

# ANOKA COUNTY HIGHWAY DEPARTMENT

## CONSTRUCTION PLAN FOR GRADING, STORM SEWER, TRAIL AND BITUMINOUS PAVING COUNTY ROAD 116

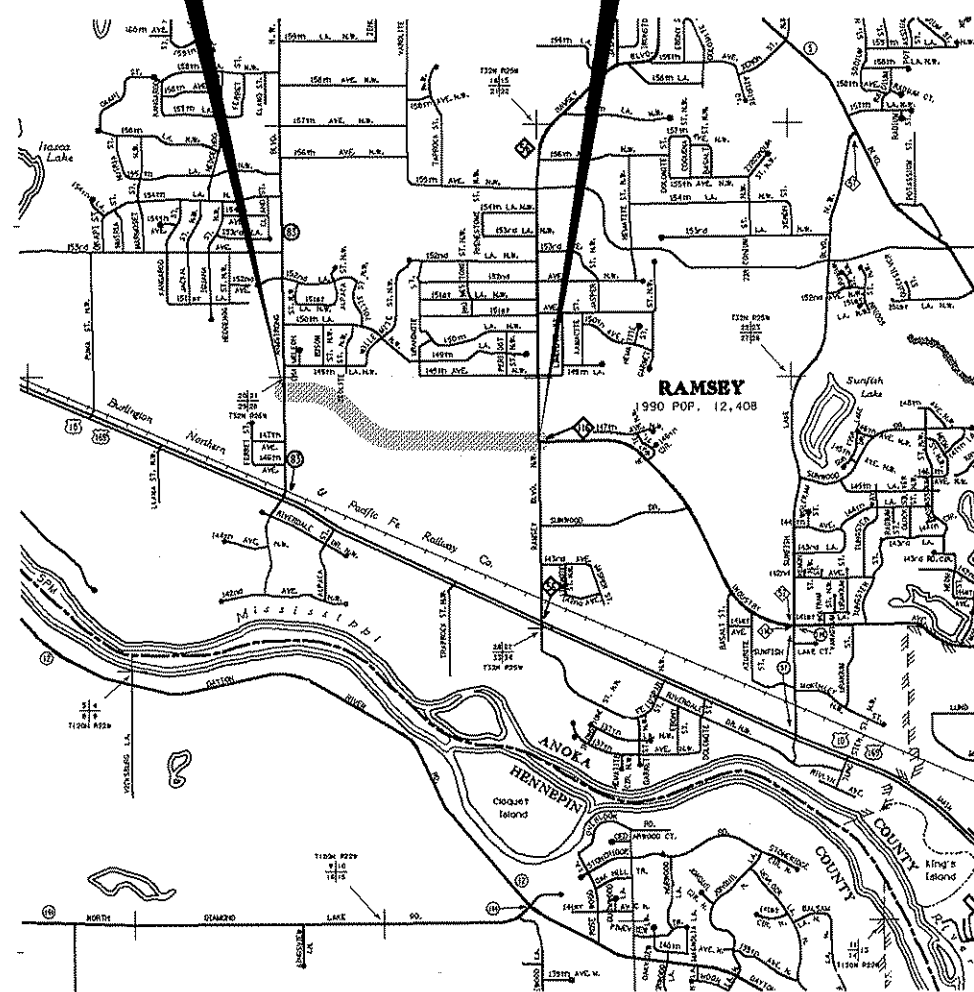
FROM C.S.A.H. 83 (ARMSTRONG BLVD.) TO C.R. 56 (RAMSEY BLVD. N.W.)

GROSS LENGTH ..... 1712 METERS  
BRIDGES-LENGTH ..... 0 METERS  
EXCEPTIONS-LENGTH ..... 0 METERS  
NET LENGTH ..... 1712 METERS



BEGIN 95-05-116  
STA. 1+000

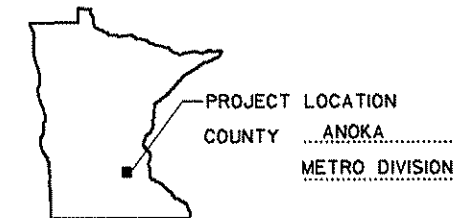
END 95-05-116  
STA. 2+712



SCALES

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

ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE



PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

- ### PLAN SYMBOLS
- STATE LINE.....
  - COUNTY LINE.....
  - TOWNSHIP OR RANGE LINE.....
  - SECTION LINE.....
  - QUARTER LINE.....
  - SIXTEENTH LINE.....
  - RIGHT-OF-WAY LINE.....
  - PRESENT RIGHT-OF-WAY LINE.....
  - CONTROL OF ACCESS LINE.....
  - PROPERTY LINE (Except Land Lines).....
  - VACATED PLATTED PROPERTY.....
  - CORPORATE OR CITY LIMITS.....
- 
- TRUNK HIGHWAY CENTER LINE.....
  - RETAINING WALL.....
  - RAILROAD.....
  - RAILROAD RIGHT-OF-WAY LINE.....
  - RIVER OR CREEK.....
  - DRY RUN.....
  - DRAINAGE DITCH.....
  - DRAIN TILE.....
  - CULVERT.....
  - DROP INLET.....
  - GUARD RAIL.....
  - BARBED WIRE FENCE.....
  - WOVEN WIRE FENCE.....
  - CHAIN LINK FENCE.....
  - RAILROAD SNOW FENCE.....
  - STONE WALL OR FENCE.....
  - HEDGE.....
  - RAILROAD CROSSING SIGN.....
  - RAILROAD CROSSING BELL.....
  - ELECTRIC WARNING SIGN.....
  - CROSSING GATE.....
  - MEANDER CORNER.....
- 
- SPRINGS.....
  - MARSH.....
  - TIMBER.....
  - ORCHARD.....
  - BRUSH.....
  - NURSERY.....
  - CATCH BASIN.....
  - FIRE HYDRANT.....
  - CATTLE GUARD.....
  - OVERPASS (Highway Over).....
  - UNDERPASS (Highway Under).....
  - BRIDGE.....
- 
- BUILDING (One Story Frame).....
  - F-FRAME C-CONCRETE.....
  - S-STONE T-TILE.....
  - B-BRICK ST-STUCCO.....
  - IRON PIPE OR ROD.....
  - MONUMENT (STONE, CONCRETE, OR METAL).....
  - WOODEN HUB.....
  - GRAVEL PIT.....
  - SAND PIT.....
  - BORROW PIT.....
  - ROCK QUARRY.....
- 
- ### UTILITY SYMBOLS
- POWER POLE LINE.....
  - TELEPHONE OR TELEGRAPH POLE LINE.....
  - JOINT TELEPHONE AND POWER ON POWER POLES ON TELEPHONE POLES.....
  - ANCHOR.....
  - STEEL TOWER.....
  - STREET LIGHT.....
  - PEDESTAL (TELEPHONE CABLE TERMINAL).....
  - GAS MAIN.....
  - WATER MAIN.....
  - CONDUIT.....
  - TELEPHONE CABLE IN CONDUIT.....
  - ELECTRIC CABLE IN CONDUIT.....
  - TELEPHONE MANHOLE.....
  - ELECTRIC MANHOLE.....
  - BURIED COMMUNICATION CABLE.....
  - BURIED TELEPHONE CABLE.....
  - BURIED ELECTRIC CABLE.....
  - AERIAL TELEPHONE CABLE.....
  - SEWER (SANITARY).....
  - SEWER (STORM).....
  - SEWER MANHOLE.....
  - HANDHOLE.....
  - CATCH BASIN.....

**GOVERNING SPECIFICATIONS**

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

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, DATED APRIL, 1995.

### INDEX

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4	STD. PLATES AND SOILS/CONSTRUCTION NOTES
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8-9	TYPICAL SECTIONS
10-12	STANDARD PLAN SHEETS
13	TRAFFIC CONTROL PLAN
14	ALIGNMENT PLAN & TABULATION
15-20	CONSTRUCTION PLAN & PROFILE
21	DRAINAGE PROFILES & TABULATION
22-25	EROSION CONTROL & TURF ESTABLISHMENT PLANS
26-29	SIGNING & STRIPING PLANS
30	WETLAND MITIGATION GRADING PLAN
31-59	CROSS SECTIONS

THIS PLAN CONTAINS 59 SHEETS.

C.R. 116

DESIGN DESIGNATION	B MINOR ARTERIAL
FUNCTIONAL CLASSIFICATION	2
NO. OF TRAFFIC LANES	0
NO. OF PARKING LANES	10 TON
STRUCTURAL DESIGN	60
R-VALUE	90 km/h
DESIGN SPEED	
STOPPING SIGHT DISTANCE BASED ON:	
HEIGHT OF EYE	1070 mm
HEIGHT OF OBJECT	150 mm
ADT (CURRENT YEAR) (1998)	2800
ADT (FUTURE YEAR) (2018)	6000
ΣNIB	740,000

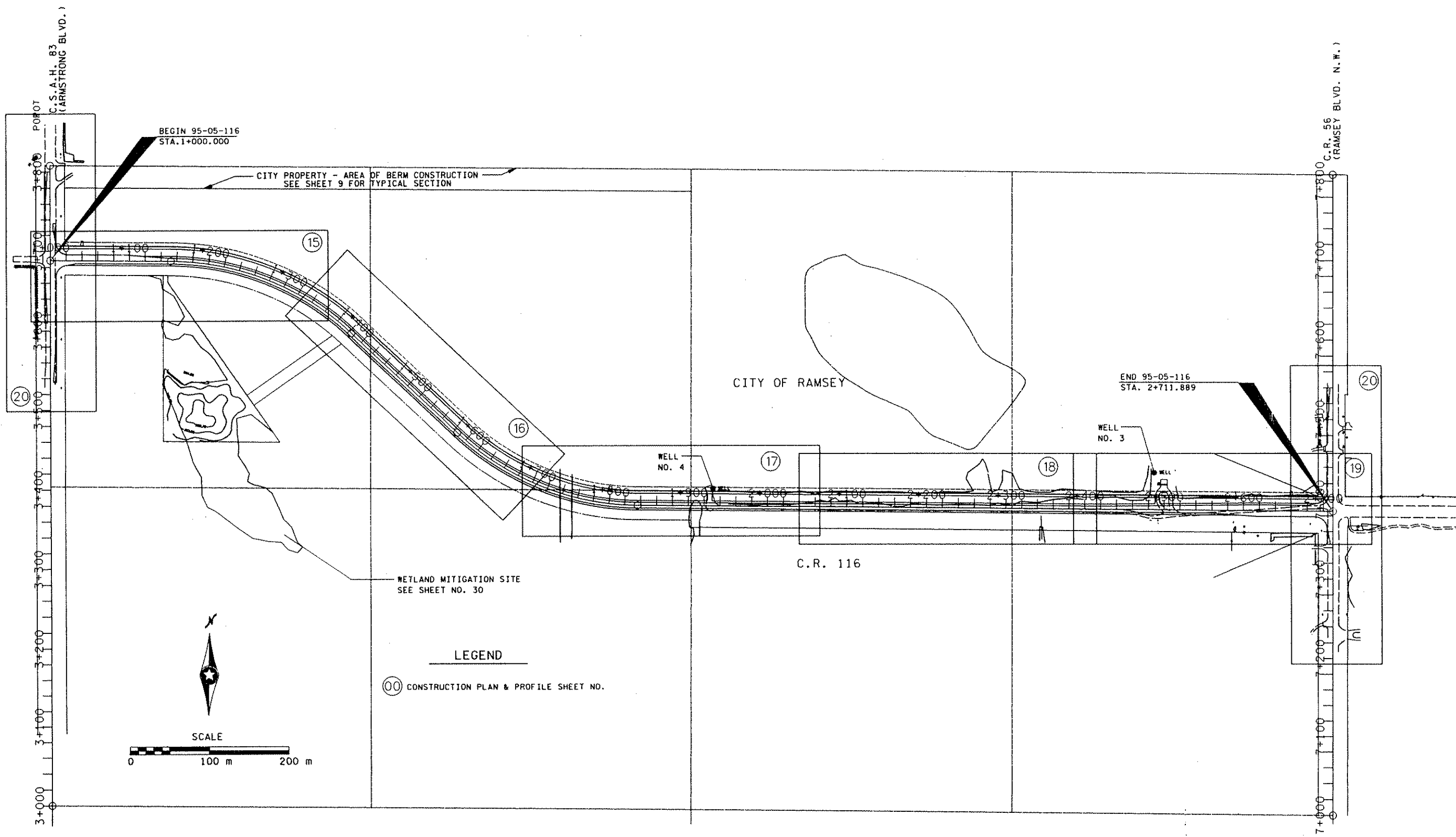
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ENGR. *Matthew D. Hansen*  
Reg. No. 21364 Date 6-25-98



Approved: *[Signature]* DATE 6-25-98  
CITY OF RAMSEY

Approved: *[Signature]* DATE 7/6/98  
ANOKA COUNTY HIGHWAY ENGINEER



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 PLOT DATE/TIME: 06/29/98 13:09:20

NO	DATE	BY	CKD	APPR	REVISION

NAME: 2953.GLA DATE: May 20, 1998 TIME: 15:41:37



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

*M. Hansen*  
 Date 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
95-05-116  
 CITY PROJECT NO.  
97-25

DRAWN BY DATE  
W. ANDERSON 3-98  
 DESIGNED BY  
B. URBANEK 3-98  
 CHECKED BY  
M. HANSEN 5-98  
 COMM. NO.  
0982953



ANOKA COUNTY  
 GENERAL LAYOUT  
 C.R. 116

SHEET  
 2  
 OF  
 59

**STATEMENT OF ESTIMATED QUANTITIES**

TAB	ITEM NO.	ITEM DESCRIPTION	UNIT	ANOKA COUNTY	CITY OF RAMSEY	TOTAL QUANTITY
				95-05-116	97-25	
	2013.601	CELLULAR MOBILE TELEPHONE	LS	1.0		1.0
	2015.601	COMPUTER EQUIPMENT	LS	1.0		1.0
	2021.501	MOBILIZATION	LS	1.0		1.0
	2031.501	FIELD OFFICE TYPE D	EA	1.0		1.0
A	2101.501	CLEARING	ha	1.03		1.03
A	2101.502	CLEARING	TREE	4.0		4.0
A	2101.506	GRUBBING	ha	1.03		1.03
A	2101.507	GRUBBING	TREE	4.0		4.0
J	2104.501	REMOVE WOVEN WIRE FENCE	m	19.0		19.0
B	2104.503	REMOVE BITUMINOUS PAVEMENT	m2	1567.0		1567.0
B	2104.513	SAWING BITUMINOUS PAVEMENT	m	591.0		591.0
J	2104.521	SALVAGE WOVEN WIRE FENCE	m	239.0		239.0
E	2104.523	SALVAGE 600 mm CONCRETE APRON	EA	1.0		1.0
G	2104.523	SALVAGE SIGN TYPE C	EA	6.0		6.0
C	2105.501	COMMON EXCAVATION (P)	m3	32155.0		32155.0
C	2105.501	COMMON EXCAVATION (SPECIAL) (1)	m3	8135.0		8135.0
C	2105.505	MUCK EXCAVATION	m3	2367.0		2367.0
C	2105.522	SELECT GRANULAR BORROW (LV) (6)	m3	3432.0		3432.0
C	2105.523	COMMON BORROW (LV)	m3	35769.0	11600.0	47369.0
	2130.501	WATER	m3	600.0	600.0	1200.0
D	2211.503	AGGREGATE BASE (CV) CLASS 5A (P)	m3	4625.0		4625.0
	2331.603	SAWED/SEALED JOINT	m	2250.0		2250.0
D	2350.609	TYPE LV 2 WEARING COURSE	t	2465.0		2465.0
D	2350.609	TYPE LV 2 NON-WEARING COURSE	t	3430.0		3430.0
D	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	L	7220.0		7220.0
E	2501.511	375 mm CS PIPE CULVERT	m	20.4		20.4
E	2501.515	375 mm CS PIPE APRON	EA	4.0		4.0
E	2501.515	375 mm RC PIPE APRON	EA	2.0		2.0
E	2501.515	600 mm RC PIPE APRON	EA	2.0		2.0
E	2501.561	375 mm RC PIPE CULVERT DES 3006 CL III	m	3.9		3.9
E	2501.561	600 mm RC PIPE CULVERT DES 3006 CL III	m	107.0		107.0
E	2501.567	600 mm RC SAFETY APRON DES 3022	EA	6.0		6.0
E	2501.573	INSTALL 600 mm CONCRETE APRON	EA	1.0		1.0
	2504.604	75mm POLYSTYRENE INSULATION (2)	m2	122.0		122.0
E	2506.501	CONST DRAIN STRUCTURE DESIGN F	m	1.7		1.7
E	2506.501	CONST DRAIN STRUCTURE DESIGN G	m	1.0		1.0
F	2506.516	CASTING ASSEMBLY	EA	2.0		2.0
	2521.511	50 mm BITUMINOUS WALK (3)	m2		5100.0	5100.0
E	2554.509	GUIDE POST, TYPE B	EA	15.0		15.0
J	2557.603	INSTALL WOVEN WIRE FENCE	m	239.0		239.0
G	2564.531	SIGN PANELS TYPE C (C.R.116)	m2	22.84		22.84
G	2564.531	SIGN PANELS TYPE C (C.R.83)	m2	3.31		3.31
G	2564.531	SIGN PANELS TYPE C (C.R.56)	m2	11.67		11.67
G	2564.536	INSTALL SIGN PANEL TYPE C	EA	6.0		6.0
	2564.552	TRAFFIC CONTROL (4)	LS	1.0		1.0
H	2564.603	100 mm SOLID LINE WHITE PAINT	m	4254.0		4254.0
H	2564.603	100 mm SOLID LINE YELLOW PAINT	m	589.0		589.0
H	2564.603	100 mm BROKEN LINE WHITE PAINT	m	45.0		45.0
H	2564.603	100 mm BROKEN LINE YELLOW PAINT	m	1215.0		1215.0
H	2564.603	100 mm DOUBLE SOLID LINE YELLOW PAINT	m	470.0		470.0
I	2573.501	BALE CHECK	EA	239.0		239.0
I	2573.502	SILT FENCE HEAVY DUTY	m	480.0		480.0
I	2575.501	SEEDING	ha	5.75	1.40	7.15
I	2575.502	SEED MIXTURE 70A	kg	258.0	70.0	328.0
I	2575.502	SEED MIXTURE 25A (5)	kg	30.0		30.0
I	2575.511	MULCH MATERIAL TYPE I	t	25.9	6.3	32.2
I	2575.519	DISC ANCHORING	ha	5.75	1.40	7.15
E,I	2575.523	EROSION CONTROL BLANKET STRAW TYPE 1S	m2	1484.0		1484.0
I	2575.532	COMMERCIAL FERT ANALYSIS 10-10-10	kg	3222.0	784.0	4006.0

**INDEX OF TABULATIONS**

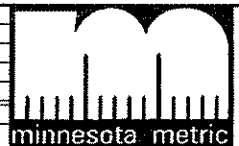
TAB.	TABULATION DESCRIPTION	SHEET NO.
A	CLEARING AND GRUBBING	5
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H	PAVEMENT MARKINGS	7
I	TURF ESTABLISHMENT / EROSION CONTROL	7
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**NOTES:**

- EXCAVATION AT WETLAND MITIGATION SITE.
  - FOR INSULATION OVER WATER MAIN AT STA, 1+940 AND 2+485.
  - QUANTITY INCLUDES AGGREGATE BASE.
  - SEE SHEET 13
  - FOR WETLAND MITIGATION AREA. SEE SHEET 30.
  - USED FOR MUCK EXCAVATION BACKFILL.
- (P) PLAN QUANTITY.

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1	6-29-98	MCI	JRD	REVISE ESTIMATED QUANTITIES
NO	DATE	BY	CHKD	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 Registered Professional Engineer under the laws of the State of Minnesota.

*[Signature]*  
 Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
95-05-116

CITY PROJECT NO.  
97-25

DRAWN BY DATE  
W. ANDERSON 3-98

DESIGNED BY  
B. URRANK 3-98

CHECKED BY  
M. HANSEN 5-98

COMM. NO.  
0982953



**ANOKA COUNTY**

STATEMENT OF ESTIMATED QUANTITIES

C.R. 116

SHEET  
3  
OF  
59

THE FOLLOWING STANDARD PLATES APPROVED BY THE DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.		
STANDARD PLATES		
PLATE NO.		DESCRIPTION
M 3000	L	REINFORCED CONCRETE PIPE
M 3006	G	GASKET JOINT FOR R.C. PIPE
M 3007	B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
M 3022	B	PRECAST CONCRETE END SECTION
M 3100	G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
M 3133	C	RIPRAP AT RCP OUTLETS
M 3139	A	RIPRAP AT PRECAST CONCRETE END SECTIONS
M 3145	E	CONCRETE PIPE TIES
M 4005	L	MANHOLE OR CATCH BASIN
M 4006	L	MANHOLE OR CATCH BASIN
M 4007	C	PRECAST MECHANICAL JOINT SEWER MANHOLE
M 4010	H	CONC. SHORT CONE & ADJUSTING RING
M 4011	E	PRECAST CONCRETE BASE
M 4143	E	STOOL GRATE & CONCRETE FRAME
M 4180	J	MANHOLE OR CATCH BASIN STEP
M 8000	I	STANDARD BARRICADES
M 8150	B	INSTALLATION OF CULVERT MARKERS
M 9102	D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)

## CONSTRUCTION / SOILS NOTES

- 1 SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF SLOPE DRESSING, DEBRIS, ORGANIC MATERIAL, MUCK AND OTHER UNSUITABLE MATERIAL.
- 2 ITEMS REFERRED TO AS INCIDENTAL ON THIS PROJECT SHALL BE CONSIDERED INCIDENTAL WITH NO DIRECT COMPENSATION MADE THEREFORE.
- 3 IN FILL AREAS THE SUBGRADE SHALL BE CONSTRUCTED WITH SELECT GRANULAR MATERIAL.
- 4 SELECT GRANULAR MATERIAL IS DEFINED AS MATERIAL MEETING THE REQUIREMENTS OF 3149.2B2
- 5 BITUMINOUS SURFACING REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED OR DISPOSED OF OFF THE PROJECT, IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2104 AND 2105.
- 6 UNSUITABLE MATERIALS INCLUDING EXCESS TOPSOIL SHALL BE PLACED ON CITY PROPERTY IDENTIFIED ON GENERAL LAYOUT SHEET. CONTRACTOR SHALL CREATE A 2 m HIGH BERM 2 m WIDE AT THE TOP WITH 1:3 SIDE SLOPES AS DIRECTED IN THE FIELD BY THE ENGINEER.
- 7 COMPACTION OF THE GRADING ITEMS OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD", EXCEPT WHEN WITHIN 1 m OF THE WATER TABLE, THEN BY THE "QUALITY COMPACTION METHOD".
- 8 COMPACTION OF THE AGGREGATE BASE ITEMS OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD" EXCEPT WHEN THE CONTRACTOR ELECTS TO USE RECYCLED MATERIALS FOR THE AGGREGATE BASE ITEMS, THEN THE "QUALITY COMPACTION METHOD" SHALL BE UTILIZED.
- 9 GRADING GRADE ON THIS PROJECT SHALL BE DEFINED AS THE BOTTOM OF THE AGGREGATE BASE AS SHOWN ON THE TYPICAL SECTIONS.
- 10 STABILIZING AGGREGATE SHALL BE INCORPORATED INTO THE SUBGRADE TO ACHIEVE SATISFACTORY SURFACE STABILITY AT LOCATIONS DEEMED NECESSARY BY THE ENGINEER, IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2105.3G. GRANULAR MATERIAL WHICH IS FURNISHED BY THE CONTRACTOR SHALL BE STABILIZED, IF NECESSARY, AT THE CONTRACTOR'S EXPENSE. WHERE STABILIZING AGGREGATE IS DEEMED NECESSARY, IT SHALL BE APPLIED AT A RATE OF APPROXIMATELY 110 KILOGRAMS PER SQUARE METER.
- 11 WHERE WIDENING ADJACENT TO EXISTING PAVEMENT, CUT VERTICALLY TO THE BOTTOM OF THE AGGREGATE BASE AND THEN AT A 1V:1/2H SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION (AS SHOWN ON THE TYPICAL SECTIONS AND THE CROSS SECTIONS). BACKFILL PROMPTLY TO AVOID UNDERMINING THE EXISTING PAVEMENT.
- 12 PROVIDE 1V:20H LONGITUDINAL TAPERS BETWEEN CHANGES IN SUBGRADE AND SUBCUT DEPTHS.
- 13 USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES.
- 14 STRIP AND REUSE AS SLOPE DRESSING ALL EXISTING TOPSOIL, WHERE PRESENT, IN AREAS TO BE DISTURBED BY CONSTRUCTION. TOPSOIL STRIPING IS CONSIDERED TO BE COMMON EXCAVATION. ALL TOPSOIL SHALL BE UTILIZED ON THE PROJECT.
- 15 PLACE A MINIMUM OF 150 MILLIMETERS OF SLOPE DRESSING ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.
- 16 SEEDING REQUIREMENTS ON THIS PROJECT SHALL BE AS FOLLOWS:
  - a. SEED MIXTURE 70A SHALL BE APPLIED AT A RATE OF 50 KILOGRAMS PER HECTARE.
  - b. MULCH MATERIAL TYPE I SHALL BE APPLIED AT A RATE OF 4.5 METRIC TONS PER HECTARE.
  - c. COMMERCIAL FERTILIZER ANALYSIS 10-10-10 (OR EQUIVALENT) SHALL BE APPLIED AT A RATE OF 560 KILOGRAMS PER HECTARE.
- 17 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.
- 18 ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, DATED JAN. 1998.
- 19 COMMON BORROW MATERIAL SHALL HAVE A MINIMUM R-VALUE OF 60. BORROW MATERIAL PLACED WITHIN THE UPPER 1.2 m OF THE EMBANKMENT BELOW THE GRADING GRADE SHALL BE SELECT GRANULAR MATERIAL.

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NO	DATE	BY	CKD	APPR	REVISION
1	6-29-98	MCI	JRB		REV. NOTES 16 AND 18



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.  
*M. Hansen*  
 Date 6-25-98 Reg. No. 21364

COUNTY PROJ. NO. 95-05-116  
 CITY PROJECT NO. 97-25

DRAWN BY W. ANDERSON DATE 3-98  
 DESIGNED BY B. URBANEK 3-98  
 CHECKED BY M. HANSEN 5-98  
 COMM. NO. 0982953



ANOKA COUNTY  
 STANDARD PLATES AND SOILS/CONSTRUCTION NOTES  
 C.R. 116

SHEET  
 4  
 OF  
 59

(A) CLEARING AND GRUBBING TABULATION								
ALIGNMENT	STATION TO STATION		OFFSET		CLEARING		GRUBBING	
			LEFT	RIGHT	(tree)	(ha)	(tree)	(ha)
C.R. 116	1+735	1+752	19.0	17.0		0.06		0.06
C.R. 116	1+903	1+913	11.0	18.0		0.03		0.03
C.R. 116	1+940	2+066	19.0			0.17		0.17
C.R. 116	2+066	2+400	19.0			0.67		0.67
C.R. 116	2+400	2+482	19.0			0.06		0.06
C.R. 116	2+501		17.0		1		1	
C.R. 116	2+512		17.0		1		1	
C.R. 116	2+618	2+600	18.0			0.03		0.03
C.R. 116	2+590			15.0	1		1	
C.R. 116	2+600			15.0	1		1	
C.R. 116	2+676	2+695	19.0			0.01		0.01
<b>TOTAL</b>					<b>4</b>	<b>1.03</b>	<b>4</b>	<b>1.03</b>

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

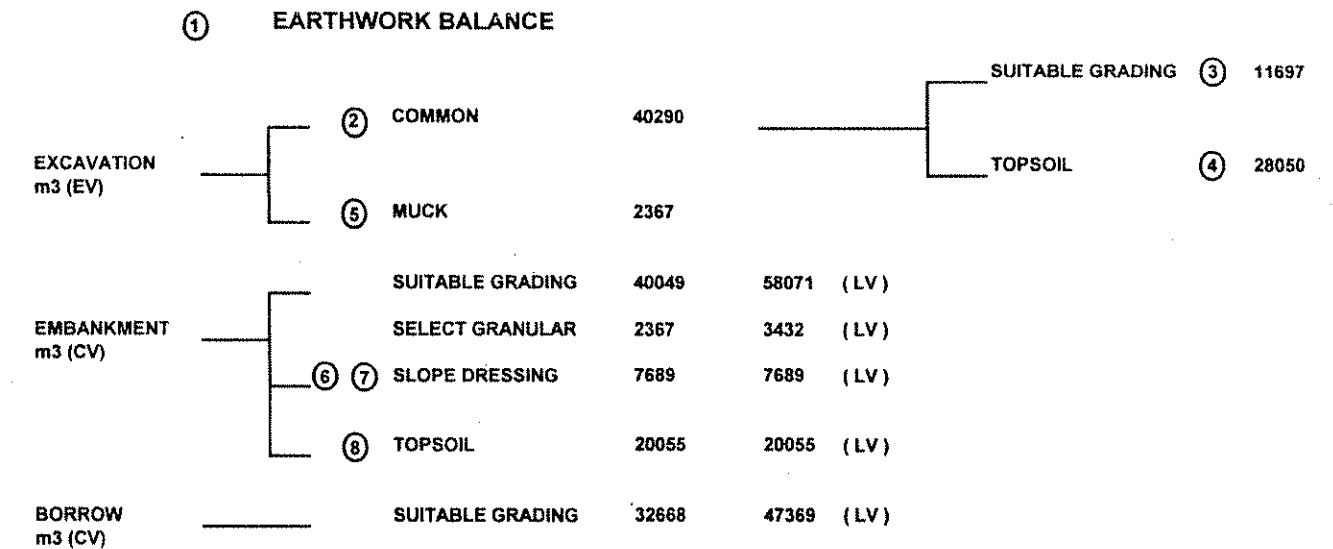
(B) MISC. REMOVAL AND SAWING TABULATION					
ALIGNMENT	STATION TO STATION		LOCATION	REMOVE BITUMINOUS PAVEMENT (m <sup>2</sup> )	SAWING BITUMINOUS PAVEMENT (m)
C.S.A.H. 83	3+605	3+800	LT	479	195
C.S.A.H. 83	3+635	3+725	RT	505	190
C.S.A.H. 83	3+685	3+696	LT	583	11
C.R. 56	7+345	7+540	LT		195
<b>PROJECT TOTALS:</b>				<b>1567</b>	<b>591</b>

NOTES:

(D) AGGREGATE AND BITUMINOUS SUMMARY TABULATION						
ALIGNMENT	STATION TO STATION	AGGREGATE BASE CLASS 5A (m <sup>3</sup> )	2350		TACK (l)	
			TYPE LV 2 WEAR (LVWE35030B) (t)	TYPE LV 2 NON WEAR (LVNW35030B) (t)		
C.S.A.H. 83	3+635	3+725	120	50	250	
C.S.A.H. 83	3+605	3+800	110	45	220	
C.R. 56	7+345	7+540	95	50	250	
C.R. 116	1+006	2+706	4300	2320	6500	
<b>PROJECT TOTALS:</b>			<b>4625</b>	<b>2465</b>	<b>7220</b>	

(C) EARTHWORK SUMMARY					
ALIGNMENT	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)		
	COMMON	MUCK	SUITABLE GRADING	SLOPE DRESSING	SELECT GRANULAR
	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )
C.R. 116	31101	2135	39260	5581	2135
C.S.A.H. 83	640	232	628	144	232
C.R. 56	414	0	161	72	0
MITIGATION SITE	8135	0	0	1892	0
<b>TOTALS:</b>	<b>40290</b>	<b>2367</b>	<b>40049</b>	<b>7689</b>	<b>2367</b>

NOTES:



NOTES:

- SEE CONSTRUCTION/SOIL NOTES FOR MATERIAL DEFINITIONS AND ADDITIONAL INFORMATION.
- 120% SHRINKAGE FACTOR USED FROM EXCAVATED VOLUME (EV) TO COMPACTED VOLUME (CV), EXCEPT FOR TOPSOIL. 145% SHRINKAGE FACTOR USED FROM LOOSE VOLUME (LV) TO COMPACTED VOLUME (CV), EXCEPT FOR TOPSOIL. SHRINKAGE FACTORS ARE ASSUMED VALUES, USED ONLY FOR THE PURPOSE OF ESTIMATED QUANTITIES. IT SHALL BE UNDERSTOOD THAT NO WARRANTY IS MADE OR IMPLIED AS TO THE ACCURACY, SUFFICIENCY, OR RELIABILITY OF THE SHRINKAGE FACTOR.
  - INCLUDES TOPSOIL STRIPPING ( ASSUMED TO BE 400 mm THICK).
  - INCLUDES 5613 m<sup>3</sup> (EV) SUITABLE GRADING FROM MITIGATION SITE. DEPENDING ON QUALITY OF GRADING MATERIAL, CONTRACTOR SHALL OVEREXCAVATE MITIGATION SITE AT THE DIRECTION OF THE ENGINEER TO GENERATE ADDITIONAL EMBANKMENT MATERIAL.
  - INCLUDES 2522 m<sup>3</sup> (EV) TOPSOIL STRIPPING FROM MITIGATION SITE.
  - MUCK EXCAVATION TO BE USED AS POND LINING IN THE MITIGATION SITE. BACKFILL MUCK EXCAVATION WITH SELECT GRANULAR.
  - INCLUDES 1892 m<sup>3</sup> (CV) OF SLOPE DRESSING FOR MITIGATION SITE.
  - SLOPE DRESSING TO BE PLACED AT A UNIFORM THICKNESS OF 300 mm IN THE MITIGATION SITE.
  - 20055 m<sup>3</sup> (CV) OF TOPSOIL TO BE USED FOR CONSTRUCTION OF A BERM AS DIRECTED BY THE ENGINEER. SEE SHEET 2 FOR BERM LOCATION AND SHEET 9 FOR BERM TYPICAL SECTION.

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 PLOT FILE: P:\GIVIN\047\2953\2953.dwg  
 PLOTTER: HP-DesignJet-4000-PP-4000  
 PLOT DATE/TIME: 06/29/98 12:38:04

				I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota. <i>M. D. Hansen</i> Date: 6-25-98 Reg. No. 21364		COUNTY PROJ. NO. 95-05-116 CITY PROJECT NO. 97-25		DRAWN BY DATE W. ANDERSON 3-98 DESIGNED BY B. URBANEK 3-98 CHECKED BY M. HANSEN 5-98 COMM. NO. 0982953		ANOKA COUNTY EARTHWORK SUMMARY AND TABULATIONS A, B, C, D C.R. 116		SHEET 5 OF 59
NO	DATE	BY	CKD	APPR	REVISION							
NAME: 2953.ETA DATE: May. 19, 1998 TIME: 10:19:18												

(C) EARTHWORK TABULATION - C.R. 116					
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)		
	COMMON	MUCK	SUITABLE GRADING	SLOPE DRESSING	SELECT GRANULAR
	m3	m3	m3	m3	m3
1+000.000					
1+020.000	0	243	810	48	243
1+040.000	0	482	812	49	482
1+060.000	0	477	776	54	477
1+080.000	1	478	750	58	478
1+100.000	107	347	744	61	347
1+120.000	273	108	709	63	108
1+140.000	341	0	639	64	0
1+160.000	375	0	542	65	0
1+180.000	413	0	511	66	0
1+200.000	405	0	529	65	0
1+220.000	394	0	524	64	0
1+240.000	393	0	517	63	0
1+260.000	381	0	529	62	0
1+280.000	361	0	540	62	0
1+300.000	353	0	521	61	0
1+320.000	354	0	513	62	0
1+340.000	351	0	528	64	0
1+360.000	352	0	536	65	0
1+380.000	355	0	508	66	0
1+400.000	354	0	403	65	0
1+420.000	335	0	309	62	0
1+440.000	322	0	293	61	0
1+460.000	316	0	316	61	0
1+480.000	289	0	343	59	0
1+500.000	274	0	348	57	0
1+519.999	271	0	369	56	0
1+540.000	257	0	432	51	0
1+559.999	260	0	519	52	0
1+580.000	271	0	587	57	0
1+600.000	280	0	591	60	0
1+620.000	296	0	511	64	0
1+640.000	309	0	381	65	0
1+660.000	321	0	308	65	0
1+680.000	323	0	267	63	0
1+700.000	329	0	236	63	0
1+720.000	323	0	277	63	0
1+740.000	341	0	268	63	0
1+760.000	338	0	336	64	0
1+780.000	299	0	500	64	0
1+800.000	303	0	599	67	0
1+820.000	309	0	742	70	0
1+840.000	302	0	882	68	0
1+860.000	296	0	848	66	0
1+880.000	302	0	646	67	0
1+900.000	337	0	384	67	0
1+920.000	416	0	201	69	0
1+940.000	473	0	189	73	0
1+960.000	464	0	242	76	0
1+980.000	432	0	380	78	0
2+000.000	398	0	511	78	0
2+020.000	363	0	587	76	0
2+040.000	333	0	607	72	0
2+060.000	312	0	616	68	0
2+080.000	305	0	592	67	0
2+100.000	303	0	491	66	0
2+120.000	297	0	358	62	0
2+140.000	288	0	231	55	0
2+160.000	319	0	142	51	0
2+180.000	337	0	114	52	0
2+200.000	337	0	120	52	0
2+220.000	326	0	150	51	0
2+240.000	287	0	227	51	0
2+260.000	277	0	398	56	0
2+280.000	281	0	468	59	0
2+300.000	281	0	426	59	0
2+320.000	302	0	498	68	0
2+340.000	297	0	526	66	0
2+360.000	277	0	511	55	0
2+380.000	319	0	467	61	0
2+400.000	473	0	303	73	0
2+420.000	647	0	169	80	0
2+440.000	599	0	160	79	0
2+460.000	544	0	154	76	0
2+480.000	587	0	151	79	0
2+500.000	582	0	242	86	0
2+520.000	658	0	322	87	0
2+540.000	695	0	242	86	0
2+560.000	820	0	127	88	0
2+580.000	872	0	112	87	0
2+600.000	769	0	180	83	0
2+620.000	638	0	307	78	0
2+640.000	553	0	557	78	0
2+660.000	430	0	1085	76	0
2+680.000	355	0	1489	74	0
2+700.000	325	0	1059	52	0
2+711.889	171	0	336	16	0
<b>TOTAL:</b>	<b>31101</b>	<b>2135</b>	<b>39260</b>	<b>5581</b>	<b>2135</b>

(C) EARTHWORK TABULATION - C.S.A.H. 83					
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)		
	COMMON	MUCK	SUITABLE GRADING	SLOPE DRESSING	SELECT GRANULAR
	m3	m3	m3	m3	m3
3+536.800					
3+560.000	16	0	7	1	0
3+580.000	46	0	27	7	0
3+600.000	69	0	47	12	0
3+620.000	78	0	58	13	0
3+640.000	95	0	66	15	0
3+660.000	114	0	77	17	0
3+680.000	97	0	69	15	0
3+700.000	68	0	48	10	0
3+720.000	57	43	52	12	43
3+740.000	49	85	71	15	85
3+760.000	51	73	68	16	73
3+780.000	37	31	33	10	31
3+786.800	10	0	5	1	0
<b>TOTAL:</b>	<b>640</b>	<b>232</b>	<b>628</b>	<b>144</b>	<b>232</b>

(C) EARTHWORK TABULATION - C.R. 56					
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)		
	COMMON	MUCK	SUITABLE GRADING	SLOPE DRESSING	SELECT GRANULAR
	m3	m3	m3	m3	m3
7+400.000					
7+420.000	49	0	16	10	0
7+440.000	114	0	31	22	0
7+460.000	105	0	30	19	0
7+480.000	68	0	35	11	0
7+500.000	45	0	30	6	0
7+520.000	25	0	15	3	0
7+536.900	8	0	4	1	0
<b>TOTAL:</b>	<b>414</b>	<b>0</b>	<b>161</b>	<b>72</b>	<b>0</b>

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 CHECKED BY: B. URBANEK  
 DATE: 06/29/98  
 TIME: 12:38:36

NO	DATE	BY	CHKD	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 Registered Professional Engineer under the laws of the State of Minnesota.  
 Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO. 95-05-116  
 CITY PROJECT NO. 97-25

DRAWN BY: W. ANDERSON DATE: 3-98  
 DESIGNED BY: B. URBANEK DATE: 3-98  
 CHECKED BY: M. HANSEN DATE: 5-98  
 COMM. NO.: 0982953



ANOKA COUNTY  
 EARTHWORK TABULATION C  
 C.R. 116

SHEET  
 6  
 OF  
 59

(G) SIGN PANELS TYPE C TABULATION								
QUANTITY (EACH)	FURNISH & INSTALL				SALVAGE QUANTITY (EACH)	INSTALL QUANTITY (EACH)	CODE NO.	PANEL LEGEND
	PANEL							
	SIZE (IN)	AREA (SQ FT)	TOTAL AREA (SQ FT)	TOTAL AREA (m2)				
4	48 X 48	16.00	64.00	5.95			R1 - 1	STOP
6	36 X 36	9.00	54.00	5.02			R1 - 1	STOP
8	18 X 6	0.75	6.00	0.56			R1 - 4	ALLWAY
1	24 X 30	5.00	5.00	0.46			R2 - 1	SPEED LIMIT
3	30 X 30	6.25	18.75	1.74			R3 - X1	RIGHT TURN LANE
2	30 X 30	6.25	12.50	1.16			W1 - 2L	LEFT CURVE
2	30 X 30	6.25	12.50	1.16			W1 - 2R	RIGHT CURVE
1	48 X 24	8.00	8.00	0.74			W1 - 7	LARGE ARROWS
5	36 X 36	9.00	45.00	4.18			W3 - 1a	STOP AHEAD (WORD MESSAGE)
5	48 X 48	16.00	80.00	7.43			W3 - 1a	STOP AHEAD (WORD MESSAGE)
2	36 X 48	6.00	12.00	1.11			W14 - 3	NO PASSING ZONE
2	24 X 12	2.00	4.00	0.37			M3 - 1	NORTH
2	21 X 15	2.19	4.38	0.41			M2 - 1	JCT
	24 X 12	2.00	0.00	0.00	1	1	M4 - 6	END
	21 X 15	2.19	0.00	0.00	2	2	M6 - 1	ARROW
3	24 X 12	2.00	6.00	0.56			M3 - 2	EAST
2	24 X 12	2.00	4.00	0.37			M3 - 3	SOUTH
6	24 X 24	4.00	24.00	2.23	3	3	M1 - 6	COUNTY ROUTE MARKER (CR 116)
4	24 X 24	4.00	16.00	1.49			M1 - 6	COUNTY ROUTE MARKER (CR 83)
5	24 X 24	4.00	20.00	1.86			M1 - 6	COUNTY ROUTE MARKER (CR 56)
5	21 X 15	2.19	10.94	1.02			M6 - 4	ARROW
PROJECT TOTAL:				37.82	6	6		

NOTES:  
SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE "C" SIGN PANELS.

(H) PAVEMENT MARKINGS TABULATION										
ALIGNMENT	STATION	TO	STATION	LOCATION	SOLID LINE		BROKEN LINE		DOUBLE	
					100 mm	100 mm	100 mm	100 mm	SOLID LINE	
					WHITE	YELLOW	WHITE	YELLOW	100 mm	
					(m)	(m)	(m)	(m)	YELLOW	
					(m)	(m)	(m)	(m)	(m)	
C.R. 116	1+015		2+700	LT	1685					
C.R. 116	1+015		2+700	RT	1685					
C.R. 116	1+015		1+100	LT	85					
C.R. 116	2+614		2+700	RT	86					
C.S.A.H. 83	3+615		3+797	LT	182					
C.S.A.H. 83	3+595		3+670	RT	75					
C.S.A.H. 83	3+535		3+722	RT	187					
C.R. 56	7+404		7+479	LT	75					
C.R. 56	7+340		7+534	LT	194					
C.R. 116	1+015		1+155	CL						140
C.R. 116	1+480		1+670	CL						190
C.R. 116	2+560		2+700	CL						140
C.R. 116	1+155		1+480	CL					325	
C.R. 116	1+670		2+560	CL					890	
C.R. 116	1+788		1+982	CL		194				
C.R. 116	2+165		2+560	CL		395				
C.S.A.H. 83	3+683		3+728	LT			45			
PROJECT TOTALS:					4254	589	45	1215	470	

(J) FENCE TABULATION							
ALIGNMENT	STATION	TO	STATION	LOCATION	WOVEN WIRE		
					REMOVE (m)	SALVAGE (m)	INSTALL (m)
C.R. 116	2+345			RT	19		
C.R. 116	2+414		2+485	LT		71	71
C.R. 116	2+526		2+694	LT		168	168
PROJECT TOTALS:					19	239	239

(I) TURF ESTABLISHMENT / EROSION CONTROL TABULATION														
ALIGNMENT	STATION	TO	STATION	LOCATION	SEEDING (ha)	SEED MIXTURE		MULCH MATERIAL TYPE 1 (t)	BALE DITCH SEDIMENT CHECK (EACH)	SILT FENCE HEAVY DUTY (m)	DISK ANCHOR (ha)	EROSION CONTROL BLANKETS STRAW 1S (m2)	COMMERCIAL FERTILIZER 10-10-10 (kg)	REMARKS
						25A MIX (kg)	70A MIX (kg)							
C.R. 116				LT					105					CHECK
C.R. 116				LT					12					APRON
C.R. 116				RT					98					CHECK
C.R. 116				RT					21					APRON
C.S.A.H. 83				LT					3					APRON
C.S.A.H. 83	3+695		3+795	LT						100				
C.S.A.H. 83	3+710		3+745	RT						39				
C.S.A.H. 83	3+586		3+672	RT						86				
C.R. 116	1+022		1+102	LT						80				
C.R. 116	1+020		1+155	RT						135				
C.R. 116	1+833		1+873	RT						40				
C.R. 116	1+095		1+460	RT								657		
C.R. 116	1+528		1+894	LT								659		
C.R. 116				LT	2.00		100	9.0			2.00		1120	
C.R. 116				RT	2.45		123	11.0			2.45		1372	
C.S.A.H. 83				LT	0.20		10	0.9			0.20		114	
C.S.A.H. 83				RT	0.30		15	1.4			0.30		168	
C.R. 56				LT	0.20		10	0.9			0.20		112	
C.R. 116	1+200			RT	0.60	30		2.7			0.60		336	MITIGATION AREA
BERM					1.40		70	6.3			1.40		784	
PROJECT TOTALS:					7.15	30	328	32.2	239	480	7.15	1316	4006	

NOTE:  
QUANTITIES ARE BASED ON SEEDING THE ENTIRE RIGHT-OF-WAY AND THE FOLLOWING RATES:  
SEED MIXTURE 70A 50 kg/ha  
SEED MIXTURE 25A 50 kg/ha  
MULCH TYPE 4.5 t/ha  
COMM. FERT. 560 kg/ha

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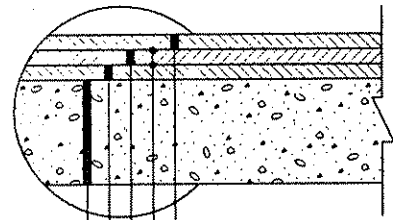
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NAME: 2953.ETC DATE: May. 19. 1998 TIME: 10:19:18					

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.  
*Matthew D. Hill*  
Date: 6-25-98 Reg. No. 21364

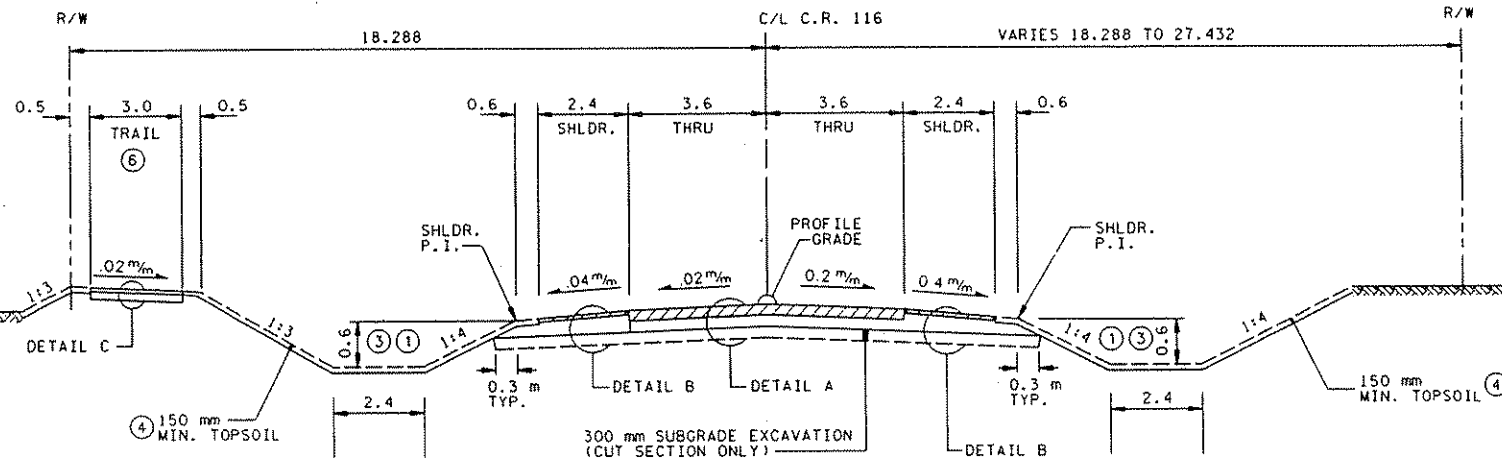
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CITY PROJECT NO. 97-25  
DRAWN BY J. HAMRE DATE 6-98  
DESIGNED BY S. LILLEHAUG 6-98  
CHECKED BY M. HANSEN 5-98  
COMM. NO. 0982953



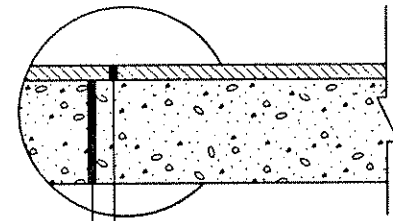
ANOKA COUNTY  
TABULATIONS G, H, I, J  
C.R. 116  
SHEET 7 OF 59



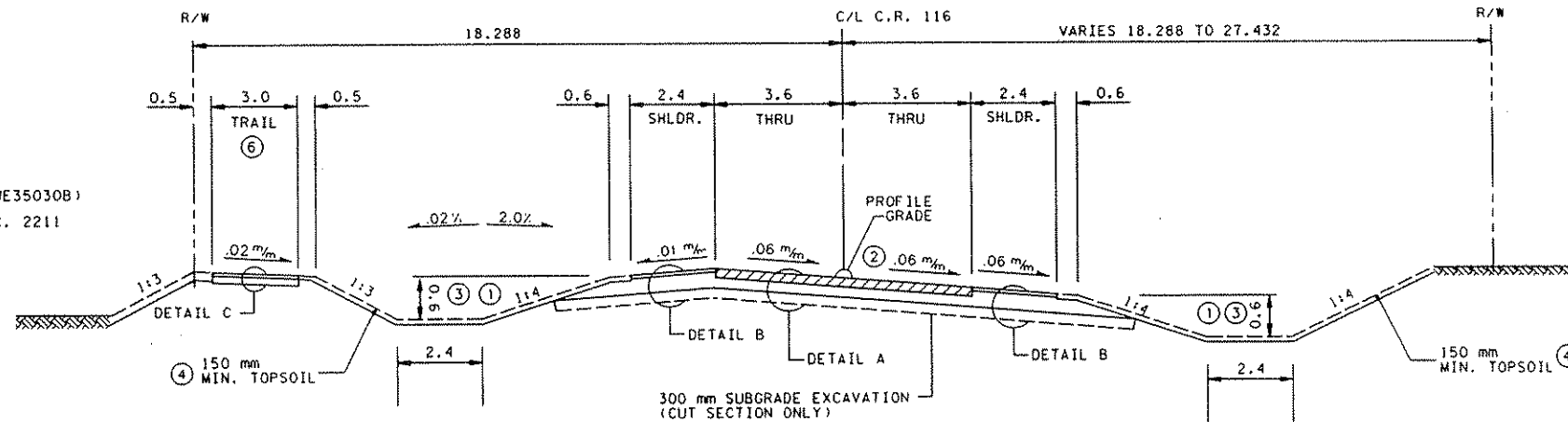
DETAIL A



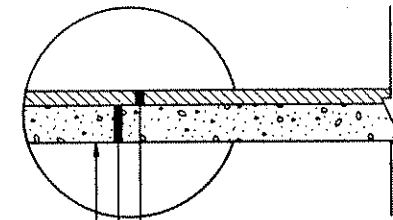
C.R. 116  
TYPICAL SECTION



DETAIL B



C.R. 116  
TYPICAL SECTION IN  
FULL SUPER ELEVATION



DETAIL C

NOTES:

- ① SEE CROSS SECTIONS FOR LOCATIONS OF VARIABLE SLOPES AND DITCH WIDTHS
- ② SEE CONSTRUCTION PLANS FOR SUPER ELEVATION TRANSITIONS
- ③ SEE PROFILES FOR SPECIAL DITCH GRADES
- ④ SEE TURF ESTABLISHMENT PLANS FOR SOD AND SEED AREAS
- ⑤ ALL DIMENSIONS IN METERS UNLESS OTHERWISE NOTED.
- ⑥ SEE CROSS SECTIONS FOR ELEVATION OF TRAIL.

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NO	DATE	BY	CHKD	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 Registered Professional Engineer under the laws of the State of Minnesota.

*M. Hansen*  
Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO. 95-05-116  
CITY PROJECT NO. 97-25

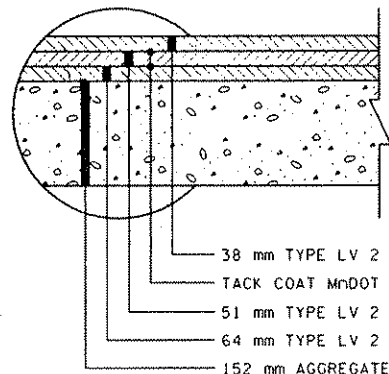
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DESIGNED BY B. URBANEK DATE 3-98  
CHECKED BY M. HANSEN DATE 5-98  
COMM. NO. 0982953



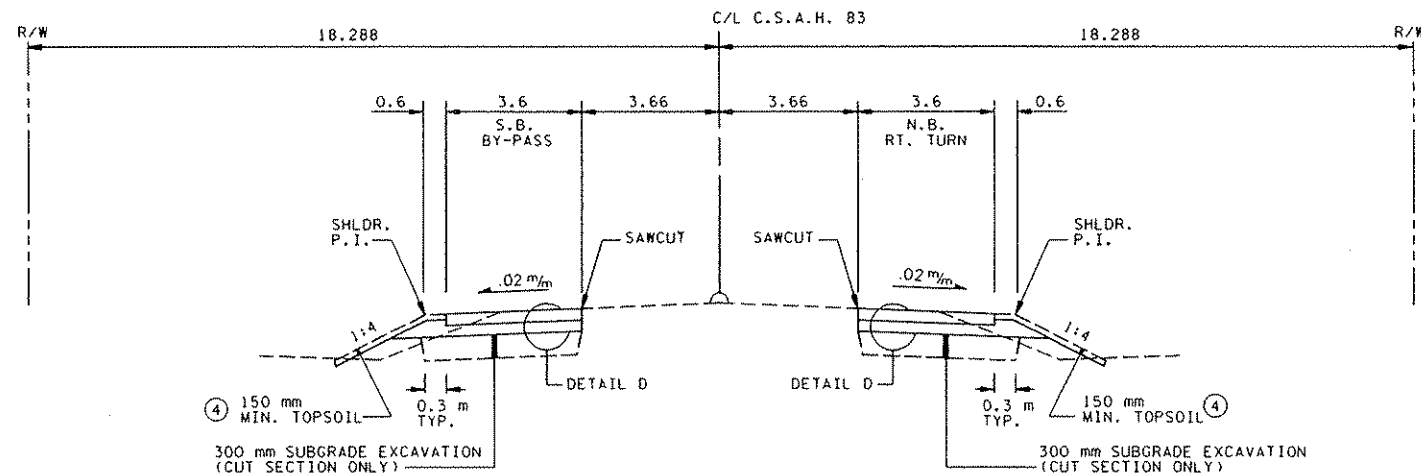
ANOKA COUNTY  
TYPICAL SECTIONS  
C.R. 116

SHEET 8 OF 59

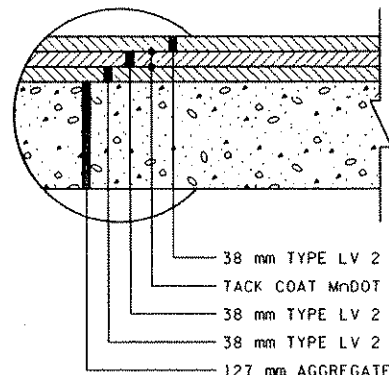




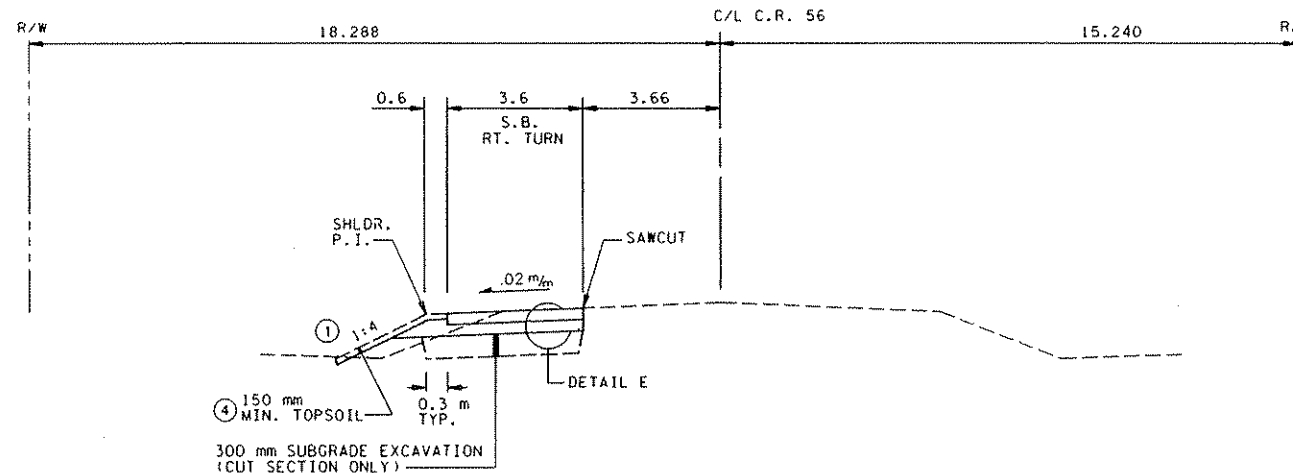
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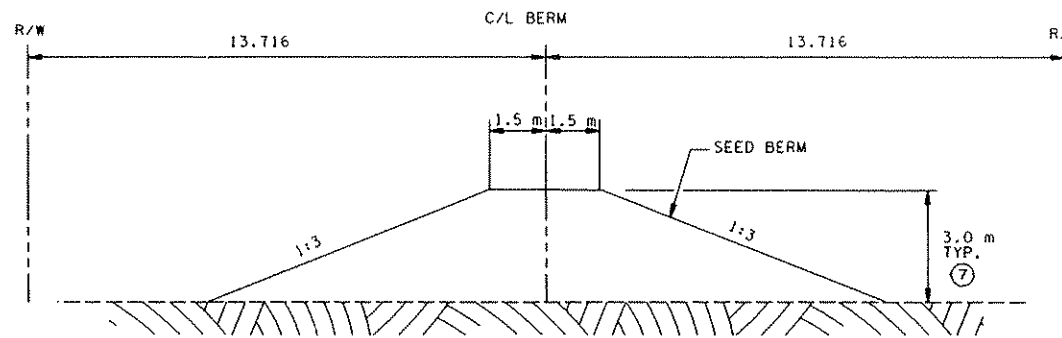
C.S.A.H. 83  
TYPICAL SECTION



DETAIL E



C.R. 56  
TYPICAL SECTION



BERM  
TYPICAL SECTION

NOTES:

- ① SEE CROSS SECTIONS FOR LOCATIONS OF VARIABLE SLOPES AND DITCH WIDTHS
- ④ SEE TURF ESTABLISHMENT PLANS FOR SOD AND SEED AREAS
- ⑦ BERM SHAPE IS VARIABLE AND DEPENDANT ON QUANTITY OF EXCESS TOPSOIL MATERIAL. BERM HEIGHT AND LENGTH WILL BE STAKED IN THE FIELD BY THE ENGINEER.

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 PLOT SCALE: 2.540000  
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NO	DATE	BY	CHK	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 Registered Professional Engineer under the laws of the State of Minnesota.

*Maureen D. Hanen*  
Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
95-05-116

CITY PROJECT NO.  
97-25

DRAWN BY  
W. ANDERSON 3-98

DESIGNED BY  
B. URBANEK 3-98

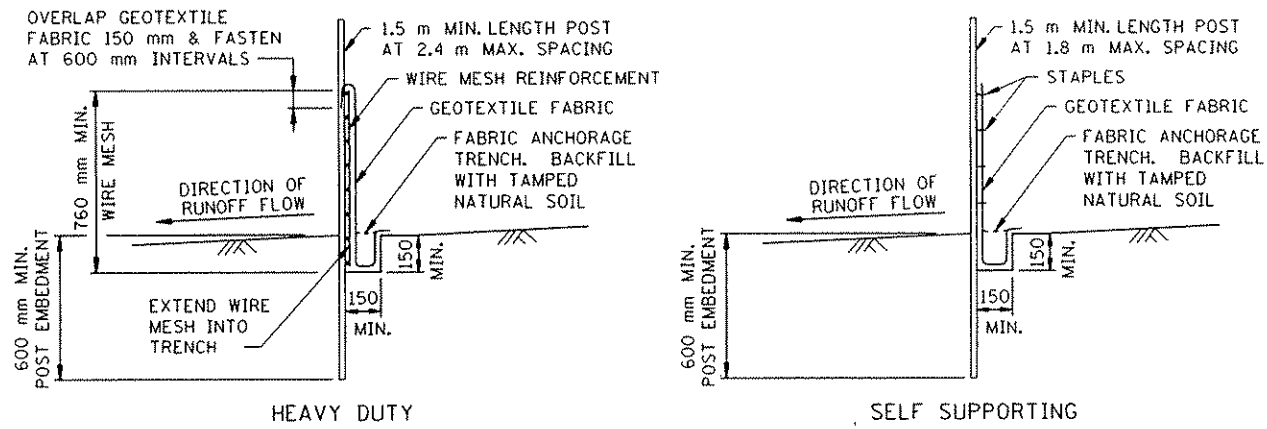
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M. HANSEN 5-98

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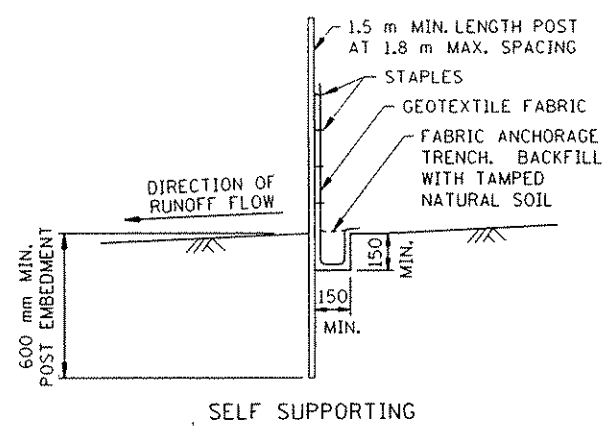


ANOKA COUNTY  
TYPICAL SECTIONS  
C.R. 116

SHEET  
9  
OF  
59



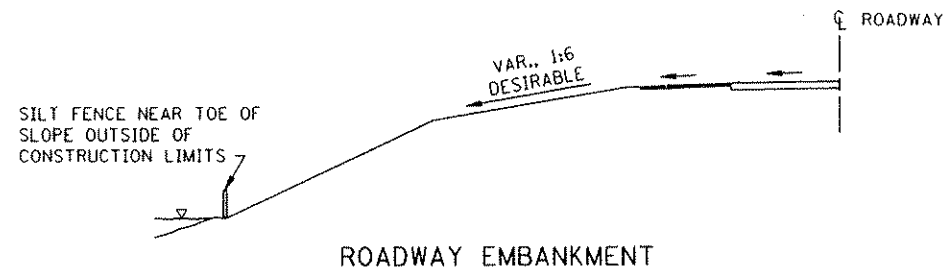
HEAVY DUTY



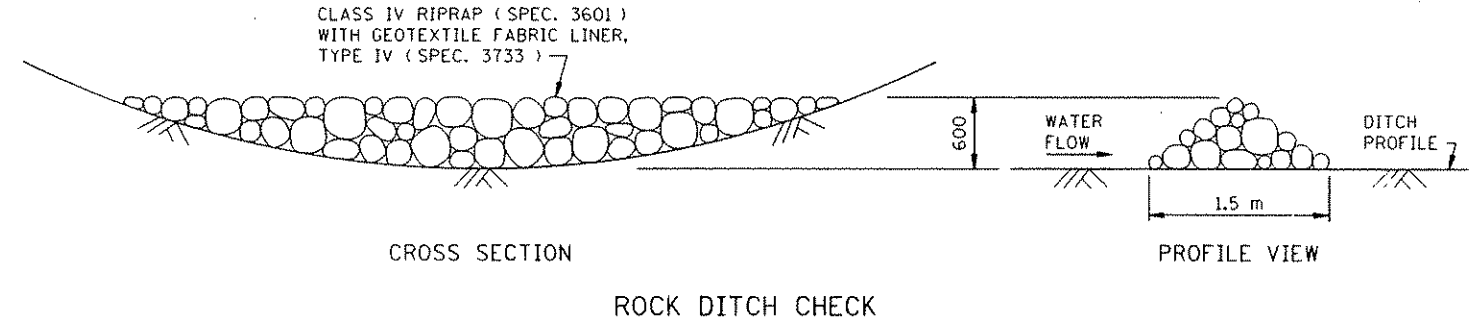
SELF SUPPORTING

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

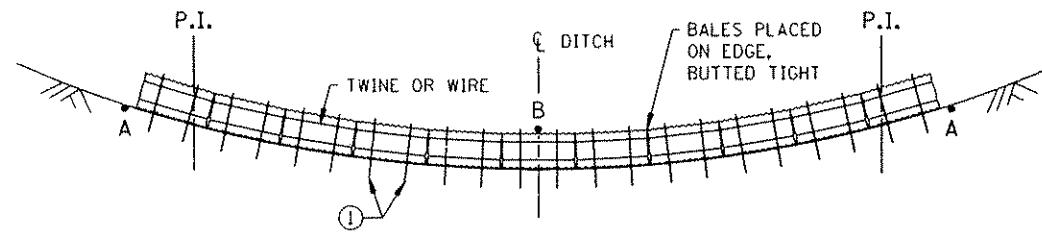
**DESIGN CRITERIA:**  
MAXIMUM CONTRIBUTING AREA: 1.2 ha



ROADWAY EMBANKMENT

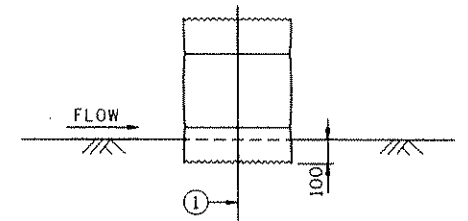


ROCK DITCH CHECK

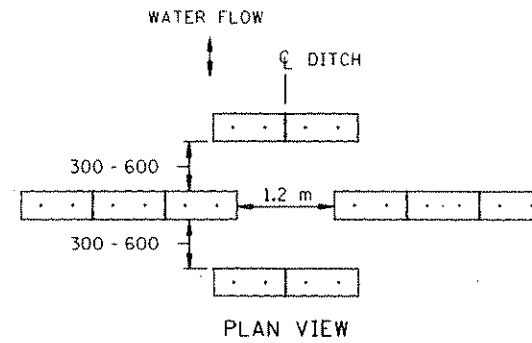


**NOTE:**  
POINT A MUST BE HIGHER THAN POINT B

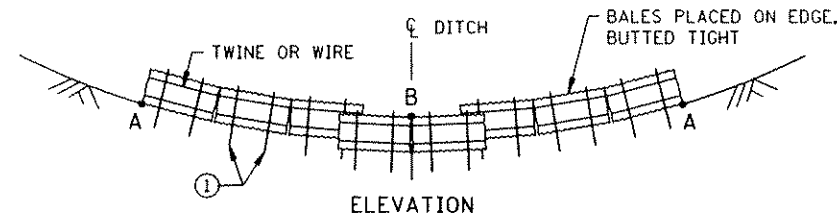
BALE DITCH SEDIMENT CHECK



BALE CHECK DETAIL



PLAN VIEW



ELEVATION

**NOTE:**  
POINT A MUST BE HIGHER THAN POINT B

BALE DITCH VELOCITY CHECKS  
(WILL REQUIRE A MINIMUM OF 10 BALES PER SITE)

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

**DESIGN CRITERIA:**

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

**NOTE:**

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

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

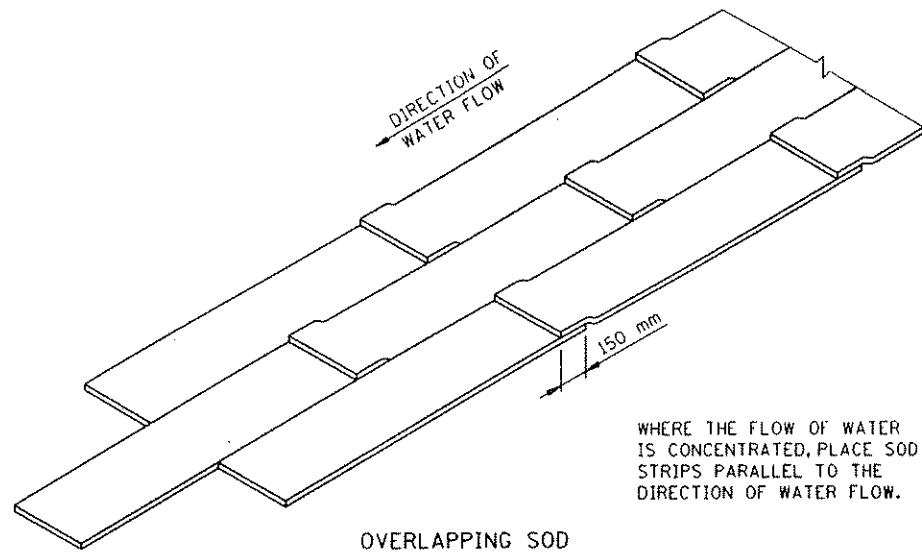
STANDARD SHEET NO.  
5-297.405M (2 OF 3)  
STANDARD APPROVED:  
MAY 1, 1995

TITLE:

TEMPORARY EROSION CONTROL

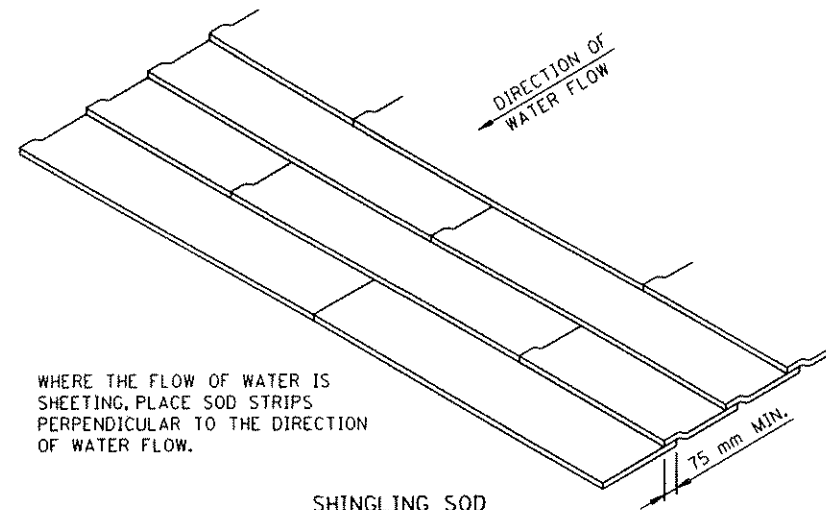
COUNTY PROJ. NO. 95-05-116

SHEET NO. 10 OF 59 SHEETS



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

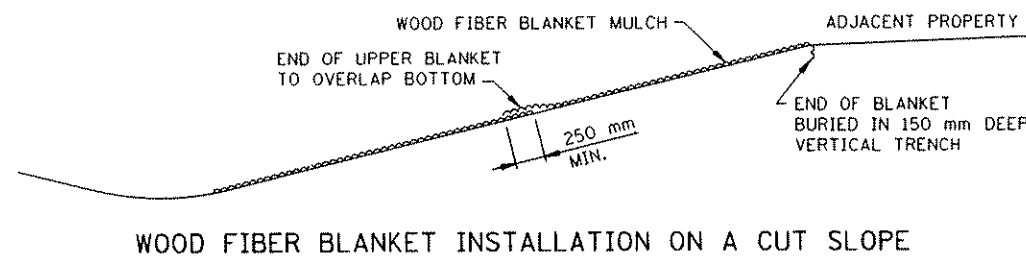
OVERLAPPING SOD



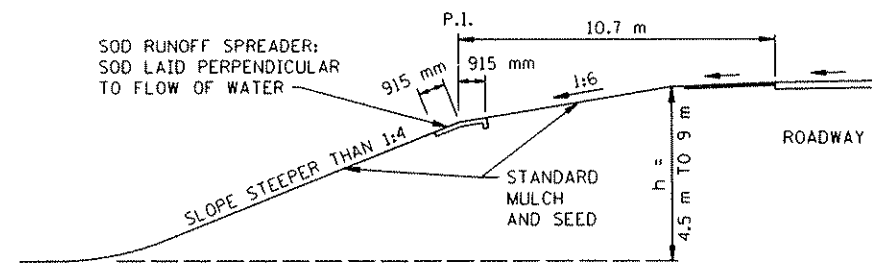
WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

SHINGLING SOD

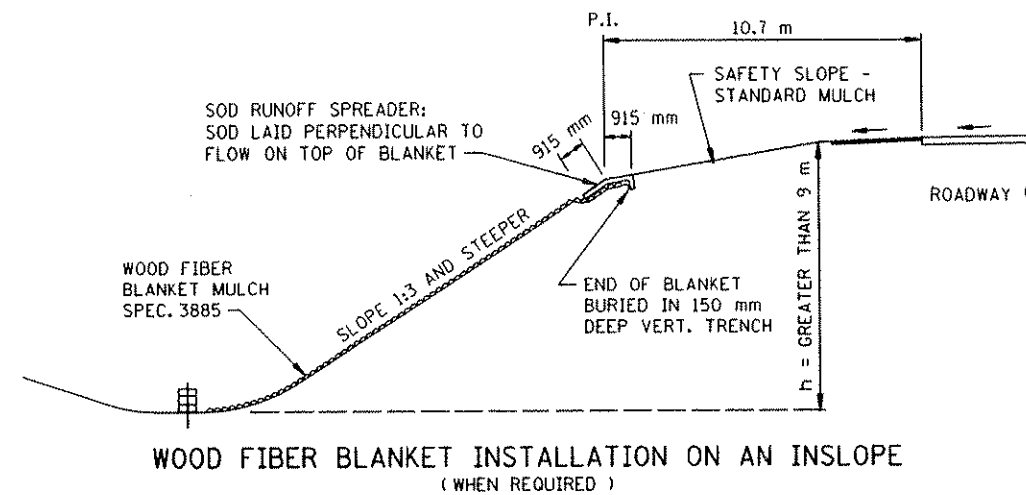
SPECIAL SOD PLACEMENT TECHNIQUES



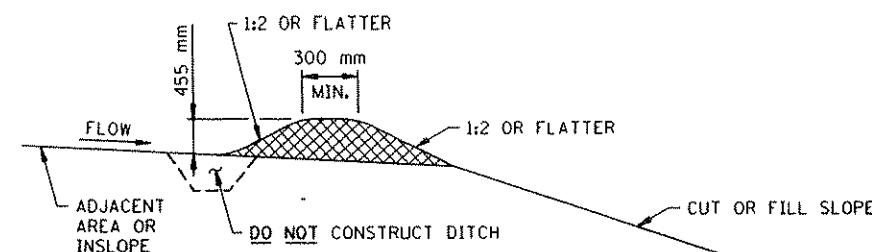
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



BROKEN-BACK SAFETY FILL SLOPE



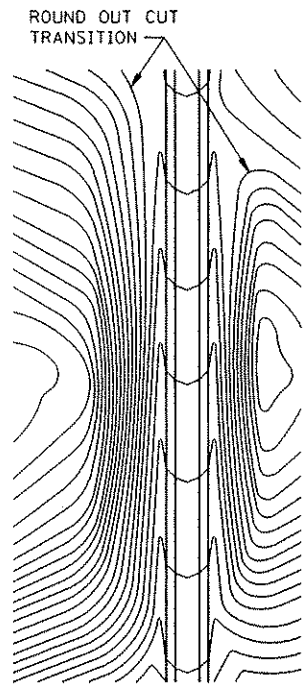
WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE  
(WHEN REQUIRED)



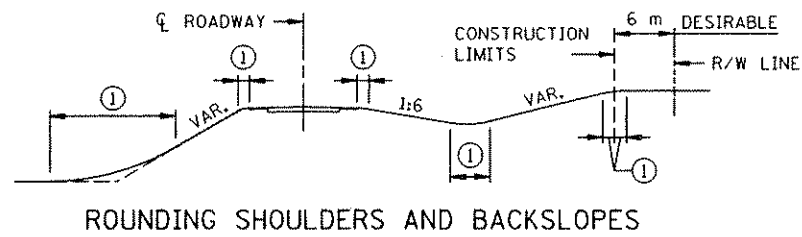
PERMANENT SLOPE PROTECTION DIKE

SERVER CA64S11/USR/STANDARDS FILE NAME SM406A85.SPN 26711.STC

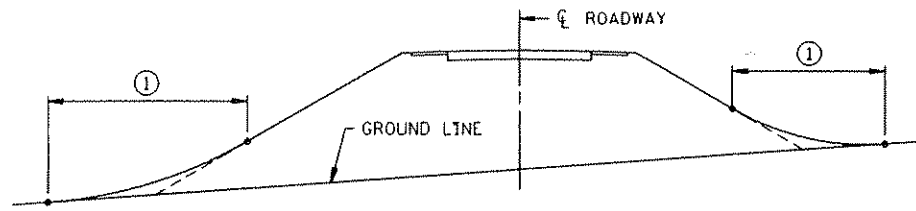
STANDARD SHEET NO. 5-297.406M	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
STANDARD APPROVED: JANUARY 31, 1985	
COUNTY PROJ. NO. 95-05-116	SHEET NO. 11 OF 59 SHEETS



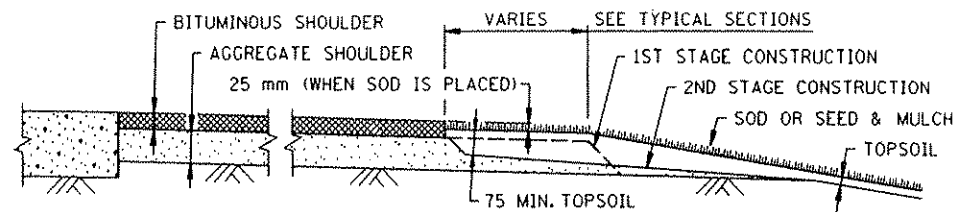
CONTOURING ROAD CUTS



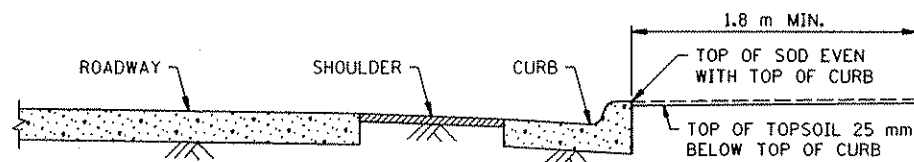
ROUNDING SHOULDERS AND BACKSLOPES



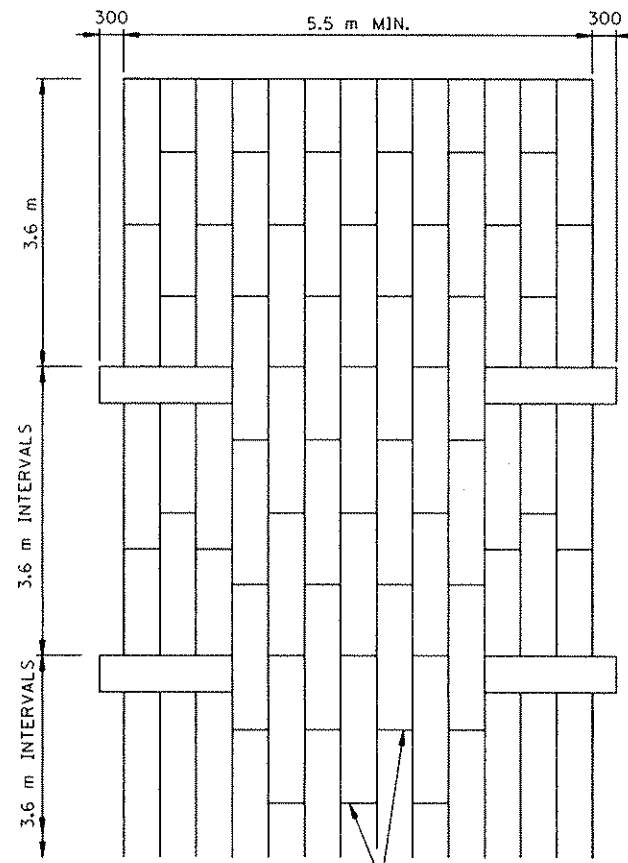
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



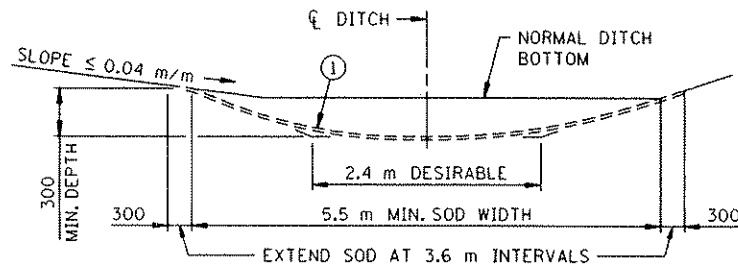
SHAPING AND TOPSOILING INSLOPES



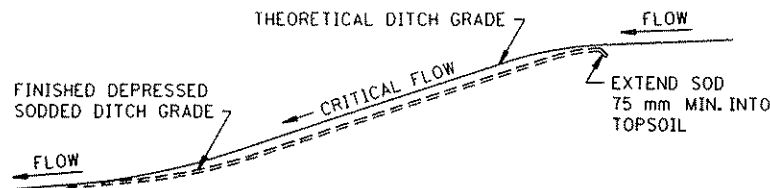
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



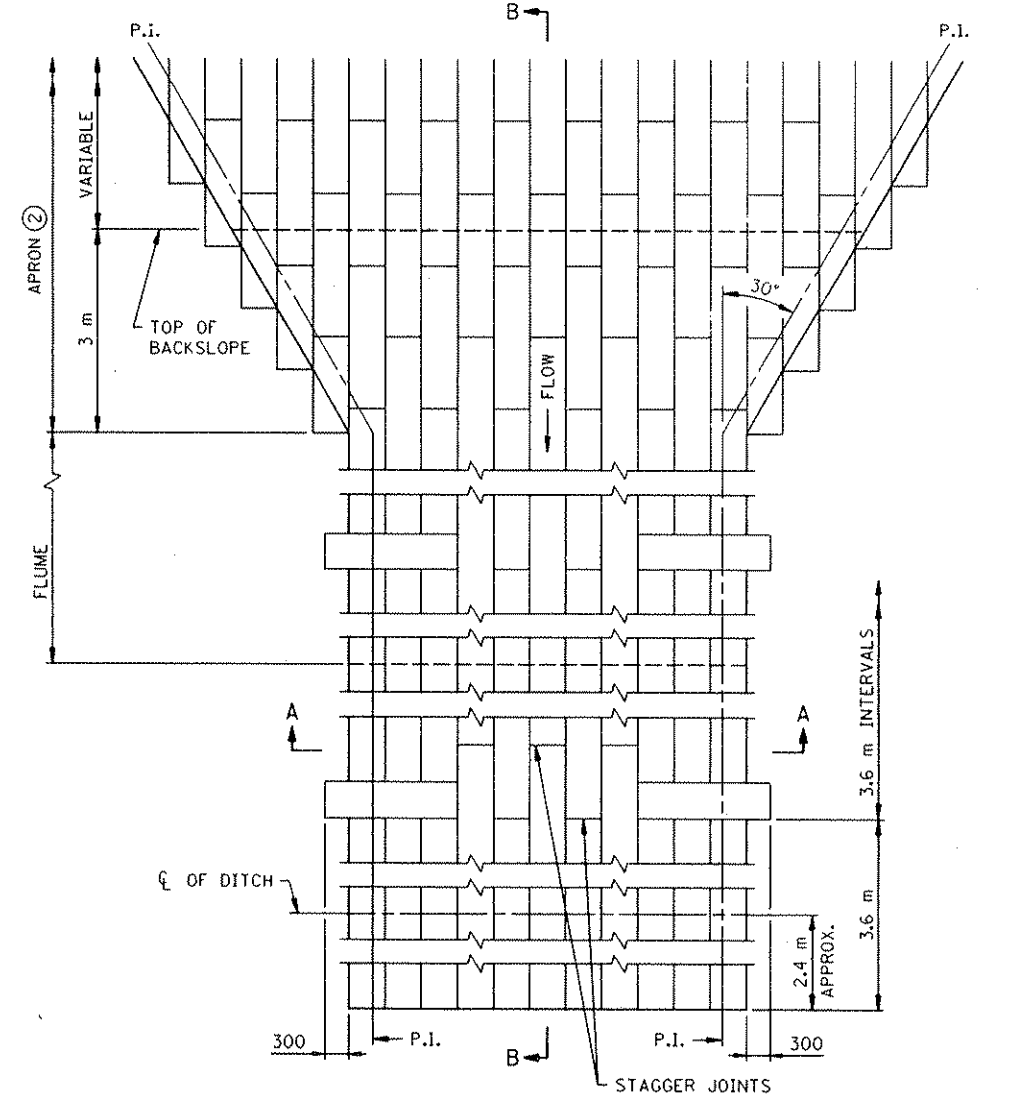
PLAN VIEW



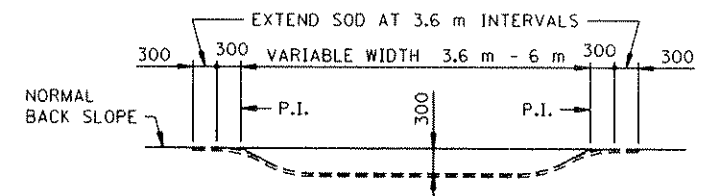
SODDED DITCH CROSS SECTION  
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 0.04 m/m),  
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



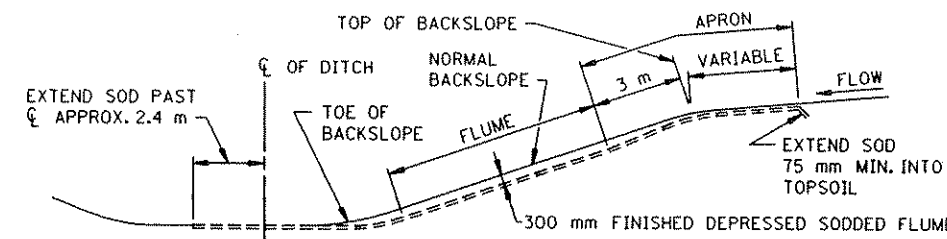
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B  
SODDED FLUME DETAILS

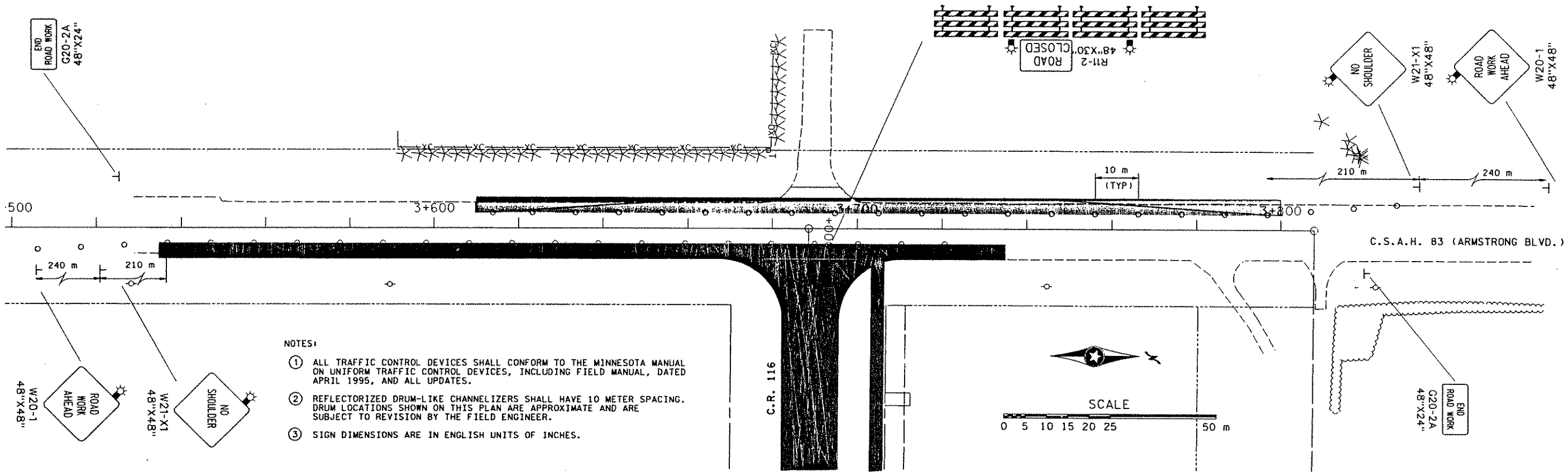
NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

NOTES:

- SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
- ① FOR ROUNDING, SEE ROAD DESIGN MANUAL.
- ② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

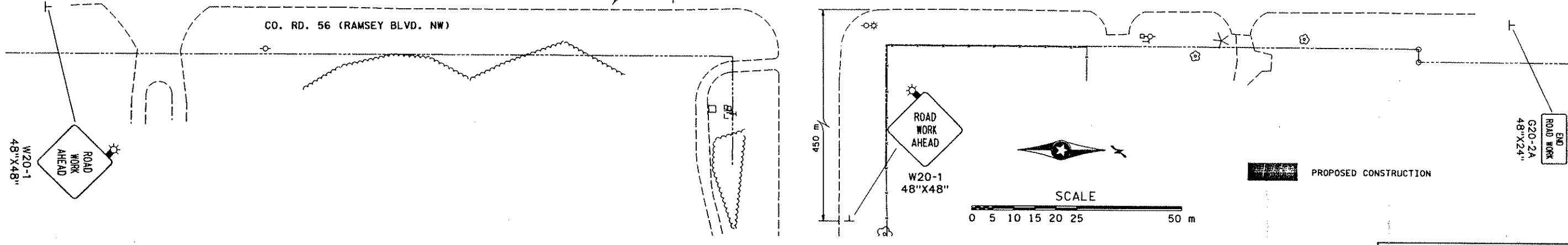
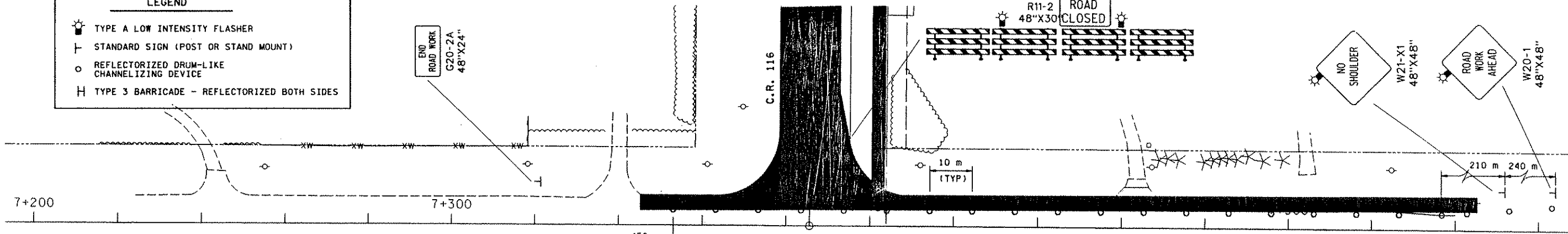
STANDARD SHEET NO. 5-297.404M	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: DECEMBER 19, 1990	
COUNTY PROJ. NO. 95-05-116	SHEET NO. 12 OF 59 SHEETS

SERVER C6451:/USR/STANDARDS FILE NAME SM404L90.SPN 2671.STA



- NOTES:
- ① ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING FIELD MANUAL, DATED APRIL 1995, AND ALL UPDATES.
  - ② REFLECTORIZED DRUM-LIKE CHANNELIZERS SHALL HAVE 10 METER SPACING. DRUM LOCATIONS SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE SUBJECT TO REVISION BY THE FIELD ENGINEER.
  - ③ SIGN DIMENSIONS ARE IN ENGLISH UNITS OF INCHES.

- LEGEND
- ☀ TYPE A LOW INTENSITY FLASHER
  - ⊥ STANDARD SIGN (POST OR STAND MOUNT)
  - REFLECTORIZED DRUM-LIKE CHANNELIZING DEVICE
  - ⊥ TYPE 3 BARRICADE - REFLECTORIZED BOTH SIDES



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NO.	DATE	BY	CHKD	APPR	REVISION

NAME: 2953.HA DATE: May 20, 1998 TIME: 09:51:05

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

*Michael P. Hansen*  
 Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
95-05-116

CITY PROJECT NO.  
97-25

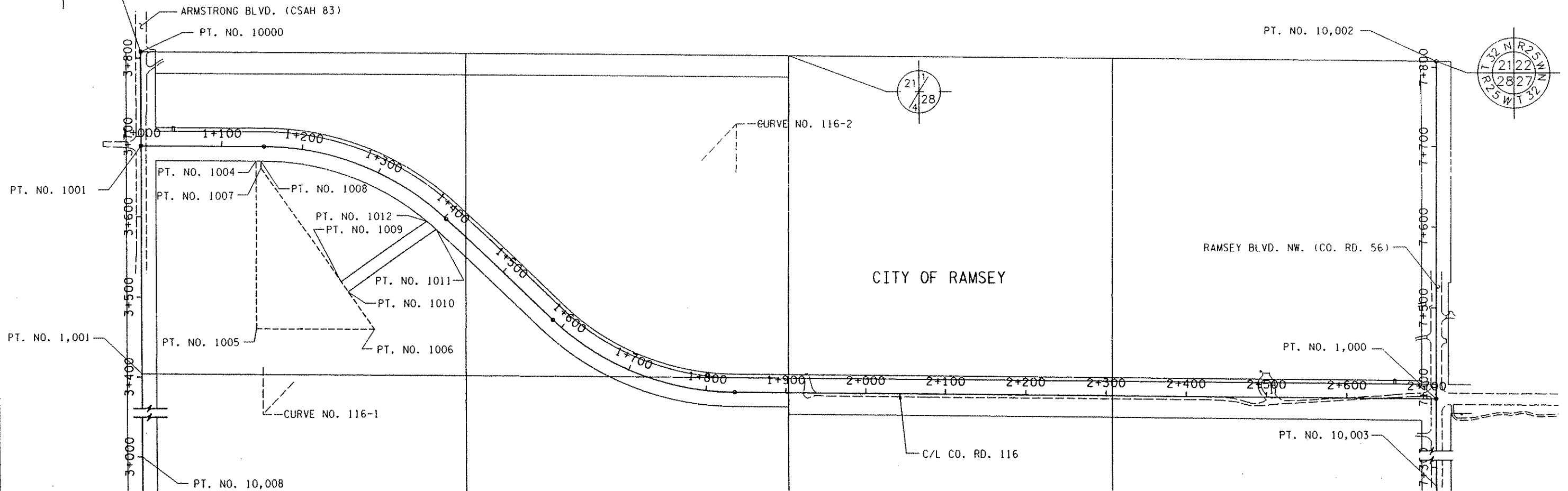
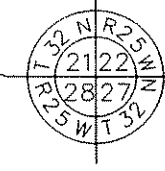
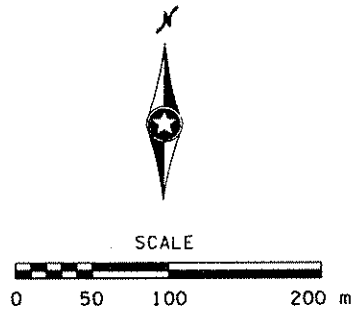
DRAWN BY: W. ANDERSON DATE: 3-98  
 DESIGNED BY: S. JULIE DATE: 5-98  
 CHECKED BY: M. HANSEN DATE: 5-98  
 COMM. NO. 0982953



ANOKA COUNTY  
 TRAFFIC CONTROL PLAN  
 C.R. 116


SHEET 13 OF 59

POINT NO.	POINT	STATION	CURVE DATA				COORDINATES		AZIMUTH
			DELTA	RADIUS	TANGENT	LENGTH	X	Y	
<b>C.R. 116</b>									
1001	POT	C/L C.R. 116					7,468.8634	4,953.9313	90° 31' 02.1"
	A PT.	ON C/L C.S.A.H. 83							
	PC	1+152.400					7,621.2576	4,952.5554	
116-1	PI	1+283.774	42° 49' 34.9" RT	335.000	131.374	250.399	7,752.6262	4,951.3694	PI
	CC						7,618.2333	4,617.5691	133° 20' 37.0"
	PT	1+402.800					7,848.1680	4,861.1980	
	PC	1+585.671					7,981.1611	4,735.6803	
116-2	PI	1+717.043	42° 49' 33.3" LT	335.000	131.372	250.397	8,076.7018	4,645.5100	PI
	CC						8,211.0958	4,979.3093	90° 31' 03.7"
	PT	1+836.068					8,208.0689	4,644.3229	
1000	POT	C/L C.R. 116					9,083.8540	4,636.4095	
	A PT.	ON C/L C.R. 56							
1004							7,611.1000	4,934.3590	
1005							7,610.9810	4,725.7090	
1006							7,758.1280	4,724.3810	
1007							7,617.1910	4,925.6600	
1008							7,617.1960	4,934.3040	
1009							7,716.8440	4,783.3410	
1010							7,725.5850	4,770.8570	
1011							7,835.6140	4,847.9000	
1012							7,823.9730	4,858.3540	
<b>C.S.A.H. 83</b>									
10008	POT						7,468.4680	4,265.3208	0° 01' 58.4"
10000	POT	N.W. CORNER SECTION 28					7,468.9319	5,073.2302	
<b>C.R. 56</b>									
10003	POT						9,082.5883	4,250.7905	0° 11' 17.0"
10002	POT	N.E. CORNER SECTION 28					9,085.2398	5,058.6044	



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NO	DATE	BY	CHKD	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 Registered Professional Engineer under the laws of the State of Minnesota.  
*M. Hansen*  
 Date 6-25-98 Reg. No. 21364

COUNTY PROJ. NO. 95-05-116  
 CITY PROJECT NO. 97-25  
 DRAWN BY W. ANDERSON DATE 3-98  
 DESIGNED BY B. URBANEK 3-98  
 CHECKED BY M. HANSEN 5-98  
 COMM. NO. 0982953



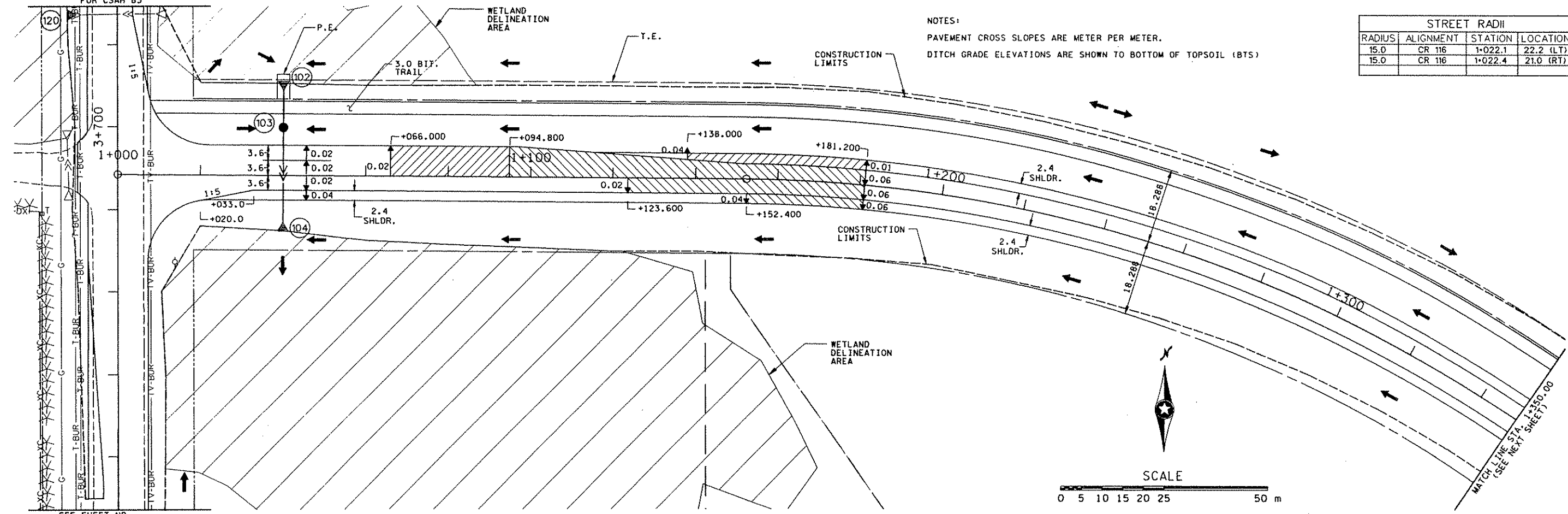
ANOKA COUNTY  
 ALIGNMENT PLAN & TABULATION  
 C.R. 116

SHEET  
 14  
 OF  
 59

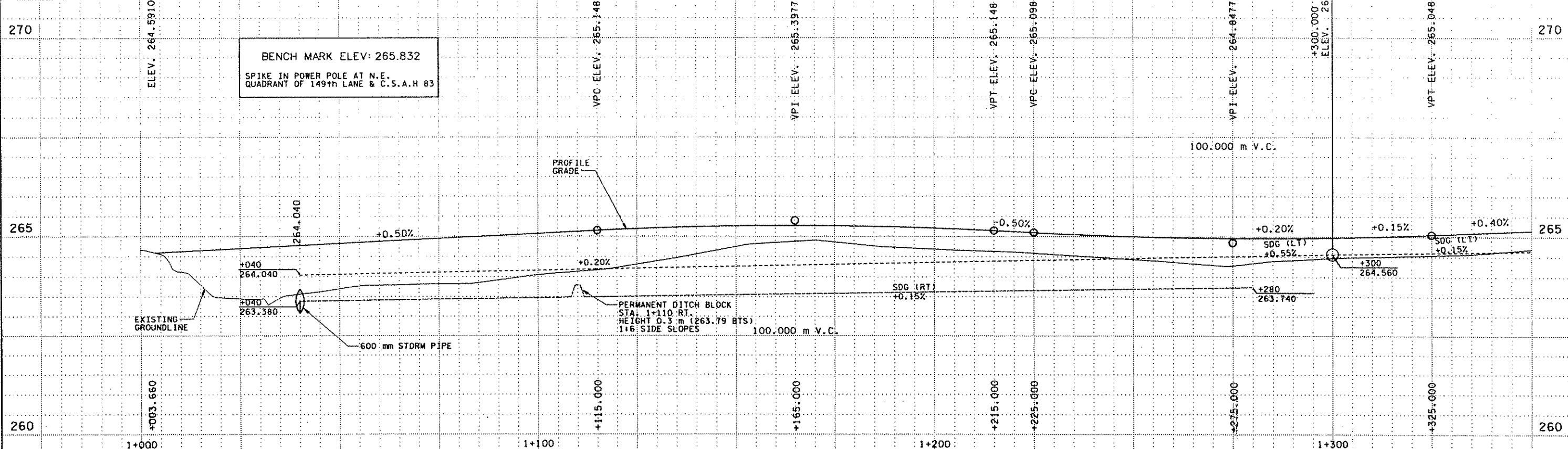
SEE SHEET NO. FOR CSAH 83

STREET RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
15.0	CR 116	1+022.1	22.2 (LT)
15.0	CR 116	1+022.4	21.0 (RT)

NOTES:  
 PAVEMENT CROSS SLOPES ARE METER PER METER.  
 DITCH GRADE ELEVATIONS ARE SHOWN TO BOTTOM OF TOPSOIL (BTS)



SEE SHEET NO. FOR CSAH 83



BENCH MARK ELEV: 265.832  
 SPIKE IN POWER POLE AT N.E. QUADRANT OF 149th LANE & C.S.A.H 83

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NO	DATE	BY	CHKD	APPR	REVISION



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*M. Hansen*  
 Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
 95-05-116  
 CITY PROJECT NO.  
 97-25

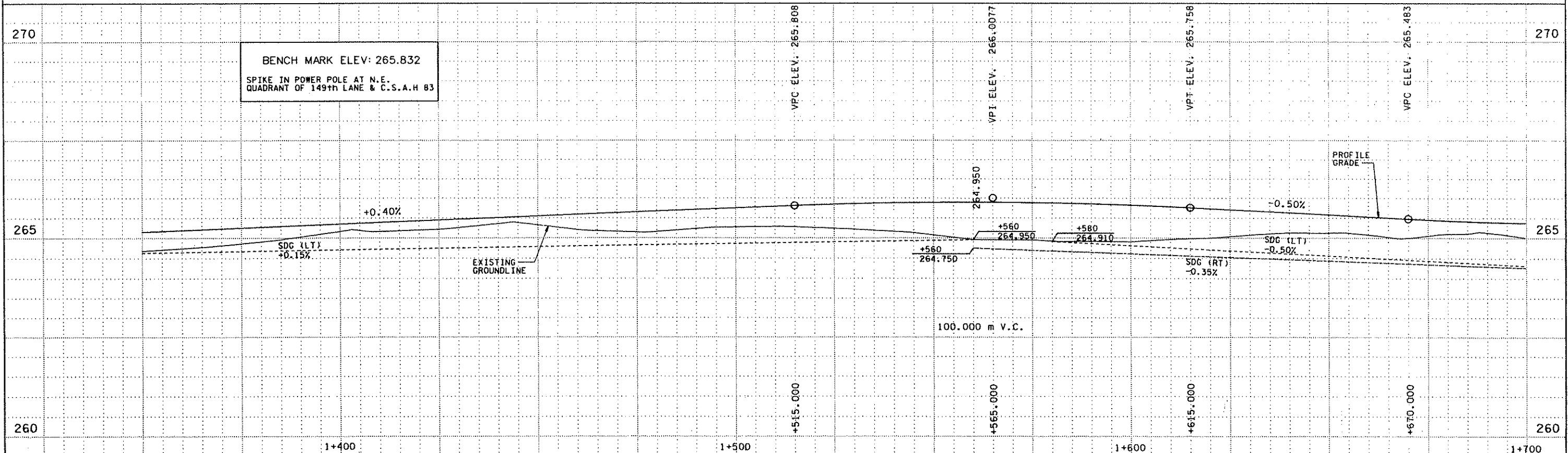
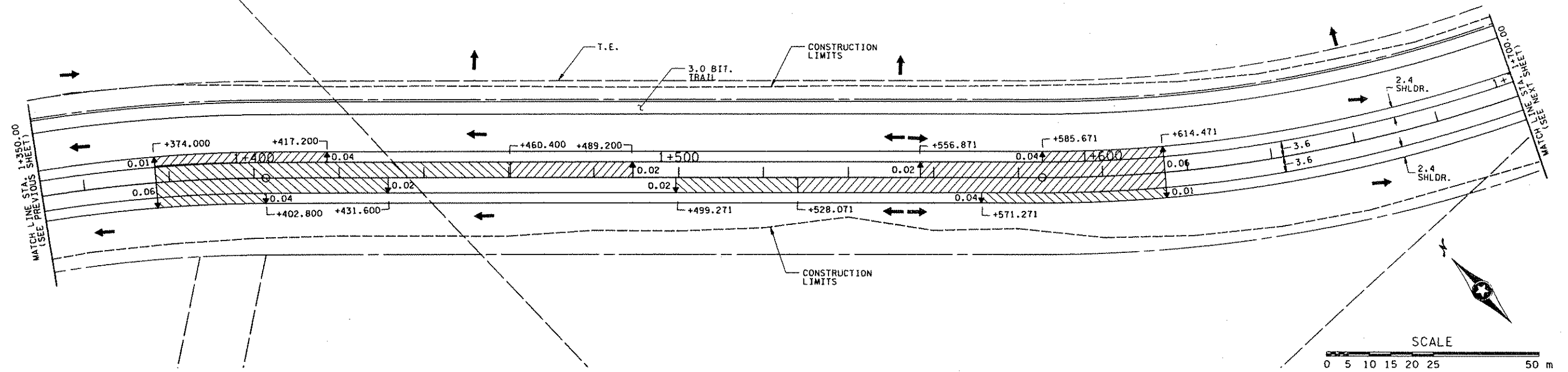
DRAWN BY DATE  
 W. ANDERSON 3-98  
 DESIGNED BY  
 B. URBANEK 3-98  
 CHECKED BY  
 M. HANSEN 5-98  
 COMM. NO.  
 0982953



ANOKA COUNTY  
 CONSTRUCTION PLAN & PROFILE  
 C.R. 116  
 STA. 1+000 TO STA. 1+350

SHEET  
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 OF  
 59

NOTES:  
 PAVEMENT CROSS SLOPES ARE METER PER METER.  
 DITCH GRADE ELEVATIONS ARE SHOWN TO BOTTOM OF TOPSOIL (BTS)



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NO	DATE	BY	CKD	APPR	REVISION



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*M. Hansen*  
 Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
 95-05-116  
 CITY PROJECT NO.  
 97-25

DRAWN BY  
 W. ANDERSON  
 DESIGNED BY  
 B. URBANIK  
 CHECKED BY  
 M. HANSEN  
 DATE  
 3-98  
 3-98  
 5-98  
 COMM. NO.  
 0982953

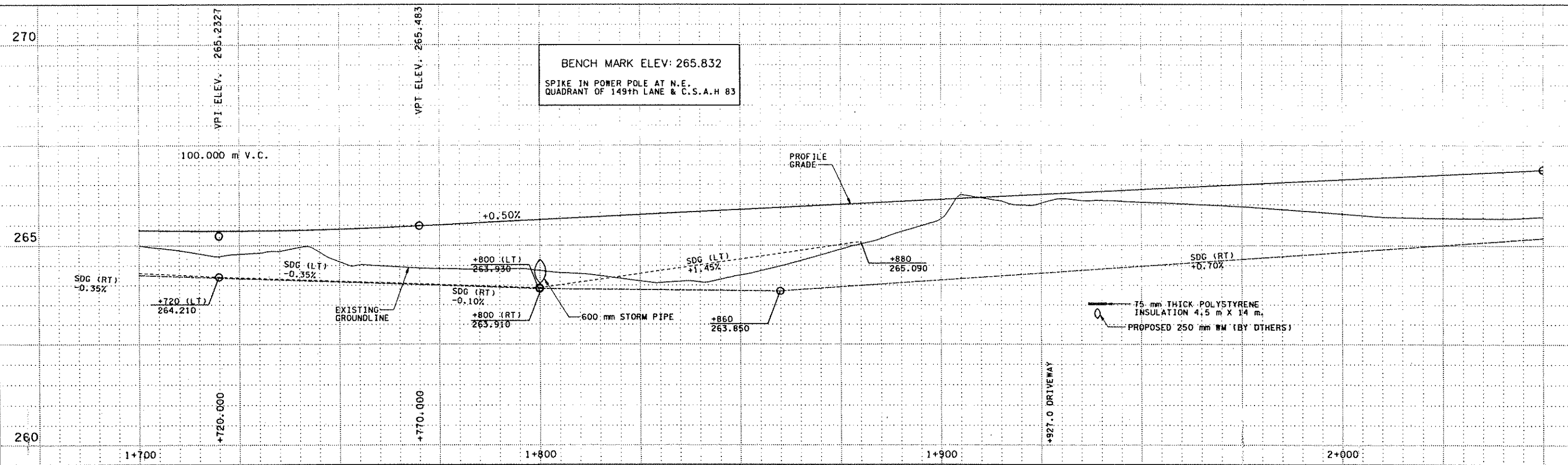
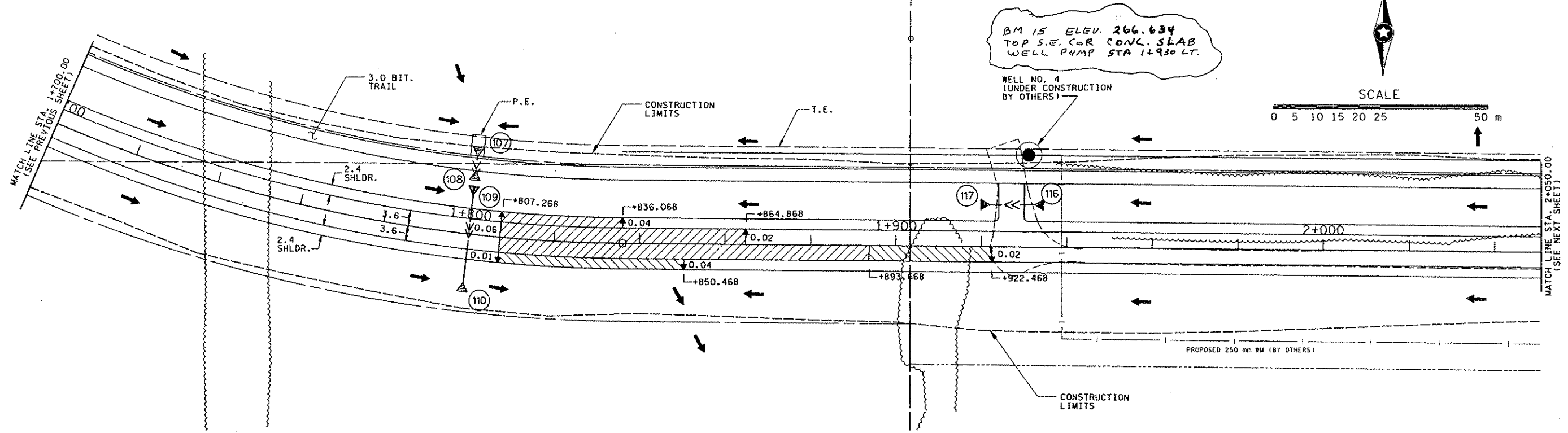


ANOKA COUNTY  
 CONSTRUCTION PLAN & PROFILE  
 C.R. 116  
 STA. 1+350 TO STA. 1+700

SHEET  
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 OF  
 59



NOTES:  
 PAVEMENT CROSS SLOPES ARE METER PER METER.  
 DITCH GRADE ELEVATIONS ARE SHOWN TO BOTTOM OF TOPSOIL (BTS)  
 CLEAR AND GRUB TREES WITHIN CONSTRUCTION LIMITS,  
 SEE TAB X SHEET X.



BENCH MARK ELEV: 265.832  
 SPIKE IN POWER POLE AT N.E.  
 QUADRANT OF 149th LANE & C.S.A.H 83

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NO	DATE	BY	CKD	APPR	REVISION



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*M. Hansen*  
 Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
 95-05-116  
 CITY PROJECT NO.  
 97-25

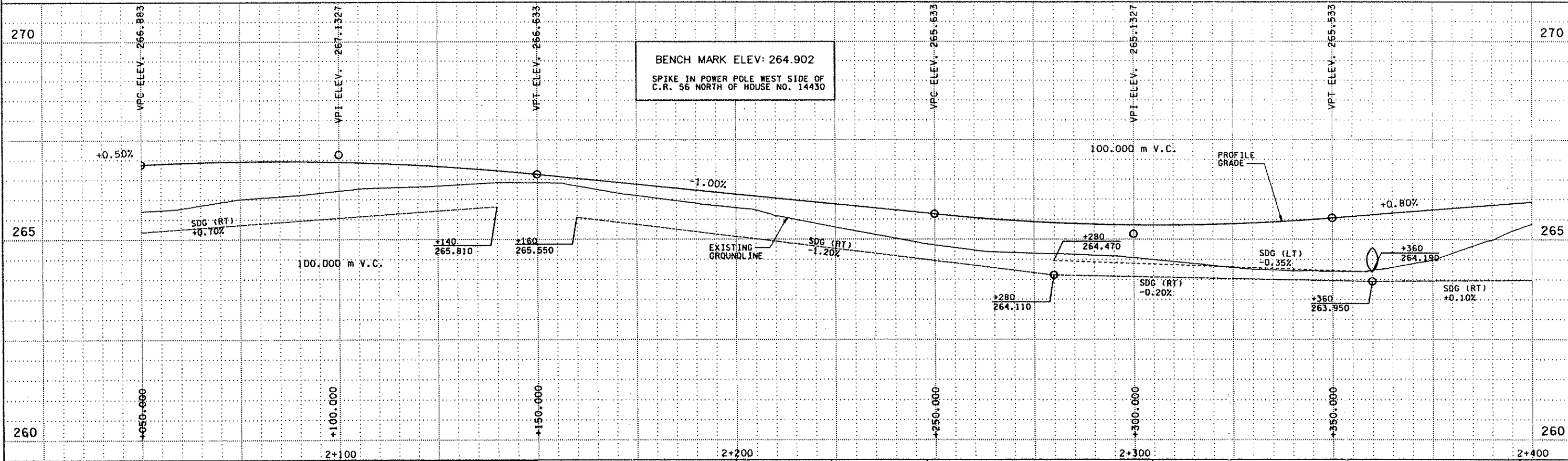
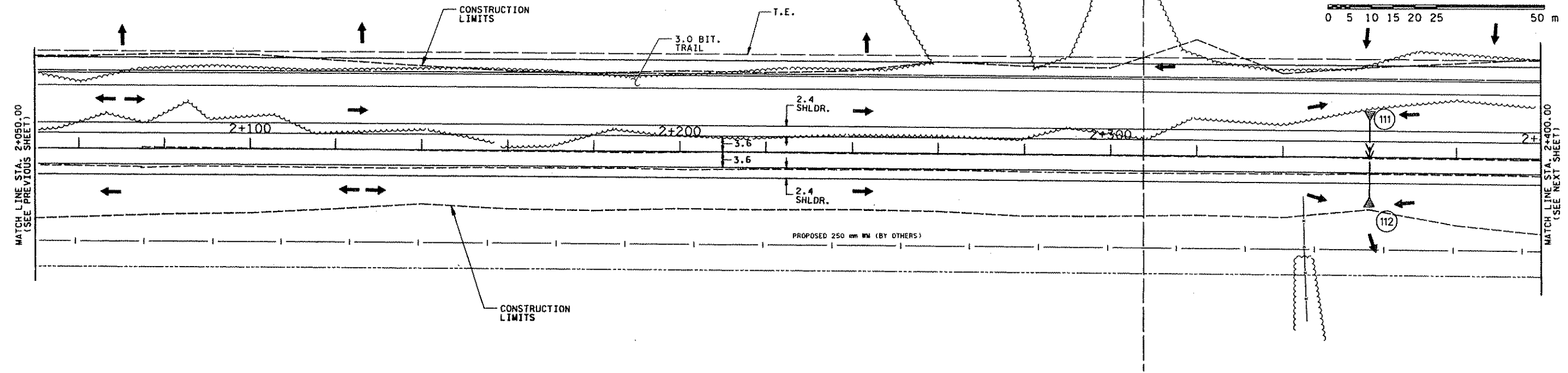
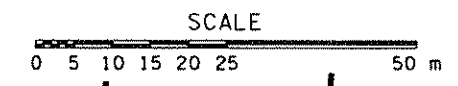
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 W. ANDERSON 3-98  
 DESIGNED BY  
 B. URBANEK 3-98  
 CHECKED BY  
 M. HANSEN 5-98  
 COMM. NO.  
 0982953



ANOKA COUNTY  
 CONSTRUCTION PLAN & PROFILE  
 C.R. 116  
 STA. 1+700 TO STA. 2+050

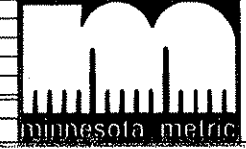
SHEET  
 17  
 OF  
 59

NOTES:  
 PAVEMENT CROSS SLOPES ARE METER PER METER.  
 DITCH GRADE ELEVATIONS ARE SHOWN TO BOTTOM OF TOPSOIL (BTS)  
 CLEAR AND GRUB TREES WITHIN CONSTRUCTION LIMITS,  
 SEE TAB X SHEET X.



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 PLOT SCALE: 12:100000  
 PLOT DATE/TIME: 06/29/98 13:25:40

NO	DATE	BY	CHKD	APPR	REVISION



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*M. Hansen*  
 Date 6-25-98 Reg. No. 21364

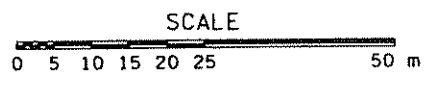
COUNTY PROJ. NO. 95-05-116  
 CITY PROJECT NO. 97-25  
 DRAWN BY W. ANDERSON DATE 3-98  
 DESIGNED BY B. VRBANEK 3-98  
 CHECKED BY M. HANSEN 5-98  
 COMM. NO. 0982953



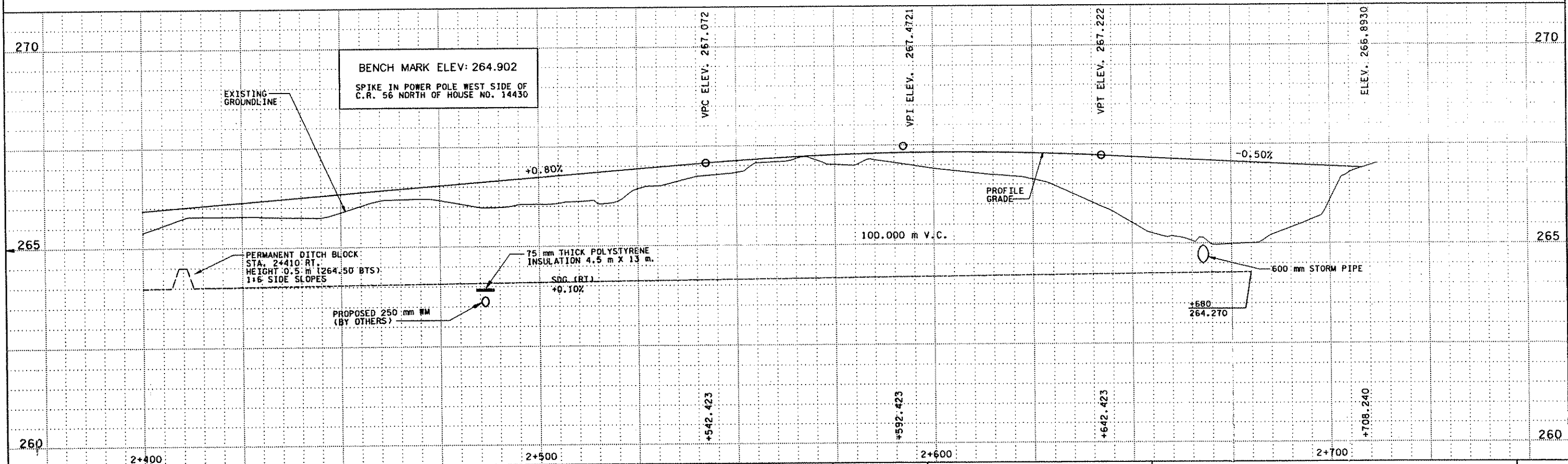
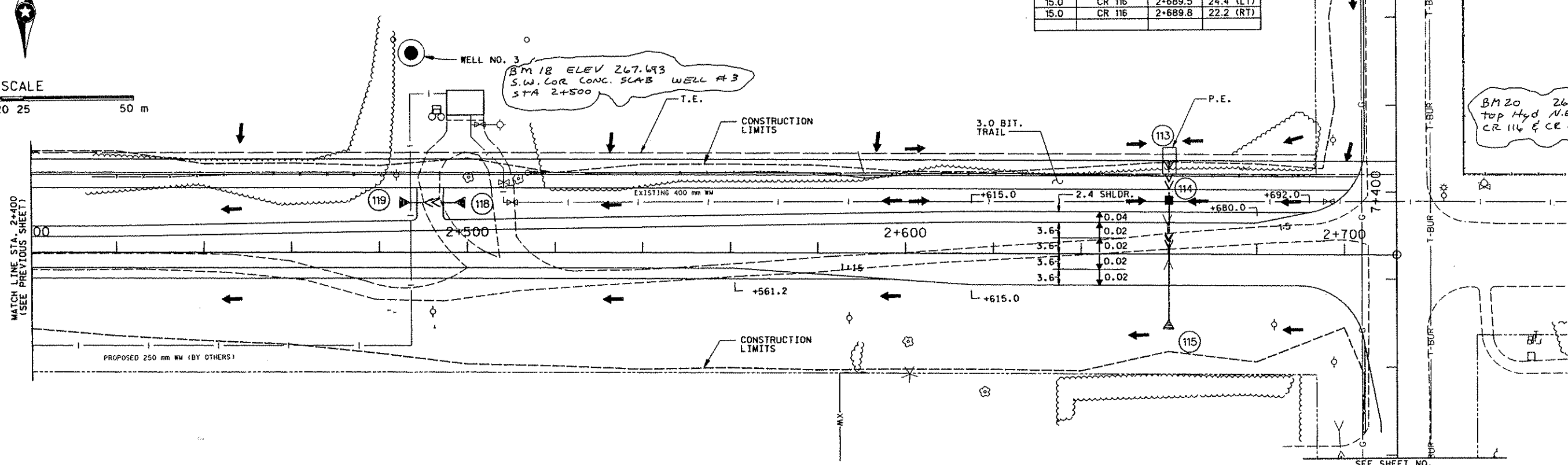
ANOKA COUNTY  
 CONSTRUCTION PLAN & PROFILE  
 C.R. 116  
 STA. 2+050 TO STA. 2+400

SHEET  
 18  
 OF  
 59

NOTES:  
 PAVEMENT CROSS SLOPES ARE METER PER METER.  
 DITCH GRADE ELEVATIONS ARE SHOWN TO BOTTOM OF TOPSOIL (BTS)  
 CLEAR AND CRUB TREES WITHIN CONSTRUCTION LIMITS,  
 SEE TAB X SHEET X.



STREET RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
15.0	CR 116	2+689.5	24.4 (LT)
15.0	CR 116	2+689.8	22.2 (RT)



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 PLOT SCALE: 1:2,700,000  
 PLOT DATE/TIME: 06/29/98 13:26:25

NO	DATE	BY	CHKD	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 Registered Professional Engineer under the laws of the State of Minnesota.

*M. Hansen*  
 Date: 6-25-98 Reg. No. 31364

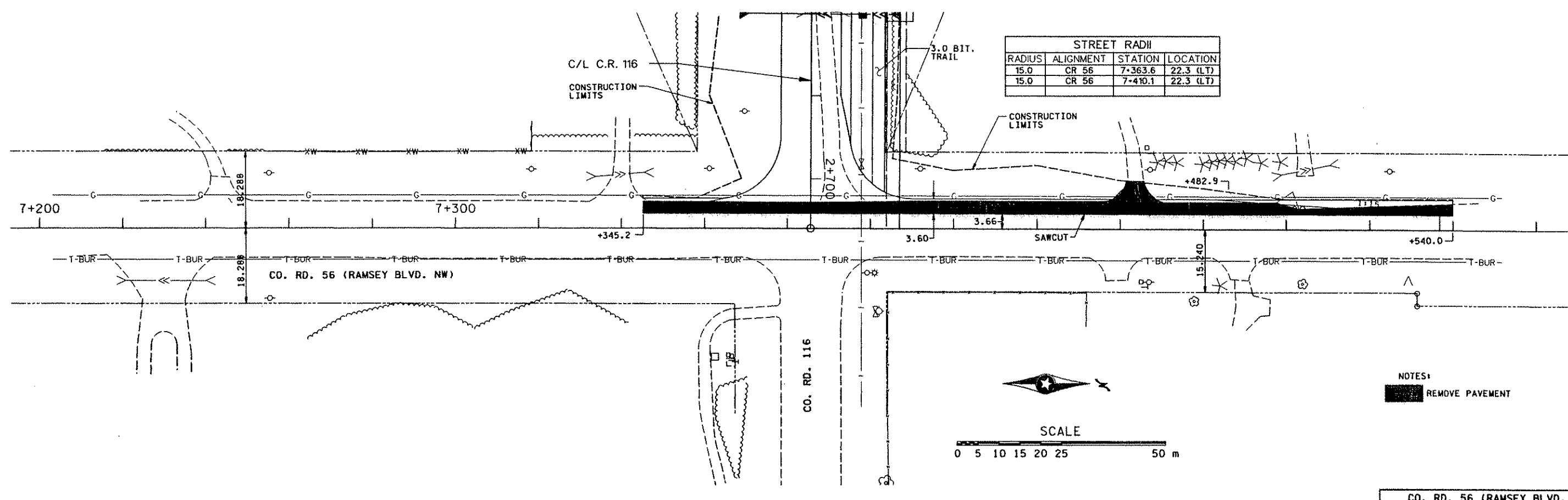
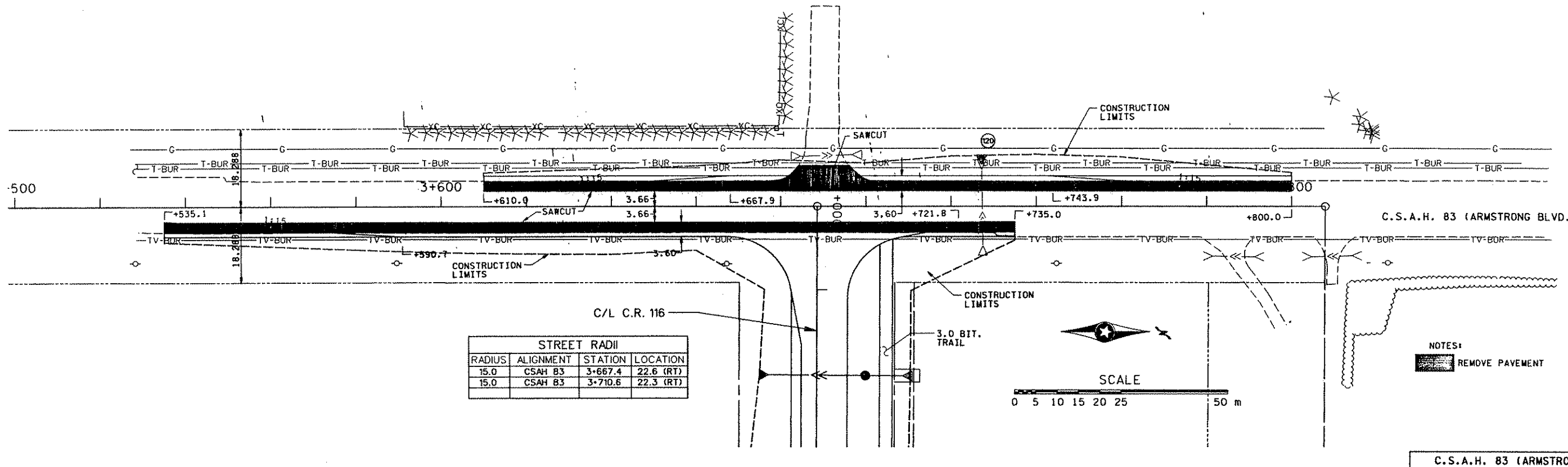
COUNTY PROJ. NO. 95-05-116  
 CITY PROJECT NO. 97-25

DRAWN BY: W. ANDERSON DATE: 3-98  
 DESIGNED BY: B. URBANEK DATE: 3-98  
 CHECKED BY: M. HANSEN DATE: 5-98  
 COMM. NO. 0982953



ANOKA COUNTY  
 CONSTRUCTION PLAN & PROFILE  
 C.R. 116  
 STA 2+400 TO STA 2+712

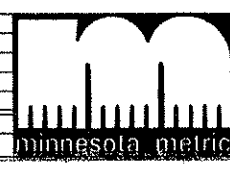
SHEET 19 OF 59



DESIGN FILE: H:\CIVIL\1047\2953\2953.dwg  
 PLOT FILE: H:\CIVIL\1047\2953\2953.plt  
 PLOTTER: MS-DesignJet-485-PS-2  
 PLOT SCALE: 1:25000  
 PLOT DATE/TIME: 06/29/98 13:26:53

NO	DATE	BY	CHKD	APPR	REVISION

NAME: 2953.CPF DATE: May. 20, 1998 TIME: 15:29:44



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.  
*M. Hansen*  
 Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO. 95-05-116  
 CITY PROJECT NO. 97-25

DRAWN BY W. ANDERSON DATE 3-98  
 DESIGNED BY B. URBANEK DATE 3-98  
 CHECKED BY M. HANSEN DATE 5-98  
 COMM. NO. 0982953

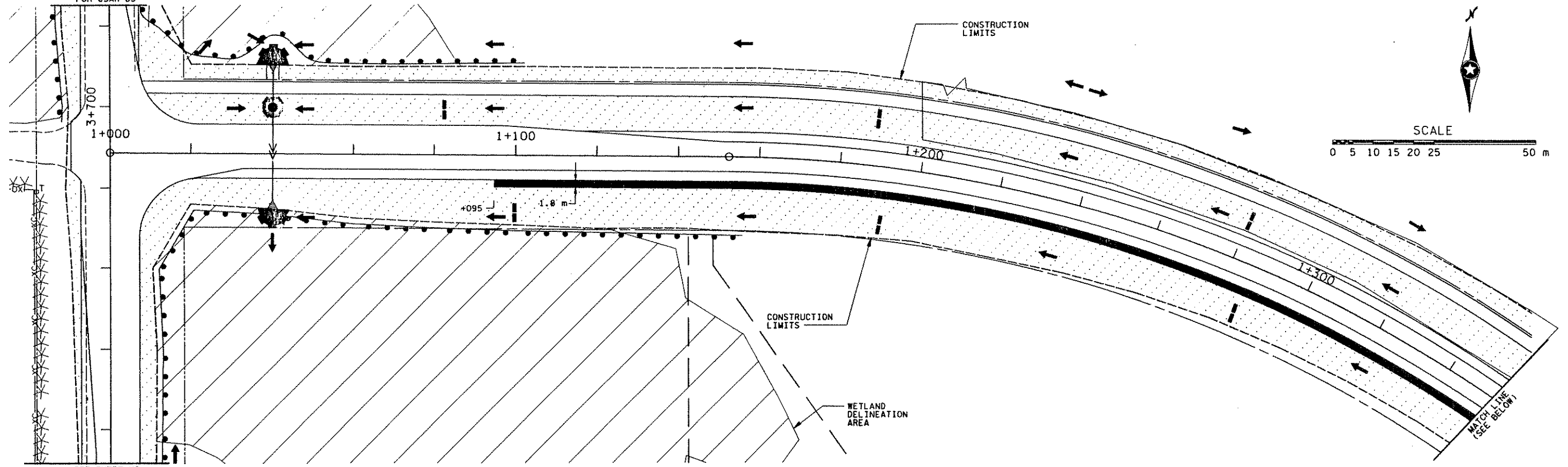


ANOKA COUNTY  
 TURN LANE DETAILS  
 C.R. 116

SHEET 20 OF 59



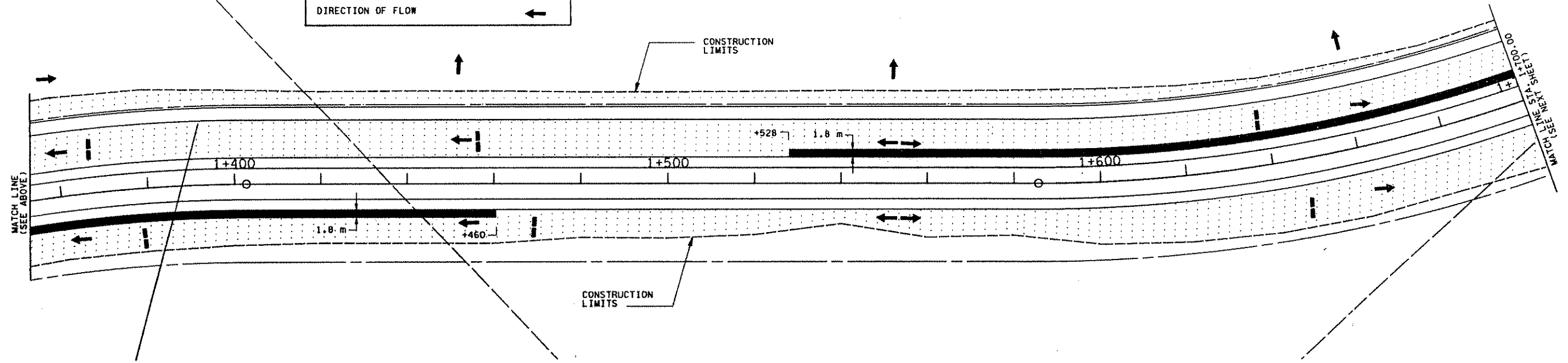
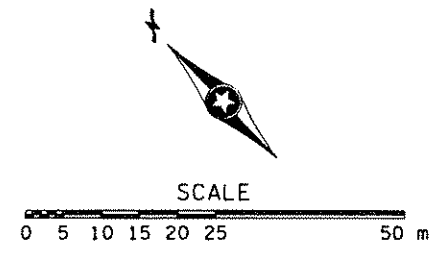
SEE SHEET NO.  
FOR CSAH 83



SEE SHEET NO.  
FOR CSAH 83

**LEGEND**

- SILT FENCE
- BALE DITCH SEDIMENT CHECK
- SEED (MIXTURE 70A)
- SEED (MIXTURE 70A) W/  
STRAW IS BLANKET
- DIRECTION OF FLOW



DESIGN FILE: P:\CIVIL\0472953\2953.dwg  
 PRF FILE: P:\CIVIL\0472953\2953.dwg  
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 PLOT SCALE: 1:2,700,000  
 PLOT DATE/TIME: 06/23/98 13:30:06

NO	DATE	BY	CHKD	APPR	REVISION

NAME: 2953.TEA DATE: May, 20, 1998 TIME: 16:23:34



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

*M. Hansen*  
Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
95-05-116

CITY PROJECT NO.  
97-25

DRAWN BY  
W. ANDERSON 3-98

DESIGNED BY  
B. URBANEK 3-98

CHECKED BY  
M. HANSEN 5-98

DATE  
3-98

COMM. NO.  
0982953



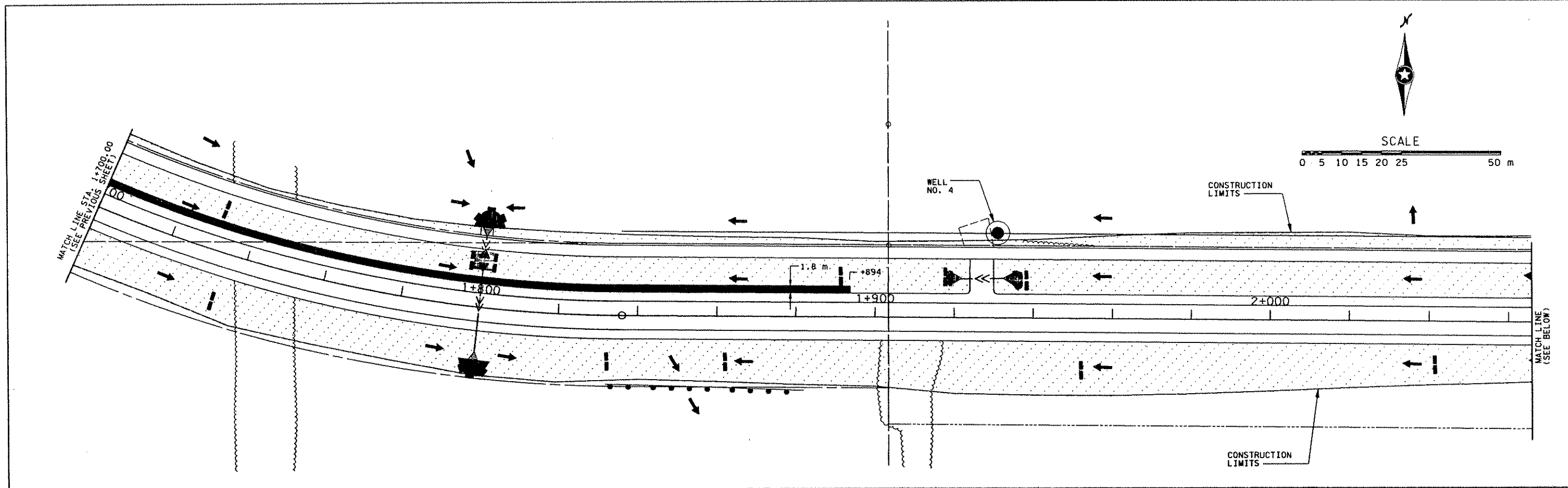
ANOKA COUNTY

TURF ESTABLISHMENT & EROSION CONTROL PLAN

C.R. 116

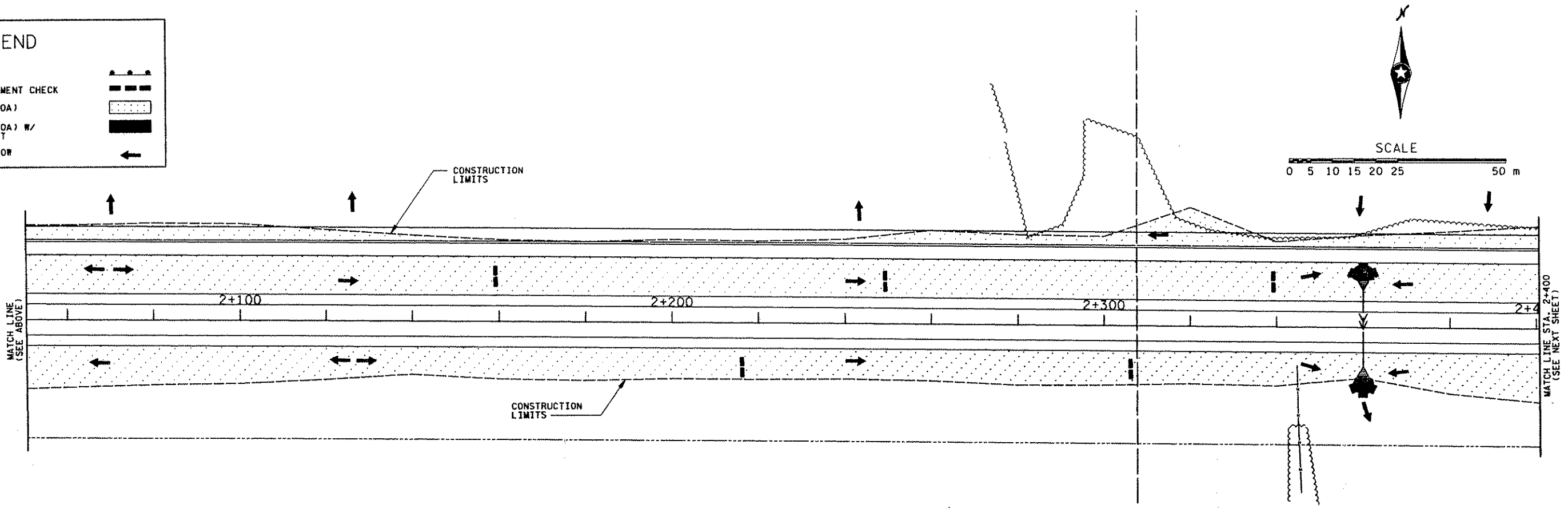
STA. 1+000 TO STA. 1+700

SHEET  
22  
OF  
59



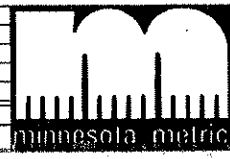
**LEGEND**

SILT FENCE	
BALE DITCH SEDIMENT CHECK	
SEED (MIXTURE TOA)	
SEED (MIXTURE TOA) W/ STRAW IS BLANKET	
DIRECTION OF FLOW	



DESIGN FILE: P:\CIVIL\1047\2953\2953.TEB  
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 PLOT SCALE: 1:2.700000  
 PLOT DATE/TIME: 06/23/98 13:40:05

NO	DATE	BY	CHKD	APPR	REVISION



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*M. Hansen*  
 Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
95-05-116

CITY PROJECT NO.  
97-25

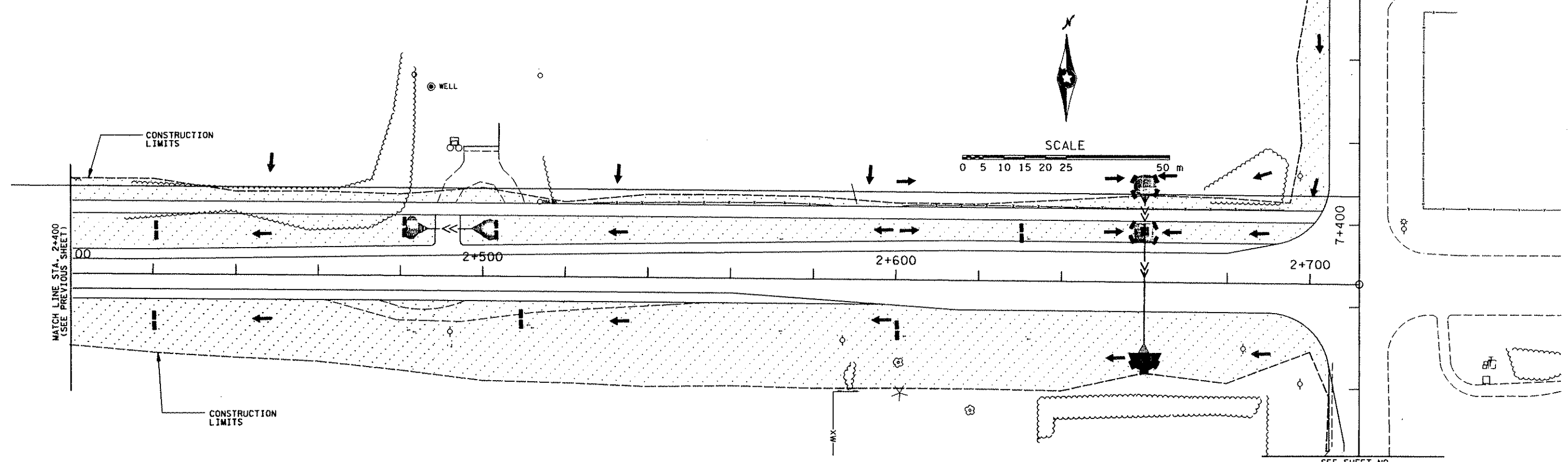
DRAWN BY: W. ANDERSON DATE: 3-98  
 DESIGNED BY: B. URBANEK DATE: 3-98  
 CHECKED BY: M. HANSEN DATE: 5-98  
 COMM. NO.: 0982953



ANOKA COUNTY  
 TURF ESTABLISHMENT & EROSION CONTROL PLAN  
 C.R. 116  
 STA. 1+700 TO STA. 2+400






SHEET  
23  
OF  
59

SEE SHEET NO.  
FOR C. R. 56



SEE SHEET NO.  
FOR C. R. 56

LEGEND

- SILT FENCE 
- BALE DITCH SEDIMENT CHECK 
- SEED (MIXTURE 70A) 
- SEED (MIXTURE 70A) W/  
STRAW IS BLANKET 
- DIRECTION OF FLOW 

DESIGN FILE: H:\CIVIL\047\2953\2953.dwg  
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 PLOT SCALE: 1:2,700  
 PLOT DATE/TIME: 09/29/98 13:40:35

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 Registered Professional Engineer under the laws of the State of Minnesota.  
*M. Hansen*  
 Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
95-05-116  
 CITY PROJECT NO.  
97-25

DRAWN BY: W. ANDERSON DATE: 3-98  
 DESIGNED BY: B. URBANEK DATE: 3-98  
 CHECKED BY: M. HANSEN DATE: 5-98  
 COMM. NO.: 0982953



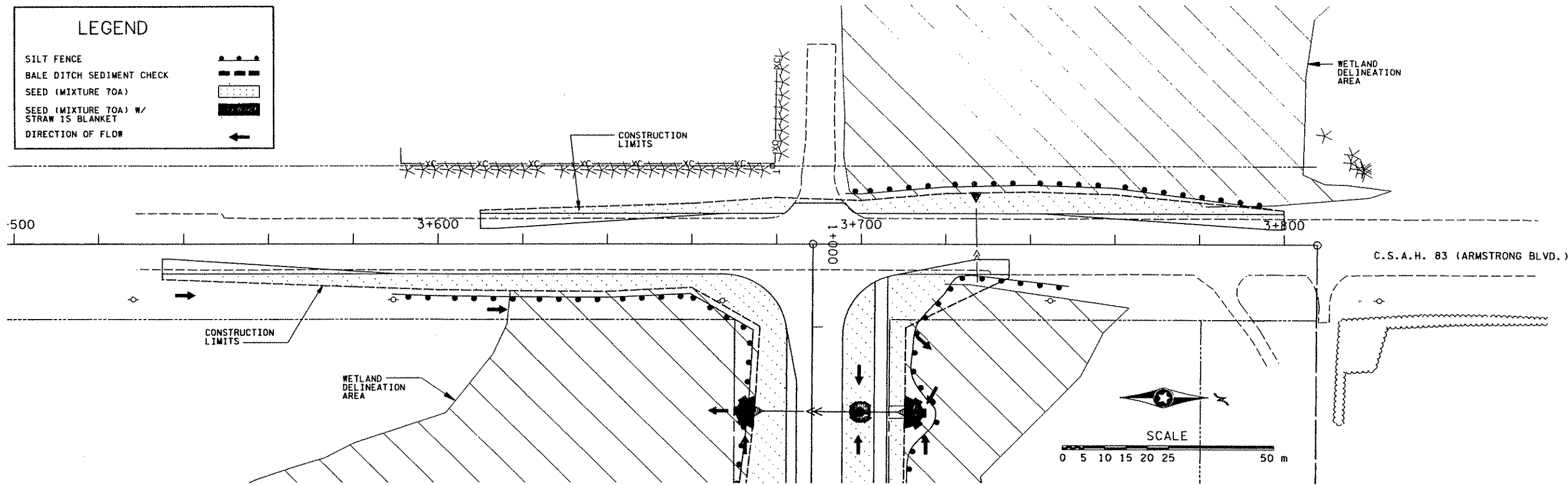
ANOKA COUNTY  
 TURF ESTABLISHMENT & EROSION CONTROL PLAN  
 C.R. 116  
 STA 2+400 TO STA. 2+712

SHEET  
24  
OF  
59

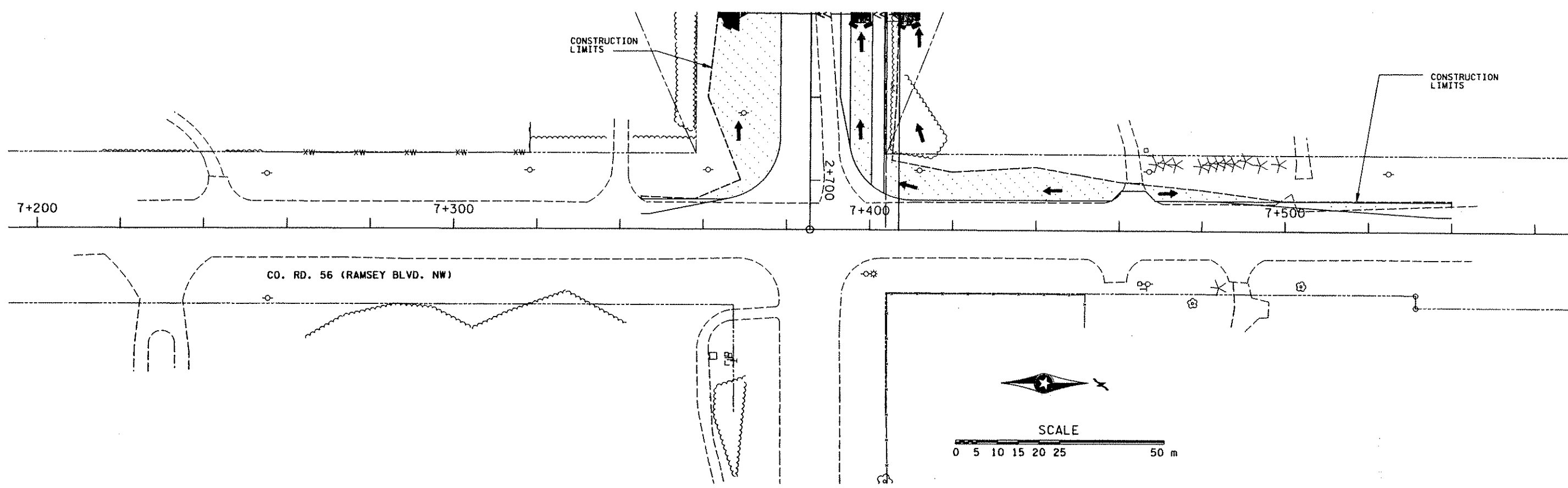


**LEGEND**

- SILT FENCE
- BALE DITCH SEDIMENT CHECK
- SEED (MIXTURE 70A)
- SEED (MIXTURE 70A) W/  
STRAW IS BLANKET
- DIRECTION OF FLOW



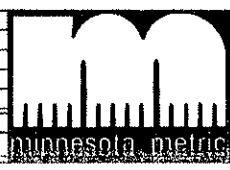
C.S.A.H. 83 (ARMSTRONG BLVD.)



CO. RD. 56 (RAMSEY BLVD. NW)

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 PLOT SCALE: 1:500  
 PLOT DATE/TIME: 06/29/98 13:42:23

NO	DATE	BY	CHKD	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 Registered Professional Engineer under the laws of the State of Minnesota.

*Walter D. Hansen*  
 Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
95-05-116

CITY PROJECT NO.  
97-25

DRAWN BY DATE  
W. ANDERSON 3-98

DESIGNED BY  
B. URBANEK 3-98

CHECKED BY  
M. HANSEN 5-98

COMM. NO.  
0982953

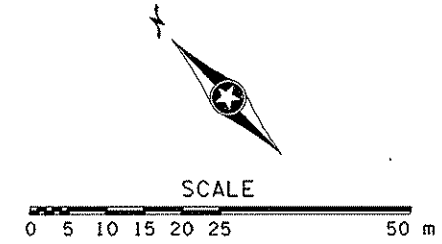
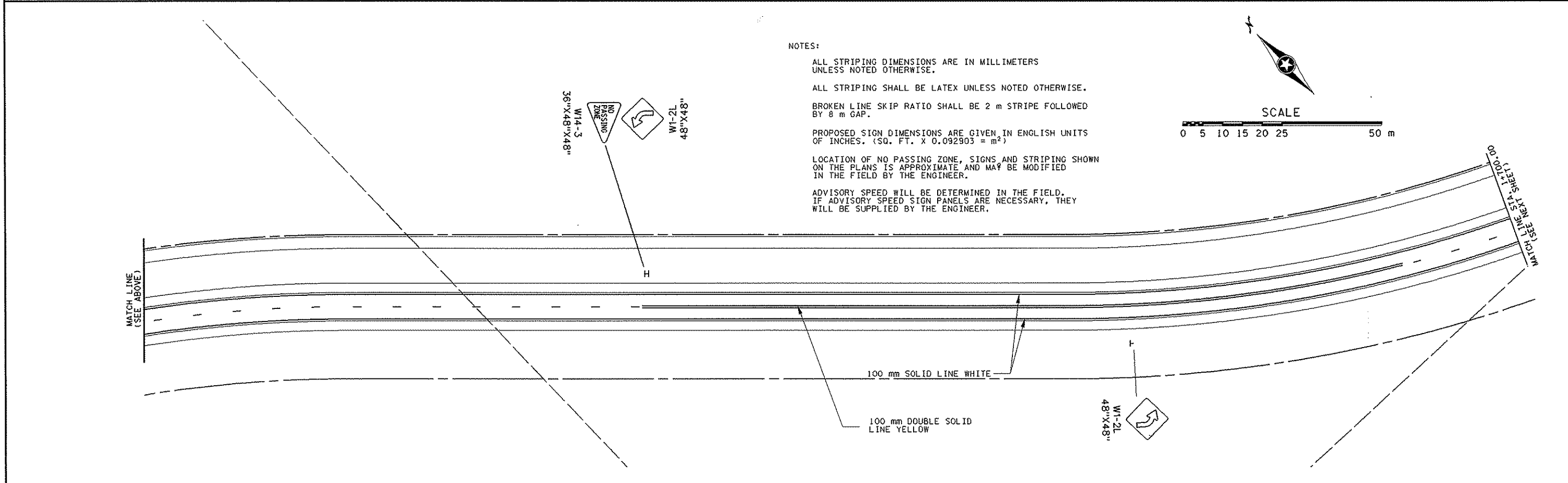
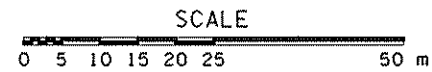
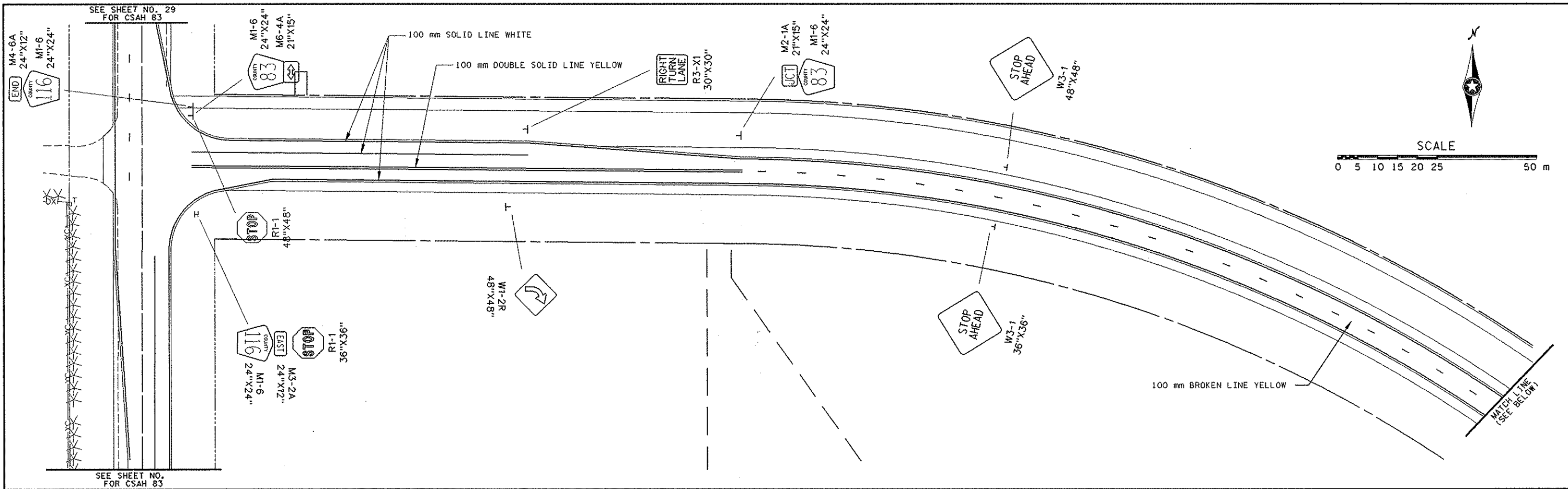


ANOKA COUNTY

TURF ESTABLISHMENT & EROSION CONTROL PLAN

C.R. 116

SHEET  
25  
OF  
59



NOTES:

- ALL STRIPING DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- ALL STRIPING SHALL BE LATEX UNLESS NOTED OTHERWISE.
- BROKEN LINE SKIP RATIO SHALL BE 2 m STRIPE FOLLOWED BY 8 m GAP.
- PROPOSED SIGN DIMENSIONS ARE GIVEN IN ENGLISH UNITS OF INCHES. (SQ. FT. X 0.092903 = m<sup>2</sup>)
- LOCATION OF NO PASSING ZONE, SIGNS AND STRIPING SHOWN ON THE PLANS IS APPROXIMATE AND MAY BE MODIFIED IN THE FIELD BY THE ENGINEER.
- ADVISORY SPEED WILL BE DETERMINED IN THE FIELD. IF ADVISORY SPEED SIGN PANELS ARE NECESSARY, THEY WILL BE SUPPLIED BY THE ENGINEER.

DESIGN FILE: N:\GIV\11\047\2953\2953.sso  
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 PLOT DATE/TIME: 06/20/98 07:43:13

NO	DATE	BY	CHKD	APPR	REVISION
1	6-29-98	JEH	JRD		REVISE STOP SIGN



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.  
*M. Hansen*  
 Date: 6-25-98 Reg. No. 21364

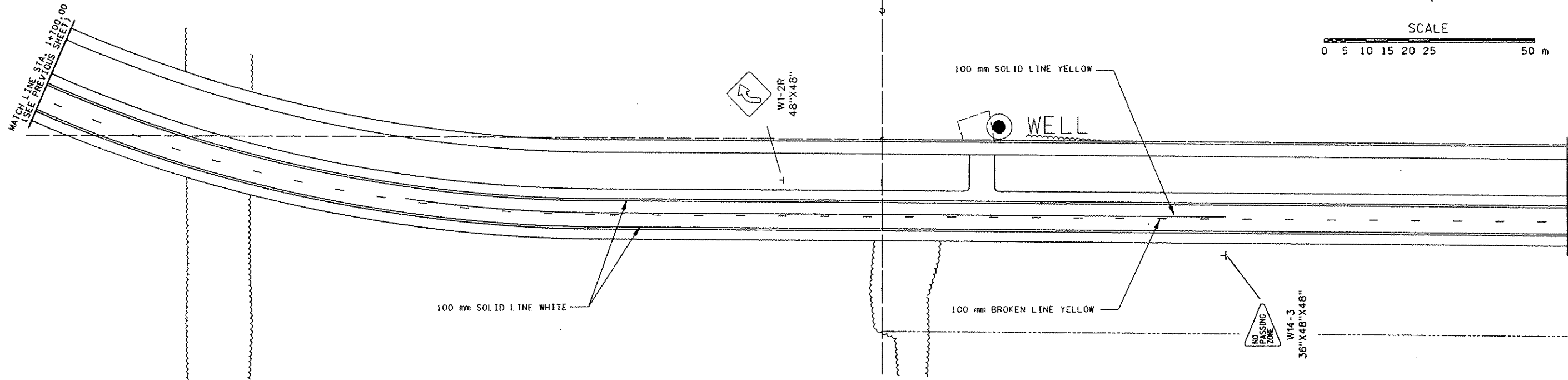
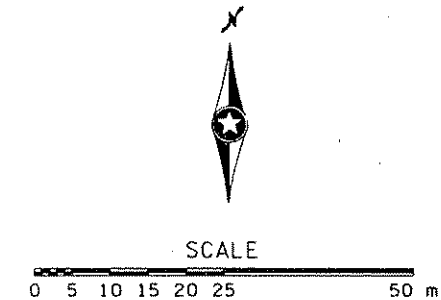
COUNTY PROJ. NO. 95-05-116  
 CITY PROJECT NO. 97-25  
 DRAWN BY W. ANDERSON DATE 3-98  
 DESIGNED BY B. URBAHEK 3-98  
 CHECKED BY M. HANSEN 5-98  
 COMM. NO. 0982953



ANOKA COUNTY  
 SIGNING & STRIPING PLAN  
 C.R. 116  
 STA. 1+000 TO STA. 1+700

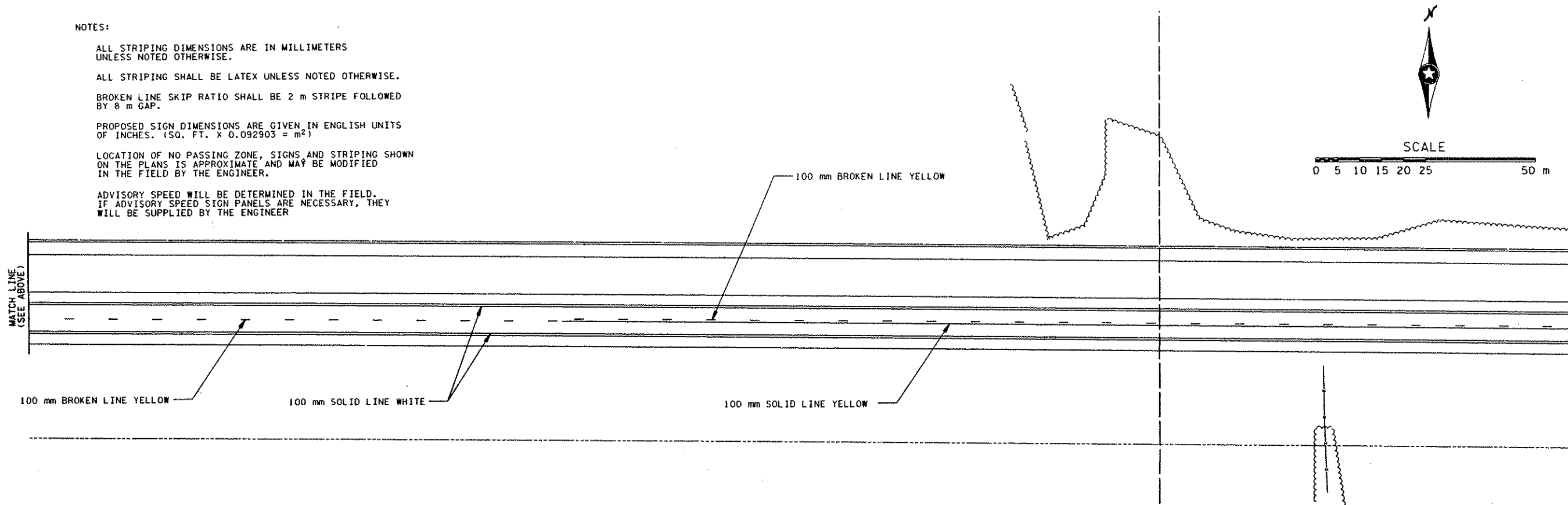
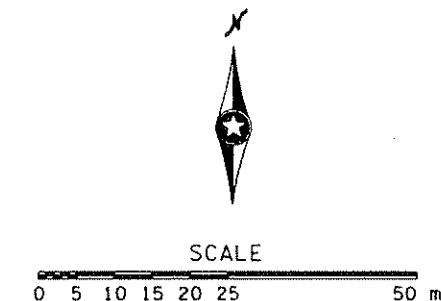
SHEET 26 OF 59

MATCH LINE STA. 1+700.00  
(SEE PREVIOUS SHEET)



NOTES:

- ALL STRIPING DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- ALL STRIPING SHALL BE LATEX UNLESS NOTED OTHERWISE.
- BROKEN LINE SKIP RATIO SHALL BE 2 m STRIPE FOLLOWED BY 8 m GAP.
- PROPOSED SIGN DIMENSIONS ARE GIVEN IN ENGLISH UNITS OF INCHES. (SQ. FT. X 0.092903 = m<sup>2</sup>)
- LOCATION OF NO PASSING ZONE, SIGNS AND STRIPING SHOWN ON THE PLANS IS APPROXIMATE AND MAY BE MODIFIED IN THE FIELD BY THE ENGINEER.
- ADVISORY SPEED WILL BE DETERMINED IN THE FIELD. IF ADVISORY SPEED SIGN PANELS ARE NECESSARY, THEY WILL BE SUPPLIED BY THE ENGINEER.



DESIGN FILE: M:\CIVIL\1047\2953\2953.dwg  
 PLOT FILE: M:\CIVIL\1047\2953\2953.plt  
 PLOT SCALE: 1:10000  
 PLOT DATE/TIME: 06/29/98 13:43:00

NO	DATE	BY	CHKD	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 Registered Professional Engineer under the laws of the State of Minnesota.  
*M. Hansen*  
 Date 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
95-05-116  
 CITY PROJECT NO.  
97-25

DRAWN BY: W. ANDERSON DATE: 3-98  
 DESIGNED BY: B. URBANEK DATE: 3-98  
 CHECKED BY: M. HANSEN DATE: 5-98  
 COMM. NO.: 0982953



ANOKA COUNTY  
 SIGNING & STRIPING PLAN  
 C.R. 116  
 STA. 1+700 TO STA. 2+400

SHEET  
 27  
 OF  
 59

NOTES:

ALL STRIPING DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

ALL STRIPING SHALL BE LATEX UNLESS NOTED OTHERWISE.

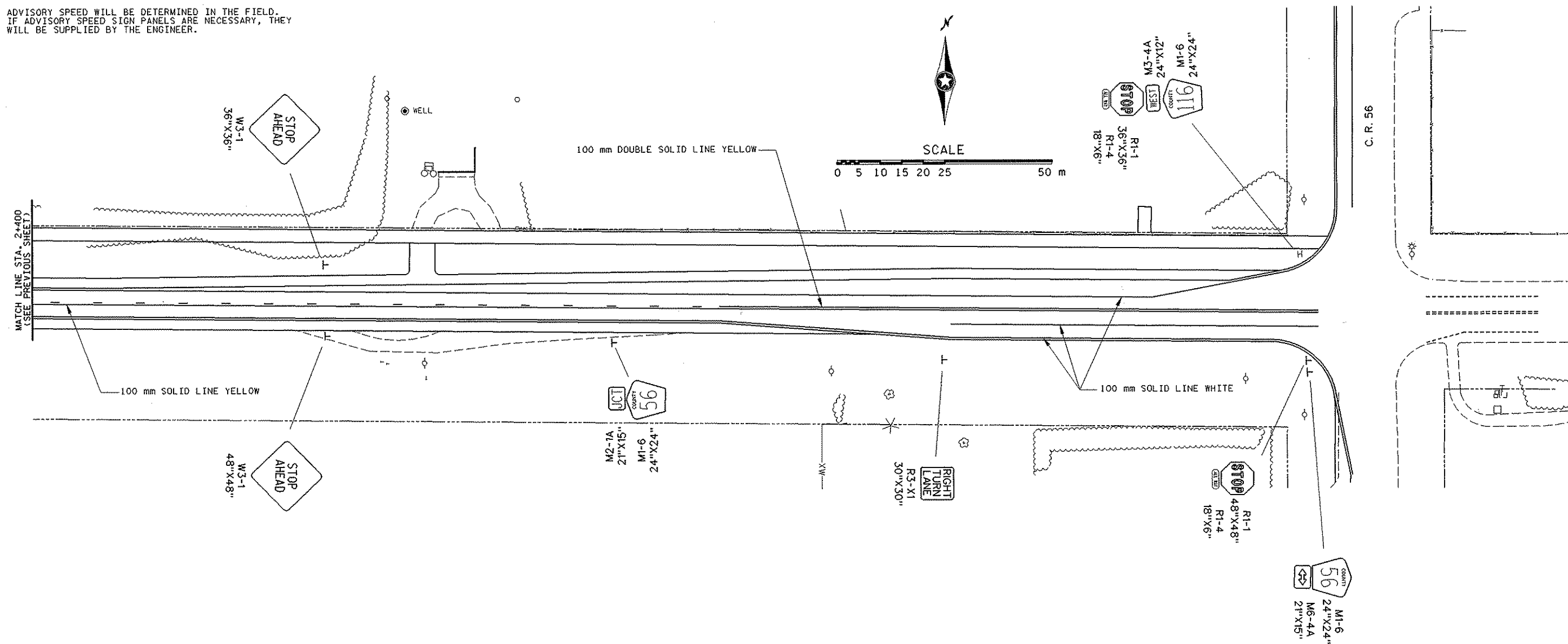
BROKEN LINE SKIP RATIO SHALL BE 2 m STRIPE FOLLOWED BY 8 m GAP.

PROPOSED SIGN DIMENSIONS ARE GIVEN IN ENGLISH UNITS OF INCHES. (SQ. FT. X 0.092903 = m<sup>2</sup>)

LOCATION OF NO PASSING ZONE, SIGNS AND STRIPING SHOWN ON THE PLANS IS APPROXIMATE AND MAY BE MODIFIED IN THE FIELD BY THE ENGINEER.

ADVISORY SPEED WILL BE DETERMINED IN THE FIELD. IF ADVISORY SPEED SIGN PANELS ARE NECESSARY, THEY WILL BE SUPPLIED BY THE ENGINEER.

SEE SHEET NO. 29 FOR SIGNING AND STRIPING ON C.R. 56



DESIGN FILE: P:\N\11\047\2953\2953.ssc  
 PLOT FILE: P:\N\11\047\2953\2953.plt  
 PLOT SCALE: 1:1000  
 PLOT DATE/TIME: 06/30/98 07:44:20

NO	DATE	BY	CHK	APPR	REVISION
1	6-29-98	JEH	JRD		REVISE STOP SIGN



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

*M. D. Howe*  
 Date: 6-25-98 Reg. No. 21364

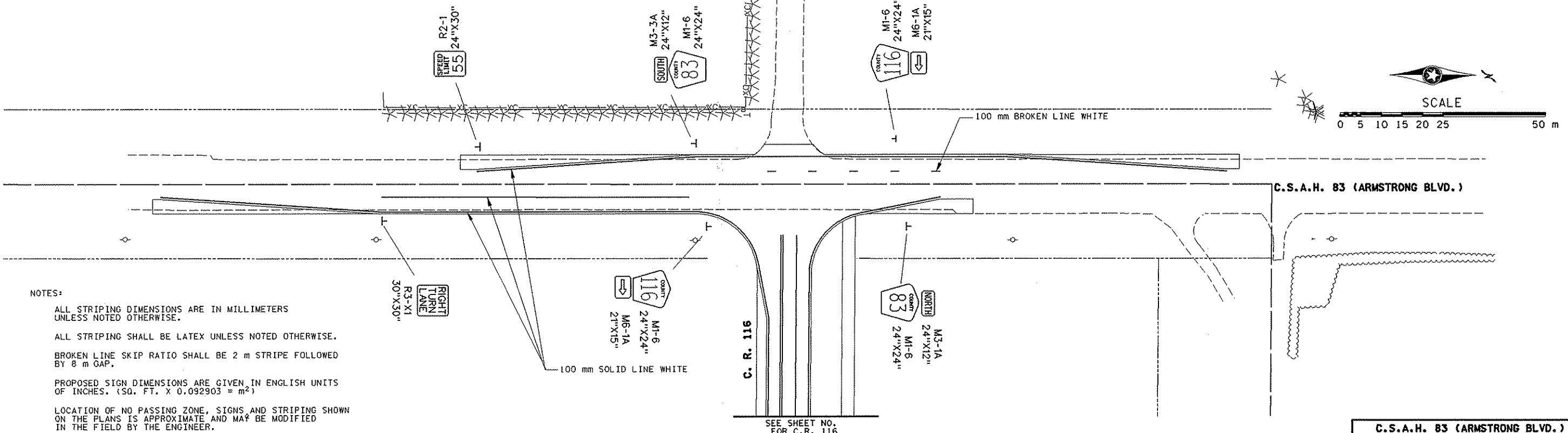
COUNTY PROJ. NO. 95-05-116  
 CITY PROJECT NO. 97-25

DRAWN BY W. ANDERSON DATE 3-98  
 DESIGNED BY B. URBANEK DATE 3-98  
 CHECKED BY M. HANSEN DATE 5-98  
 COMM. NO. 0982953



ANOKA COUNTY  
 SIGNING & STRIPING PLAN  
 C.R. 116  
 STA. 2+400 TO STA. 2+712

SHEET 28 OF 59



NOTES:

ALL STRIPING DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

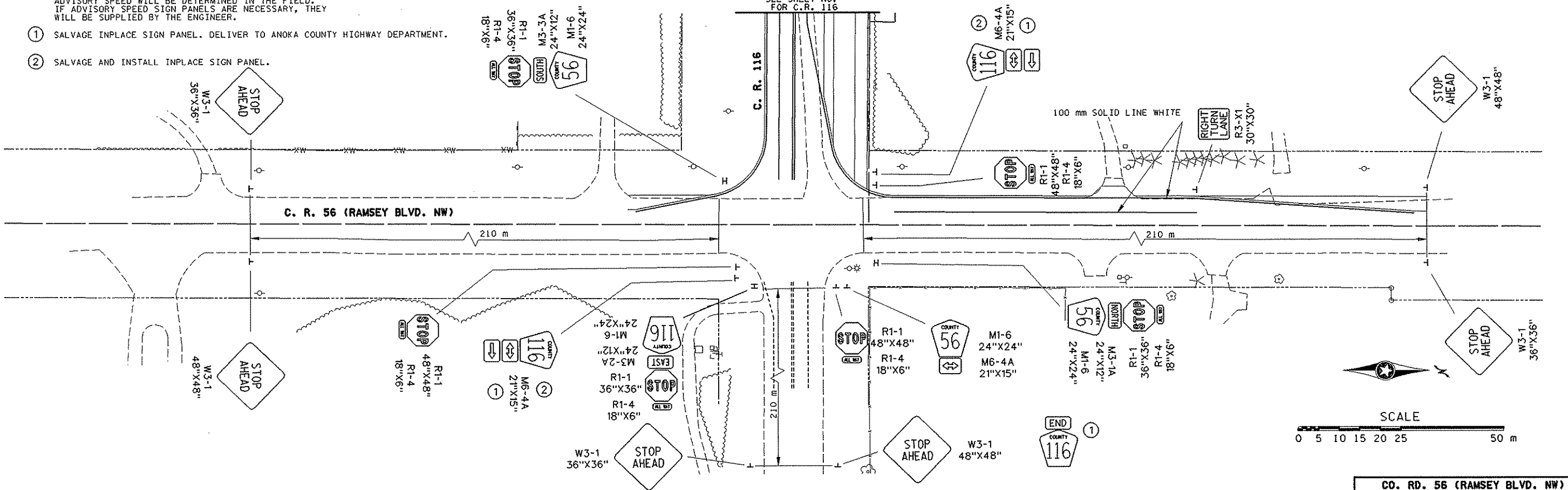
ALL STRIPING SHALL BE LATEX UNLESS NOTED OTHERWISE.

BROKEN LINE SKIP RATIO SHALL BE 2 m STRIPE FOLLOWED BY 8 m GAP.

PROPOSED SIGN DIMENSIONS ARE GIVEN IN ENGLISH UNITS OF INCHES. (SQ. FT. X 0.092903 = m<sup>2</sup>)

LOCATION OF NO PASSING ZONE, SIGNS AND STRIPING SHOWN ON THE PLANS IS APPROXIMATE AND MAY BE MODIFIED IN THE FIELD BY THE ENGINEER.

- ADVISORY SPEED WILL BE DETERMINED IN THE FIELD. IF ADVISORY SPEED SIGN PANELS ARE NECESSARY, THEY WILL BE SUPPLIED BY THE ENGINEER.
- 1 SALVAGE INPLACE SIGN PANEL. DELIVER TO ANOKA COUNTY HIGHWAY DEPARTMENT.
  - 2 SALVAGE AND INSTALL INPLACE SIGN PANEL.



DESIGN FILE: N:\GIV\11047\2953\2953.ssd  
 PLOT FILE: N:\GIV\11047\2953\2953.plt  
 PLOTTER: MS-HP551MK  
 PLOT SCALE: 1:1000.00000  
 PLOT DATE/TIME: 06/30/98 07:44:47

NO	DATE	BY	CHK	APPR	REVISION
1	6-29-98	JEH	JRD		REVISE STOP SIGN



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

*Michael J. Hanen*  
 Date 6-25-98 Reg. No. 21364

COUNTY PROJ. NO. 95-05-116  
 CITY PROJECT NO. 97-25

DRAWN BY W. ANDERSON DATE 3-98  
 DESIGNED BY B. URBANK 3-98  
 CHECKED BY M. HANSEN 5-98  
 COMM. NO. 0982953



**SRF CONSULTING GROUP, INC.**

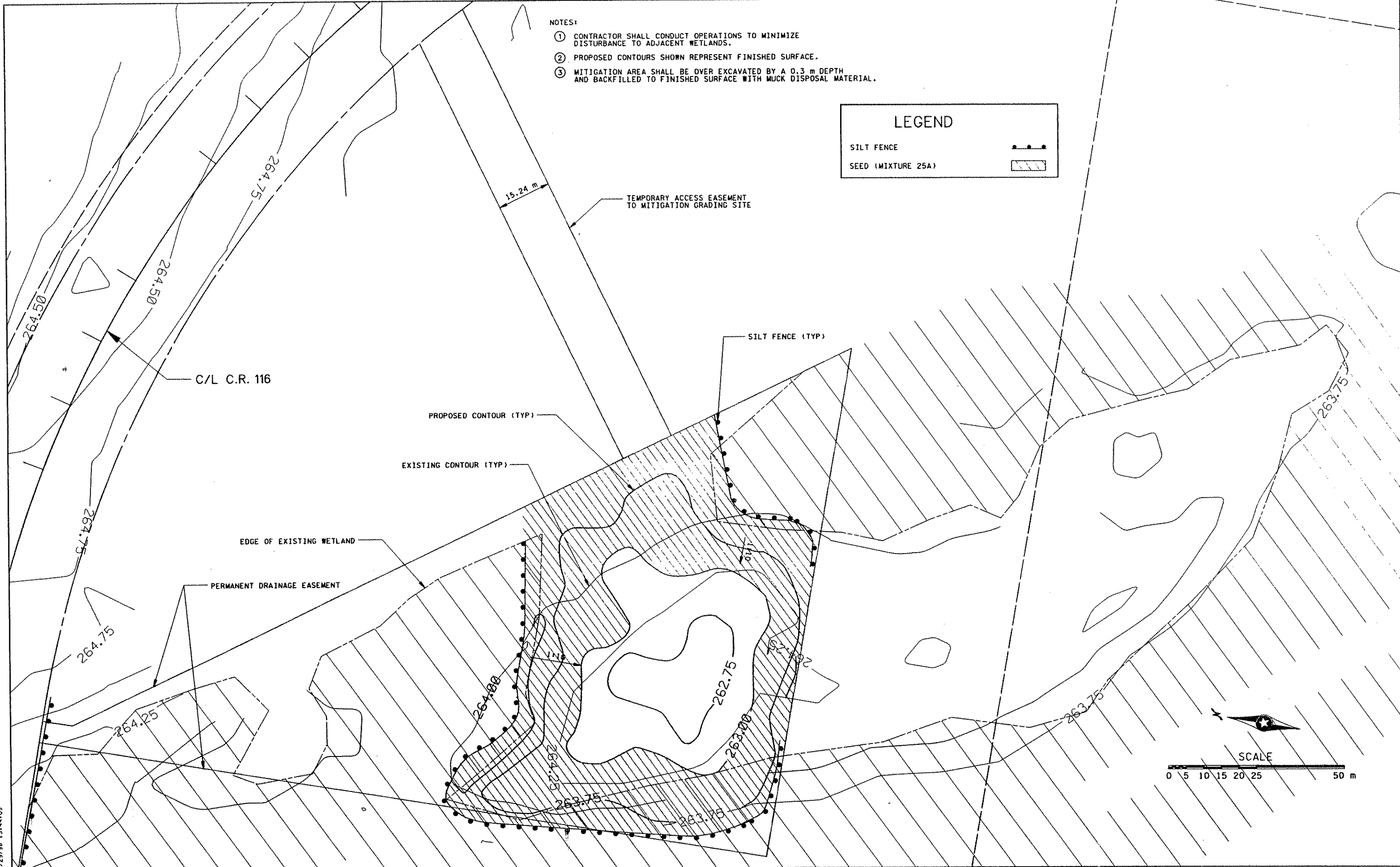
ANOKA COUNTY		SHEET 29 OF 59
SIGNING & STRIPING PLAN		
C.R. 116 C.S.A.H. 83 & CO. RD. 56		

NOTES:

- ① CONTRACTOR SHALL CONDUCT OPERATIONS TO MINIMIZE DISTURBANCE TO ADJACENT WETLANDS.
- ② PROPOSED CONTOURS SHOWN REPRESENT FINISHED SURFACE.
- ③ MITIGATION AREA SHALL BE OVER EXCAVATED BY A 0.3 m DEPTH AND BACKFILLED TO FINISHED SURFACE WITH MUCK DISPOSAL MATERIAL.

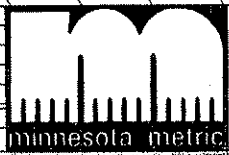
LEGEND

- SILT FENCE 
- SEED (MIXTURE 25A) 



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 PLOT SCALE: 12:70000  
 PLOT DATE/TIME: 06/29/98 13:44:09

NO	DATE	BY	CHKD	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 Registered Professional Engineer under the laws of the State of Minnesota.

*M. Hansen*  
 Date: 6-25-98 Reg. No. 21364

COUNTY PROJ. NO.  
95-05-116

CITY PROJECT NO.  
97-25

DRAWN BY  
W. ANDERSON

DESIGNED BY  
B. URBANEK

CHECKED BY  
M. HANSEN

DATE  
3-98

DATE  
3-98

DATE  
5-98

COMM. NO.  
0982953

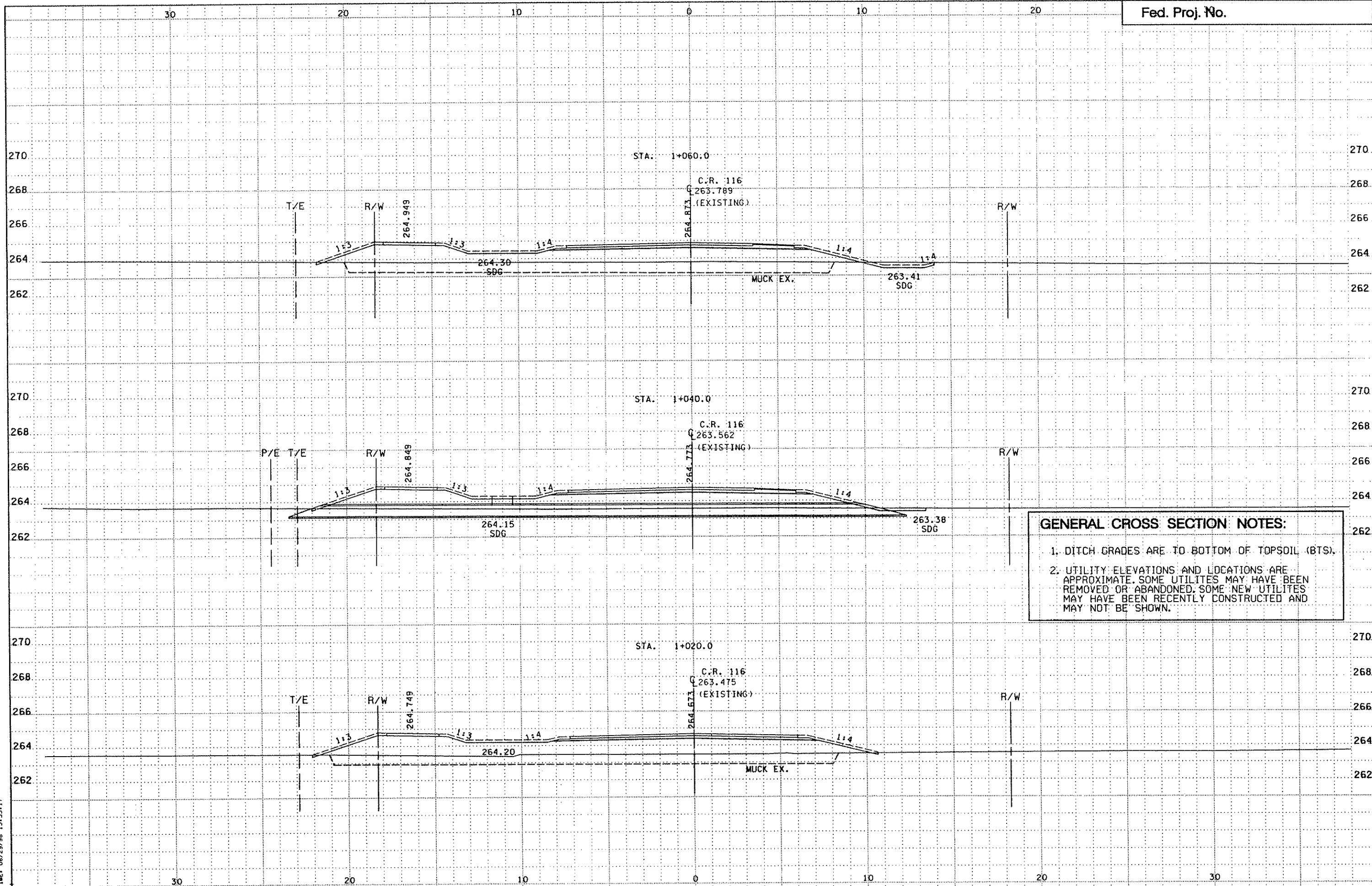


ANOKA COUNTY

WETLAND MITIGATION GRADING PLAN

C.R. 116

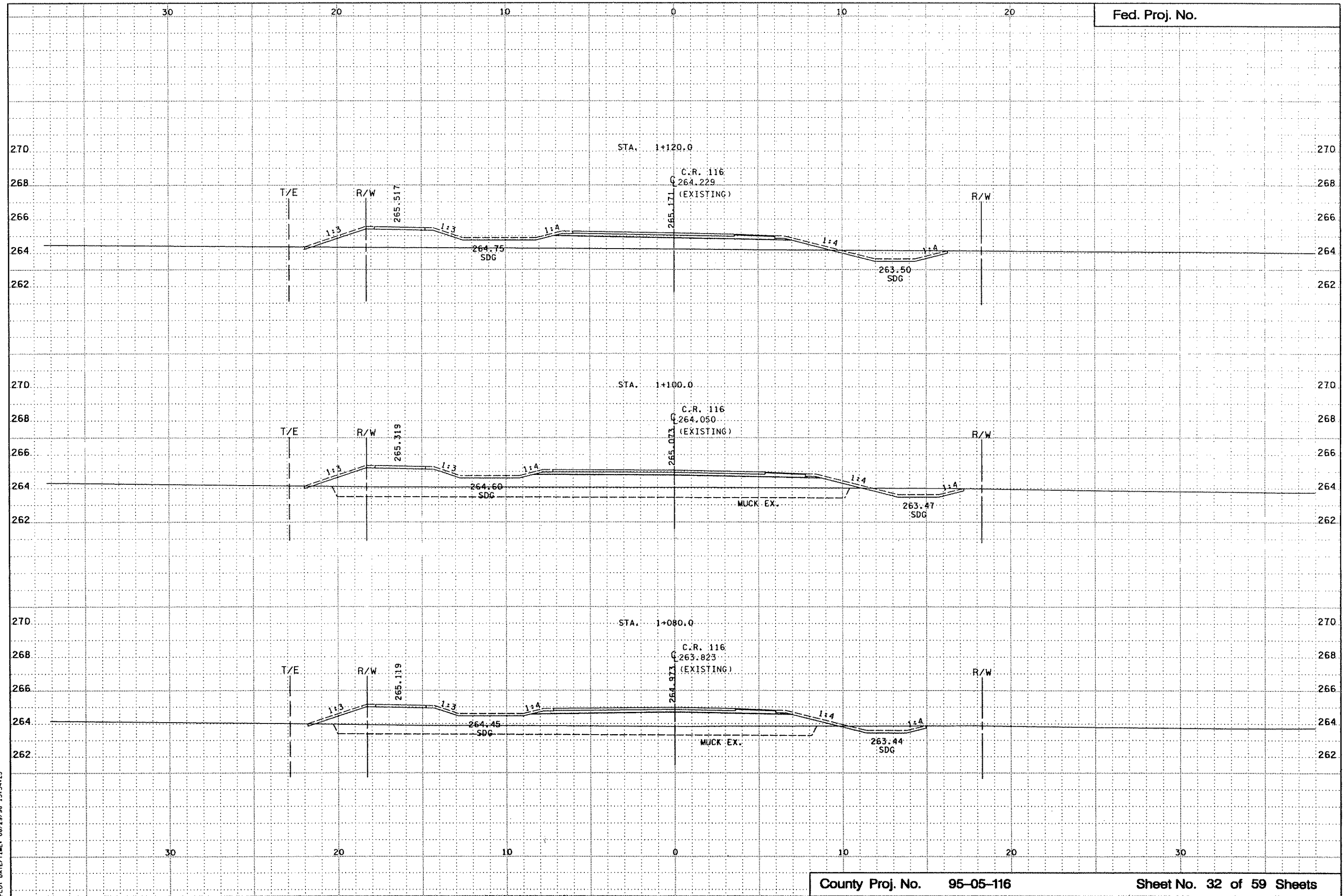
SHEET  
30  
OF  
59



**GENERAL CROSS SECTION NOTES:**

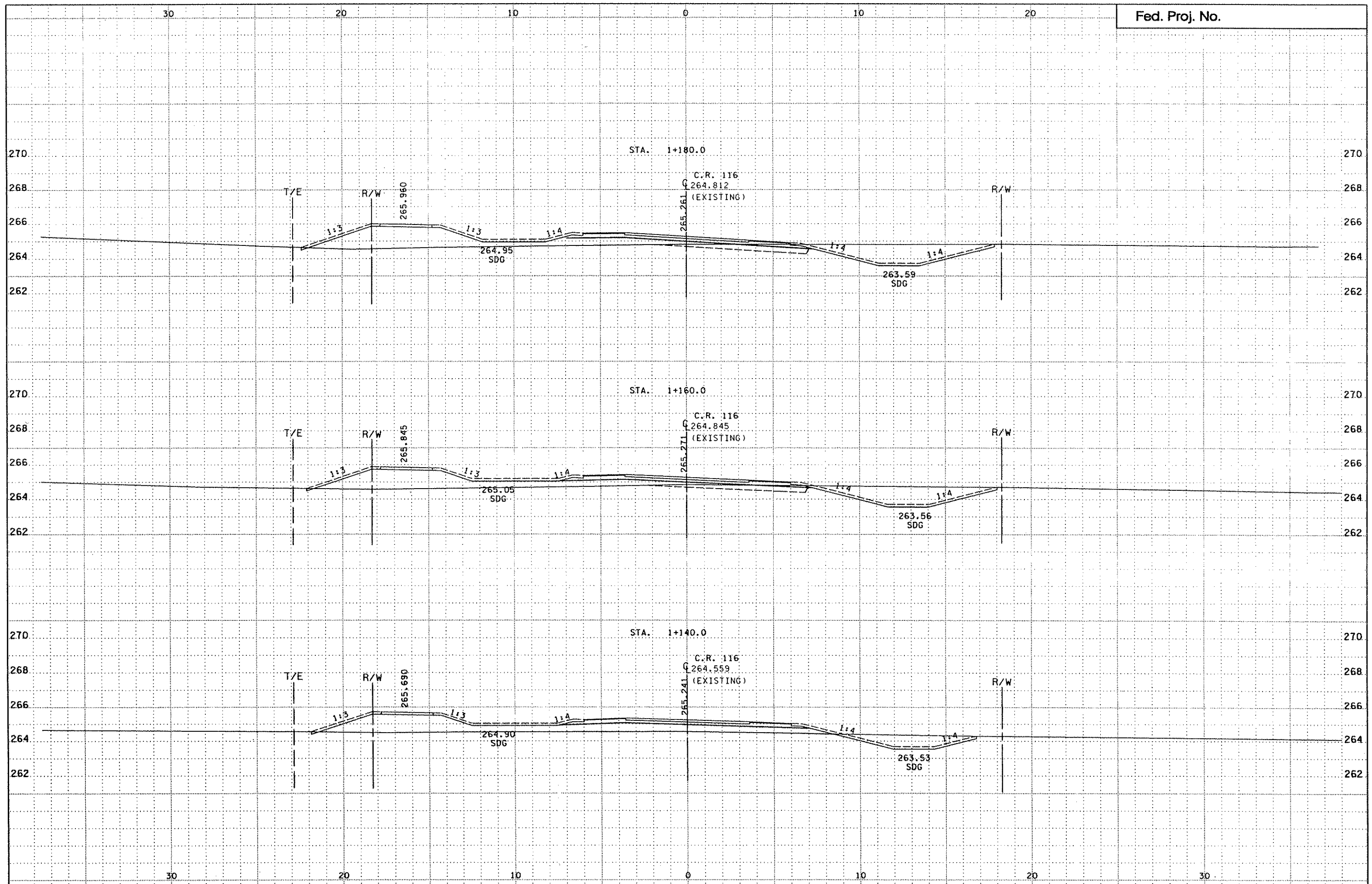
1. DITCH GRADES ARE TO BOTTOM OF TOPSOIL (BTS).
2. UTILITY ELEVATIONS AND LOCATIONS ARE APPROXIMATE. SOME UTILITES MAY HAVE BEEN REMOVED OR ABANDONED. SOME NEW UTILITES MAY HAVE BEEN RECENTLY CONSTRUCTED AND MAY NOT BE SHOWN.

DESIGN FILE: D:\ACIV\11047\2953\2953.dwg  
 PRF FILE: D:\ACIV\11047\2953\2953.dwg  
 PLOT DATE: 06/29/98 13:53:17

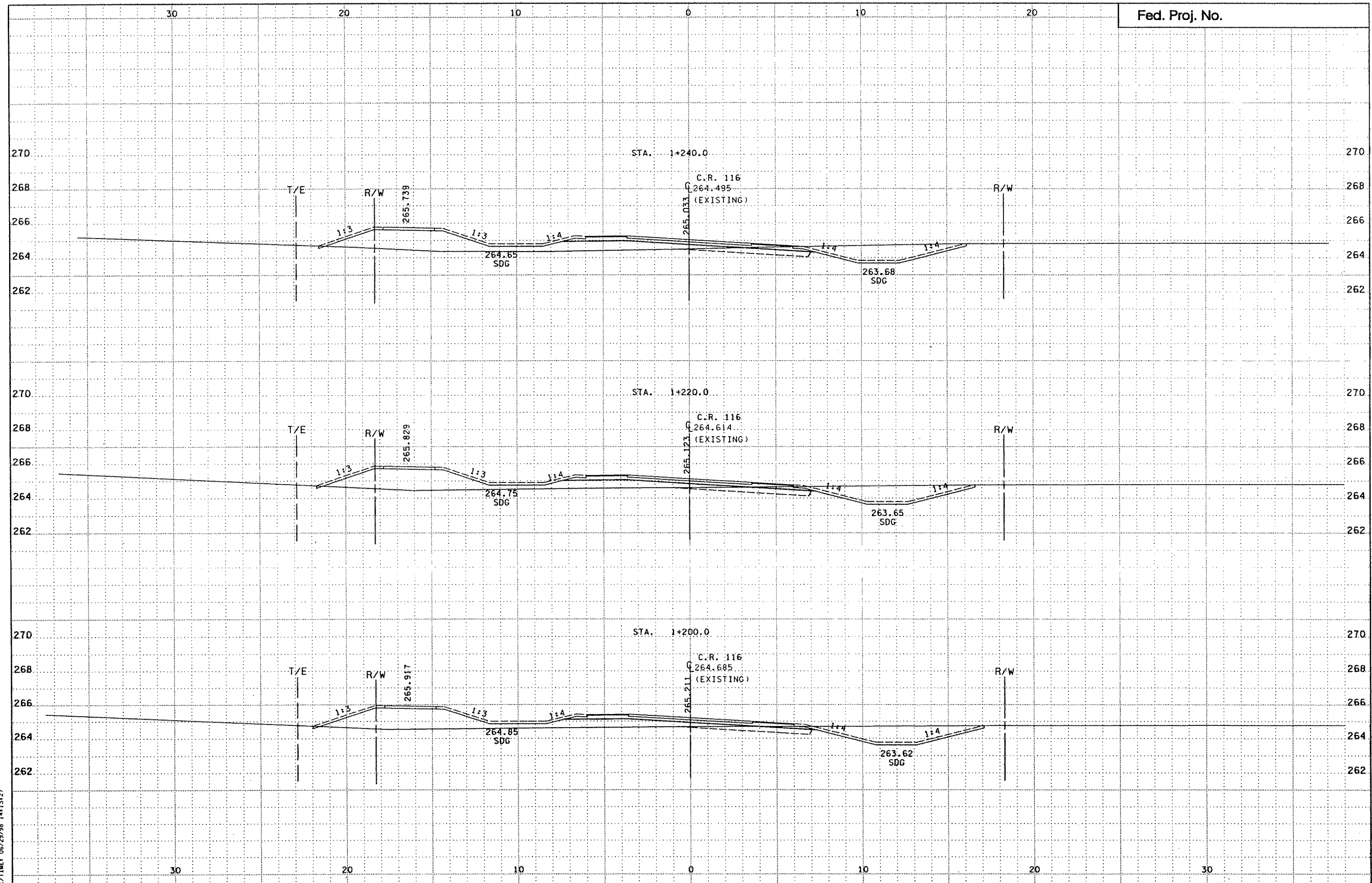


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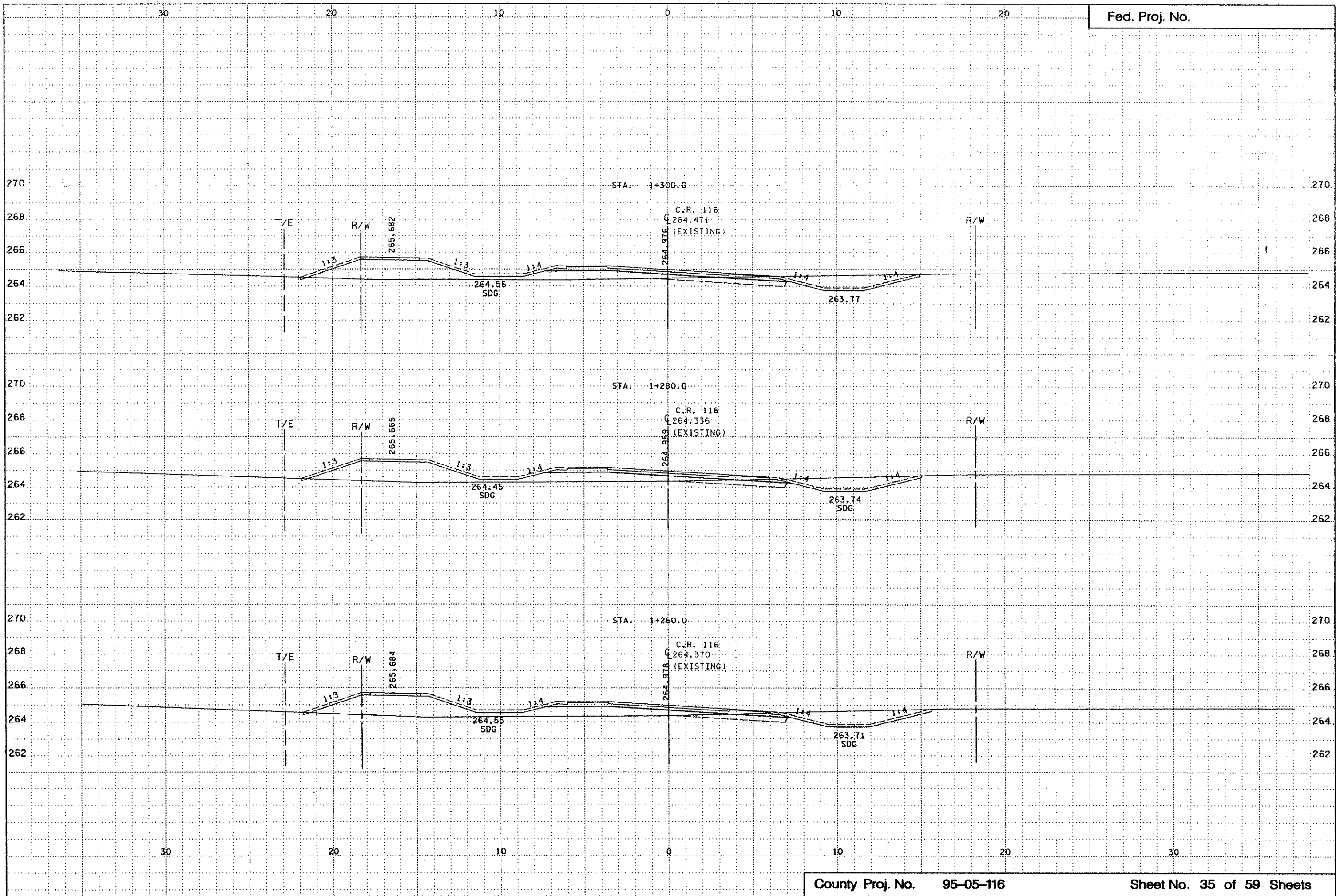




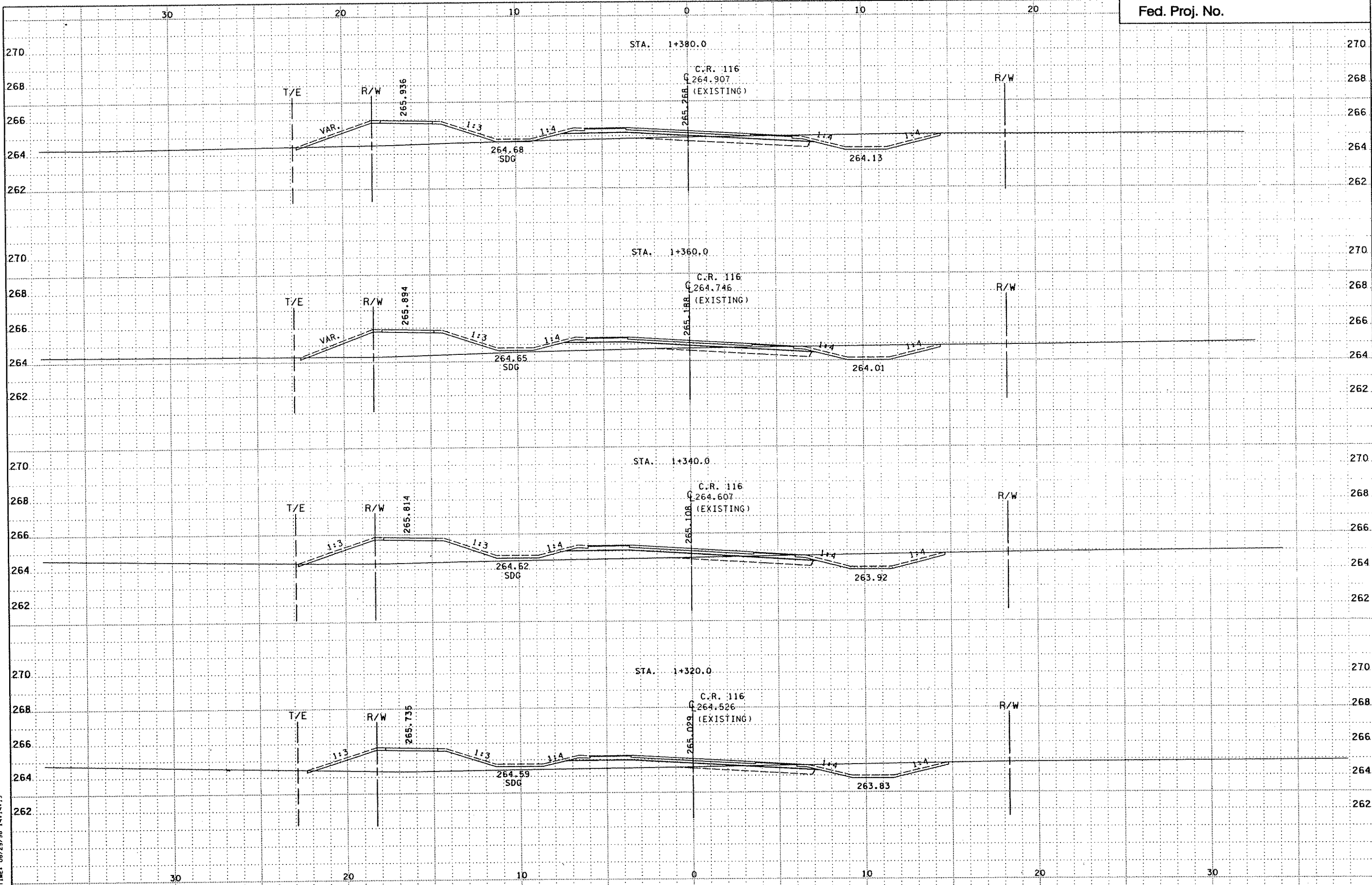
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PLOT DATE/TIME: 06/29/98 13:55:03



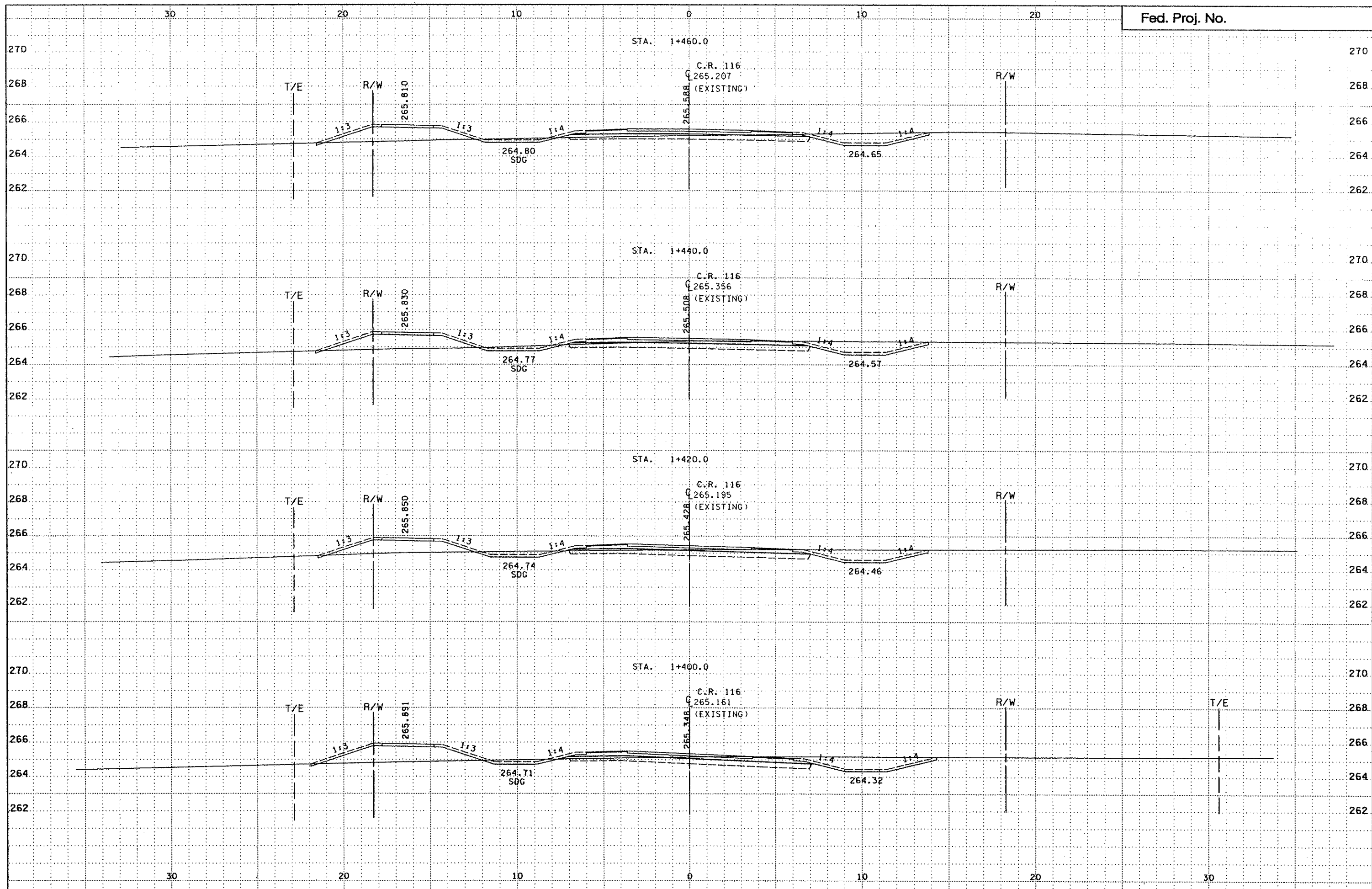
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PLOT DATE/TIME: 06/29/98 14:13:27



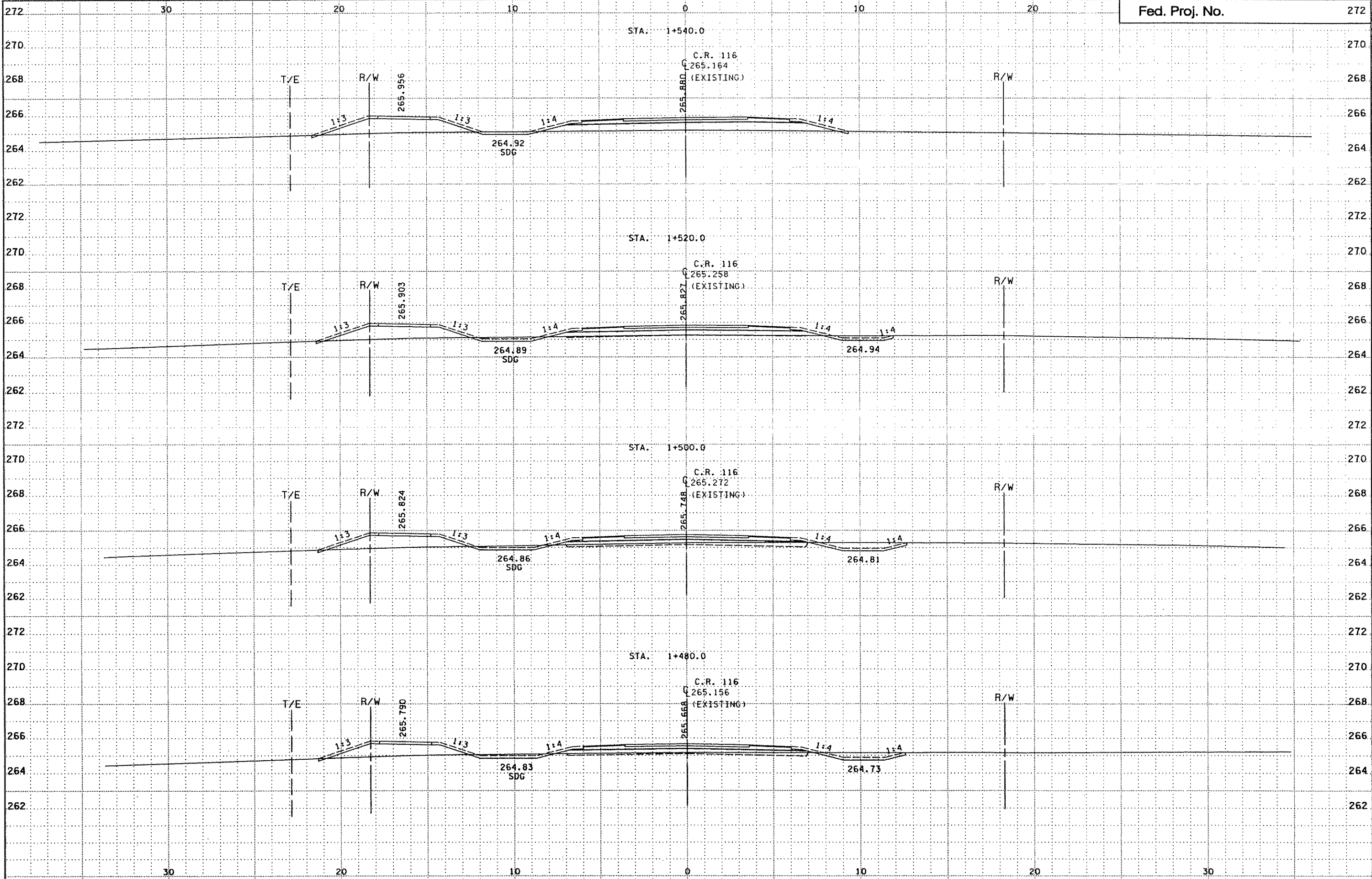
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DESIGN FILE: P:\11\1107\1107\1107.dwg  
PLOTTER: MS-DOS Plotter-Non-PR-ANDOT  
PLOT DATE/TIME: 06/29/98 14:14:00



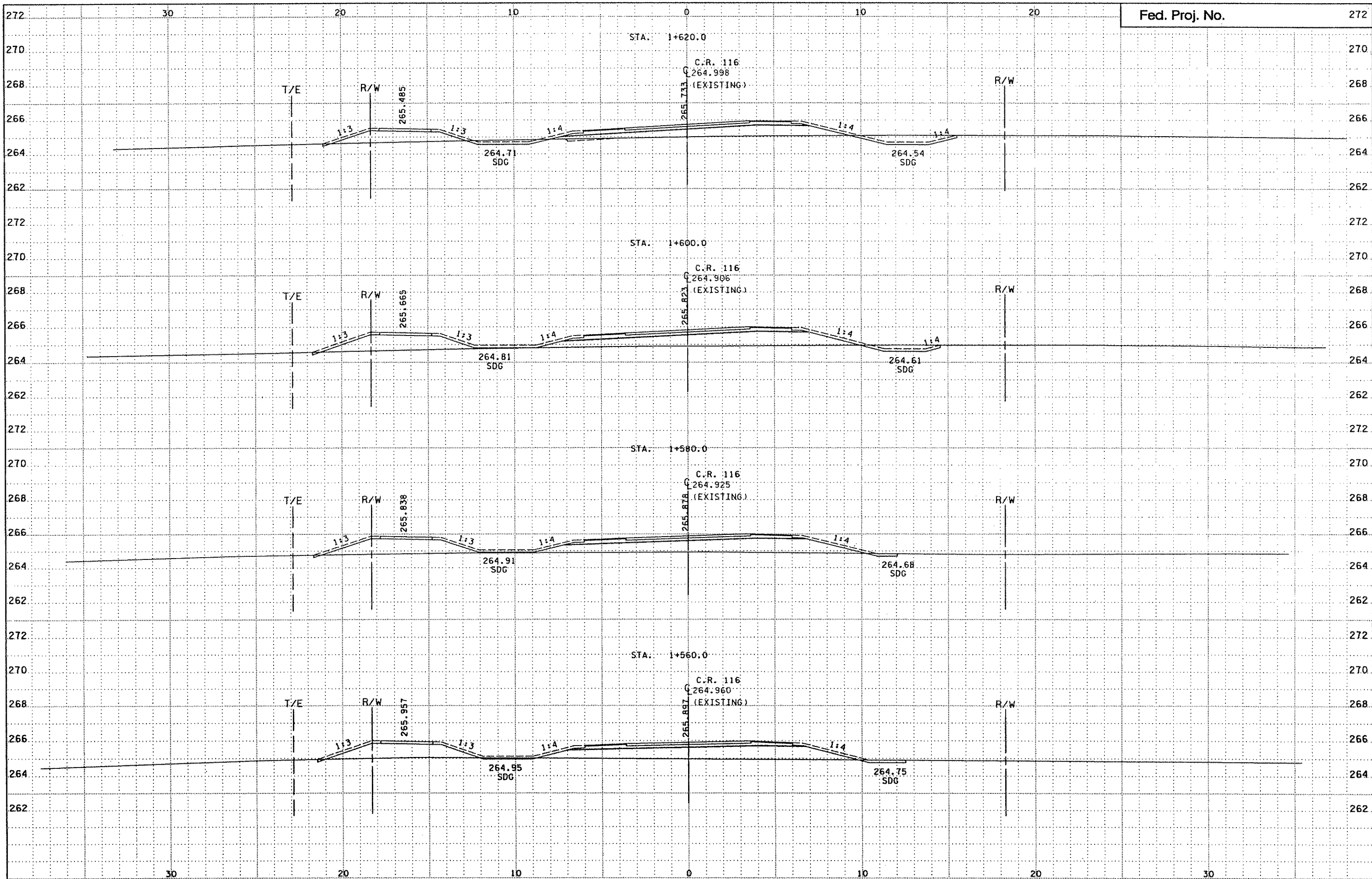
DESIGN FILE: H:\AS\11\OUT\2053\2053.dwg  
 PLOT DATE: 06/29/98 14:14:19  
 PLOTTER: HP-DesignJet Mono-Printer  
 PLOT DATE/TIME: 06/29/98 14:14:19



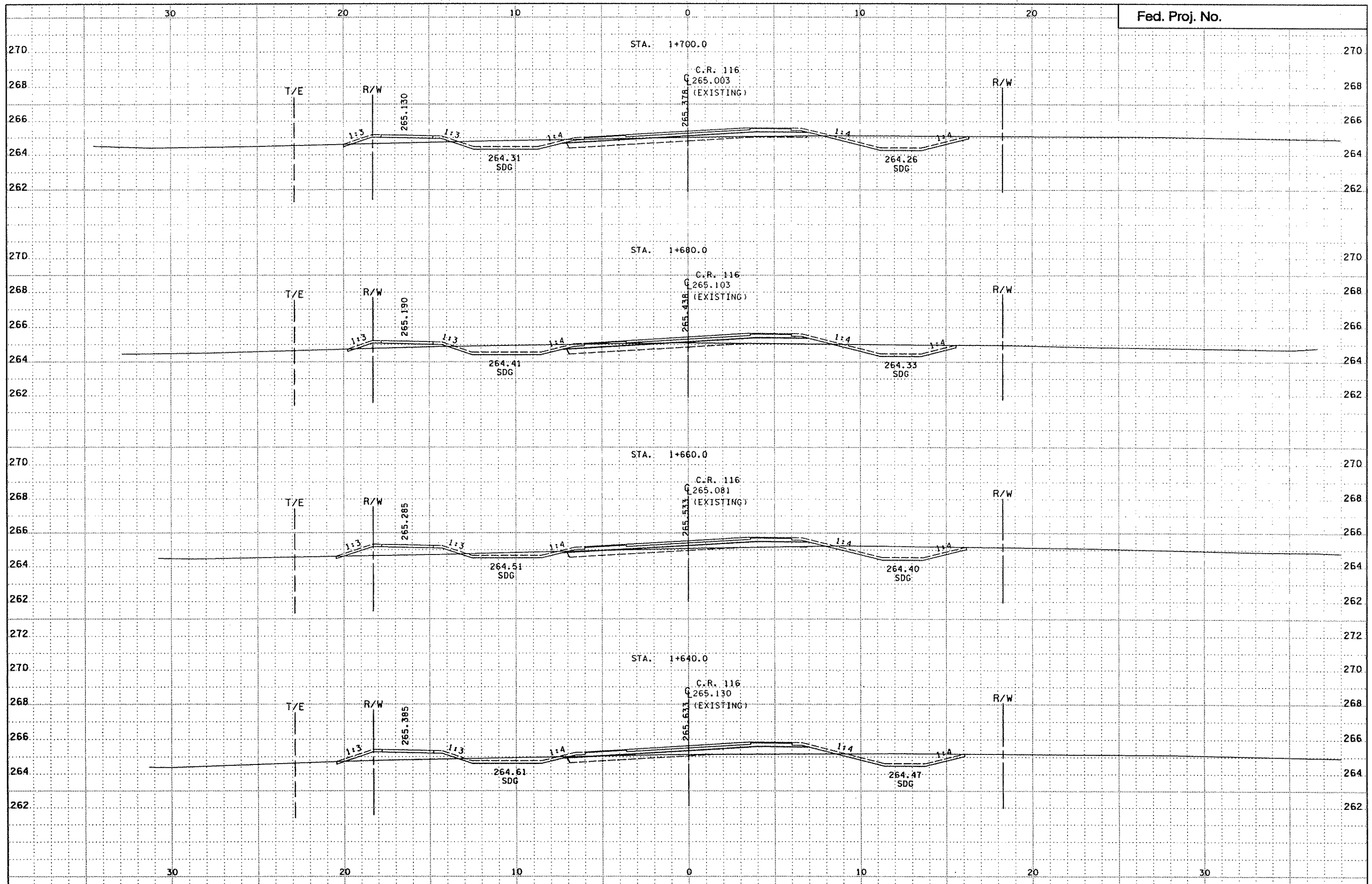
DESIGN FILE: H:\CIVIL\047\2953\2953.dwg  
PRF FILE: H:\CIVIL\047\2953\2953.dwg  
PLOTTER: MS-DesignJet-Mono-FF-400T  
PLOT DATE/TIME: 06/29/98 14:14:38



DESIGN FILE: H:\CIVIL\0472953\2953.dwg  
 PLOT FILE: H:\CIVIL\0472953\2953.dwg  
 PLOT DATE/TIME: 06/23/88 14:14:58

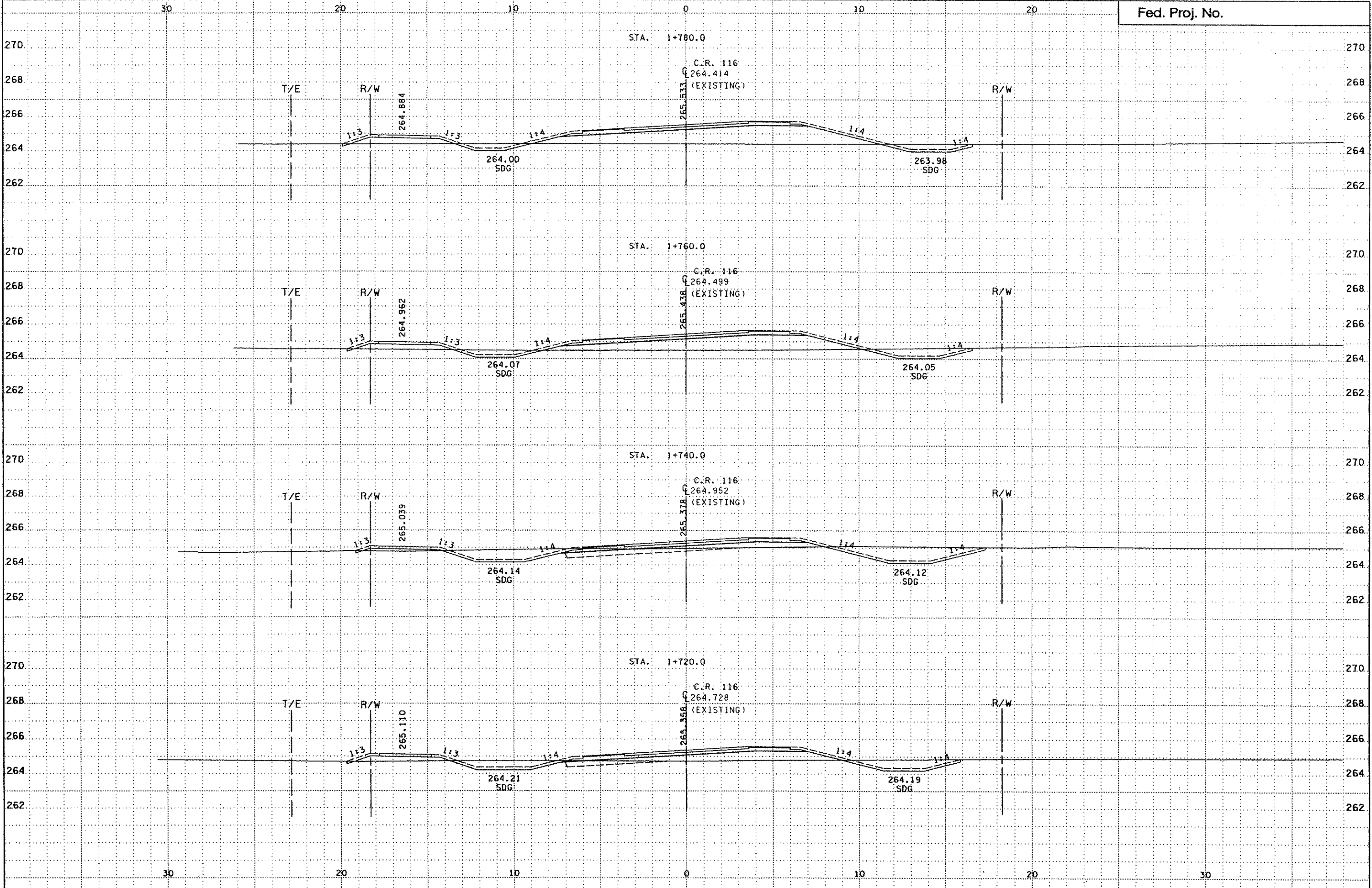


DESIGN FILE: H:\CIVIL\1047\2553\2553.dwg  
 PRF FILE: H:\CIVIL\1047\2553\2553.dwg  
 PLOT FILE: MS-Design-User-Info-PP-INDOT  
 PLOT DATE/TIME: 06/23/98 14:15:15

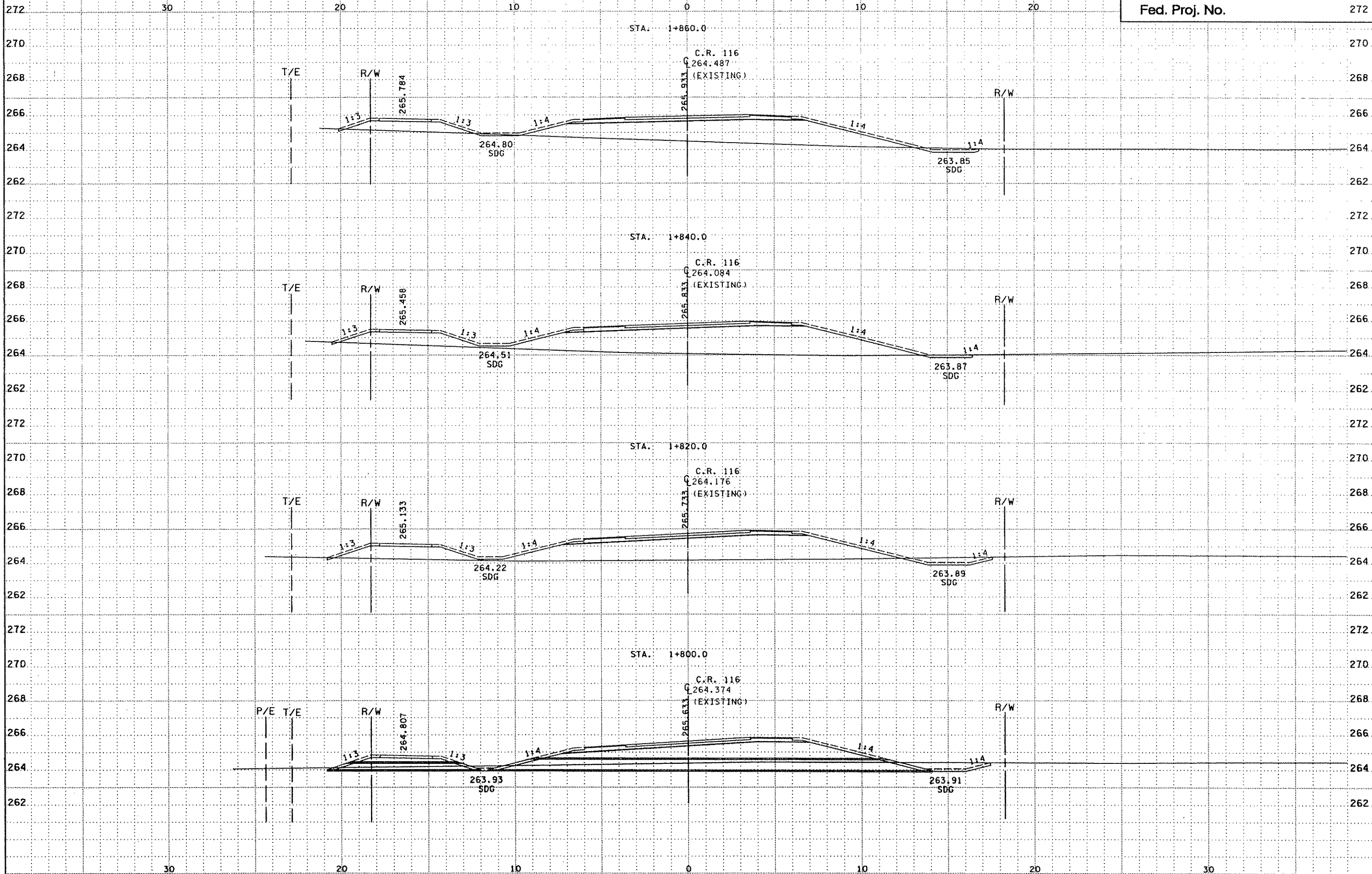


DESIGN FILE: P:\ACIV\1\047\2953\2953.kao  
 PRF FILE: P:\ACIV\1\047\2953\2953.DPT  
 PLOTTER: MS-DOS (Gujar-Mono-PR-MDOT)  
 PLOT DATE/TIME: 06/29/98 14:15:33

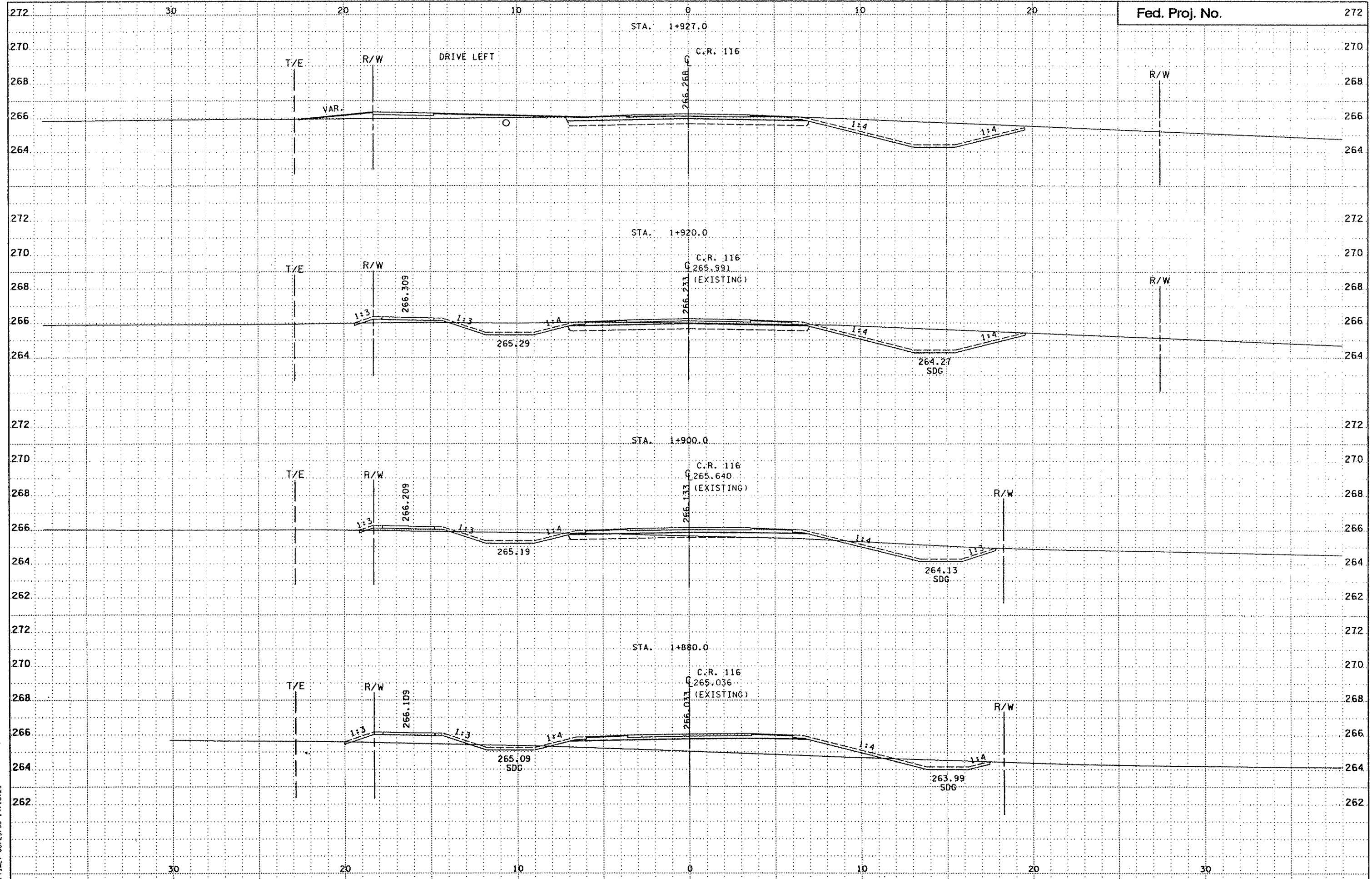




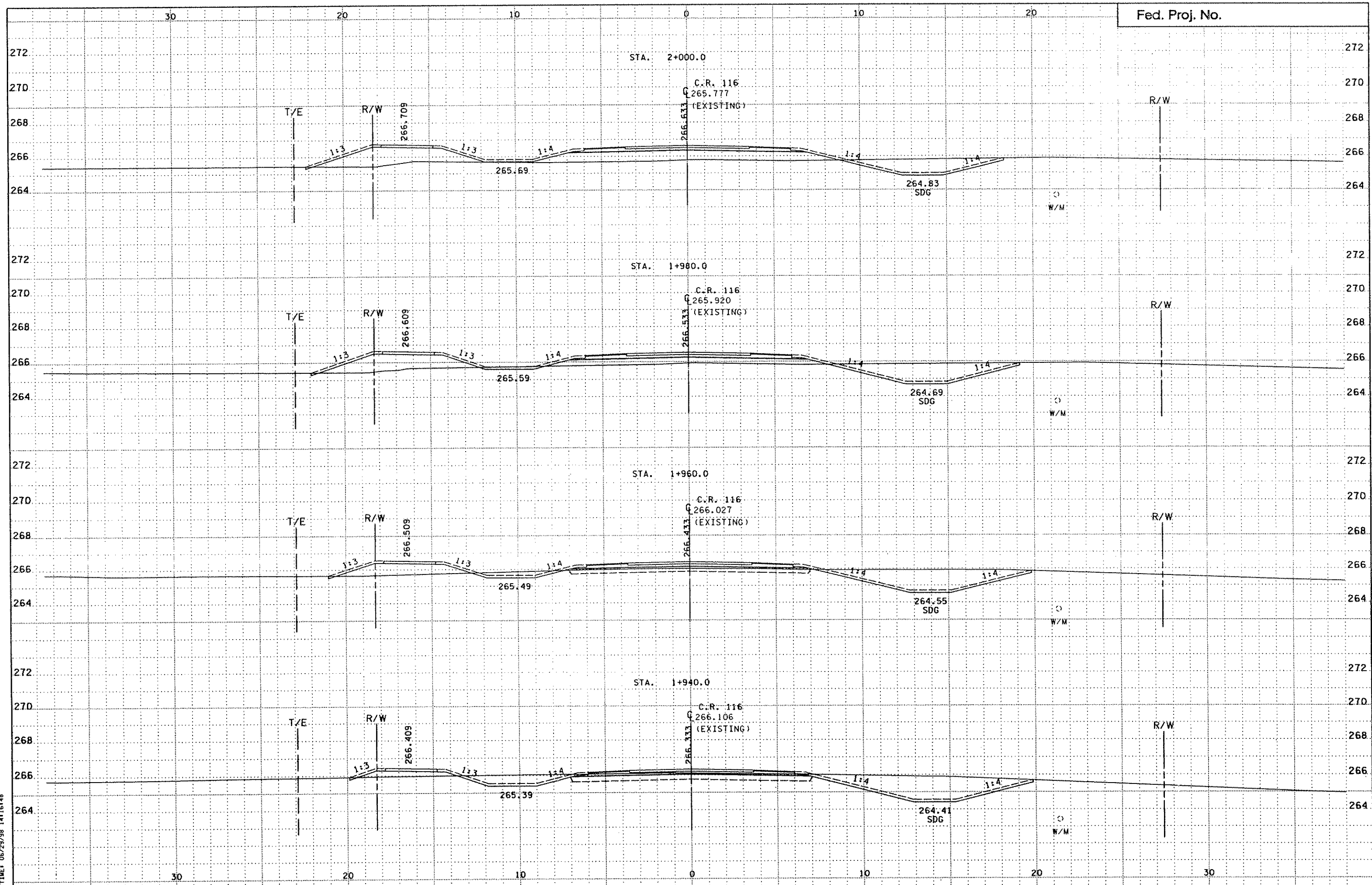
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 PLOT FILE: MS-DOS Format - Macro - RANDOT  
 PLOT DATE/TIME: 06/29/98 14:15:52



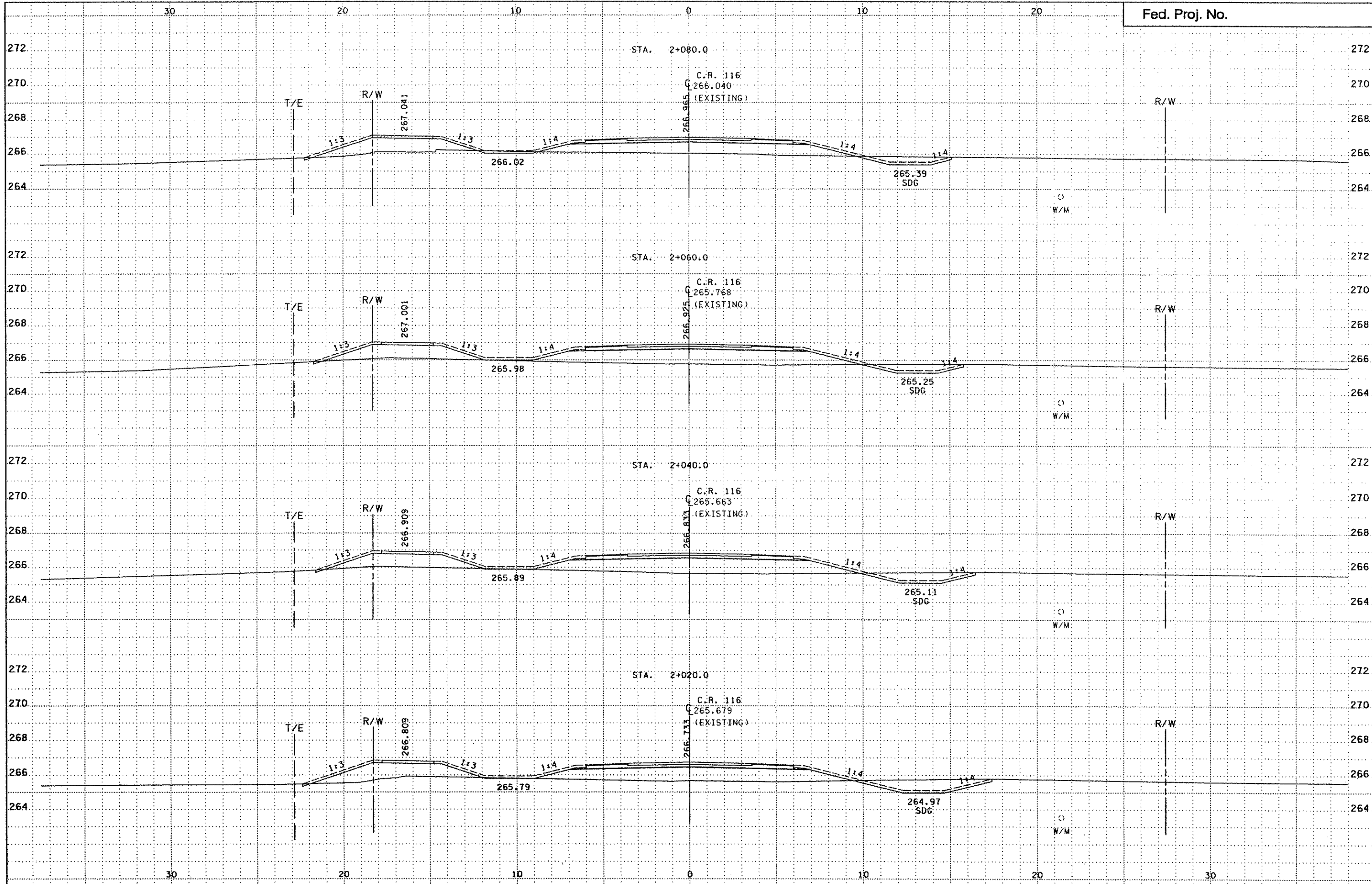
DESIGN FILE: H:\GVI\10412953\2953.dwg  
 PLOT FILE: H:\GVI\10412953\2953.dwt  
 PLOT DATE/TIME: 06/23/98 14:16:10



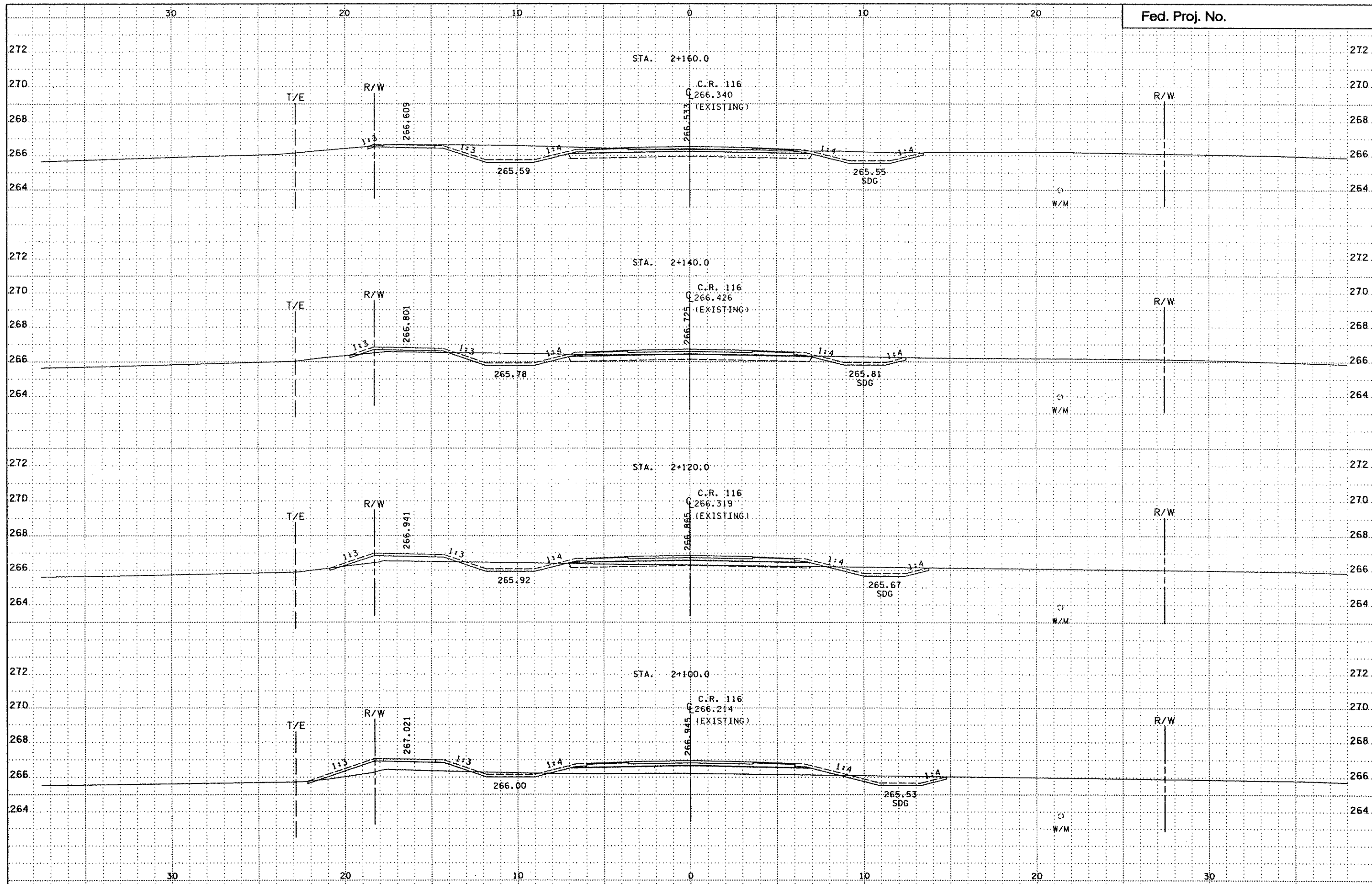
DESIGN FILE: P:\1047\1047\2953\2953.dwg  
 PLOT FILE: P:\1047\1047\2953\2953.plt  
 PLOTTER: MS-DOS/HPGL-2/HP-GL/2551/2551.dwt  
 PLOT DATE/TIME: 06/29/98 14:16:29



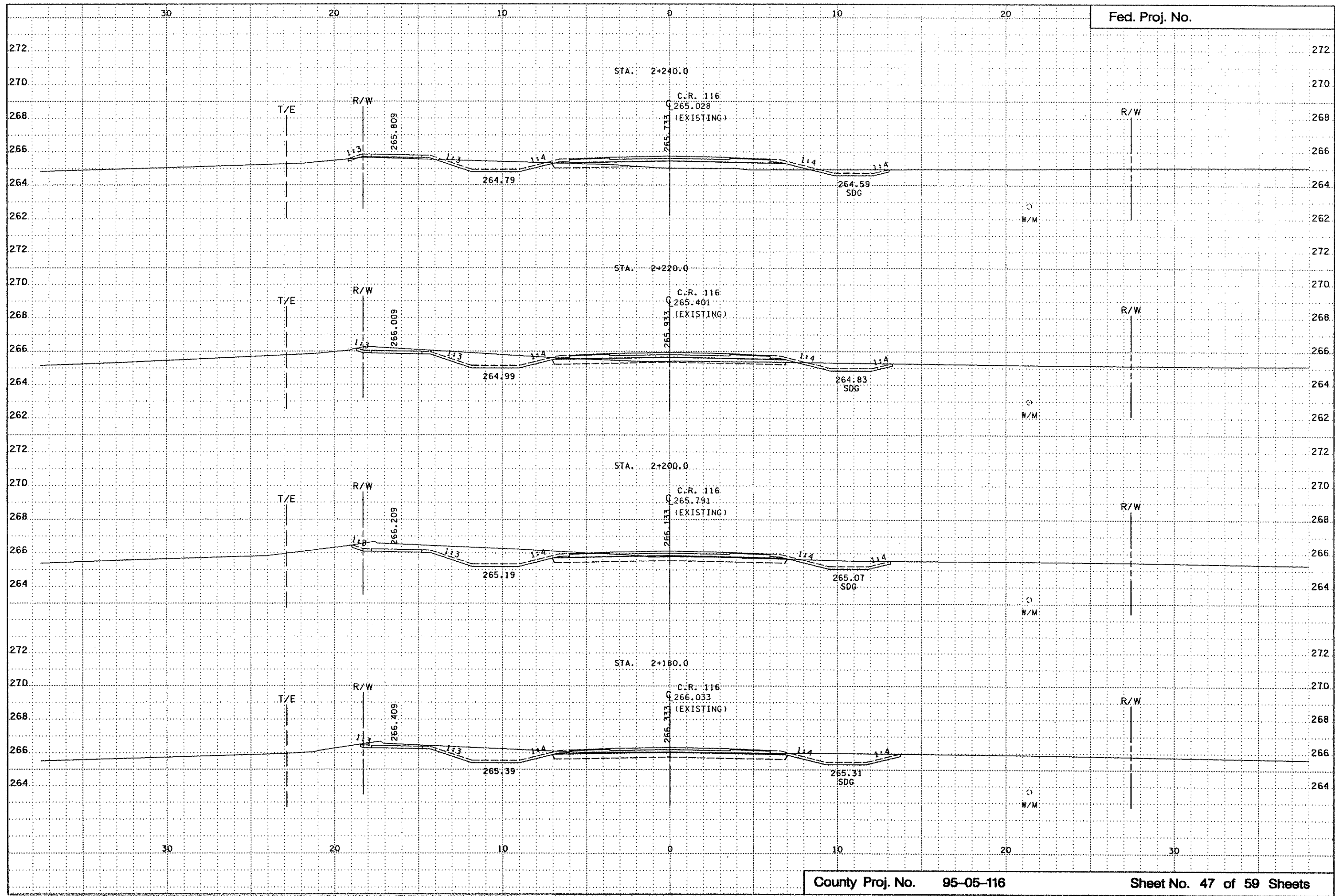
DESIGN FILE: h:\civil\1047\2953\2953.x80  
PRF FILE: h:\civil\1047\2953\2953.prf  
PLOTTER: MS-Dos IgoJet-Mono-PR-INDOT  
PLOT DATE/TIME: 06/29/98 14:16:46



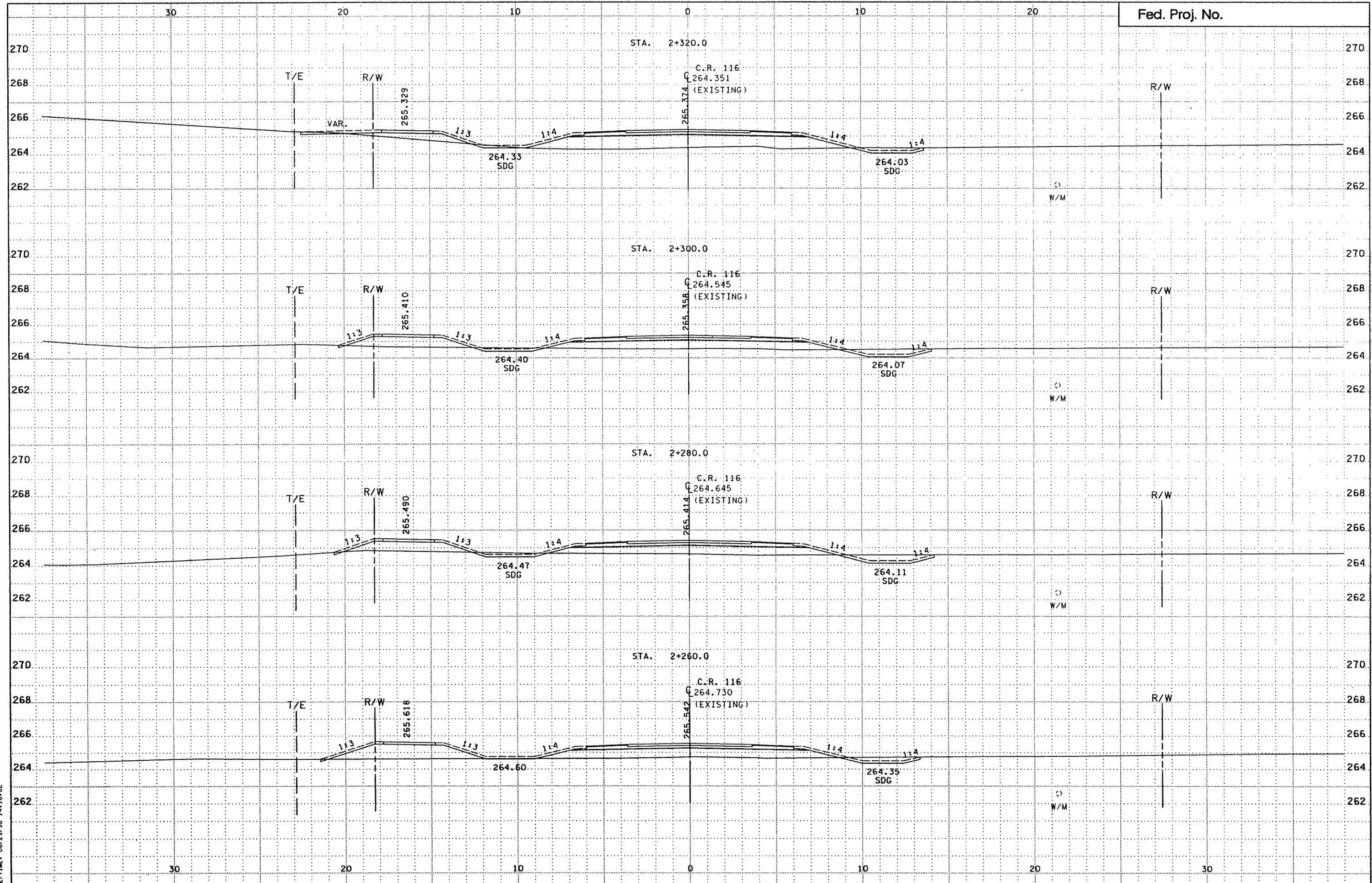
DESIGN FILE: H:\CIVIL\047\2953\2953.xao  
 PRE FILE: H:\CIVIL\047\2953\2953.dwt  
 PLOT FILE: H:\CIVIL\047\2953\2953.dwt  
 PLOT DATE/TIME: 08/29/98 14:11:01



DESIGN FILE: H:\CIVIL\047\2953\2953.dwg  
 PLOT FILE: H:\CIVIL\047\2953\2953.plt  
 PLOTTER: MS-DesignJet-Mono-FR-WNDOT  
 PLOT DATE/TIME: 06/29/98 14:17:25

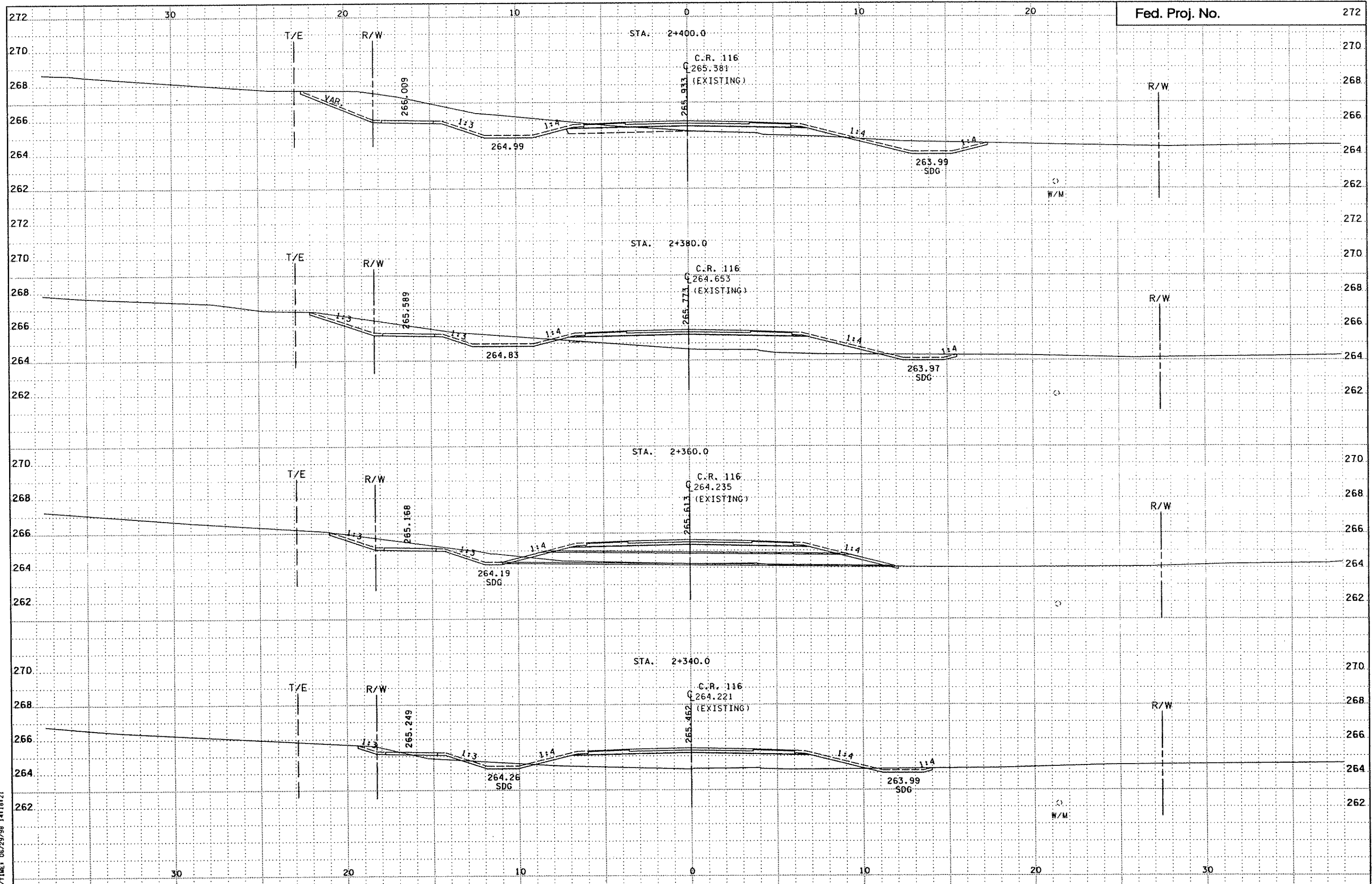


DESIGN FILE: P:\AG\11\0472953\2953.dwg  
 PLOT FILE: P:\AG\11\0472953\2953.dwg  
 PLOTTER: MS-DesignJet-Mono-FR-NDIOT  
 PLOT DATE/TIME: 06/29/98 14:17:44

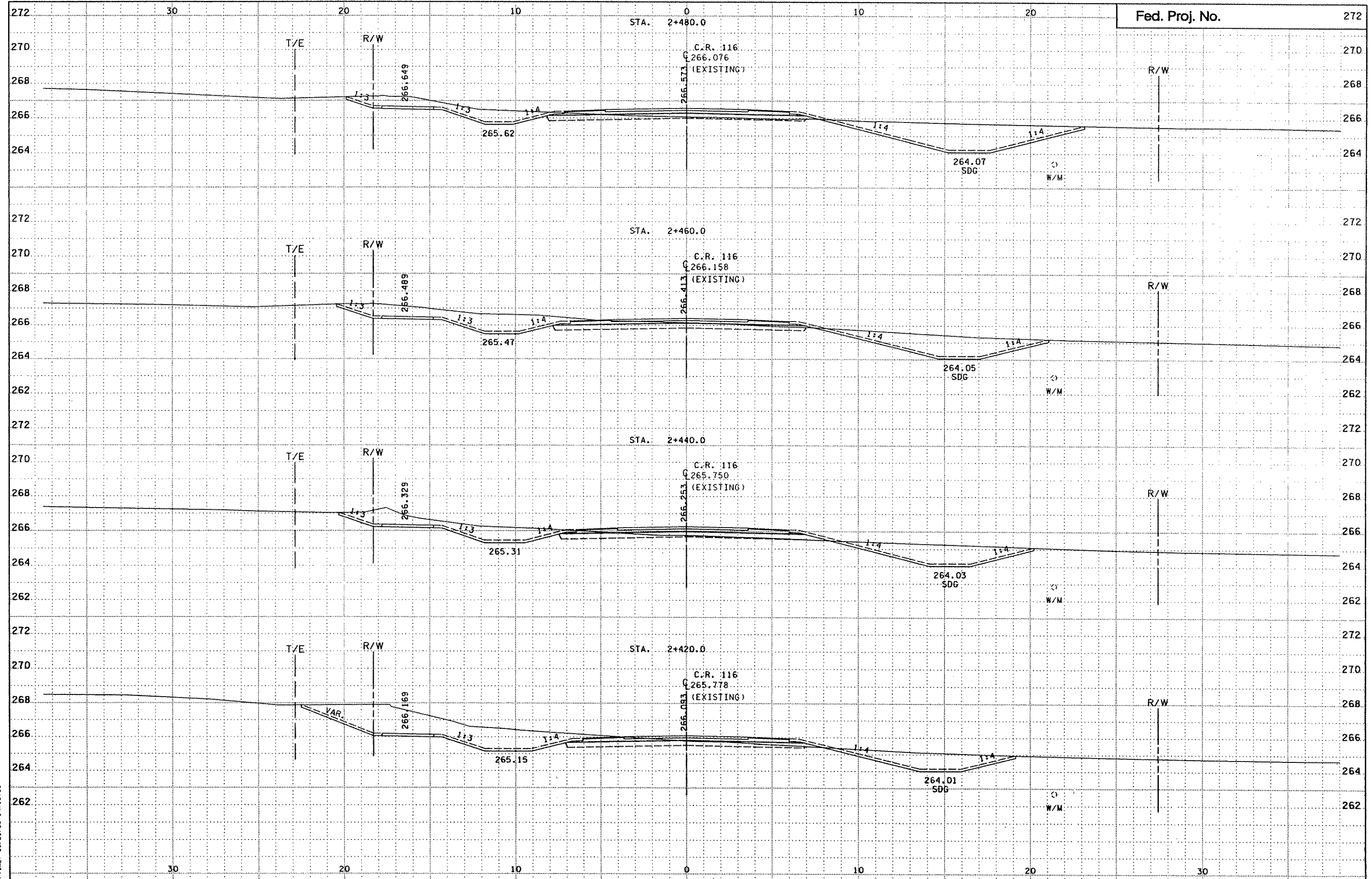


DESIGN FILE: N:\PROJECTS\9505116\9505116.DWG  
 PLOTTER: MS-DOS Plotter - Mono-FR-WNDOT  
 PLOT DATE/TIME: 06/29/98 14:18:02

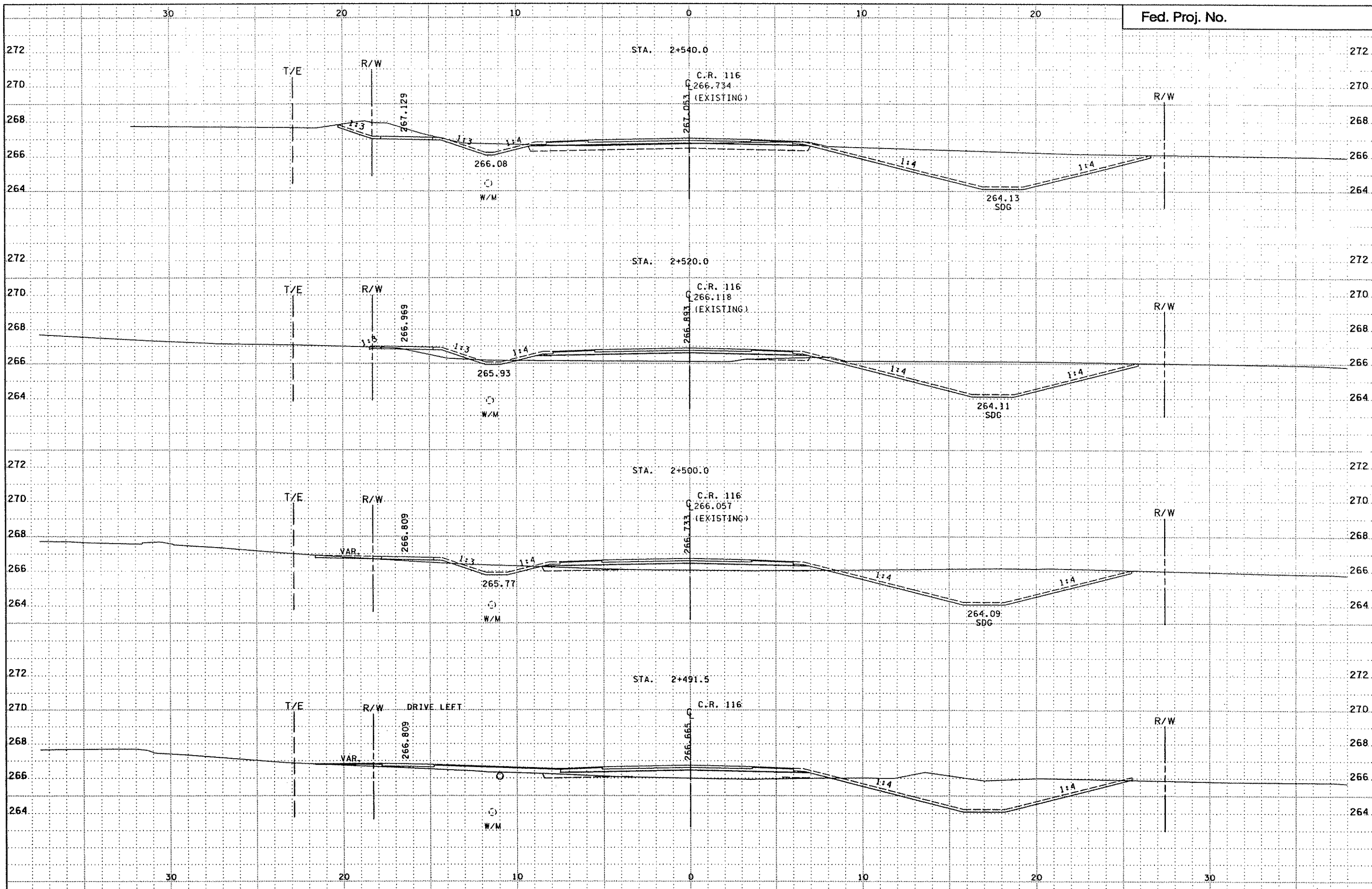




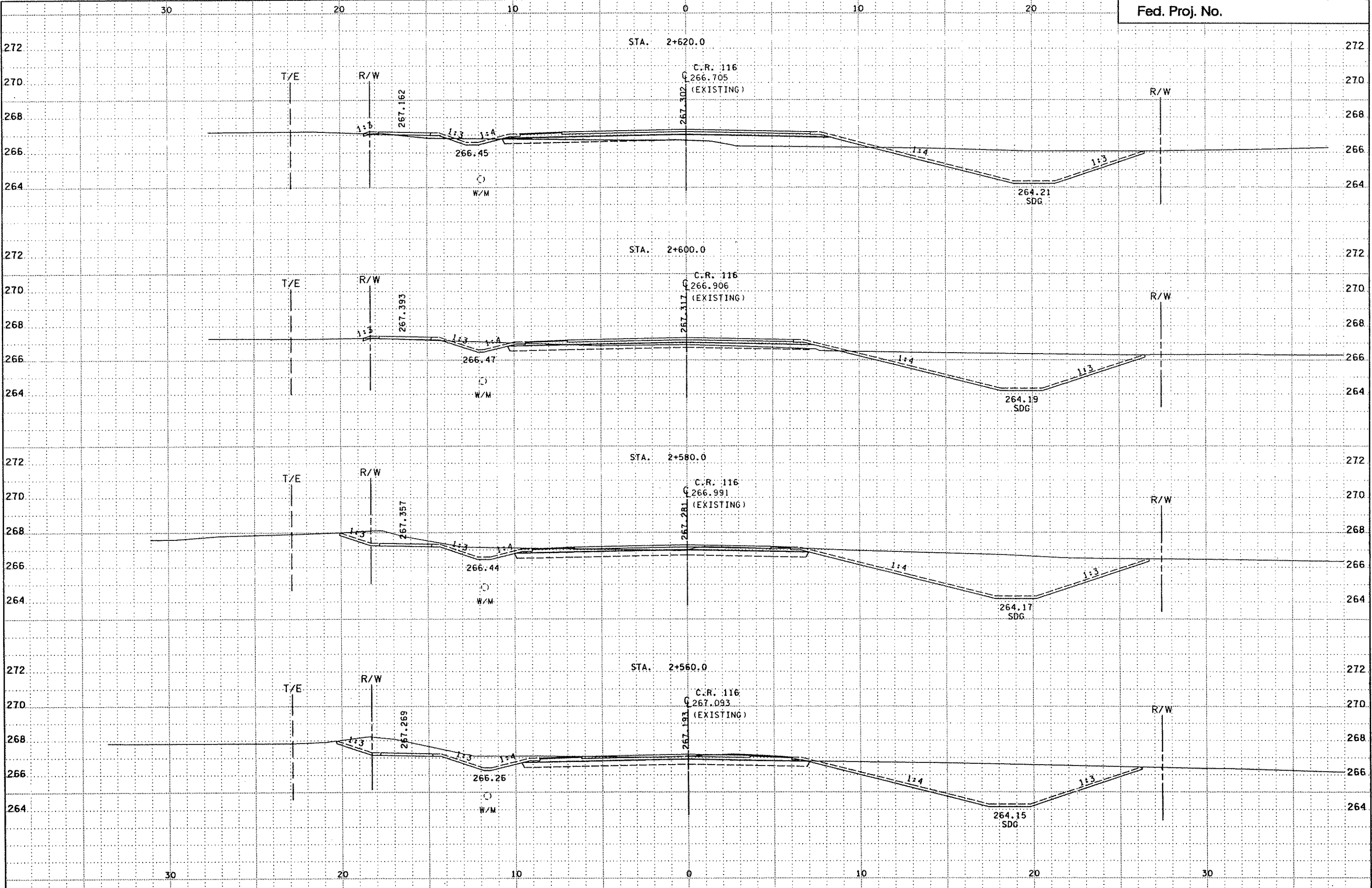
DESIGN FILE: P:\GIM\1047285\2853.xgd  
 PREP FILE: P:\GIM\1047285\2853\_P\HANDOUT  
 PLOT DATE/TIME: 06/29/98 14:18:21



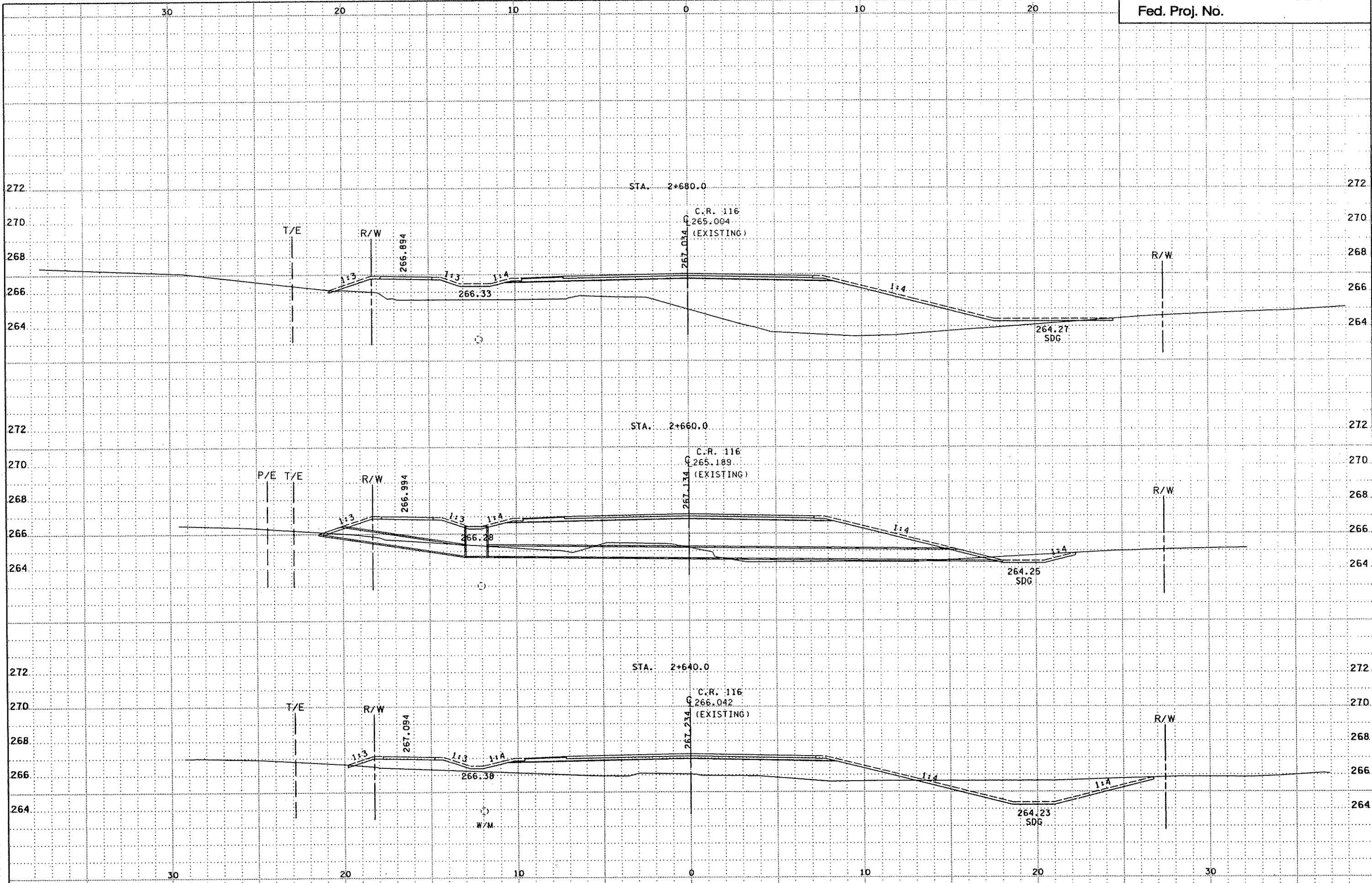
DESIGN FILE: D:\G111047\2953\2953.dwg  
 PLOT FILE: G:\G111047\2953\2953.dwg  
 PLOT DATE/TIME: 06/29/98 14:18:33



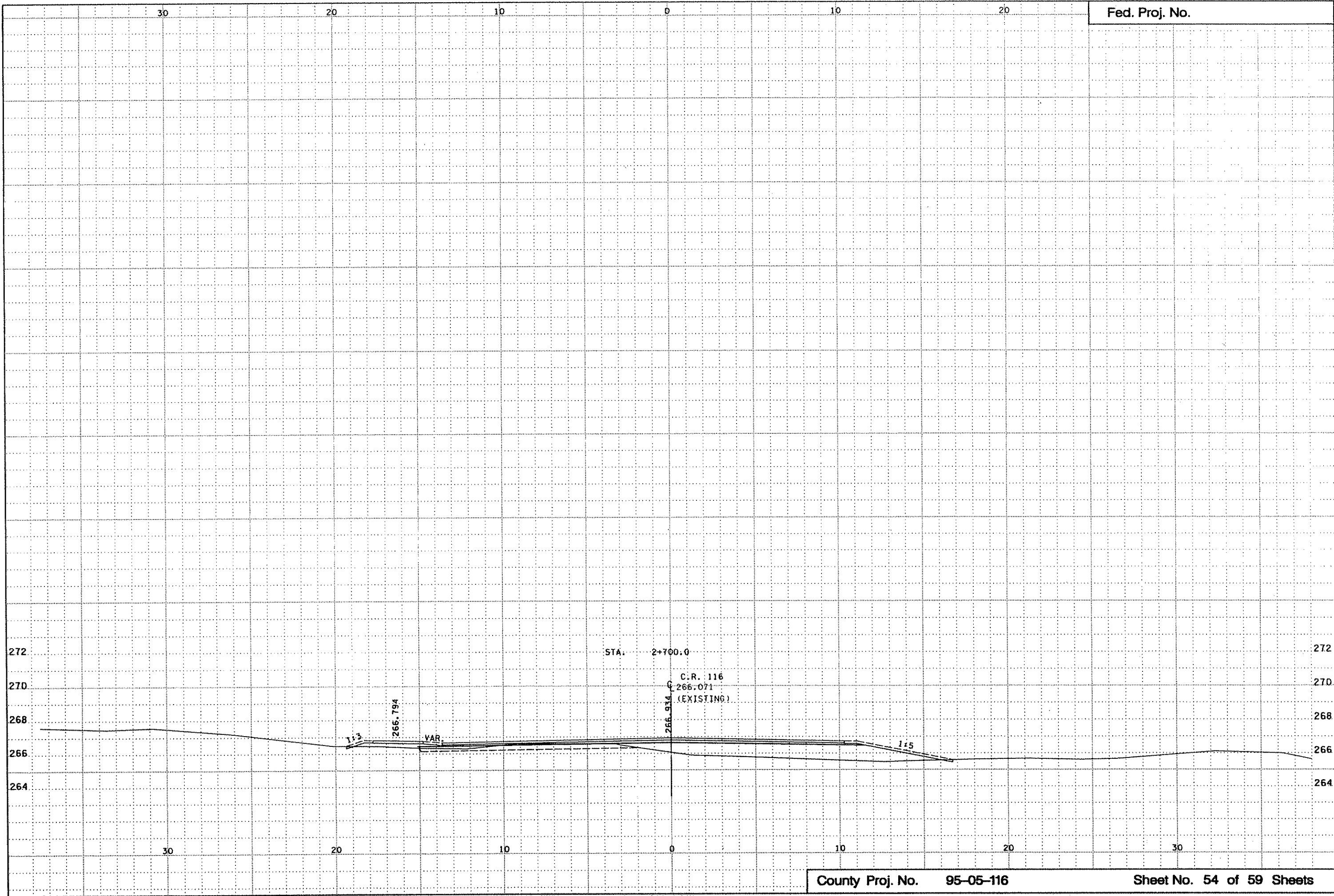
DESIGN FILE: H:\CIVIL\047\2953\2953.kso  
 PRF FILE: H:\CIVIL\047\2953\2953.drf  
 PLOTTER: MS-DOS (jet-4000-4R-ANDOT)  
 PLOT DATE/TIME: 06/29/98 14:18:51



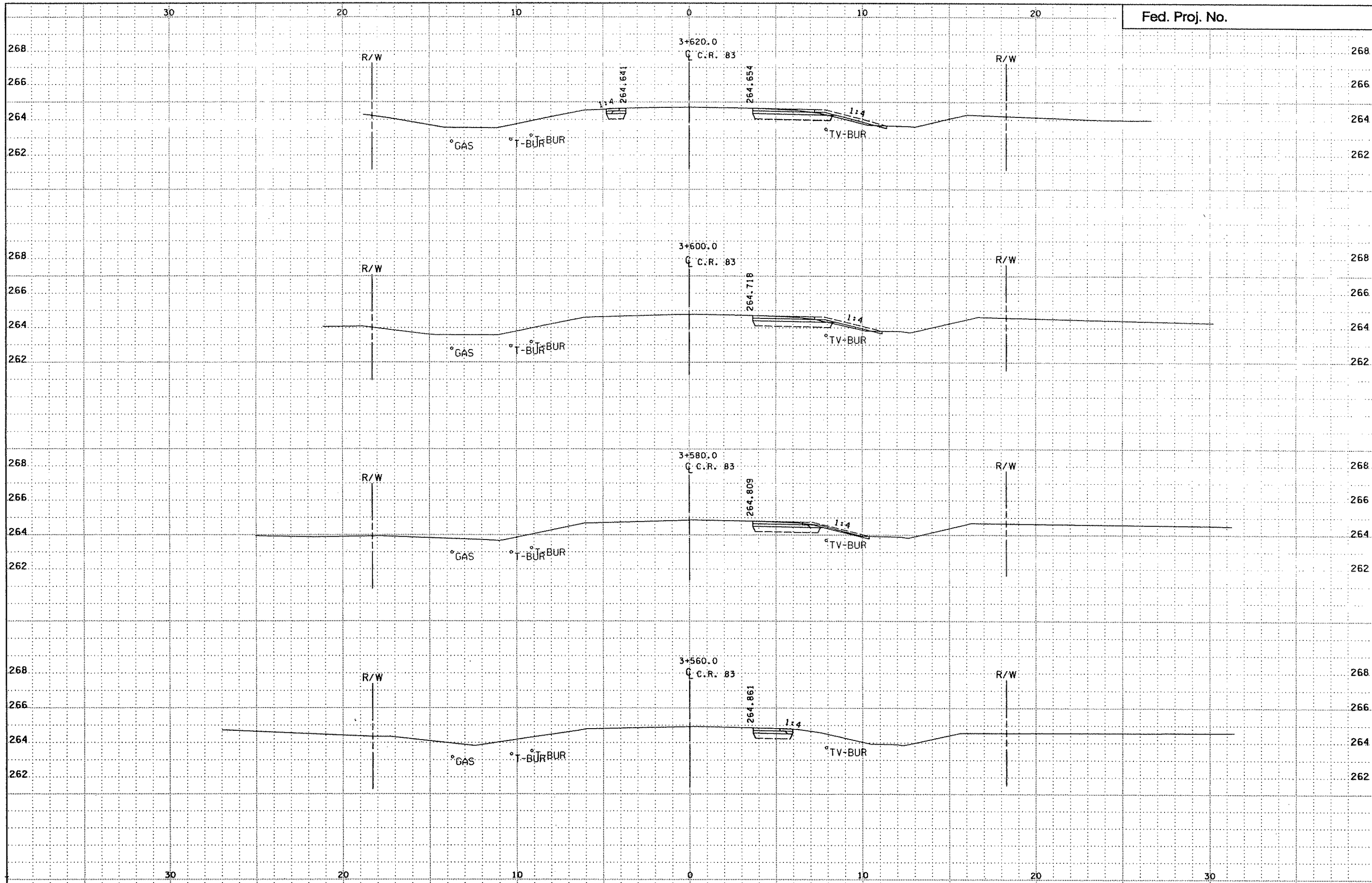
DESIGN FILE: H:\GIV\1104\2953\2953.dwg  
 REF. FILE: H:\GIV\1104\2953\2953.dwg  
 PLOT DATE/TIME: 06/29/88 14:19:16



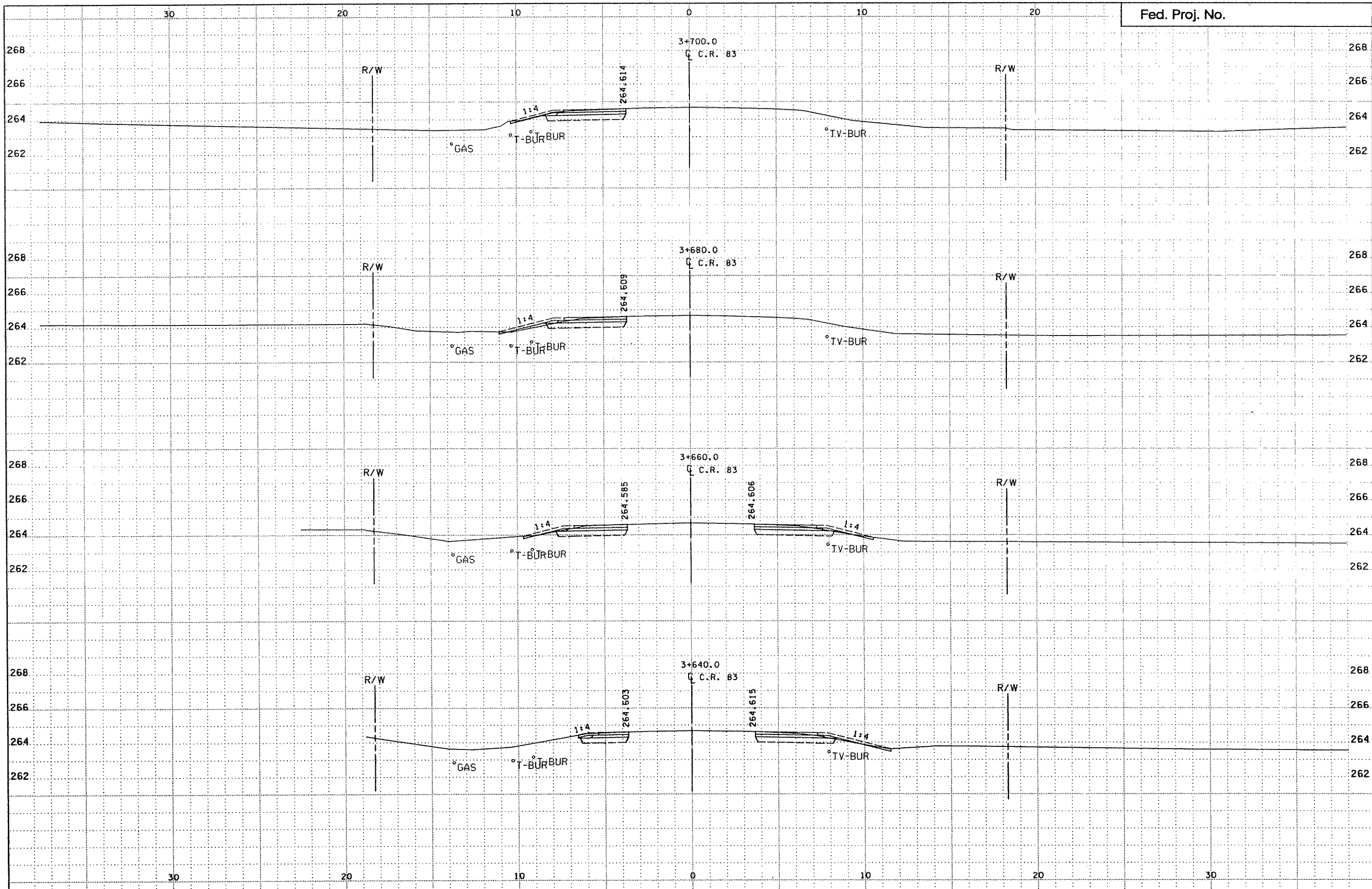
DESIGN FILE: I:\CIVIL\0472953\2953.kso  
 PLOT FILE: I:\CIVIL\0472953\2953.plt  
 PLOTTER: MS-DOS (Epson) Mono-FR-NDOT  
 PLOT DATE/TIME: 06/29/98 14:19:34



DESIGN FILE: H:\CIVIL\047\2953\2953.dwg  
PRF FILE: H:\CIVIL\047\2953\2953.dwg  
PLOTTER: MS-DOS Plotter-Mono-PR-ANDOT  
PLOT DATE/TIME: 06/29/98 14:19:53

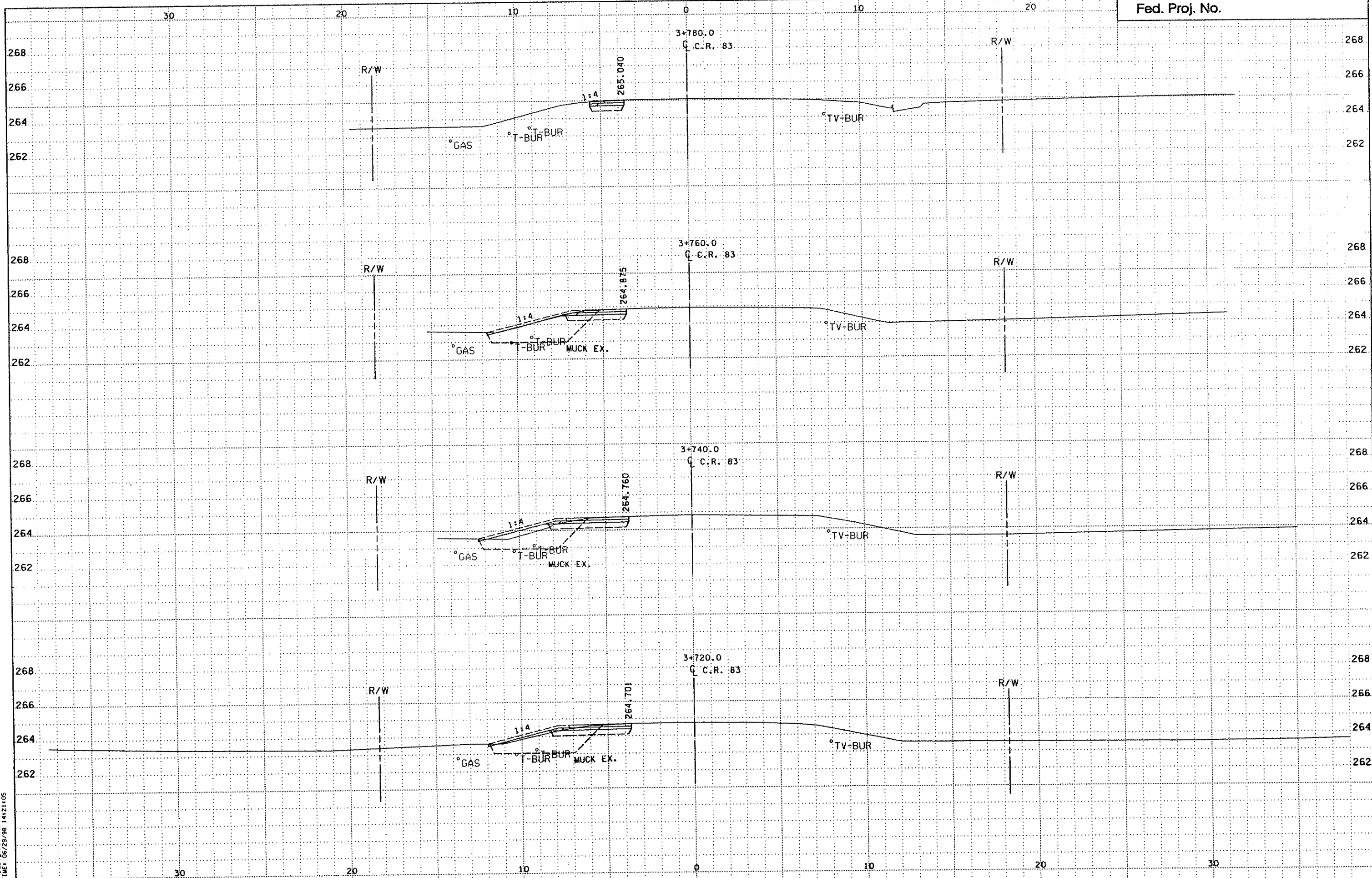


DESIGN FILE: H:\CIVIL\047\2953\2953.xdb  
 PRF FILE: H:\CIVIL\047\2953\2953.prf  
 PLOT FILE: H:\CIVIL\047\2953\2953.plt  
 PLOT DATE/TIME: 06/29/98 14:20:11

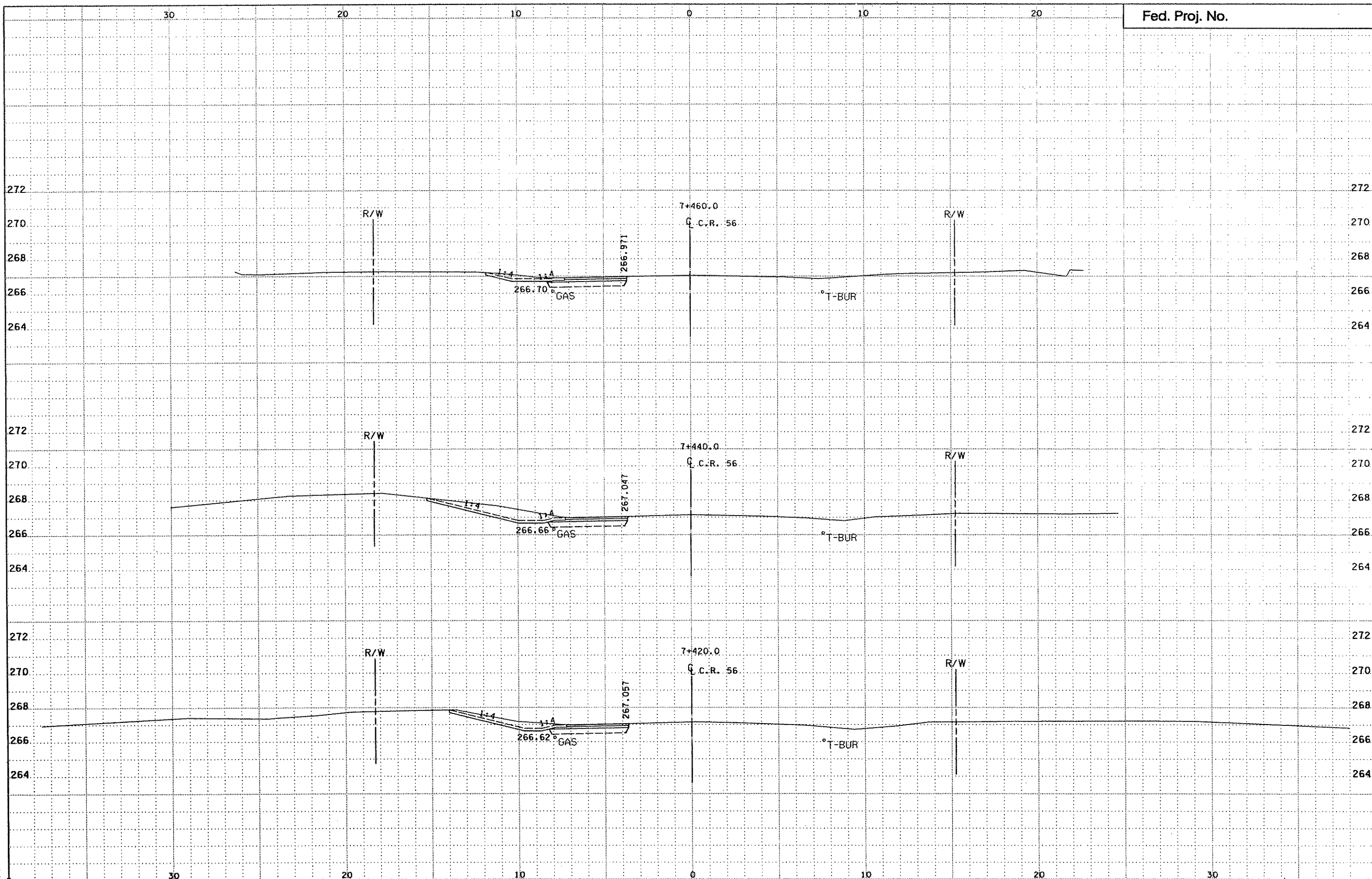


DESIGN FILE: H:\GIV\11\047\2953\2953.kxd  
PRF FILE: H:\GIV\11\047\2953\2953.prf  
PLOTTER: MS-DOS Igj09-Mono-FR-MD07  
PLOT DATE/TIME: 06/29/98 14:20:23

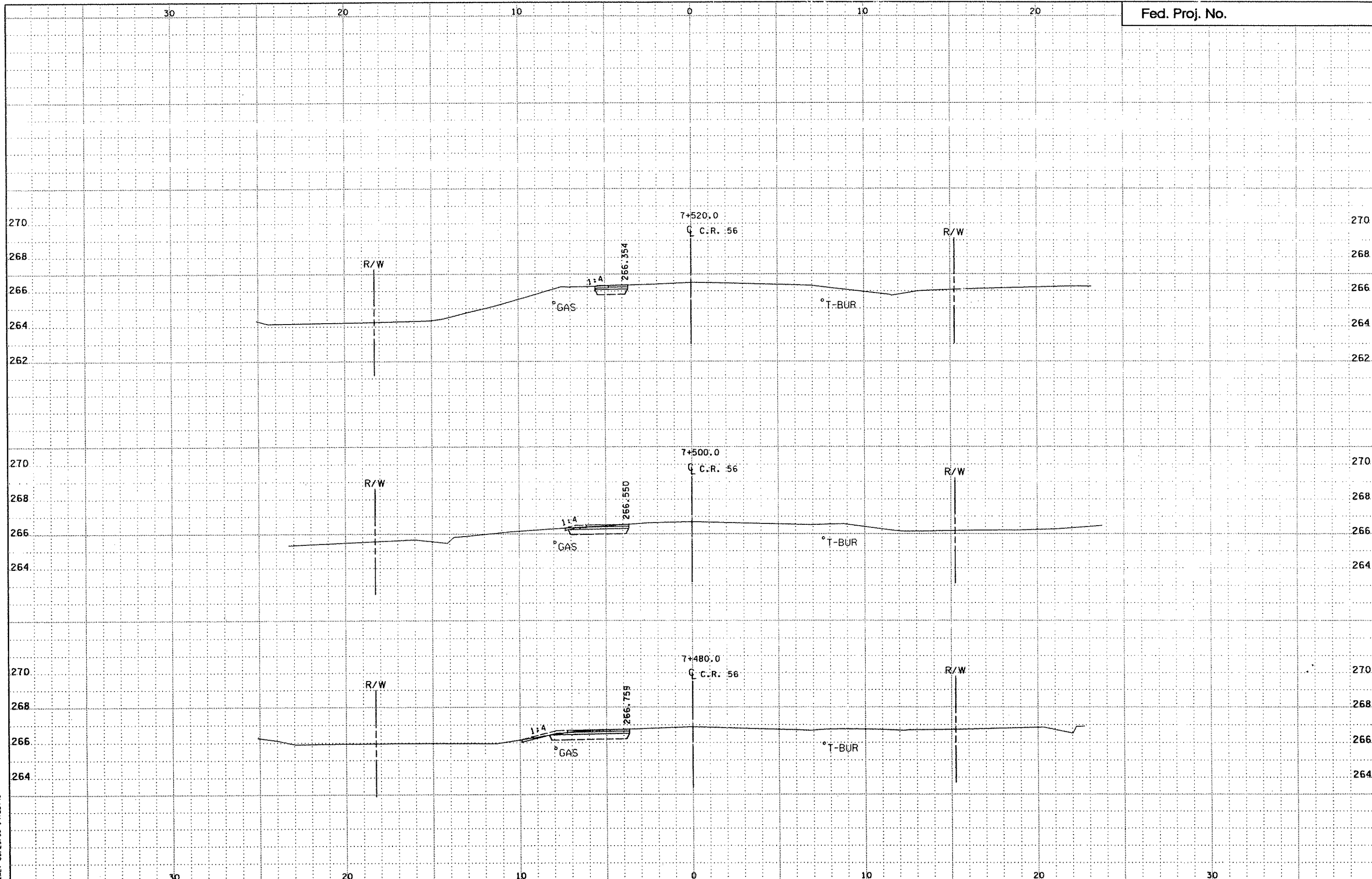




DESIGN FILE: P:\GIV\11047\2953\2953.dwg  
 PLOT DATE/TIME: 06/29/98 14:21:05  
 PLOTTER: MS-DesignJet-Mono-FR-INDOT



DESIGN FILE: H:\CIVIL\0472953\2953.dwg  
PLOT FILE: H:\CIVIL\0472953\2953.plt  
PLOTTER: MS-DesJet-Mono-FR-MDDT  
PLOT DATE/TIME: 06/29/98 14:21:51



DESIGN FILE: P:\CIVIL\1047\2953\2953.dwg  
REF FILE: P:\CIVIL\1047\2953\2953.dwg  
PLOTTER: MS-D661gnJet-Mono-FR-MD01  
PLOT DATE/TIME: 06/29/98 14:22:43