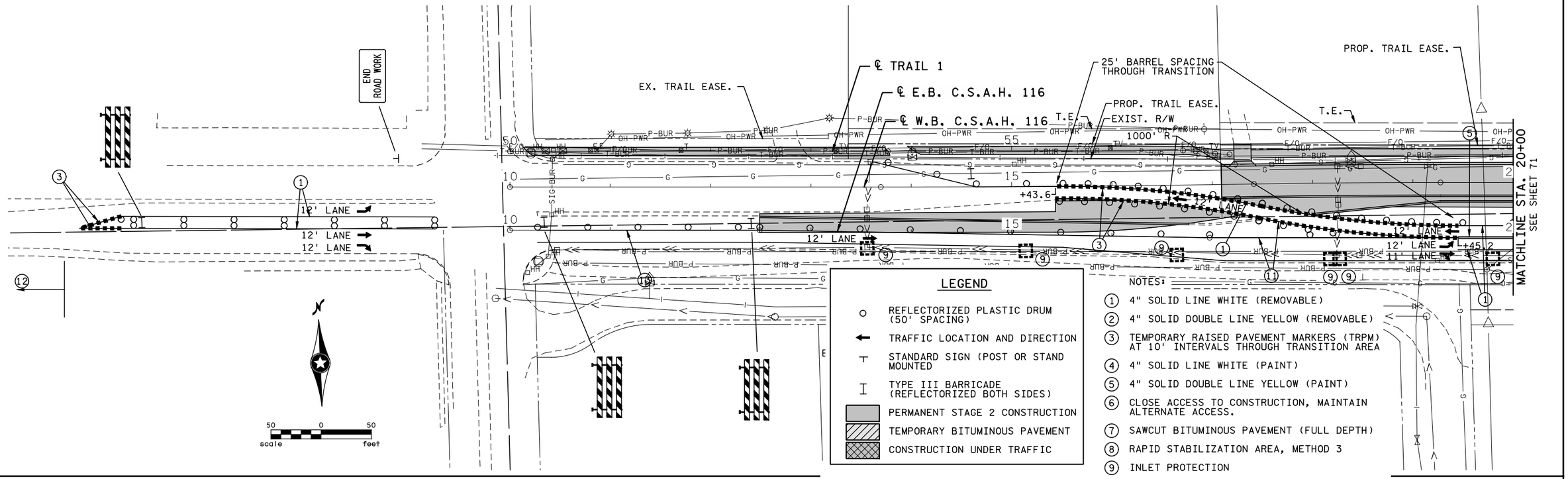
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

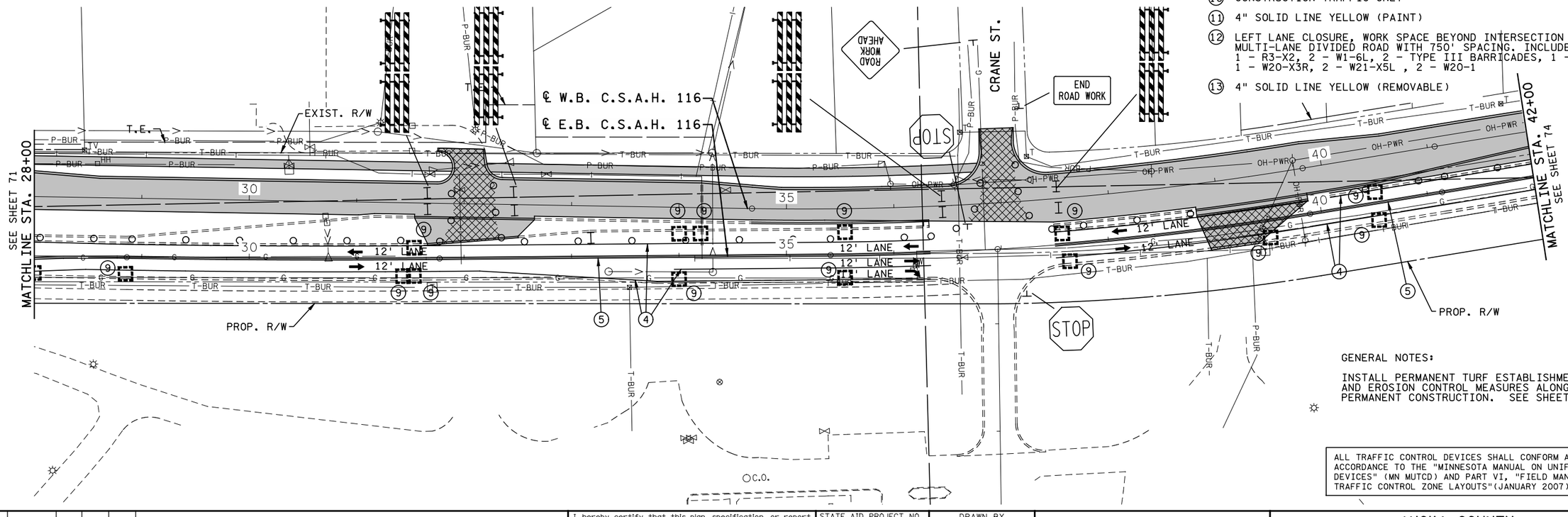
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 72 OF 400





LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY
11. 4" SOLID LINE YELLOW (PAINT)
12. LEFT LANE CLOSURE, WORK SPACE BEYOND INTERSECTION MULTI-LANE DIVIDED ROAD WITH 750' SPACING. INCLUDES: 1 - R3-X2, 2 - W1-6L, 2 - TYPE III BARRICADES, 1 - W4-2L, 1 - W20-X3R, 2 - W21-X5L , 2 - W20-1
13. 4" SOLID LINE YELLOW (REMOVABLE)

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2I

9:32:37 AM
6/8/2007
h:\projects\5404\hl-mu\Plan\5404.H2I

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

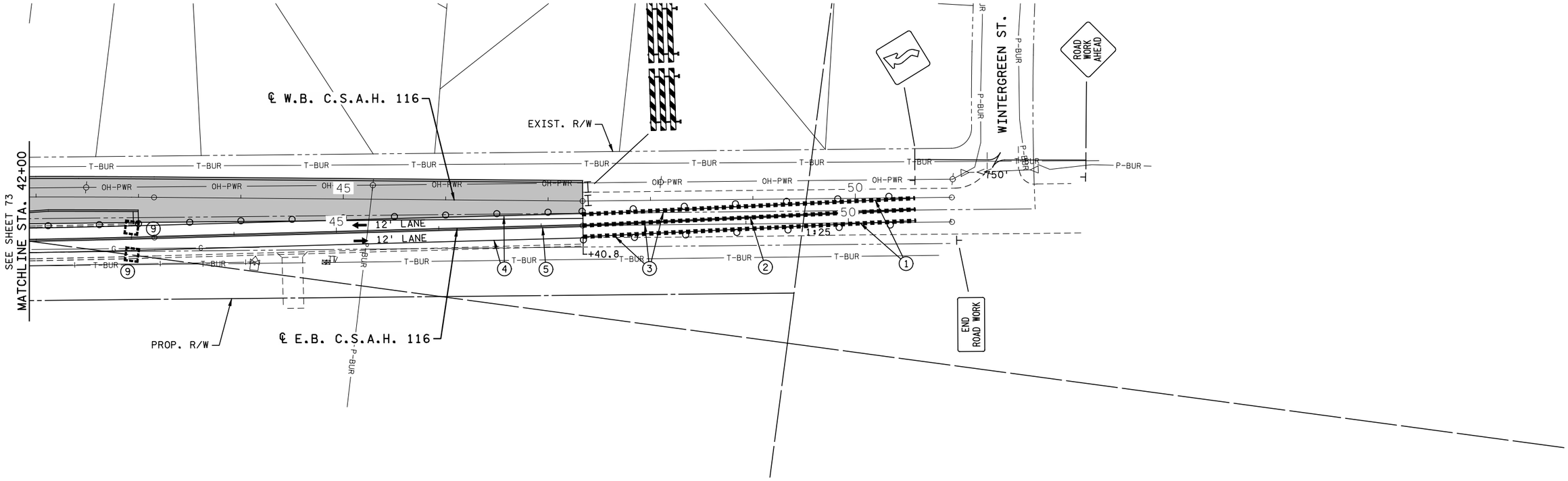
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

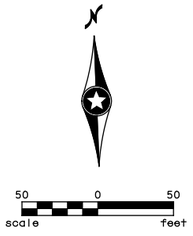
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
C.S.A.H. 116 STAGE 2A

SHEET 73 OF 400





NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\Plan\5404.H2J

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
C.S.A.H. 116 STAGE 2A

SHEET 74 OF 400

9:32:41 AM
6/8/2007
h:\projects\5404\h1-mu\Plan\5404.H2J

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

MATCHLINE STA. 84+00 SEE SHEET 74

MATCHLINE STA. 99+00 SEE SHEET 76

ROAD CLOSED TO THRU TRAFFIC

ROAD WORK AHEAD

℄ 127TH AVE.

END ROAD WORK

ROAD CLOSED

T.E.

EXIST. R/W

℄ DRIVE

50 0 50 scale feet

15

20

℄ 128TH LANE

℄ GROUSE ST.

EXIST. R/W

85 90 95

10' LANE
10' LANE

PROP. R/W

T.E.

℄ N.B. C.S.A.H. 78

℄ S.B. C.S.A.H. 78

ROAD CLOSED

ROAD CLOSED

ROAD CLOSED AHEAD

127TH AVE.

PROP. R/W

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2C

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/21/2007 License 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

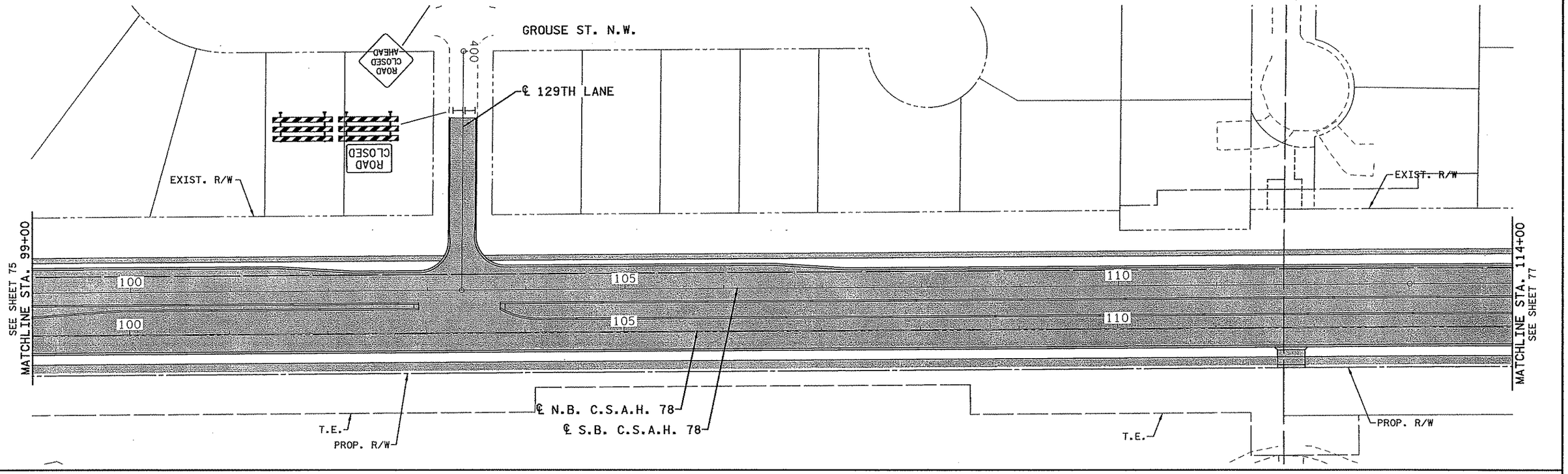
STAGING AND TRAFFIC CONTROL PLANS

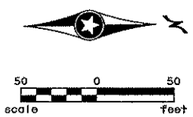
C.S.A.H. 78

STAGE 2

SHEET 75 OF 400

11:13:12 AM
2/21/2007
h:\projects\5404\hl-mu\plan\5404.H2C





NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- ○ REFLECTORIZED PLASTIC DRUM (50' SPACING)
- ← TRAFFIC LOCATION AND DIRECTION
- ⊤ STANDARD SIGN (POST OR STAND MOUNTED)
- I TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2D

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/21/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2

SHEET 76 OF 400

11:13:13 AM
2/21/2007
h:\projects\5404\hl-mu\Plan\5404.H2D

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

GROUSE ST. N.W.

132ND AVE. N.W.

℄ S.B. C.S.A.H. 78

EXIST. R/W

ROAD CLOSED AHEAD

ROAD CLOSED

STOP

500

℄ 133RD AVE. W.

ACCESS FOR COUNTY FACILITY ALONG 133RD AVENUE SHALL BE MAINTAINED. ACCESS ACROSS C.S.A.H. 78 SHALL BE ALLOWED FOR DESIGNATED VEHICLES.

MATCHLINE STA. 114+00 SEE SHEET 76

MATCHLINE STA. 129+50 SEE SHEET 78

115 120 125

115 120 125

PROP. R/W

℄ N.B. C.S.A.H. 78

T.E.

PROP. R/W

STOP

T.E.

505

ROAD CLOSED

℄ 133RD AVE. E.

ROAD CLOSED

ROAD CLOSED AHEAD

132ND AVE.

132ND LANE

CRANE ST.

50 0 50
scale feet

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2E

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/21/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

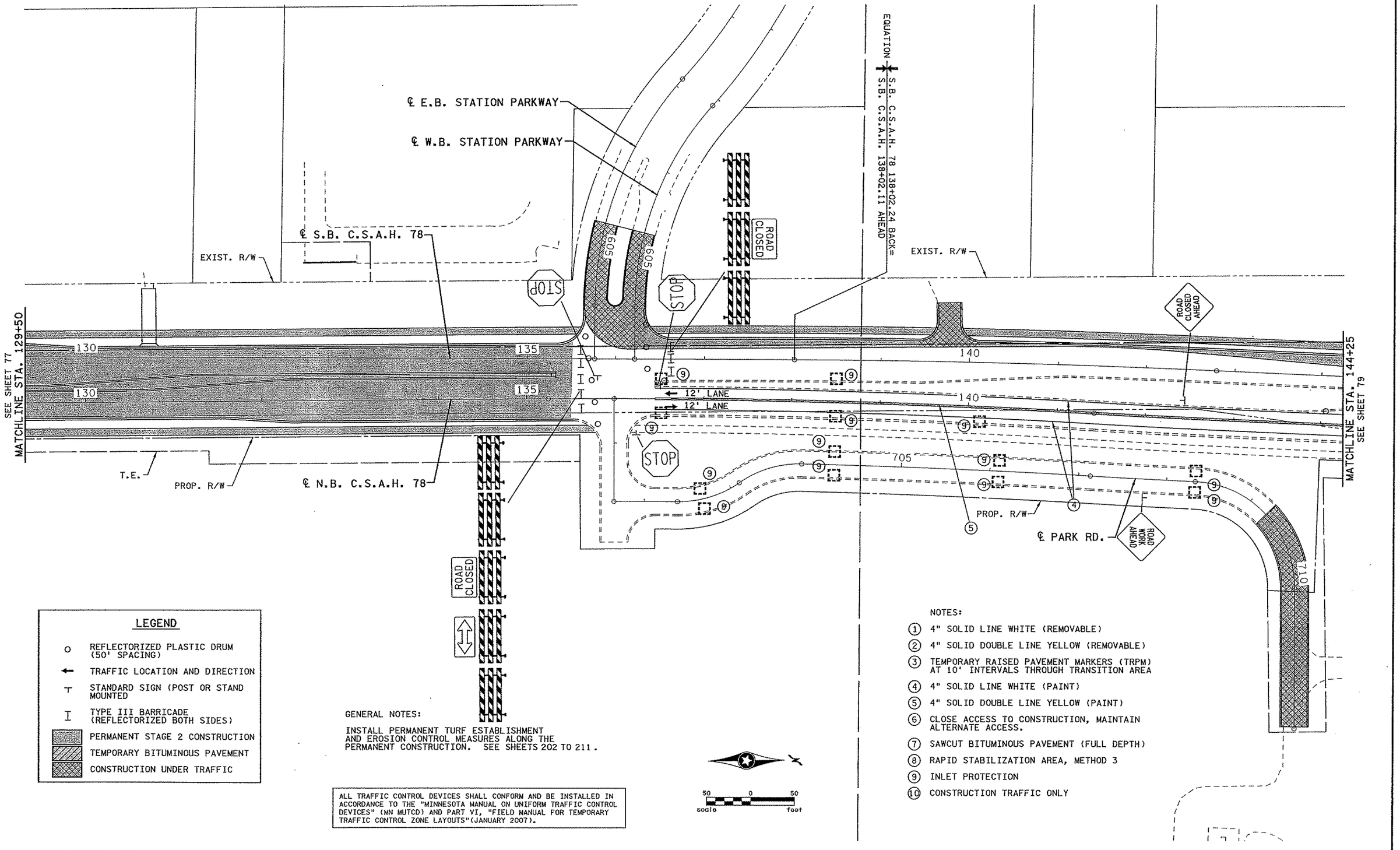
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLAN
C.S.A.H. 78
STAGE 2

SHEET 77 OF 400

11:13:14 AM
2/21/2007
h:\projects\5404\hl-mu\Plan\5404.H2E



LEGEND

- o REFLECTORIZED PLASTIC DRUM (50' SPACING)
- ← TRAFFIC LOCATION AND DIRECTION
- ⊤ STANDARD SIGN (POST OR STAND MOUNTED)
- I TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

50 0 50
scale feet

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2F

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.
Print Name: CHRIS M. TRBOYEVICH
Date 2/21/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2

SHEET 78 OF 400

11:13:15 AM
2/21/2007
P:\Projects\5404\hl-mu\Plan\5404.H2F

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

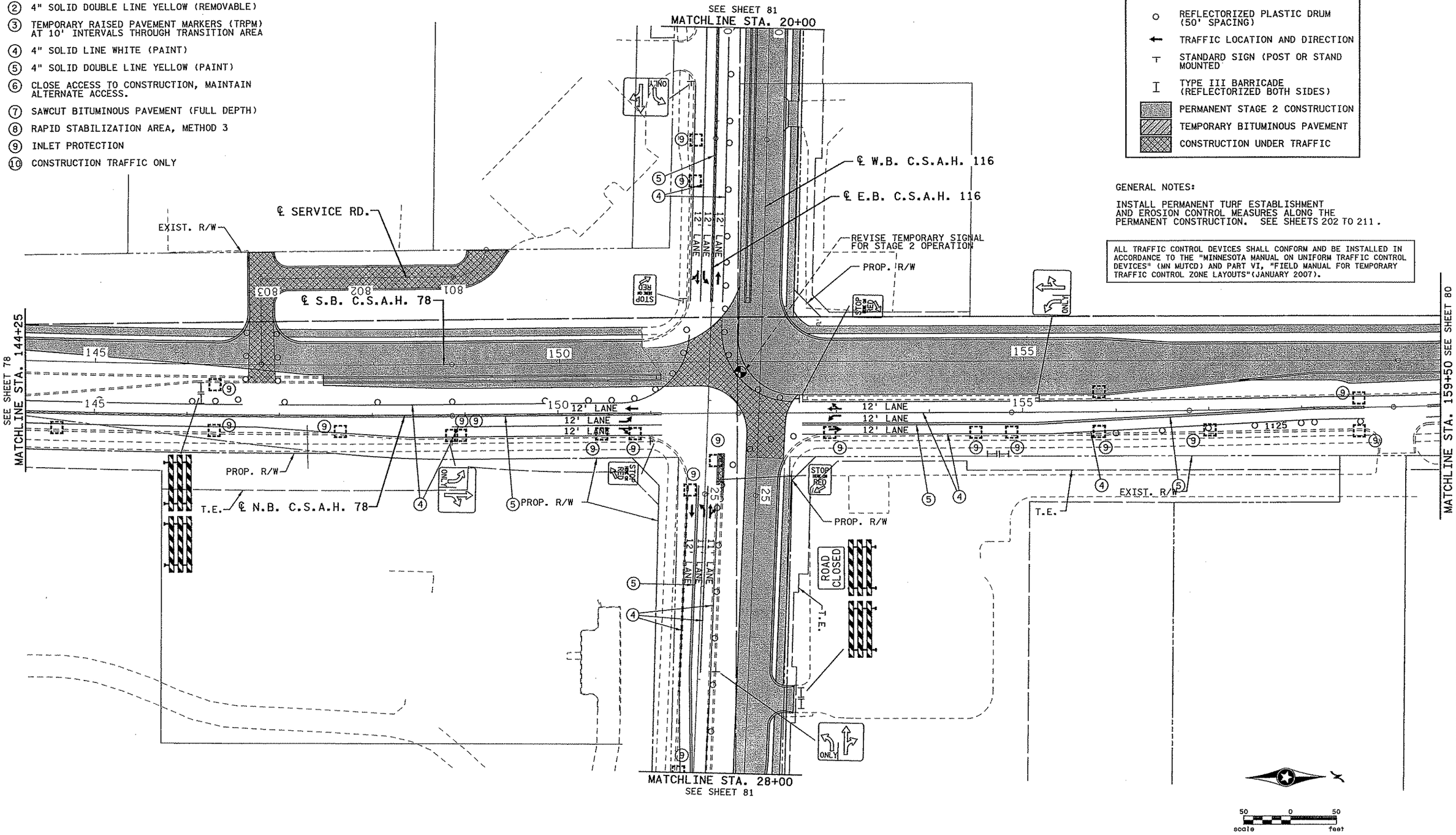
LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).



NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2G

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/21/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2

SHEET 79 OF 400

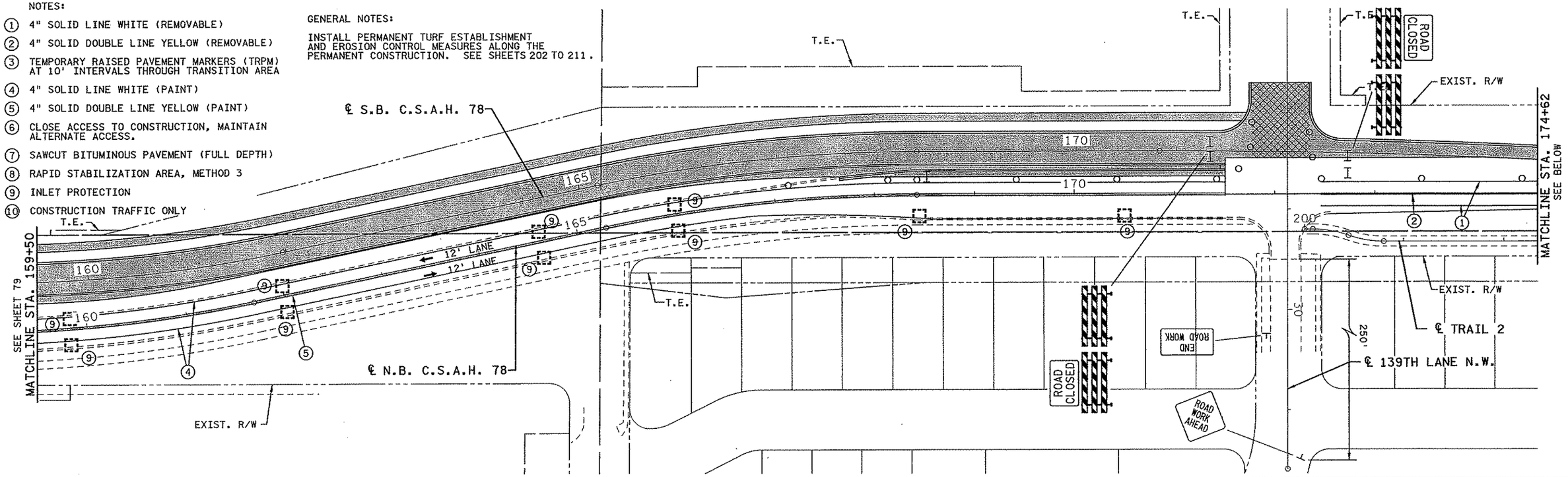
11:13:17 AM
2/21/2007
R:\projects\5404\hl-mu\Plan\5404.H2G

NOTES:

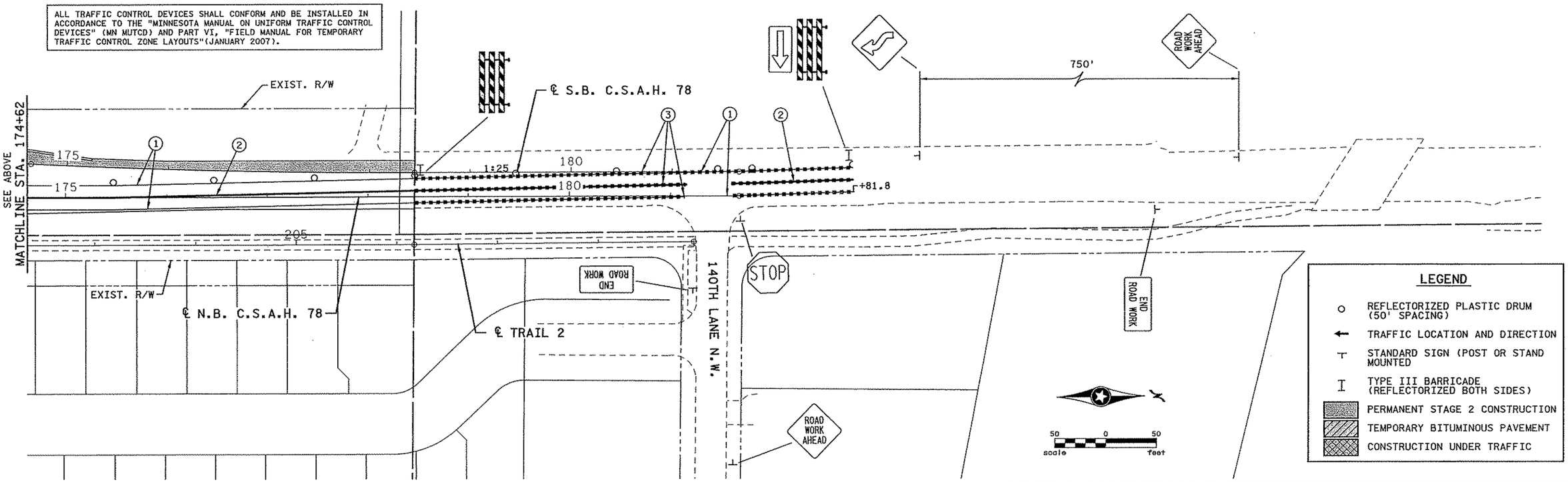
1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.



ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).



LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\Plan\5404.H2H

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.

Print Name: CHRIS M. TRBOYEVICH

Chris M Trboyevich

Date 12/21/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

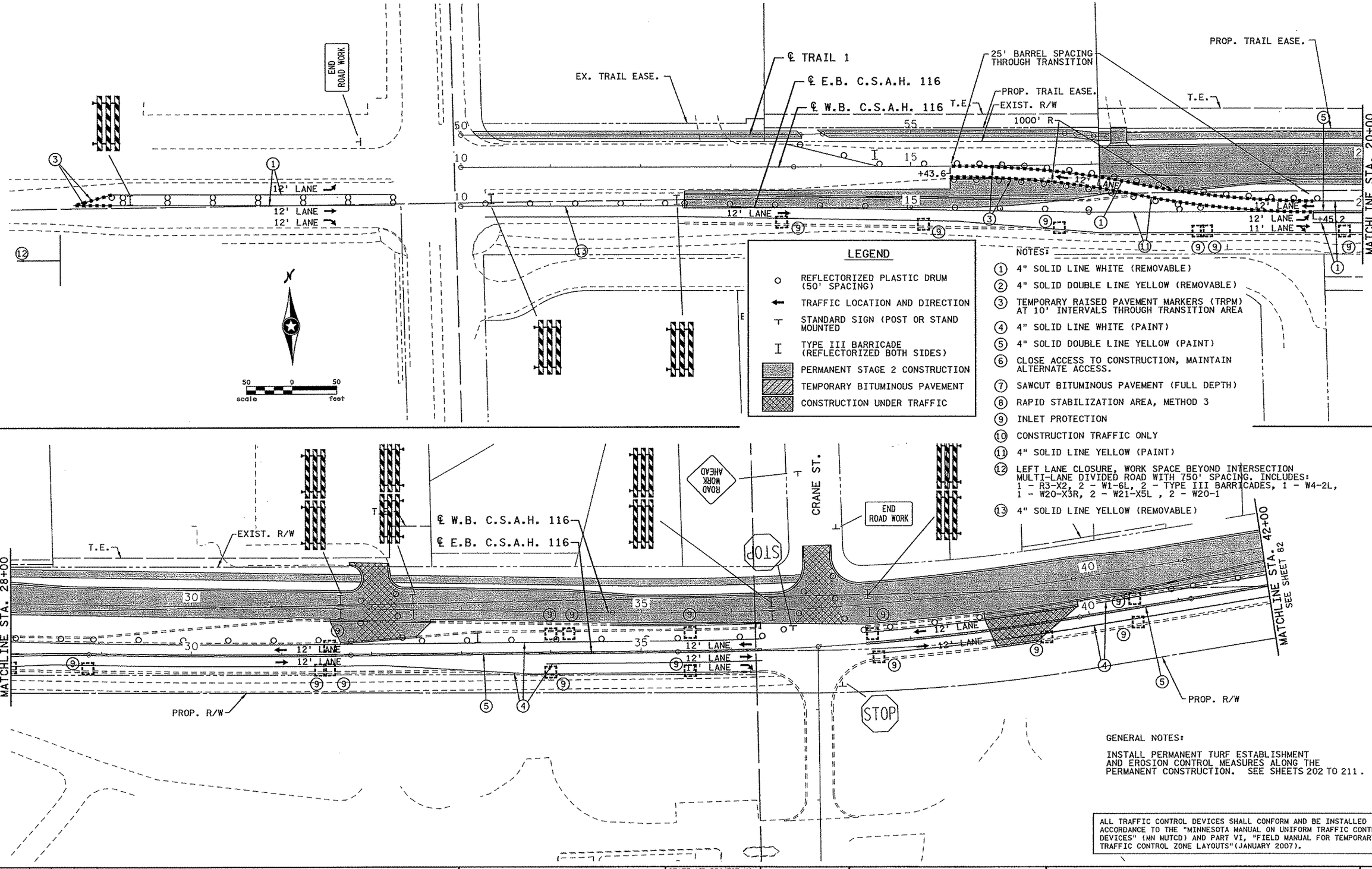
STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 2

SHEET 80 OF 400

11:13:18 AM
2/21/2007
M:\Projects\5404\h1-mu\Plan\5404.H2H



GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H21

11:13:20 AM
2/21/2007
H:\projects\5404\hl-mu\Plan\5404.H21

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/21/2007 License # 41635

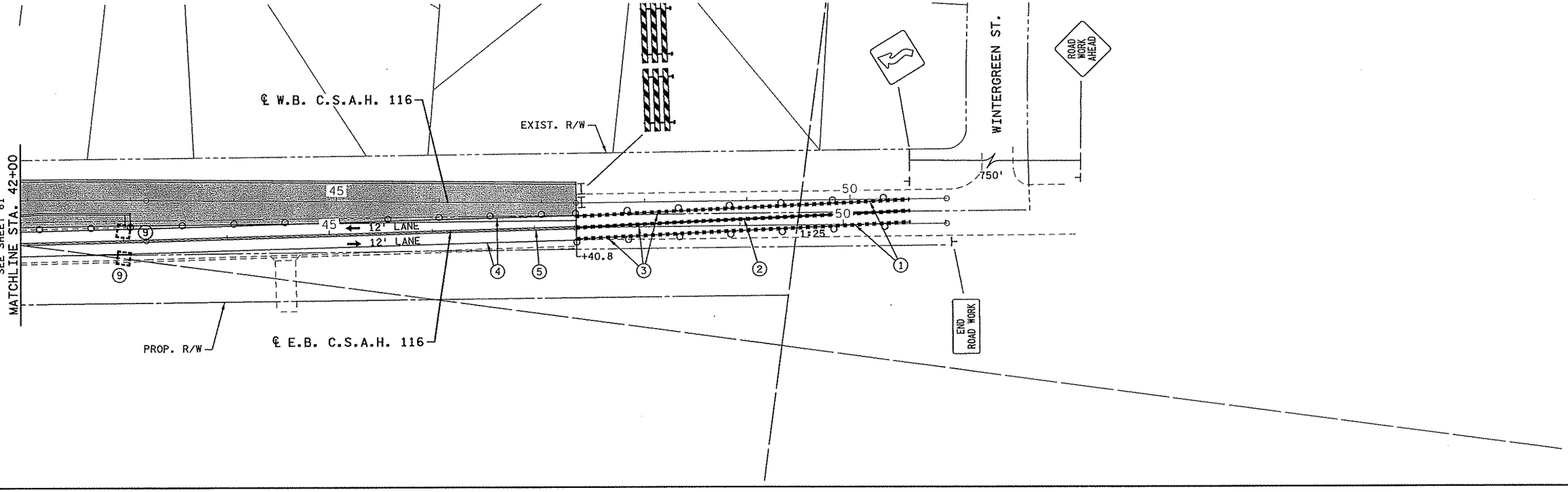
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

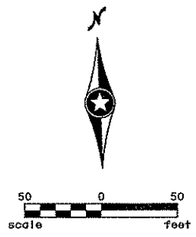
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
C.S.A.H. 116 STAGE 2

SHEET 81 OF 400





NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2J

11:13:21 AM
2/21/2007
h:\projects\5404\hl-mu\Plan\5404.H2J

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.

Print Name: CHRIS M. TRBOYEVICH

Chris M. Trboyevich

Date 2/21/2007 License # 41635

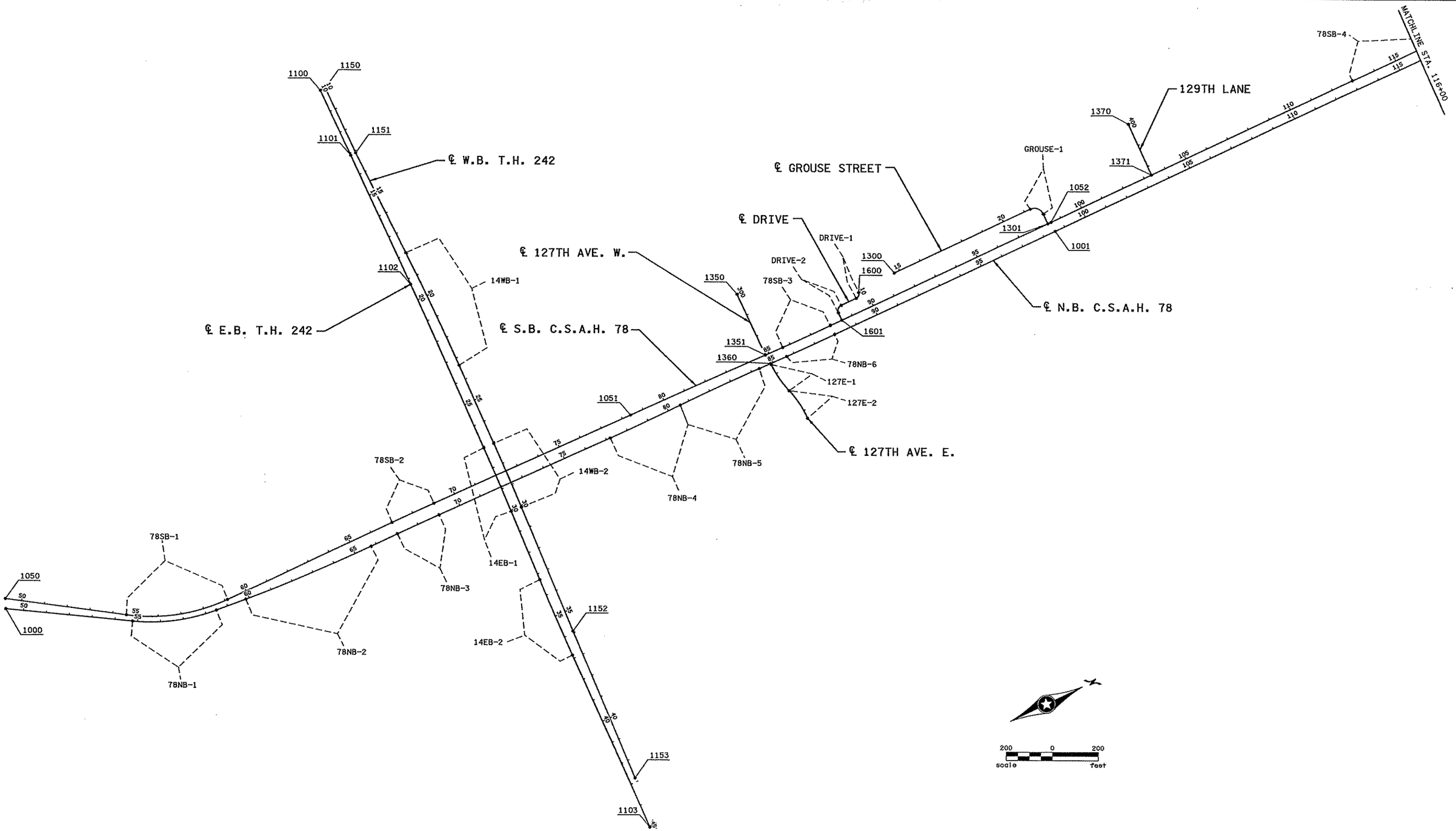
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
C.S.A.H. 116 STAGE 2

SHEET 82 OF 400



HORIZONTAL CONTROL

HORIZONTAL CONTROL BASED ON ANOKA COUNTY COORDINATE SYSTEM

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.APA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

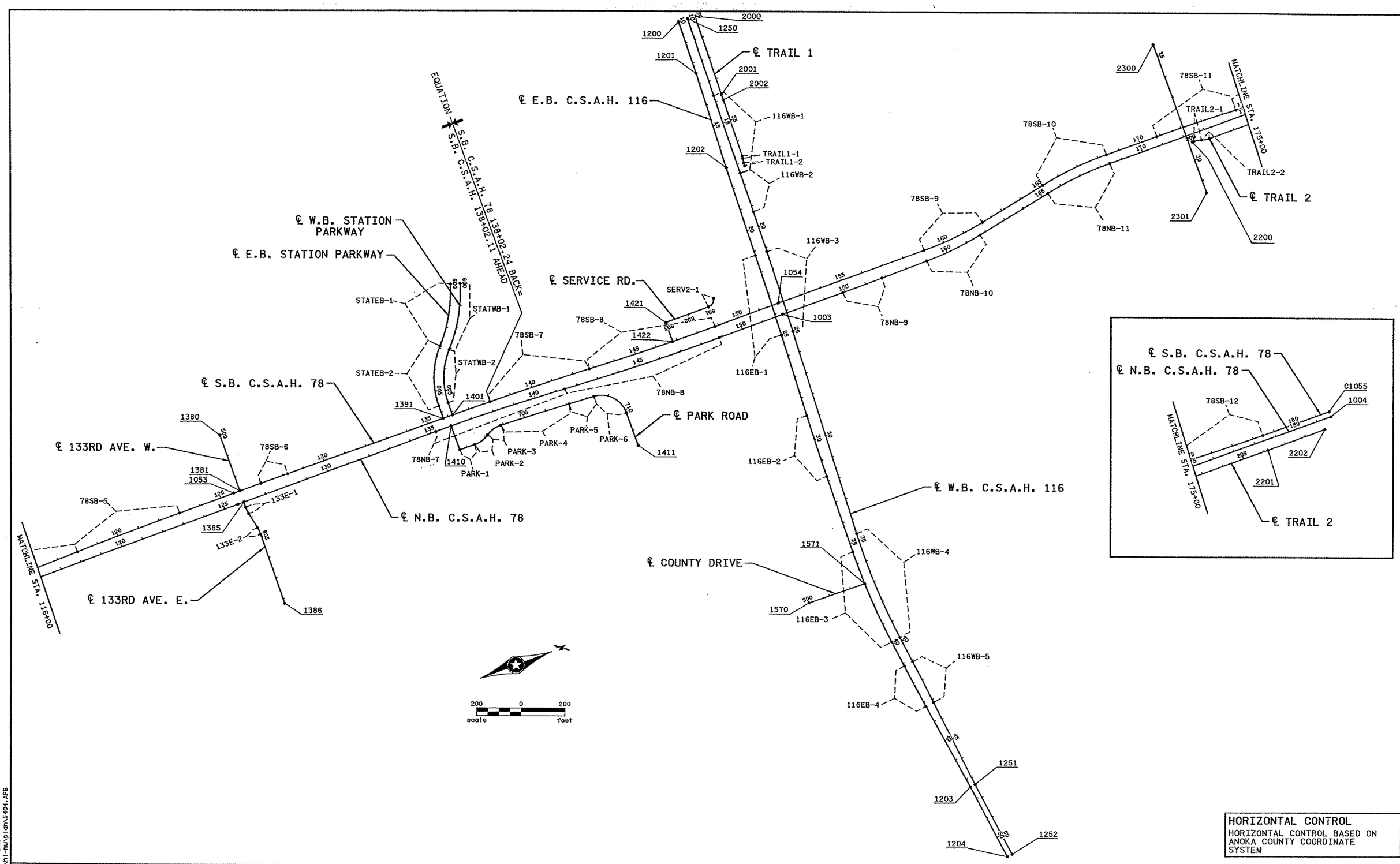
ANOKA COUNTY

ALIGNMENT PLAN

C.S.A.H. 78

SHEET 83 OF 400

4:27:41 PM
9/26/2006
h:\projects\5404\hi-mu\plan\5404.APA



HORIZONTAL CONTROL

HORIZONTAL CONTROL BASED ON ANOKA COUNTY COORDINATE SYSTEM

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.APB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

ALIGNMENT PLAN

C.S.A.H. 78

SHEET 84 OF 400

4/27/42 PM
10/10/2006
H:\Projects\5404\hl-mu\plan\5404.APB

℄ N.B. C.S.A.H. 78

PT. NO.	POINT	STATION	CURVE DATA Δ	D	R	T	L	COORDINATES X	Y	AZIMUTH
1000	POT	49+22.420						489,292.0824	156,916.4674	31° 07′ 58.04"
	PC	54+77.042						489,578.8350	157,391.2080	31° 07′ 58.04"
78NB-1	PI	56+66.026	26° 10′ 20.46" LT	7° 02′ 50.82"	813.000′	188.984′	371.373′	489,676.5442	157,552.9731	PI
	CC							488,882.9303	157,811.5479	
	PT	58+48.415						489,692.8853	157,741.2495	4° 57′ 37.58"
	PC	59+84.322						489,704.6369	157,876.6474	4° 57′ 37.58"
78NB-2	PI	62+80.426	4° 26′ 21.59" LT	0° 45′ 00.00"	7,639.437′	296.104′	591.911′	489,730.2403	158,171.6419	PI
	CC							482,093.8120	158,537.2134	
	PT	65+76.233						489,732.9333	158,467.7332	0° 31′ 15.99"
	PC	67+02.528						489,734.0820	158,594.0228	0° 31′ 15.99"
78NB-3	PI	68+01.956	0° 59′ 39.32" RT	0° 30′ 00.00"	11,459.156′	99.428′	198.851′	489,734.9863	158,693.4467	PI
	CC							501,192.7639	158,489.8024	
	PT	69+01.379						489,737.6157	158,792.8400	1° 30′ 55.31"
	PC	77+17.978						489,759.2107	159,609.1539	1° 30′ 55.31"
78NB-4	PI	78+87.897	1° 41′ 56.62" LT	0° 30′ 00.00"	11,459.156′	169.919′	339.812′	489,763.7042	159,779.0130	PI
	CC							478,304.0624	159,912.1915	
	PRC	80+57.791						489,763.1594	159,948.9306	359° 48′ 58.69"
	PRC	80+57.791						489,763.1594	159,948.9306	359° 48′ 58.69"
78NB-5	PI	82+46.814	1° 53′ 24.22" RT	0° 30′ 00.00"	11,459.156′	189.023′	378.012′	489,762.5534	160,137.9529	PI
	CC							501,222.2561	159,985.6698	
	PT	84+35.803						489,768.1819	160,326.8923	1° 42′ 22.91"
	PC	85+65.167						489,772.0341	160,456.1990	1° 42′ 22.91"
78NB-6	PI	86+80.301	1° 08′ 44.88" LT	0° 29′ 51.40"	11,514.156′	115.134′	230.260′	489,775.4624	160,571.2818	PI
	CC							478,262.9840	160,799.0593	
	PT	87+95.427						489,776.5888	160,686.4100	0° 33′ 38.03"
1001	POT	98+54.120						489,786.9466	161,745.0529	0° 29′ 27.24"
1002	POT	125+64.288						489,810.1666	164,455.1214	0° 27′ 47.43"
	PC	135+24.395						489,817.9279	165,415.1968	0° 27′ 47.43"
78NB-7	PI	138+33.178	3° 42′ 14.79" RT	0° 36′ 00.00"	9,549.297′	308.783′	617.351′	489,820.4241	165,723.9699	PI
	CC							499,366.9125	165,338.0016	
	PRC	141+41.746						489,842.8630	166,031.9368	4° 10′ 02.23"
	PRC	141+41.746						489,842.8630	166,031.9368	4° 10′ 02.23"
78NB-8	PI	145+14.065	3° 42′ 14.79" LT	0° 29′ 51.40"	11,514.156′	372.318′	744.377′	489,869.9189	166,403.2709	PI
	CC							478,359.1490	166,868.6559	
	PT	148+86.124						489,872.9287	166,775.5771	0° 27′ 47.43"
1003	POT	151+94.048						489,875.4179	167,083.4917	0° 48′ 00.69"
	PC	154+88.283						489,879.5270	167,377.6971	0° 48′ 00.69"
78NB-9	PI	155+83.765	0° 57′ 17.28" LT	0° 30′ 00.00"	11,459.156′	95.482′	190.960′	489,880.8605	167,473.1700	PI
	CC							478,421.4886	167,537.7304	
	PT	156+79.243						489,880.6028	167,568.6519	359° 50′ 43.41"
	PC	158+99.432						489,880.0087	167,788.8408	359° 50′ 43.41"
78NB-10	PI	160+34.610	10° 46′ 56.31" LT	4° 00′ 00.00"	1,432.394′	135.178′	269.558′	489,879.6439	167,924.0183	PI
	CC							488,447.6194	167,784.9756	
	PT	161+68.990						489,853.9968	168,056.7410	349° 03′ 47.10"
	PC	165+29.311						489,785.6339	168,410.5170	349° 03′ 47.10"
78NB-11	PI	166+86.356	11° 44′ 13.76" RT	3° 45′ 00.00"	1,527.887′	157.045′	312.991′	489,755.8380	168,564.7095	PI
	CC							491,285.7698	168,700.4002	
	PT	168+42.301						489,758.0314	168,721.7392	0° 48′ 00.87"
1004	POT	181+68.003						489,776,.5467	170,047.3115	

℄ S.B. C.S.A.H. 78

PT. NO.	POINT	STATION	CURVE DATA Δ	D	R	T	L	COORDINATES X	Y	AZIMUTH
1050	POT	49+28.590						489,251.3752	156,934.0876	33° 13′ 30.53"
	PC	54+60.724						489,542.9476	157,379.2304	33° 13′ 30.53"
78SB-1	PI	56+92.222	32° 42′ 14.54" LT	7° 15′ 42.56"	789.000′	231.498′	450.356′	489,669.7921	157,572.8837	PI
	CC							488,882.9302	157,811.5475	
	PT	59+11.080						489,671.8976	157,804.3716	0° 31′ 15.99"
	PC	67+01.264						489,679.0843	158,594.5230	0° 31′ 15.99"
78SB-2	PI	68+01.169	0° 59′ 39.32" RT	0° 29′ 51.40"	11,514.156′	99.305′	199.806′	489,679.9929	158,694.4242	PI
	CC							501,192.7639	158,489.8024	
	PT	69+01.069						489,682.6349	158,794.2945	1° 30′ 55.31"
1051	POT	78+39.247						489,707.4450	159,732.1437	1° 42′ 22.91"
	PC	85+65.024						489,729.0567	160,457.5994	1° 42′ 22.91"
78SB-3	PI	86+79.608	1° 08′ 44.88" LT	0° 30′ 00.00"	11,459.156′	114.584′	229.160′	489,732.4687	160,572.1324	PI
	CC							478,274.9823	160,798.8219	
	PT	87+94.184						489,733.5897	160,686.7108	0° 33′ 38.03"
1052	POT	98+52.972						489,743.9484	161,745.4475	0° 29′ 27.24"
	PC	112+95.866						489,756.3107	163,188.2890	0° 29′ 27.24"
78SB-4	PI	115+46.930	1° 15′ 18.96" LT	0° 15′ 00.00"	22,918.312′	251.064′	502.107′	489,758.4618	163,439.3434	PI
	CC							466,838.8401	163,384.6465	
	PRC	117+97.973						489,755.1125	163,690.3846	359° 14′ 08.27"
	PRC	117+97.973						489,755.1125	163,690.3846	359° 14′ 08.27"
78SB-5	PI	120+49.037	1° 15′ 18.96" RT	0° 15′ 00.00"	22,918.312′	251.064′	502.107′	489,751.7632	163,941.4259	PI
	CC							512,671.3849	163,996.1228	
	PT	123+00.080						489,753.9143	164,192.4802	0° 29′ 27.24"
1053	POT	125+63.181						489,756.1684	164,455.5710	0° 27′ 47.43"
	PC	126+95.259						489,757.2361	164,587.6450	0° 27′ 47.43"
78SB-6	PI	127+59.697	0° 38′ 39.74" RT	0° 30′ 00.00"	11,459.156′	64.438′	128.874′	489,757.7570	164,652.0808	PI
	CC							501,216.0176	164,495.0108	
	PT	128+24.134						489,759.0026	164,716.5067	1° 06′ 27.17"
	POT	℄ S.B. C.S.A.H. 78 138+02.244=						489,777.9086	165,694.4336	1° 06′ 27.17"
	A PT ON ℄ S.B. C.S.A.H. 78 POC	138+02.106								
78SB-7	PI	140+40.523	2° 23′ 01.77" RT	0° 30′ 00.00"	11,459.156′	238.417′	476.765′	489,782.5170	165,932.8059	PI
	CC							501,234.9236	165,472.9377	
	PRC	142+78.871						489,797.0362	166,170.7802	3° 29′ 28.94"
	PRC	142+78.871						489,797.0362	166,170.7802	3° 29′ 28.94"
78SB-8	PI	145+81.761	3° 01′ 41.51" LT	0° 30′ 00.00"	11,459.156′	302.890′	605.639′	489,815.4817	166,473.1082	PI
	CC							478,359.1487	166,868.6227	
	PT	148+84.511						489,817.9302	166,775.9885	0° 27′ 47.43"
1054	POT	151+92.630						489,820.4210	167,084.0980	0° 48′ 00.69"
	PC	159+03.244						489,830.3451	167,794.6427	0° 48′ 00.69"
78SB-9	PI	160+50.473	11° 44′ 13.59" LT	4° 00′ 00.00"	1,432.394′	147.229′	293.428′	489,832.4012	167,941.8575	PI
	CC							488,398.0903	167,814.6469	
	PT	161+96.672						489,804.4677	168,086.4124	349° 03′ 47.10"
78SB-10	PC	165+18.463						489,743.4149	168,402.3587	349° 03′ 47.10"
	PI	166+79.928	11° 44′ 13.76" RT	3° 38′ 50.46"	1,570.887′	161.465′	321.799′	489,712.7805	168,560.8907	PI
	CC							491,285.7698	168,700.4002	
	PT	168+40.263						489,715.0356	168,722.3398	0° 48′ 00.87"
	PC	170+82.966						489,718.4253	168,965.0198	0° 48′ 00.87"
78SB-11	PI	172+73.518	2° 51′ 27.65" RT	0° 45′ 00.00"	7,639.437′	190.552′	381.024′	489,721.0866	169,155.5528	PI
	CC							497,357.1174	168,858.3245	
	PRC	174+63.990						489,733.2437	169,345.7162	3° 39′ 28.52"
78SB-12	PRC	174+63.990						489,733.2437	169,345.7162	3° 39′ 28.52"
	PI	176+54.542	2° 51′ 27.65" LT	0° 45′ 00.00"	7,639.437′	190.552′	381.024′	489,745.4008	169,535.8795	PI
	CC							482,109.3699	169,833.1079	
	PT	178+45.014						489,748.0621	169,726.4125	0° 48′ 00.87"
1055	POT	181+66.280						489,752.5490	170,047.6467	

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.ATA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY C.TRBOYEVICH

CHECKED BY M. TURNER

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

ALIGNMENT TABULATIONS

C.S.A.H. 78

SHEET 85 OF 400

4127143 PM
9/26/2006
H:\projects\5404\hl-mu\plan\5404.ATA

PT. NO.	POINT	STATION	CURVE DATA Δ	D	R	T	L	COORDINATES X	Y	AZIMUTH
		℄ E.B. C.S.A.H. 116								
1200	POT	10+00.000						488,462.8408	167,114.0362	S 87° 48' 08.11" E
1201	POT	12+48.953						488,711.6106	167,104.4893	S 86° 50' 50.83" E
1202	POT	16+97.464						489,159.4433	167,079.8236	S 87° 48' 08.11" E
	PC	21+18.559						489,580.2278	167,063.6752	S 87° 48' 08.11" E
116EB-1	PI	23+09.523	0° 57' 17.28" RT	0° 15' 00.00"	22,918.312'	190.964'	381.920'	489,771.0518	167,056.3520	PI
	CC							488,701.3447	144,162.2215	
	PT	25+00.479						489,961.7272	167,045.8500	S 86° 50' 50.83" E
	PC	28+86.115						490,346.7798	167,024.6421	S 86° 50' 50.83" E
116EB-2	PI	30+31.665	1° 27' 19.52" LT	0° 30' 00.00"	11,459.156'	145.550'	291.084'	490,492.1095	167,016.6377	PI
	CC							490,976.9710	178,466.4564	
	PT	31+77.199						490,637.5957	167,012.3270	S 88° 18' 10.35" E
	PC	35+41.058						491,001.2950	167,001.5510	S 88° 18' 10.35" E
116EB-3	PI	37+65.666	8° 50' 02.10" LT	1° 58' 13.53"	2,907.789'	224.608'	448.326'	491,225.8044	166,994.8990	PI
	CC							491,087.4124	169,908.0644	
	PT	39+89.384						491,448.6721	167,022.8039	N 82° 51' 47.55" E
	PC	41+13.876						491,572.1995	167,038.2706	N 82° 51' 47.55" E
116EB-4	PI	42+18.054	1° 02' 30.33" LT	0° 30' 00.00"	11,459.155'	104.179'	208.352'	491,675.5711	167,051.2137	PI
	CC							490,148.5295	178,408.6443	
	PT	43+22.227						491,778.6903	167,066.0340	N 81° 49' 17.22" E
1203	POT	47+40.569						492,192.7768	167,125.5465	N 82° 51' 47.55" E
1204	POT	51+01.233						492,550.6471	167,170.3550	
		℄ W.B. C.S.A.H. 116								
1250	POT	10+00.000						488,464.4898	167,157.0046	S 87° 48' 08.11" E
	PC	13+69.646						488,833.8634	167,142.8292	S 87° 48' 08.11" E
116WB-1	PI	15+55.602	0° 55' 47.14" LT	0° 15' 00.00"	22,918.312'	185.956'	371.904'	489,019.6827	167,135.6981	PI
	CC							489,712.7465	190,044.2829	
	PRC	17+41.550						489,205.5932	167,131.5831	S 88° 43' 55.25" E
	PRC	17+41.550						489,205.5932	167,131.5831	S 88° 43' 55.25" E
116WB-2	PI	18+34.528	0° 55' 47.14" RT	0° 30' 00.00"	11,459.156'	92.978'	185.952'	489,298.5485	167,129.5256	PI
	CC							488,952.0166	155,675.2332	
	PT	19+27.502						489,391.4581	167,125.9601	S 87° 48' 08.11" E
	PC	21+18.979						489,582.7949	167,118.6172	S 87° 48' 08.11" E
116WB-3	PI	23+09.944	0° 57' 17.28" RT	0° 15' 00.00"	22,918.312'	190.964'	381.920'	489,773.6189	167,111.2940	PI
	CC							488,703.9118	144,217.1635	
	PT	25+00.899						489,964.2943	167,100.7920	S 86° 50' 50.83" E
	PC	34+67.930						490,929.8619	167,047.6105	S 86° 50' 50.83" E
116WB-4	PI	37+25.857	10° 17' 21.62" LT	2° 00' 00.00"	2,864.789'	257.927'	514.467'	491,187.3985	167,033.4260	PI
	CC							491,087.4097	169,908.0641	
	PT	39+82.397						491,443.3272	167,065.4705	N 82° 51' 47.55" E
	PC	41+06.907						491,566.8730	167,080.9395	N 82° 51' 47.55" E
116WB-5	PI	42+11.070	1° 02' 29.76" RT	0° 30' 00.00"	11,459.156'	104.163'	208.320'	491,670.2288	167,093.8805	PI
	CC							492,990.5430	155,710.5649	
	PT	43+15.227						491,773.8029	167,104.9406	N 83° 54' 17.31" E
1251	POT	47+33.664						492,189.8742	167,149.3705	N 82° 51' 47.55" E
1252	POT	50+94.249						492,547.6654	167,194.1691	
		℄ COUNTY DRIVE								
1570	POT	900+00.000						491,150.2614	166,731.7035	1° 23' 57.37"
1571	POT	902+69.481						491,156.8419	167,001.1045	
		℄ 127TH AVE. E.								
1360	POT	350+50.000						489,769.7917	160,380.9294	90° 32' 47.94"
	PC	350+54.902						489,774.6935	160,380.8827	90° 32' 47.94"
127E-1	PI	351+24.369	18° 14' 46.51" LT	13° 14' 42.46"	432.580'	69.467'	137.758'	489,844.1576	160,380.2199	PI
	CC							489,778.8207	160,813.4430	
	PRC	351+92.660						489,910.3364	160,401.3398	72° 18' 01.43"
	PRC	351+92.660						489,910.3364	160,401.3398	72° 18' 01.43"
127E-2	PI	352+65.618	19° 08' 47.83" RT	13° 14' 42.46"	432.580'	72.958'	144.556'	489,979.8410	160,423.5210	PI
	CC							490,041.8522	159,989.2365	
	PT	353+37.216						490,052.7759	160,421.6786	91° 26' 49.26"
		℄ 127TH AVE. W.								
1350	POT	300+00.000						489,435.3378	160,380.5953	90° 52' 18.04"
1351	POT	302+91.327						489,726.6307	160,376.1633	
		℄ 133RD AVE. W.								
1380	POT	500+00.000						489,485.6410	164,490.4703	S 88° 57' 10.80" E
1381	POT	502+70.815						489,756.4106	164,485.5218	

PT. NO.	POINT	STATION	CURVE DATA Δ	D	R	T	L	COORDINATES X	Y	AZIMUTH
		℄ 133RD AVE. E.								
1385	POT	503+22.842						489,810.4043	164,484.5350	S 88° 57' 10.80" E
	PC	503+48.090						489,835.6483	164,484.0737	S 88° 57' 10.80" E
133E-1	PI	503+63.715	11° 53' 37.52" LT	38° 11' 49.87"	150.000'	15.625'	31.138'	489,851.2708	164,483.7882	PI
	CC							489,838.3892	164,634.0486	
	PT	503+79.228						489,866.6166	164,486.7285	N 79° 09' 11.68" E
	PC	504+55.719						489,941.7413	164,501.1229	N 79° 09' 11.68" E
133E-2	PI	504+72.358	12° 39' 35.13" RT	38° 11' 49.87"	150.000'	16.639'	33.143'	489,958.0834	164,504.2541	PI
	CC							489,969.9687	164,353.8028	
	PT	504+88.862						489,974.7144	164,503.7277	S 88° 11' 13.19" E
1386	POT	508+23.057						490,308.7424	164,493.1546	
		℄ PARK ROAD								
1410	POT	700+50.000						489,818.8258	165,490.0099	90° 54' 43.36"
	PC	701+66.000						489,934.8111	165,488.1634	0° 54' 43.36"
PARK-1	PI	702+01.767	0° 26' 04.17" RT	0° 36' 26.63"	9,433.000'	35.767'	71.533'	489,935.3804	165,523.9257	PI
	CC							499,366.6160	165,338.0136	
	PRC	702+37.533						489,936.2209	165,559.6826	1° 20' 47.53"
	PRC	702+37.533						489,936.2209	165,559.6826	1° 20' 47.53"
PARK-2	PI	702+75.643	35° 14' 14.46" LT	47° 44' 47.34"	120.000'	38.109'	73.801'	489,937.1164	165,597.7814	PI
	CC							489,816.2540	165,562.5026	
	PRC	703+11.334						489,915.8662	165,629.4160	326° 06' 33.06"
	PRC	703+11.334						489,915.8662	165,629.4160	326° 06' 33.06"
PARK-3	PI	703+50.423	36° 05' 06.70" RT	47° 44' 47.34"	120.000'	39.089'	75.577'	489,894.0697	165,661.8639	PI
	CC							490,015.4784	165,696.3294	
	PCC	703+86.911						489,895.5664	165,700.9242	2° 11' 39.77"
	PCC	703+86.911						489,895.5664	165,700.9242	2° 11' 39.77"
PARK-4	PI	705+50.119	1° 58' 22.93" RT	0° 36' 16.25"	9,478.000'	163.208'	326.384'	489,901.8156	165,864.0126	PI
	CC							499,366.6160	165,338.0136	
	PRC	707+13.295						489,913.6761	166,026.7892	4° 10' 02.69"
	PRC	707+13.295						489,913.6761	166,026.7892	4° 10' 02.69"
PARK-5	PI	707+72.738	0° 35' 16.88" LT	0° 29' 40.60"	11,583.976'	59.443'	118.885'	489,917.9959	166,086.0752	PI
	CC							478,360.3287	166,868.6082	
	PRC	708+32.180						489,921.7070	166,145.4024	3° 34' 45.82"
	PRC	708+32.180						489,921.7070	166,145.4024	3° 34' 45.82"
PARK-6	PI	709+46.537	87° 14' 27.93" RT	47° 44' 47.34"	120.000'	114.357'	182.717'	489,928.8465	166,259.5359	PI
	CC							490,041.4730	166,137.9106	
	PT	710+14.897						490,043.1913	166,257.8983	90° 49' 13.74"
1411	POT	711+73.620						490,201.8976	166,255.6255	
		℄ GROUSE STREET								
1300	POT	14+75.000						489,647.0083	161,036.5500	0° 33' 38.03"
	PC	21+27.609						489,653.3931	161,689.1274	0° 33' 38.03"
GROUSE-1	PI	21+70.019	90° 00' 00.00" RT	135° 05' 58.89"	42.410'	42.410'	66.617'	489,653.8080	161,731.5354	PI
	CC							489,695.8011	161,688.7125	
	PT	21+94.226						489,696.2160	161,731.1205	90° 33' 38.03"
1301	POT	22+41.816						489,743.8037	161,730.6549	
		℄ SERVICE ROAD								
	PC	800+50.000						489,695.2403	166,815.0663	102° 35' 52.55"
SERV2-1	PI	800+79.597	77° 53' 00.20" RT	156° 26' 15.68"	36.625'	29.597'	49.786'	489,724.1246	166,808.6110	PI
	CC							489,687.2520	166,779.3228	
	PT	800+99.786						489,723.8760	166,779.0151	180° 28' 52.74"
1421	POT	803+06.983						489,722.1354	166,571.8245	90° 28' 52.74"
1422	POT	803+99.292						489,814.4402	166,571.0491	
		℄ E.B. STATION PARKWAY								
	PC	600+00.000						489,211.3741	165,716.5867	107° 47' 57.60"
STATEB-1	PI	601+47.137	24° 49' 59.96" RT	8° 34' 24.57"	668.290'	147.137'	289.652'	489,351.4680	165,671.6093	PI
	CC							489,007.0884	165,080.2858	
	PRC	602+89.652						489,459.7182	165,571.9542	132° 37' 57.56"
	PRC	602+89.652						489,459.7182	165,571.9542	132° 37' 57.56"
STATEB-2	PI	604+36.134	41° 26' 21.57" LT	14° 47' 43.99"	387.250'	146.481'	280.080'	489,567.4862	165,472.7430	PI
	CC							489,722.0008	165,856.8584	
	PT	605+69.732						489,713.9359	165,469.6924	91° 11' 36.00"
1391	POT	606+29.349						489,775.3567	165,468.4129	

HORIZONTAL CONTROL

HORIZONTAL CONTROL BASED ON ANOKA COUNTY COORDINATE SYSTEM

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.ATB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

ALIGNMENT TABULATIONS

C.S.A.H. 78

SHEET 86 OF 400

4127144 PW
9/26/2006
h:\projects\5404\hi-mu\plan\5404.ATB

PT. NO.	POINT	STATION	CURVE DATA Δ	D	R	T	L	COORDINATES X	Y	AZIMUTH
		℄ W.B. STATION PARKWAY								
	PC	600+00.000						489,225.1299	165,759.4327	107° 47′ 57.60"
STATWB-1	PI	601+57.044	24° 49′ 59.96" RT	8° 01′ 57.38"	713.290′	157.044′	309.156′	489,374.6571	165,711.4267	PI
	CC							489,007.0884	165,080.2858	
	PRC	603+09.156						489,490.1965	165,605.0612	132° 37′ 57.56"
	PRC	603+09.156						489,490.1965	165,605.0612	132° 37′ 57.56"
STATWB-2	PI	604+38.616	41° 26′ 21.57" LT	16° 44′ 27.29"	342.250′	129.460′	247.533′	489,585.4414	165,517.3787	PI
	CC							489,722.0008	165,856.8584	
	PT	605+56.690						489,714.8731	165,514.6826	91° 11′ 36.00"
1401	POT	606+16.239						489,774.4095	165,513.4424	
		℄ 129TH LANE								
1370	POT	400+00.000						489,507.1311	162,232.7137	91° 18′ 11.29"
1371	POT	402+41.008						489,748.0764	162,227.2327	
		℄ 139TH LANE NW								
2300	POT	24+42.450						489,320.6972	169,098.5262	S 89° 10′ 15.31" E
2301	POT	31+58.920						490,037.0922	169,088.1591	

PT. NO.	POINT	STATION	CURVE DATA Δ	D	R	T	L	COORDINATES X	Y	AZIMUTH
		℄ TRAIL 1								
2000	POT	50+00.000						488,465.8509	167,192.4717	S 87° 49′ 00.08" E
2001	POT	53+76.845						488,842.4220	167,178.1151	S 89° 54′ 03.39" E
2002	POT	54+02.052						488,867.6290	167,178.0715	S 87° 47′ 16.06" E
	PC	56+70.946						489,136.3228	167,167.6920	S 87° 47′ 16.06" E
TRAIL1-1	PI	56+77.194	6° 52′ 33.25" RT	55° 05′ 31.54"	104.000′	6.248′	12.481′	489,142.5660	167,167.4508	PI
	CC							489,132.3083	167,063.7695	
	PT	56+83.427						489,148.7354	167,166.4640	S 80° 54′ 42.81" E
	PC	57+03.063						489,168.1253	167,163.3624	S 80° 54′ 42.81" E
TRAIL1-2	PI	57+10.280	7° 56′ 19.65" LT	55° 05′ 31.54"	104.000′	7.217′	14.410′	489,175.2513	167,162.2225	PI
	CC							489,184.5524	167,266.0568	
	PT	57+17.473						489,182.4664	167,162.0777	S 88° 51′ 02.46" E
		℄ TRAIL 2								
2200	POT	200+00.000						489,798.4419	169,108.8520	N 0° 48′ 03.45" E
	PC	200+08.074						489,798.5548	169,116.9248	N 0° 48′ 03.45" E
TRAIL2-1	PI	200+26.271	19° 39′ 53.05" RT	54° 34′ 02.67"	105.000′	18.198′	36.038′	489,798.8092	169,135.1208	PI
	CC							489,903.5445	169,115.4570	
	PRC	200+44.111						489,805.1719	169,152.1699	N 20° 27′ 56.50" E
	PRC	200+44.111						489,805.1719	169,152.1699	N 20° 27′ 56.50" E
TRAIL2-2	PI	200+62.324	19° 39′ 55.80" LT	54° 31′ 22.10"	105.086′	18.213′	36.068′	489,811.5402	169,169.2336	PI
	CC							489,706.7189	169,188.9128	
	PT	200+80.179						489,811.7945	169,187.4452	N 0° 48′ 00.69" E
2201	POT	206+17.605						489,819.3000	169,724.8181	N 0° 21′ 52.50" E
2202	POT	208+94.274						489,821.0604	170,001.4818	
		℄ W.B. T.H. 242								
1150	POT	10+00.000						487,855.9531	159,156.8097	S 89° 04′ 48.49" E
1151	POT	13+09.351						488,165.2639	159,151.8434	N 89° 14′ 01.64" E
	PC	17+92.679						488,648.5495	159,158.3067	N 89° 14′ 01.64" E
14WB-1	PI	20+63.304	2° 23′ 24.60" RT	0° 26′ 30.00"	12,972.629′	270.624′	541.170′	488,919.1495	159,161.9256	PI
	CC							488,822.0262	146,186.8373	
	PT	23+33.849						489,189.6649	159,154.2563	S 88° 22′ 33.76" E
	PC	27+05.653						489,561.3192	159,143.7195	S 88° 22′ 33.76" E
14WB-2	PI	28+56.380	1° 30′ 03.22" RT	0° 29′ 52.49"	11,507.156′	150.727′	301.436′	489,711.9854	159,139.4480	PI
	CC							489,235.2114	147,641.1854	
	PT	30+07.089						489,862.4879	159,131.2316	S 86° 52′ 30.54" E
1152	POT	35+91.661						490,446.1906	159,099.3655	S 87° 12′ 51.23" E
1153	POT	42+82.969						491,136.6816	159,065.7668	S 87° 39′ 47.74" E
1154	POT	48+62.679						491,715.9096	159,042.1305	
		℄ E.B. T.H. 242								
1100	POT	10+00.000						487,855.5678	159,132.8128	S 89° 04′ 48.49" E
1101	POT	13+09.527						488,165.0551	159,127.8436	S 89° 04′ 04.48" E
1102	POT	19+25.592						488,781.0383	159,117.8219	S 88° 22′ 33.76" E
	PC	27+04.826						489,559.9589	159,095.7388	S 88° 22′ 33.76" E
14EB-1	PI	28+54.923	1° 30′ 03.22" RT	0° 30′ 00.00"	11,459.156′	150.098′	300.179′	489,709.9966	159,091.4851	PI
	CC							489,235.2114	147,641.1854	
	PT	30+05.004						489,859.8714	159,083.3029	S 86° 52′ 30.54" E
	PC	33+27.213						490,181.6009	159,065.7388	S 86° 52′ 30.54" E
14EB-2	PI	35+06.136	1° 47′ 20.70" LT	0° 30′ 00.00"	11,459.156′	178.923′	357.817′	490,360.2576	159,055.9853	PI
	CC							490,806.2608	170,507.8563	
	PT	36+85.029						490,539.1318	159,051.8144	S 88° 39′ 51.24" E
1103	POT	45+03.853						491,357.7326	159,032.7265	S 87° 39′ 47.74" E
1104	POT	48+61.348						491,714.9311	159,018.1505	
		℄ DRIVE								
	PC	10+00.000						489,657.1689	160,860.1417	S 83° 26′ 13.79" E
DRIVE1-1	PI	10+18.007	83° 59′ 51.82" RT	286° 28′ 44.03"	20.000′	18.007′	29.321′	489,675.0583	160,858.0836	PI
	CC							489,654.8831	160,840.2728	
	PT	10+29.321						489,674.8821	160,840.0771	S 0° 33′ 38.04" W
	PC	11+01.290						489,674.1780	160,768.1116	S 0° 33′ 38.04" W
DRIVE1-2	PI	11+26.290	90° 00′ 00.00" LT	229° 10′ 59.22"	25.000′	25.000′	39.270′	489,673.9334	160,743.1128	PI
	CC							489,699.1768	160,767.8671	
	PT	11+40.560						489,698.9322	160,742.8683	S 89° 26′ 21.97" E
1601	POT	11+75.765						489,734.1358	160,742.5238	

HORIZONTAL CONTROL

HORIZONTAL CONTROL BASED ON ANOKA COUNTY COORDINATE SYSTEM

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.ATC

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

ALIGNMENT TABULATIONS

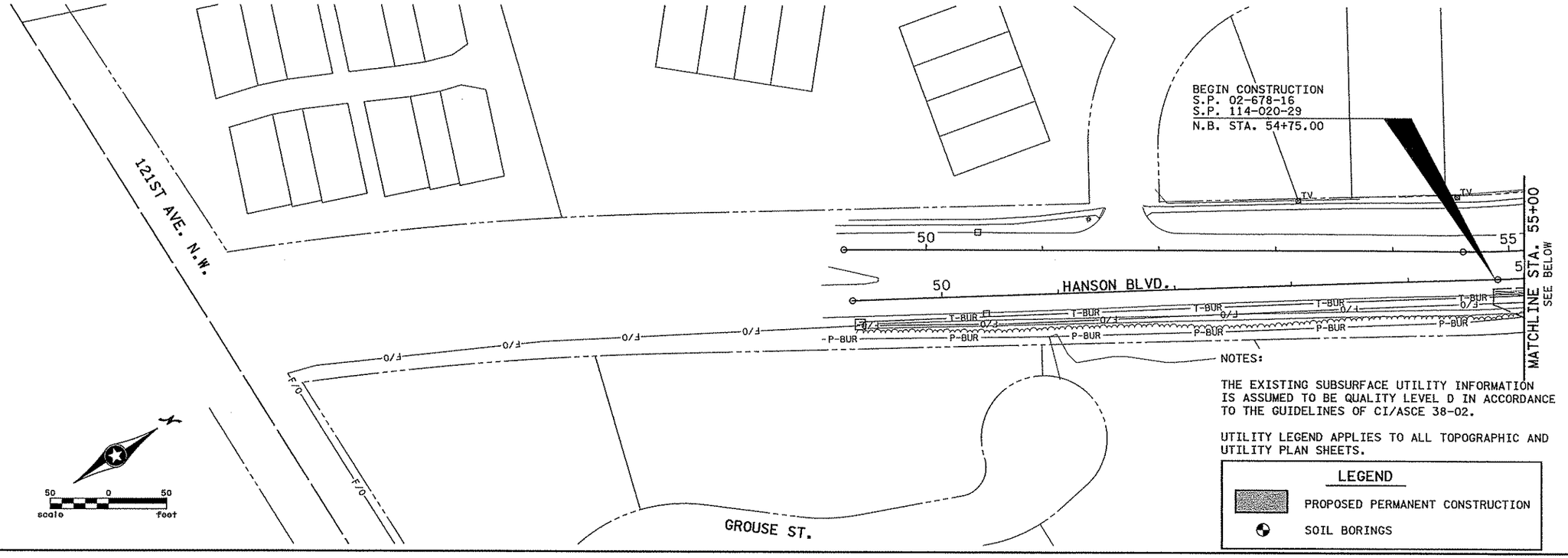
C.S.A.H. 78

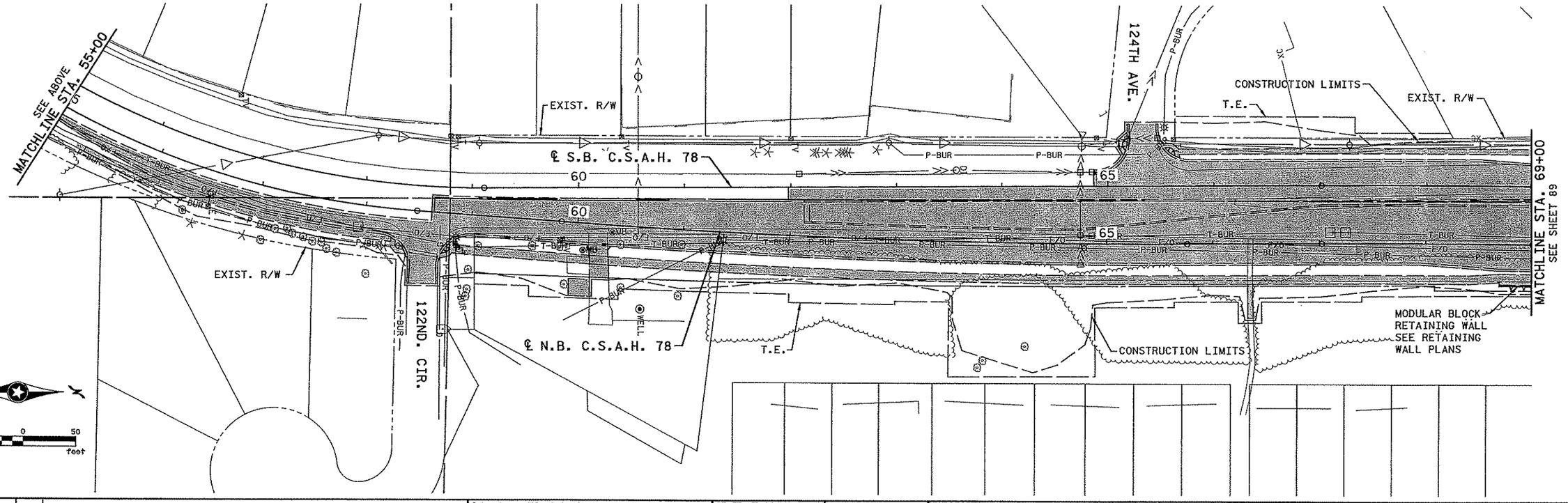
SHEET 87 OF 400

4:27:45 PM
9/28/2006
H:\projects\5404\hl-mu\plan\5404.ATC

EXISTING UTILITY LEGEND

- STORM SEWER
- CATCH BASIN
- DROP INLET STRUCTURE
- CULVERT END SECTION
- SANITARY SEWER
- MANHOLE
- WATER MAIN
- GATE VALVE
- HYDRANT
- BURIED GAS LINE
- ELECTRICAL PEDISTAL
- UTILITY POLE
- LIGHT POLE
- BURIED ELECTRICAL
- OVERHEAD ELECTRICAL
- TRANSMISSION LINES
- TELEPHONE PEDESTAL
- BURIED TELEPHONE
- FIBER OPTIC
- TELEVISION PEDISTAL
- SIGNAL BASE
- HAND HOLE
- BURIED SIGNAL LINE





NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	DCF	CMT	CMT	ADDITION OF EXISTING UTILITY LEGEND

...\5404\hl-mu\plan\5404.TUA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

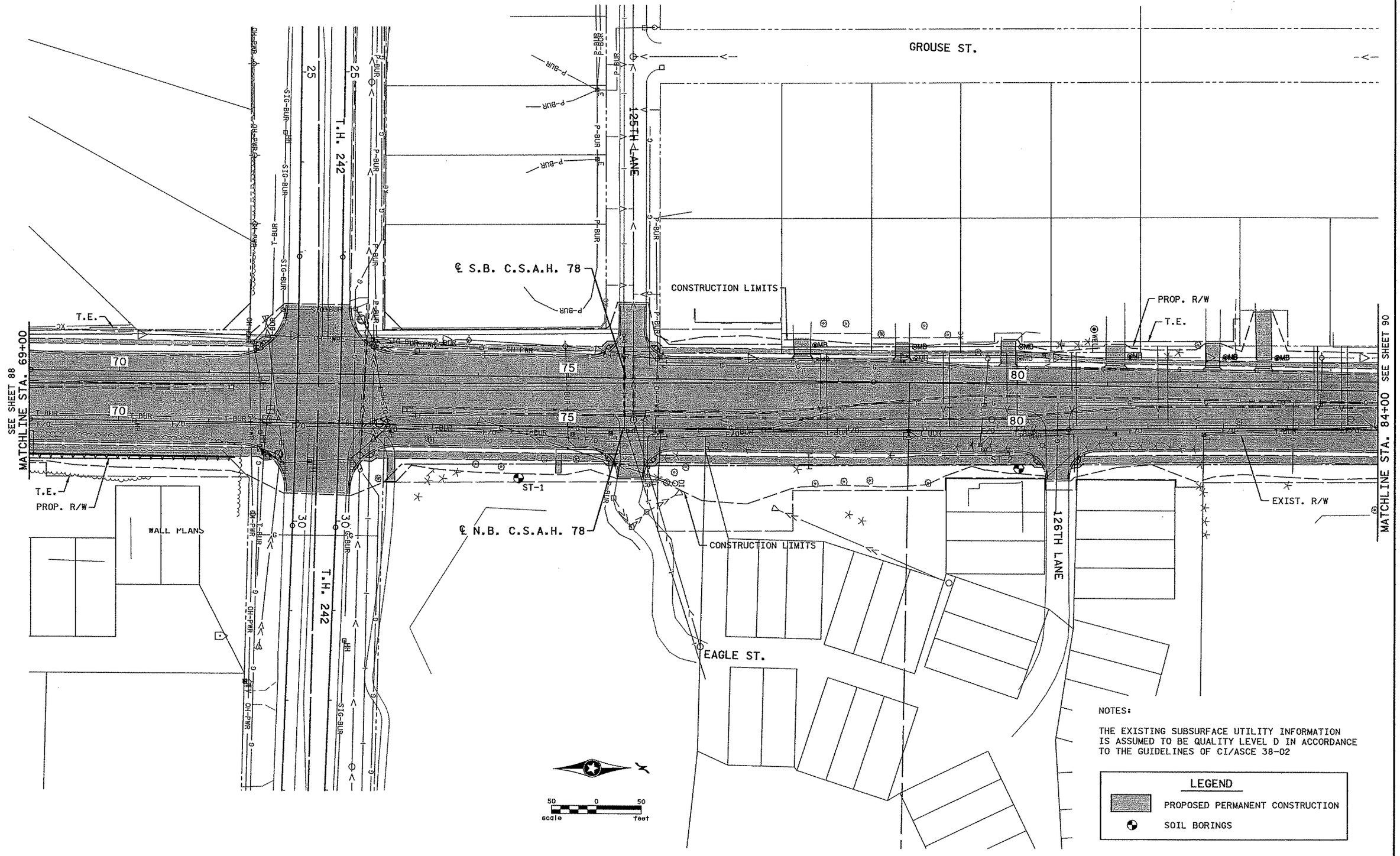
ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLAN

C.S.A.H. 78

SHEET 88 OF 400

4/27/48 PM
10/10/2006
H:\projects\5404\hl-mu\plan\5404.TUA



NOTES:

THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02

LEGEND

- PROPOSED PERMANENT CONSTRUCTION
- SOIL BORINGS

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TUB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLAN

C.S.A.H. 78

SHEET 89 OF 400

4:27:51 PM
10/10/2006
H:\Projects\5404\hl-mu\plan\5404.TUB

NOTES:

THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02

LEGEND

PROPOSED PERMANENT CONSTRUCTION

SOIL BORINGS

℄ 127TH AVE.

300

128TH LANE

℄ GROUSE ST.

10'X8' BOX CULVERT 02J31 SEE STANDARD PLANS (TRAIL BY OTHERS)

T.E.

CONSTRUCTION LIMITS

EXIST. R/W

℄ DRIVE

15

20'

EXIST. R/W

P-BUR

T-BUR

OH PWR

85

90

95

ST-3

ST-4

ST-5

ST-6

ST-7

MODULAR BLOCK RETAINING WALL SEE RETAINING WALL PLANS

PROP. R/W

CONSTRUCTION LIMITS

T.E.

℄ N.B. C.S.A.H. 78

℄ S.B. C.S.A.H. 78

TV

P-BUR

MATCHLINE STA. 84+00 SEE SHEET 89

MATCHLINE STA. 99+00 SEE SHEET 91

127TH AVE.

50 0 50

scale feet

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.TUC

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

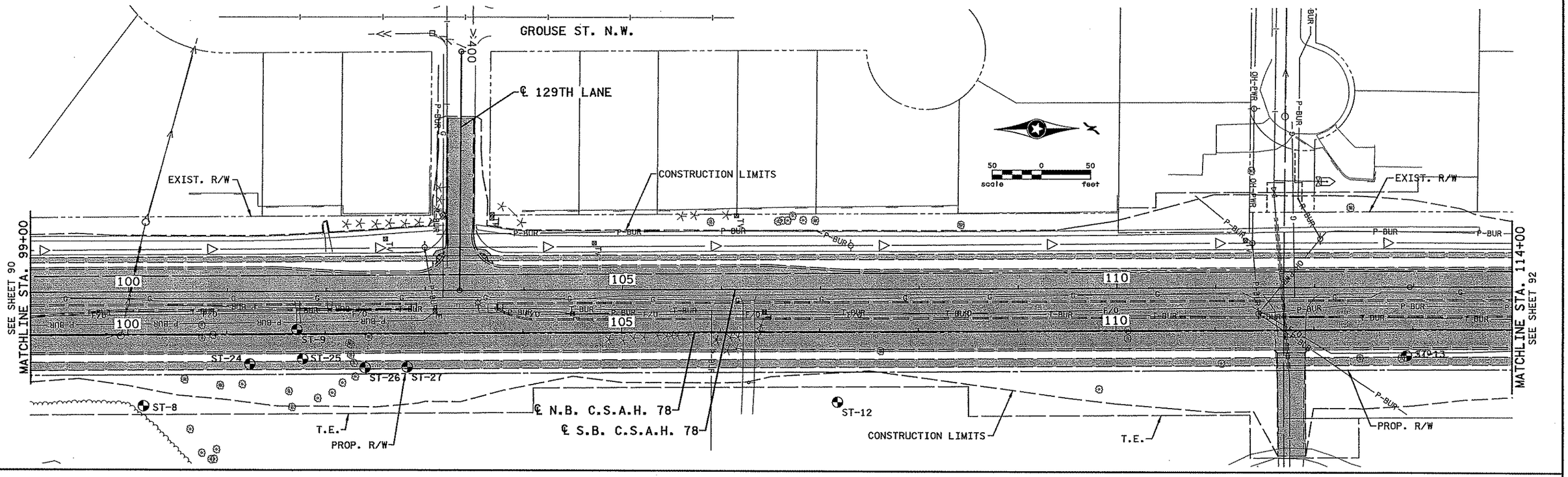
ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLAN

C.S.A.H. 78

SHEET 90 OF 400

4:27:52 PM
5/26/2006
M:\proj\sets\5404\hl-mu\plan\5404.TUC



NOTES:

THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02

LEGEND

- PROPOSED PERMANENT CONSTRUCTION
- SOIL BORINGS

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TUD

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

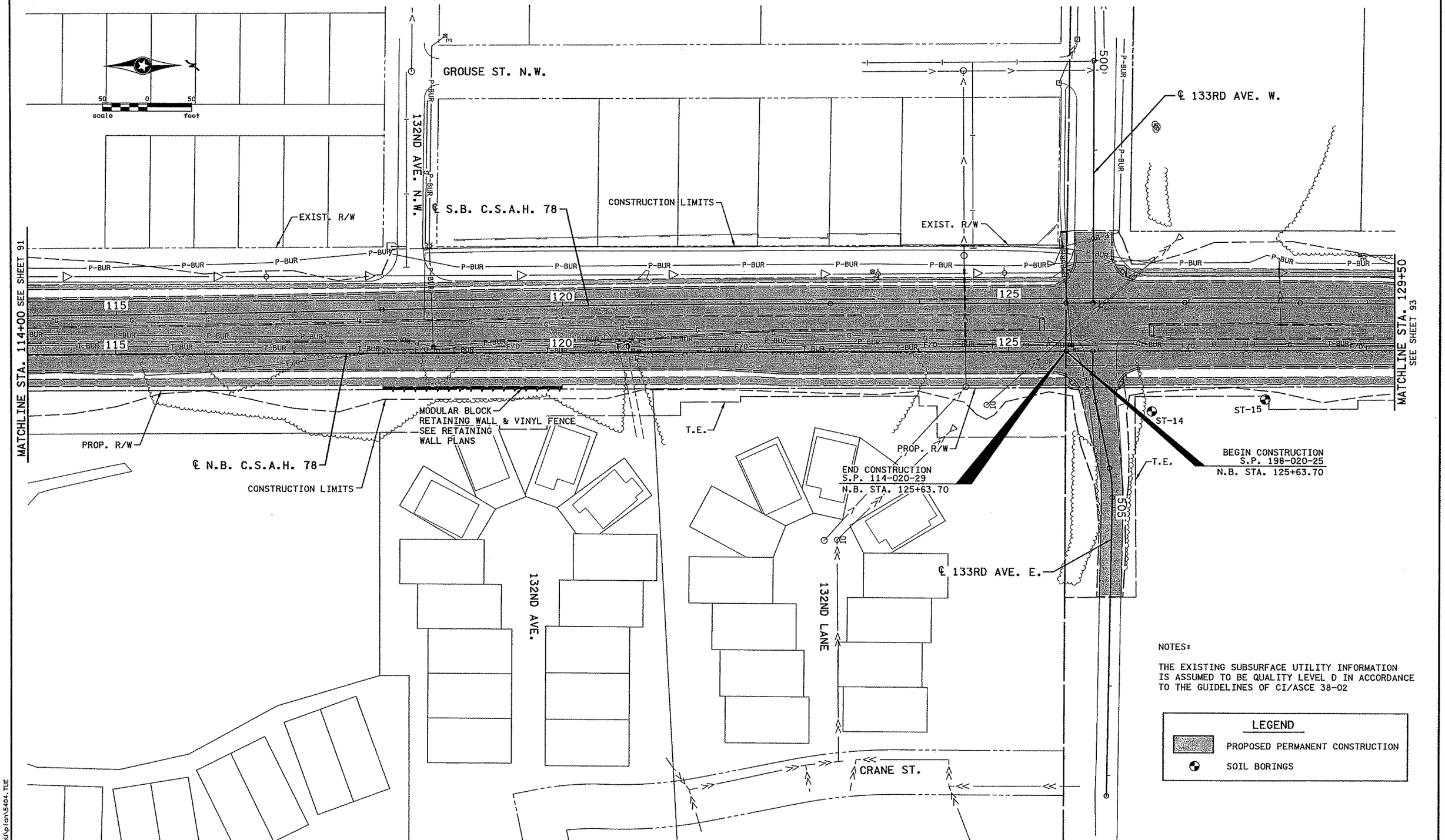
ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLAN

C.S.A.H. 78

SHEET 91 OF 400

4127154 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.TUD



NOTES:

THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02

LEGEND

- PROPOSED PERMANENT CONSTRUCTION
- SOIL BORINGS

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\h1-mu\plan\5404.TUE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

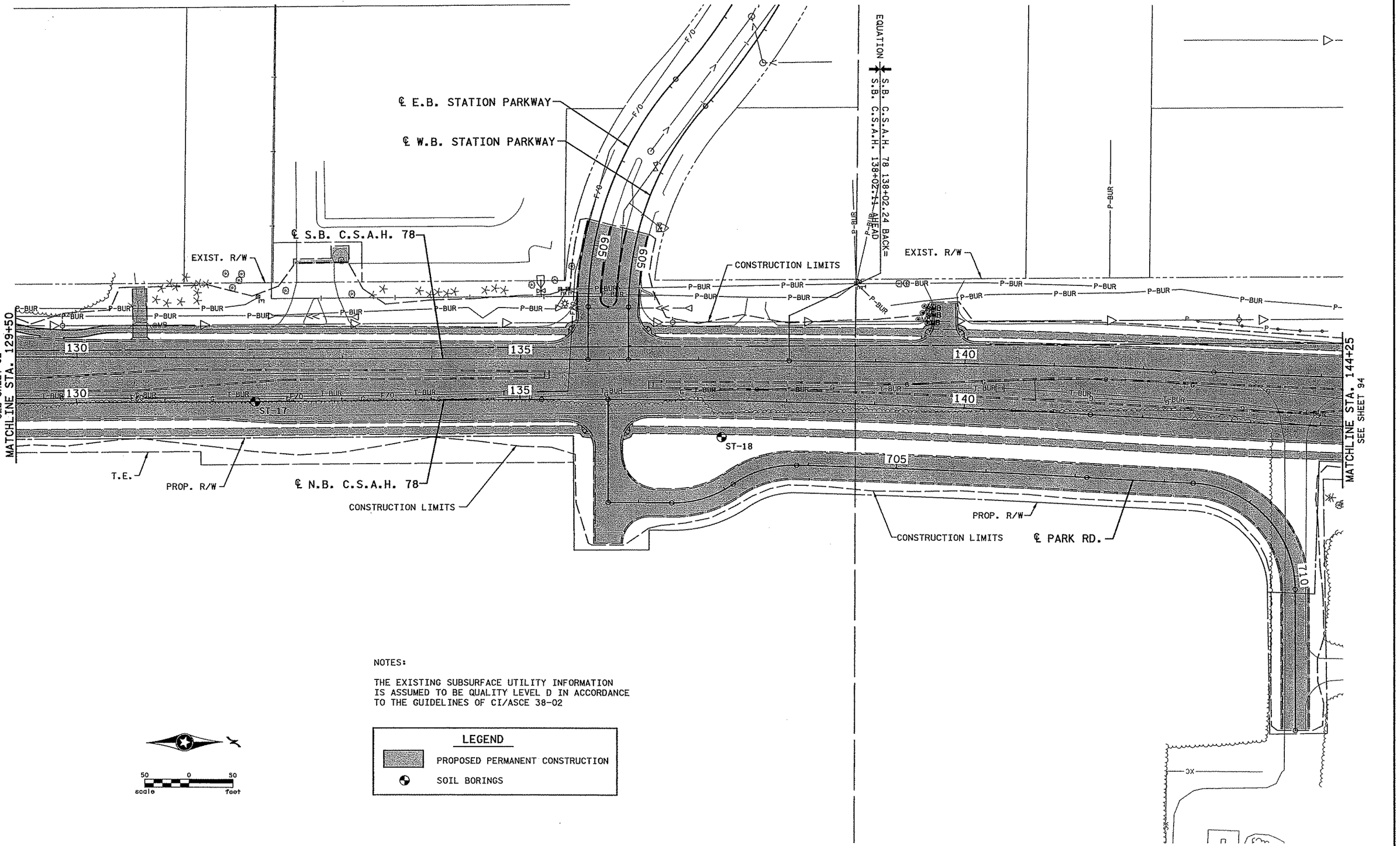
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLAN
C.S.A.H. 78

SHEET 92 OF 400

4127:55 PM
9/26/2006
n:\projects\5404\h1-mu\plan\5404.TUE



NOTES:

THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02

LEGEND

- PROPOSED PERMANENT CONSTRUCTION
- SOIL BORINGS

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.TUF

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLAN

C.S.A.H. 78

SHEET 93 OF 400

4127157 PM
9/26/2006
m:\projects\5404\hi-mu\plan\5404.TUF

SEE SHEET 96

MATCHLINE STA. 20+00

NOTES:

THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02

LEGEND

PROPOSED PERMANENT CONSTRUCTION

SOIL BORINGS

℄ W.B. C.S.A.H. 116

℄ E.B. C.S.A.H. 116

℄ SERVICE RD.

EXIST. R/W

CONSTRUCTION LIMITS

PROP. R/W

℄ S.B. C.S.A.H. 78

803 802 801

SEE SHEET 93

MATCHLINE STA. 144+25

145 150 155

ST-19

PROP. R/W

T.E.

℄ N.B. C.S.A.H. 78

PROP. R/W

CONSTRUCTION LIMITS

225

T.E.

PROP. R/W

EXIST. R/W

ST-21

T.E.

ST-20

SA POND
NWL = 883.00

MATCHLINE STA. 28+00
SEE SHEET 96

MATCHLINE STA. 159+50 SEE SHEET 95

50 0 50
scale feet

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TUG

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

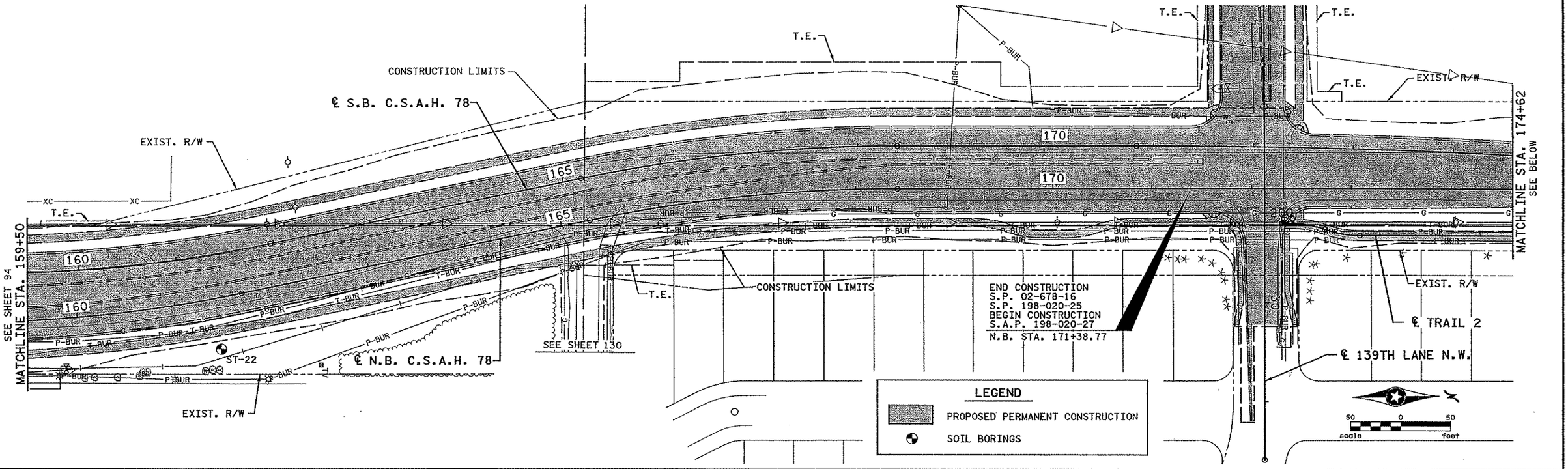
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLAN
C.S.A.H. 78

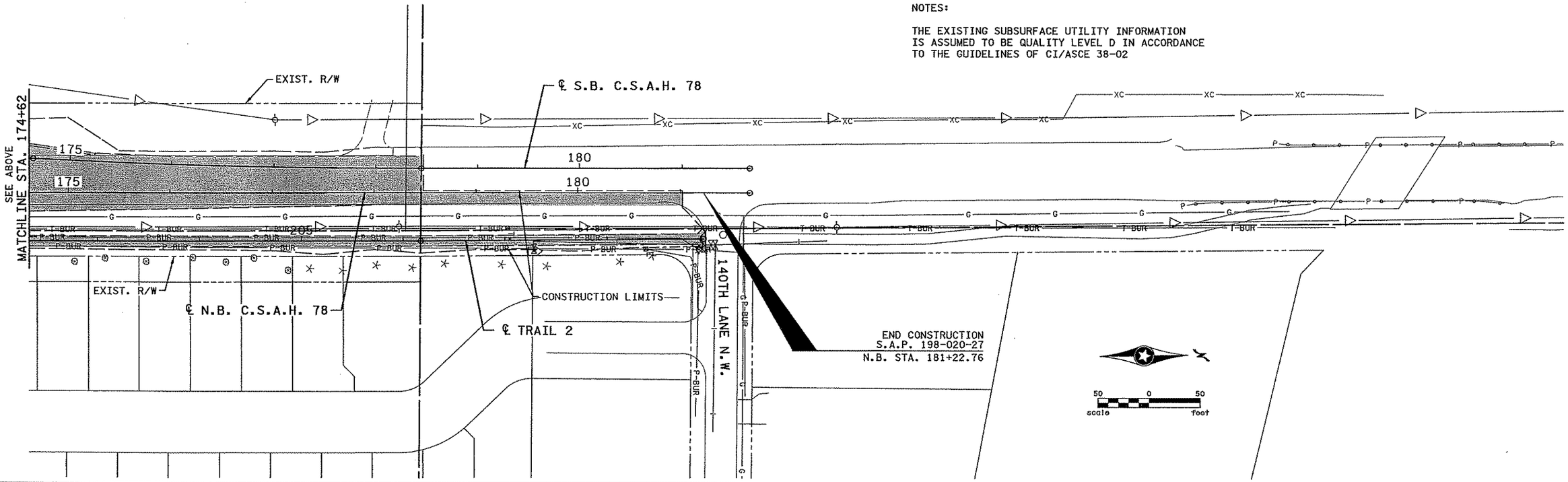
SHEET 94 OF 400

4:28:00 PM
10/26/2006
N:\Projects\5404\hl-mu\plan\5404.TUG



NOTES:

THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TUH

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLAN

C.S.A.H. 78

SHEET 95 OF 400

4/28/02 PM
9/26/2006
N:\projects\5404\hl-mu\plan\5404.TUH

NOTES:

THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02

LEGEND

PROPOSED PERMANENT CONSTRUCTION

SOIL BORINGS

BEGIN CONSTRUCTION
S.P. 02-716-10
S.P. 198-020-25
E.B. STA. 10+13.37

EX. TRAIL EASE.

℄ TRAIL 1

℄ E.B. C.S.A.H. 116

℄ W.B. C.S.A.H. 116

T.E.

PROP. TRAIL EASE.

EXIST. R/W

CONSTRUCTION LIMITS

PROP. TRAIL EASE.

T.E.

CONSTRUCTION LIMITS

MATCHLINE STA. 20+00
SEE SHEET 94

CONSTRUCTION LIMITS

EXIST. R/W

50 0 50
scale feet

SEE SHEET 94
MATCHLINE STA. 28+00

CONSTRUCTION LIMITS

EXIST. R/W

T.E.

℄ W.B. C.S.A.H. 116

℄ E.B. C.S.A.H. 116

CRANE ST.

T.E.

EXIST. R/W

MATCHLINE STA. 42+00
SEE SHEET 97

PROP. R/W

COUNTY POND A
NWL = 890.00

COUNTY POND B
NWL = 891.00

PROP. R/W

CONSTRUCTION LIMITS

O.C.O.

50 0 50
scale feet

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TUI

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

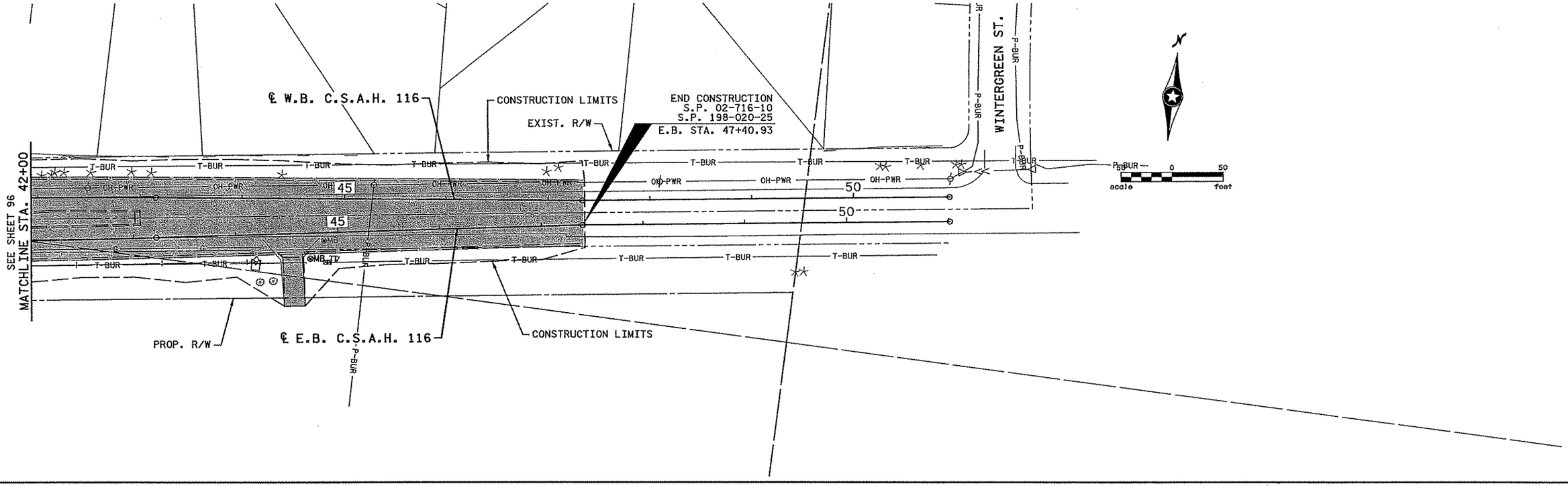
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLAN
C.S.A.H. 78

SHEET 96 OF 400

4128:04 PM
9/26/2006
n:\projects\5404\hl-mu\plan\5404.TUI



NOTES:

THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02

LEGEND

- PROPOSED PERMANENT CONSTRUCTION
- SOIL BORINGS

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.TUJ

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLAN
C.S.A.H. 78

SHEET 97 OF 400

4:28:06 PM
9/26/2006
N:\Projects\5404\hi-mu\plan\5404.TUJ

NOTES:

- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) REMOVE MANHOLE OR CATCH BASIN
- (D) ADJUST FRAME RING AND CASTING
- (E) RECONSTRUCT DRAINAGE STRUCTURE
- (F) ADJUST VALVE BOX
- (G) SALVAGE GATE VALVE AND BOX
- (H) REMOVE BITUMINOUS FLUME
- (I) REMOVE PIPE APRON
- (J) REMOVE GATE VALVE
- (K) NOT USED
- (L) SALVAGE HYDRANT
- (M) ADJUST HYDRANT
- (N) SALVAGE MAILBOX
- (O) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)

50 0 50
scale feet

LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- CONCRETE PAVEMENT REMOVAL
- CONCRETE MEDIAN/WALK REMOVAL
- BITUMINOUS TRAIL REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- PIPE REMOVAL (SANITARY, STORM, WATER, CULVERT)
- CLEARING AND GRUBBING (ACRE)
- CLEARING AND GRUBBING (TREE)

121ST AVE. N.W.

BEGIN CONSTRUCTION
S.P. 02-678-16
S.P. 114-020-29
N.B. STA. 54+75.00

HANSON BLVD.

GROUSE ST.

MATCHLINE STA. 55+00
SEE BELOW

SEE ABOVE
MATCHLINE STA. 55+00

EXIST. R/W

℄ S.B. C.S.A.H. 78

℄ N.B. C.S.A.H. 78

122ND. CIR.

WELL

PARCEL 1
12325

T.E.

124TH AVE.

PARCEL 50
1637

PARCEL 3
1625

CONSTRUCTION LIMITS

PARCEL 2

MATCHLINE STA. 69+00
SEE SHEET 99

NO	DATE	BY	CKD	APPR	REVISION

...\5404\h1-mu\plan\5404.RPA

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.
Print Name: CHRIS M. TRBOYEVICH
Date 6/10/2006 License # 41635

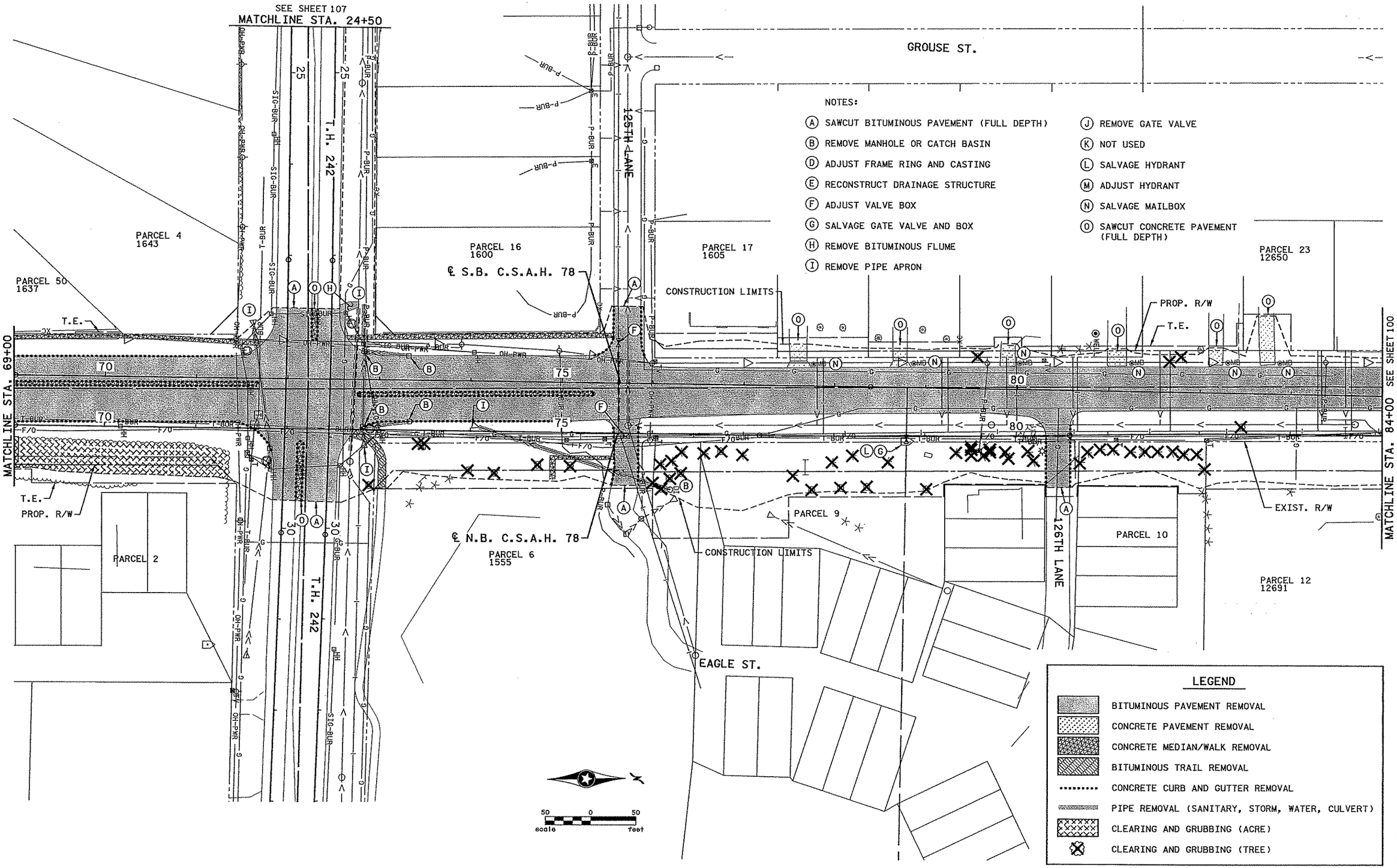
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
REMOVAL PLAN
C.S.A.H. 78

SHEET 98 OF 400

4:28:08 PM
9/26/2006
h:\projects\5404\h1-mu\plan\5404.RPA



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.RPB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

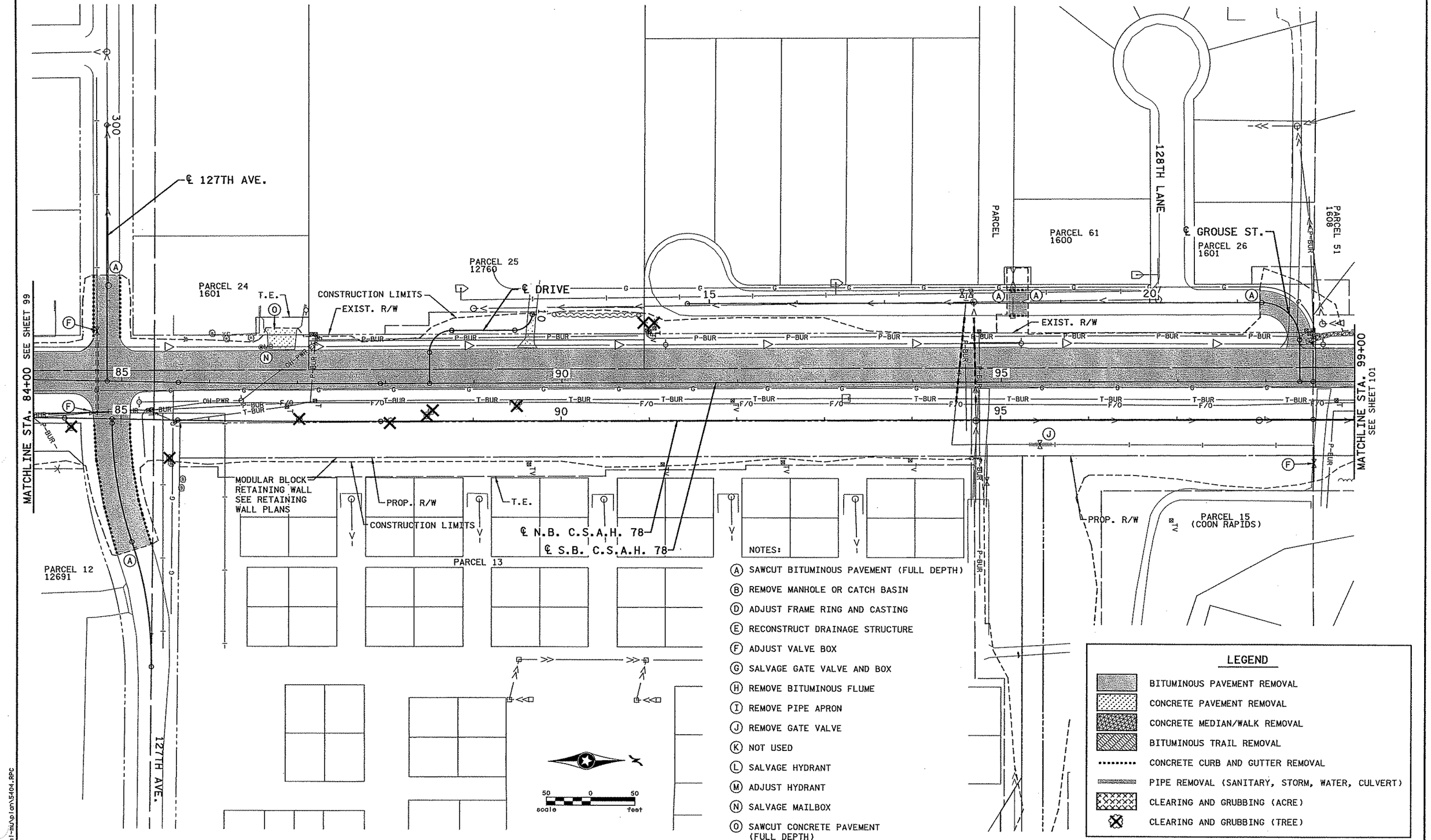
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
REMOVAL PLAN
C.S.A.H. 78

SHEET 99 OF 400

4/28/09 PM
D:\Projects\5404\hi-mu\plan\5404.RPB



NOTES:

- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) REMOVE MANHOLE OR CATCH BASIN
- (D) ADJUST FRAME RING AND CASTING
- (E) RECONSTRUCT DRAINAGE STRUCTURE
- (F) ADJUST VALVE BOX
- (G) SALVAGE GATE VALVE AND BOX
- (H) REMOVE BITUMINOUS FLUME
- (I) REMOVE PIPE APRON
- (J) REMOVE GATE VALVE
- (K) NOT USED
- (L) SALVAGE HYDRANT
- (M) ADJUST HYDRANT
- (N) SALVAGE MAILBOX
- (O) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)

LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- CONCRETE PAVEMENT REMOVAL
- CONCRETE MEDIAN/WALK REMOVAL
- BITUMINOUS TRAIL REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- PIPE REMOVAL (SANITARY, STORM, WATER, CULVERT)
- CLEARING AND GRUBBING (ACRE)
- CLEARING AND GRUBBING (TREE)

NO	DATE	BY	CKD	APPR	REVISION
...\5404\hl-mu\plan\5404.RPC					

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/9/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

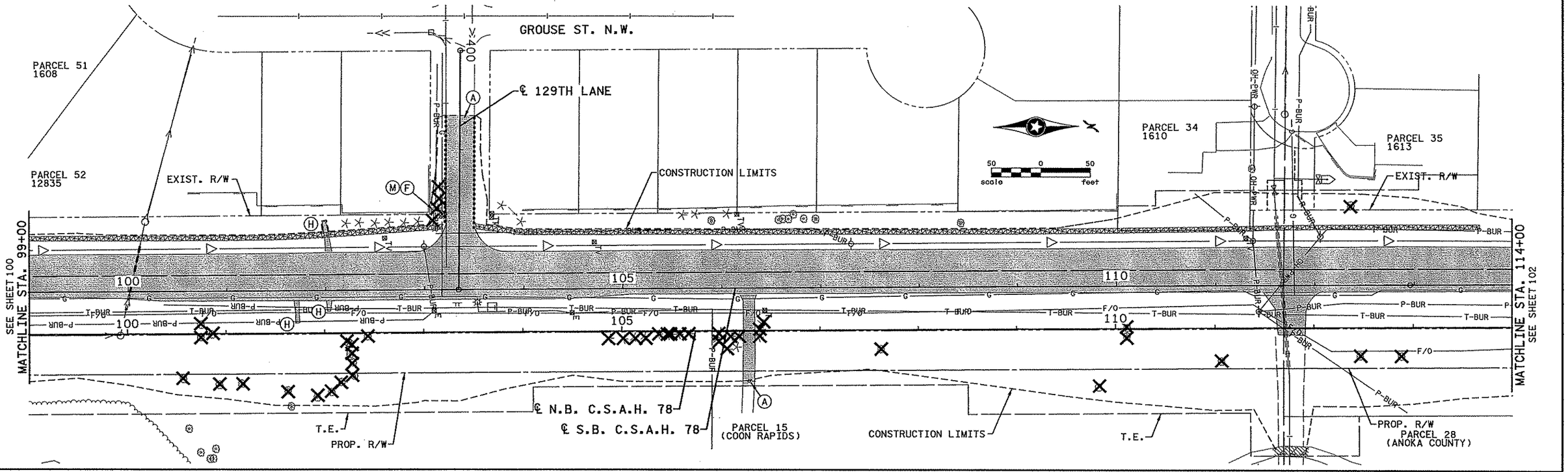
ANOKA COUNTY

REMOVAL PLAN

C.S.A.H. 78

SHEET 100 OF 400

4:28:11 PM
5/25/2006
N:\projects\5404\hl-mu\plan\5404.RPC



NOTES:

- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) REMOVE MANHOLE OR CATCH BASIN
- (D) ADJUST FRAME RING AND CASTING
- (E) RECONSTRUCT DRAINAGE STRUCTURE
- (F) ADJUST VALVE BOX
- (G) SALVAGE GATE VALVE AND BOX
- (H) REMOVE BITUMINOUS FLUME
- (I) REMOVE PIPE APRON
- (J) REMOVE GATE VALVE
- (K) NOT USED
- (L) SALVAGE HYDRANT
- (M) ADJUST HYDRANT
- (N) SALVAGE MAILBOX
- (O) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)

LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- CONCRETE PAVEMENT REMOVAL
- CONCRETE MEDIAN/WALK REMOVAL
- BITUMINOUS TRAIL REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- PIPE REMOVAL (SANITARY, STORM, WATER, CULVERT)
- CLEARING AND GRUBBING (ACRE)
- CLEARING AND GRUBBING (TREE)

NO	DATE	BY	CKD	APPR	REVISION
...\5404\hl-mu\plan\5404.RPD					

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16	DRAWN BY D.FITCHORN
STATE PROJECT NO. X	DESIGNED BY C.TRBOYEVICH
COUNTY PROJECT NO. X	CHECKED BY M. TURNER
CITY PROJECT NO. X	COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

REMOVAL PLAN
C.S.A.H. 78

SHEET 101 OF 400

4/28/12 PM
9/25/2006
N:\Projects\5404\hl-mu\plan\5404.RPD

GROUSE ST. N.W.

132ND AVE. N.W.

℄ S.B. C.S.A.H. 78

CONSTRUCTION LIMITS

EXIST. R/W

℄ 133RD AVE. W.

PARCEL 38
(ANDOVER)

MATCHLINE STA. 114+00 SEE SHEET 101

MATCHLINE STA. 129+50 SEE SHEET 103

PROP. R/W

℄ N.B. C.S.A.H. 78

CONSTRUCTION LIMITS

MODULAR BLOCK RETAINING WALL & VINYL FENCE SEE RETAINING WALL PLANS

T.E.

PROP. R/W

END CONSTRUCTION
S.P. 114-020-29
N.B. STA. 125+63.70

T.E.

BEGIN CONSTRUCTION
S.P. 198-020-25
N.B. STA. 125+63.70

PARCEL 28
(ANOKA COUNTY)

PARCEL 30

PARCEL 32

132ND AVE.

132ND LANE

℄ 133RD AVE. E.

CRANE ST.

PARCEL 36

LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- CONCRETE PAVEMENT REMOVAL
- CONCRETE MEDIAN/WALK REMOVAL
- BITUMINOUS TRAIL REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- PIPE REMOVAL (SANITARY, STORM, WATER, CULVERT)
- CLEARING AND GRUBBING (ACRE)
- CLEARING AND GRUBBING (TREE)

NOTES:

- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) REMOVE MANHOLE OR CATCH BASIN
- (D) ADJUST FRAME RING AND CASTING
- (E) RECONSTRUCT DRAINAGE STRUCTURE
- (F) ADJUST VALVE BOX
- (G) SALVAGE GATE VALVE AND BOX
- (H) REMOVE BITUMINOUS FLUME
- (I) REMOVE PIPE APRON
- (J) REMOVE GATE VALVE
- (K) NOT USED
- (L) SALVAGE HYDRANT
- (M) ADJUST HYDRANT
- (N) SALVAGE MAILBOX
- (O) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.RPE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

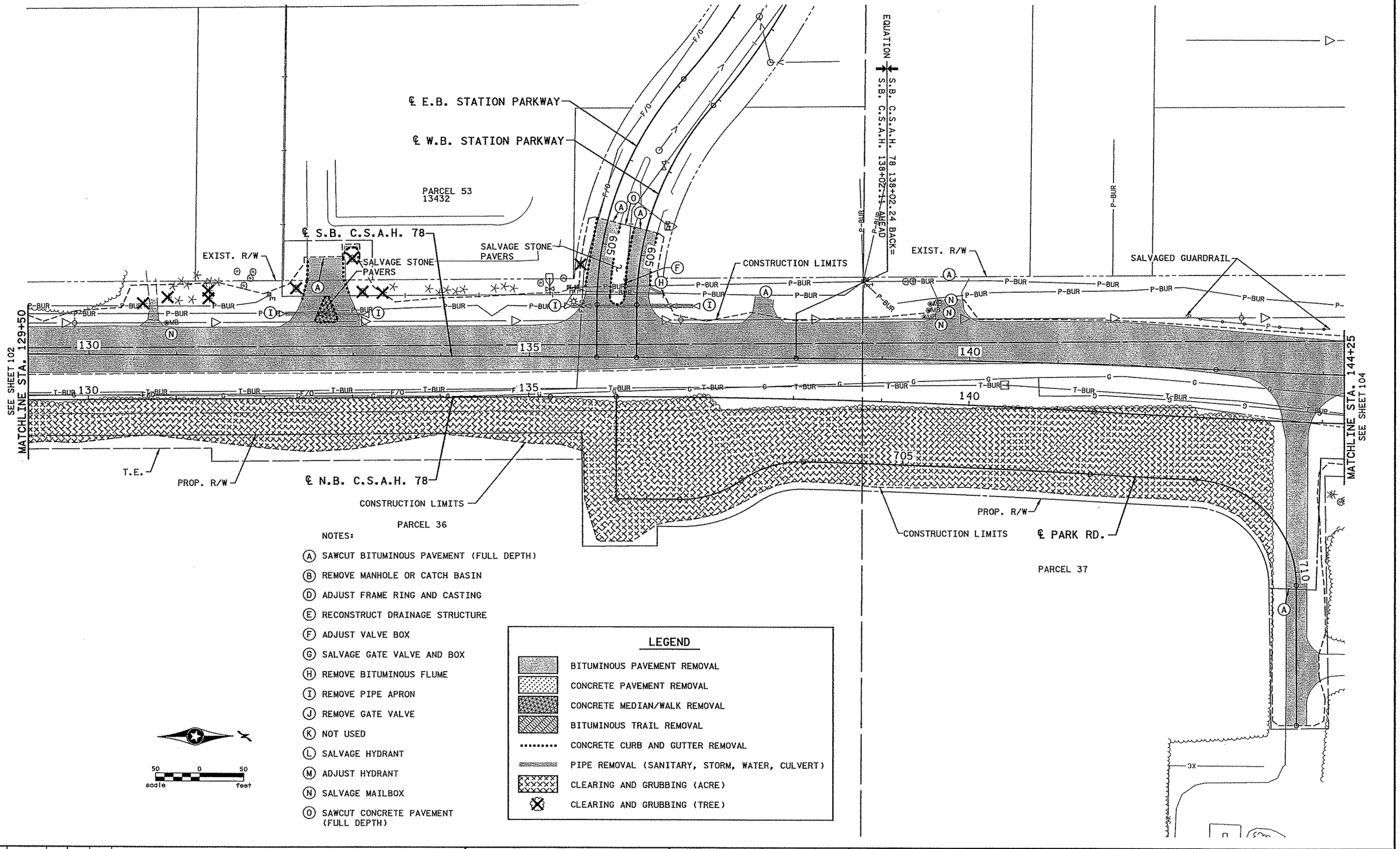
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

REMOVAL PLAN
C.S.A.H. 78

SHEET 102 OF 400

4128113 PM
9/26/2006
M:\projects\5404\hl-mu\plan\5404.RPE



NOTES:

(A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
(B) REMOVE MANHOLE OR CATCH BASIN
(D) ADJUST FRAME RING AND CASTING
(E) RECONSTRUCT DRAINAGE STRUCTURE
(F) ADJUST VALVE BOX
(G) SALVAGE GATE VALVE AND BOX
(H) REMOVE BITUMINOUS FLUME
(I) REMOVE PIPE APRON
(J) REMOVE GATE VALVE
(K) NOT USED
(L) SALVAGE HYDRANT
(M) ADJUST HYDRANT
(N) SALVAGE MAILBOX
(O) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)

LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- CONCRETE PAVEMENT REMOVAL
- CONCRETE MEDIAN/WALK REMOVAL
- BITUMINOUS TRAIL REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- PIPE REMOVAL (SANITARY, STORM, WATER, CULVERT)
- CLEARING AND GRUBBING (ACRE)
- CLEARING AND GRUBBING (TREE)

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.RPF

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

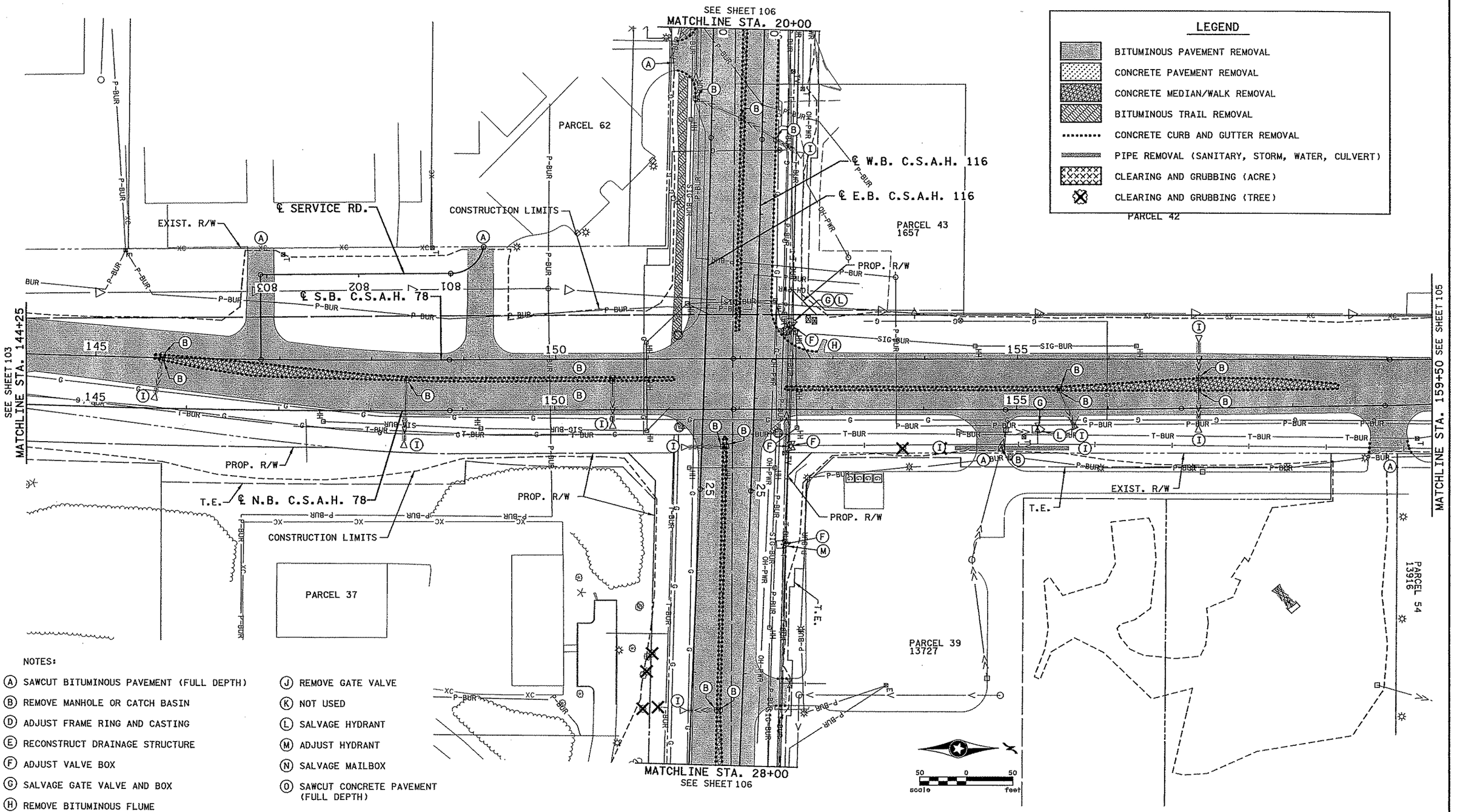
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

REMOVAL PLAN
C.S.A.H. 78

SHEET 103 OF 400

4/28/14 PM
9/25/2006
H:\projects\5404\hl-mu\plan\5404.RPF



NOTES:

- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) REMOVE MANHOLE OR CATCH BASIN
- (D) ADJUST FRAME RING AND CASTING
- (E) RECONSTRUCT DRAINAGE STRUCTURE
- (F) ADJUST VALVE BOX
- (G) SALVAGE GATE VALVE AND BOX
- (H) REMOVE BITUMINOUS FLUME
- (I) REMOVE PIPE APRON
- (J) REMOVE GATE VALVE
- (K) NOT USED
- (L) SALVAGE HYDRANT
- (M) ADJUST HYDRANT
- (N) SALVAGE MAILBOX
- (O) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.RPG

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

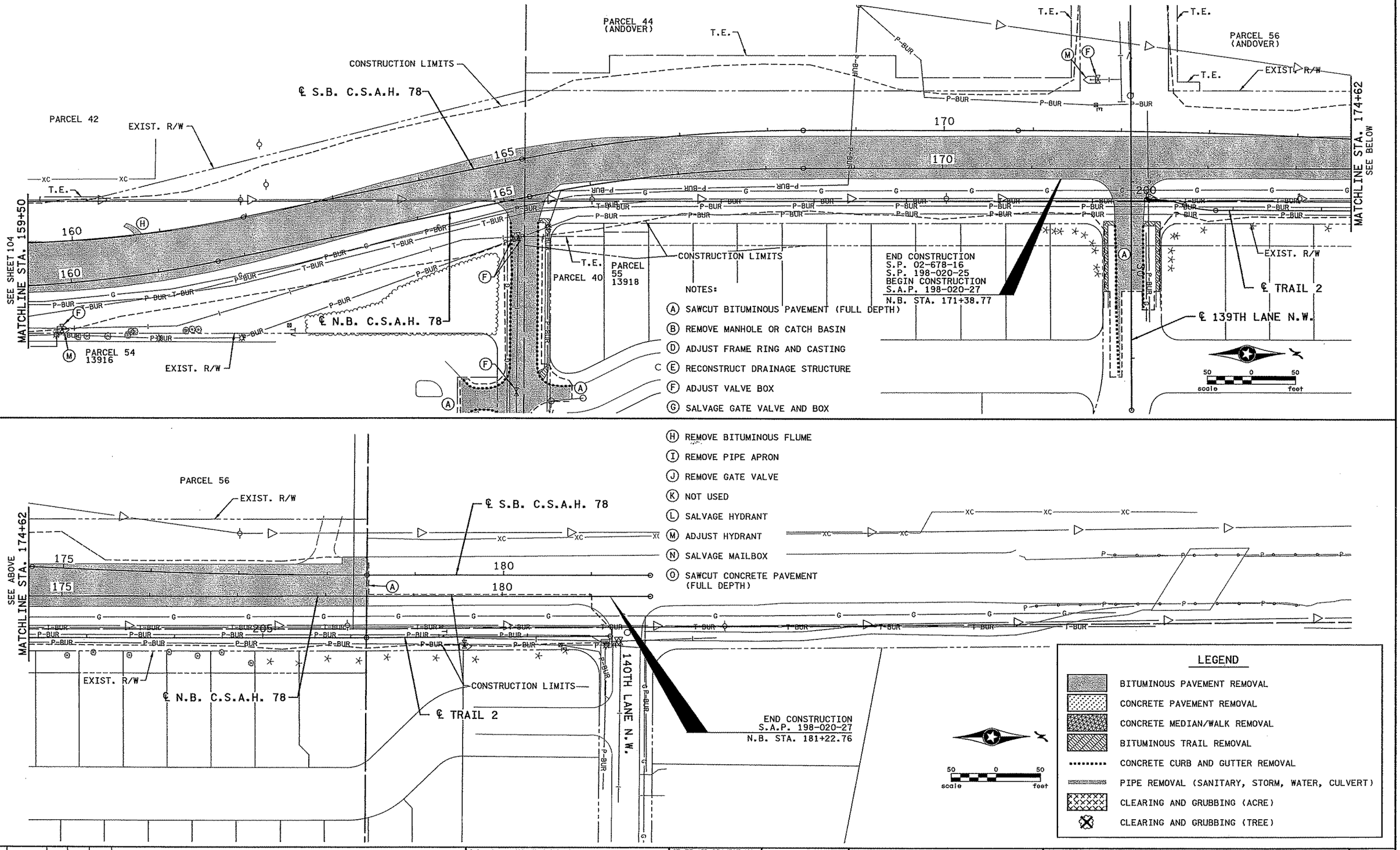
ANOKA COUNTY

REMOVAL PLAN

C.S.A.H. 78

SHEET 104 OF 400

4:28:16 PM
6/26/2006
R:\Projects\5404\hi-mu\plan\5404.RPG



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.RPH

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

REMOVAL PLAN

C.S.A.H. 78

SHEET 105 OF 400

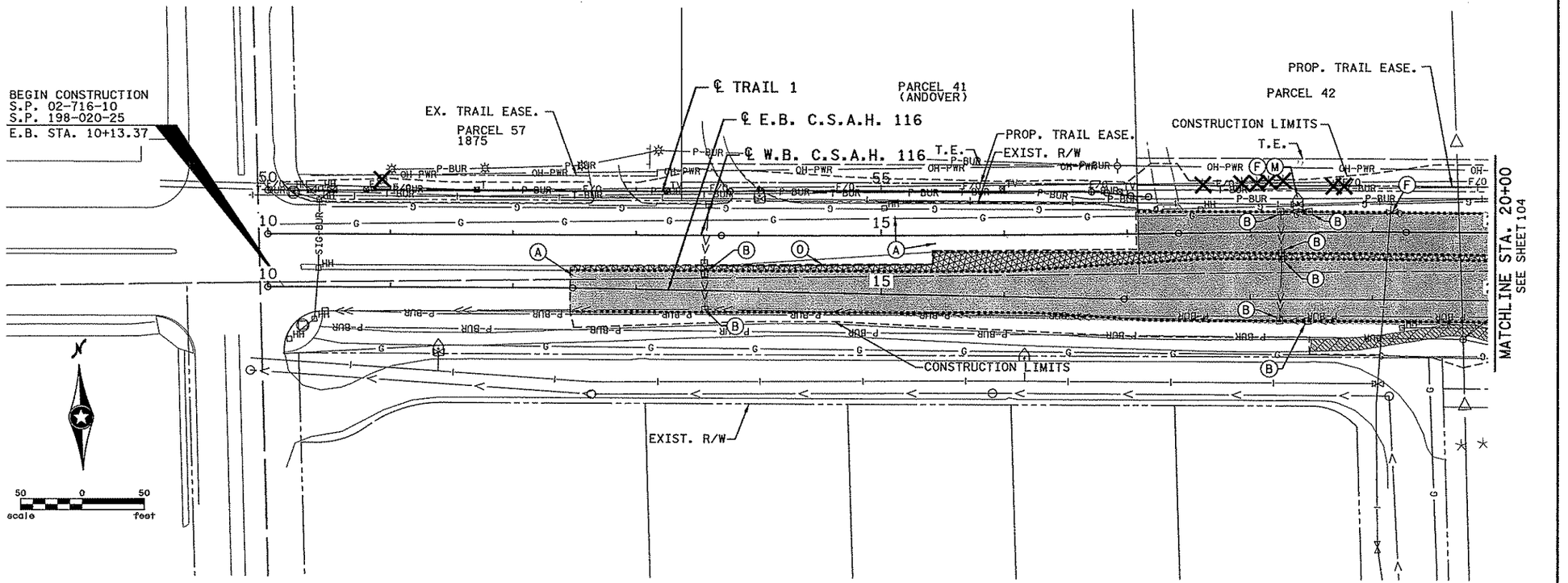
4:28:17 PM
9/28/2006
h:\projects\5404\hl-mu\plan\5404.RPH

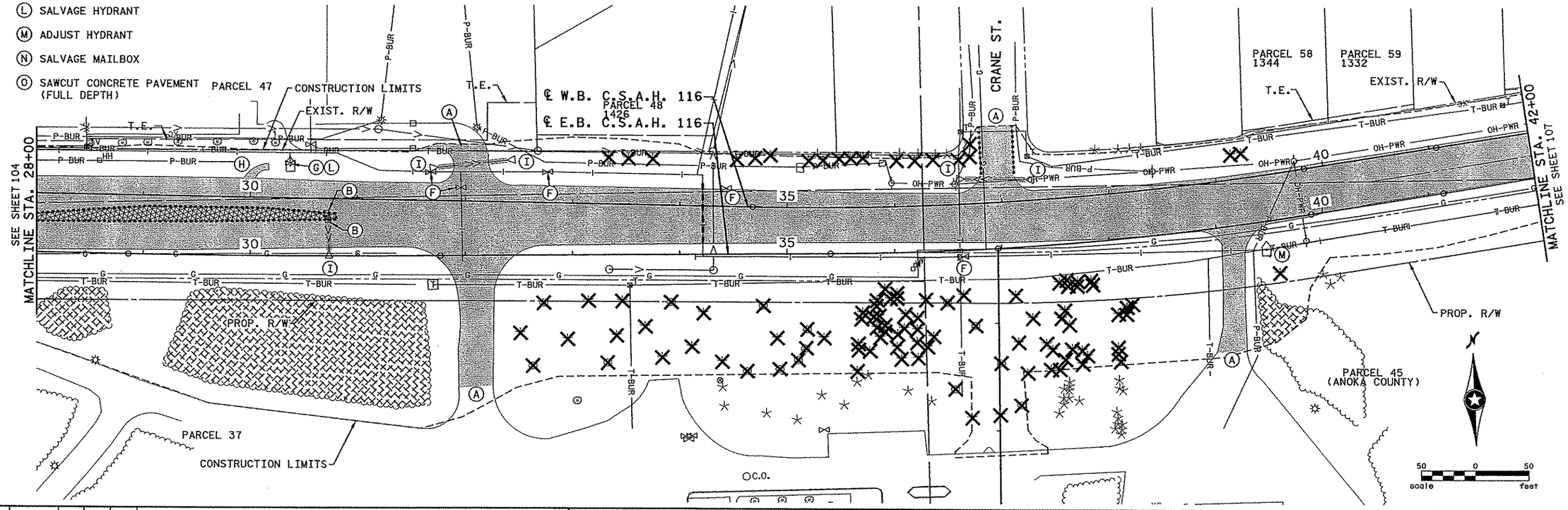
LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- CONCRETE PAVEMENT REMOVAL
- CONCRETE MEDIAN/WALK REMOVAL
- BITUMINOUS TRAIL REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- PIPE REMOVAL (SANITARY, STORM, WATER, CULVERT)
- CLEARING AND GRUBBING (ACRE)
- CLEARING AND GRUBBING (TREE)

NOTES:

(A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
(B) REMOVE MANHOLE OR CATCH BASIN
(D) ADJUST FRAME RING AND CASTING
(E) RECONSTRUCT DRAINAGE STRUCTURE
(F) ADJUST VALVE BOX
(G) SALVAGE GATE VALVE AND BOX
(H) REMOVE BITUMINOUS FLUME
(I) REMOVE PIPE APRON
(J) REMOVE GATE VALVE
(K) NOT USED
(L) SALVAGE HYDRANT
(M) ADJUST HYDRANT
(N) SALVAGE MAILBOX
(O) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)





NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.RPI

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

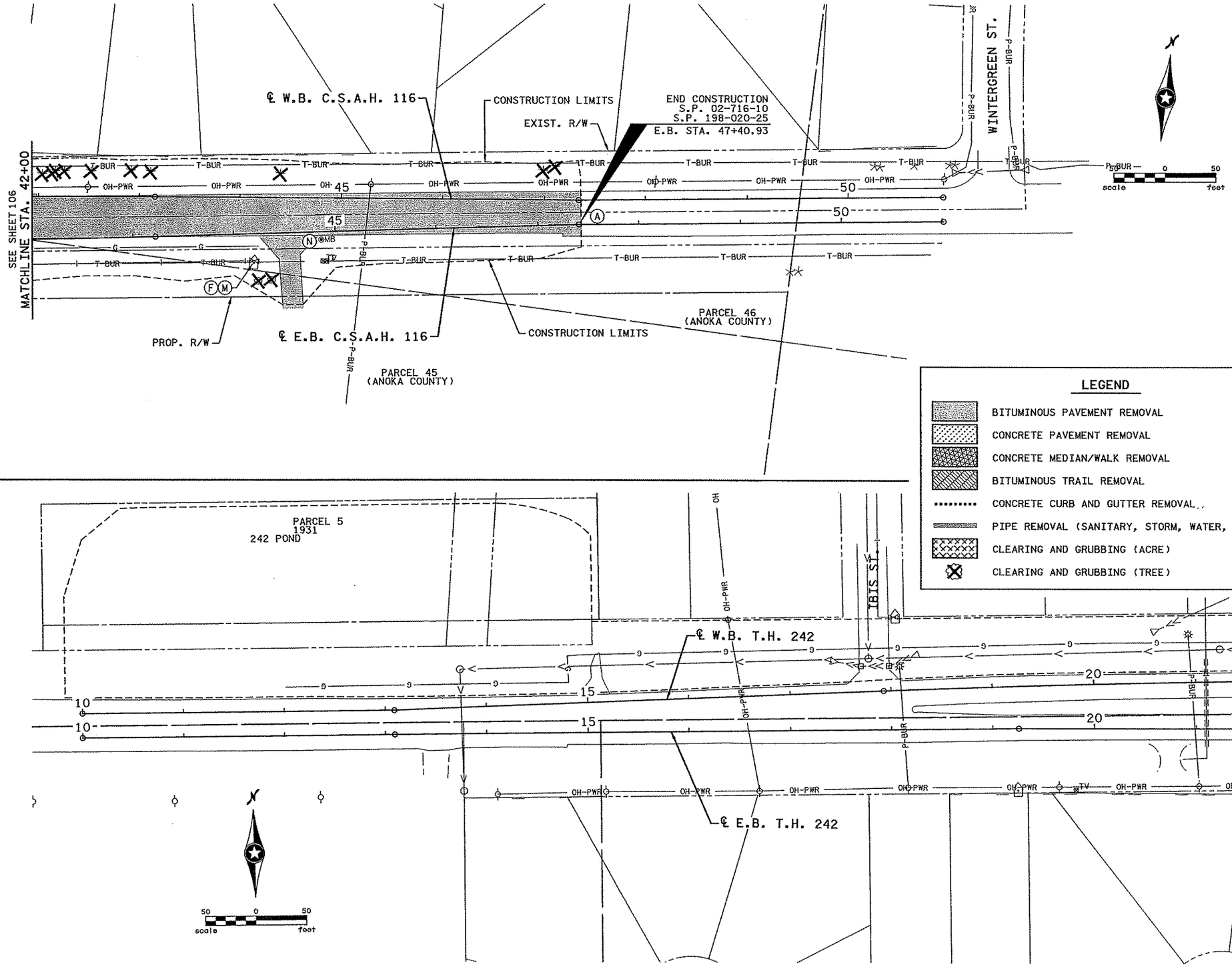
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

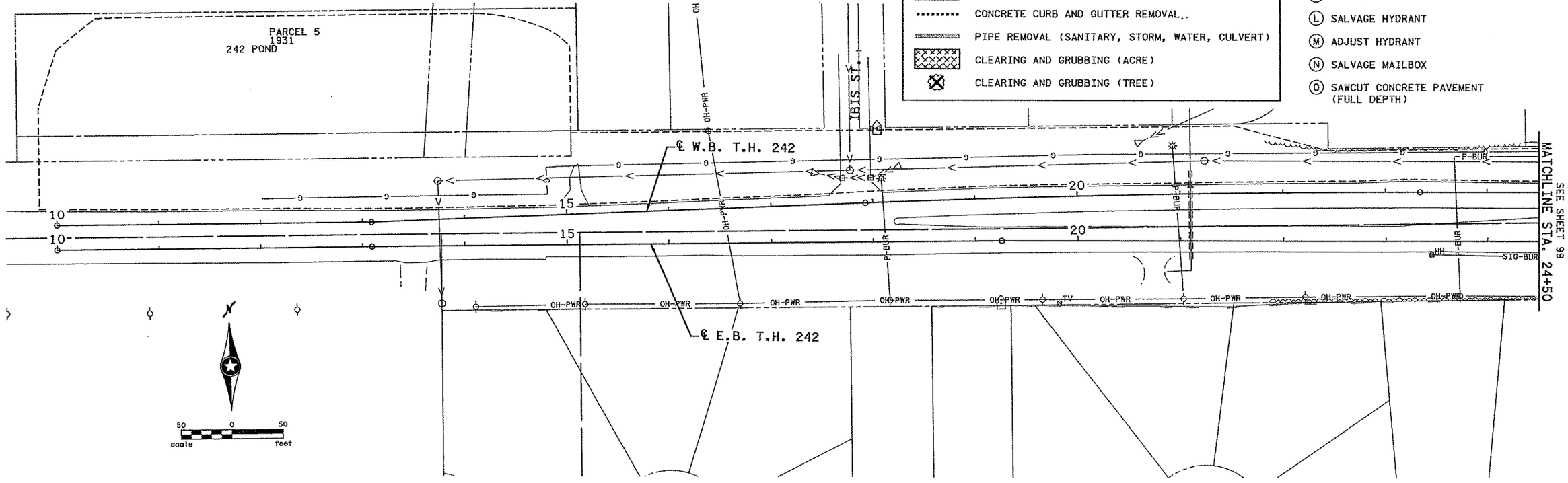
SRF CONSULTING GROUP, INC.

ANOKA COUNTY
REMOVAL PLAN
C.S.A.H. 78

SHEET 106 OF 400

4/28/13 PM
s:\projects\5404\hl-mu\plan\5404.RPI





LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- CONCRETE PAVEMENT REMOVAL
- CONCRETE MEDIAN/WALK REMOVAL
- BITUMINOUS TRAIL REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- PIPE REMOVAL (SANITARY, STORM, WATER, CULVERT)
- CLEARING AND GRUBBING (ACRE)
- CLEARING AND GRUBBING (TREE)

NOTES:

- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) REMOVE MANHOLE OR CATCH BASIN
- (D) ADJUST FRAME RING AND CASTING
- (E) RECONSTRUCT DRAINAGE STRUCTURE
- (F) ADJUST VALVE BOX
- (G) SALVAGE GATE VALVE AND BOX
- (H) REMOVE BITUMINOUS FLUME
- (I) REMOVE PIPE APRON
- (J) REMOVE GATE VALVE
- (K) NOT USED
- (L) SALVAGE HYDRANT
- (M) ADJUST HYDRANT
- (N) SALVAGE MAILBOX
- (O) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.RPJ

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

REMOVAL PLAN

C.S.A.H. 78

SHEET 107 OF 400

4:28:21 PM
9/26/2006
R:\projects\5404\hl-mu\plan\5404.RPJ

LEGEND

VARIABLE DEPTH MILL AND OVERLAY (0" - 1.5")

NOTES:

(A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

(B) 4" CONCRETE WALK

(C) CONSTRUCT PEDESTRIAN CURB RAMP

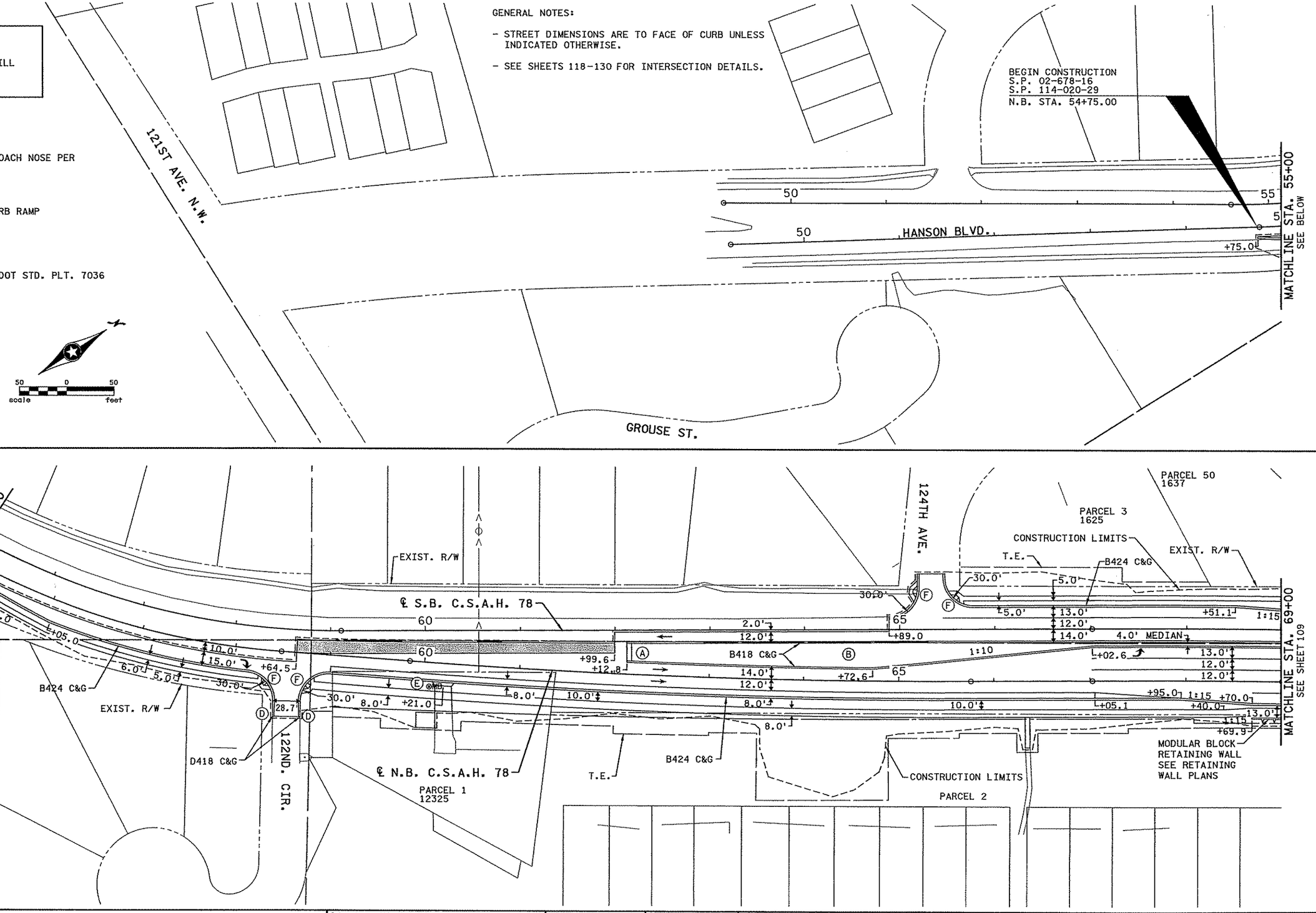
(D) 10' CURB TRANSITION

(E) INSTALL MAILBOX

(F) TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.CPA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN
C.S.A.H. 78

SHEET 108 OF 400

4/28/23 PM
C:\Projects\5404\hl-mu\plan\5404.CPA

SEE SHEET 117
MATCHLINE STA. 24+50

GROUSE ST.

NOTES:

(A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

(B) 4" CONCRETE WALK

(C) CONSTRUCT PEDESTRIAN CURB RAMP

(D) 10' CURB TRANSITION

(E) INSTALL MAILBOX

(F) TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.

T.H. 242

125TH LANE

℄ S.B. C.S.A.H. 78

℄ N.B. C.S.A.H. 78

126TH LANE

EAGLE ST.

PARCEL 4 1643

PARCEL 50 1637

PARCEL 16 1600

PARCEL 17 1605

PARCEL 18 12534

PARCEL 19 12544

PARCEL 20 12554

PARCEL 21 12564

PARCEL 22 12640

PARCEL 23 12650

PARCEL 2

PARCEL 6 1555

PARCEL 9

PARCEL 10

PARCEL 12 12691

B424 C&G

B418 C&G

B618 C&G

CONSTRUCTION LIMITS

PROP. R/W

EXIST. R/W

T.E.

4.0' MEDIAN

MODULAR BLOCK RETAINING WALL SEE RETAINING WALL PLANS

N.B. C.S.A.H. 78 STA. 72+76, 26.5' RT. ℄ F & I 5 LF. 22" STEEL SANITARY SEWER CASING

N.B. C.S.A.H. 78 STA. 75+65.39, 3.5' RT. ℄ TO STA. 75+83.12, 57.0' RT. ℄ INSULATE EXISTING 6" DIP WATER MAIN

N.B. C.S.A.H. 78 STA. 75+65.39, 3.5' RT. ℄ TO STA. 75+75.20, 33.1' RT. ℄ F & I 32 LF. 18" STEEL WATER MAIN CASING

N.B. C.S.A.H. 78 STA. 75+75, 4.4' LT. ℄ TO STA. 75+93, 56.2' RT. ℄ F & I 46 LF. 20" STEEL SANITARY SEWER CASING

N.B. C.S.A.H. 78 STA. 75+63.25, 13.0' LT. ℄ TO STA. 75+63.51, 3.5' RT. ℄ F & I 17 LF. 18" STEEL WATER MAIN CASING

N.B. C.S.A.H. 78 STA. 78+79.36, 41.0' RT. ℄ INSTALL SALVAGED HYDRANT AND VALVE. F & I 38 LF. 6" DIP WATER MAIN

N.B. C.S.A.H. 78 STA. 81+30, 3.5' LT. ℄ TO N.B. C.S.A.H. 78 STA. 84+73.14, 6.6' LT. ℄ INSULATE EXISTING 6" DIP WATER MAIN

N.B. C.S.A.H. 78 STA. 83+60, 4.5' LT. ℄ TO 48.0' RT. ℄ F & I 53 LF. 6" DIP WATER MAIN & 6" PLUG

N.B. C.S.A.H. 78 STA. 83+71, 11.7' LT. ℄ TO 48.0' RT. ℄ F & I 60 LF. 6" PVC & 6" PLUG (INCIDENTAL)

N.B. C.S.A.H. 78 STA. 81+68.51, 3.3' LT. ℄ TO STA. 81+68.93, 91.9' LT. ℄ INSULATE EXISTING 2" WATER MAIN SERVICE

N.B. C.S.A.H. 78 STA. 83+29.64, 92.5' LT. ℄ TO STA. 83+30.45, 4.1' LT. ℄ INSULATE EXISTING 2" WATER MAIN SERVICE

N.B. C.S.A.H. 78 STA. 83+66.34, 92.4' LT. ℄ TO STA. 83+67.44, 4.6' LT. ℄ INSULATE EXISTING 2" WATER MAIN SERVICE

SEE SHEET 108
MATCHLINE STA. 69+00

MATCHLINE STA. 84+00
SEE SHEET 110

50 0 50
scale feet

NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	JJD	CMT	CMT	REVISED SANITARY AND WATERMAIN CONSTRUCTION

...\5404\hi-mu\plan\5404.CPB

4:28:24 PM
9/26/2006
h:\projects\5404\hi-mu\plan\5404.CPB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN
C.S.A.H. 78

SHEET 109 OF 400

NOTES:

Ⓐ CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

Ⓑ 4" CONCRETE WALK

Ⓒ CONSTRUCT PEDESTRIAN CURB RAMP

Ⓓ 10' CURB TRANSITION

Ⓔ INSTALL MAILBOX

Ⓕ TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.

℄ 127TH AVE.

N.B. C.S.A.H. 78 STA. 84+70.79, 163.4' LT. ℄ TO STA. 84+73.14, 6.6' LT. ℄ INSULATE EXISTING 18" DIP WATER MAIN

SEE SHEET 146 FOR WATERMAIN EXTENSION PLAN

B618 C&G

PARCEL 24
1601

T.E.

CONSTRUCTION LIMITS

EXIST. R/W

℄ DRIVE

PARCEL 25
12760

B424 C&G

10'X8' BOX CULVERT 02J31 SEE STANDARD PLANS (TRAIL BY OTHERS)

PARCEL 60

PARCEL 61
1600

128TH LANE

℄ GROUSE ST.

PARCEL 26
1601

PARCEL 51
1608

B418 C&G

MATCHLINE STA. 84+00 SEE SHEET 109

MATCHLINE STA. 99+00 SEE SHEET 111

MODULAR BLOCK RETAINING WALL SEE RETAINING WALL PLANS

PROP. R/W

N.B. C.S.A.H. 78 STA. 86+18.17, 8.3' LT. ℄ TO 28.0' RT. ℄ F & I 36 LF. 20" STEEL WATER MAIN CASING

N.B. C.S.A.H. 78 STA. 85+48.14, 7.6' LT. ℄ TO STA. 86+18.76, 48.4' RT. ℄ INSULATE EXISTING 8" DIP WATER MAIN

N.B. C.S.A.H. 78 STA. 85+48.14, 7.6' LT. ℄ TO 28.0' RT. ℄ F & I 36 LF. 30" STEEL WATER MAIN CASING

N.B. C.S.A.H. 78 STA. 84+73.14, 6.6' LT. ℄ TO STA. 85+48.95, 46.4' RT. ℄ INSULATE EXISTING 18" DIP WATER MAIN

PARCEL 12
12691

PARCEL 13

MODULAR BLOCK RETAINING WALL & VINYL FENCE SEE RETAINING WALL PLANS

℄ N.B. C.S.A.H. 78
℄ S.B. C.S.A.H. 78

N.B. C.S.A.H. 78 STA. 94+44.70, 28.3' RT. ℄ TO STA. 94+49.32, 17.0' LT. ℄ F & I 46 LF. 18" STEEL WATER MAIN CASING

N.B. C.S.A.H. 78 STA. 94+72, 4.2' RT. ℄ TO 28.0' RT. ℄ F & I 24 LF. 18" STEEL SANITARY SEWER CASING

PARCEL 15
(COON RAPIDS)

N.B. C.S.A.H. 78 STA. 95+34.42, 28.0' RT. ℄ TO STA. 95+56.81, 28.2' RT. ℄ CONSTRUCT 8" DIP WATER MAIN. SEE SHEET 147 .

N.B. C.S.A.H. 78 STA. 95+49.99, 28.0' RT. ℄ TO STA. 98+54.76, 69.6' RT. ℄ INSULATE EXISTING 8" DIP WATER MAIN

50 0 50
scale feet

NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	JJD	CMT	CMT	REVISED SANITARY AND WATERMAIN CONSTRUCTION

...\5404\hl-mu\plan\5404.CPC

4128:26 PM
9/26/2006
n:\projects\5404\hl-mu\plan\5404.CPC

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.

Print Name: CHRIS M. TRBOYEVICH

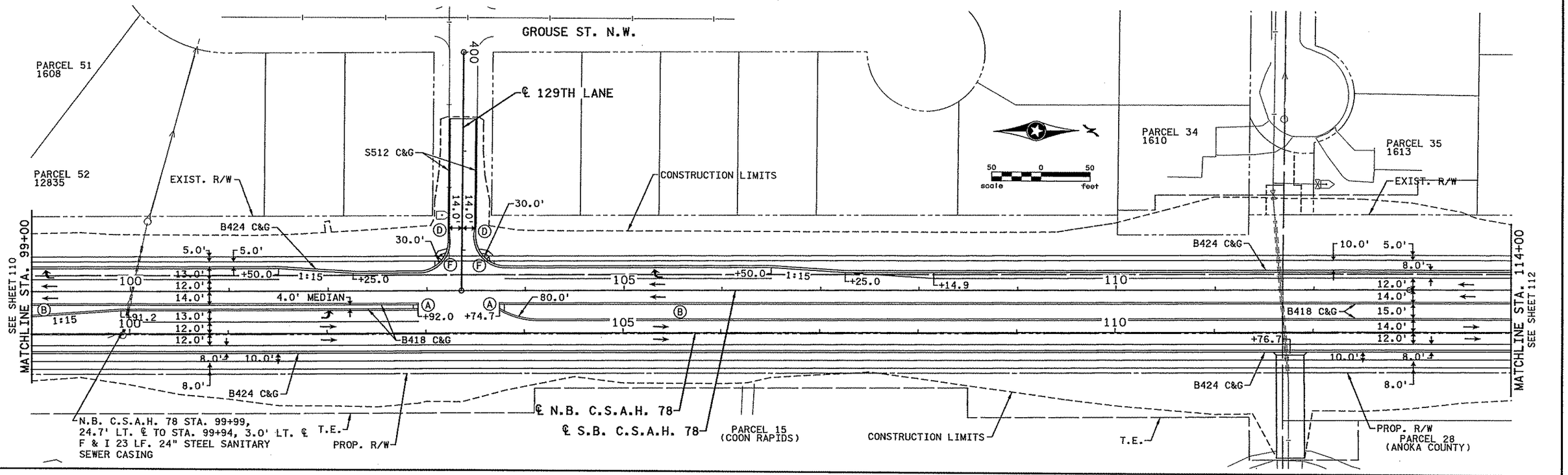
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN
C.S.A.H. 78

SHEET 110 OF 400



NOTES:

Ⓐ CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

Ⓑ 4" CONCRETE WALK

Ⓒ CONSTRUCT PEDESTRIAN CURB RAMP

Ⓓ 10' CURB TRANSITION

Ⓔ INSTALL MAILBOX

Ⓕ TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.

- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.

NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	JJD	CMT	CMT	REVISED SANITARY AND WATERMAIN CONSTRUCTION

...\5404\hi-mu\plan\5404.CPD

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

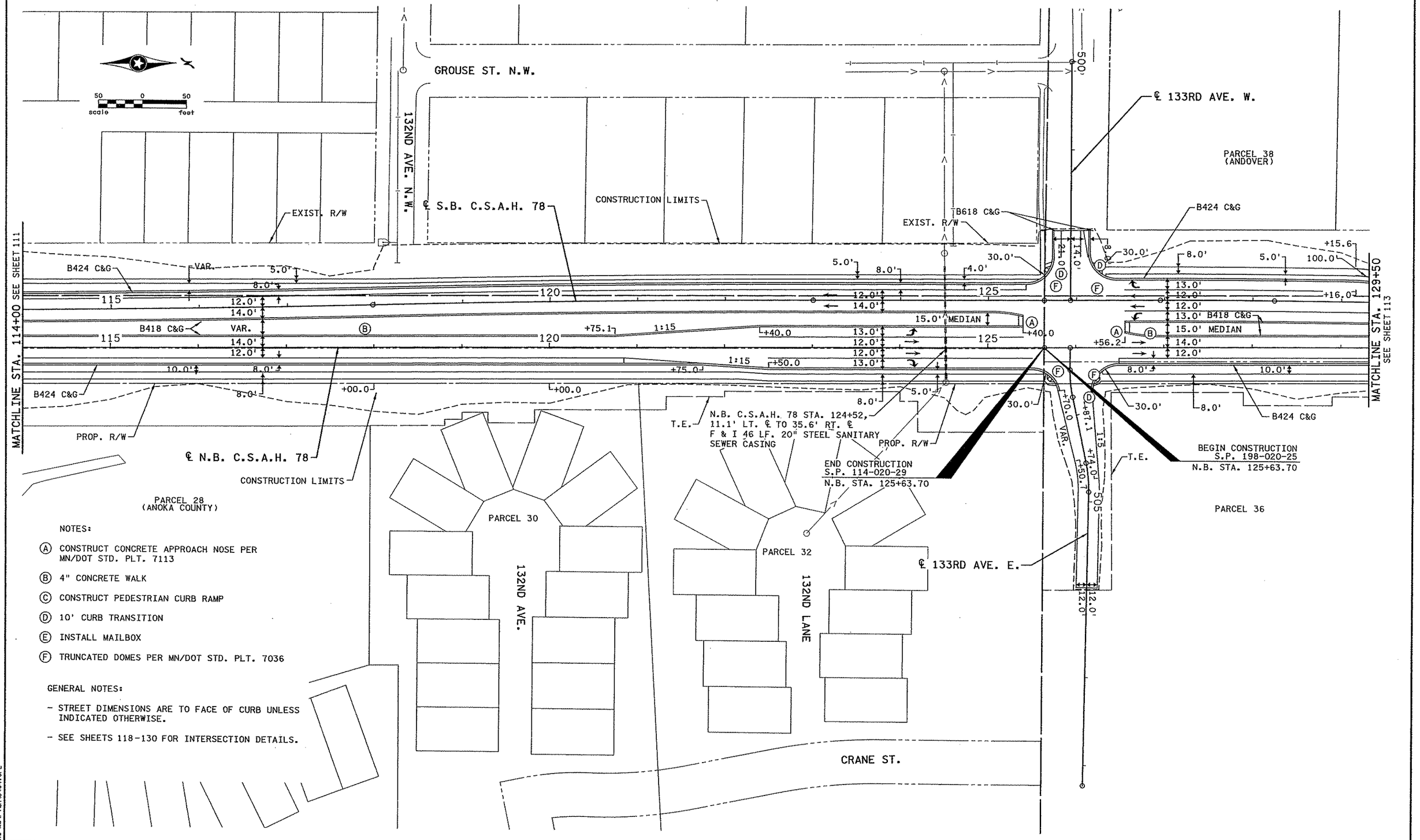
ANOKA COUNTY

CONSTRUCTION PLAN

C.S.A.H. 78

SHEET 111 OF 400

4:28:27 PM
9/26/2006
h:\projects\5404\hi-mu\plan\5404.CPD



NOTES:

Ⓐ CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

Ⓑ 4" CONCRETE WALK

Ⓒ CONSTRUCT PEDESTRIAN CURB RAMP

Ⓓ 10' CURB TRANSITION

Ⓔ INSTALL MAILBOX

Ⓕ TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.

NO	DATE	BY	CKD	APPR	REVISION
2	2/17/07	GMP	CMT	CMT	REMOVED RETAINING WALL NB CSAH 78 STA 118+00 TO 120+00
1	8/10/06	JJD	CMT	CMT	REVISED SANITARY AND WATERMAIN CONSTRUCTION

...\5404\HI-MU\Plan\5404.CPE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/17/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

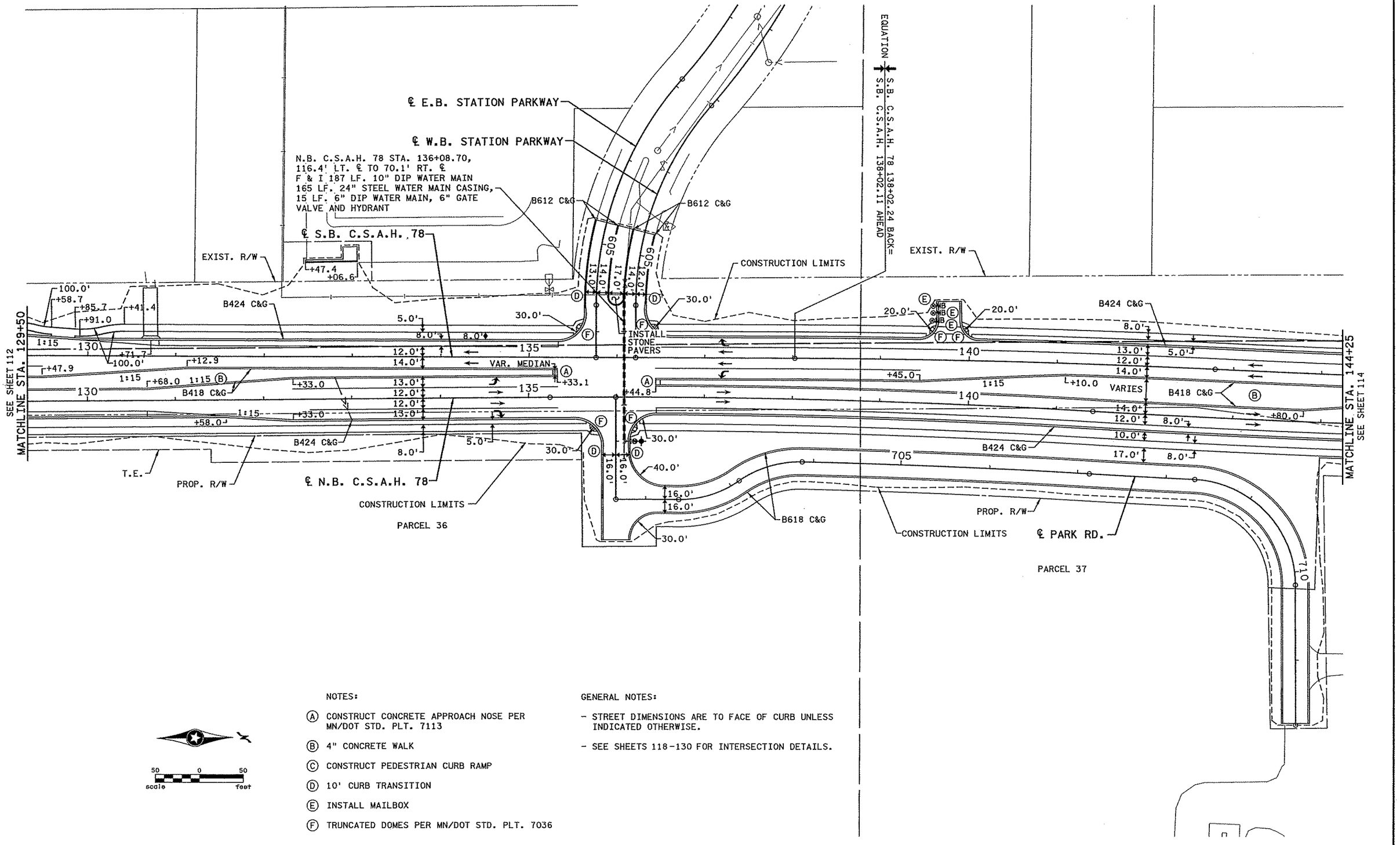
ANOKA COUNTY

CONSTRUCTION PLAN

C.S.A.H. 78

SHEET 112 OF 400

2123140 PM
2/16/2007
H:\Projects\5404\HI-MU\Plan\5404.CPE



NOTES:

- (A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113
- (B) 4" CONCRETE WALK
- (C) CONSTRUCT PEDESTRIAN CURB RAMP
- (D) 10' CURB TRANSITION
- (E) INSTALL MAILBOX
- (F) TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.

NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	JJD	CMT	CMT	REVISED SANITARY AND WATERMAIN CONSTRUCTION

...\5404\hl-mu\plan\5404.CPF

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN
C.S.A.H. 78

SHEET 113 OF 400

4/28/30 PM
8/10/2006
H:\projects\5404\hl-mu\plan\5404.CPF

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.

NOTES:

(A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

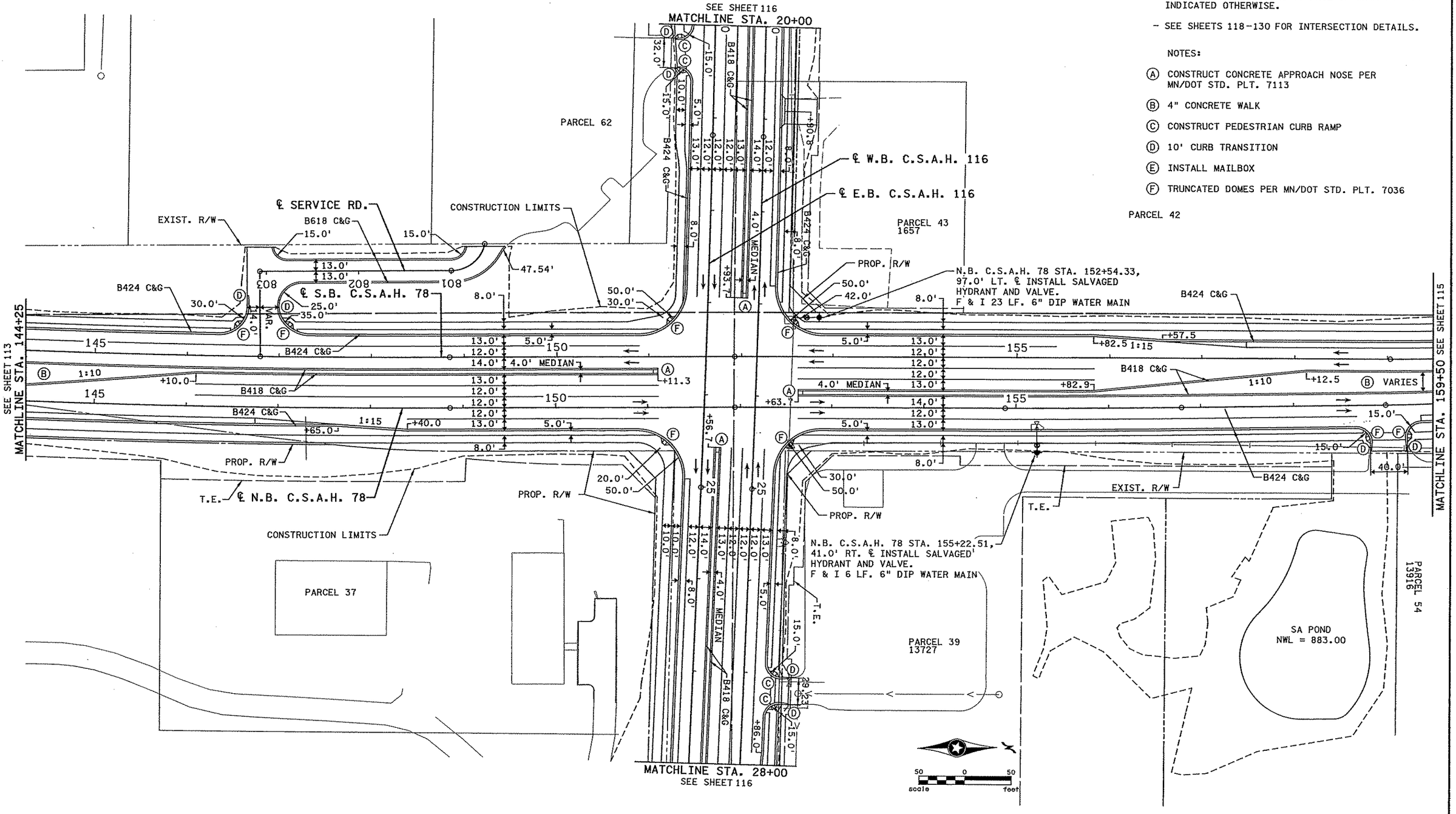
(B) 4" CONCRETE WALK

(C) CONSTRUCT PEDESTRIAN CURB RAMP

(D) 10' CURB TRANSITION

(E) INSTALL MAILBOX

(F) TRUNCATED DOMES PER MN/DOT STD. PLT. 7036



NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	JJD	CMT	CMT	REVISED SANITARY AND WATERMAIN CONSTRUCTION

...\5404\ht-mu\plan\5404.CPG

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

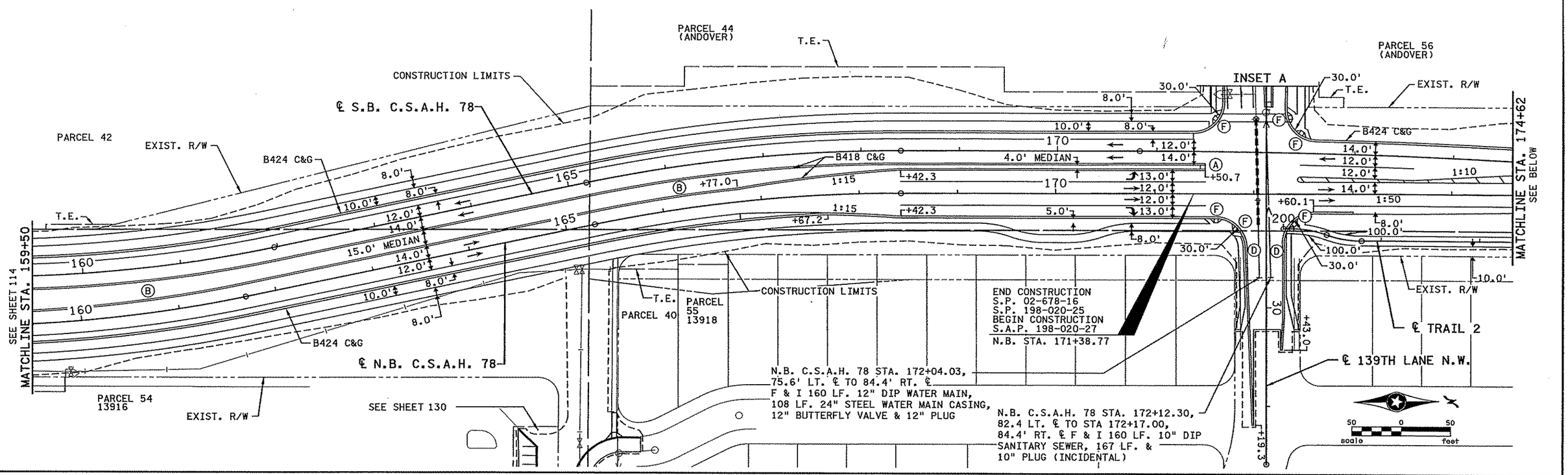
ANOKA COUNTY

CONSTRUCTION PLAN

C.S.A.H. 78

SHEET 114 OF 400

4:28:32 PM
9/26/2006
n:\projects\5404\ht-mu\plan\5404.CPG

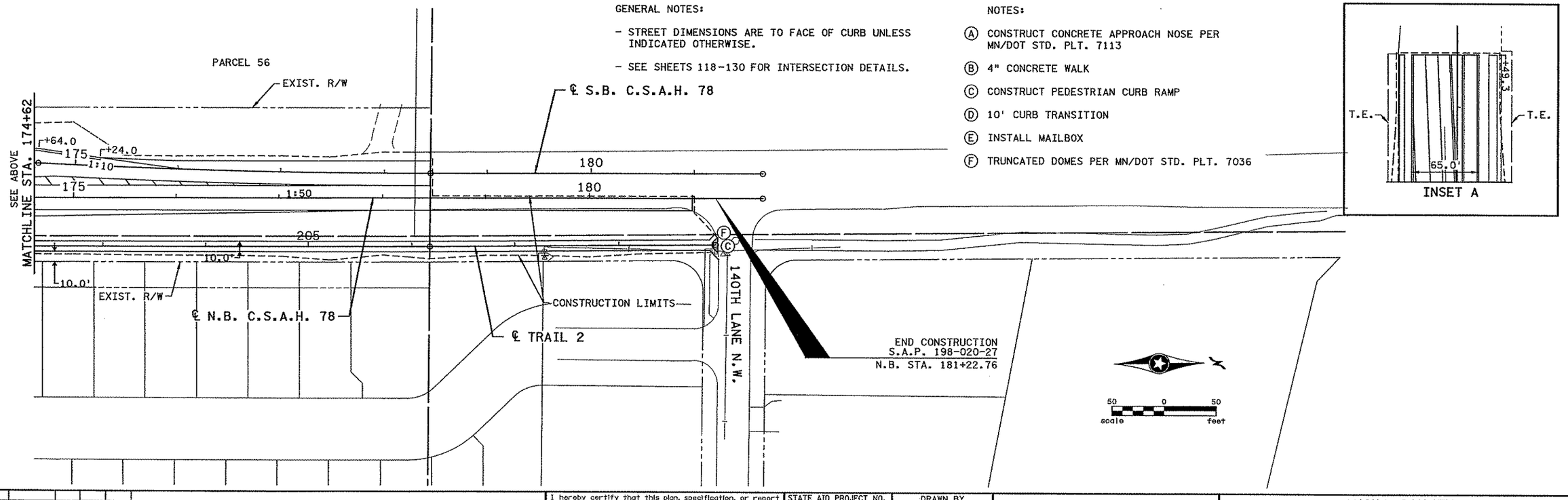


GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.

NOTES:

(A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113
(B) 4" CONCRETE WALK
(C) CONSTRUCT PEDESTRIAN CURB RAMP
(D) 10' CURB TRANSITION
(E) INSTALL MAILBOX
(F) TRUNCATED DOMES PER MN/DOT STD. PLT. 7036



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.CPH

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN
C.S.A.H. 78

SHEET 115 OF 400

4:28:34 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.CPH

NOTES:

Ⓐ CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

Ⓑ 4" CONCRETE WALK

Ⓒ CONSTRUCT PEDESTRIAN CURB RAMP

Ⓓ 10' CURB TRANSITION

Ⓔ INSTALL MAILBOX

Ⓕ TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.

scale 50 0 50 feet

BEGIN CONSTRUCTION
S.P. 02-716-10
S.P. 198-020-25
E.B. STA. 10+13.37

EX. TRAIL EASE.
PARCEL 57
1875

℄ TRAIL 1

PARCEL 41
(ANDOVER)

℄ E.B. C.S.A.H. 116

℄ W.B. C.S.A.H. 116

T.E.

PROP. TRAIL EASE.

EXIST. R/W

PROP. TRAIL EASE.
PARCEL 42

CONSTRUCTION LIMITS

B424 C&G

B418 C&G

4.0' MEDIAN

CONSTRUCTION LIMITS

EXIST. R/W

MATCHLINE STA. 20+00
SEE SHEET 114

PARCEL 47

CONSTRUCTION LIMITS

EXIST. R/W

E.B. C.S.A.H. 116 STA. 30+36.80,
82.0' LT. ℄ INSTALL SALVAGED
HYDRANT AND VALVE.
F & I 8 LF. 6" DIP WATER MAIN

℄ W.B. C.S.A.H. 116

PARCEL 48
1426

℄ E.B. C.S.A.H. 116

CRANE ST.

PARCEL 58
1344

PARCEL 59
1332

EXIST. R/W

MATCHLINE STA. 28+00
SEE SHEET 114

MATCHLINE STA. 42+00
SEE SHEET 117

PROP. R/W

COUNTY POND A
NWL = 890.00

E.B. C.S.A.H. 116 STA. 34+31,
96.1' LT. ℄ TO 14.8' RT. ℄
F & I 104 LF. 22" STEEL SANITARY
SEWER CASING

COUNTY POND B
NWL = 891.00

PARCEL 45
(ANOKA COUNTY)

PARCEL 37

CONSTRUCTION LIMITS

O.C.O.

scale 50 0 50 feet

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.CPI

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

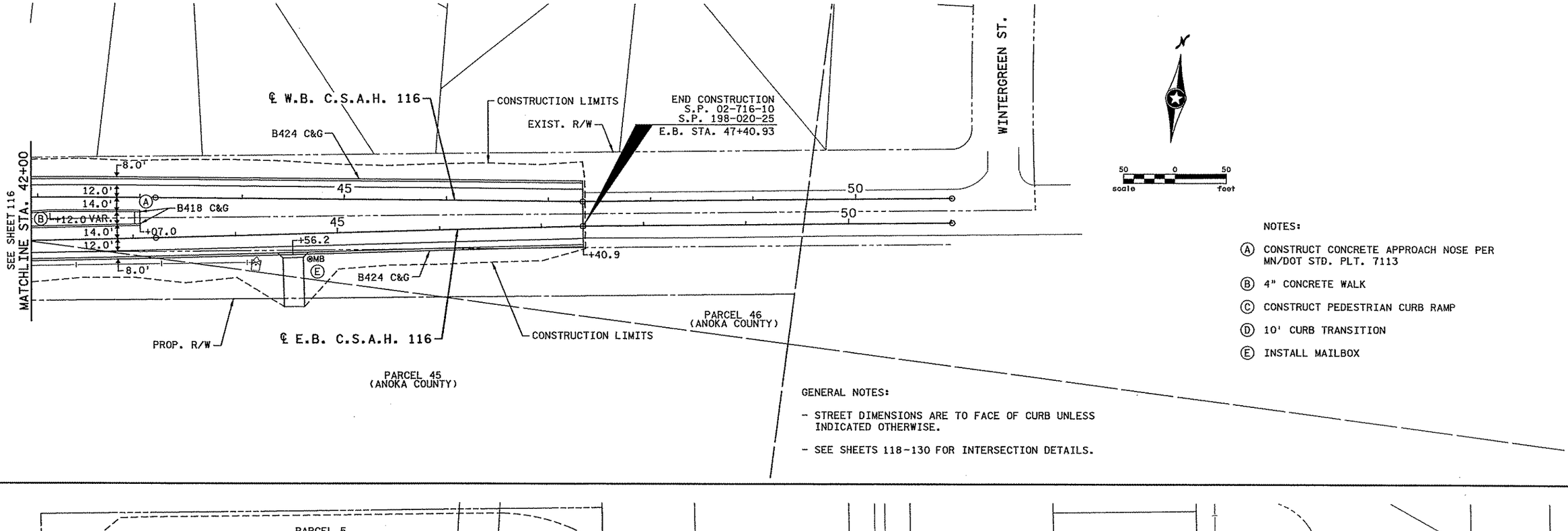
DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN
C.S.A.H. 78

SHEET 116 OF 400

4:28:36 PM
9/26/2006
n:\projects\5404\hl-mu\plan\5404.CPI



NOTES:

(A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

(B) 4" CONCRETE WALK

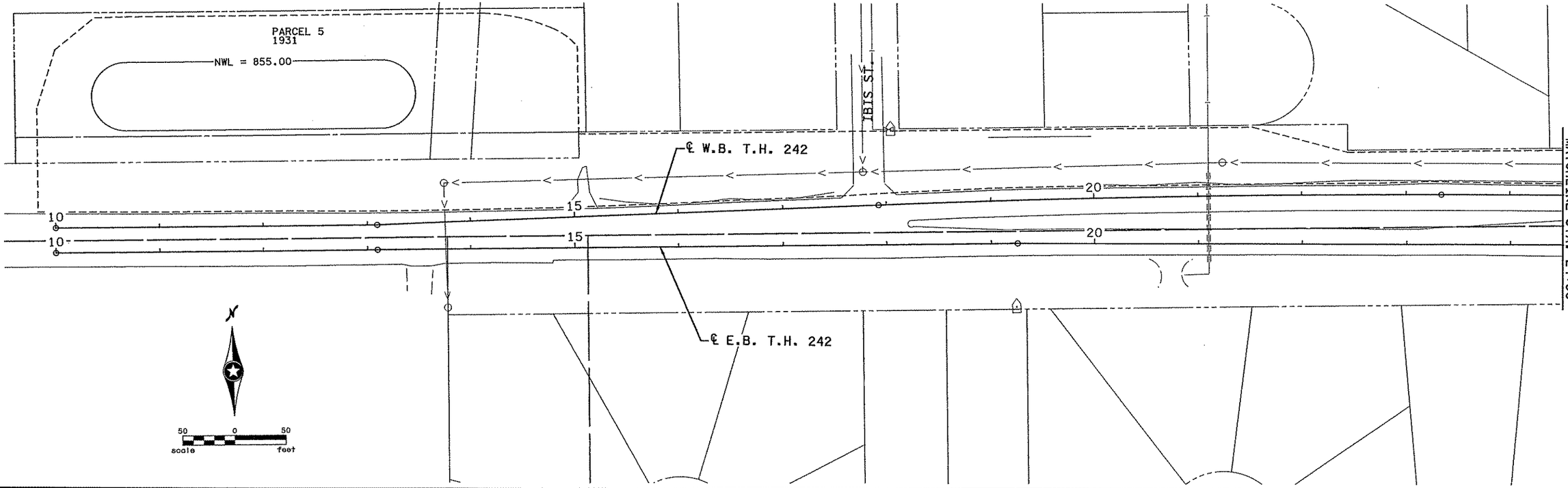
(C) CONSTRUCT PEDESTRIAN CURB RAMP

(D) 10' CURB TRANSITION

(E) INSTALL MAILBOX

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.CPJ

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

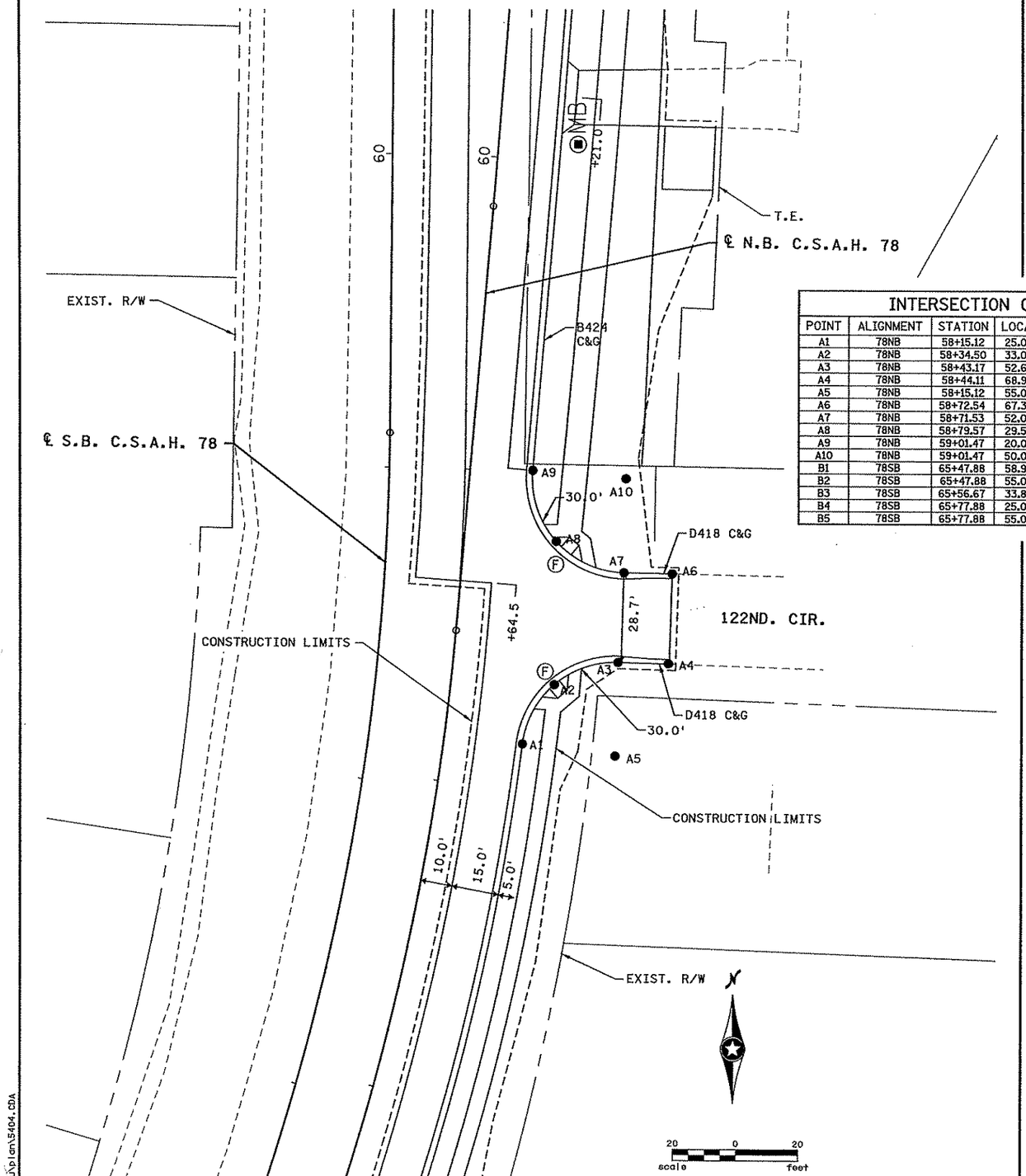
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

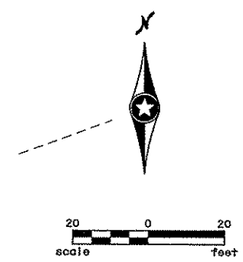
ANOKA COUNTY
CONSTRUCTION PLAN
C.S.A.H. 78

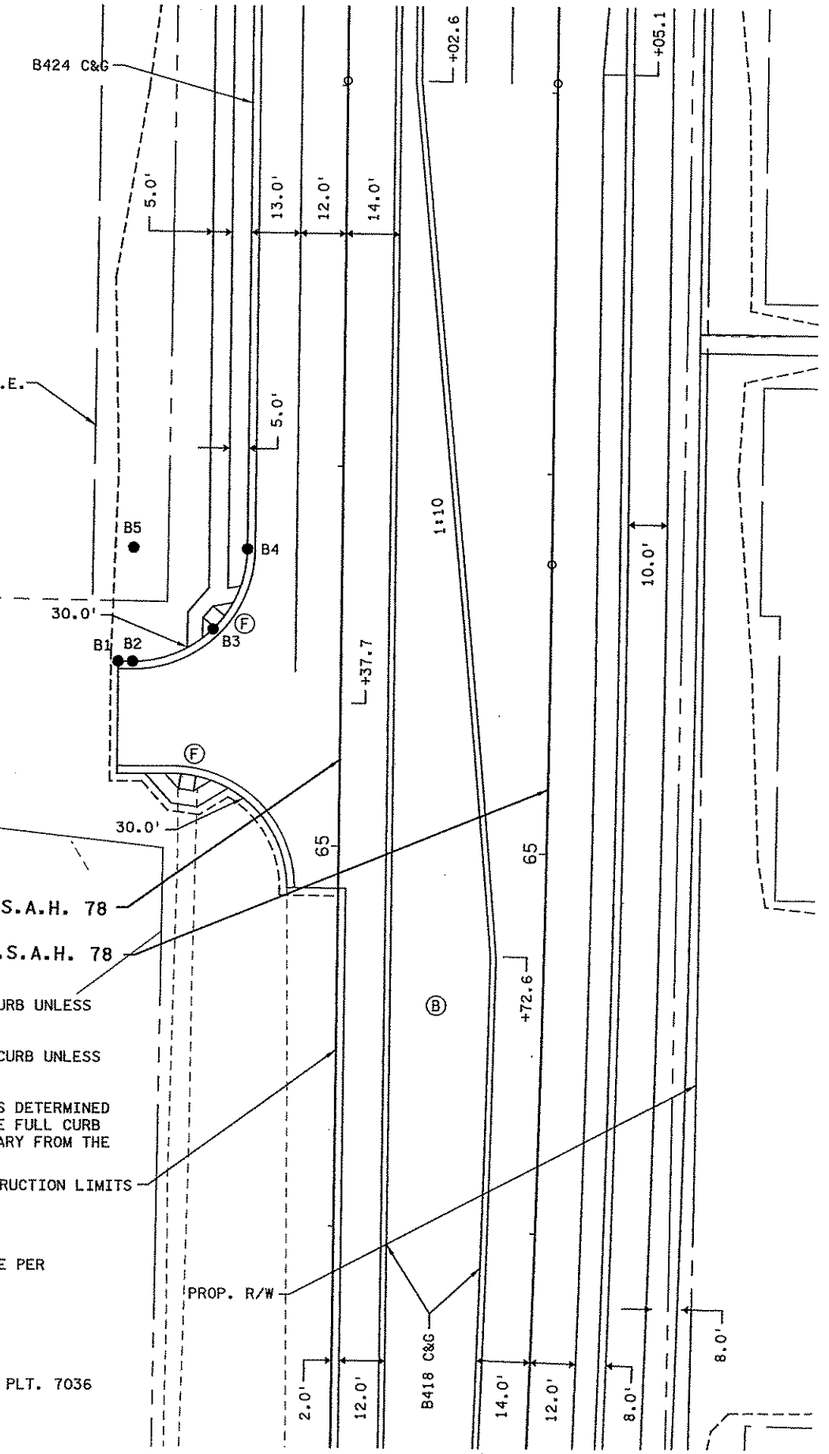
SHEET 117 OF 400

4:28:38 PM
9/26/2006
N:\projects\5404\hl-mu\plan\5404.CPJ



INTERSECTION CURB POINTS					
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
A1	78NB	58+15.12	25.0' (RT)	890.44	
A2	78NB	58+34.50	33.0' (RT)	890.00	
A3	78NB	58+43.17	52.6' (RT)	889.56	
A4	78NB	58+44.11	68.9' (RT)	889.72	
A5	78NB	58+15.12	55.0' (RT)		RADII PT
A6	78NB	58+72.54	67.3' (RT)	889.52	
A7	78NB	58+71.53	52.0' (RT)	889.26	
A8	78NB	58+79.57	29.5' (RT)	888.85	
A9	78NB	59+01.47	20.0' (RT)	888.43	
A10	78NB	59+01.47	50.0' (RT)		RADII PT
B1	78SB	65+47.88	58.9' (LT)	880.21	
B2	78SB	65+47.88	55.0' (LT)	880.17	
B3	78SB	65+56.67	33.8' (LT)	880.23	
B4	78SB	65+77.88	25.0' (LT)	880.35	
B5	78SB	65+77.88	55.0' (LT)		RADII PT





GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- ALL ELEVATIONS ARE TO TOP BACK OF CURB UNLESS INDICATED OTHERWISE.
- ELEVATIONS AT PEDESTRIAN CURB RAMPS DETERMINED USING 6% INPUT GUTTER SLOPE AND THE FULL CURB HEIGHT. ACTUAL CURB HEIGHT WILL VARY FROM THE FULL HEIGHT AT THESE LOCATIONS.

NOTES:

(A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

(B) 4" CONCRETE WALK

(D) 10' CURB TRANSITION

(F) TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.CDA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

INTERSECTION DETAILS

C.S.A.H. 78

SHEET 118 OF 400

4/28/40 PM
by 10/6/2006
...\5404\hi-mu\plan\5404.CDA

NOTES:

Ⓐ CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

Ⓑ 4" CONCRETE WALK

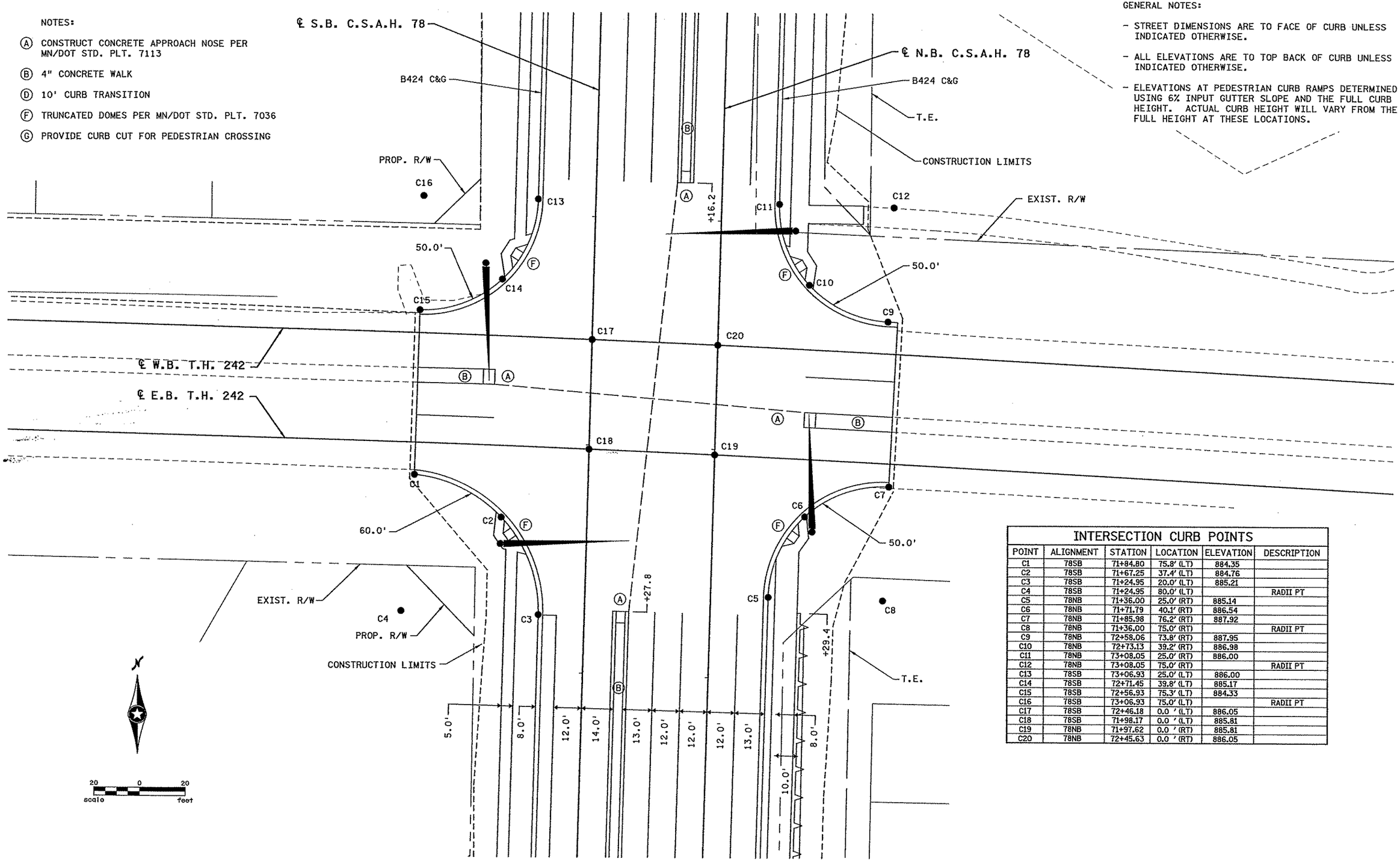
Ⓓ 10' CURB TRANSITION

Ⓕ TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

Ⓖ PROVIDE CURB CUT FOR PEDESTRIAN CROSSING

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- ALL ELEVATIONS ARE TO TOP BACK OF CURB UNLESS INDICATED OTHERWISE.
- ELEVATIONS AT PEDESTRIAN CURB RAMPS DETERMINED USING 6% INPUT GUTTER SLOPE AND THE FULL CURB HEIGHT. ACTUAL CURB HEIGHT WILL VARY FROM THE FULL HEIGHT AT THESE LOCATIONS.



INTERSECTION CURB POINTS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
C1	78SB	71+84.80	75.8' (LT)	884.35	
C2	78SB	71+67.25	37.4' (LT)	884.76	
C3	78SB	71+24.95	20.0' (LT)	885.21	
C4	78SB	71+24.95	80.0' (LT)		RADII PT
C5	78NB	71+36.00	25.0' (RT)	885.14	
C6	78NB	71+71.79	40.1' (RT)	886.54	
C7	78NB	71+85.98	76.2' (RT)	887.92	
C8	78NB	71+36.00	75.0' (RT)		RADII PT
C9	78NB	72+58.06	73.8' (RT)	887.95	
C10	78NB	72+73.13	39.2' (RT)	886.98	
C11	78NB	73+08.05	25.0' (RT)	886.00	
C12	78NB	73+08.05	75.0' (RT)		RADII PT
C13	78SB	73+06.93	25.0' (LT)	886.00	
C14	78SB	72+71.45	39.8' (LT)	885.17	
C15	78SB	72+56.93	75.3' (LT)	884.33	
C16	78SB	73+06.93	75.0' (LT)		RADII PT
C17	78SB	72+46.18	0.0 ' (LT)	886.05	
C18	78SB	71+98.17	0.0 ' (LT)	885.81	
C19	78NB	71+97.62	0.0 ' (RT)	885.81	
C20	78NB	72+45.63	0.0 ' (RT)	886.05	

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.CDB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

INTERSECTION DETAILS
C.S.A.H. 78

SHEET 119 OF 400

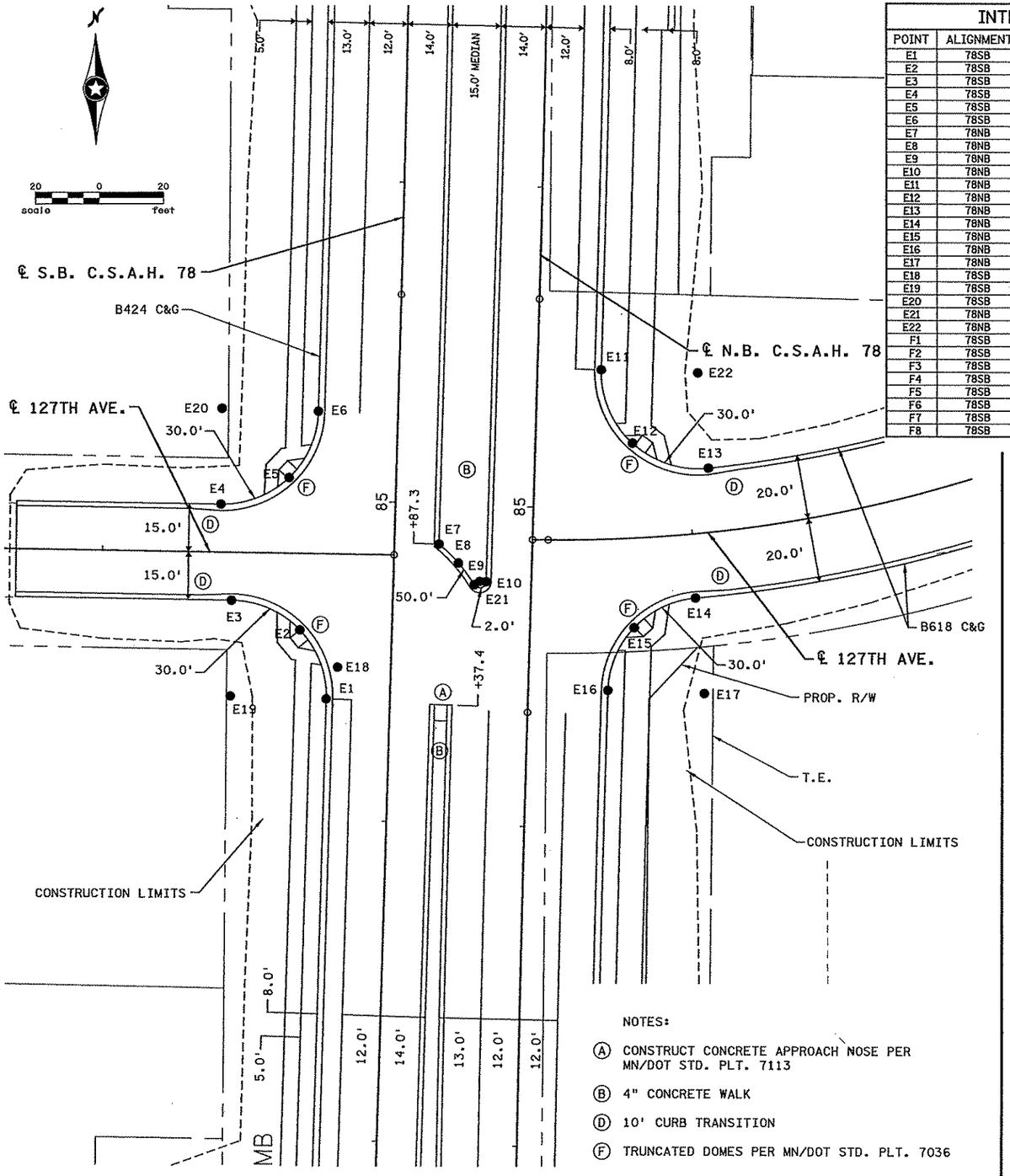
4:28:41 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.CDB

INTERSECTION CURB POINTS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
E1	78SB	84+37.82	20.0' (LT)	903.59	
E2	78SB	84+59.19	28.9' (LT)	903.41	
E3	78SB	84+67.82	50.4' (LT)	903.23	
E4	78SB	84+97.76	54.6' (LT)	903.35	
E5	78SB	85+06.70	33.6' (LT)	902.77	
E6	78SB	85+27.76	25.0' (LT)	902.19	
E7	78NB	84+87.60	29.0' (LT)	903.70	
E8	78NB	84+81.89	22.8' (LT)	903.89	
E9	78NB	84+75.22	17.7' (LT)	904.10	
E10	78NB	84+76.30	14.0' (LT)	903.85	
E11	78NB	85+43.68	20.0' (RT)	902.01	
E12	78NB	85+21.03	30.3' (RT)	902.78	
E13	78NB	85+13.98	54.2' (RT)	903.55	
E14	78NB	84+73.25	51.3' (RT)	903.25	
E15	78NB	84+63.36	32.5' (RT)	903.33	
E16	78NB	84+43.50	25.0' (RT)	903.40	
E17	78NB	84+43.50	55.0' (RT)		RADII PT.
E18	78SB	84+47.89	16.7' (LT)		RADII PT.
E19	78SB	84+37.82	50.0' (LT)		RADII PT.
E20	78SB	85+27.76	55.0' (LT)		RADII PT.
E21	78NB	84+76.30	16.0' (LT)		RADII PT.
E22	78NB	85+43.68	50.0' (RT)		RADII PT.
F1	78SB	97+95.77	20.0' (LT)	885.33	
F2	78SB	98+15.18	28.0' (LT)	884.78	
F3	78SB	98+23.35	47.6' (LT)	884.23	
F4	78SB	98+52.80	52.5' (LT)	884.22	
F5	78SB	98+62.46	32.9' (LT)	884.32	
F6	78SB	98+82.76	25.0' (LT)	884.42	
F7	78SB	98+82.76	55.0' (LT)		RADII PT.
F8	78SB	97+95.77	55.0' (LT)		RADII PT.

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- ALL ELEVATIONS ARE TO TOP BACK OF CURB UNLESS INDICATED OTHERWISE.
- ELEVATIONS AT PEDESTRIAN CURB RAMPS DETERMINED USING 6% INPUT GUTTER SLOPE AND THE FULL CURB HEIGHT. ACTUAL CURB HEIGHT WILL VARY FROM THE FULL HEIGHT AT THESE LOCATIONS.



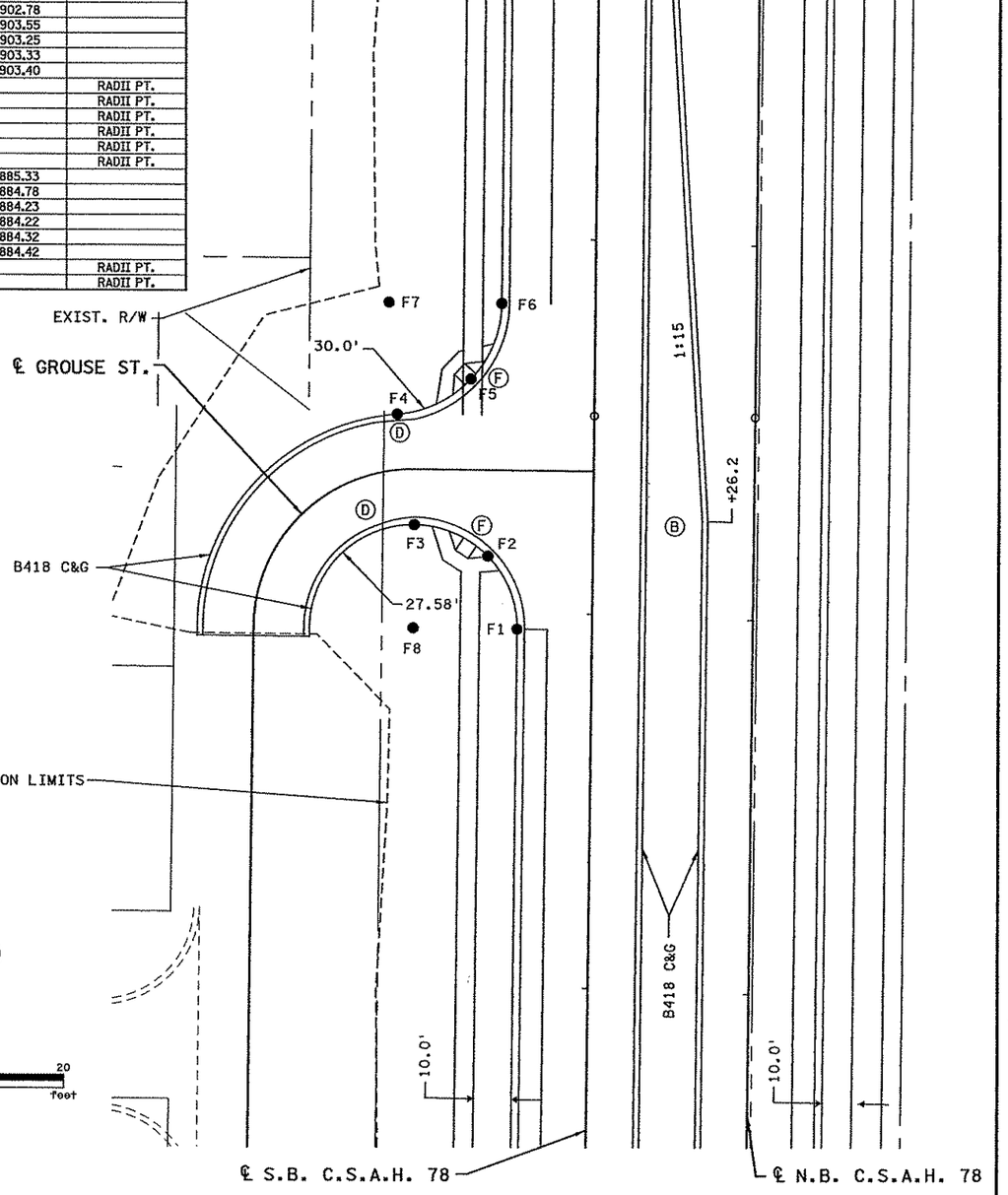
NOTES:

Ⓐ CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

Ⓑ 4" CONCRETE WALK

Ⓓ 10' CURB TRANSITION

Ⓕ TRUNCATED DOMES PER MN/DOT STD. PLT. 7036



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hj-mu\plan\5404.CDD

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

INTERSECTION DETAILS
C.S.A.H. 78

SHEET 121 OF 400

4:28:44 PM
9/26/2006
H:\projects\5404\hj-mu\plan\5404.CDD

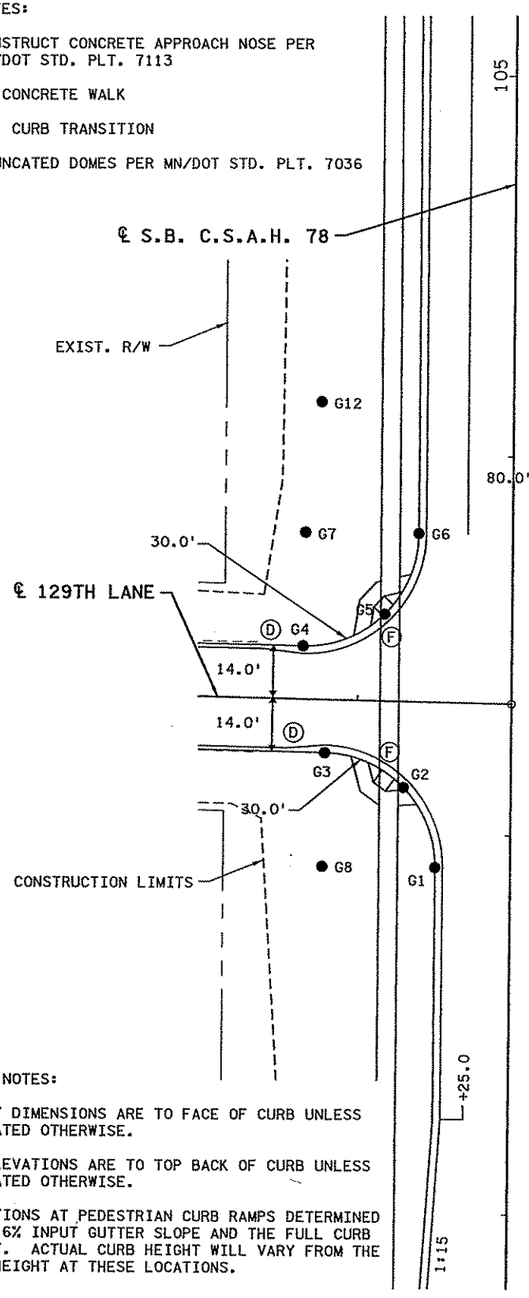
NOTES:

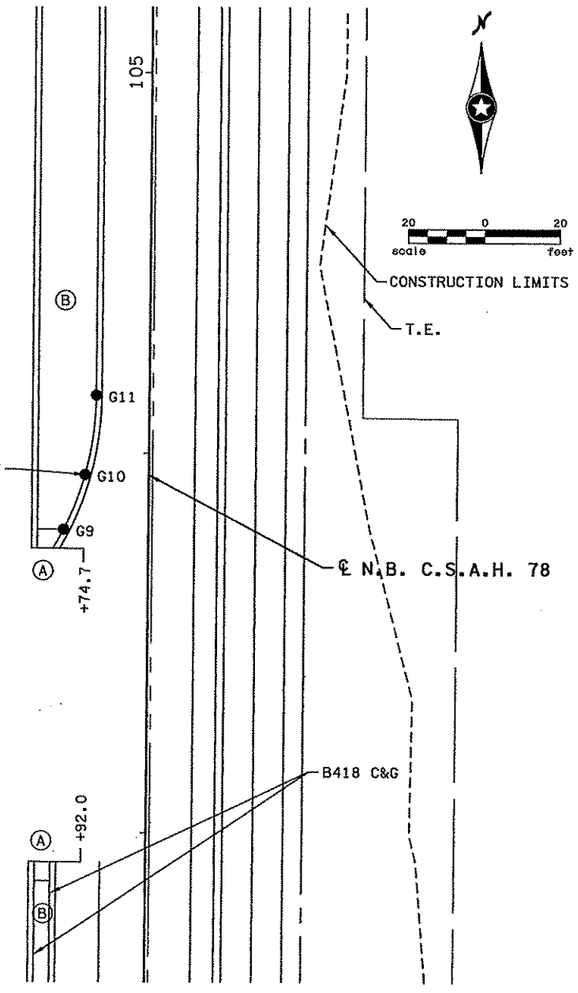
Ⓐ CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

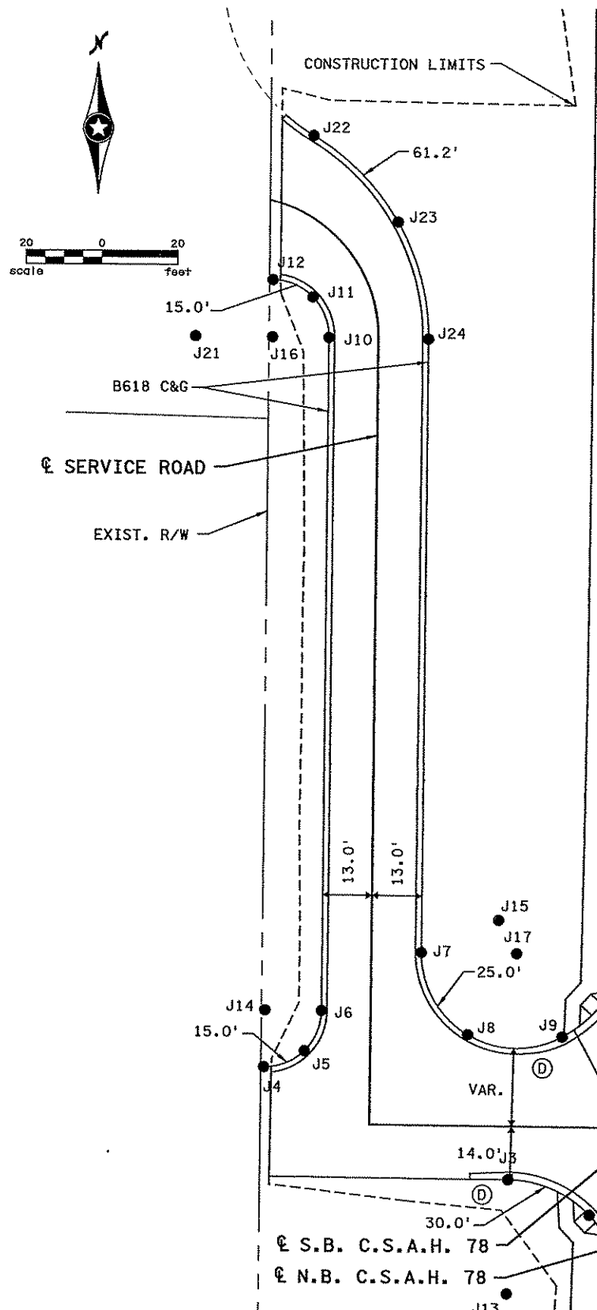
Ⓑ 4" CONCRETE WALK

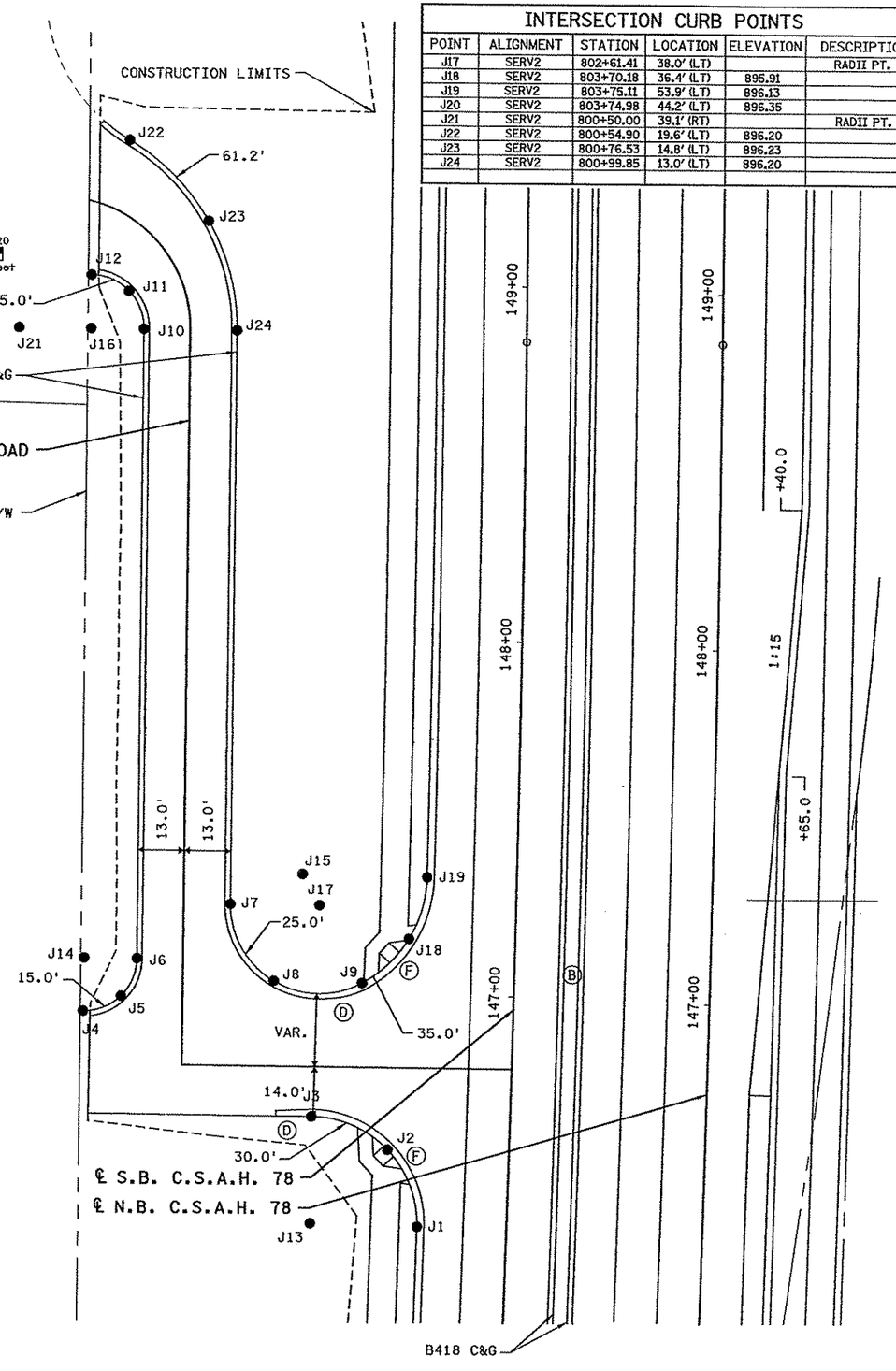
Ⓓ 10' CURB TRANSITION

Ⓕ TRUNCATED DOMES PER MN/DOT STD. PLT. 7036









GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- ALL ELEVATIONS ARE TO TOP BACK OF CURB UNLESS INDICATED OTHERWISE.
- ELEVATIONS AT PEDESTRIAN CURB RAMPS DETERMINED USING 6% INPUT GUTTER SLOPE AND THE FULL CURB HEIGHT. ACTUAL CURB HEIGHT WILL VARY FROM THE FULL HEIGHT AT THESE LOCATIONS.

INTERSECTION CURB POINTS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
J17	SERV2	802+61.41	38.0' (LT)		RADII PT.
J18	SERV2	803+70.18	36.4' (LT)	895.91	
J19	SERV2	803+75.11	53.9' (LT)	896.13	
J20	SERV2	803+74.98	44.2' (LT)	896.35	
J21	SERV2	800+50.00	39.1' (RT)		RADII PT.
J22	SERV2	800+54.90	19.6' (LT)	896.20	
J23	SERV2	800+76.53	14.8' (LT)	896.23	
J24	SERV2	800+99.85	13.0' (LT)	896.20	

INTERSECTION CURB POINTS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
G1	78SB	102+91.48	20.0' (LT)	884.82	
G2	78SB	103+12.54	28.6' (LT)	885.31	
G3	78SB	103+21.48	49.6' (LT)	885.08	
G4	78SB	103+49.56	55.4' (LT)	885.01	
G5	78SB	103+58.20	33.9' (LT)	885.80	
G6	78SB	103+79.56	25.0' (LT)	886.59	
G7	78SB	103+79.56	55.0' (LT)		RADII PT.
G8	78SB	102+91.48	55.0' (LT)		RADII PT.
G9	78NB	103+79.71	22.3' (LT)	887.64	
G10	78NB	103+96.94	16.1' (LT)	888.03	
G11	78NB	104+15.20	14.0' (LT)	888.42	
G12	78NB	104+15.20	108.9' (LT)		RADII PT.
J1	SERV2	803+73.41	44.6' (RT)	896.79	
J2	SERV2	803+64.86	23.0' (RT)	896.35	
J3	SERV2	803+43.42	14.0' (RT)	895.90	
J4	SERV2	802+92.17	28.1' (RT)	896.80	
J5	SERV2	802+87.82	17.4' (RT)	896.27	
J6	SERV2	802+77.17	13.0' (RT)	895.74	
J7	SERV2	802+61.41	13.0' (LT)	895.74	
J8	SERV2	803+32.32	24.0' (LT)	895.80	
J9	SERV2	803+57.16	23.7' (LT)	895.86	
J10	SERV2	800+99.85	13.0' (RT)	896.20	
J11	SERV2	800+81.41	14.7' (RT)	896.22	
J12	SERV2	800+61.42	19.4' (RT)	896.18	

INTERSECTION CURB POINTS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
J13	SERV2	800+43.42	44.0' (RT)		RADII PT.
J14	SERV2	802+77.17	28.0' (RT)		RADII PT.
J15	SERV2	802+52.68	35.1' (LT)		RADII PT.
J16	SERV2	800+99.85	28.0' (RT)		RADII PT.

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hi-mu\plan\5404.CDE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

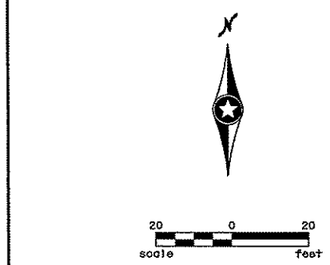
ANOKA COUNTY

INTERSECTION DETAILS

C.S.A.H. 78

SHEET 122 OF 400

4:28:46 PM
9/26/2006
h:\projects\5404\hi-mu\plan\5404.CDE



INTERSECTION CURB POINTS					
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
H1	78SB	125+42.62	20.0' (LT)	891.30	
H2	78SB	125+63.74	28.7' (LT)	890.88	
H3	133W	502+21.32	21.0' (RT)	890.49	
H4	133W	502+15.28	22.0' (LT)	890.40	
H5	78SB	126+24.37	33.9' (LT)	890.52	
H6	78SB	126+45.70	25.0' (LT)	890.37	
H7	78NB	126+49.20	20.0' (RT)	890.52	
H8	78NB	126+28.09	28.7' (RT)	890.85	
H9	133E	503+76.98	23.7' (LT)	891.21	
H10	133E	503+69.95	15.4' (RT)	891.22	
H11	78NB	125+69.17	31.8' (RT)	891.12	
H12	78NB	125+50.17	25.0' (RT)	891.03	
H13	78NB	125+50.17	55.0' (RT)		RADII PT.
H14	78SB	125+42.62	50.0' (LT)		RADII PT.
H15	78SB	126+45.70	55.0' (LT)		RADII PT.
H16	78NB	126+49.20	50.0' (RT)		RADII PT.

℄ S.B. C.S.A.H. 78
B424 C&G
13.0' 12.0' 12.0' 13.0' 15.0' MEDIAN 14.0' 12.0'
8.0'
℄ S.B. C.S.A.H. 78
T.E.
30.0'
CONSTRUCTION LIMITS
H15 H6 H5 H4 H7 H16 H8 H9
℄ 133RD AVE. E.
1:5
+74.0 505
+87.1
500
11.0'
11.0'
10.0'
B618 C&G
℄ 133RD AVE. W.
H3 H2 H1 H14
30.0'
EXIST. R/W
CONSTRUCTION LIMITS
+56.2
+40.0
125
125
15.0' MEDIAN
8.0' 12.0'
+70.0 VAR. +50.7
H11 H10 H12 H13
30.0'
PROP. R/W
5.0'

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- ALL ELEVATIONS ARE TO TOP BACK OF CURB UNLESS INDICATED OTHERWISE.
- ELEVATIONS AT PEDESTRIAN CURB RAMPS DETERMINED USING 6% INPUT GUTTER SLOPE AND THE FULL CURB HEIGHT. ACTUAL CURB HEIGHT WILL VARY FROM THE FULL HEIGHT AT THESE LOCATIONS.

NOTES:

(A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

(B) 4" CONCRETE WALK

(D) 10' CURB TRANSITION

(F) TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.CDF

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

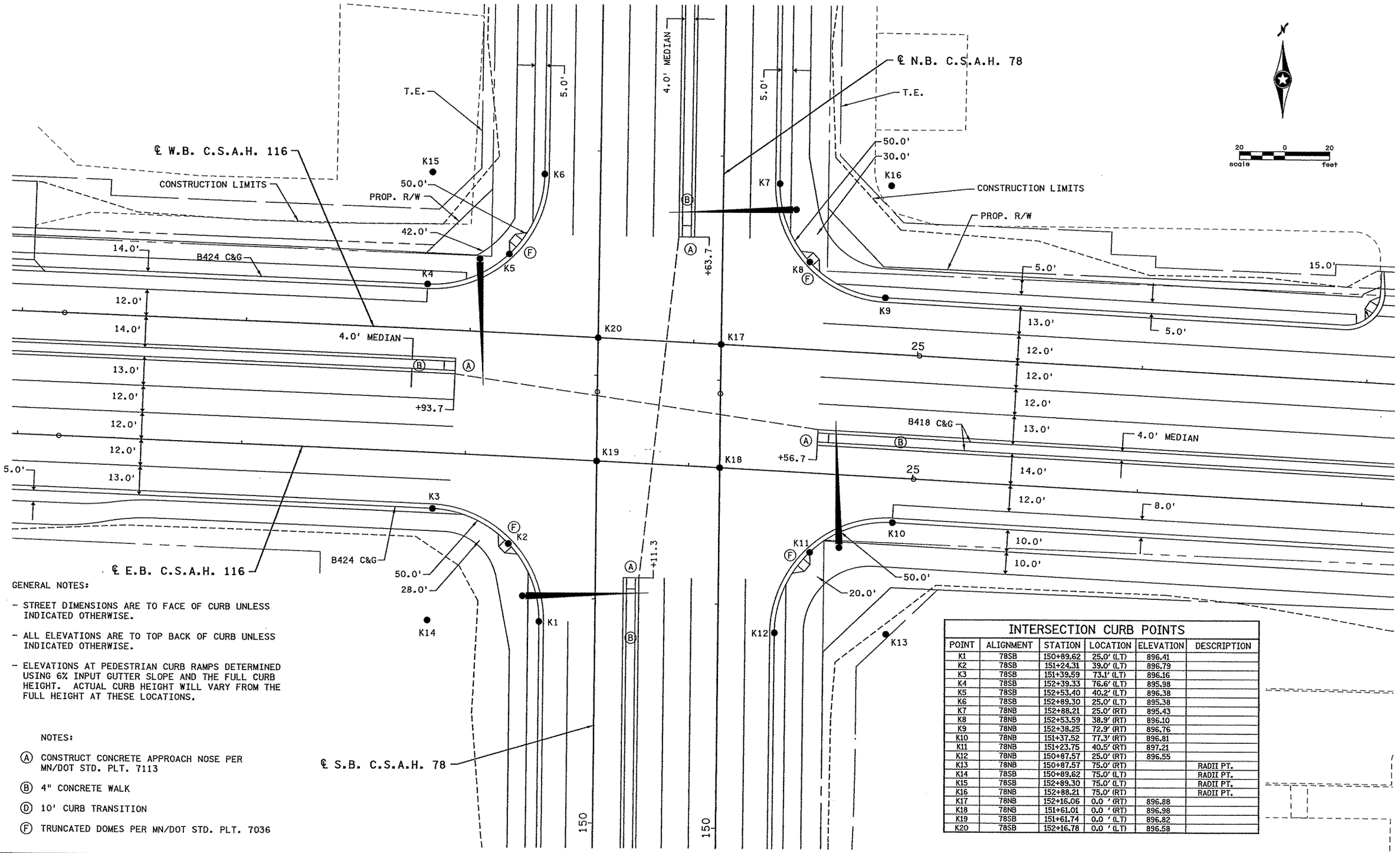
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
INTERSECTION DETAILS
C.S.A.H. 78

SHEET 123 OF 400

4:28:47 PM
10/10/2006
H:\Sp\plotter\5404\hl-mu\plan\5404.CDF



GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- ALL ELEVATIONS ARE TO TOP BACK OF CURB UNLESS INDICATED OTHERWISE.
- ELEVATIONS AT PEDESTRIAN CURB RAMPS DETERMINED USING 6% INPUT GUTTER SLOPE AND THE FULL CURB HEIGHT. ACTUAL CURB HEIGHT WILL VARY FROM THE FULL HEIGHT AT THESE LOCATIONS.

NOTES:

(A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

(B) 4" CONCRETE WALK

(D) 10' CURB TRANSITION

(F) TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

INTERSECTION CURB POINTS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
K1	78SB	150+89.62	25.0' (LT)	896.41	
K2	78SB	151+24.31	39.0' (LT)	896.79	
K3	78SB	151+39.59	73.1' (LT)	896.16	
K4	78SB	152+39.33	76.6' (LT)	895.98	
K5	78SB	152+53.40	40.2' (LT)	896.38	
K6	78SB	152+89.30	25.0' (LT)	895.38	
K7	78NB	152+88.21	25.0' (RT)	895.43	
K8	78NB	152+53.59	38.9' (RT)	896.10	
K9	78NB	152+38.25	72.9' (RT)	896.76	
K10	78NB	151+37.52	77.3' (RT)	896.81	
K11	78NB	151+23.75	40.5' (RT)	897.21	
K12	78NB	150+87.57	25.0' (RT)	896.55	
K13	78NB	150+87.57	75.0' (RT)		RADII PT.
K14	78SB	150+89.62	75.0' (LT)		RADII PT.
K15	78SB	152+89.30	75.0' (LT)		RADII PT.
K16	78NB	152+88.21	75.0' (RT)		RADII PT.
K17	78NB	152+16.06	0.0 ' (RT)	896.88	
K18	78NB	151+61.01	0.0 ' (RT)	896.98	
K19	78SB	151+61.74	0.0 ' (LT)	896.82	
K20	78SB	152+16.78	0.0 ' (LT)	896.58	

NO	DATE	BY	CKD	APPR	REVISION
...\5404\hl-mu\plan\5404.CDH					

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

INTERSECTION DETAILS

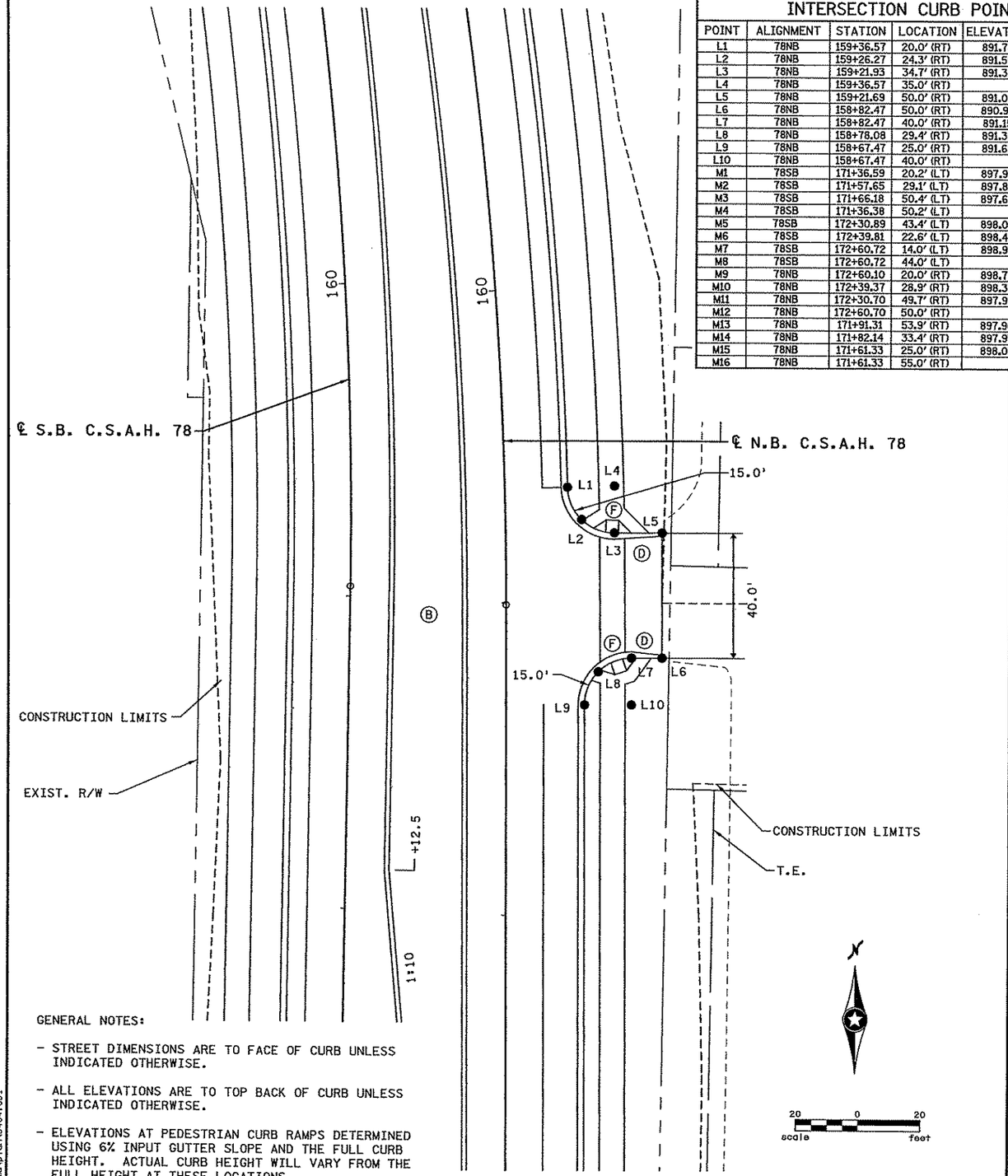
C.S.A.H. 78

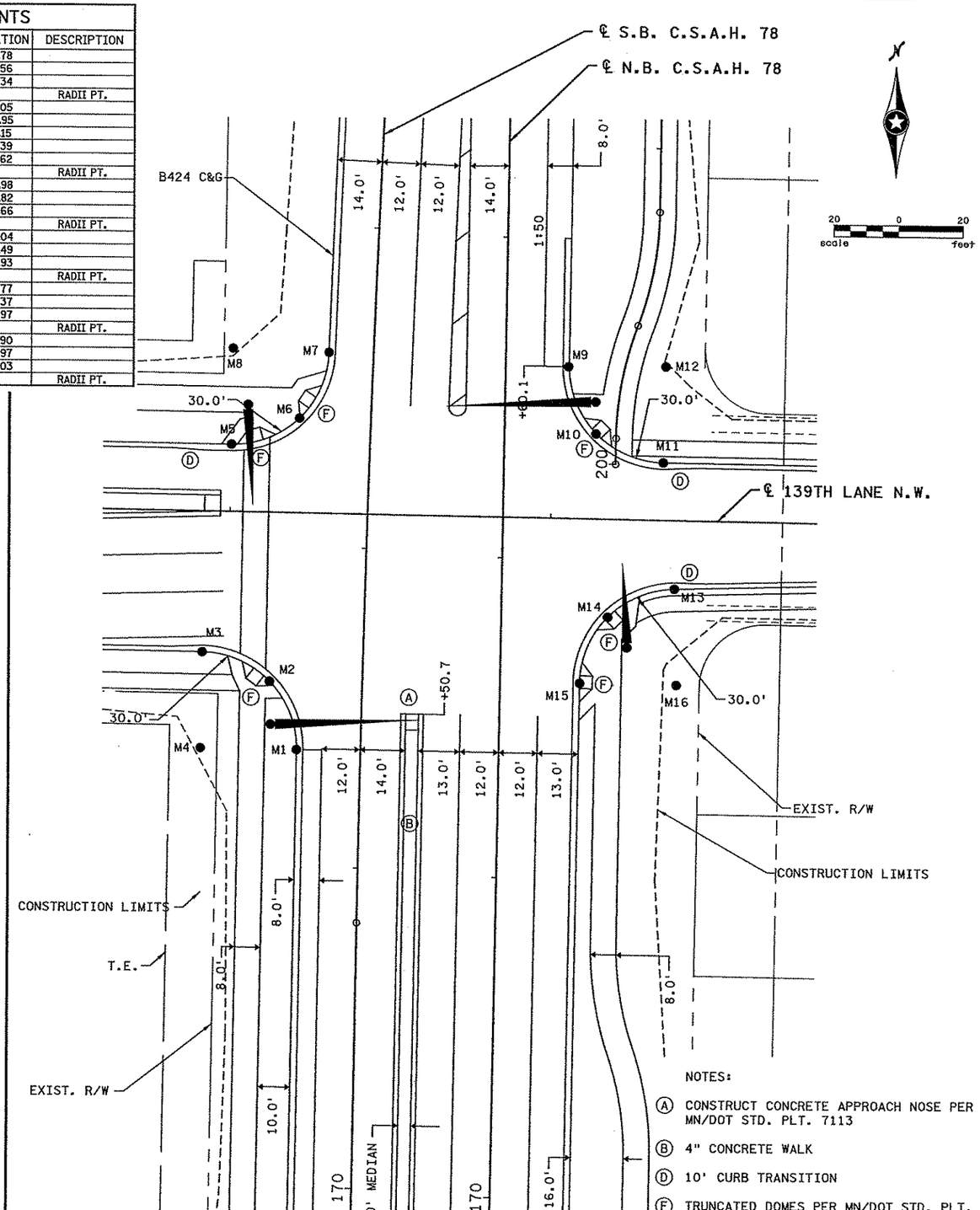
SHEET 125 OF 400

4/28/51 PM
6/30/2006
H:\projects\5404\hl-mu\plan\5404.CDH

INTERSECTION CURB POINTS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
L1	78NB	159+36.57	20.0' (RT)	891.78	
L2	78NB	159+26.27	24.3' (RT)	891.56	
L3	78NB	159+21.93	34.7' (RT)	891.34	
L4	78NB	159+36.57	35.0' (RT)		RADII PT.
L5	78NB	159+21.69	50.0' (RT)	891.05	
L6	78NB	158+82.47	50.0' (RT)	890.95	
L7	78NB	158+82.47	40.0' (RT)	891.15	
L8	78NB	158+78.08	29.4' (RT)	891.39	
L9	78NB	158+67.47	25.0' (RT)	891.62	
L10	78NB	158+67.47	40.0' (RT)		RADII PT.
M1	78SB	171+36.59	20.2' (LT)	897.98	
M2	78SB	171+57.65	29.1' (LT)	897.82	
M3	78SB	171+66.18	50.4' (LT)	897.66	
M4	78SB	171+36.38	50.2' (LT)		RADII PT.
M5	78SB	172+30.89	43.4' (LT)	898.04	
M6	78SB	172+39.81	22.6' (LT)	898.49	
M7	78SB	172+60.72	14.0' (LT)	898.93	
M8	78SB	172+60.72	44.0' (LT)		RADII PT.
M9	78NB	172+60.10	20.0' (RT)	898.77	
M10	78NB	172+39.37	28.9' (RT)	898.37	
M11	78NB	172+30.70	49.7' (RT)	897.97	
M12	78NB	172+60.70	50.0' (RT)		RADII PT.
M13	78NB	171+91.31	53.9' (RT)	897.90	
M14	78NB	171+82.14	33.4' (RT)	897.97	
M15	78NB	171+61.33	25.0' (RT)	898.03	
M16	78NB	171+61.33	55.0' (RT)		RADII PT.





GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- ALL ELEVATIONS ARE TO TOP BACK OF CURB UNLESS INDICATED OTHERWISE.
- ELEVATIONS AT PEDESTRIAN CURB RAMPS DETERMINED USING 6% INPUT GUTTER SLOPE AND THE FULL CURB HEIGHT. ACTUAL CURB HEIGHT WILL VARY FROM THE FULL HEIGHT AT THESE LOCATIONS.

NOTES:

- (A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113
- (B) 4" CONCRETE WALK
- (D) 10' CURB TRANSITION
- (F) TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.CDI

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

INTERSECTION DETAILS

C.S.A.H. 78

SHEET 126 OF 400

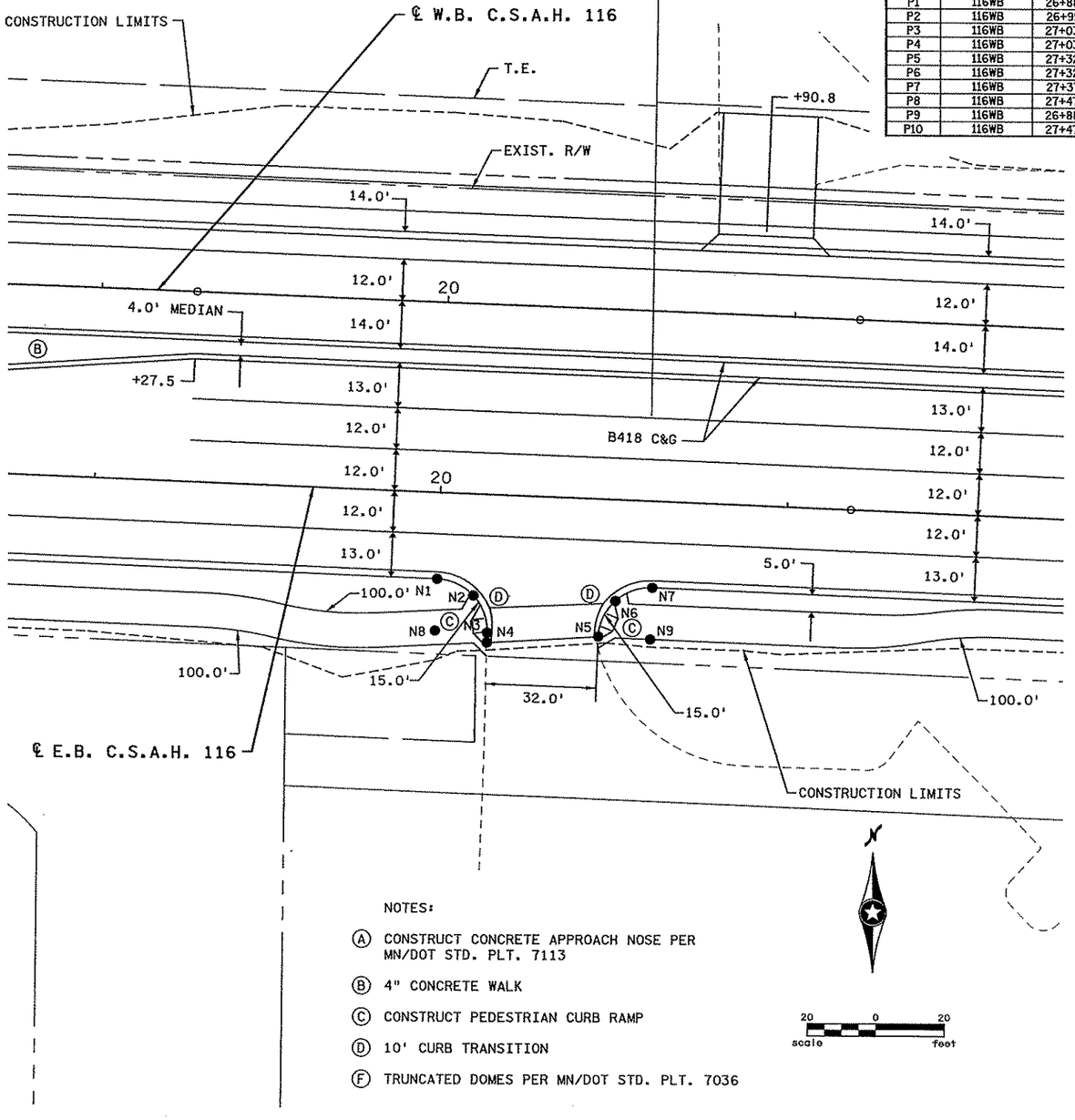
4:28:52 PM
9/26/2006
h:\projects\5404\hi-mu\plan\5404.CDI

INTERSECTION CURB POINTS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
N1	116EB	20+00.02	25.0' (RT)	895.16	
N2	116EB	20+10.63	29.4' (RT)	895.42	
N3	116EB	20+15.02	40.0' (RT)	895.68	
N4	116EB	20+15.02	42.8' (RT)	895.74	
N5	116EB	20+47.02	39.8' (RT)	895.91	
N6	116EB	20+51.49	29.3' (RT)	895.64	
N7	116EB	20+62.02	25.0' (RT)	895.38	
N8	116EB	20+00.02	40.0' (RT)		RADII PT
N9	116EB	20+62.02	40.0' (RT)		RADII PT
P1	116WB	26+88.55	25.0' (LT)	897.24	
P2	116WB	26+99.15	29.4' (LT)	897.18	
P3	116WB	27+03.55	40.0' (LT)	897.11	
P4	116WB	27+03.55	50.0' (LT)	897.05	
P5	116WB	27+32.78	50.0' (LT)	897.22	
P6	116WB	27+32.78	40.0' (LT)	897.27	
P7	116WB	27+37.17	29.4' (LT)	897.33	
P8	116WB	27+47.78	25.0' (LT)	897.18	
P9	116WB	26+88.55	40.0' (LT)		RADII PT
P10	116WB	27+47.78	40.0' (LT)		RADII PT

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- ALL ELEVATIONS ARE TO TOP BACK OF CURB UNLESS INDICATED OTHERWISE.
- ELEVATIONS AT PEDESTRIAN CURB RAMPS DETERMINED USING 6% INPUT GUTTER SLOPE AND THE FULL CURB HEIGHT. ACTUAL CURB HEIGHT WILL VARY FROM THE FULL HEIGHT AT THESE LOCATIONS.



NOTES:

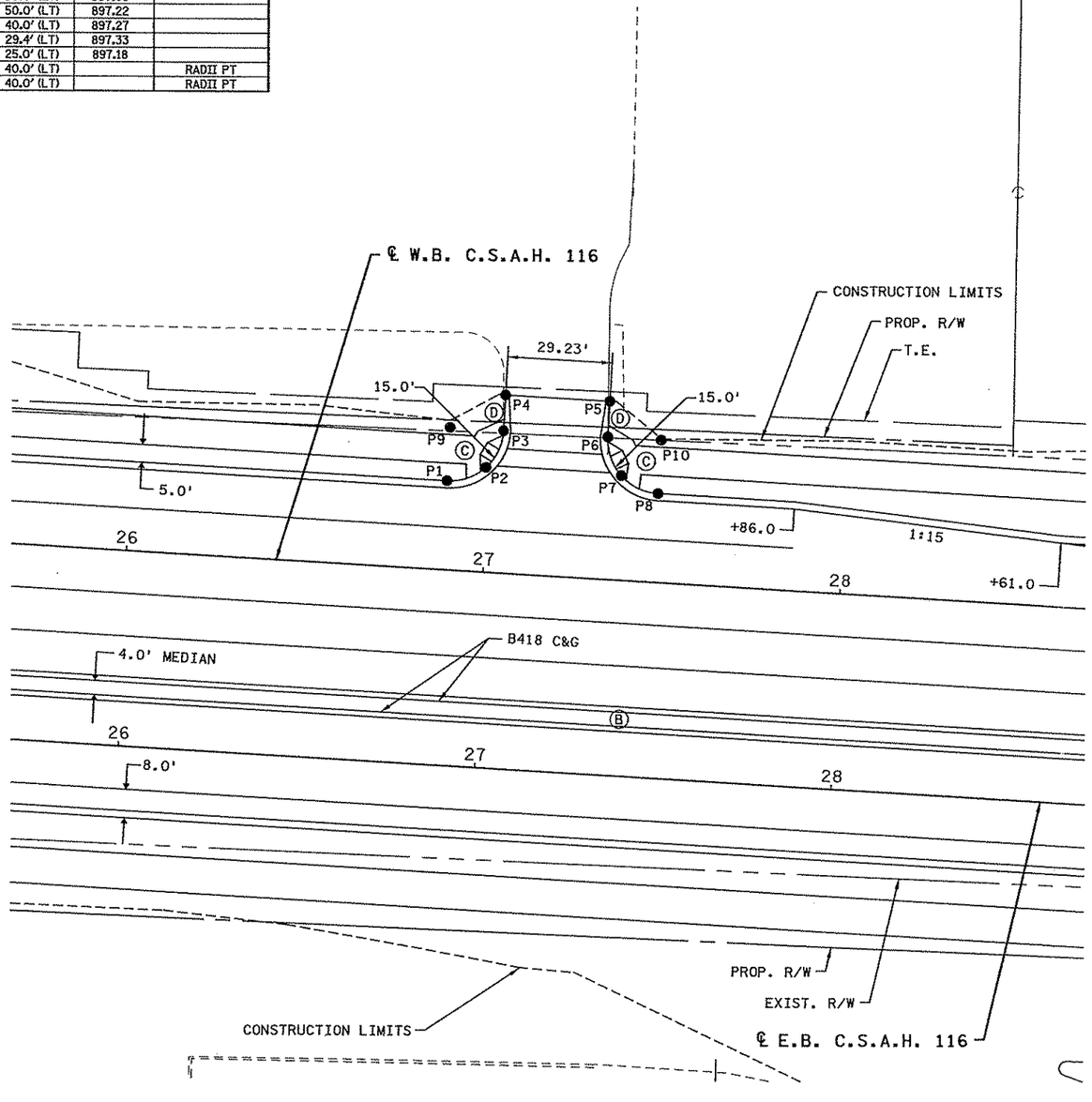
Ⓐ CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

Ⓑ 4" CONCRETE WALK

Ⓒ CONSTRUCT PEDESTRIAN CURB RAMP

Ⓓ 10' CURB TRANSITION

Ⓕ TRUNCATED DOMES PER MN/DOT STD. PLT. 7036



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.CDJ

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

INTERSECTION DETAILS

C.S.A.H. 78

SHEET 127 OF 400

4128154 PM
9/26/2006
M:\projects\5404\hl-mu\plan\5404.CDJ

INTERSECTION CURB POINTS					
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
R1	116WB	31+74.67	20.0' (LT)	895.66	
R2	116WB	31+88.66	34.0' (LT)	895.40	
R3	116WB	31+74.67	48.0' (LT)	895.14	
R4	116WB	32+18.14	51.1' (LT)	895.69	
R5	116WB	32+20.63	37.3' (LT)	895.57	
R6	116WB	32+25.78	28.5' (LT)	895.47	
R7	116WB	32+35.39	25.0' (LT)	895.38	
R8	116WB	31+74.67	34.0' (LT)		RADII PT
R9	116WB	32+35.39	40.0' (LT)		RADII PT

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- ALL ELEVATIONS ARE TO TOP BACK OF CURB UNLESS INDICATED OTHERWISE.
- ELEVATIONS AT PEDESTRIAN CURB RAMPS DETERMINED USING 6% INPUT GUTTER SLOPE AND THE FULL CURB HEIGHT. ACTUAL CURB HEIGHT WILL VARY FROM THE FULL HEIGHT AT THESE LOCATIONS.

NOTES:

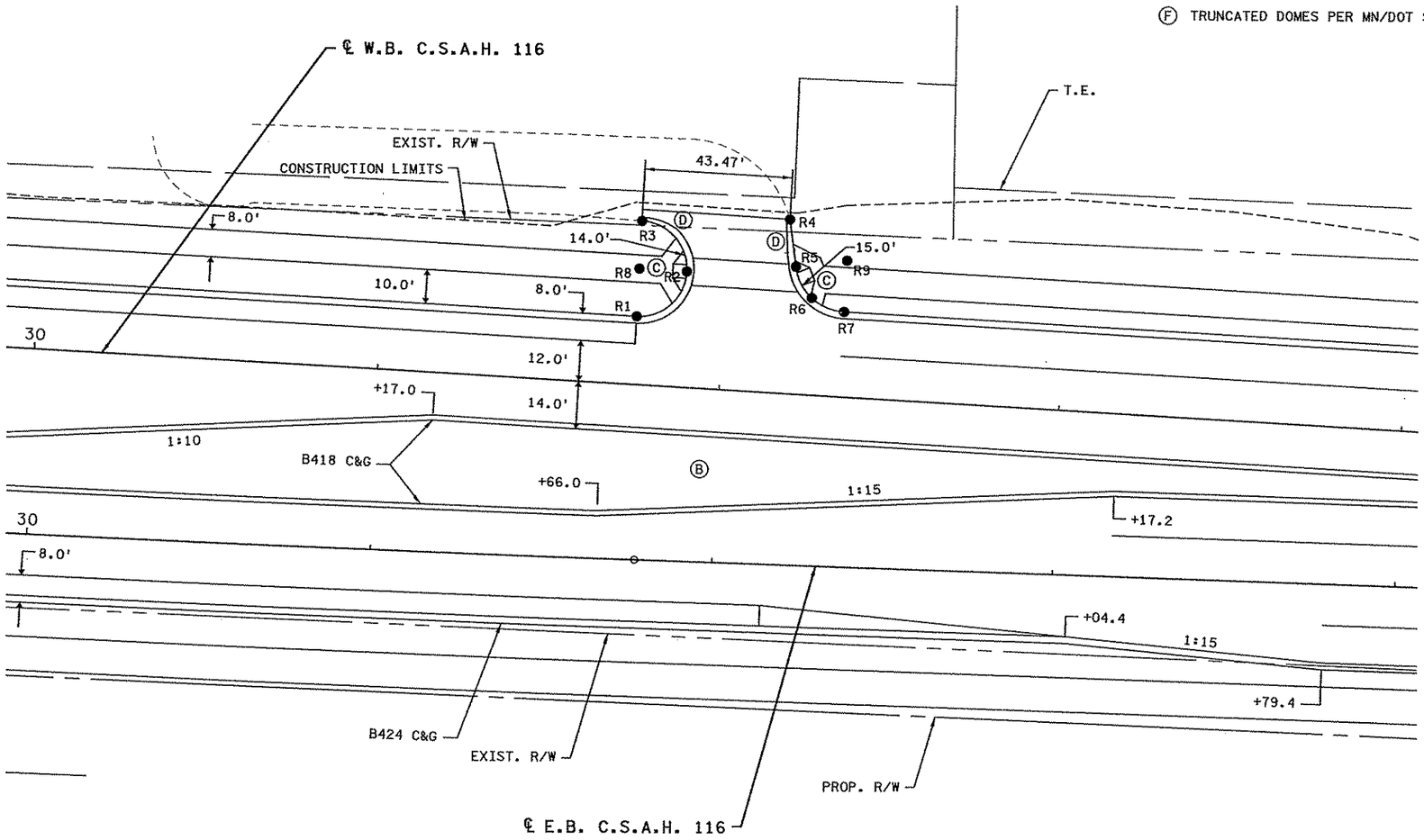
(A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

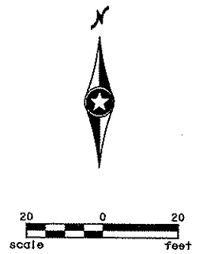
(B) 4" CONCRETE WALK

(C) CONSTRUCT PEDESTRIAN CURB RAMP

(D) 10' CURB TRANSITION

(F) TRUNCATED DOMES PER MN/DOT STD. PLT. 7036





NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.CDK

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/06 License # 41635

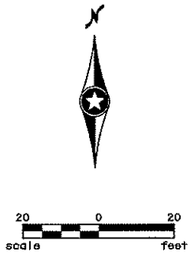
STATE AID PROJECT NO. 02-678-16	DRAWN BY D.FITCHORN	SRF CONSULTING GROUP, INC.
STATE PROJECT NO. X	DESIGNED BY C.TRBOYEVICH	
COUNTY PROJECT NO. X	CHECKED BY M. TURNER	
CITY PROJECT NO. X	COMM. NO. 0055404	

ANOKA COUNTY

INTERSECTION DETAILS
C.S.A.H. 78

SHEET 128 OF 400

4/28/55 PM
10/10/2006
H:\projects\5404\hl-mu\plan\5404.CDK



INTERSECTION CURB POINTS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
S1	116WB	36+51.69	20.0' (LT)	896.72	
S2	116WB	36+72.75	28.4' (LT)	896.88	
S3	116WB	36+82.19	48.8' (LT)	897.04	
S4	116WB	36+83.14	69.7' (LT)	896.83	
S5	116WB	37+15.93	68.9' (LT)	897.10	
S6	116WB	37+15.24	56.8' (LT)	897.22	
S7	116WB	37+23.61	34.4' (LT)	896.96	
S8	116WB	37+45.78	25.0' (LT)	896.69	
S9	116WB	36+51.69	50.0' (LT)		RADII PT
S10	116EB	37+45.78	55.0' (LT)		RADII PT
T1	116EB	36+33.71	25.0' (RT)	898.56	
T2	116EB	36+65.53	38.8' (RT)	898.45	
T3	116EB	36+77.62	71.5' (RT)	898.34	
T4	116EB	37+09.12	67.0' (RT)	898.37	
T5	116EB	37+24.16	33.6' (RT)	898.74	
T6	116EB	37+57.88	20.0' (RT)	899.11	
T7	116EB	36+33.71	70.0' (RT)		RADII PT
T8	116EB	37+57.88	70.0' (RT)		RADII PT

NOTES:

Ⓐ CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

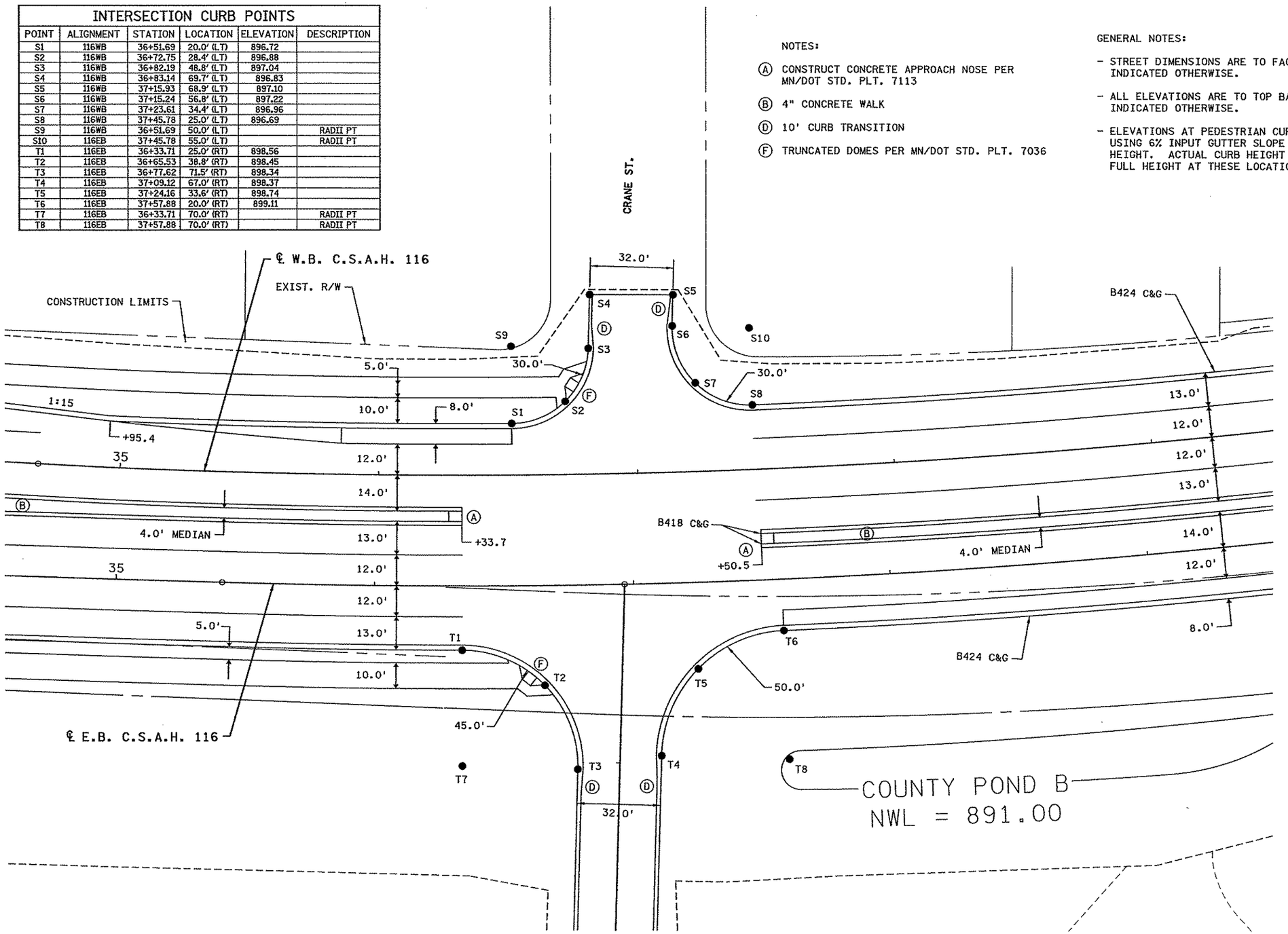
Ⓑ 4" CONCRETE WALK

Ⓓ 10' CURB TRANSITION

Ⓕ TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- ALL ELEVATIONS ARE TO TOP BACK OF CURB UNLESS INDICATED OTHERWISE.
- ELEVATIONS AT PEDESTRIAN CURB RAMPS DETERMINED USING 6% INPUT GUTTER SLOPE AND THE FULL CURB HEIGHT. ACTUAL CURB HEIGHT WILL VARY FROM THE FULL HEIGHT AT THESE LOCATIONS.



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.CDL

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

INTERSECTION DETAILS

C.S.A.H. 78

SHEET 129 OF 400

4:28:56 PM
9/26/2006
N:\proj\anoka\5404\hl-mu\plan\5404.CDL

INTERSECTION CURB POINTS				
POINT	X	Y	ELEVATION	DESCRIPTION
U1	490,001.9069	168,453.5613	891.46	
U2	490,001.5402	168,435.8846	890.97	
U3	490,015.5864	168,399.6669	890.41	
U4	490,051.0656	168,383.8479	890.86	
U5	490,081.6536	168,382.9697	889.80	
U6	490,052.5292	168,434.8269		RADII PT
V1	489,991.8455	168,330.9212	891.05	
V2	490,010.3815	168,349.1261	891.27	
V3	490,046.3739	168,348.3866	891.63	
V4	490,046.0004	168,330.2077	890.72	
V5	490,125.3572	168,346.7639	890.64	
V6	490,128.3566	168,346.7023	890.63	
V7	490,128.0741	168,332.9533	890.35	
V8	490,133.0730	168,332.8506		RADII PT
V9	490,134.9785	168,328.2279	890.23	
V10	490,127.3567	168,346.7187		RADII PT
V11	490,147.3525	168,346.3079	889.94	
V12	490,147.5680	168,356.8002	889.81	
V13	490,122.5733	168,357.3136		RADII PT
V14	490,140.6145	168,374.6202	889.56	
V15	490,123.0988	168,382.3081	889.32	
V16	490,199.2441	168,380.6929	888.54	
V17	490,181.3085	168,373.7998	888.90	
V18	490,173.5615	168,356.2161	889.26	
V19	490,198.5563	168,355.7024		RADII PT
V20	490,173.0699	168,332.2854	889.70	
V21	490,171.8925	168,323.6610	889.13	
V22	490,124.9024	168,324.6264	889.75	
V23	490,176.2637	168,341.6902		SIGN POST
V24	490,183.0276	168,341.5513		SIGN POST

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- ALL ELEVATIONS ARE TO TOP BACK OF CURB UNLESS INDICATED OTHERWISE.
- ELEVATIONS AT PEDESTRIAN CURB RAMPS DETERMINED USING 6% INPUT GUTTER SLOPE AND THE FULL CURB HEIGHT. ACTUAL CURB HEIGHT WILL VARY FROM THE FULL HEIGHT AT THESE LOCATIONS.

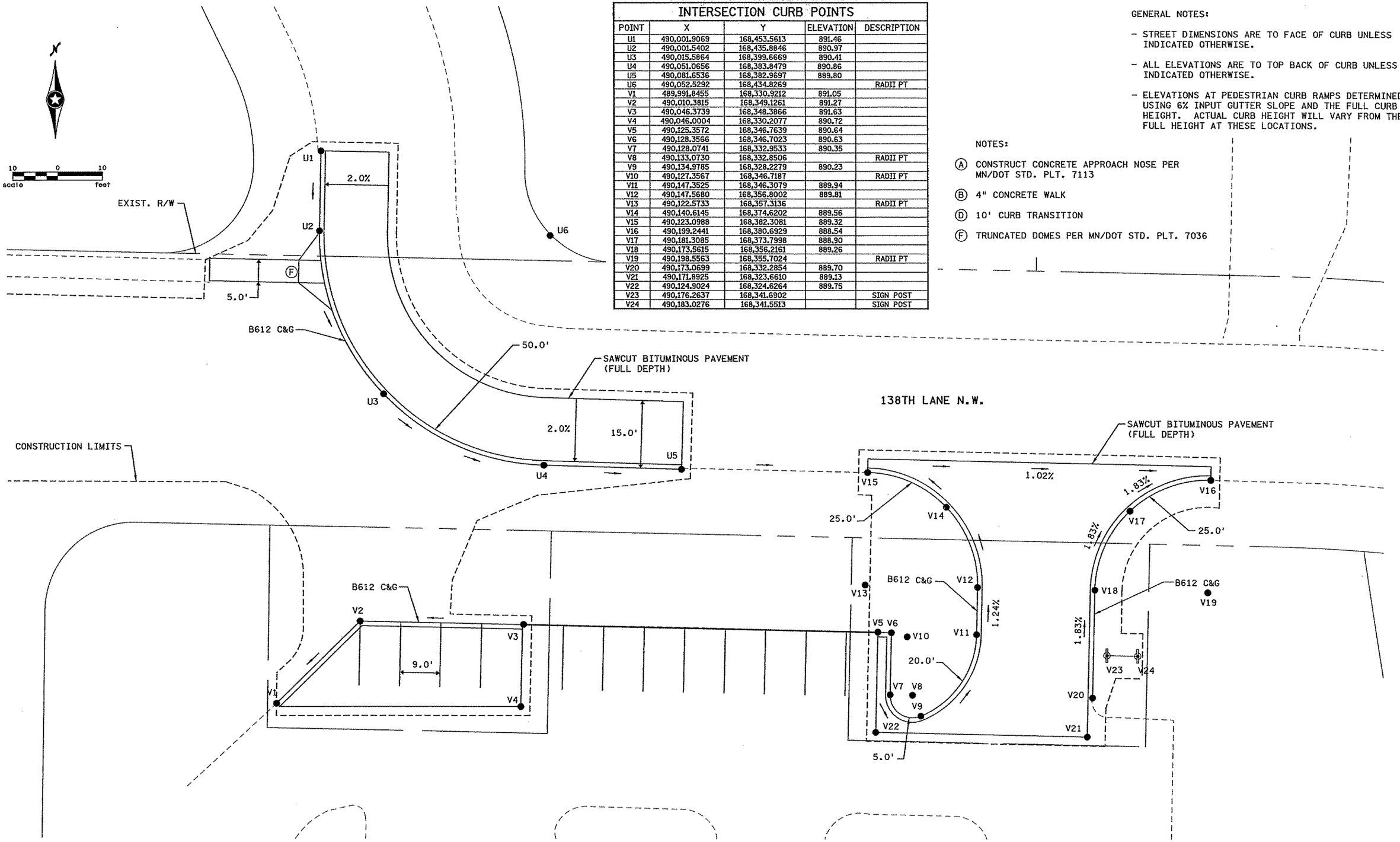
NOTES:

Ⓐ CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

Ⓑ 4" CONCRETE WALK

Ⓓ 10' CURB TRANSITION

Ⓕ TRUNCATED DOMES PER MN/DOT STD. PLT. 7036



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.CDM

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

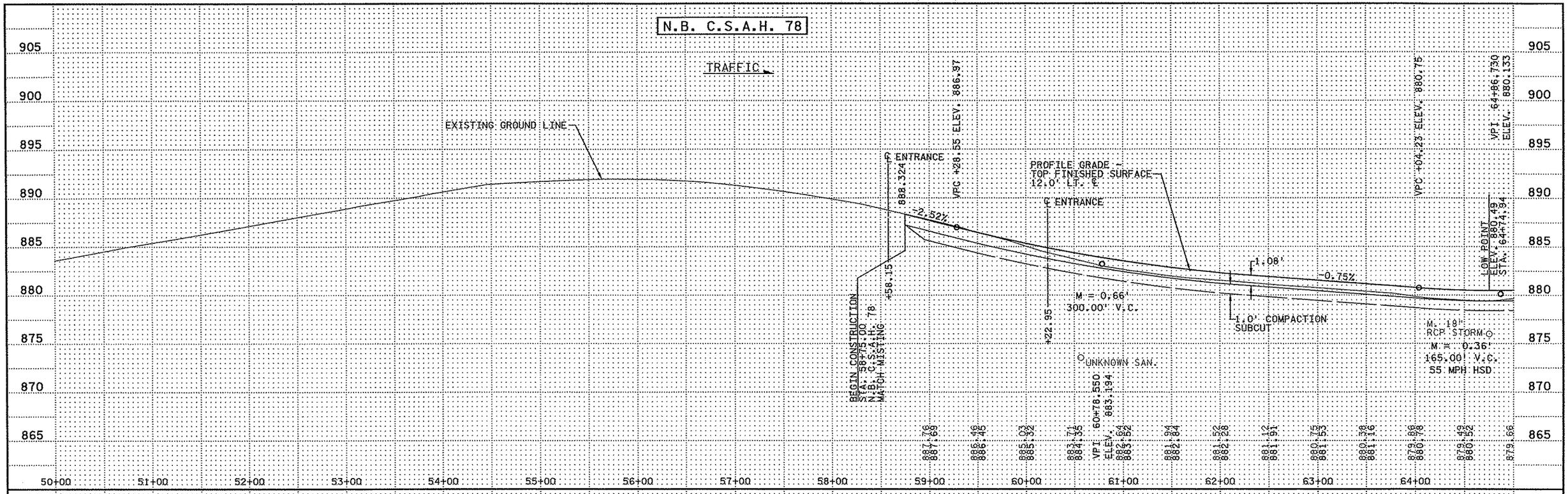
INTERSECTION DETAILS

C.S.A.H. 78

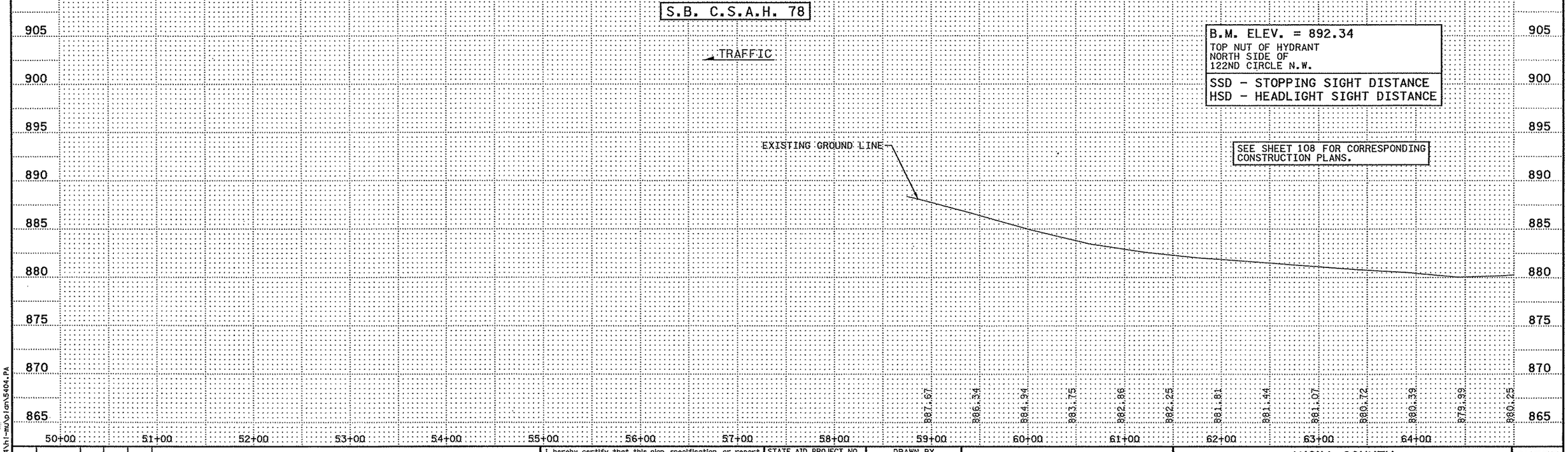
SHEET 130 OF 400

4:28:57 PM
9/26/2006
h:\projects\5404\hi-mu\plan\5404.CDM

N.B. C.S.A.H. 78



S.B. C.S.A.H. 78



B.M. ELEV. = 892.34
TOP NUT OF HYDRANT
NORTH SIDE OF
122ND CIRCLE N.W.

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

SEE SHEET 108 FOR CORRESPONDING CONSTRUCTION PLANS.

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.PA

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/20/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M.TURNER
COMM. NO.	0055404

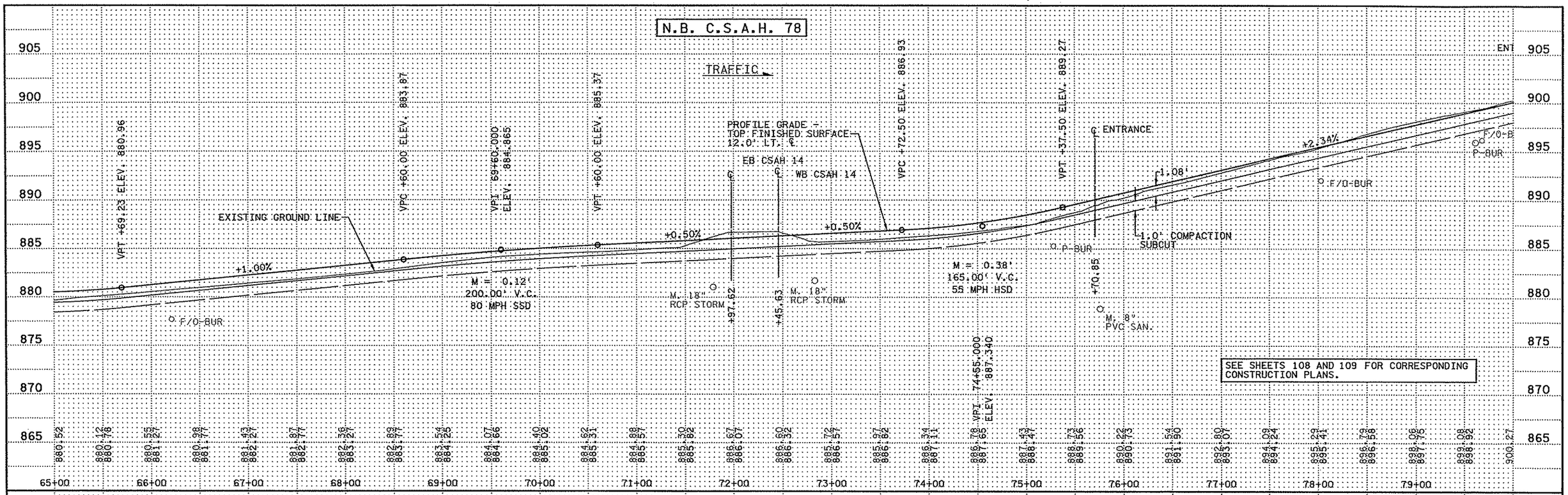
SRF CONSULTING GROUP, INC.

ANOKA COUNTY
PROFILES
C.S.A.H. 78
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 131 OF 400

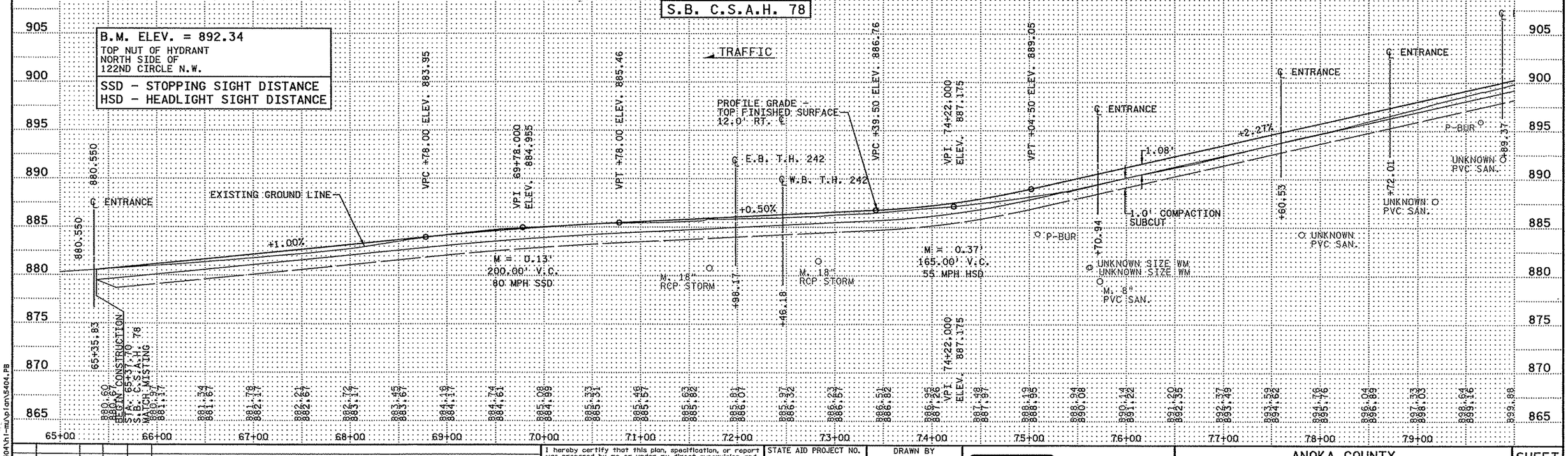
5:41:41 PM
10/9/2006
N:\projects\5404\hl-mu\plan\5404.PA

N.B. C.S.A.H. 78



SEE SHEETS 108 AND 109 FOR CORRESPONDING CONSTRUCTION PLANS.

S.B. C.S.A.H. 78



NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.PB

4:29:01 PM
9/26/2006
n:\projects\5404\hl-mu\plan\5404.PB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

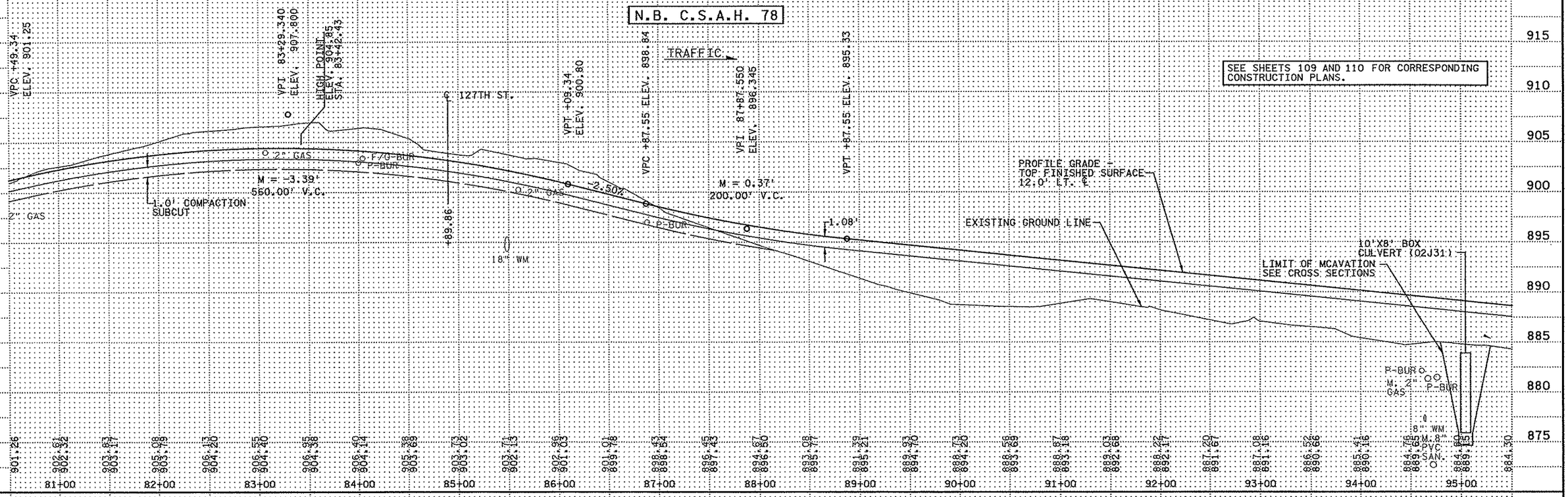
PROFILES

C.S.A.H. 78

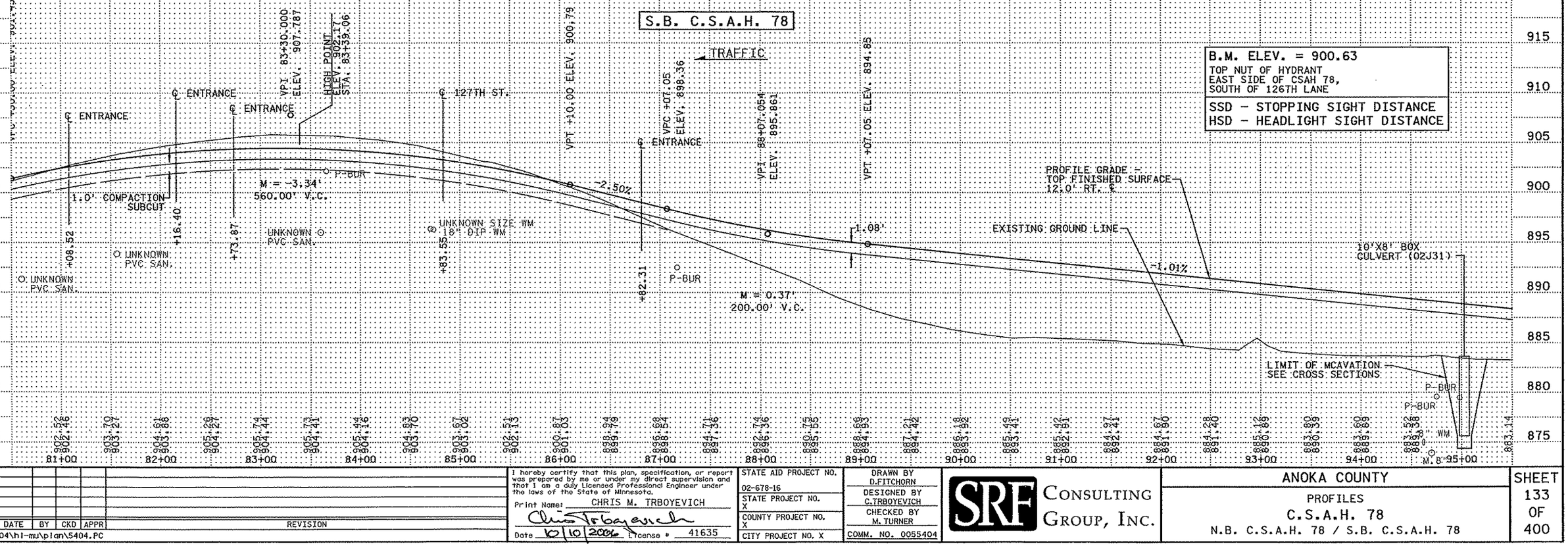
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 132 OF 400

N.B. C.S.A.H. 78



S.B. C.S.A.H. 78



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.PC

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

PROFILES

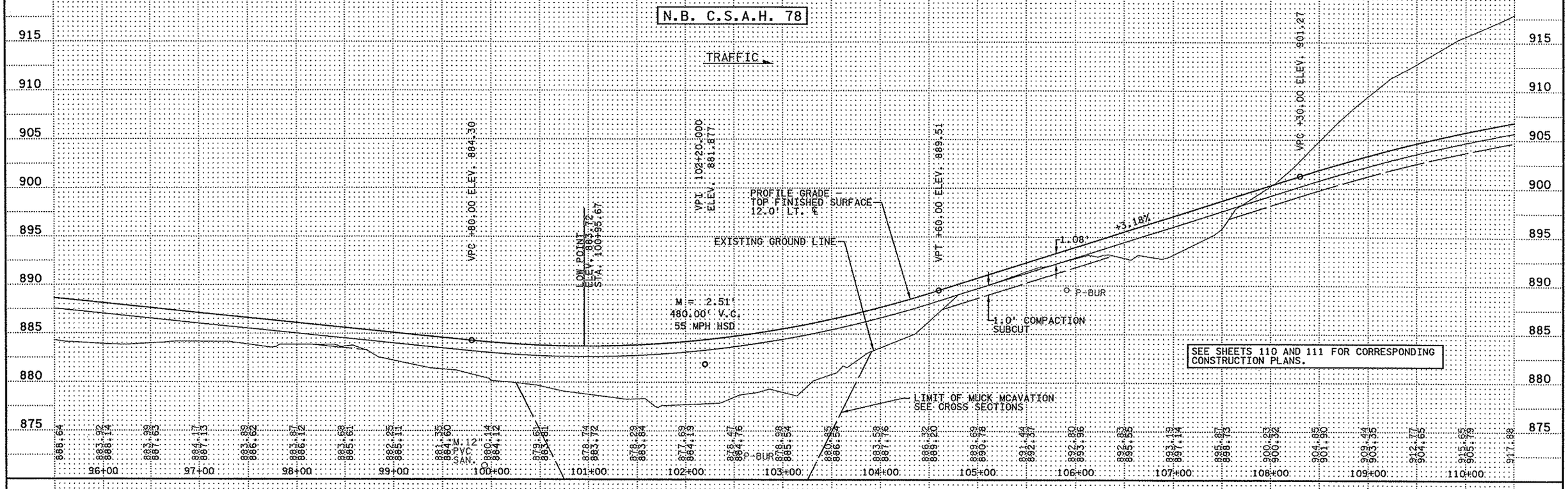
C.S.A.H. 78

N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 133 OF 400

4:29:02 PM
9/28/2006
M:\Projects\5404\hl-mu\plan\5404.PC

N.B. C.S.A.H. 78

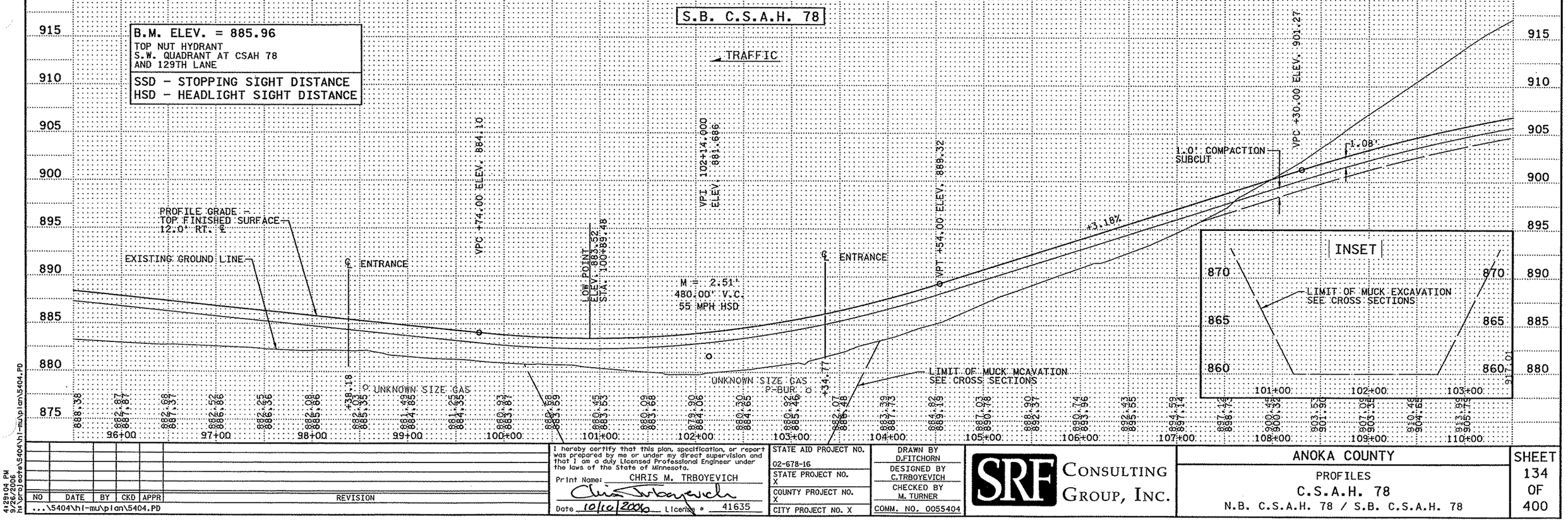


SEE SHEETS 110 AND 111 FOR CORRESPONDING CONSTRUCTION PLANS.

S.B. C.S.A.H. 78

B.M. ELEV. = 885.96
TOP NUT HYDRANT
S.W. QUADRANT AT CSAH 78
AND 129TH LANE

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE



NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.PD

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

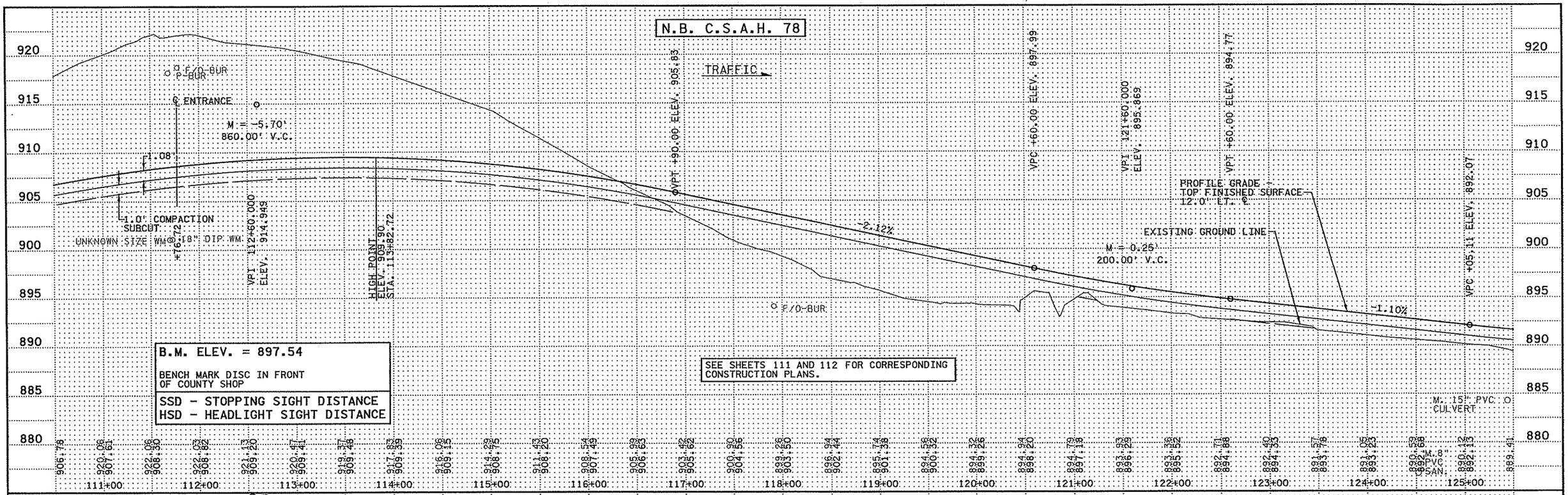
PROFILES

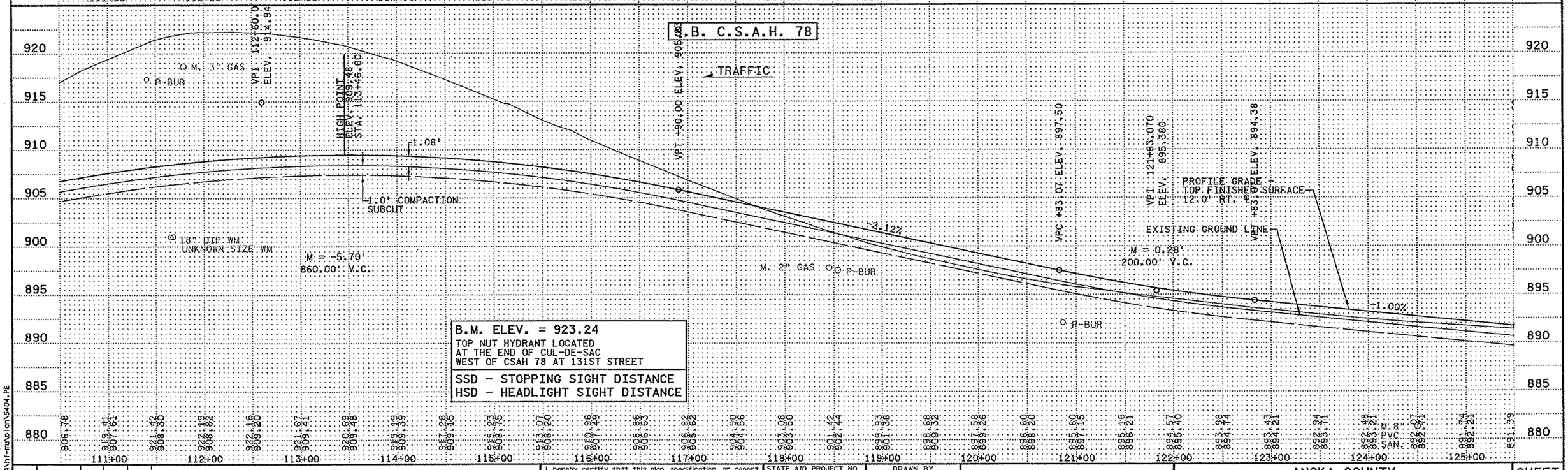
C.S.A.H. 78

N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 134 OF 400

4/28/04 PM
5/25/2006
N:\Projects\5404\hl-mu\plan\5404.PD





NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.PE

4:29:05 PM
9/26/2006
N:\Projects\5404\hl-mu\plan\5404.PE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

PROFILES

C.S.A.H. 78

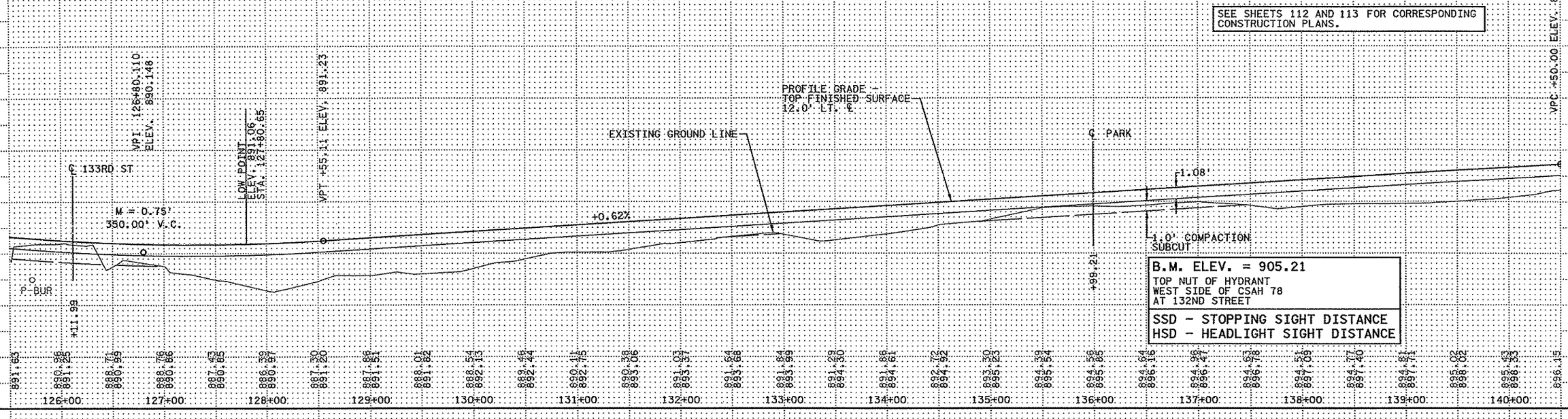
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 135 OF 400

N.B. C.S.A.H. 78

TRAFFIC

SEE SHEETS 112 AND 113 FOR CORRESPONDING CONSTRUCTION PLANS.



B.M. ELEV. = 905.21
TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

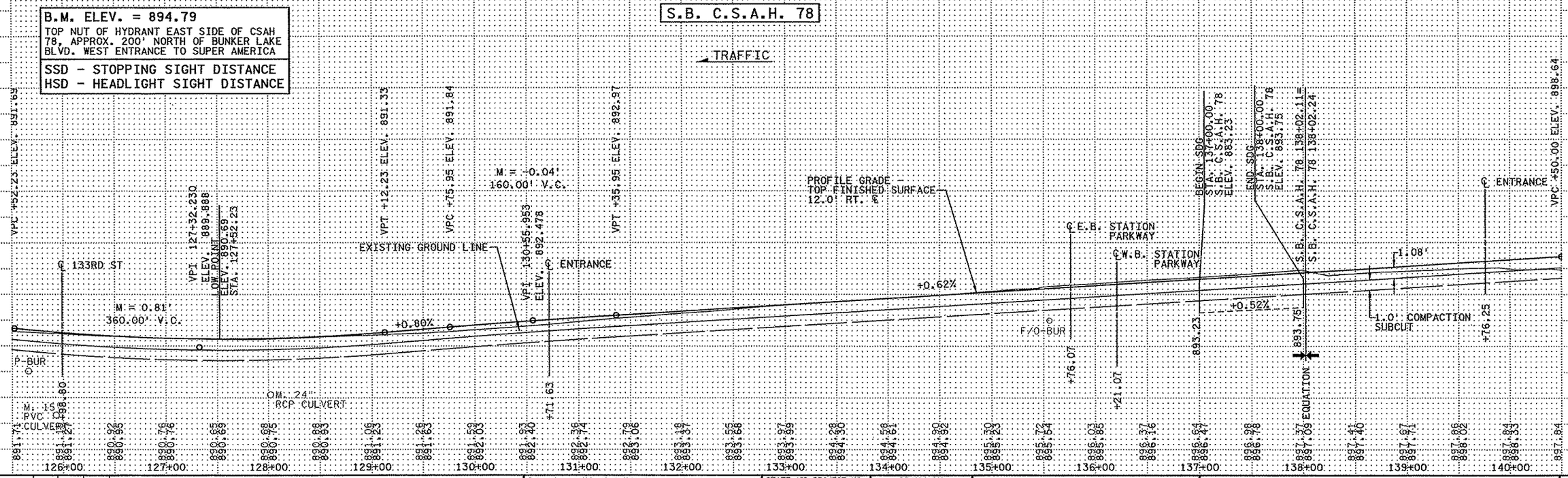
SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

S.B. C.S.A.H. 78

B.M. ELEV. = 894.79
TOP NUT OF HYDRANT EAST SIDE OF CSAH 78, APPROX. 200' NORTH OF BUNKER LAKE BLVD. WEST ENTRANCE TO SUPER AMERICA

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

TRAFFIC



NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.PF

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

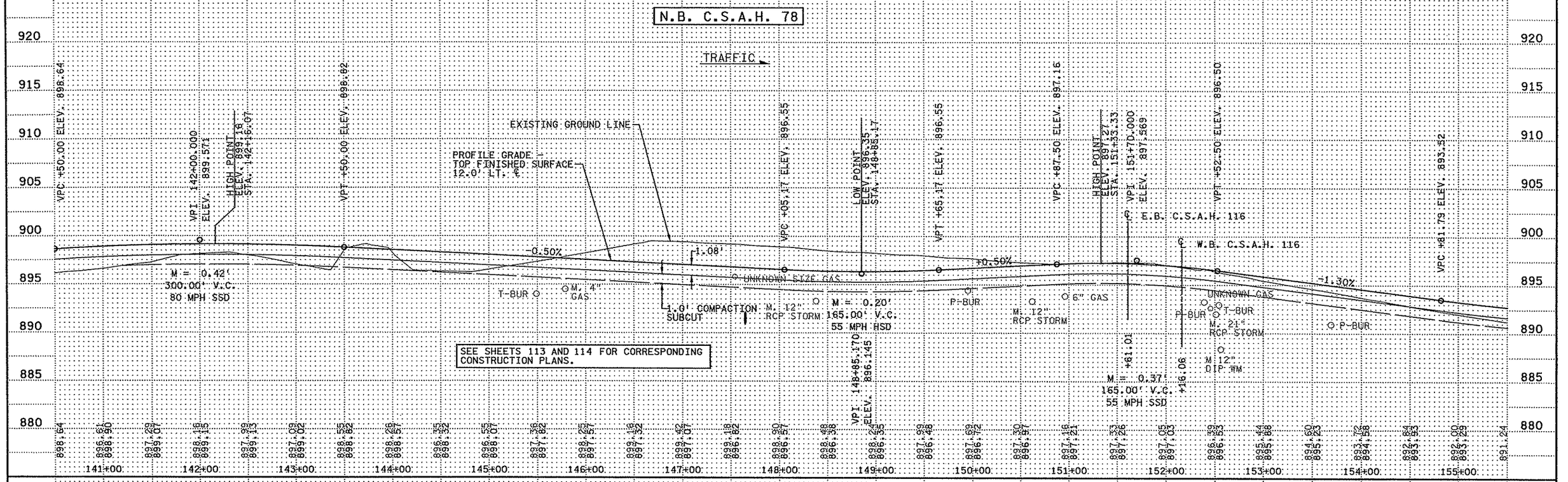
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
PROFILES
C.S.A.H. 78
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

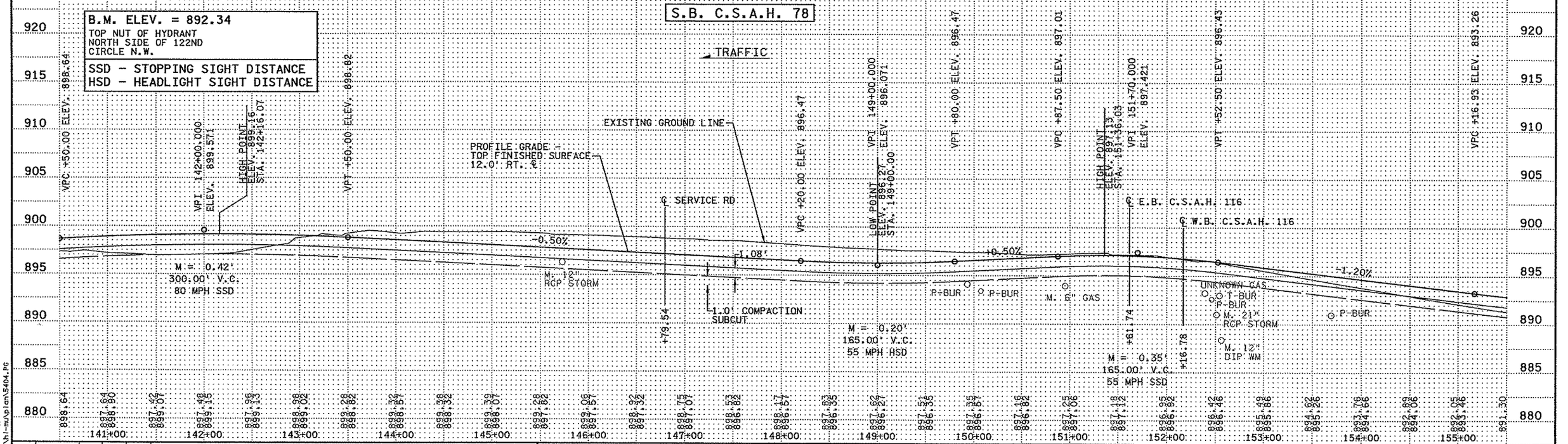
SHEET 136 OF 400

4:29:06 PM
9/26/2006
N:\Projects\5404\hl-mu\plan\5404.PF



B.M. ELEV. = 892.34
TOP NUT OF HYDRANT
NORTH SIDE OF 122ND
CIRCLE N.W.

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE



NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	CMT	CMT	CMT	CORRECTION OF DESIGN SPEED ON VC VPI 149+00.00

...\5404\hl-mu\plan\5404.PG

4/28/08 PM
9/26/2006
N:\Projects\5404\hl-mu\plan\5404.PG

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

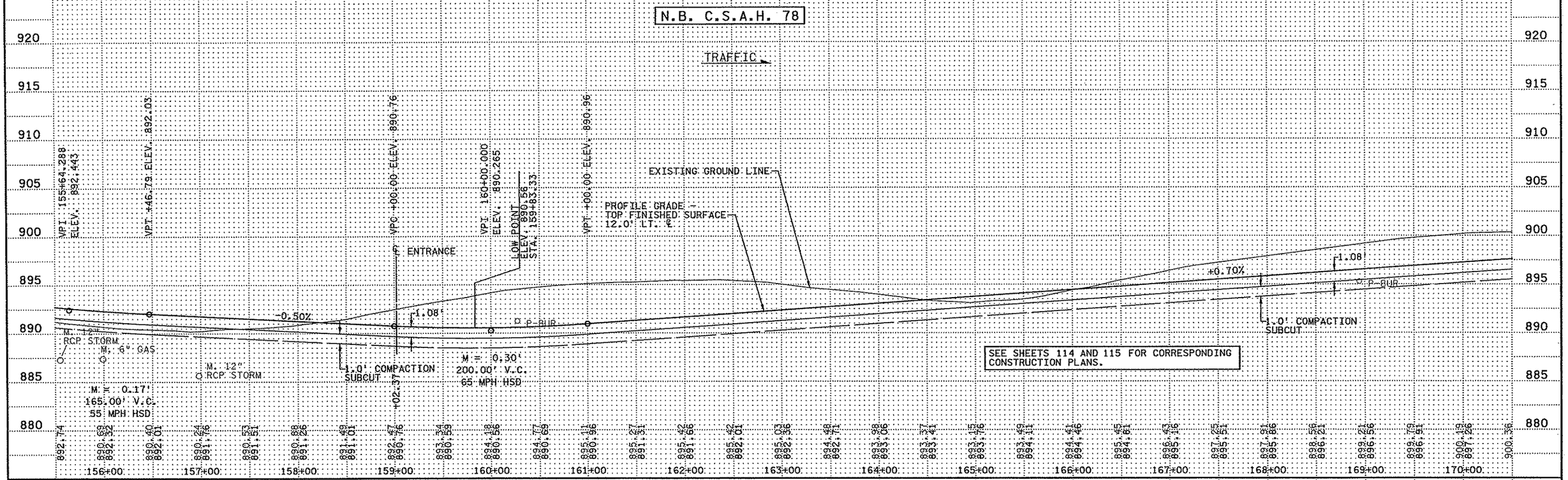
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

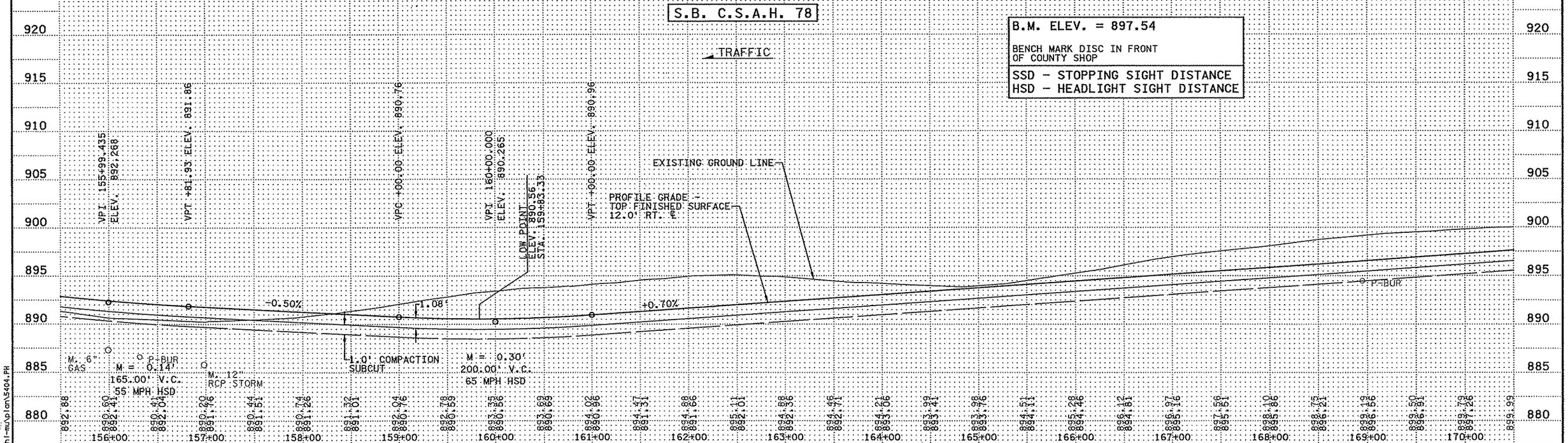
ANOKA COUNTY
PROFILES
C.S.A.H. 78
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 137 OF 400

N.B. C.S.A.H. 78



S.B. C.S.A.H. 78



B.M. ELEV. = 897.54

BENCH MARK DISC IN FRONT OF COUNTY SHOP

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.PH

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

PROFILES

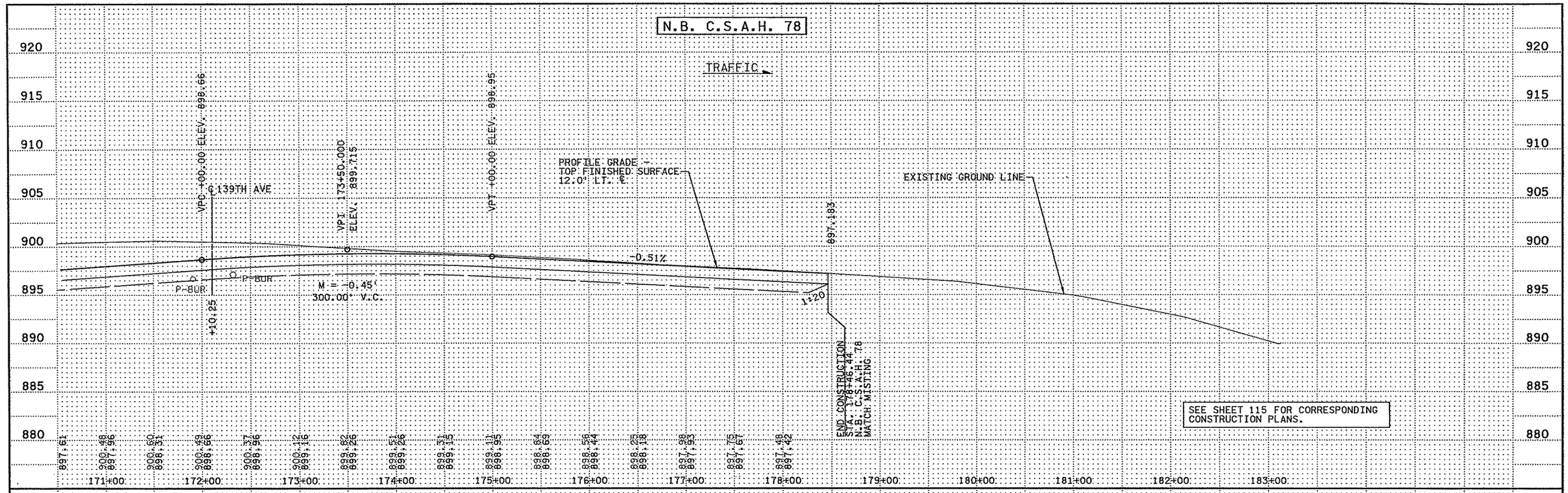
C.S.A.H. 78

N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

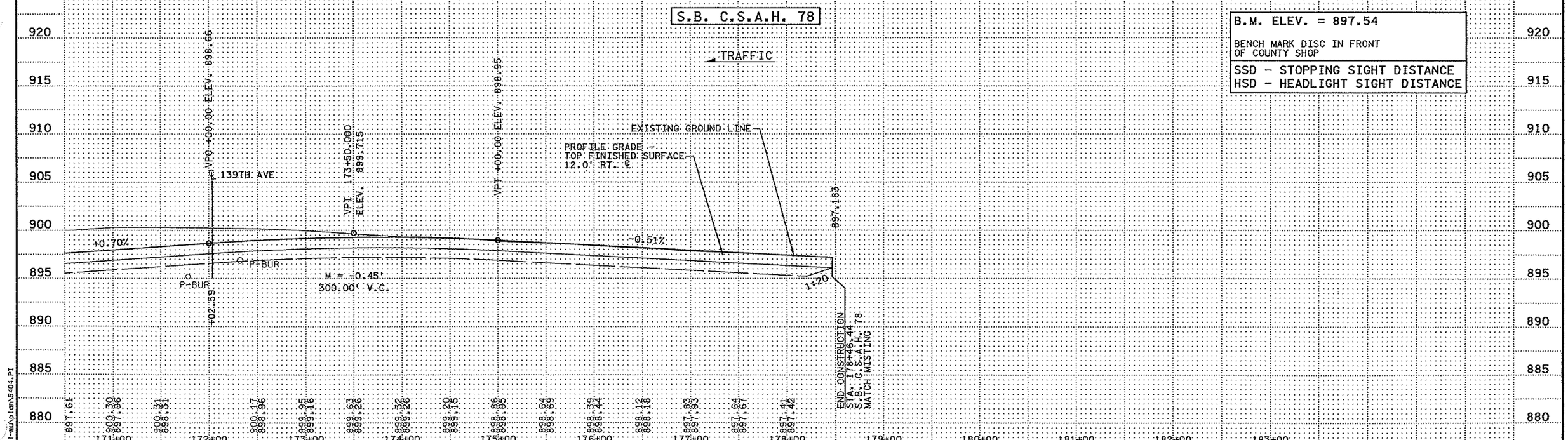
SHEET 138 OF 400

4:29:09 PM
9/26/2006
N:\projects\5404\hl-mu\plan\5404.PH

N.B. C.S.A.H. 78



S.B. C.S.A.H. 78



B.M. ELEV. = 897.54

BENCH MARK DISC IN FRONT OF COUNTY SHOP

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NO	DATE	BY	CKD	APPR	REVISION

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.

Print Name: CHRIS M. TRBOYEVICH

Date 6/6/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

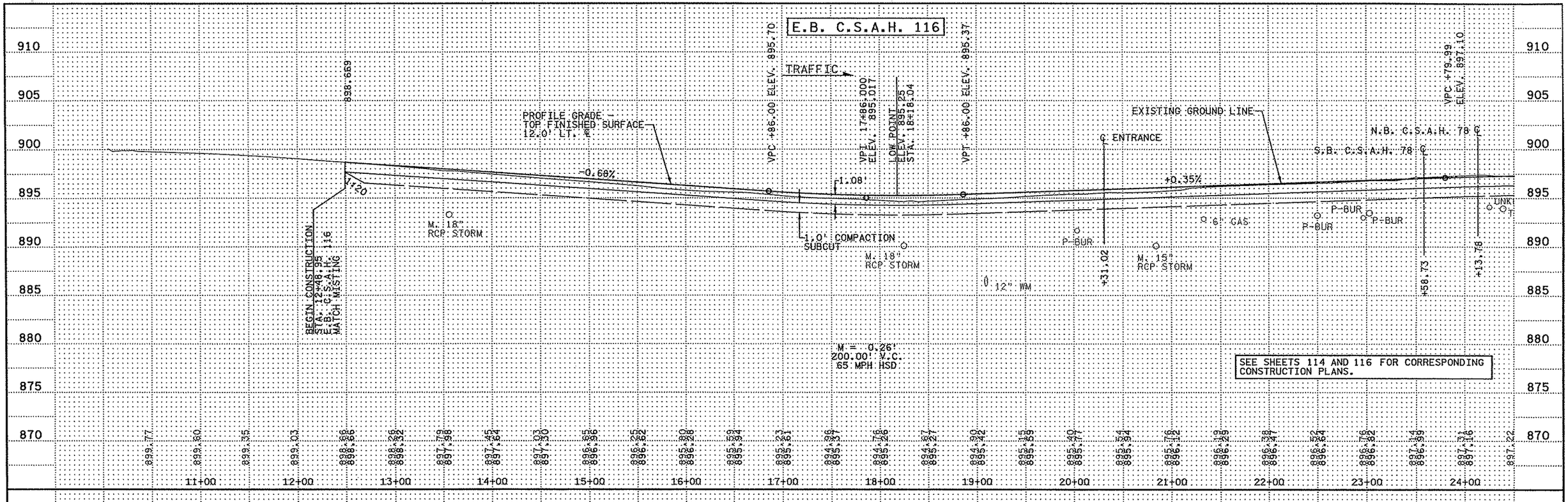
PROFILES

C.S.A.H. 78

N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 139 OF 400

4129:11 PM
5/26/2006
N:\Projects\5404\hl-mu\plan\5404.PI
...\5404\hl-mu\plan\5404.PI



B.M. ELEV. = 897.54

BENCH MARK DISC IN FRONT OF COUNTY SHOP

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.PJ

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

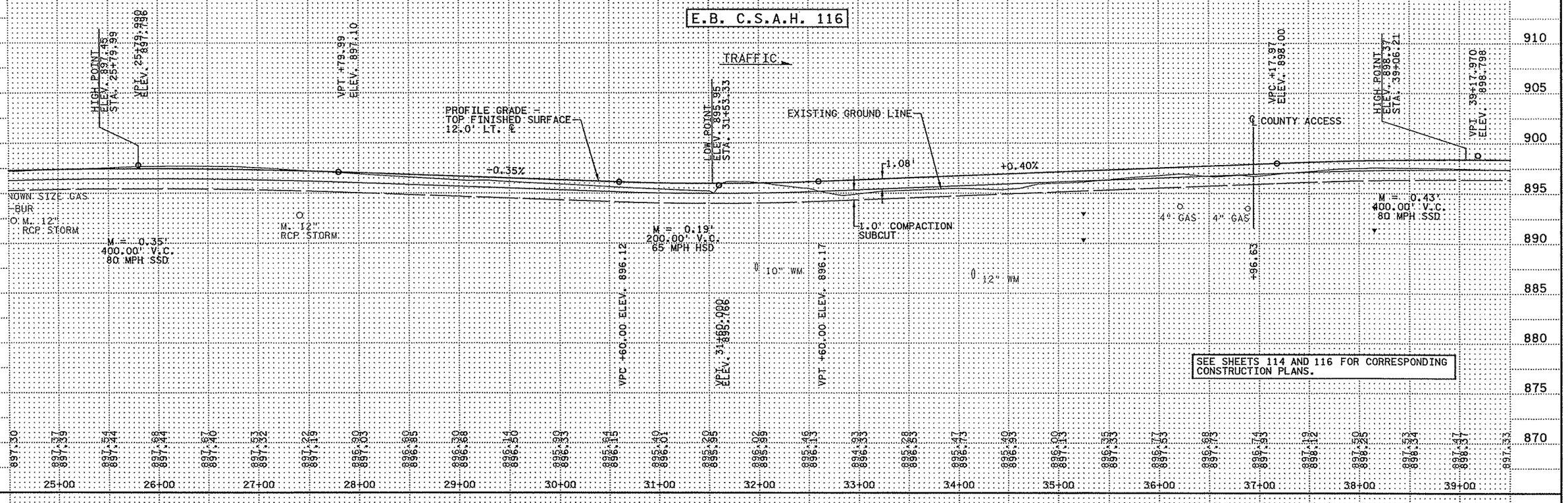
SRF CONSULTING GROUP, INC.

ANOKA COUNTY
PROFILES
C.S.A.H. 78
E.B. C.S.A.H. 116 / W.B. C.S.A.H. 116

SHEET 140 OF 400

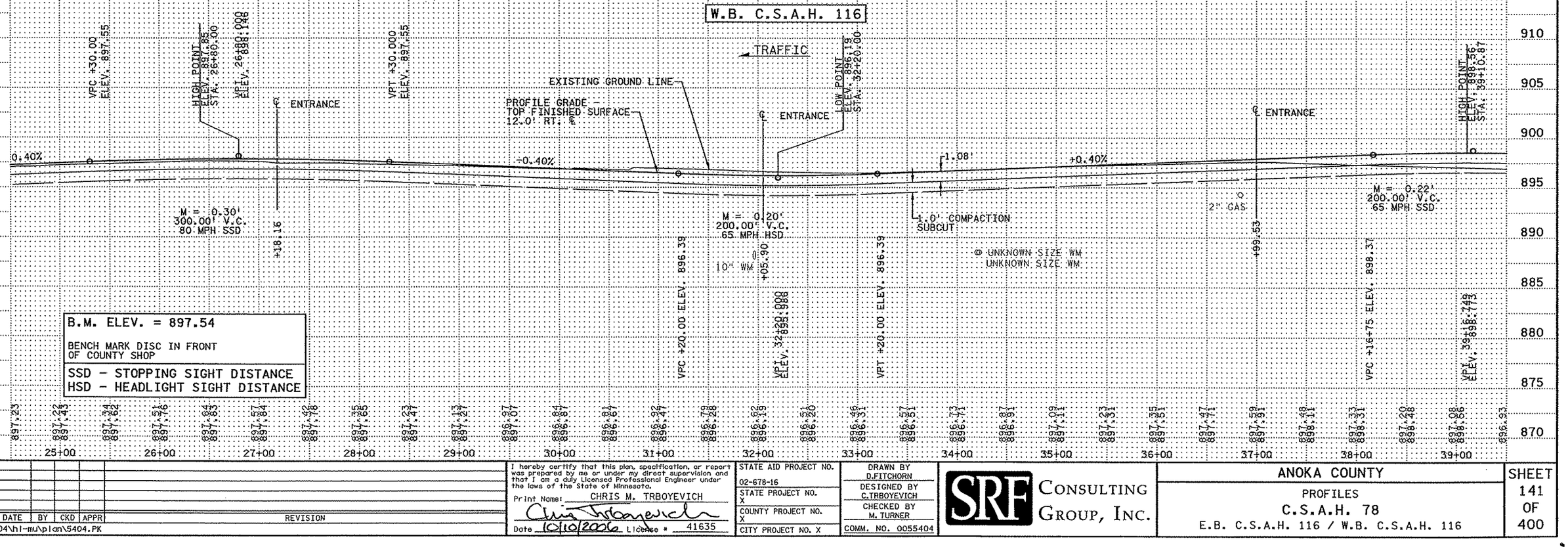
4129:12 PM
9/26/2006
N:\projects\5404\hl-mu\plan\5404.PJ

E.B. C.S.A.H. 116



SEE SHEETS 114 AND 116 FOR CORRESPONDING CONSTRUCTION PLANS.

W.B. C.S.A.H. 116



B.M. ELEV. = 897.54

BENCH MARK DISC IN FRONT OF COUNTY SHOP

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.PK

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

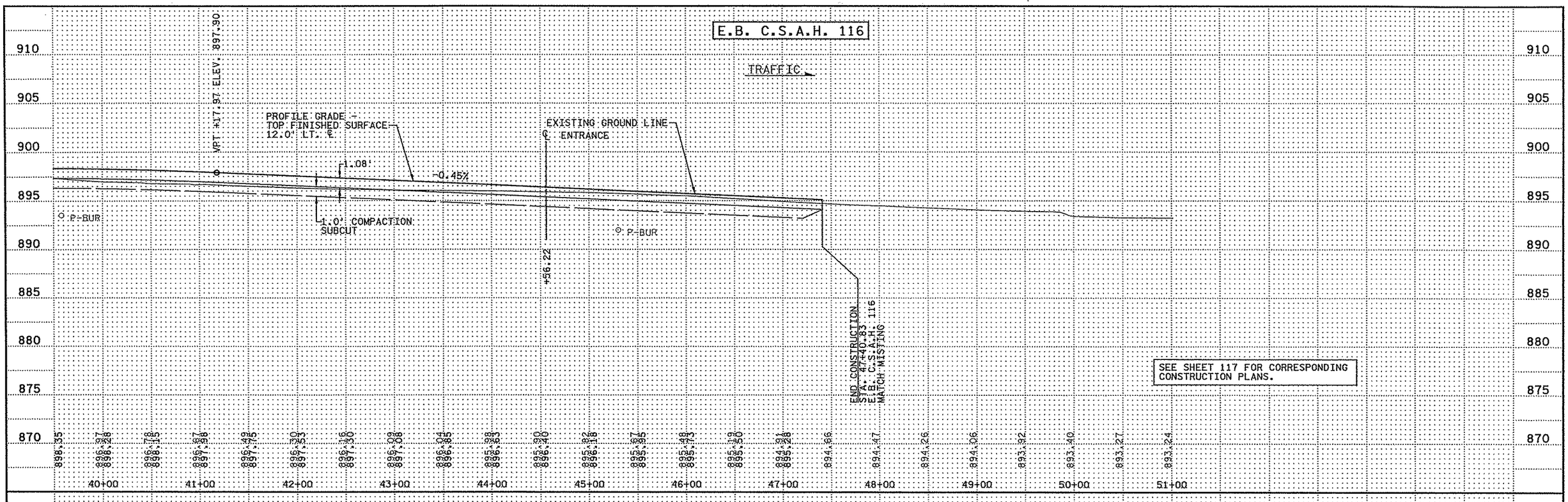
PROFILES

C.S.A.H. 78

E.B. C.S.A.H. 116 / W.B. C.S.A.H. 116

SHEET 141 OF 400

4:29:13 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.PK



NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.PL

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

PROFILES

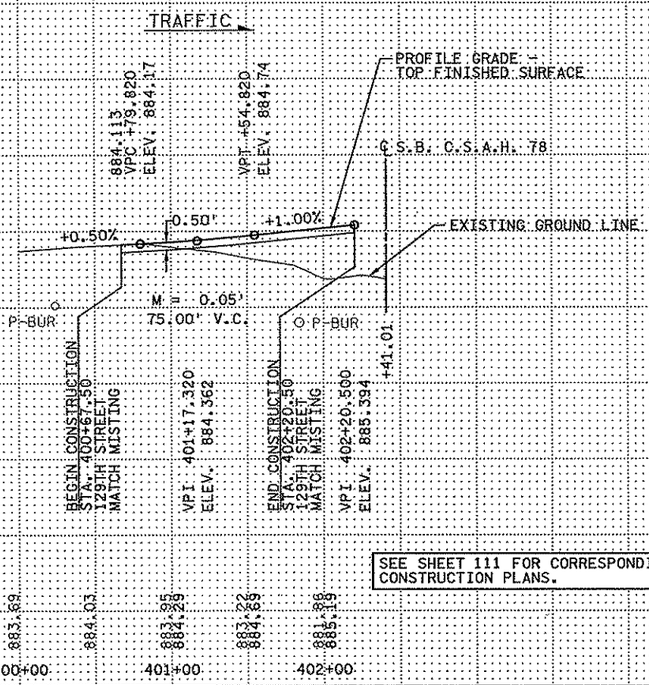
C.S.A.H. 78

E.B. C.S.A.H. 116 / W.B. C.S.A.H. 116

SHEET 142 OF 400

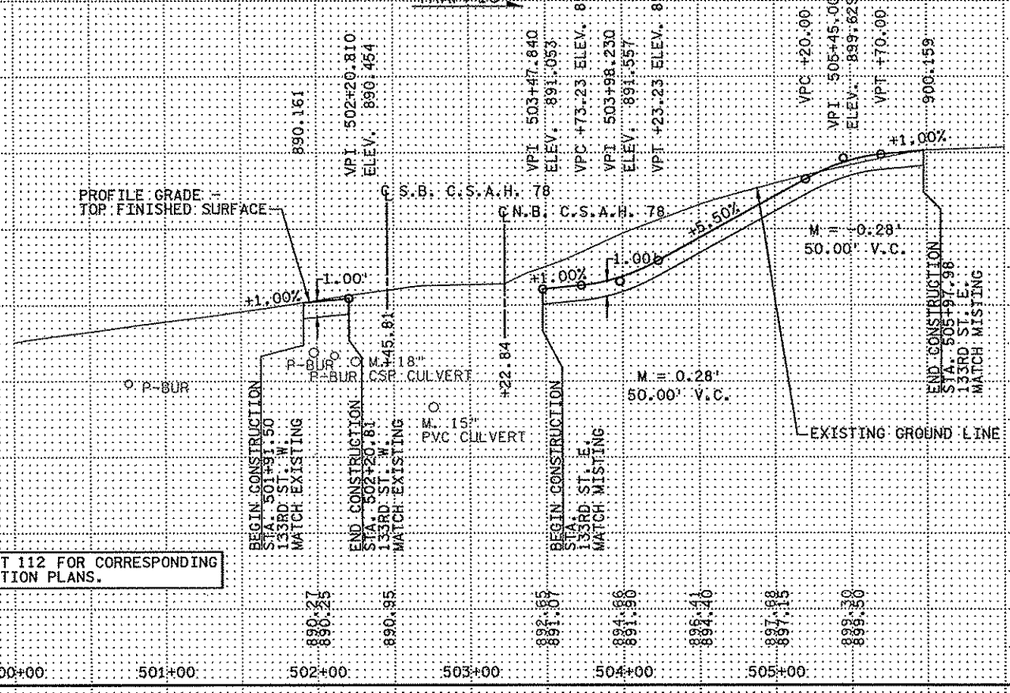
4:59:14 PM
9/28/2006
h:\projects\5404\hl-mu\plan\5404.PL

129TH STREET



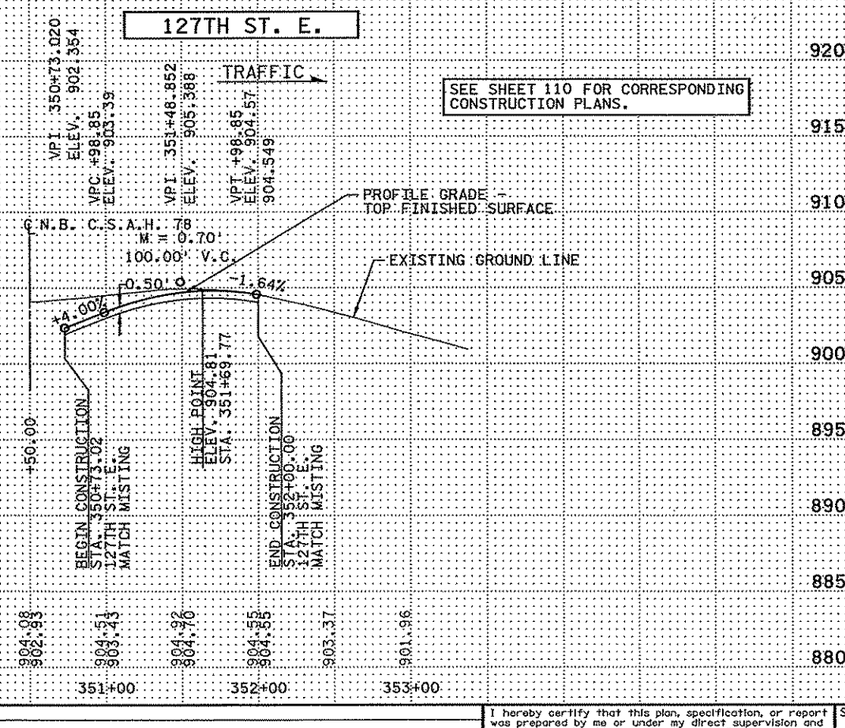
SEE SHEET 111 FOR CORRESPONDING CONSTRUCTION PLANS.

133RD STREET W.



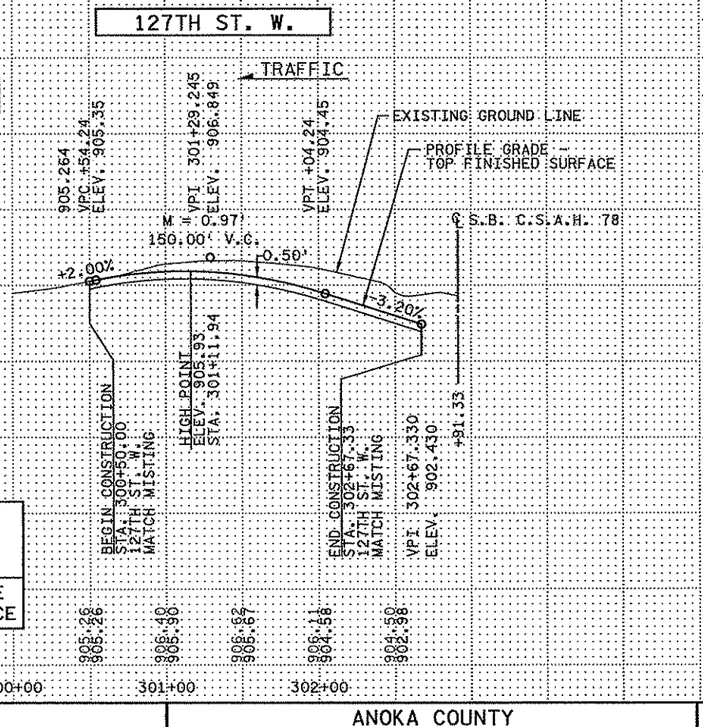
SEE SHEET 112 FOR CORRESPONDING CONSTRUCTION PLANS.

127TH ST. E.



SEE SHEET 110 FOR CORRESPONDING CONSTRUCTION PLANS.

127TH ST. W.



B.M. ELEV. = 905.21
TOP NUT OF HYDRANT WEST SIDE OF CSAH 78 AT 132ND STREET

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.PM

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

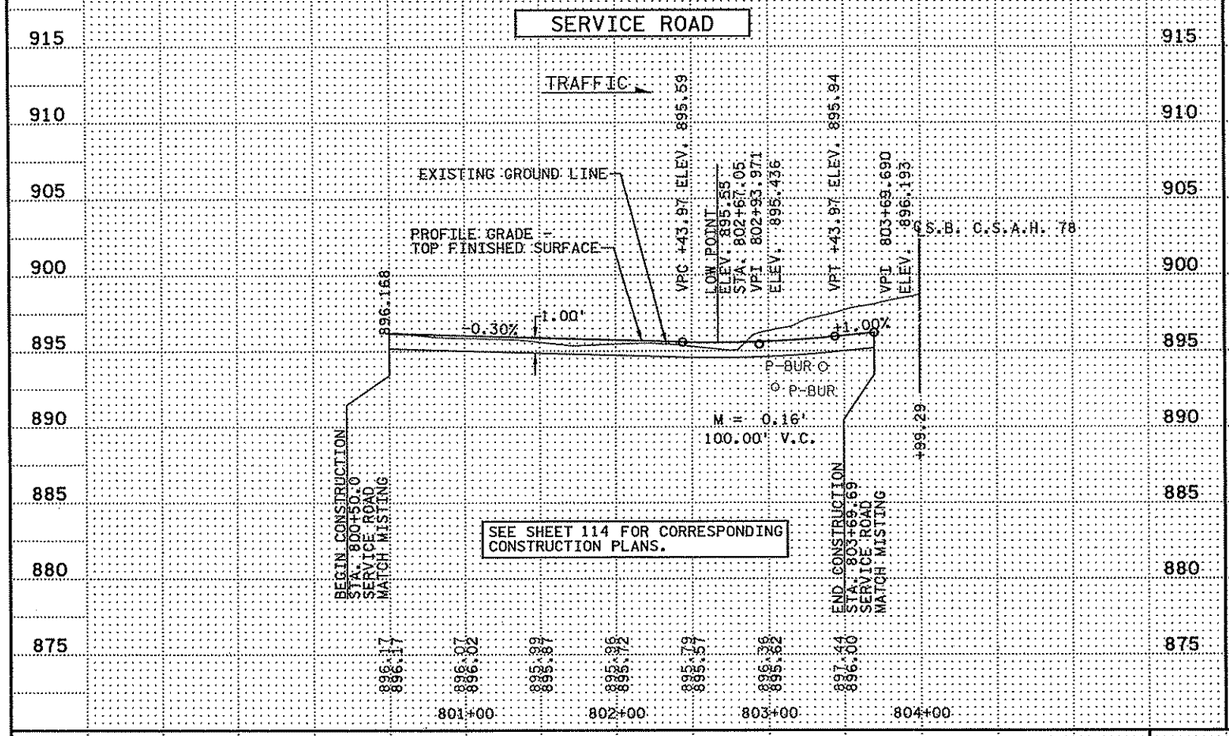
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

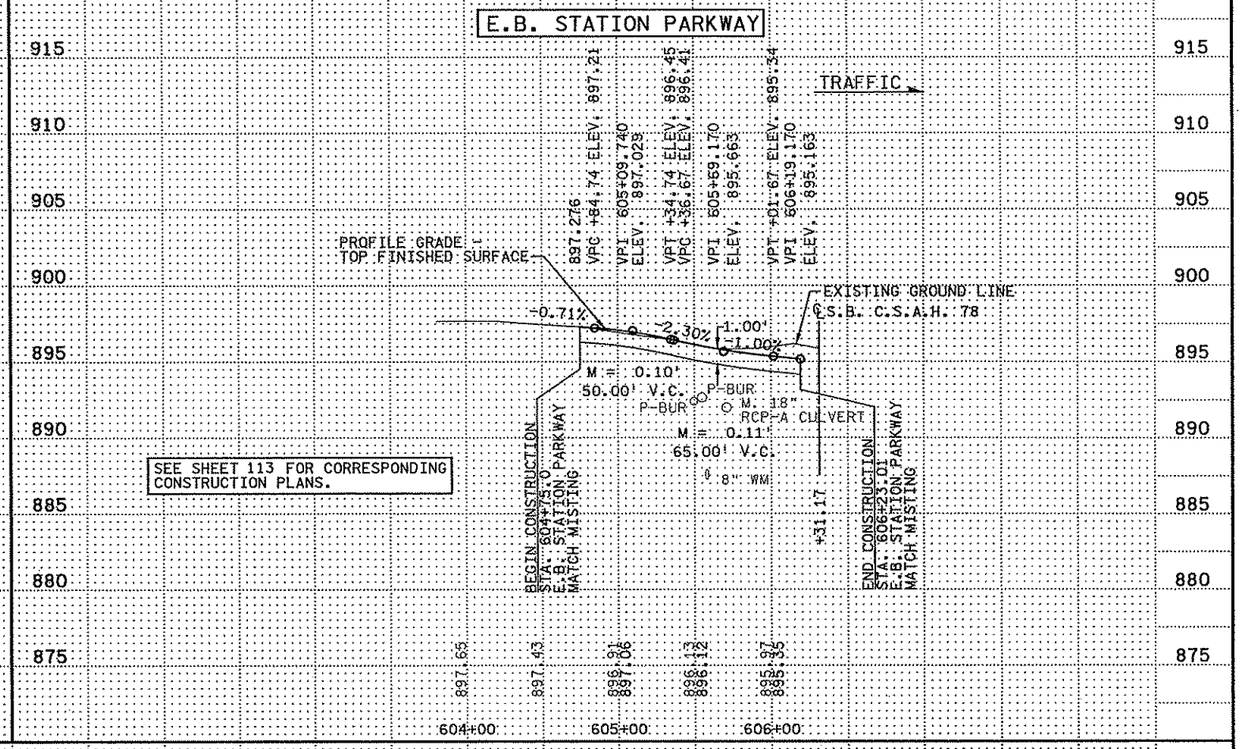
SRF CONSULTING GROUP, INC.

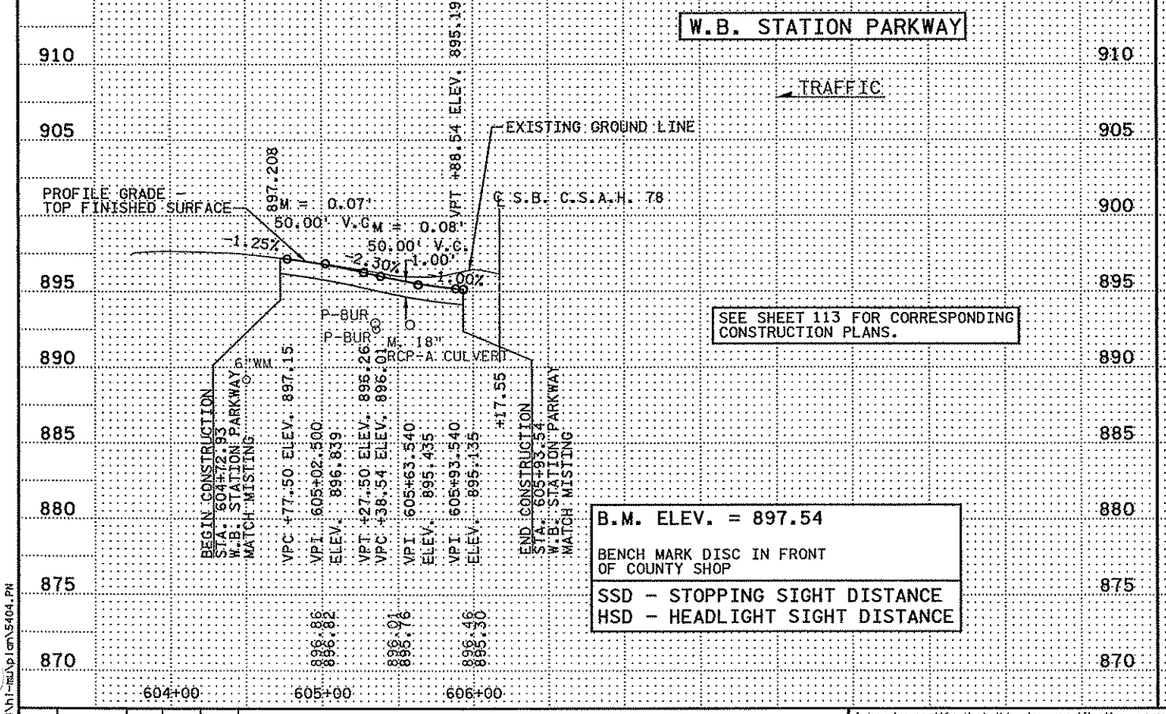
ANOKA COUNTY
PROFILES
C.S.A.H. 78
S.B. C.S.A.H. 78 / E.B. 127TH ST. / W.B. 127TH ST.

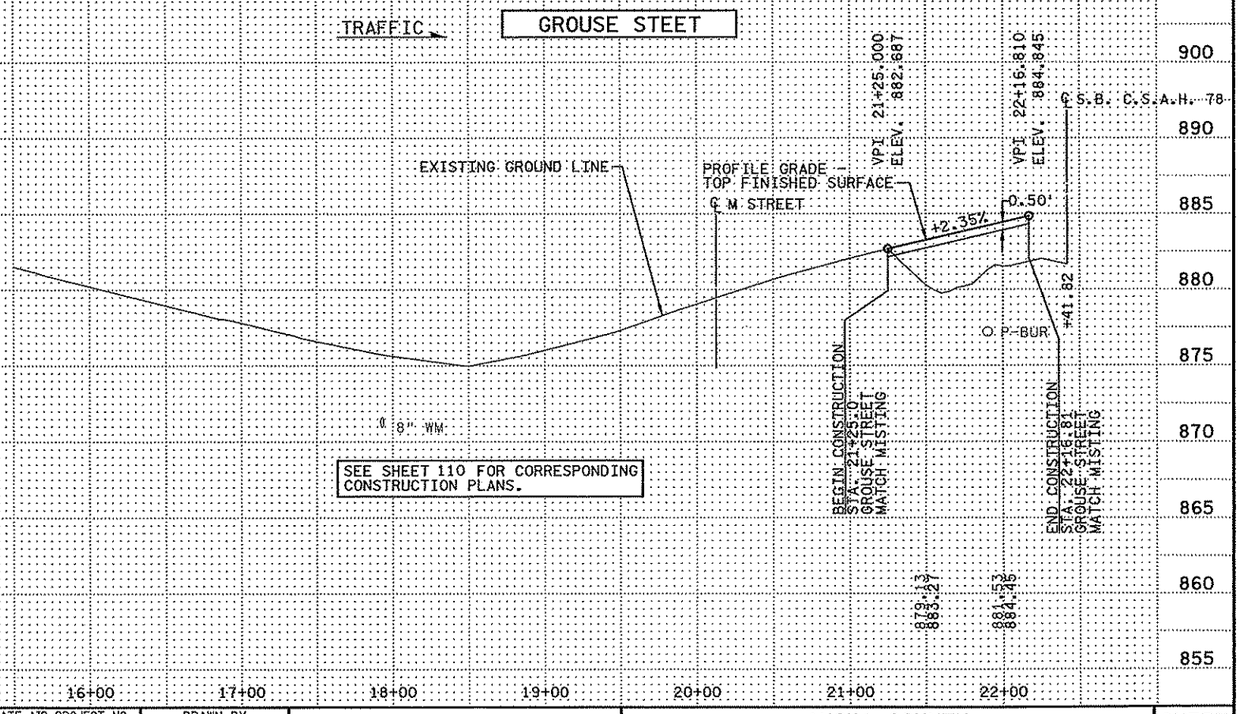
SHEET 143 OF 400

4:29:16 PM
9/26/2006
h:\proj\acso\5404\hl-mu\plan\5404.PM









NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.PN

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

PROFILES

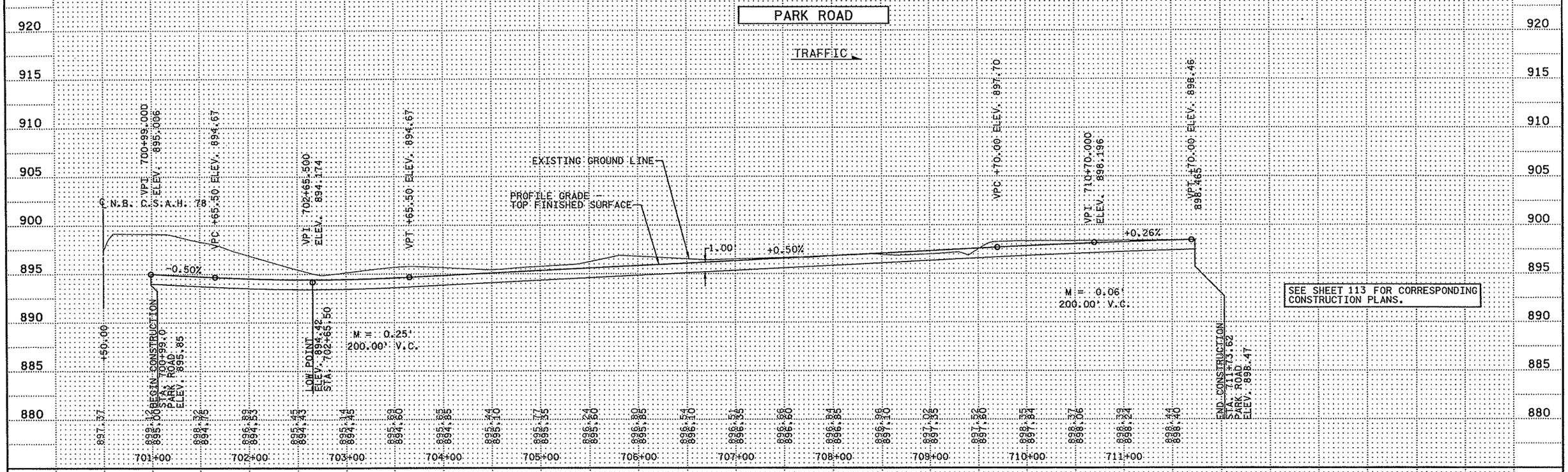
C.S.A.H. 78

SERVICE ROADS / E.B. STATE RD. / W.B. STATE RD.

SHEET 144 OF 400

4/28/18 PM
07/26/2006
H:\Projects\5404\hl-mu\plan\5404.PN

PARK ROAD

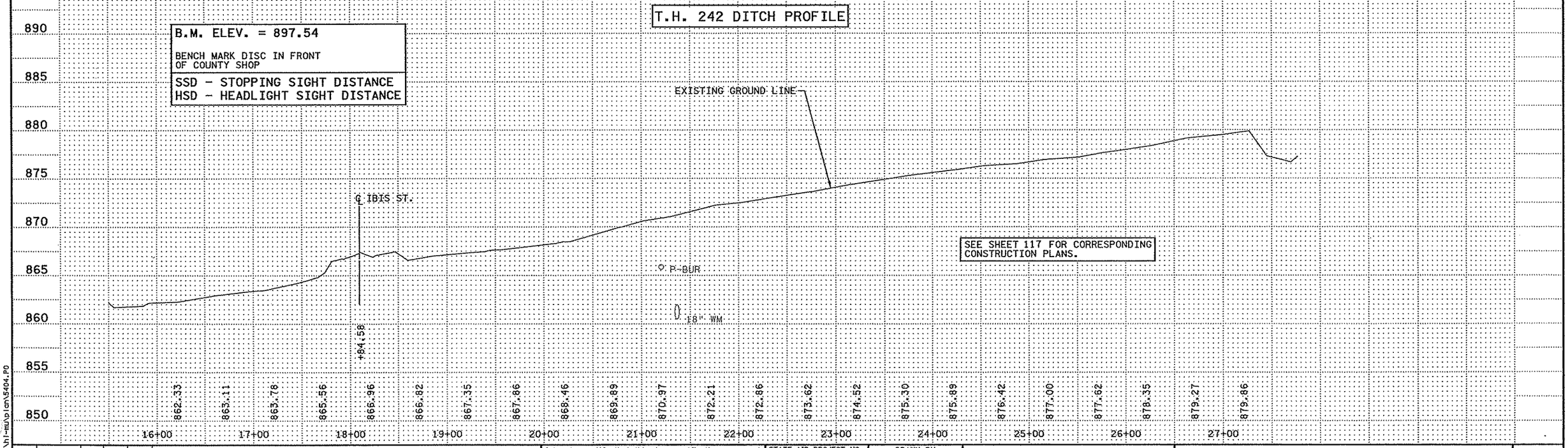


T.H. 242 DITCH PROFILE

B.M. ELEV. = 897.54

BENCH MARK DISC IN FRONT OF COUNTY SHOP

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE



NO	DATE	BY	CKD	APPR	REVISION

...\5404\h1-mu\plan\5404.PO

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

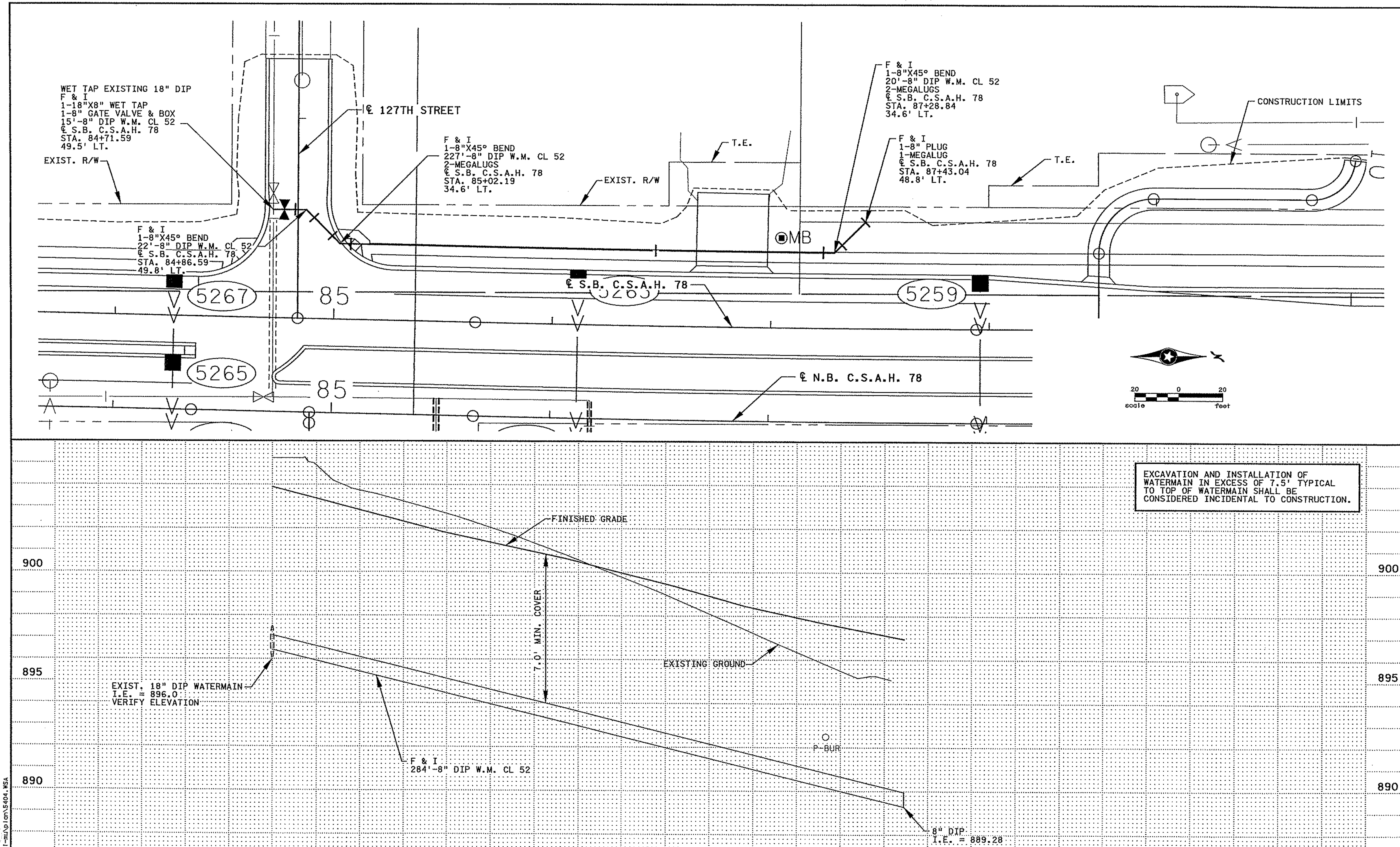
PROFILES

C.S.A.H. 78

PARK ROAD / T.H. 242 DITCH

SHEET 145 OF 400

4:29:19 PM
9/26/2006
h:\projects\5404\h1-mu\plan\5404.PO



NO	DATE	BY	CKD	APPR	REVISION

...\5404\hi-mu\plan\5404.WSA

4:29:22 PM 9/26/2006 h:\projects\5404\hi-mu\plan\5404.WSA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY J.DAUER

CHECKED BY C.TRBOYEVICH

COMM. NO. 0055404

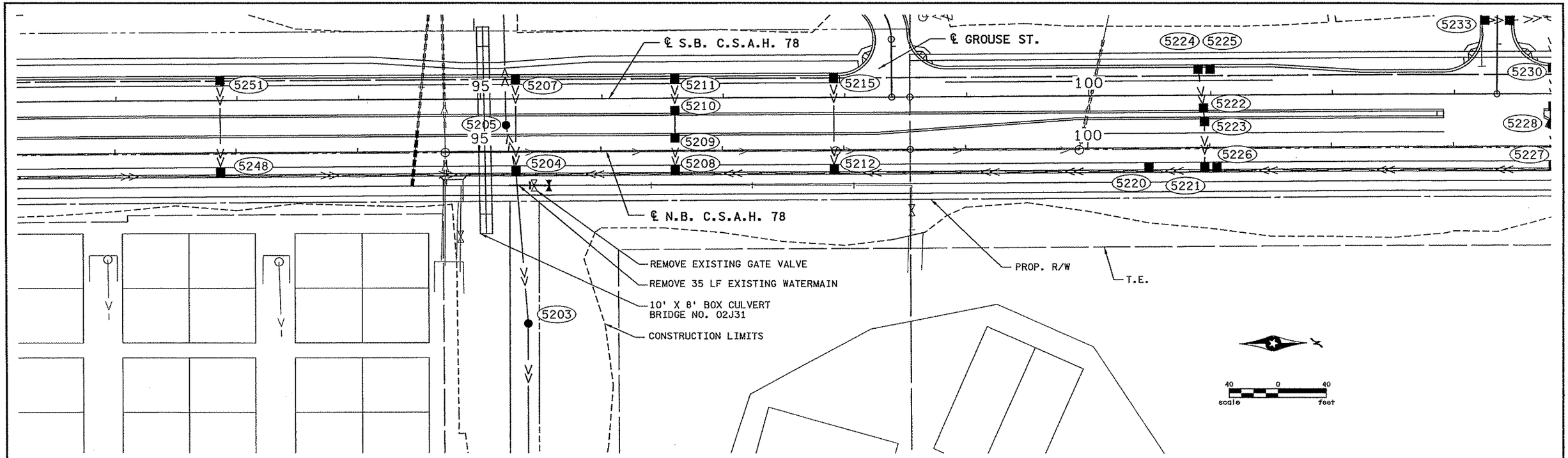
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

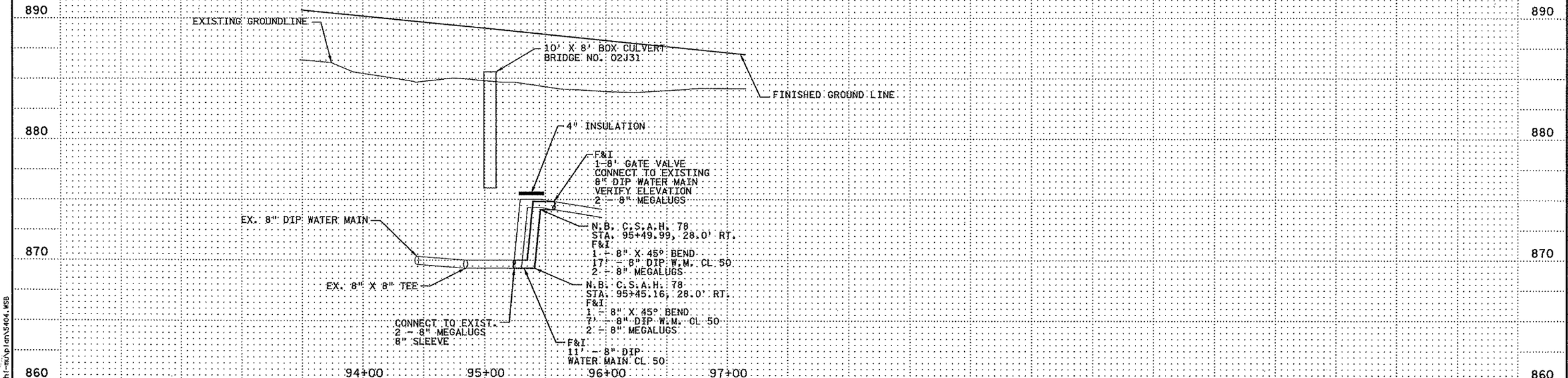
WATERMAIN PLAN

C.S.A.H. 78

SHEET 146 OF 400



EXCAVATION AND INSTALLATION OF WATERMAIN IN EXCESS OF 7.5' TYPICAL TO TOP OF WATERMAIN SHALL BE CONSIDERED INCIDENTAL TO WATERMAIN CONSTRUCTION.



NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	JJD	CMT	CMT	EXTENSION OF EXISTING WATERMAIN LOWERING

...\5404\h1-mu\plan\5404.WSB

5:41:45 PM
10/9/2006
h1\projects\5404\h1-mu\plan\5404.WSB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

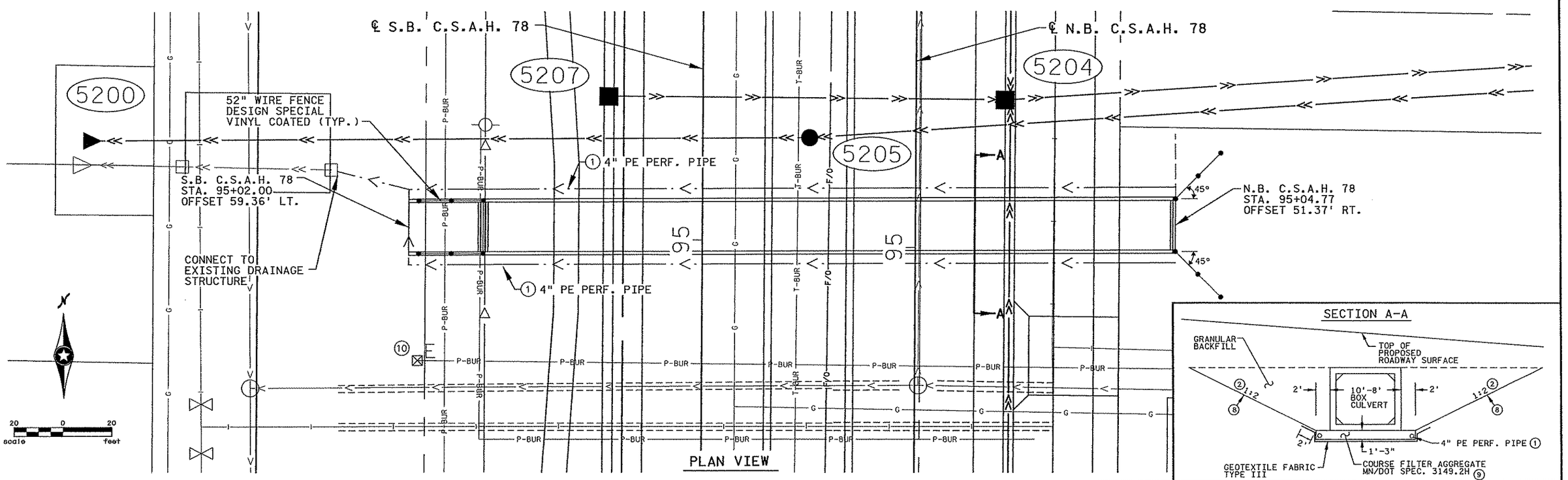
STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

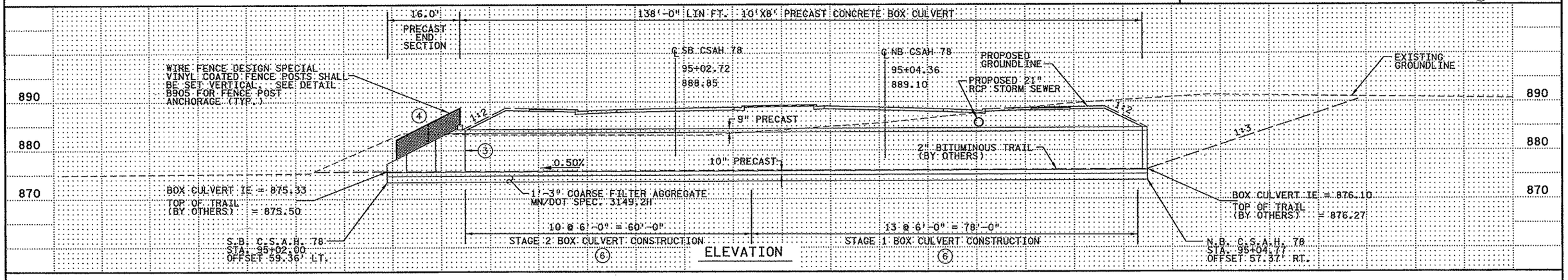
DRAWN BY D.FITCHORN
DESIGNED BY J. TOULOUSE
CHECKED BY C.TRBOYEVICH
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
WATERMAIN PLAN
C.S.A.H. 78

SHEET 147 OF 400





NOTES:

1. WRAP PERFORATED PIPE WITH GEOTEXTILE TYPE I AS PER SPEC. 3733.
2. GRANULAR BACKFILL SHALL CONSIST OF SELECT GRANULAR MATERIAL, MN/DOT SPEC. 3149.2B2.
3. JOINTS BETWEEN ALL SECTIONS SHALL BE WRAPPED WITH 3-PLY JOINT WATERPROOFING ON THE TOP AND SIDES AND HAVE A FLEXIBLE WATER TIGHT JOINT USING MASTIC SEALS ALL AROUND.
4. FENCE POST ANCHORAGE TO BE INCIDENTAL TO WIRE FENCE DESIGN SPECIAL VINYL COATED.
5. BRIDGE NAME PLATE TO BE INCIDENTAL TO OTHER ITEMS.
6. SHEETING OR SHORING MAY BE REQUIRED FOR STAGED BOX CULVERT CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATIONS OF SHEET PILING AND/OR SHORING BASED ON THE CONTRACTOR'S CONSTRUCTION OPERATION. THIS SHALL BE INCIDENTAL TO STRUCTURE EXCAVATION.
7. INCLUDES ONLY GEOTEXTILE FABRIC TYPE III TO BE PLACED UNDER COARSE FILTER AGGREGATE. THE GEOTEXTILE FABRIC TYPE I REQUIRED AT BOX CULVERT JOINTS IS INCIDENTAL TO THE PRECAST BOX CULVERT, SEE MN/DOT SPEC. 2412.
8. EXCAVATION LINE. ACTUAL SLOPE IS DETERMINED BY OSHA REGULATIONS AND IN-SITU SOILS. SEE SPECIAL PROVISIONS FOR MORE INFORMATION.
9. THE NATIVE SOILS SHALL BE MOISTURE-CONDITIONED AND SURFACE-COMPACTED AFTER EXCAVATION AND PRIOR TO PLACEMENT OF COARSE FILTER AGGREGATE.
10. SEE SHEETS 152 AND 153 FOR BOX CULVERT LIGHTING PLANS.

SCHEDULE OF QUANTITIES FOR BOX CULVERT

	ITEM NO.	ITEM	UNIT	QUANTITY
7	2105.604	GEOTEXTILE FABRIC TYPE V	SQ. YD.	425
6	2451.507	STRUCTURE EXCAVATION CLASS U	CU. YDS.	2074
2	2105.522	SELECT GRANULAR BORROW (LV)	CU. YD.	2904
	2412.511	10' X 8' PRECAST CONC. BOX CULVERT	LIN. FT.	138 (P)
	2412.512	10' X 8' CONC. BOX CULVERT END SECTION	EACH	1 (P)
	2451.511	COARSE FILTER AGGREGATE (CV)	CU. YD.	122
1	2502.541	4" PERF. TP PIPE DRAIN	LIN. FT.	375 (P)
4	2557.501	WIRE FENCE DESIGN SPECIAL VINYL COATED	LIN. FT.	75
	2506.602	CONNECT TO EXISTING DRAINAGE STRUCTURE	EACH	1

BRIDGE NO. 02J31

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.BCA

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License 41635

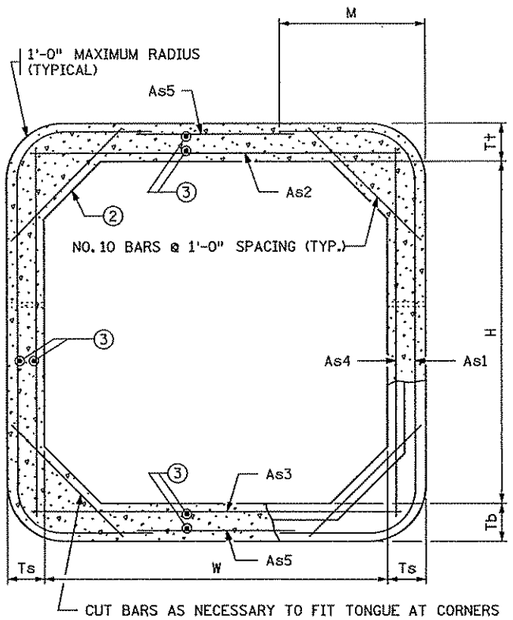
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
BOX CULVERT GENERAL PLANS & ELEVATION
C.S.A.H. 78

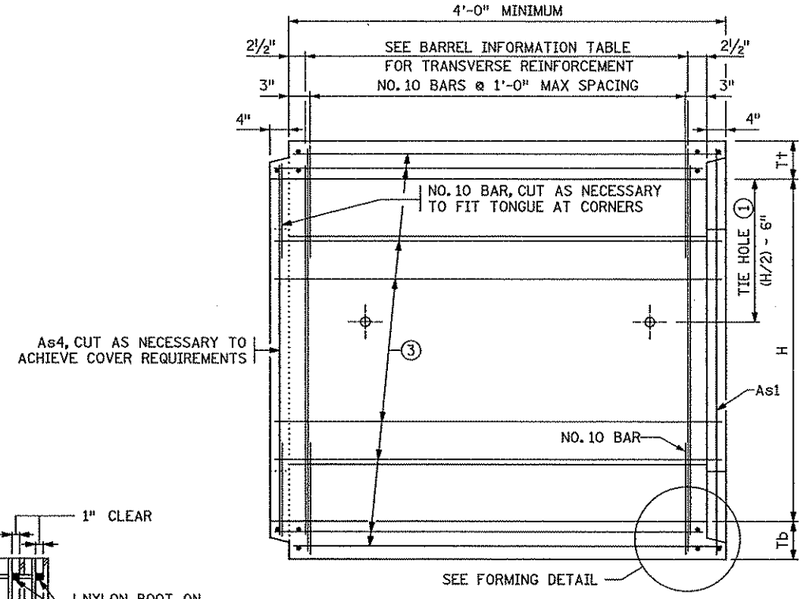
SHEET 148 OF 400

4:29:25 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.BCA



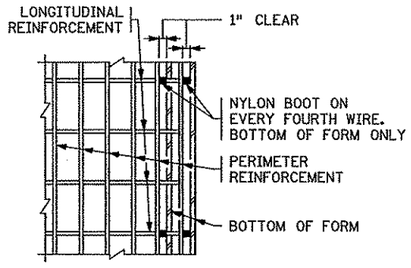
TRANSVERSE BARREL SECTION

BAR REINFORCEMENT OPTION SHOWN

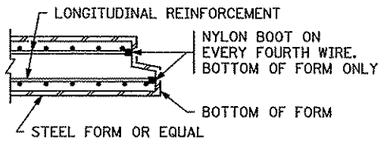


LONGITUDINAL BARREL SECTION

BAR REINFORCEMENT OPTION SHOWN

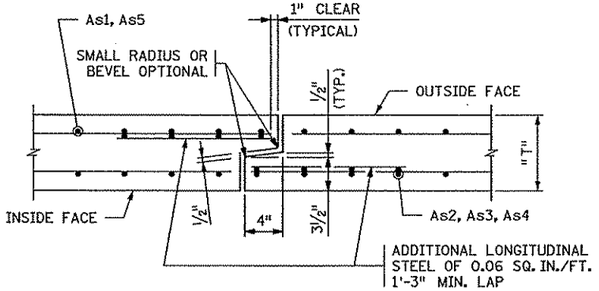


PLAN

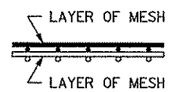


SECTION

FORMING DETAIL



TONGUE AND GROOVE JOINT DETAIL



FABRIC LAYER DETAIL

WHEN MORE THAN ONE LAYER OF STEEL FABRIC IS USED TO OBTAIN THE REQUIRED REINFORCEMENT AREAS, THE WIRES OF THE STEEL FABRIC SHALL BE PLACED AS SHOWN

CONSTRUCTION NOTES

CULVERTS TO BE CONSTRUCTED AS PER Mn/DOT SPEC. 2412 EXCEPT AS NOTED.

FILL HEIGHTS OF LESS THAN 2'-0" REQUIRE A DISTRIBUTION SLAB. SEE FIG. 5-395.100(A) AND FIG. 5-395.100(B) FOR ADDITIONAL INFORMATION.

IF THE DISTANCE BETWEEN DOUBLE BARRELS IS LESS THAN 2'-0" USE EITHER PEA ROCK OR LEAN MIX BACKFILL(Mn/DOT SPEC. 2520) BETWEEN THE CULVERTS AS APPROVED BY THE ENGINEER. (ALSO, PROVIDE APPROVED GROUT SEEPAGE CORE, MINIMUM 12" THICK, BETWEEN THE CULVERT'S TWO ENDS.) MINIMUM DISTANCE REQUIRED IS 6".

THE STEEL FABRIC, SHEAR REINFORCEMENT AND REINFORCEMENT BARS SHALL CONFORM TO APPLICABLE REQUIREMENTS OF AASHTO M259.

1½" MIN. AND 2" MAX. CONCRETE COVER ON ALL REINFORCEMENT, INCLUDING SHEAR REINFORCEMENT, EXCEPT FOR TONGUE AND GROOVE DETAIL.

ANY OF THE FOLLOWING COMBINATIONS OF STEEL REINFORCEMENT MAY BE USED:
- (a) 1 OR 2 LAYERS OF MESH OR
- (b) 1 LAYER OF MESH AND 1 LAYER OF REINFORCEMENT BARS OR
- (c) 1 LAYER OF REINFORCEMENT BARS.

THE REINFORCEMENT SHALL BE DEVELOPED IN ACCORDANCE WITH AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES". IF BAR REINFORCEMENT IS SUBSTITUTED FOR WIRE MESH, THE AREAS OF REINFORCEMENT SHALL BE INCREASED BY 8%.

THE MAXIMUM SIZE OF REINFORCEMENT BARS SHALL BE NO. 19. THE MAXIMUM MESH SIZE SHALL BE ½" DIA. PER LAYER (MAXIMUM OF 2 LAYERS).

THE SPACING CENTER TO CENTER OF THE TRANSVERSE WIRES SHALL NOT BE LESS THAN 2" NOR MORE THAN 4". THE SPACING CENTER TO CENTER OF THE LONGITUDINAL WIRES SHALL NOT BE MORE THAN 8".

WELDING WILL NOT BE ALLOWED ON REINFORCEMENT BARS OR STEEL FABRIC, EXCEPT THAT THE ORIGINAL WELDING REQUIRED TO MANUFACTURE WIRE FABRIC IS ACCEPTABLE.

WHEN REINFORCEMENT IS CUT, ADDITIONAL REINFORCEMENT SHALL BE ADDED ON BOTH SIDES OF THE CUT MEMBER TO REPLACE OR EXCEED THE CUT STEEL.

CONCRETE SHALL BE MIX NO. 3W36 WITH NO CALCIUM CHLORIDE ALLOWED.

SHOP DRAWING APPROVAL PER Mn/DOT SPEC. 3238.2A IS NOT REQUIRED UNLESS OPENINGS OR ATTACHMENTS ARE PLACED ON A BARREL SEGMENT.

(1) CULVERT TIES ARE TO BE 1" DIAMETER RODS. SEE STANDARD PLATE NO. 3145 FOR CONNECTION DETAILS.

(2) HAUNCH SIZE AS FOLLOWS:
- 6'-0" AND 8'-0" WIDTHS - 6" TO 12"
- 10'-0" WIDTH - 10" TO 12"
- 12'-0" AND 14'-0" WIDTHS - 12"

(3) MINIMUM LONGITUDINAL STEEL SHALL BE 0.06 SQ. IN. /FT.

BARREL INFORMATION

LOCATION	SIZE	CLASS	f'c (P.S.I.)	FILL HEIGHT RANGE (FT.)	DIMENSIONS					WEIGHT (LBS./FT.)	STEEL FABRIC REINFORCEMENT									
					W (FT.)	H (FT.)	T† (IN.)	Tb (IN.)	Ts (IN.)		As1			As2		As3		As4		As5	
											AREA (IN.I/FT.)	LENGTH (FT.)	M (FT.)	AREA (IN.I/FT.)	LENGTH (FT.)	AREA (IN.I/FT.)	LENGTH (FT.)	AREA (IN.I/FT.)	LENGTH (FT.)	AREA (IN.I/FT.)	LENGTH (FT.)
N.B. CSAH 78 95+04.36	10'X8'	2	5000	2'-8'	10'	8'	9"	10"	8"	4510	0.48	13'-9"	2'-9"	0.90	10'-6"	0.74	10'-6"	0.20	8'-6"	0.06	7'-9"

REVISION:

APPROVED: DECEMBER 11, 2000

Donald J. Flemming
STATE BRIDGE ENGINEER

STATE PROJ. NO 02-678-16 ET. AL.

FIG. 5-395.101(A)

CERTIFIED BY _____ 10/10/06
LICENSED PROFESSIONAL ENGINEER — DATE

NAME: LIC. NO.

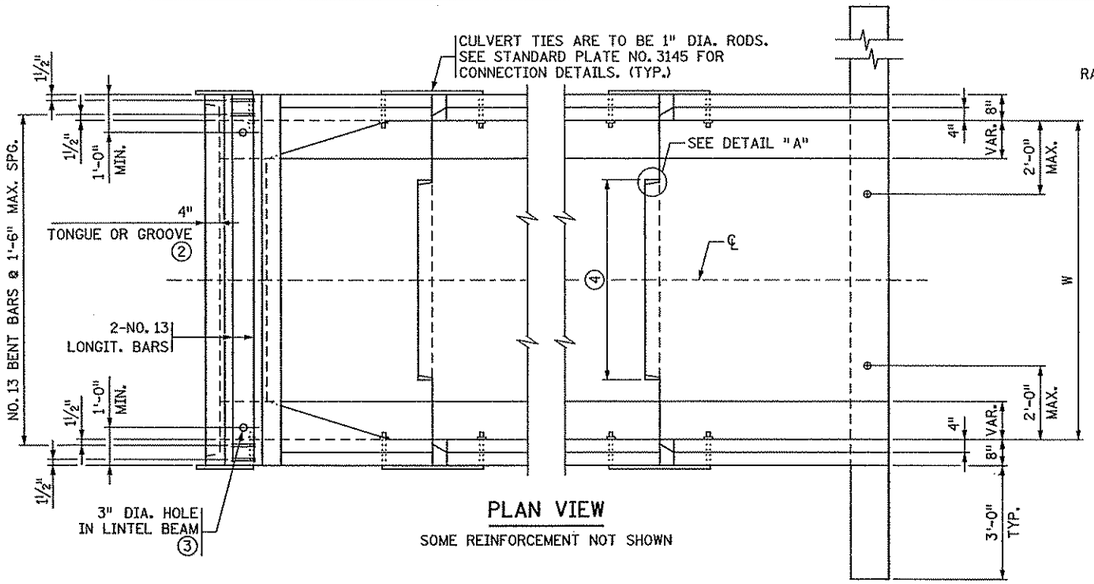
TITLE: BARREL DETAILS

DES: DR: APPROVED:

CHK: CHK:

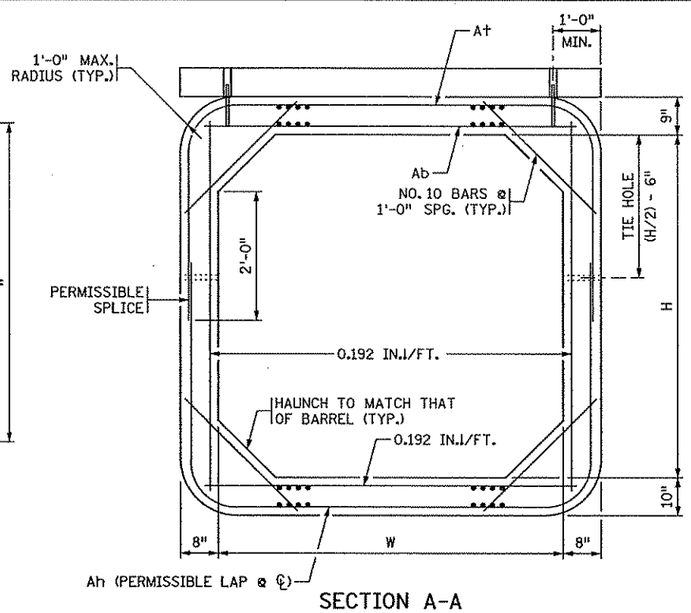
SHEET N0149 OF 400 SHEETS

BRIDGE NO. 02J31



PLAN VIEW

SOME REINFORCEMENT NOT SHOWN



SECTION A-A

CONSTRUCTION NOTES

SEE FIG. 5-395.101(A) AND FIG. 5-395.101(B) FOR ADDITIONAL DIMENSIONS AND CONSTRUCTION NOTES.

ALL END SECTIONS REQUIRE CURB ON LINTEL BEAM.

ON ALL END SECTIONS FOR WATERWAYS, USE DROPWALLS ON INLET AND OUTLET ENDS.

LONGITUDINAL REINFORCEMENT PARALLEL TO THE AXIS OF THE CULVERT SHALL HAVE A MINIMUM OF 0.06 SQUARE INCHES PER PERIPHERAL FOOT ON ALL FACES OF THE BARREL, EXCEPT IN THE TONGUE AND GROOVE AREA.

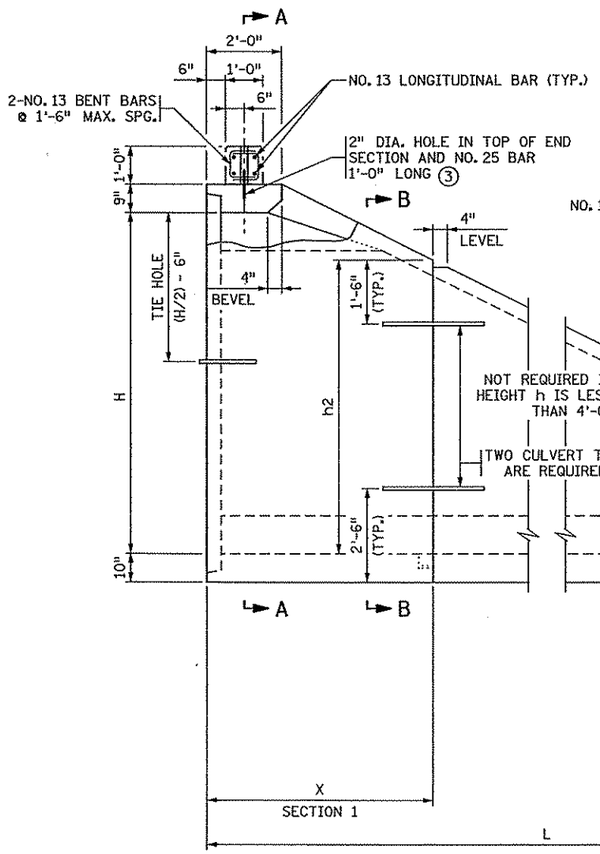
SEE FIG. 5-395.115 FOR EMBANKMENT PROTECTION.

FINISH ALL EXPOSED EDGES OF CONCRETE WITH ½" OR ¾" CHAMFER OR RADIUS UNLESS OTHERWISE NOTED.

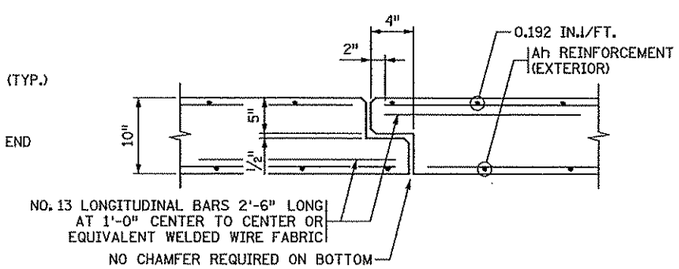
(2) CHECK LOCATION TO DETERMINE WHETHER A TONGUE OR A GROOVE IS USED.

(3) FILL HOLE WITH GROUT. GROUT SHALL CONSIST OF 1 PART CEMENT AND 2 PARTS SAND. USE TYPE 1A AIR ENTRAINED PORTLAND CEMENT. GROUT MIX SHALL HAVE A MAXIMUM SLUMP OF 4".

(4) 3'-6" TONGUE AND 3'-7" GROOVE FOR 6'-0" WIDE CULVERTS. 5'-0" TONGUE AND 5'-1" GROOVE FOR CULVERTS OVER 6'-0" WIDE. CENTER TONGUE AND GROOVE ON ℄ OF EACH APRON JOINT.

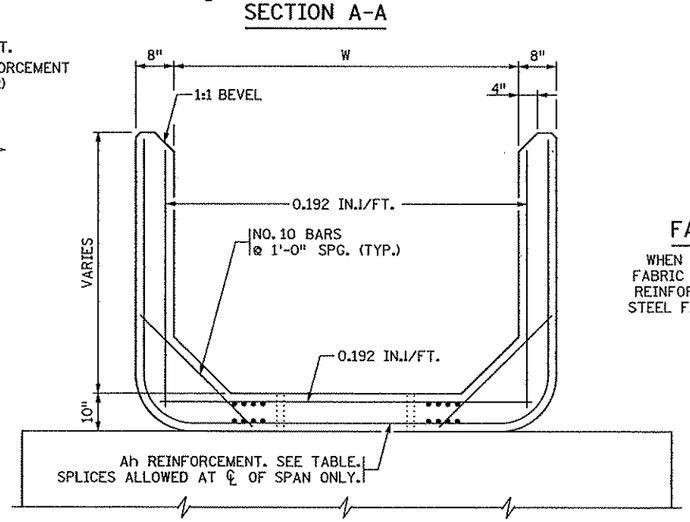


SIDE ELEVATION

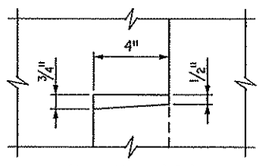


TONGUE AND GROOVE JOINT DETAIL

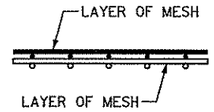
BETWEEN END SECTIONS



SECTION B-B

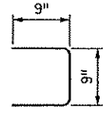


DETAIL "A"



FABRIC LAYER DETAIL

WHEN MORE THAN ONE LAYER OF STEEL FABRIC IS USED TO OBTAIN THE REQUIRED REINFORCEMENT AREAS, THE WIRES OF THE STEEL FABRIC SHALL BE PLACED AS SHOWN.



NO. 13 BENT BAR

At, Ab REINFORCEMENT

WIDTH (FT.)	At (IN./FT.)	Ab (IN./FT.)
6	.27	.44
8	.47	.60
10	.62	.74
12	.88	1.06
14	1.20	1.58

APRON DIMENSIONS & Ah REINFORCEMENT

H FT.	L FT.	SECTION 1 X	SECTION 1 Ah	h2	SECTION 2 Y	SECTION 2 Ah	h3	SECTION 3 Z	SECTION 3 Ah	h4	SECTION 4 ZZ	SECTION 4 Ah	h5	SECTION 5 ZZZ	SECTION 5 Ah	h6
4	8	8'	0.192	1'-9"												
5	10	6'	0.192	3'-9"	4'	0.192	1'-9"									
6	12	6'	0.192	4'-9"	6'	0.192	1'-9"									
7	14	6'	0.192	5'-9"	8'	0.192	1'-9"									
8	16	6'	0.20	6'-9"	6'	0.192	3'-9"	4'	0.192	1'-9"						
9	18	6'	0.29	7'-9"	6'	0.20	4'-9"	6'	0.192	1'-9"						
10	20	6'	0.42	8'-9"	6'	0.29	5'-9"	8'	0.192	1'-9"						
11	22	6'	0.60	9'-9"	6'	0.42	6'-9"	6'	0.192	3'-9"	4'	0.192	1'-9"			
12	24	6'	0.78	10'-9"	6'	0.60	7'-9"	6'	0.20	4'-9"	6'	0.192	1'-9"			
13	26	6'	1.03	11'-9"	6'	0.78	8'-9"	6'	0.28	5'-9"	8'	0.192	1'-9"			
14	28	6'	1.38	12'-9"	6'	1.03	9'-9"	6'	0.40	6'-9"	6'	0.192	3'-9"	4'	0.192	1'-9"

NOTE: Ah IS AREA OF REINFORCEMENT PER FOOT OF LENGTH (IN./FT.)

REVISION: 06-30-2003

APPROVED: DECEMBER 11, 2000

Donald J. Flemming

STATE BRIDGE ENGINEER

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.

Print Name: Chris Tschamler

Date 10/10/2006 License # 44635

STATE PROJ. NO 02-678-16 ET. AL.

FIG. 5-395.102

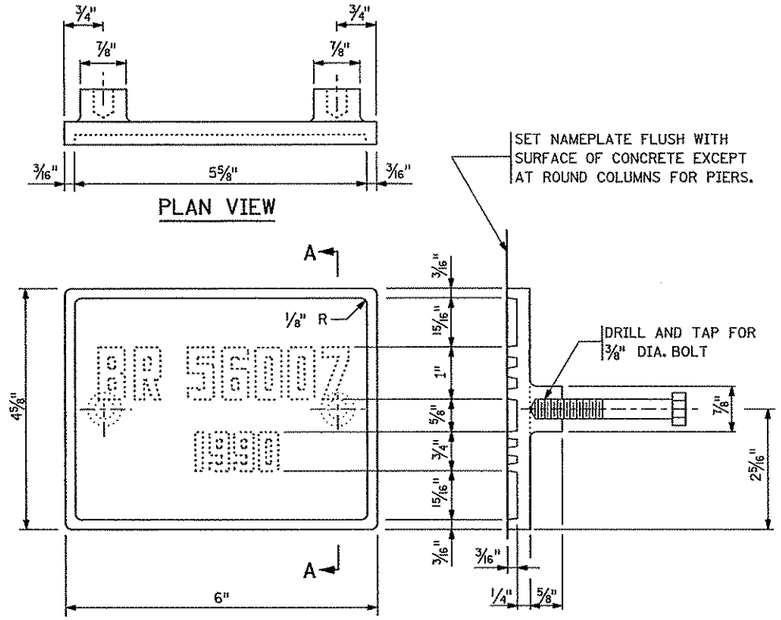
TITLE: PRECAST CONCRETE END SECTION TYPE I - SINGLE OR DOUBLE BARREL FOR SKEWS UP TO 7½°

DES: | DR: | APPROVED:

CHK: | CHK:

SHEET NO150 OF 400 SHEETS

BRIDGE NO. 02J31



PLAN VIEW

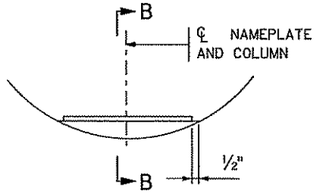
ELEVATION

SECTION A-A

THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION.
DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

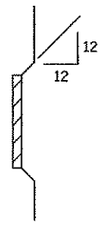
BRIDGE 02J31

YEAR 2007

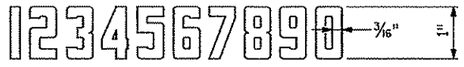


NAMEPLATE PLACEMENT

(ROUND CONCRETE PIER COLUMNS)



SECTION B-B



NUMBERS FOR NAMEPLATE

NOTES:

NO SHOP DRAWING REQUIRED.

MATERIAL SHALL COMPLY WITH Mn/DOT SPEC. 3327.

LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.

DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3" IN 12".

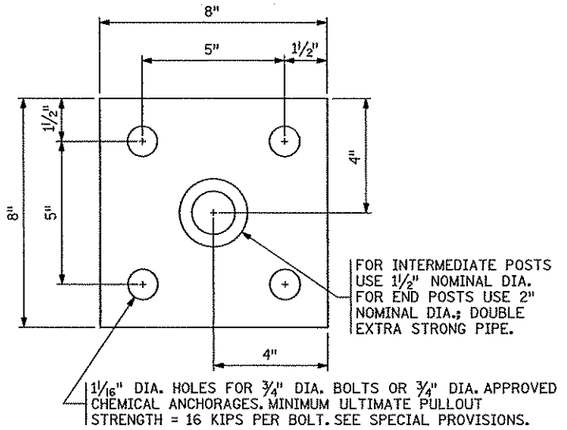
HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.

TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.

FURNISH 2 STEEL BOLTS 3/8" DIA. x 3" LONG WITH EACH PLATE.

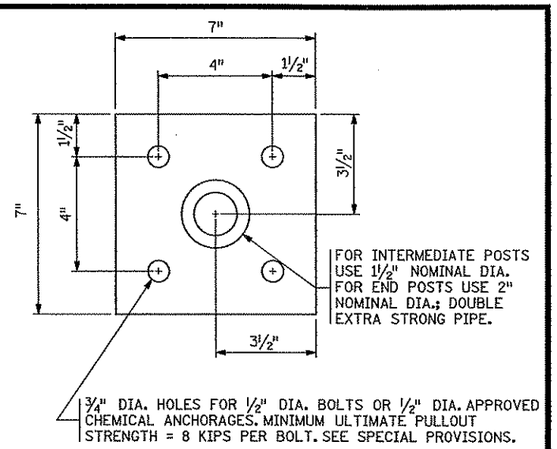
ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH LETTERS AND NUMBERS.

APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Daniel L Hagyan STATE BRIDGE ENGINEER	BRIDGE NAMEPLATE (FOR NEW BRIDGES)		B101



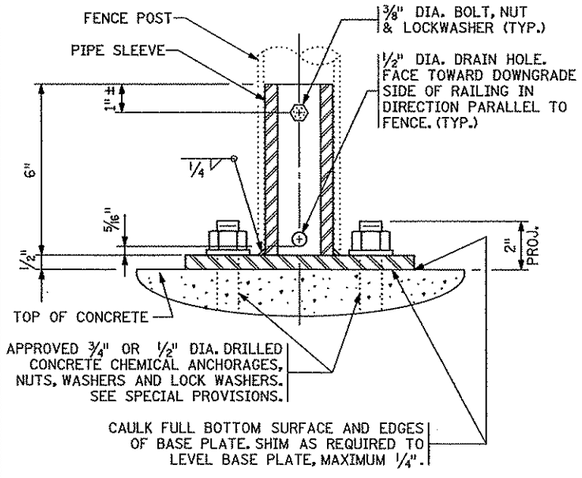
PLAN VIEW - TYPE A

ESTIMATED WEIGHT = 12 OR 14 LBS.

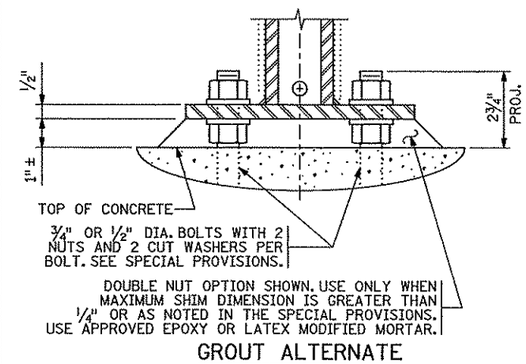


PLAN VIEW - TYPE B

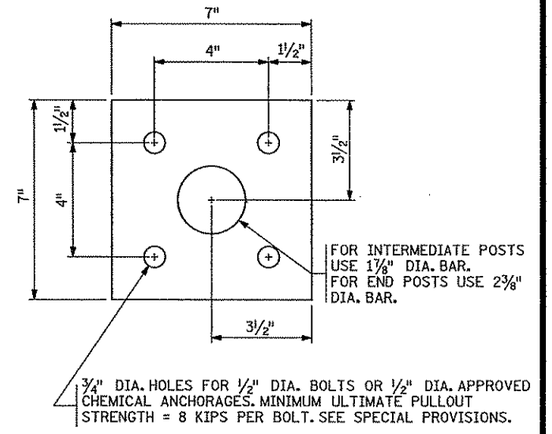
ESTIMATED WEIGHT = 10 OR 12 LBS.



TYPICAL SECTION



GROUT ALTERNATE



PLAN VIEW - TYPE C

ESTIMATED WEIGHT = 12 OR 15 LBS.

NOTES:

STRUCTURAL STEEL PER Mn/DOT SPEC. 3306

STRUCTURAL PIPE PER Mn/DOT SPEC. 3362

GALVANIZE THE FENCE POST ANCHORAGE AFTER FABRICATION PER Mn/DOT SPEC. 3394. GALVANIZE THE FASTENERS PER Mn/DOT SPEC. 3392.

DOUBLE EXTRA STRONG PIPE WEIGHTS:
1 1/2" NOMINAL DIA. = 6.41 LBS./FT.
2" NOMINAL DIA. = 9.03 LBS./FT.

APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Daniel L Hagyan STATE BRIDGE ENGINEER	FENCE POST ANCHORAGE		B905

CERTIFIED BY Chris Trboyevich 10/10/06
LICENSED PROFESSIONAL ENGINEER DATE

NAME: CHRIS M. TRBOYEVICH LIC. NO. 41635

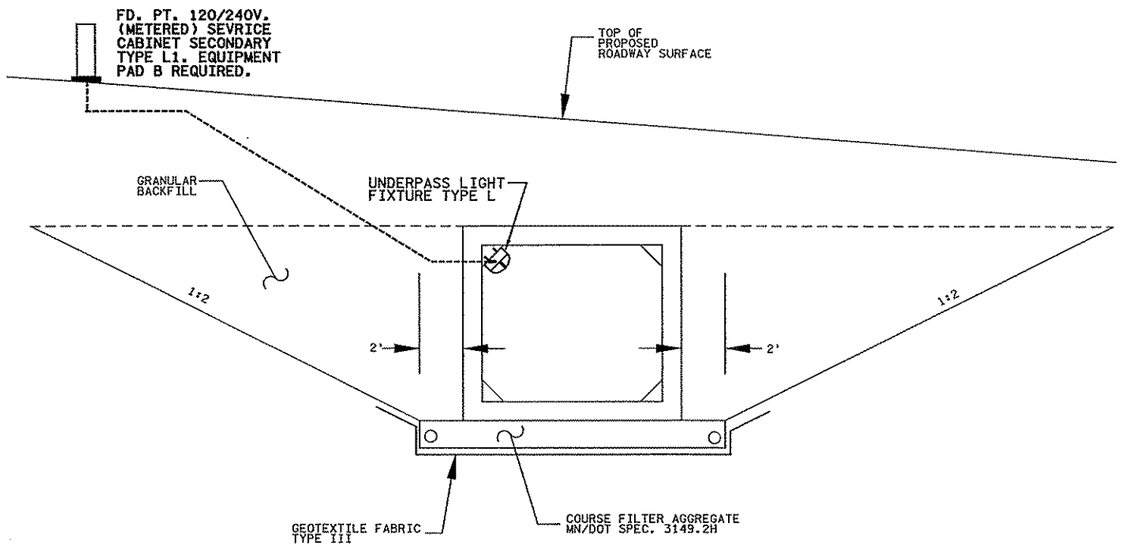
TITLE: DETAILS

DES:	DR:	APPROVED:
CHK:	CHK:	

SHEET NO.151 OF 400 SHEETS

BRIDGE NO. 02J31

4:29:28 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.dgn



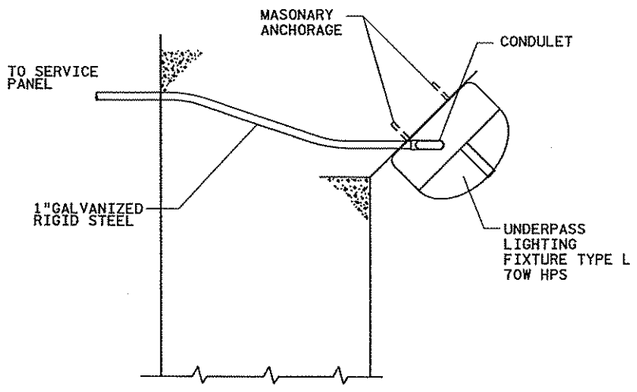
CROSS SECTION OF BOX CULVERT AT OPENING

10'x8' BOX CULVERT

NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
	2545.514	UNDERPASS LIGHTING FIXTURE TYPE L	EACH	3
	2545.521	1" RIGID STEEL CONDUIT	LIN FT	194
	2545.521	2" RIGID STEEL CONDUIT	LIN FT	22
	2545.531	UNDERGROUND WIRE 1 COND NO 2	LIN FT	67
	2545.531	UNDERGROUND WIRE 1 COND NO 8	LIN FT	724
	2545.541	SERVICE CABINET SECONDARY TYPE L1	EACH	1
	2545.545	EQUIPMENT PAD B	EACH	1

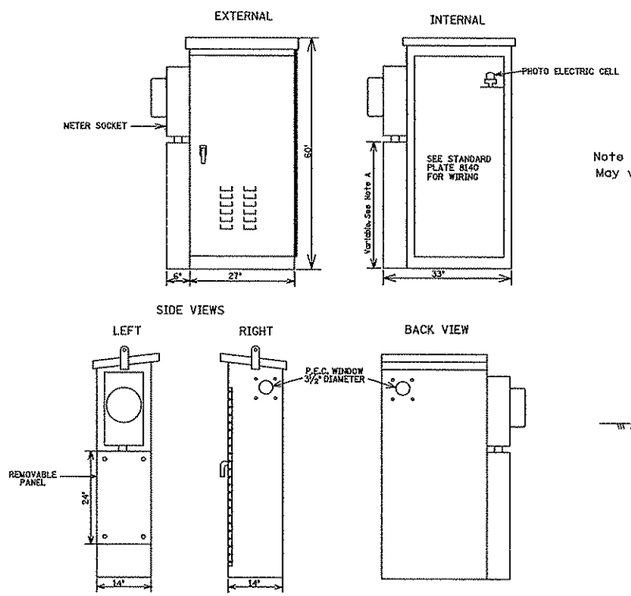
LEGEND

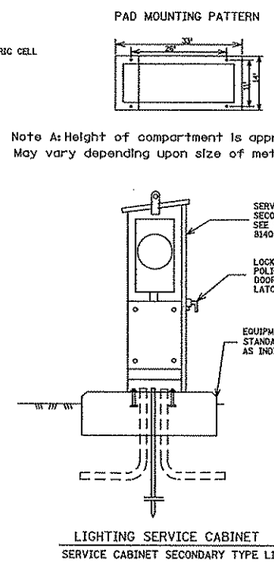
- SERVICE CABINET
- UNDERPASS LIGHTING FIXTURE TYPE L
- NEW CONDUIT



DETAIL FOR CONDUIT TO ENTER BOX CULVERT

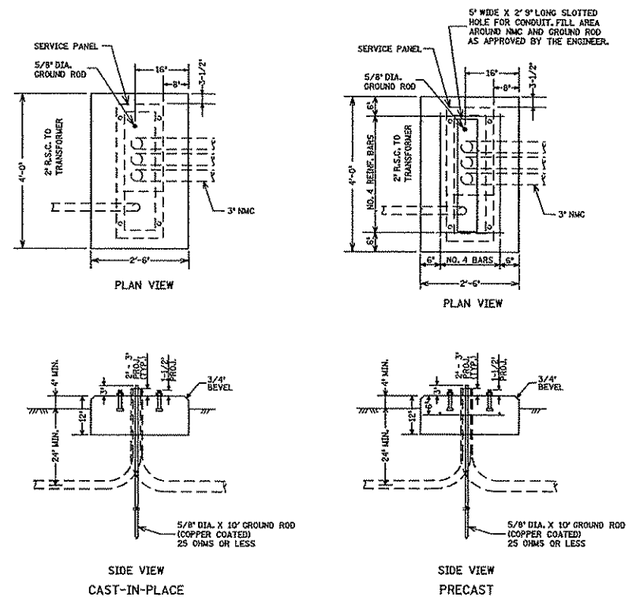
1. FASTEN GALVANIZED RIGID STEEL CONDUIT WITH SUPPORT CLAMPS. MINIMUM SPACING AS REQUIRED BY N.E.C.
2. FASTEN CLAMPS AND JUNCTION BOXES TO CONCRETE WITH MASONRY ANCHORAGES OR POWER ACTIVATED STUDS.
3. CONDUIT PENETRATION SHALL BE SEALED WITH SHRINK RESISTANT GROUT. BOTH SIDES OF PENETRATION.





LIGHTING SERVICE CABINET

SERVICE CABINET SECONDARY TYPE L1



NOTES:

PRECAST OR CAST-IN-PLACE EQUIPMENT PAD SHALL BE CONTRACTORS CHOICE.
CONCRETE SHALL BE MIX 3A32
TOP OF PAD SHALL HAVE A WOOD FLOAT FINISH.
H.S. BOLTS, NUTS AND WASHERS PER SPEC. 3391 AND GALV. HARDWARE PER SPEC. 3392.
INSTALL 3-3" NMC CONDUIT ELBOWS FOR SERVICE PANELS.
H.S. BOLTS CAN BE CAST-IN-PLACE WITH A 4-1/2 IN. MIN. EMBEDMENT OR PLACED AFTER PAD IS CAST, IN A MANNER ACCEPTABLE TO THE ENGINEER.
A 5/8 IN. DIA. X 10 FT. GROUND ROD SHALL BE INSTALLED ON THE EQUIPMENT PAD AND PROJECT 3 IN. ABOVE THE CONCRETE.
NO. 4 REINFORCEMENT BARS FOR PRECAST OPTION ONLY.

EQUIPMENT PAD B

CAST-IN-PLACE OR PRECAST

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.LTA

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 Electrical Engineer under the laws of the State of Minnesota.

Print Name: BRIAN D. HOLT

Date 10/10/06 License # 21428

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	J. STRENK
DESIGNED BY	J. STRENK
CHECKED BY	B. HOLT
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

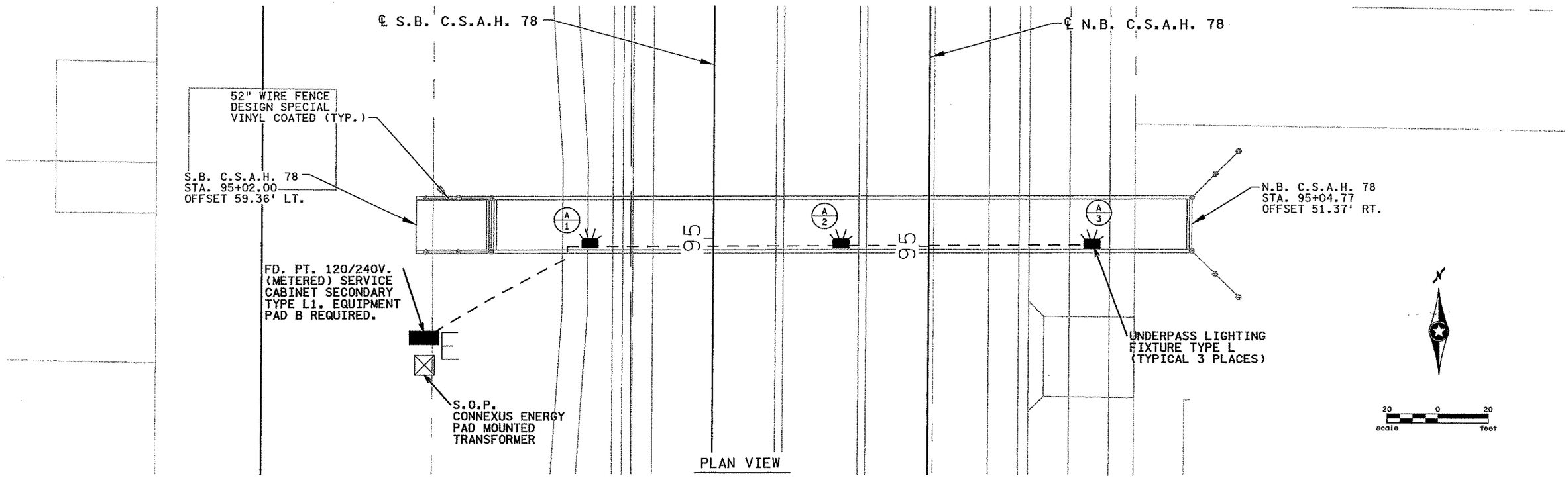
ANOKA COUNTY

BOX CULVERT LIGHTING PLAN

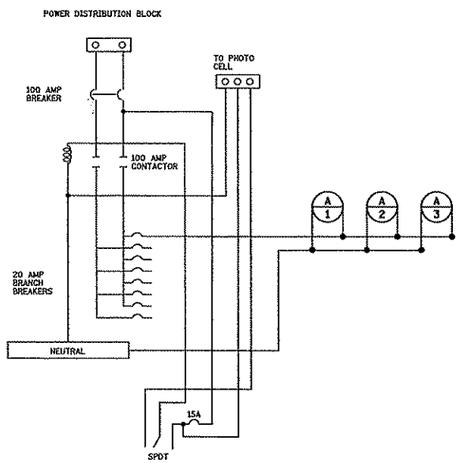
C.S.A.H. 78

SHEET 152 OF 400

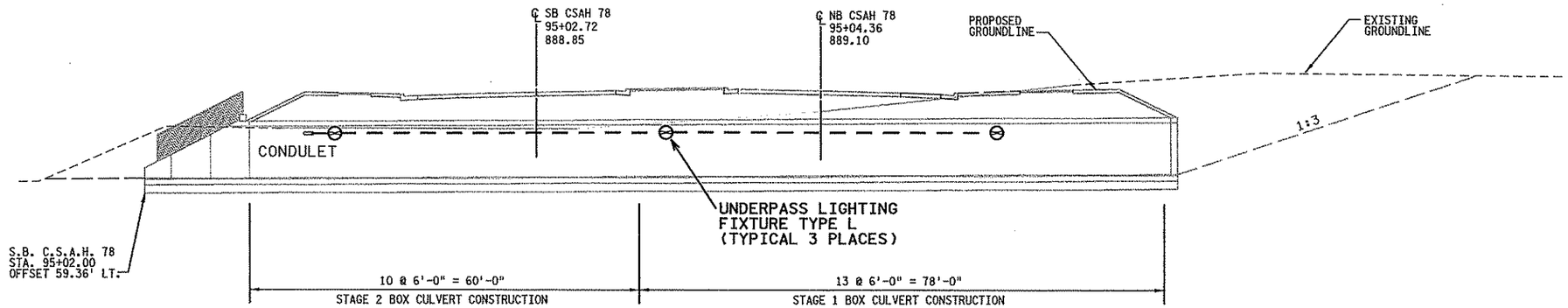
4/28/2006 9:29:30 PM
h:\projects\5404\hl-mu\plan\5404.LTA



PLAN VIEW



WIRING DIAGRAM



ELEVATION

NOTES:

1 LIGHTING CIRCUITS SHALL CONSIST OF 2-1/C#8 WITH 1-1/C#8GND UNLESS NOTED OTHERWISE.

2 ALL LIGHTING UNITS SHALL BE 70W HPS VANDAL PROOF UNDERPASS LIGHTING UNITS MOUNTED TO THE SIDE OF THE BOX CULVERT. SEE DETAILS SHEET 152 .

3 ANCHORS FOR BOX CULVERT LIGHTING UNITS SHALL BE EPOXY GROUTED TO THE WALL OF THE BOX CULVERT.

4 ALL CONDUIT FOR THE LIGHTING CIRCUIT SHALL BE 1" RSC

5 BOX CULVERT LIGHTING FIXTURE SHALL BE LOCATED 20 FEET, EACH, FROM ENDS OF THE BOX CULVERT. AN ADDITIONAL LIGHT FIXTURE SHALL THEN BE CENTERED BETWEEN THE UNITS ON EITHER END.

6 CONTRACTOR TO DRILL THROUGH BOX CULVERT AND FURNISH AND INSTALL CONDUIT AND CABLE AS REQUIRED AND SHOWN BY THE PLAN.

LEGEND

- SERVICE CABINET
- UNDERPASS LIGHTING FIXTURE TYPE L
- NEW CONDUIT

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.LTB

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 Electrical Engineer under the laws of the State of Minnesota.
Print Name: BRIAN D. HOLT
Date 10/10/06 License # 21428

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	J. STRENK
DESIGNED BY	J. STRENK
CHECKED BY	B. HOLT
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

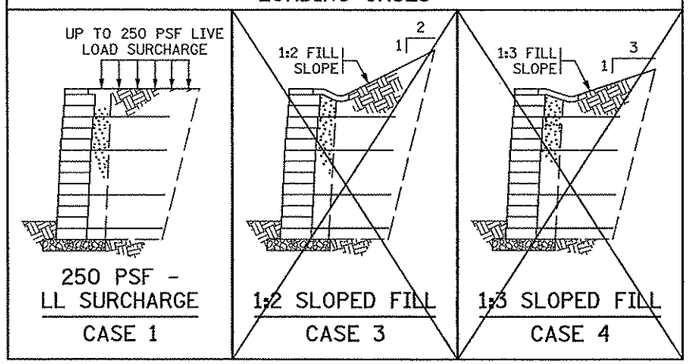
ANOKA COUNTY

BOX CULVERT LIGHTING PLANS & ELEVATION
C.S.A.H. 78

SHEET 153 OF 400

4:29:32 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.LTB

LOADING CASES



CASE 2 IS OMITTED INTENTIONALLY FOR FUTURE RECONSIDERATION

NOTES TO CONTRACTOR:

APPROVED COMBINATIONS OF MODULAR BLOCK UNIT AND SOIL REINFORCEMENT PRODUCTS LIST WITH MBW REINFORCEMENT CLASS NOTED ARE HELD AND MAINTAINED BY THE FOUNDATIONS UNIT, AND POSTED AT www.mrr.dot.state.mn.us/geotechnical/foundations/foundations.asp UNDER FOUNDATIONS UNIT. ONLY APPROVED PRODUCT COMBINATIONS, INCLUDING BLOCK PRODUCED FROM APPROVED SOURCES MEETING DURABILITY AND QUALITY CONTROL REQUIREMENTS, MAY BE USED IN STANDARD DESIGNS.

PROVIDE DETAILED DRAWINGS FOR CONSTRUCTION CONTAINING:

- SUBMIT, WITH THE DETAILED DRAWINGS, A COPY OF Mn/DOT STANDARD SHEETS FOR LOADING CASE(S) USED WITH OPTIONS USED MARKED IN THE TABLE.
- ELEVATION VIEW WITH REINFORCEMENT PLACEMENT REQUIREMENTS, WALL FACING LAYOUT, AND GEOMETRIC INFORMATION. TOP OF WALL MAY EXTEND UP TO 4" ABOVE PLAN TOP OF WALL ELEVATION.
- PLAN VIEW WITH BOTTOM AND TOP OF WALL ALIGNMENT, AND PLAN LIMITS OF WALL ALIGNMENT.
- CROSS SECTIONS DETAILING BATTER, REINFORCEMENT, VERTICAL SPACING, REINFORCEMENT LENGTHS, SUBSURFACE DRAINAGE, SURFACE DRAINAGE, AND WATER RUNOFF COLLECTION ABOVE WALL.
- REINFORCEMENT LAYOUT: REINFORCEMENT SHALL BE PLACED AT 100% COVERAGE RATIO. REINFORCEMENT ELEVATIONS SHALL BE CONSISTENT ACROSS LENGTH OF WALL STRUCTURE.
- NOTE BLOCK, REINFORCEMENT, AND FILL PLACEMENT METHODS AND REQUIREMENTS.
- DETAIL ALL WALL FILL PENETRATIONS AND WALL FACE PENETRATIONS. DETAIL REINFORCEMENT AND/OR WALL FACING UNIT PLACEMENT AROUND PENETRATIONS.
- DETAILS THAT ARE SPECIFIC TO VENDOR PRODUCTS AND THEIR INTERACTION WITH OTHER PROJECT COMPONENTS.
- LIST INFORMATION ON APPROVED COMBINATION OF MBW UNIT AND GEOSYNTHETIC REINFORCEMENT, INCLUDING Mn/DOT CLASSIFICATION CODE, NOMINAL BLOCK WIDTH, PROPERTIES FOR FIELD IDENTIFICATION, AND INSTALLATION INSTRUCTIONS.
- DETAILS OF CAP UNITS AND INSTALLATION/FASTENING INSTRUCTIONS FOR THE CAPS. CAP UNITS SHALL BE SET IN A BED OF ADHESIVE DESIGNED TO WITHSTAND MOISTURE AND TEMPERATURE EXTREMES, REMAIN FLEXIBLE, AND SHALL BE SPECIFICALLY FORMULATED FOR BONDING MASONRY TO MASONRY.
- CERTIFICATION BY PROFESSIONAL ENGINEER THAT THE CONSTRUCTION LAYOUT MEETS THE REQUIREMENTS OF PLANS AND Mn/DOT MSEW STANDARDS. DEVIATION FROM STANDARD DESIGN TABLES ARE PERMITTED BY VALUE ENGINEERING SUBMITTAL ONLY ON PROJECTS WITH OVER 5000 SQ. FT. OF WALL.

DEFINITION OF TERMS

MBW	=	MODULAR BLOCK WALL
LL	=	LIVE LOAD
C.I.P.	=	CAST-IN-PLACE
H	=	WALL HEIGHT
S	=	VERTICAL REINFORCEMENT SPACING
REINFORCEMENT COVERAGE RATIO	=	WIDTH OF SOIL REINFORCEMENTS TO HORIZONTAL SPACING (100% COVERAGE RATIO REQUIRED)

DESIGN CRITERIA

DESIGN CRITERIA FOLLOWS THE AASHTO SPECIFICATION FOR HIGHWAY BRIDGES (16TH EDITION WITH 1998 INTERIMS) EXCEPT FOR THE DEVIATIONS NOTED BELOW. DESIGN CRITERIA ARE IN ACCORDANCE WITH Mn/DOT POLICY, AS RECORDED IN THE Mn/DOT ROAD DESIGN MANUAL.

A. THE MINIMUM REINFORCEMENT LENGTH IS 4 FT. OR 0.7H, WHICHEVER IS GREATER.
B. THE REINFORCEMENT FILL FRICTION ANGLE IS 35°.
C. THE ALLOWABLE CONNECTION LOAD, AT A GIVEN NORMAL LOAD, IS COMPUTED AS THE ULTIMATE CONNECTION STRENGTH REDUCED BY A SAFETY FACTOR EQUAL TO 2.0.
D. THE LATERAL EARTH PRESSURE COMPUTATION FOR EXTERNAL STABILITY CALCULATIONS USES AN INTERFACE ANGLE SET EQUAL TO THE RETAINED BACKFILL ANGLE.
E. THE LATERAL EARTH PRESSURE COMPUTATION FOR INTERNAL STABILITY CALCULATIONS INCORPORATES THE EFFECTS OF WALL FACE BATTER.

MINIMUM FACTORS OF SAFETY:
OVERTURNING: 2.0
SLIDING: 1.5
ECCENTRICITY: $e < L/6$
BEARING CAPACITY: 2.5
DEEP SEATED STABILITY: 1.3

BEARING:
A. SEE FOUNDATION REPORT FOR ALLOWABLE SOIL BEARING PRESSURE.
B. CASES 1 AND 4 - ALLOWABLE SOIL BEARING CAPACITY (ULTIMATE BEARING CAPACITY REDUCED BY A SAFETY FACTOR OF 2.5) OF 2000 PSF IS REQUIRED FOR WALLS UP TO 10 FT. IN HEIGHT. FOR WALLS GREATER THAN 10 FT. IN HEIGHT, THE REQUIRED ALLOWABLE BEARING CAPACITY IS EQUAL TO: 2000 PSF + (H-10)(625 PSF) WITH H IN FEET.
C. CASE 3 - ALLOWABLE SOIL BEARING CAPACITY (ULTIMATE BEARING CAPACITY REDUCED BY A SAFETY FACTOR OF 2.5) OF 2500 PSF IS REQUIRED FOR WALLS UP TO 10 FT. IN HEIGHT. FOR WALLS GREATER THAN 10 FT. IN HEIGHT, THE REQUIRED ALLOWABLE BEARING CAPACITY IS EQUAL TO: 2500 PSF + (H-10)(850 PSF) WITH H IN FEET.

REINFORCED WALL FILL CHARACTERISTICS:
A. SELECT GRANULAR BORROW MODIFIED FOLLOWING SPEC. 3149.2B2. MODIFICATION: SELECT GRANULAR BORROW MODIFIED, FOR SPECIAL USE IN EMBANKMENT OR BACKFILL CONSTRUCTION OR OTHER SPECIFIED PURPOSES, MAY BE ANY PIT-RUN OR CRUSHER-RUN MATERIAL THAT IS GRADED FROM COARSE TO FINE, SUCH THAT 100% OF THE MATERIAL MUST PASS THE 2" SIEVE, AND THAT THE RATIO OF THE PORTION PASSING THE #200 SIEVE DIVIDED BY THE PORTION PASSING THE 1" SIEVE MAY NOT EXCEED 10% BY MASS (THAT IS: #200/1" RATIO)
B. INTERNAL ANGLE OF FRICTION (Φ_r) = 35°
C. COHESION (C) = 0
D. MOIST UNIT WEIGHT (γ_r) = 125 PSF

COARSE FILTER AGGREGATE CHARACTERISTICS:
A. COARSE FILTER AGGREGATE TO MEET SPEC. 3149.2H. INCIDENTAL, NO DIRECT PAYMENT WILL BE MADE.

RETAINED BACKFILL CHARACTERISTICS:
A. INTERNAL ANGLE OF FRICTION (Φ_b) = 30°
B. COHESION (C) = 0
C. MOIST UNIT WEIGHT (γ_b) = 120 PSF

FOUNDATION SOILS CHARACTERISTICS:
A. INTERNAL ANGLE OF FRICTION (Φ_f) = 30°
B. COHESION (C) = 0
C. UNIT WEIGHT (γ_f) = 120 PSF

NOTES TO DESIGNER:

HEIGHT AND LOCATION RESTRICTIONS FOR ISSUES SUCH AS FREEZE-THAW DURABILITY ARE GOVERNED BY APPROPRIATE TECHNICAL MEMORANDUMS. CURRENT GOVERNING TECH. MEMO. NO.: 01-05-MRR-01 MAY BE FOUND AT www.dot.state.mn.us/tecsup/tmemo/index.html.

IN ADDITION TO THE STANDARD SHEETS, PLAN AND FRONT ELEVATION VIEWS OF THE MODULAR BLOCK RETAINING WALLS SHALL BE INCLUDED IN THE PLANS. THE PLAN VIEW MUST SHOW ALIGNMENT BASELINE, LIMITS OF BOTTOM OF WALL ALIGNMENT, AND LIMITS OF TOP OF WALL ALIGNMENT AS ALIGNMENTS VARY WITH BATTER OF WALL SYSTEM ACTUALLY SUPPLIED. THE FRONT ELEVATION MUST IDENTIFY BOTTOM AND TOP OF WALL ELEVATIONS, EXISTING GRADES, AND FINISHED GRADES.

IF THE WALL IS CURVED, THE RADIUS AT THE BOTTOM AND THE TOP OF EACH WALL SEGMENT AND THE P.C. AND P.T. STATION POINTS OFF OF BASELINE AND LIMITS OF BOTTOM AND TOP OF WALL ALIGNMENT MUST BE SHOWN.

REFERENCE STANDARD PLATES AND PROVIDE DETAILS FOR TRAFFIC BARRIERS, CURB AND GUTTER, HANDRAILS AND FENCING AS REQUIRED BY PROJECT CONDITIONS. SEE AASHTO AND Mn/DOT DESIGN MANUALS, STANDARD PLATES AND DETAILS FOR REQUIREMENTS.

SURFACE DRAINAGE PATTERNS SHALL BE SHOWN IN THE PLAN VIEW. PROVIDE DIMENSIONS FOR WIDTH AND DEPTH OF THE DRAINAGE SWALE AS WELL AS THE TYPE OF IMPERVIOUS LINER MATERIAL. SURFACE WATER RUNOFF SHOULD BE COLLECTED ABOVE AND DIVERTED AROUND WALL FACE.

DETAIL LINES AND GRADES OF THE INTERNAL DRAINAGE COLLECTION PIPE. DETAIL OR NOTE THE DESTINATION OF INTERNAL WALL DRAINS AS WELL AS THE METHOD OF TERMINATION (DAYLIGHT END OF PIPE OR CONNECTION INTO HYDRAULIC STRUCTURE). THE SPACING FOR DRAIN PIPE OUTLET SHALL NOT BE MORE THAN 250 FT.

SOFT SOILS AND/OR HIGH WATER CONDITIONS (DEFINED AS GROUNDWATER WITHIN A DEPTH EQUAL TO THE WALL HEIGHT H) MAY NOT BE SUITABLE FOR APPLICATION OF STANDARD DESIGNS AND REQUIRE SPECIAL CONSIDERATION BY THE FOUNDATIONS UNIT.

STANDARD DESIGN CHARTS ARE NOT APPLICABLE TO:
- PROJECT/SITES WHERE FOUNDATION SOILS SHEAR STRENGTH AND/OR BEARING CAPACITY DO NOT MEET OR EXCEED VALUES USED IN THE DEVELOPMENT OF STANDARD DESIGN CHARTS.
- PROJECTS WITH A LARGE QUANTITY OF FACE AREA WHERE PROJECT SPECIFIC DESIGNS ARE RECOMMENDED, AS DEFINED IN Mn/DOT ROAD DESIGN MANUAL.
- WHERE SLOPES IN FRONT OF WALL ARE STEEPER THAN 1:3.
- WHERE MAXIMUM WALL HEIGHT EXCEEDS 12 FT.
- WHERE WALLS ARE TIERED.
- WALLS WITH NOISE WALLS.

IF USING CONCRETE RAILING, INCLUDE STANDARD BRIDGE DETAIL "CONCRETE RAILING (TYPE F)" IN PLAN SET.

PROVIDE PROJECT SPECIFIC AESTHETIC REQUIREMENTS INCLUDING COLOR AND FASCIA SURFACING IN THE SPECIAL PROVISIONS.

CHAPTER 9 OF THE Mn/DOT "ROAD DESIGN MANUAL" CONTAINS GUIDELINES, TRAFFIC SAFETY AND OTHER ASPECTS.

GENERAL NOTES:

UTILITIES:

EXISTING AND PROPOSED UTILITIES ARE SHOWN IN THE GRADING PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING FACILITIES AND SHALL EXERCISE CARE IN ADJACENT CONSTRUCTION.

EXCAVATION AND EARTHWORK:

ALL EXCAVATION AND EMBANKMENT WORK SHALL CONFORM TO Mn/DOT 2451.

CAST-IN-PLACE CONCRETE:

ALL CONCRETE SHALL CONFORM TO Mn/DOT 2461, EXCEPT AS NOTED.

CONSTRUCTION:

CONSTRUCTION SHALL BE IN ACCORDANCE WITH Mn/DOT 2411, EXCEPT AS NOTED.

GEOMETRICS AND GRADES:

DATA FOR BASELINE GEOMETRY IS TABULATED FOR WALL ALIGNMENT, SEE LAYOUT SHEETS. WALL ALIGNMENT REFERENCE IS ALONG FRONT FACE OF WALL.

THE FILL SLOPE CONVENTION OF 1 VERTICAL TO HORIZONTAL IS USED IN THIS PLAN.

COMPACTION REQUIREMENTS:

COMPACT REINFORCED WALL FILL IN ACCORDANCE WITH Mn/DOT SPEC. 2105.3F1 UNLESS RECOMMENDED OTHERWISE BY THE SOILS ENGINEER.

COMPACT GRANULAR BEDDING IN ACCORDANCE WITH Mn/DOT SPEC. 2105.3F1 UNLESS RECOMMENDED OTHERWISE BY THE SOILS ENGINEER.

REVISED: 11-12-02
APPROVED: JULY 12, 2002
STATE BRIDGE ENGINEER

5404.MSH

REVISION DATE
11-12-02

STANDARD SHEET NO.	TITLE:
5-297.640	MODULAR BLOCK RETAINING WALL GENERAL NOTES AND SUMMARY OF QUANTITIES
STANDARD APPROVED: JULY 12, 2002	

MODULAR BLOCK WALL REINFORCEMENT LAYOUT

CASE 1 - LEVEL BACKFILL WITH 250 PSF SURCHARGE

MBW REINFORCEMENT CLASS	STRENGTH OF SOIL REINF. (PLF)		① MINIMUM REINFORCEMENT LENGTH, L (FT.)	MAXIMUM WALL HEIGHT (FT.)	② NOMINAL BLOCK WIDTH (IN.)	WALL BATTER RANGE (DEGREES)		③ MAXIMUM UNREINFORCED WALL HT, A (IN.)	ZONE 1		ZONE 2		ZONE 3	
	LG. TERM (T_{al})	DESIGN (T_a)					<		H1 (FT.)	$S1_{MAX}$ (IN.)	H2 (FT.)	$S2_{MAX}$ (IN.)	H3 (FT.)	$S3_{MAX}$ (IN.)
MBW-700	1050	700	0.7 H	12.0	12	0	3	15	7.9	24	4.1	16		
						3	7	16	9.8	24	2.2	16		
						7	10	18	11.5	24	0.5	16		
						10	15	18	12.0	24				
					21	0	3	32	4.9	32	3.0	24	4.1	16
						3	7	32	4.9	32	4.9	24	2.2	16
						7	10	32	5.9	32	6.1	24		
						10	15	32	7.2	32	4.8	24		
MBW-1050	1575	1050	0.7 H	12.0	12	0	3	15	12.0	24				
						3	7	16	12.0	24				
						7	10	18	12.0	24				
						10	15	18	12.0	24				
					21	0	3	36	5.9	42	4.9	32	1.2	24
						3	7	40	8.5	42	3.5	32		
						7	10	42	9.8	42	2.2	32		
						10	15	42	9.8	42	2.2	32		
MBW-1400	2100	1400	0.7 H	12.0	12	0	3	15	12.0	24				
						3	7	16	12.0	24				
						7	10	18	12.0	24				
						10	15	18	12.0	24				
					21	0	3	36	6.6	48	3.3	42	2.1	32
						3	7	40	8.2	48	3.8	42		
						7	10	48	9.8	48	2.2	42		
						10	15	48	9.8	48	2.2	42		

NOTES TO CONTRACTOR:

① OR 4 FT. MINIMUM, WHICHEVER IS GREATER.

② WIDTH - AS MEASURED FROM FRONT TO BACK FACE OF BLOCK UNIT.

③ MAXIMUM DISTANCE FROM TOP OF WALL TO FIRST REINFORCEMENT LAYER. UNREINFORCED WALLS ARE NOT INCLUDED IN THIS STANDARD BUT MAY BE CONSTRUCTED UP TO AT LEAST THE HEIGHT GIVEN IN THE TABLE FOR A GIVEN NOMINAL BLOCK WIDTH AND THE SPECIFIED FILL MATERIALS CONTAINED IN THIS STANDARD.

④ PAY LIMITS OF STRUCTURAL EXCAVATION. ACTUAL EXCAVATION SLOPE IS DETERMINED BY OSHA REGULATIONS AND IN-SITU SOILS; EXCAVATION BEYOND "LIMITS OF STRUCTURAL EXCAVATION" AT CONTRACTOR'S EXPENSE.

⑤ THE WRAP LENGTH FOR GEOTEXTILE FABRIC SHALL NOT BE MORE THAN 6".

⑥ INSPECT EXCAVATION SLOPES FOR ACTIVE SEEPAGE AND PLACE ADDITIONAL DRAINS WHERE SEEPAGE OCCURS AS DIRECTED BY THE ENGINEER.

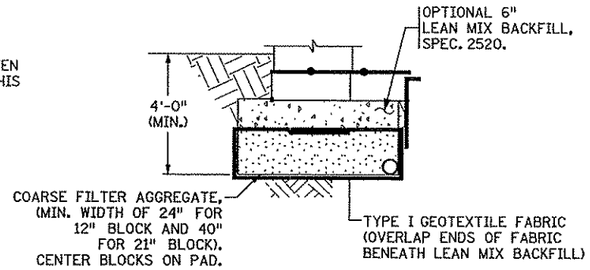
⑦ PLACE DRAIN AT BOTTOM OF REINFORCED SOIL IF PIPE CAN BE SLOPED TO OUTLET. DO NOT OUTLET ONTO A SIDEWALK.

⑧ IF PIPE AT THIS ELEVATION CANNOT BE SLOPED TO DRAIN, OMIT DRAIN AND USE "CONCRETE PAD WITHOUT DRAIN" DETAIL.

⑨ 4" THERMOPLASTIC PERFORATED PIPE, SPEC. 3245, WRAP WITH TYPE I GEOTEXTILE, SPEC. 3733 (TYP.) INSTALLATION AS PER SPEC. 2502, WITH PRECAST CONCRETE HEAD WALL AT OUTLET.

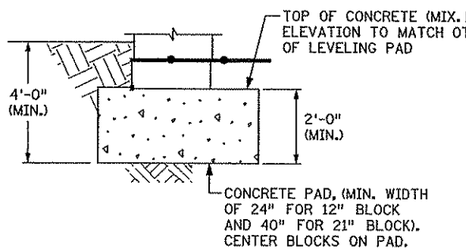
⑩ $S_{MAX} = 0.5\ S1_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 1.
$S_{MAX} = 0.5\ S2_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 2.
$S_{MAX} = 0.5\ S3_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 3.

⑪ THE REINFORCED WALL FILL DRAIN MAY BE CONNECTED INTO FOOTING DRAIN, INSTEAD OF OUT LETTING THROUGH THE WALL, IF CAPACITY IS ADEQUATE TO TRANSMIT THE FLOW.



OPTIONAL CONCRETE LEVELING PAD

NOT TO SCALE



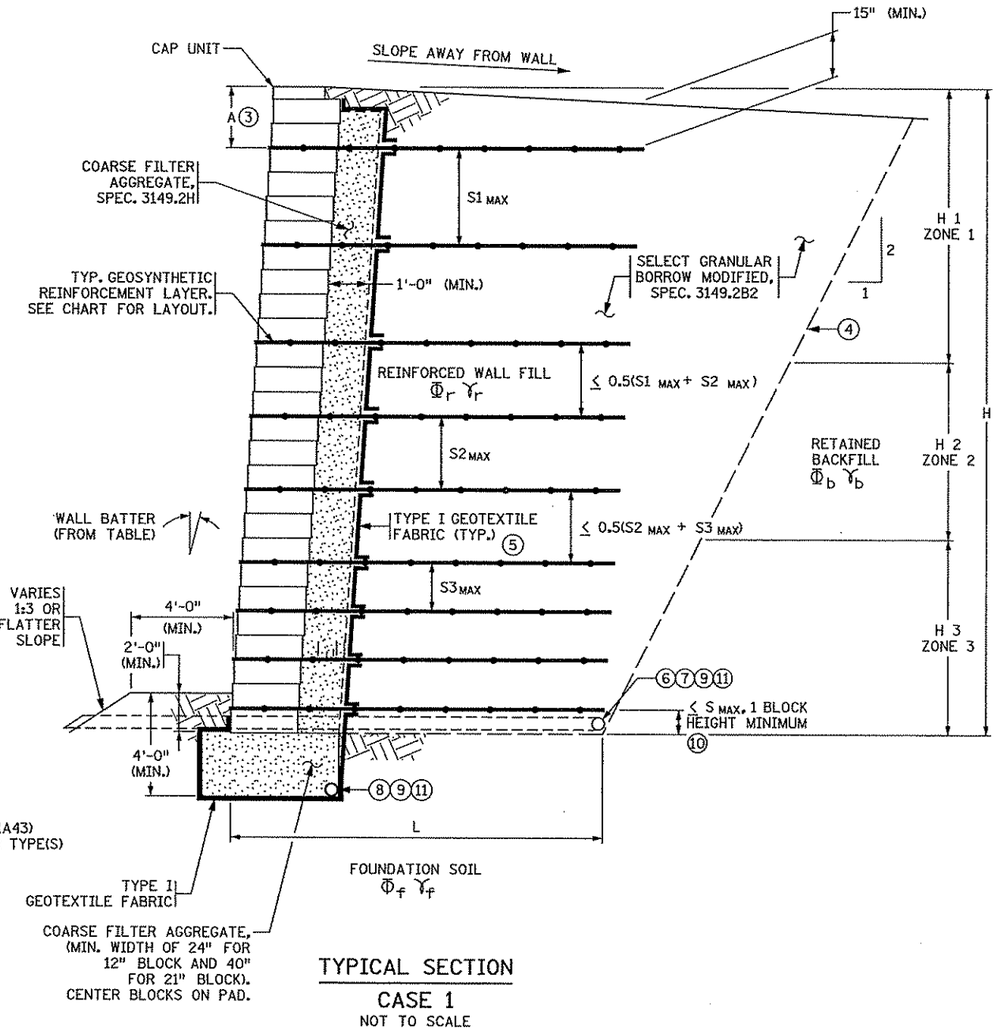
CONCRETE PAD WITHOUT DRAIN

NOT TO SCALE

INSTRUCTIONS TO CONTRACTOR:

USE AS MANY ZONES AS WALL HEIGHT REQUIRES, STARTING WITH ZONE 1 AND ADDING ADDITIONAL ZONES TO THE BOTTOM OF THE WALL AS NEEDED TO MAKE UP THE TOTAL WALL HEIGHT (H) NEEDED.

REINFORCEMENT CLASS, NOMINAL BLOCK WIDTH AND WALL BATTER ARE GENERALLY THE CONTRACTOR'S OPTION TO SELECT FROM Mn/DOT APPROVED PRODUCTS LISTS LOCATED AT www.mrr.dot.state.mn.us/geotechnical/foundations/foundations.asp.



TYPICAL SECTION

CASE 1

NOT TO SCALE

REVISED: 11-12-02
APPROVED: JULY 12, 2002
Daniel D. Morgan
STATE BRIDGE ENGINEER

5404.MSI

STANDARD SHEET NO. 5-297.641	TITLE: MODULAR BLOCK RETAINING WALL SOIL REINFORCEMENT FOR LEVEL FILL, CASE 1
STANDARD APPROVED: JULY 12, 2002	

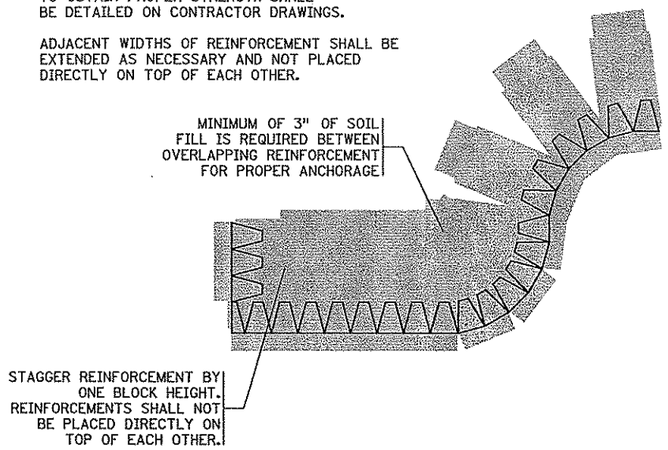
REVISION DATE 11-12-02

STATE PROJ. NO. 02-678-16 ET. AL. SHEET NO. 155 OF 400 SHEETS

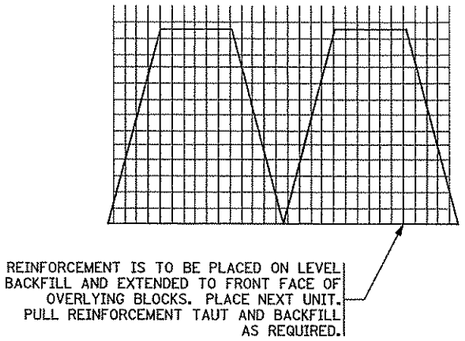
NOTES:

CORRECT ORIENTATION OF GEOSYNTHETIC TO OBTAIN PROPER STRENGTH SHALL BE DETAILED ON CONTRACTOR DRAWINGS.

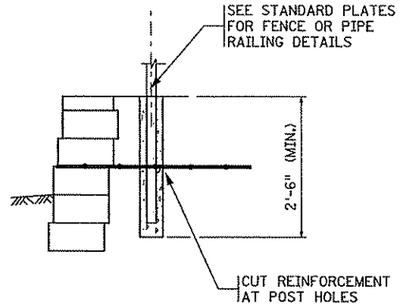
ADJACENT WIDTHS OF REINFORCEMENT SHALL BE EXTENDED AS NECESSARY AND NOT PLACED DIRECTLY ON TOP OF EACH OTHER.



REINFORCEMENT PLACEMENT AROUND CURVES AND CORNERS

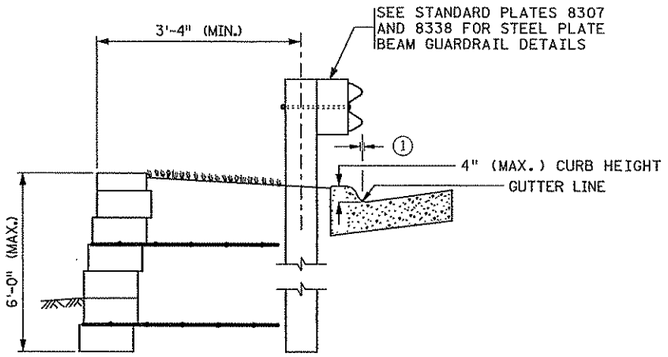


REINFORCEMENT PLACEMENT BETWEEN BLOCK UNITS

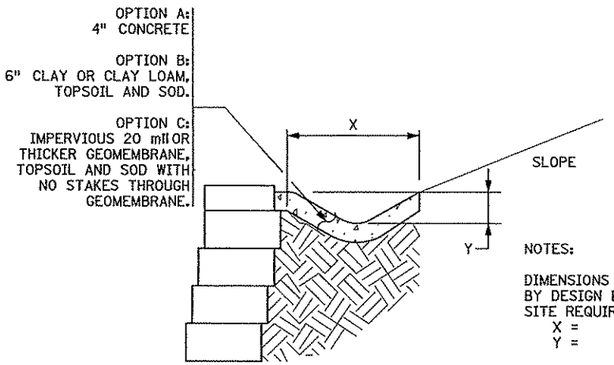


POST DETAIL

TYPICAL HANDRAIL AND/OR FENCE POST



STEEL PLATE BEAM GUARDRAIL DETAIL 1

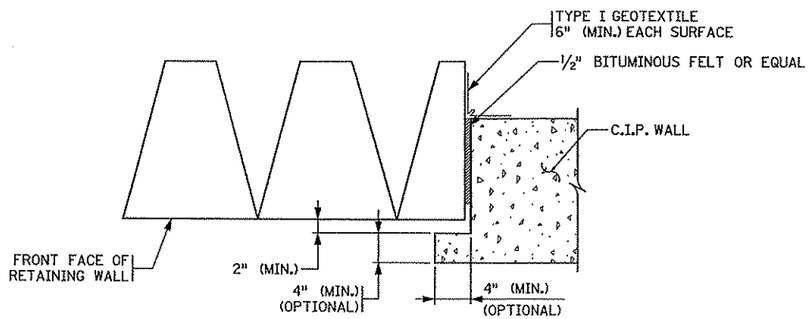


NOTES:

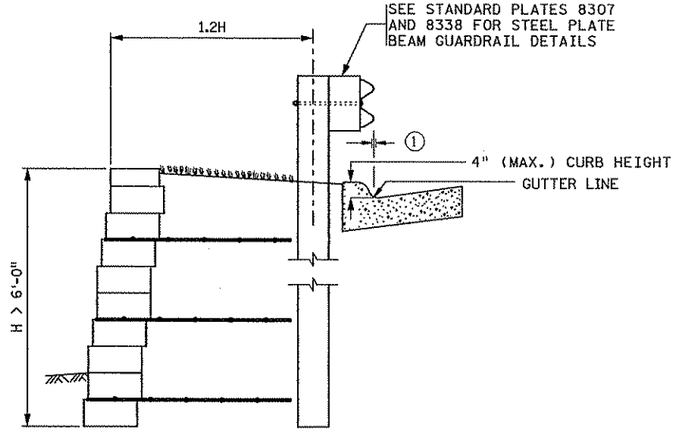
DIMENSIONS TO BE DETERMINED BY DESIGN ENGINEER BASED ON SITE REQUIREMENTS.
X =
Y =

SEE PLAN VIEW FOR SURFACE DRAINAGE PATTERNS.

TYPICAL DRAIN SWALE DETAIL



CONNECTION DETAIL AT JUNCTURE OF MSEW AND C.I.P. STRUCTURE



STEEL PLATE BEAM GUARDRAIL DETAIL 2

(AADT SHALL BE LESS THAN 5000)
STEEL PLATE BEAM GUARDRAIL SHOWN.

NOTES:

(1) USE CAUTION WHEN PLACING CURB WITH GUARDRAIL. CURBS ADVERSELY AFFECT THE PERFORMANCE OF THE GUARDRAIL. GENERALLY PLACE CURB DIRECTLY BELOW GUARDRAIL. SEE PLANS OR REFER TO STANDARD PLAN 5-297.601 (2). FOR CURB LOCATIONS ON NCHRP REPORT NO. 350 APPROVED BRIDGE TRANSITIONS, SEE STANDARD PLANS 5-297.603, .605, .606 ETC..

REVISED:

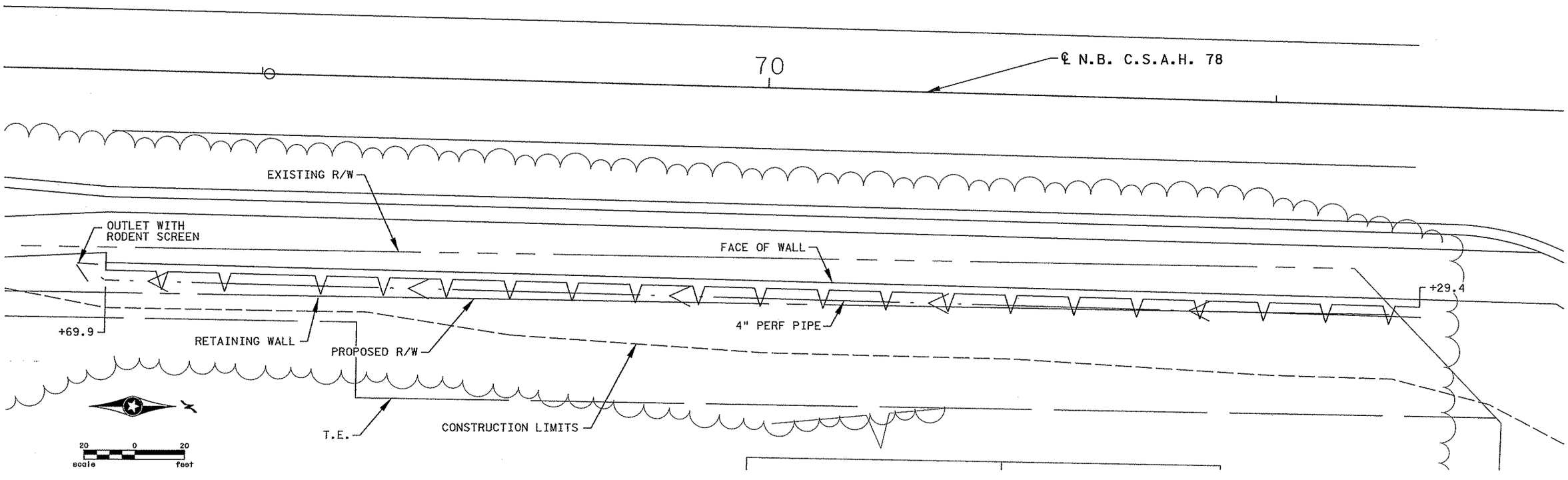
APPROVED:

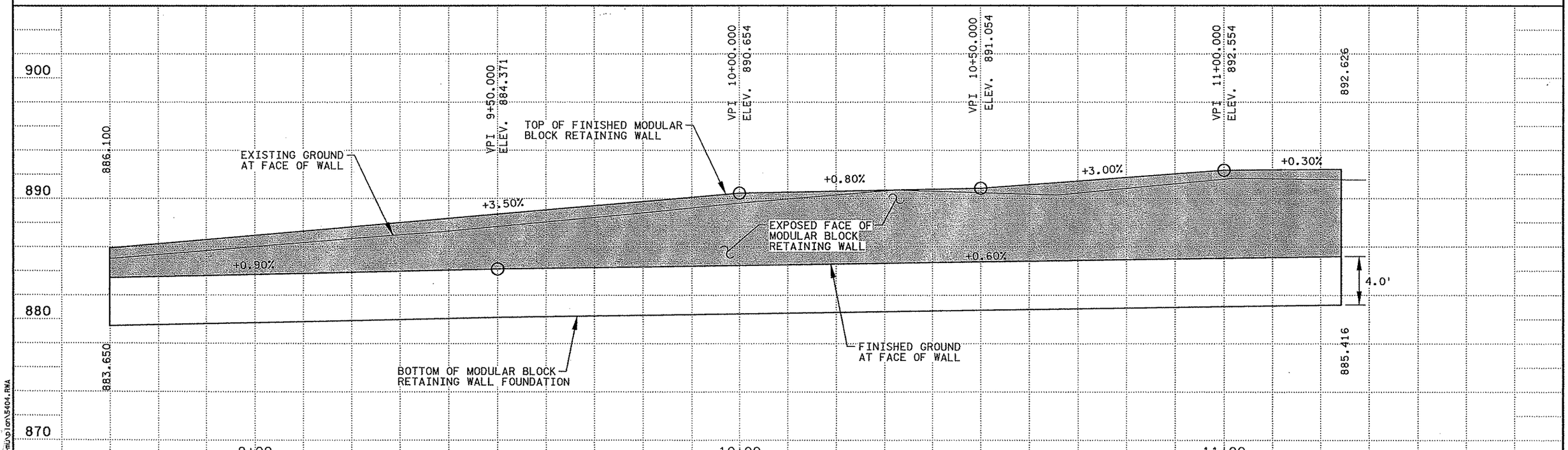
STATE BRIDGE ENGINEER

STANDARD SHEET NO.	TITLE:
5-297.645	MODULAR BLOCK RETAINING WALL DETAILS
STANDARD APPROVED: MARCH 19, 2003	

STATE PROJ. NO. 02-678-16 ET. AL. SHEET NO. 156 OF 400 SHEETS

5404.MSJ





NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.RWA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

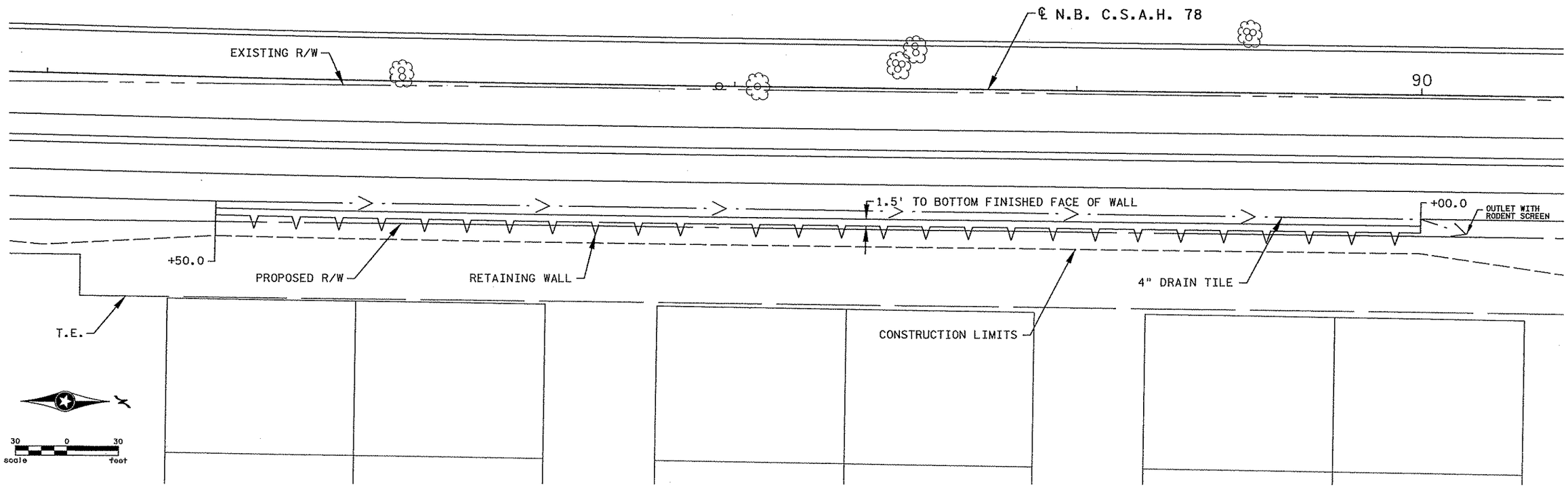
SRF CONSULTING GROUP, INC.

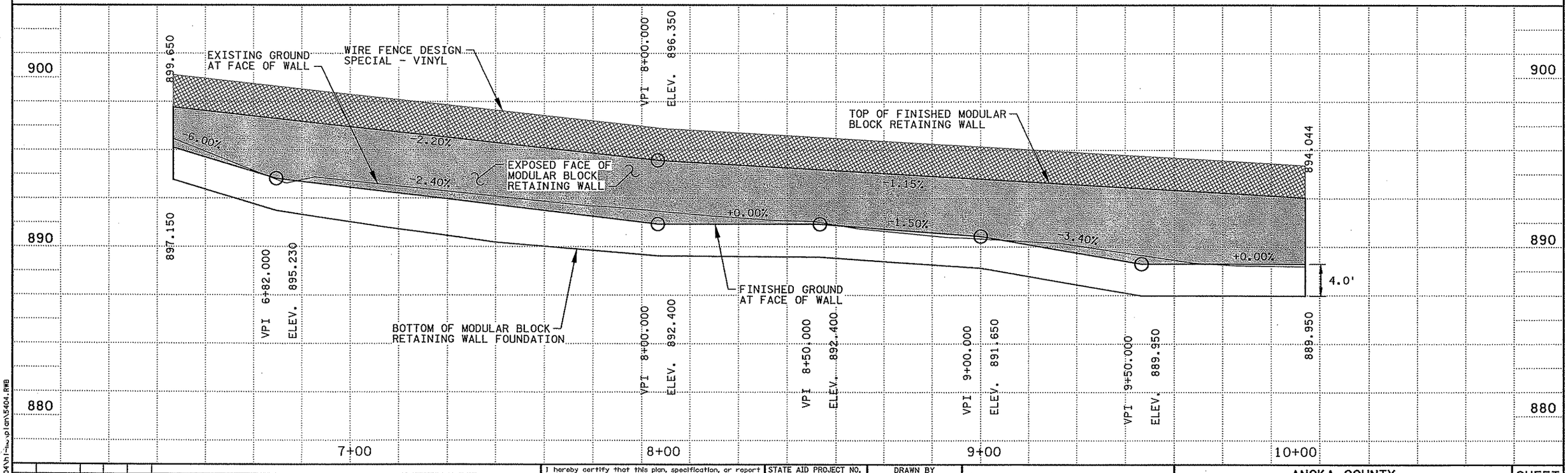
ANOKA COUNTY

RETAINING WALL PLAN AND PROFILE
C.S.A.H. 78

SHEET 157 OF 400

5:41:46 PM
10/9/2006
h:\proj\srf\5404\hl-mu\plan\5404.RWA





NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.RWB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

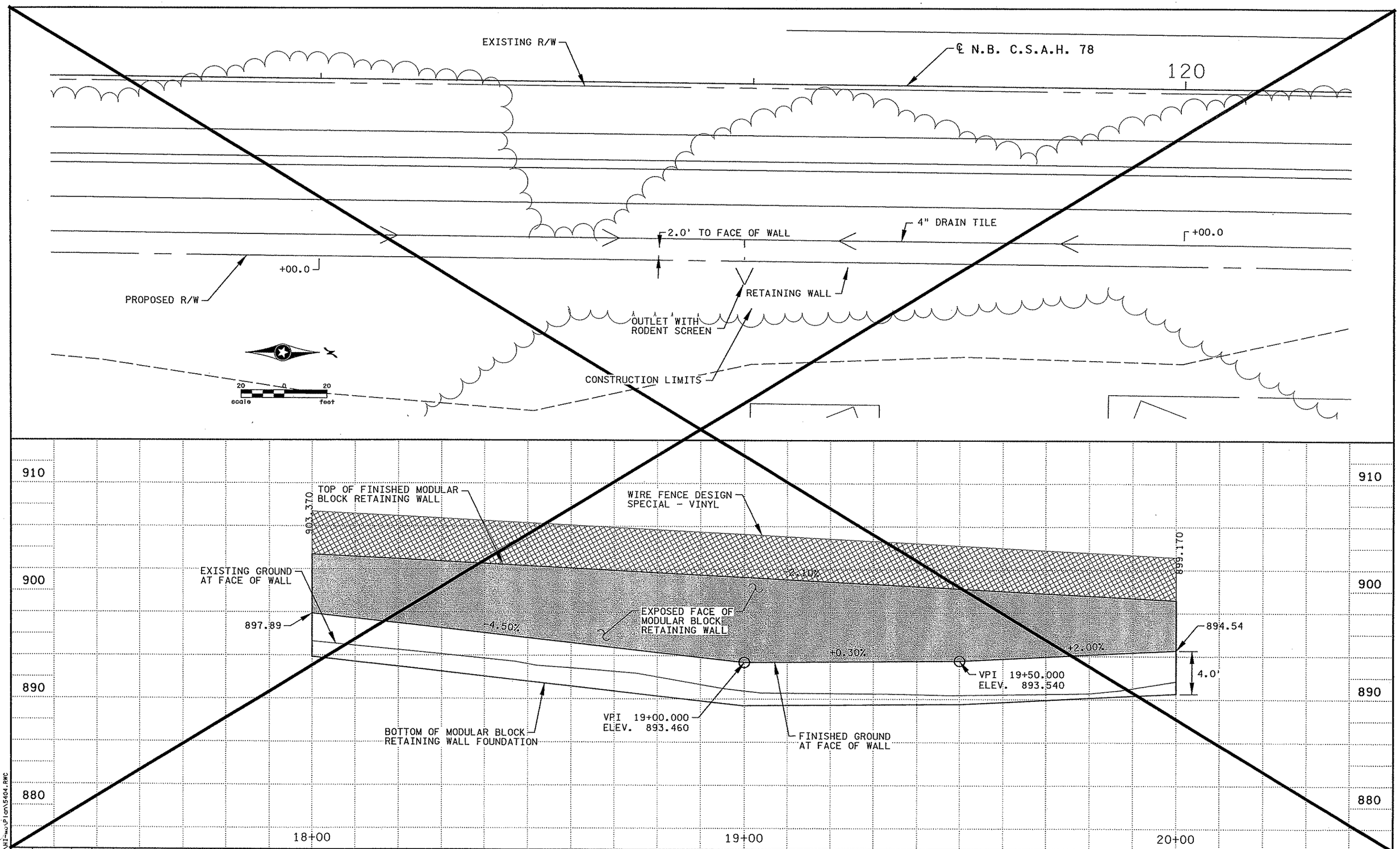
ANOKA COUNTY

RETAINING WALL PLAN AND PROFILE

C.S.A.H. 78

SHEET 158 OF 400

5:41:47 PM
10/9/2006
H:\projects\5404\hl-mu\plan\5404.RWB



NO	DATE	BY	CKD	APPR	REVISION
1	2/21/07	GMP	CMT	CMT	RETAINING WALL DELEATED PER ANOKA COUNTY COMMENTS

...\5404\HI-MU\Plan\5404.RWC

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.

Print Name: CHRIS M. TRBOYEVICH

Chris M. Trboyevich

Date 2/21/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

RETAINING WALL PLAN AND PROFILE

C.S.A.H. 78

SHEET 159 OF 400

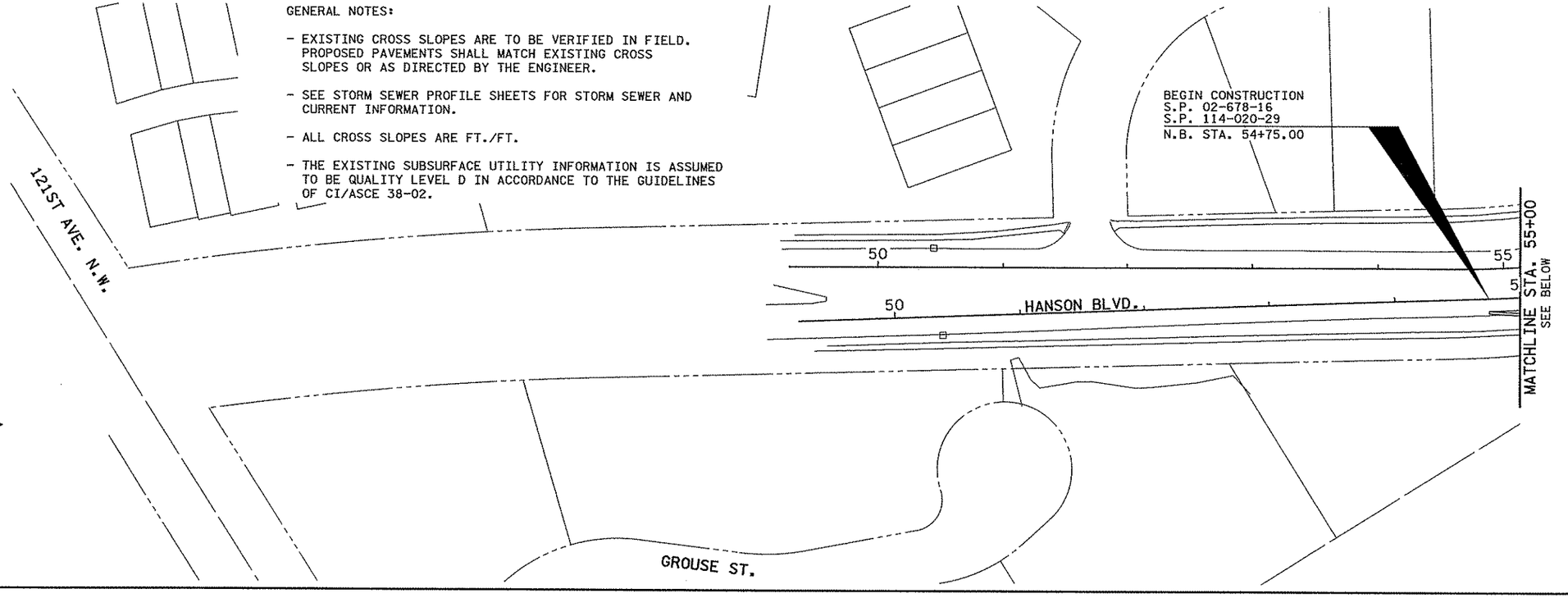
12:59:56 PM
2/21/2007
H:\Projects\5404\HI-MU\Plan\5404.RWC

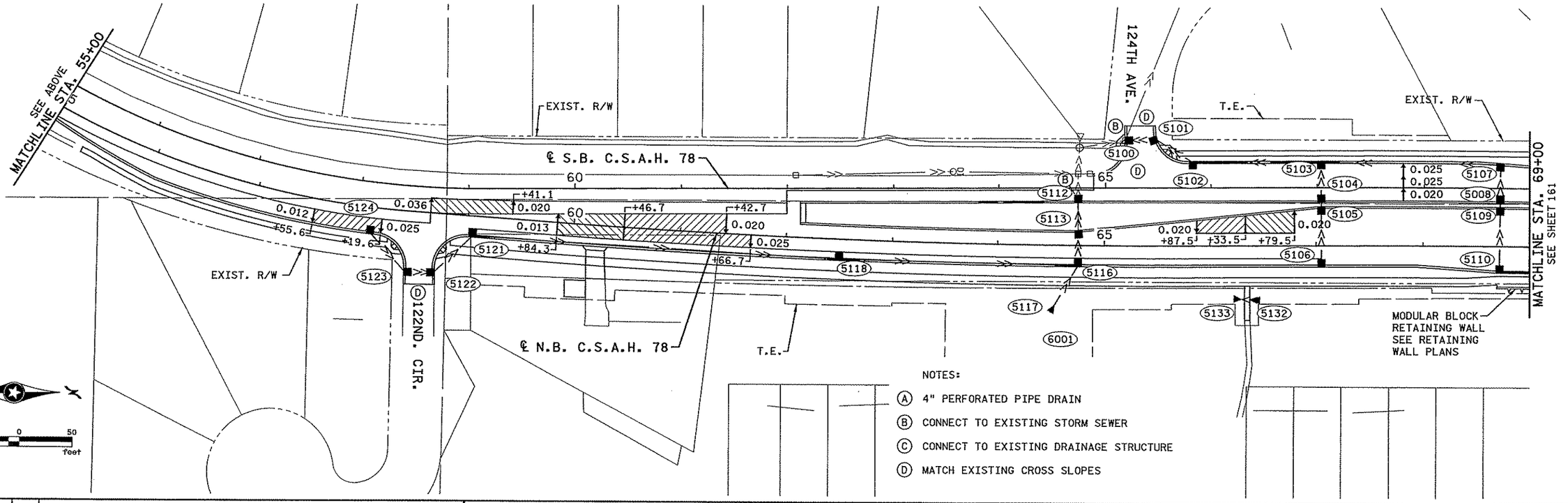
LEGEND

- EXISTING STORM SEWER OR CULVERT
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING APRON
- PROPOSED STORM SEWER OR CULVERT
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED APRON
- DIRECTION OF FLOW
- (XXX) STRUCTURE NUMBER

GENERAL NOTES:

- EXISTING CROSS SLOPES ARE TO BE VERIFIED IN FIELD. PROPOSED PAVEMENTS SHALL MATCH EXISTING CROSS SLOPES OR AS DIRECTED BY THE ENGINEER.
- SEE STORM SEWER PROFILE SHEETS FOR STORM SEWER AND CURRENT INFORMATION.
- ALL CROSS SLOPES ARE FT./FT.
- THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02.





NOTES:

- (A) 4" PERFORATED PIPE DRAIN
- (B) CONNECT TO EXISTING STORM SEWER
- (C) CONNECT TO EXISTING DRAINAGE STRUCTURE
- (D) MATCH EXISTING CROSS SLOPES

NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	SUPERELEVATION REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.SEA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

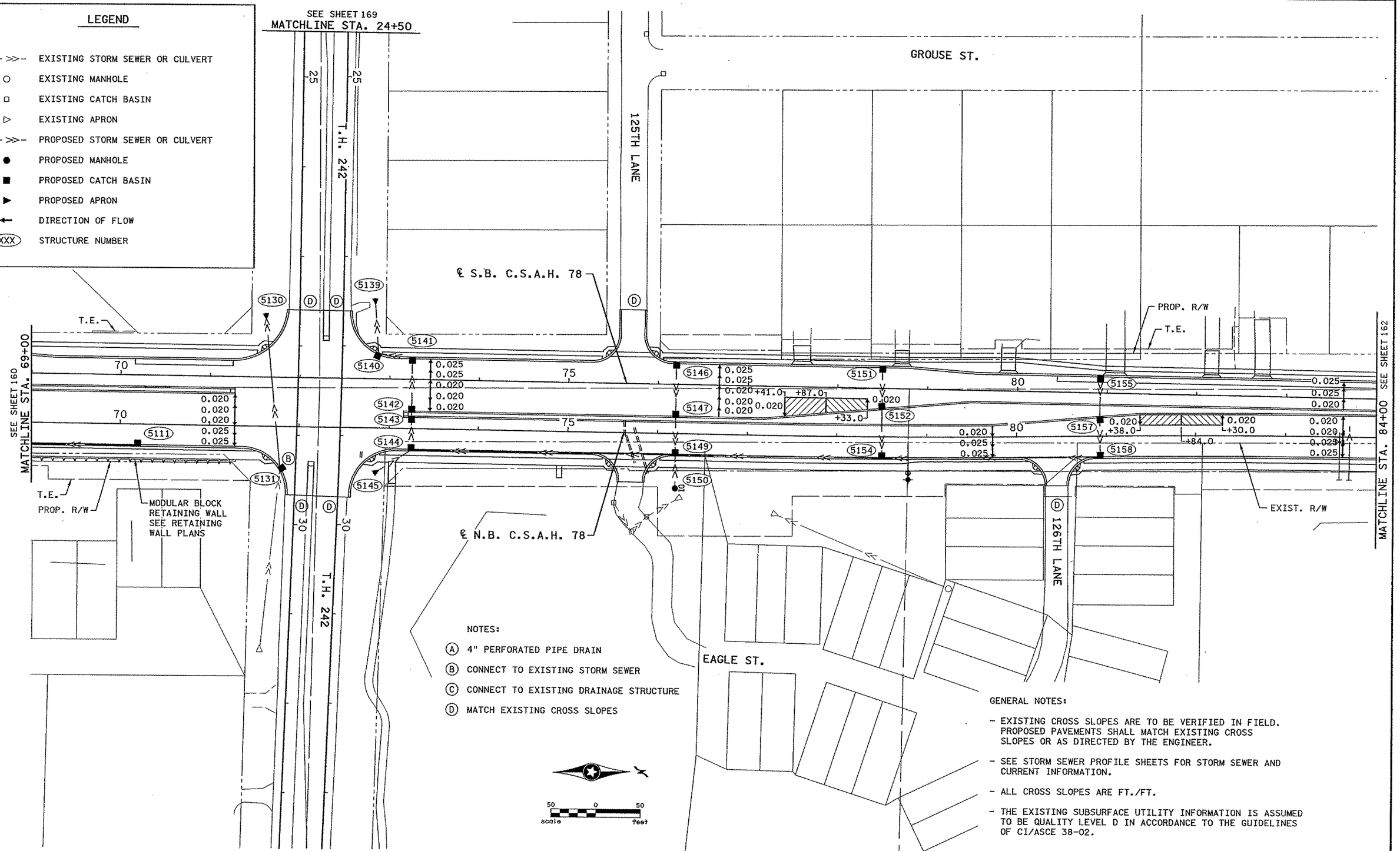
ANOKA COUNTY
STORM SEWER AND SUPERELEVATION PLAN
C.S.A.H. 78

SHEET 160 OF 400

4:28:41 PM
9/6/2006
hl\projects\5404\hl-mu\plan\5404.SEA

LEGEND

- EXISTING STORM SEWER OR CULVERT
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING APRON
- PROPOSED STORM SEWER OR CULVERT
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED APRON
- DIRECTION OF FLOW
- (XXX) STRUCTURE NUMBER



NOTES:

- (A) 4" PERFORATED PIPE DRAIN
- (B) CONNECT TO EXISTING STORM SEWER
- (C) CONNECT TO EXISTING DRAINAGE STRUCTURE
- (D) MATCH EXISTING CROSS SLOPES

50 0 50
scale feet

GENERAL NOTES:

- EXISTING CROSS SLOPES ARE TO BE VERIFIED IN FIELD. PROPOSED PAVEMENTS SHALL MATCH EXISTING CROSS SLOPES OR AS DIRECTED BY THE ENGINEER.
- SEE STORM SEWER PROFILE SHEETS FOR STORM SEWER AND CURRENT INFORMATION.
- ALL CROSS SLOPES ARE FT./FT.
- THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02.

NO	DATE	BY	CKD	APPR	REVISION
2	2-14-07	GMP	CMT	CMT	CHANGED SHOULDER SUPERELEVATION TO 0.025
1	8-01-06	JJD	CMT	CMT	SUPERELEVATION REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hi-mu\Plan\5404.SEB

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.
Print Name: CHRIS M. TRBOYEVICH
Date 2/14/2007 License # 41635

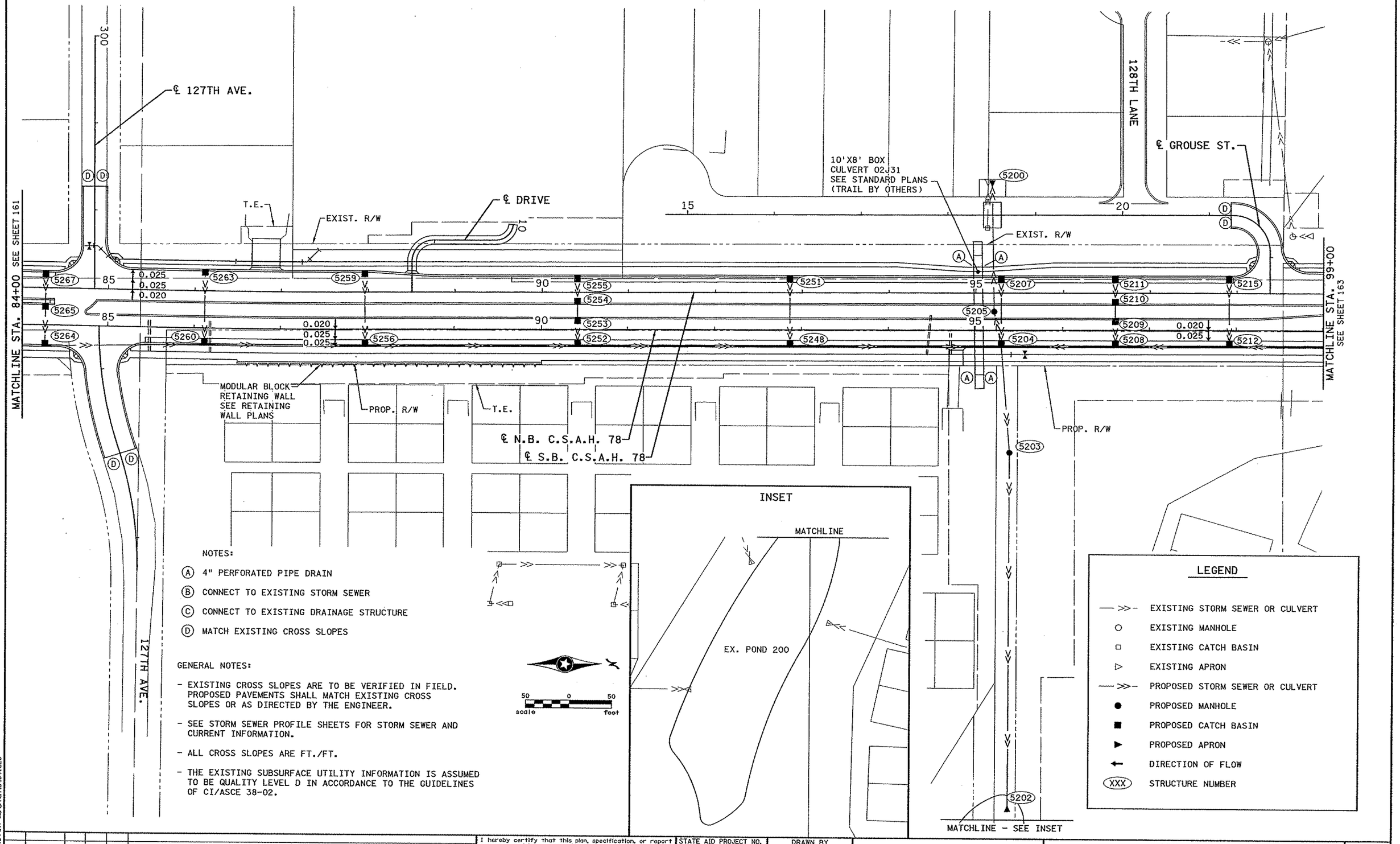
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STORM SEWER AND SUPERELEVATION PLAN
C.S.A.H. 78

SHEET 161 OF 400

3132151 PW
2/14/2007
H:\Projects\5404\hi-mu\Plan\5404.SEB



NOTES:

(A) 4" PERFORATED PIPE DRAIN

(B) CONNECT TO EXISTING STORM SEWER

(C) CONNECT TO EXISTING DRAINAGE STRUCTURE

(D) MATCH EXISTING CROSS SLOPES

GENERAL NOTES:

- EXISTING CROSS SLOPES ARE TO BE VERIFIED IN FIELD. PROPOSED PAVEMENTS SHALL MATCH EXISTING CROSS SLOPES OR AS DIRECTED BY THE ENGINEER.
- SEE STORM SEWER PROFILE SHEETS FOR STORM SEWER AND CURRENT INFORMATION.
- ALL CROSS SLOPES ARE FT./FT.
- THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02.

LEGEND

- EXISTING STORM SEWER OR CULVERT
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING APRON
- PROPOSED STORM SEWER OR CULVERT
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED APRON
- DIRECTION OF FLOW
- XXX STRUCTURE NUMBER

NO	DATE	BY	CKD	APPR	REVISION
2	2-14-07	GMP	CMT	CMT	CHANGED SHOULDER SUPERELEVATION TO 0.025
1	8-01-06	JJD	CMT	CMT	SUPERELEVATION REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\hl-mu\plan\5404.SEC					

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.

Print Name: CHRIS M. TRBOYEVICH

Chris M. Trboyevich

Date 2/14/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

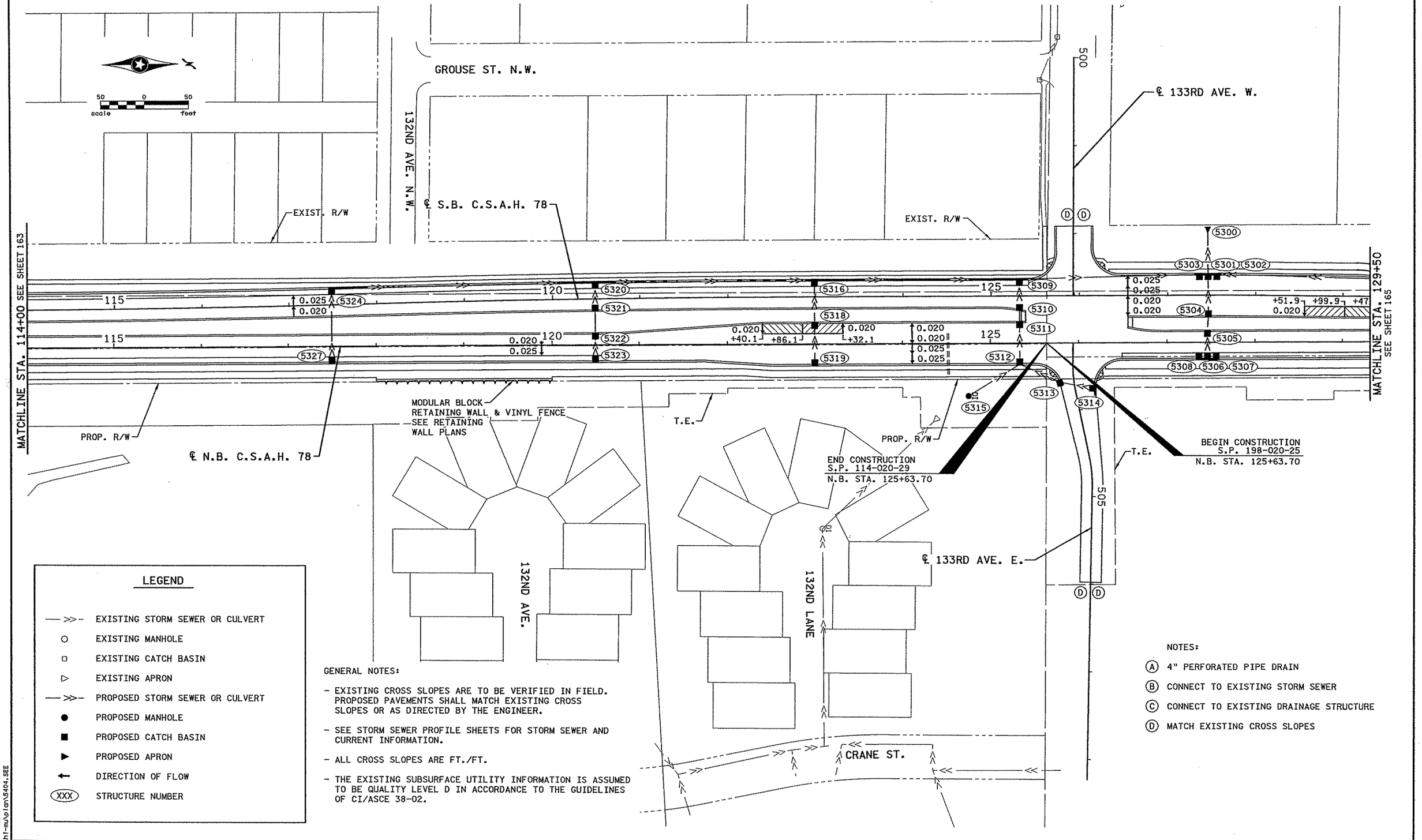
ANOKA COUNTY

STORM SEWER AND SUPERELEVATION PLAN

C.S.A.H. 78

SHEET 162 OF 400

3:32:53 PM
2/14/2007
h:\projects\5404\hl-mu\plan\5404.SEC



LEGEND

- EXISTING STORM SEWER OR CULVERT
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING APRON
- PROPOSED STORM SEWER OR CULVERT
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED APRON
- DIRECTION OF FLOW
- (XXX) STRUCTURE NUMBER

GENERAL NOTES:

- EXISTING CROSS SLOPES ARE TO BE VERIFIED IN FIELD. PROPOSED PAVEMENTS SHALL MATCH EXISTING CROSS SLOPES OR AS DIRECTED BY THE ENGINEER.
- SEE STORM SEWER PROFILE SHEETS FOR STORM SEWER AND CURRENT INFORMATION.
- ALL CROSS SLOPES ARE FT./FT.
- THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02.

NOTES:

- (A) 4" PERFORATED PIPE DRAIN
- (B) CONNECT TO EXISTING STORM SEWER
- (C) CONNECT TO EXISTING DRAINAGE STRUCTURE
- (D) MATCH EXISTING CROSS SLOPES

NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	SUPERELEVATION REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.SEE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STORM SEWER AND SUPERELEVATION PLAN

C.S.A.H. 78

SHEET 164 OF 400

4129:47 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.SEE

℄ E.B. STATION PARKWAY

℄ W.B. STATION PARKWAY

℄ S.B. C.S.A.H. 78

EXIST. R/W

EQUATION
S.B. C.S.A.H. 78 138+02.24 BACK =
S.B. C.S.A.H. 138+02.11 AHEAD

EXIST. R/W

SEE SHEET 164
MATCHLINE STA. 129+50

MATCHLINE STA. 144+25
SEE SHEET 166

5329 5332 5336 5338 5339 5340 5342 5344 5345 5346 5347 5348 5349 5350 5351 5352 5353 5354 5355 5356 5357 5358 5359 5360 5363 5364 5367 5368

130 135 140 705 710

0.020 0.025 0.040

+33.0 +79.0 +25.0 +53.0 +99.0 +45.0

T.E.

PROP. R/W

℄ N.B. C.S.A.H. 78

PROP. R/W

℄ PARK RD.

NOTES:

Ⓐ 4" PERFORATED PIPE DRAIN

Ⓑ CONNECT TO EXISTING STORM SEWER

Ⓒ CONNECT TO EXISTING DRAINAGE STRUCTURE

Ⓓ MATCH EXISTING CROSS SLOPES

50 0 50
scale feet

LEGEND

- EXISTING STORM SEWER OR CULVERT
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING APRON
- PROPOSED STORM SEWER OR CULVERT
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED APRON
- DIRECTION OF FLOW
- (XXX) STRUCTURE NUMBER

GENERAL NOTES:

- EXISTING CROSS SLOPES ARE TO BE VERIFIED IN FIELD. PROPOSED PAVEMENTS SHALL MATCH EXISTING CROSS SLOPES OR AS DIRECTED BY THE ENGINEER.
- SEE STORM SEWER PROFILE SHEETS FOR STORM SEWER AND CURRENT INFORMATION.
- ALL CROSS SLOPES ARE FT./FT.
- THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02.

NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	SUPERELEVATION REVISIONS PER ANOKA COUNTY COMMENTS
					...\5404\hl-mu\plan\5404.SEF

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.
Print Name: CHRIS M. TRBOYEVICH
Date 6/16/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STORM SEWER AND SUPERELEVATION PLAN
C.S.A.H. 78

SHEET 165 OF 400

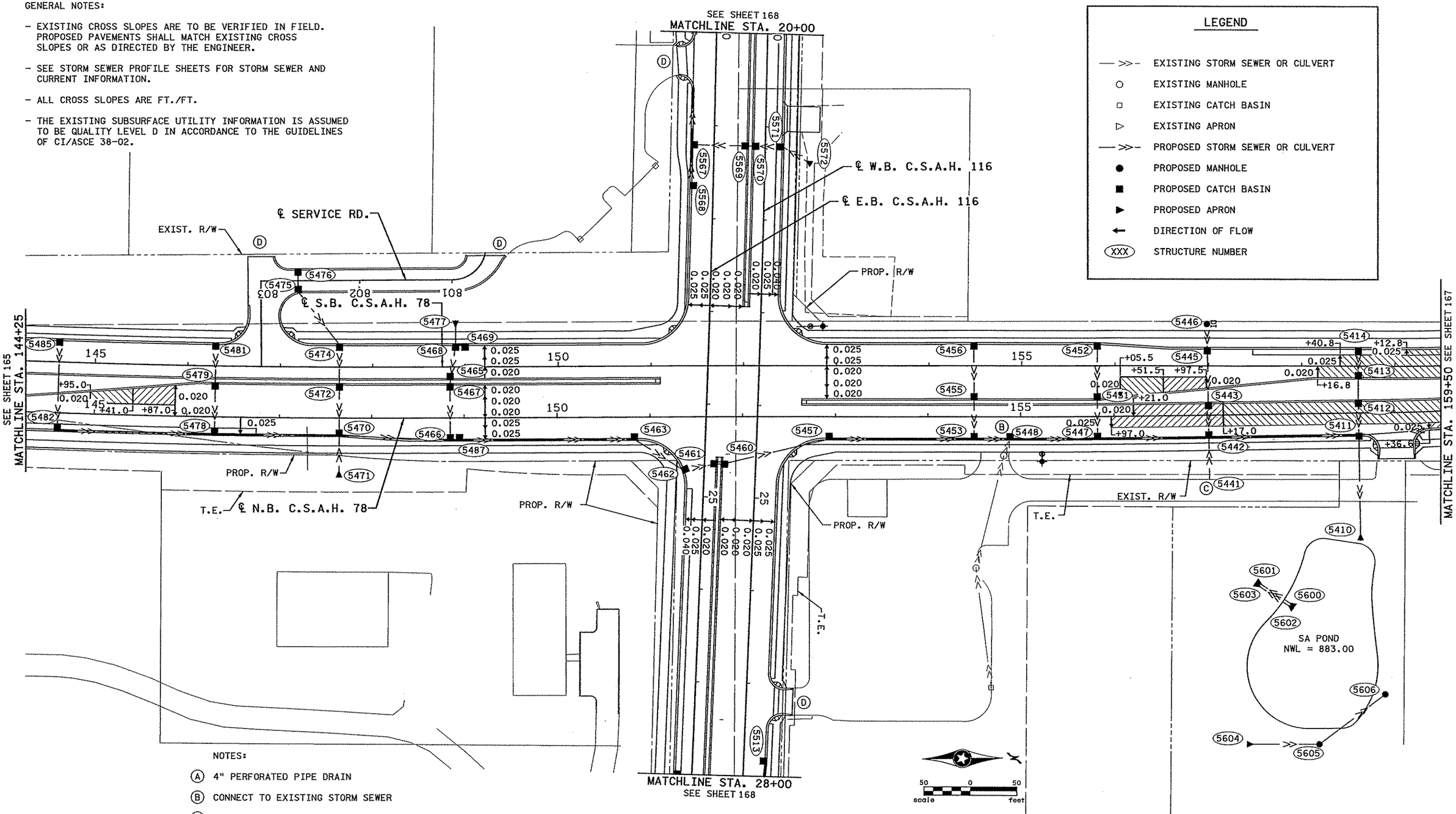
4129149 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.SEF

GENERAL NOTES:

- EXISTING CROSS SLOPES ARE TO BE VERIFIED IN FIELD. PROPOSED PAVEMENTS SHALL MATCH EXISTING CROSS SLOPES OR AS DIRECTED BY THE ENGINEER.
- SEE STORM SEWER PROFILE SHEETS FOR STORM SEWER AND CURRENT INFORMATION.
- ALL CROSS SLOPES ARE FT./FT.
- THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02.

LEGEND

- EXISTING STORM SEWER OR CULVERT
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING APRON
- PROPOSED STORM SEWER OR CULVERT
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED APRON
- DIRECTION OF FLOW
- XXX STRUCTURE NUMBER



NOTES:

(A) 4" PERFORATED PIPE DRAIN
(B) CONNECT TO EXISTING STORM SEWER
(C) CONNECT TO EXISTING DRAINAGE STRUCTURE
(D) MATCH EXISTING CROSS SLOPES

NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	SUPERELEVATION REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hI-mu\plan\5404.SEG

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

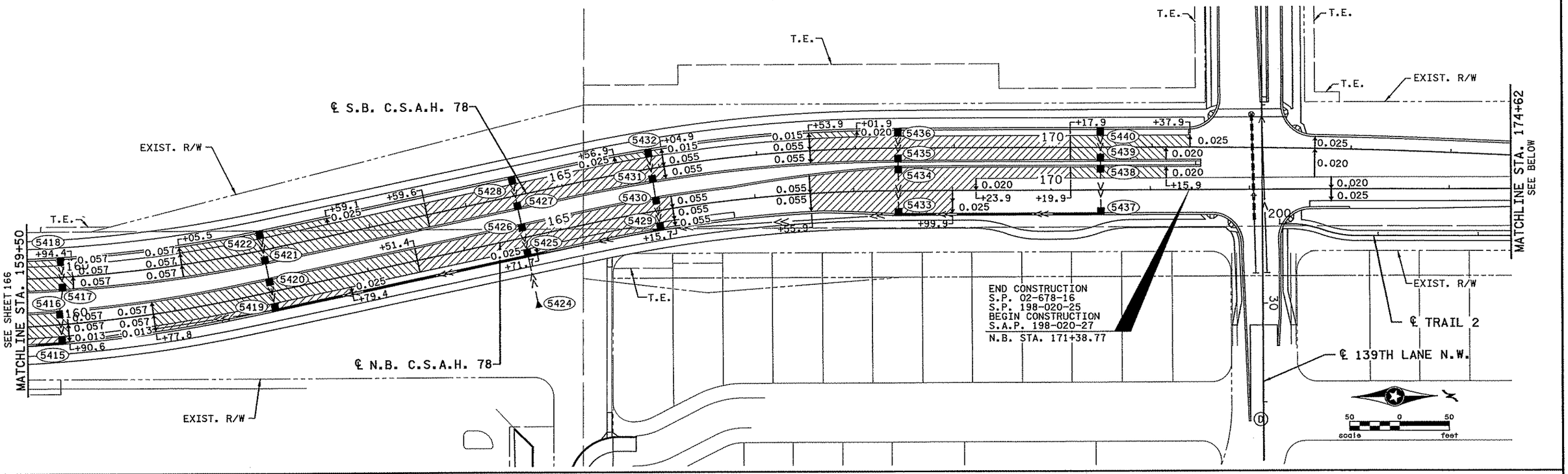
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

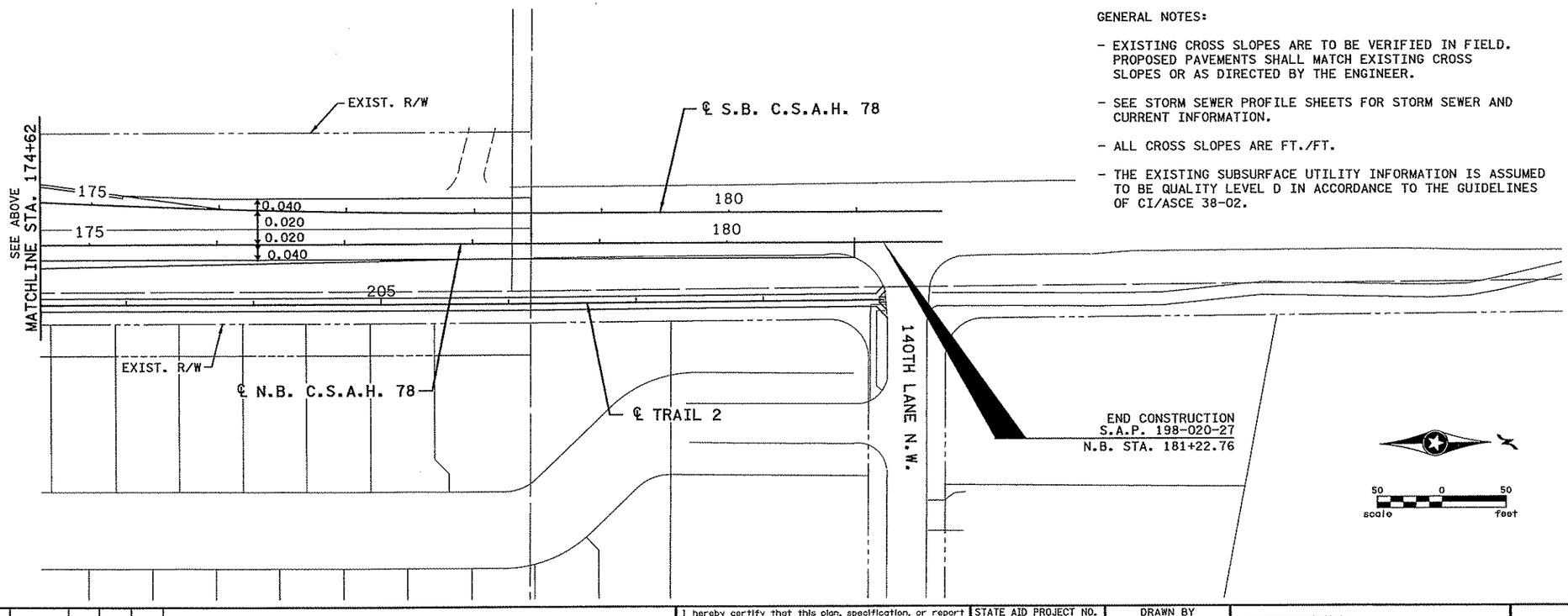
SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STORM SEWER AND SUPERELEVATION PLAN
C.S.A.H. 78

SHEET 166 OF 400

4:29:50 PM
9/26/2006
h:\projects\5404\hI-mu\plan\5404.SEG





GENERAL NOTES:

- EXISTING CROSS SLOPES ARE TO BE VERIFIED IN FIELD. PROPOSED PAVEMENTS SHALL MATCH EXISTING CROSS SLOPES OR AS DIRECTED BY THE ENGINEER.
- SEE STORM SEWER PROFILE SHEETS FOR STORM SEWER AND CURRENT INFORMATION.
- ALL CROSS SLOPES ARE FT./FT.
- THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02.

LEGEND

- EXISTING STORM SEWER OR CULVERT
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING APRON
- PROPOSED STORM SEWER OR CULVERT
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED APRON
- DIRECTION OF FLOW
- (XXX) STRUCTURE NUMBER

NOTES:

- (A) 4" PERFORATED PIPE DRAIN
- (B) CONNECT TO EXISTING STORM SEWER
- (C) CONNECT TO EXISTING DRAINAGE STRUCTURE
- (D) MATCH EXISTING CROSS SLOPES

NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	SUPERELEVATION REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.SEH

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STORM SEWER AND SUPERELEVATION PLAN

C.S.A.H. 78

SHEET 167 OF 400

4129152 PM
9/28/2006
h:\projects\5404\hl-mu\plan\5404.SEH

LEGEND

- EXISTING STORM SEWER OR CULVERT
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING APRON
- PROPOSED STORM SEWER OR CULVERT
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED APRON
- DIRECTION OF FLOW
- (XXX) STRUCTURE NUMBER

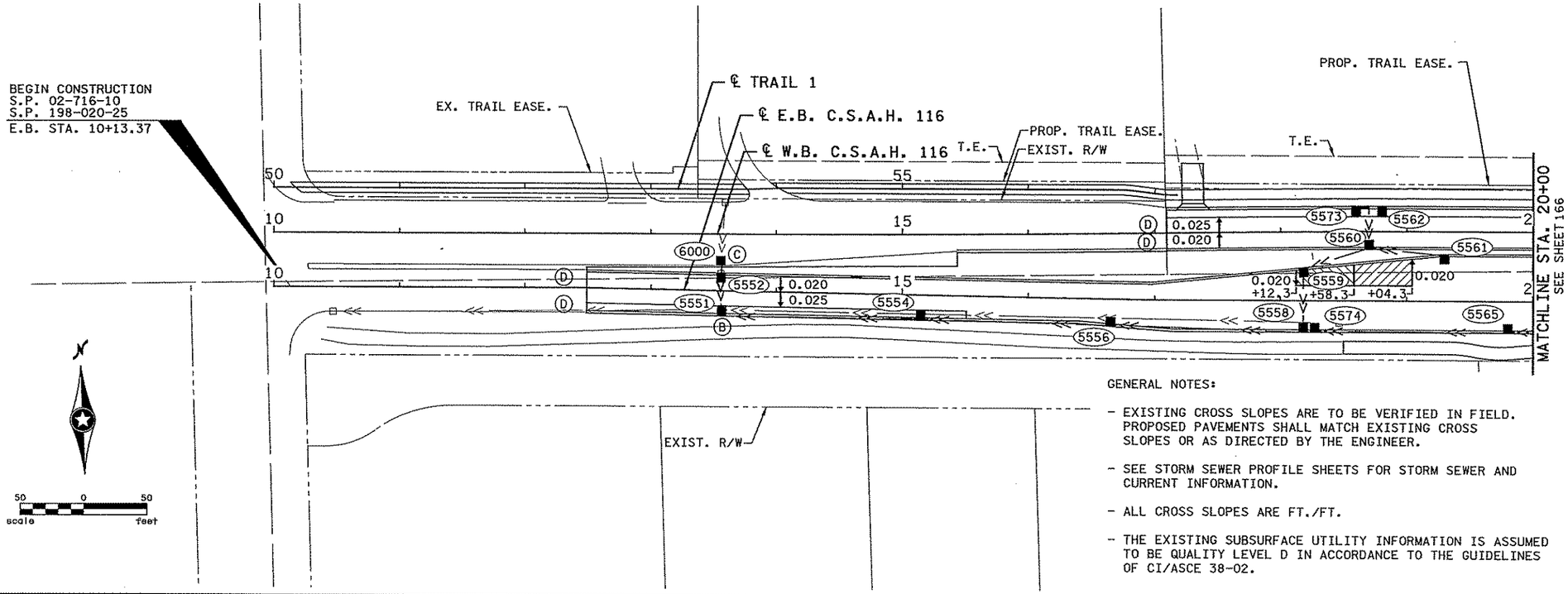
NOTES:

(A) 4" PERFORATED PIPE DRAIN

(B) CONNECT TO EXISTING STORM SEWER

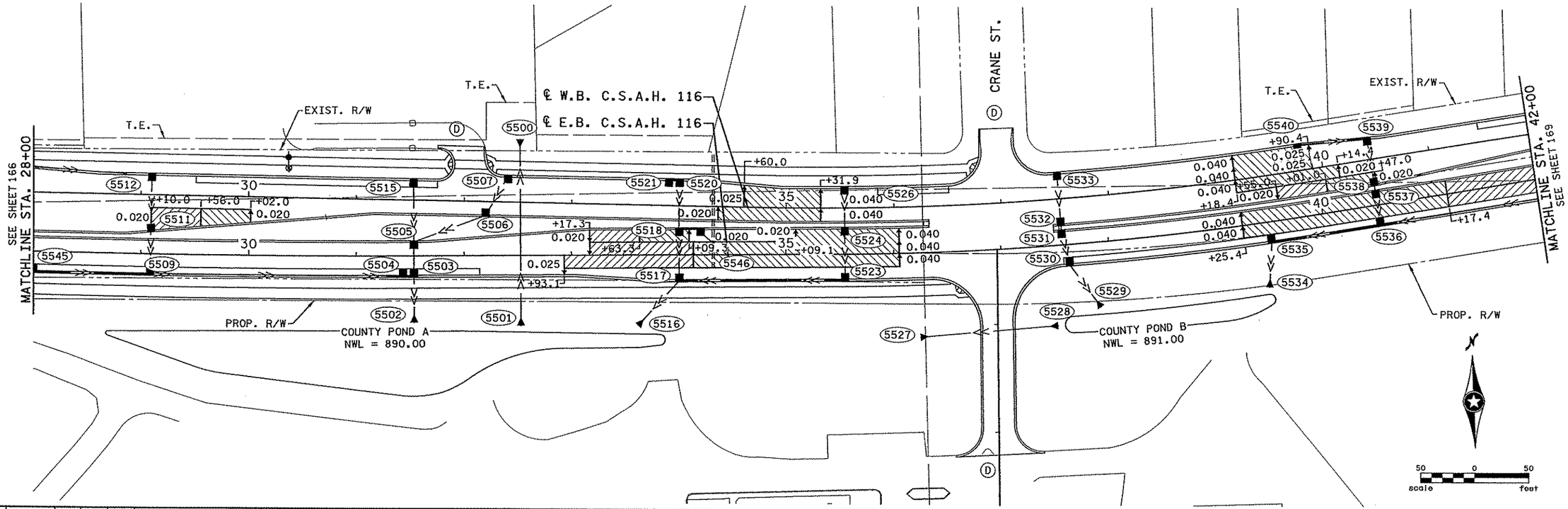
(C) CONNECT TO EXISTING DRAINAGE STRUCTURE

(D) MATCH EXISTING CROSS SLOPES



GENERAL NOTES:

- EXISTING CROSS SLOPES ARE TO BE VERIFIED IN FIELD. PROPOSED PAVEMENTS SHALL MATCH EXISTING CROSS SLOPES OR AS DIRECTED BY THE ENGINEER.
- SEE STORM SEWER PROFILE SHEETS FOR STORM SEWER AND CURRENT INFORMATION.
- ALL CROSS SLOPES ARE FT./FT.
- THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02.



NO	DATE	BY	CKD	APPR	REVISION
2	2-15-07	GMP	CMT	CMT	SUPERELEVATION REVISIONS AND DRAINAGE REVISIONS PER ANOKA COUNTY COMMENTS
1	8-01-06	JJD	CMT	CMT	SUPERELEVATION REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.SEI

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.

Print Name: CHRIS M. TRBOYEVICH

Chris M. Trboyevich

Date 2/15/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

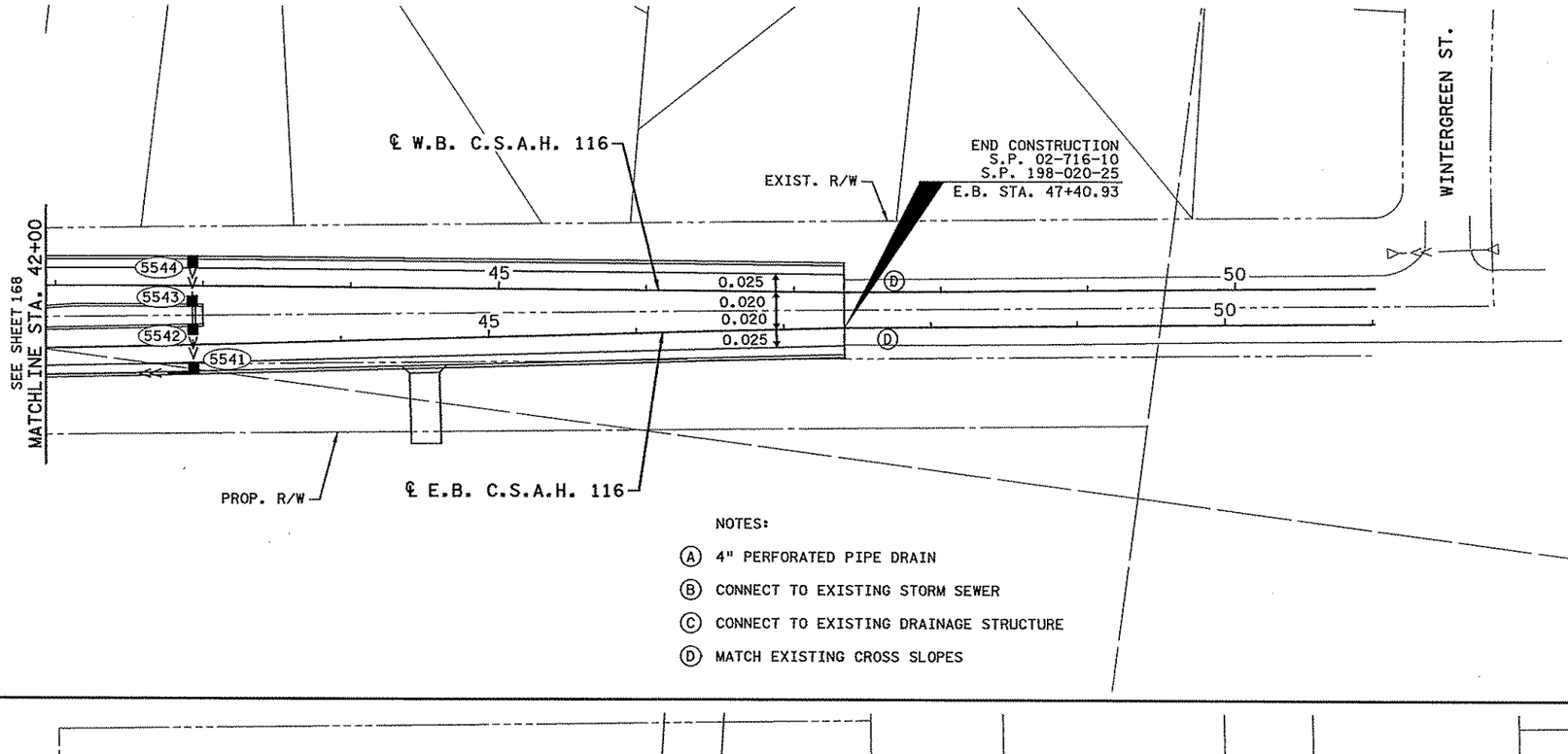
ANOKA COUNTY

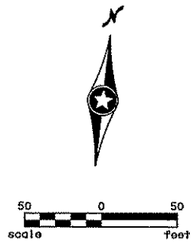
STORM SEWER AND SUPERELEVATION PLAN

C.S.A.H. 78

SHEET 168 OF 400

11/25/2019 AM
2/15/2007
N:\projects\5404\hl-mu\plan\5404.SEI





LEGEND

- EXISTING STORM SEWER OR CULVERT
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING APRON
- PROPOSED STORM SEWER OR CULVERT
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED APRON
- DIRECTION OF FLOW
- (XXX) STRUCTURE NUMBER

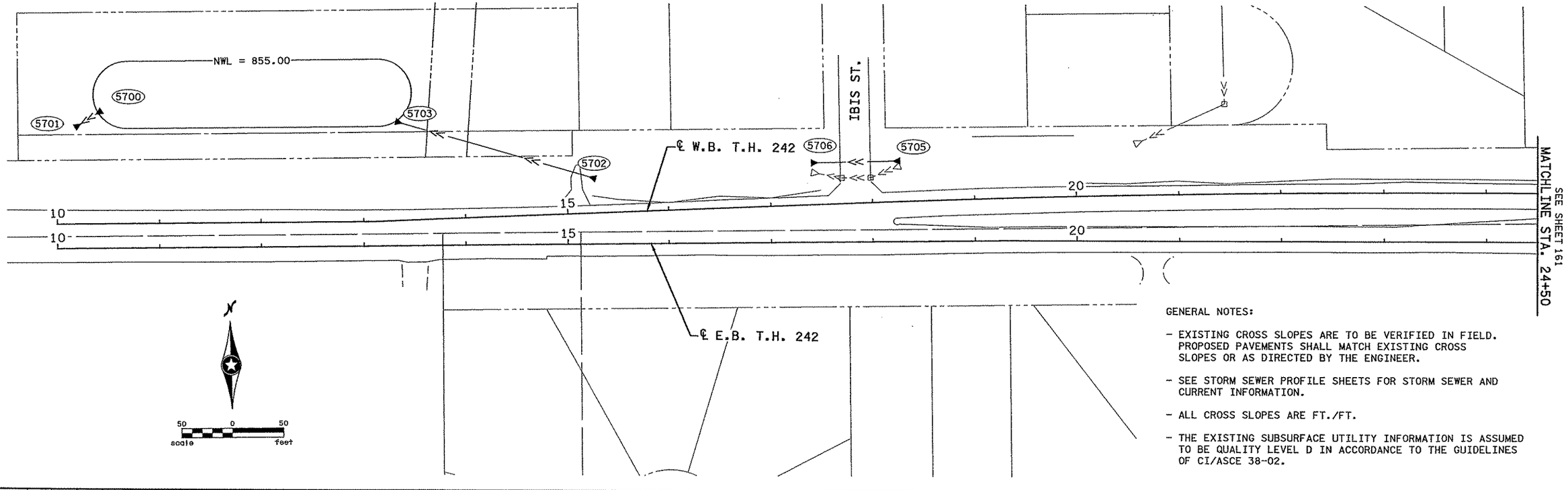
NOTES:

(A) 4" PERFORATED PIPE DRAIN

(B) CONNECT TO EXISTING STORM SEWER

(C) CONNECT TO EXISTING DRAINAGE STRUCTURE

(D) MATCH EXISTING CROSS SLOPES



GENERAL NOTES:

- EXISTING CROSS SLOPES ARE TO BE VERIFIED IN FIELD. PROPOSED PAVEMENTS SHALL MATCH EXISTING CROSS SLOPES OR AS DIRECTED BY THE ENGINEER.
- SEE STORM SEWER PROFILE SHEETS FOR STORM SEWER AND CURRENT INFORMATION.
- ALL CROSS SLOPES ARE FT./FT.
- THE EXISTING SUBSURFACE UTILITY INFORMATION IS ASSUMED TO BE QUALITY LEVEL D IN ACCORDANCE TO THE GUIDELINES OF CI/ASCE 38-02.

NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	SUPERELEVATION REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.SEJ

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STORM SEWER AND SUPERELEVATION PLAN

C.S.A.H. 78

SHEET 169 OF 400

4123:55 PM
9/26/2006
N:\proj docs\5404\hl-mu\plan\5404.SEJ

(CC)

DRAINAGE TABULATION

	STR. OR APRON INLET POINT NO.	STRUCTURE LOCATION (A) ALIGNMENT NAME	STATION	OFFSET FT	L / R	STR. OR APRON OUTLET POINT NO.	NEW STRUCTURE CONSTRUCTION DESIGN (B)	PAY QUANTITY LIN FT	CASTING ASSEMBLY (C) TYPE	STEPS REQUIRED (D)	RC PIPE (DESIGN 3006) 12" CL II L.F.	APR	15" CL II L.F.	APR	15" CL III L.F.	APR	18" CL II L.F.	APR	21" CL II L.F.	APR	21" CL III L.F.	APR	24" CL II L.F.	APR	24" CL III L.F.	APR	24" CL V L.F.	APR	27" CL II L.F.	APR	27" CL V L.F.	APR	30" CL II L.F.	APR	30" CL III L.F.	APR	33" CL II L.F.	APR	36" CL II L.F.	APR	36" CL IV L.F.	APR	42" CL II L.F.	APR	42" CL III L.F.	APR	48" CL IV L.F.	APR	SOD TYPE EROSION (I) SQ YD	RIP RAP CLASS III (L) CU YD	GUIDE POSTS TYPE B EACH	FOOTNOTES
1	5100	S.B. C.S.A.H. 78	65+18.89	44.9	L		60-4020	3.0	B - 5																																										(E)
2	5101	S.B. C.S.A.H. 78	65+48.32	45.7	L	5100	G	3.9	B - 5										30																															
3	5102	S.B. C.S.A.H. 78	65+83.00	24.0	L	5101	G	3.7	B - 5										41																															
4	5103	S.B. C.S.A.H. 78	67+03.74	24.0	L	5102	48-4020	3.5	B - 5								121																															
5	5104	S.B. C.S.A.H. 78	67+03.75	13.0	R	5103	G	3.9	B - 5		37																																					
6	5105	N.B. C.S.A.H. 78	67+05.00	36.0	L	5104	G	4.3	B - 5		6																																					
7	5106	N.B. C.S.A.H. 78	67+05.00	19.0	R	5105	H	3.2	B - 5		55																																					
8	5107	S.B. C.S.A.H. 78	68+71.55	22.6	L	5103	G	3.5	B - 5			169																																				
9	5108	S.B. C.S.A.H. 78	68+71.55	13.0	R	5107	G	4.5	B - 5			36																																				
10	5109	N.B. C.S.A.H. 78	68+72.00	36.0	L	5108	G	4.0	B - 5			6																																				
11	5110	N.B. C.S.A.H. 78	68+72.00	24.0	R	5109	G	3.4	B - 5			60																																				
12	5111	N.B. C.S.A.H. 78	70+20.00	24.0	R	5110	H	3.2	B - 5		148																																					
13	5112	S.B. C.S.A.H. 78	64+74.17	13.0	R		G	4.9	B - 5																																						
14	5113	N.B. C.S.A.H. 78	64+75.31	13.3	L		48-4020	4.7	B - 5	Y							28																															(E)
15																																																
16																																																
17	5116	N.B. C.S.A.H. 78	64+75.31	19.0	R	5113	66-4020	4.9	B - 5	Y							33																															
18	5117	N.B. C.S.A.H. 78	64+50.00	63.0	R	5116	APRON										50	1																													
19	5118	N.B. C.S.A.H. 78	62+50.00	19.0	R	5116	48-4020	4.3	B - 5			226																																			10.0		1	(G),(J),(K)
20	5121	N.B. C.S.A.H. 78	59+05.00	19.0	R	5120	G	4.5	B - 5			347																																				
21	5122	N.B. C.S.A.H. 78	58+70.80	56.0	R	5121	G	3.5	B - 5			51																																				
22	5123	N.B. C.S.A.H. 78	58+44.40	57.5	R	5122	G	3.4	B - 5			27																																				
23	5124	N.B. C.S.A.H. 78	58+10.00	24.0	R	5123	G	3.2	B - 5		50																																					
24	5130	S.B. C.S.A.H. 78	71+60.60	71.3	L		APRON											1																													
25	5131	N.B. C.S.A.H. 78	71+79.14	47.8	R	5130	G	3.8	B - 5								175																													5.9	1	(G),(J),(K)
26	5132	N.B. C.S.A.H. 78	66+45.00	51.3	R	5133	APRON					25	1																																		(E)
27	5133	N.B. C.S.A.H. 78	66+20.00	49.9	R		APRON						1																																		
28	5139	S.B. C.S.A.H. 78	72+82.20	110.0	L		APRON																					1																	8.7	1	(G),(J),(K)
29	5140	S.B. C.S.A.H. 78	72+86.81	28.1	L	5139	60-4020	6.4	B - 5	Y																	82																			
30	5141	S.B. C.S.A.H. 78	73+24.69	24.0	L	5140	60-4020	5.9	B - 5	Y																	38																			
31	5142	S.B. C.S.A.H. 78	73+24.69	36.0	R	5141	48-4020	5.8	B - 5	Y																	54																			
32	5143	N.B. C.S.A.H. 78	73+25.00	13.0	L	5142	48-4020	5.7	B - 5	Y																	6																			
33	5144	N.B. C.S.A.H. 78	73+25.00	24.0	R	5143	66-4020	5.1	B - 5	Y																	43																			
34	5145	N.B. C.S.A.H. 78	72+83.25	50.8	R	5144	APRON					50	1																																		
35	5146	S.B. C.S.A.H. 78	76+19.69	24.0	L	5147	H	3.2	B - 5		60																																			8.0		1	(G),(J),(K)
36	5147	S.B. C.S.A.H. 78	76+19.69	36.0	R	5149	G	4.1	B - 5		43																																				
37																																																
38	5149	N.B. C.S.A.H. 78	76+20.00	24.0	R	5144	60-4020	6.4	B - 5	Y																	295																			
39	5150	N.B. C.S.A.H. 78	76+20.37	61.2	R	5149	G	2.6	M-11														38																							
40	5151	S.B. C.S.A.H. 78	78+49.45	24.0	L	5152	H	3.4	B - 5			47																																			
41	5152	S.B. C.S.A.H. 78	78+49.60	22.8	R	5154	G	4.7	B - 5	Y		55																																			
42																																																
43	5154	N.B. C.S.A.H. 78	78+50.00	24.0	R	5149	48-4020	3.8	B - 5			231																																			
44	5155	S.B. C.S.A.H. 78	80+92.16	19.0	L	5157	H	3.2	B - 5		46																																			
45																																																
46	5157	N.B. C.S.A.H. 78	80+93.00	21.0	L	5158	G	4.4	B - 5			45																																			
47	5158	N.B. C.S.A.H. 78	80+93.00	24.0	R	5154	G	3.7	B - 5			244																																			
48	5200	S.B. C.S.A.H. 78	95+18.88	129.9	L		APRON						1																																	4.4	1	(G),(J),(K)
49																																																
50	5202	N.B. C.S.A.H. 78	95+37.15	556.0	R		APRON																																								
51	5203	N.B. C.S.A.H. 78	95+39.21	141.5	R	5202	120-4020	23.1	A - 7D	Y																																		1		19.4	1	(G),(J),(K)
52	5204	N.B. C.S.A.H. 78	95+30.00	19.0	R	5203	90-4020	12.8	B - 5	Y		42																																415				
53	5205	N.B. C.S.A.H. 78	95+21.94	21.5	L	5200	DES SPEC. 1	18.0	A - 7D	Y		152																																123				
54																																																
55	5207	S.B. C.S.A.H. 78	95+28.88	19.0	L	5204	H	2.9	B - 5		81																																			
56	5208	N.B. C.S.A.H. 78	96+61.00	19.0	R	5204	66-4020	10.9	B - 5	Y																																			
57	5209	N.B. C.S.A.H. 78	96+61.00	13.0	L	5208	G	4.6	B - 5		32																																	131				
58	5210	S.B. C.S.A.H. 78	96+59.88	13.0	R	5209	G	4.3	B - 5		17																																				
59	5211	S.B. C.S.A.H. 78	96+59.88	19.0	L	5208	H	3.4	B - 5		32																																				
60	5212	N.B. C.S.A.H. 78	97+92.00	19.0	R	5208	66-4020	9.4	B - 5	Y																																	131				
61																																																
	PROJECT SUBTOTAL										607		1813	4			407	2	71				38				518	1															262		538	1	18.0	38.4	6	

XX - 4020 OFFSET TABLE	
C.B./ M.H. DIAMETER (IN)	OFFSET (IN)
48"	9.50
54"	13.00
60"	15.50
66"	19.00
72"	21.50
78"	25.00
84"	27.50
90"	31.00
96"	34.50
102"	38.00
108"	39.50
120"	45.50

NOTE: OFFSET DISTANCE IS FROM CENTER OF GRATE TO CENTER OF XX-4020 STRUCTURE.

NOTES:

GENERAL NOTE: PIPE LENGTH IN PROFILE DOES NOT INCLUDE APRON LENGTH.

(A) STATIONS, OFFSETS, AND ELEVATIONS ARE GIVEN TO:
- END OF APRON (RCP CULVERT)
- CENTER OF GRATE

(B) THE FOLLOWING DESIGNATIONS ARE USED IN THE TABULATIONS TO INDICATE THE DESIGN OF DRAINAGE STRUCTURE TO BE USED:
- DESIGN SPECIAL 1 — SEE DRAINAGE DETAILS
- G,H — SEE MNDOT STD. PLATE. 4006
- 4020 — SEE MNDOT STD. PLATE. 4020 AND COVER
- APRON — SEE MN/DOT STD. PLATE 3100

(C) XX-4020 STRUCTURES SHALL BE STAKED TO CENTER OF STRUCTURE. SEE XX-4020 OFFSET TABLE.

(D) STEPS REQUIRED WHEN PAY HEIGHT IS GREATER THAN 4.5 FEET.

(E) CONNECT TO EXISTING STORM SEWER.

(F) CONNECT TO EXISTING DRAINAGE STRUCTURE.

(G) TIE LAST THREE JOINTS AT APRON END/PIPE END.

(H) SEE DRAINAGE DETAILS

(I) SEE MNDOT STD. PLATE 9102

(J) FURNISH AND INSTALL APRON - SEE MNDOT STD. PLATE 3100

(K) FURNISH AND INSTALL TRASH GUARD OVER APRON

(L) SEE MNDOT STD. PLATE 3133

NO	DATE	BY	CKD	APPR	REVISION
1	2-15-07	GMP	CMT	CMT	MOVED STRUCTURES TO BE IN NUMERICAL ORDER PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.DRA

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.
Print Name: CHRIS M. TRBOYEVICH
Date 2/15/2007 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE TABULATIONS
C.S.A.H. 78

SHEET 170 OF 400

1:31:29 PM
2/15/2007
H:\SRFprojects\5404\hl-mu\Plan\5404.DRA

(CC)

DRAINAGE TABULATION

	STR. OR APRON INLET POINT NO.	STRUCTURE LOCATION (A) ALIGNMENT NAME	STATION	OFFSET FT	L / R	STR. OR APRON OUTLET POINT NO.	NEW STRUCTURE CONSTRUCTION DESIGN (B)	PAY QUANTITY LIN FT	CASTING ASSEMBLY (C) TYPE	STEPS REQUIRED (D)	RC PIPE (DESIGN 3006) 12" CL II L.F.	APR	15" CL II L.F.	APR	15" CL III L.F.	APR	18" CL II L.F.	APR	21" CL II L.F.	APR	21" CL III L.F.	APR	24" CL II L.F.	APR	24" CL III L.F.	APR	24" CL V L.F.	APR	27" CL II L.F.	APR	27" CL V L.F.	APR	30" CL II L.F.	APR	30" CL III L.F.	APR	33" CL II L.F.	APR	36" CL II L.F.	APR	36" CL IV L.F.	APR	42" CL II L.F.	APR	42" CL III L.F.	APR	48" CL IV L.F.	APR	SOD TYPE EROSION (I) SQ YD	RIP RAP CLASS III (L) CU YD	GUIDE POSTS TYPE B EACH	FOOTNOTES
62																																																	
63	5215	S.B. C.S.A.H. 78	97+90.88	19.0	L	5212	H	3.4	B - 5		81																																							
64																																																		
65																																																		
66																																																		
67																																																		
68	5220	N.B. C.S.A.H. 78	100+50.00	19.0	R	5212	66-4020	6.8	B - 5	Y																															258									
69	5221	N.B. C.S.A.H. 78	100+95.67	19.0	R	5220	66-4020	6.1	B - 5	Y																															46									
70	5222	S.B. C.S.A.H. 78	100+89.48	13.0	R	5223	G	4.7	B - 5	Y			8																																					
71	5223	N.B. C.S.A.H. 78	100+95.67	24.0	L	5221	G	4.7	B - 5	Y			43																																					
72	5224	S.B. C.S.A.H. 78	100+89.48	24.0	L	5222	G	3.7	B - 5				37																																					
73	5225	S.B. C.S.A.H. 78	100+99.48	24.0	L	5224	H	3.4	B - 5		10																																							
74	5226	N.B. C.S.A.H. 78	101+05.67	19.0	R	5221	60-4020	5.2	B - 5	Y																																							
75	5227	N.B. C.S.A.H. 78	103+82.00	19.0	R	5226	60-4020	6.8	B - 5	Y																																							
76	5228	N.B. C.S.A.H. 78	103+82.00	20.2	L	5227	48-4020	6.5	B - 5	Y					40																																			
77	5229	S.B. C.S.A.H. 78	103+80.83	13.0	R	5228	48-4020	6.3	B - 5	Y					10																																			
78	5230	S.B. C.S.A.H. 78	103+80.83	24.0	L	5229	48-4020	5.2	B - 5	Y			37																																					
79	5231	129TH AVE W.	401+77.20	43.9	L	5230	H	2.6	B - 5		40																																						
80	5232	129TH AVE W.	401+80.38	13.0	L	5231	G	3.0	B - 5		32																																						
81	5233	129TH AVE W.	401+80.38	13.0	R	5232	H	2.9	B - 5		26																																						
82	5234	N.B. C.S.A.H. 78	105+50.00	19.0	R	5227	48-4020	4.5	B - 5								168																																
83																																																		
84																																																		
85	5237	S.B. C.S.A.H. 78	105+48.83	24.0	L	5234	H	3.4	B - 5		86																																						
86	5238	N.B. C.S.A.H. 78	108+00.00	19.0	R	5234	48-4020	4.1	B - 5				250																																				
87																																																		
88																																																		
89	5241	S.B. C.S.A.H. 78	107+98.83	19.0	L	5238	H	3.4	B - 5		81																																						
90	5242	N.B. C.S.A.H. 78	110+75.00	19.0	R	5238	G	3.8	B - 5				275																																				
91																																																		
92																																																		
93	5245	S.B. C.S.A.H. 78	110+73.83	19.0	L	5242	G	3.4	B - 5				81																																				
94																																																		
95																																																		
96	5248	N.B. C.S.A.H. 78	92+87.00	19.0	R	5204	48-4020	4.8	B - 5	Y									243																														
97																																																		
98																																																		
99	5251	S.B. C.S.A.H. 78	92+85.88	19.0	L	5248	H	2.9	B - 5		81																																						
100	5252	N.B. C.S.A.H. 78	90+42.00	19.0	R	5248	48-4020	4.3	B - 5										245																														
101	5253	N.B. C.S.A.H. 78	90+42.00	13.0	L	5252	G	4.2	B - 5		32																																						
102	5254	S.B. C.S.A.H. 78	90+40.88	13.0	R	5253	G	3.9	B - 5		17																																						
103	5255	S.B. C.S.A.H. 78	90+40.88	19.0	L	5254	H	2.9	B - 5		32																																						
104	5256	N.B. C.S.A.H. 78	87+97.00	19.0	R	5252	48-4020	4.5	B - 5								245																																
105																																																		
106																																																		
107	5259	S.B. C.S.A.H. 78	87+95.88	24.0	L	5256	H	3.4	B - 5		86																																						
108	5260	N.B. C.S.A.H. 78	86+12.00	19.0	R	5256	48-4020	3.9	B - 5				185																																				
109																																																		
110																																																		
111	5263	S.B. C.S.A.H. 78	86+11.56	24.0	L	5260	G	3.4	B - 5				86																																				
112	5264	N.B. C.S.A.H. 78	84+27.00	24.0	R	5260	H	3.4	B - 5		185																																						
113	5265	N.B. C.S.A.H. 78	84+27.00	24.0	L	5264	G	3.8	B - 5		48																																						
114																																																		
115	5267	S.B. C.S.A.H. 78	84+26.72	19.0	L	5265	H	3.2	B - 5		38																																						
116	5300	S.B. C.S.A.H. 78	127+46.09	83.4	L		APRON																																								10.9	1	(G),(J),(K)
117	5301	S.B. C.S.A.H. 78	127+46.09	24.0	L	5300	66-4020	7.7	B - 5	Y																																						
118	5302	S.B. C.S.A.H. 78	127+56.09	24.0	L	5301	54-4020	4.7	B - 5	Y																																						
119	5303	S.B. C.S.A.H. 78	127+36.09	24.0	L	5301	54-4020	7.7	B - 5	Y																																						
120	5304	S.B. C.S.A.H. 78	127+46.27	24.0	R	5301	G	4.5	B - 5				48																																			
121	5305	N.B. C.S.A.H. 78	127+46.00	13.0	L	5304	G	4.7	B - 5	Y			17																																			
	PROJECT SUBTOTAL										875		1067		50		413		488										277				80	1	10		304								10.9	1	

XX - 4020 OFFSET TABLE	
C.B./ M.H. DIAMETER (IN)	OFFSET (IN)
48"	9.50
54"	13.00
60"	15.50
66"	19.00
72"	21.50
78"	25.00
84"	27.50
90"	31.00
96"	34.50
102"	38.00
108"	39.50
120"	45.50

NOTE: OFFSET DISTANCE IS FROM CENTER OF GRATE TO CENTER OF XX-4020 STRUCTURE.

NOTES:

GENERAL NOTE: PIPE LENGTH IN PROFILE DOES NOT INCLUDE APRON LENGTH.

(A) STATIONS, OFFSETS, AND ELEVATIONS ARE GIVEN TO:
- END OF APRON (RCP CULVERT)
- CENTER OF GRATE

(B) THE FOLLOWING DESIGNATIONS ARE USED IN THE TABULATIONS TO INDICATE THE DESIGN OF DRAINAGE STRUCTURE TO BE USED:
- DESIGN SPECIAL 1 — SEE DRAINAGE DETAILS
- G,H — SEE MNDOT STD. PLATE. 4006
- 4020 — SEE MNDOT STD. PLATE. 4020 AND COVER
- APRON — SEE MN/DOT STD. PLATE 3100

(C) XX-4020 STRUCTURES SHALL BE STAKED TO CENTER OF STRUCTURE. SEE XX-4020 OFFSET TABLE.

(D) STEPS REQUIRED WHEN PAY HEIGHT IS GREATER THAN 4.5 FEET.

(E) CONNECT TO EXISTING STORM SEWER.

(F) CONNECT TO EXISTING DRAINAGE STRUCTURE.

(G) TIE LAST THREE JOINTS AT APRON END/PIPE END.

(H) SEE DRAINAGE DETAILS

(I) SEE MNDOT STD. PLATE 9102

(J) FURNISH AND INSTALL APRON - SEE MNDOT STD. PLATE 3100

(K) FURNISH AND INSTALL TRASH GUARD OVER APRON

(L) SEE MNDOT STD. PLATE 3133

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.DRB

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/6/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE TABULATIONS
C.S.A.H. 78

SHEET 171 OF 400

10/21/06 AM
10/10/2006
h:\projects\5404\hl-mu\plan\5404.DRB

(CC)

DRAINAGE TABULATION

	STR. OR APRON INLET POINT NO.	STRUCTURE LOCATION (A) ALIGNMENT NAME	STATION	OFFSET FT	L / R	STR. OR APRON OUTLET POINT NO.	NEW STRUCTURE CONSTRUCTION DESIGN (B)	PAY QUANTITY LIN FT	CASTING ASSEMBLY (C) TYPE	STEPS REQUIRED (D)	RC PIPE (DESIGN 3006) 12" CL II L.F.	APR	15" CL II L.F.	APR	15" CL III L.F.	APR	18" CL II L.F.	APR	21" CL II L.F.	APR	21" CL III L.F.	APR	24" CL II L.F.	APR	24" CL III L.F.	APR	24" CL V L.F.	APR	27" CL II L.F.	APR	27" CL V L.F.	APR	30" CL II L.F.	APR	30" CL III L.F.	APR	33" CL II L.F.	APR	36" CL II L.F.	APR	36" CL IV L.F.	APR	42" CL II L.F.	APR	42" CL III L.F.	APR	48" CL IV L.F.	APR	SOD TYPE EROSION (I) SQ YD	RIP RAP CLASS III (L) CU YD	GUIDE POSTS TYPE B EACH	FOOTNOTES
122	5306	N.B. C.S.A.H. 78	127+46.00	19.0	R	5305	48-4020	3.7	B - 5				32																																			
123	5307	N.B. C.S.A.H. 78	127+55.92	19.0	R	5306	H	3.4	B - 5		10																																				
124	5308	N.B. C.S.A.H. 78	127+36.00	19.0	R	5306	H	3.4	B - 5		10																																				
125	5309	S.B. C.S.A.H. 78	125+31.83	19.0	L	5303	66-4020	8.4	B - 5	Y																																				
126	5310	S.B. C.S.A.H. 78	125+31.83	13.0	R	5309	48-4020	8.4	B - 5	Y																																				
127	5311	N.B. C.S.A.H. 78	125+33.00	24.0	L	5310	48-4020	8.0	B - 5	Y																																				
128	5312	N.B. C.S.A.H. 78	125+33.00	24.0	R	5311	48-4020	7.2	B - 5	Y																																				
129	5313	133RD AVE E.	503+66.16	14.9	R	5312	H	3.2	B - 5		51																																				
130	5314	133RD AVE E.	503+79.65	22.2	L	5313	H	3.2	B - 5		40																																				
131	5315	N.B. C.S.A.H. 78	124+74.94	59.9	R	5312	G	3.7	M-11												68																								
132	5316	S.B. C.S.A.H. 78	122+98.83	19.0	L	5309	48-4020	4.5	B - 5										233																											
133																																															
134	5318	N.B. C.S.A.H. 78	123+00.00	24.0	L	5316	G	4.0	B - 5		38																																				
135	5319	N.B. C.S.A.H. 78	123+00.00	24.0	R	5318	H	3.2	B - 5		48																																				
136	5320	S.B. C.S.A.H. 78	120+48.83	19.0	L	5316	48-4020	3.8	B - 5								250																													
137	5321	S.B. C.S.A.H. 78	120+48.83	13.0	R	5320	G	4.2	B - 5		32																																				
138	5322	N.B. C.S.A.H. 78	120+48.83	13.0	L	5321	G	4.1	B - 5		26																																				
139	5323	N.B. C.S.A.H. 78	120+50.00	19.0	R	5322	H	3.2	B - 5		32																																				
140	5324	S.B. C.S.A.H. 78	117+48.83	19.0	L	5320	G	3.6	B - 5				300																																	
141																																															
142																																															
143	5327	N.B. C.S.A.H. 78	117+50.00	19.0	R	5324	G	3.2	B - 5		86																																				
144																																															
145	5329	S.B. C.S.A.H. 78	129+93.80	19.0	L	5302	48-4020	5.0	B - 5	Y																																				
146																																															
147																																															
148	5332	N.B. C.S.A.H. 78	129+95.00	19.0	R	5329	G	3.2	B - 5		89																																				
149																																															
150																																															
151																																															
152	5336	S.B. C.S.A.H. 78	132+34.80	19.0	L	5329	54-4020	5.5	B - 5	Y																																				
153																																															
154	5338	N.B. C.S.A.H. 78	131+81.00	24.0	L	5340	G	3.5	B - 5		52																																				
155	5339	N.B. C.S.A.H. 78	132+36.00	24.0	R	5336	72-4020	5.0	B - 5	Y																																				
156	5340	N.B. C.S.A.H. 78	133+00.00	24.0	R	5339	54-4020	5.2	B - 5	Y																																				
157	5342	S.B. C.S.A.H. 78	134+42.80	19.0	L	5344	54-4020	4.7	B - 5	Y																																				
158																																															
159	5344	N.B. C.S.A.H. 78	134+44.00	24.0	L	5345	G	5.4	B - 5	Y																																				
160	5345	N.B. C.S.A.H. 78	134+44.00	24.0	R	5340	66-4020	5.7	B - 5	Y																																				
161	5346	N.B. C.S.A.H. 78	135+48.00	24.0	R	5345	90-4020	5.5	B - 5	Y																																				
162	5347	PARK ROAD	701+10.00	15.0	R	5346	G	3.0	B - 5		51																																				
163	5348	PARK ROAD	701+10.00	15.0	L	5347	H	2.9	B - 5		30																																				
164	5349	S.B. C.S.A.H. 78	135+30.00	19.0	L	5342	G	4.7	B - 5	Y							88																													
165	5350	E.B. STATION PARKWAY	605+70.00	12.0	R	5349	G	5.3	B - 5	Y							53																													
166	5351	W.B. STATION PARKWAY	605+56.96	11.0	L	5350	G	4.9	B - 5	Y							68																													
167	5352	S.B. C.S.A.H. 78	136+69.00	24.0	L	5353	H	3.2	B - 5		53																																			
168	5353	S.B. C.S.A.H. 78	136+50.99	24.0	R	5354	G	3.9	B - 5		8																																			
169	5354	N.B. C.S.A.H. 78	136+52.00	13.0	L	5355	G	4.2	B - 5		32																																			
170	5355	N.B. C.S.A.H. 78	136+52.00	19.0	R	5346	66-4020	5.7	B - 5	Y																																				
171	5356	PARK ROAD	702+65.50	15.0	L	5355	G	3.1	B - 5		91																																			
172	5357	PARK ROAD	702+65.50	15.0	R	5356	H	2.9	B - 5		30																																			
173	5358	S.B. C.S.A.H. 78	136+85.20	59.3	L	5351	APRON						52	1																															
174	5359	S.B. C.S.A.H. 78	138+49.74	24.0	L	5361	H	3.2	B - 5		90																																	8.0		1	(G),(J),(K)
175	5360	S.B. C.S.A.H. 78	140+15.00	24.0	L	5364	H	3.2	B - 5		94																																			
176																																															
177																																															
178	5363	N.B. C.S.A.H. 78	138+50.00	19.0	R	5355	48-4020	6.0	B - 5	Y									198																											
179	5364	N.B. C.S.A.H. 78	140+13.26	19.0	R	5363	48-4020	5.8	B - 5	Y							163																													
180																																															
181																																															
	PROJECT SUBTOTAL										993		384	1			622		520		68		104		97				104			779		204										8.0		1	

XX - 4020 OFFSET TABLE	
C.B./ M.H. DIAMETER (IN)	OFFSET (IN)
48"	9.50
54"	13.00
60"	15.50
66"	19.00
72"	21.50
78"	25.00
84"	27.50
90"	31.00
96"	34.50
102"	38.00
108"	39.50
120"	45.50

NOTE: OFFSET DISTANCE IS FROM CENTER OF GRATE TO CENTER OF XX-4020 STRUCTURE.

NOTES:

GENERAL NOTE: PIPE LENGTH IN PROFILE DOES NOT INCLUDE APRON LENGTH.

(A) STATIONS, OFFSETS, AND ELEVATIONS ARE GIVEN TO:
- END OF APRON (RCP CULVERT)
- CENTER OF GRATE

(B) THE FOLLOWING DESIGNATIONS ARE USED IN THE TABULATIONS TO INDICATE THE DESIGN OF DRAINAGE STRUCTURE TO BE USED:
- DESIGN SPECIAL 1 — SEE DRAINAGE DETAILS
- G,H — SEE MNDOT STD. PLATE. 4006
- 4020 — SEE MNDOT STD. PLATE. 4020 AND COVER
- APRON — SEE MN/DOT STD. PLATE 3100

(C) XX-4020 STRUCTURES SHALL BE STAKED TO CENTER OF STRUCTURE. SEE XX-4020 OFFSET TABLE.

(D) STEPS REQUIRED WHEN PAY HEIGHT IS GREATER THAN 4.5 FEET.

(E) CONNECT TO EXISTING STORM SEWER.

(F) CONNECT TO EXISTING DRAINAGE STRUCTURE.

(G) TIE LAST THREE JOINTS AT APRON END/PIPE END.

(H) SEE DRAINAGE DETAILS

(I) SEE MNDOT STD. PLATE 9102

(J) FURNISH AND INSTALL APRON - SEE MNDOT STD. PLATE 3100

(K) FURNISH AND INSTALL TRASH GUARD OVER APRON

(L) SEE MNDOT STD. PLATE 3133

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.DRC

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE TABULATIONS
C.S.A.H. 78

SHEET 172 OF 400

10/21/27 AM
10/10/2006
H:\projects\5404\hl-mu\plan\5404.DRC

(CC)

DRAINAGE TABULATION

	STR. OR APRON INLET POINT NO.	STRUCTURE LOCATION (A) ALIGNMENT NAME	STATION	OFFSET FT	L / R	STR. OR APRON OUTLET POINT NO.	NEW STRUCTURE CONSTRUCTION DESIGN (B)	PAY QUANTITY LIN FT	CASTING ASSEMBLY (C) TYPE	STEPS REQUIRED (D)	RC PIPE (DESIGN 3006) 12" CL II L.F.	APR	15" CL II L.F.	APR	15" CL III L.F.	APR	18" CL II L.F.	APR	21" CL II L.F.	APR	21" CL III L.F.	APR	24" CL II L.F.	APR	24" CL III L.F.	APR	24" CL V L.F.	APR	27" CL II L.F.	APR	27" CL V L.F.	APR	30" CL II L.F.	APR	30" CL III L.F.	APR	33" CL II L.F.	APR	36" CL II L.F.	APR	36" CL IV L.F.	APR	42" CL II L.F.	APR	42" CL III L.F.	APR	48" CL IV L.F.	APR	SOD TYPE EROSION (I) SQ YD	RIP RAP CLASS III (L) CU YD	GUIDE POSTS TYPE B EACH	FOOTNOTES
182	5367	PARK ROAD	706+10.00	15.0	L	5364	48-4020	3.3	B - 5				45																																			
183	5368	PARK ROAD	706+10.00	15.0	R	5367	H	2.9	B - 5		30																																					
184																																																		
185																																																		
186	5410	N.B. C.S.A.H. 78	158+62.00	137.5	R		APRON																																										
187	5411	N.B. C.S.A.H. 78	158+62.00	24.0	R	5410	78-4020	8.2	B - 5	Y																																				1		16.3	1	(G),(J),(K)
188	5412	N.B. C.S.A.H. 78	158+62.00	13.0	L	5411	G	4.0	B - 5		37																																		114					
189	5413	S.B. C.S.A.H. 78	158+60.48	13.0	R	5412	G	4.0	B - 5		24																																							
190	5414	S.B. C.S.A.H. 78	158+60.48	19.0	L	5413	H	2.9	B - 5		32																																							
191	5415	N.B. C.S.A.H. 78	159+83.33	19.0	R	5411	54-4020	6.8	B - 5	Y																				123																			
192	5416	N.B. C.S.A.H. 78	159+83.33	13.0	L	5415	G	4.0	B - 5				32																																					
193	5417	S.B. C.S.A.H. 78	159+83.33	13.0	R	5416	G	5.0	B - 5	Y			22																																					
194	5418	S.B. C.S.A.H. 78	159+83.33	19.0	L	5417	H	2.9	B - 5		32																																							
195	5419	N.B. C.S.A.H. 78	162+00.00	19.0	R	5415	54-4020	6.1	B - 5	Y														219																									
196	5420	N.B. C.S.A.H. 78	162+00.00	13.0	L	5419	G	4.6	B - 5	Y			32																																					
197	5421	S.B. C.S.A.H. 78	161+89.30	13.0	R	5420	G	4.3	B - 5		17																																							
198	5422	S.B. C.S.A.H. 78	161+89.30	19.0	L	5421	H	2.9	B - 5		32																																							
199	5424	N.B. C.S.A.H. 78	164+62.00	58.0	R	5425	APRON				39	1																																					
200	5425	N.B. C.S.A.H. 78	164+62.00	19.0	R	5419	48-4020	4.7	B - 5	Y									262																											8.0		1	(G),(J),(K)
201	5426	N.B. C.S.A.H. 78	164+62.00	13.0	L	5425	G	3.7	B - 5		32																																					
202																																																		
203	5427	S.B. C.S.A.H. 78	164+51.15	13.0	R	5426	G	3.4	B - 5		17																																						
204	5428	S.B. C.S.A.H. 78	164+51.15	19.0	L	5427	H	3.4	B - 5		32																																						
205	5429	N.B. C.S.A.H. 78	166+00.00	19.0	R	5425	48-4020	4.0	B - 5								137																															
206	5430	N.B. C.S.A.H. 78	166+00.00	13.0	L	5429	G	4.0	B - 5		32																																					
207	5431	S.B. C.S.A.H. 78	165+91.14	13.0	R	5430	G	3.3	B - 5		17																																						
208	5432	S.B. C.S.A.H. 78	165+91.14	19.0	L	5431	H	3.2	B - 5		32																																						
209	5433	N.B. C.S.A.H. 78	168+45.00	24.0	R	5429	48-4020	3.4	B - 5				242																																				
210	5434	N.B. C.S.A.H. 78	168+45.00	24.0	L	5433	G	3.8	B - 5		48																																						
211	5435	S.B. C.S.A.H. 78	168+42.96	13.0	R	5434	G	3.2	B - 5		6																																						
212	5436	S.B. C.S.A.H. 78	168+42.96	19.0	L	5435	H	3.2	B - 5		32																																						
213	5437	N.B. C.S.A.H. 78	170+50.00	24.0	R	5433	H	2.9	B - 5		205																																						
214	5438	N.B. C.S.A.H. 78	170+50.00	24.0	L	5437	G	3.4	B - 5		48																																						
215	5439	S.B. C.S.A.H. 78	170+47.96	13.0	R	5438	G	3.6	B - 5		6																																						
216	5440	S.B. C.S.A.H. 78	170+47.96	19.0	L	5439	G	3.2	B - 5		32																																						
217	5441	N.B. C.S.A.H. 78	157+01.07	69.2	R	5442	G	3.2	B - 5						45																																		
218	5442	N.B. C.S.A.H. 78	157+01.07	24.0	R	5411	66-4020	7.2	B - 5	Y																																						(F)
219	5443	N.B. C.S.A.H. 78	157+01.07	13.0	L	5442	G	4.7	B - 5	Y			37																																				
220																																																		
221	5445	S.B. C.S.A.H. 78	156+98.60	19.0	L	5443	G	3.7	M-11		59																																						
222	5446	S.B. C.S.A.H. 78	156+98.17	45.1	L	5445	G	3.3	M-11		26																																				1			
223	5447	N.B. C.S.A.H. 78	155+82.00	24.0	R	5442	60-4020	6.1	B - 5	Y																																			8.0		1	(G),(J),(K)
224	5448	N.B. C.S.A.H. 78	154+88.54	24.0	R	5447	54-4020	6.8	B - 5	Y																											120										
225	5451	S.B. C.S.A.H. 78	155+80.63	36.0	R	5447	G	4.7	B - 5	Y	43																											94										(E)
226	5452	S.B. C.S.A.H. 78	155+80.63	24.0	L	5451	G	3.2	B - 5		60																																					
227	5453	N.B. C.S.A.H. 78	154+50.00	24.0	R	5448	60-4020	6.9	B - 5	Y																																					
228																																																		
229	5455	S.B. C.S.A.H. 78	154+48.74	36.0	R	5453	G	4.0	B - 5				43																																					
230	5456	S.B. C.S.A.H. 78	154+48.74	24.0	L	5455	H	3.2	B - 5		60																																					
231	5457	N.B. C.S.A.H. 78	152+93.00	24.0	R	5453	54-4020	8.5	B - 5	Y																																					
232																																																		
233																																																		
234	5460	W.B. C.S.A.H. 116	24+64.79	36.0	R	5457	60-4020	9.6	B - 5	Y																																					
235	5461	E.B. C.S.A.H. 116	24+64.00	13.0	L	5460	60-4020	10.1	B - 5	Y																																					
236	5462	E.B. C.S.A.H. 116	24+72.11	23.1	R	5461	54-4020	9.5	B - 5	Y																																					
237	5463	N.B. C.S.A.H. 78	150+83.00	24.0	R	5462	54-4020	8.8	B - 5	Y																																					
238																																																		
239	5465	S.B. C.S.A.H. 78	148+86.60	13.0	R	5467	G	5.5	B - 5	Y			6																																			
240	5466	N.B. C.S.A.H. 78	148+85.17	24.0	R	5487	54-4020	7.3	B - 5	Y																																					
241	5467	N.B. C.S.A.H. 78	148+85.17	36.0	L	5466	G	4.1	B - 5				60																																			
	PROJECT SUBTOTAL										1030	1	519		45		137		262					219					195		39		318		214		161				114	1			16.0	16.3	4	

XX - 4020 OFFSET TABLE	
C.B./ M.H. DIAMETER (IN)	OFFSET (IN)
48"	9.50
54"	13.00
60"	15.50
66"	19.00
72"	21.50
78"	25.00
84"	27.50
90"	31.00
96"	34.50
102"	38.00
108"	39.50
120"	45.50

NOTE: OFFSET DISTANCE IS FROM CENTER OF GRATE TO CENTER OF XX-4020 STRUCTURE.

NOTES:

GENERAL NOTE: PIPE LENGTH IN PROFILE DOES NOT INCLUDE APRON LENGTH.

(A) STATIONS, OFFSETS, AND ELEVATIONS ARE GIVEN TO:
- END OF APRON (RCP CULVERT)
- CENTER OF GRATE

(B) THE FOLLOWING DESIGNATIONS ARE USED IN THE TABULATIONS TO INDICATE THE DESIGN OF DRAINAGE STRUCTURE TO BE USED:
- DESIGN SPECIAL 1 — SEE DRAINAGE DETAILS
- G,H — SEE MNDOT STD. PLATE. 4006
- 4020 — SEE MNDOT STD. PLATE. 4020 AND COVER
- APRON — SEE MN/DOT STD. PLATE 3100

(C) XX-4020 STRUCTURES SHALL BE STAKED TO CENTER OF STRUCTURE. SEE XX-4020 OFFSET TABLE.

(D) STEPS REQUIRED WHEN PAY HEIGHT IS GREATER THAN 4.5 FEET.

(E) CONNECT TO EXISTING STORM SEWER.

(F) CONNECT TO EXISTING DRAINAGE STRUCTURE.

(G) TIE LAST THREE JOINTS AT APRON END/PIPE END.

(H) SEE DRAINAGE DETAILS

(I) SEE MNDOT STD. PLATE 9102

(J) FURNISH AND INSTALL APRON - SEE MNDOT STD. PLATE 3100

(K) FURNISH AND INSTALL TRASH GUARD OVER APRON

(L) SEE MNDOT STD. PLATE 3133

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.DRD

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2002 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE TABULATIONS
C.S.A.H. 78

SHEET 173 OF 400

10/21/28 AM
10/10/2002
H:\projects\5404\hl-mu\plan\5404.DRD

(CC)

DRAINAGE TABULATION

	STR. OR APRON INLET POINT NO.	STRUCTURE LOCATION (A) ALIGNMENT NAME	STATION	OFFSET FT	L / R	STR. OR APRON OUTLET POINT NO.	NEW STRUCTURE CONSTRUCTION DESIGN (B)	PAY QUANTITY LIN FT	CASTING ASSEMBLY (C) TYPE	STEPS REQUIRED (D)	RC PIPE (DESIGN 3006) 12" CL II L.F.	APR	15" CL II L.F.	APR	15" CL III L.F.	APR	18" CL II L.F.	APR	21" CL II L.F.	APR	21" CL III L.F.	APR	24" CL II L.F.	APR	24" CL III L.F.	APR	24" CL V L.F.	APR	27" CL II L.F.	APR	27" CL V L.F.	APR	30" CL II L.F.	APR	30" CL III L.F.	APR	33" CL II L.F.	APR	36" CL II L.F.	APR	36" CL IV L.F.	APR	42" CL II L.F.	APR	42" CL III L.F.	APR	48" CL IV L.F.	APR	SOD TYPE EROSION (I) SQ YD	RIP RAP CLASS III (L) CU YD	GUIDE POSTS TYPE B EACH	FOOTNOTES
242	5468	S.B. C.S.A.H. 78	148+90.00	24.0	L	5465	G	3.5	B - 5				37																																		
243	5469	S.B. C.S.A.H. 78	149+00.00	24.0	L	5468	G	3.2	B - 5		12																																				
244	5470	N.B. C.S.A.H. 78	147+65.00	19.0	R	5466	54-4020	7.2	B - 5	Y														121																						
245	5471	N.B. C.S.A.H. 78	147+65.00	64.0	R	5470	APRON										45	1																												
246	5472	N.B. C.S.A.H. 78	147+65.00	36.0	L	5470	G	4.9	B - 5	Y			55																																	10.0		1	(G),(J),(K)
247																																																	
248	5474	S.B. C.S.A.H. 78	147+64.00	24.0	L	5472	G	4.2	B - 5		43																																				
249	5475	SERVICE ROAD	802+67.05	12.7	L	5474	G	3.3	B - 5		72																																				
250	5476	SERVICE ROAD	802+67.05	12.0	R	5475	G	3.2	B - 5		25																																				
251	5477	S.B. C.S.A.H. 78	148+48.60	50.0	L	5468	APRON				20	1																																		
252	5478	N.B. C.S.A.H. 78	146+30.00	19.0	R	5470	48-4020	4.0	B - 5								136																													
253	5479	N.B. C.S.A.H. 78	146+30.00	36.0	L	5478	G	4.1	B - 5		55																																				
254																																																	
255	5481	S.B. C.S.A.H. 78	146+29.64	24.0	L	5479	H	3.0	B - 5		43																																				
256	5482	N.B. C.S.A.H. 78	144+60.00	19.0	R	5478	G	4.0	B - 5				171																																		
257																																																	
258																																																	
259	5485	S.B. C.S.A.H. 78	144+60.46	24.0	L	5482	H	3.2	B - 5		98																																				
260																																																	
261	5487	N.B. C.S.A.H. 78	148+95.00	24.0	R	5464	48-4020	7.3	B - 5	Y																																				
262	5500	W.B. C.S.A.H. 116	32+50.31	58.6	L		APRON																	1																				8.3	1	(G),(J),(K)
263	5501	E.B. C.S.A.H. 116	32+52.23	65.0	R	5500	APRON																173	1																				13.0		1	(G),(J),(H)
264	5502	E.B. C.S.A.H. 116	31+53.33	61.7	R		APRON											1																											5.9	1	(G),(J),(K)
265	5503	E.B. C.S.A.H. 116	31+53.33	19.0	R	5502	48-4020	5.6	B - 5	Y							43																												
266	5504	E.B. C.S.A.H. 116	31+43.33	19.0	R	5503	G	5.6	B - 5	Y							10																												
267	5505	E.B. C.S.A.H. 116	31+53.33	13.0	L	5503	48-4020	4.4	B - 5				32																																		
268	5506	W.B. C.S.A.H. 116	32+20.00	13.0	R	5505	G	4.4	B - 5				71																																		
269	5507	W.B. C.S.A.H. 116	32+40.00	24.0	L	5506	H	3.1	B - 5		42																																				
270																																																	
271	5509	E.B. C.S.A.H. 116	29+09.10	19.0	R	5504	48-4020	5.6	B - 5	Y							260																													
272																																																	
273	5511	W.B. C.S.A.H. 116	29+10.00	33.7	R	5509	48-4020	5.4	B - 5	Y			41																																		
274	5512	W.B. C.S.A.H. 116	29+10.00	19.0	L	5511	48-4020	4.9	B - 5	Y			53																																		
275	5513	W.B. C.S.A.H. 116	27+83.00	24.0	L	5512	H	3.2	B - 5		103																																				
276																																																	
277	5515	W.B. C.S.A.H. 116	31+54.15	19.0	L	5505	G	3.4	B - 5		58																																				
278	5516	E.B. C.S.A.H. 116	33+61.56	65.2	R		APRON					1																																	4.1	1	(G),(J),(K)
279	5517	E.B. C.S.A.H. 116	34+00.05	24.0	R	5516	48-4020	5.9	B - 5	Y	57																																		
280	5518	E.B. C.S.A.H. 116	34+00.05	24.0	L	5517	48-4020	4.6	B - 5	Y	48																																				
281																																																	
282	5520	W.B. C.S.A.H. 116	34+00.00	24.0	L	5518	G	3.5	B - 5		46																																				
283	5521	W.B. C.S.A.H. 116	33+90.00	24.0	L	5520	H	3.4	B - 5		10																																				
284																																																	
285	5523	E.B. C.S.A.H. 116	35+54.55	24.0	R	5517	48-4020	6.0	B - 5	Y			155																																		
286	5524	E.B. C.S.A.H. 116	35+54.55	24.0	L	5523	G	4.5	B - 5		48																																				
287																																																	
288	5526	W.B. C.S.A.H. 116	35+54.00	19.0	L	5524	H	3.4	B - 5		38																																				
289	5527	E.B. C.S.A.H. 116	36+22.39	78.1	R		APRON					1																																	4.1	1	(G),(J),(K)
290	5528	E.B. C.S.A.H. 116	37+47.84	74.3	R	5527	APRON				129	1																																	8.0		1	(G),(J),(K)
291	5529	E.B. C.S.A.H. 116	37+87.97	60.2	R		APRON											1																											4.4	1	(G),(J),(K)
292	5530	E.B. C.S.A.H. 116	37+63.00	19.0	R	5529	48-4020	7.5	B - 5	Y							48																												
293	5531	E.B. C.S.A.H. 116	37+57.56	13.0	L	5530	G	4.9	B - 5	Y	32																																			
294	5532	W.B. C.S.A.H. 116	37+54.00	24.0	R	5531	G	4.7	B - 5	Y	6																																			
295	5533	W.B. C.S.A.H. 116	37+54.00	24.0	L	5532	H	3.4	B - 5		48																																				
296	5534	E.B. C.S.A.H. 116	39+42.31	60.1	R		APRON											1																											4.4	1	(G),(J),(K)
297	5535	E.B. C.S.A.H. 116	39+50.00	19.0	R	5534	48-4020	7.6	B - 5	Y							42																												
298	5536	E.B. C.S.A.H. 116	40+52.00	19.0	R	5535	48-4020	6.7	B - 5	Y							102																												
299	5537	E.B. C.S.A.H. 116	40+52.00	13.0	L	5536	G	4.3	B - 5		32																																			
300	5538	W.B. C.S.A.H. 116	40+45.00	24.0	R	5537	G	4.5	B - 5		6																																			
301	5539	W.B. C.S.A.H. 116	40+45.02	19.8	L	5538	G	3.4	B - 5		44																																			
	PROJECT SUBTOTAL										1115	4	615		192	2	494	2				173	2			121			188														31.0	31.2	9	

XX - 4020 OFFSET TABLE	
C.B./ M.H. DIAMETER (IN)	OFFSET (IN)
48"	9.50
54"	13.00
60"	15.50
66"	19.00
72"	21.50
78"	25.00
84"	27.50
90"	31.00
96"	34.50
102"	38.00
108"	39.50
120"	45.50

NOTE: OFFSET DISTANCE IS FROM CENTER OF GRATE TO CENTER OF XX-4020 STRUCTURE.

NOTES:

GENERAL NOTE: PIPE LENGTH IN PROFILE DOES NOT INCLUDE APRON LENGTH.

(A) STATIONS, OFFSETS, AND ELEVATIONS ARE GIVEN TO:
- END OF APRON (RCP CULVERT)
- CENTER OF GRATE

(B) THE FOLLOWING DESIGNATIONS ARE USED IN THE TABULATIONS TO INDICATE THE DESIGN OF DRAINAGE STRUCTURE TO BE USED:
- DESIGN SPECIAL 1 — SEE DRAINAGE DETAILS
- G,H — SEE MNDOT STD. PLATE. 4006
- 4020 — SEE MNDOT STD. PLATE. 4020 AND COVER
- APRON — SEE MN/DOT STD. PLATE 3100

(C) XX-4020 STRUCTURES SHALL BE STAKED TO CENTER OF STRUCTURE. SEE XX-4020 OFFSET TABLE.

(D) STEPS REQUIRED WHEN PAY HEIGHT IS GREATER THAN 4.5 FEET.

(E) CONNECT TO EXISTING STORM SEWER.

(F) CONNECT TO EXISTING DRAINAGE STRUCTURE.

(G) TIE LAST THREE JOINTS AT APRON END/PIPE END.

(H) SEE DRAINAGE DETAILS

(I) SEE MNDOT STD. PLATE 9102

(J) FURNISH AND INSTALL APRON - SEE MNDOT STD. PLATE 3100

(K) FURNISH AND INSTALL TRASH GUARD OVER APRON

(L) SEE MNDOT STD. PLATE 3133

NO	DATE	BY	CKD	APPR	REVISION
2	2-15-07	GMP	CMT	CMT	REVISED CB'S #5468, 5512 PER ANOKA COUNTY COMMENTS
1	2-15-07	GMP	CMT	CMT	REVISED CB #5468 PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\Plan\5404.DRE

11:25:23 AM
2/15/2007
R:\Projects\5404\h1-mu\Plan\5404.DRE

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.
Print Name: CHRIS M. TRBOYEVICH
Date 2/15/2007 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE TABULATIONS
C.S.A.H. 78

SHEET 174 OF 400

(CC)

DRAINAGE TABULATION

	STR. OR APRON INLET POINT NO.	STRUCTURE LOCATION (A) ALIGNMENT NAME	STATION	OFFSET FT	L / R	STR. OR APRON OUTLET POINT NO.	NEW STRUCTURE CONSTRUCTION DESIGN (B)	PAY QUANTITY LIN FT	CASTING ASSEMBLY (C) TYPE	STEPS REQUIRED (D)	RC PIPE (DESIGN 3006) 12" CL II L.F.	APR	15" CL II L.F.	APR	15" CL III L.F.	APR	18" CL II L.F.	APR	21" CL II L.F.	APR	21" CL III L.F.	APR	24" CL II L.F.	APR	24" CL III L.F.	APR	24" CL V L.F.	APR	27" CL II L.F.	APR	27" CL V L.F.	APR	30" CL II L.F.	APR	30" CL III L.F.	APR	33" CL II L.F.	APR	36" CL II L.F.	APR	36" CL IV L.F.	APR	42" CL II L.F.	APR	42" CL III L.F.	APR	48" CL IV L.F.	APR	SOD TYPE EROSION (I) SQ YD	RIP RAP CLASS III (L) CU YD	GUIDE POSTS TYPE B EACH	FOOTNOTES
302	5540	W.B. C.S.A.H. 116	39+80.00	24.0	L	5539	H	3.2	B - 5		66																																					
303	5541	E.B. C.S.A.H. 116	43+00.00	19.0	R	5536	G	3.7	B - 5				249																																			
304	5542	E.B. C.S.A.H. 116	43+00.00	13.0	L	5541	G	4.1	B - 5		32																																					
305	5543	W.B. C.S.A.H. 116	42+92.79	13.0	R	5542	G	4.0	B - 5		14																																					
306	5544	W.B. C.S.A.H. 116	42+92.79	19.0	L	5543	H	3.2	B - 5		32																																					
307	5545	E.B. C.S.A.H. 116	28+00.00	19.0	R	5509	H	3.2	B - 5		86																																					
308	5546	E.B. C.S.A.H. 116	34+20.00	24.0	L	5518	H	3.4	B - 5		20																																					
309																																																
310	5551	E.B. C.S.A.H. 116	13+56.46	19.0	R		54-4020	8.1	B - 5	Y																																					(E)
311	5552	E.B. C.S.A.H. 116	13+55.99	13.0	L	5551	G	3.9	B - 5		32																																					
312																																																
313	5554	E.B. C.S.A.H. 116	15+15.00	19.0	R	5551	48-4020	6.5	B - 5	Y																																					
314																																																
315	5556	E.B. C.S.A.H. 116	16+65.00	20.6	R	5554	48-4020	5.2	B - 5	Y																																					
316																																																
317	5558	E.B. C.S.A.H. 116	18+18.04	24.0	R	5556	60-4020	4.2	B - 5																																						
318	5559	E.B. C.S.A.H. 116	18+18.04	25.1	L	5558	48-4020	4.5	B - 5										49																												
319	5560	W.B. C.S.A.H. 116	18+70.09	13.0	R	5559	48-4020	3.7	B - 5								55																														
320	5561	E.B. C.S.A.H. 116	19+30.00	36.0	L	5560	H	2.4	B - 5		60																																				
321	5562	W.B. C.S.A.H. 116	18+70.09	19.0	L	5560	H	3.0	B - 5								32																														
322																																																
323																																																
324	5565	E.B. C.S.A.H. 116	19+80.00	24.0	R	5574	G	3.8	B - 5										153																												
325																																																
326	5567	E.B. C.S.A.H. 116	21+21.04	24.0	R	5565	G	3.8	B - 5								142																														
327	5568	E.B. C.S.A.H. 116	21+65.00	24.0	R	5567	H	3.0	B - 5		44																																				
328	5569	E.B. C.S.A.H. 116	21+21.04	36.0	L	5567	G	3.5	B - 5				60																																		
329	5570	W.B. C.S.A.H. 116	21+21.01	13.0	R	5569	G	3.5	B - 5		6																																				
330	5571	W.B. C.S.A.H. 116	21+21.01	19.0	L	5570	H	2.7	B - 5		32																																				
331	5572	W.B. C.S.A.H. 116	21+38.61	48.5	L	5571	APRON				34	1																																	8.0		1	(G),(J),(K)
332	5573	W.B. C.S.A.H. 116	18+60.56	19.0	L	5562	H	2.7	B - 5				10																																		
333	5574	E.B. C.S.A.H. 116	18+27.25	24.0	R	5558	G	3.7	B - 5										10																												
334																																																
335																																																
336																																																
337																																																
338																																																
339	5600	N.B. C.S.A.H. 78	157+83.83	203.4	R	5601	APRON				34	1																																	8.0		1	(G),(J)
340	5601	N.B. C.S.A.H. 78	157+55.78	184.2	R		APRON					1																																	4.1	1	(G),(J)
341	5602	N.B. C.S.A.H. 78	157+82.13	205.9	R	5603	APRON				34	1																																	8.0		1	(G),(J)
342	5603	N.B. C.S.A.H. 78	157+54.06	186.6	R		APRON					1																																	4.1	1	(G),(J)
343	5604	N.B. C.S.A.H. 78	157+44.18	355.3	R	5605	APRON				70	1																																	8.0		1	(G),(J),(K)
344	5605	N.B. C.S.A.H. 78	158+13.97	356.5	R	5606	G	3.2	A - 7D		89																																				
345	5606	N.B. C.S.A.H. 78	158+85.84	303.9	R		G	3.6	A - 7D																																						(E)
346																																																
347	5700	W.B. T.H. 242	10+50.16	114.6	L	5701	APRON																																					38	1		29.0		1	(G),(J)
348	5701	W.B. T.H. 242	10+17.90	94.6	L		APRON																																					1		13.8	1	(G),(J)
349	5702	W.B. T.H. 242	15+29.09	33.5	L	5703	APRON																																							19.0		1	(G),(J)
350	5703	W.B. T.H. 242	13+34.67	97.4	L		APRON																																								8.3	1	(G),(J)
351																																																
352	5705	W.B. T.H. 242	18+28.50	40.0	L	5706	APRON																74	1																							1	(G),(J)
353	5706	W.B. T.H. 242	17+42.50	40.0	L		APRON																	1																							1	(G),(J)
354	6000	W.B. C.S.A.H. 116	13+55.68	22.4	R	5552	EX. C.B				9																																				(F)
355	6001	N.B. C.S.A.H. 78	64+36.08	85.4	R		EX. APRON				30																																			4.1	1	(E)
356																																																
	PROJECT SUBTOTAL										724	6	319				229		212				74	2	205	2			462														38	2					80.0	34.4	11	
	PROJECT TOTALS										5301	11	4717	5	287	2	2302	4	1553		68		389	4	521	2	121		622	1	1122		818		602	1	224		199	2	304		114	1	262		538	1	153.0	131.2	32	

XX - 4020 OFFSET TABLE	
C.B./ M.H. DIAMETER (IN)	OFFSET (IN)
48"	9.50
54"	13.00
60"	15.50
66"	19.00
72"	21.50
78"	25.00
84"	27.50
90"	31.00
96"	34.50
102"	38.00
108"	39.50
120"	45.50

NOTE: OFFSET DISTANCE IS FROM CENTER OF GRATE TO CENTER OF XX-4020 STRUCTURE.

NOTES:

GENERAL NOTE: PIPE LENGTH IN PROFILE DOES NOT INCLUDE APRON LENGTH.

(A) STATIONS, OFFSETS, AND ELEVATIONS ARE GIVEN TO:
- END OF APRON (RCP CULVERT)
- CENTER OF GRATE

(B) THE FOLLOWING DESIGNATIONS ARE USED IN THE TABULATIONS TO INDICATE THE DESIGN OF DRAINAGE STRUCTURE TO BE USED:
- DESIGN SPECIAL 1 — SEE DRAINAGE DETAILS
- G,H — SEE MNDOT STD. PLATE. 4006
- 4020 — SEE MNDOT STD. PLATE. 4020 AND COVER
- APRON — SEE MN/DOT STD. PLATE 3100

(C) XX-4020 STRUCTURES SHALL BE STAKED TO CENTER OF STRUCTURE. SEE XX-4020 OFFSET TABLE.

(D) STEPS REQUIRED WHEN PAY HEIGHT IS GREATER THAN 4.5 FEET.

(E) CONNECT TO EXISTING STORM SEWER.

(F) CONNECT TO EXISTING DRAINAGE STRUCTURE.

(G) TIE LAST THREE JOINTS AT APRON END/PIPE END.

(H) SEE DRAINAGE DETAILS

(I) SEE MNDOT STD. PLATE 9102

(J) FURNISH AND INSTALL APRON - SEE MNDOT STD. PLATE 3100

(K) FURNISH AND INSTALL TRASH GUARD OVER APRON

(L) SEE MNDOT STD. PLATE 3133

NO	DATE	BY	CKD	APPR	REVISION
1	2-15-07	GMP	CMT	CMT	MOVED STRUCTURES TO BE IN NUMERICAL ORDER PER ANOKA COUNTY COMMENTS

...\5404\HI-MU\Plan\5404.DRF

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.
Print Name: CHRIS M. TRBOYEVICH
Date 2/15/2007 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

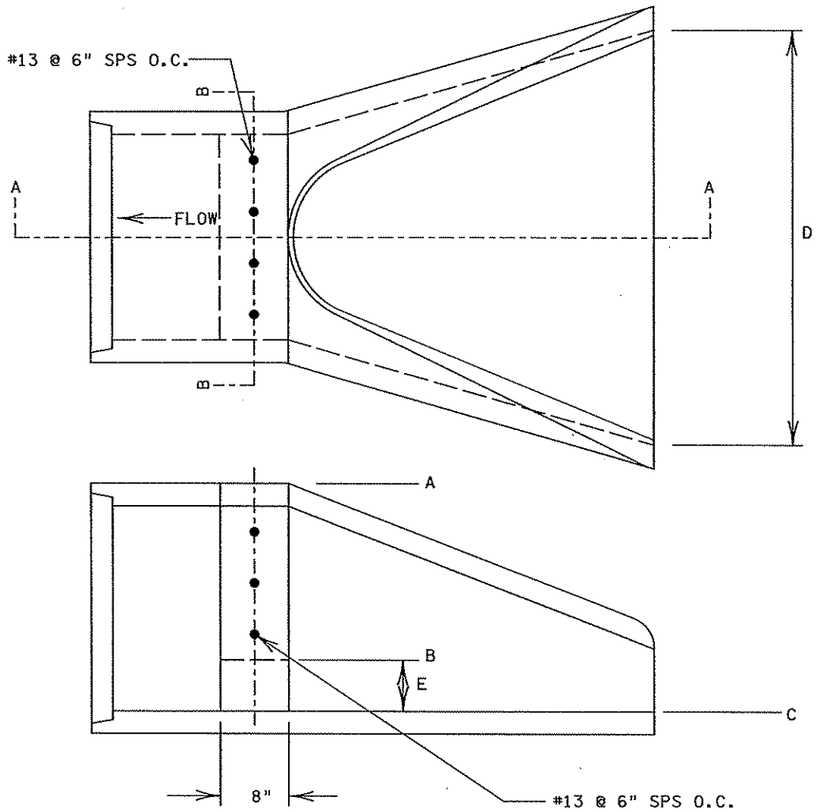
DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

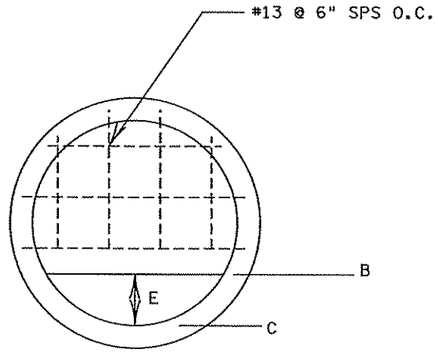
ANOKA COUNTY
DRAINAGE TABULATIONS
C.S.A.H. 78

SHEET 175 OF 400

8/14/15 AM
2/15/2007
H:\Projects\5404\HI-MU\Plan\5404.DRF



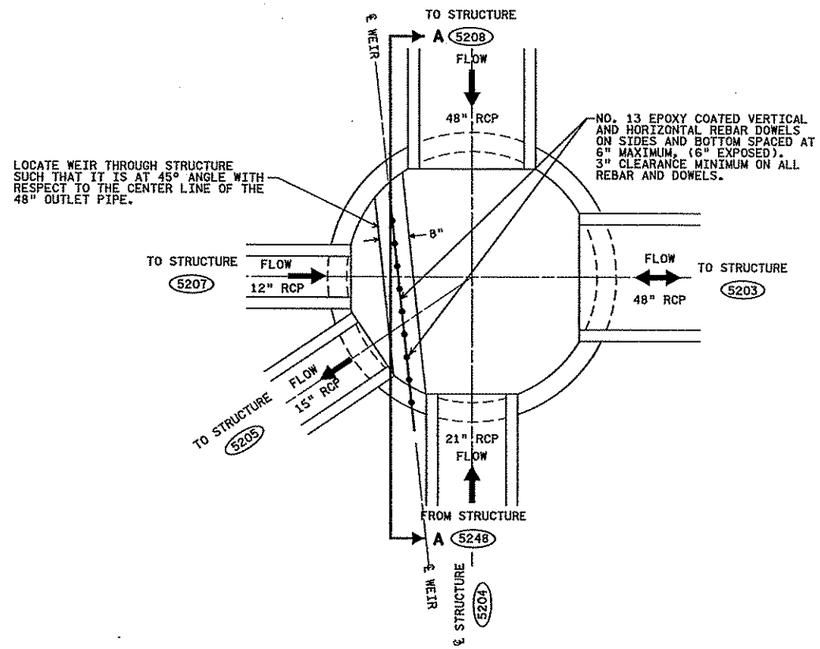
SECTION A-A



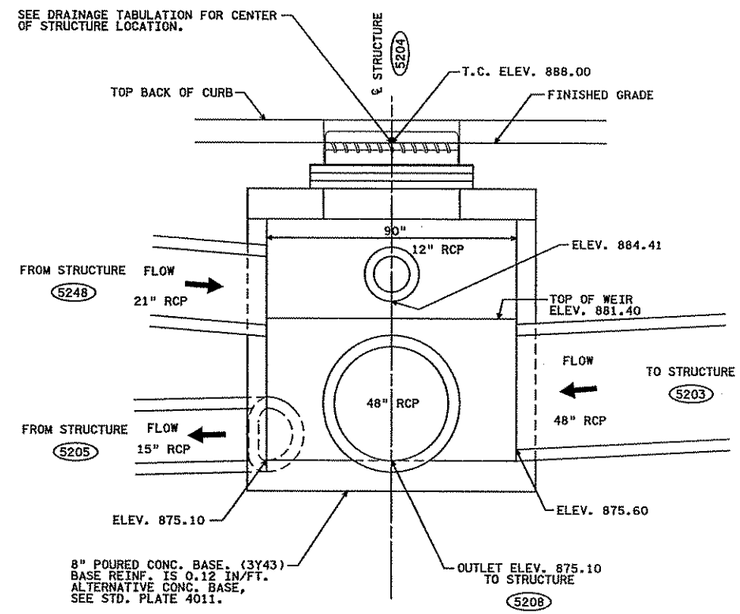
SECTION B-B

CONTROL STRUCTURE	STRUCTURE NO'S.	PIPE SIZE	ELEVATION				DIMENSION	
			A	B	C	NWL	D	E
-	5501	24"	891.00	889.50	889.00	890.00	48"	6"

NOTES:
1. ALL REBAR TO BE EPOXY COATED AND CENTERED IN WEIR.
2. DOWELS SHALL BE PLACED AT FABRICATION OF APRON.
3. ALTERNATE ANCHORAGE TYPE. DRILL ANCHORAGE CAPABLE OF FULLY DEVELOPING #13 REBAR.
4. CONCRETE SHALL BE MIN. 4000 psi 28 DAY STRENGTH.
5. FIELD CUT REBAR TO ALLOW FOR PLACEMENT OF PVC PIPE AS APPROVED BY ENGINEER.



DESIGN SPECIAL 1 - PLAN VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE

POND CONTROL STRUCTURES

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\Plan\5404.FA

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.
Print Name: CHRIS M. TRBOYEVICH
Date 4/4/07 License # 41635

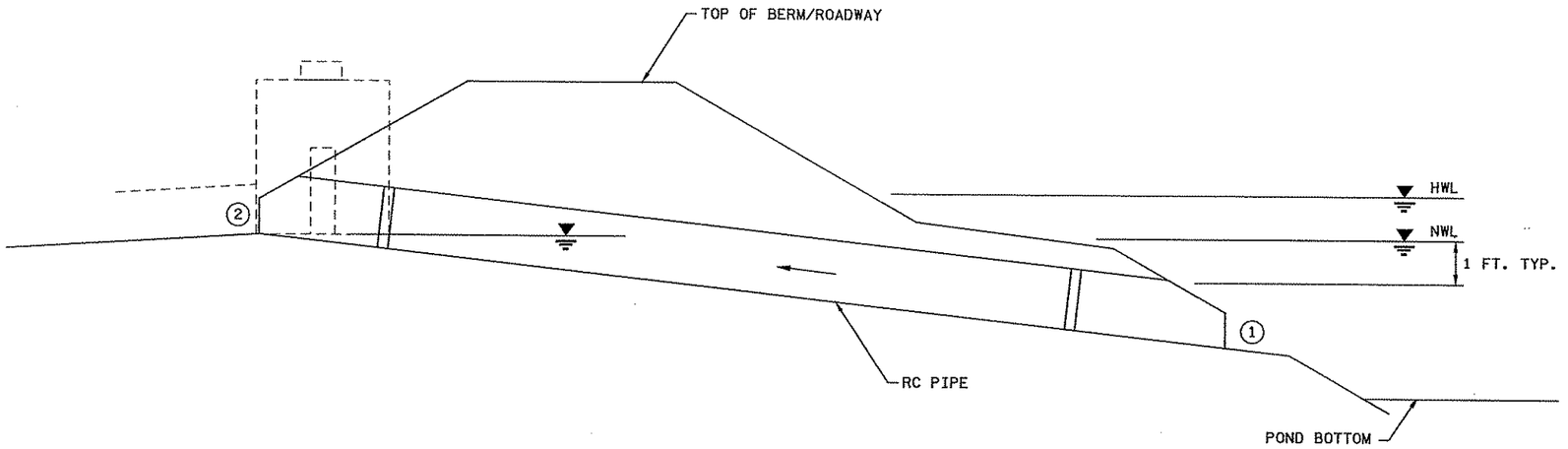
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M.TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE DETAILS
C.S.A.H. 78

SHEET 176 OF 400

3:44:35 PM
4/2/2007
H:\Projects\5404\hl-mu\Plan\5404.FA



POND OUTLET - ADVERSE GRADE CULVERT

POND	NWL	HWL	① STRUCTURE	① ELEVATION	② STRUCTURE	② ELEVATION	NOTES
EX. 200	-	-	5202	867.00	-	-	(B)
242	855.0	856.0	5700	-	5701	-	
A	890.0	892.6	5501	889.00	5500	890.00	(A)
SA1	883.0	884.0	5600	881.00	5601	883.00	
SA2	883.0	884.0	5602	881.00	5603	883.00	

NOTES:

(A) SEE SHEET 176 FOR ADDITIONAL POND CONTROL DETAIL FOR STRUCTURE 5501

(B) SEE SHEET 176 FOR DESIGN SPECIAL 1-5204

(C) SEE DRAINAGE TABULATION FOR LOCATIONS AND QUANTITIES

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\HI-MU\Plan\5404.FM

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

DRAINAGE DETAILS

C.S.A.H. 78

SHEET 177 OF 400

6:09:36 PM
9/26/2006
H:\Projects\5404\HI-MU\Plan\5404.FM

N.B. C.S.A.H. 78

TRAFFIC ►

CB (5121)
STA. 59+05.00
19.0' (RT)
T.C. 887.52
INV. 884.02 (S)
OUT. 884.02 (N)

CB (5118)
STA. 62+50.00
19.0' (RT)
T.C. 882.01
INV. 878.51 (S)
INV. 877.88 (W)
OUT. 877.66 (N)

CB (5116)
STA. 64+75.31
19.0' (RT)
T.C. 880.56
INV. 875.85 (S)
OUT. 875.60 (W)

EXISTING GROUND LINE

℄ ENTRANCE

PROFILE GRADE - TOP FINISHED SURFACE 12.0' LT. ℄

℄ ENTRANCE

5121

5118

5116

LOW POINT ELEV. 880.49 STA. 64+74.94

BEGIN CONSTRUCTION STA. 58+75.00 N.B. C.S.A.H. 78 MATCH MISTING

+58.15

+22.95

INV. 884.02

INV. 878.51

INV. 877.66

INV. 875.85

UNKNOWN SAN.

347'-15" RCP CL II @ 1.31%

226'-15" RCP CL II @ 0.80%

M. 18" RCP STORM

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

887.76 887.69 | 886.46 886.45 | 885.03 885.32 | 883.71 884.35 | 882.64 883.52 | 881.94 882.84 | 881.52 882.28 | 881.12 881.91 | 880.75 881.53 | 880.38 881.16 | 879.88 880.78 | 879.49 880.52 | 879.66

905 900 895 890 885 880 875 870 865

50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00

S.B. C.S.A.H. 78

TRAFFIC ◄

EXISTING GROUND LINE

887.67 | 886.34 | 884.94 | 883.75 | 882.86 | 882.25 | 881.81 | 881.44 | 881.07 | 880.72 | 880.39 | 879.99 | 880.25

905 900 895 890 885 880 875 870 865

50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00

B.M. ELEV. = 892.34
TOP NUT OF HYDRANT
NORTH SIDE OF
122ND CIRCLE N.W.

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hi-mu\plan\5404.FB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

DRAINAGE PROFILES

C.S.A.H. 78

N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 178 OF 400

4130:03 PM
9/26/2006
hi\projects\5404\hi-mu\plan\5404.FB

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

N.B. C.S.A.H. 78

CB (5110)
STA. 68+72.00
24.0' (RT)
T.C. 883.01
INV. 879.76 (N)
OUT. 879.51 (W)

CB (5111)
STA. 70+20.00
24.0' (RT)
T.C. 883.93
OUT. 880.68 (S)

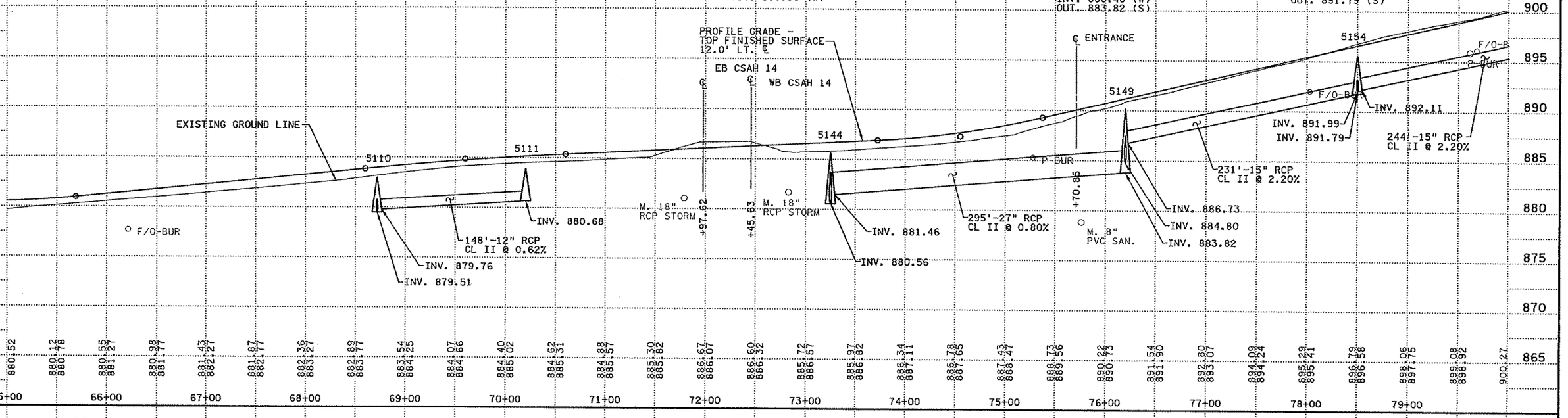
CB (5144)
STA. 73+25.00
24.0' (RT)
T.C. 885.72
INV. 882.50 (SE)
INV. 881.46 (N)
OUT. 880.56 (W)

TRAFFIC

CB (5149)
STA. 76+20.00
24.0' (RT)
T.C. 890.23
INV. 886.73 (N)
INV. 884.80 (E)
INV. 886.48 (W)
OUT. 883.82 (S)

CB (5154)
STA. 78+50.00
24.0' (RT)
T.C. 895.61
INV. 892.11 (N)
INV. 891.99 (W)
OUT. 891.79 (S)

ENT



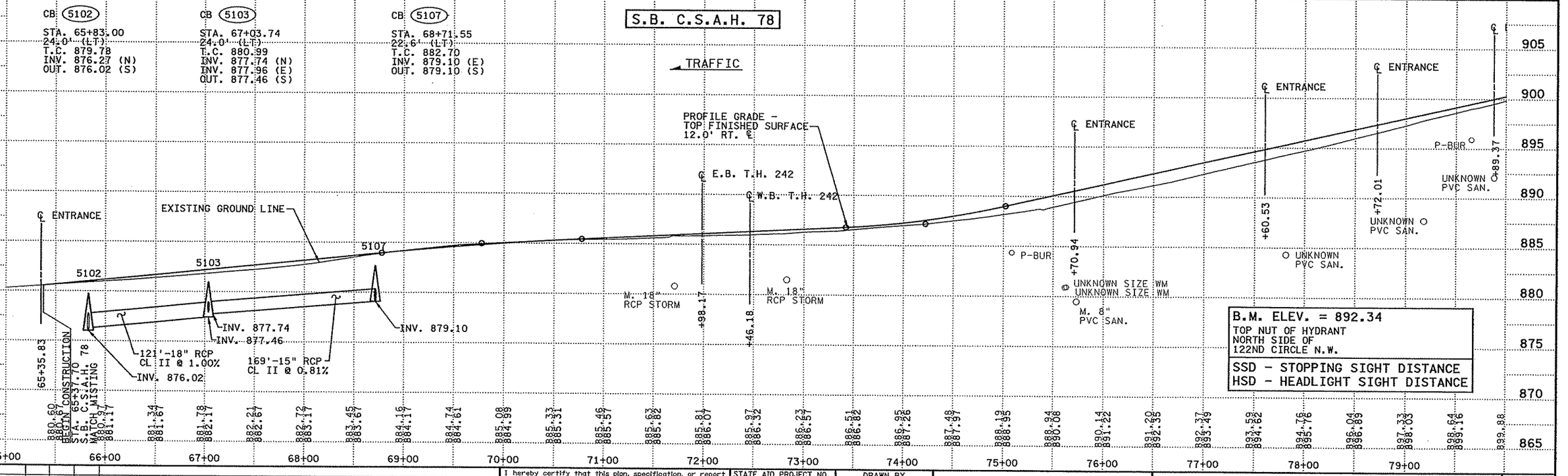
S.B. C.S.A.H. 78

CB (5102)
STA. 65+83.00
24.0' (LT)
T.C. 879.78
INV. 876.27 (N)
OUT. 876.02 (S)

CB (5103)
STA. 67+03.74
24.0' (LT)
T.C. 880.99
INV. 877.74 (N)
INV. 877.96 (E)
OUT. 877.46 (S)

CB (5107)
STA. 68+71.55
22.6' (LT)
T.C. 882.70
INV. 879.10 (E)
OUT. 879.10 (S)

TRAFFIC



B.M. ELEV. = 892.34
TOP NUT OF HYDRANT
NORTH SIDE OF
122ND CIRCLE N.W.

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.FC

4:30:05 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.FC

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

DRAINAGE PROFILES
C.S.A.H. 78
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 179 OF 400

N.B. C.S.A.H. 78

CB 5158
STA. 80+93.00
24.0' (RT)
T.C. 901.21
INV. 897.46 (W)
OUT. 897.46 (E)

CB 5264
STA. 84+27.00
24.0' (RT)
T.C. 902.95
INV. 899.49 (W)
OUT. 899.49 (N)

HIGH POINT
ELEV. 904.85
STA. 83+42.43

CB 5260
STA. 86+12.00
19.0' (RT)
T.C. 899.88
INV. 896.88 (S)
INV. 895.93 (W)
OUT. 895.93 (N)

CB 5256
STA. 87+97.00
19.0' (RT)
T.C. 895.70
INV. 892.45 (S)
INV. 891.62 (W)
OUT. 891.12 (N)

CB 5252
STA. 90+42.00
19.0' (RT)
T.C. 892.92
INV. 888.83 (S)
INV. 889.33 (W)
OUT. 888.58 (N)

CB 5248
STA. 92+87.00
19.0' (RT)
T.C. 890.45
INV. 886.74 (S)
INV. 886.86 (W)
OUT. 885.60 (N)

CB 5204
STA. 95+30.00
19.0' (RT)
T.C. 888.00
INV. 875.60 (N)
INV. 884.41 (W)
OUT. 875.60 (E)

℄ 127TH ST.

TRAFFIC

NOTES:
STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

5158
2" GAS
INV. 897.46

5264
2" GAS
F/O-BUR
P-BUR
INV. 899.49
+89.86
18" WM
185'-12" RCP
CL II @ 1.41%
INV. 896.88

5260
2" GAS
INV. 895.93
185'-15" RCP
CL II @ 1.87%
INV. 892.45
INV. 891.62

5256
P-BUR
INV. 891.12
245'-18" RCP
CL II @ 0.93%
INV. 888.83
INV. 888.58

PROFILE GRADE -
TOP FINISHED SURFACE
12.0' LT. ℄
EXISTING GROUND LINE

5252
INV. 889.33
245'-21" RCP
CL II @ 0.75%
INV. 886.74
INV. 885.60

5248
INV. 886.86
243'-21" RCP
CL II @ 0.10%

10'X8' BOX
CULVERT (02J31)
INV. 885.36

5204
P-BUR
M. 2" GAS
P-BUR
0
8" WM
M. 8" PVC SAN.
INV. 875.60

915	910	905	900	895	890	885	880	875

901.26	902.52	902.46	903.83	903.17	905.08	903.88	906.13	904.20	906.55	904.20	906.95	904.38	906.40	904.14	905.38	903.88	903.73	903.02	903.13	902.13	902.86	901.83	901.01	899.78	898.43	898.54	896.45	897.43	894.67	896.80	893.08	895.77	891.39	895.21	892.93	894.70	888.73	894.20	888.56	893.69	888.87	893.18	889.03	892.68	888.22	892.17	887.20	891.67	887.08	891.16	886.52	890.66	885.41	890.16	884.76	889.65	884.63	889.45	884.30
81+00				82+00				83+00				84+00				85+00				86+00				87+00				88+00				89+00				90+00				91+00				92+00				93+00				94+00				95+00			

S.B. C.S.A.H. 78

TRAFFIC

B.M. ELEV. = 900.63
TOP NUT OF HYDRANT
EAST SIDE OF CSAH 78,
SOUTH OF 126TH LANE

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

HIGH POINT
ELEV. 902.17
STA. 83+39.06

℄ ENTRANCE
+08.52
UNKNOWN
PVC SAN.

℄ ENTRANCE
+16.40
UNKNOWN
PVC SAN.

℄ ENTRANCE
+73.87
UNKNOWN
PVC SAN.

P-BUR

℄ 127TH ST.
+83.55
UNKNOWN SIZE WM
18" DIP WM

℄ ENTRANCE
+82.31
P-BUR

PROFILE GRADE -
TOP FINISHED SURFACE
12.0' RT. ℄
EXISTING GROUND LINE

10'X8' BOX
CULVERT (02J31)

P-BUR
P-BUR
0
8" WM
M. 8" PVC SAN.

915	910	905	900	895	890	885	880	875

902.52	902.46	903.79	903.27	904.61	903.88	905.26	904.21	905.74	904.44	905.73	904.41	905.44	904.16	904.83	903.70	903.67	903.02	902.51	902.13	900.87	901.83	898.94	899.79	896.68	898.54	894.71	897.36	894.74	896.36	890.75	895.55	888.68	894.93	887.21	894.42	885.49	893.41	885.42	892.91	884.97	892.41	884.67	891.90	884.28	891.40	885.12	890.89	883.80	890.39	883.60	889.68	883.52	889.38	883.14
81+00				82+00				83+00				84+00				85+00				86+00				87+00				88+00				89+00				90+00				91+00				92+00				93+00				94+00				95+00			

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE PROFILES
C.S.A.H. 78
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 180 OF 400

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.FD

4:30:06 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.FD

N.B. C.S.A.H. 78

CB 5208
STA. 96+61.00
19.0' (RT)
T.C. 886.67
INV. 875.73 (N)
INV. 882.59 (W)
OUT. 875.73 (S)

CB 5212
STA. 97+92.00
19.0' (RT)
T.C. 885.35
INV. 875.86 (N)
INV. 881.27 (W)
OUT. 875.86 (S)

CB 5220
STA. 100+50.00
19.0' (RT)
T.C. 882.96
INV. 876.62 (N)
OUT. 876.12 (S)

CB 5221
STA. 100+95.67
19.0' (RT)
T.C. 882.87
INV. 877.61 (N)
INV. 878.42 (W)
OUT. 876.67 (S)

CB 5226
STA. 101+05.67
19.0' (RT)
T.C. 882.87
INV. 877.12 (N)
OUT. 877.62 (S)

CB 5227
STA. 103+82.00
19.0' (RT)
T.C. 886.44
INV. 882.94 (N)
INV. 880.59 (W)
OUT. 879.59 (S)

CB 5234
STA. 105+50.00
19.0' (RT)
T.C. 891.52
INV. 888.27 (N)
INV. 887.51 (W)
OUT. 887.01 (S)

CB 5238
STA. 108+00.00
19.0' (RT)
T.C. 899.47
INV. 896.22 (N)
INV. 895.61 (W)
OUT. 895.36 (S)

TRAFFIC

PROFILE GRADE - TOP FINISHED SURFACE 12.0' LT. ℄

EXISTING GROUND LINE

LOW POINT ELEV. 883.72 STA. 100+95.67

5208 — INV. 875.73 — 131'-42" RCP CL III @ 0.10%

5212 — INV. 882.59 — INV. 875.86 — 131'-42" RCP CL III @ 0.10%

INV. 881.27 — 258'-42" RCP CL II @ 0.10%

46'-36" RCP CL IV @ 0.10%

5220 — INV. 876.12

5221 5226 — INV. 878.12 — INV. 877.62 — INV. 876.67 — INV. 877.61 — 10'-33" RCP CL II @ 0.10%

277'-27" RCP CL IV @ 0.53%

5227 — INV. 882.94 — INV. 879.59

168'-18" RCP CL II @ 2.42%

5234 — INV. 888.27 — INV. 887.01 — ℄ P-BUR

250'-15" RCP CL II @ 2.84%

5238 — INV. 896.22 — INV. 895.36 — 275'-15" RCP CL II @ 2.29%

12"M. PVC SAN.

℄ P-BUR

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

S.B. C.S.A.H. 78

TRAFFIC

B.M. ELEV. = 885.96
TOP NUT HYDRANT
S.W. QUADRANT AT CSAH 78
AND 129TH LANE

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

INSET

M. 12" PVC SAN.

LIMIT OF MUCK EXCAVATION SEE CROSS SECTIONS

PROFILE GRADE - TOP FINISHED SURFACE 12.0' RT. ℄

EXISTING GROUND LINE

℄ ENTRANCE

LOW POINT ELEV. 883.52 STA. 100+89.48

UNKNOWN SIZE GAS

℄ ENTRANCE

UNKNOWN SIZE GAS P-BUR

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.FE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 6/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE PROFILES
C.S.A.H. 78
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 181 OF 400

4:30:07 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.FE

N.B. C.S.A.H. 78

TRAFFIC

CB 5242
STA. 110+75.00
19.0' (RT)
T.C. 906.37
INV. 902.52 (W)
OUT. 902.52 (S)

F/O-BUR
P-BUR
℄ ENTRANCE
5242
UNKNOWN SIZE WM @ +76.72
18" DIP WM
INV. 902.52 +
HIGH POINT
ELEV. 909.90
STA. 113+82.72
F/O-BUR

NOTES:
STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

PROFILE GRADE - TOP FINISHED SURFACE 12.0' LT. ℄
EXISTING GROUND LINE

B.M. ELEV. = 897.54
BENCH MARK DISC IN FRONT OF ANOKA COUNTY HIGHWAY DEPT.

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

M. 15" PVC CULVERT
M. 8" PVC SAN.

111+00	112+00	113+00	114+00	115+00	116+00	117+00	118+00	119+00	120+00	121+00	122+00	123+00	124+00	125+00
906.78	909.41 / 907.61	911.42 / 908.30	912.19 / 908.82	912.16 / 909.20	911.67 / 909.41	910.68 / 909.48	910.18 / 909.39	909.28 / 909.15	907.73 / 908.75	907.07 / 908.20	906.96 / 907.49	905.88 / 906.63	906.82 / 905.62	904.90 / 904.56
903.08 / 903.50	901.42 / 902.44	899.93 / 901.38	898.68 / 900.32	897.58 / 899.26	896.60 / 898.20	895.80 / 897.15	895.16 / 896.21	894.57 / 895.40	893.98 / 894.44	893.43 / 894.21	892.94 / 893.71	892.48 / 893.21	892.01 / 892.97	891.74 / 892.21	891.39

S.B. C.S.A.H. 78

TRAFFIC

CB 5324
STA. 117+48.83
19.0' (LT)
T.C. 903.76
INV. 900.14 (E)
OUT. 900.14 (N)

CB 5320
STA. 120+48.83
19.0' (LT)
T.C. 897.41
INV. 894.13 (S)
INV. 893.78 (E)
OUT. 893.53 (N)

CB 5316
STA. 122+98.83
19.0' (LT)
T.C. 893.41
INV. 890.08 (S)
INV. 889.76 (E)
OUT. 889.01 (N)

CB 5309
STA. 125+31.83
19.0' (LT)
T.C. 891.08
INV. 887.17 (E)
INV. 883.24 (S)
OUT. 882.74 (N)

M. 3" GAS
P-BUR
HIGH POINT
ELEV. 909.48
STA. 113+46.00
18" DIP WM
UNKNOWN SIZE WM
5324
INV. 900.14
M. 2" GAS
P-BUR
300'-15" RCP
CL II @ 2.0%
INV. 894.13
INV. 893.53
5320
P-BUR
250'-18" RCP
CL II @ 1.38%
INV. 890.08
INV. 889.01
5316
233'-21" RCP
CL II @ 0.79%
INV. 887.17
INV. 882.74
5309

PROFILE GRADE - TOP FINISHED SURFACE 12.0' RT. ℄
EXISTING GROUND LINE

B.M. ELEV. = 923.24
TOP NUT HYDRANT LOCATED AT THE END OF CUL-DE-SAC WEST OF CSAH 78 AT 131ST STREET

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

M. 8" PVC SAN.

111+00	112+00	113+00	114+00	115+00	116+00	117+00	118+00	119+00	120+00	121+00	122+00	123+00	124+00	125+00
906.78	909.41 / 907.61	911.42 / 908.30	912.19 / 908.82	912.16 / 909.20	911.67 / 909.41	910.68 / 909.48	910.18 / 909.39	909.28 / 909.15	907.73 / 908.75	907.07 / 908.20	906.96 / 907.49	905.88 / 906.63	906.82 / 905.62	904.90 / 904.56
903.08 / 903.50	901.42 / 902.44	899.93 / 901.38	898.68 / 900.32	897.58 / 899.26	896.60 / 898.20	895.80 / 897.15	895.16 / 896.21	894.57 / 895.40	893.98 / 894.44	893.43 / 894.21	892.94 / 893.71	892.48 / 893.21	892.01 / 892.97	891.74 / 892.21	891.39

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.FF

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE PROFILES
C.S.A.H. 78
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 182 OF 400

4/20/06 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.FF

CB 5308
STA. 127+36.00
19.0' (RT)
T.C. 889.99
OUT. 886.49 (N)

CB 5307
STA. 127+55.92
19.0' (RT)
T.C. 890.01
OUT. 886.51 (S)

CB 5339
STA. 132+36.00
24.0' (RT)
T.C. 892.62
INV. 887.52 (N)
OUT. 887.52 (W)

CB 5340
STA. 133+00.00
24.0' (RT)
T.C. 893.02
INV. 887.71 (N)
OUT. 887.71 (S)

CB 5345
STA. 134+44.00
24.0' (RT)
T.C. 893.91
INV. 888.65 (N)
INV. 888.90 (W)
OUT. 888.15 (S)

CB 5346
STA. 135+48.00
24.0' (RT)
T.C. 894.55
INV. 889.00 (N)
INV. 891.24 (NE)
OUT. 888.96 (S)

CB 5355
STA. 136+52.00
19.0' (RT)
T.C. 895.32
INV. 889.93 (N)
INV. 891.69 (W)
INV. 890.52 (E)
OUT. 889.52 (S)

CB 5363
STA. 138+50.00
19.0' (RT)
T.C. 896.55
INV. 891.19 (N)
INV. 892.81 (W)
INV. 891.28 (E)
OUT. 890.53 (S)

CB 5364
STA. 140+13.26
19.0' (RT)
T.C. 897.56
INV. 891.93 (E)
INV. 893.82 (W)
OUT. 891.68 (S)

CB 5306
STA. 127+46.00
19.0' (RT)
T.C. 890.00
INV. 886.45 (S)
INV. 886.45 (N)
OUT. 886.20 (W)

N.B. C.S.A.H. 78

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

TRAFFIC

PROFILE GRADE - TOP FINISHED SURFACE 12.0' LT. ℄

EXISTING GROUND LINE

℄ 133RD ST

LOW POINT ELEV. 891.06 STA. 127+80.65

℄ PARK

P-BUR

+11.99

INV. 886.49
10'-12" RCP CL II @ 0.40%

INV. 886.51
10'-12" RCP CL II @ 0.56%
INV. 886.45
INV. 886.20

INV. 887.52
64'-30" RCP CL II @ 0.30%

144'-30" RCP CL II @ 0.30%
INV. 887.72

INV. 888.15
104'-27" RCP CL II @ 0.30%
INV. 888.65
INV. 888.96

104'-24" RCP CL II @ 0.30%
INV. 888.96
INV. 889.52

198'-21" RCP CL II @ 0.30%
INV. 889.93
INV. 890.53

163'-18" RCP CL II @ 0.30%
INV. 891.19
INV. 891.68

5306 5308 5307 5339 5340 5345 5346 5355 5363 5364

891.63 890.96 891.25 888.71 890.99 888.76 890.86 887.43 890.85 886.39 890.97 887.30 891.20 887.86 891.51 888.01 891.82 888.54 892.13 889.46 892.44 890.11 892.75 890.38 893.06 891.03 893.37 891.64 893.68 891.84 893.99 891.29 894.30 891.86 894.61 892.72 894.92 893.30 895.23 894.39 895.54 894.55 895.88 894.64 896.16 894.96 896.47 894.63 896.78 894.51 897.09 894.77 897.40 894.81 897.71 895.02 898.02 895.43 898.33 896.15

126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00

CB 5303
STA. 127+36.09
24.0' (LT)
T.C. 889.75
INV. 882.22 (S)
OUT. 882.22 (N)

CB 5302
STA. 127+56.09
24.0' (LT)
T.C. 889.75
INV. 885.22 (N)
OUT. 885.22 (S)

CB 5329
STA. 129+93.80
19.0' (LT)
T.C. 891.16
INV. 886.21 (N)
INV. 887.68 (W)
OUT. 886.18 (S)

S.B. C.S.A.H. 78

CB 5342
STA. 134+42.80
19.0' (LT)
T.C. 894.03
INV. 889.49 (N)
OUT. 889.24 (E)

CB 5349
STA. 135+30.00
19.0' (LT)
T.C. 894.57
INV. 889.84 (N)
OUT. 889.84 (S)

B.M. ELEV. = 905.21
TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

CB 5301
STA. 127+46.09
24.0' (LT)
T.C. 889.75
INV. 885.18 (N)
INV. 882.19 (S)
INV. 885.86 (E)
OUT. 882.19 (W)

B.M. ELEV. = 894.79
TOP NUT OF HYDRANT EAST SIDE OF CSAH 78, APPROX. 200' NORTH OF BUNKER LAKE BLVD. WEST ENTRANCE TO SUPER AMERICA

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

TRAFFIC

CB 5336
STA. 132+34.80
19.0' (LT)
T.C. 892.77
INV. 887.18 (W)
OUT. 887.18 (S)

PROFILE GRADE - TOP FINISHED SURFACE 12.0' RT. ℄

EXISTING GROUND LINE

℄ 133RD ST

LOW POINT ELEV. 890.69 STA. 127+52.23

℄ ENTRANCE

℄ E.B. STATION PARKWAY

℄ W.B. STATION PARKWAY

BEGIN SDG STA. 137+00.00 S.B. C.S.A.H. 78 ELEV. 883.23

END SDG STA. 138+00.00 S.B. C.S.A.H. 78 ELEV. 893.75

S.B. C.S.A.H. 78 138+02.11 = S.B. C.S.A.H. 78 138+02.24 EQUATION

℄ ENTRANCE

P-BUR

10'-30" RCP CL III @ 0.40%

10'-30" RCP CL III @ 0.30%
INV. 882.22

INV. 885.22
238'-30" RCP CL II @ 0.40%

241'-30" RCP CL II @ 0.40%

INV. 886.18
INV. 886.21
+71.63
INV. 887.18

M. 15 PVC CULVERT
204'-30" RCP CL III @ 0.25%
INV. 882.19
CM. 24 RCP CULVERT

INV. 889.49
88'-18" RCP CL II @ 0.40%
INV. 889.84

+76.07
+21.07
893.23
+0.52%
893.75
+76.25

5301 5303 5302 5342 5349

891.71 890.80 891.24 890.92 891.23 890.76 890.66 890.68 890.93 890.88 890.93 891.06 891.23 891.26 891.63 891.59 892.03 891.93 892.40 892.36 892.74 892.79 893.06 893.18 893.37 893.55 893.68 893.97 893.99 894.28 894.30 894.58 894.61 894.90 894.92 895.24 895.54 895.72 895.88 896.03 896.16 896.37 896.64 896.98 896.78 897.37 897.09 897.41 897.40 897.67 897.71 897.86 898.02 897.84 898.33

126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00

NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.FG

4130109 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.FG

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

DRAINAGE PROFILES
C.S.A.H. 78
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 183 OF 400

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

N.B. C.S.A.H. 78

TRAFFIC

CB 5482
STA. 144+60.00
19.0' (RT)
T.C. 897.42
INV. 893.65 (W)
OUT. 893.40 (N)

CB 5478
STA. 146+30.00
19.0' (RT)
T.C. 896.57
INV. 892.72 (S)
INV. 892.97 (W)
OUT. 892.47 (N)

CB 5470
STA. 147+65.00
19.0' (RT)
T.C. 895.90
INV. 891.93 (S)
INV. 889.16 (E)
INV. 890.91 (W)
OUT. 888.66 (N)

CB 5466
STA. 148+85.17
24.0' (RT)
T.C. 895.37
INV. 888.29 (S)
INV. 891.34 (W)
OUT. 888.04 (N)

CB 5487
STA. 148+95.00
24.0' (RT)
T.C. 895.37
INV. 888.02 (S)
OUT. 888.02 (N)

CB 5463
STA. 150+83.00
24.0' (RT)
T.C. 896.28
INV. 887.45 (S)
OUT. 887.45 (NE)

CB 5457
STA. 152+93.00
24.0' (RT)
T.C. 895.00
INV. 886.78 (S)
OUT. 886.43 (N)

CB 5453
STA. 154+50.00
24.0' (RT)
T.C. 892.95
INV. 885.96 (S)
INV. 889.19 (W)
OUT. 885.96 (N)

CB 5448
STA. 154+88.54
24.0' (RT)
T.C. 892.45
INV. 885.85 (S)
OUT. 885.60 (N)

HIGH POINT
ELEV. 899.16
STA. 142+16.07

EXISTING GROUND LINE

PROFILE GRADE - TOP FINISHED SURFACE 12.0' LT. ℄

LOW POINT
ELEV. 896.35
STA. 148+85.17

HIGH POINT
ELEV. 897.27
STA. 151+33.33

℄ E.B. C.S.A.H. 116

℄ W.B. C.S.A.H. 116

5482 5478 5470 5466 5487 5463 5457 5453 5448

T-BUR
M. 4" GAS

UNKNOWN SIZE GAS
M. 12" RCP STORM
P-BUR
M. 12" RCP STORM
6" GAS
UNKNOWN GAS
P-BUR
T-BUR
M. 21" RCP STORM
M. 12" DIP WM
P-BUR

INV. 893.40
171'-15" RCP CL II @ 0.40%
INV. 892.72
INV. 892.47
136'-18" RCP CL II @ 0.40%
INV. 891.93
INV. 888.66
121'-24" RCP CL V @ 0.30%
INV. 888.29
INV. 888.04
INV. 888.02
10'-27" RCP CL V @ 0.30%
188'-27" RCP CL V @ 0.30%
INV. 887.45
+61.01
+16.06
INV. 886.43
39'-30" RCP CL II @ 0.30%
157'-30" RCP CL II @ 0.30%
INV. 885.96
INV. 885.85
INV. 885.60

141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00

S.B. C.S.A.H. 78

TRAFFIC

B.M. ELEV. = 892.34
TOP NUT OF HYDRANT
NORTH SIDE OF 122ND
CIRCLE N.W.

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

CB 5486
STA. 148+90.00
24.0' (LT)
T.C. 895.30
INV. 892.01 (N)
OUT. 891.76 (E,W)

CB 5469
STA. 149+00.00
24.0' (LT)
T.C. 895.30
OUT. 892.05 (S)

HIGH POINT
ELEV. 899.16
STA. 142+16.07

EXISTING GROUND LINE

PROFILE GRADE - TOP FINISHED SURFACE 12.0' RT. ℄

℄ SERVICE RD

LOW POINT
ELEV. 896.27
STA. 149+00.00

HIGH POINT
ELEV. 897.13
STA. 151+36.03

℄ E.B. C.S.A.H. 116

℄ W.B. C.S.A.H. 116

5486 5469

M. 12" RCP STORM
P-BUR
P-BUR
M. 6" GAS
UNKNOWN GAS
T-BUR
P-BUR
M. 21" RCP STORM
M. 12" DIP WM
P-BUR

INV. 892.01
12'-12" RCP CL II @ 0.40%
INV. 892.04
INV. 892.05
+79.54
+61.74
+16.78

141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.FH

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE PROFILES
C.S.A.H. 78
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 184 OF 400

4:30:10 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.FH

N.B. C.S.A.H. 78

CB 5442
STA. 157+01.07
24.0' (RT)
T.C. 891.24
INV. 884.96 (S)
INV. 883.86 (E)
INV. 886.74 (W)
OUT. 882.11 (N)

CB 5447
STA. 155+82.00
24.0' (RT)
T.C. 891.48
INV. 885.31 (S)
INV. 887.94 (W)
OUT. 885.31 (N)

CB 5411
STA. 158+62.00
24.0' (RT)
T.C. 891.25
INV. 884.25 (N)
INV. 886.56 (W)
INV. 883.50 (S)
OUT. 883.00 (E)

CB 5415
STA. 159+83.33
19.0' (RT)
T.C. 891.64
INV. 885.08 (N)
INV. 885.16 (W)
OUT. 884.74 (S)

CB 5419
STA. 162+00.00
19.0' (RT)
T.C. 892.11
INV. 886.81 (N)
INV. 886.70 (W)
INV. 887.84 (E)
OUT. 885.95 (S)

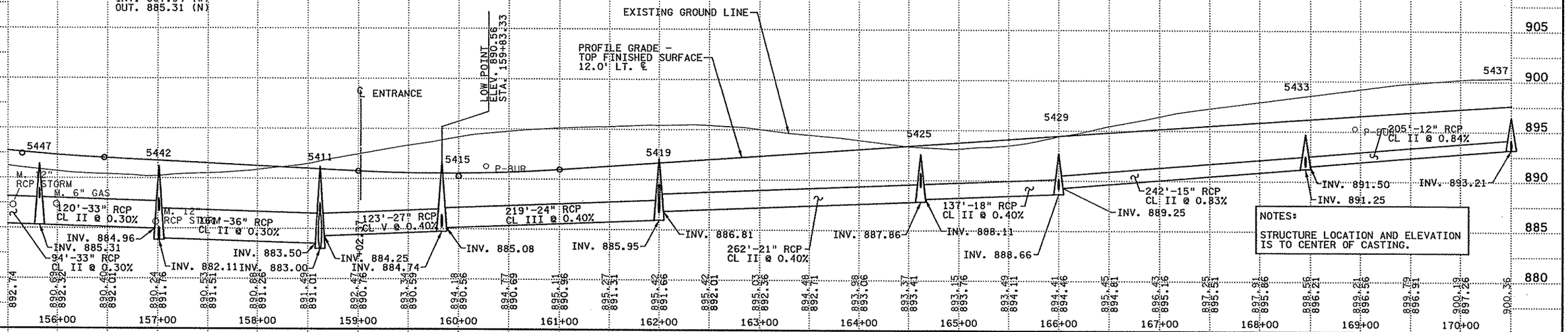
CB 5425
STA. 164+62.00
19.0' (RT)
T.C. 892.64
INV. 888.11 (N)
INV. 889.34 (E)
INV. 889.72 (W)
OUT. 887.86 (S)

CB 5429
STA. 166+00.00
19.0' (RT)
T.C. 892.75
INV. 889.25 (N)
INV. 889.16 (W)
OUT. 888.66 (S)

CB 5433
STA. 168+45.00
24.0' (RT)
T.C. 894.25
INV. 891.50 (N)
INV. 891.52 (W)
OUT. 891.25 (S)

CB 5437
STA. 170+50.00
24.0' (RT)
T.C. 896.46
INV. 893.21 (W)
OUT. 893.21 (S)

TRAFFIC



NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

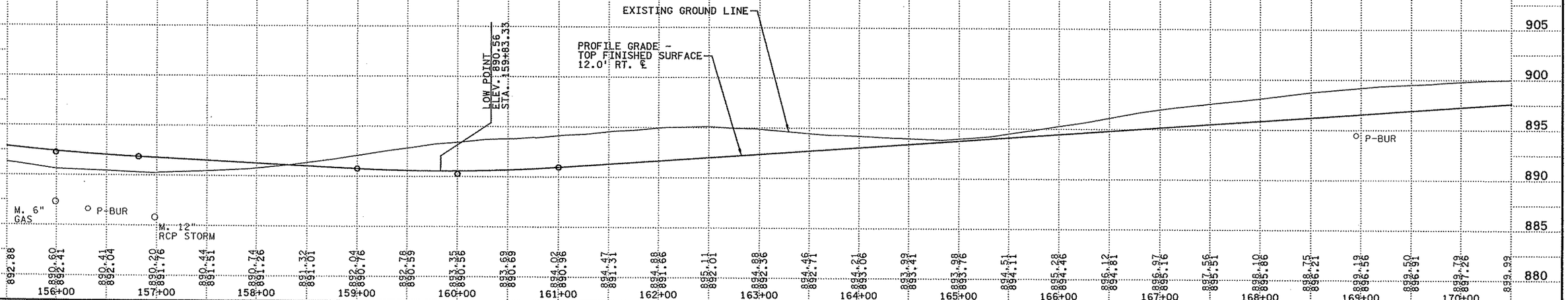
S.B. C.S.A.H. 78

TRAFFIC

B.M. ELEV. = 897.54

BENCH MARK DISC IN FRONT OF COUNTY SHOP

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.FI

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.
Print Name: CHRIS M. TRBOYEVICH
Date 6/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
DRAINAGE PROFILES
C.S.A.H. 78
N.B. C.S.A.H. 78 / S.B. C.S.A.H. 78

SHEET 185 OF 400

4:30:11 PM
6/10/2006
H:\projects\5404\hl-mu\plan\5404.FI

E.B. C.S.A.H. 116

TRAFFIC

CB 5551
STA. 13+56.46
19.0' (RT)
T.C. 897.09
INV. 893.84 (W)
INV. 893.57 (E)
INV. 889.10 (N)
OUT. 889.10 (?)

CB 5554
STA. 15+15.00
19.0' (RT)
T.C. 896.01
INV. 892.74 (W)
INV. 889.42 (N)
OUT. 889.42 (S)

CB 5556
STA. 16+65.00
20.6' (RT)
T.C. 894.95
INV. 891.66 (W)
INV. 889.72 (N)
OUT. 889.72 (S)

CB 5558
STA. 18+18.04
24.0' (RT)
T.C. 894.27
INV. 890.56 (E)
INV. 890.03 (W)
INV. 890.53 (N)
OUT. 890.03 (S)

CB 5574
STA. 18+27.25
24.0' (RT)
T.C. 894.28
INV. 890.55 (N)
OUT. 890.55 (S)

CB 5565
STA. 19+80.00
24.0' (RT)
T.C. 894.72
INV. 891.10 (N)
OUT. 890.85 (S)

CB 5567
STA. 21+21.04
24.0' (RT)
T.C. 895.21
INV. 892.13 (N)
INV. 891.88 (W)
OUT. 891.38 (S)

CB 5568
STA. 21+65.00
24.0' (RT)
T.C. 895.37
OUT. 892.31 (S)

PROFILE GRADE -
TOP FINISHED SURFACE
12.0' LT. ℄

LOW POINT
ELEV. 895.25
STA. 18+18.04

EXISTING GROUND LINE

℄ ENTRANCE

N.B. C.S.A.H. 78 ℄

S.B. C.S.A.H. 78 ℄

BEGIN CONSTRUCTION
STA. 12+48.95
E.B. C.S.A.H. 116
MATCH MISTING

M. 18" RCP STORM
INV. 889.10

159'-27" RCP
CL V @ 0.20%

150'-27" RCP
CL V @ 0.20%
INV. 889.42

153'-27" RCP
CL V @ 0.20%
INV. 889.72

M. 18" RCP STORM

10'-21" RCP
CL II @ 0.40%
INV. 890.53
INV. 890.03

12" WM

153'-21" RCP
CL II @ 0.20%
INV. 890.85

INV. 891.10

P-BUR

+31.02

M. 15" RCP STORM
142'-18" RCP
CL II @ 0.20%

INV. 892.30

P-BUR

P-BUR

44'-12" RCP
CL II @ 0.40%
INV. 892.13
INV. 891.38

+58.73

+13.78

UNKNOWN

T

5551	5554	5556	5558	5574	5565	5567	5568
899.77	899.60	899.35	899.03	898.66	898.26	897.79	897.45
898.66	898.32	897.98	897.64	897.30	896.85	896.26	895.80
896.26	895.94	895.59	895.23	894.96	894.76	894.67	895.27
894.30	895.42	895.15	895.59	895.40	895.44	895.54	895.76
896.12	896.19	896.28	896.38	896.47	896.52	896.64	896.76
896.82	897.14	896.99	897.31	897.16	897.22		

10+00	11+00	12+00	13+00	14+00	15+00	16+00	17+00	18+00	19+00	20+00	21+00	22+00	23+00	24+00

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

W.B. C.S.A.H. 116

TRAFFIC

PROFILE GRADE -
TOP FINISHED SURFACE
12.0' RT. ℄

LOW POINT
ELEV. 895.24
STA. 18+70.09

EXISTING GROUND LINE

N.B. C.S.A.H. 78 ℄

S.B. C.S.A.H. 78 ℄

ENTRANCE ℄

℄ ENTRANCE

BEGIN CONSTRUCTION
STA. 17+16.07
W.B. C.S.A.H. 116
MATCH MISTING

+30.66

M. 18" RCP STORM

12" WM

P-BUR

+90.78

M. 15" RCP STORM

6" GAS

P-BUR O O P-BUR

UNKNOWN SIZE GAS

T-BUR

+57.17

+12.21

895.14	895.42	894.95	895.30	894.90	895.25	895.05	895.26	895.22	895.32	895.39	895.44	895.60	895.83	895.77	895.83	895.93	896.03	896.12	896.23	896.31	896.43	896.47	896.63	896.75	896.83	896.81	897.03	897.02

10+00	11+00	12+00	13+00	14+00	15+00	16+00	17+00	18+00	19+00	20+00	21+00	22+00	23+00	24+00

B.M. ELEV. = 897.54

BENCH MARK DISC IN FRONT OF COUNTY SHOP

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.FL

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

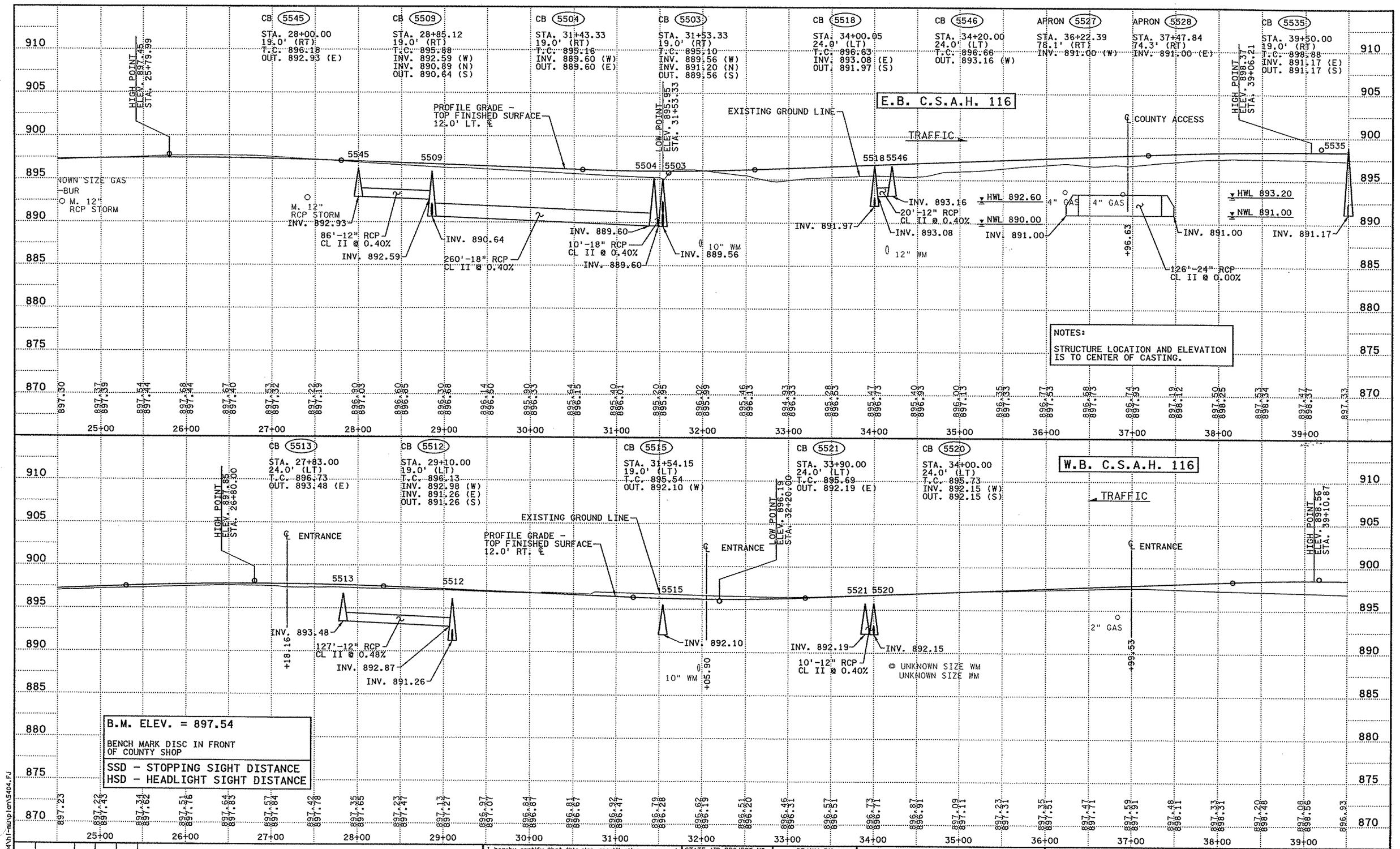
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

DRAINAGE PROFILES
C.S.A.H. 78
E.B. C.S.A.H. 116 / W.B. C.S.A.H. 116

SHEET 186 OF 400

4/30/12 PM
8/26/2006
N:\projects\5404\hl-mu\plan\5404.FL



NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.FJ

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

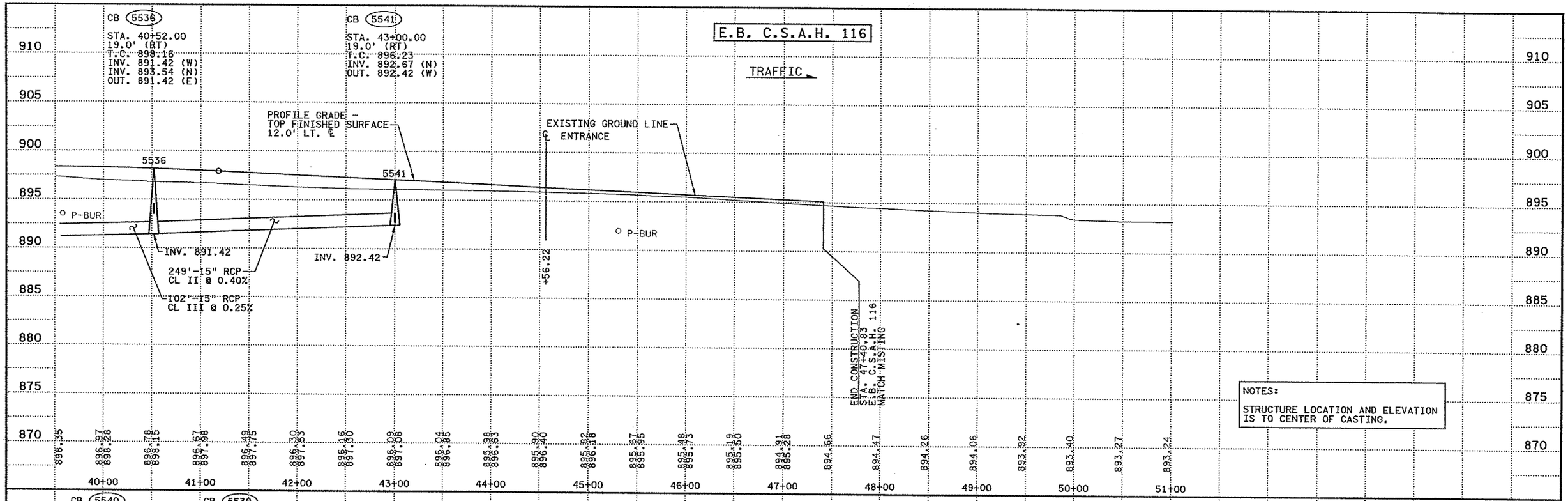
DRAINAGE PROFILES

C.S.A.H. 78

E.B. C.S.A.H. 116 / W.B. C.S.A.H. 116

SHEET 187 OF 400

4:30:13 PM
9/26/2006
N:\CAD\Roads\5404\hl-mu\plan\5404.FJ



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.FK

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/6/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

DRAINAGE PROFILES

C.S.A.H. 78

E.B. C.S.A.H. 116 / W.B. C.S.A.H. 116

SHEET 188 OF 400

4:30:14 PM
9/26/2006
S:\proj\csah\5404\hl-mu\plan\5404.FK

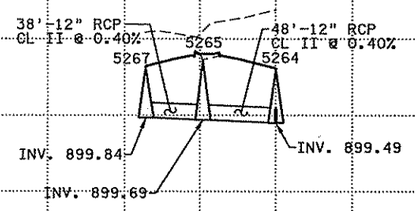
CB (5267)

S.B. CSAH 78
STA. 84+26.72
19.0' (LT)
T.C. 903.09
OUT. 899.84 (E)

CB (5265)

N.B CSAH 78
STA. 84+27.00
24.0' (LT)
T.C. 903.56
INV. 899.69 (W)
OUT. 899.69 (E)

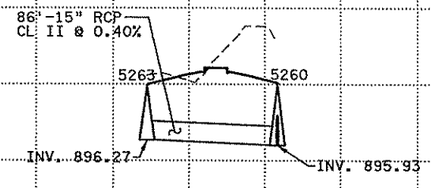
CB (5264)



CB (5263)

S.B. CSAH 78
STA. 86+11.56
24.0' (LT)
T.C. 899.77
OUT. 896.27 (E)

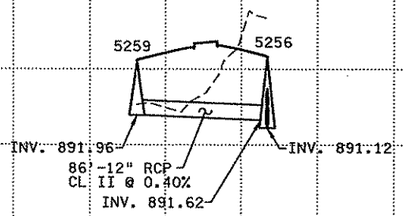
CB (5260)



CB (5259)

S.B. CSAH 78
STA. 87+95.88
24.0' (LT)
T.C. 895.46
OUT. 891.96 (E)

CB (5256)



B.M. ELEV. = 905.21
TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

CB (5255)

S.B. CSAH 78
STA. 90+40.88
19.0' (LT)
T.C. 892.65
OUT. 889.65 (E)

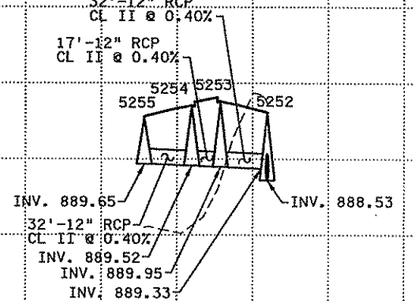
CB (5254)

S.B. CSAH 78
STA. 90+40.88
13.0' (RT)
T.C. 893.37
INV. 889.52 (W)
OUT. 889.52 (E)

CB (5253)

N.B. CSAH 78
STA. 90+42.00
13.0' (LT)
T.C. 893.61
INV. 889.45 (W)
OUT. 889.45 (E)

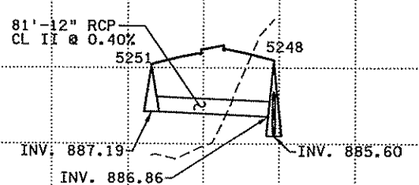
CB (5252)



CB (5251)

S..B. CSAH 78
STA. 95+85.88
19.0' (LT)
T.C. 890.18
OUT. 887.19 (E)

CB (5248)



CB (5207)

S.B. CSAH 78
STA. 95+28.88
19.0' (LT)
T.C. 887.74
OUT. 884.74 (E)

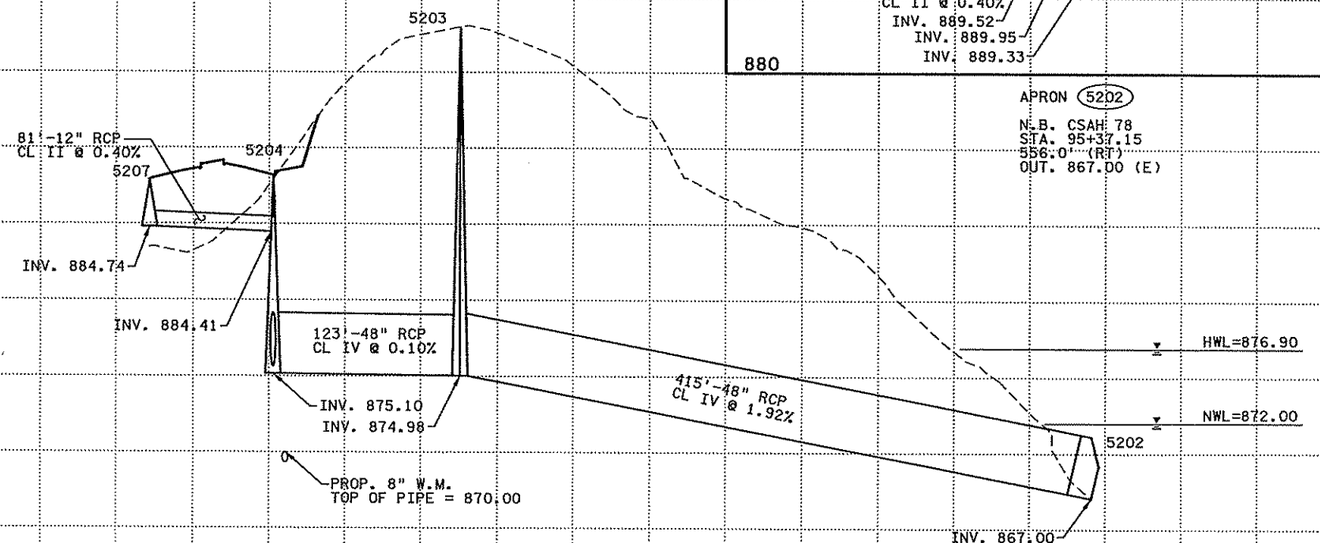
CB (5204)

CB (5203)

N.B. CSAH 78
STA. 95+39.21
141.50' (RT)
T.C. 897.95
INV. 874.98 (W)
OUT. 874.98 (E)

APRON (5202)

N.B. CSAH 78
STA. 95+37.15
556.0' (RT)
OUT. 867.00 (E)



NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	JJD	CMT	CMT	PROPOSED WATERMAIN CROSSING

...\5404\hl-mu\plan\5404.MDA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

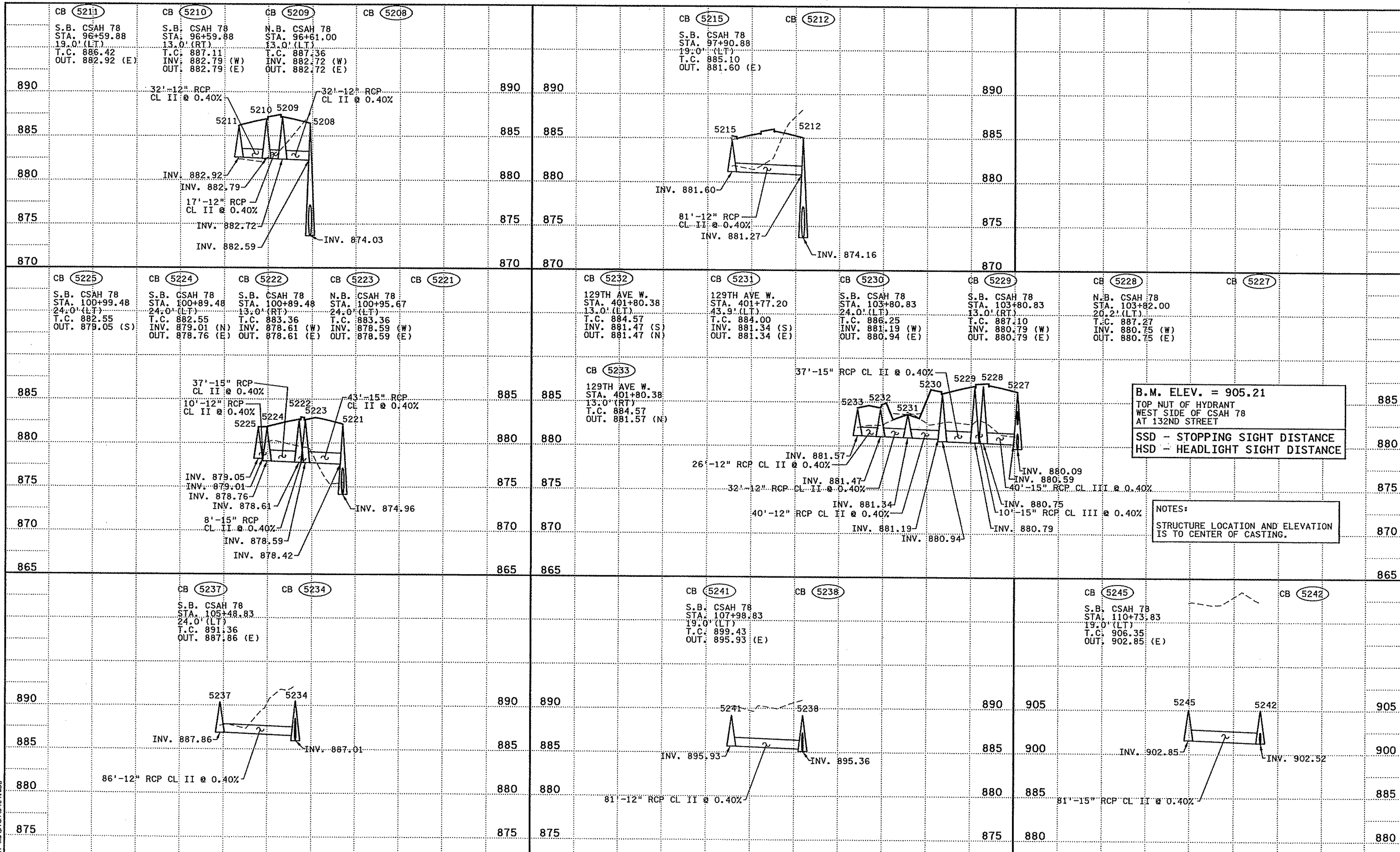
DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MISCELLANEOUS DRAINAGE PROFILES
C.S.A.H. 78
S.B. CSAH 78 / E.B. 127TH ST. / W.B. 127TH ST.

SHEET 189 OF 400

4/30/15 PM
S:\Projects\5404\hl-mu\plan\5404.MDA



NO	DATE	BY	CKD	APPR	REVISION

...\5404\hi-mu\plan\5404.MDB

4:30:16 PM 9/26/2006 h:\projects\5404\hi-mu\plan\5404.MDB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

MISCELLANEOUS DRAINAGE PROFILES

C.S.A.H. 78

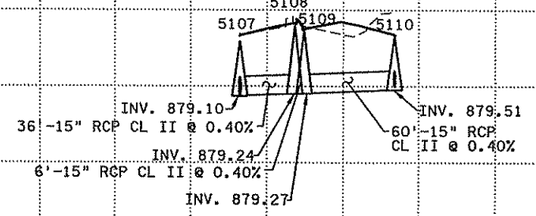
S.B. CSAH 78 / E.B. 127TH ST. / W.B. 127TH ST.

SHEET 190 OF 400

CB (5107) CB (5108) CB (5109) CB (5110)

S.B. CSAH 78
STA. 68+71.55
13.0' (RT)
T.C. 883.77
INV. 879.24 (E)
OUT. 879.24 (W)

N.B. CSAH 78
STA. 68+72.00
36.0' (LT)
T.C. 883.38
INV. 879.27 (E)
OUT. 879.27 (W)

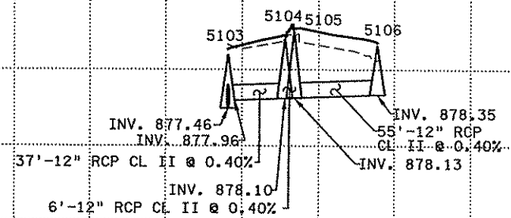


CB (5103) CB (5104) CB (5105) CB (5106)

S.B. CSAH 78
STA. 67+03.75
13.0' (RT)
T.C. 882.09
INV. 878.10 (E)
OUT. 878.10 (W)

N.B. CSAH 78
STA. 67+05.00
36.0' (LT)
T.C. 882.50
INV. 878.13 (E)
OUT. 878.13 (W)

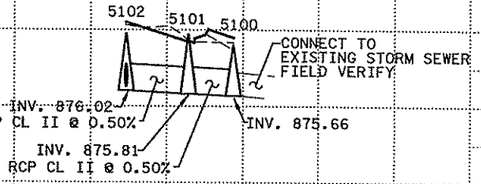
N.B. CSAH 78
STA. 67+05.00
19.0' (RT)
T.C. 881.60
OUT. 878.35 (W)



CB (5102) CB (5101) CB (5100)

S.B. CSAH 78
STA. 65+48.32
45.7' (LT)
T.C. 879.74
INV. 875.81 (N)
OUT. 875.81 (S)

S.B. CSAH 78
STA. 65+18.89
44.9' (LT)
T.C. 879.07
INV. 875.66 (N)
OUT. 875.66 (W)

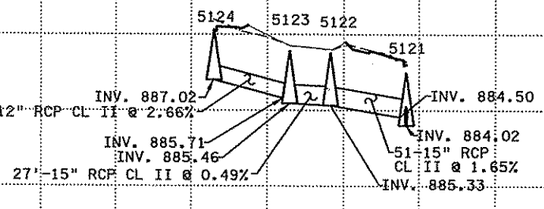


CB (5124) CB (5123) CB (5122) CB (5121)

N.B. CSAH 78
STA. 58+10.00
24.0' (RT)
T.C. 890.27
OUT. 887.02 (N)

N.B. CSAH 78
STA. 58+44.40
57.54' (RT)
T.C. 888.96
INV. 885.71 (S)
OUT. 885.46 (N)

N.B. CSAH 78
STA. 58+70.80
56.04' (RT)
T.C. 888.83
INV. 885.33 (S)
OUT. 885.33 (N)



B.M. ELEV. = 905.21
TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

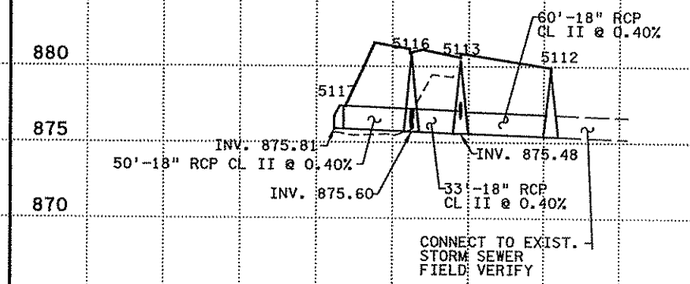
SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

APRON (5117) CB (5116) CB (5113) CB (5112)

N.B. CSAH 78
STA. 64+50.00
63.0' (RT)
INV. 875.81 (E)

N.B. CSAH 78
STA. 64+75.31
13.3' (LT)
T.C. 880.35
INV. 875.48 (E)
INV. 876.54 (S)
INV. 876.49 (N)
OUT. 875.48 (W)

S.B. CSAH 78
STA. 64+73.30
13.0' (RT)
T.C. 879.56
INV. 875.24 (E)
OUT. 875.24 (W)

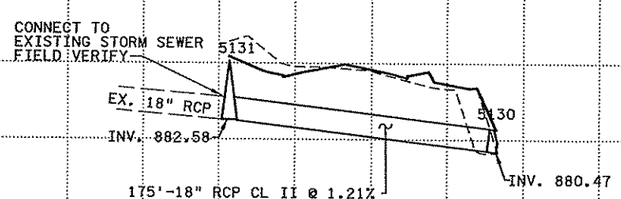


CB (5131)

N.B. CSAH 78
STA. 71+79.14
47.8' (RT)
T.C. 886.46
OUT. 882.58 (W)

APRON (5130)

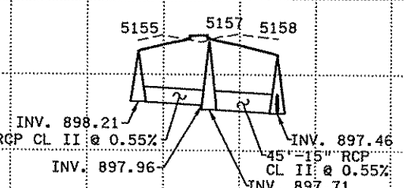
S.B. CSAH 78
STA. 71+60.60
71.30' (LT)
OUT. 880.47 (W)



CB (5155) CB (5157) CB (5158)

S.B. CSAH 78
STA. 80+92.16
19.0' (LT)
OUT. 898.21 (E)

N.B. CSAH 78
STA. 80+93.00
21.0' (LT)
T.C. 902.20
INV. 897.96 (W)
OUT. 897.71 (E)



NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.MDC

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MISCELLANEOUS DRAINAGE PROFILES
C.S.A.H. 78
S.B. CSAH 78 / E.B. 127TH ST. / W.B. 127TH ST.

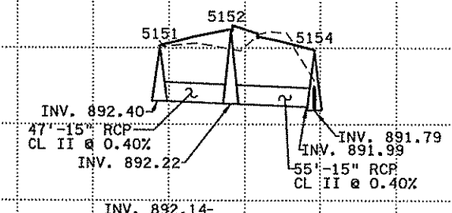
SHEET 191 OF 400

4/30/17 PM
dgn: C:\projects\5404\hl-mu\plan\5404.MDC

CB (5151)
S.B. CSAH 78
STA. 78+49.45
24.0' (LT)
T.C. 895.90
OUT. 892.40 (E)

CB (5152)
S.B. CSAH 78
STA. 78+49.60
22.8' (RT)
T.C. 896.96
INV. 892.22 (W)
OUT. 892.22 (E)

CB (5154)



APRON (5139)
S.B. CSAH 78
STA. 72+82.20
110.0' (LT)
OUT. 877.62 (W)

CB (5140)
S.B. CSAH 78
STA. 72+86.81
28.1' (LT)
T.C. 884.65
INV. 879.43 (N)
OUT. 878.18 (W)

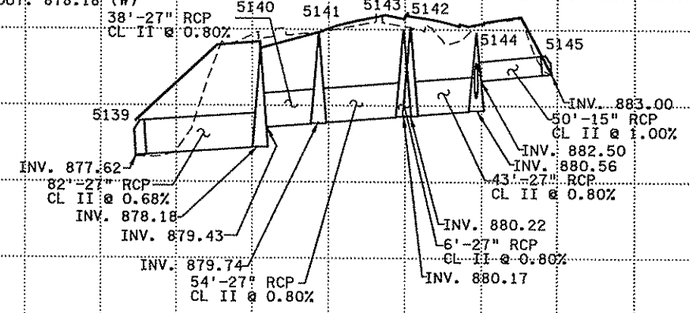
CB (5141)
S.B. CSAH 78
STA. 73+24.69
24.0' (LT)
T.C. 885.71
INV. 879.74 (E)
OUT. 879.74 (S)

CB (5143)
N.B. CSAH 78
STA. 73+24.69
13.0' (LT)
T.C. 886.57
INV. 880.17 (E)
OUT. 880.17 (W)

CB (5142)
S.B. CSAH 78
STA. 73+24.69
36.0' (RT)
T.C. 886.09
INV. 880.22 (E)
OUT. 880.22 (W)

CB (5144)

APRON (5145)
N.B. CSAH 78
STA. 72+83.25
50.8' (RT)
OUT. 883.00 (W)



NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

B.M. ELEV. = 905.21
TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

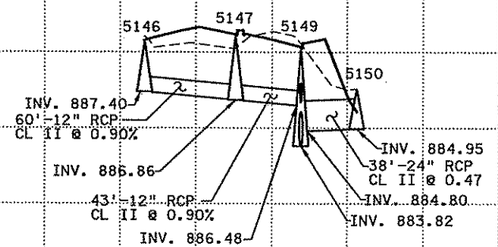
SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

CB (5146)
S.B. CSAH 78
STA. 76+19.69
24.0' (LT)
T.C. 890.69
OUT. 887.40 (E)

CB (5147)
S.B. CSAH 78
STA. 76+19.69
36.0' (RT)
T.C. 891.06
INV. 886.86 (W)
OUT. 886.86 (E)

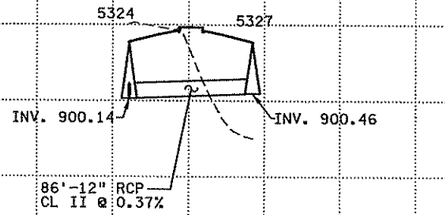
CB (5149)

DI (5150)
N.B. CSAH 78
STA. 76+20.37
61.2' (RT)
T.C. 887.59
OUT. 884.95 (W)



CB (5324)

CB (5327)
N.B. CSAH 78
STA. 117+50.00
19.0' (RT)
T.C. 903.71
OUT. 900.46 (W)

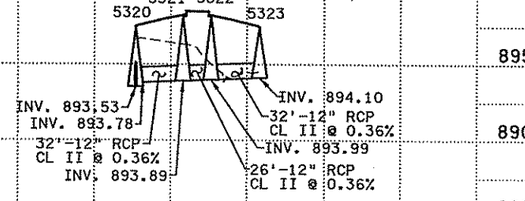


CB (5320)

CB (5321)
S.B. CSAH 78
STA. 120+48.83
13.0' (RT)
T.C. 897.41
INV. 893.90 (E)
OUT. 893.90 (W)

CB (5323)
N.B. CSAH 78
STA. 120+48.83
13.0' (LT)
T.C. 898.04
INV. 893.97 (E)
OUT. 893.97 (W)

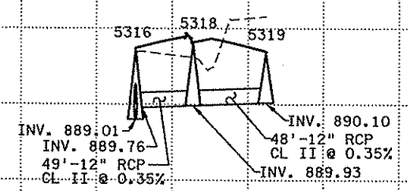
CB (5323)
N.B. CSAH 78
STA. 120+50.00
19.0' (RT)
T.C. 897.35
OUT. 894.10 (W)



CB (5316)

CB (5318)
N.B. CSAH 78
STA. 123+00.00
24.0' (LT)
T.C. 893.97
INV. 889.91 (E)
OUT. 889.91 (W)

CB (5319)
N.B. CSAH 78
STA. 123+00.00
24.0' (RT)
T.C. 893.35
OUT. 890.10 (W)



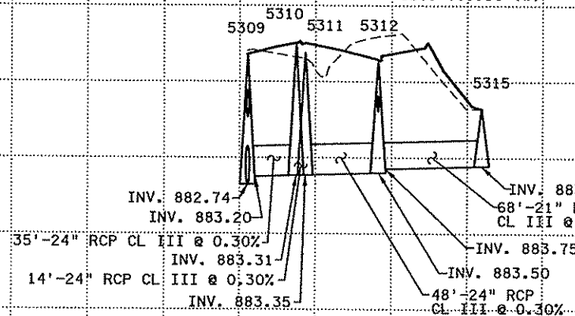
CB (5309)

CB (5310)
S.B. CSAH 78
STA. 125+31.83
13.0' (RT)
T.C. 891.08
INV. 883.33 (E)
OUT. 883.33 (W)

CB (5311)
N.B. CSAH 78
STA. 125+33.00
24.0' (LT)
T.C. 891.42
INV. 883.35 (E)
OUT. 883.35 (W)

CB (5312)
N.B. CSAH 78
STA. 125+33.00
24.0' (RT)
T.C. 890.81
INV. 883.75 (SE)
INV. 887.56 (NE)
OUT. 883.50 (W)

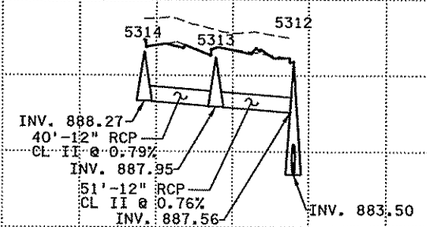
DI (5315)
N.B. CSAH 78
STA. 124+74.94
59.9' (RT)
T.C. 887.70
OUT. 883.95 (N)



CB (5314)
133RD AVE. E.
STA. 503+79.65
22.2' (LT)
T.C. 891.57
OUT. 888.32 (S)

CB (5313)
133RD AVE. E.
STA. 503+66.16
32.5' (RT)
T.C. 891.20
INV. 887.95 (N)
OUT. 887.95 (S)

CB (5312)



NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.MDD

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MISCELLANEOUS DRAINAGE PROFILES
C.S.A.H. 78
S.B. CSAH 78 / E.B. 127TH ST. / W.B. 127TH ST.

SHEET 192 OF 400

4/30/18 PM
e:\projects\5404\hl-mu\plan\5404.MDD

APRON (5300)

S.B. CSAH 78
STA. 127+46.09
83.4' (LT)
OUT. 881.60 (W)

CB (5301)

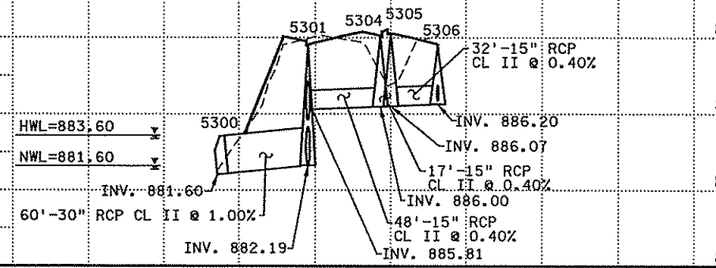
CB (5304)

S.B. CSAH 78
STA. 127+46.09
24.0' (RT)
T.C. 890.35
INV. 886.05 (E)
OUT. 886.05 (W)

CB (5305)

N.B. CSAH 78
STA. 127+46.00
13.0' (LT)
T.C. 890.79
INV. 886.07 (E)
OUT. 886.07 (W)

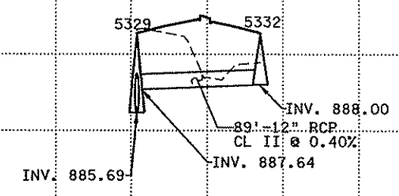
CB (5306)



CB (5329)

CB (5332)

N.B. CSAH 78
STA. 129+95.00
19.0'(RT)
T.C. 891.25
OUT. 888.00 (W)



CB (5360)

S.B. CSAH 78
STA. 140+15.00
24.0'(LT)
T.C. 897.45
OUT. 894.20 (E)

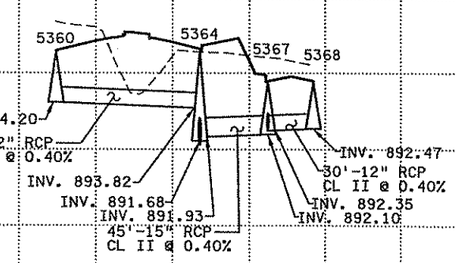
CB (5364)

CB (5367)

PARK ROAD
STA. 706+10.00
15.0'(LT)
T.C. 895.47
INV. 892.35 (E)
INV. 892.47 (N)
OUT. 892.10 (W)

CB (5368)

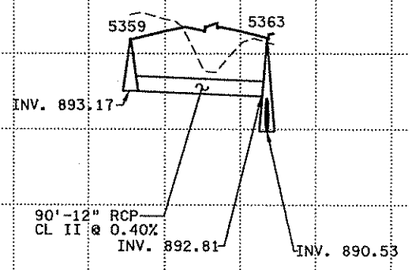
PARK ROAD
STA. 706+10.00
15.0'(RT)
T.C. 895.47
OUT. 892.47 (W)



CB (5359)

S.B. CSAH 78
STA. 138+49.74
24.0'(LT)
T.C. 896.42
OUT. 893.17 (E)

CB (5363)



CB (5352)

S.B. CSAH 78
STA. 136+69.00
24.0'(LT)
T.C. 895.30
OUT. 892.05 (E)

CB (5353)

S.B. CSAH 78
STA. 136+50.99
24.0'(RT)
T.C. 895.81
INV. 891.85 (W)
OUT. 891.85 (E)

CB (5355)

CB (5356)

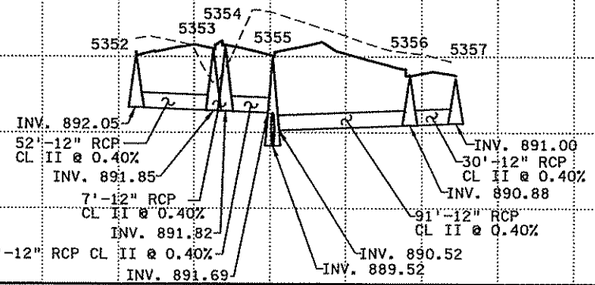
PARK ROAD
STA. 702+65.50
15.0'(LT)
T.C. 894.00
INV. 890.88 (E)
OUT. 890.88 (W)

CB (5357)

PARK ROAD
STA. 702+65.50
15.0'(RT)
T.C. 894.00
OUT. 891.00 (W)

CB (5354)

N.B. CSAH 78
STA. 136+52.00
13.0'(LT)
T.C. 896.01
INV. 891.82 (W)
OUT. 891.82 (E)



CB (5351)

W.B. STATION PARKWAY
STA. 605+56.96
11.0'(LT)
T.C. 895.33
INV. 892.67 (N)
OUT. 890.33 (S)

CB (5350)

E.B. STATION PARKWAY
STA. 605+70.00
12.0'(RT)
T.C. 895.42
INV. 890.06 (N)
OUT. 890.06 (E)

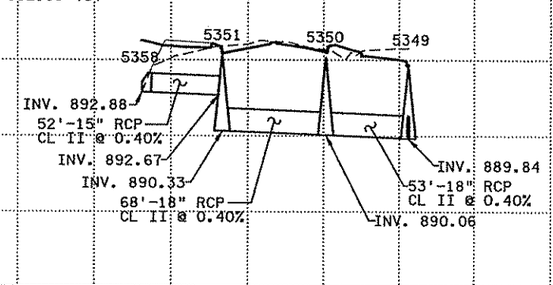
CB (5349)

APRON (5358)

S.B. CSAH 78
STA. 136+85.20
59.3'(LT)
OUT. 892.88 (S)

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

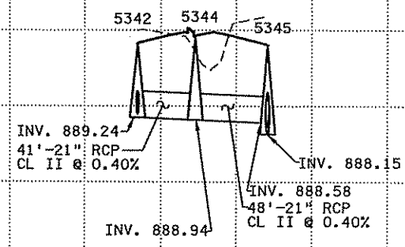


CB (5342)

CB (5344)

N.B. CSAH 78
STA. 134+44.00
24.0'(LT)
T.C. 894.03
INV. 889.24 (W)
OUT. 889.24 (E)

CB (5345)



B.M. ELEV. = 905.21

TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

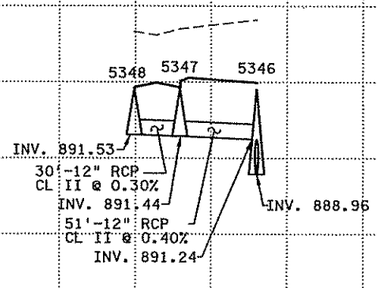
CB (5348)

PARK ROAD
STA. 701+10.00
15.0' (LT)
T.C. 894.53
OUT. 891.53 (S)

CB (5347)

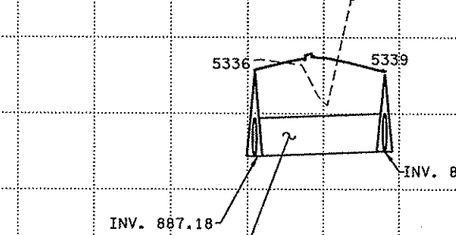
PARK ROAD
STA. 701+10.00
15.0' (RT)
T.C. 894.53
INV. 891.44 (N)
OUT. 891.44 (W)

CB (5346)



CB (5336)

CB (5339)



NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.MDE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License# 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

MISCELLANEOUS DRAINAGE PROFILES
C.S.A.H. 78
S.B. CSAH 78 / E.B. 127TH ST. / W.B. 127TH ST.

SHEET 193 OF 400

4:30:20 PM
9/26/2006
N:\proj\ocr\e\5404\hl-mu\plan\5404.MDE

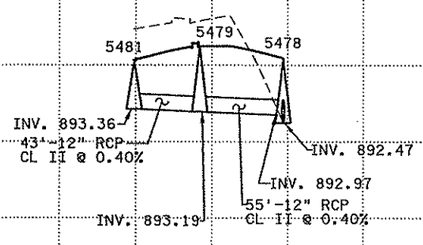
CB (5481)

S.B. CSAH 78
STA. 146+29.64
24.0' (LT)
T.C. 896.45
OUT. 893.36 (E)

CB (5479)

N.B. CSAH 78
STA. 146+30.00
36.0' (LT)
T.C. 897.37
INV. 893.19 (W)
OUT. 893.19 (E)

CB (5478)



CB (5469)

CB (5468)

S.B. CSAH 78
STA. 148+90
24.0' (LT)
T.C. 896.11
INV. 892.01(W)
OUT. 891.76 (E)

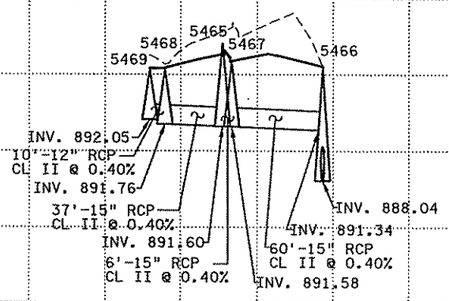
CB (5465)

S.B. CSAH 78
STA. 149+00.00
13.0' (RT)
T.C. 897.06
INV. 891.60 (W)
OUT. 891.60 (E)

CB (5467)

N.B. CSAH 78
STA. 148+85.17
36.0' (LT)
T.C. 895.75
INV. 891.58 (W)
OUT. 891.58 (E)

CB (5466)



NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

B.M. ELEV. = 905.21
TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

CB (5476)

SERVICE ROAD
STA. 802+67.05
12.0' (RT)
T.C. 895.19
INV. 891.94 (S)
OUT. 891.94 (E)

CB (5475)

SERVICE ROAD
STA. 802+67.05
12.7' (LT)
T.C. 895.19
INV. 891.84 (W)
OUT. 891.84 (E)

CB (5474)

S.B. CSAH 78
STA. 147+64.00
24.0' (LT)
T.C. 895.78
INV. 891.55 (W)
OUT. 891.55 (E)

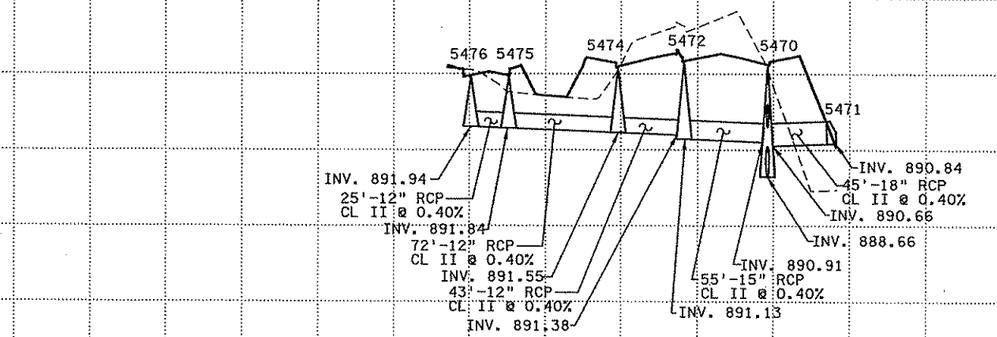
CB (5472)

N.B. CSAH 78
STA. 147+65.00
36.0' (LT)
T.C. 896.15
INV. 891.38 (W)
OUT. 891.13 (E)

CB (5470)

APRON (5471)

N.B. CSAH 78
STA. 147+65.00
64.0' (RT)
OUT. 890.84 (E)



CB (5463)

CB (5462)

E.B. CSAH 116
STA. 24+72.11
23.1' (RT)
T.C. 896.71
INV. 887.26 (S)
OUT. 887.26 (N)

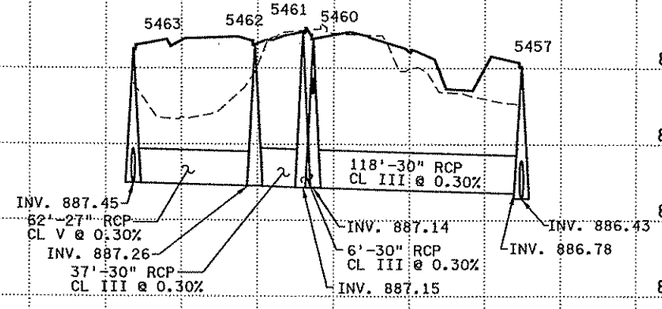
CB (5461)

E.B. CSAH 116
STA. 24+64.00
13.0' (LT)
T.C. 897.21
INV. 887.15 (S)
OUT. 887.15 (N)

CB (5460)

W.B. CSAH 116
STA. 24+67.79
36.0' (RT)
T.C. 896.69
INV. 887.14 (S)
OUT. 887.14 (N)

CB (5457)



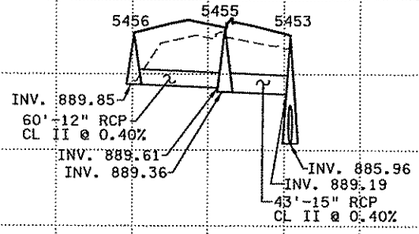
CB (5456)

S.B. CSAH 78
STA. 154+48.74
24.0' (LT)
T.C. 893.10
OUT. 889.85 (E)

CB (5455)

S.B. CSAH 78
STA. 154+48.74
36.0' (RT)
T.C. 893.48
INV. 889.61 (W)
OUT. 889.36 (E)

CB (5453)



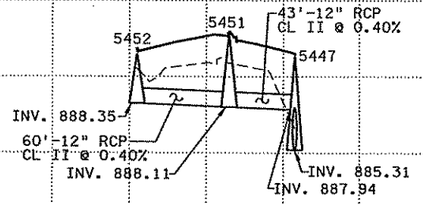
CB (5452)

S.B. CSAH 78
STA. 155+80.63
24.0' (LT)
T.C. 891.60
OUT. 888.35 (E)

CB (5451)

S.B. CSAH 78
STA. 155+80.63
36.0' (RT)
T.C. 892.98
INV. 888.11 (W)
OUT. 888.11 (E)

CB (5447)



NO	DATE	BY	CKD	APPR	REVISION
2	2-14-07	GMP	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS
1	8-01-06	JJD	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.MDF

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/14/2007 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

MISCELLANEOUS DRAINAGE PROFILES
C.S.A.H. 78
S.B. CSAH 78 / E.B. 127TH ST. / W.B. 127TH ST.

SHEET 194 OF 400

2/14/2007 2:14:18 PM
H:\Projects\5404\hl-mu\Plan\5404.MDF

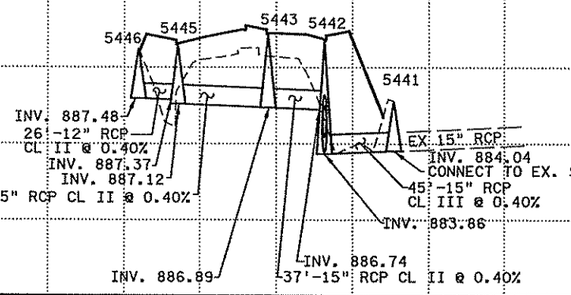
DI 5446
S.B. CSAH 78
STA. 156+98.17
45.1' (LT)
T.C. 890.73
OUT. 887.48 (E)

CB 5445
S.B. CSAH 78
STA. 156+98.60
19.0' (LT)
T.C. 890.92
INV. 887.37 (W)
OUT. 887.12 (E)

CB 5443
N.B. CSAH 78
STA. 157+01.07
13.0' (LT)
T.C. 891.63
INV. 886.89 (W)
OUT. 886.89 (E)

CB 5442

DI 5441
N.B. CSAH 78
STA. 157+01.07
69.2' (RT)
FIELD VERIFY



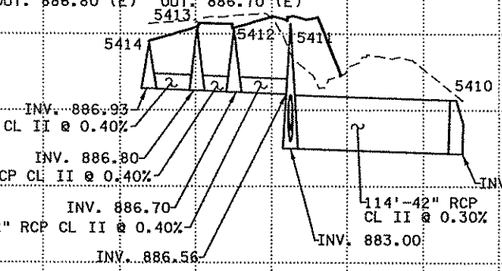
CB 5414
S.B. CSAH 78
STA. 158+60.48
19.0' (LT)
T.C. 889.93
OUT. 886.93 (E)

CB 5413
S.B. CSAH 78
STA. 158+60.48
13.0' (RT)
T.C. 890.85
INV. 886.80 (W)
OUT. 886.80 (E)

CB 5412
N.B. CSAH 78
STA. 158+62.00
13.0' (LT)
T.C. 890.81
INV. 886.70 (W)
OUT. 886.70 (E)

CB 5411

APRON 5410
N.B. CSAH 78
STA. 158+62.00
137.5' (RT)
OUT. 882.66 (E)

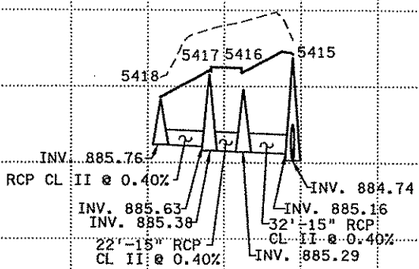


CB 5418
S.B. CSAH 78
STA. 159+83.33
19.0' (LT)
T.C. 888.76
OUT. 885.76 (E)

CB 5417
S.B. CSAH 78
STA. 159+83.33
13.0' (RT)
T.C. 890.45
INV. 885.63 (W)
OUT. 885.38 (E)

CB 5416
N.B. CSAH 78
STA. 159+83.33
13.0' (LT)
T.C. 890.39
INV. 885.29 (W)
OUT. 885.29 (E)

CB 5415

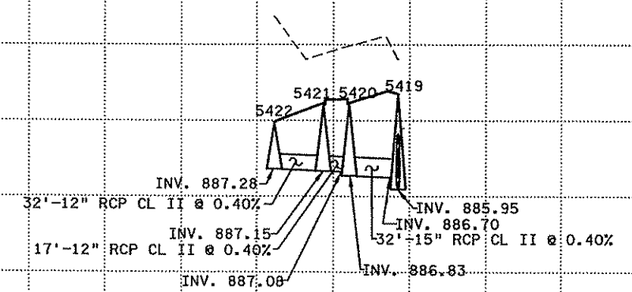


CB 5422
S.B. CSAH 78
STA. 161+89.30
19.0' (LT)
T.C. 890.28
OUT. 887.28 (E)

CB 5421
S.B. CSAH 78
STA. 161+89.30
13.0' (RT)
T.C. 891.48
INV. 887.15 (W)
OUT. 887.15 (E)

CB 5420
N.B. CSAH 78
STA. 162+00.00
13.0' (LT)
T.C. 891.52
INV. 887.08 (W)
OUT. 886.83 (E)

CB 5419



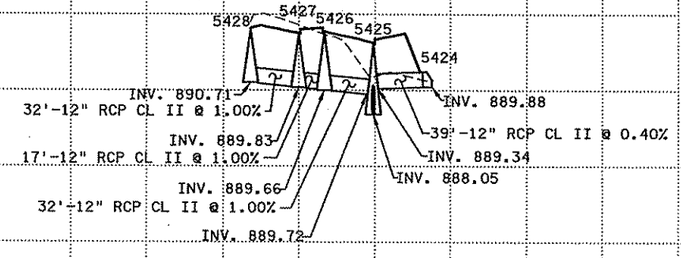
CB 5428
S.B. CSAH 78
STA. 164+51.15
19.0' (LT)
T.C. 893.61
OUT. 890.71 (E)

CB 5427
S.B. CSAH 78
STA. 164+51.15
13.0' (RT)
T.C. 893.28
INV. 889.83 (W)
OUT. 889.83 (E)

CB 5426
N.B. CSAH 78
STA. 164+62.00
13.0' (LT)
T.C. 893.38
INV. 889.66 (W)
OUT. 889.66 (E)

CB 5425

APRON 5424
N.B. CSAH 78
STA. 164+62.00
58.0' (RT)
OUT. 889.88 (E)

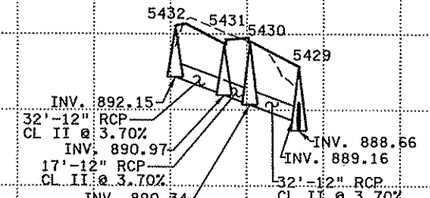


CB 5432
S.B. CSAH 78
STA. 165+91.14
19.0' (LT)
T.C. 895.40
OUT. 892.15 (E)

CB 5431
S.B. CSAH 78
STA. 165+91.14
13.0' (RT)
T.C. 894.25
INV. 890.97 (W)
OUT. 890.97 (E)

CB 5430
N.B. CSAH 78
STA. 166+00.00
13.0' (LT)
T.C. 894.36
INV. 890.34 (W)
OUT. 890.34 (E)

CB 5429

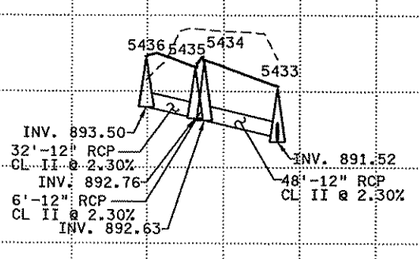


CB 5436
S.B. CSAH 78
STA. 168+42.96
19.0' (LT)
T.C. 896.75
OUT. 893.50 (E)

CB 5435
S.B CSAH 78
STA. 168+42.96
13.0' (RT)
T.C. 896.02
INV. 892.76 (W)
OUT. 892.76 (E)

CB 5434
N.B. CSAH 78
STA. 168+45.00
24.0' (LT)
T.C. 896.46
INV. 892.63 (W)
OUT. 892.63 (E)

CB 5433

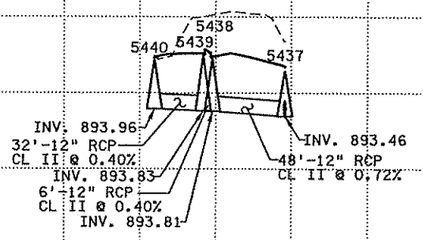


CB 5440
S.B. CSAH 78
STA. 170+47.96
19.0' (LT)
T.C. 897.21
OUT. 893.96 (E)

CB 5439
S.B. CSAH 78
STA. 170+47.96
13.0' (RT)
T.C. 897.47
INV. 893.83 (W)
OUT. 893.83 (E)

CB 5438
N.B. CSAH 78
STA. 170+50.00
24.0' (LT)
T.C. 897.26
INV. 893.81 (W)
OUT. 893.81 (E)

CB 5437



B.M. ELEV. = 905.21
TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.MDG

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
MISCELLANEOUS DRAINAGE PROFILES
C.S.A.H. 78
S.B. CSAH 78 / E.B. 127TH ST. / W.B. 127TH ST.

SHEET 195 OF 400

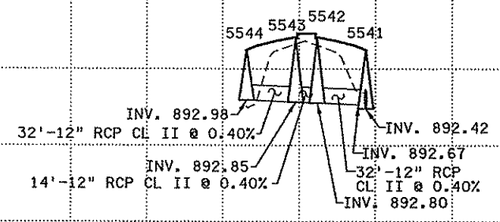
4/30/12 PM
9:26:20 AM
hr\projects\5404\hl-mu\plan\5404.MDG

CB 5544
W.B. CSAH 116
STA. 42+92.79
19.0' (LT)
T.C. 896.23
OUT. 892.98 (S)

CB 5543
W.B. CSAH 116
STA. 42+92.79
13.0' (RT)
T.C. 896.96
INV. 892.85 (N)
OUT. 892.85 (S)

CB 5542
E.B. CSAH 116
STA. 43+00.00
13.0' (LT)
T.C. 896.96
INV. 892.80 (N)
OUT. 892.80 (S)

CB 5541
E.B. CSAH 116
STA. 43+00.00
19.0' (RT)
T.C. 896.23
INV. 892.67 (S)
OUT. 892.42 (E)

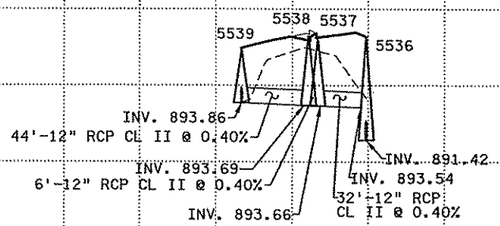


CB 5539

CB 5538
W.B. CSAH 116
STA. 40+45.00
24.0' (RT)
T.C. 898.28
INV. 893.69 (N)
OUT. 893.69 (S)

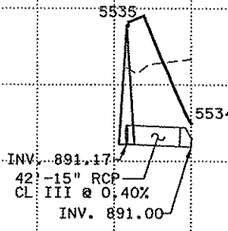
CB 5537
E.B. CSAH 116
STA. 40+52.00
13.0' (LT)
T.C. 898.03
INV. 893.66 (N)
OUT. 893.66 (S)

CB 5536



CB 5535

APRON 5534
E.B. CSAH 116
STA. 39+42.31
60.1' (RT)
OUT. 891.00 (S)



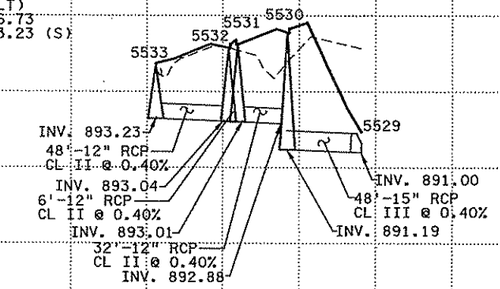
CB 5532
W.B. CSAH 116
STA. 37+54.00
24.0' (RT)
T.C. 897.76
INV. 893.04 (N)
OUT. 893.04 (S)

CB 5531
E.B. CSAH 116
STA. 37+57.56
13.0' (LT)
T.C. 898.02
INV. 893.01 (N)
OUT. 893.01 (S)

CB 5530
E.B. CSAH 116
STA. 37+63.00
19.0' (RT)
T.C. 898.81
INV. 892.88 (N)
OUT. 891.19 (S)

APRON 5529
E.B. CSAH 116
STA. 37+87.97
60.2' (RT)
OUT. 891.00 (S)

CB 5533
W.B. CSAH 116
STA. 37+54.00
24.0' (LT)
T.C. 896.73
OUT. 893.23 (S)

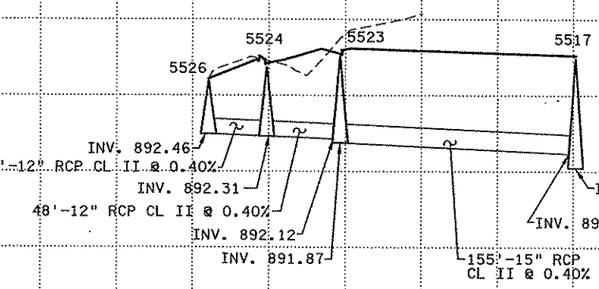


CB 5526
W.B. CSAH 116
STA. 35+54.00
19.0' (LT)
T.C. 895.96
OUT. 892.46 (S)

CB 5524
E.B. CSAH 116
STA. 35+54.55
24.0' (LT)
T.C. 896.88
INV. 892.31 (N)
OUT. 892.31 (S)

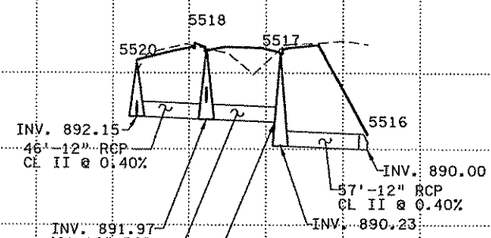
CB 5523
E.B. CSAH 116
STA. 35+54.55
24.0' (RT)
T.C. 897.62
INV. 892.12 (N)
OUT. 891.87 (S)

CB 5517



CB 5520
CB 5518
CB 5517
W.B. CSAH 116
STA. 34+00.05
24.0' (RT)
T.C. 896.23
INV. 891.78 (N)
OUT. 890.23 (S)

APRON 5516
E.B. CSAH 116
STA. 33+61.56
65.2' (RT)
OUT. 890.00 (S)



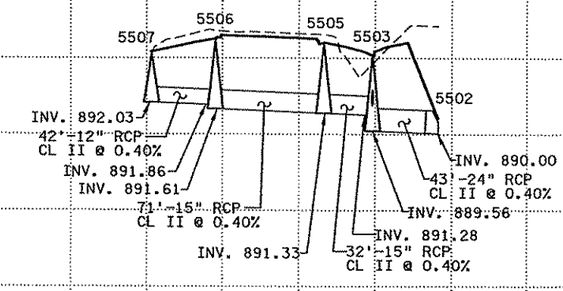
CB 5507
W.B. CSAH 116
STA. 32+40.00
24.0' (LT)
T.C. 895.22
OUT. 892.03 (S)

CB 5506
W.B. CSAH 116
STA. 32+20.00
13.0' (RT)
T.C. 896.07
INV. 891.86 (N)
OUT. 891.61 (SW)

CB 5505
E.B. CSAH 116
STA. 31+53.33
13.0' (LT)
T.C. 895.83
INV. 891.33 (NE)
OUT. 891.33 (S)

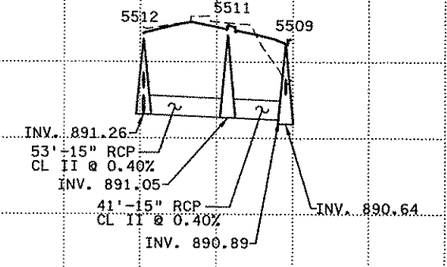
CB 5503

APRON 5502
E.B. CSAH 116
STA. 31+53.33
61.7' (RT)
OUT. 890.00 (S)



CB 5512
CB 5511
W.B. CSAH 116
STA. 29+10.00
33.7' (RT)
T.C. 896.47
INV. 891.05 (N)
OUT. 891.05 (S)

CB 5509



B.M. ELEV. = 905.21
TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

NO	DATE	BY	CKD	APPR	REVISION
2	2-15-07	GMP	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS
1	8-01-06	JJD	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.MDH

9:48:21 AM
2/15/2007
H:\Projects\5404\hl-mu\Plan\5404.MDH

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.

Print Name: CHRIS M. TRBOYEVICH

Date 2/15/2007 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

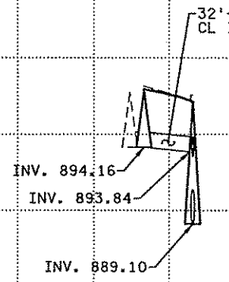
ANOKA COUNTY
MISCELLANEOUS DRAINAGE PROFILES
C.S.A.H. 78
S.B. CSAH 78 / E.B. 127TH ST. / W.B. 127TH ST.

SHEET 196 OF 400

CB 5552

E.B. C.S.A.H. 116
STA. 13+55.99
13.0' (LT)
T.C. 897.82
INV. 894.16
OUT. 894.16

CB 5551

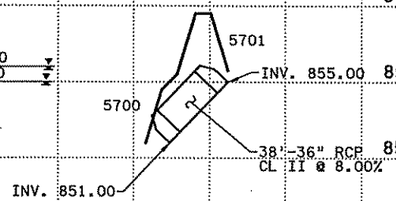


APRON 5700

W.B. T.H. 242
STA. 10+50.16
114.6' (LT)
OUT. 851.00

APRON 5701

W.B. T.H. 242
STA. 10+17.90
94.6' (LT)
INV. 855.00

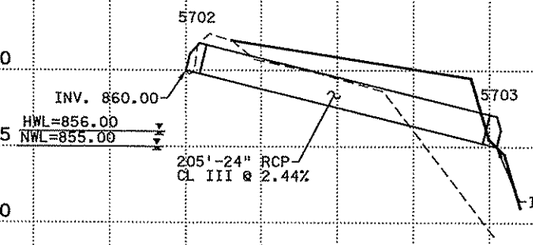


APRON 5702

W.B. T.H. 242
STA. 15+29.09
33.5' (LT)
INV. 860.00

APRON 5703

W.B. T.H. 242
STA. 13+34.67
97.4' (LT)
OUT. 855.00

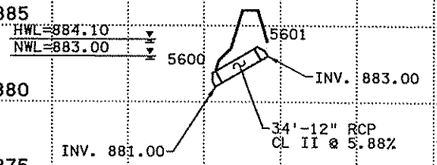


APRON 5600

N.B. C.S.A.H. 78
STA. 157+83.83
203.4' (RT)
OUT. 881.00

APRON 5601

N.B. C.S.A.H. 78
STA. 157+55.78
184.2' (RT)
OUT. 883.00

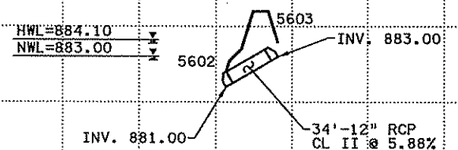


APRON 5602

N.B. C.S.A.H. 78
STA. 157+82.13
205.9' (RT)
OUT. 881.00

APRON 5603

N.B. C.S.A.H. 78
STA. 157+54.06
186.6' (RT)
OUT. 883.00



APRON 5604

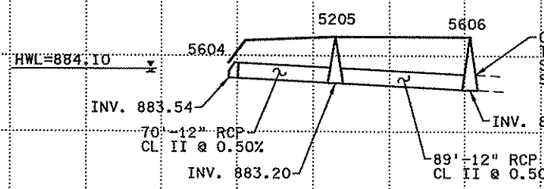
N.B. C.S.A.H. 78
STA. 157+44.18
355.3' (RT)
INV. 883.54

MH 5605

N.B. C.S.A.H. 78
STA. 158+13.97
356.5' (RT)
T.C. 886.50
INV. 883.20
OUT. 883.20

MH 5606

N.B. C.S.A.H. 78
STA. 158+85.84
303.9' (RT)
T.C. 887.05
OUT. 882.75

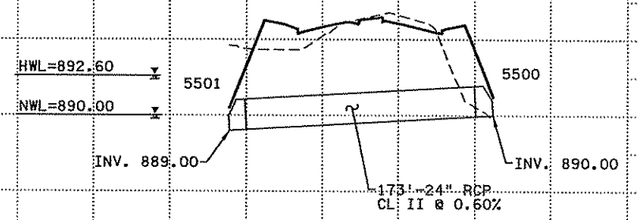


APRON 5501

E.B. C.S.A.H. 116
STA. 32+52.23
65.0' (RT)
OUT. 889.00
POND CONTROL STRUCTURE
SEE SHEET176

APRON 5500

W.B. C.S.A.H. 116
STA. 32+50.31
58.6' (LT)
INV. 890.00



CB 5562

W.B. C.S.A.H. 116
STA. 18+70.09
19.0' (LT)
T.C. 894.39
INV. 891.61
OUT. 891.36

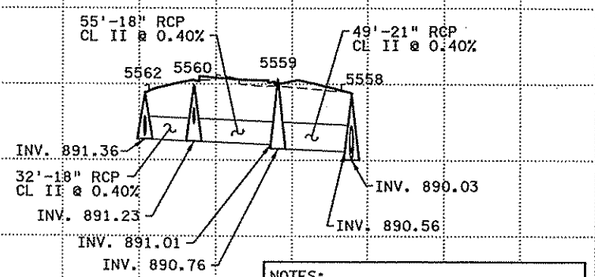
CB 5560

W.B. C.S.A.H. 116
STA. 18+70.09
13.0' (RT)
T.C. 894.96
INV. 891.23
OUT. 891.23

CB 5559

E.B. C.S.A.H. 116
STA. 18+18.04
25.1' (LT)
T.C. 895.37
INV. 891.01
OUT. 890.76

CB 5558



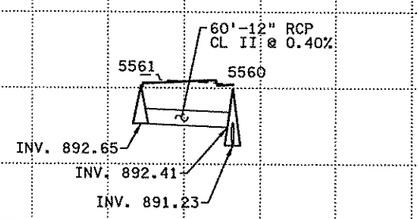
NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

CB 5561

E.B. C.S.A.H. 116
STA. 19+30.00
36.0' (LT)
T.C. 895.15
OUT. 892.65

CB 5560



B.M. ELEV. = 905.21
TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

APRON 5572

W.B. C.S.A.H. 116
STA. 21+38.61
48.5' (LT)
INV. 892.65

CB 5571

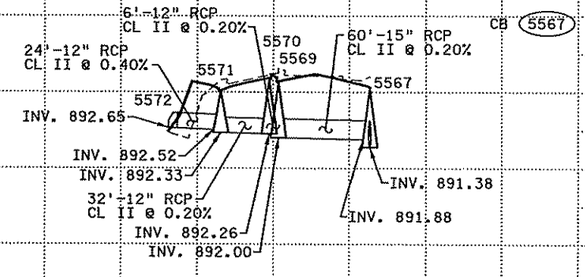
W.B. C.S.A.H. 116
STA. 21+21.01
19.0' (LT)
T.C. 895.06
INV. 892.52
OUT. 892.33

CB 5570

W.B. C.S.A.H. 116
STA. 21+21.01
13.0' (RT)
T.C. 895.79
INV. 892.26
OUT. 892.26

CB 5569

E.B. C.S.A.H. 116
STA. 21+21.04
36.0' (LT)
T.C. 895.59
INV. 892.25
OUT. 892.00



NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.MDI

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/02/06 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M.TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

MISCELLANEOUS DRAINAGE PROFILES
C.S.A.H. 78
S.B. CSAH 78 / E.B. 127TH ST. / W.B. 127TH ST.

SHEET 197 OF 400

4:39:25 PM
9/12/2006
H:\projects\5404\hl-mu\plan\5404.MDI

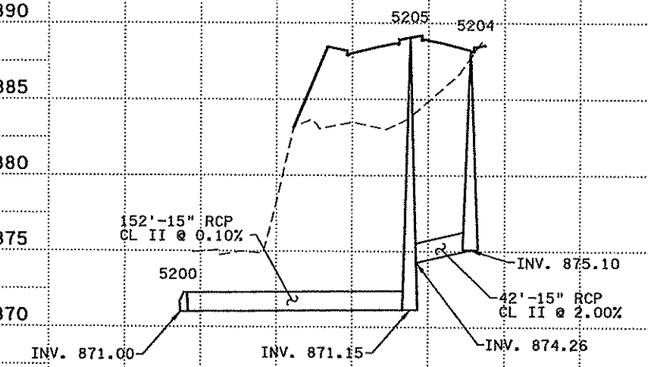
APRON (5200)

S.B C.S.A.H. 78
STA. 95+18.88
129.9' (LT)
OUT. 871.00 (W)

MH (5205)

N.B C.S.A.H. 78
STA. 95+21.91
21.5' (LT)
T.C. 889.05
INV. 874.26 (E)
OUT. 871.15 (W)

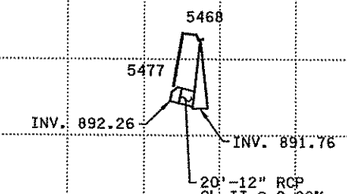
CB (5204)



APRON (5477)

S.B. C.S.A.H 78
STA. 148+48.60
50.0' (LT)
INV. 892.26

CB (5468)

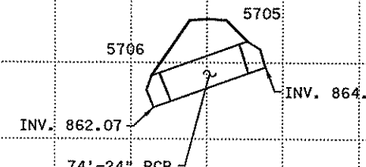


APRON (5706)

W.B. T.H. 242
STA. 17+42.50
40.0' (LT)
OUT. 862.07

APRON (5705)

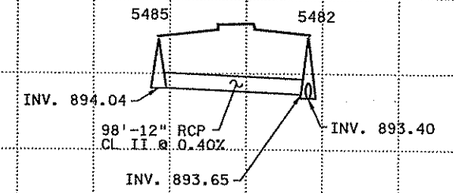
W.B. T.H. 242
STA. 18+28.50
40.0' (LT)
INV. 864.71



CB (5485)

S.B C.S.A.H. 78
STA. 144+60.46
24.0' (LT)
T.C. 897.29
OUT. 894.04

CB (5482)



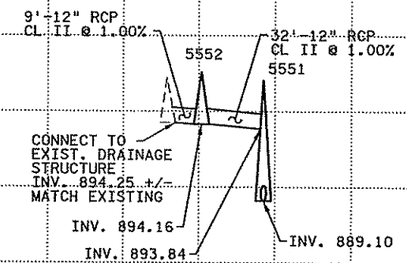
EX. CB (6000)

W.B C.S.A.H. 116
STA. 13+55.68
22.4' (RT)

CB (5552)

E.B C.S.A.H. 116
STA. 13+55.99
13.0' (LT)
T.C. 897.62
INV. 894.16 (N)
OUT. 894.16 (S)

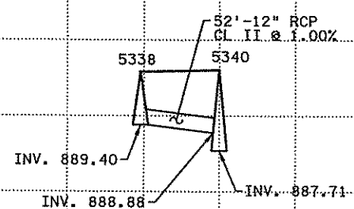
CB (5551)



CB (5338)

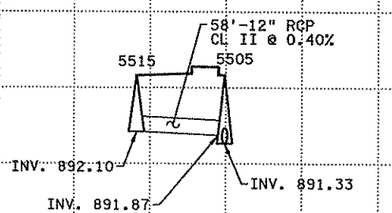
E.B C.S.A.H. 116
STA. 131+81.00
24.0' (LT)
T.C. 892.90
OUT. 889.40

CB (5340)



CB (5515)

CB (5505)



B.M. ELEV. = 905.21
TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.MDJ

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/6/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

MISCELLANEOUS DRAINAGE PROFILES
C.S.A.H. 78
S.B. CSAH 78 / N.B 127TH ST. / W.B. 127TH ST.

SHEET 198 OF 400

4:30:26 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.MDJ

STORM WATER POLLUTION PREVENTION PLAN NARRATIVE

PROJECT DESCRIPTION / LOCATION

SP 02-678-16 CONSISTS OF GRADING, BITUMINOUS SURFACING, STORM SEWER, AND A BOX CULVERT INSTALLATION FOR PEDESTRIAN CROSSINGS AT STATION 95+00 OF C.S.A.H. 78 IN THE CITIES OF ANDOVER AND COON RAPIDS AND ANOKA COUNTY. CONSTRUCTION ACTIVITIES INCLUDED EXCAVATION AND GRADING FOR REALIGNMENT OF THE C.S.A.H. 78 AND C.S.A.H. 116. THE RECEIVING WATERS FOR STORM WATER FROM THIS INCLUDE A NUMBER OF PROPOSED PONDING SITES WHICH TREAT RUNOFF BEFORE DISCHARGING INTO VARIOUS WETLANDS, CREEKS, AND DITCHES. THE COON CREEK IS AN ULTIMATE RECEIVING BODY FOR THE RUNOFF, HOWEVER IT IS NOT DIRECTLY IMPACTED DUE TO CONSTRUCTION.

SITE MAPS

THE MAJORITY OF THE NPDES-REQUIRED INFORMATION IS INCORPORATED INTO THIS PLAN SET IN ITS PLAN VIEWS, PROFILE VIEWS AND CROSS SECTIONS.

IN ADDITION TO WHAT IS LOCATED WITHIN THIS PLAN, LARGE-SCALE TREATMENT AREA MAPS HAVE BEEN CREATED AND INCLUDED AS APPENDICES TO THE PROJECT SWPPP.

CALCAREOUS FENS

THERE ARE NO CALCAREOUS FENS WITHIN 2,000 FEET OF THE PROJECT LIMITS.

SPECIAL WATERS

THERE ARE NO SPECIAL WATERS WITHIN 2,000 FEET OF THE PROJECT LIMITS.

IMPAIRED WATERS

STORM WATER RUNOFF FROM THE PROJECT AREA FLOWS TO THE FOLLOWING IMPAIRED WATERS:

COON CREEK IMPAIRED FOR INVERTEBRATES IBI

THERE ARE CURRENTLY NO TOTAL MAXIMUM DAILY LOAD (TMDL) IMPLEMENTATION PLANS FOR ANY OF THESE IMPAIRED WATERS.

LAND FEATURE CHANGES

TOTAL PROJECT AREA DISTURBED:	64.72 ACRES
TOTAL EXISTING IMPERVIOUS SURFACE AREA:	23.07 ACRES
TOTAL EXISTING PERVIOUS SURFACE AREA:	38.76 ACRES
TOTAL PROPOSED IMPERVIOUS SURFACE AREA:	39.81 ACRES
TOTAL PROPOSED PERVIOUS SURFACE AREA:	24.91 ACRES

TIMING OF BMP INSTALLATION

THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS SHALL BE INSTALLED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ONSITE, AND SHALL MEET THE NPDES PERMIT PART IV CONSTRUCTION ACTIVITY REQUIREMENTS. TIMING OF THE POND CONSTRUCTION IS SHOWN ON THE STAGING PLAN.

DRAINAGE COMPUTATIONS (LOCATION)

THE PROJECT INCLUDES CONSTRUCTION OF 8 STORM WATER TREATMENT PONDS AND TWO GRIT CHAMBER DEVICES. COMPUTATIONS ARE KEPT ON FILE WITH THE ANOKA COUNTY HIGHWAY DEPARMENT. CHANGES MADE IN THE FIELD THAT MAY AFFECT WATER RESOURCES SHOULD BE DISCUSSED WITH THE PROJECT MANAGER AND ENGINEER OF RECORD, AND NOTED IN THE CONTRACTOR'S CONSTRUCTION LOG.

PROJECT CONTACTS

THE PROJECT ENGINEER AND CONTRACTOR ARE RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND INSTALLATION, INSPECTION AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS BEFORE AND DURING CONSTRUCTION. ANOKA COUNTY IS RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORM WATER MANAGEMENT SYSTEM.

LYNDON ROBJENT, P.E.
ANOKA COUNTY HIGHWAY DEPT.
1440 BUNKER LAKE BOULEVARD
ANDOVER, MN 55304
763-862-4200

MPCA 24 HOUR EMERGENCY NOTIFICATION
651-649-5451
800-422-0798

AGENCY/ORGANIZATION	NAME	PHONE NUMBER
ANOKA COUNTY HIGHWAY DEPARTMENT	LYNDON ROBJENT, P.E.	763-862-4200
MINNESOTA POLLUTION CONTROL AGENCY	PAUL ESTUESTA	651-296-7236
COON CREEK WATERSHED DISTRICT	TIM KELLY	763-755-0975
U.S. ARMY CORPS OF ENGINEERS	TIM FELL	651-290-5360
MINNESOTA DEPT. OF NATURAL RESOURCES	TOM HOVEY	651-772-7910
PROJECT WATER RESOURCES DESIGN	SRF CONSULTING, INC.	763-475-0010
ANDOVER PUBLIC WORKS	DAVID BERKOWITZ, P.E.	763-767-5133
COON RAPIDS PUBLIC WORKS	DOUG VIERZBA, P.E.	763-767-6465
STATE DUTY OFFICER		651-649-5451
EROSION CONTROL SUPERVISOR		
MN/DOT		

CONSTRUCTION NOTES

CONSTRUCTION SHALL BE GOVERNED BY THE 2005 MN/DOT STANDARD SPECIFICATIONS BOOK AND THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL KEEP AN INSPECTION AND MAINTENANCE LOG.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	TITLE	LOCATION
TEMPORARY EROSION CONTROL MEASURES	EROSION CONT AND TURF EST PLAN	SHT NO. 54 - 82
PERMANENT EROSION CONTROL MEASURES	EROSION CONT AND TURF EST PLAN	SHT NO. 201 - 211
DIRECTION OF FLOW	SE AND PROPOSED UTILITY PLAN	SHT NO. 160 - 169
FINAL STABILIZATION	EROSION CONT AND TURF EST PLAN	SHT NO. 201 - 211
POND LOCATIONS	SE AND PROPOSED UTILITY PLAN	SHT NO. 160 - 169
POND CONTOURS	CONTOUR SHEETS	SHT NO. 212 - 217
DRAINAGE STRUCTURES	SE AND PROPOSED UTILITY PLAN	SHT NO. 170 - 198
DRAINAGE TABULATION	DRAINAGE TABULATIONS AND NOTES	SHT NO. 170 - 198
STORM SEWER PROFILE SHEETS	DRAINAGE PROFILES	SHT NO. 170 - 198
EROSION CONTROL DETAILS	STANDARD PLAN SHEETS	SHT NO. 42 - 47
TURF ESTABLISHMENT / EROSION CONTROL TABULATION		SHT NO. 201

EROSION CONTROL SUPERVISOR

THE CONTRACTOR SHALL PROVIDE A CERTIFIED EROSION CONTROL SUPERVISOR TO DIRECT CONTRACTOR AND SUBCONTRACTOR EROSION/SEDIMENT CONTROL OPERATIONS, AND ENSURE COMPLIANCE WITH APPLICABLE PERMITS AND REGULATIONS.

EROSION PREVENTION PRACTICES

ALL EXPOSED SOIL AREAS WITH A CONTINUOUS POSITIVE SLOPE WITHIN 200 LINEAL FEET OF A SURFACE WATER MUST HAVE TEMPORARY EROSION PROTECTION OR PERMANENT COVER FOR THE EXPOSED SOIL SURFACE YEAR ROUND, ACCORDING TO THE FOLLOWING TABLE OF SLOPES AND TIME FRAMES:

TYPE OF SLOPE	TIME*
STEEPER THAN 3:1	7 DAYS
10:1 TO 3:1	14 DAYS
FLATTER THAN 10:1	21 DAYS

*MAXIMUM TIME AN AREA CAN REMAIN OPEN WHEN THE AREA IS NOT ACTIVELY BEING WORKED.

THESE AREAS INCLUDE CONSTRUCTED STORM WATER MANAGEMENT POND SIDE SLOPES, AND ANY EXPOSED SOIL AREAS WITH A POSITIVE SLOPE TO A STORM WATER CONVEYANCE SYSTEM, SUCH AS A CURB AND GUTTER SYSTEM, STORM SEWER INLET, TEMPORARY OR PERMANENT DRAINAGE DITCH OR OTHER NATURAL OR MAN MADE SYSTEMS THAT DISCHARGE TO A SURFACE WATER.

SLOPES SHOULD BE GRADED TO MINIMIZE RILLS AND GULLIES AND TO ENCOURAGE SHEET FLOW OF RUNOFF. THERE SHALL BE NO UNBROKEN SLOPE LENGTH OF GREATER THAN 75 FT FOR SLOPES WITH A GRADE OF 1:3 OR STEEPER.

THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH THAT DRAINS WATER FROM A CONSTRUCTION SITE, OR DIVERTS WATER AROUND A SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE TO ANY SURFACE WATER. STABILIZATION MUST BE COMPLETED WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER.

PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER.

SEDIMENT CONTROL PRACTICES

1. SEDIMENT CONTROL PRACTICES MUST MINIMIZE SEDIMENT FROM ENTERING SURFACE WATERS, INCLUDING CURB AND GUTTER SYSTEMS AND STORM SEWER INLETS.

2. SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED IN ACCORDANCE WITH PART IV.G OF THE NPDES PERMIT.

3. THE TIMING OF THE INSTALLATION OF SEDIMENT CONTROL PRACTICES MAY BE ADJUSTED TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES. ANY SHORT-TERM ACTIVITY MUST BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL PRACTICES MUST BE INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED. HOWEVER, SEDIMENT CONTROL PRACTICES MUST BE INSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE ACTIVITY IS NOT COMPLETE.

4. ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED.

5. REMOVAL OF ALL SEDIMENTS/SOILS FROM PAVED SURFACES MUST OCCUR WITHIN 24 HOURS OF DEPOSITION.

SPILL CONTROL PRACTICES

1. SPILL KITS WILL BE INCLUDED WITH ALL FUELING SOURCES, MAINTENANCE ACTIVITIES, AND ALL CONSTRUCTION ACTIVITIES NEAR WATERS OF THE STATE. SECONDARY CONTAINMENT MEASURES WILL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.

2. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT AT THE SITE.

3. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. IN THE EVENT OF AN ACCIDENTAL RELEASE TO WATERS OF THE STATE, OR ANY DISCHARGE OF HAZARDOUS MATERIALS OF A REPORTABLE QUANTITY, NOTIFY THE MPCA STATE DUTY OFFICER.

DEWATERING AND BASIN DRAINING

DEWATERING OR BASIN DRAINING (E.G., PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) RELATED TO THE CONSTRUCTION ACTIVITY THAT MAY HAVE TURBID OR SEDIMENT-LADEN DISCHARGE WATER MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE WHENEVER POSSIBLE. IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN PRIOR TO ENTERING THE SURFACE WATER, IT MUST BE TREATED WITH THE APPROPRIATE BMPS, SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM LANDOWNERS. THE CONTRACTOR MUST ENSURE THAT DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SCOUR. THE DISCHARGE MUST BE DISPERSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC SHEETING OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES. ADEQUATE SEDIMENTATION CONTROL MEASURES ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS.

INSPECTIONS AND MAINTENANCE

THE CONTRACTOR MUST ROUTINELY INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS.

ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION MUST BE RECORDED IN WRITING AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP IN ACCORDANCE WITH PART III.D OF THE NPDES PERMIT.

WHERE PARTS OF THE CONSTRUCTION SITE HAVE UNDERGONE FINAL STABILIZATION, BUT WORK REMAINS ON OTHER PARTS OF THE SITE, INSPECTIONS OF THE STABILIZED AREAS MAY BE REDUCED TO ONCE PER MONTH. WHERE WORK HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, THE REQUIRED INSPECTIONS AND MAINTENANCE MUST TAKE PLACE AS SOON AS RUNOFF OCCURS AT THE SITE OR PRIOR TO RESUMING CONSTRUCTION, WHICHEVER COMES FIRST.

ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS MUST BE INSPECTED TO ENSURE INTEGRITY AND EFFECTIVENESS. ALL NONFUNCTIONAL BMPS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS.

SILT FENCES MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL AND SEDIMENT REACHES 1/3 OF THE HEIGHT OF THE FENCE. REPAIRS MUST BE MADE WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

THE CONTRACTOR IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT BMPS, AS WELL AS ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS, FOR THE DURATION OF THE CONSTRUCTION WORK AT THE SITE. THE PERMITTEE(S) ARE RESPONSIBLE UNTIL ANOTHER PERMITTEE HAS ASSUMED CONTROL ACCORDING TO PART II.B.5 OVER ALL AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED OR THE SITE HAS UNDERGONE FINAL STABILIZATION, AND A NOTICE OF TERMINATION HAS BEEN SUBMITTED TO THE MPCA.

AT THE END OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL REMOVE ACCUMULATED SEDIMENT FROM EACH OF THE STORM WATER TREATMENT PONDS, AND ENSURE THE PONDS ARE GRADED TO THEIR FINAL DESIGNED CONFIGURATION AS PRESENTED IN THE PLANS.

UPON FINAL STABILIZATION, TEMPORARY EROSION/SEDIMENT CONTROL BMPS SHOULD BE REMOVED WITHIN 24 HOURS.

EXISTING STORM WATER DISCHARGE POINTS

THE EXISTING ROADWAY IS A COMBINATION OF URBAN AND RURAL DRAINAGE FEATURES. THE ENTIRE STORM DRAINAGE SYSTEM DISCHARGES TO EXISTING OR PROPOSED PONDS.

STORM WATER TREATMENT DEVICE	RECEIVING BODY
TH 242 POND	COON CREEK
COUNTY POND A	UNNAMED DEVELOPMENT POND
COUNTY POND B	COUNTY POND A
SUPER AMERICA POND	UNNAMED WETLAND
EXISTING 133RD STREET POND	UNNAMED POND
EXISTING POND 200	UNNAMED WETLAND

THE OUTFALLS OF THE RECEIVING BODYS CONSTINUE THROUGH EXISTING DRAINAGE CONVEYANCE SYSTEMS OUTSIDE OF THE PROJECT LIMITS, ULTIMATELY DISCHARGING TO COON CREEK.

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\Plan\5404.DRG

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.
Print Name: CHRIS M. TRBOYEVICH
Date 4/27/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STORM WATER POLLUTION PREVENTION PLAN
C.S.A.H. 78

SHEET 199 OF 400

2143125 PM
4/27/2007
H:\Projects\5404\hl-mu\Plan\5404.DRG

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Amending the SWPPP

The SWPPP must be amended to record changes or modifications to permanent BMP's or other storm water treatment systems and removals of temporary BMPs. Changes to temporary BMPs may be recorded on this sheet. Include a brief description of the problem, location, nature of alteration, and comments. This record is to be retained for three years after project completion.

Date Reported	Staff	Plan Location (sheet)	Project Location (station)	Problem, solution, and notes

(AA)

TURF ESTABLISHMENT / EROSION CONTROL (1)

ALIGNMENT	STATION TO STATION	BIOROLL	SILT FENCE MACHINE SLICED	(3) INLET PROTECTION	SEEDING	SEED MIXTURE (4)				SODDING TYPE SALT RESISTANT	RAPID STABILIZATION METHOD 3	MULCH MATERIAL (4) TYPE 3	DISK ANCHOR.	EROSION CONTROL BLANKET CATEGORY 3	(4)(6) COMM. FERT. 22-5-10	(4)(6) COMM. FERT. 18-1-8	NOTES
						250	310	350	(7) SPECIAL								
		(LIN. FT.)	(LIN. FT.)	(EACH)	(ACRE)	(LB)	(LB)	(LB)	(LB)	(SQ. YD.)	(M GAL)	(TON)	(ACRE)	(SQ. YD.)	(LBS)	(LBS)	
N.B. C.S.A.H. 78	50+00.0 - 126+00.0	372	7613	37	9.9	557	38	128		17281	196	19.8	9.9	12900	3180	236	(2)
N.B. C.S.A.H. 78	126+00.0 - 171+38.8		6420	42	4.5	231	25	25	5	12532	106	7.8	4.5	4475	1320	72	(2)
N.B. C.S.A.H. 78	171+38.8 - 180+50.0		1230		0.8	56				900		1.6	0.8		320		(2)
127 AVE W.	300+00.0 - 302+25.4									100							
127 AVE E.	351+00.0 - 352+00.0									168							
129TH LANE	400+00.0 - 401+85.4				0.1	9				182		0.3	0.1		52		
GROUSE ST.	21+24.3 - 21+94.0		62		0.1	9				100		0.3	0.1		48		
133RD AVE W	500+00.0 - 502+26.8		33							77							
133RD AVE E	503+73.9 - 506+00.0				0.5	32						1.0	0.5		180		
E.B. STATION PARKWAY	604+76.0 - 605+75.0		40							132							
PARK DRIVE	701+05.1 - 711+73.6		746							2812				53			
SERVICE ROAD	800+50.0 - 803+44.5		4		0.1	7				673		0.2	0.1		7	40	
SUBTOTAL		**372**	**16148**	**79**	**16.0**	**901**	**63**	**153**	**5.0**	**34957**	**302**	**31.0**	**16.0**	**17428**	**5107**	**348**	
E.B. C.S.A.H. 116	12+50.0 - 22+79.6		567	16	0.2	13				1837	17	0.4	0.2		72		(2)
E.B. C.S.A.H. 116	24+92.1 - 47+37.2		2294	12	3.0	43	66	135		5372	67	6.0	3.0	230	244	289	(2)
COUNTY ACCESS	900+00.0 - 901+97.2				0.2	7		93		194		0.4	0.2		40	13	(2)
SUBTOTAL			**2861**	**28**	**3.4**	**63**	**66**	**228**		**7403**	**84**	**6.8**	**3.4**	**230**	**356**	**302**	
PROJECT TOTALS		372	19009	107	19.4	964	129	381	5.0	42360	386	37.8	19.4	17658	5463	650	

(1) QUANTITES ARE BASED ON 110 % OF THE COMPUTED AREA OR LENGTH.
(2) INCLUDES SEED AND FERTILIZER QUANTITIES FOR ADJACENT PONDING.
(3) INLET PROTECTION DEVICES AS SHOWN IN PLAN OR AS DIRECTED BY THE ENGINEER.
(4) QUANTITES ARE BASED ON THE FOLLOWING BASIS:

SEED MIXTURE 250	70 LBS / ACRE
SEED MIXTURE 310	82 LBS / ACRE
SEED MIXTURE 350	84.5 LBS / ACRE
SEED MXTURE SPECIAL - W1	8 LBS / ACRE
MULCH MATERIAL TYPE 3	2 TONS / ACRE
COMMERCIAL FERTILIZER 22-5-10	400 LBS / ACRE
COMMERCIAL FERTILIZER 18-1-8	120 LBS / ACRE
RAPID STABILIZATION METHOD 3	6 M GALS / ACRE

(5) SODDING TYPE EROSION INCLUDES SOD AT PIPE APRONS IDENTIFIED IN THE DRAINAGE TABULATION.
(6) COMMERCIAL FERTILIZER SHALL BE THE SLOW RELEASE TYPE.
(7) BWSR WETLAND MIX - W1 FOR WETLAND CONSTRUCTION.

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.TBH

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
EROSION CONTROL & TURF ESTABLISHMENT TABULATIONS
C.S.A.H. 78

SHEET 201 OF 400

4:39:30 PM
9/26/2006
H:\projects\5404\hi-mu\plan\5404.TBH

NOTES:

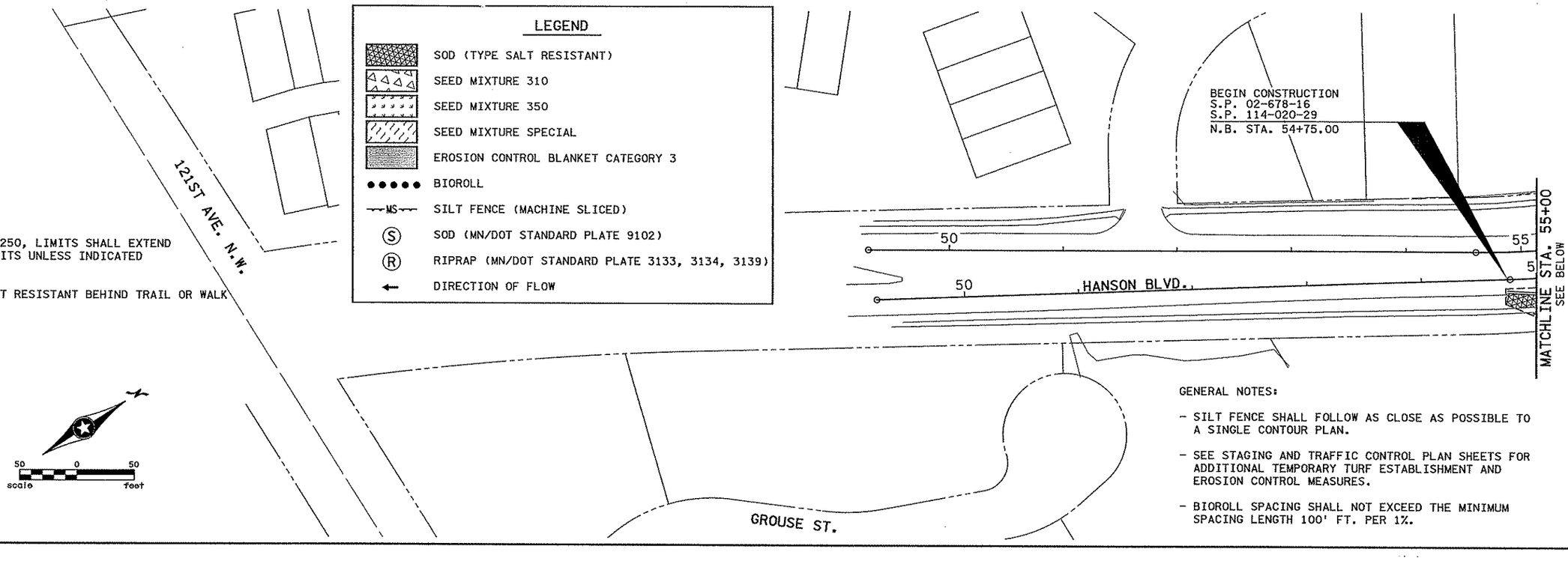
(A) INLET PROTECTION

(B) PERMANENT SEED MIXTURE 250, LIMITS SHALL EXTEND TO THE CONSTRUCTION LIMITS UNLESS INDICATED OTHERWISE

(C) PLACE 2FT. SOD TYPE SALT RESISTANT BEHIND TRAIL OR WALK

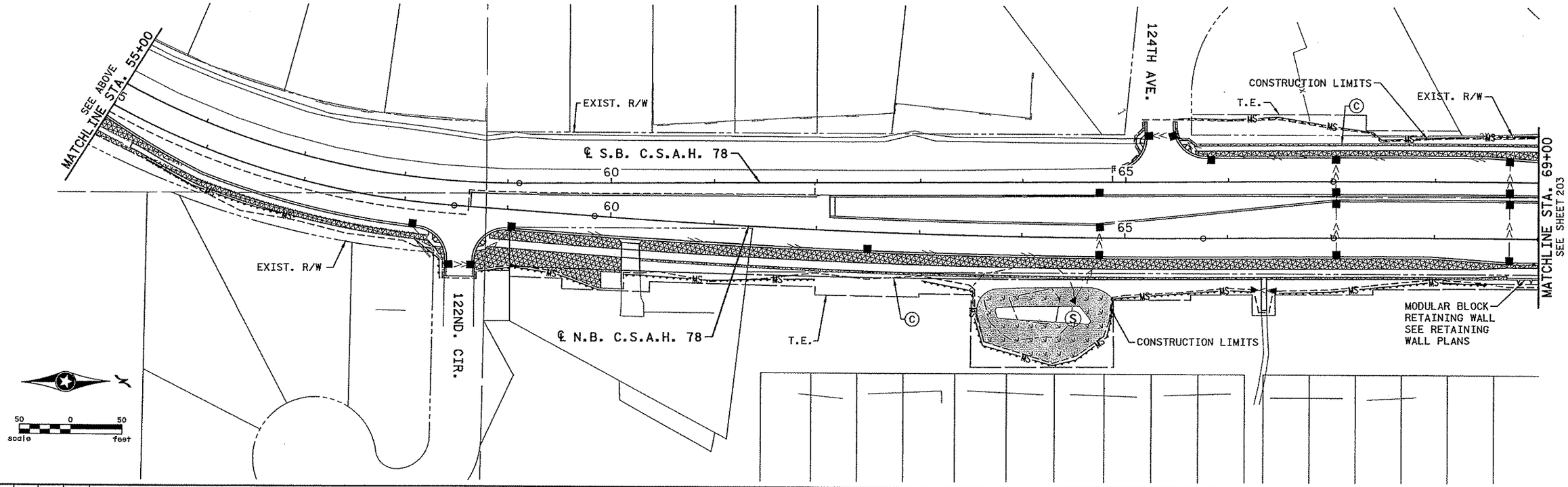
LEGEND

- SOD (TYPE SALT RESISTANT)
- SEED MIXTURE 310
- SEED MIXTURE 350
- SEED MIXTURE SPECIAL
- EROSION CONTROL BLANKET CATEGORY 3
- BIOROLL
- MS — SILT FENCE (MACHINE SLICED)
- (S) SOD (MN/DOT STANDARD PLATE 9102)
- (R) RIPRAP (MN/DOT STANDARD PLATE 3133, 3134, 3139)
- DIRECTION OF FLOW



GENERAL NOTES:

- SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE TO A SINGLE CONTOUR PLAN.
- SEE STAGING AND TRAFFIC CONTROL PLAN SHEETS FOR ADDITIONAL TEMPORARY TURF ESTABLISHMENT AND EROSION CONTROL MEASURES.
- BIOROLL SPACING SHALL NOT EXCEED THE MINIMUM SPACING LENGTH 100' FT. PER 1%.



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TEA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EROSION CONTROL AND TURF ESTABLISHMENT PLAN

C.S.A.H. 78

SHEET 202 OF 400

4:30:34 PM
9/26/2006
H:\projects\5404\hl-mu\plan\5404.TEA

GROUSE ST.

GENERAL NOTES:

- SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE TO A SINGLE CONTOUR PLAN.
- SEE STAGING AND TRAFFIC CONTROL PLAN SHEETS FOR ADDITIONAL TEMPORARY TURF ESTABLISHMENT AND EROSION CONTROL MEASURES.
- BIOROLL SPACING SHALL NOT EXCEED THE MINIMUM SPACING LENGTH 100' FT. PER 1%.

SEE SHEET 202
MATCHLINE STA. 69+00

MATCHLINE STA. 84+00
SEE SHEET 204

T.H. 242

125TH LANE

126TH LANE

℄ S.B. C.S.A.H. 78

℄ N.B. C.S.A.H. 78

CONSTRUCTION LIMITS

PROP. R/W

T.E.

EXIST. R/W

MODULAR BLOCK RETAINING WALL SEE RETAINING WALL PLANS

EAGLE ST.

NOTES:

(A) INLET PROTECTION

(B) PERMANENT SEED MIXTURE 250, LIMITS SHALL EXTEND TO THE CONSTRUCTION LIMITS UNLESS INDICATED OTHERWISE

(C) PLACE 2FT. SOD TYPE SALT RESISTANT BEHIND TRAIL OR WALK

50 0 50
scale feet

LEGEND

- SOD (TYPE SALT RESISTANT)
- SEED MIXTURE 310
- SEED MIXTURE 350
- SEED MIXTURE SPECIAL
- EROSION CONTROL BLANKET CATEGORY 3
- BIOROLL
- MS — SILT FENCE (MACHINE SLICED)
- (S) SOD (MN/DOT STANDARD PLATE 9102)
- (R) RIPRAP (MN/DOT STANDARD PLATE 3133, 3134, 3139)
- DIRECTION OF FLOW

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.TEB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EROSION CONTROL AND TURF ESTABLISHMENT PLAN
C.S.A.H. 78

SHEET 203 OF 400

4130136 PM
9/28/2006
h:\projects\5404\hi-mu\plan\5404.TEB

LEGEND

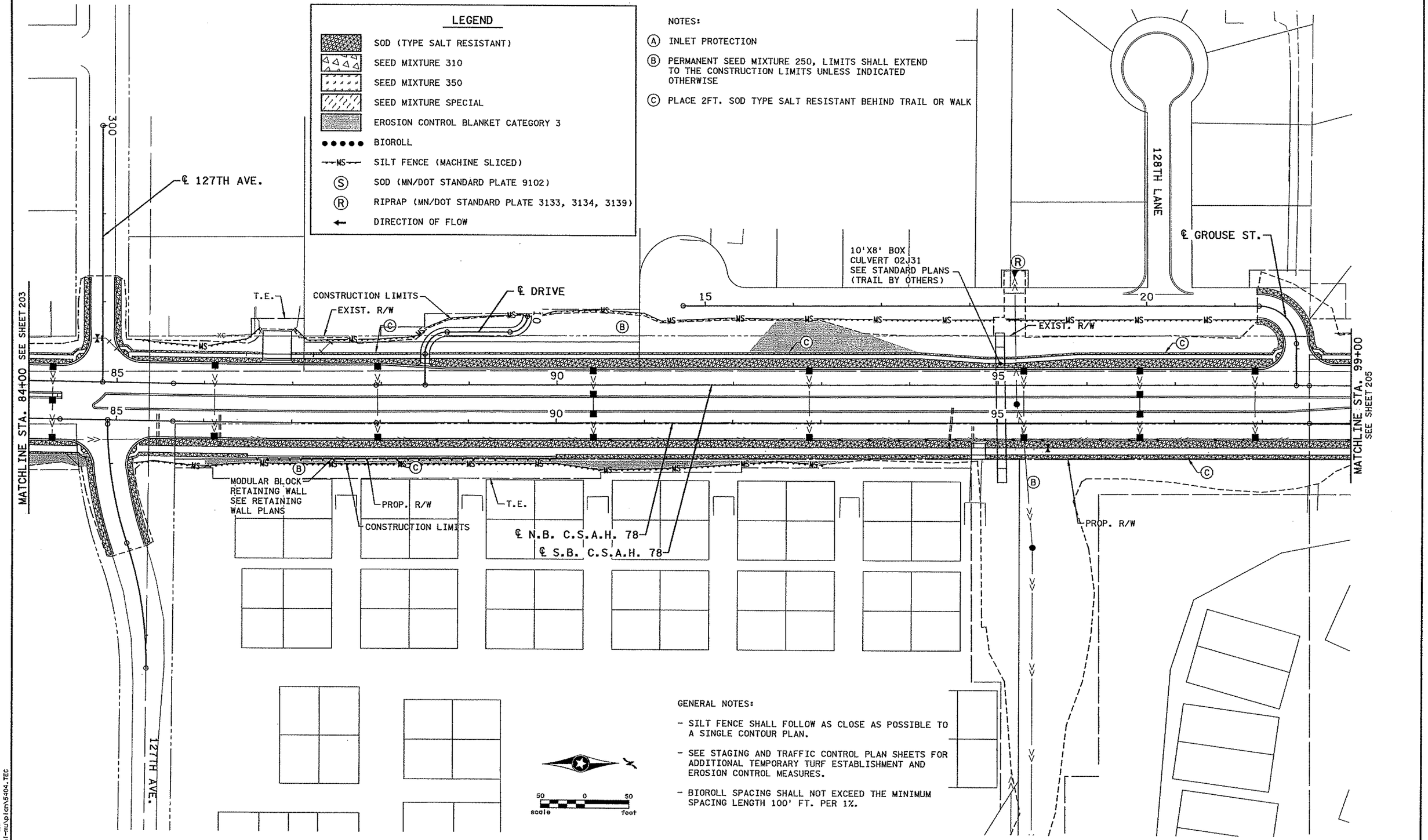
- SOD (TYPE SALT RESISTANT)
- SEED MIXTURE 310
- SEED MIXTURE 350
- SEED MIXTURE SPECIAL
- EROSION CONTROL BLANKET CATEGORY 3
- BIOROLL
- MS — SILT FENCE (MACHINE SLICED)
- (S) SOD (MN/DOT STANDARD PLATE 9102)
- (R) RIPRAP (MN/DOT STANDARD PLATE 3133, 3134, 3139)
- DIRECTION OF FLOW

NOTES:

(A) INLET PROTECTION

(B) PERMANENT SEED MIXTURE 250, LIMITS SHALL EXTEND TO THE CONSTRUCTION LIMITS UNLESS INDICATED OTHERWISE

(C) PLACE 2FT. SOD TYPE SALT RESISTANT BEHIND TRAIL OR WALK



GENERAL NOTES:

- SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE TO A SINGLE CONTOUR PLAN.
- SEE STAGING AND TRAFFIC CONTROL PLAN SHEETS FOR ADDITIONAL TEMPORARY TURF ESTABLISHMENT AND EROSION CONTROL MEASURES.
- BIOROLL SPACING SHALL NOT EXCEED THE MINIMUM SPACING LENGTH 100' FT. PER 1%.

NO	DATE	BY	CKD	APPR	REVISION

...\5404\hl-mu\plan\5404.TEC

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

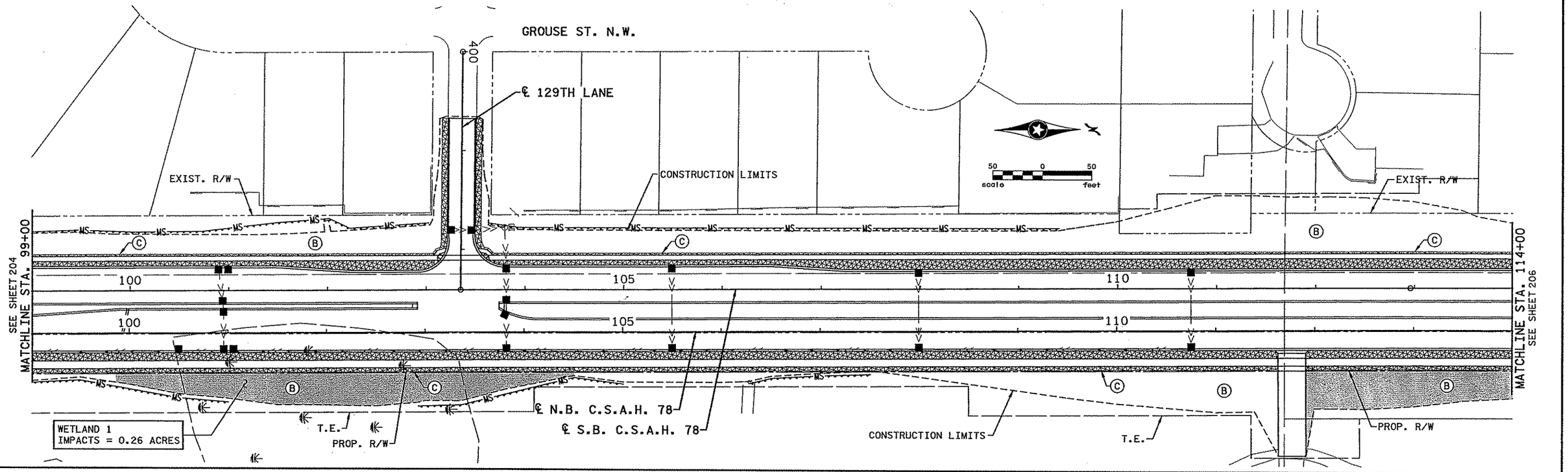
ANOKA COUNTY

EROSION CONTROL AND TURF ESTABLISHMENT PLAN

C.S.A.H. 78

SHEET 204 OF 400

4/30/08 PM
SRF 5404
h:\projects\5404\hl-mu\plan\5404.TEC



NOTES:

(A) INLET PROTECTION

(B) PERMANENT SEED MIXTURE 250, LIMITS SHALL EXTEND TO THE CONSTRUCTION LIMITS UNLESS INDICATED OTHERWISE

(C) PLACE 2FT. SOD TYPE SALT RESISTANT BEHIND TRAIL OR WALK

LEGEND

- SOD (TYPE SALT RESISTANT)
- SEED MIXTURE 310
- SEED MIXTURE 350
- SEED MIXTURE SPECIAL
- EROSION CONTROL BLANKET CATEGORY 3
- BIOROLL
- MS — SILT FENCE (MACHINE SLICED)
- (S) SOD (MN/DOT STANDARD PLATE 9102)
- (R) RIPRAP (MN/DOT STANDARD PLATE 3133, 3134, 3139)
- DIRECTION OF FLOW

GENERAL NOTES:

- SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE TO A SINGLE CONTOUR PLAN.
- SEE STAGING AND TRAFFIC CONTROL PLAN SHEETS FOR ADDITIONAL TEMPORARY TURF ESTABLISHMENT AND EROSION CONTROL MEASURES.
- BIOROLL SPACING SHALL NOT EXCEED THE MINIMUM SPACING LENGTH 100' FT. PER 1%.

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TED

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EROSION CONTROL AND TURF ESTABLISHMENT PLAN
C.S.A.H. 78

SHEET 205 OF 400

4:30:40 PM
9/26/2006
P:\projects\5404\hl-mu\plan\5404.TED

NOTES:

(A) INLET PROTECTION

(B) PERMANENT SEED MIXTURE 250, LIMITS SHALL EXTEND TO THE CONSTRUCTION LIMITS UNLESS INDICATED OTHERWISE

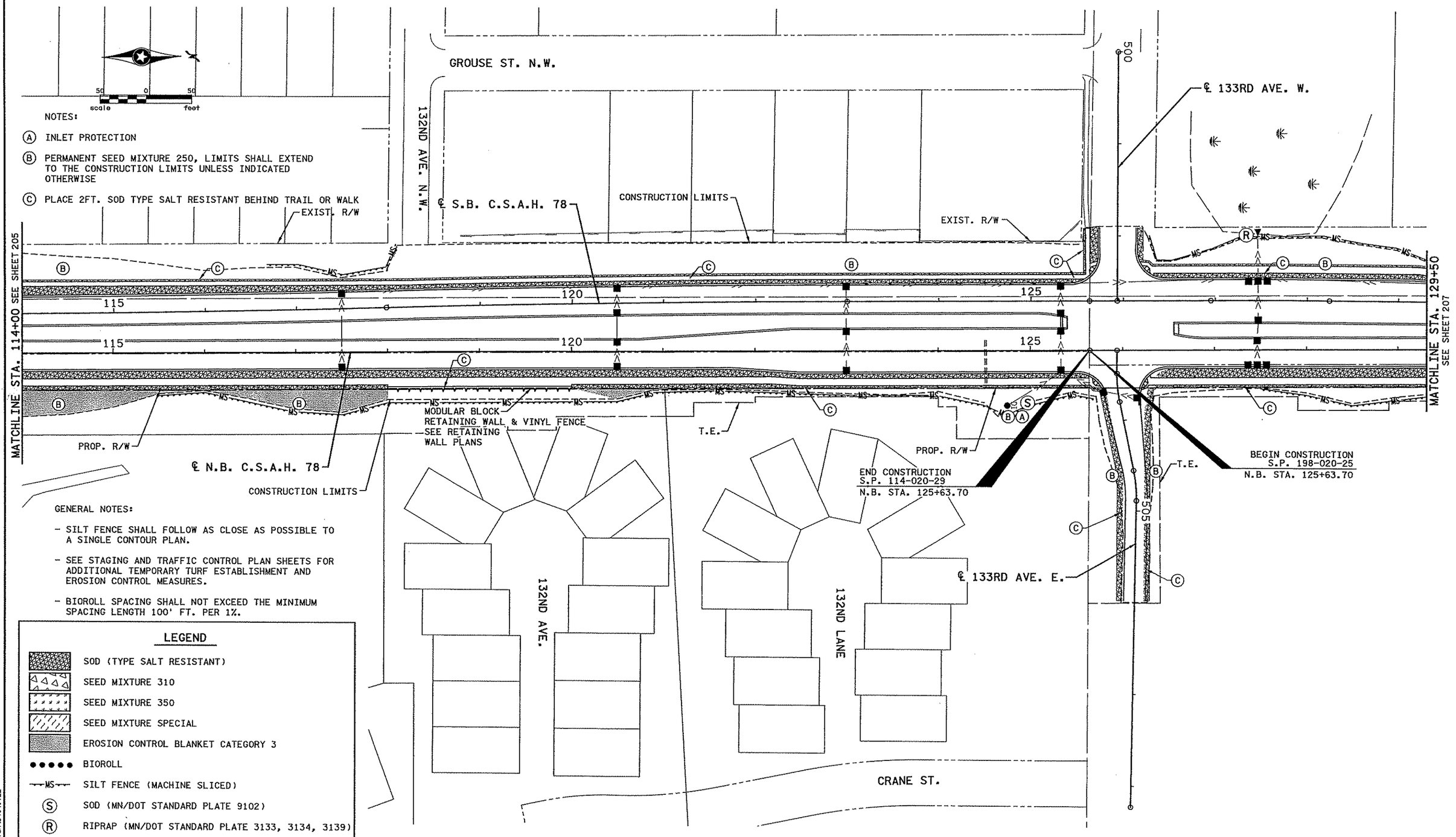
(C) PLACE 2FT. SOD TYPE SALT RESISTANT BEHIND TRAIL OR WALK

GENERAL NOTES:

- SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE TO A SINGLE CONTOUR PLAN.
- SEE STAGING AND TRAFFIC CONTROL PLAN SHEETS FOR ADDITIONAL TEMPORARY TURF ESTABLISHMENT AND EROSION CONTROL MEASURES.
- BIOROLL SPACING SHALL NOT EXCEED THE MINIMUM SPACING LENGTH 100' FT. PER 1%.

LEGEND

- SOD (TYPE SALT RESISTANT)
- SEED MIXTURE 310
- SEED MIXTURE 350
- SEED MIXTURE SPECIAL
- EROSION CONTROL BLANKET CATEGORY 3
- BIOROLL
- MS SILT FENCE (MACHINE SLICED)
- (S) SOD (MN/DOT STANDARD PLATE 9102)
- (R) RIPRAP (MN/DOT STANDARD PLATE 3133, 3134, 3139)
- DIRECTION OF FLOW



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TEE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M.TURNER
COMM. NO.	0055404

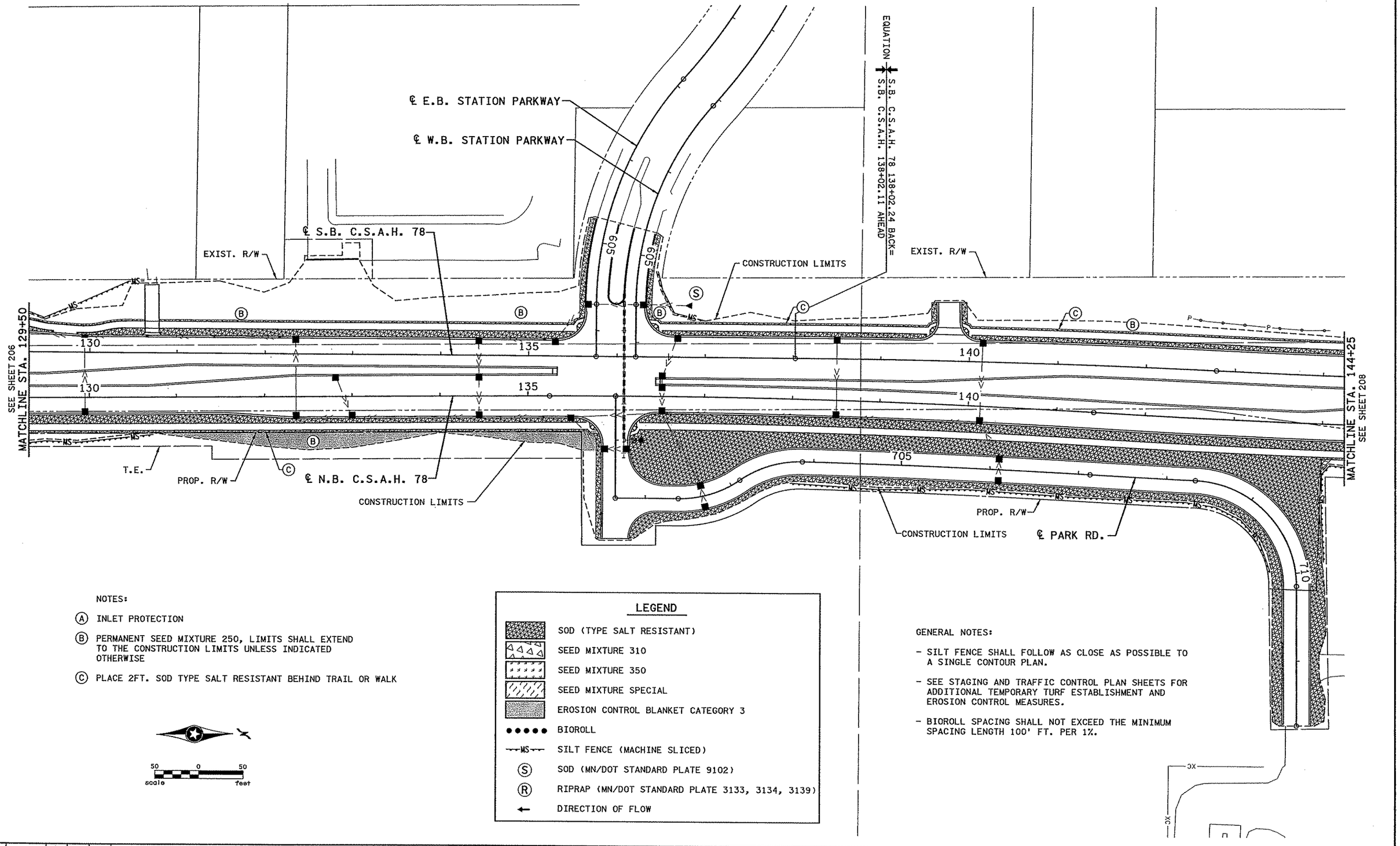
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EROSION CONTROL AND TURF ESTABLISHMENT PLAN
C.S.A.H. 78

SHEET 206 OF 400

4:30:42 PM
9/26/2006
N:\projects\5404\hl-mu\plan\5404.TEE



NOTES:

(A) INLET PROTECTION

(B) PERMANENT SEED MIXTURE 250, LIMITS SHALL EXTEND TO THE CONSTRUCTION LIMITS UNLESS INDICATED OTHERWISE

(C) PLACE 2FT. SOD TYPE SALT RESISTANT BEHIND TRAIL OR WALK

LEGEND

- SOD (TYPE SALT RESISTANT)
- SEED MIXTURE 310
- SEED MIXTURE 350
- SEED MIXTURE SPECIAL
- EROSION CONTROL BLANKET CATEGORY 3
- BIOROLL
- MS SILT FENCE (MACHINE SLICED)
- (S) SOD (MN/DOT STANDARD PLATE 9102)
- (R) RIPRAP (MN/DOT STANDARD PLATE 3133, 3134, 3139)
- DIRECTION OF FLOW

GENERAL NOTES:

- SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE TO A SINGLE CONTOUR PLAN.
- SEE STAGING AND TRAFFIC CONTROL PLAN SHEETS FOR ADDITIONAL TEMPORARY TURF ESTABLISHMENT AND EROSION CONTROL MEASURES.
- BIOROLL SPACING SHALL NOT EXCEED THE MINIMUM SPACING LENGTH 100' FT. PER 1%.

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TEF

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

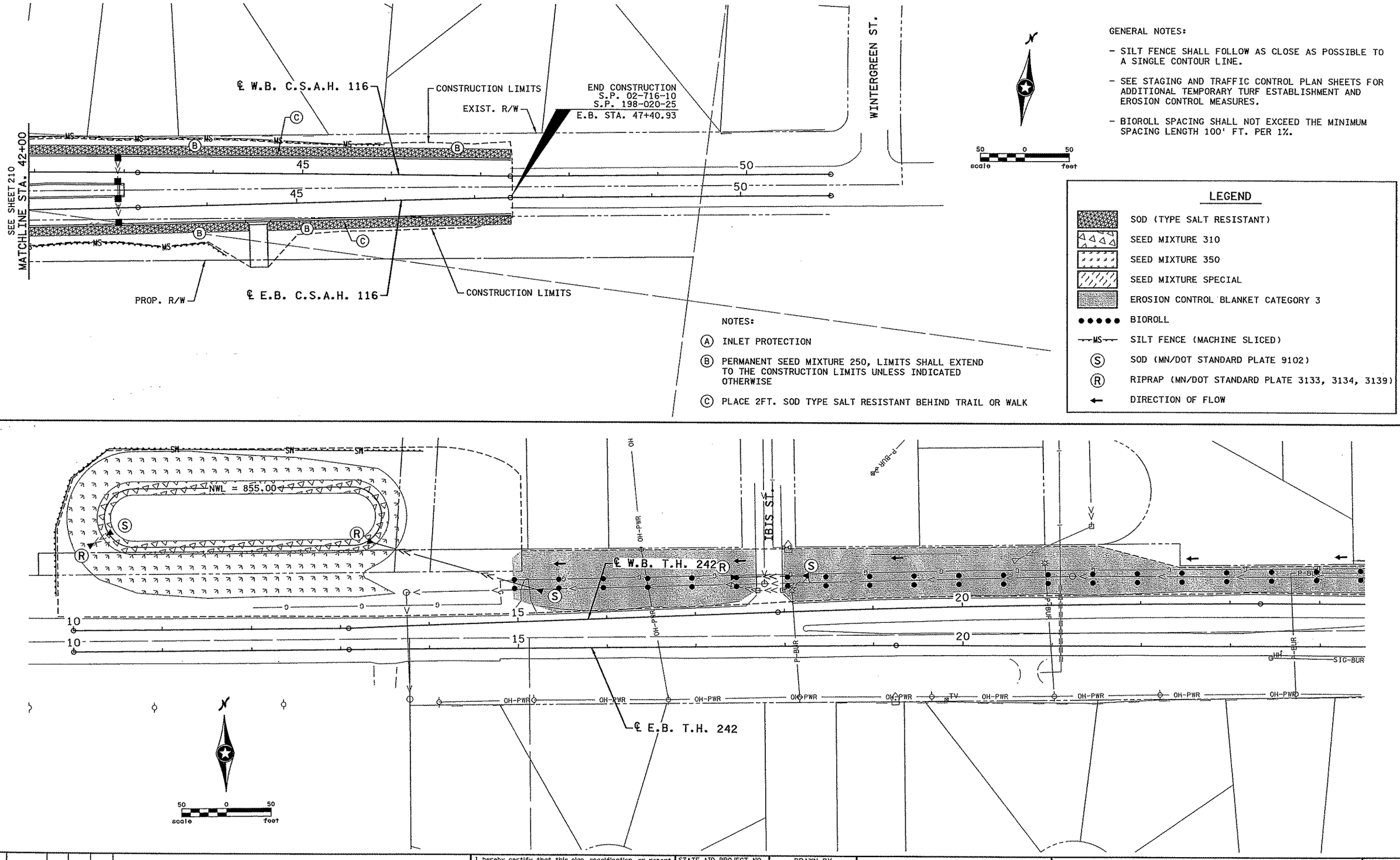
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EROSION CONTROL AND TURF ESTABLISHMENT PLAN
C.S.A.H. 78

SHEET 207 OF 400

4:30:44 PM
9/26/2006
hr:\projects\5404\hl-mu\plan\5404.TEF



GENERAL NOTES:

- SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE TO A SINGLE CONTOUR LINE.
- SEE STAGING AND TRAFFIC CONTROL PLAN SHEETS FOR ADDITIONAL TEMPORARY TURF ESTABLISHMENT AND EROSION CONTROL MEASURES.
- BIOROLL SPACING SHALL NOT EXCEED THE MINIMUM SPACING LENGTH 100' FT. PER 1%.

NOTES:

(A) INLET PROTECTION

(B) PERMANENT SEED MIXTURE 250, LIMITS SHALL EXTEND TO THE CONSTRUCTION LIMITS UNLESS INDICATED OTHERWISE

(C) PLACE 2FT. SOD TYPE SALT RESISTANT BEHIND TRAIL OR WALK

LEGEND

- SOD (TYPE SALT RESISTANT)
- SEED MIXTURE 310
- SEED MIXTURE 350
- SEED MIXTURE SPECIAL
- EROSION CONTROL BLANKET CATEGORY 3
- BIOROLL
- MS — SILT FENCE (MACHINE SLICED)
- (S) SOD (MN/DOT STANDARD PLATE 9102)
- (R) RIPRAP (MN/DOT STANDARD PLATE 3133, 3134, 3139)
- DIRECTION OF FLOW

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.TEJ

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16	DRAWN BY D.FITCHORN
STATE PROJECT NO. X	DESIGNED BY C.TRBOYEVICH
COUNTY PROJECT NO. X	CHECKED BY M. TURNER
CITY PROJECT NO. X	COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

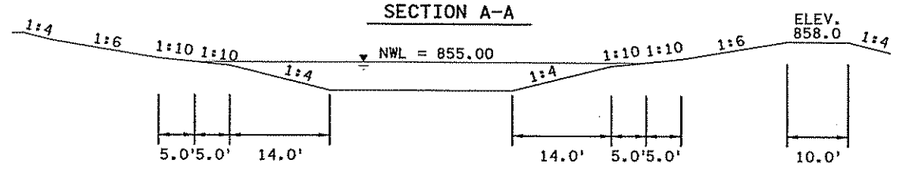
ANOKA COUNTY

EROSION CONTROL AND TURF ESTABLISHMENT PLAN
C.S.A.H. 78

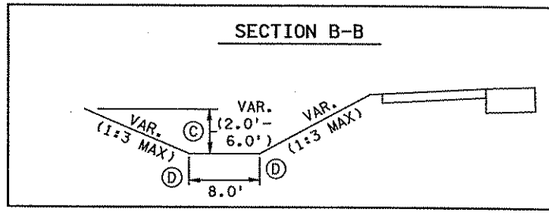
SHEET 211 OF 400

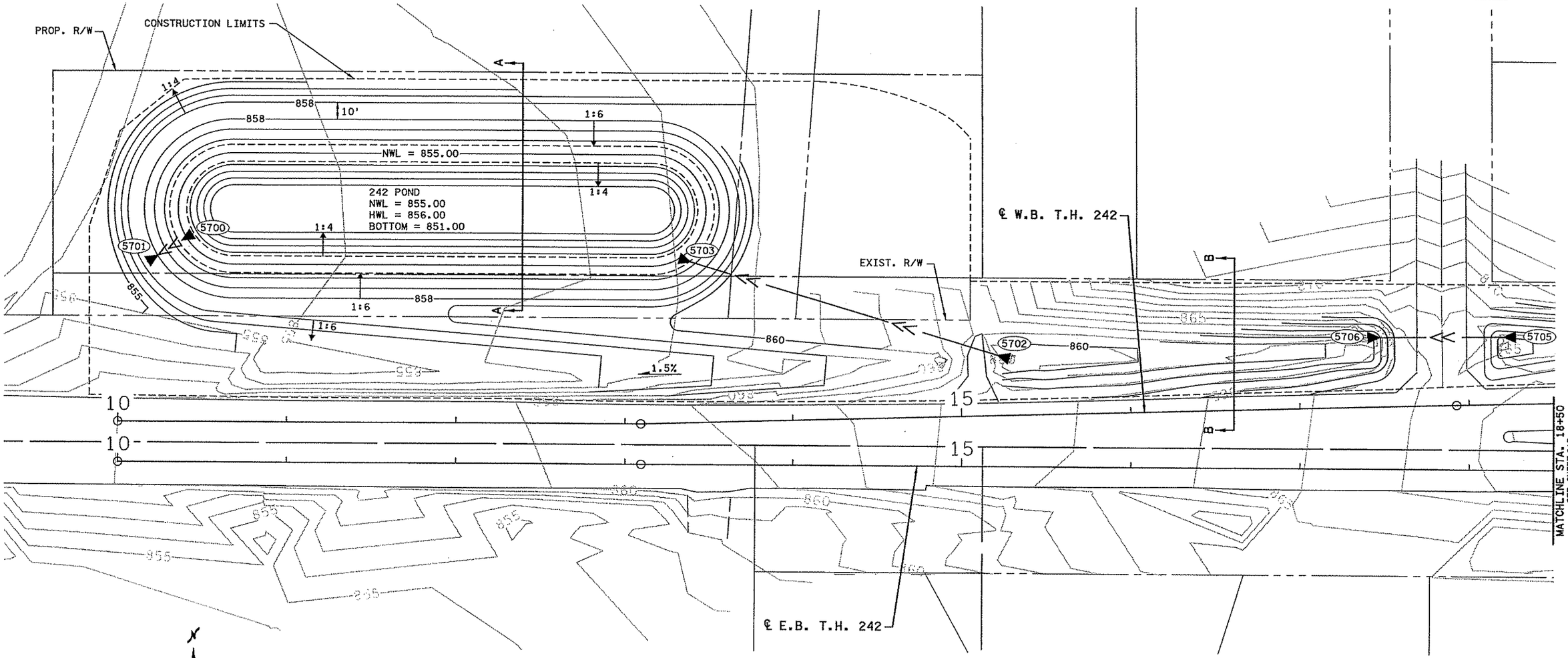
4/30/52 PM
10/10/2006
...\projects\5404\hl-mu\plan\5404.TEJ

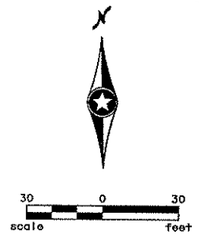
SECTION A-A



SECTION B-B







NOTES:

Ⓐ SEE CROSS SECTIONS FOR GRADING ALONG ROADWAYS.

Ⓑ CONTOURS SHOWN TO FINISHED GRADE.

Ⓒ DITCH GRADING TO MATCH EXISTING.

Ⓓ TOE OF DITCH SLOPES SHALL BE ROUNDED.

NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	CMT	CMT	CMT	REVISE SECTION B-B TYPICAL TO INCLUDE SHOULDER P.I.
...\5404\hl-mu\plan\5404.GPA					

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.

Print Name: CHRIS M. TRBOYEVICH

Date _____ License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	Z. KARTAK
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

GRADING PLAN

C.S.A.H. 78

242 POND AND W.B. T.H. 242 DITCH

SHEET 212 OF 400

4:30:54 PM
9/26/2006
M:\projects\5404\hl-mu\plan\5404.GPA

CONSTRUCTION LIMITS

℄ W.B. T.H. 242

EXIST. R/W

MATCHLINE STA. 18+50
SEE SHEET 212

℄ E.B. T.H. 242

5139

5130

1.5%

1.5%

20

25

870

875

880

scale 30 0 30 feet

NOTES:

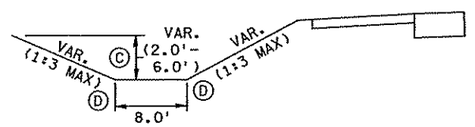
Ⓐ SEE CROSS SECTIONS FOR GRADING ALONG ROADWAYS.

Ⓑ CONTOURS SHOWN TO FINISHED GRADE.

Ⓒ DITCH GRADING TO MATCH EXISTING.

Ⓓ TOE OF DITCH SLOPES SHALL BE ROUNDED.

SECTION C-C



NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	CMT	CMT	CMT	REVISE SECTION B-B TYPICAL TO INCLUDE SHOULDER P.I.

...\5404\hl-mu\plan\5404.GPB

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.

Print Name: CHRIS M. TRBOYEVICH

Date 8/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	Z. KARTAK
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

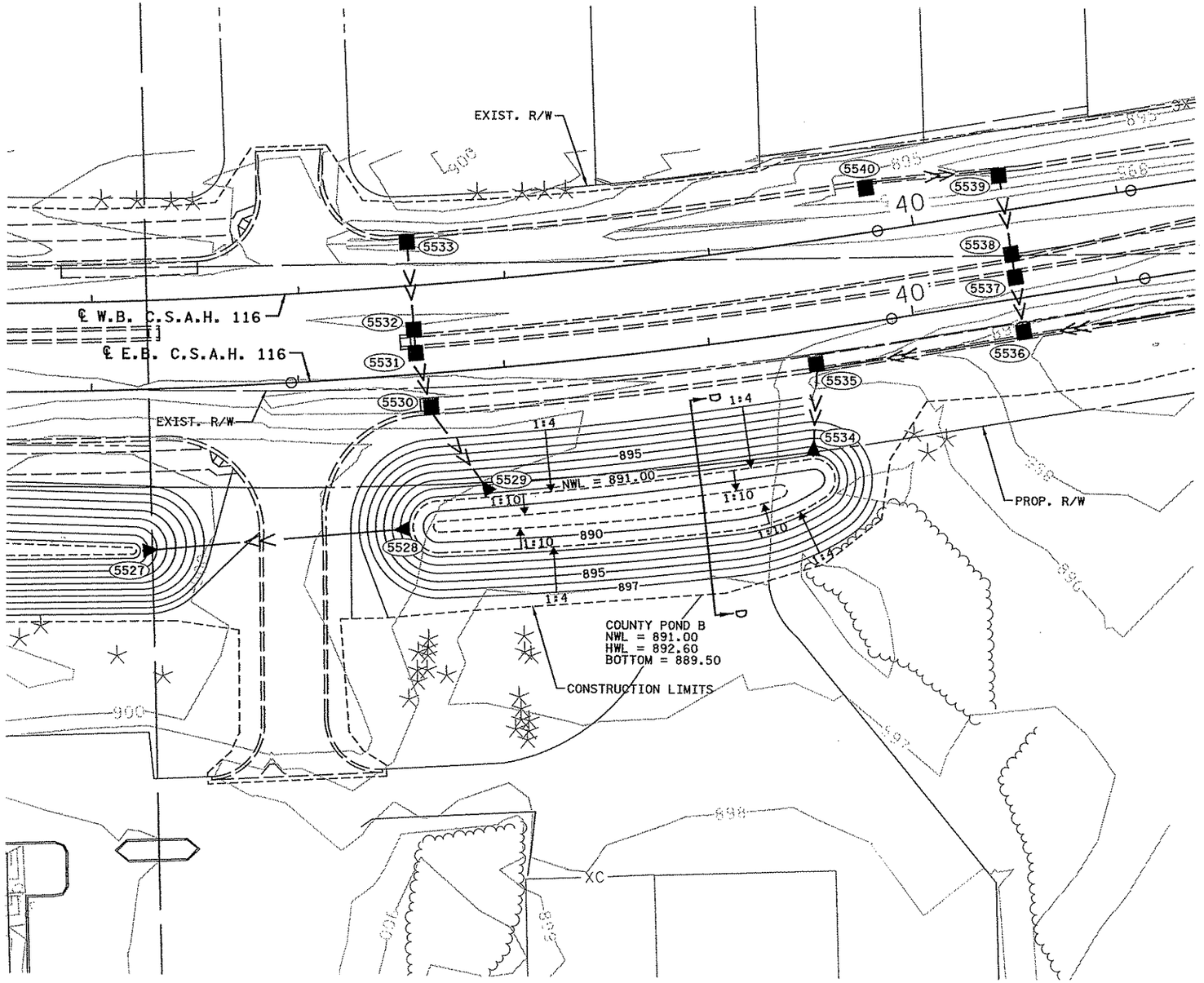
GRADING PLAN

C.S.A.H. 78

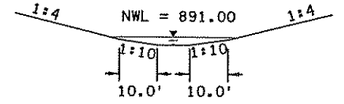
W.B. T.H. 242 DITCH

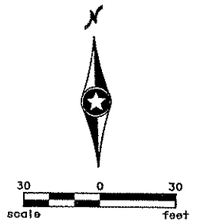
SHEET 213 OF 400

4:30:55 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.GPB



SECTION D-D





NOTES:

(A) SEE CROSS SECTIONS FOR GRADING ALONG ROADWAYS.

(B) CONTOURS SHOWN TO FINISHED GRADE.

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hi-mu\plan\5404.GPD

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/6/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	Z.KARTAK
CHECKED BY	M.TURNER
COMM. NO.	0055404

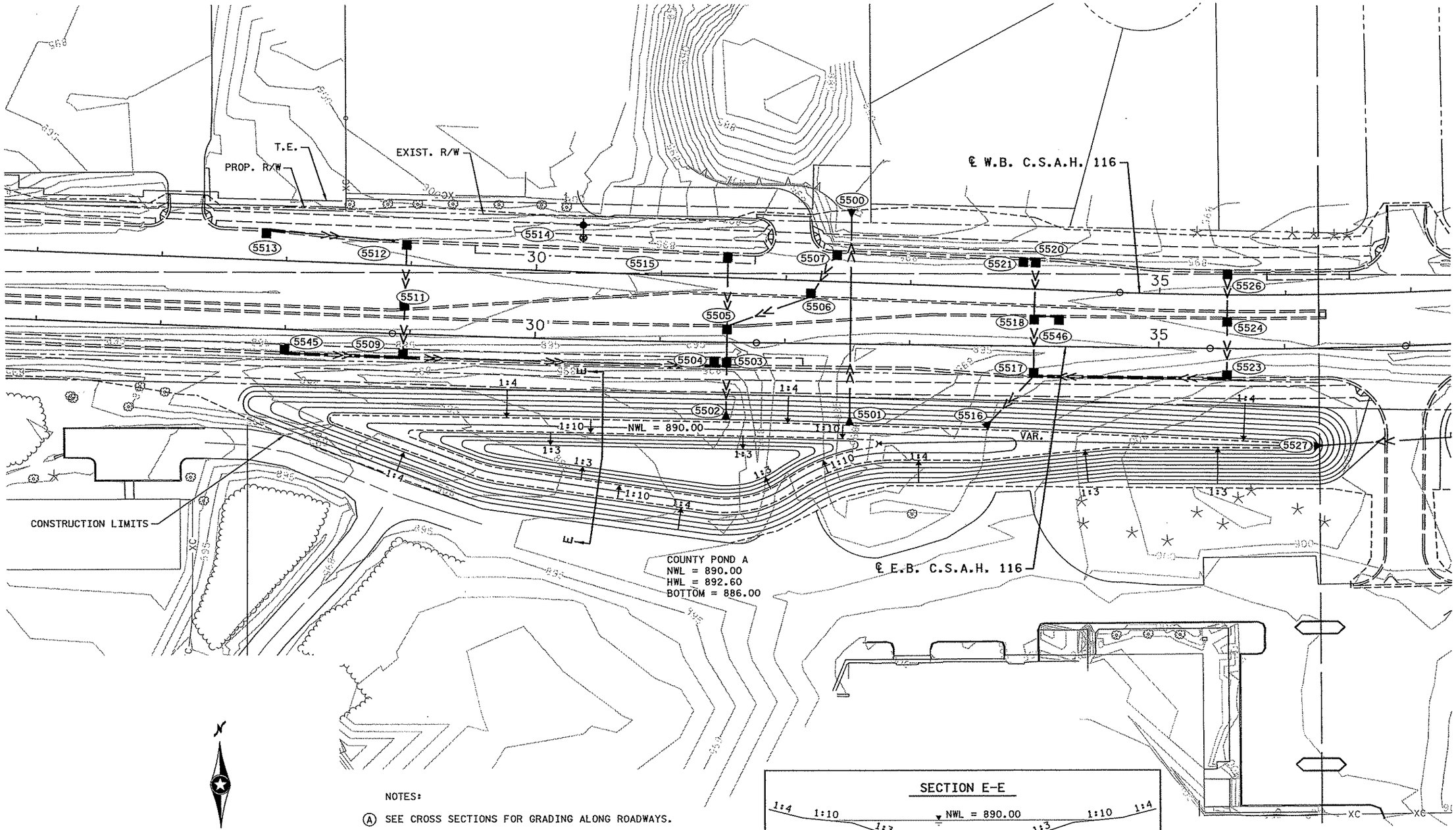
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

GRADING PLAN
C.S.A.H. 78
COUNTY POND B

SHEET 214 OF 400

4:30:56 PM
4/26/2006
R:\Projects\5404\hi-mu\plan\5404.GPD

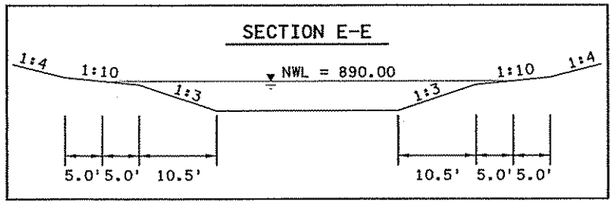


NOTES:

(A) SEE CROSS SECTIONS FOR GRADING ALONG ROADWAYS.

(B) CONTOURS SHOWN TO FINISHED GRADE.

SECTION E-E



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.GPE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	Z. KARTAK
CHECKED BY	M. TURNER
COMM. NO.	0055404

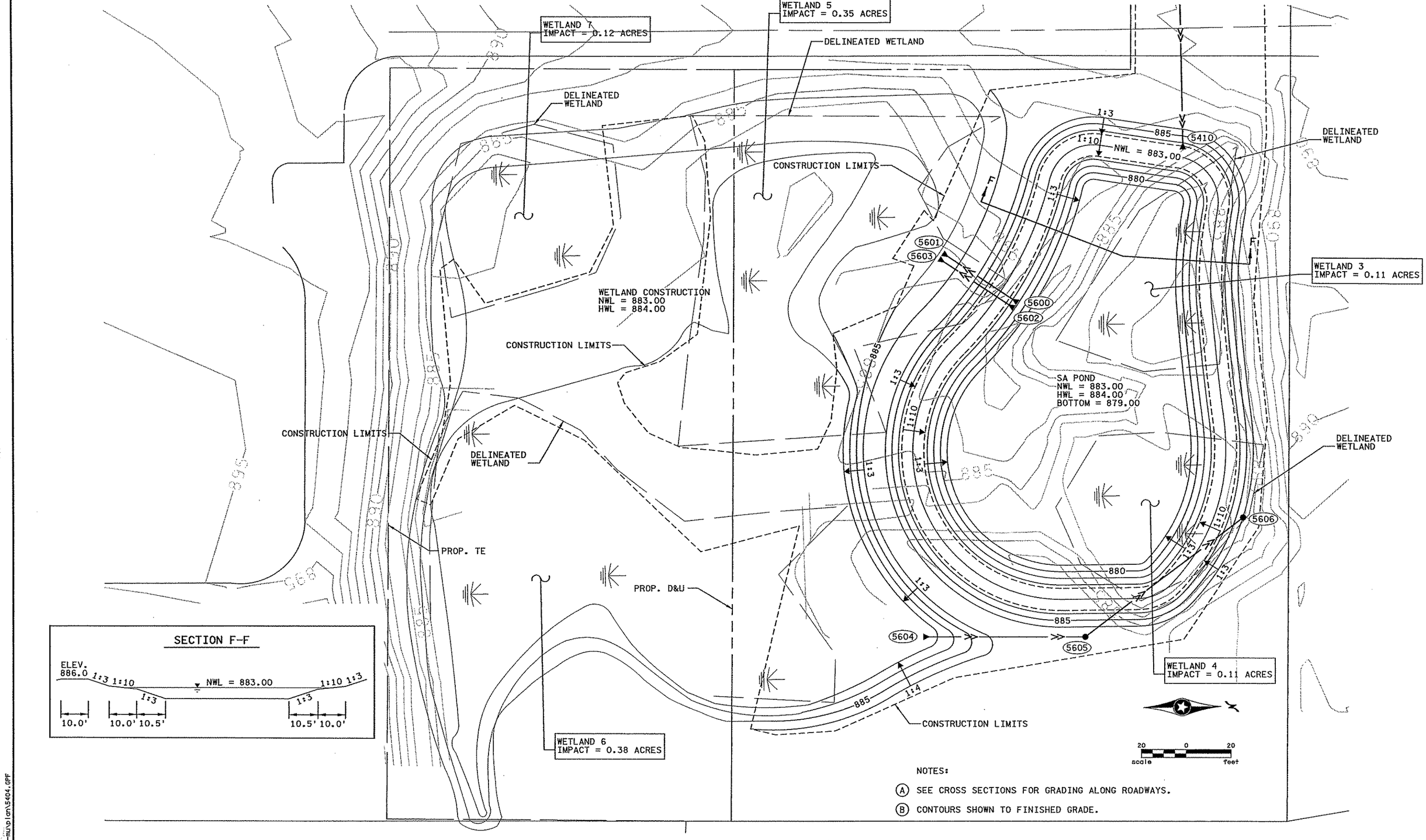
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

GRADING PLAN
C.S.A.H. 78
COUNTY POND A

SHEET 215 OF 400

4:30:58 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.GPE



SECTION F-F

NOTES:

(A) SEE CROSS SECTIONS FOR GRADING ALONG ROADWAYS.

(B) CONTOURS SHOWN TO FINISHED GRADE.

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.GPF

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	Z. KARTAK
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

GRADING PLAN

C.S.A.H. 78

SA POND

SHEET 216 OF 400

4130159 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.GPF

℄ N.B. C.S.A.H. 78

65

5116

EXIST R/W

880

1:3

NWL = 875.00

5117

1:3

1:3

WESTON POND
NWL = 875.00
HWL = 877.80
BOTTOM = 873.00

1:3

6001

875

PROP. TE

CONSTRUCTION LIMITS

PROP. TE

CONSTRUCTION LIMITS

CONTRACTOR SHALL PROVIDE ADEQUATE COVER OVERDRAIN PIPE AND GRADE TO PREVENT EROSION.

SECTION G-G

1:3 NWL = 875.00 1:3 VAR.

NOTES:

(A) SEE CROSS SECTIONS FOR GRADING ALONG ROADWAYS.

(B) CONTOURS SHOWN TO FINISHED GRADE.

10 0 10
scale feet

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.GPC

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	Z. KARTAK
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

GRADING PLAN
C.S.A.H. 78
WESTON POND

SHEET 217 OF 400

4:31:00 PM
9/26/2006
H:\projects\5404\hl-mu\plan\5404.GPC

(GG) SALVAGE SIGN TYPE C

SIGN NO.	C.S.A.H. 78	C.S.A.H. 116	QUANTITY	POSTS NO.	POSTS KNEE BRACE QUANT.	PANEL SIZE (IN)	PANEL AREA (SF)	PANEL TOTAL AREA (SF)	CODE NO.	PANEL LEGEND
C-101	3		3	1	0	18 X 24	3.0	9.0	W1-8	CHEVRON
						18 X 24	3.0	9.0	W1-8	CHEVRON
C-102	3	3	6	1	0	30 X 30	6.3	37.8	R3-X2	LEFT TURN LANE
C-103	10	6	16	1	0	30 X 30	6.3	100.8	R3-X1	RIGHT TURN LANE
C-104	1		1	1	0	54 X 30	11.3	11.3	R3-30ABD	LEFT/LEFT/THRU RIGHT
C-105	2	1	3	1	0	24 X 30	5.0	15.0	R2-1	SPEED LIMIT XX
C-106	2	2	4	1	0	48 X 30	10.0	40.0	R3-30ACD	LEFT/THRU/THRU RIGHT
C-107	1		1	1	0	36 X 36	9.0	9.0	W9-1R	RIGHT LANE ENDS
						24 X 18	3.0	3.0	W20-100p	DISTANCE PLAQUE
C-108	1		1	1	0	24 X 30	5.0	5.0	R4-7	KEEP RIGHT
C-109	1		1	1	0	24 X 30	5.0	5.0	R4-7	KEEP RIGHT
						30 X 30	6.3	6.3	R3-X2	LEFT TURN LANE
C-110	3		3	1	0	48 X 48	16.0	48.0	W20-X3L	MERGE
C-111	1		1	1	0	60 X 36	15.0	15.0	I-X1	ADOPT A HIGHWAY
C-112	1		1	1	0	48 X 60 X 60	9.2	9.2	W14-3	NO PASSING ZONE
C-113	1		1	1	0	48 X 24	8.0	8.0	W1-7	DOUBLE ARROW
									X4-2	HAZARD MARKER
									X4-2	HAZARD MARKER
C-114	2	2	4	1	0	36 X 36	9.0	36.0	R1-1	STOP
C-115	2		2	1	0	54 X 30	11.3	22.6	R3-30ACA	LT/THRU/RIGHT
C-116	1		1	1	0	36 X 36	9.0	9.0	W3-3	SIGNAL AHEAD
C-201	9	3	12	1	0.0	24 X 30	5.0	60.0	R4-7	KEEP RIGHT
						18 X 18	2.3	27.6	X4-2	HAZARD MARKER
C-202	12	5	17	1	0.0	30 X 30	6.3	107.1	R5-1	DO NOT ENTER
C-203	7	4	11	1	0.0	36 X 12	3.0	33.0	R6-1R	ONE WAY
C-204	1		1	1	0.0	24 X 12	2.0	2.0	M3-3	SOUTH
						24 X 24	4.0	4.0	M1-6	CO RD XXX
C-205	1		1	1	0.0	24 X 12	2.0	2.0	M3-1	NORTH
						24 X 24	4.0	4.0	M1-6	CO RD XXX
C-206	19	3	22	1	0.0	30 X 30	6.3	138.6	R1-1	STOP
C-207	2		2	1	0.0	21 X 15	2.2	4.4	M2-1a	JCT
						24 X 24	4.0	8.0	M1-5a	MN XXX
C-208	2		2	1	0.0	21 X 15	2.2	4.4	M2-1a	JCT
						24 X 24	4.0	8.0	M1-6	CO RD XXX
C-209		2	2	1	0.0	21 X 15	2.2	4.4	M2-1a	JCT
						24 X 24	4.0	8.0	M1-6	CO RD XXX
C-210	6	1	7	1	0.0	24 X 30	5.0	35.0	R2-1	SPEED LIMIT XX
C-211	1		1	1	0.0	24 X 12	2.0	2.0	M4-5	TO
						24 X 24	4.0	4.0	M1-4	US XX
						21 X 15	2.2	2.2	M6-4	ARROW
C-212	1		1	1	0.0	24 X 12	2.0	2.0	M4-5a	TO
						24 X 24	4.0	4.0	M1-5a	MN XXX
						21 X 15	2.2	2.2	M6-4	ARROW
C-213	1	2	3	1	0.0	36 X 36	9.0	27.0	W3-3	SIGNAL AHEAD
C-214	2		2	1	0.0	24 X 24	4.0	8.0	M1-6	CO RD XXX
						21 X 15	2.2	4.4	M6-4	ARROW
C-215		1	1	1	0.0	24 X 12	2.0	2.0	M3-4	WEST
						24 X 24	4.0	4.0	M1-6	CO RD XXX
C-216		1	1	1	0.0	24 X 24	4.0	4.0	M1-6	CO RD XXX
						21 X 15	2.2	2.2	M6-4	ARROW
C-217	2		2	1	0.0	30 X 30	6.3	12.6	W1-4L	REVERSE CURVE
C-218	1		1	1	0.0	24 X 24	4.0	4.0	M1-5a	MN XXX
C-219	1		1	1	0.0	21 X 15	2.2	2.2	M2-1a	JCT
						24 X 24	4.0	4.0	M1-5a	MN XXX
						21 X 15	2.2	2.2	M6-4a	ARROW
C-220	1		1	1	0.0	24 X 24	4.0	4.0	M1-4	US XX
						21 X 15	2.2	2.2	M6-4a	ARROW
MARKER	5	1	6							MARKER
DELINEATOR	6		6							DELINEATOR
PROJECT TOTAL			152							

NOTES:

1). SALVAGED SIGNS SHALL BE RETURNED TO ANOKA COUNTY.

(JJ) SALVAGE AND INSTALL SIGN TYPE C

SIGN NO.	C.S.A.H. 78	C.S.A.H. 116	QUANTITY	POSTS NO. & TYPE	POSTS KNEE BRACE QUANT.	POSTS LENGTH (FT)	(1) MTG. HEIGHT (MIN.) (FT)	PANEL SIZE (IN)	PANEL AREA (SF)	PANEL TOTAL AREA (SF)	CODE NO.	PANEL LEGEND	NOTES
C-221	9	1	10			11.5	7					STREET SIGN	
C-222	2		2	2	0	13.5	7	VAR.			I2-3	CITY NAME	(1)
PROJECT TOTAL			12										

NOTES:

(1) QUANTITY INCLUDES 1 CITY OF COON RAPIDS SIGN AND 1 CITY OF ANDOVER SIGN

NO	DATE	BY	CKD	APPR	REVISION
...\5404\hl-mu\plan\5404.STA					

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
SIGNING TABULATIONS
C.S.A.H. 78

SHEET 218 OF 400

4/31101 PM
9/26/2006
n:\projects\5404\hl-mu\plan\5404.STA

(HH) SIGN PANELS TYPE C

SIGN NO.	C.S.A.H. 78	C.S.A.H. 116	QUANTITY	POSTS (2) NO.	POSTS (2) KNEE BRACE QUANT.	POSTS (2) LENGTH (FT)	(1) MTG. HEIGHT (MIN.) (FT)	PANEL SIZE (IN)	PANEL AREA (SF)	PANEL TOTAL AREA (SF)	CODE NO.	PANEL LEGEND
C-1	23	5	28	1	0	13.0	7	30 X 30	6.3	176.4	R3-X1	RIGHT TURN LANE
C-2	2	0	2	1	0	13.8	7	21 X 15	2.2	4.4	M3-1A	NORTH
								24 X 24	4.0	8.0	M1-6	CO RD XXX
C-3	1	1	2	1	0	13.5	7	36 X 36	9.0	18.0	W9-2L	LANE ENDS MERGE LEFT
C-4	9	2	11	1	0	13.0	7	30 X 30	6.3	69.3	R3-X2	LEFT TURN LANE
C-5	0	1	1	1	0	13.5	7	36 X 36	9.0	9.0	W6-1	DIVIDED HIGHWAY
C-6	11	3	14	1	0	14.5	7	36 X 36	9.0	126.0	R1-1	STOP
								36 X 12	3.0	42.0	R6-1R	ONE WAY
C-7	16	4	20	1	0	13.0	7	24 X 30	5.0	100.0	R4-7	KEEP RIGHT
									0.0	0.0	X4-2	HAZARD MARKER
C-8	2	0	2	1	0	13.8	7	21 X 15	2.2	4.4	M2-1A	JCT
								24 X 24	4.0	8.0	M1-5A	MN XXX
C-9	22	7	29	1	0	13.0	7	30 X 30	6.3	182.7	R5-1	DO NOT ENTER
C-10	2	0	2	1	0	13.8	7	21 X 15	2.2	4.4	M3-3A	SOUTH
								24 X 24	4.0	8.0	M1-6	CO RD XXX
C-11	0	1	1	1	0	13.8	7	21 X 15	2.2	2.2	M3-2A	EAST
								24 X 24	4.0	4.0	M1-6	CO RD XXX
C-12	2	2	4	1	0	13	7	36 X 30	7.5	30.0	R3-30AB	LEFT ONLY/LEFT ONLY
C-13	1	1	2	1	0	15.0	7	24 X 30	5.0	10.0	R4-7	KEEP RIGHT
								24 X 24	4.0	8.0	R3-4	NO U-TURN (3)
									0.0	0.0	X4-2	HAZARD MARKER (3)
C-14	4	2	6	1	0	14.0	7	30 X 30	6.3	37.8	R1-1	STOP
								36 X 12	3.0	18.0	R6-1R	ONE WAY (3)
								36 X 12	3.0	18.0	R6-1L	ONE WAY (3)
C-15	0	1	1	1	0	13.8	7	21 X 15	2.2	2.2	M3-4A	WEST
								24 X 24	4.0	4.0	M1-6	CO RD XXX
C-16	1	0	1	1	0	13.5	7	36 X 36	9.0	9.0	R1-1	STOP
C-17	2	0	2	1	0	13.5	7	30 X 36	7.5	15.0	R3-5R	RIGHT TURN ONLY
C-18	7	2	9	1	0	13.0	7	24 X 30	5.0	45.0	R2-1	SPEED LIMIT XX
C-19	10	3	13	1	0	11.5	7	36 X 12	3.0	39.0	R6-1R	ONE WAY
C-20	1	1	2	1	0	13.5	7	36 X 36	9.0	18.0	W3-3	SIGNAL AHEAD
C-21	2	0	2	1	0	13.0	7	30 X 30	6.3	12.6	W1-4L	REVERSE CURVE
C-22	2	2	4	1	0	15.0	7	24 X 24	4.0	16.0	M1-6	CO RD XXX
								24 X 30	5.0	20.0	M6-4	ARROW
C-23	2	2	4	1	0	13.8	7	21 X 15	2.2	8.8	M2-1A	JCT
								24 X 24	4.0	16.0	M1-6	CO RD XXX
C-24	1	0	1	1	0	12.5	7	24 X 24	4.0	4.0	M1-5A	MN XXX
C-25	2	0	2	1	0	13.8	7	24 X 24	4.0	8.0	M1-5A	MN XXX
								21 X 15	2.2	4.4	M6-4	ARROW
C-26	1	0	1	2	0	13.0	7	54 X 30	11.3	11.3	33-30ACA	LT ONLY/THRU ONLY/RT ONLY
C-27	1	1	2	1	0	15.5	7	36 X 36	9.0	18.0	W9-1R	RIGHT LANE ENDS
								30 X 24	5.0	10.0	W20-100P	DISTANCE PLAQUE
C-28	1	1	2	1	0	12.0	7	22 X 18	2.8	5.6	W20-X3L	MERGE
PROJECT TOTAL										1155.5		

GENERAL NOTES:

1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
2. SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAIL DRAWINGS OF TYPE C SIGN PANELS.

SPECIFIC NOTES:

(1) MOUNTING HEIGHT IS MINIMUM. REFER TO ANOKA COUNTY STANDARDS FOR TYPICAL MOUNTING.
(2) REFER TO ANOKA COUNTY STANDARDS FOR PUNCHING AND MOUNTING DETAILS.
(3) MOUNT BACK TO BACK.

(FF) PERMANENT PAVEMENT MARKINGS (SPEC. 2564)

ALIGNMENT	STATION TO STATION	PAVEMENT MESSAGE (3) LEFT ARROW (EACH)	PAVEMENT MESSAGE (3) RIGHT ARROW (EACH)	SOLID LINE 4" WHITE (LF)	SOLID LINE 24" WHITE(3) (LF)	SOLID LINE 4" YELLOW (LF)	SOLID LINE 24" YELLOW(3) (LF)	BROKEN LINE 4" WHITE (LF)	DOUBLE SOLID LINE 4" YELLOW (LF)	ZEBRA CROSS WALK MARKING(3) (SF)
N.B. C.S.A.H. 78	50+00.0 - 126+00.0	8	6	16870		12323	582	2774	1087	1206
N.B. C.S.A.H. 78	126+00.0 - 171+38.8	10	6	13523	245	9040		1800		1116
N.B. C.S.A.H. 78	171+38.8 - 180+50.0	1	2	2106	135	24	40	30	1169	792
127 AVE W.	300+00.0 - 302+25.4									
127 AVE E.	351+00.0 - 352+00.0			92					95	
129TH LANE	400+00.0 - 401+85.4									
133RD AVE W	500+00.0 - 502+26.8			35					35	
133RD AVE E	503+73.9 - 506+00.0									
E.B. STATION PARKWAY	604+76.0 - 605+75.0			95				16		
PARK DRIVE	701+05.1 - 711+73.6									
SERVICE ROAD	800+50.0 - 803+44.5									
SUBTOTAL		**19**	**14**	**32721**	**380**	**21387**	**622**	**4620**	**2386**	**3114**
E.B. C.S.A.H. 116	12+50.0 - 22+79.6	4	2	3116	62	1653		360		126
E.B. C.S.A.H. 116	24+92.1 - 47+37.2	4	2	6737	63	3471	105	642	868	180
COUNTY ACCESS	900+00.0 - 901+97.2									
SUBTOTAL		**8**	**4**	**9853**	**125**	**5124**	**105**	**1002**	**868**	**306**
PROJECT TOTALS		27	18	42574	505	26511	727	5622	3254	3420

NOTES:

1. ALL PERMANENT PAVEMENT MARKINGS SHALL BE EPOXY UNLESS OTHERWISE NOTED.
2. SEE TEMPORARY PAVEMENT MARKINGS FOR ALL MARKINGS RELATED TO STAGING.
3. MARKINGS SHALL BE PREFORMED THERMOPLASTIC.
4. ALL BROKEN LINES SHALL BE 10' SOLID WITH 40' GAP.

NO	DATE	BY	CKD	APPR	REVISION
1	02/21/07	CJH	CMT	CMT	SIGNING AND STRIPING REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.STB

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.
Print Name: CHRIS M. TRBOYEVICH
Date 2/23/2007 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
SIGNING TABULATIONS
C.S.A.H. 78

SHEET 219 OF 400

4:52:45 PM
2/22/2007
H:\Projects\5404\hl-mu\Plan\5404.STB

PERMANENT PAVEMENT MARKING PLAN

NOTES & GUIDELINES

GENERAL INFORMATION:

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

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

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

EPOXY:

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

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

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

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

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

POLY PREFORM GROOVED APPLICATION:

CONCRETE PAVEMENT SURFACES AND BITUMINOUS PAVEMENT SURFACES WHERE PAVEMENT MARKINGS CANNOT BE INLAID IN THE HOT MAT, SHALL BE GROOVED FOR THE INSTALLATION OF DURABLE REFLECTORIZED PAVEMENT MARKINGS. SEE SPECIAL PROVISIONS.

PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

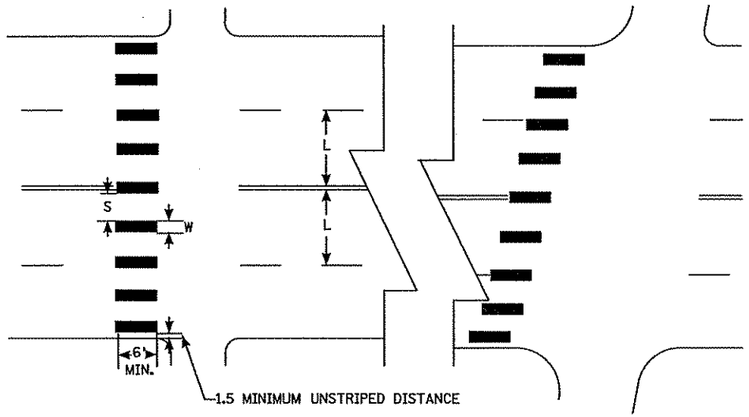
EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

5404.SDA

MARKINGS FOR PEDESTRIAN CROSSWALKS

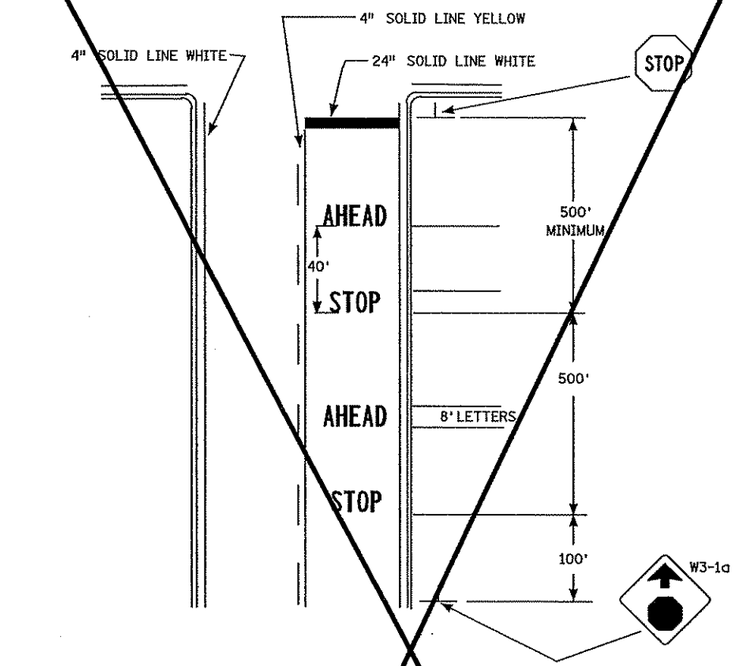
(L) WIDTH OF INSIDE LANE	(W) WIDTH OF PAINTED AREA	(S) WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'



NOTES:

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

PLACEMENT FOR "STOP AHEAD" MARKINGS AND STOP LINES



NOTES:

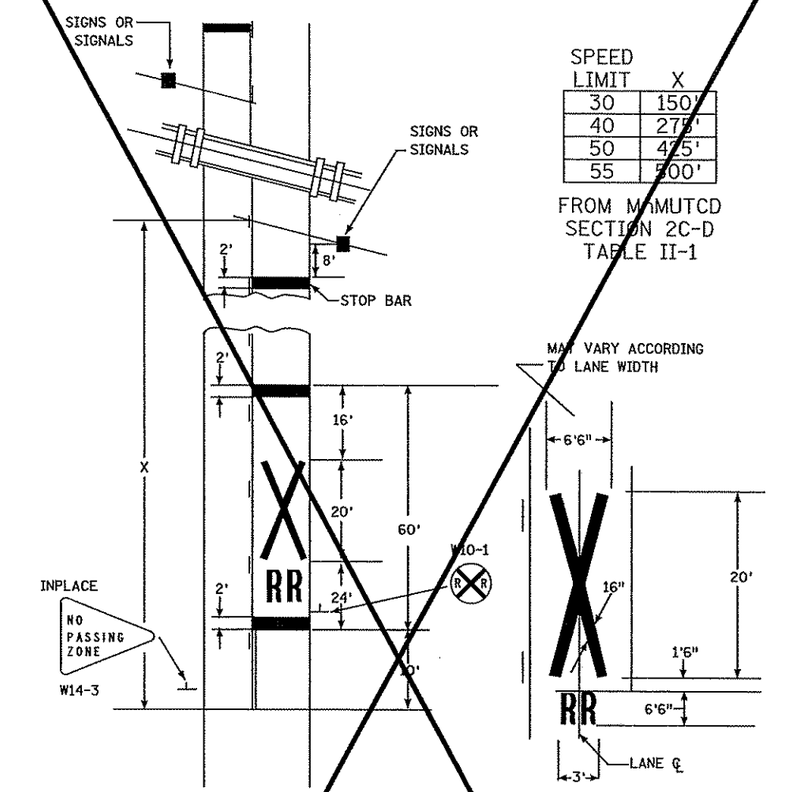
1. DOUBLE MESSAGE AS SHOWN SHOULD BE PLACED WHEREVER APPROACH SPEEDS ARE OVER 40 MPH.
2. IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

   35 MPH SPEED LIMIT OR LESS.....500'
   40-50 MPH SPEED LIMIT.....650'
   55 MPH SPEED LIMIT.....800'

3. STOP LINES SHOULD ORDINARILY BE PLACED 4 FEET IN ADVANCE OF AND PARALLEL TO THE NEAREST CROSSWALK LINE. IN THE ABSENCE OF A MARKED CROSSWALK, THE STOP LINE SHOULD BE PLACED AT THE DESIRED STOPPING POINT AND IN NO CASE NO MORE THAN 30 FEET OR NO LESS THAN 4 FEET FROM THE NEAREST EDGE OF THE INTERSECTING CURB LINE OR NEAR EDGE OR SHOULDER.

   IF A STOP LINE IS USED IN CONJUCTION WITH A STOP SIGN, IT SHOULD ORDINARILY BE PLACED IN LINE WITH THE STOP SIGN. HOWEVER, IF THE SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP LINE SHOULD BE PLACED AT THE STOPPING POINT.

MARKINGS FOR RAILROAD CROSSINGS



NOTES:

1. THE DISTANCE FROM THE RAILROAD CROSSING MARKING TO THE NEAREST TRACK WILL VARY ACCORDING TO THE APPROACH SPEED AND SIGHT DISTANCE OF THE VEHICULAR TRAFFIC APPROACHING, BUT SHOULD NOT BE LESS THAN 50 FEET.
2. ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.
3. THE STOP LINE MAY BE PARALLEL TO AND 15 FEET FROM THE TRACKS WHERE THERE ARE RAILROAD CROSSBUCK SIGNS.

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

PERMANENT PAVEMENT MARKING SHEET NO	TITLE:
1	PAVEMENT MARKING DETAILS TYPICAL

STATE PROJ NO 02-678-16 ET. AL. SHEET NO 221 OF 400 SHEETS

5404.SDB

NOTES:

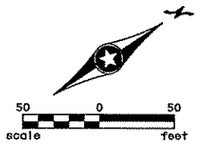
Ⓐ SALVAGE SIGN

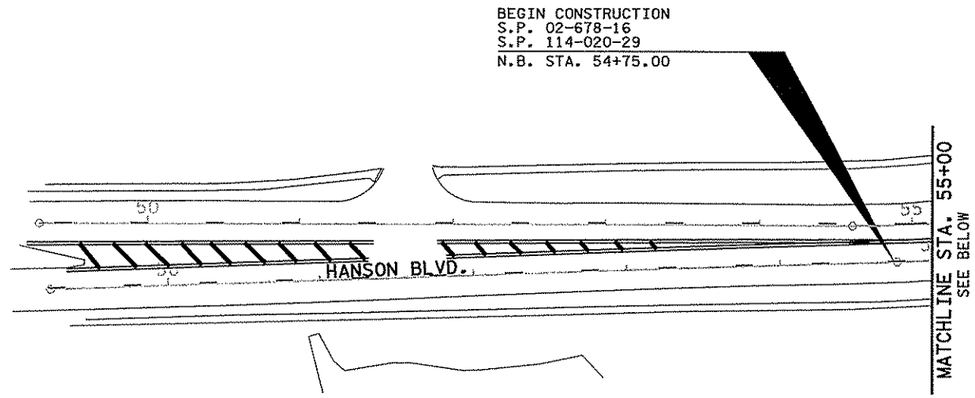
Ⓑ STREET SIGN POST

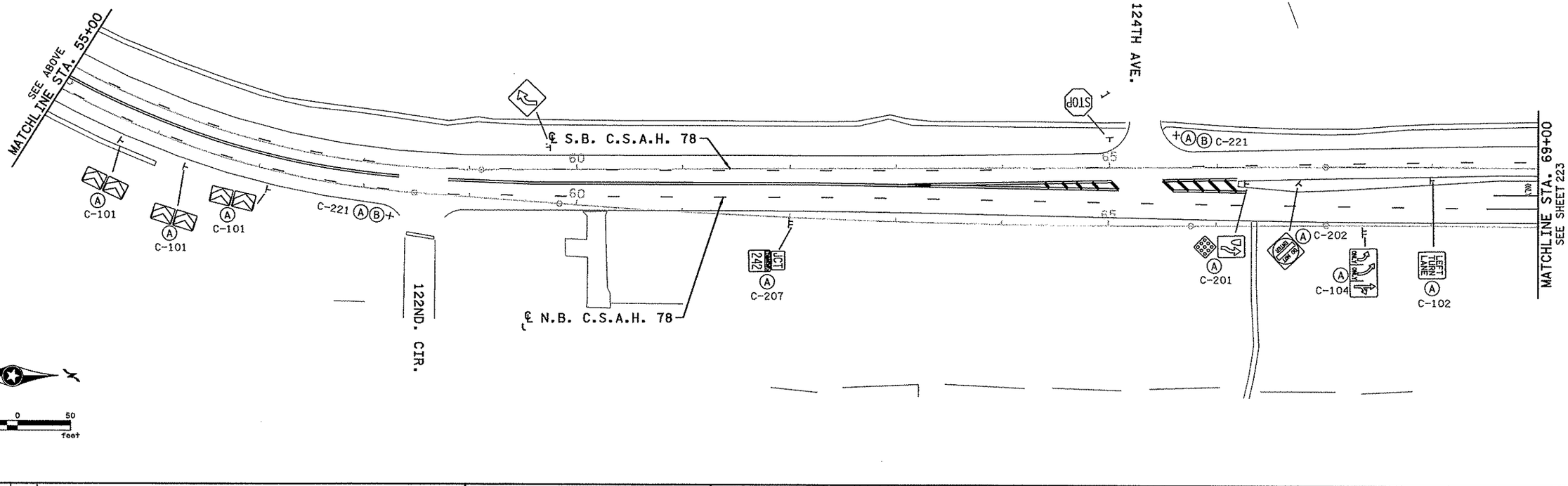
Ⓓ SALVAGE SIGN SPECIAL

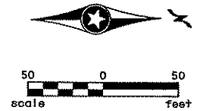
Ⓔ SALVAGE MARKER

Ⓕ SALVAGE DELINEATOR









NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.SIA

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	Z.KARTAK
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EXISTING SIGNING AND STRIPING PLAN

C.S.A.H. 78

SHEET 222 OF 400

4:31:06 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.SIA

NOTES:

(A) SALVAGE SIGN
(B) STREET SIGN POST
(D) SALVAGE SIGN SPECIAL
(E) SALVAGE MARKER
(F) SALVAGE DELINEATOR

SEE SHEET 222
MATCHLINE STA. 69+00

SEE SHEET 224
MATCHLINE STA. 84+00

℄ S.B. C.S.A.H. 78

℄ N.B. C.S.A.H. 78

T.H. 242

125TH LANE

126TH LANE

EAGLE ST.

C-204 C-202 C-210 C-203 C-220 C-203 C-219 C-106 C-202 C-106 C-206 C-109 C-207 C-201 C-201 C-201 C-202 C-203 C-201 C-218 C-202 C-203 C-205 C-107 C-206 C-206 C-110 C-111

50 0 50
scale feet

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.SIB

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	Z.KARTAK
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
EXISTING SIGNING AND STRIPING PLAN
C.S.A.H. 78

SHEET 223 OF 400

4:31:08 PM
9/26/2006
n:\projects\5404\hl-mu\plan\5404.SIB

NOTES:

(A) SALVAGE SIGN
(B) STREET SIGN POST
(D) SALVAGE SIGN SPECIAL
(E) SALVAGE MARKER
(F) SALVAGE DELINEATOR

℄ 127TH AVE.

128TH LANE

℄ GROUSE ST.

℄ DRIVE

℄ N.B. C.S.A.H. 78

℄ S.B. C.S.A.H. 78

MATCHLINE STA. 84+00 SEE SHEET 223

MATCHLINE STA. 99+00 SEE SHEET 225

C-206 (A) STOP

C-210 (A) SPEED LIMIT 45

C-110 (A) MERGE

C-112 (A) NO PASSING ZONE

XC

ONLY

85 90 95 15 20 10

50 0 50
scale feet

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.SIC

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	Z.KARTAK
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

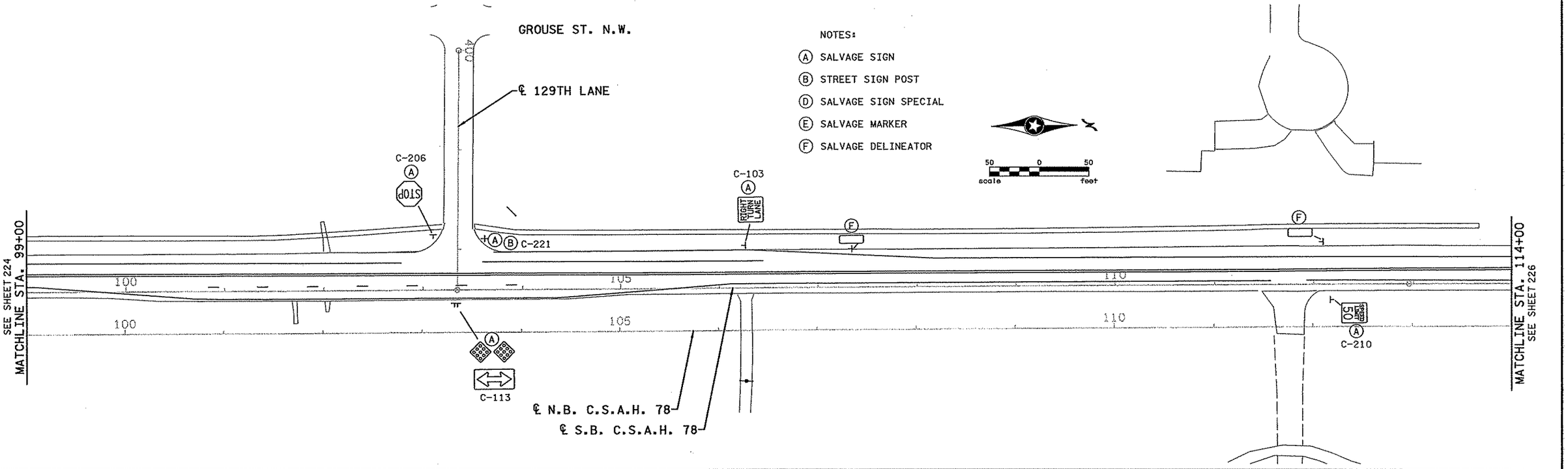
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EXISTING SIGNING AND STRIPING PLAN
C.S.A.H. 78

SHEET 224 OF 400

4/31/09 PM
10/10/2006
h:\projects\5404\hl-mu\plan\5404.SIC



NO	DATE	BY	CKD	APPR	REVISION
...\5404\hj-mu\plan\5404.SID					

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	Z.KARTAK
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

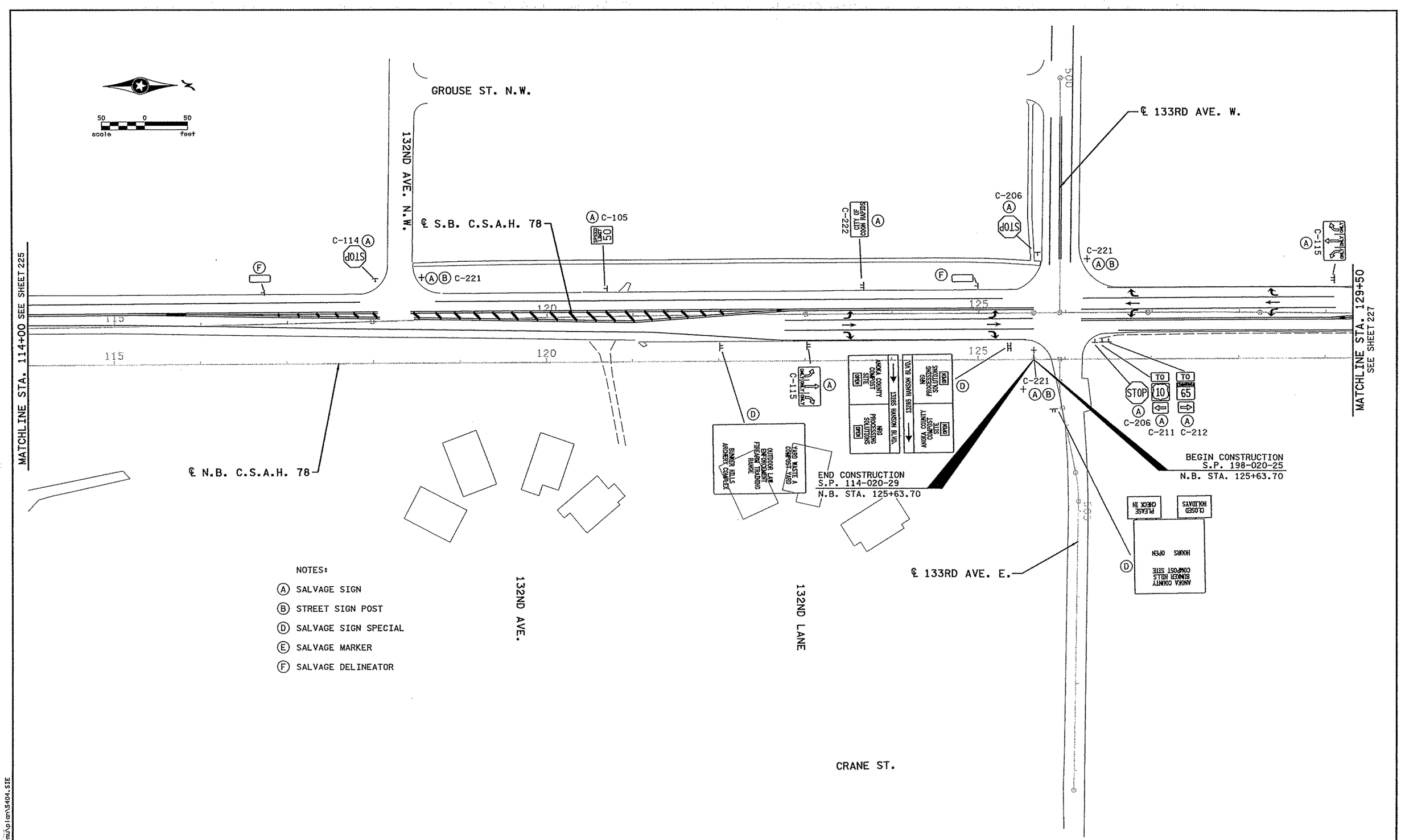
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EXISTING SIGNING AND STRIPING PLAN
C.S.A.H. 78

SHEET 225 OF 400

4:31:10 PM
9/26/2006
H:\projects\5404\hj-mu\plan\5404.SID



NOTES:

- (A) SALVAGE SIGN
- (B) STREET SIGN POST
- (D) SALVAGE SIGN SPECIAL
- (E) SALVAGE MARKER
- (F) SALVAGE DELINEATOR

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.SIE

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	Z.KARTAK
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

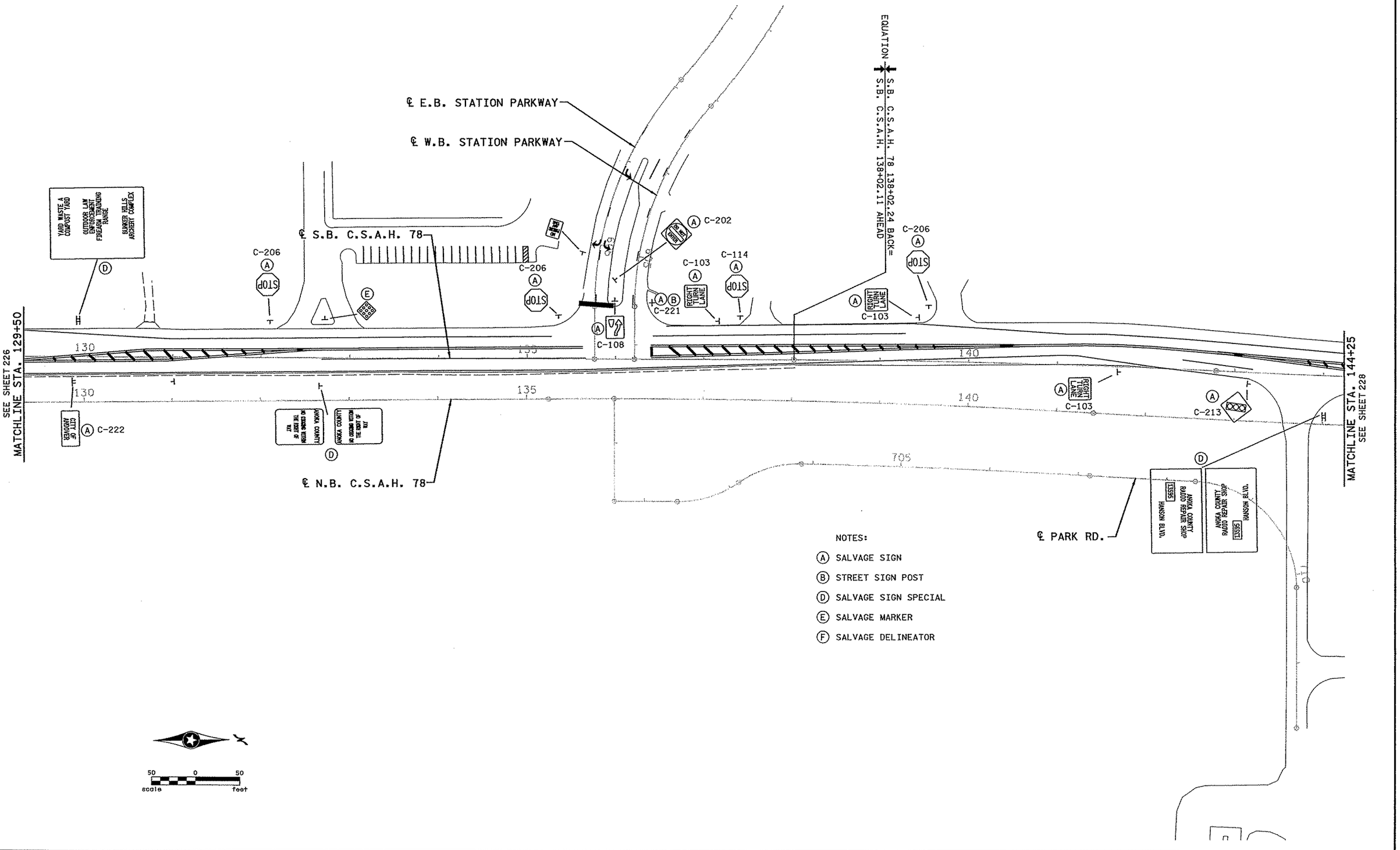
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EXISTING SIGNING AND STRIPING PLAN
C.S.A.H. 78

SHEET 226 OF 400

4131111 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.SIE



NOTES:

(A) SALVAGE SIGN
(B) STREET SIGN POST
(D) SALVAGE SIGN SPECIAL
(E) SALVAGE MARKER
(F) SALVAGE DELINEATOR

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.SIF

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

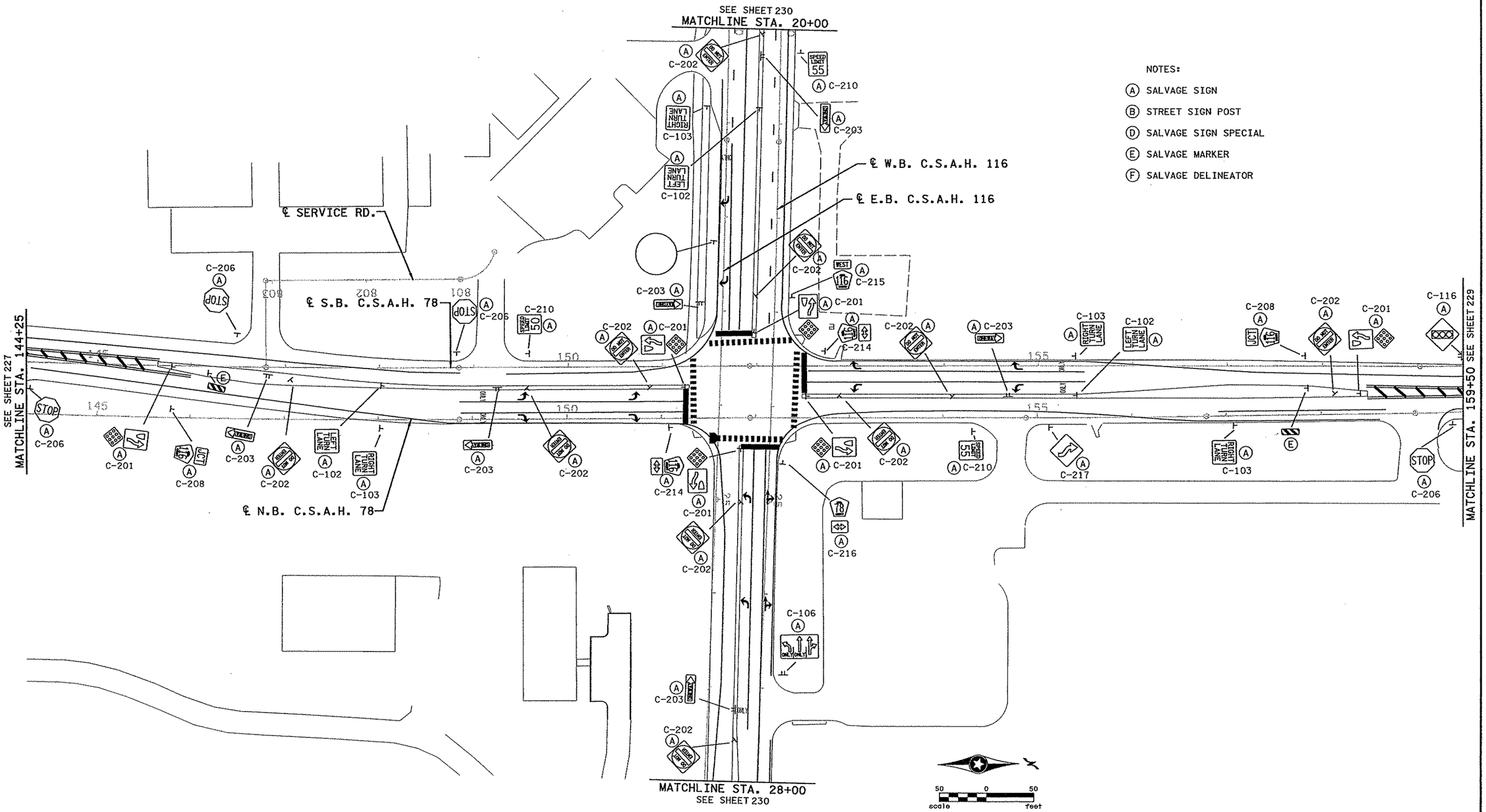
DRAWN BY	D.FITCHORN
DESIGNED BY	Z. KARTAK
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
EXISTING SIGNING AND STRIPING PLAN
C.S.A.H. 78

SHEET 227 OF 400

4131112 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.SIF



NO	DATE	BY	CKD	APPR	REVISION
					...\5404\h1-mu\plan\5404.SIG

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/06 License 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	Z. KARTAK
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

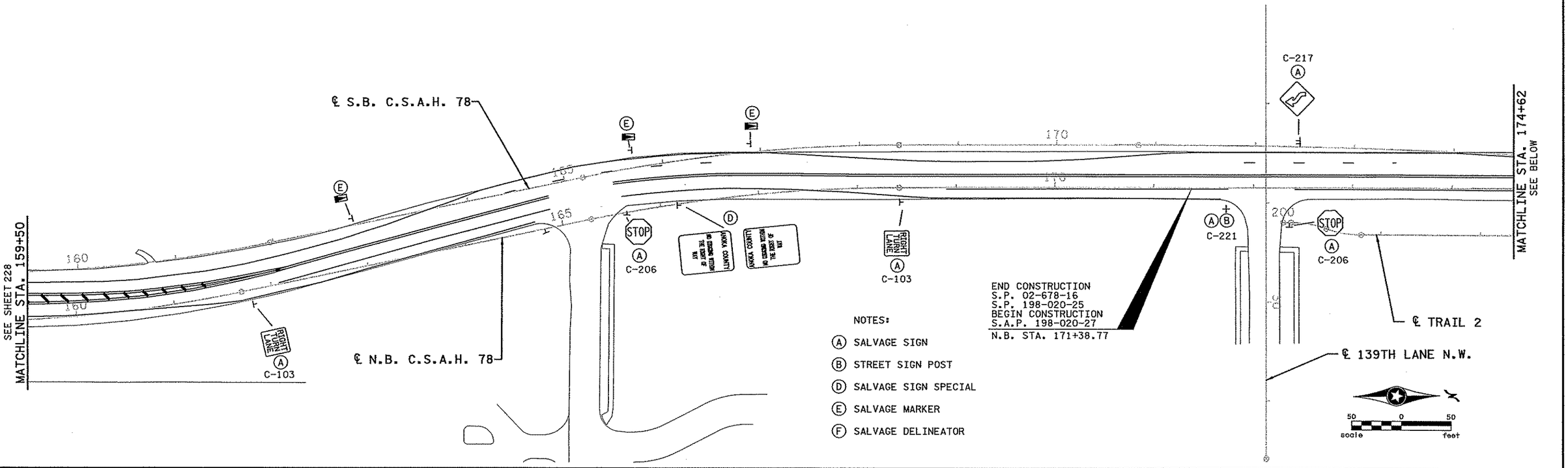
SRF CONSULTING GROUP, INC.

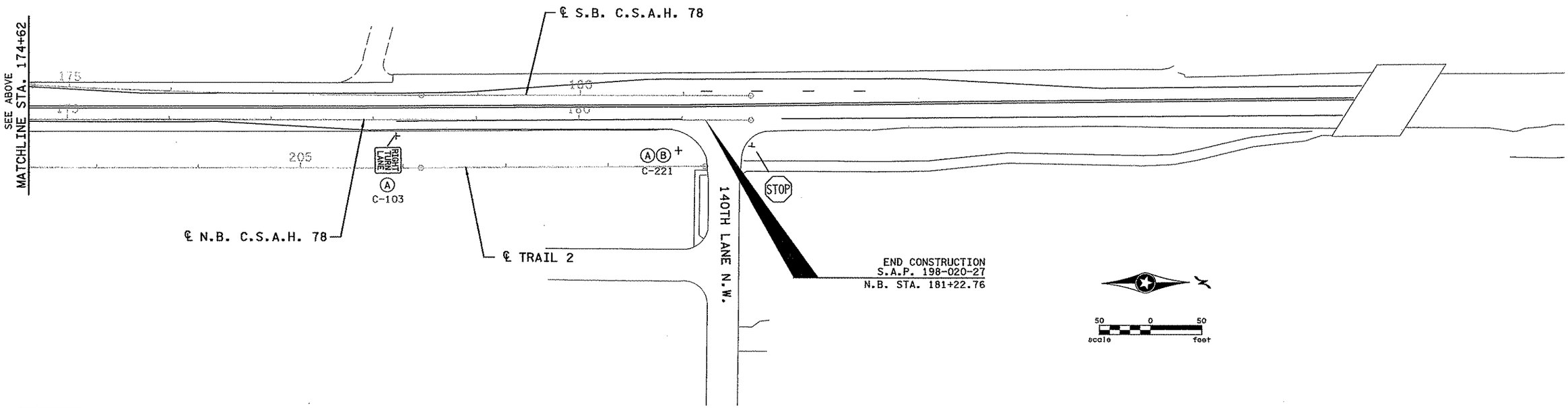
ANOKA COUNTY

EXISTING SIGNING AND STRIPING PLAN
C.S.A.H. 78

SHEET 228 OF 400

4:31:13 PM
9/26/2006
h:\projects\5404\h1-mu\plan\5404.SIG





NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.SIH

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	Z.KARTAK
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

EXISTING SIGNING AND STRIPING PLAN
C.S.A.H. 78

SHEET 229 OF 400

5:41:56 PM
10/9/2006
H:\projects\5404\hl-mu\plan\5404.SIH

BEGIN CONSTRUCTION
S.P. 02-716-10
S.P. 198-020-25
E.B. STA. 10+13.37

℄ E.B. C.S.A.H. 116
℄ W.B. C.S.A.H. 116

C-103 (A) RIGHT TURN LANE

C-203 (A)

C-102 (A) LEFT TURN LANE

C-213 (A)

C-103 (A) RIGHT TURN LANE

C-102 (A) LEFT TURN LANE

C-209 (A) LCT

MATCHLINE STA. 20+00
SEE SHEET 228

NOTES:
- (A) SALVAGE SIGN
- (B) STREET SIGN POST
- (D) SALVAGE SIGN SPECIAL
- (E) SALVAGE MARKER
- (F) SALVAGE DELINEATOR

50 0 50
scale feet

SEE SHEET 228
MATCHLINE STA. 28+00

C-106 (A)

C-202 (A) DO NOT ENTER

C-209 (A) LCT

C-206 (A) STOP

℄ W.B. C.S.A.H. 116
℄ E.B. C.S.A.H. 116

C-213 (A)

C-103 (A) RIGHT TURN LANE

CRANE ST.

C-206 (A) STOP

(A)(B)

C-103 (A) RIGHT TURN LANE

MATCHLINE STA. 42+00
SEE SHEET 231

C-103 (A) RIGHT TURN LANE

C-201 (A)

STOP (A) C-114

C-206 (A) STOP

50 0 50
scale feet

NO	DATE	BY	CKD	APPR	REVISION
...\5404\hl-mu\plan\5404.SII					

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.
Print Name: CHRIS M. TRBOYEVICH
Date 10/10/2006 License # 41635

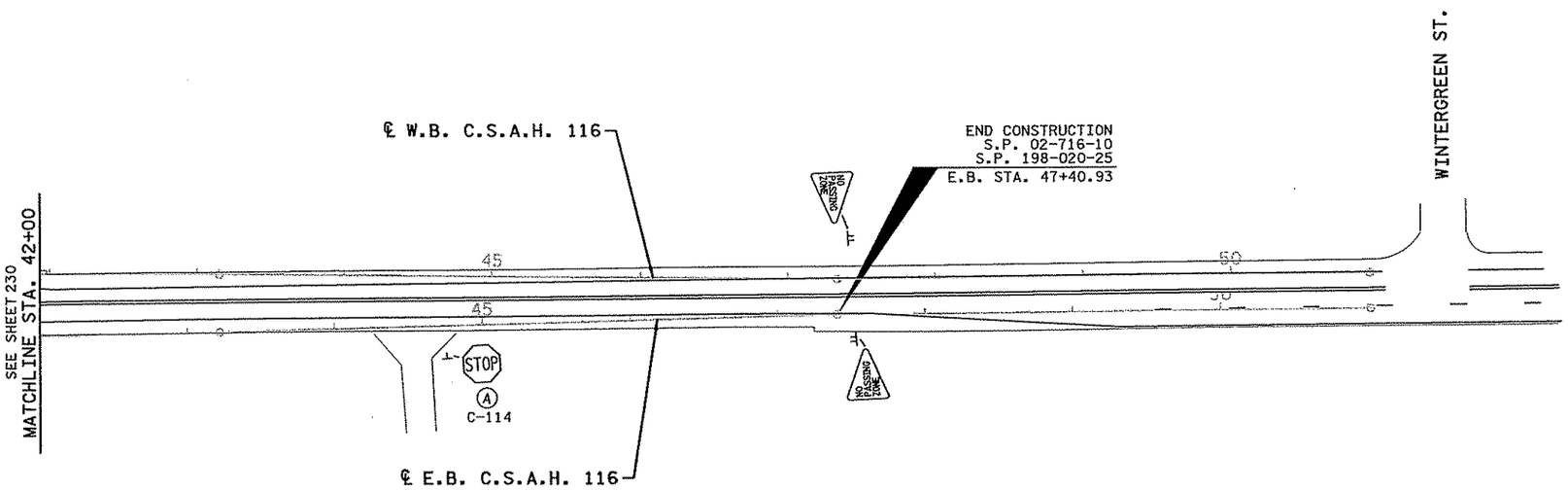
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	Z. KARTAK
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

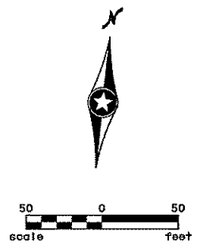
SRF CONSULTING GROUP, INC.

ANOKA COUNTY
EXISTING SIGNING AND STRIPING PLAN
C.S.A.H. 78

SHEET 230 OF 400

4:31:16 PM
9/26/2006
n:\projects\5404\hl-mu\plan\5404.SII





NOTES:

Ⓐ SALVAGE SIGN
Ⓑ STREET SIGN POST
Ⓓ SALVAGE SIGN SPECIAL
Ⓔ SALVAGE MARKER
Ⓕ SALVAGE DELINEATOR

NO	DATE	BY	CKD	APPR	REVISION
					...\5404\hl-mu\plan\5404.SIJ

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.

Print Name: CHRIS M. TRBOYEVICH

Date 10/10/2006 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	Z. KARTAK
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

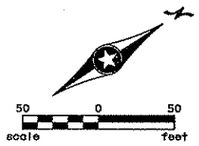
EXISTING SIGNING AND STRIPING PLAN
C.S.A.H. 78

SHEET 231 OF 400

4131:17 PM
9/26/2006
h:\projects\5404\hl-mu\plan\5404.SIJ

GENERAL NOTES:

- ALL STRIPING AND MARKINGS SHALL BE EPOXY UNLESS OTHERWISE NOTED.
- ALL BROKEN LINES SHALL BE 10' SOLID WITH 40' GAP.



NOTES:

(A) INSTALL SALVAGED SIGN

(B) PAVEMENT MESSAGE (LEFT ARROW) 8'-0" PREFORMED THERMOPLASTIC

(C) PAVEMENT MESSAGE (RIGHT ARROW) 8'-0" PREFORMED THERMOPLASTIC

(D) PAVEMENT MESSAGE (THRU LEFT ARROW) PREFORMED THERMOPLASTIC

(E) PAVEMENT MESSAGE (THRU RIGHT ARROW) PREFORMED THERMOPLASTIC

(F) 24" SOLID LINE WHITE PERFORMED THERMOPLASTIC STOP BAR

(G) ZEBRA CROSSWALK PERFORMED THERMOPLASTIC (3'X6' WITH 3' SPACING)

(H) 4" SOLID LINE WHITE

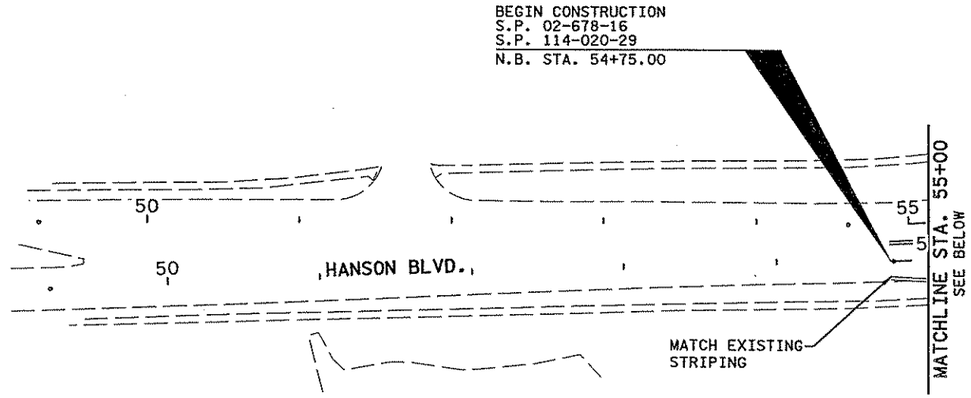
(I) 4" BROKEN LINE WHITE SKIP RATIO SHALL BE 40 FT. GAP WITH 10 FT. STRIPES

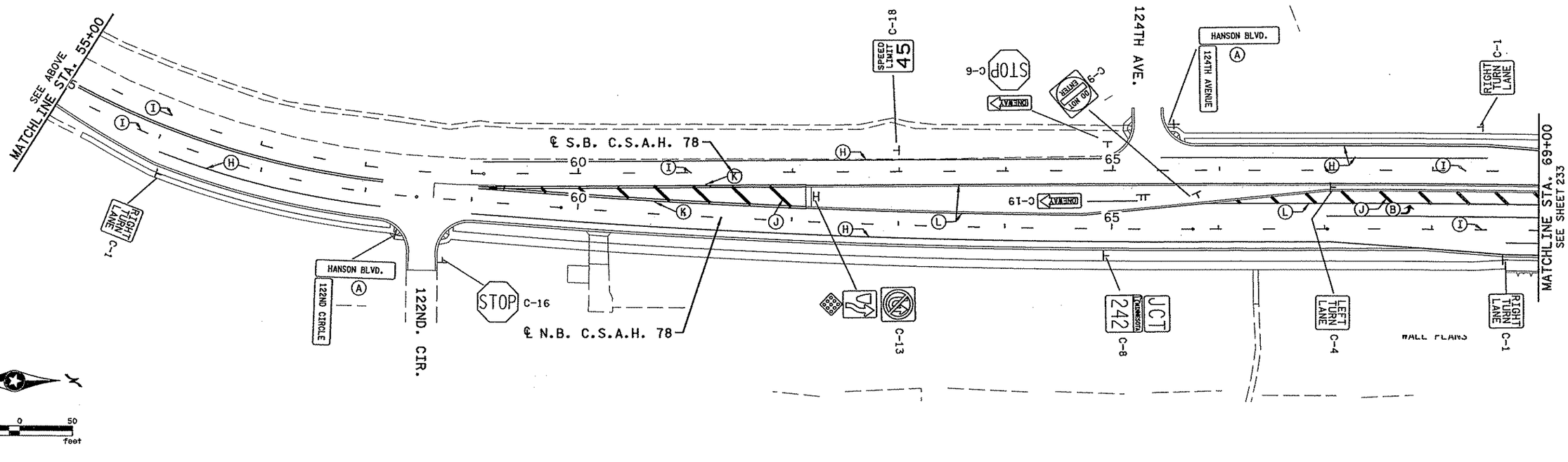
(J) 24" SOLID LINE YELLOW 45° AT 20 FT. SPACING

(K) 4" SOLID DOUBLE LINE YELLOW

(L) 4" SOLID LINE YELLOW

(M) INSTALL SALVAGED SIGN SPECIAL





NO	DATE	BY	CKD	APPR	REVISION
1	02/21/07	CJH	CMT	CMT	SIGNING AND STRIPING REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.SSA

9:11:48 AM
2/23/2007
m:\projects\5404\hl-mu\plan\5404.SSA

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.

Print Name: CHRIS M. TRBOYEVICH

Chris M. Trbayevich

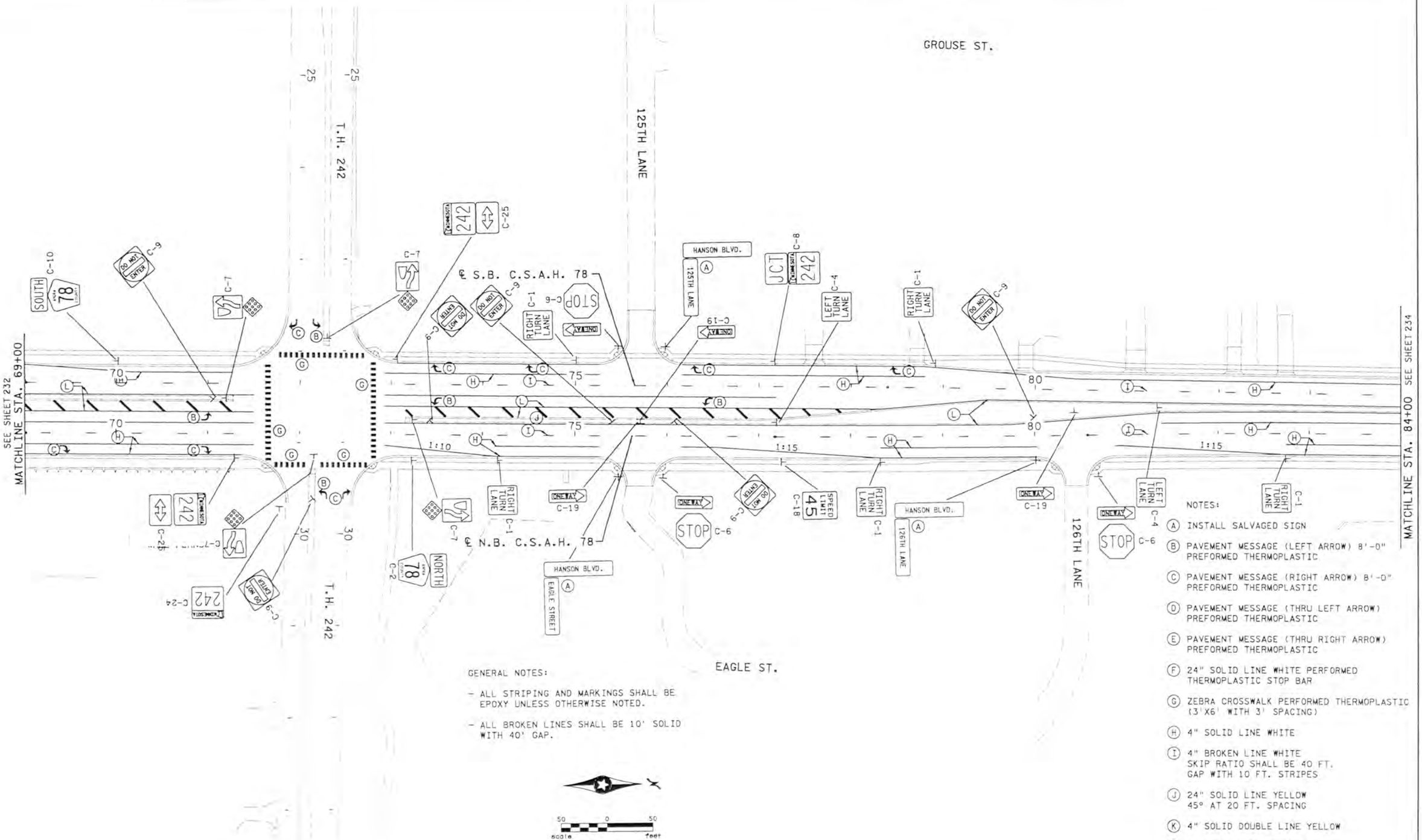
Date 2/23/07 License 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	J. TOULOUSE
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
SIGNING AND STRIPING PLAN
C.S.A.H. 78

SHEET 232 OF 400



GENERAL NOTES:

- ALL STRIPING AND MARKINGS SHALL BE EPOXY UNLESS OTHERWISE NOTED.
- ALL BROKEN LINES SHALL BE 10' SOLID WITH 40' GAP.

NOTES:

- (A) INSTALL SALVAGED SIGN
- (B) PAVEMENT MESSAGE (LEFT ARROW) 8'-0" PREFORMED THERMOPLASTIC
- (C) PAVEMENT MESSAGE (RIGHT ARROW) 8'-0" PREFORMED THERMOPLASTIC
- (D) PAVEMENT MESSAGE (THRU LEFT ARROW) PREFORMED THERMOPLASTIC
- (E) PAVEMENT MESSAGE (THRU RIGHT ARROW) PREFORMED THERMOPLASTIC
- (F) 24" SOLID LINE WHITE PERFORMED THERMOPLASTIC STOP BAR
- (G) ZEBRA CROSSWALK PERFORMED THERMOPLASTIC (3'X6' WITH 3' SPACING)
- (H) 4" SOLID LINE WHITE
- (I) 4" BROKEN LINE WHITE SKIP RATIO SHALL BE 40 FT. GAP WITH 10 FT. STRIPES
- (J) 24" SOLID LINE YELLOW 45° AT 20 FT. SPACING
- (K) 4" SOLID DOUBLE LINE YELLOW
- (L) 4" SOLID LINE YELLOW
- (M) INSTALL SALVAGED SIGN SPECIAL

NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	DJF	CMT	CMT	REVISED PER MN/DOT COMMENTS
2	02/21/07	CJH	CMT	CMT	SIGNING AND STRIPING REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\sht-mu\plan\5404.SSB

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.

Print Name: CHRIS M. TROYEVICH

Signature: Chris M. Troyevich

Date: 2/23/07 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY J. TOULOUSE

CHECKED BY C.TROYEVICH

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

SIGNING AND STRIPING PLAN

C.S.A.H. 78

SHEET 233 OF 400

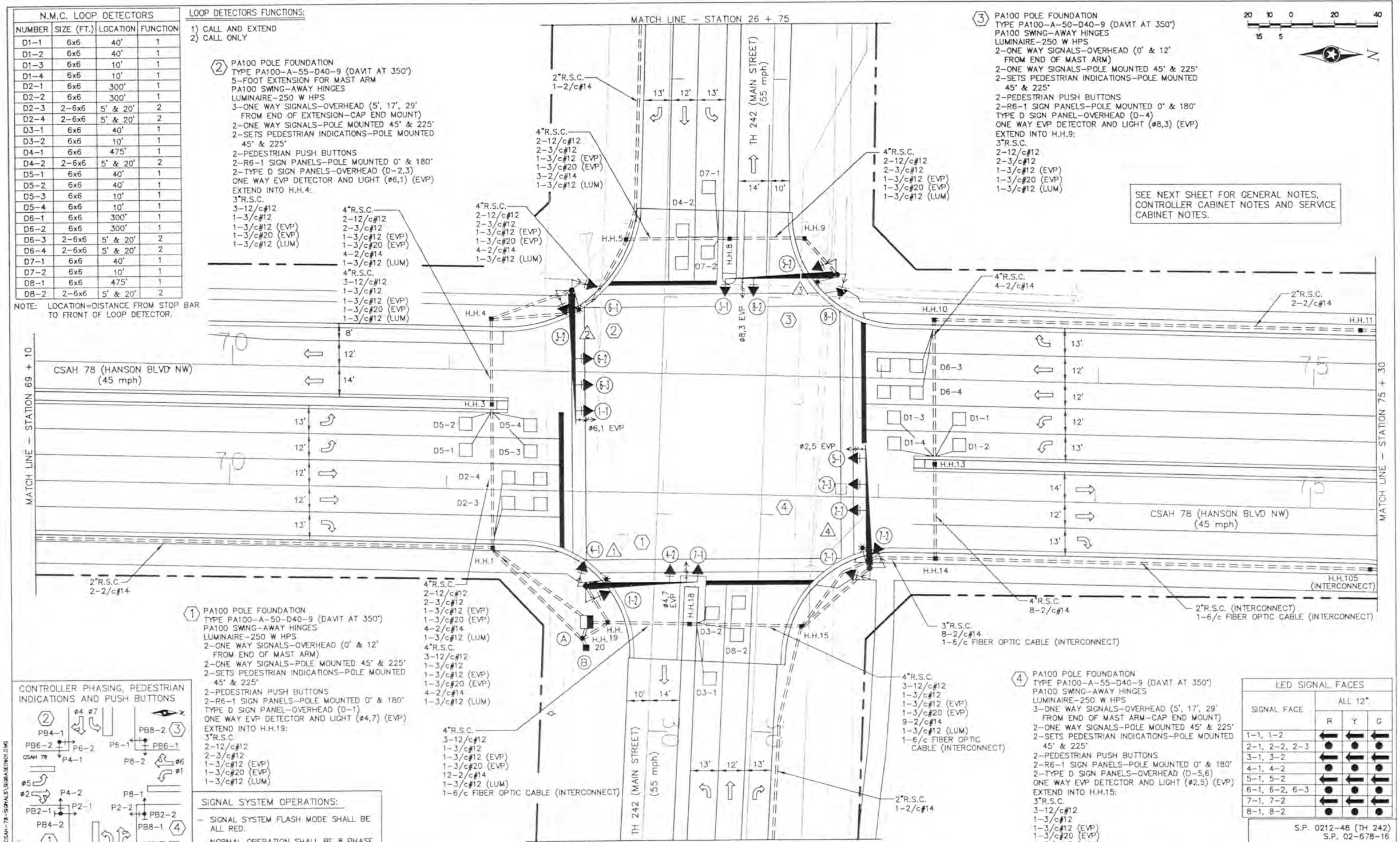
9:11:49 AM
2/23/2007
N:\projects\5404\sht-mu\plan\5404.SSB

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	6x6	40'	1
D1-2	6x6	40'	1
D1-3	6x6	10'	1
D1-4	6x6	10'	1
D2-1	6x6	300'	1
D2-2	6x6	300'	1
D2-3	2-6x6	5' & 20'	2
D2-4	2-6x6	5' & 20'	2
D3-1	6x6	40'	1
D3-2	6x6	10'	1
D4-1	6x6	475'	1
D4-2	2-6x6	5' & 20'	2
D5-1	6x6	40'	1
D5-2	6x6	40'	1
D5-3	6x6	10'	1
D5-4	6x6	10'	1
D6-1	6x6	300'	1
D6-2	6x6	300'	1
D6-3	2-6x6	5' & 20'	2
D6-4	2-6x6	5' & 20'	2
D7-1	6x6	40'	1
D7-2	6x6	10'	1
D8-1	6x6	475'	1
D8-2	2-6x6	5' & 20'	2

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

LOOP DETECTORS FUNCTIONS:

1) CALL AND EXTEND
2) CALL ONLY



(2) PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9 (DAVIT AT 350°)
5-FOOT EXTENSION FOR MAST ARM
PA100 SWING-AWAY HINGES
LUMINAIRE-250 W HPS
3-ONE WAY SIGNALS-OVERHEAD (5', 17', 29' FROM END OF EXTENSION-CAP END MOUNT)
2-ONE WAY SIGNALS-POLE MOUNTED 45° & 225°
2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° & 225°
2-PEDESTRIAN PUSH BUTTONS
2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
2-TYPE D SIGN PANELS-OVERHEAD (D-2,3)
ONE WAY EVP DETECTOR AND LIGHT (ø6,1) (EVP)
EXTEND INTO H.H.4:
3"R.S.C.
3-12/c#12
1-3/c#12
1-3/c#12 (EVP)
1-3/c#20 (EVP)
1-3/c#12 (LUM)

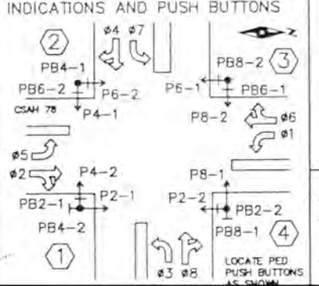
(3) PA100 POLE FOUNDATION
TYPE PA100-A-50-D40-9 (DAVIT AT 350°)
PA100 SWING-AWAY HINGES
LUMINAIRE-250 W HPS
2-ONE WAY SIGNALS-OVERHEAD (0° & 12' FROM END OF MAST ARM)
2-ONE WAY SIGNALS-POLE MOUNTED 45° & 225°
2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° & 225°
2-PEDESTRIAN PUSH BUTTONS
2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
TYPE D SIGN PANEL-OVERHEAD (D-4)
ONE WAY EVP DETECTOR AND LIGHT (ø8,3) (EVP)
EXTEND INTO H.H.9:
3"R.S.C.
2-12/c#12
2-3/c#12
1-3/c#12 (EVP)
1-3/c#20 (EVP)
1-3/c#12 (LUM)

SEE NEXT SHEET FOR GENERAL NOTES, CONTROLLER CABINET NOTES AND SERVICE CABINET NOTES.

(1) PA100 POLE FOUNDATION
TYPE PA100-A-50-D40-9 (DAVIT AT 350°)
PA100 SWING-AWAY HINGES
LUMINAIRE-250 W HPS
2-ONE WAY SIGNALS-OVERHEAD (0° & 12' FROM END OF MAST ARM)
2-ONE WAY SIGNALS-POLE MOUNTED 45° & 225°
2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° & 225°
2-PEDESTRIAN PUSH BUTTONS
2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
TYPE D SIGN PANEL-OVERHEAD (D-1)
ONE WAY EVP DETECTOR AND LIGHT (ø4,7) (EVP)
EXTEND INTO H.H.19:
3"R.S.C.
2-12/c#12
2-3/c#12
1-3/c#12 (EVP)
1-3/c#20 (EVP)
1-3/c#12 (LUM)

(4) PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9 (DAVIT AT 350°)
PA100 SWING-AWAY HINGES
LUMINAIRE-250 W HPS
3-ONE WAY SIGNALS-OVERHEAD (5', 17', 29' FROM END OF MAST ARM-CAP END MOUNT)
2-ONE WAY SIGNALS-POLE MOUNTED 45° & 225°
2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° & 225°
2-PEDESTRIAN PUSH BUTTONS
2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
2-TYPE D SIGN PANELS-OVERHEAD (D-5,6)
ONE WAY EVP DETECTOR AND LIGHT (ø2,5) (EVP)
EXTEND INTO H.H.15:
3"R.S.C.
3-12/c#12
1-3/c#12
1-3/c#12 (EVP)
1-3/c#20 (EVP)
1-3/c#12 (LUM)

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1,3,5,7 BEING PROTECTED LEFT TURN PHASES.

MNDOT SYSTEM ID – 21611

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

S.P. 0212-48 (TH 242)
S.P. 02-678-16
S.P. 114-020-25
COON RAPIDS CITY PROJ. 01-57

DRAWN BY: JMG	1	JMG	01/06	REVISED PER COUNTY AND STATE COMMENTS
DESIGNER: JMG	2	JMG	06/06	REVISED PER COUNTY AND STATE COMMENTS
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Name: John M. Gray, PE
Date: September 28, 2006 Lic. No. 22457

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

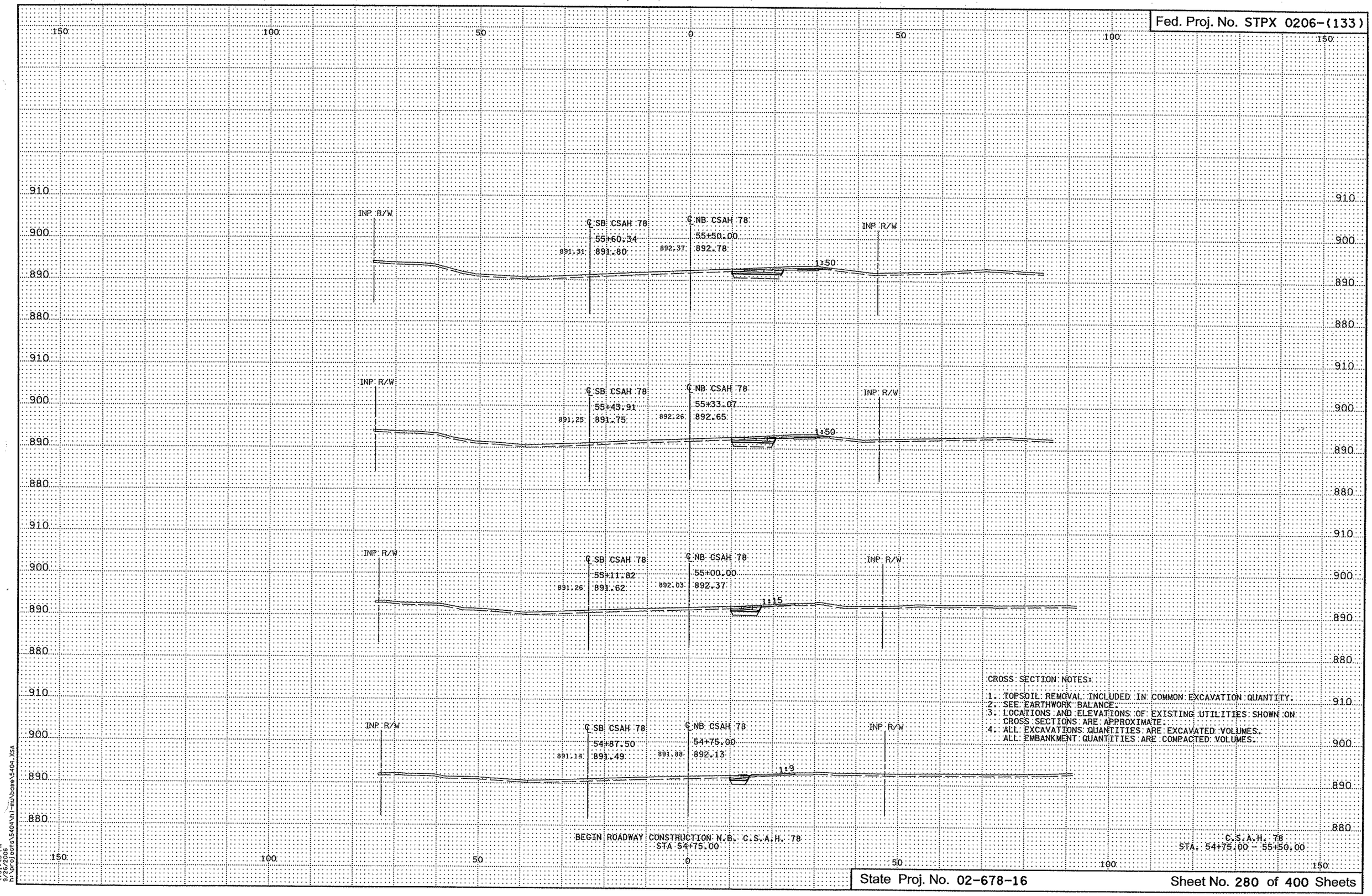
ANOKA COUNTY, MINNESOTA
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
CSAH 78 (HANSON BLVD NW) AT TH 242 (MAIN STREET)

FILE NO. AANOKC0601.00
SIGNAL SHEET 12 OF 38
253/400

S:\ACAD\ANOKC\COMMON\CSAH-78-SIGNALS\SIGBASE0601.DWG

Fed. Proj. No. STPX 0206-(133)



CROSS SECTION NOTES:

1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES.
   ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

BEGIN ROADWAY CONSTRUCTION N.B. C.S.A.H. 78
STA 54+75.00

C.S.A.H. 78
STA. 54+75.00 - 55+50.00

4:31:46 PM
9/26/2006
N:\projects\5404\h1-ROadbase\5404.XSA

Fed. Proj. No. STPX 0206-(133)

150 100 50 0 50 100 150

910 900 890 880

INP R/W
℄ SB CSAH 78
57+54.44
889.95 890.55
℄ NB CSAH 78
57+50.00
891.25 891.78
INP R/W
1:7

INP R/W
℄ SB CSAH 78
57+05.91
890.55 891.19
℄ NB CSAH 78
57+00.00
891.92 892.48
INP R/W
1:14
OFFSET
170.96' RT
P/L

OFFSET
171.1' LT
P/L
INP R/W
℄ SB CSAH 78
56+57.39
890.98 891.63
℄ NB CSAH 78
56+50.00
892.34 892.86
INP R/W
1:76
P/L

INP R/W
℄ SB CSAH 78
56+08.87
891.26 891.82
℄ NB CSAH 78
56+00.00
892.48 892.98
INP R/W INP R/WP/L
1:4
OFFSET
162.52' RT
P/L

C.S.A.H. 78
STA. 56+00.00 - 57+50.00

4:31:47 PM
9/26/2006
h:\Projects\5404\hi-mu\base\5404.XSA

Fed. Proj. No. STPX 0206-(133)

150 100 50 0 50 100 150

910 900 890 880 870

INP R/W

℄ SB CSAH 78
59+04.77
887.19 887.54

℄ NB CSAH 78
59+03.19
888.03 887.61

1:50

F.O. T-BUR

INP R/W

P/L

P-BUR

OFFSET
197.85' RT

P/L P/L

INP R/W

℄ SB CSAH 78
58+59.68
888.18 888.67

℄ NB CSAH 78
58+58.15
889.04 889.40

INP R/W

℄ SB CSAH 78
58+17.64
888.98 889.54

℄ NB CSAH 78
58+15.12
890.13 890.55

1:50

INP R/W

INP R/W

℄ SB CSAH 78
58+05.93
889.16 889.75

℄ NB CSAH 78
58+03.06
890.34 890.79

1:13

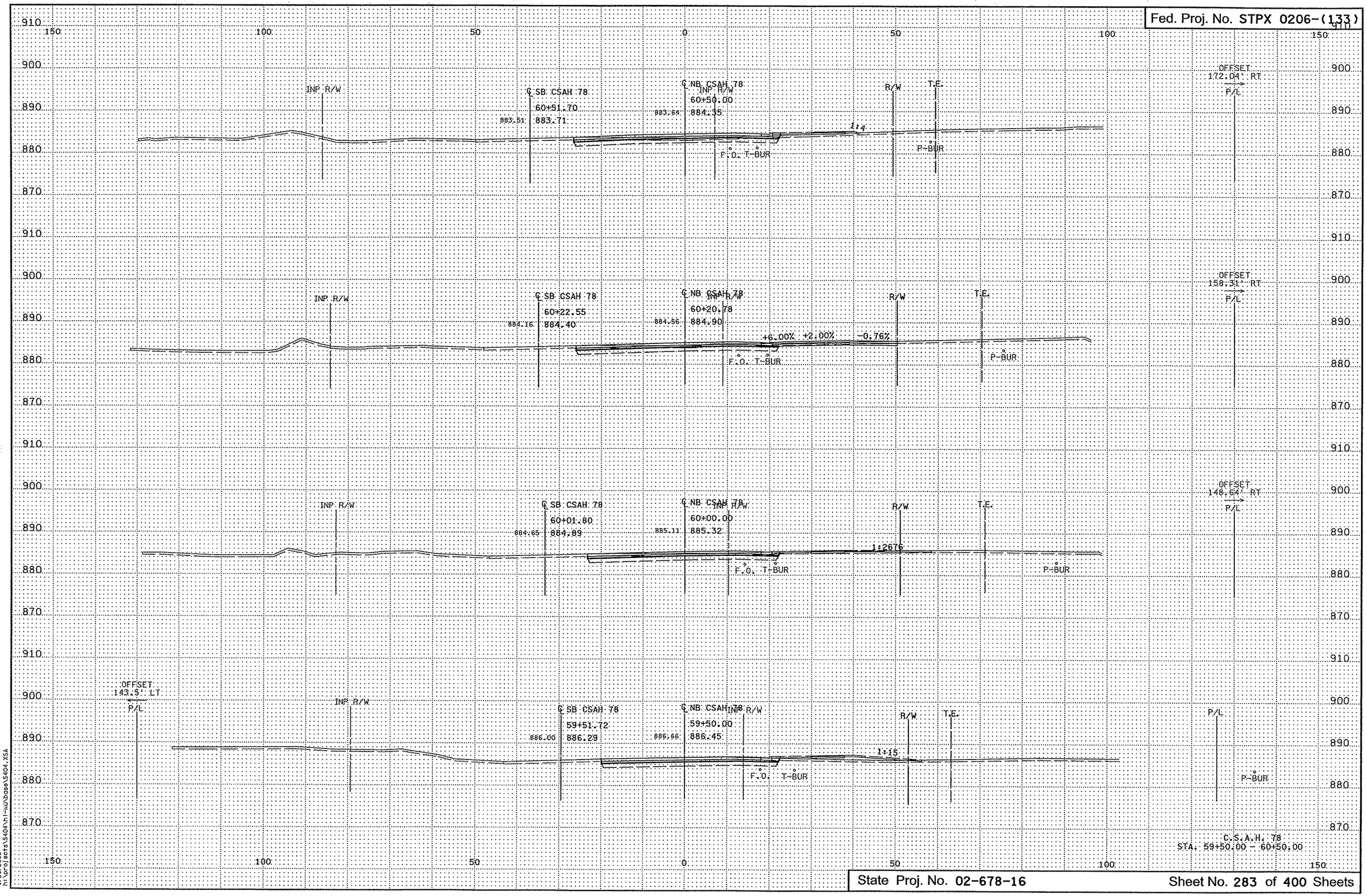
INP R/W

C.S.A.H. 78
STA. 58+03.06 - 59+03.19

4:31:47 PM
2/26/2008
R:\Proj\Sects\5404\hl~su\bose\5404.XSA

State Proj. No. 02-678-16 Sheet No. 282 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



4:31:48 PM
9/28/2006
N:\projects\5404\hl-mn\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 283 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

150 100 50 0 50 100 150

900 890 880 870

INP R/W
℄ SB CSAH 78
62+50.89
881.24 881.28
℄ NB CSAH 78
62+50.00
881.43 881.91
INP R/W
R/W
T.E.
P/L
1:3
F.O. P-BUR
T-BUR

INP R/W
℄ SB CSAH 78
62+01.14
881.60 881.64
℄ NB CSAH 78
62+00.00
881.83 882.31
INP R/W
R/W
T.E.
P/L
1:3
F.O. T-BUR
P-BUR

INP R/W
℄ SB CSAH 78
61+51.37
882.05 882.24
℄ NB CSAH 78
61+50.00
882.00 882.84
INP R/W
T.E.
1:10
F.O. T-BUR
P-BUR

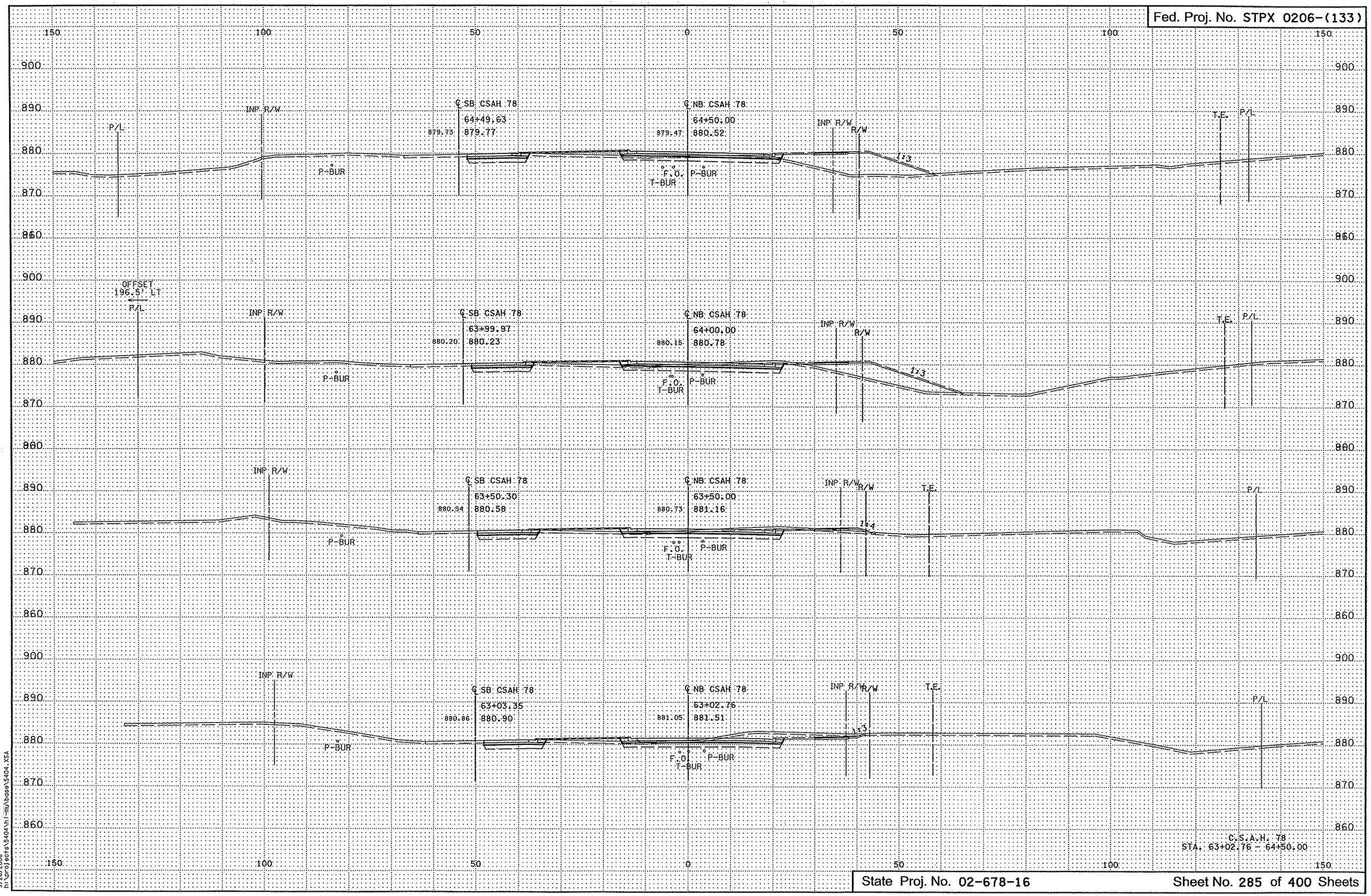
INP R/W
℄ SB CSAH 78
61+01.55
882.56 882.84
℄ NB CSAH 78
INP R/W
61+00.00
882.51 883.52
R/W
T.E.
1:50
F.O.T-BUR
P-BUR
OFFSET
195.92' RT
P/L

C.S.A.H. 78
STA. 61+00.00 - 62+50.00

4:31:49 PM
9/26/2006
n:\projects\5404\hl-mdbase\5404.XSA

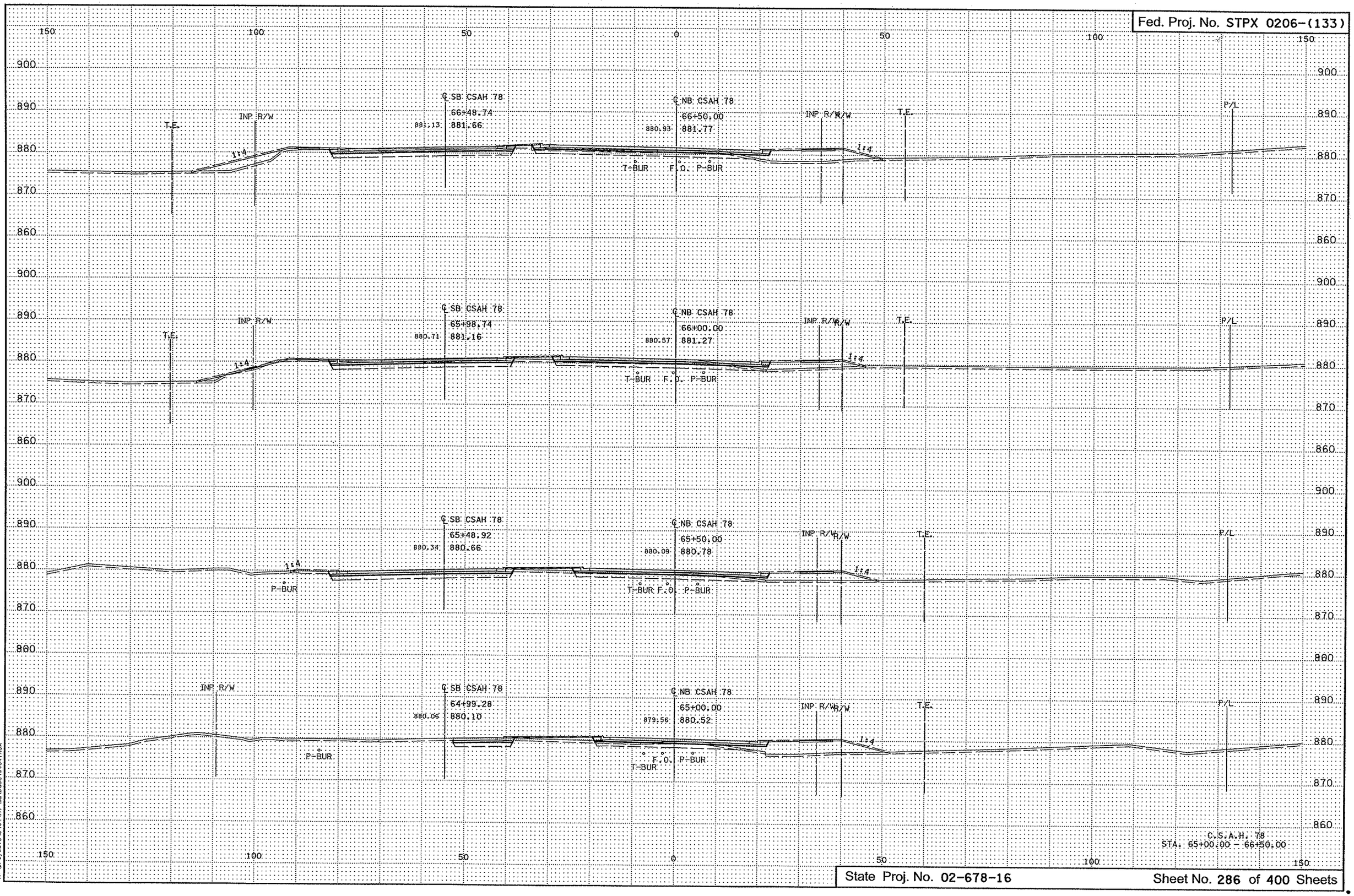
State Proj. No. 02-678-16

Sheet No. 284 of 400 Sheets



4:31:50 PM
9/26/2006
h:\projects\5404\h1-ml\base\5404.XSA

Fed. Proj. No. STPX 0206-(133)

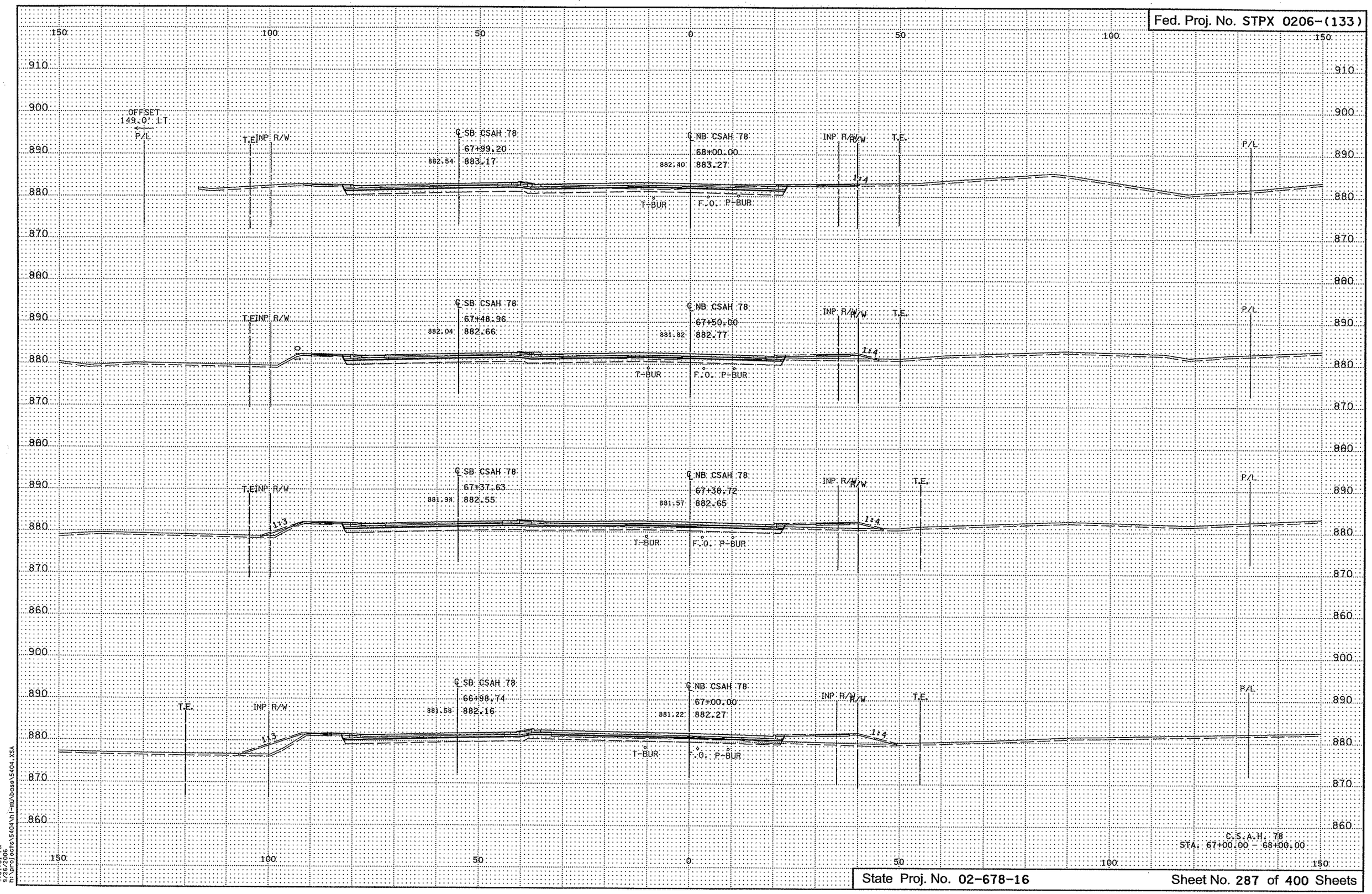


4:31:51 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 286 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

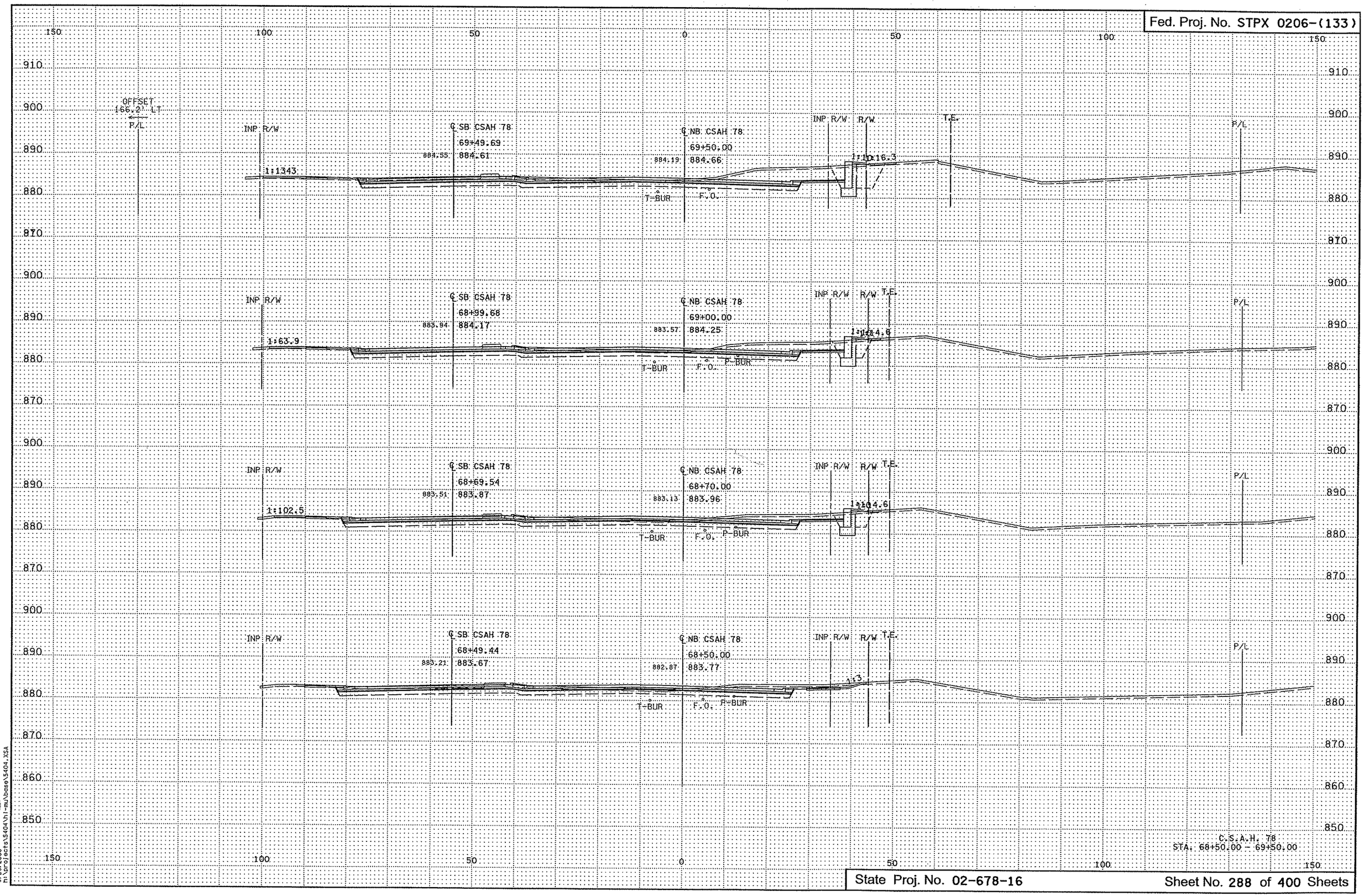


4:31:51 PM
9/26/2006
N:\Projects\5404\hl-mg\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 287 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



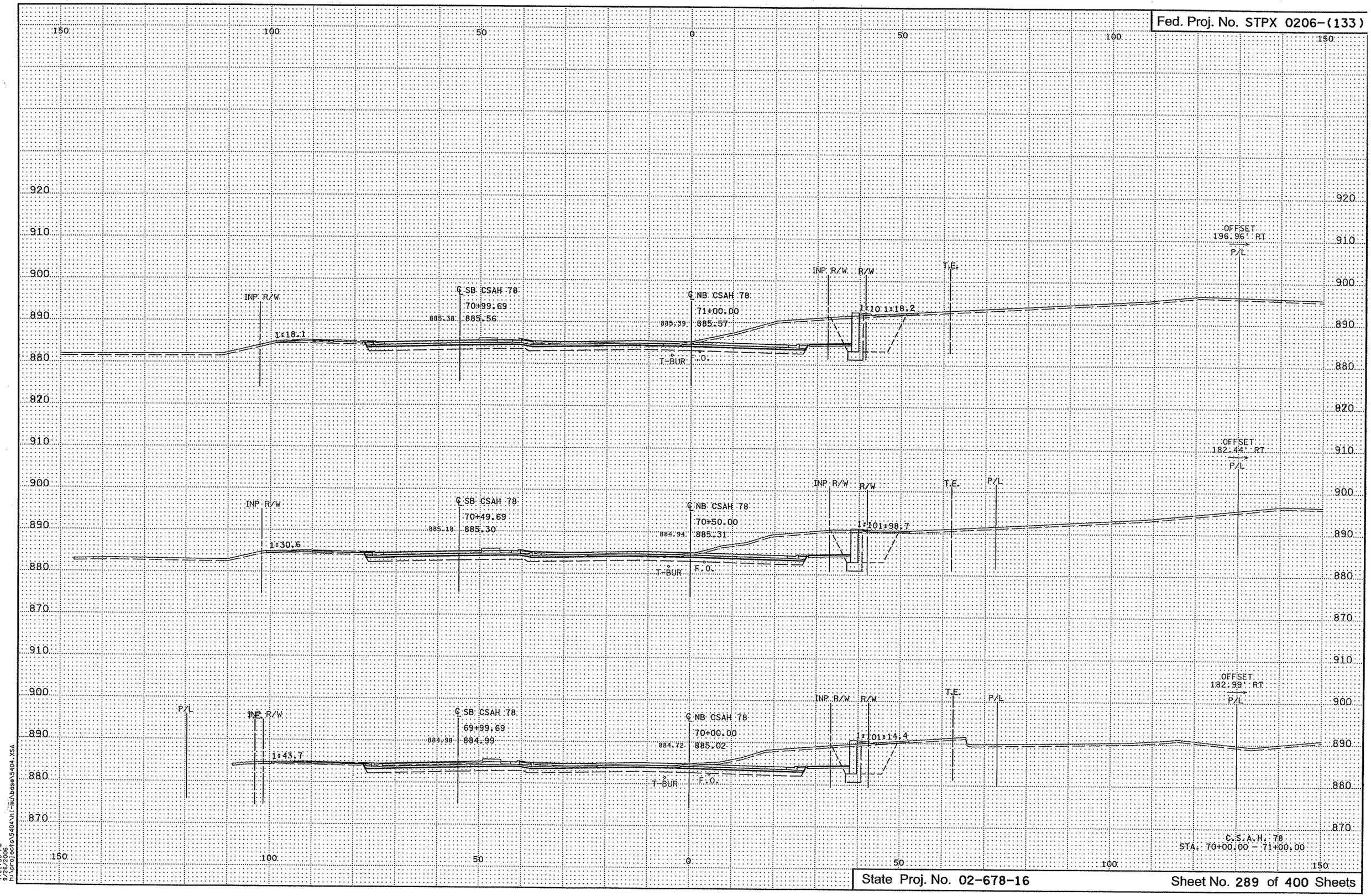
C.S.A.H. 78
STA. 68+50.00 - 69+50.00

4:31:52 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 288 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

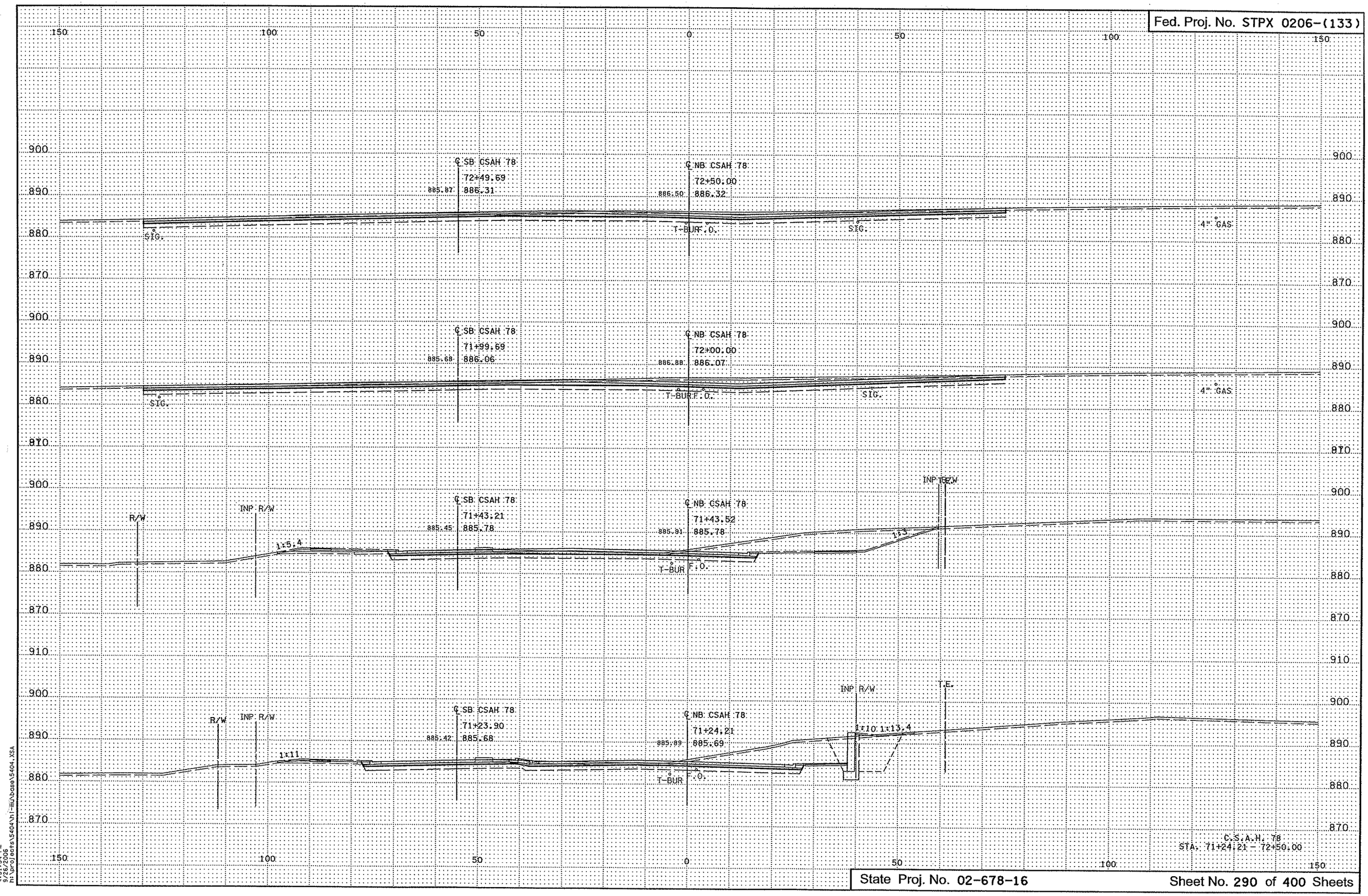


4:31:53 PM
9/28/2006
h:\proj\scts\5404\h\~mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 289 of 400 Sheets

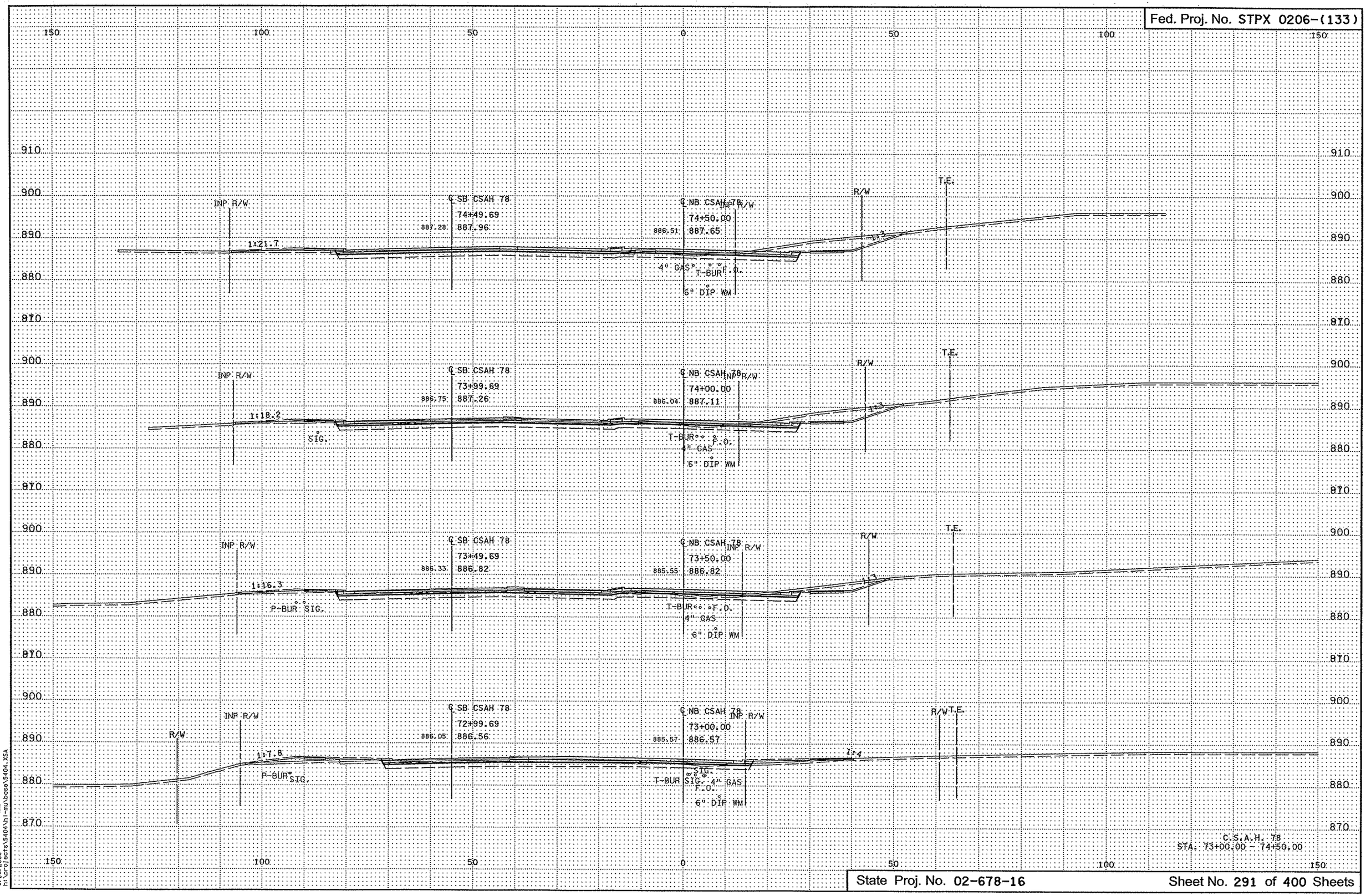
Fed. Proj. No. STPX 0206-(133)



4:31:54 PM
9/26/2006
h:\Projects\5404\h1-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 290 of 400 Sheets



4:31:55 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSA

Fed. Proj. No. STPX 0206-(133)

150 100 50 0 50 100 150

910 900 890 880 870

℄ SB CSAH 78
75+98.94
890.06 891.19

℄ NB CSAH 78
75+99.24
891.22 890.72

INP R/W
R/W
T.E.
1:4
P-BUR 2" GAS
4" GAS
T-BUR
6" DIP WM
F.O.
6" DIP WM

℄ SB CSAH 78
75+70.58
889.37 890.55

INP R/W
R/W
T.E.
+2.03%
+2.00% +6.00%
+6.00% +2.00%
+1.18%
4" GAS
T-BUR
6" DIP WM
F.O.
6" DIP WM
P-BUR

INP R/W
℄ SB CSAH 78
75+25.58
888.39 889.53

℄ NB CSAH 78
75+25.89
888.94 889.01

INP R/W
R/W
T.E.
1:303.9
1:3
UR
4" GAS
T-BUR
6" DIP WM
F.O.
P-BUR

INP R/W
℄ SB CSAH 78
74+97.10
887.95 888.88

℄ NB CSAH 78
74+97.41
887.71 888.42

INP R/W
R/W
T.E.
1:43.1
1:3
P-BUR
P-BUR
4" GAS
T-BUR
6" DIP WM
F.O.

C.S.A.H. 78
STA. 74+97.41 - 75+99.24

150 100 50 0 50 100 150

State Proj. No. 02-678-16

Sheet No. 292 of 400 Sheets

4:31:56 PM
9/26/2006
h:\Projects\5404\h1-mu\base\5404.XSA

Fed. Proj. No. STPX 0206-(133)

150 100 50 0 50 100 150

920 910 900 890 880 870

T.E. R/W INP R/W ℄ SB CSAH 78 76+99.69 892.41 893.48 1:4 2" GAS ℄ NB CSAH 78 77+00.00 892.71 893.07 4" GAS F.O. T-BUR 6" DIP WM R/W 1:4 T.E. P/L

T.E. R/W INP R/W ℄ SB CSAH 78 76+49.69 891.20 892.34 1:4 2" GAS ℄ NB CSAH 78 76+50.00 891.70 891.90 4" GAS F.O. T-BUR 6" DIP WM R/W 1:4 T.E.

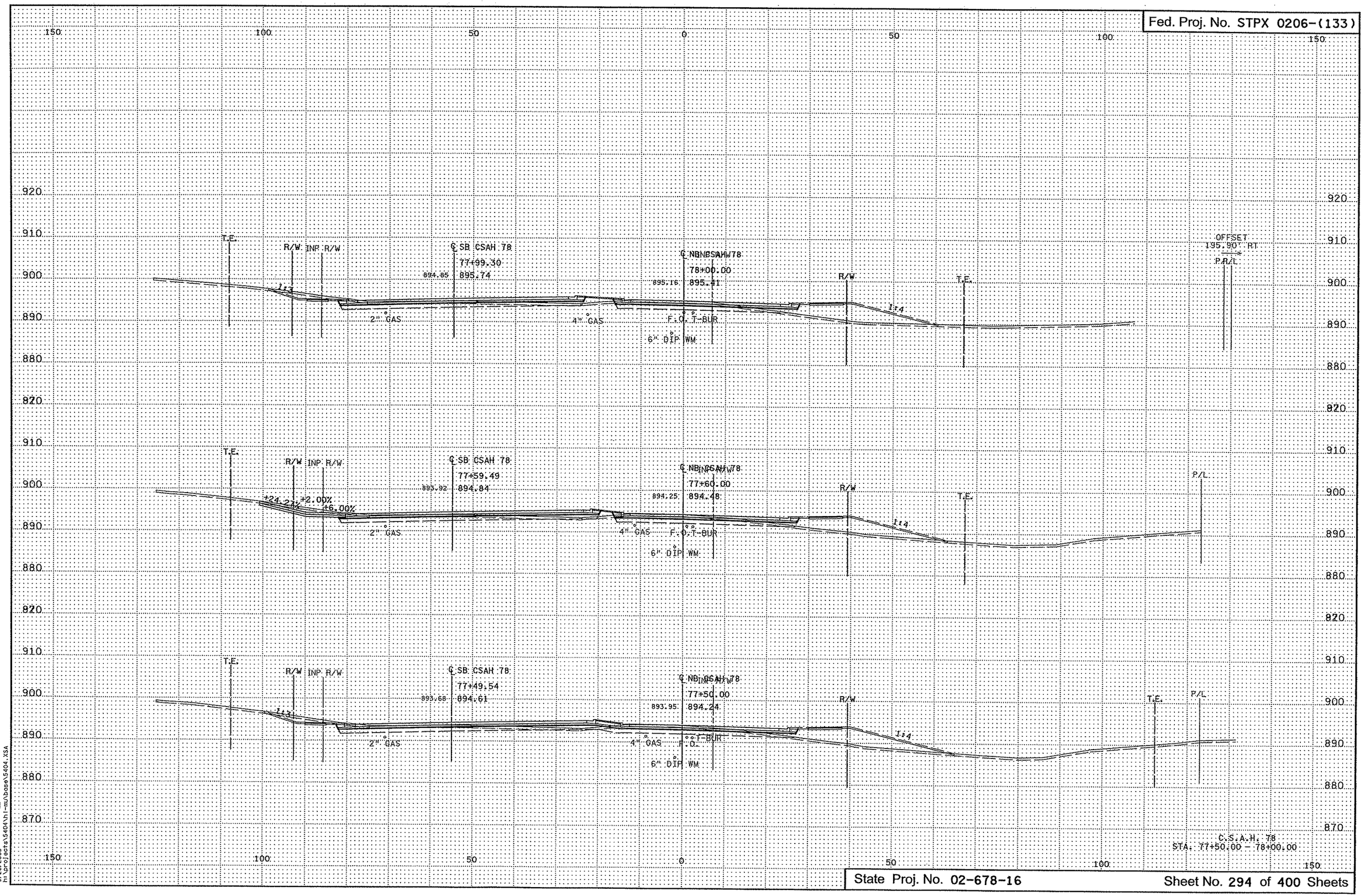
T.E. R/W INP R/W ℄ SB CSAH 78 76+05.51 890.22 891.34 1:4 2" GAS ℄ NB CSAH 78 INP R/W 76+05.82 891.31 890.87 4" GAS F.O. T-BUR 6" DIP WM R/W 1:4 T.E. 6" DIP WM

C.S.A.H. 78
STA. 76+05.82 - 77+00.00

4:31:56 PM
9/26/2006
h:\projects\5404\hl-mn\base\5404.XSA

State Proj. No. 02-678-16 Sheet No. 293 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

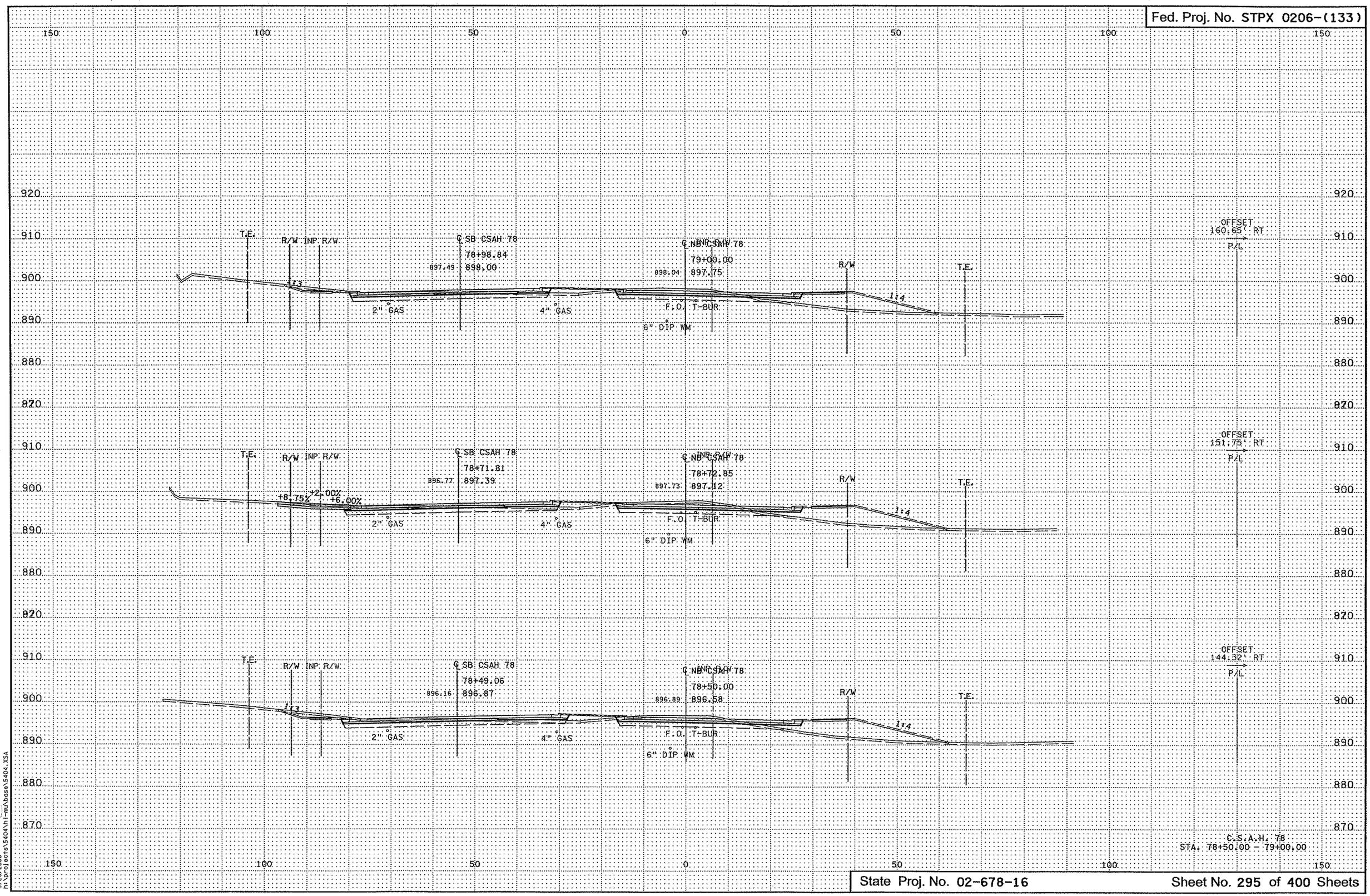


C.S.A.H. 78
STA. 77+50.00 - 78+00.00

4:31:57 PM
9/26/2006
h:\projects\5404\hl-mn\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 294 of 400 Sheets



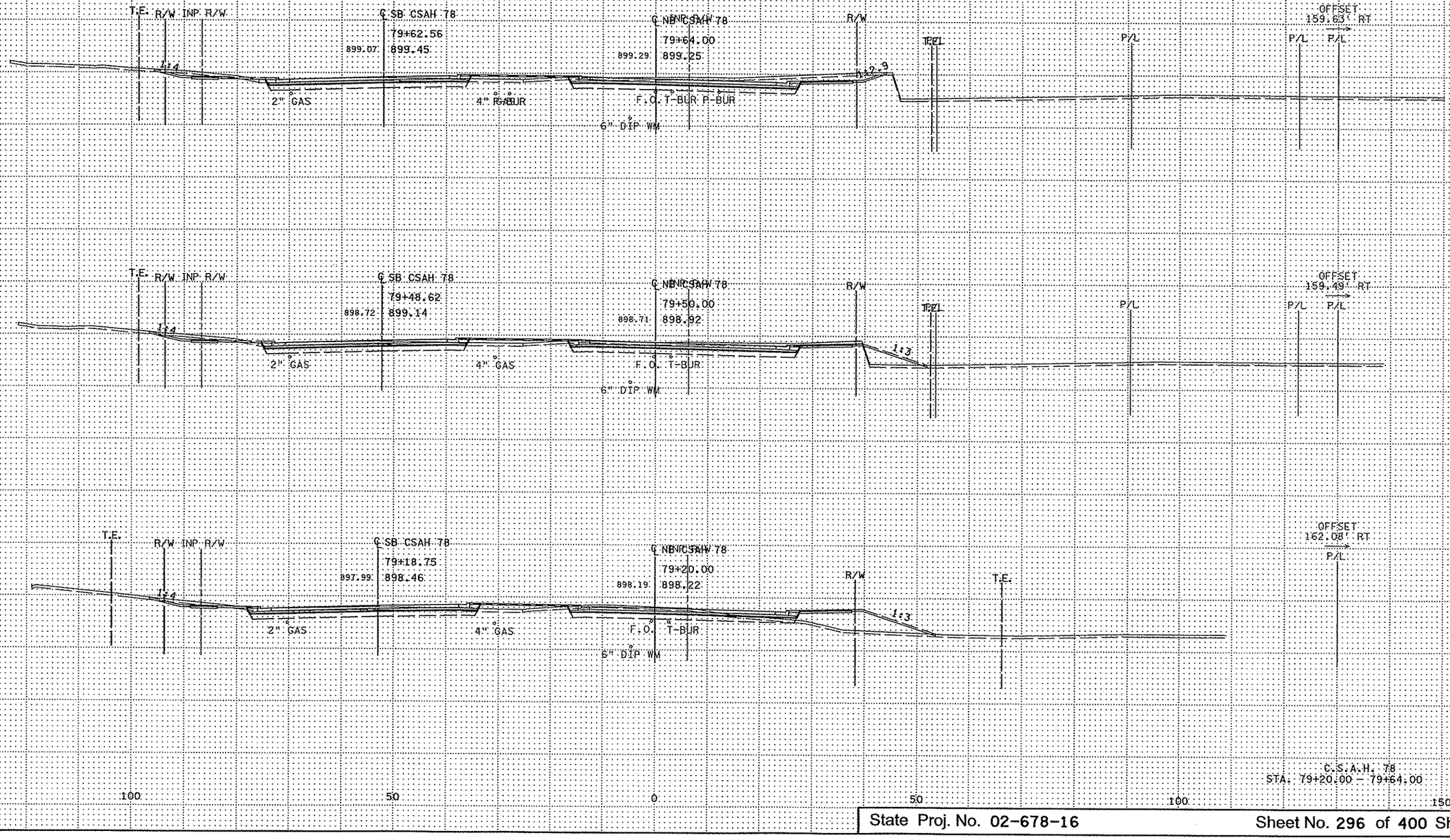
C.S.A.H. 78
STA. 78+50.00 - 79+00.00

4:31:58 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 295 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

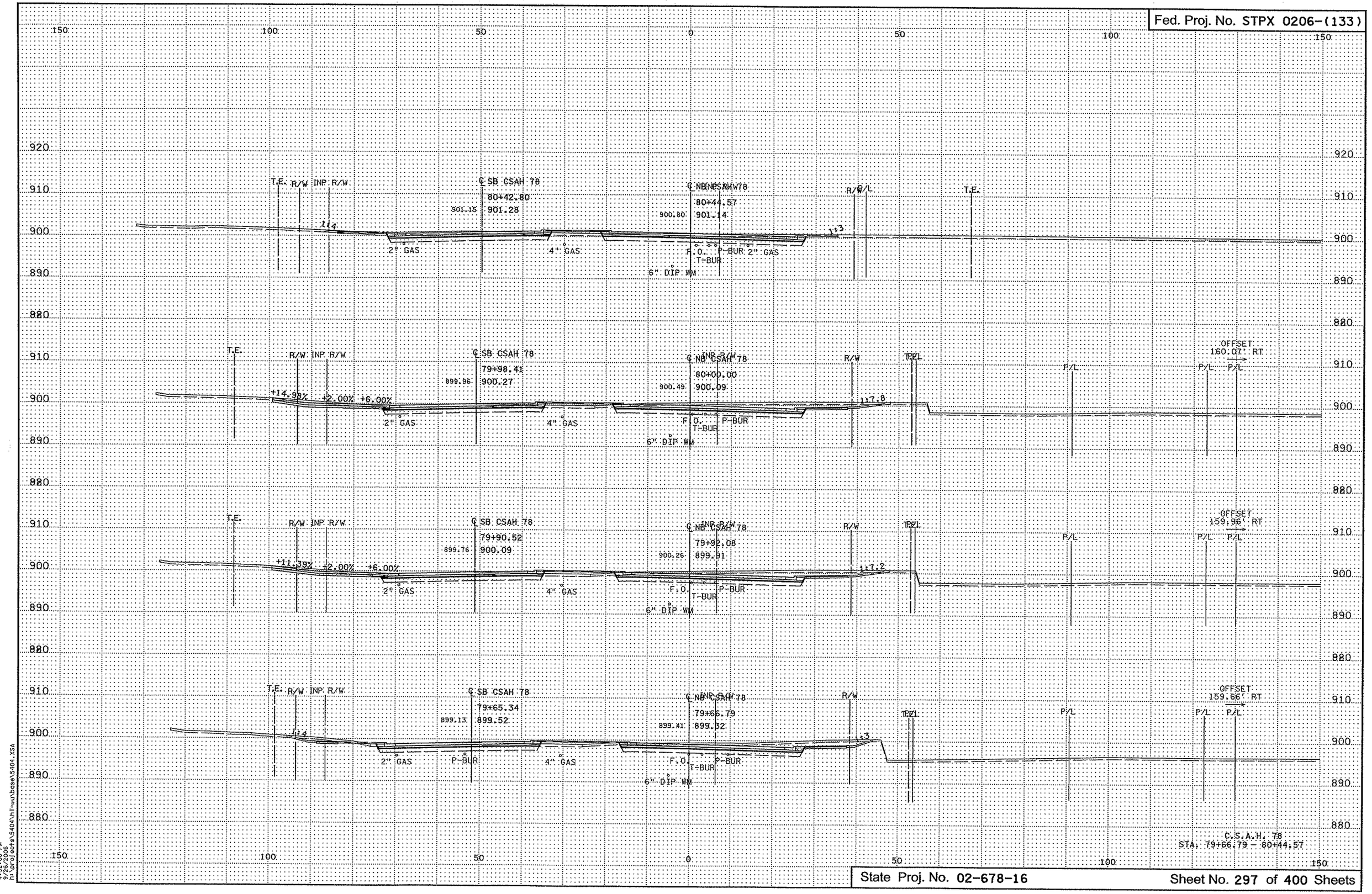


4:31:59 PM
9/26/2006
H:\projects\5404\hl-mm\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 296 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

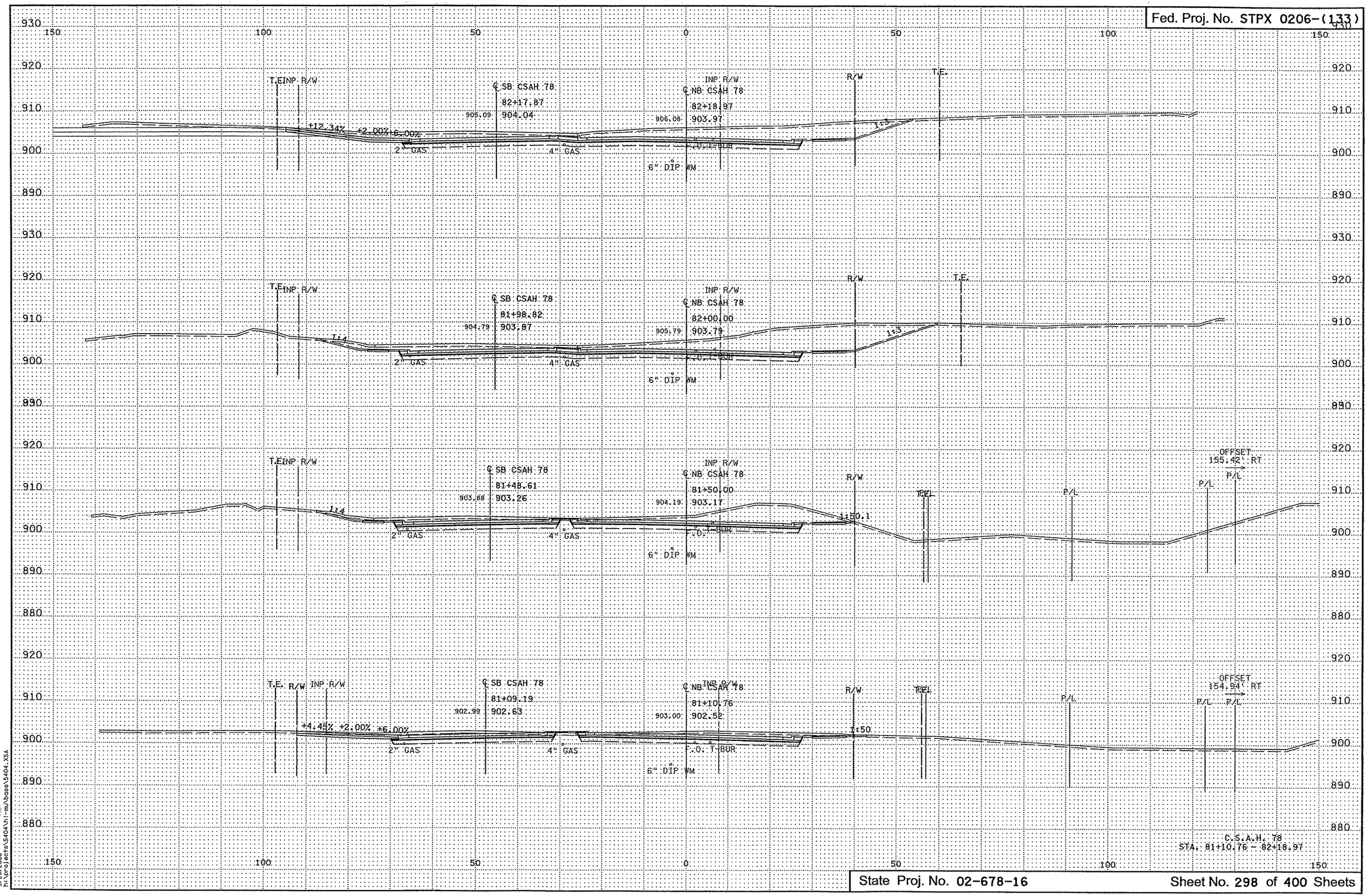


4:52:00 PM
9/25/2006
H:\Projects\5404\hl-au\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 297 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

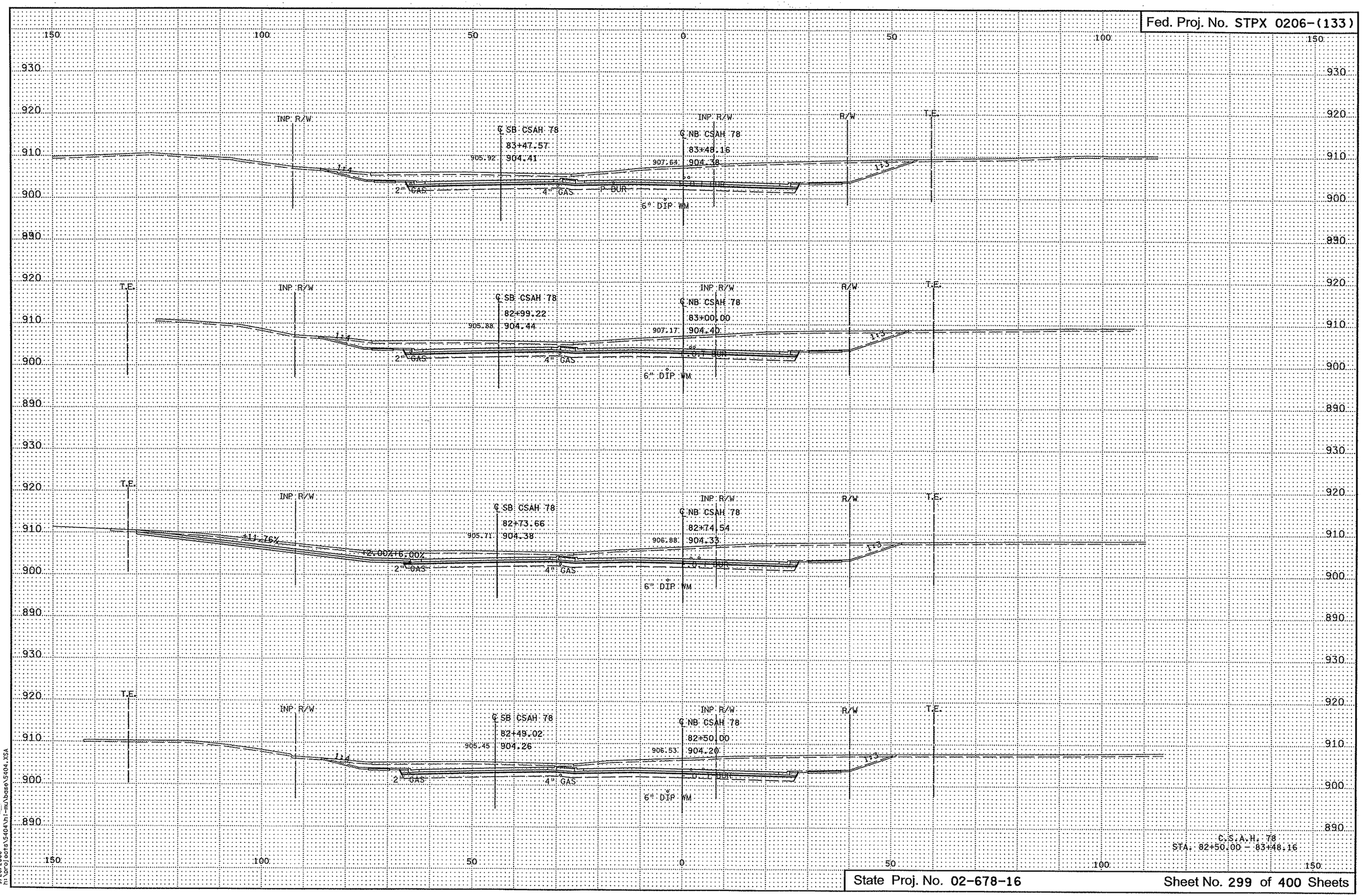


4:32:00 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 298 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



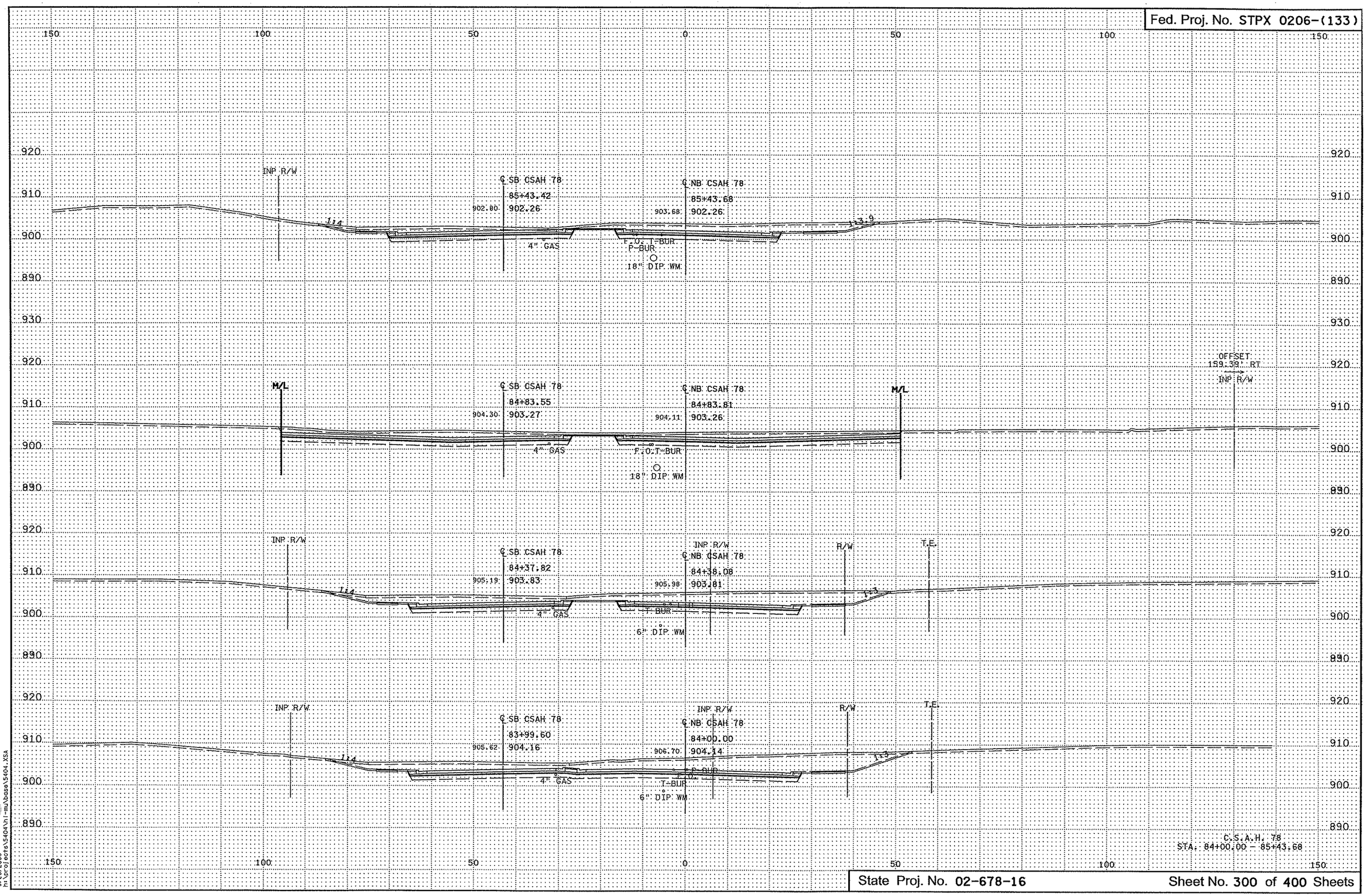
C.S.A.H. 78
STA. 82+50.00 - 83+48.16

4:32:01 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404_XSA

State Proj. No. 02-678-16

Sheet No. 299 of 400 Sheets

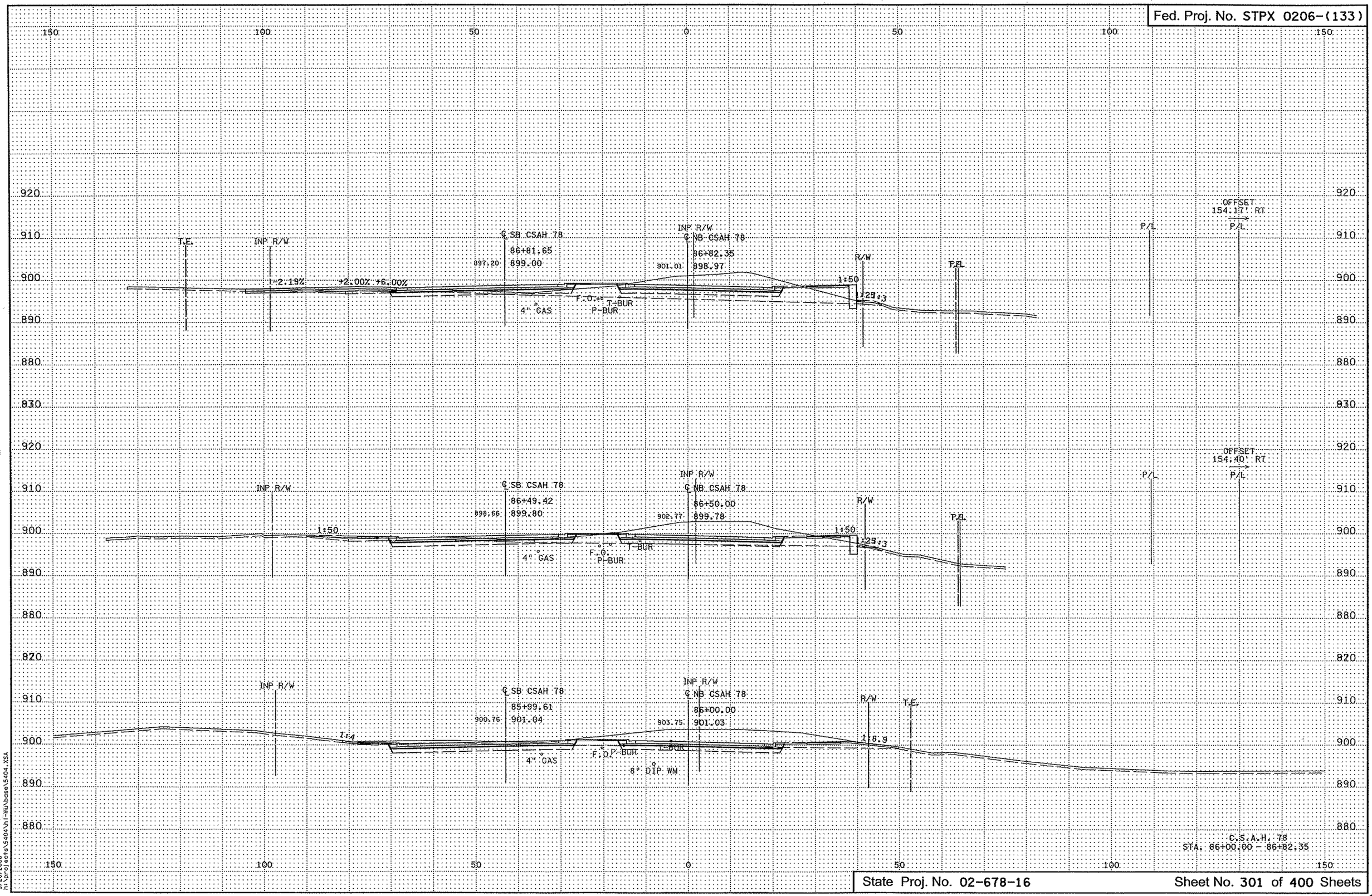
Fed. Proj. No. STPX 0206-(133)



4:32:02 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

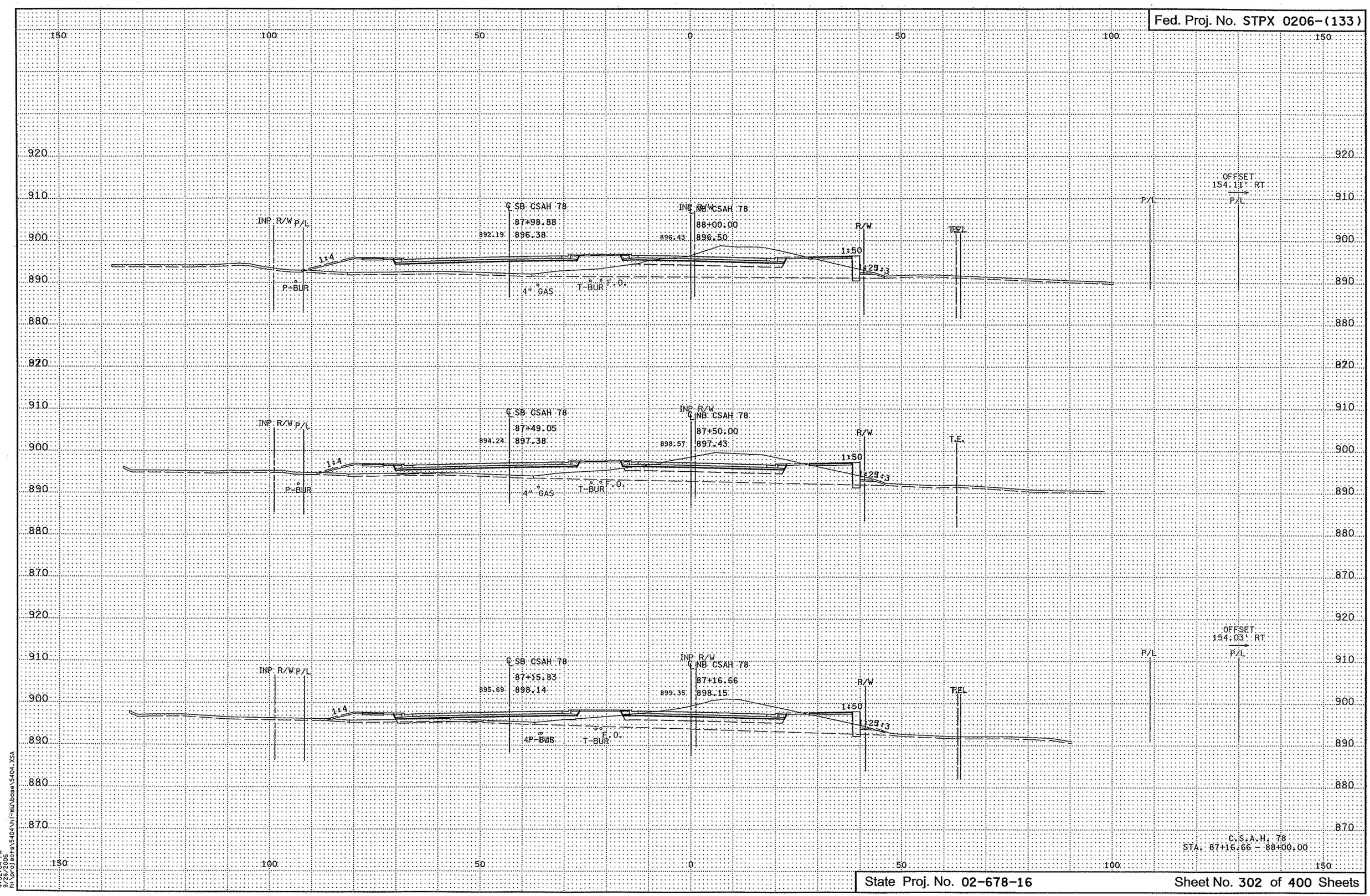
Sheet No. 300 of 400 Sheets



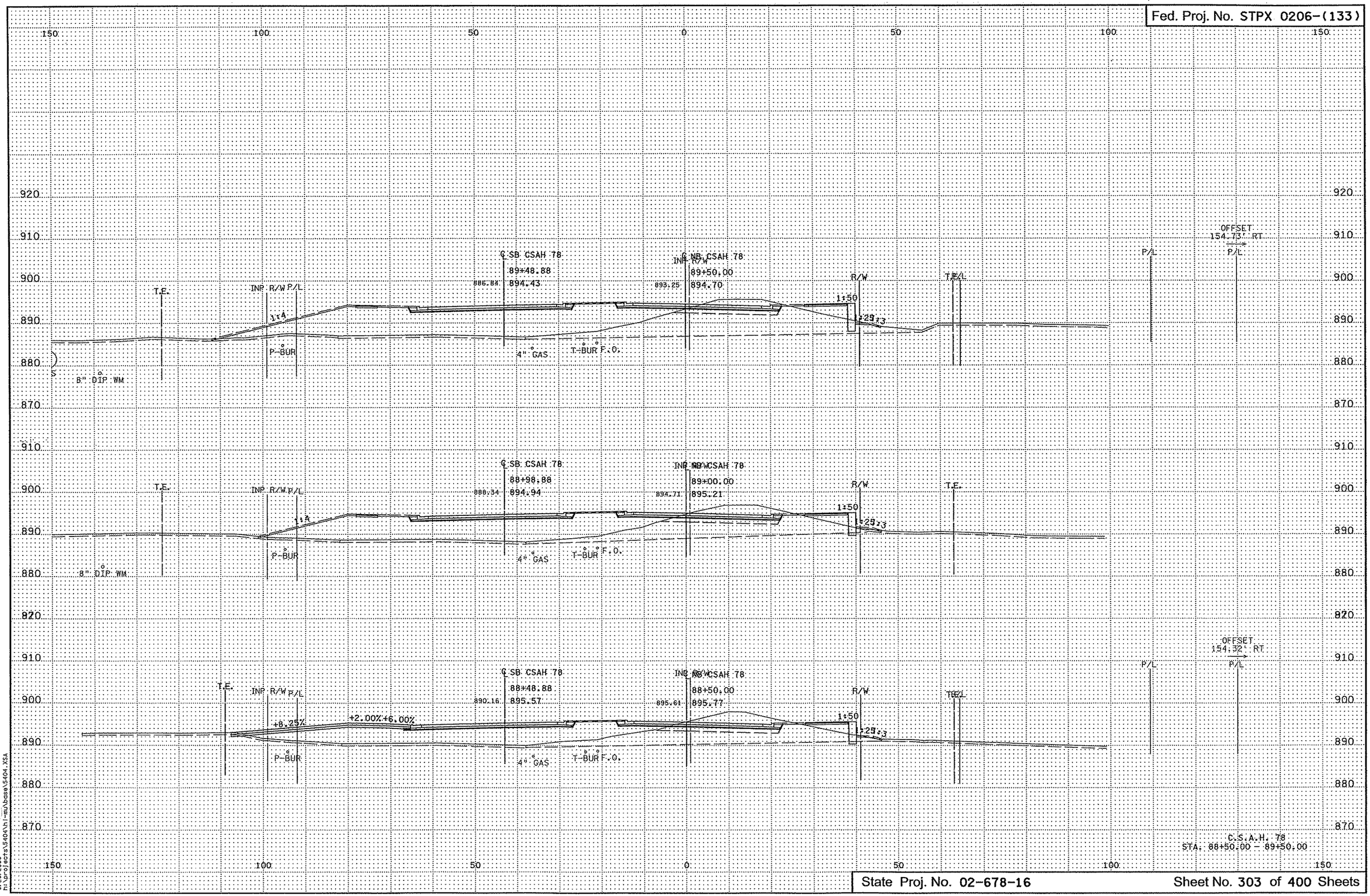
4:32:03 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

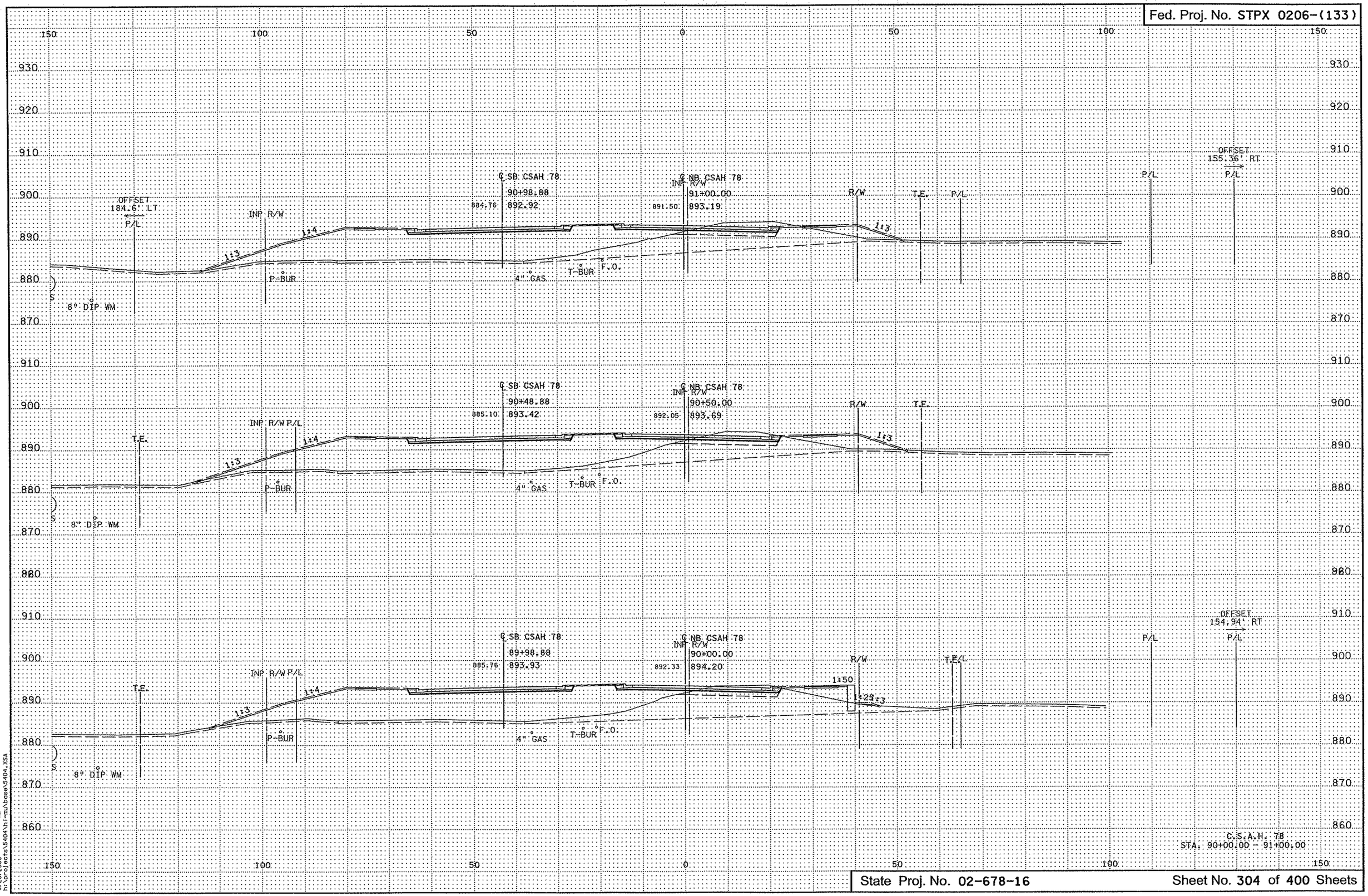
Sheet No. 301 of 400 Sheets



4:32:04 PM
9/26/2006
h:\Projects\5404\hi-mu\base\5404.XSA


150
100
50
0
50
100
150
920
910
900
890
880
870
℄ SB CSAH 78
89+48.88
886.84 894.43
℄ NB CSAH 78
INP R/W
89+50.00
893.25 894.70
INP R/W P/L
T.E.
1:4
P-BUR
8" DIP WM
4" GAS
T-BUR F.O.
R/W
1:50
1:2
T.E.
P/L
OFFSET
154.73' RT
℄ SB CSAH 78
88+98.88
888.34 894.94
℄ NB CSAH 78
INP R/W
89+00.00
894.71 895.21
℄ SB CSAH 78
88+48.88
890.16 895.57
℄ NB CSAH 78
INP R/W
88+50.00
895.61 895.77
+8.25%
+2.00%
+6.00%
OFFSET
154.32' RT
C.S.A.H. 78
STA. 88+50.00 - 89+50.00

Fed. Proj. No. STPX 0206-(133)

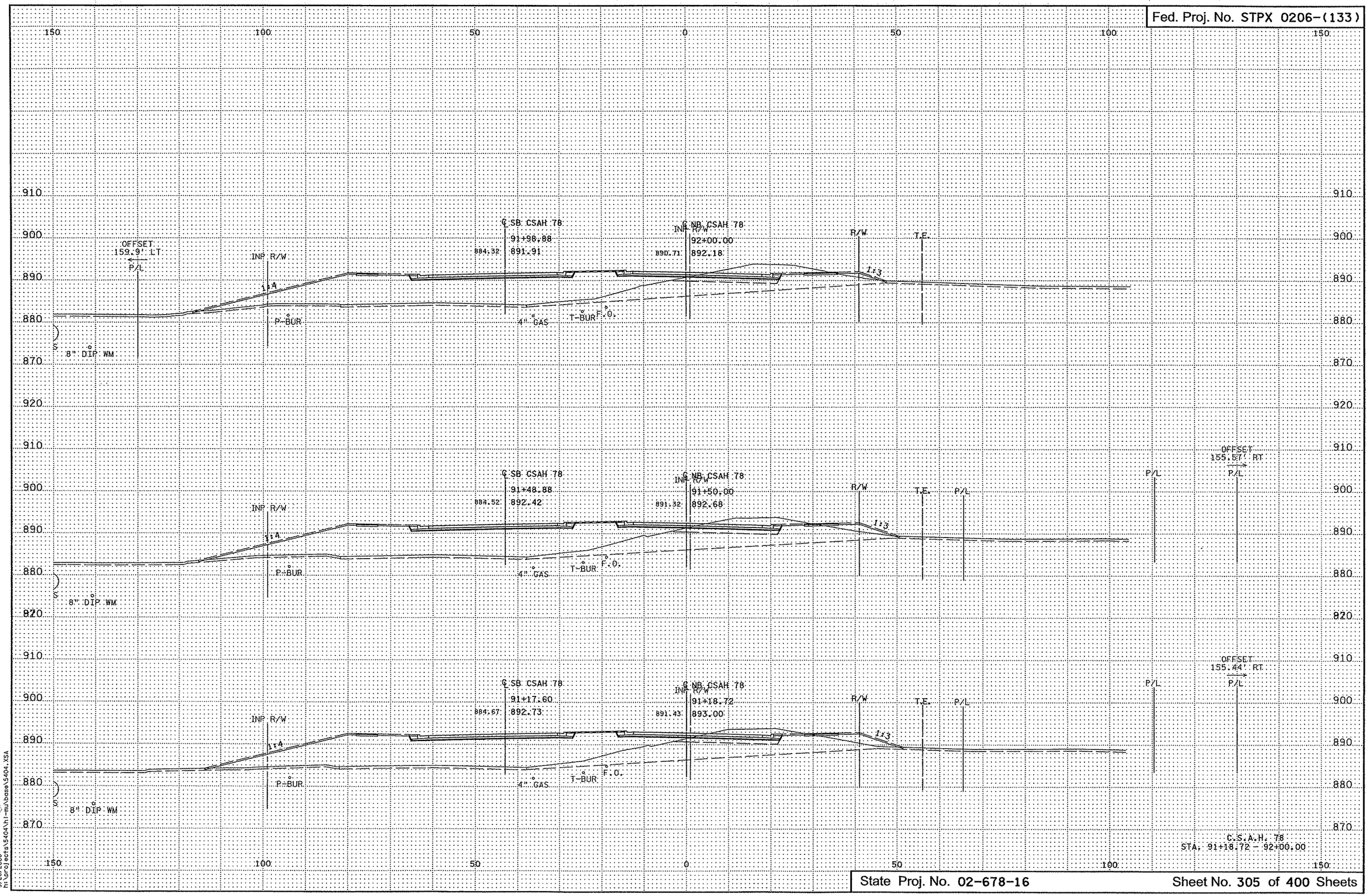


4:32:05 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 304 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

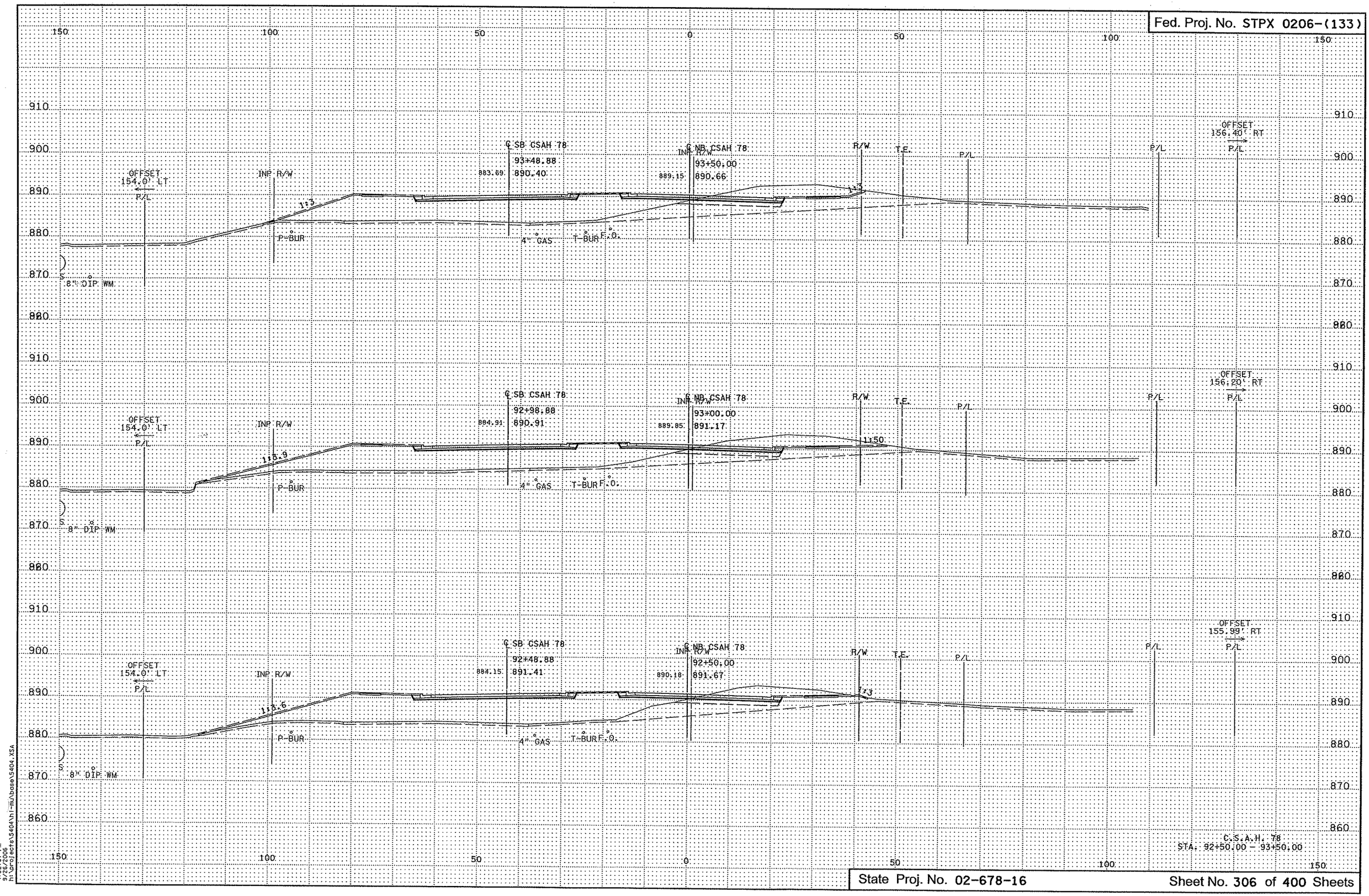


4:32:06 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404_XSA

State Proj. No. 02-678-16

Sheet No. 305 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



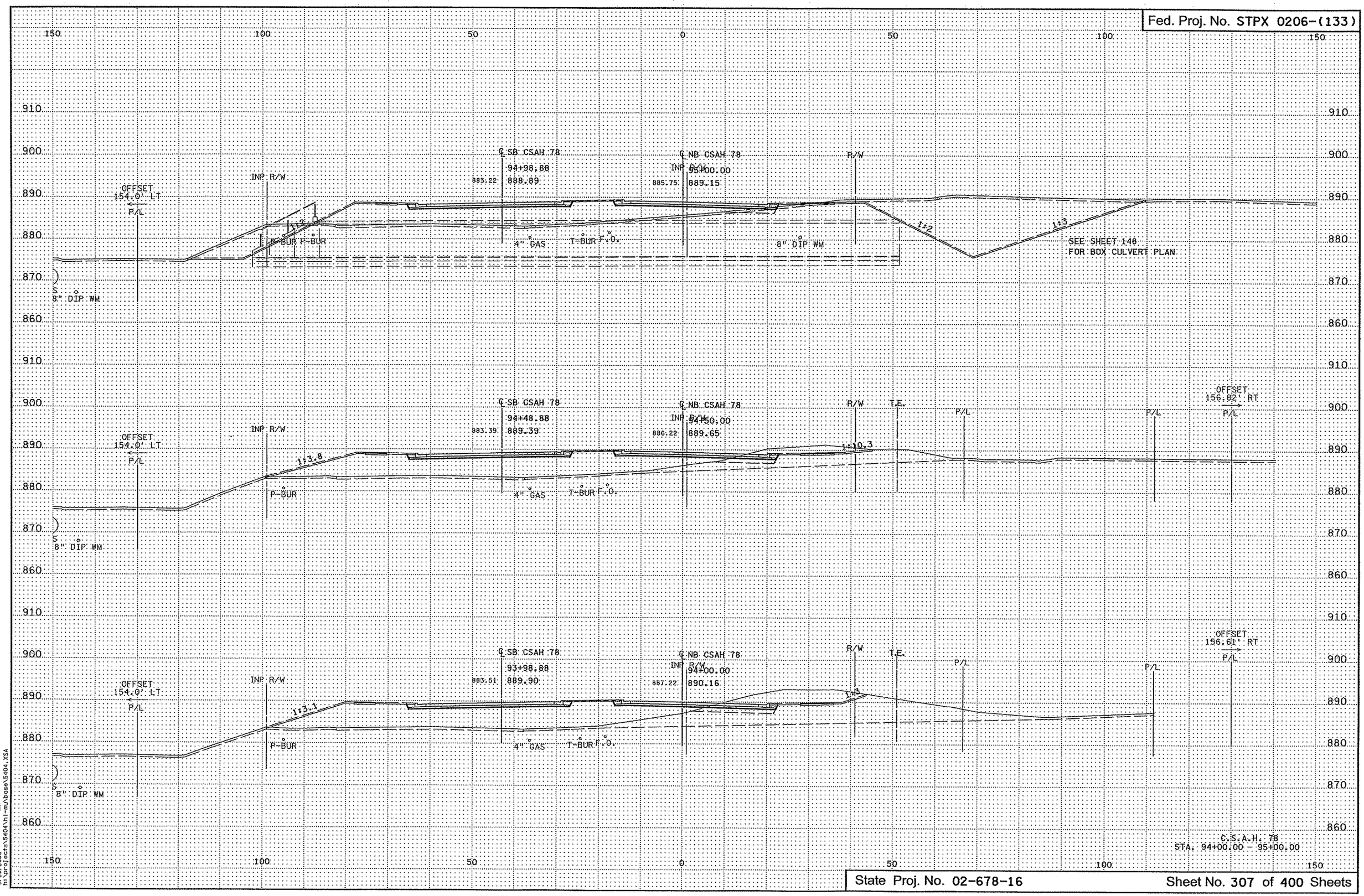
C.S.A.H. 78
STA. 92+50.00 - 93+50.00

4132107 PM
9/26/2006
h:\projects\5404\h1-mn\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 306 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

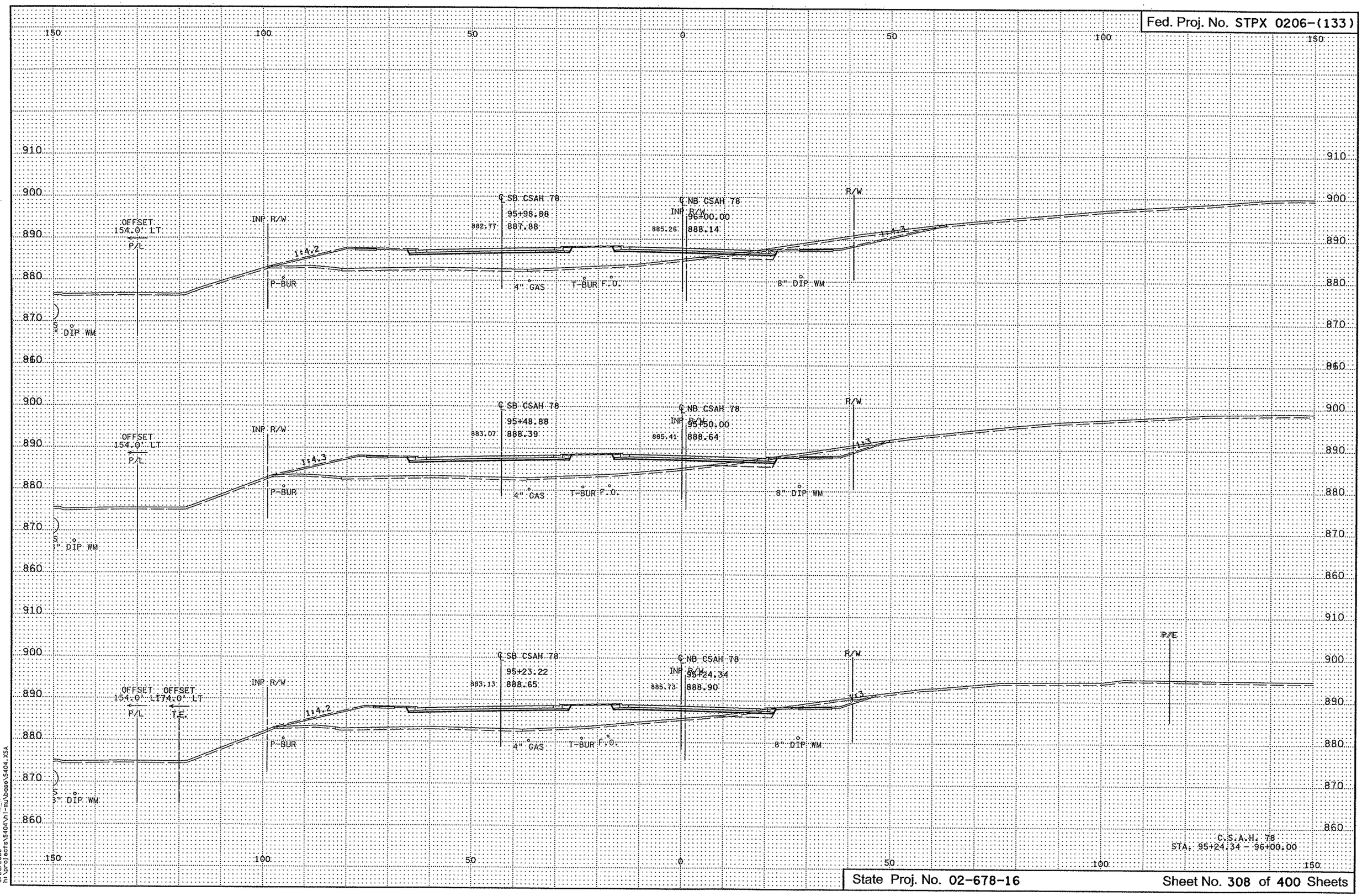


4:32:08 PM
9/26/2006
h:\projects\5404\h1-mn\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 307 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

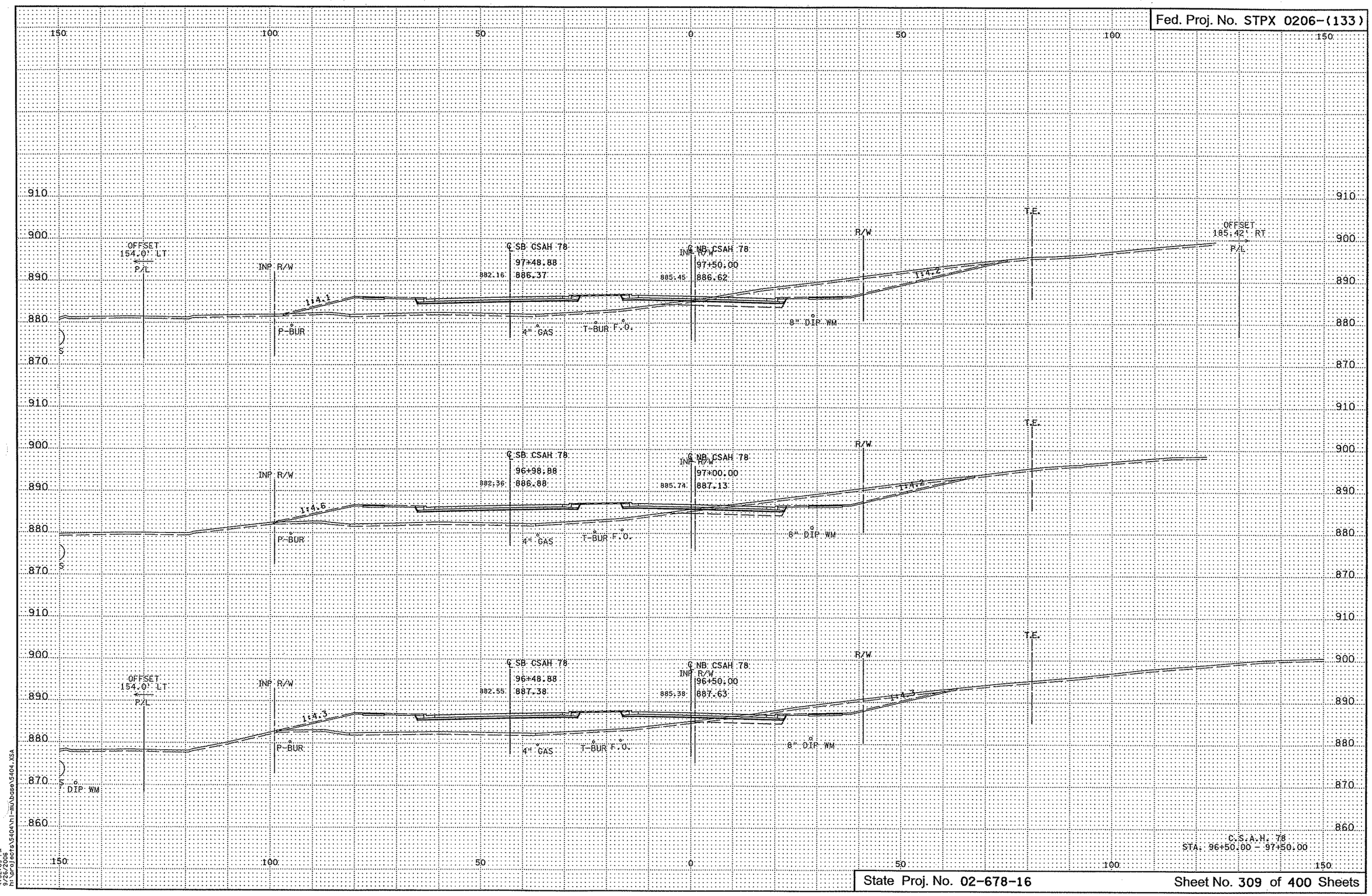


4:32:08 PM
9/26/2006
N:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 308 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



4:32:09 PM
9/26/2006
h:\Projects\5404\h1-mu\bdse\5404.XSA

State Proj. No. 02-678-16

Sheet No. 309 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

OFFSET 159.0' LT
P/L
T.E.
INP R/W
1:4.9
C SB CSAH 78
98+64.62
881.62 885.21
4" GAS
T-BUR
F.O.
INP NB CSAH 78
98+65.79
884.63 885.45
R/W
1:4.2
T.E.
P/L

OFFSET 154.0' LT
OFFSET 174.0' LT
P/L
T.E.
M/L
INP R/W
P-BUR
GAS
C SB CSAH 78
98+38.18
881.67 885.47
4" GAS
T-BUR
F.O.
INP NB CSAH 78
98+39.30
885.29 885.72
8" DIP WM
R/W
1:4
T.E.
OFFSET 143.85' RT
P/L

OFFSET 154.0' LT
OFFSET 174.0' LT
P/L
T.E.
INP R/W
1:4
P-BUR
C SB CSAH 78
97+98.88
881.92 885.87
4" GAS
T-BUR
F.O.
INP NB CSAH 78
98+00.00
886.62 886.12
8" DIP WM
R/W
1:4.2
T.E.
OFFSET 158.67' RT
P/L

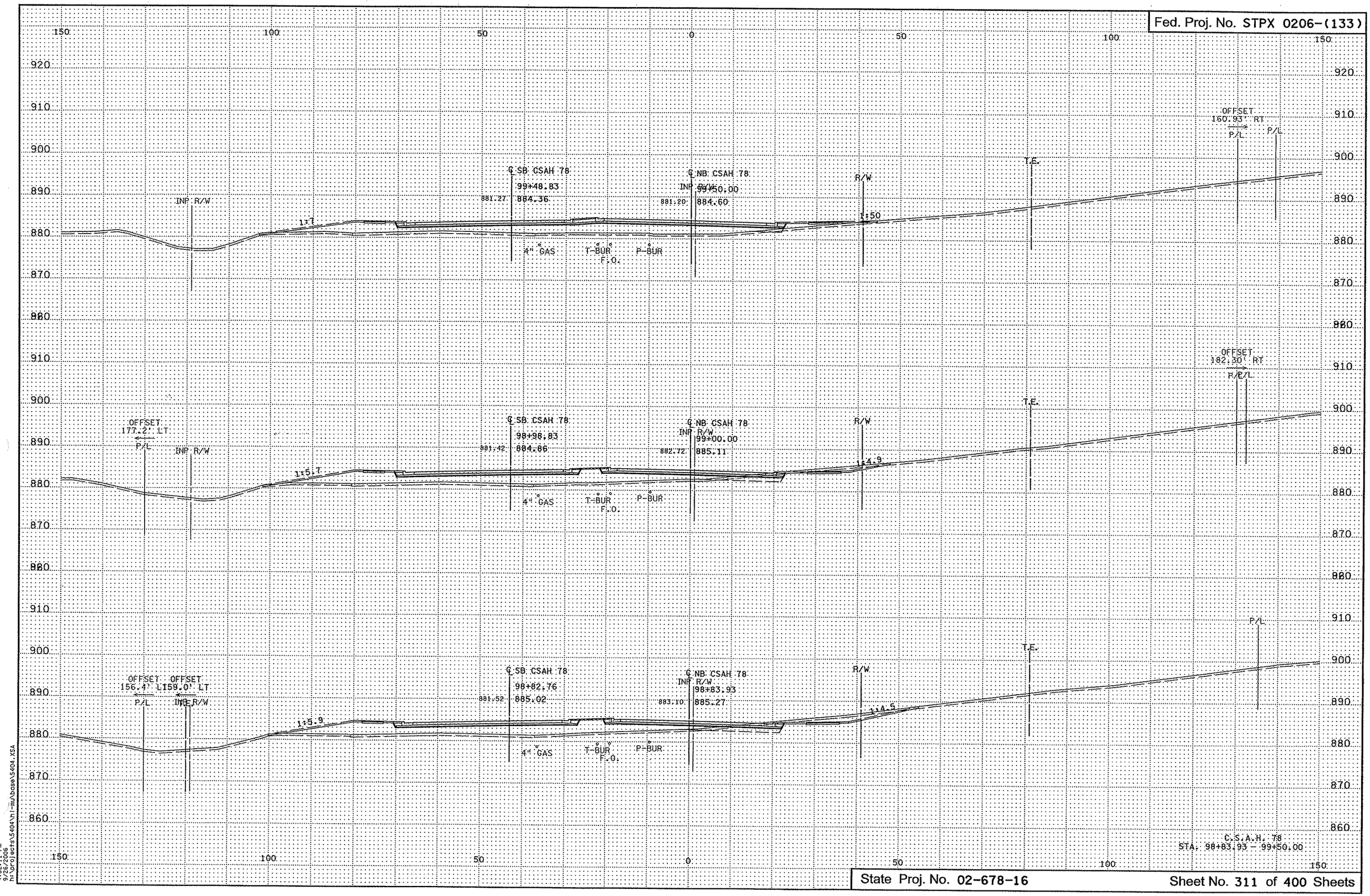
C.S.A.H. 78
STA. 98+00.00 - 98+65.79

4:32:10 PM
9/26/2006
H:\Projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 310 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

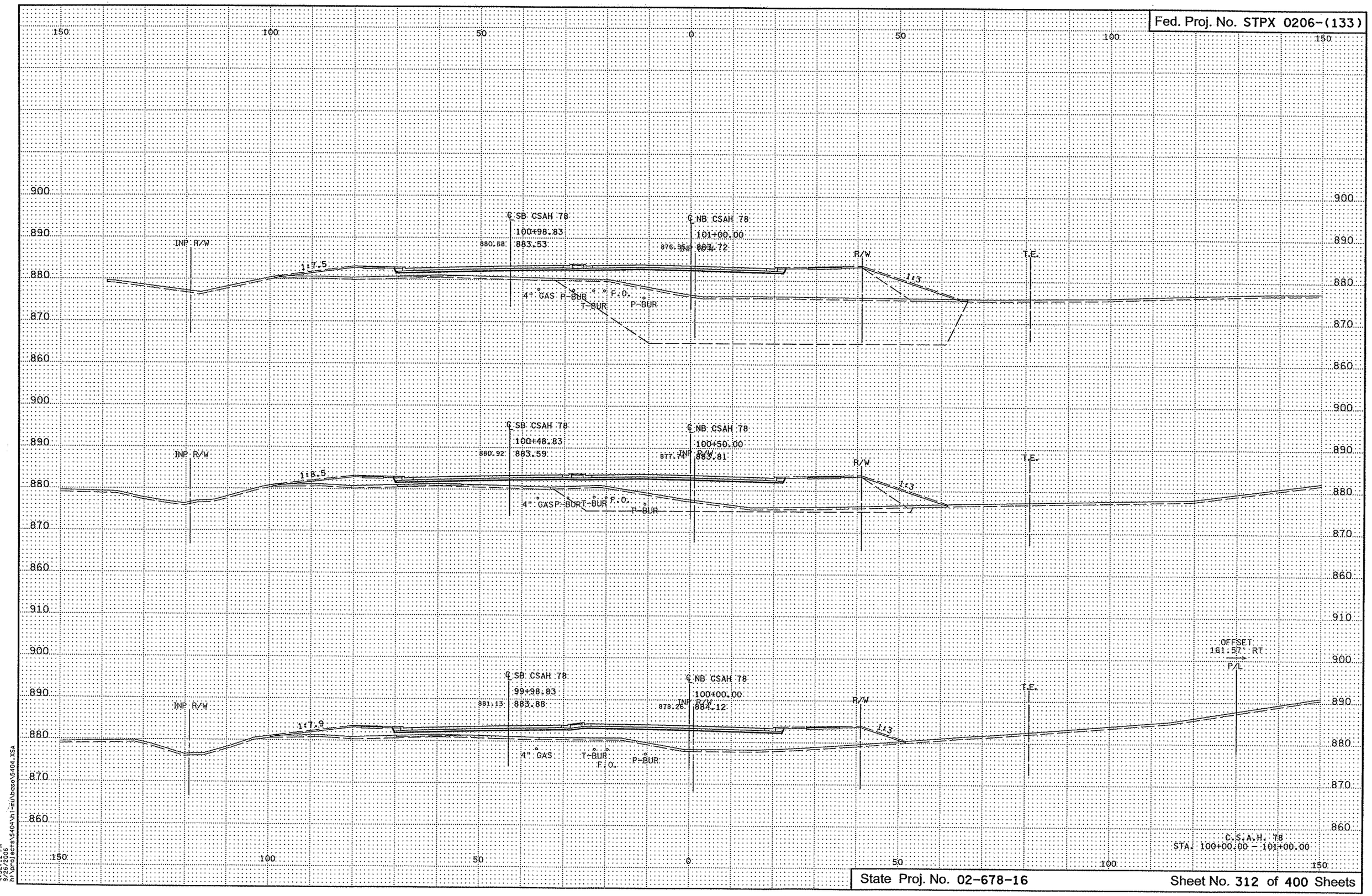


4:32:11 PM
9/26/2006
n:\projects\5404\hl-mn\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 311 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



4:32:12 PM
9/26/2006
H:\Projects\5404\hl-ru\base\5404.XSA

C.S.A.H. 78
STA. 100+00.00 - 101+00.00

State Proj. No. 02-678-16

Sheet No. 312 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

150 100 50 0 50 100 150

900 890 880 870 860 850

℄ SB CSAH 78
102+48.83
880.55 884.63
INP R/W
1:4
4" GAS
P-BUR T-BUR F.O. P-BUR
℄ NB CSAH 78
102+50.00
876.44 884.76
INP R/W
R/W
1:3
T.E.

℄ SB CSAH 78
101+98.83
880.21 884.04
INP R/W
1:4.6
4" GAS
P-BUR T-BUR F.O. P-BUR
℄ NB CSAH 78
102+00.00
876.9[illegible] 884.19
INP R/W
R/W
1:3
T.E.

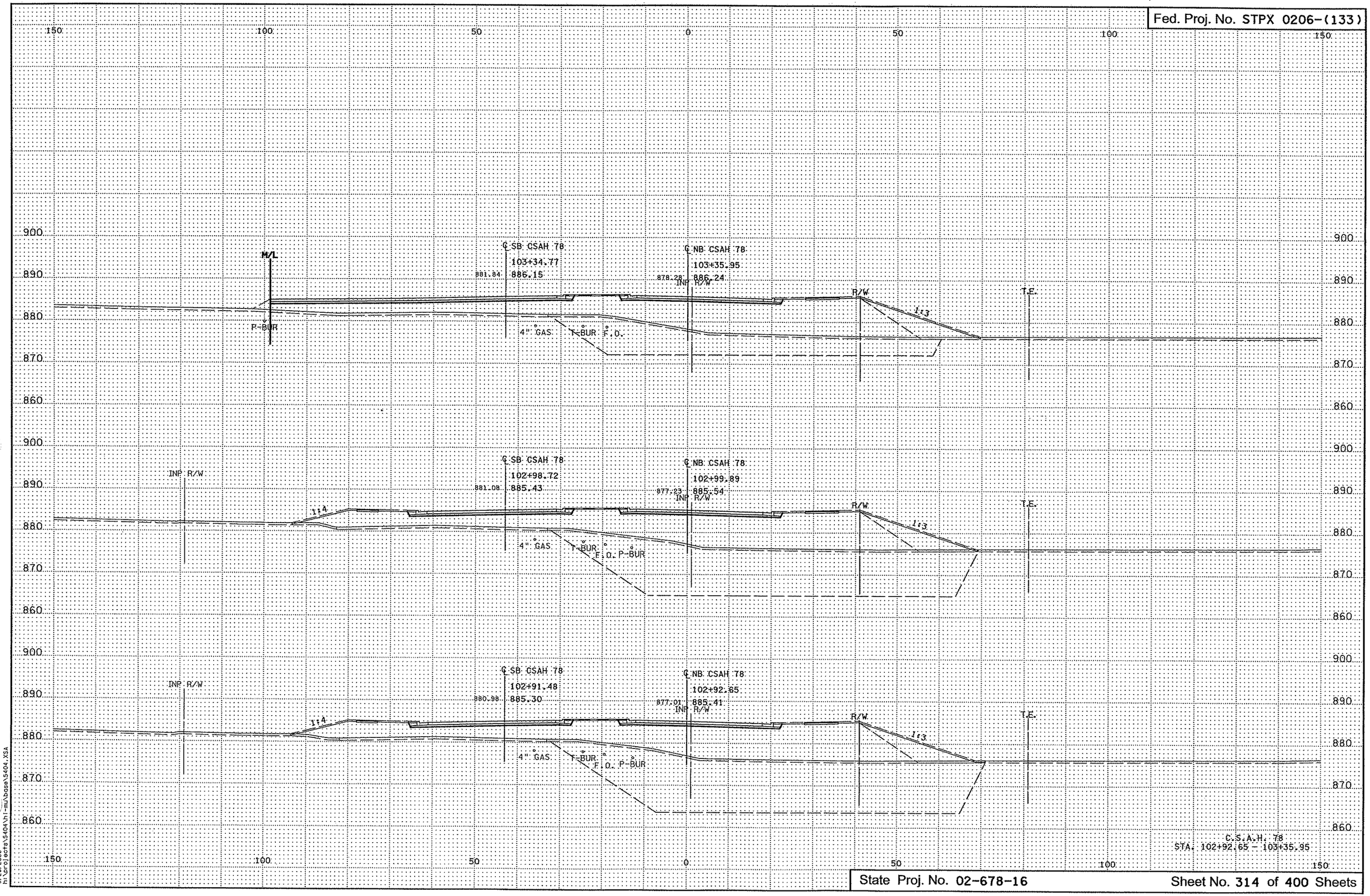
℄ SB CSAH 78
101+48.83
880.35 883.68
INP R/W
1:5.6
4" GAS
P-BUR T-BUR F.O. P-BUR
℄ NB CSAH 78
101+50.00
876.6[illegible] 884.85
INP R/W
R/W
1:3
T.E.

C.S.A.H. 78
STA. 101+50.00 - 102+50.00

4:32:12 PM
9/26/2006
N:\Projects\5404\hl-mn\base\5404.XSA

State Proj. No. 02-678-16 Sheet No. 313 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



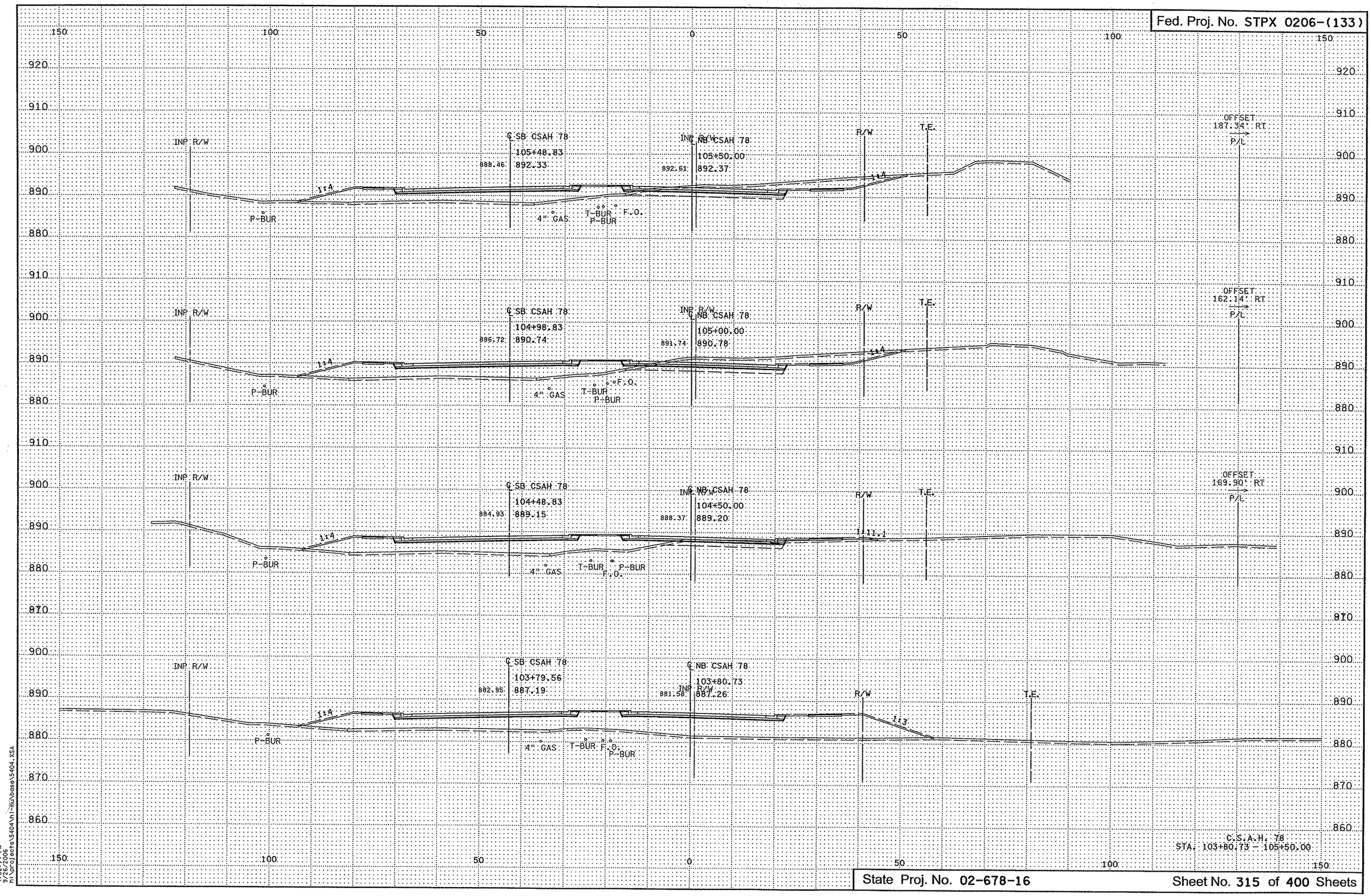
C.S.A.H. 78
STA. 102+92.65 - 103+35.95

4:32:13 PM
9/26/2006
n:\projects\5404\h1-mdbase\5404.XSA

State Proj. No. 02-678-16

Sheet No. 314 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

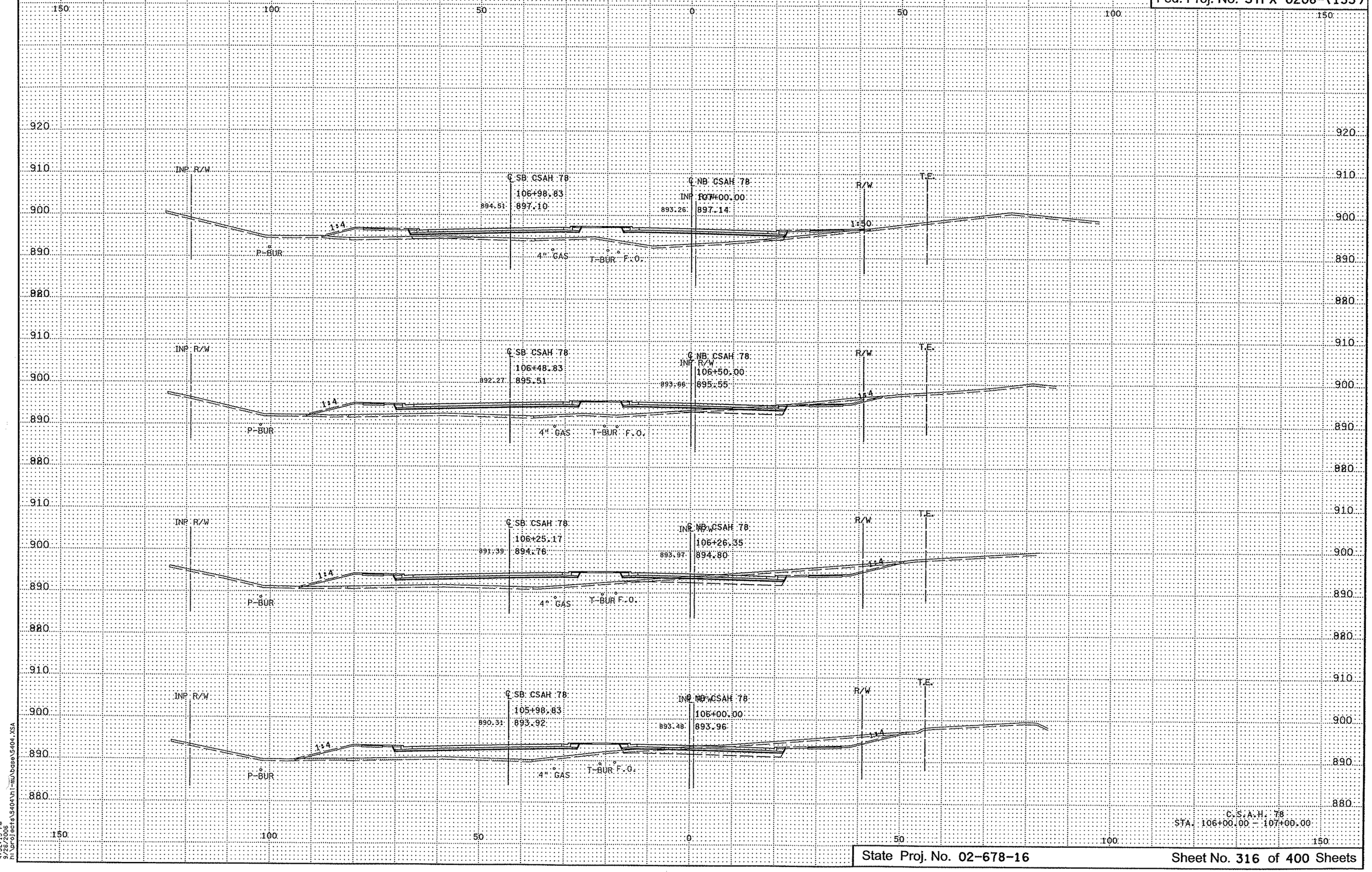


4:32:14 PM
9/26/2006
N:\Projects\5404\h1-RW\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 315 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



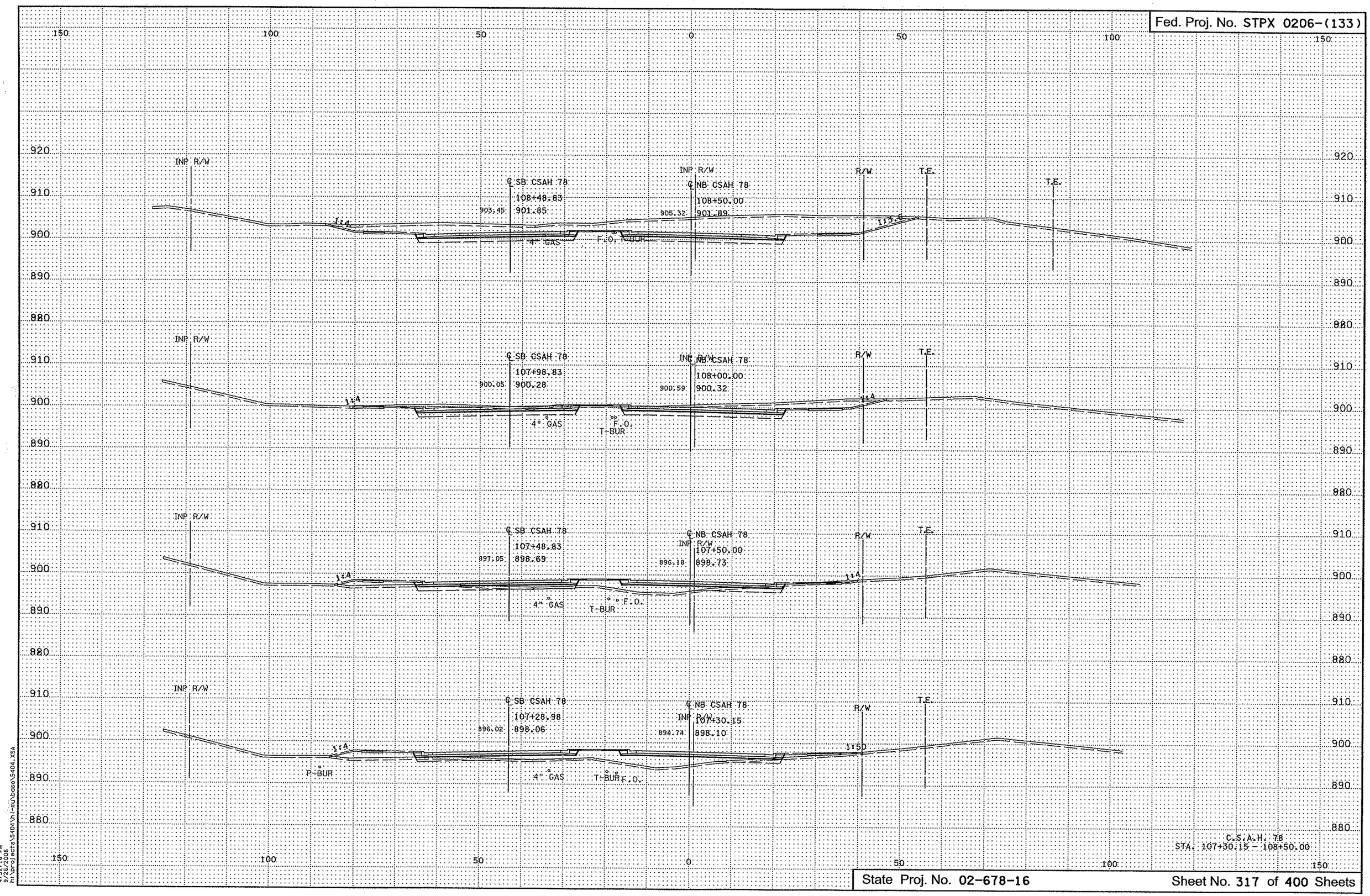
C.S.A.H. 78
STA. 106+00.00 - 107+00.00

4:32:15 PM
9/26/2006
n:\projects\S404\n1-RUbase\S404_XSA

State Proj. No. 02-678-16

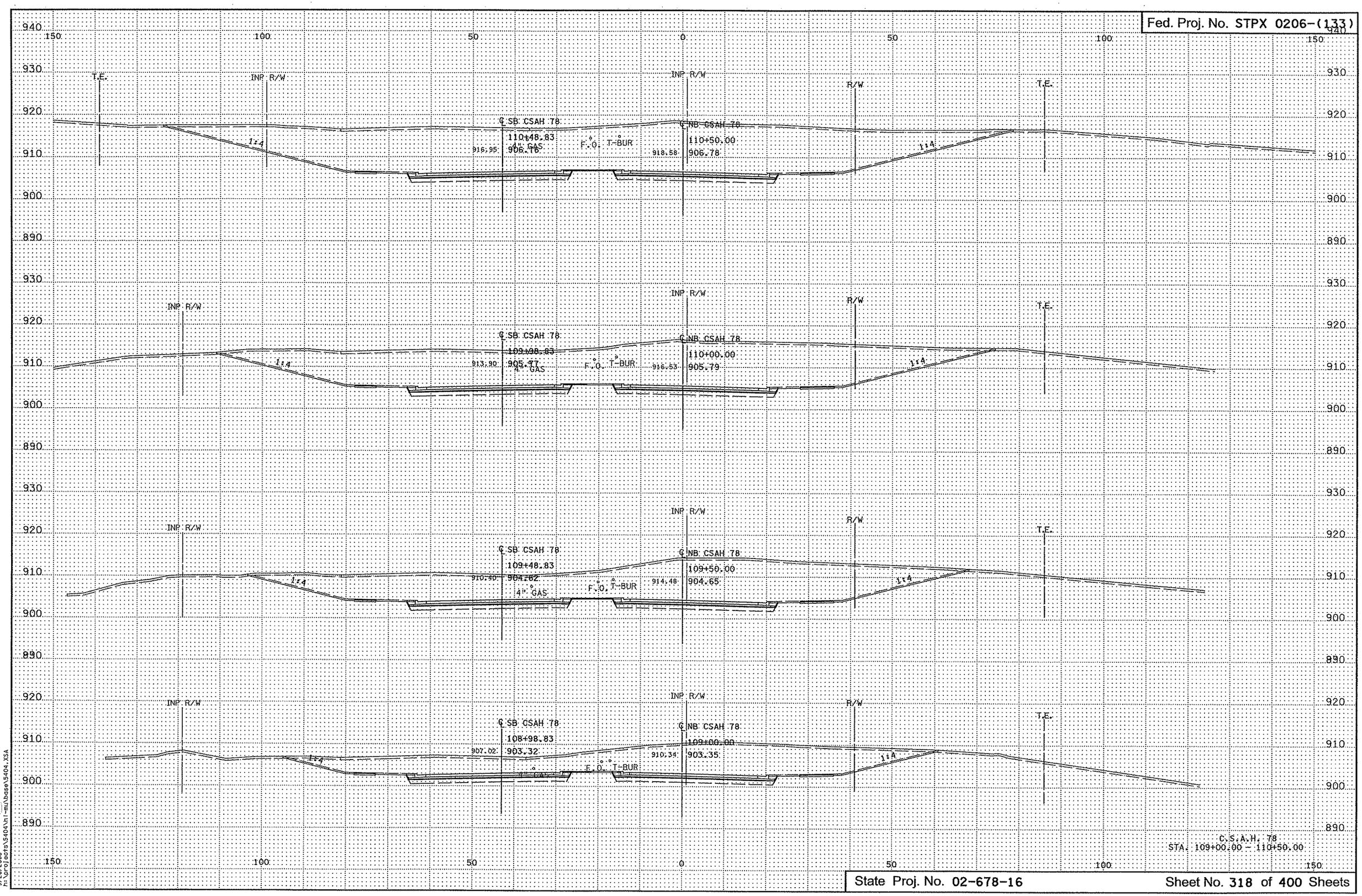
Sheet No. 316 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



4:32:16 PM
9/26/2006
N:\Projects\5404\hl-mubase\5404.XSA

Fed. Proj. No. STPX 0206-(133)

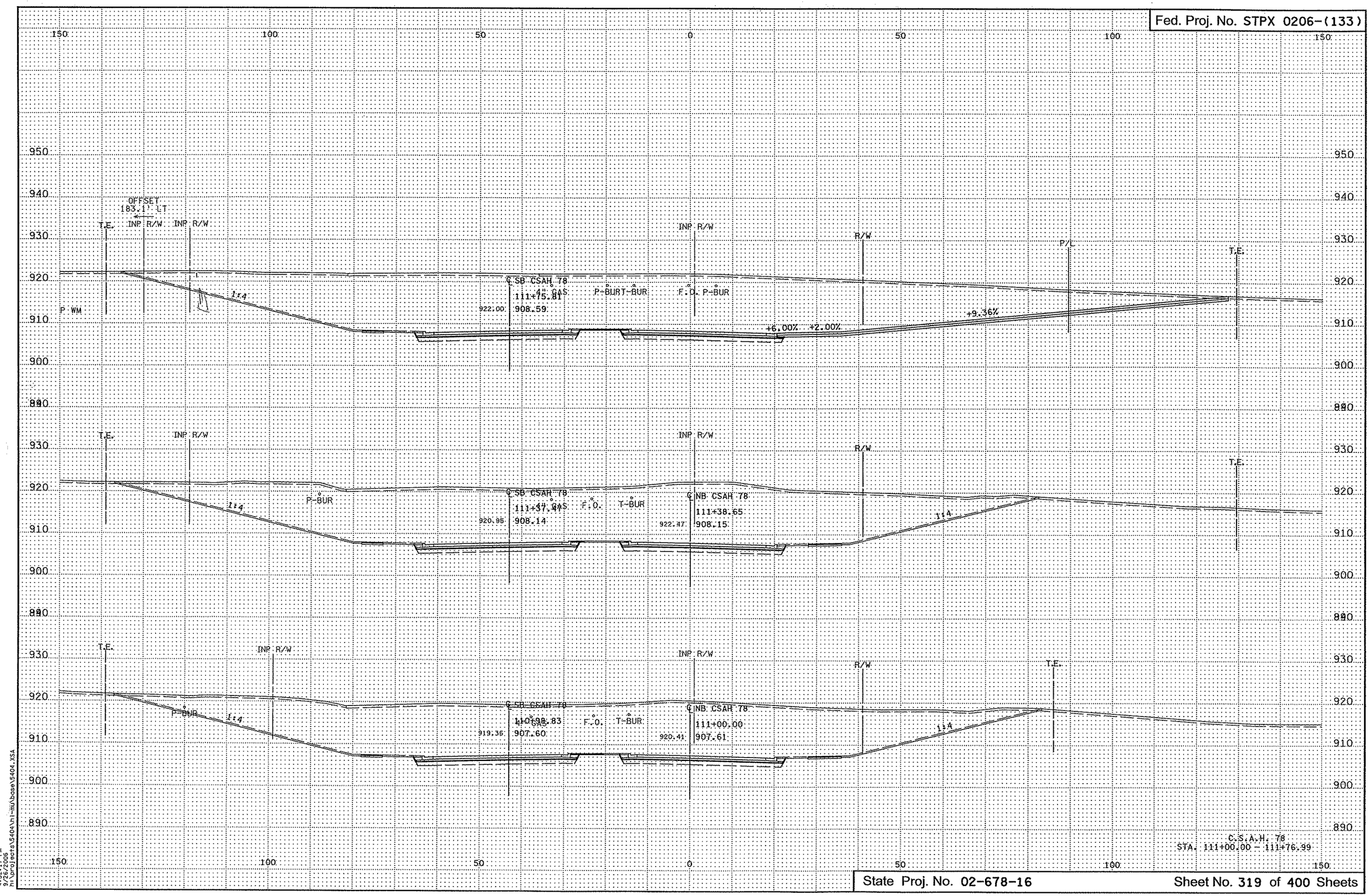


4:32:16 PM
9/26/2006
h:\projects\S404\hl-mn\base\S404.XSA

State Proj. No. 02-678-16

Sheet No. 318 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



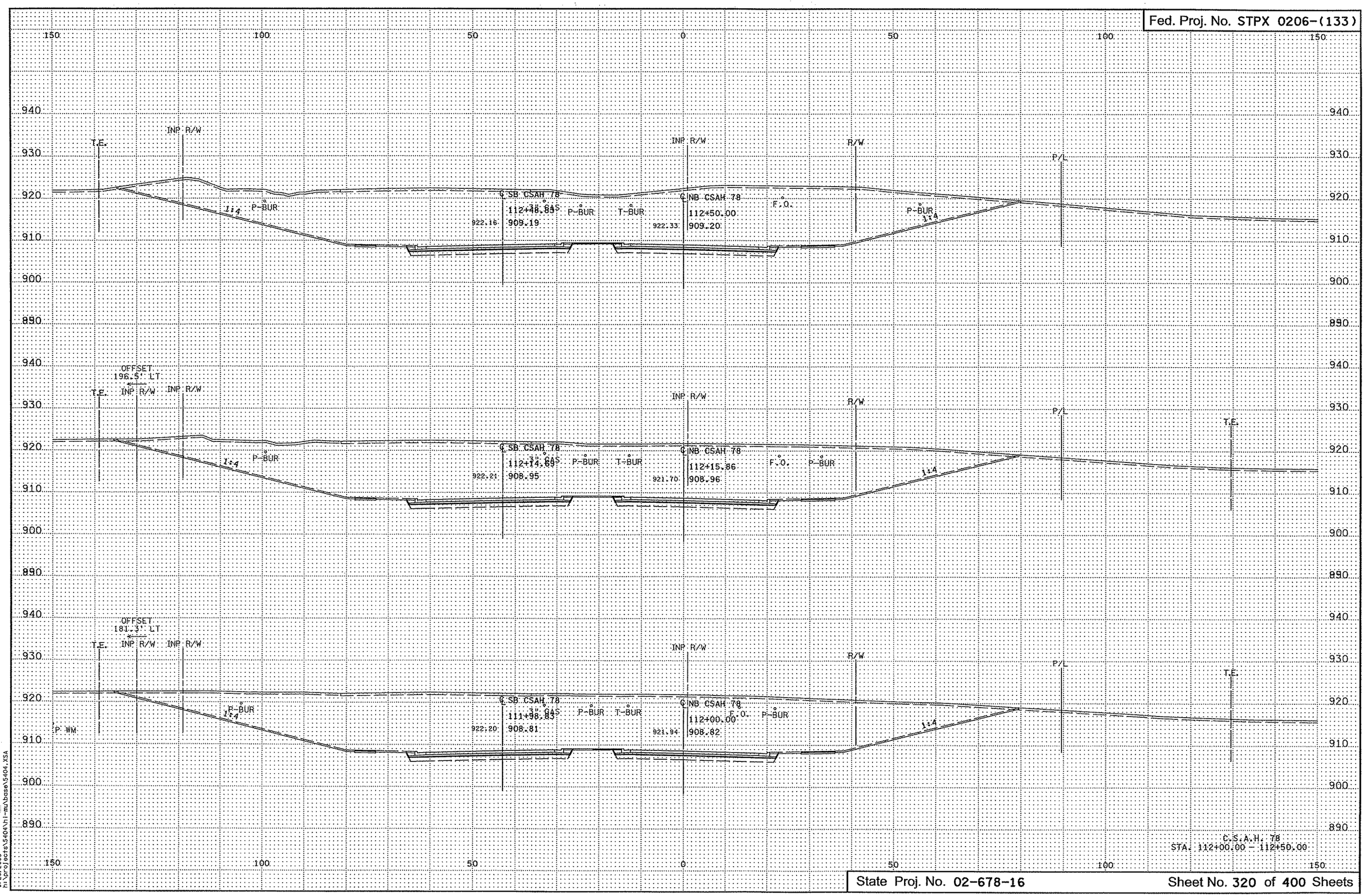
C.S.A.H. 78
STA. 111+00.00 - 111+76.99

4:32:17 PM
9/26/2006
n:\projects\5404\n1-RU\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 319 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



4:32:18 PM
9/26/2006
h:\projects\5404\hl-mn\base\5404.XSA

Fed. Proj. No. STPX 0206-(133)

150 100 50 0 50 100 150

940 930 920 910 900 890

INP R/W

℄ SB CSAH 78

113+98.83

909.39

919.23

P-BUR

T-BUR 919.85

℄ NB CSAH 78

114+00.00

909.39

F.O.

R/W

P/L

1:4

OFFSET 154.0' LT

T.E.

920.73

909.48

921.57

113+48.83

113+50.00

921.68

909.41

921.95

113+00.00

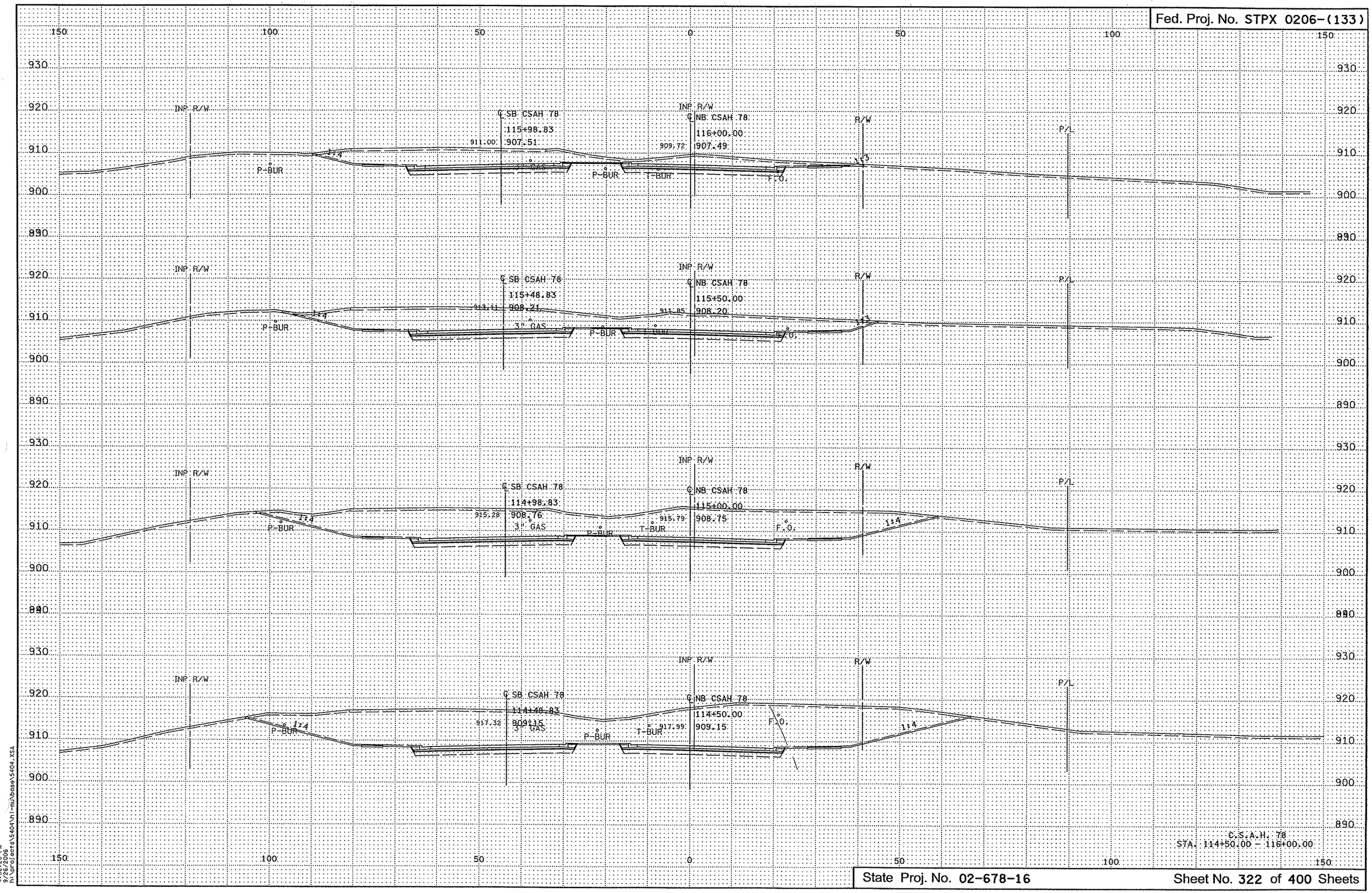
C.S.A.H. 78
STA. 113+00.00 - 114+00.00

4:32:19 PM
9/26/2006
n:\projects\5404\h1-mn\base\5404.xsa

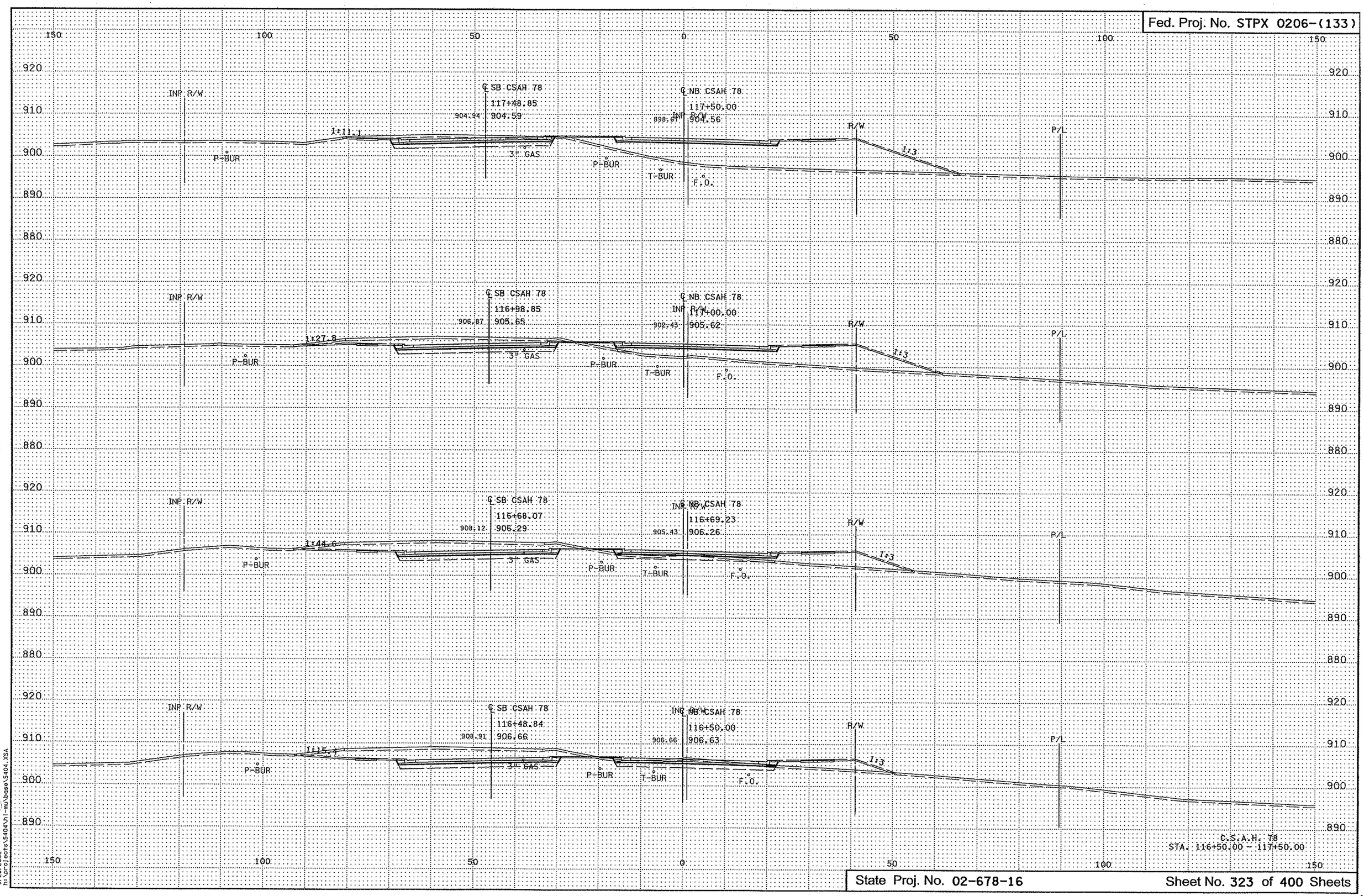
State Proj. No. 02-678-16

Sheet No. 321 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



Fed. Proj. No. STPX 0206-(133)

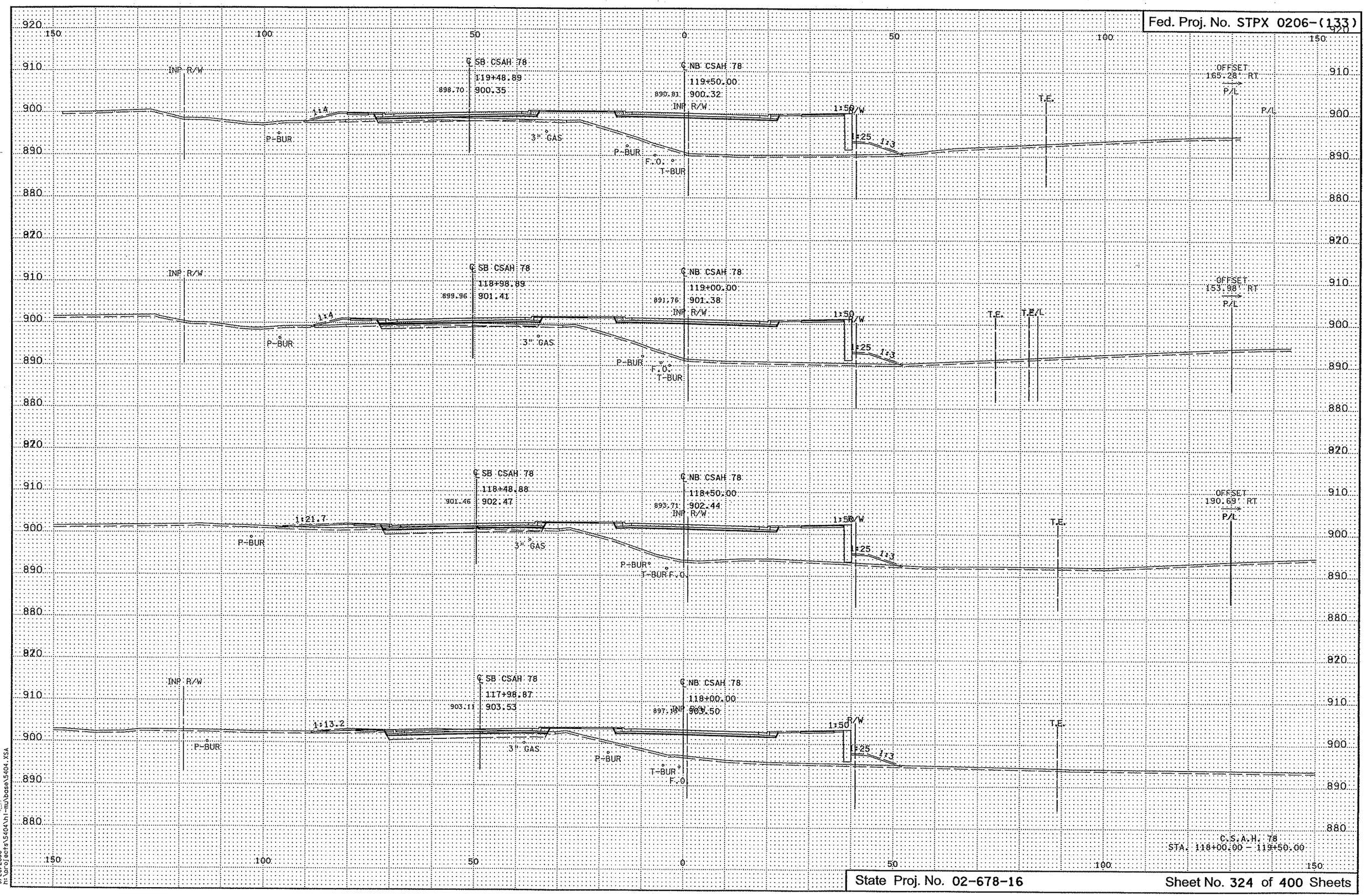


4:32:20 PM
9/26/2006
h:\Projects\5404\h1-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 323 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

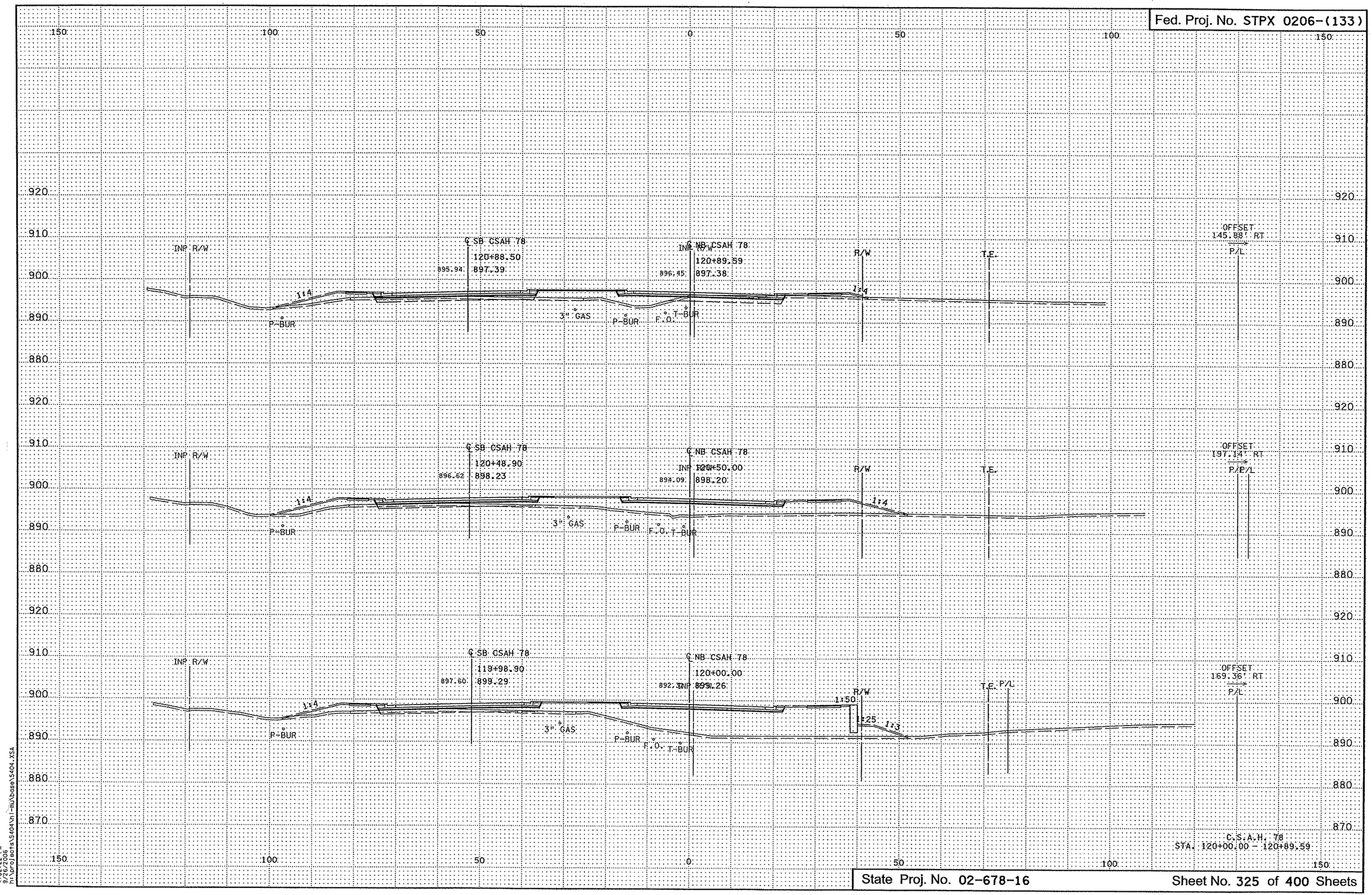


4:32:21 PM
9/26/2006
n:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 324 of 400 Sheets

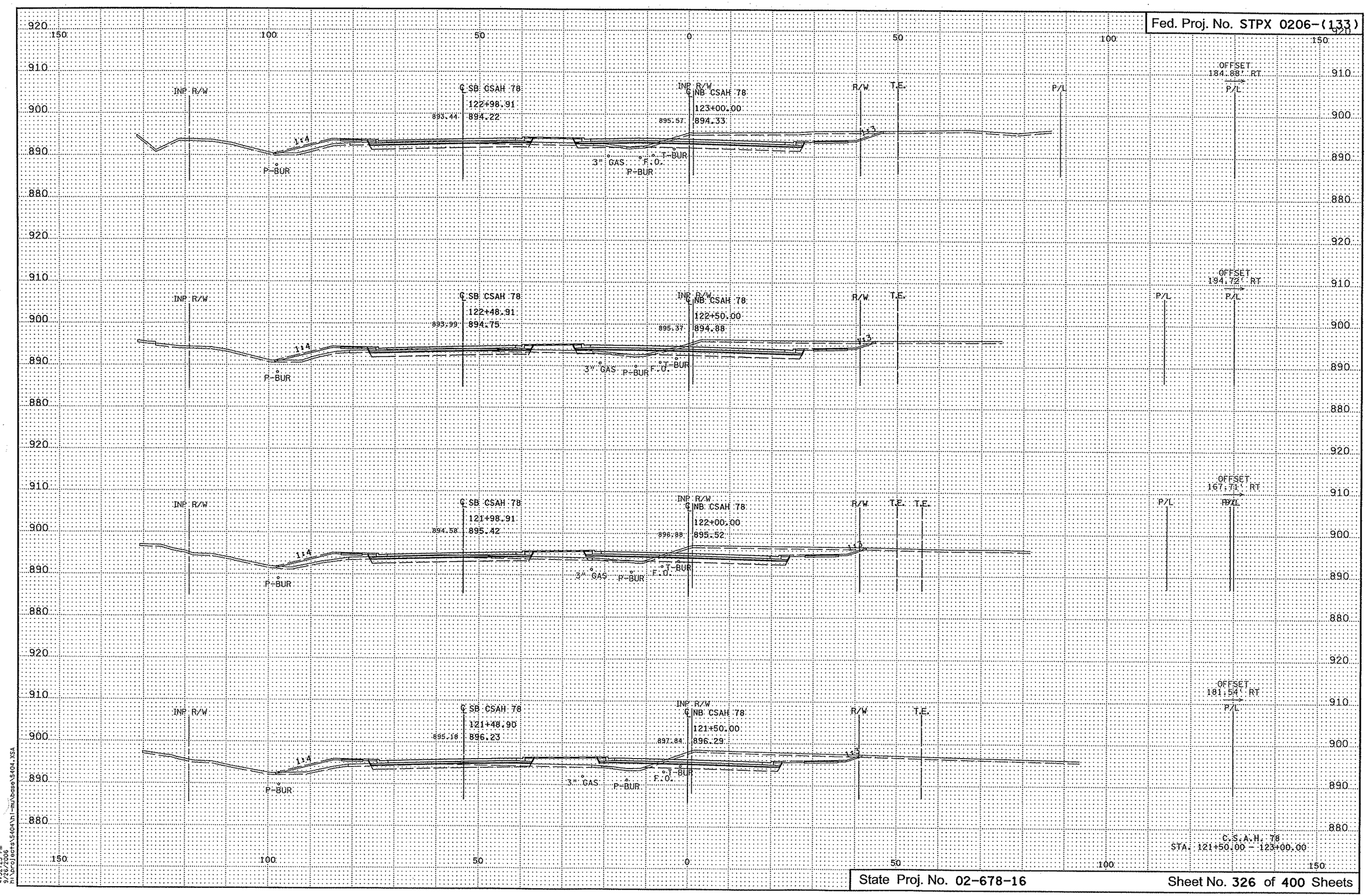
Fed. Proj. No. STPX 0206-(133)



4:32:22 PM
9/26/2006
n:\projects\s5404\n1-mnbase\s5404.xsa

State Proj. No. 02-678-16

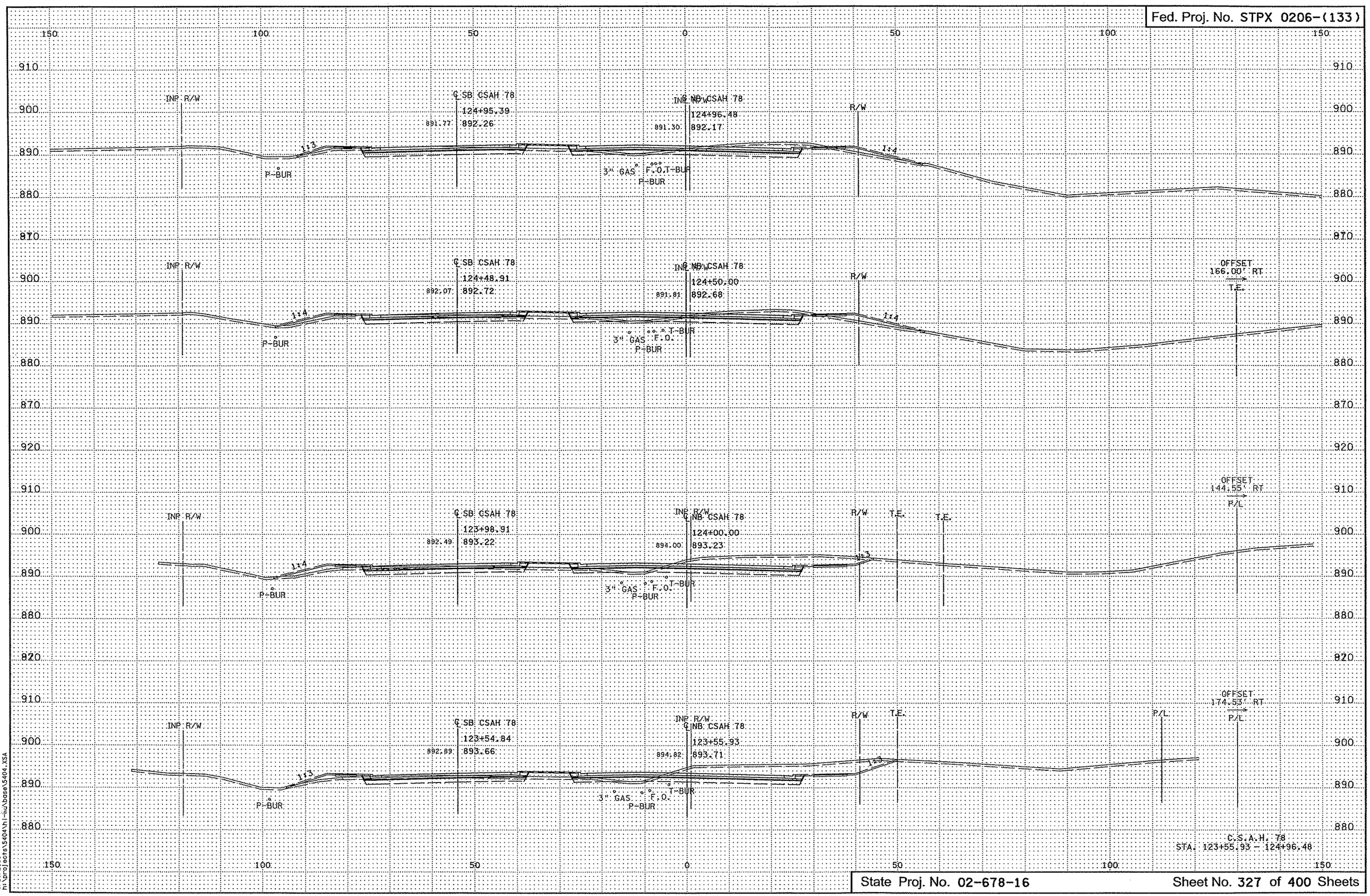
Sheet No. 325 of 400 Sheets



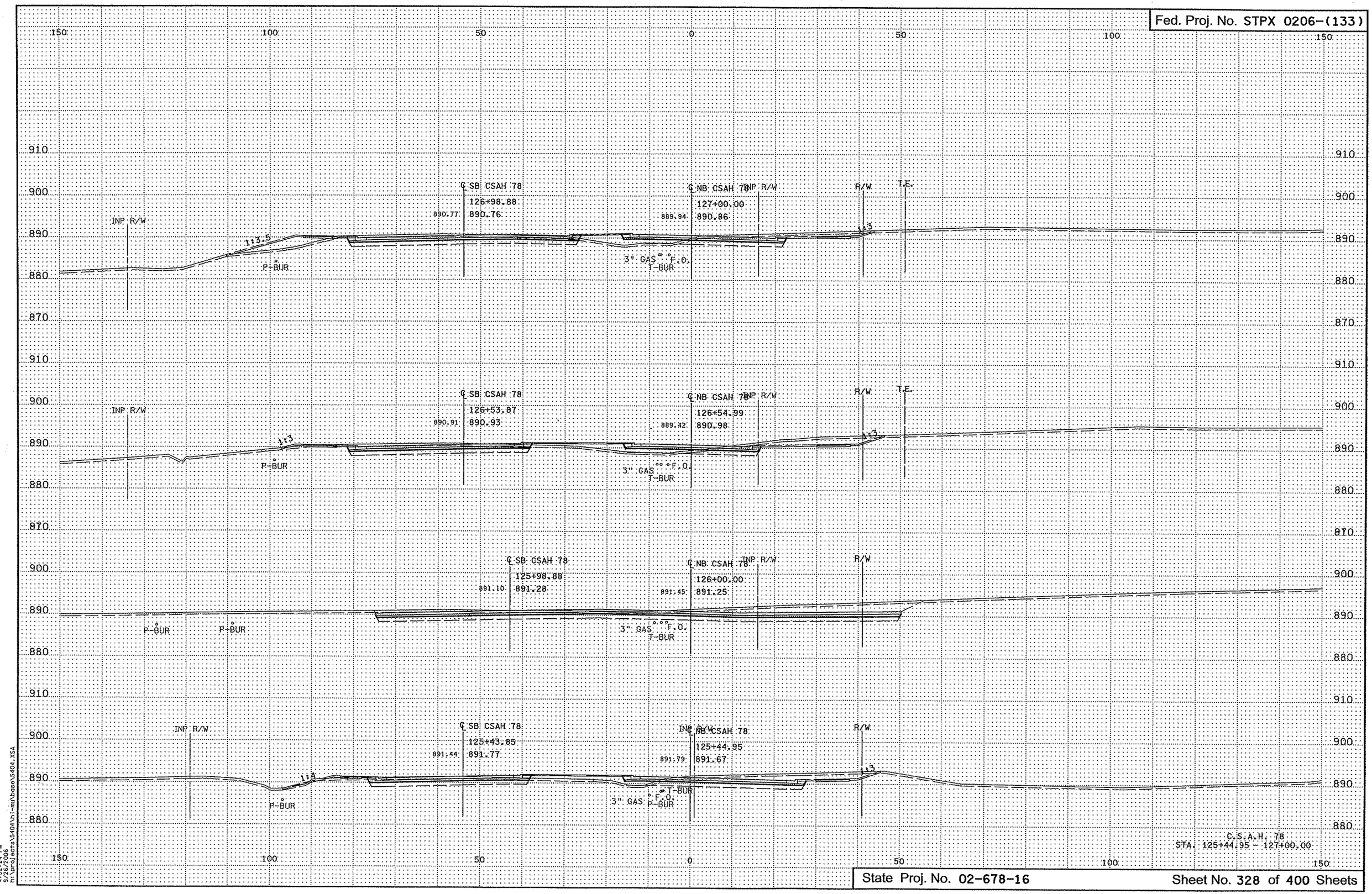
C.S.A.H. 78
STA. 121+50.00 - 123+00.00

4:32:23 PM
9/26/2006
n:\projects\5404\hl-mu\base\5404.XSA

Fed. Proj. No. STPX 0206-(133)



4:32:24 PM
9/26/2006
h:\projects\5404\hl-hw\base\5404_XSA



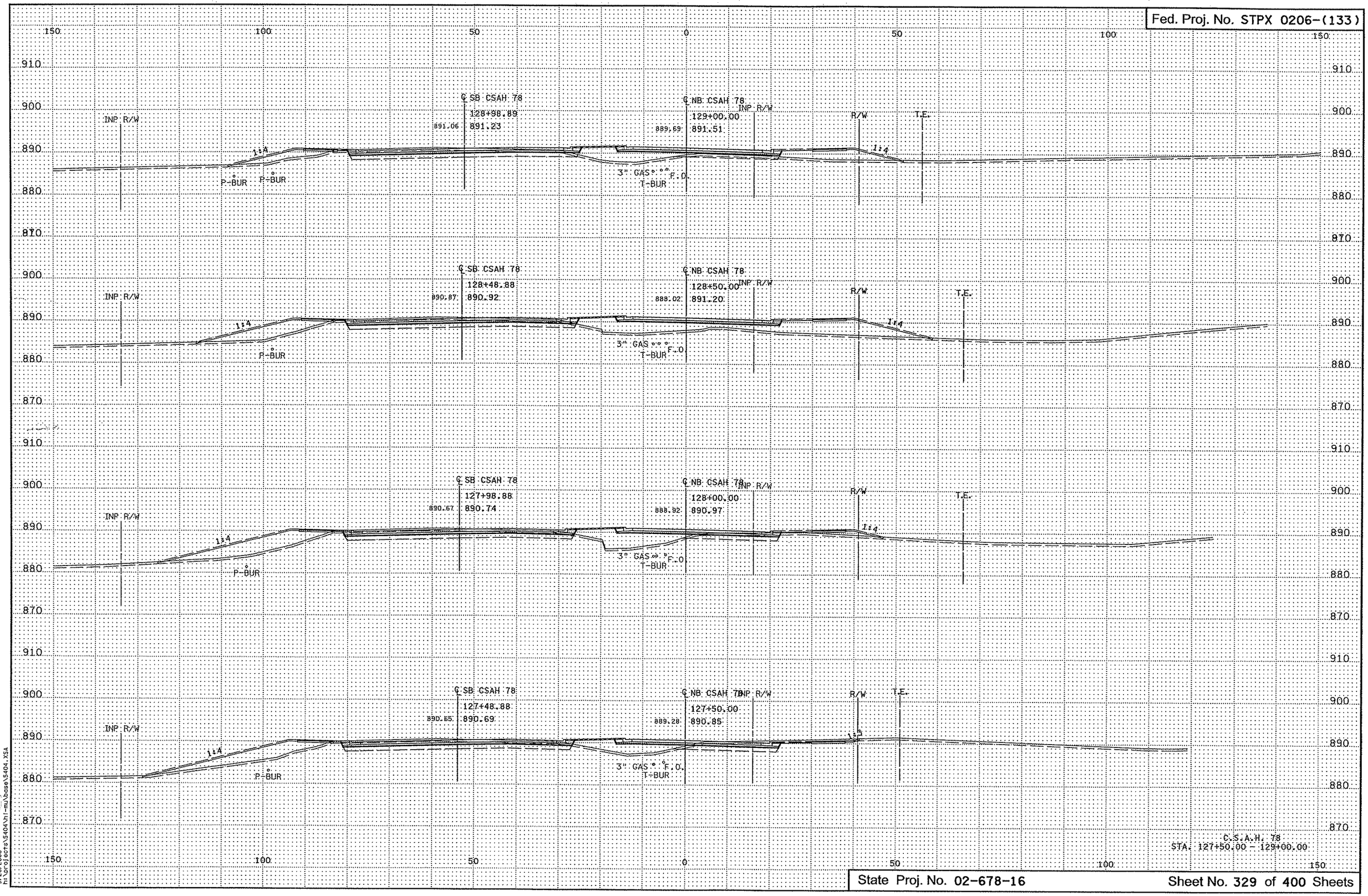
C.S.A.H. 78
STA. 125+44.95 - 127+00.00

4:32:24 PM
9/26/2006
n:\projects\5404\h1-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 328 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

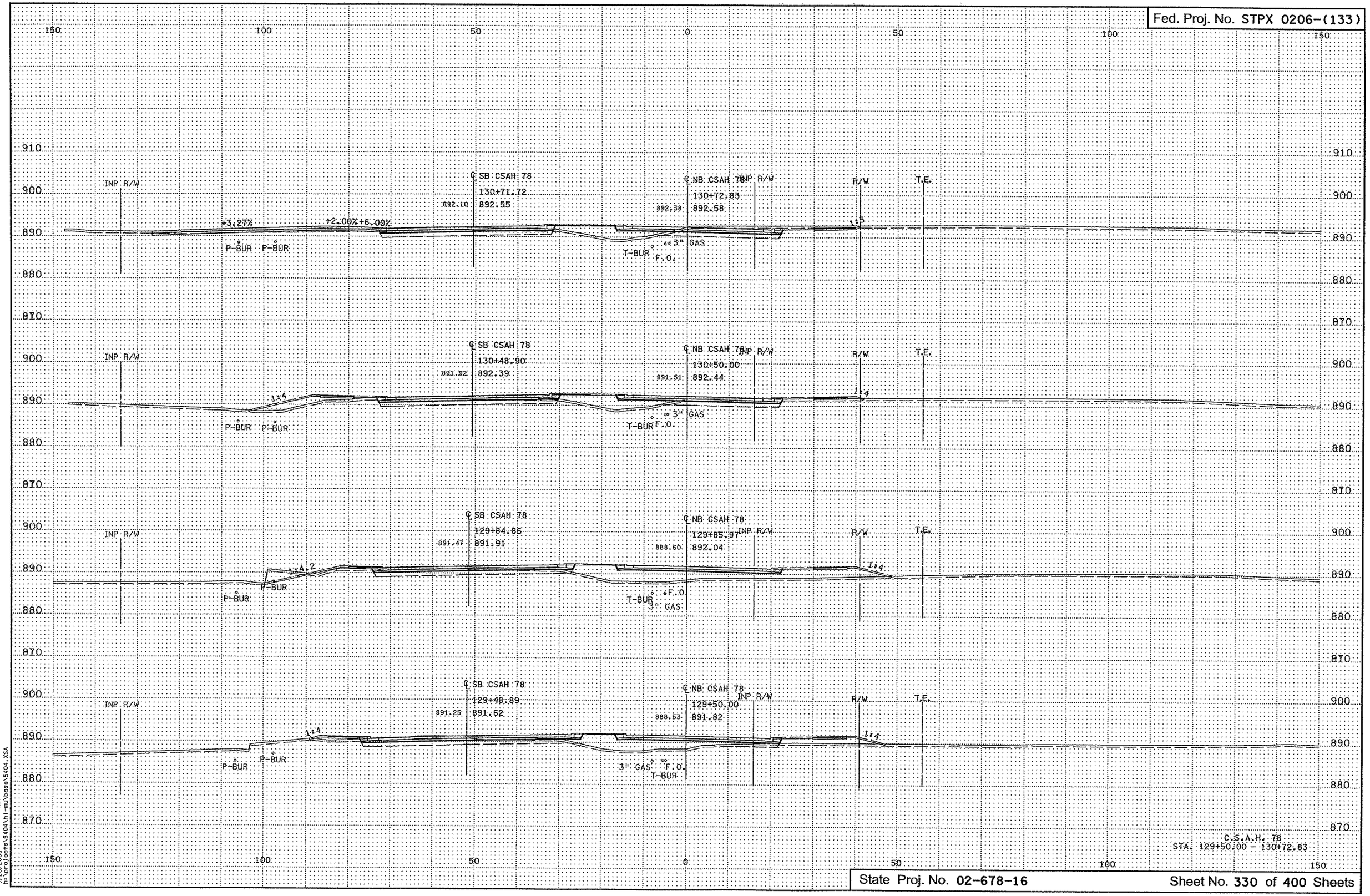


4:32:25 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 329 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

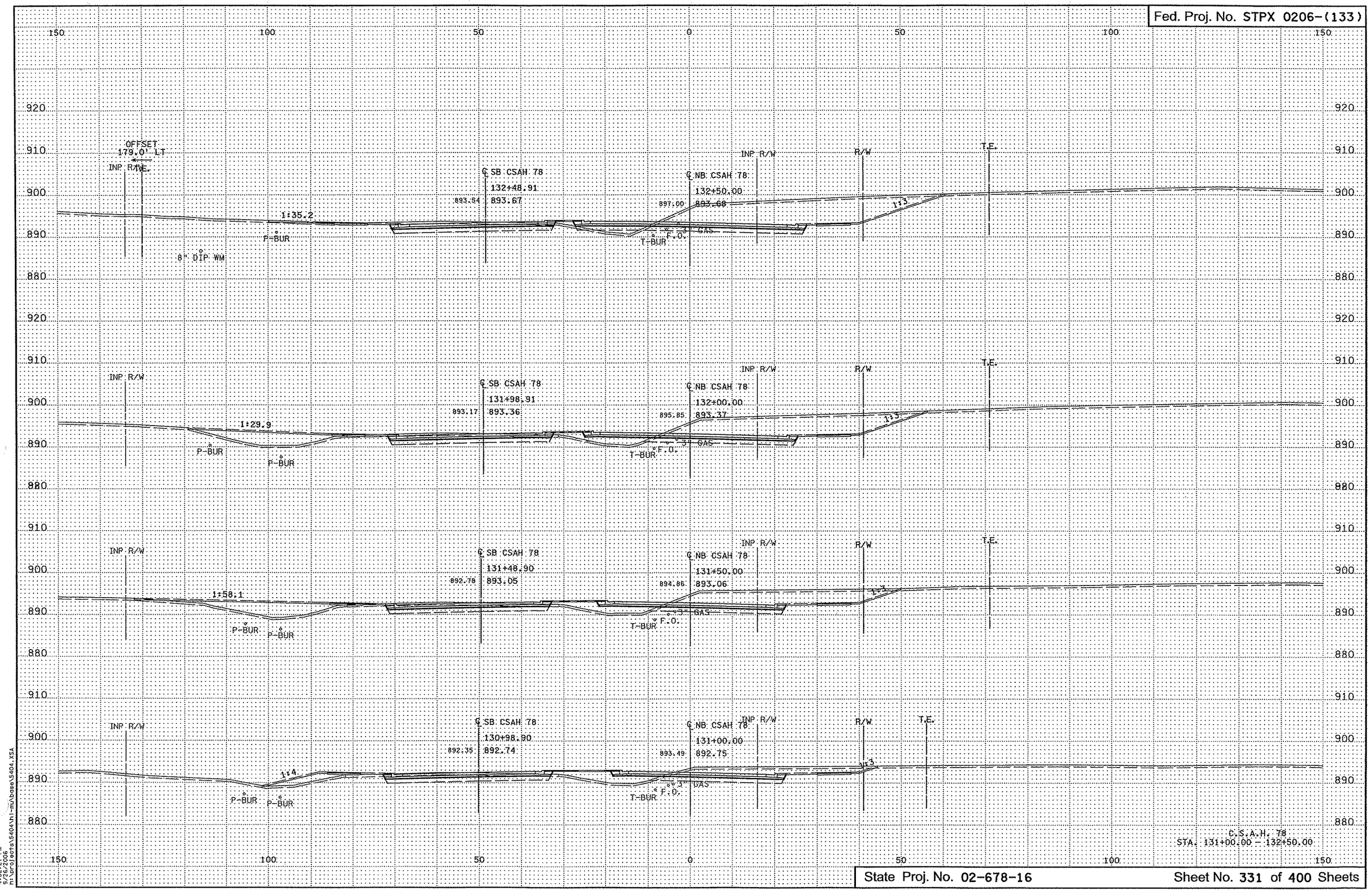


C.S.A.H. 78
STA. 129+50.00 - 130+72.83

4:32:26 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSA

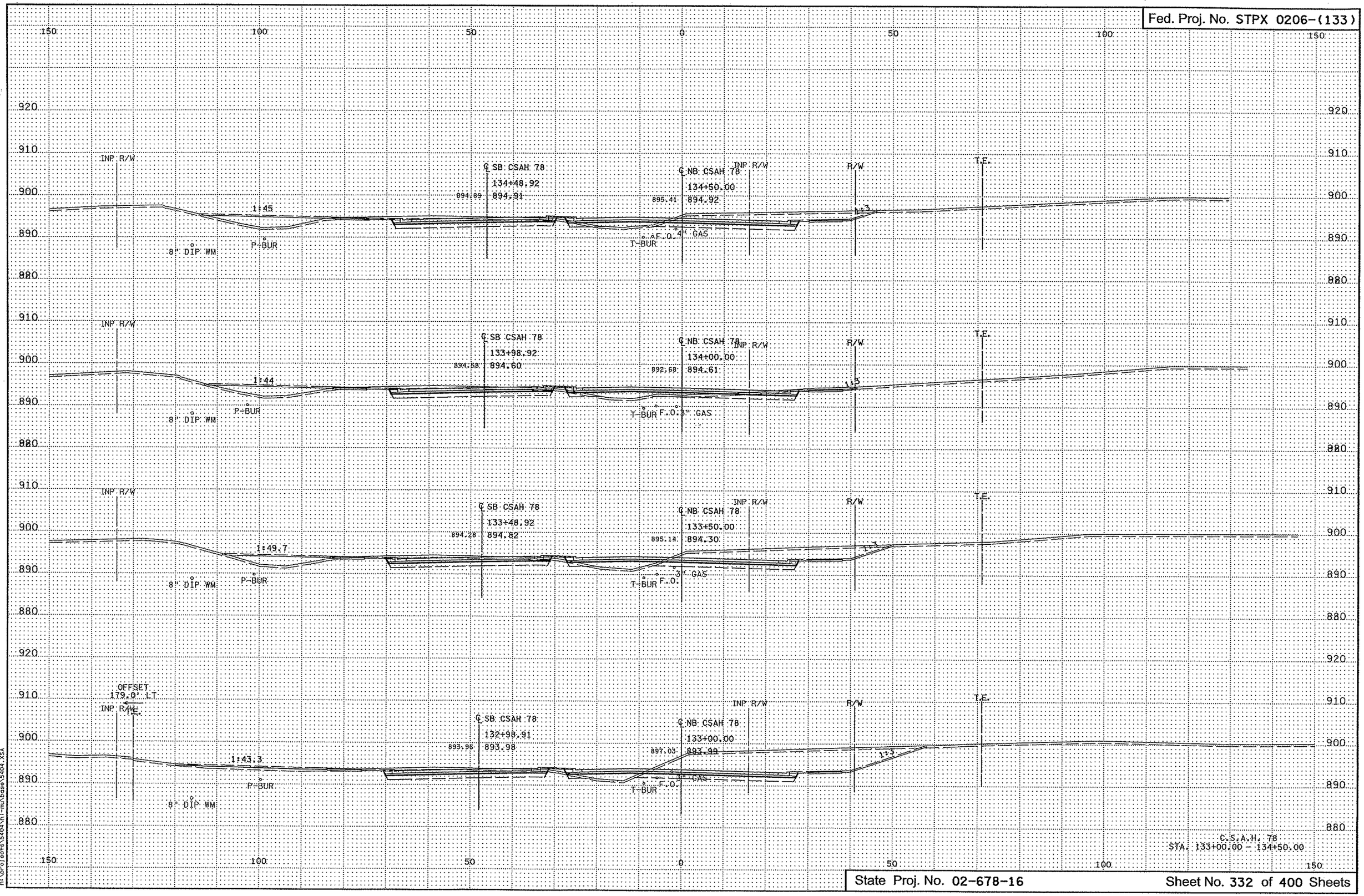
State Proj. No. 02-678-16

Sheet No. 330 of 400 Sheets



4:32:27 PM
9/26/2006
H:\projects\5404\h1-mi\base\5404.XSA

Fed. Proj. No. STPX 0206-(133)

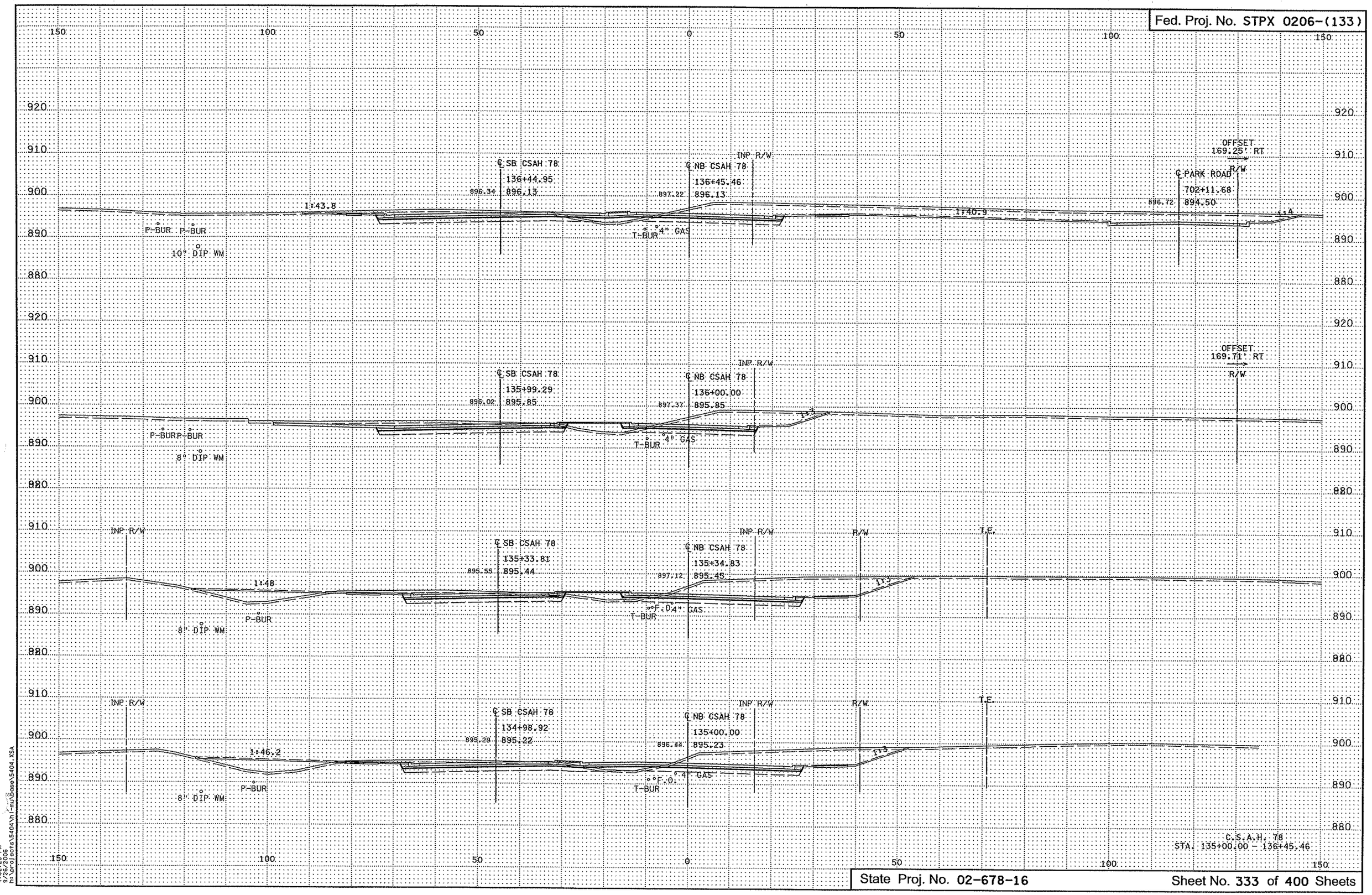


4:32:28 PM
9/26/2006
H:\Projects\5404\Int-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 332 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

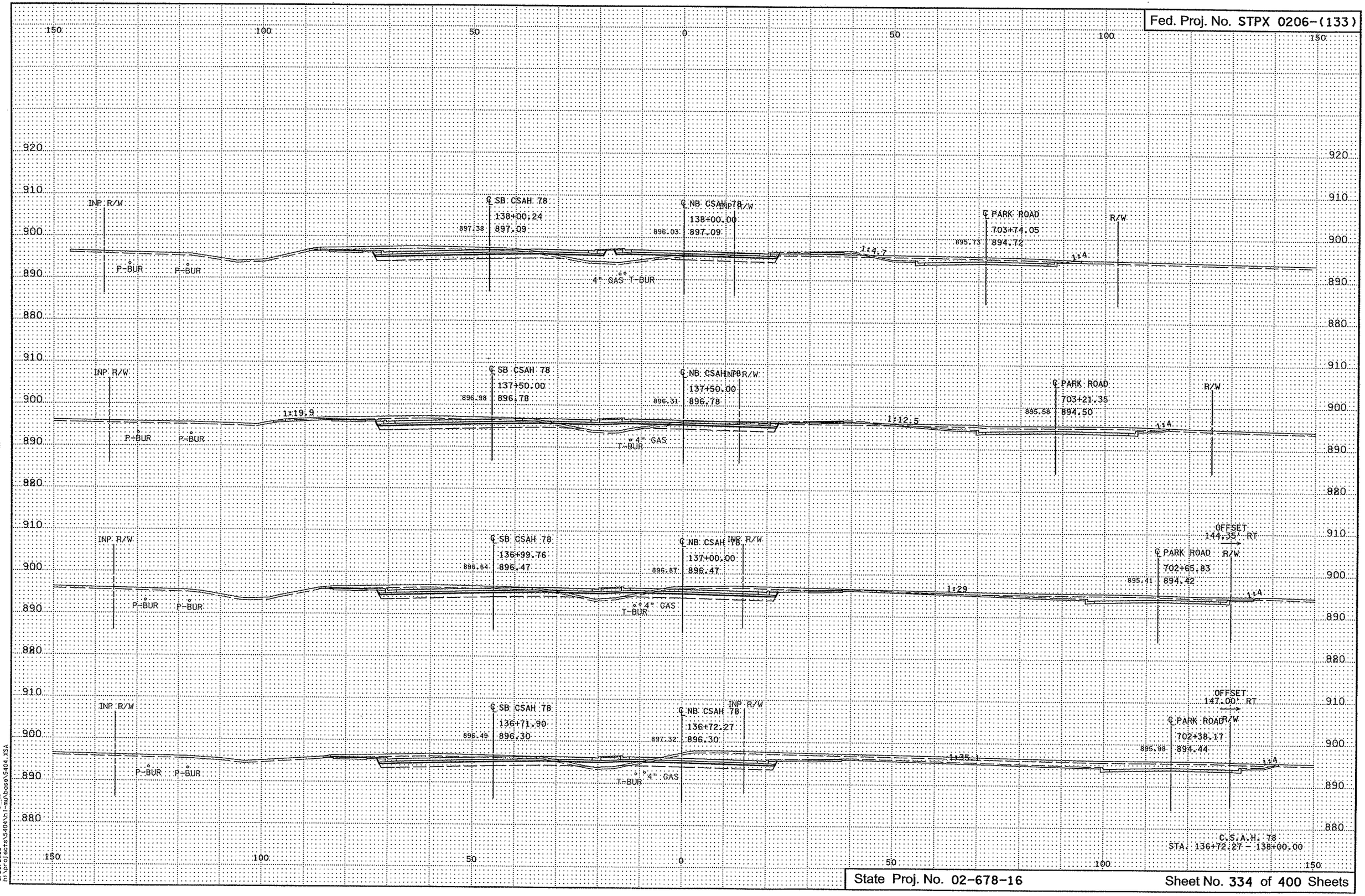


4:32:28 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 333 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



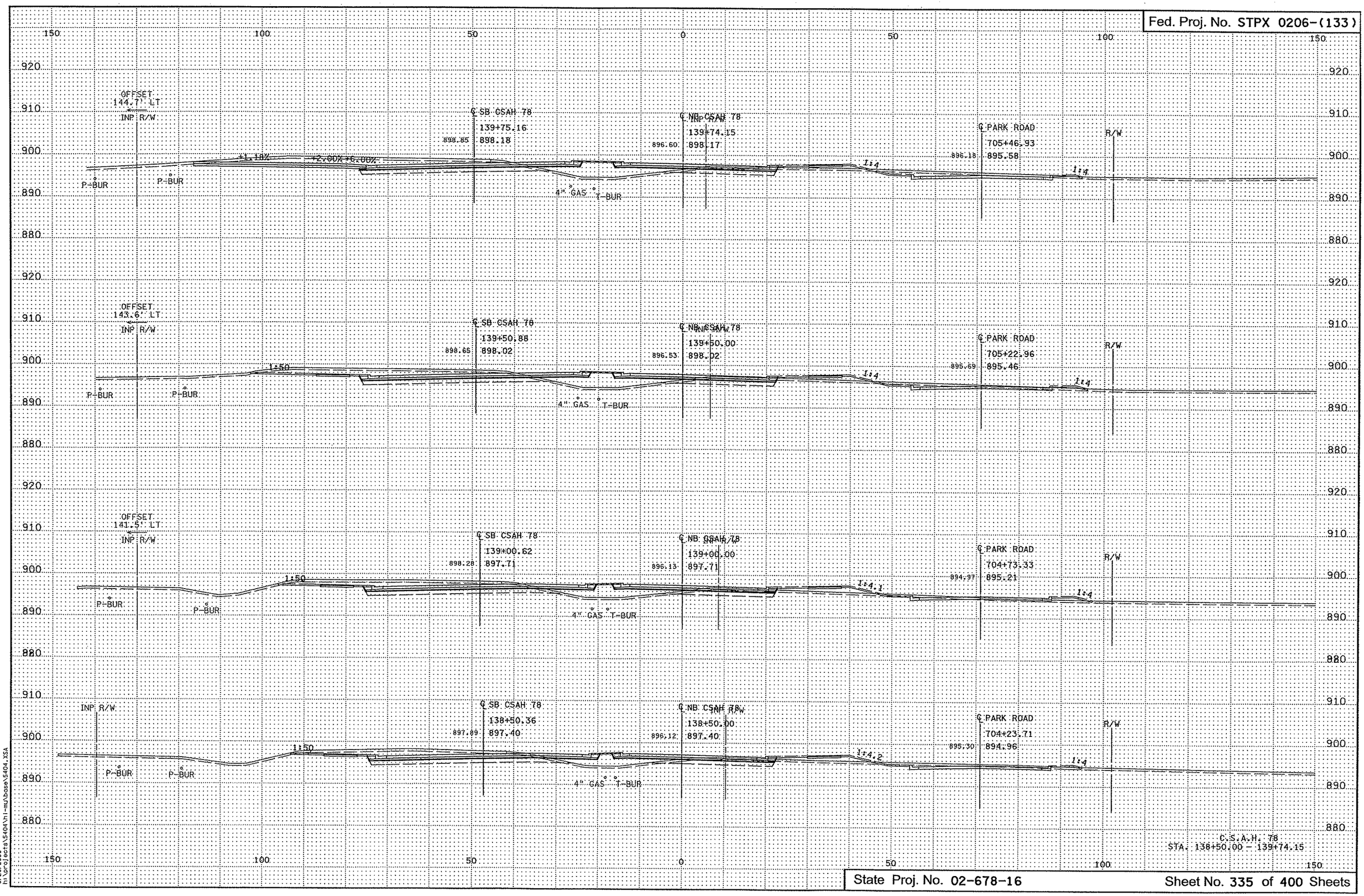
C.S.A.H. 78
STA. 136+72.27 - 138+00.00

4:32:29 PM
9/26/2006
N:\Projects\5404\hi-mu\bess\5404.XSA

State Proj. No. 02-678-16

Sheet No. 334 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



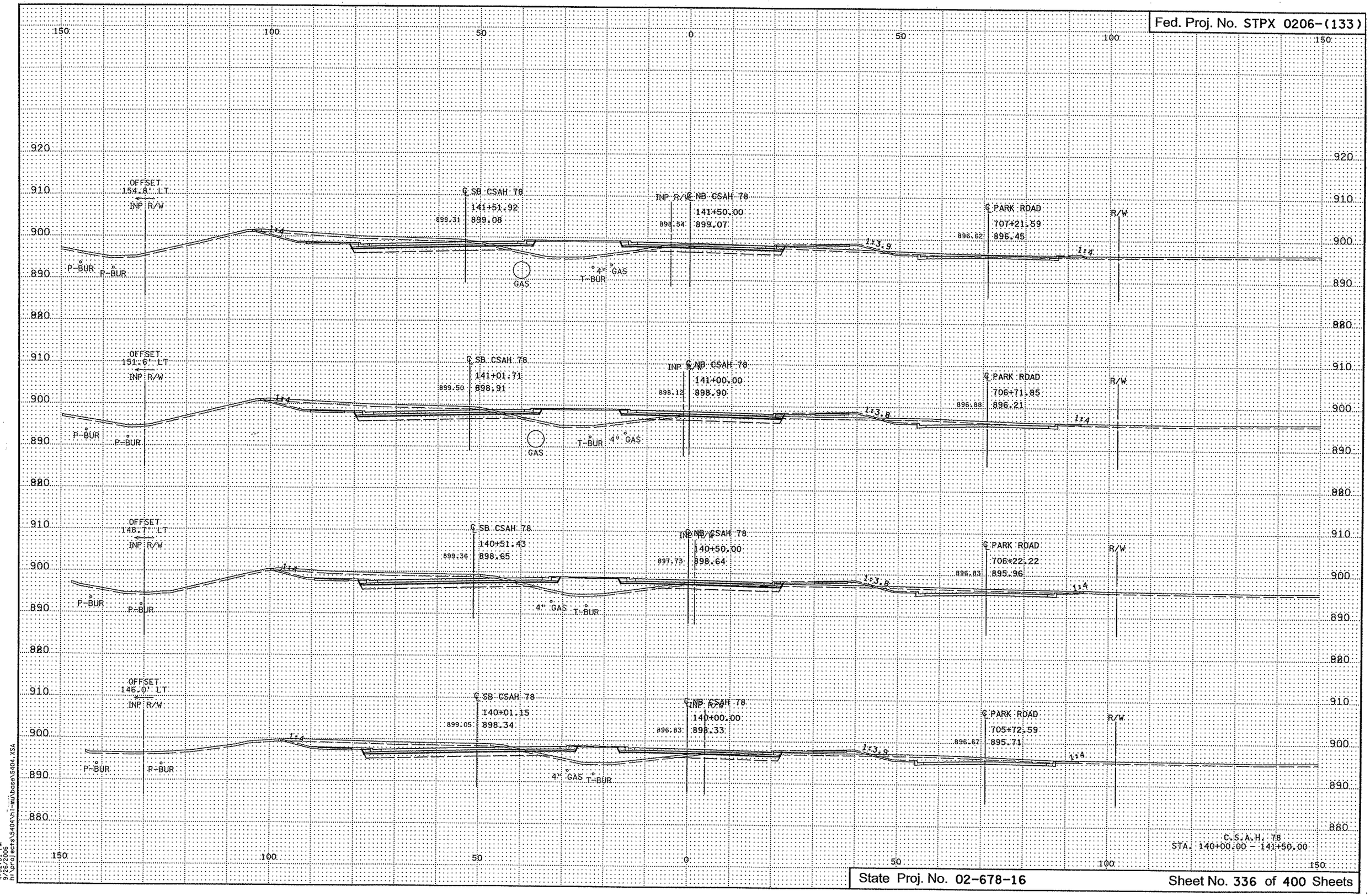
C.S.A.H. 78
STA. 138+50.00 - 139+74.15

4:32:30 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 335 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



C.S.A.H. 78
STA. 140+00.00 - 141+50.00

4:32:31 PM
9/26/2006
n:\projects\5404\hi-mu\base\5404_XSA

Fed. Proj. No. STPX 0206-(133)

150 100 50 0 50 100 150

920 910 900 890 880

OFFSET
165.7' LT
INP R/W

℄ SB CSAH 78
143+50.98
899.47 898.82

INP R/W
℄ NB CSAH 78
143+50.00
897.88 898.82

℄ PARK ROAD
709+03.78
897.15 897.36
R/W

1:4
P-BUR
GAS
T-BUR
4" GAS
1:32.7
1:4

OFFSET
163.5' LT
INP R/W

℄ SB CSAH 78
143+04.99
899.60 899.01

INP R/W
℄ NB CSAH 78
143+03.79
897.13 899.01

℄ PARK ROAD
708+67.65
897.04 897.18
R/W

1:4
P-BUR
GAS
T-BUR
4" GAS
1:10.4
1:4

OFFSET
160.7' LT
INP R/W

℄ SB CSAH 78
142+51.46
899.55 899.13

INP R/W
℄ NB CSAH 78
142+50.00
897.76 899.13

℄ PARK ROAD
708+22.20
896.83 896.96
R/W

1:4
P-BUR
GAS
T-BUR
4" GAS
1:4.8
1:4

OFFSET
157.8' LT
INP R/W

℄ SB CSAH 78
142+01.69
899.37 899.15

INP R/W
℄ NB CSAH 78
142+00.00
898.59 899.15

℄ PARK ROAD
707+71.90
896.60 896.71
R/W

1:4
P-BUR
GAS
T-BUR
4" GAS
1:4.2
1:4

C.S.A.H. 78
STA. 142+00.00 - 143+50.00

4:32:32 PM
9/16/2016
H:\Projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 337 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

OFFSET
173.2' LT
INP R/W
℄ SB CSAH 78
145+50.03
899.22 897.82
℄ NB CSAH 78
145+50.00
INP R/W
895.19 897.82
R/W
T.E.
1:4
1:4.2
P-BUR
GAS
4" GAS
T-BUR

OFFSET
171.6' LT
INP R/W
℄ SB CSAH 78
145+00.26
899.37 898.07
℄ NB CSAH 78
145+00.00
INP R/W
895.42 898.07
R/W
T.E.
1:4
1:50
P-BUR
GAS
4" GAS
T-BUR

OFFSET
169.9' LT
INP R/W
℄ SB CSAH 78
144+50.50
899.42 898.32
℄ NB CSAH 78
INP R/W
144+50.00
896.21 898.32
R/W
T.E.
1:4
1:4
P-BUR
GAS
T-BUR
4" GAS

OFFSET
167.9' LT
INP R/W
℄ SB CSAH 78
144+00.74
899.51 898.57
℄ NB CSAH 78
INP R/W
144+00.00
897.63 898.57
R/W
R/W
1:4
P-BUR
GAS
T-BUR
4" GAS

OFFSET
174.00' RT
R/W
℄ PARK
709+4
897.16 897.5
1:10

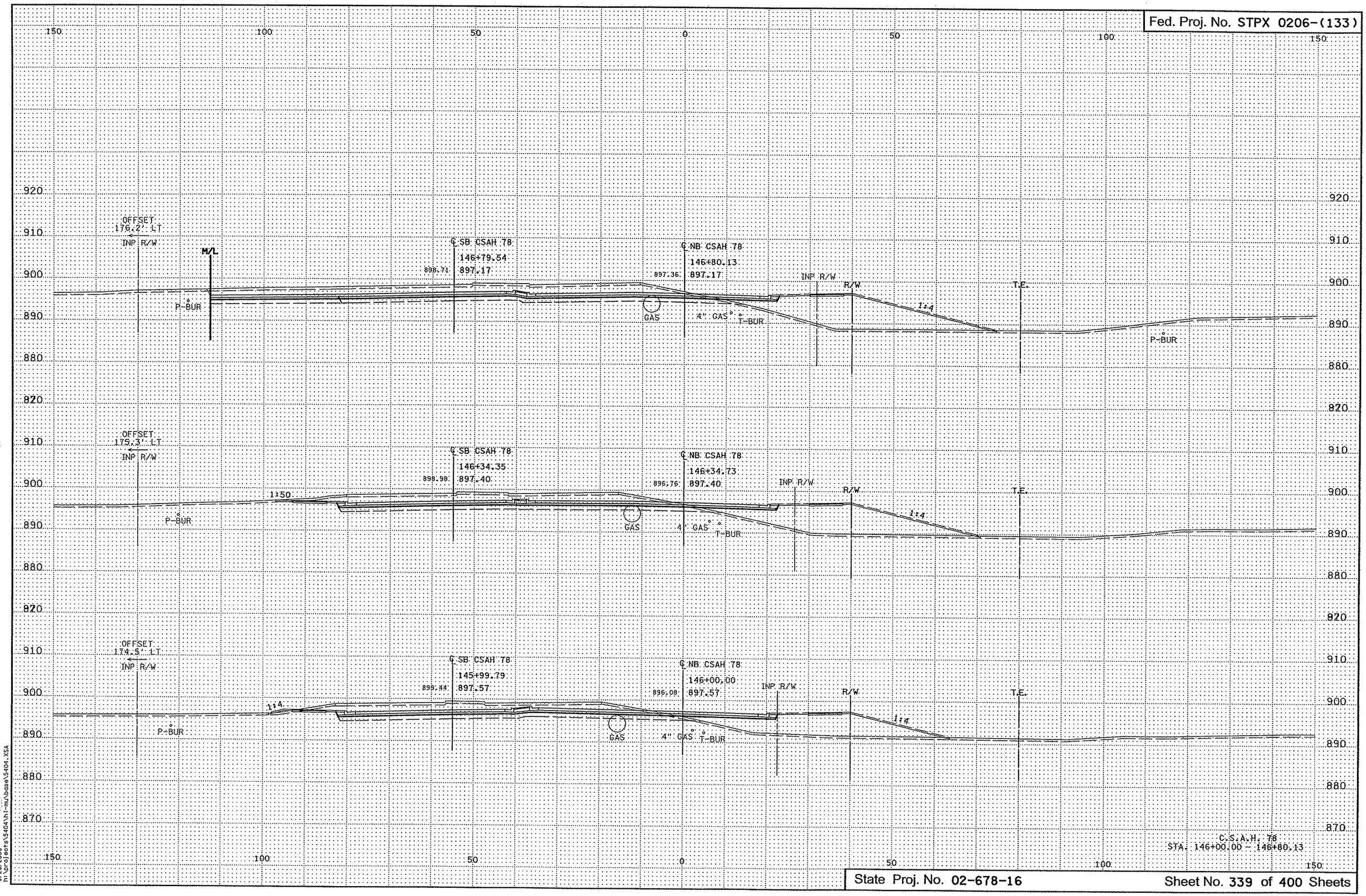
C.S.A.H. 78
STA. 144+00.00 - 145+50.00

4:35:23 PM
9/25/2006
R:\projects\5404\hl-mn\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 338 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



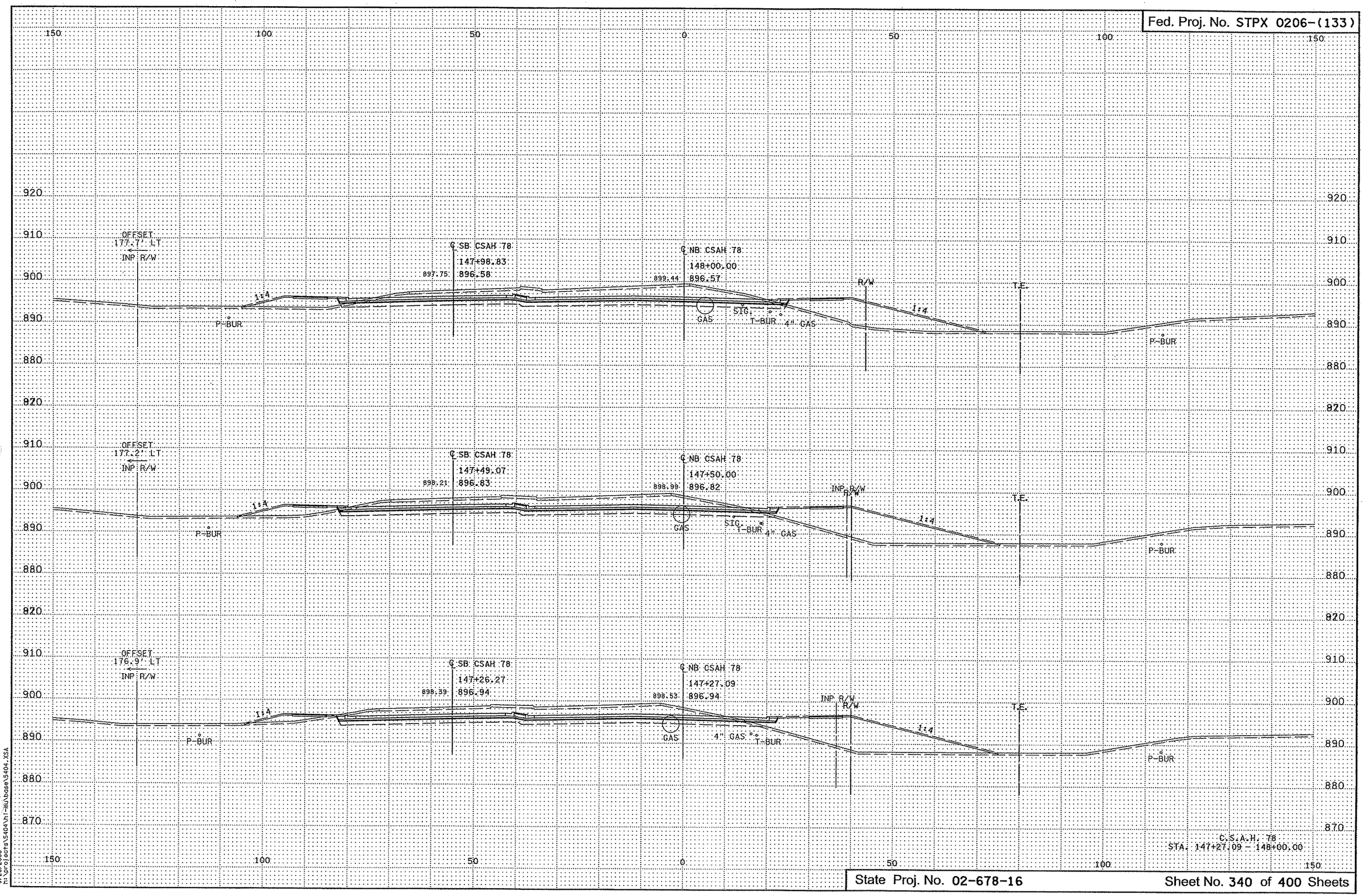
C.S.A.H. 78
STA. 146+00.00 - 146+80.13

4:32:33 PM
9/26/2006
h:\projects\5404\h1-rha\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 339 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

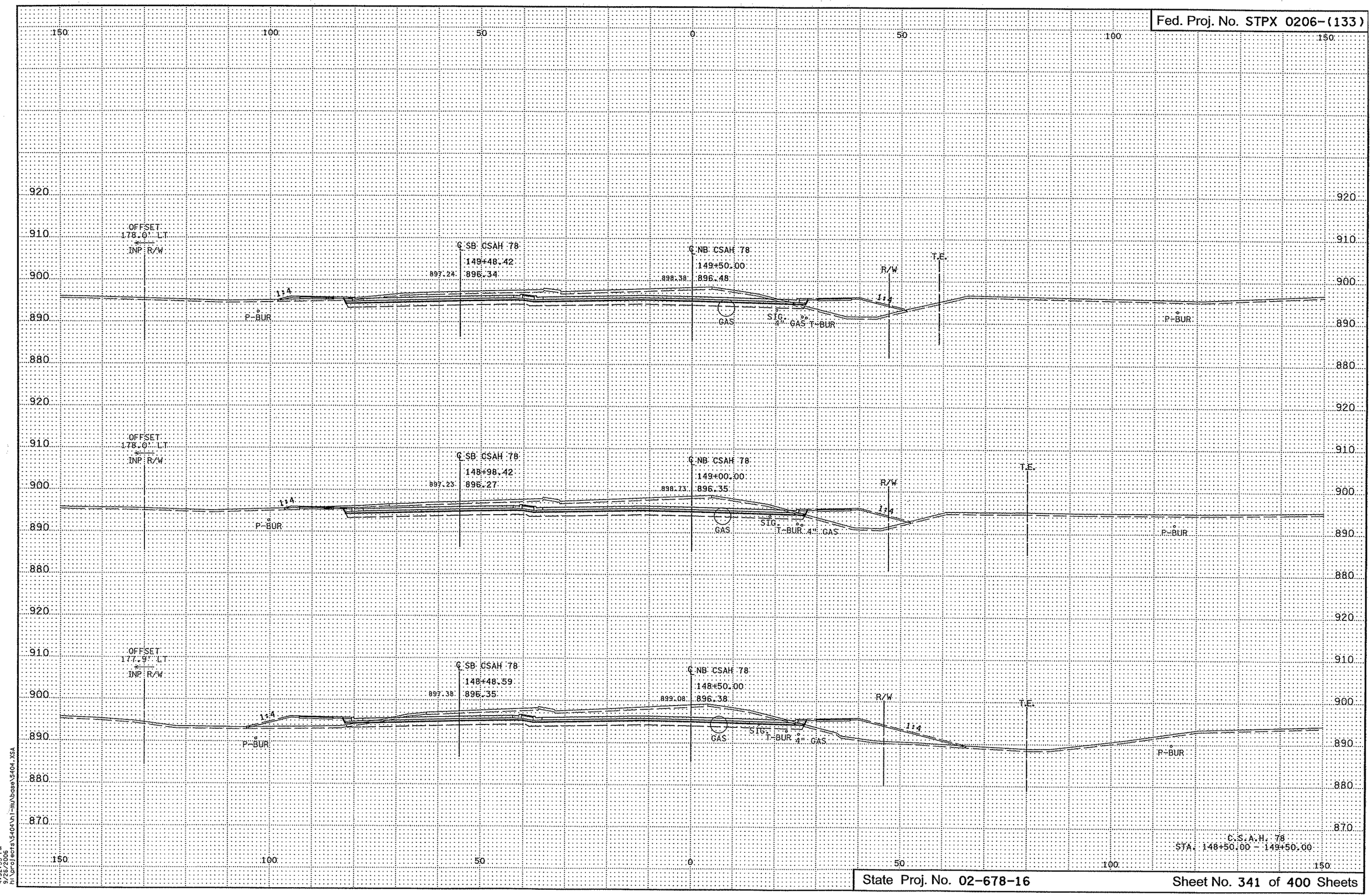


4:32:34 PM
9/26/2006
N:\Projects\5404\hl-Rdbase\5404.XSA

State Proj. No. 02-678-16

Sheet No. 340 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

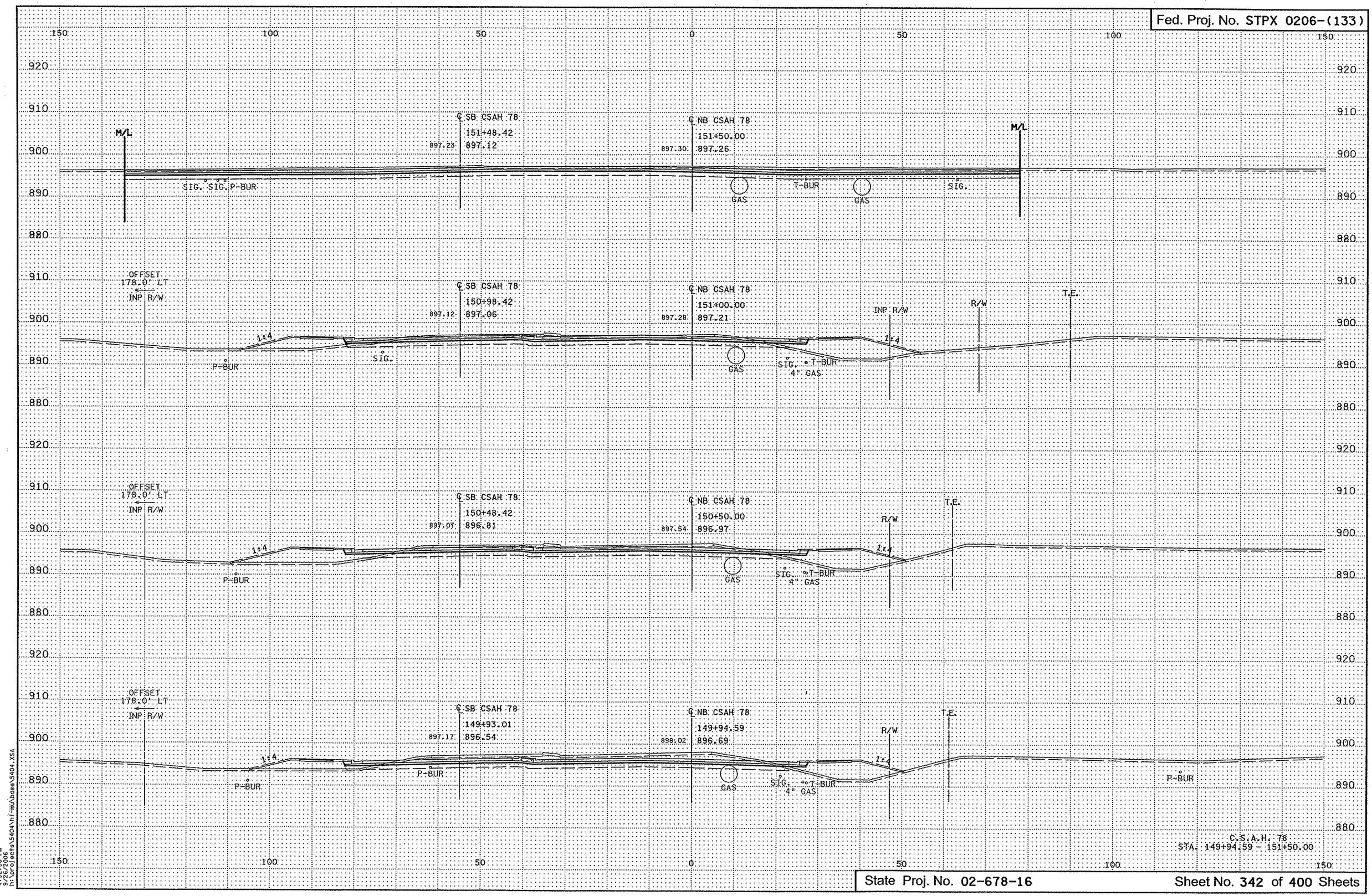


C.S.A.H. 78
STA. 148+50.00 - 149+50.00

4:32:35 PM
9/26/2006
n:\projects\5404\nl-mn\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 341 of 400 Sheets



4:32:36 PM
9/26/2006
h:\Projects\5404\hl-ru\base\5404.XSA

Fed. Proj. No. STPX 0206-(133)

150 100 50 0 50 100 150

910 900 890 880

T.E INP R/W
℄ SB CSAH 78
153+48.74
894.42 895.28
℄ NB CSAH 78
153+50.00
894.35 895.23
INP R/W E.
1:21.1
1:9.8
P-BUR
6" GAS
SIG.
GAS
T-BUR
12" DIP WM
P-BUR

T.E INP R/W
℄ SB CSAH 78
152+98.74
895.29 895.88
℄ NB CSAH 78
153+00.00
895.20 895.88
INP R/W T.E.
1:7.1
1:4
UR P-BUR
SIG.
GAS
T-BUR
12" DIP WM
P-BUR

℄ SB CSAH 78
152+48.74
896.27 896.48
℄ NB CSAH 78
152+50.00
896.28 896.53
INP R/W
OFFSET
153.63' RT
R/W
1:4
1:4
P-BUR P-BUR
SIG.
GAS
T-BUR SIG.
T-BUR
12" DIP WM

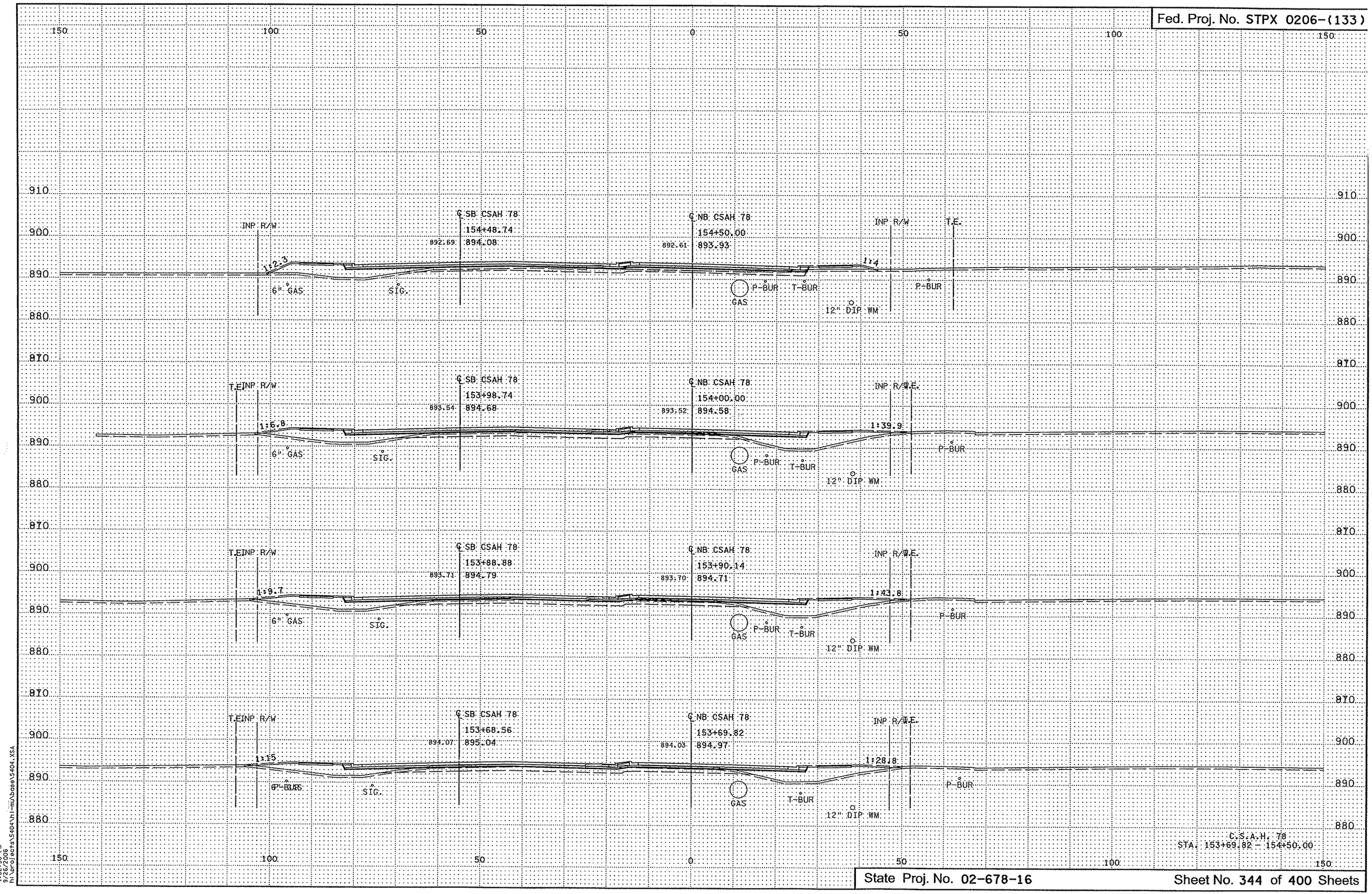
M/L
℄ SB CSAH 78
151+98.74
896.95 896.93
℄ NB CSAH 78
152+00.00
897.08 897.03
M/L
SIG. P-BUR
GAS
T-BUR
SIG.

C.S.A.H. 78
STA. 152+00.00 - 153+50.00

4:32:36 PM
9/26/2006
h:\Projects\5404\h1-mi\base\5404.XSA

State Proj. No. 02-678-16 Sheet No. 343 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

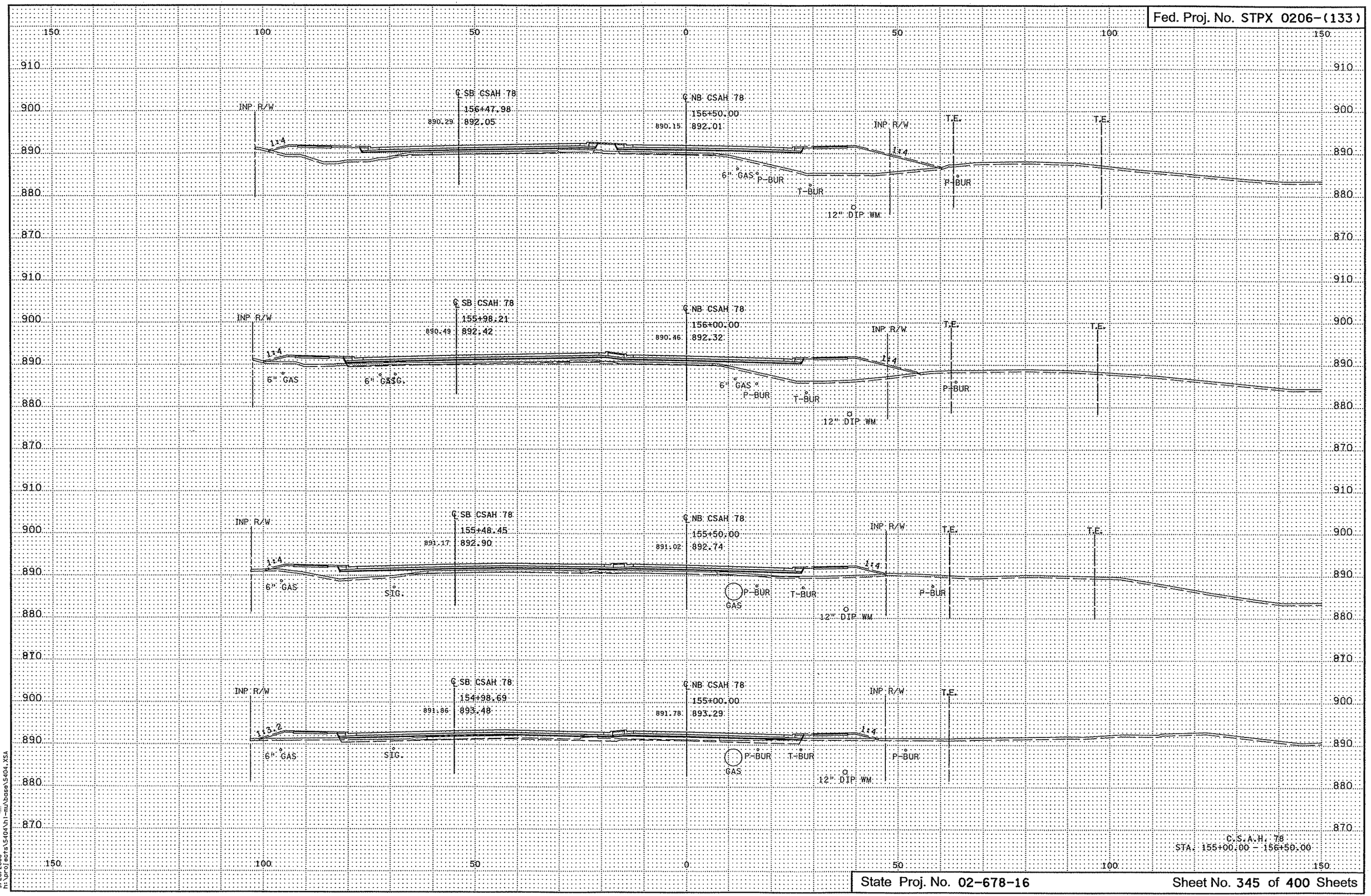


4:32:38 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 344 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

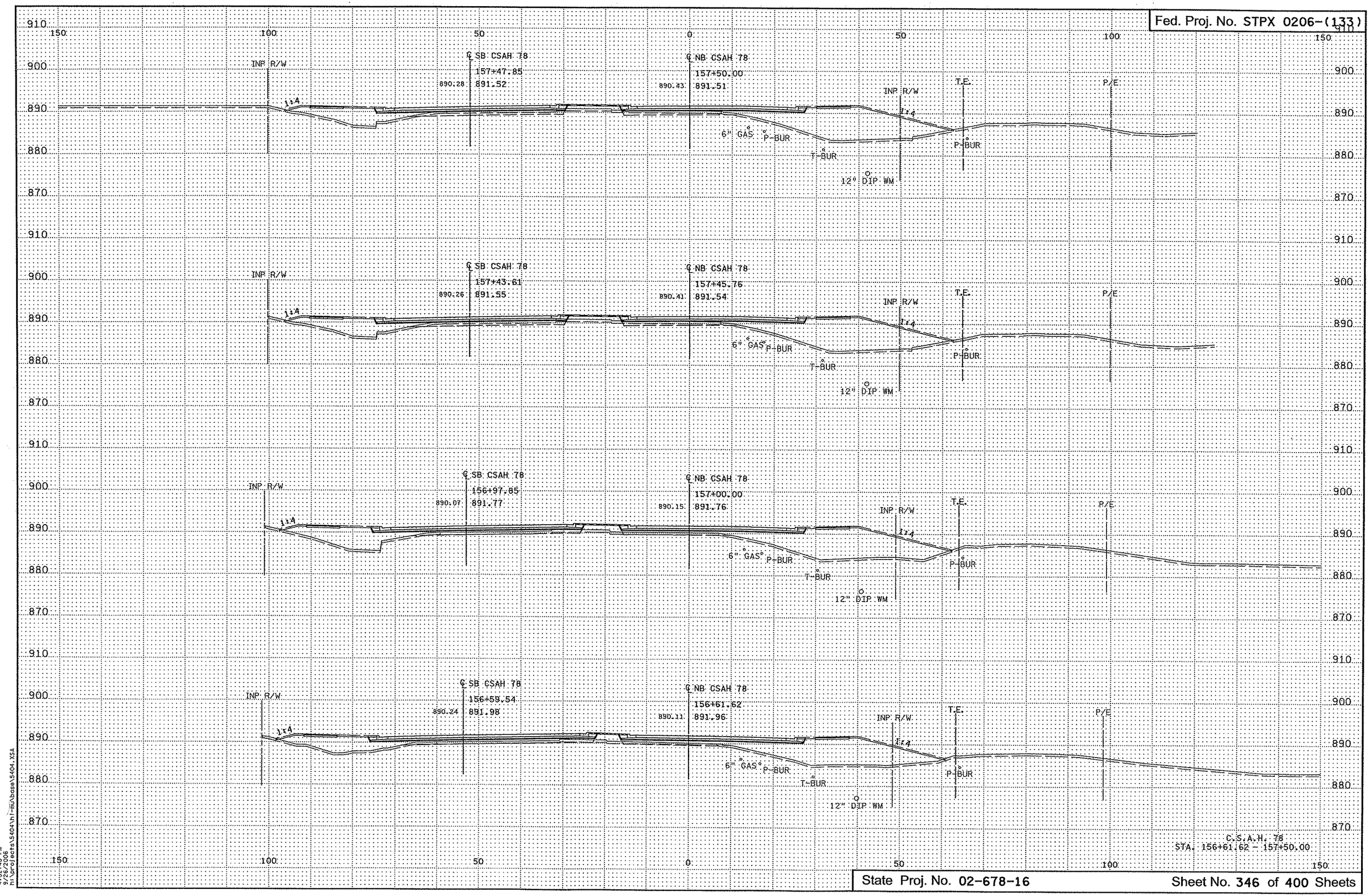


4:32:39 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 345 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



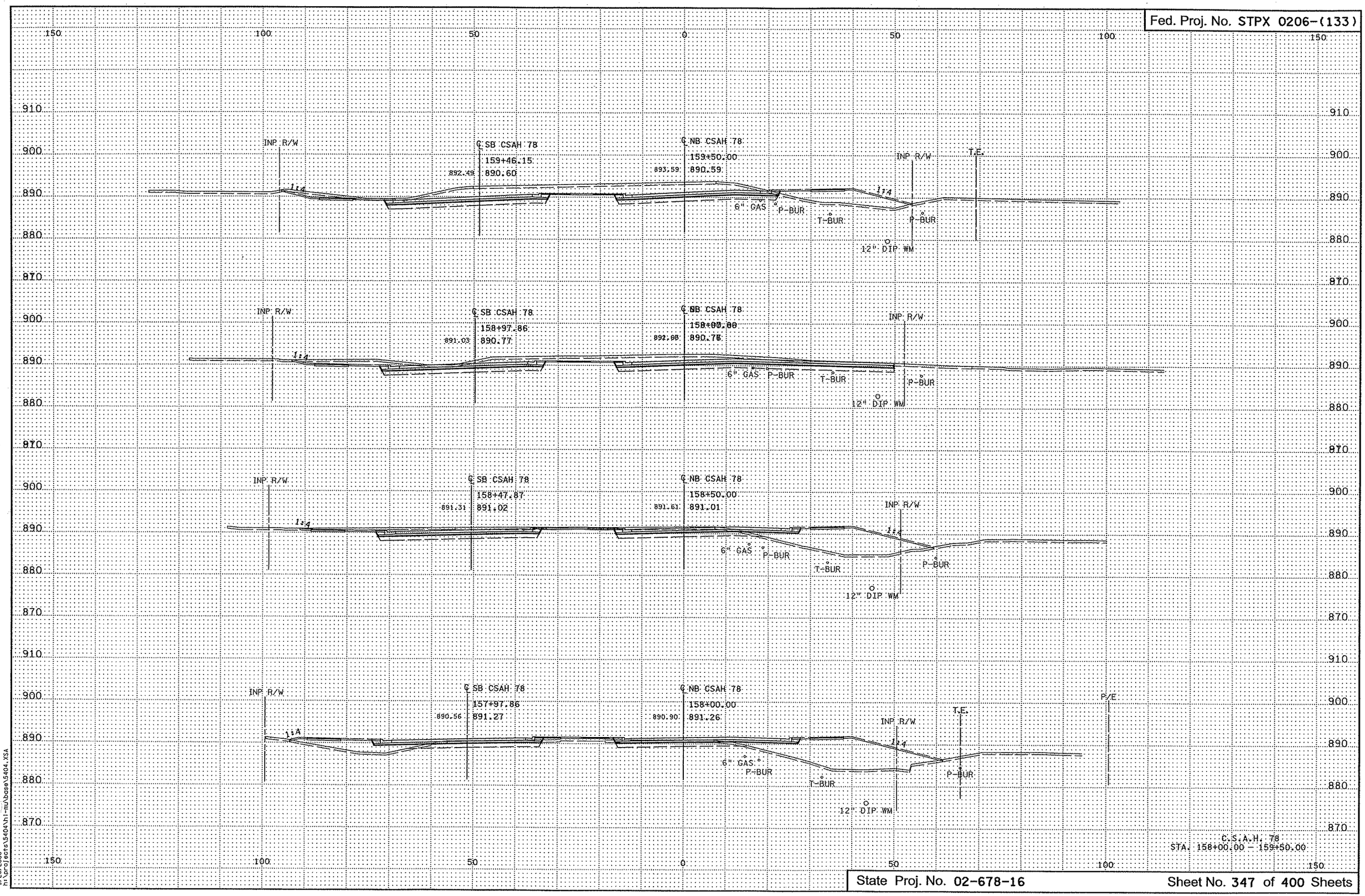
C.S.A.H. 78
STA. 156+61.62 - 157+50.00

4:32:40 PM
9/28/2006
h:\projects\5404\h1-mlhbase\5404.XSA

State Proj. No. 02-678-16

Sheet No. 346 of 400 Sheets

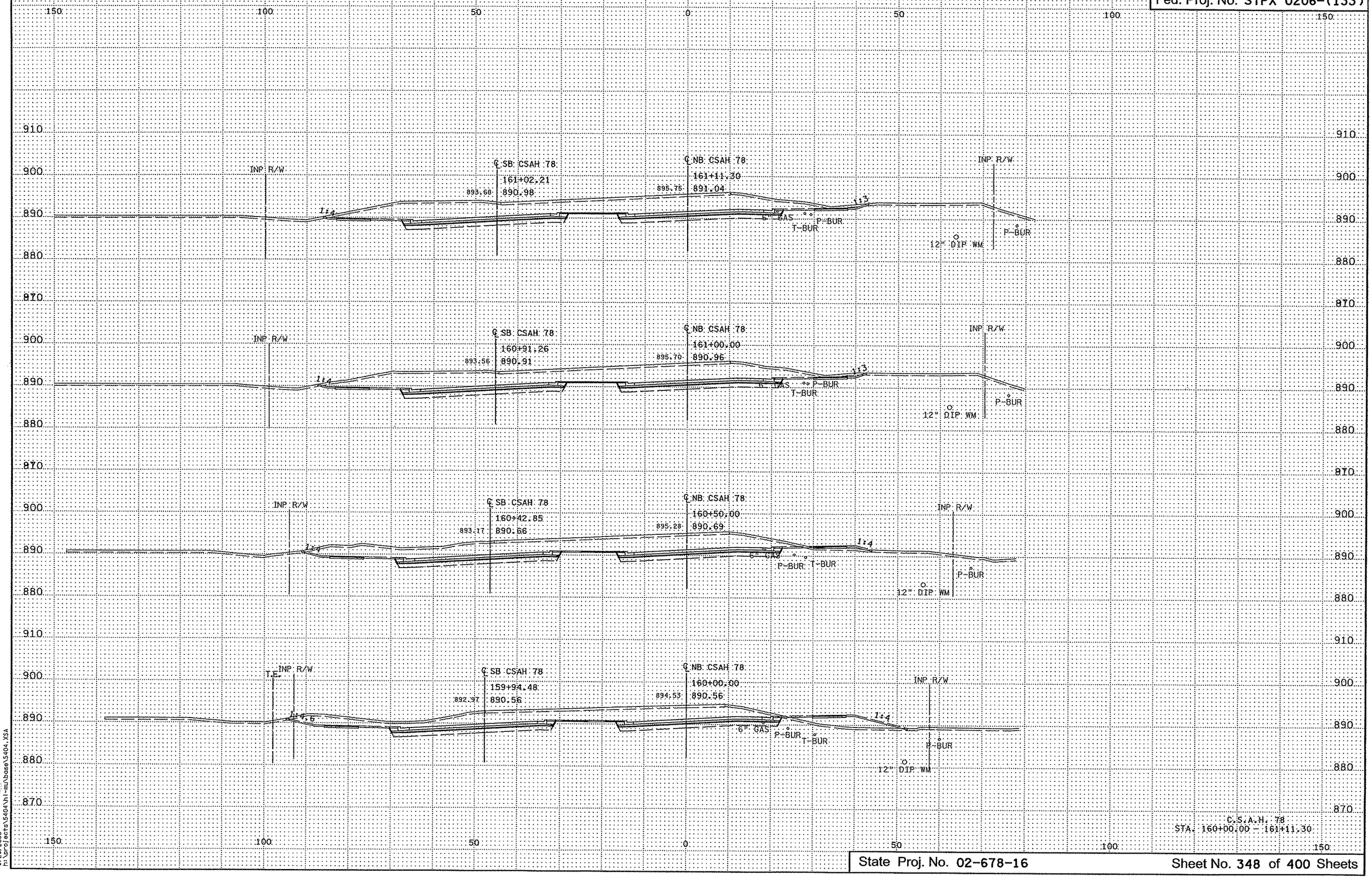
Fed. Proj. No. STPX 0206-(133)



4:32:41 PM
9/26/2006
h:\projects\5404\h1-mu\bcse\5404.XSA

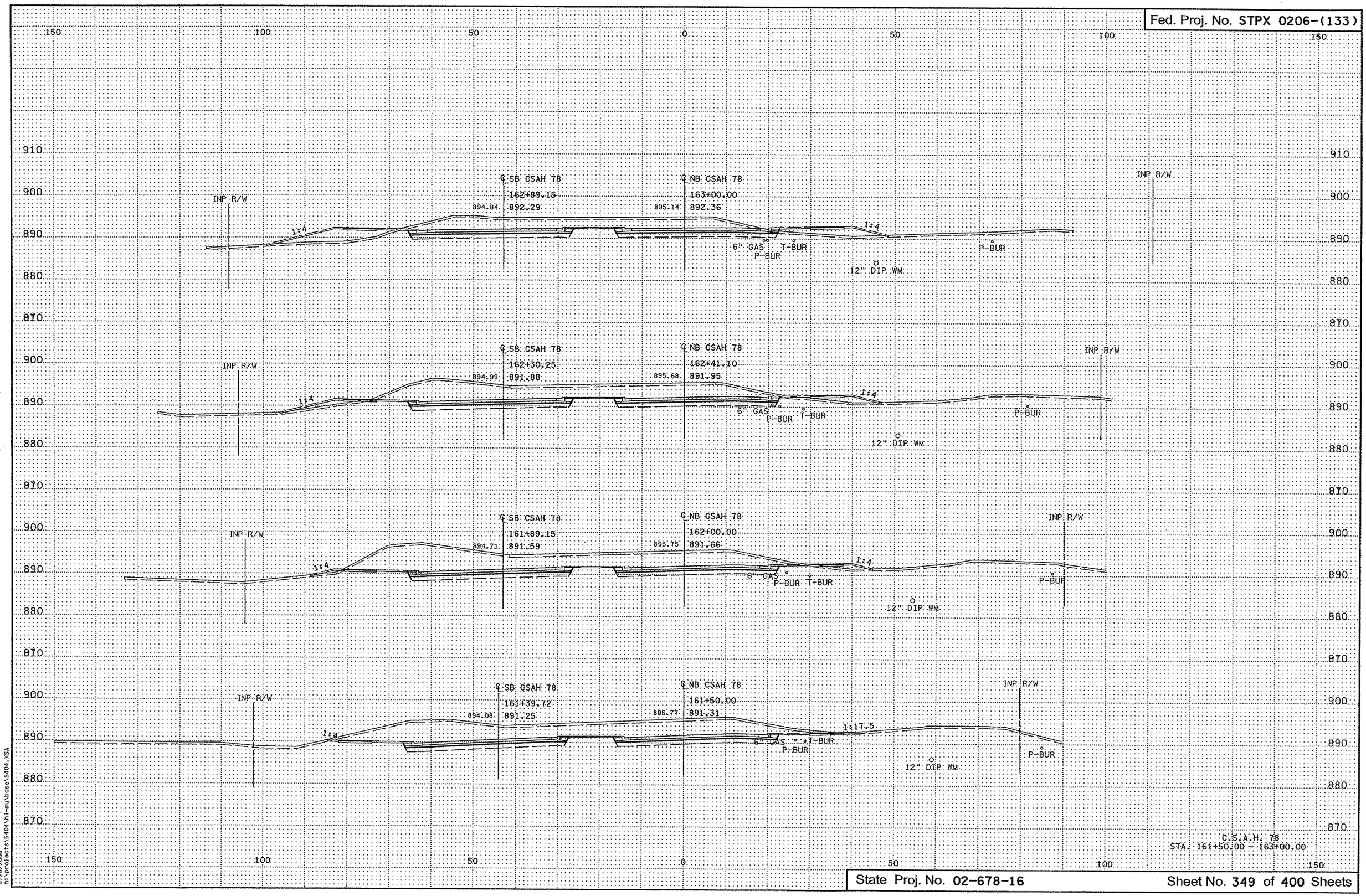
State Proj. No. 02-678-16

Sheet No. 347 of 400 Sheets



4:32:42 PM
9/26/2006
h:\Projects\5404\hl-mu\base\5404.XSA

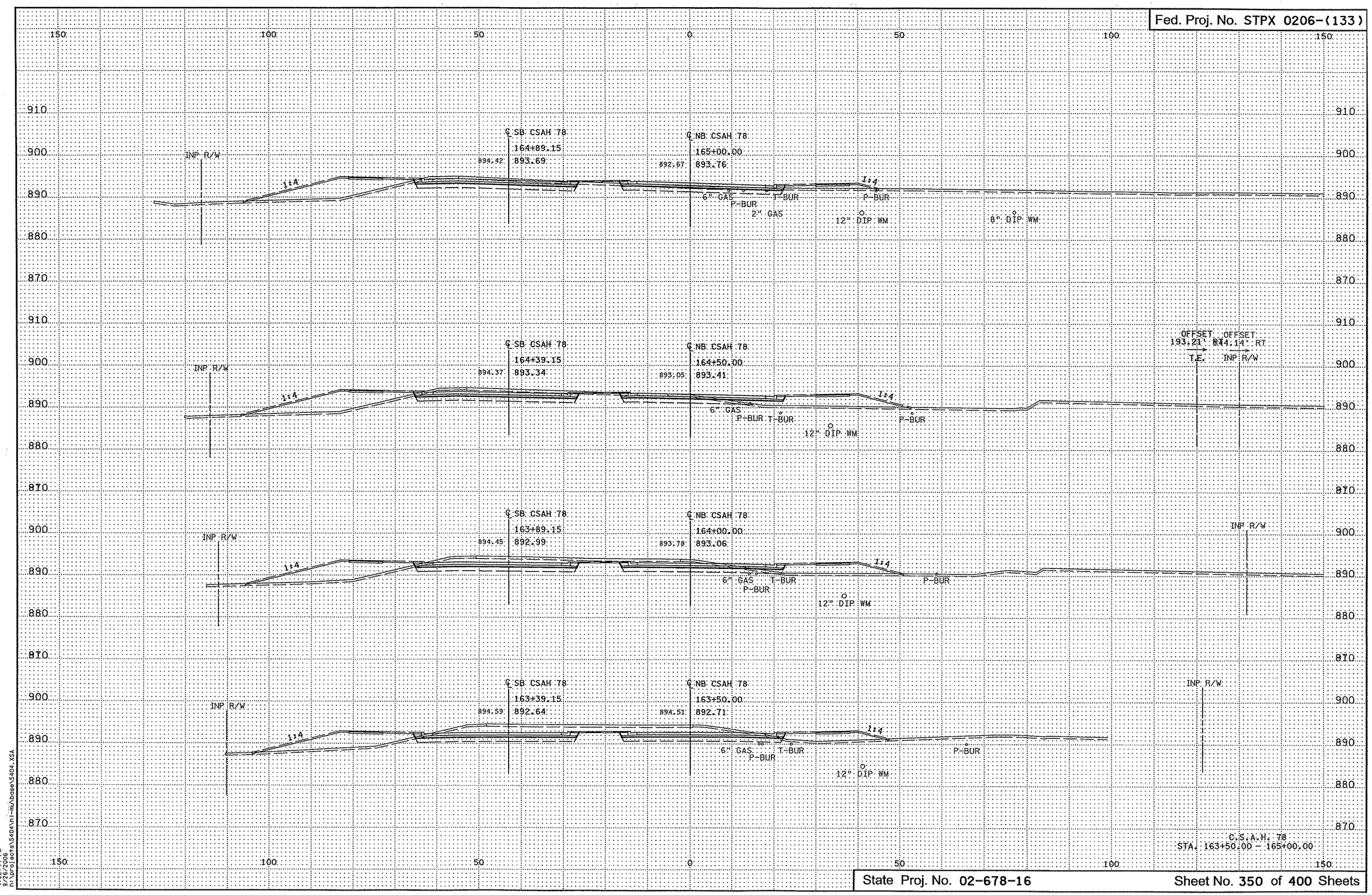
Fed. Proj. No. STPX 0206-(133)



4:32:43 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSA

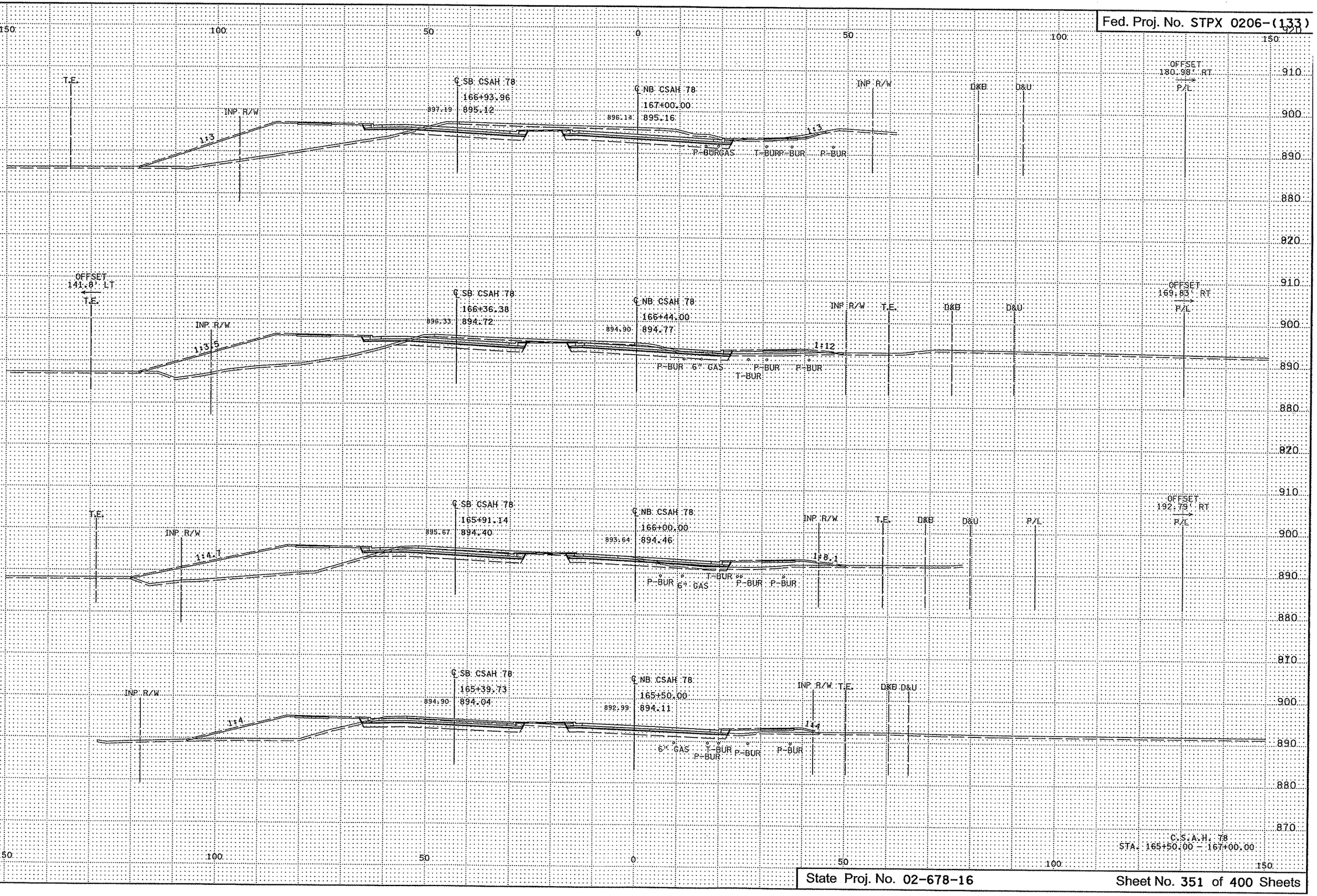
State Proj. No. 02-678-16

Sheet No. 349 of 400 Sheets



4:32:44 PM
9/26/2006
h:\projects\5404\h1-mil\base\5404.XSA

Fed. Proj. No. STPX 0206-(133)



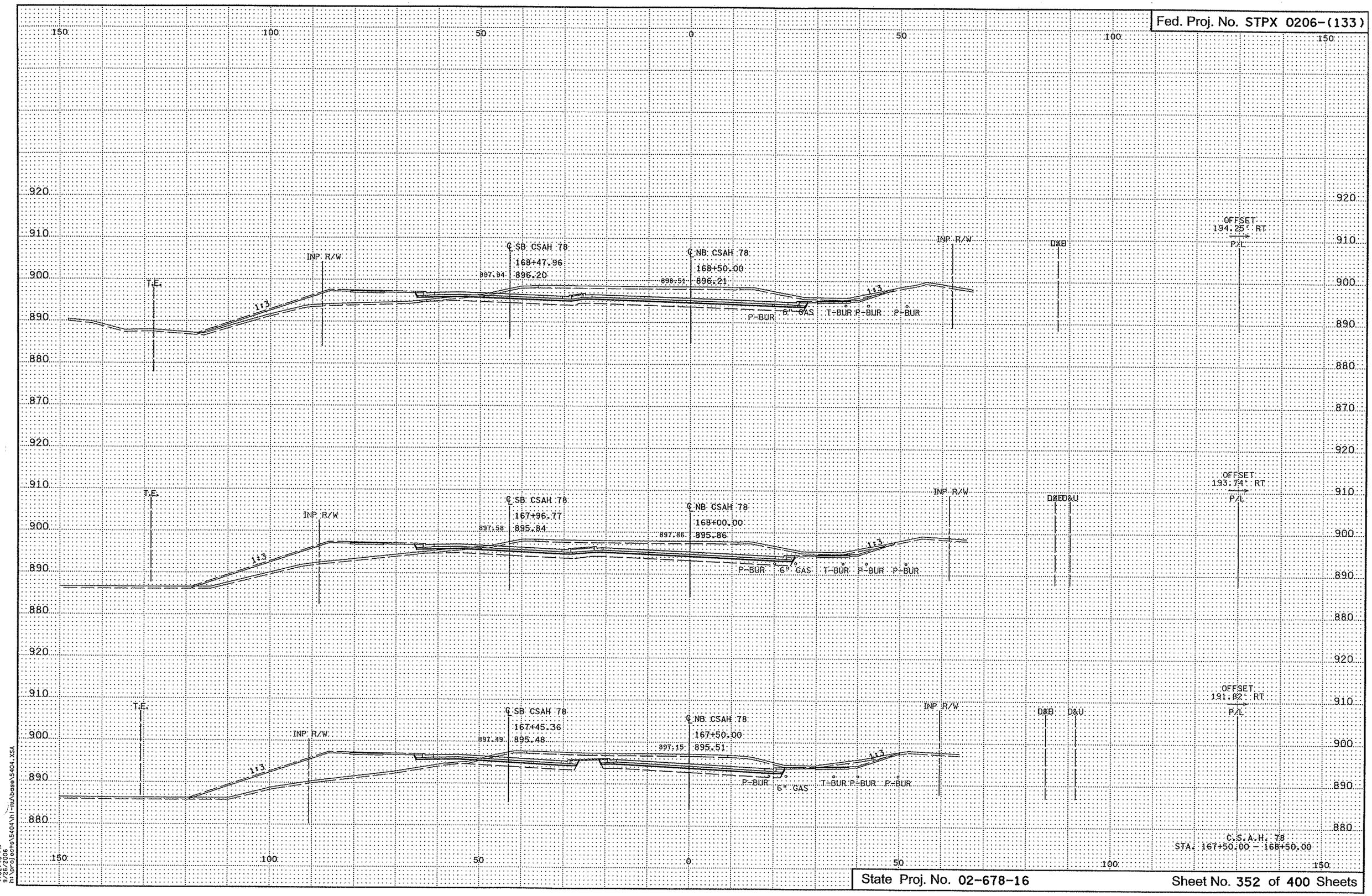
C.S.A.H. 78
STA. 165+50.00 - 167+00.00

4:32:45 PM
9/26/2006
h:\projects\5404\h1-rdwbase\5404.XSA

State Proj. No. 02-678-16

Sheet No. 351 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

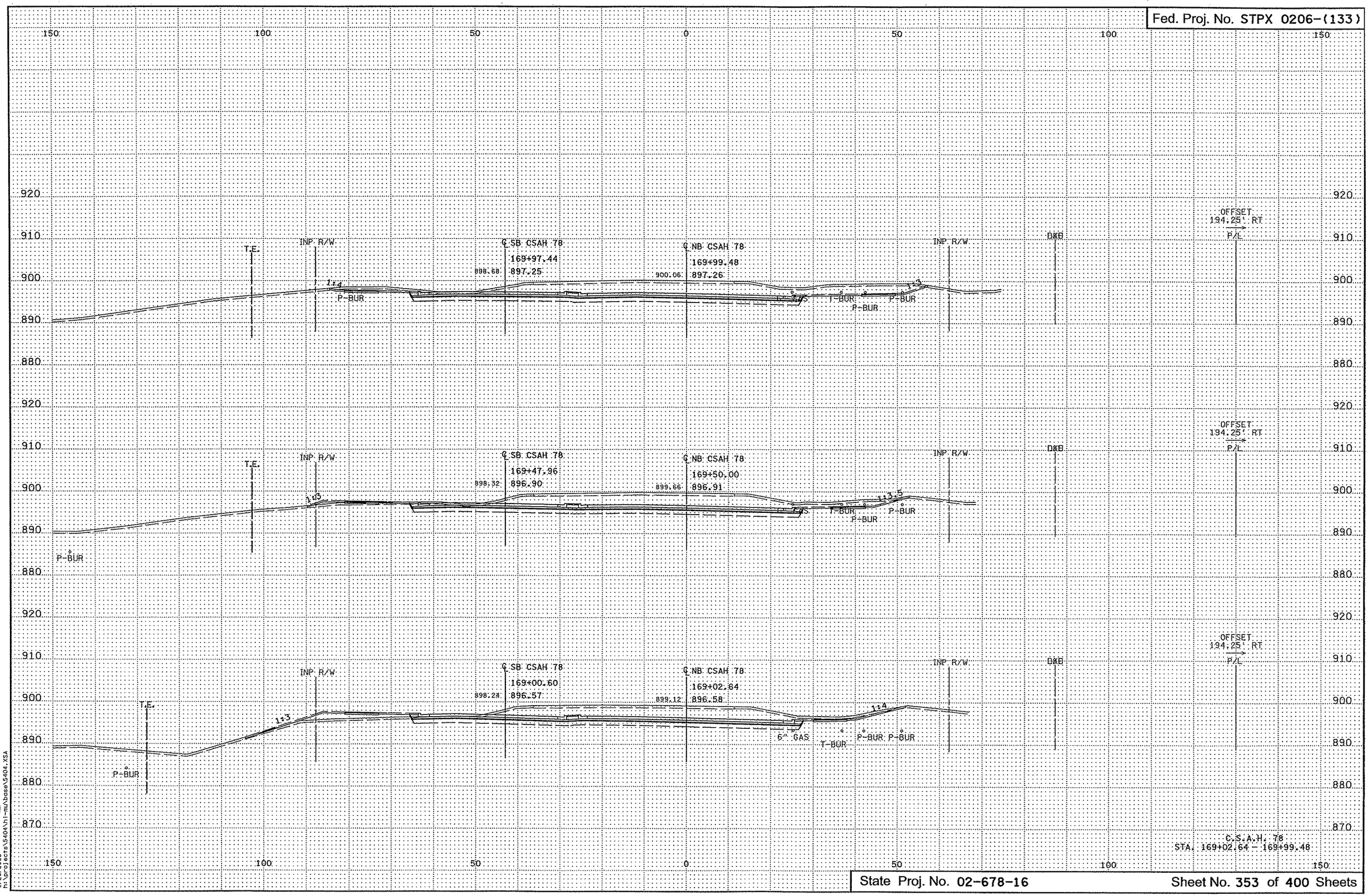


4:32:46 PM
9/26/2006
h:\projects\5404\h1-mn\base\5404.XSA

State Proj. No. 02-678-16

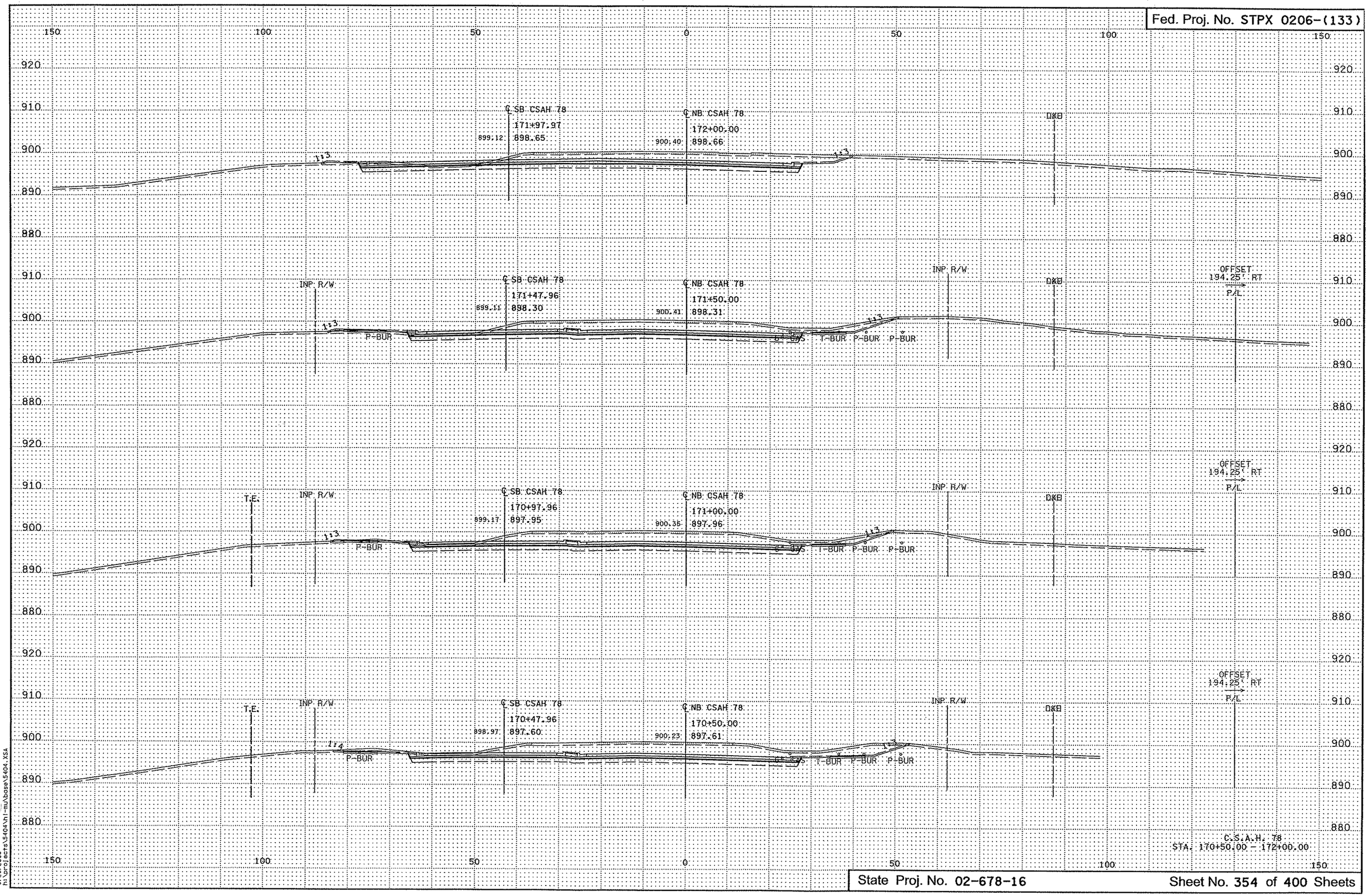
Sheet No. 352 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



4:32:47 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSA

Fed. Proj. No. STPX 0206-(133)

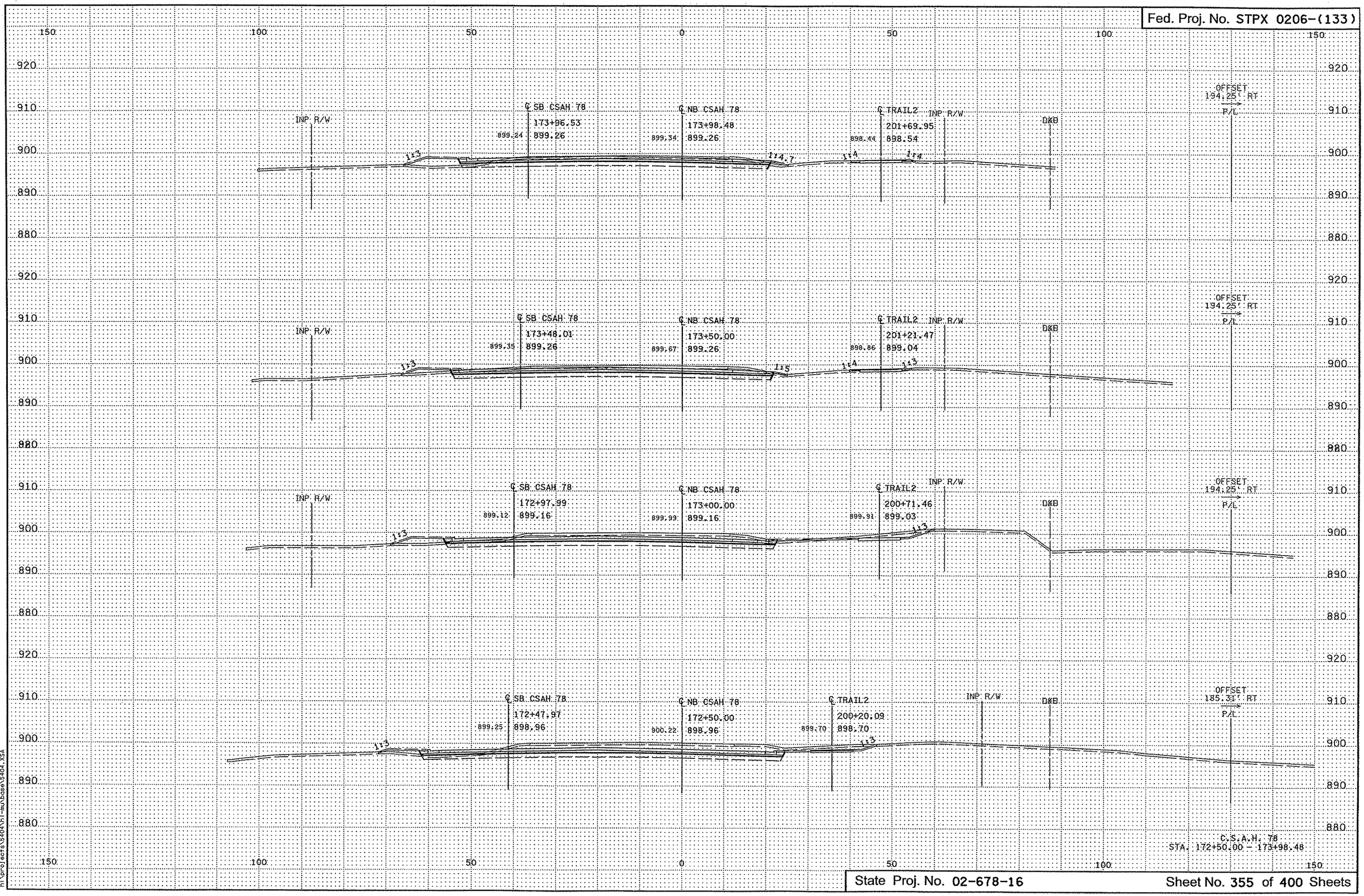


4:32:47 PM
9/26/2006
h:\projects\5404\hl-mu\bases\5404.XSA

State Proj. No. 02-678-16

Sheet No. 354 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

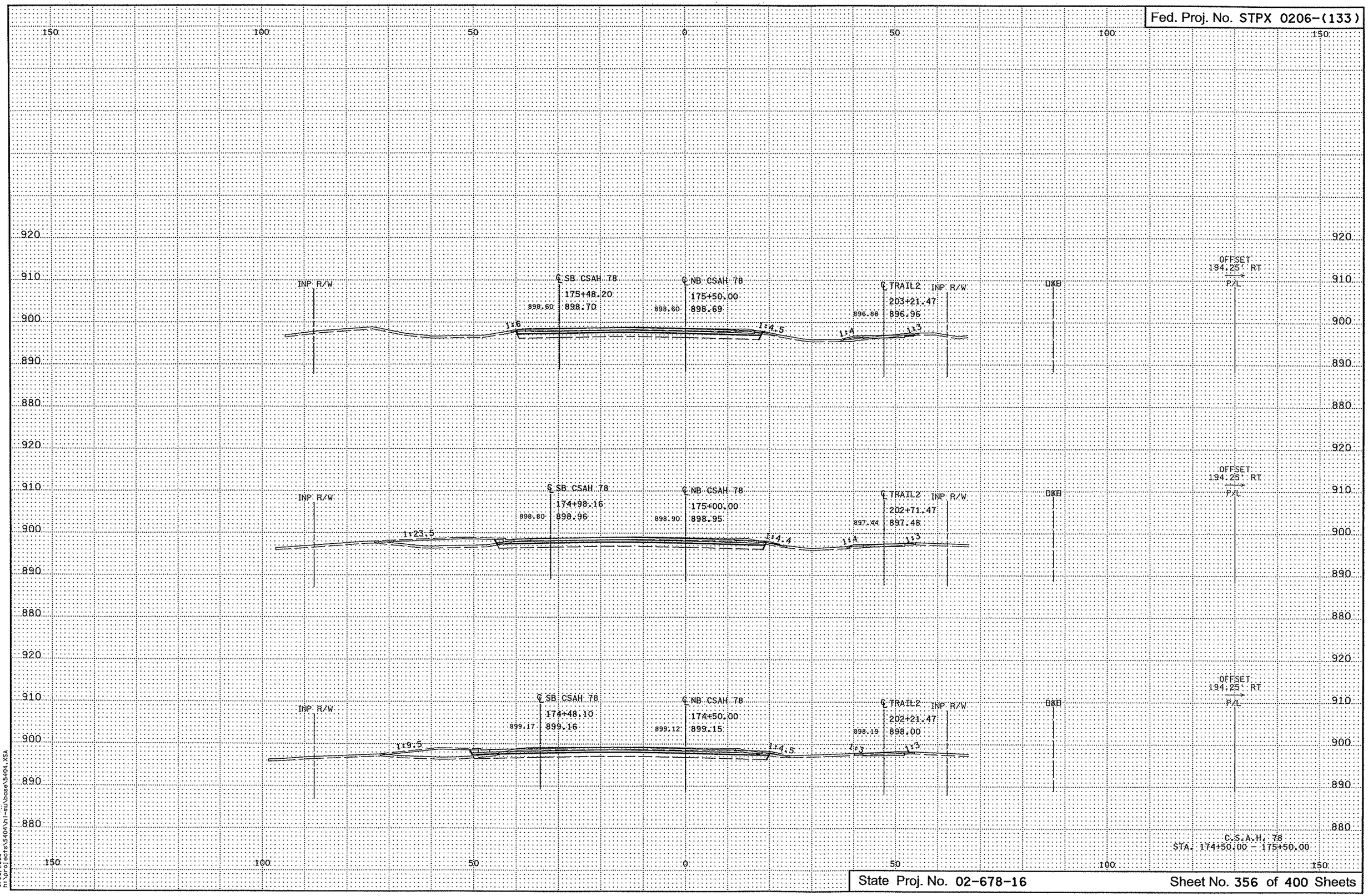


4:32:48 PM
9/26/2006
h:\projects\5404\hl-mn\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 355 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

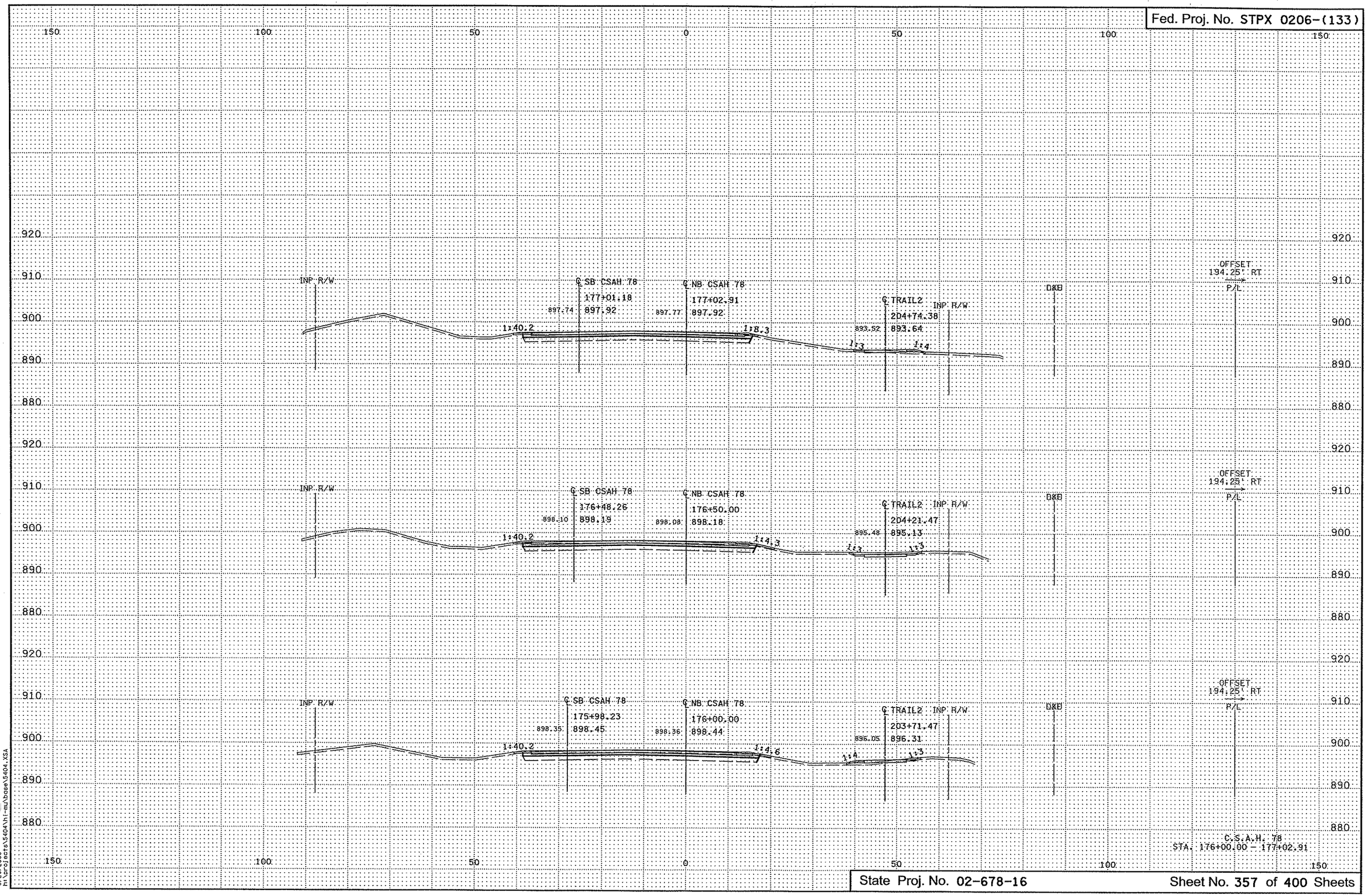


4:32:49 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 356 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

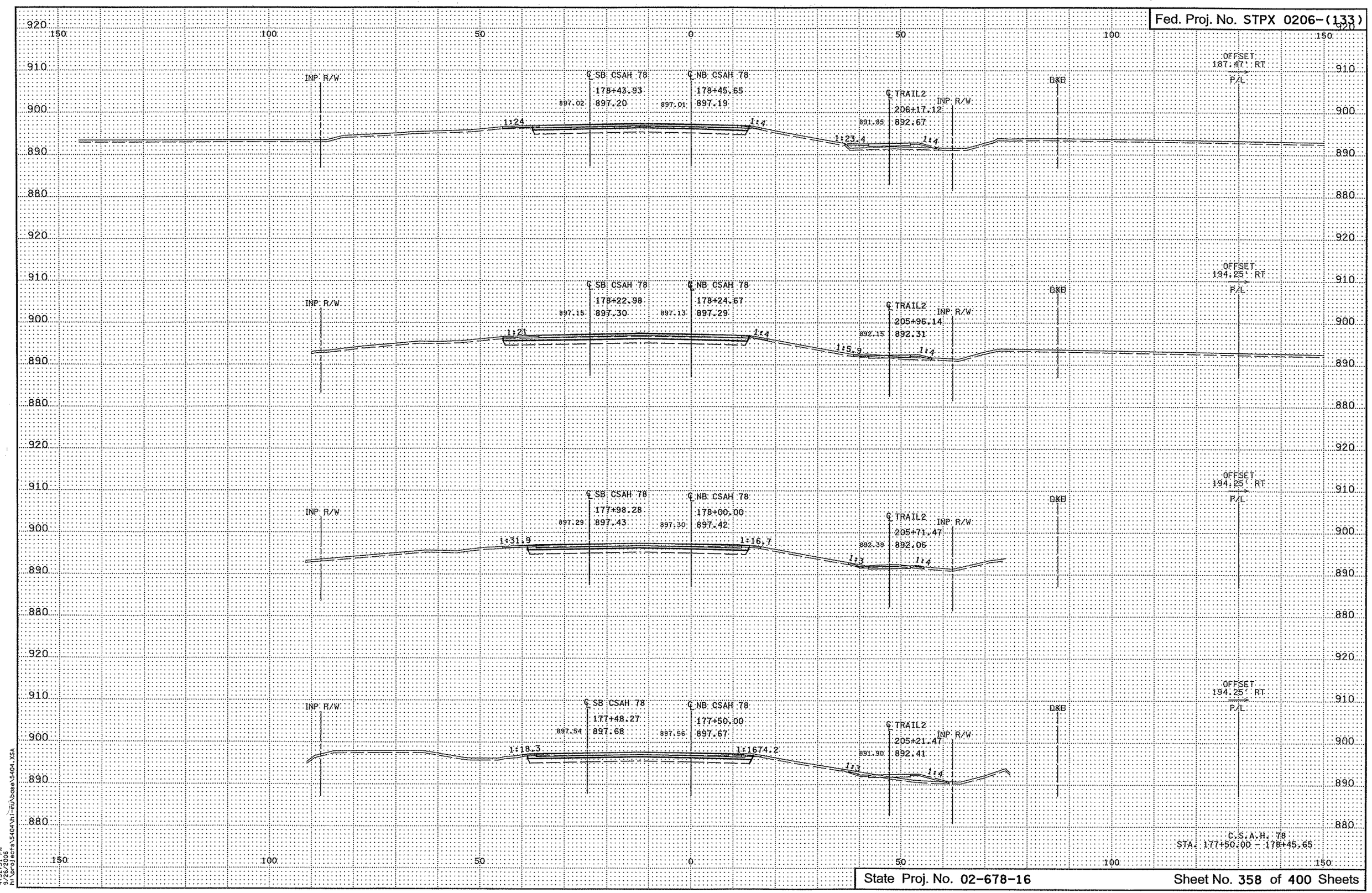


4:32:50 PM
9/26/2006
h:\projects\5404\h!-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 357 of 400 Sheets

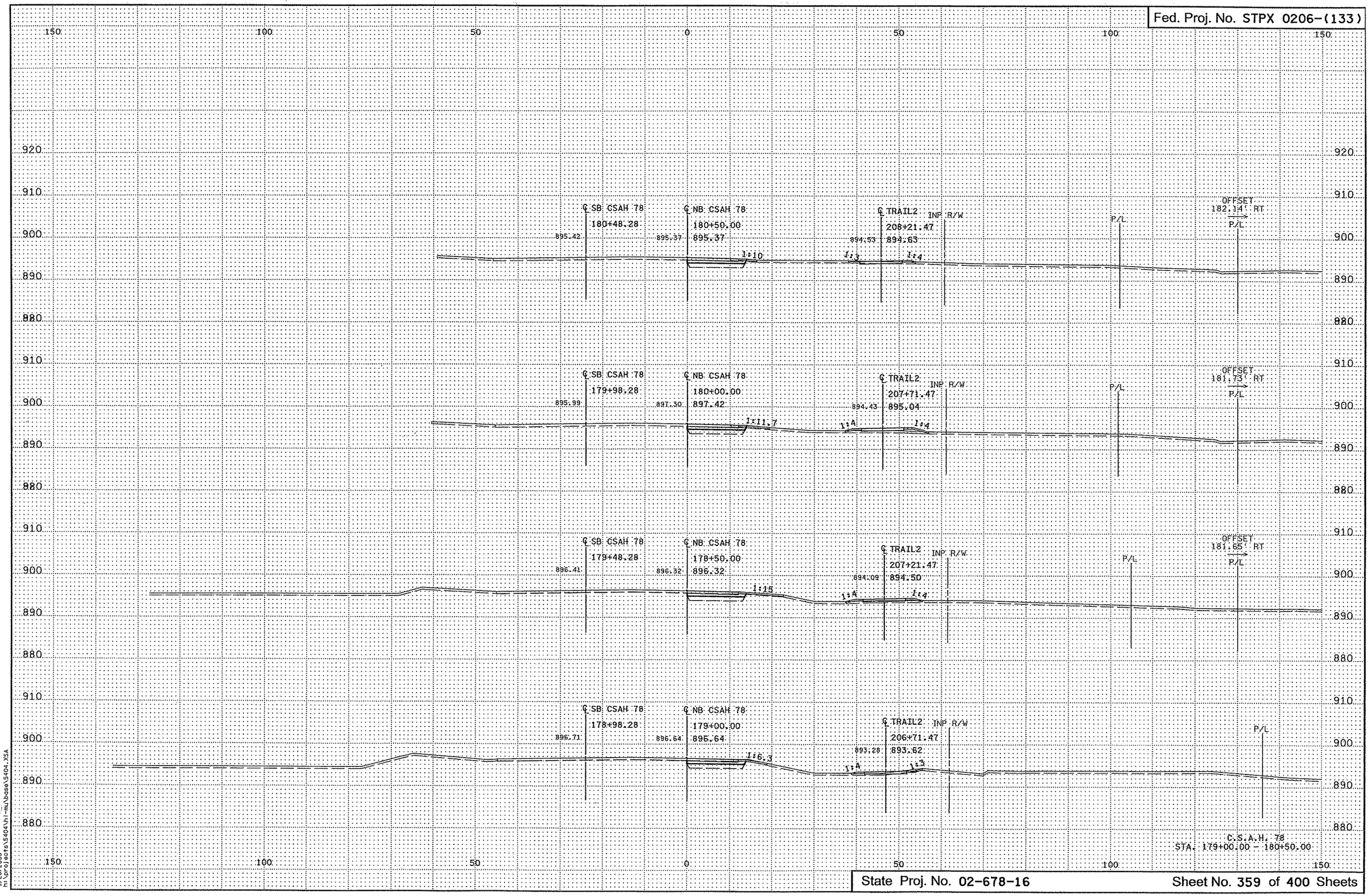
Fed. Proj. No. STPX 0206-(133)



C.S.A.H. 78
STA. 177+50.00 - 178+45.65

4:32:51 PM
9/26/2006
h:\Projects\5404\h1-mn\base\5404.XSA

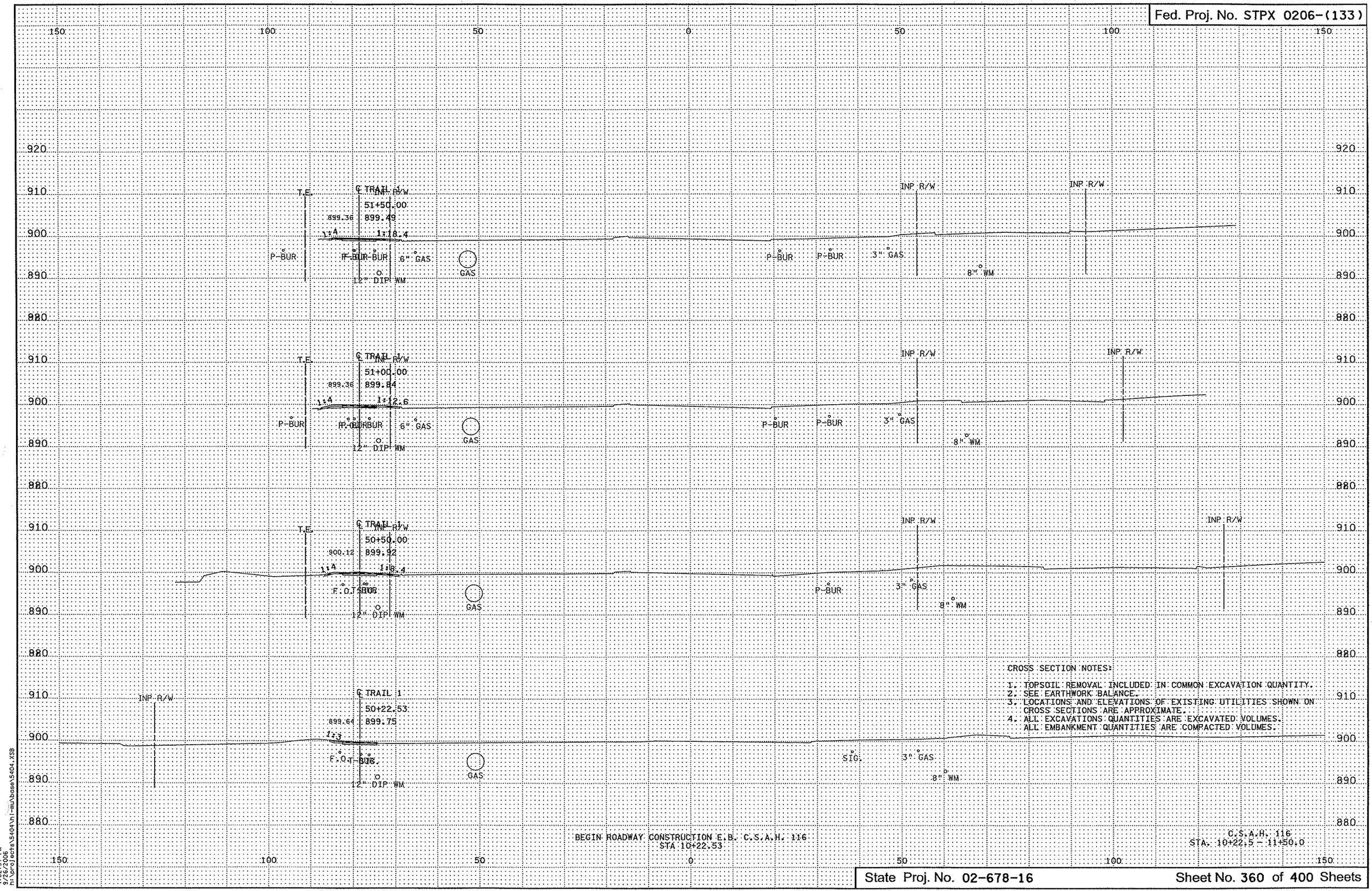
Fed. Proj. No. STPX 0206-(133)



4:32:51 PM
9/26/2006
H:\projects\5404\hl-mu\base\5404.XSA

State Proj. No. 02-678-16

Sheet No. 359 of 400 Sheets



CROSS SECTION NOTES:

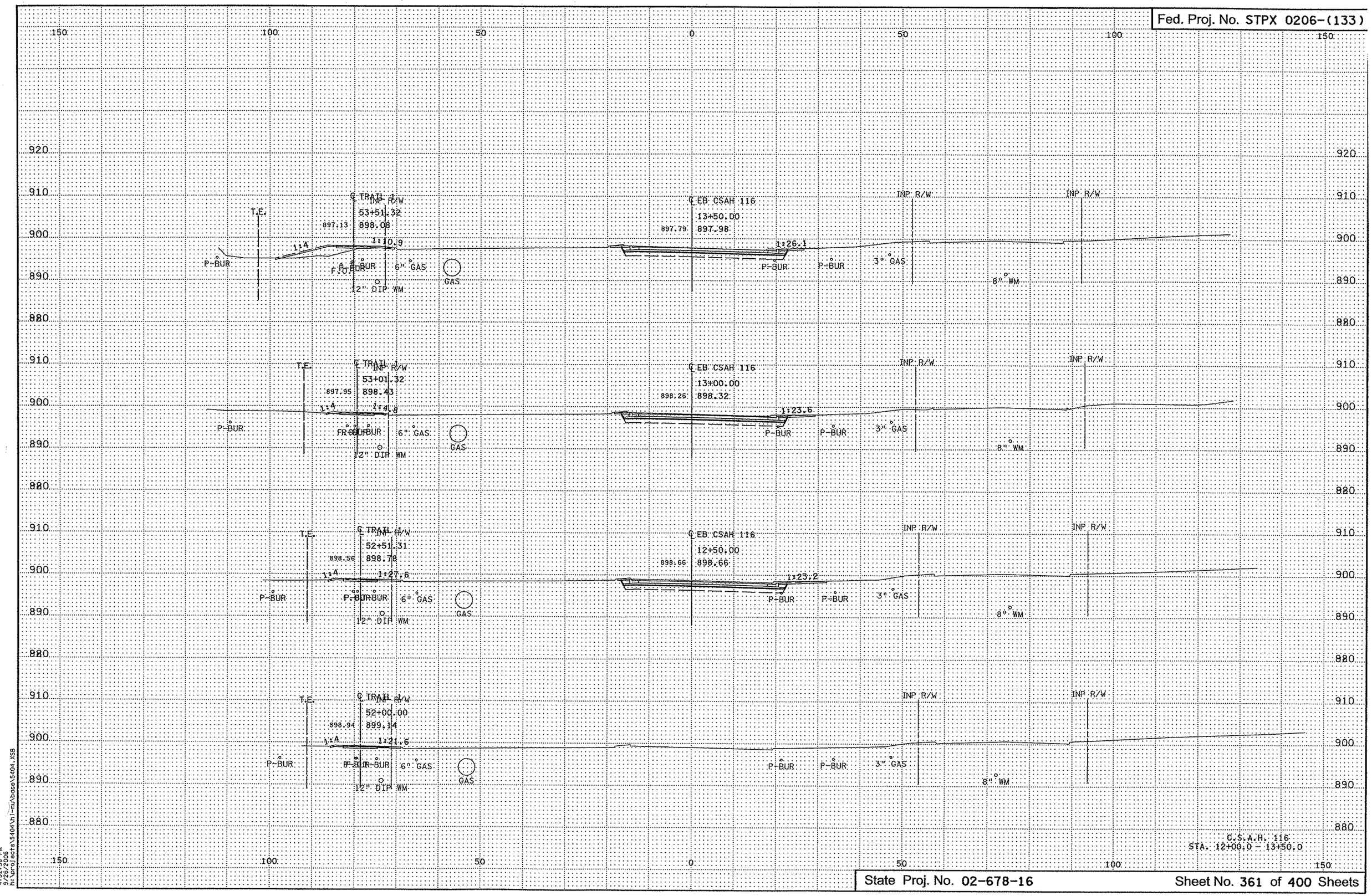
1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

BEGIN ROADWAY CONSTRUCTION E.B. C.S.A.H. 116
STA 10+22.53

C.S.A.H. 116
STA. 10+22.5 - 11+50.0

4:32:57 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSB

Fed. Proj. No. STPX 0206-(133)

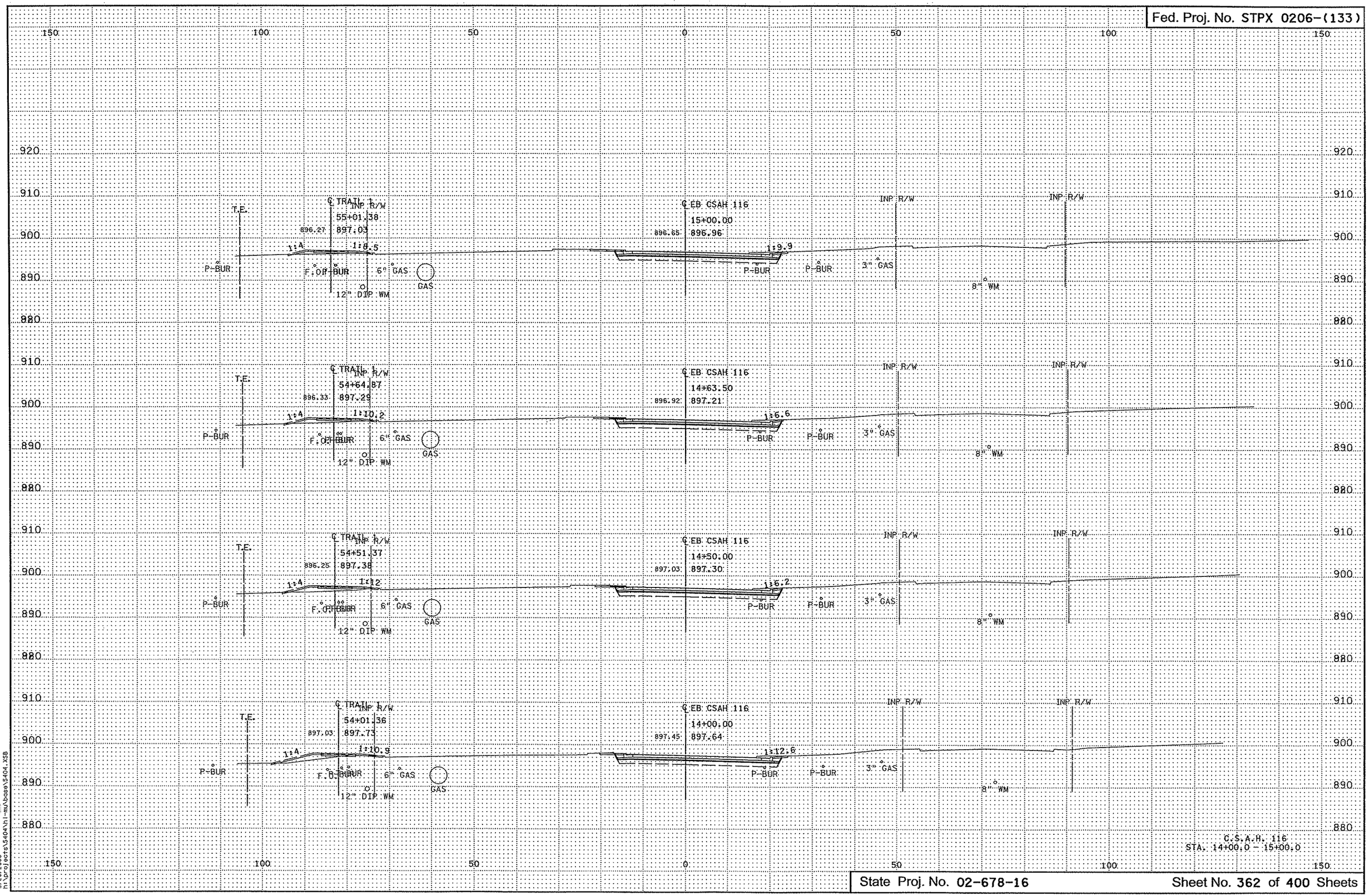


41:32:58 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSB

State Proj. No. 02-678-16

Sheet No. 361 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



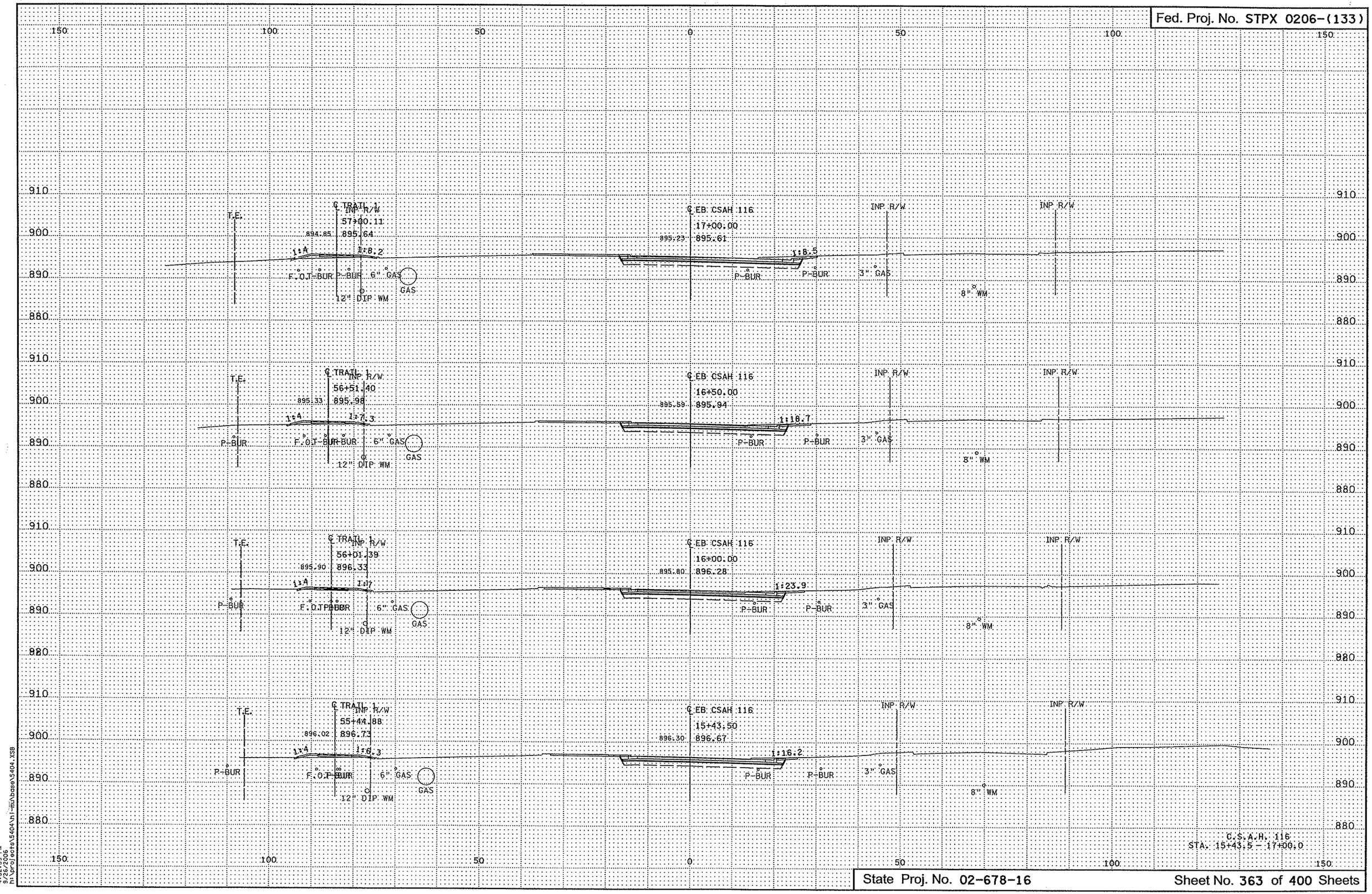
C.S.A.H. 116
STA. 14+00.0 - 15+00.0

4:32:58 PM
9/26/2006
h:\projects\5404\hl-mn\base\5404.XSB

State Proj. No. 02-678-16

Sheet No. 362 of 400 Sheets

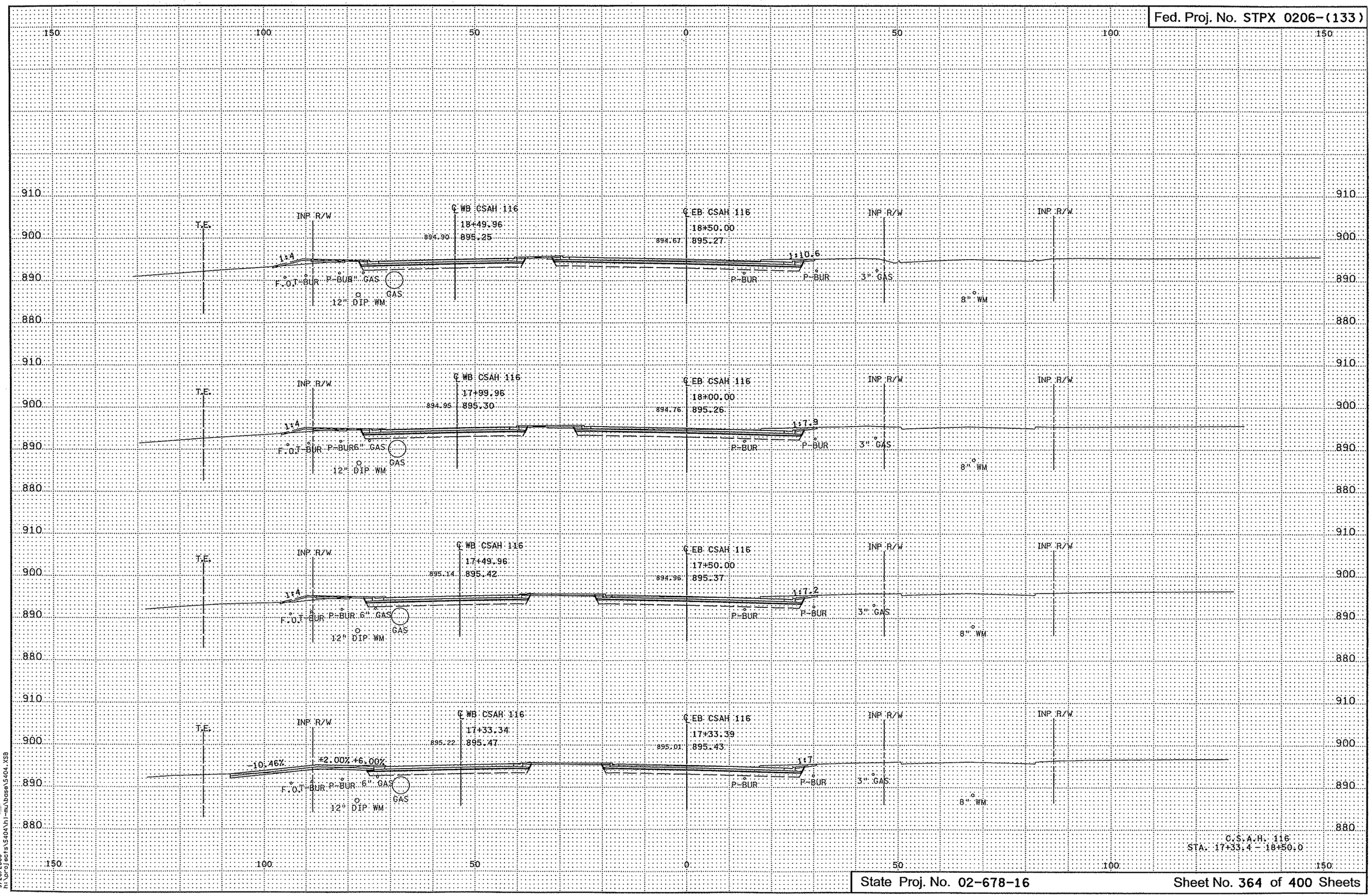
Fed. Proj. No. STPX 0206-(133)



4:32:59 PM
9/26/2006
n:\projects\5404\n1-mnbase\5404.xsb

State Proj. No. 02-678-16

Sheet No. 363 of 400 Sheets



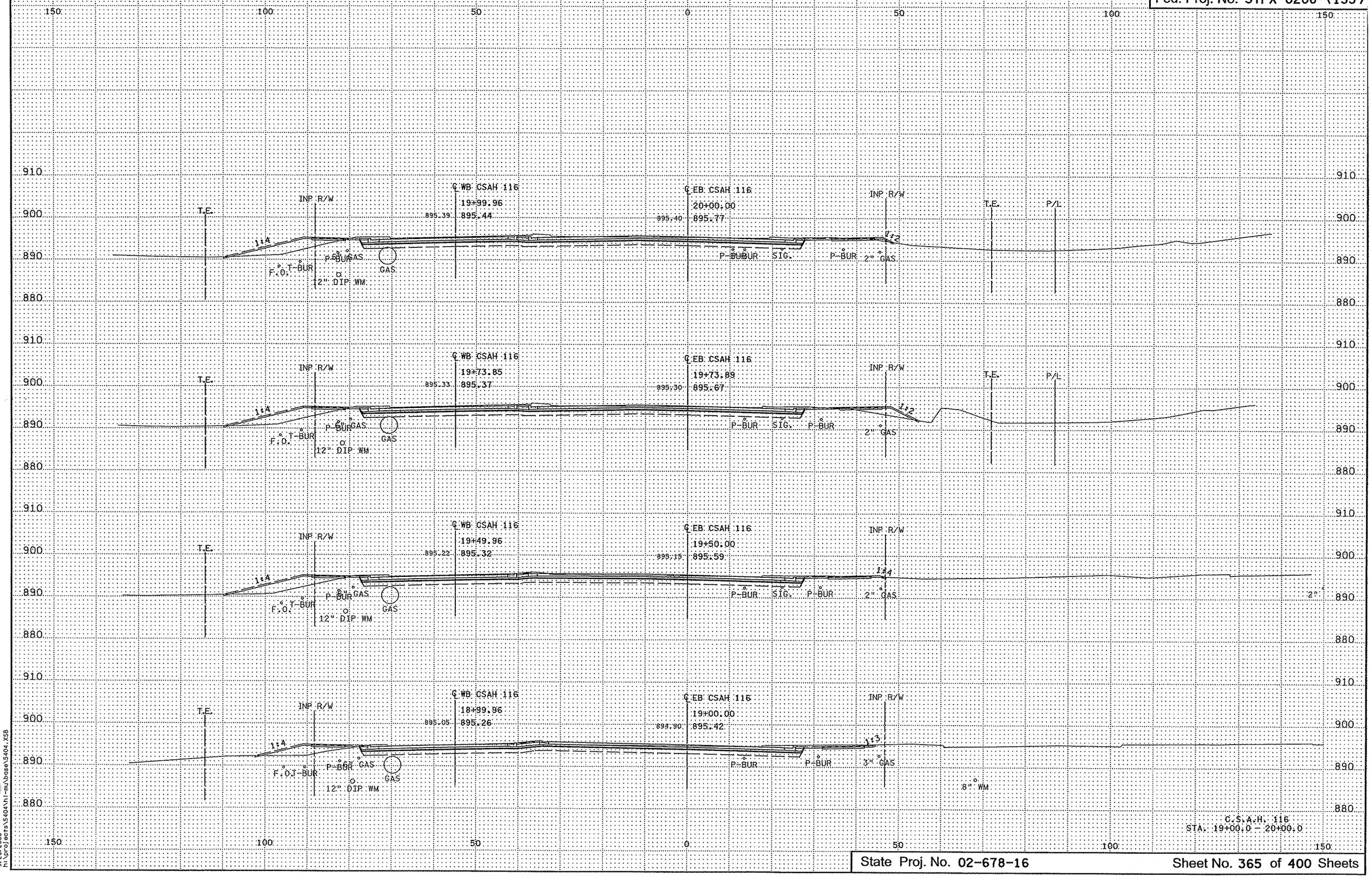
C.S.A.H. 116
STA. 17+33.4 - 18+50.0

4:33:00 PM
9/26/2006
h:\projects\5404\hl-ma\base\5404.XSB

State Proj. No. 02-678-16

Sheet No. 364 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

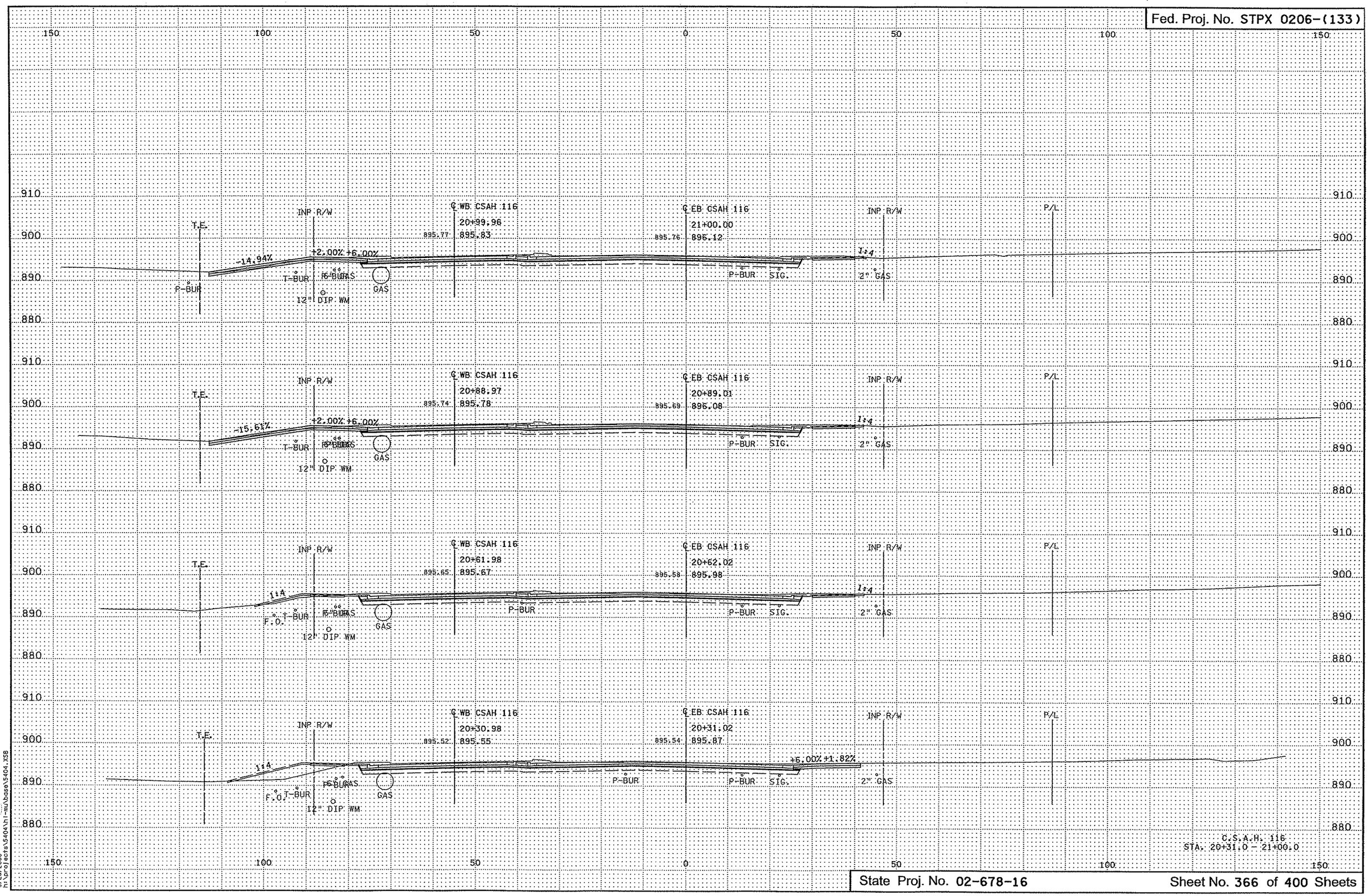


4:33:01 PM
9/26/2006
h:\projects\5404\h1-mn\base\5404.XSB

State Proj. No. 02-678-16

Sheet No. 365 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

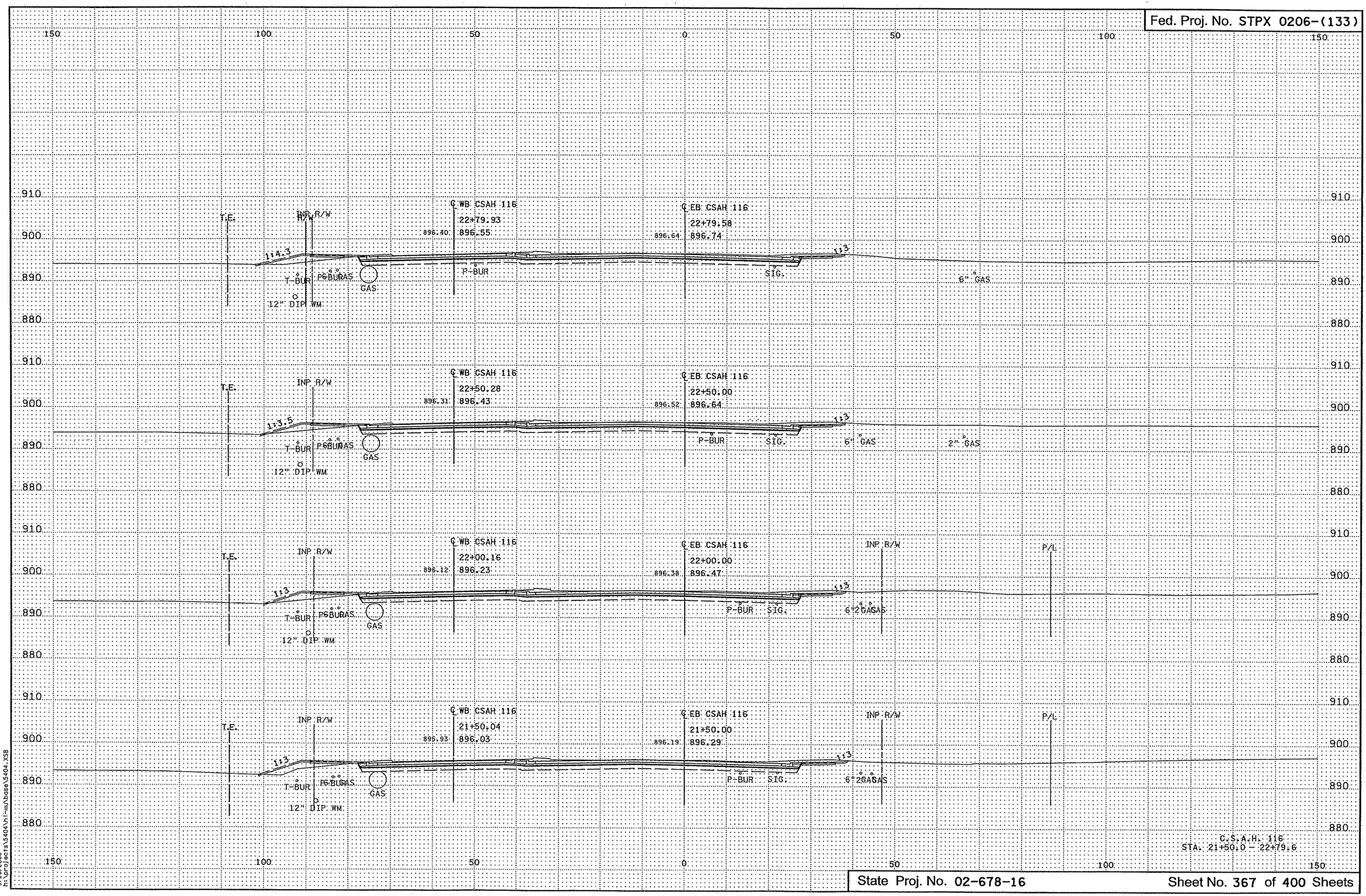


C.S.A.H. 116
STA. 20+31.0 – 21+00.0

4:33:01 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSB

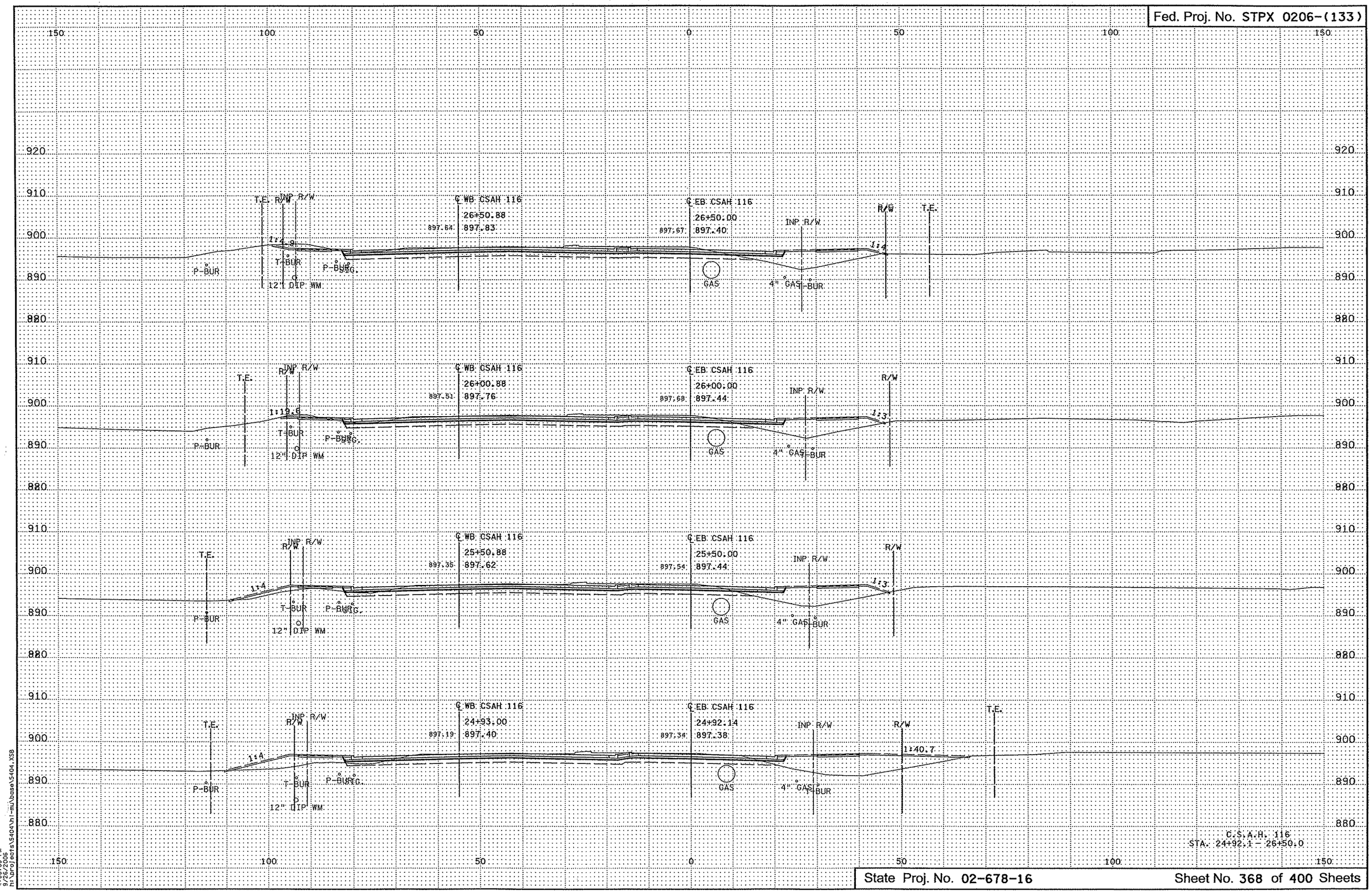
State Proj. No. 02-678-16

Sheet No. 366 of 400 Sheets



4:33:02 PM
9/26/2006
h:\projects\5404\hl-mn\base\5404.XSB

Fed. Proj. No. STPX 0206-(133)



Fed. Proj. No. STPX 0206-(133)

150 100 50 0 50 100 150

920 910 900 890 880

T.E. INP R/W R/W ℄ WB CSAH 116 28+00.88 897.34 897.65 ℄ EB CSAH 116 28+00.00 896.90 897.03 INP R/W R/W M/L P/E T.E.
1:5.8
P-BUR T-BUR PSBUR
12" DIP WM
GAS 4" GAST-BUR
1:4

T.E. INP R/W R/W ℄ WB CSAH 116 27+47.78 897.42 897.79 ℄ EB CSAH 116 27+46.90 897.24 897.20 INP R/W R/W P/E T.E.
1:4
1:4

T.E. INP R/W R/W ℄ WB CSAH 116 27+16.64 897.43 897.83 ℄ EB CSAH 116 27+15.76 897.43 897.28 INP R/W R/W P/E T.E.
-4.57% +4.00% -4.00%
P-BUR T-BUR P-BUR
12" DIP WM
GAS 4" GAS-BUR
1:4

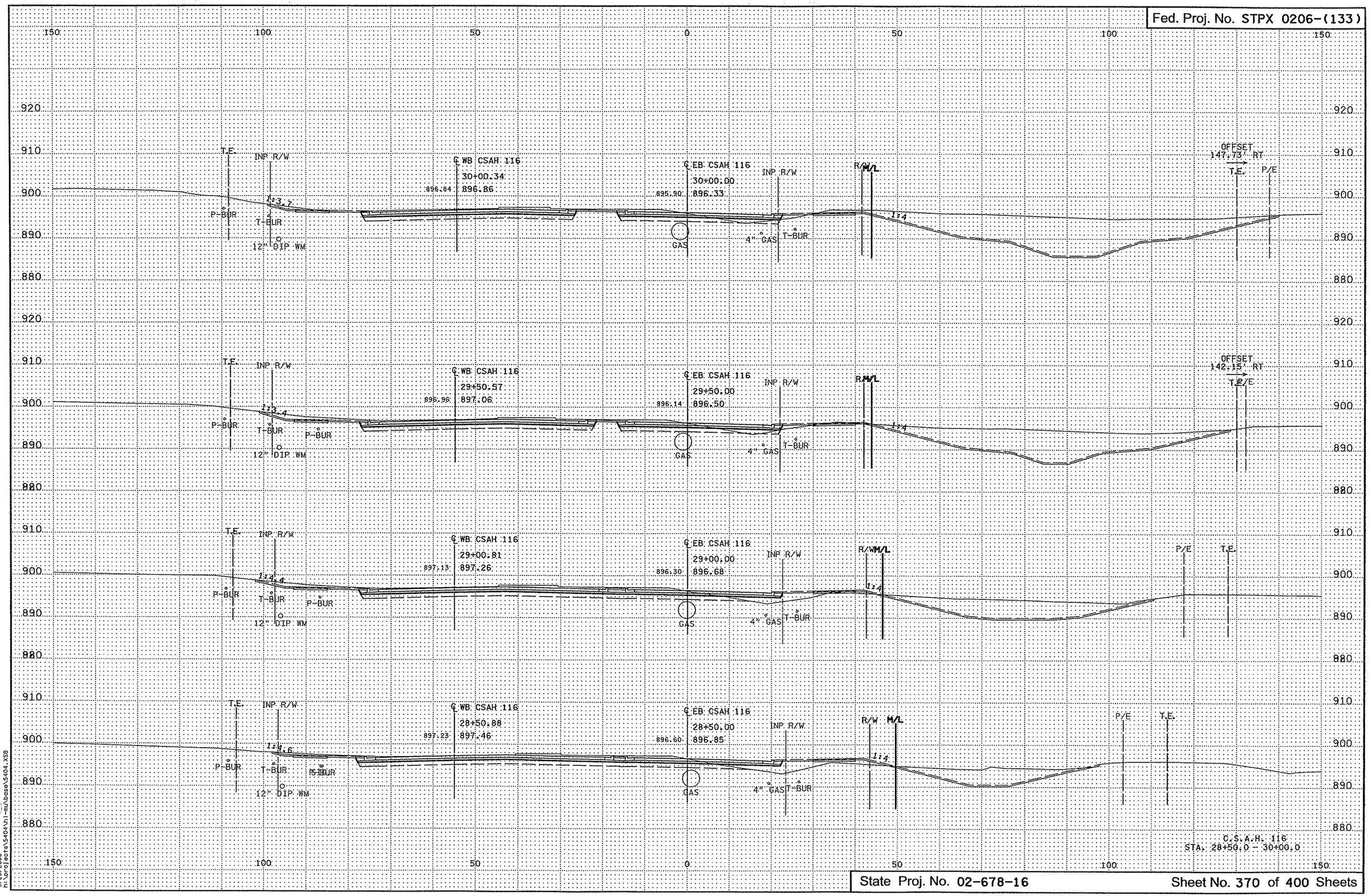
T.E. INP R/W R/W ℄ WB CSAH 116 26+88.55 897.59 897.85 ℄ EB CSAH 116 26+87.67 897.60 897.34 INP R/W R/W P/E T.E.
1:7.4
P-BUR T-BUR P-BUR
12" DIP WM
GAS 4" GAS-BUR
1:4

C.S.A.H. 116
STA. 26+87.7 - 28+00.0

4:33:04 PM
9/26/2006
h:\projects\5404\h|-mn\base\5404.XSB

State Proj. No. 02-678-16 Sheet No. 369 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



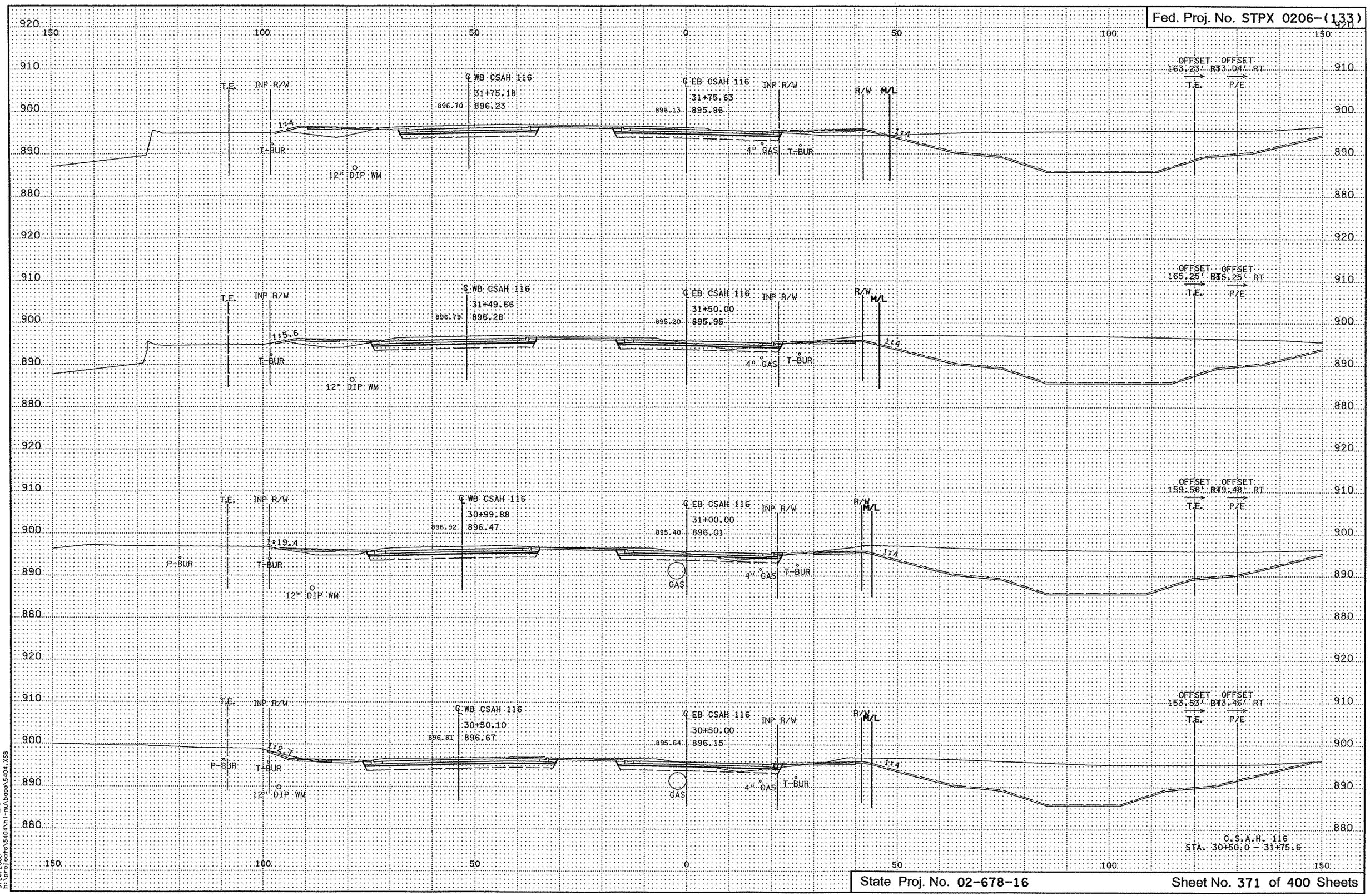
C.S.A.H. 116
STA. 28+50.0 - 30+00.0

4:33:04 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSB

State Proj. No. 02-678-16

Sheet No. 370 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

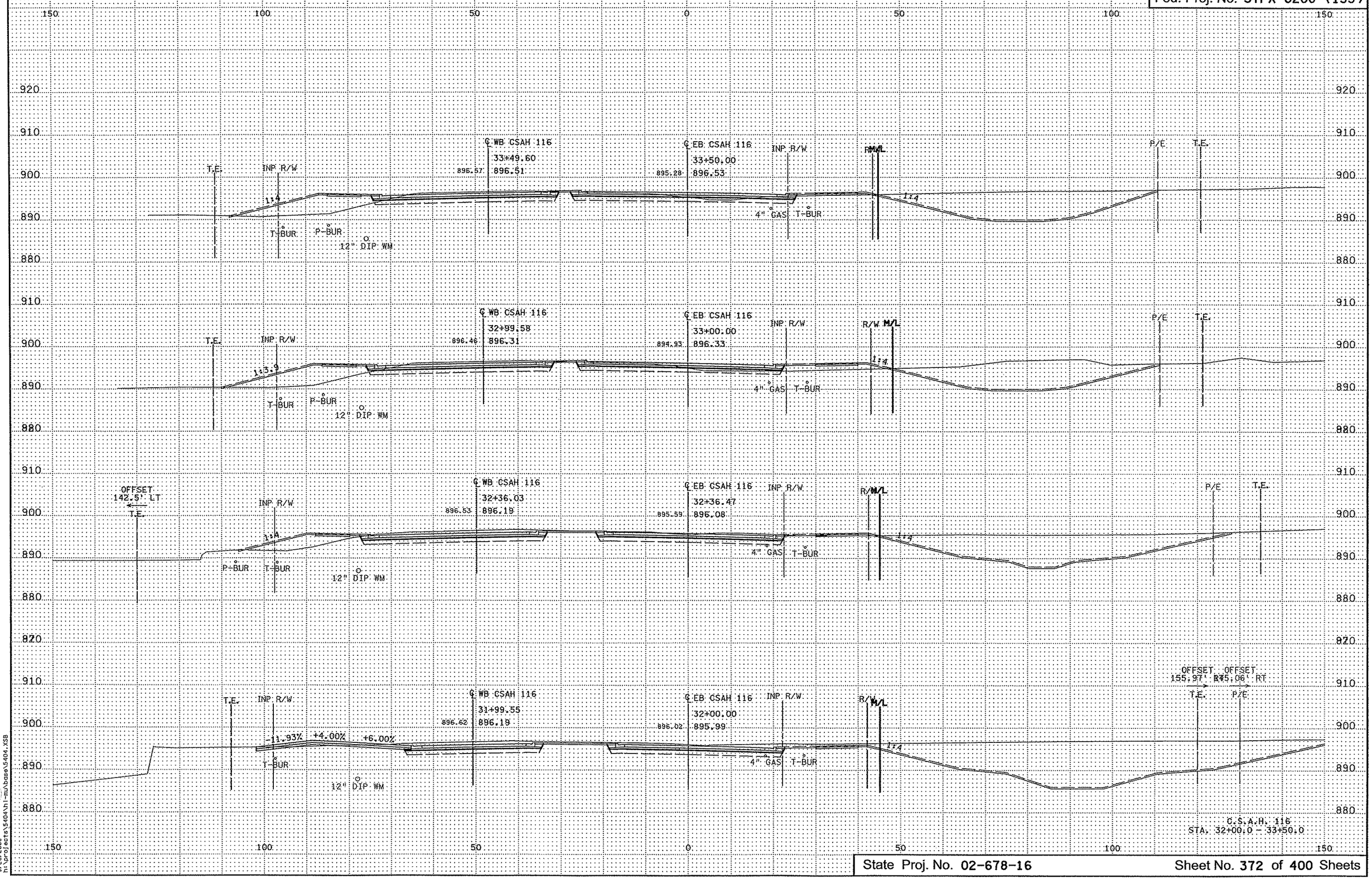


4:33:05 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSB

State Proj. No. 02-678-16

Sheet No. 371 of 400 Sheets

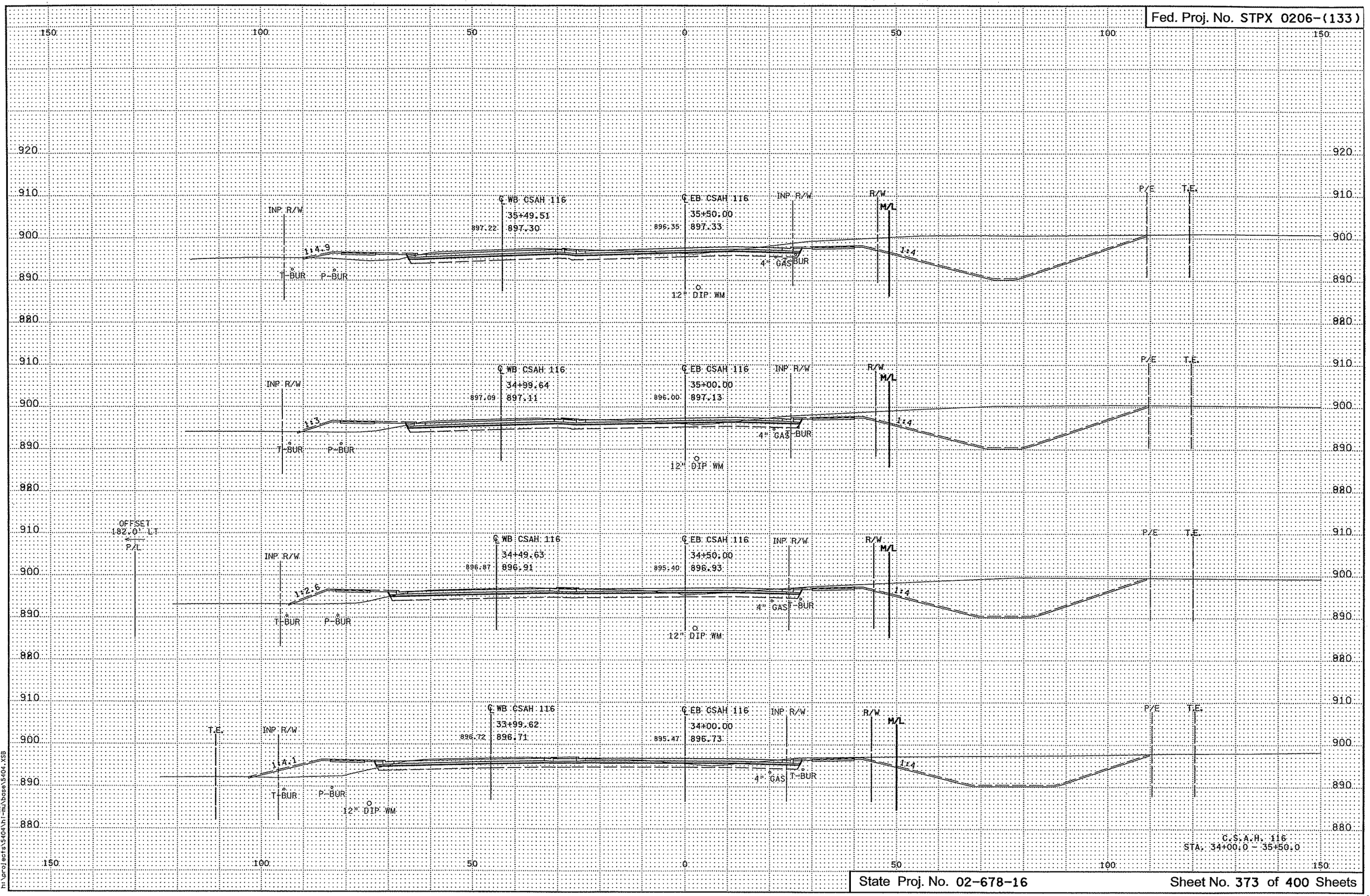
Fed. Proj. No. STPX 0206-(133)



4:33:06 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSB

State Proj. No. 02-678-16

Sheet No. 372 of 400 Sheets

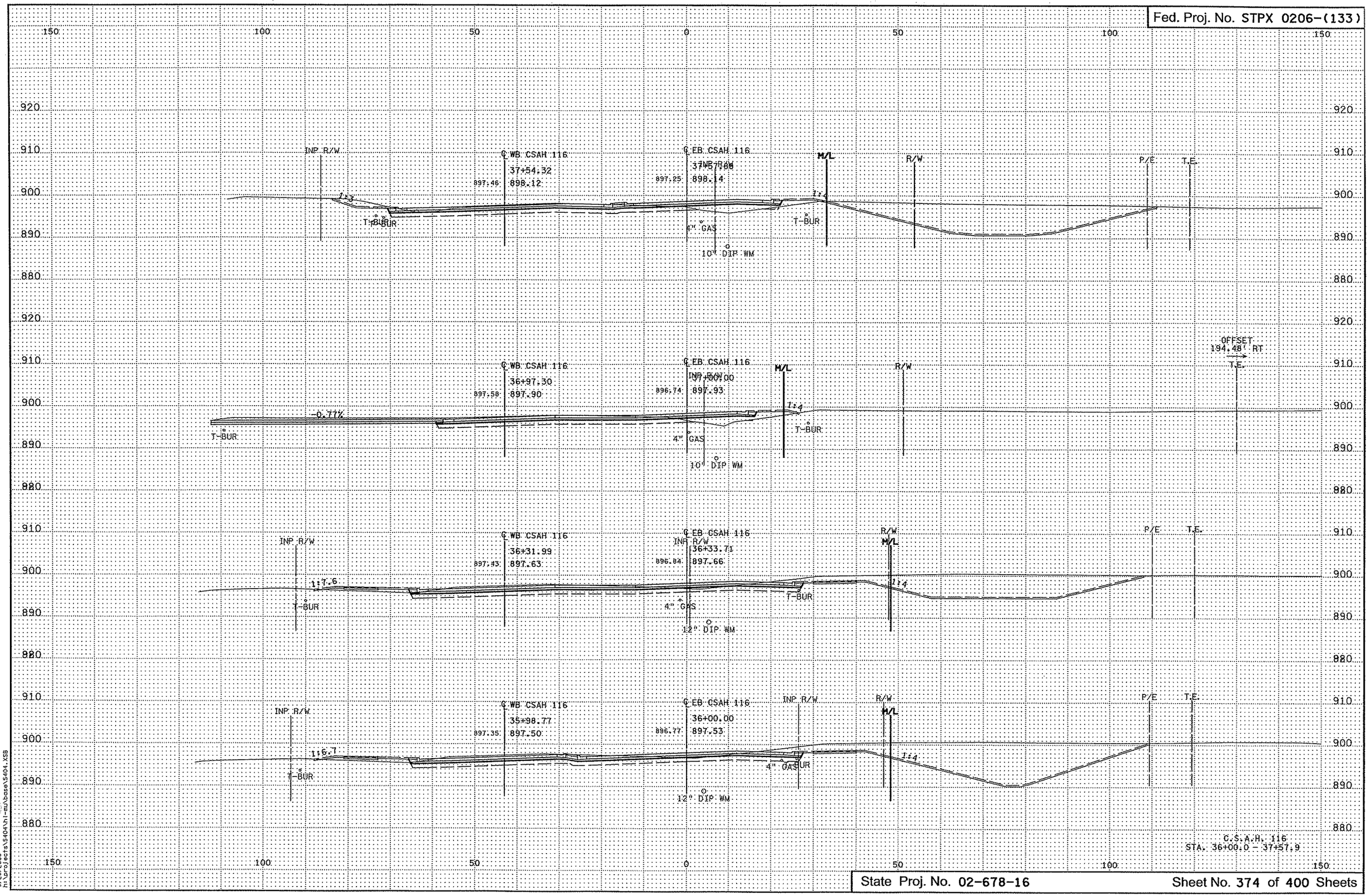


4:33:07 PM
9/28/2006
h:\projects\5404\hl-mu\base\5404.XSB

State Proj. No. 02-678-16

Sheet No. 373 of 400 Sheets

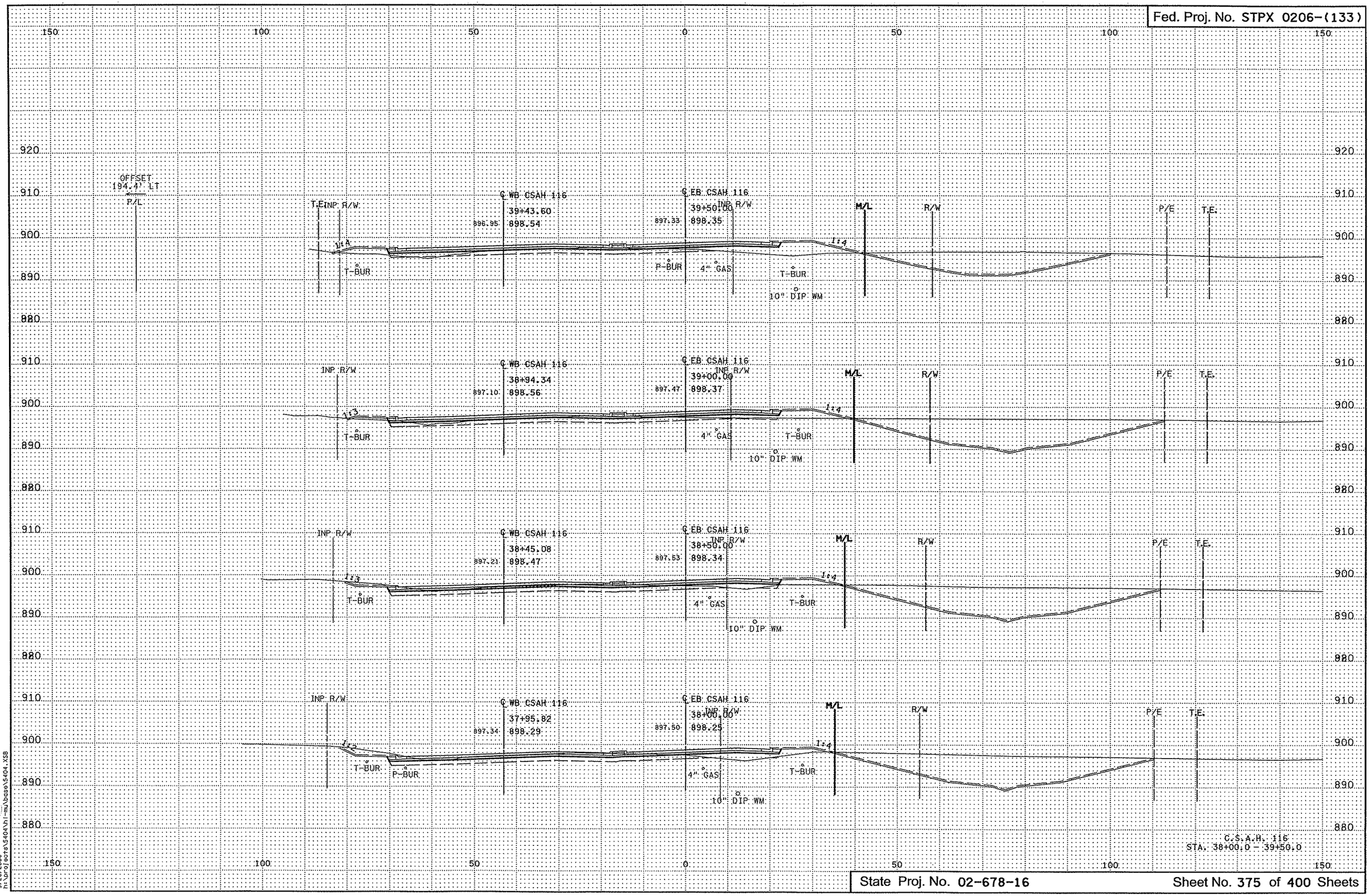
Fed. Proj. No. STPX 0206-(133)



4:33:08 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSB

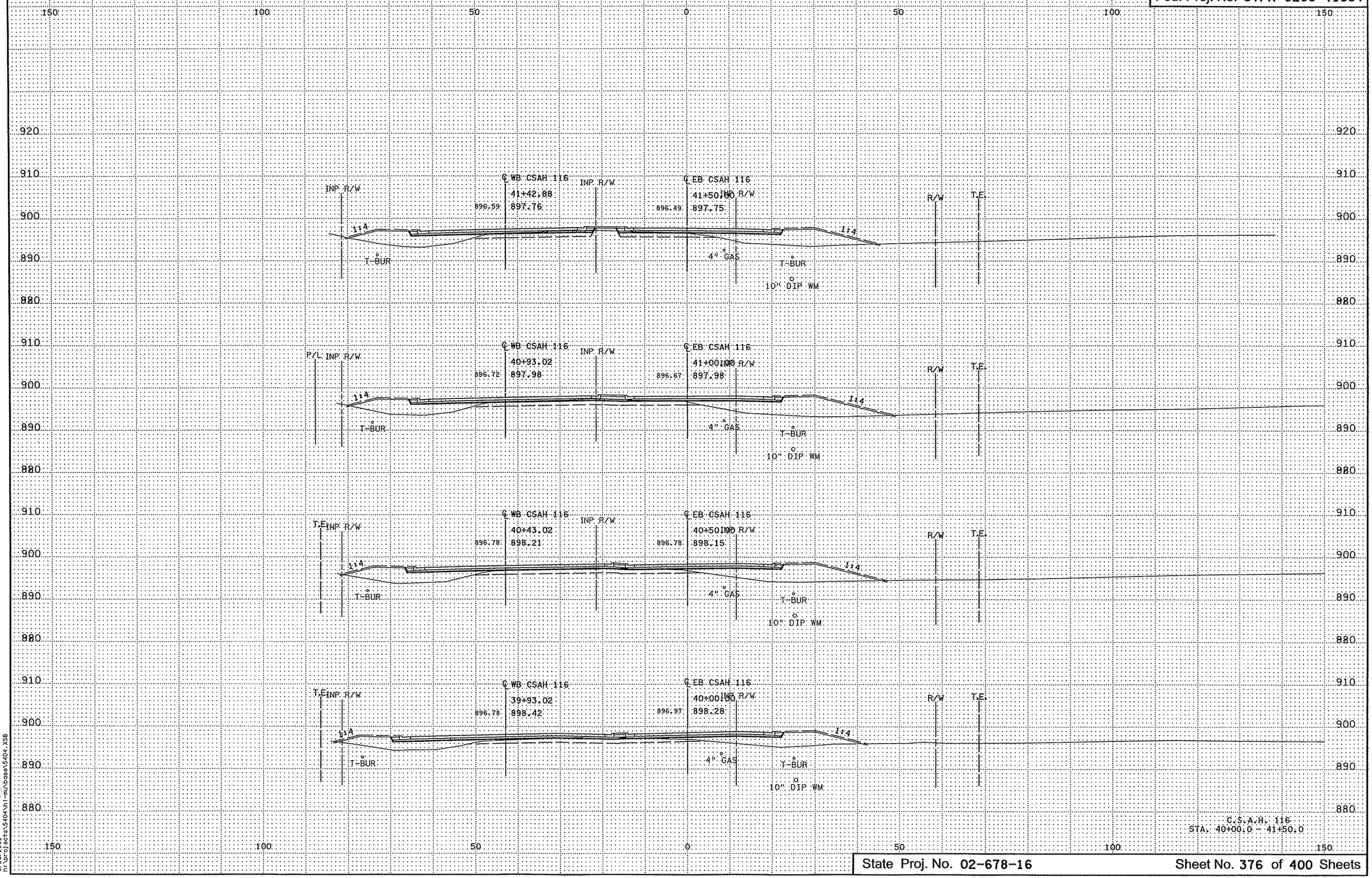
State Proj. No. 02-678-16

Sheet No. 374 of 400 Sheets

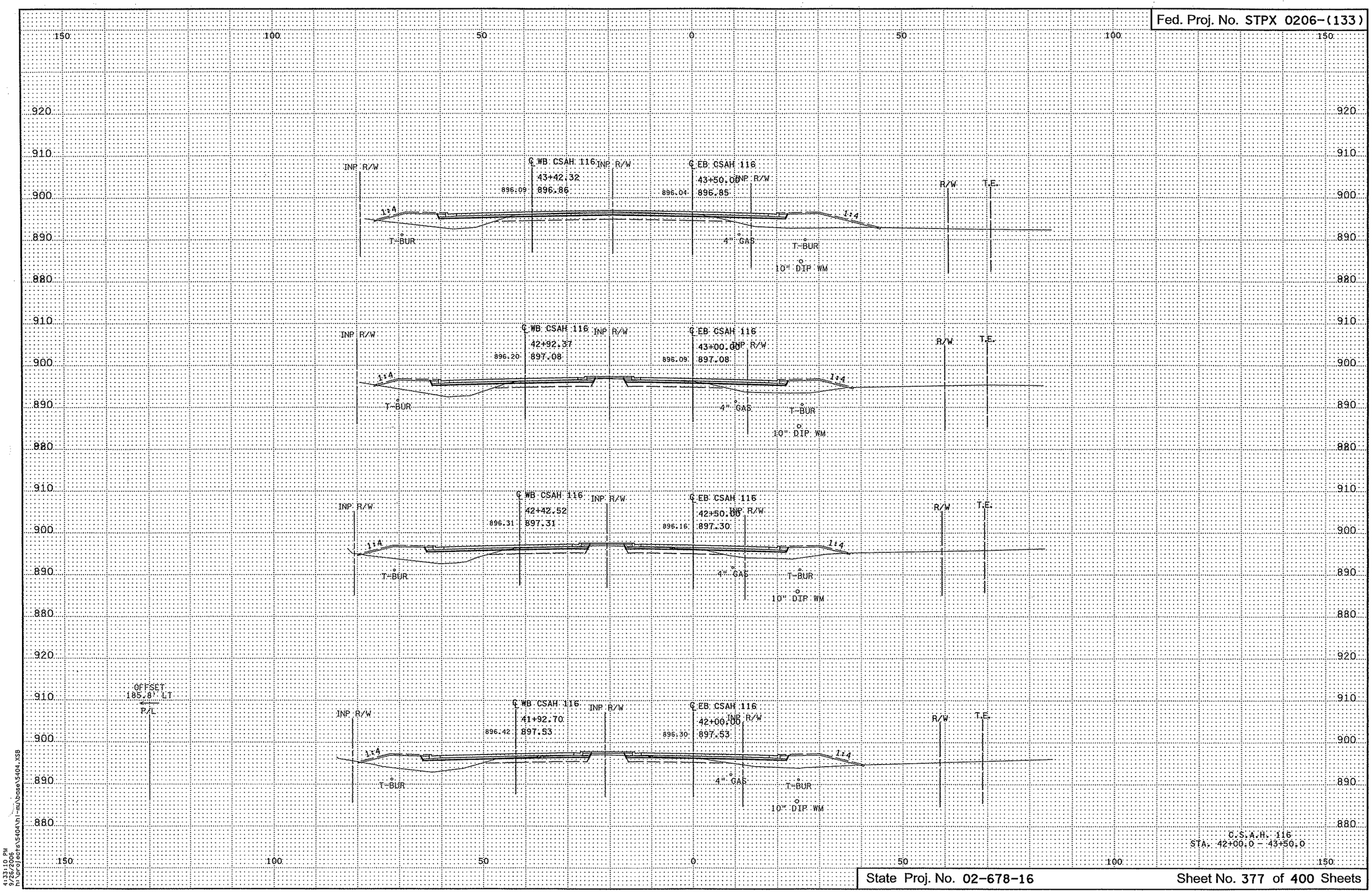


C.S.A.H. 116
STA. 38+00.0 - 39+50.0

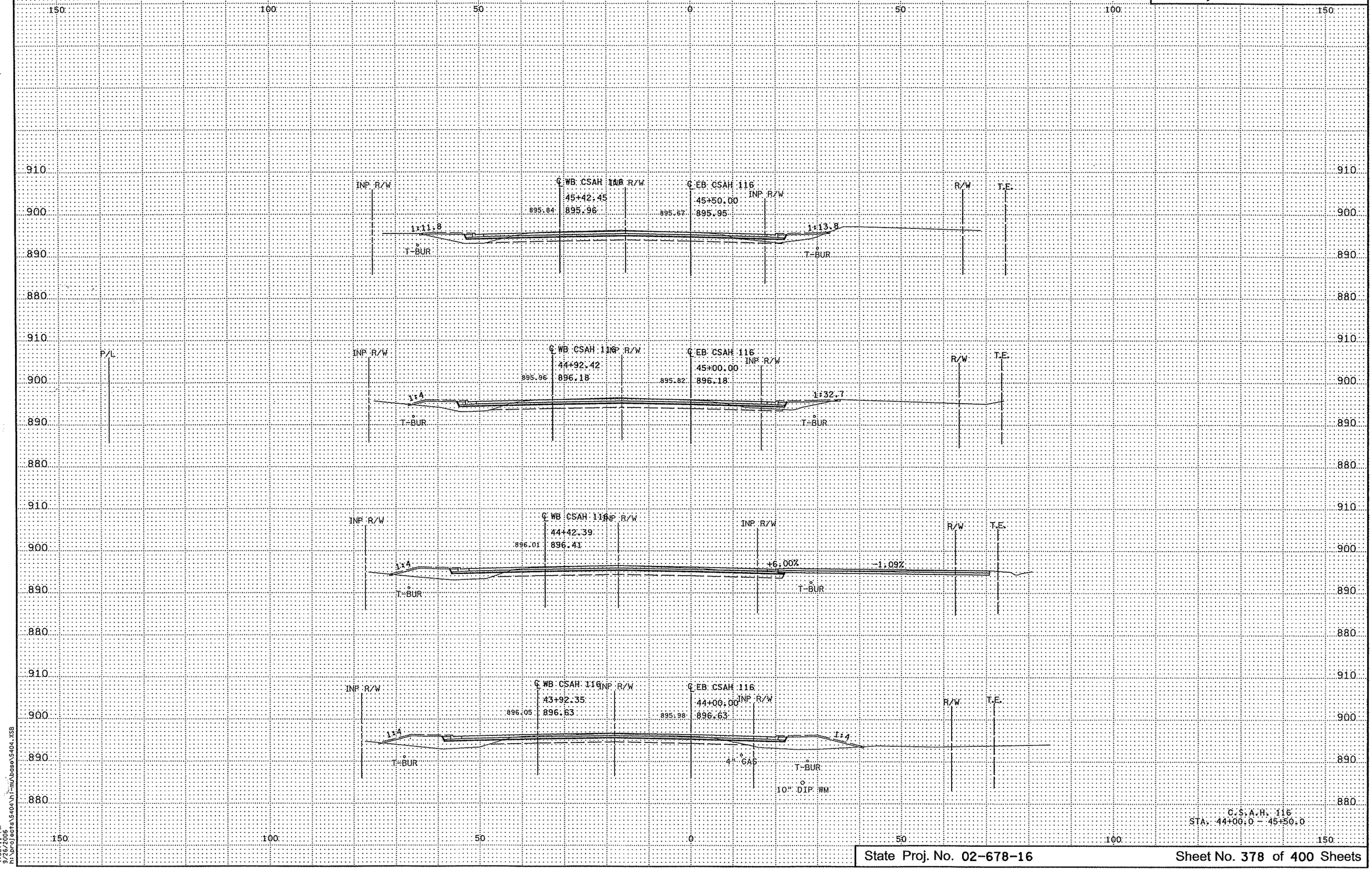
4:33:08 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSB



4:33:09 PM
9/26/2006
n:\projects\5404\hl-mu\base\5404.XSB

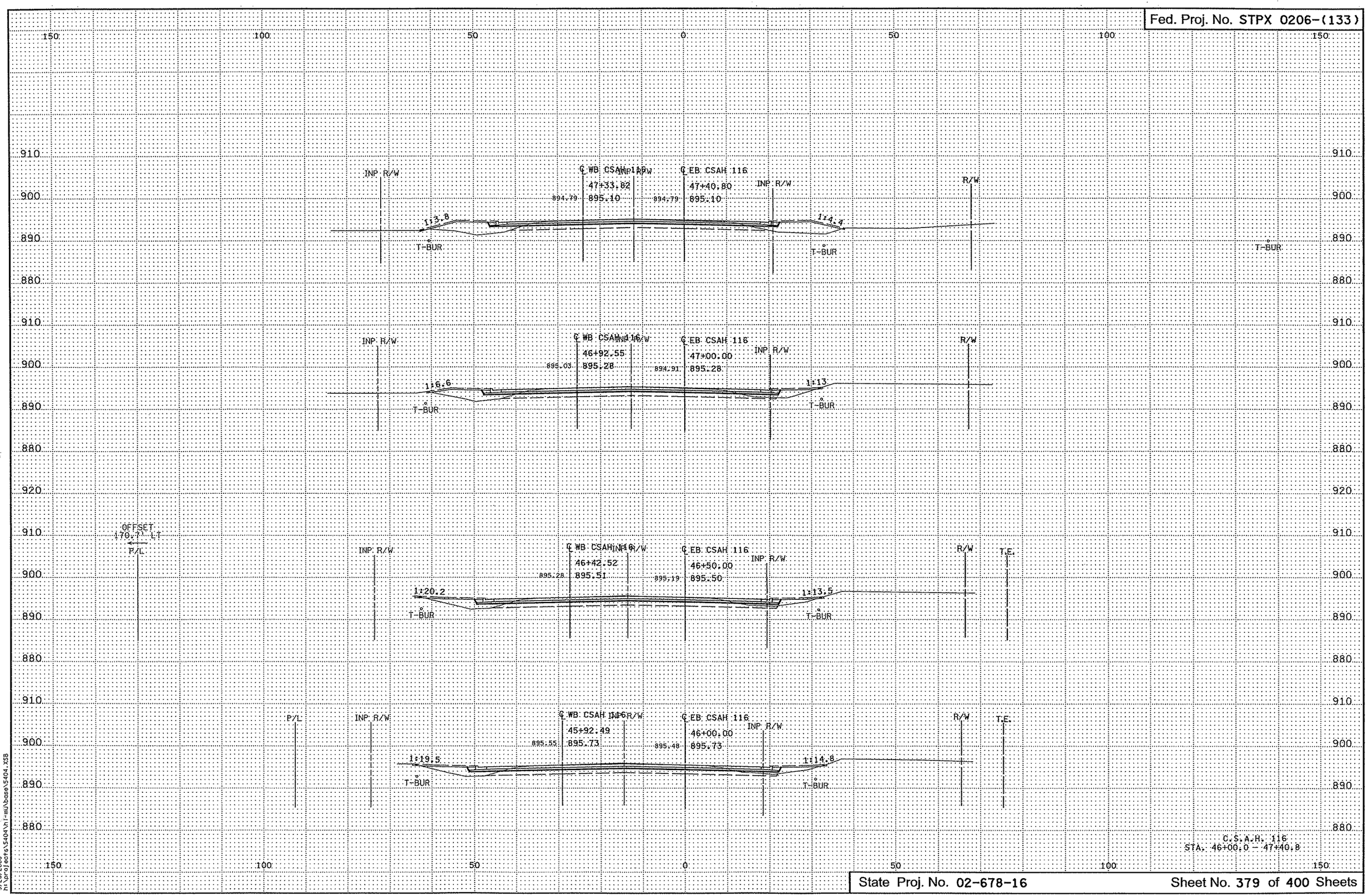


4:33:10 PM
9/26/2006
h:\projects\5404\h!-mu\base\5404.XSB



4:33:11 PM
9/26/2006
h:\projects\5404\h\~mu\base\5404.XSB

Fed. Proj. No. STPX 0206-(133)

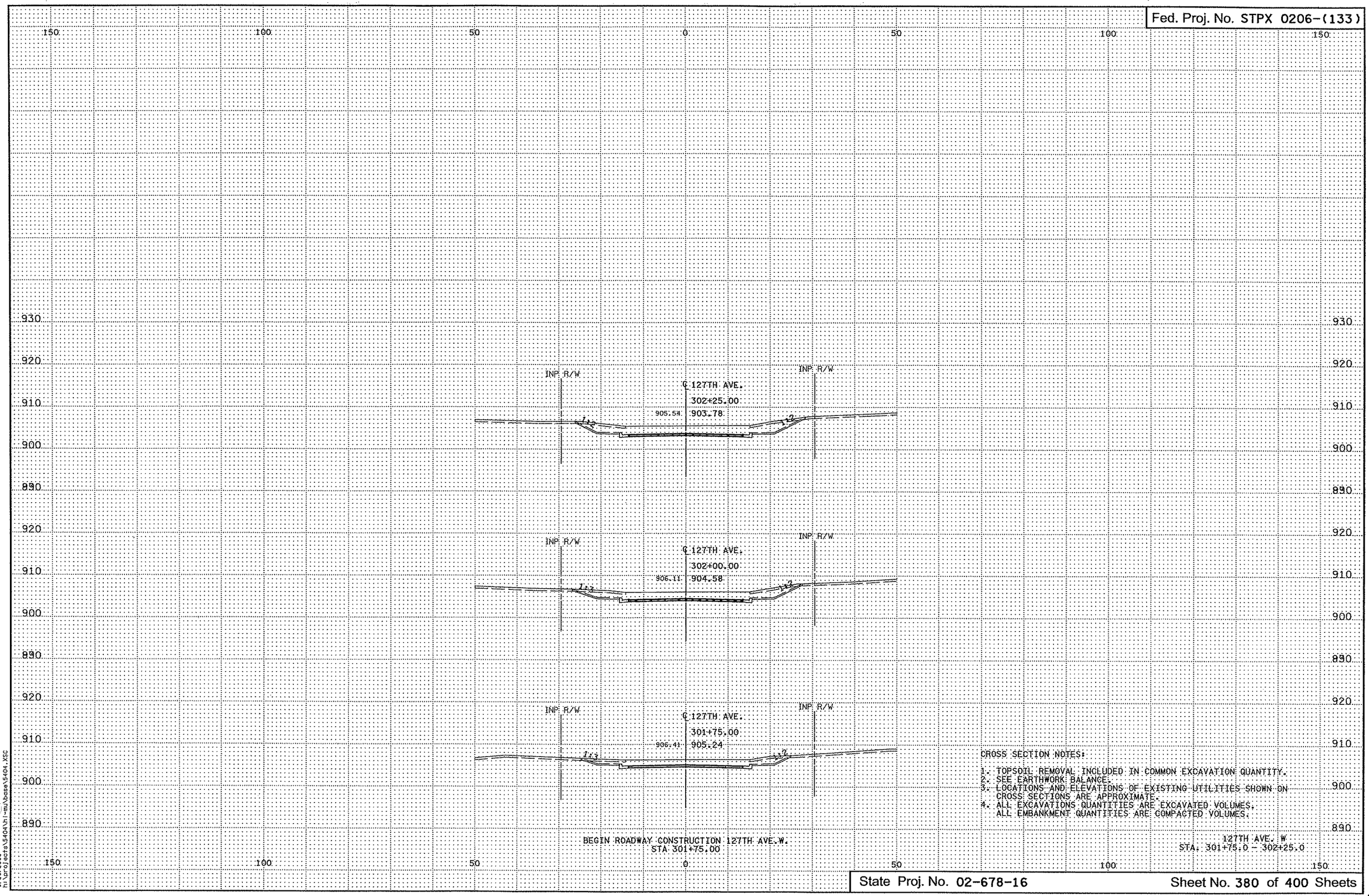


4:33:11 PM
9/26/2006
H:\projects\5404\hl-mu\base\5404.XSB

State Proj. No. 02-678-16

Sheet No. 379 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



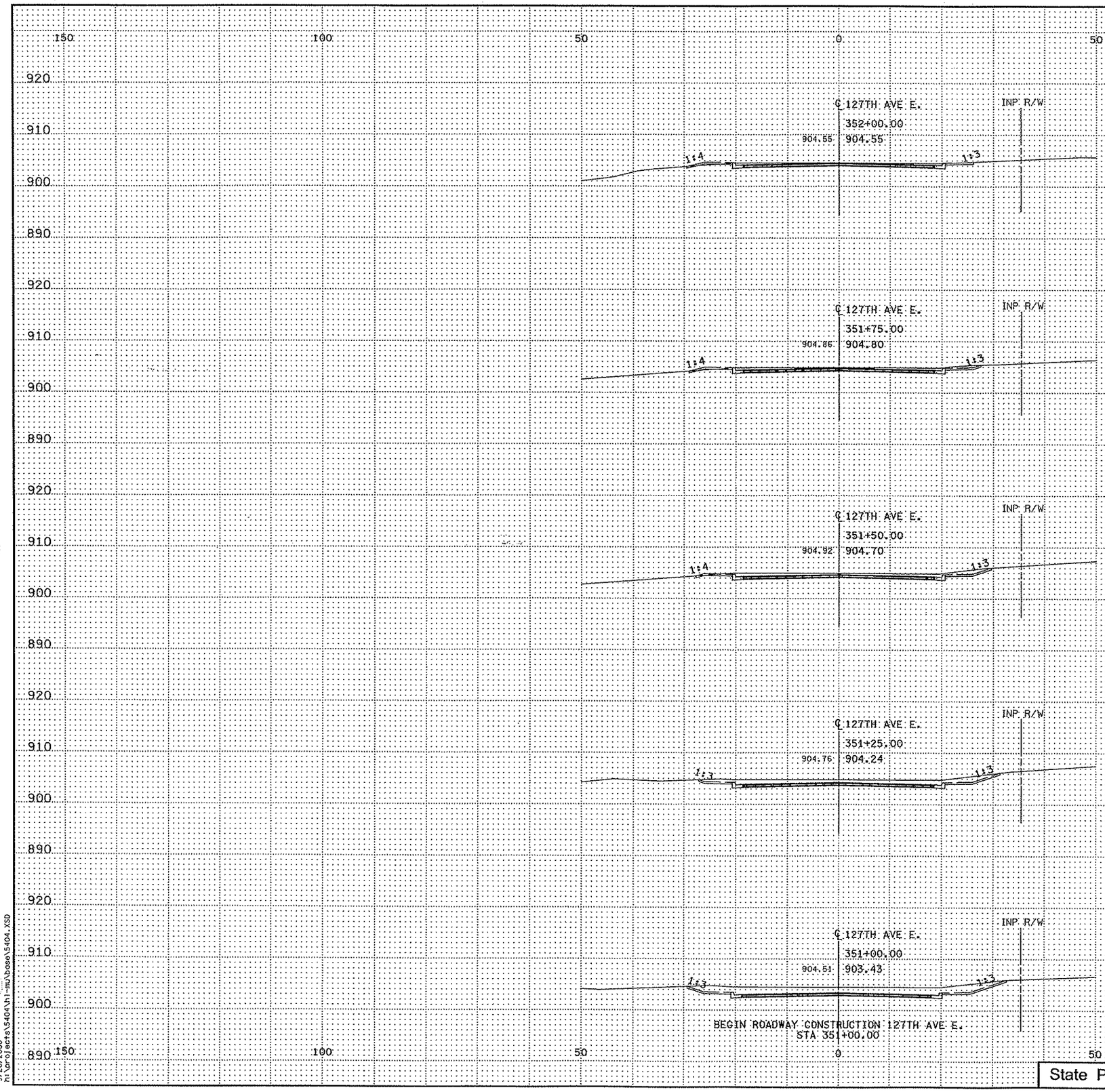
CROSS SECTION NOTES:

1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

BEGIN ROADWAY CONSTRUCTION 127TH AVE.W.
STA 301+75.00

127TH AVE. W
STA. 301+75.0 - 302+25.0

4:33:13 PM
9/26/2006
h:\projects\5404\h!-mn\base\5404.XSC

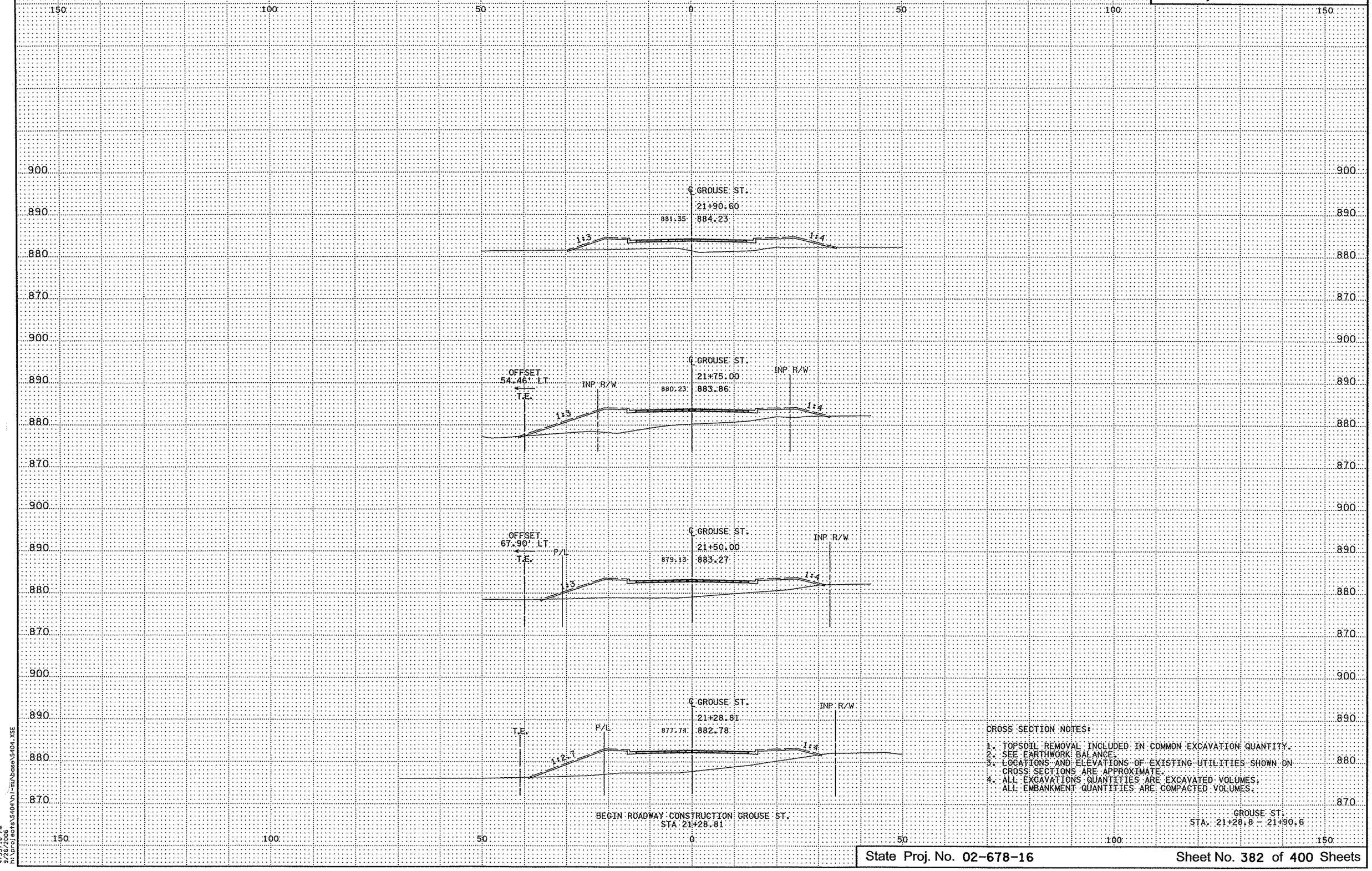


CROSS SECTION NOTES:

1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

127TH AVE E.
STA. 351+00.00 - 352+00.00

4:33:14 PM
9/26/2006
h:\pr-ojects\5404\h1-mu\base\5404.XSD

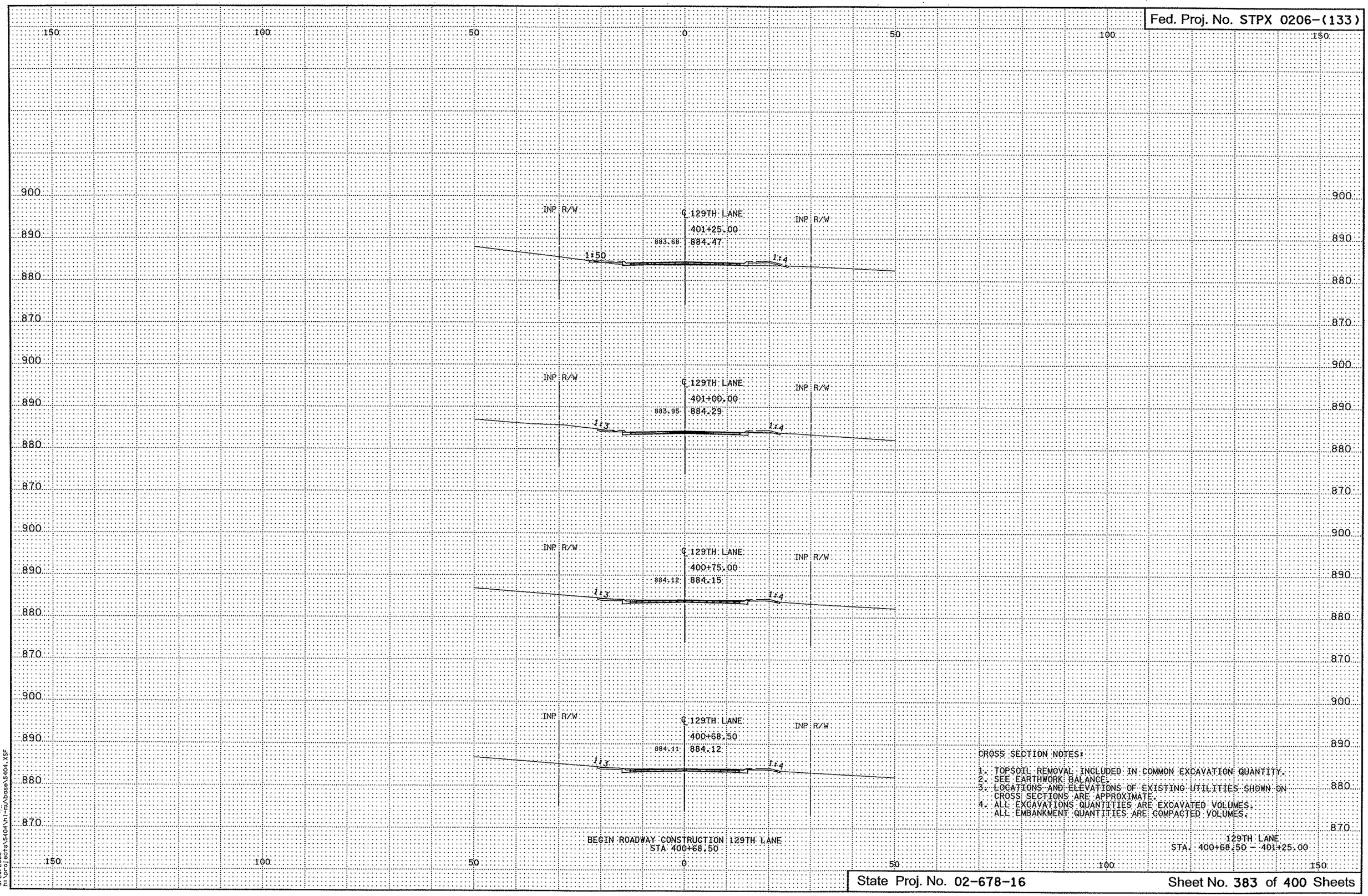


CROSS SECTION NOTES:

1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

GROUSE ST.
STA. 21+28.8 - 21+90.6

4:33:16 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSE



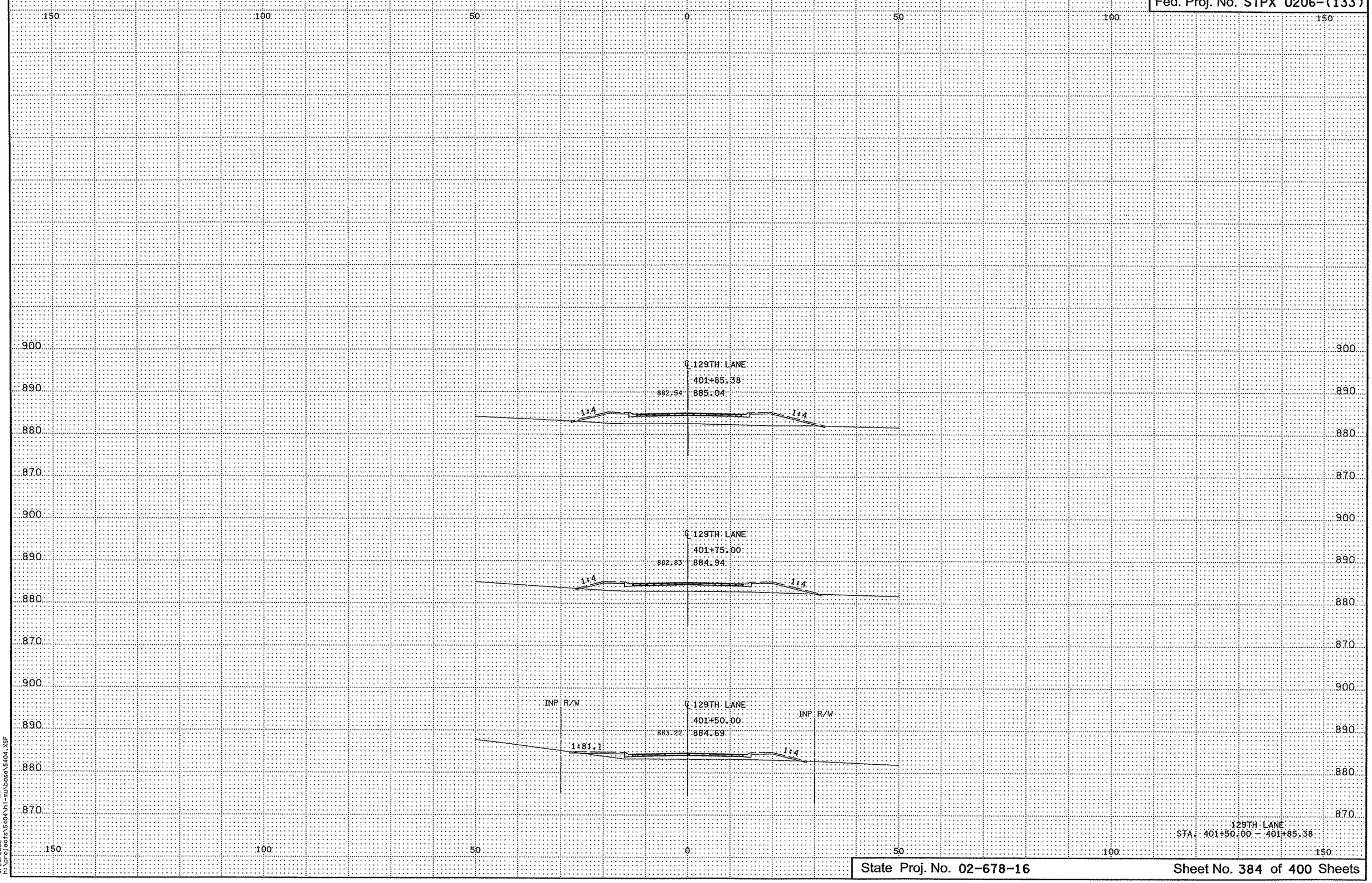
CROSS SECTION NOTES:

1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

129TH LANE
STA. 400+68.50 - 401+25.00

4:33:18 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSF

Fed. Proj. No. STPX 0206-(133)

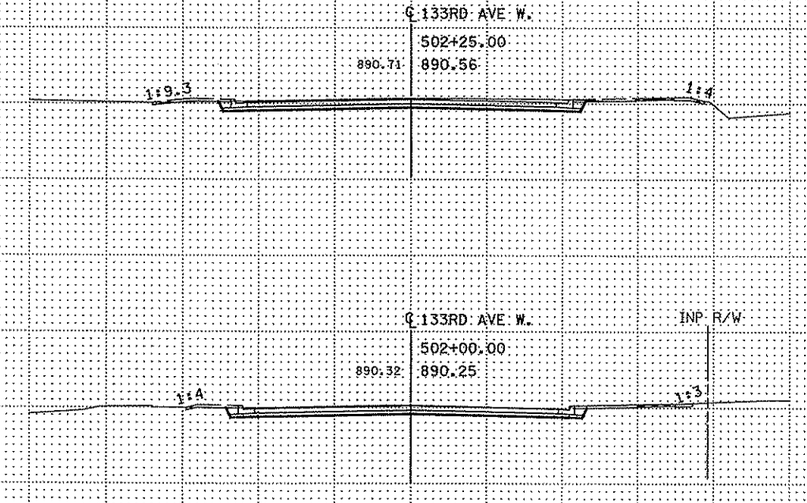


4:33:18 PM
9/26/2006
h:\projects\S404\h1-mu\base\S404.XSF

State Proj. No. 02-678-16

Sheet No. 384 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



CROSS SECTION NOTES:

1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

BEGIN ROADWAY CONSTRUCTION 133RD AVE W.
STA 502+00.00

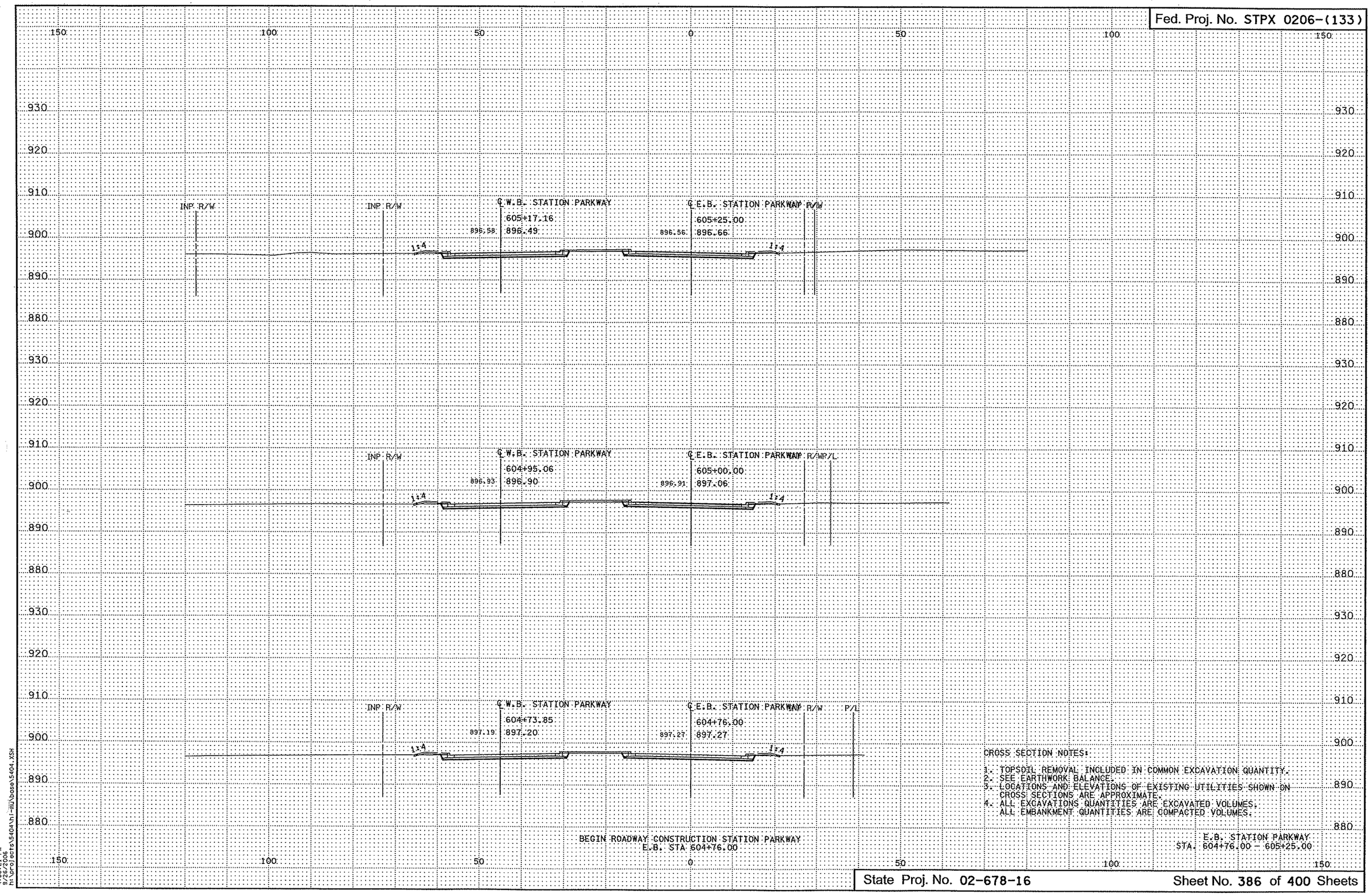
133 AVE. W
STA. 502+00.00 - 502+25.00

4:33:20 PM
9/26/2006
h:\projects\5404\h1-mubase\5404.XSG

State Proj. No. 02-678-16

Sheet No. 385 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



CROSS SECTION NOTES:

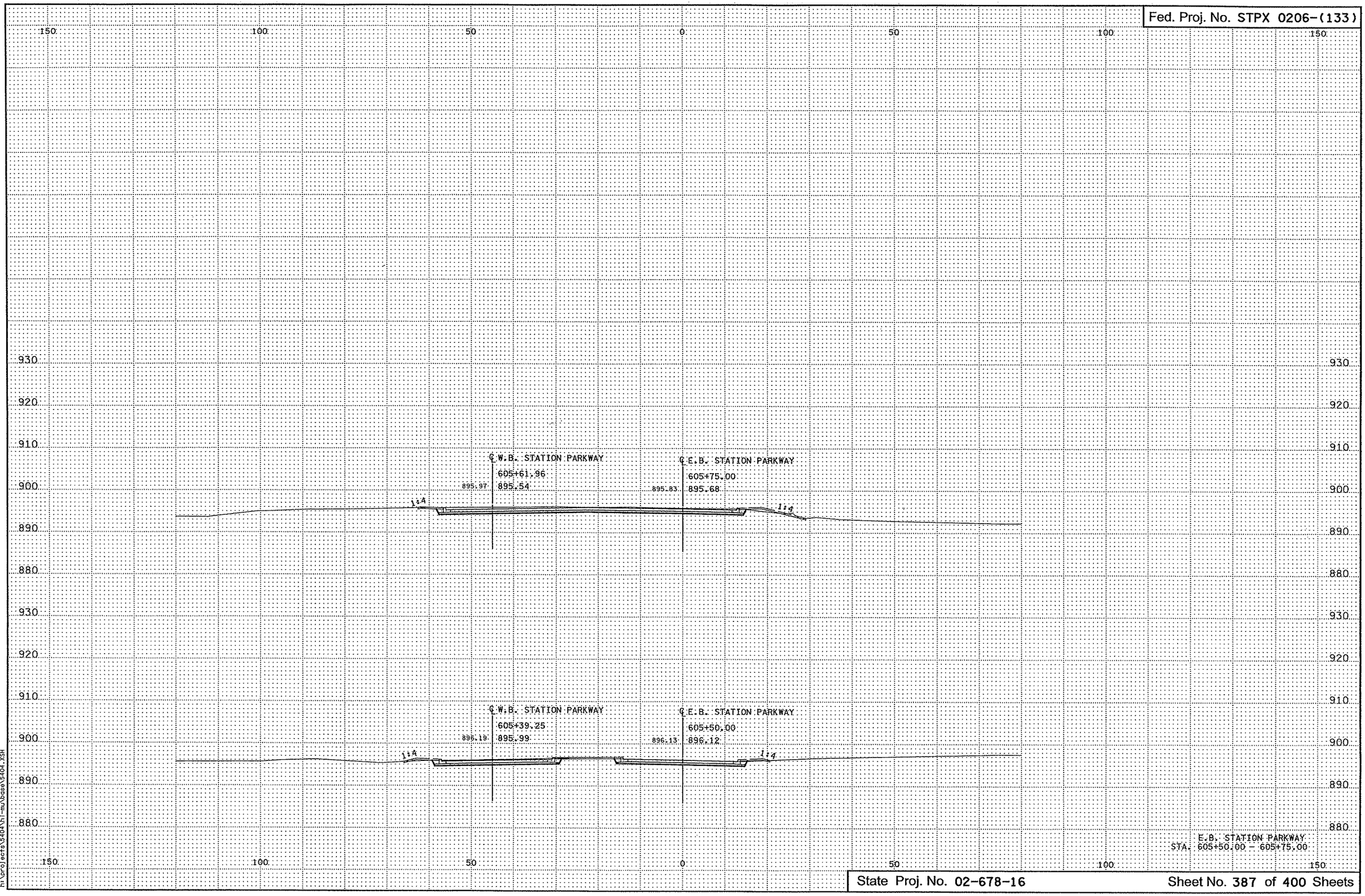
1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

BEGIN ROADWAY CONSTRUCTION STATION PARKWAY
E.B. STA 604+76.00

E.B. STATION PARKWAY
STA. 604+76.00 - 605+25.00

4:33:21 PM
9/26/2006
N:\projects\5404\hl-mu\base\5404.XSH

Fed. Proj. No. STPX 0206-(133)



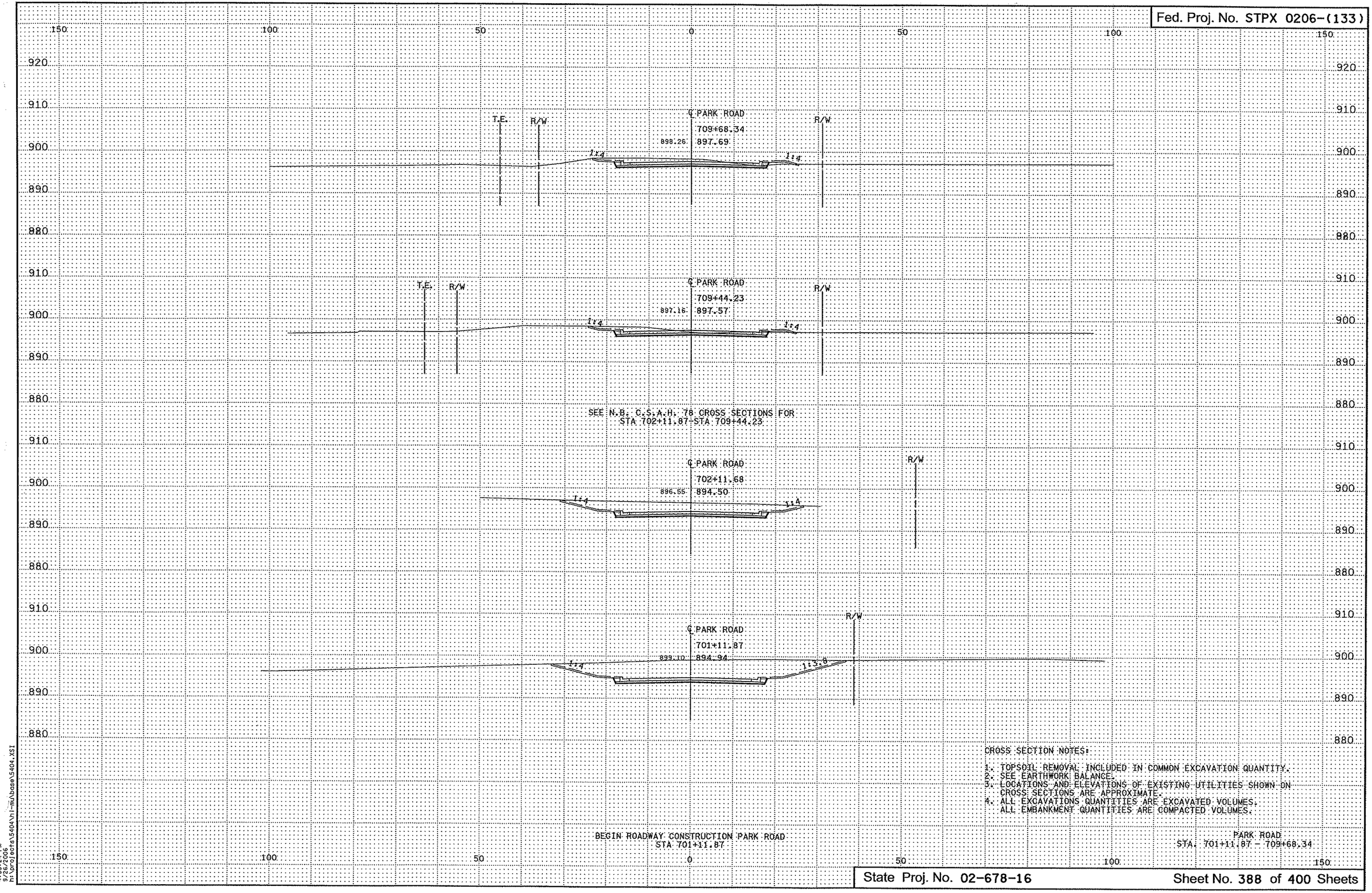
E.B. STATION PARKWAY
STA. 605+50.00 – 605+75.00

4:33:22 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSH

State Proj. No. 02-678-16

Sheet No. 387 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



CROSS SECTION NOTES:

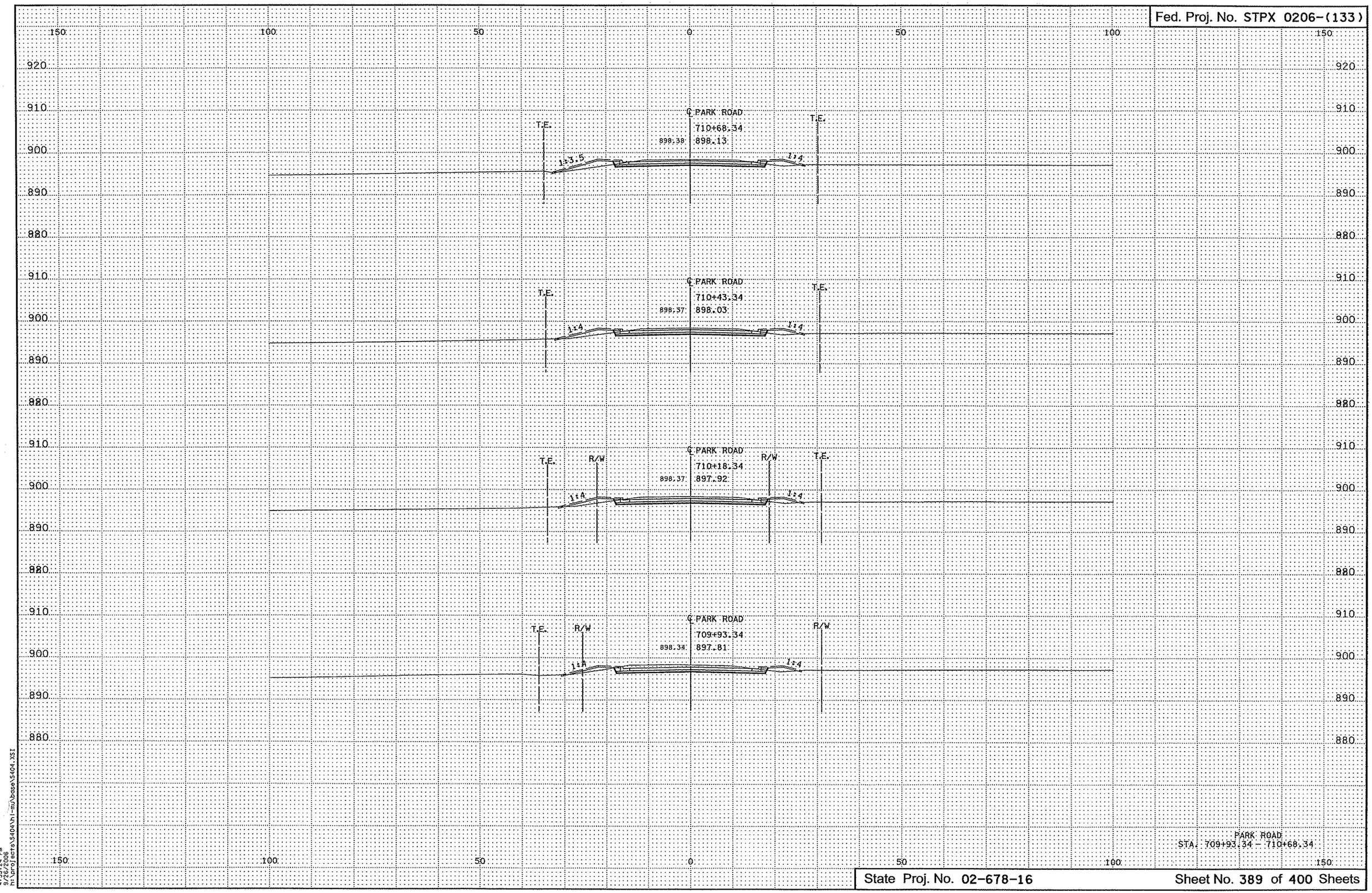
1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

4:33:24 PM
9/26/2006
H:\projects\5404\hl-mu\base\5404.XSI

State Proj. No. 02-678-16

Sheet No. 388 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



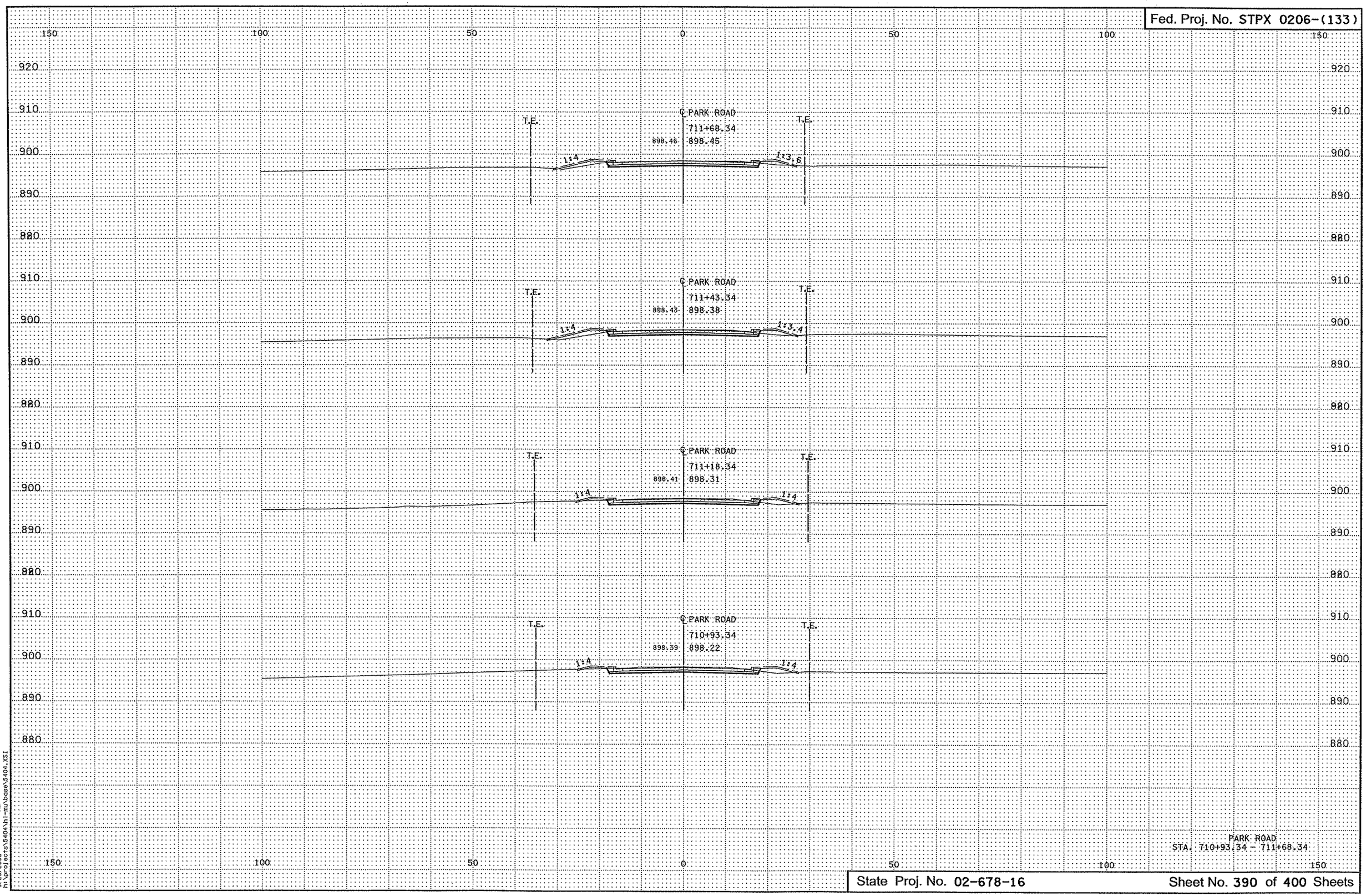
PARK ROAD
STA. 709+93.34 - 710+68.34

4:33:24 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSI

State Proj. No. 02-678-16

Sheet No. 389 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



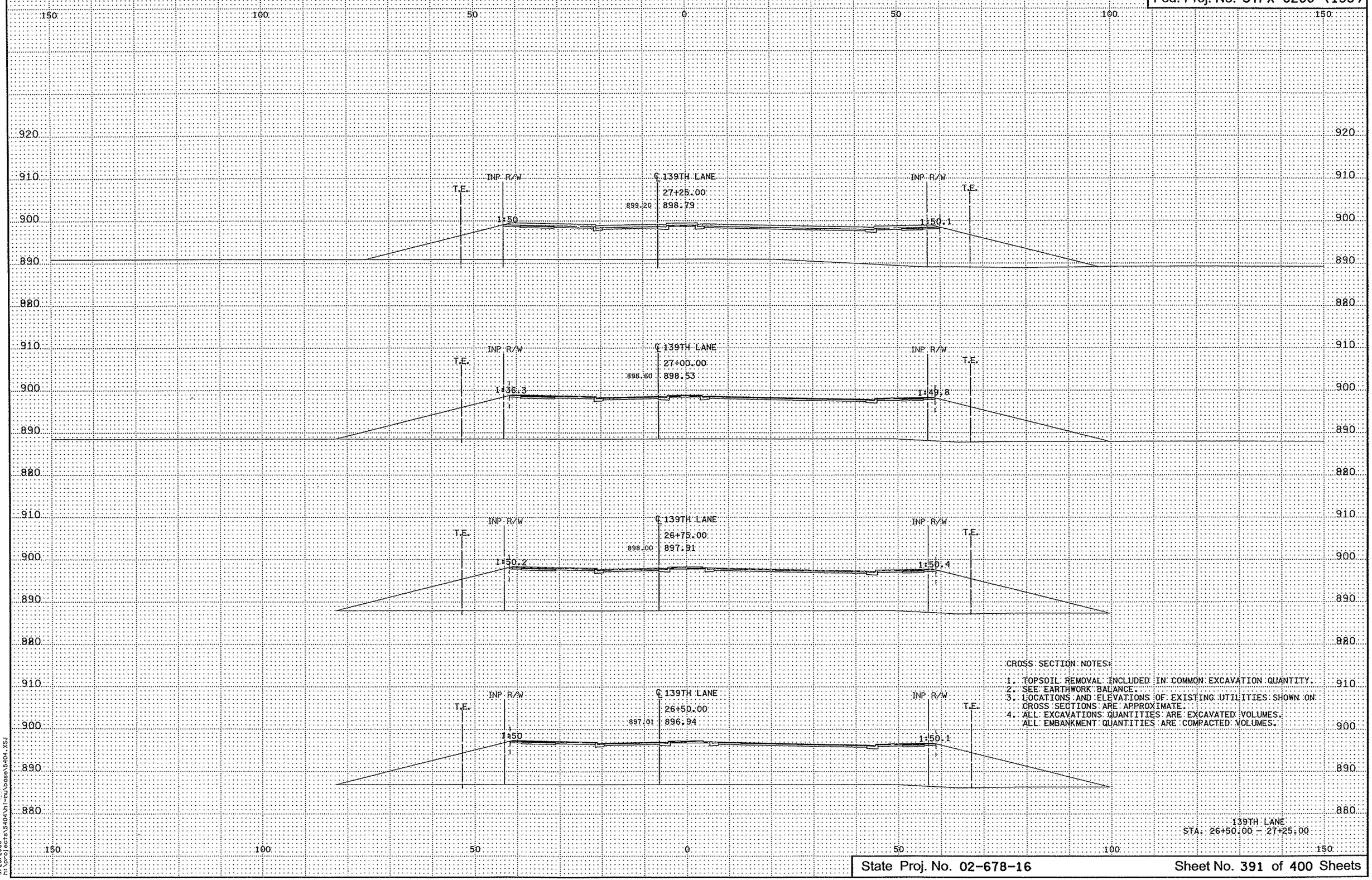
PARK ROAD
STA. 710+93.34 - 711+68.34

4:33:25 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSI

State Proj. No. 02-678-16

Sheet No. 390 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



CROSS SECTION NOTES:

1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

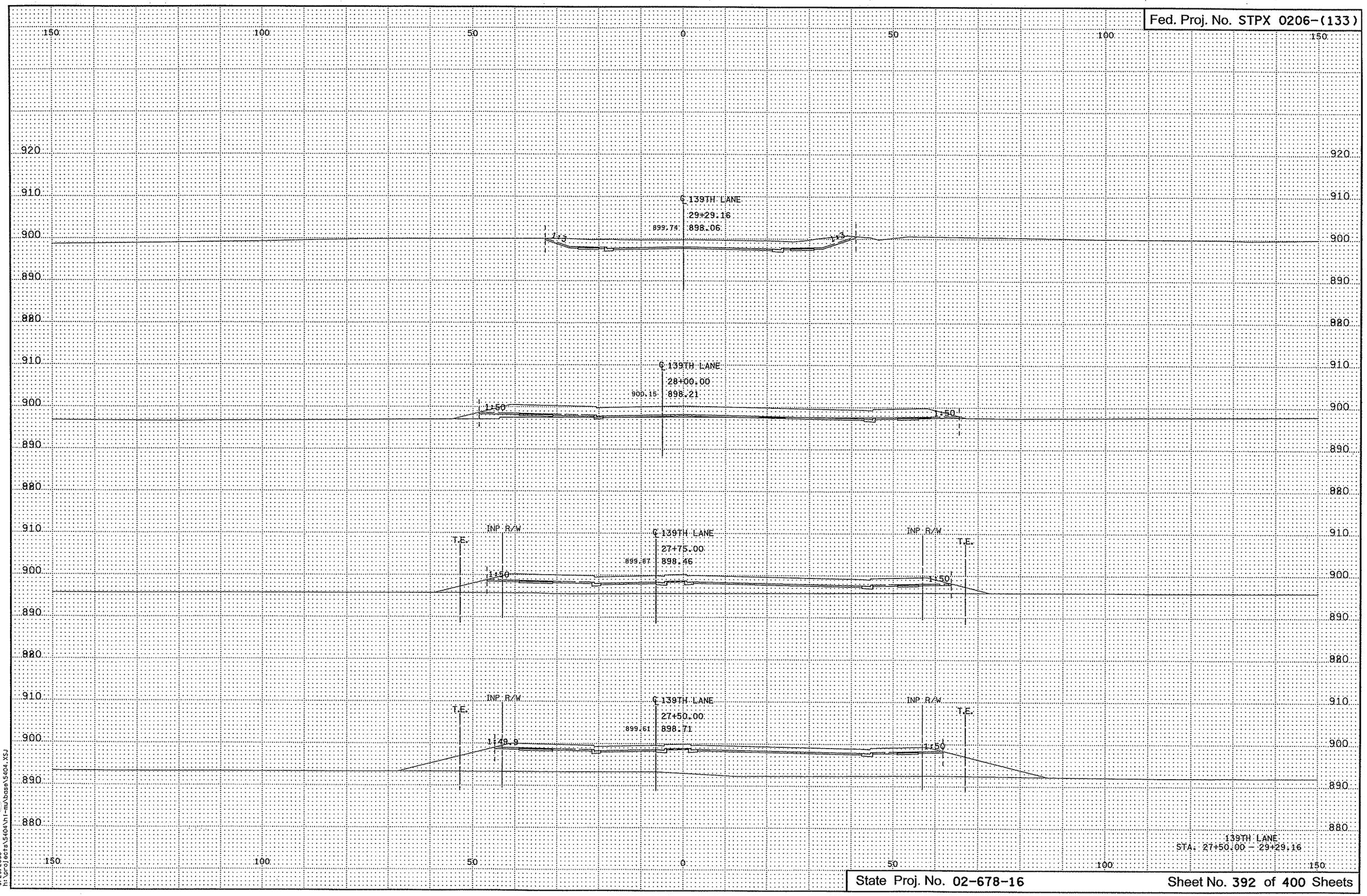
139TH LANE
STA. 26+50.00 - 27+25.00

4:33:27 PM
9/26/2005
h:\projects\5404\hl-mu\base\5404.XSJ

State Proj. No. 02-678-16

Sheet No. 391 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

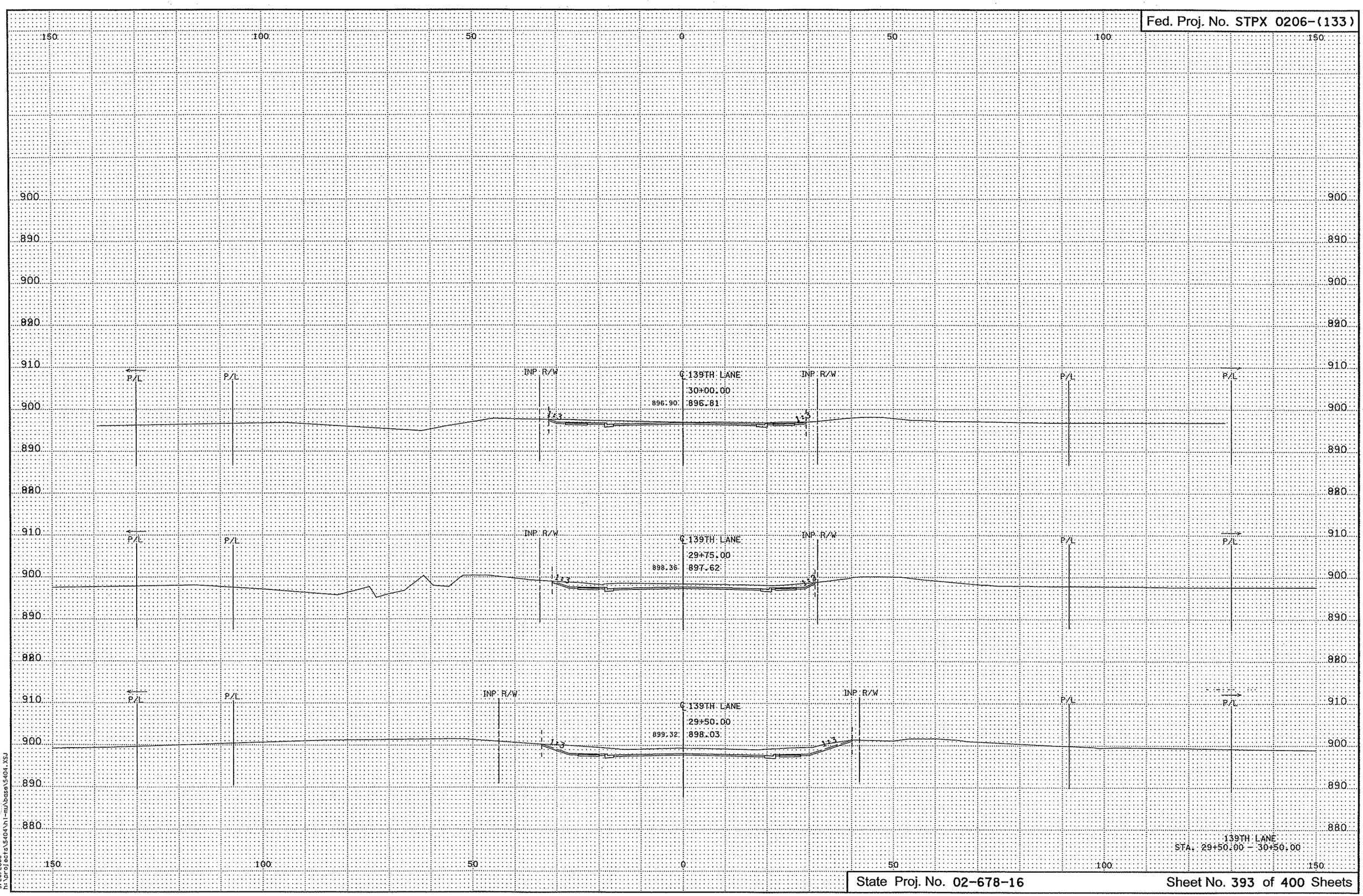


4:33:27 PM
9/26/2006
h:\projects\5404\h1-mubase\5404.XSJ

State Proj. No. 02-678-16

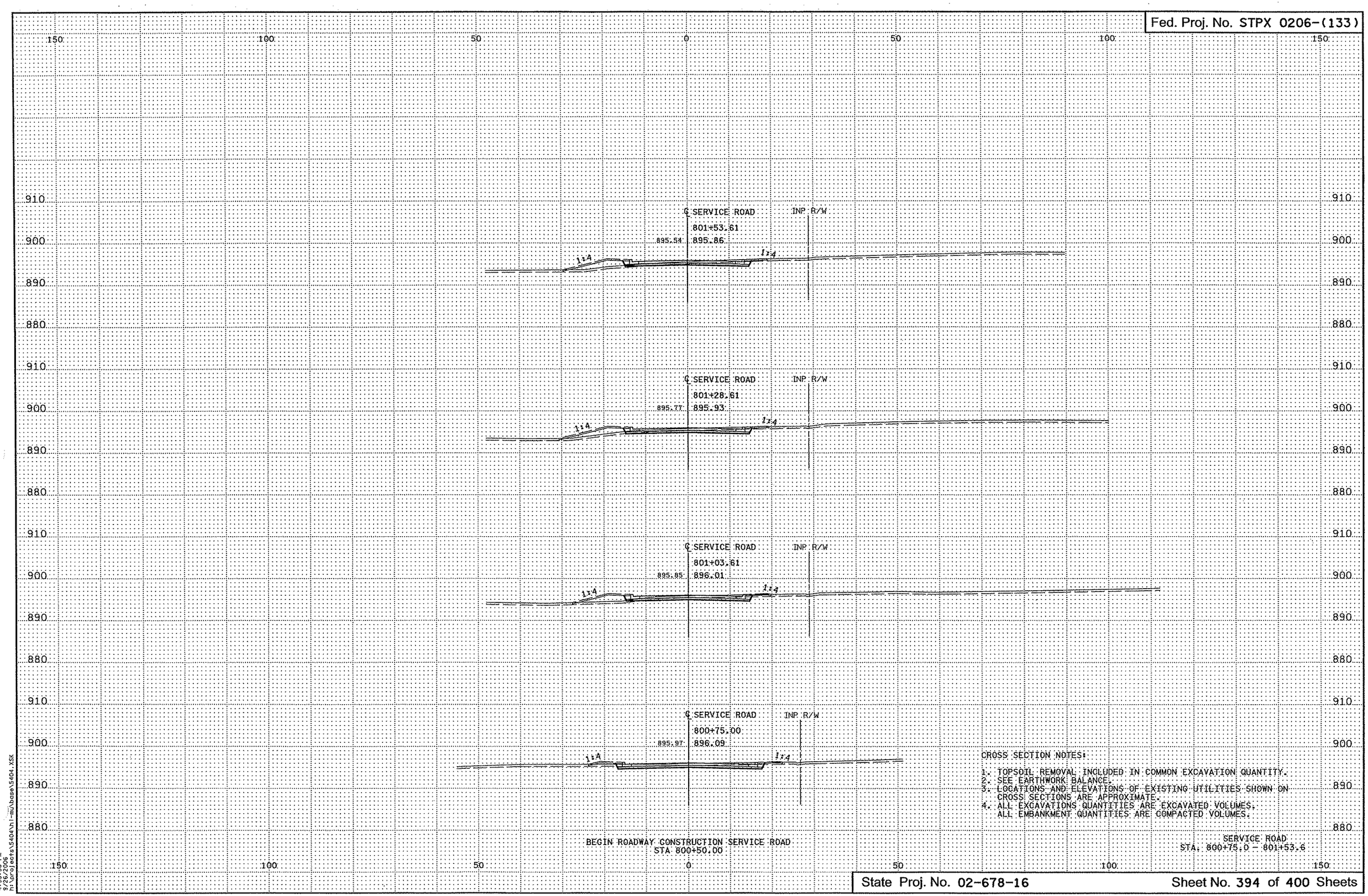
Sheet No. 392 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



139TH LANE
STA. 29+50.00 - 30+50.00

4:33:28 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSJ



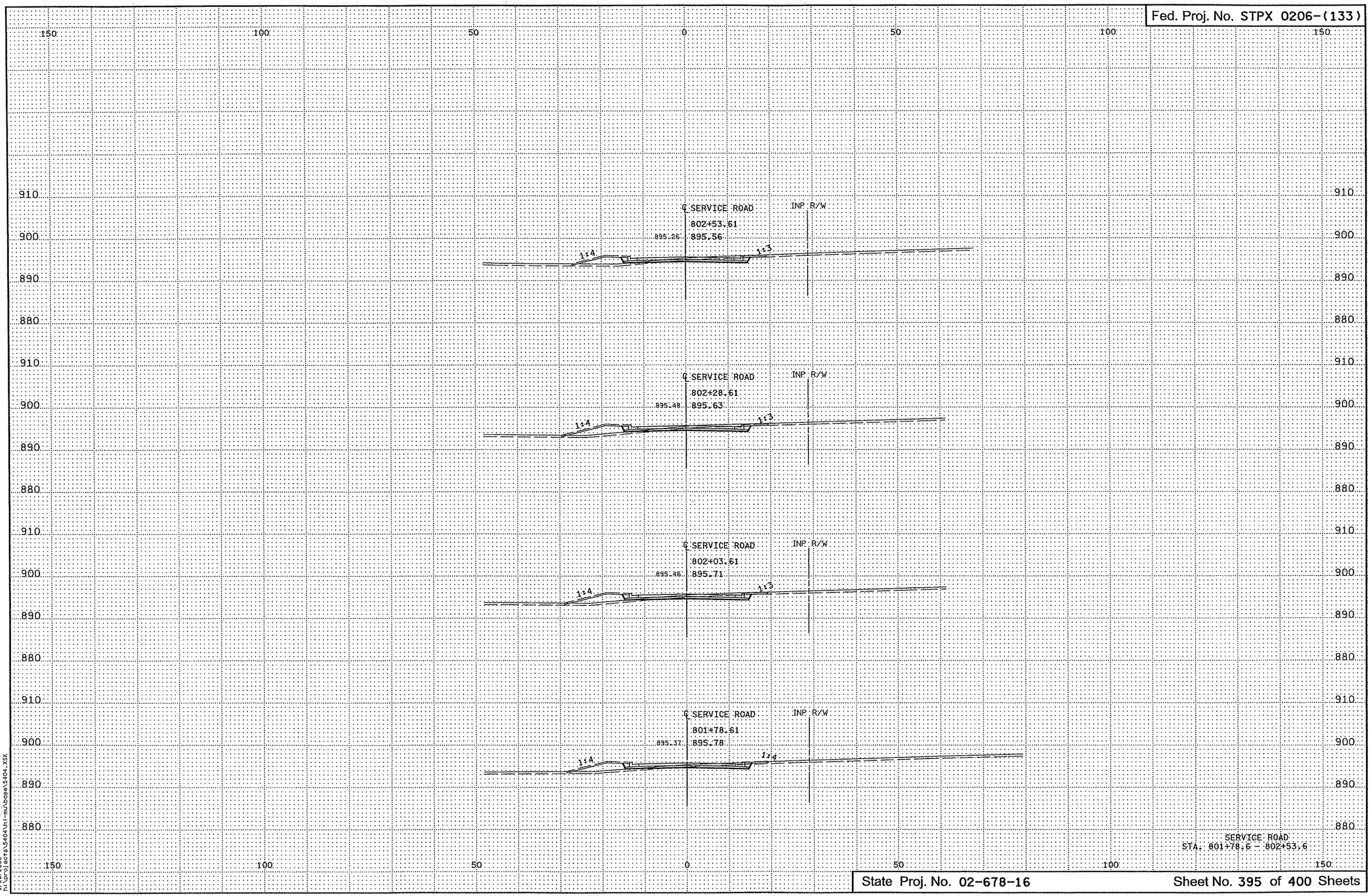
CROSS SECTION NOTES:

1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

SERVICE ROAD
STA. 800+75.0 - 801+53.6

4:33:30 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSK

Fed. Proj. No. STPX 0206-(133)



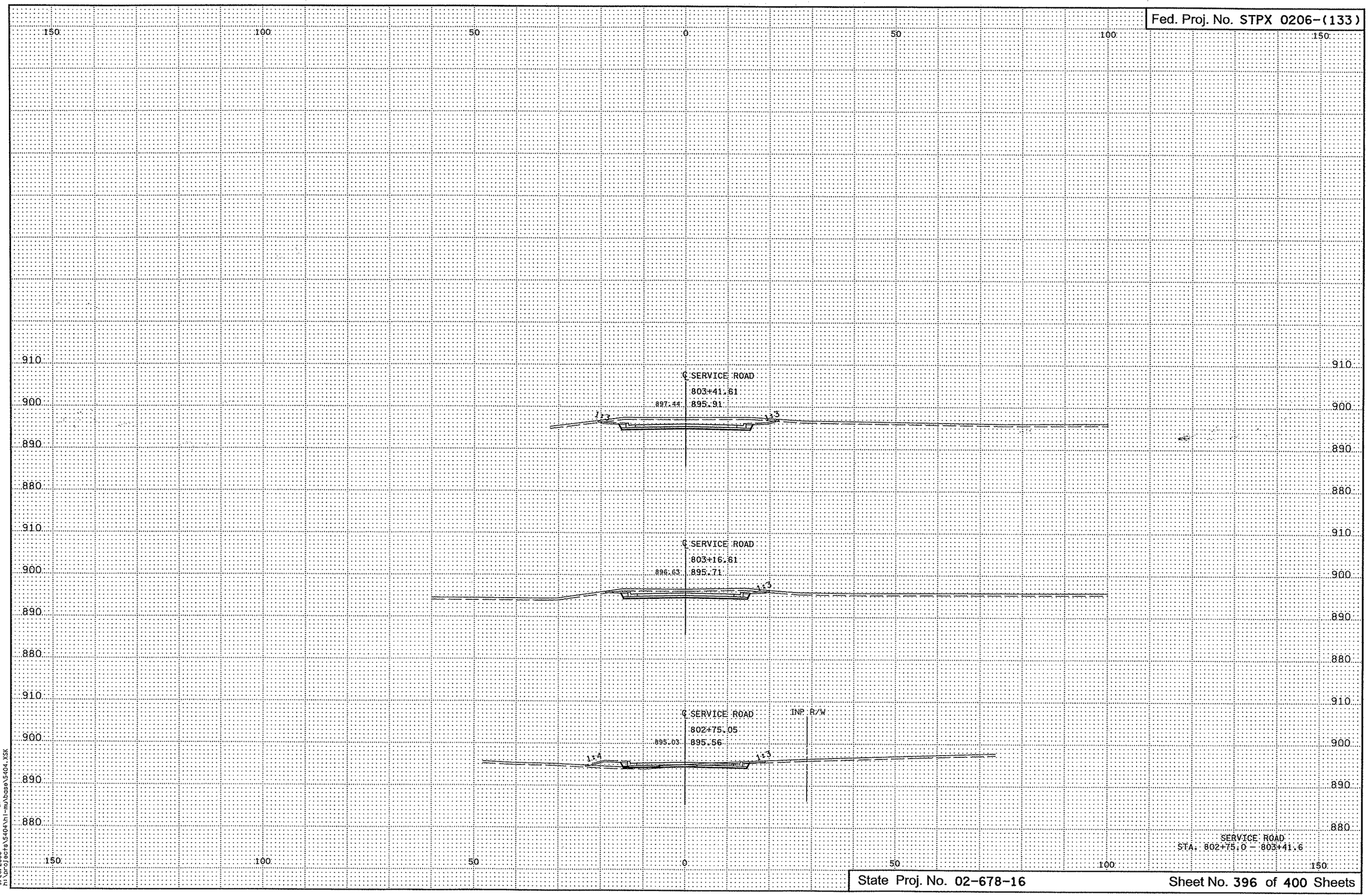
SERVICE ROAD
STA. 801+78.6 - 802+53.6

4:33:30 PM
9/26/2006
h:\projects\5404\h1-mu\base\5404.XSK

State Proj. No. 02-678-16

Sheet No. 395 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

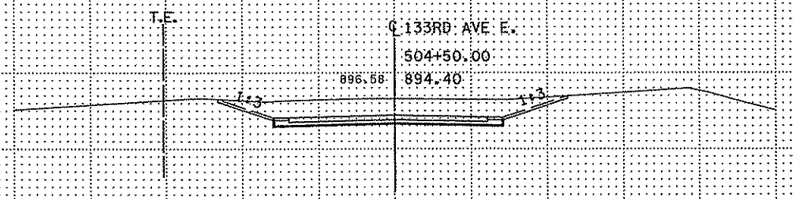


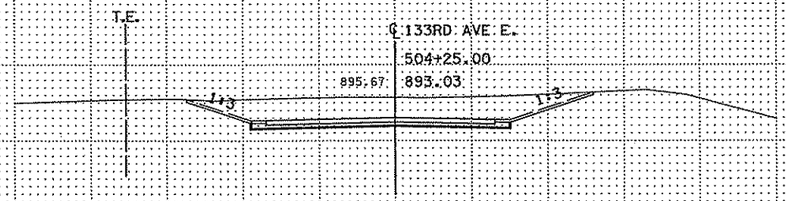
SERVICE ROAD
STA. 802+75.0 – 803+41.6

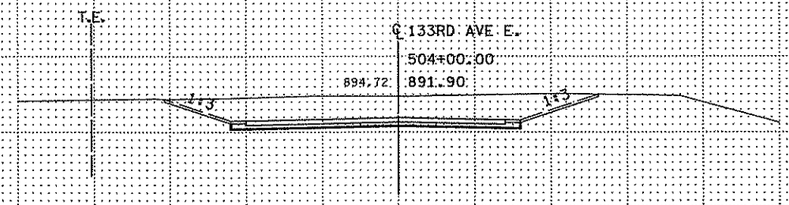
4:33:31 PM
9/26/2006
H:\projects\5404\h1-mu\base\5404.XSK

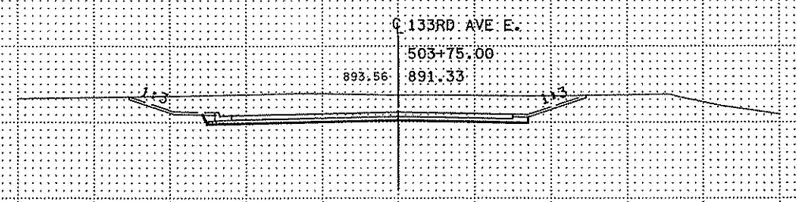
State Proj. No. 02-678-16

Sheet No. 396 of 400 Sheets









CROSS SECTION NOTES:

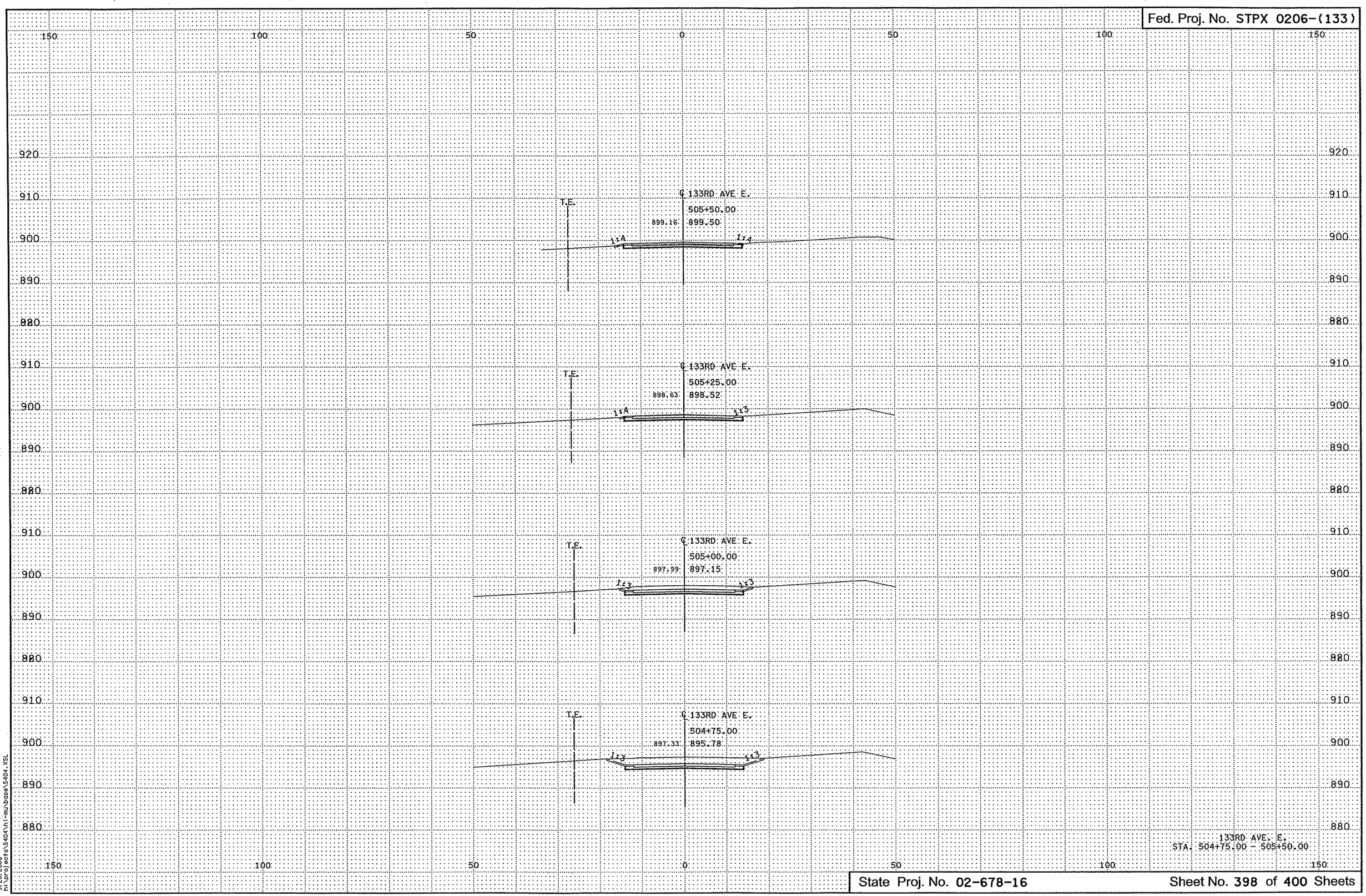
1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

BEGIN ROADWAY CONSTRUCTION 133RD AVE E.
STA 503+75.00

133RD AVE. E.
STA. 503+75.00 - 504+50.00

4:33:33 PM
9/26/2006
h:\projects\5404\hl-mo\base\5404.XSL

Fed. Proj. No. STPX 0206-(133)

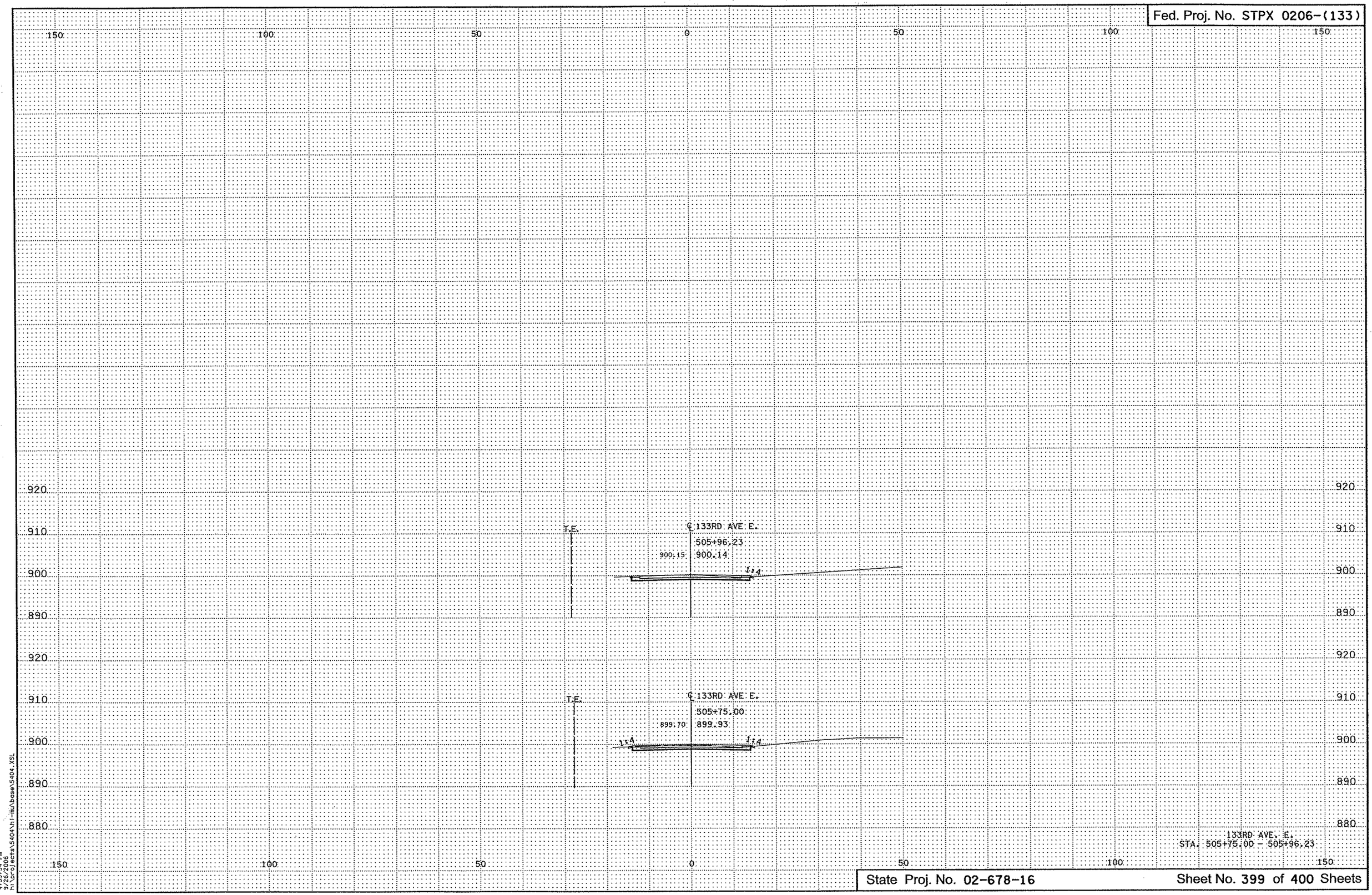


4:33:33 PM
9/26/2006
h:\projects\5404\hl-mu\base\5404.XSL

State Proj. No. 02-678-16

Sheet No. 398 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)

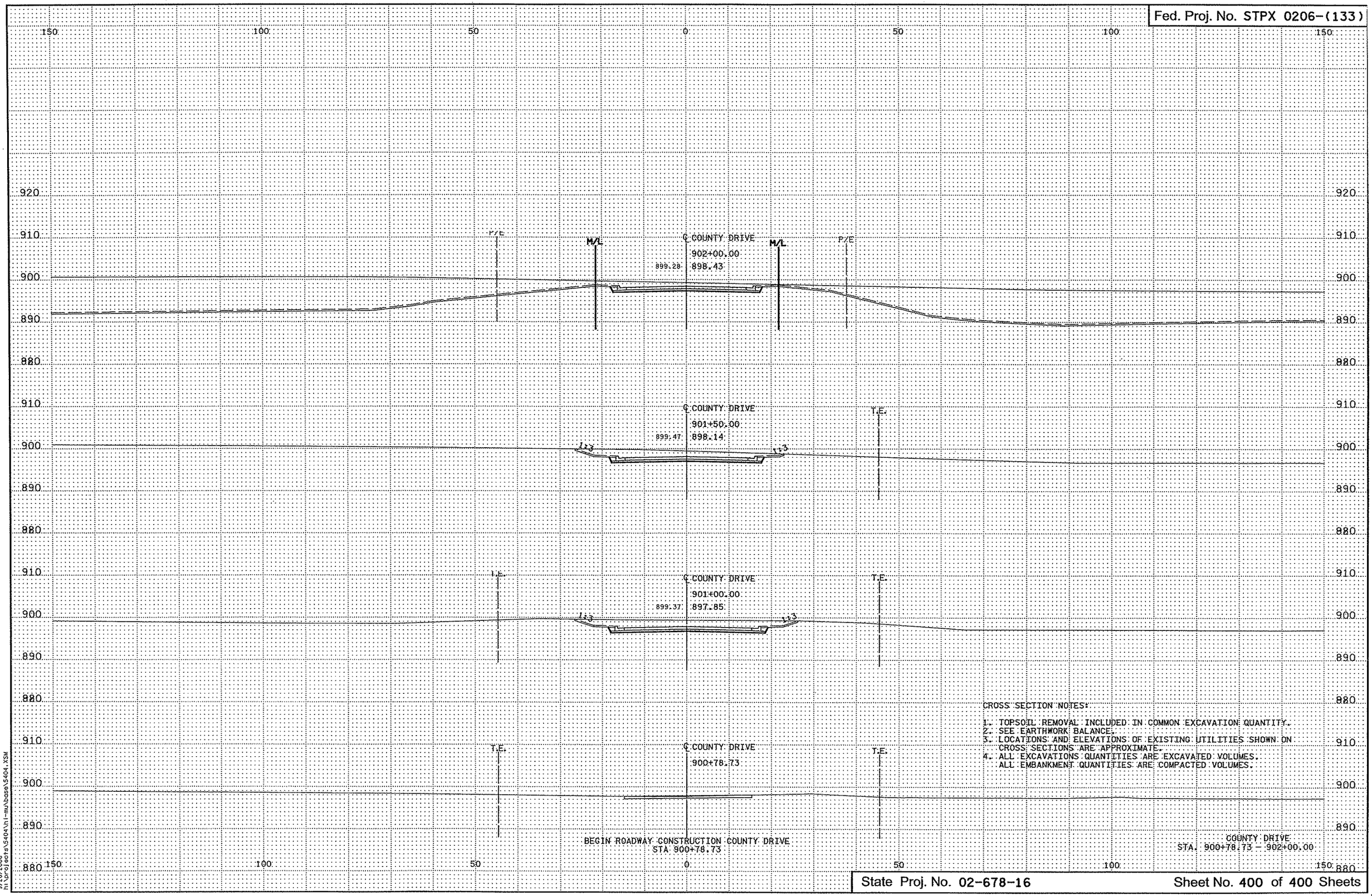


4:33:34 PM
9/23/2005
h:\projects\5404\h1-mu\base\5404.XSL

State Proj. No. 02-678-16

Sheet No. 399 of 400 Sheets

Fed. Proj. No. STPX 0206-(133)



CROSS SECTION NOTES:

1. TOPSOIL REMOVAL INCLUDED IN COMMON EXCAVATION QUANTITY.
2. SEE EARTHWORK BALANCE.
3. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES SHOWN ON CROSS SECTIONS ARE APPROXIMATE.
4. ALL EXCAVATIONS QUANTITIES ARE EXCAVATED VOLUMES. ALL EMBANKMENT QUANTITIES ARE COMPACTED VOLUMES.

4:33:35 PM
9/26/2006
N:\proj\sets\5404\hl-mu\base\5404.XSM

State Proj. No. 02-678-16

Sheet No. 400 of 400 Sheets