

STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR 109TH AVE. N.E.

County Highway No. 112

Between RADISSON ROAD And LEXINGTON AVENUE

From SECTION 21, T. 31 N., R. 23 W. To SECTION 23, T. 31 N., R. 23 W.

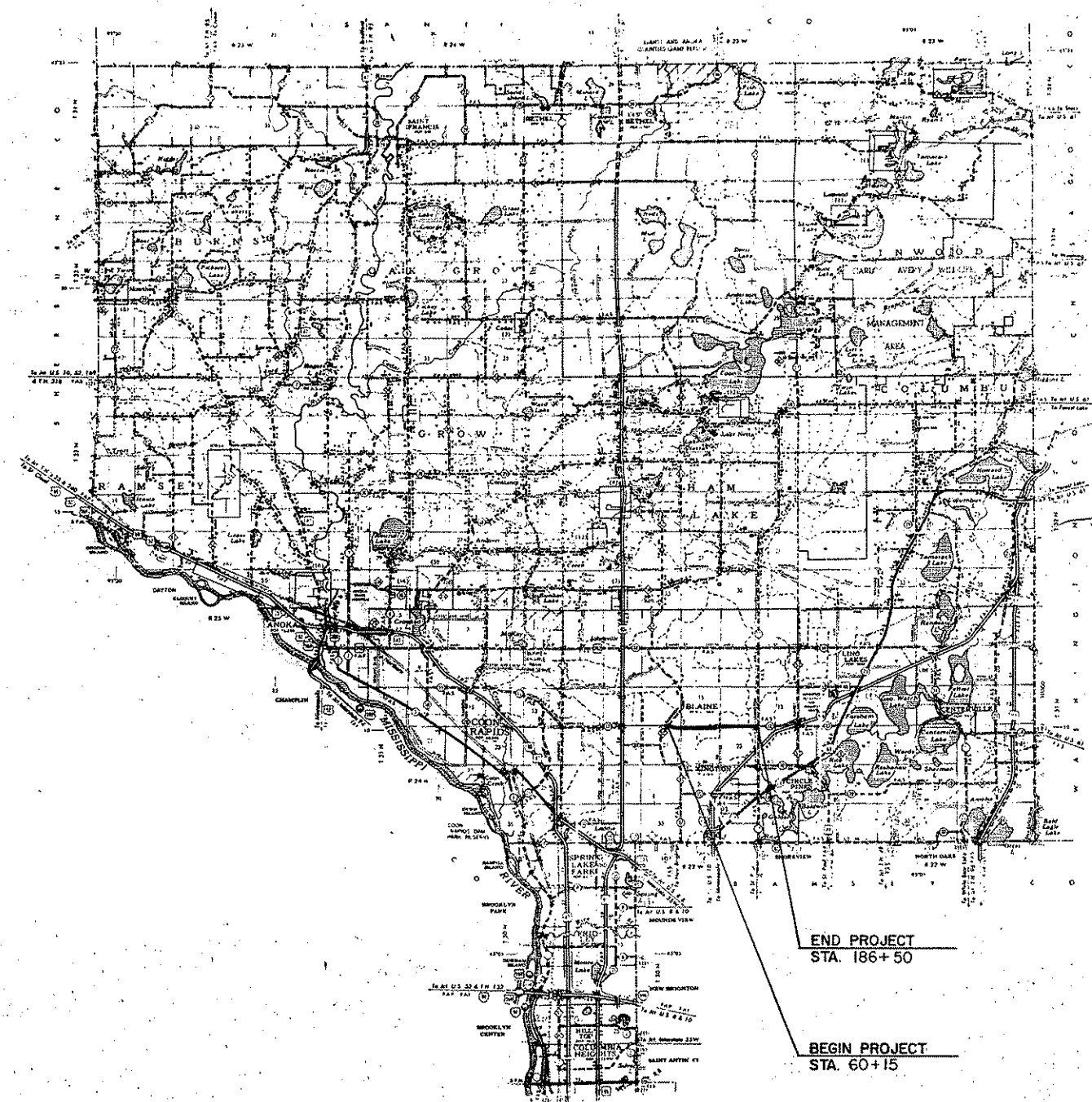
GROSS LENGTH	12635	FEET	2.39	MILES
BRIDGES LENGTH	0	FEET	0	MILES
EXCEPTIONS LENGTH	0	FEET	0	MILES
NET LENGTH	12635	FEET	2.39	MILES

INDEX TO SHEETS

- 1 TITLE SHEET & LAYOUT MAP
- 2 ESTIMATED QUANTITIES & TYPICAL SECTIONS
- 3-12 PLAN & PROFILE
- 13-14 EROSION CONTROL DETAILS
- 15 SUPERELEVATION PLAN
- 16-31 CROSS SECTIONS
- 32-36 POND CONST. & BORROW PIT

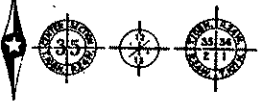
SCALE

INDEX MAP	2 MI.	
PLAN & PROFILE	VERT.	5
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CROSS SECTIONS	VERT.	5
	HORIZ.	10



CONVENTIONAL SIGNS

STATE LINE	---
COUNTY LINE	---
TOWNSHIP OR RANGE LINE	---
SECTION LINE	---
QUARTER LINE	---
SIXTEENTH LINE	---
RIGHT-OF-WAY LINE	---
PROPERTY LINE (Range Line)	---
PROPERTY LINE (Section Line)	---
PROPERTY LINE (Quarter Line)	---
PROPERTY LINE (Sixteenth Line)	---
PROPERTY LINE (Right-of-Way Line)	---
TRUNK HIGHWAY CENTER LINE	---
ROADWAY	---
RAILROAD	---
OPEN DRAIN	---
DRY RUN	---
DRAINAGE DITCH	---
ELECTRIC POWER LINE	---
TELEPHONE OR TELEGRAPH LINE	---
JUST TELEPHONE AND POWER	---
CONCRETE	---
TELEPHONE CABLE (Aerial)	---
TELEPHONE CABLE (Underground)	---
POWER CABLE (Underground)	---
GAS MAIN	---
SEWER	---
WATER PIPE	---
SEWER PIPE	---
DRAIN TILE	---
SPRING	---
WELL	---
WATER TOWER	---
WATER PUMP	---
WATER PUMP HOUSE	---
WATER PUMP PIT	---
WATER PUMP ELECTRICAL BOX	---
WATER PUMP ELECTRICAL GATE	---
CATTLE GUARD	---
UNDERPASS (Highway Over)	---
UNDERPASS (Highway Under)	---
BRIDGE	---
BRIDGE (One Way Road)	---
BRIDGE (Two Way Road)	---
BRIDGE (Stone)	---
BRIDGE (Concrete)	---
BRIDGE (Steel)	---
BRIDGE (Wood)	---
BRIDGE (Metal)	---
BRIDGE (Timber)	---
BRIDGE (Concrete)	---
BRIDGE (Steel)	---
BRIDGE (Wood)	---
BRIDGE (Metal)	---
BRIDGE (Timber)	---
BRIDGE (Concrete)	---
BRIDGE (Steel)	---
BRIDGE (Wood)	---
BRIDGE (Metal)	---
BRIDGE (Timber)	---



DESIGN DESIGNATION

ADT (CURRENT YEAR) 0  
 ADT (FUTURE YEAR) 14,300  
 T (HEAVY COMMERCIAL)  
 9 Ton Design Soil Factor 40  
 Design Speed 55 MPH  
 Design Speed not achieved at:  
 STA. \_\_\_\_\_ TO STA. \_\_\_\_\_ MPH  
 STA. \_\_\_\_\_ TO STA. \_\_\_\_\_ MPH

SPECIFICATIONS

THE 1983 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION" AND SUPPLEMENTAL SPECIFICATIONS, DATED MAY 19, 1987, SHALL GOVERN.

ALL APPLICABLE FEDERAL STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT.

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.

*Paul K. Runk* DATE 8/22/85  
 COUNTY ENGINEER

ANOKA COUNTY REG. NO. 6547

RECOMMENDED FOR APPROVAL \_\_\_\_\_ 19\_\_\_\_  
 DISTRICT ENGINEER

RECOMMENDED FOR APPROVAL \_\_\_\_\_ 19\_\_\_\_

APPROVED \_\_\_\_\_ 19\_\_\_\_  
 STATE AND ENGINEER

Minn. Proj. No. \_\_\_\_\_ County Proj. No. 84-19-112

State Proj. No. \_\_\_\_\_ S.A.P. \_\_\_\_\_

**STATEMENT OF ESTIMATED QUANTITIES**

ITEM NO.	ITEM	UNIT	TOTAL EST. QUANT.	FINAL QUANT.
2021.501	MOBILIZATION	LUMP SUM	1	
2031.501	FIELD OFFICE TYPE D	EACH	1	
2101.501	CLEARING	ACRE	24.9	
2101.506	GRUBBING	ACRE	24.9	
2104.501	REMOVE METAL CULVERT	LIN. FT.	145	
2104.501	REMOVE BARB WIRE FENCE	LIN. FT.	1250	
2105.501	COMMON EXCAVATION (P)	CU. YD.	212,490	
2105.505	MUCK EXCAVATION	CU. YD.	154,993	
2105.521	GRANULAR BORROW (&V)	CU. YD.	87,710	
2130.501	WATER	M/GAL.	10	
2211.503	AGG. BASE PLACED, CL. 5A (P)	CU. YD.	7,792	
2221.503	AGG. SHLD. PLACED, CL. 5A (P)	CU. YD.	1,274	
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	1,145	
2331.510	BINDER COURSE MIXTURE	TON	9,664	
2331.514	BASE COURSE MIXTURE	TON	15,779	
2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	341	
2341.508	WEARING COURSE MIXTURE	TON	5,680	
2357.502	BIT. MATERIAL FOR TACK COAT	GALLON	3,366	
2451.503	GRANULAR BACKFILL (CV)	CU. YD.	183,016	
2451.509	AGGREGATE BEDDING (CV)	CU. YD.	2,654,653	
2501.511	30" CS PIPE CULV	LIN. FT.	30	
2501.561	48" RC PIPE CULV DES 3006 CL II	LIN. FT.	78	
2501.561	54" RC PIPE CULV DES 3006 CL II	LIN. FT.	90	
2501.561	60" RC PIPE CULV DES 3006 CL II	LIN. FT.	234	
2501.515	30" GS PIPE APRONS	EACH	2	
2501.515	48" RC PIPE APRONS	EACH	2	
2501.515	54" RC PIPE APRONS	EACH	2	
2501.515	60" RC PIPE APRONS	EACH	6	
2511.505	HAND-PLACED RIP RAP CL. II	CU. YD.	77	
2511.511	GRANULAR FILTER TYPE 1	CU. YD.	38	
2554.509	GUIDE POST, TYPE B	EACH	8	
2557.501	WIRE FENCE DESIGN 9323	LIN. FT.	1,250	
2557.521	WOOD BRACE ASSEMBLIES	EACH	11	
2575.501	ROADSIDE SEEDING	ACRE	21	
2575.502	SEED MIXTURE 5	POUND	1,050	
2575.505	SODDING	SQ. YD.	1,930	
2575.511	MULCH MATERIAL TYPE 1	TON	42	
2575.519	DISC ANCHORING	ACRE	21	
2575.531	COMMERCIAL FERT. ANALY. 10-10-10	TON	5.25	
0575.602	HAY OR STRAW BALES	EACH	120	
0331.603	SAW INPLACE BIT	LIN. FT.	120	
ALTERNATE BID				
2105.501	COMMON EXCAVATION (P)	CU. YD.	183,016	
2105.505	MUCK EXCAVATION	CU. YD.	44,586	
2105.100	ENGINEERING FABRIC	SQ. YD.	77,000	
0105.515	MUCK BORROW (&V)	CU. YD.	16,553	

① INCLUDES 12.9 ACRES FOR MITIGATION POND SITE.

**STANDARD PLATES (1)**

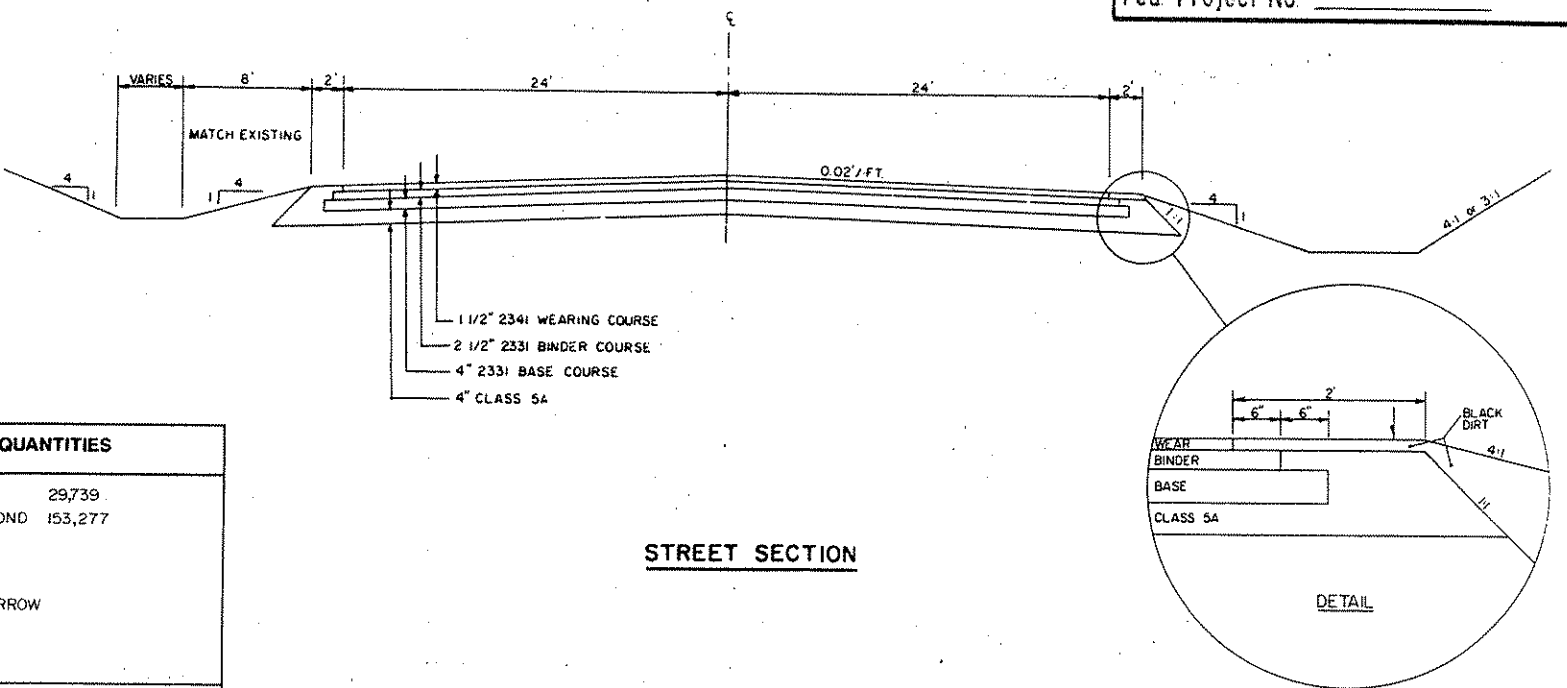
PLATE NO.	DESCRIPTION
0004A	SPECIFICATION REFERENCE TO STANDARD PLATES
30001	REINFORCED CONCRETE PIPE
3006D	GASKET JOINT FOR R.C. PIPE
3100F	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133A	RIPRAP AT RCP OUTLETS
3145C	CONCRETE PIPE TIES
8150B	INSTALLATION OF CULVERT MARKERS
9008B	APPROACHES AND ENTRANCES
9102C	SODDING AT PIPE CULVERT ENDS
9323D	BARBED WIRE FENCE (WOOD POST)

**EARTHWORK SUMMARY**

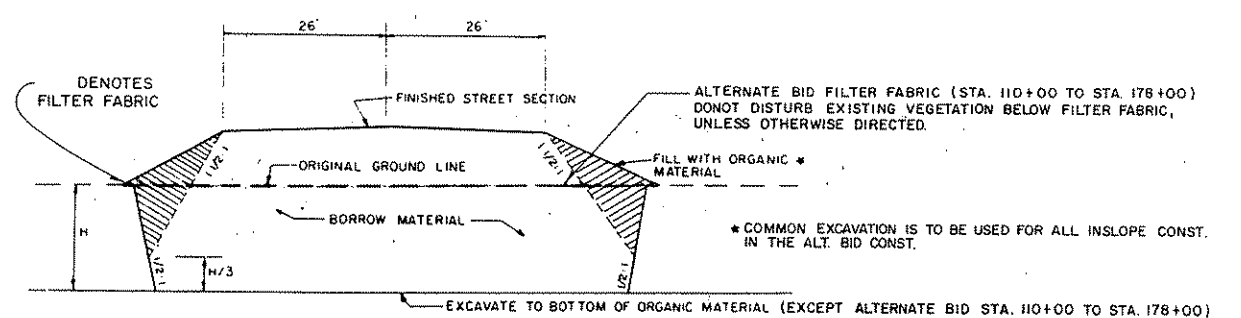
EXCAVATION (C.Y.)		ALTERNATE BID QUANTITIES	
212,490	REG COMMON	29,739	183,016
	MITIGATION POND	182,751	
154,993	MUCK		44,586
87,710	GRANULAR BORROW		-0-
-0-	MUCK BORROW		16,553
EMBANKMENT (C.Y.)		ALTERNATE BID QUANTITIES	
300,200	REG. (SHRINKAGE -160%)	183,016	REG. COMMON (SHRINKAGE -160%) 49,229
② 129,319	MUCK (SHRINKAGE -140%)	61,140	FABRIC AREAS (SHRINKAGE -180%) 133,787
25,674	EXCESS MUCK	-0-	MITIGATION POND (SHRINKAGE -140%) 15,795
			EXCESS MUCK 45,345

- ① TO BE USED AS TOPSOIL DRESSING ON THE NEW SLOPES AND DITCH BOTTOMS (AVE. 4" THICKNESS).
- ② APPROXIMATELY 74,819 C.Y. OF MATERIAL IS TO BE HAULED TO THE MITIGATION POND SITE FOR POND CONSTRUCTION. THE REMAINING EMBANKMENT MATERIAL IS TO BE USED FOR INSLOPE CONSTRUCTION & TOPSOIL DRESSING (AVE. 4" THICKNESS). MITIGATION POND CONSTRUCTION & HAULAGE WILL BE CONSIDERED AS INCIDENTAL TO THE EXCAVATION ITEM & NO ADDITIONAL COMPENSATION WILL BE MADE.

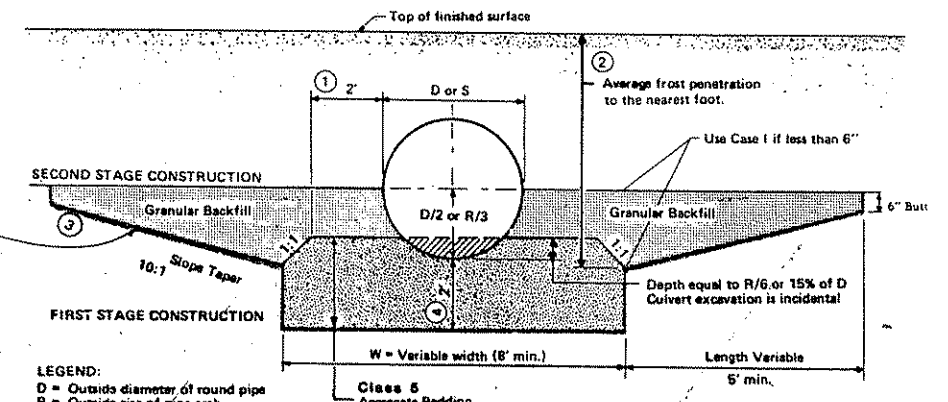
NOTE: SUMMARY IS FOR INFORMATION ONLY. PAY ITEMS ARE THOSE LISTED IN THE ESTIMATED QUANTITIES & PROPOSAL.



**STREET SECTION**



**TYPICAL SWAMP SECTION WITH A STREET FILL SECTION**



- LEGEND:**  
 D = Outside diameter of round pipe  
 R = Outside rise of pipe-arch  
 S = Outside span of pipe-arch
- NOTES:**  
 ① On small pipes this distance will be greater in order to maintain a minimum 8-foot width for W.  
 ② Average frost depth will be determined by the Soils Engineer.  
 ③ Taper ratio depends on soil and moisture condition. Taper to be used will be recommended by Soils Engineer.  
 ④ Depth shall be 2 feet unless recommended deeper by Soils Engineer.

STORM CULVERTS		48" R.C.P. CULVERT APRONS		54" R.C.P. CULVERT APRONS		60" R.C.P. CULVERT APRONS		GRADE %	INLET ELEV.	OUTLET ELEV.	RIP-RAP CU. YD.	GRANULAR FILTER CU. YD.	CULVERT MARKERS	GRANULAR BACKFILL CU. YD.	AGGREGATE BEDDING CU. YD.
STATION	LOCATION	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.								
79+65	C.L. 50° SKEW							0.20	898.00	897.80	15.8	7.9	2	214.8	105.8
137+20	C.L.	78	2	90	2			0.08	892.63	892.55	13.4	6.7	2	257.0	97.9
159+40	72° R					54	2	0.05	890.31	890.27					
159+87	C.L.			90	2	90	2	0.05	890.33	890.27	18.4	9.2	2	388.5	131.1
173+35	C.L.			90	2	90	2	0.06	890.06	890.00	18.4	9.2	1	388.5	131.1

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 State of Minnesota Statutes, Sections 326.01 to 326.10.

Date: 7/22/85 Minn. Reg. No. 7216

**CD CONSULTING ENGINEERS DIVERSIFIED INC.**  
A Donohue Company  
Suite 200 - 7200 Highway 101 North - Middle Grove, MN 55051 - (612) 425-2101

DESIGNED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
DRAWN BY: MRJ

**ANOKA COUNTY HIGHWAY DEPT.**  
SECTIONS AND ESTIMATED QUANTITIES  
COUNTY ROAD 112 (109TH AVENUE NE)

DATE: JUNE 1985  
FILE NO: AC41564-302

REVISIONS:  
DATE: 5/18/85 BY: J.S.

S.A.P. \_\_\_\_\_ S.P. \_\_\_\_\_ C.P. 84-19-112

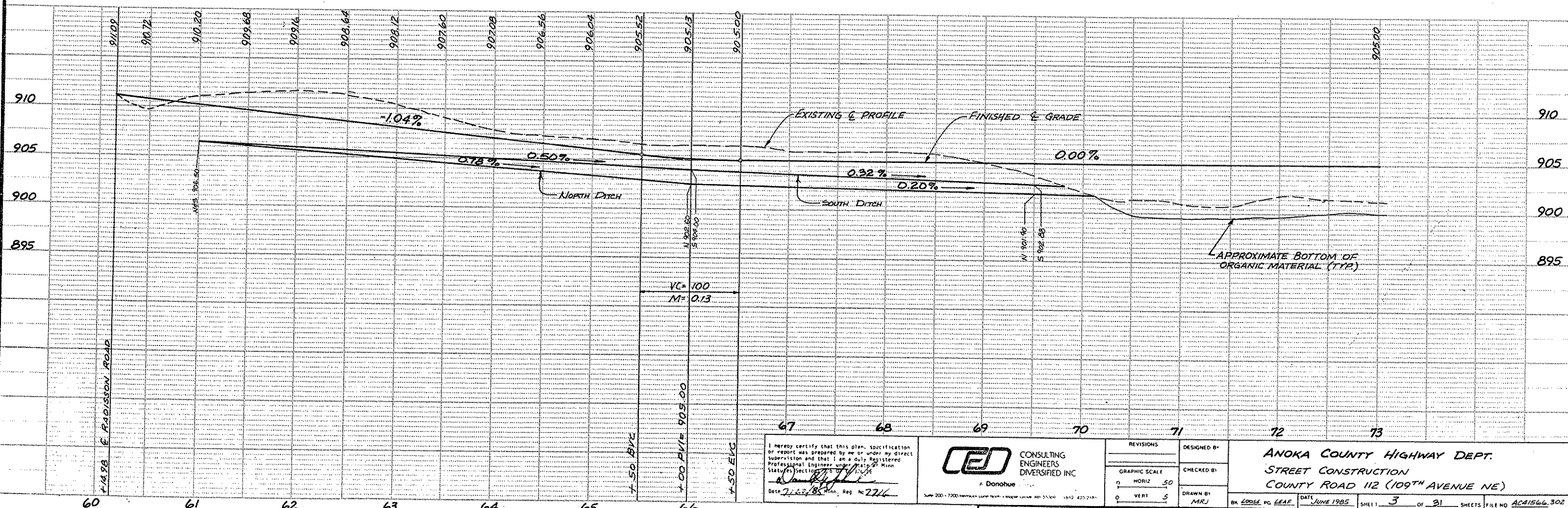
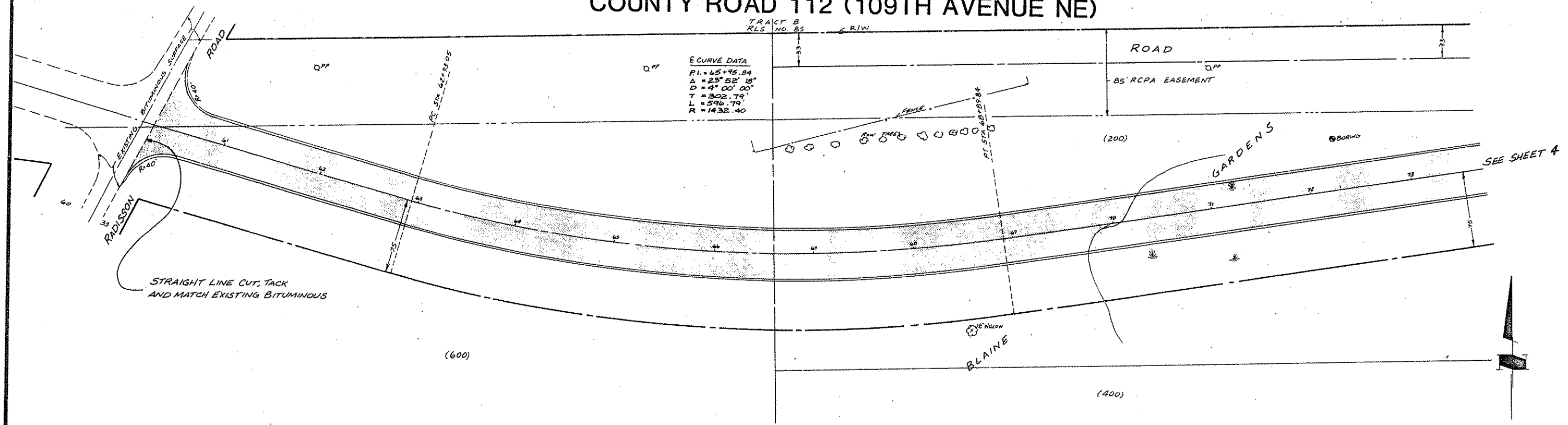
Sheet No. 2 of 36 Sheets

\* DELETE FOR ALTERNATE BID. SEE ALTERNATE BID QUANTITIES.

# COUNTY ROAD 112 (109TH AVENUE NE)

TRACT B  
RLS NO. 85

**E CURVE DATA**  
 P.I. = 65+95.84  
 Δ = 23° 52' 18"  
 D = 4° 00' 00"  
 T = 302.79'  
 L = 576.79'  
 R = 1432.40'



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 7.6.85 Minn. Reg. No. 7226

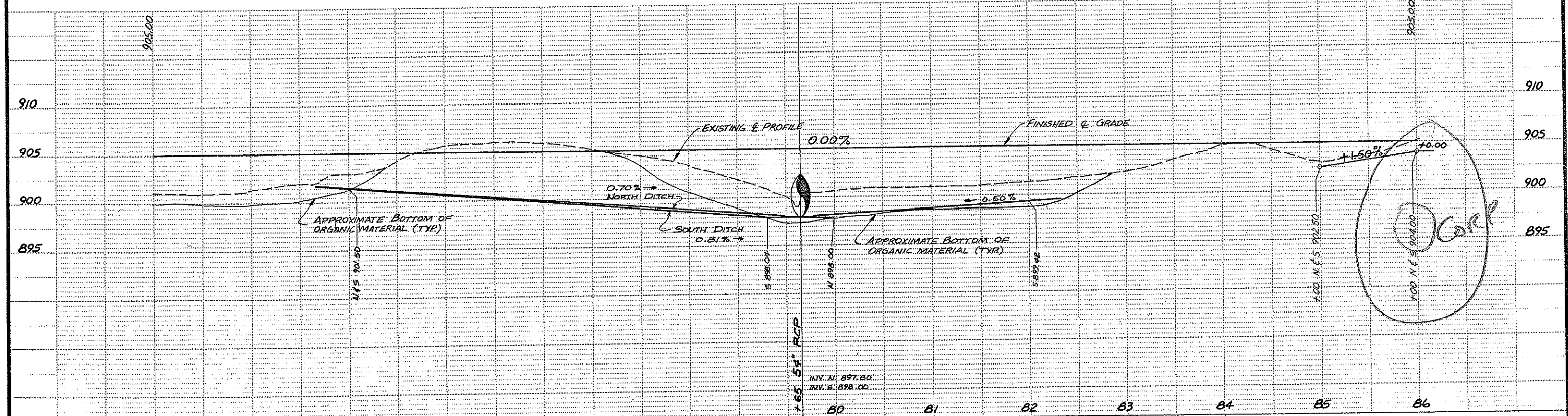
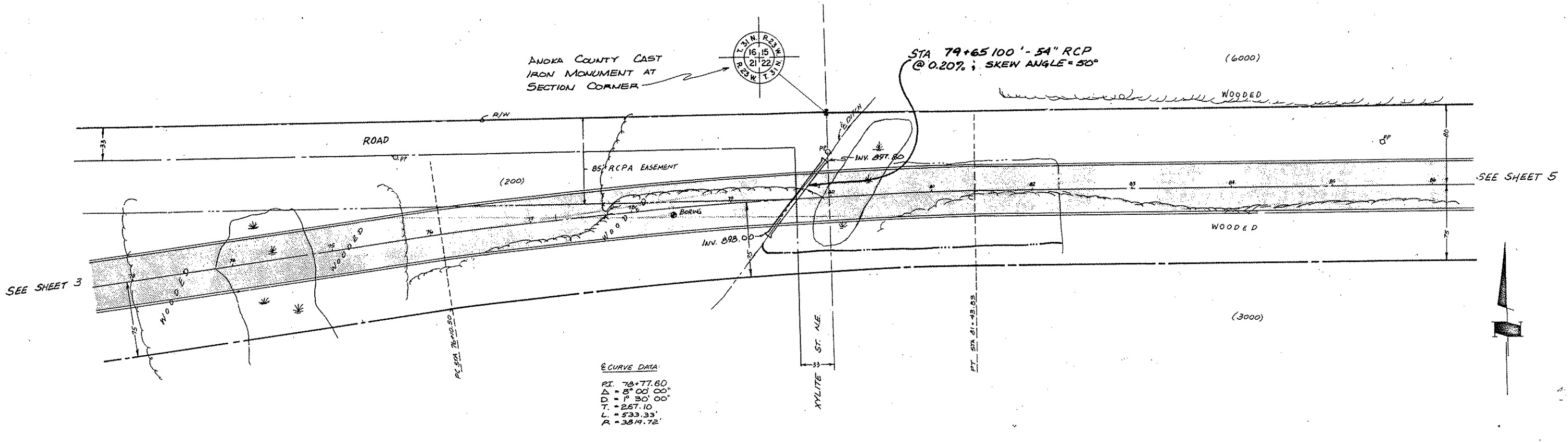


REVISIONS	
GRAPHIC SCALE	DESIGNED BY
HORIZ 50	CHECKED BY
VERT 5	DRAWN BY
	MRJ

ANOKA COUNTY HIGHWAY DEPT.  
 STREET CONSTRUCTION  
 COUNTY ROAD 112 (109TH AVENUE NE)

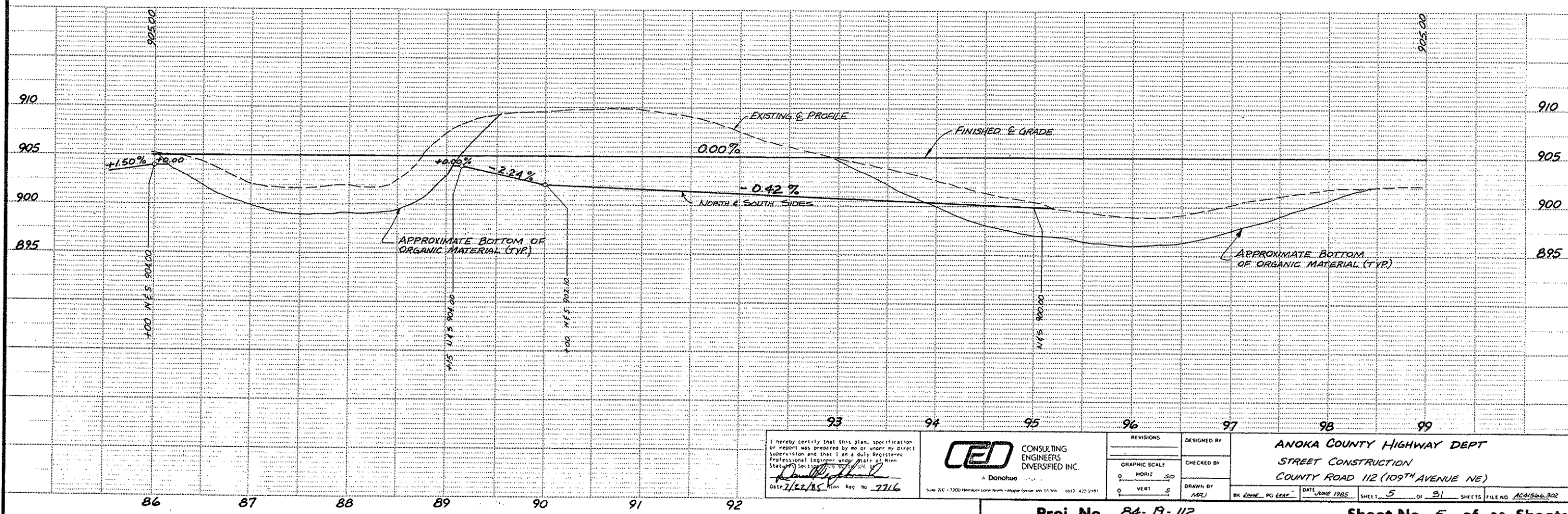
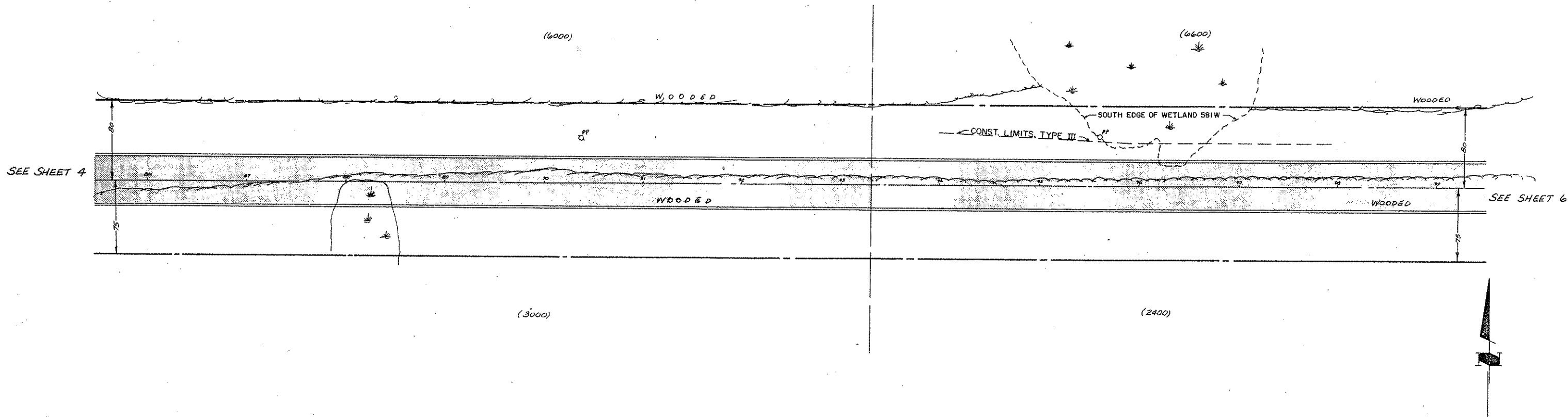
DATE JUNE 1985 SHEET 3 OF 31 SHEETS FILE NO. AC41566.302

# COUNTY ROAD 112 (109TH AVENUE NE)



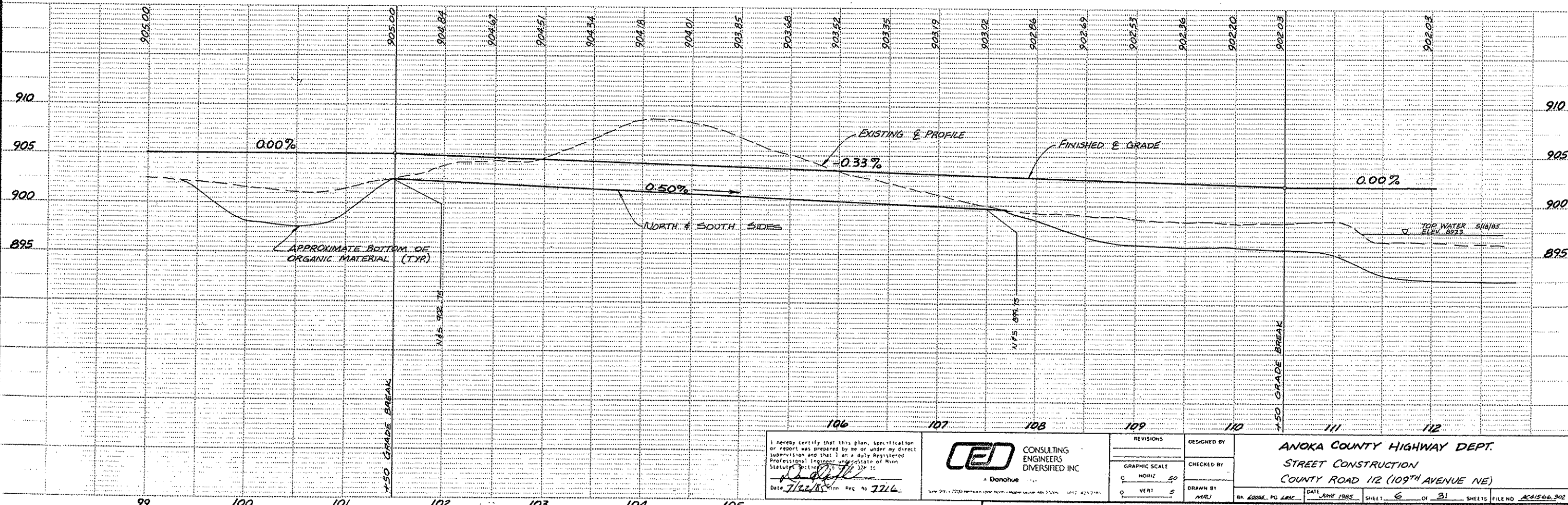
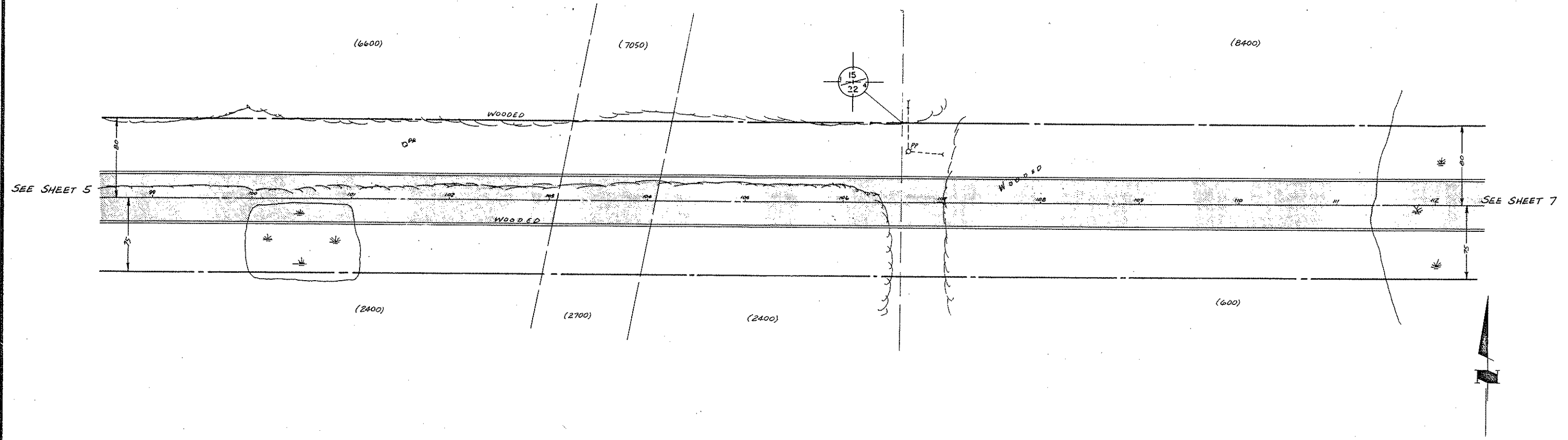
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under State of Minn. Statutes Sections 326.02 to 326.05. <i>E. Powell of Anoka</i> Date: 8-7-85 Minn. Reg. No. 102160			DESIGNED BY: ANOKA COUNTY HIGHWAY DEPT. CHECKED BY: STREET CONSTRUCTION COUNTY ROAD 112 (109TH AVENUE NE) DRAWN BY: MRJ DATE: JUNE 1985 SHEET: 4 of 36 SHEETS FILE NO. AC41566.302					
<table border="1"> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <td>GRAPHIC SCALE</td> <td>HORIZ: 50</td> </tr> <tr> <td></td> <td>VERT: 5</td> </tr> </table>			REVISIONS		GRAPHIC SCALE	HORIZ: 50		VERT: 5
REVISIONS								
GRAPHIC SCALE	HORIZ: 50							
	VERT: 5							

# COUNTY ROAD 112 (109TH AVENUE NE)



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 State of Minnesota.	CONSULTING ENGINEERS DIVERSIFIED INC. A Donohue	DESIGNED BY	ANOKA COUNTY HIGHWAY DEPT STREET CONSTRUCTION COUNTY ROAD 112 (109TH AVENUE NE)
		CHECKED BY	
Date 7/22/85 Minn. Reg. No. 7216	SHEET 5 OF 31 SHEETS FILE NO. AC1506.302	REVISIONS GRAPHIC SCALE 0 HORIZ 50 0 VERT 5	DRAWN BY MARJ

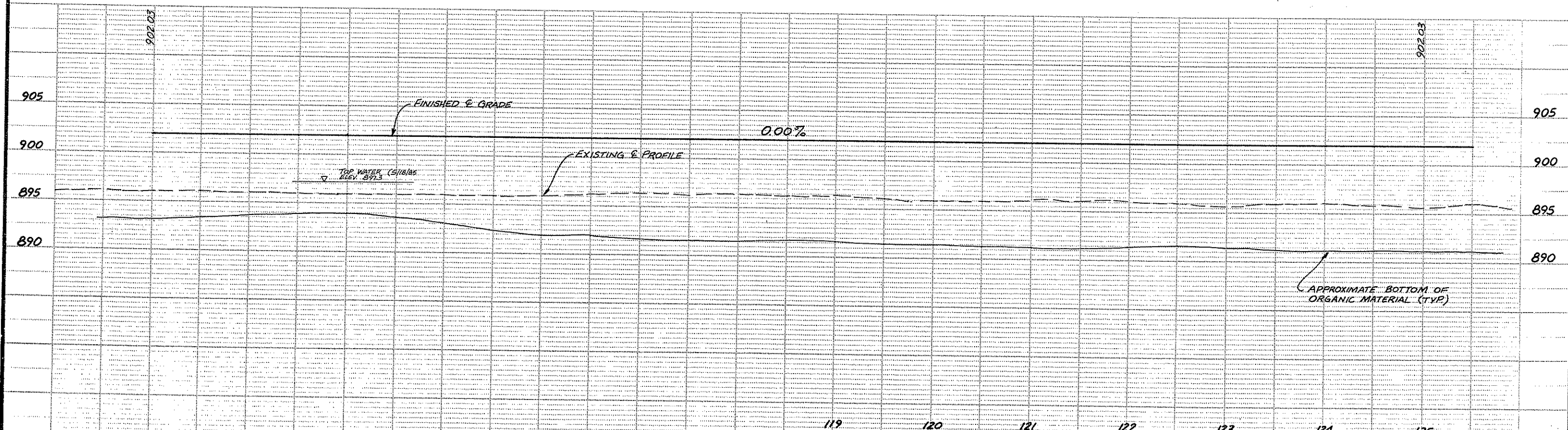
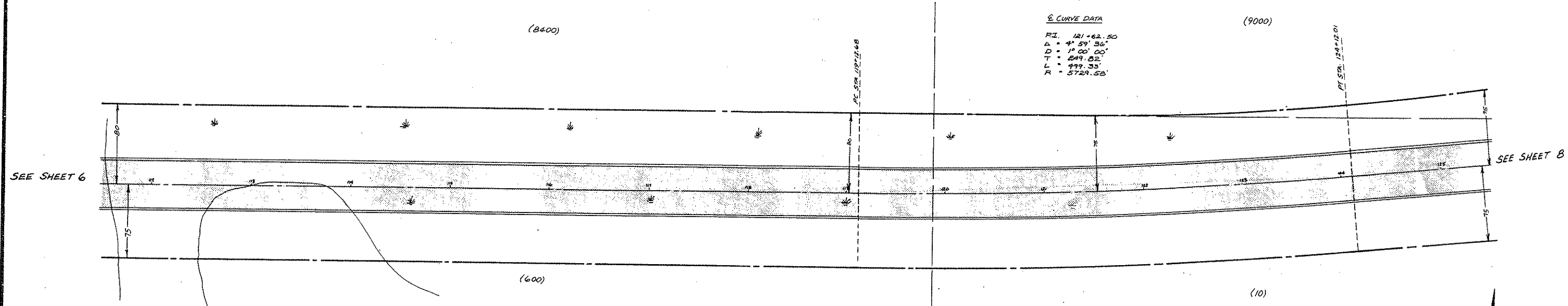
# COUNTY ROAD 112 (109TH AVENUE NE)



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 State of Minnesota Statutes Chapter 327.15.  Date 7/22/85 Minn. Reg. No. 7776.	CONSULTING ENGINEERS DIVERSIFIED INC. A Donahue	DESIGNED BY CHECKED BY DRAWN BY MRJ	ANOKA COUNTY HIGHWAY DEPT. STREET CONSTRUCTION COUNTY ROAD 112 (109TH AVENUE NE)
		REVISIONS GRAPHIC SCALE 0 HORIZ 50 0 VERT 5	DATE JUNE 1985 SHEET 6 OF 31 SHEETS FILE NO AC41546.302

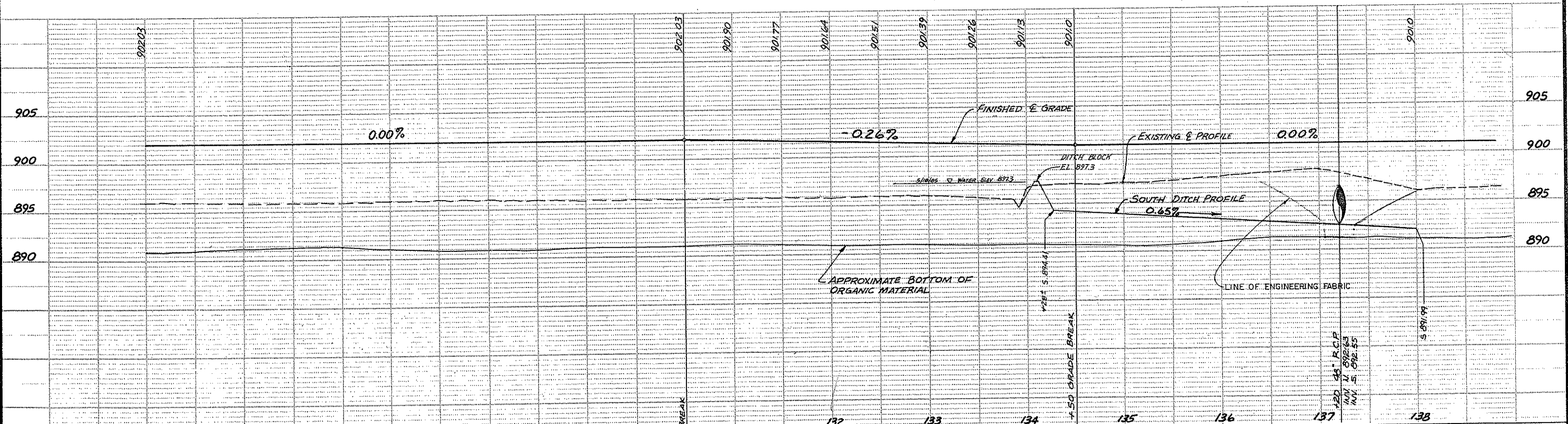
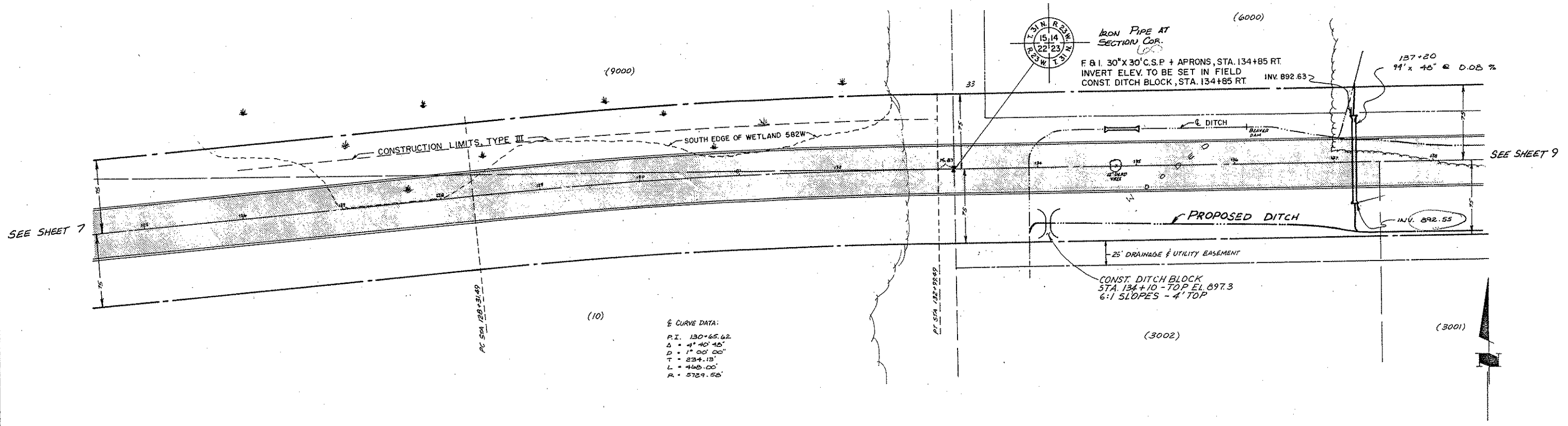
# COUNTY ROAD 112 (109TH AVENUE NE)

Fed. Proj. No.



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 State of Minnesota. Date: 2/22/85 No. Reg. No. 2716	CONSULTING ENGINEERS DIVERSIFIED INC. A. Donohue	REVISIONS _____ _____ _____	DESIGNED BY _____ CHECKED BY _____ DRAWN BY MRJ	ANOKA COUNTY HIGHWAY DEPT. STREET CONSTRUCTION COUNTY ROAD 112 (109TH AVENUE NE)
		GRAPHIC SCALE 0 HORIZ 50 0 VERT 5	DATE: JUNE 1985 SHEET: 7 OF 31 SHEETS FILE NO. AC4566302	
		BK. LOOSE PG. LEAD.		

# COUNTY ROAD 112 (109TH AVENUE)



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 State of Minnesota Statute Section 326.02, 326.03, 326.04, 326.05, 326.06, 326.07, 326.08, 326.09, 326.10, 326.11, 326.12, 326.13, 326.14, 326.15, 326.16, 326.17, 326.18, 326.19, 326.20, 326.21, 326.22, 326.23, 326.24, 326.25, 326.26, 326.27, 326.28, 326.29, 326.30, 326.31, 326.32, 326.33, 326.34, 326.35, 326.36, 326.37, 326.38, 326.39, 326.40, 326.41, 326.42, 326.43, 326.44, 326.45, 326.46, 326.47, 326.48, 326.49, 326.50, 326.51, 326.52, 326.53, 326.54, 326.55, 326.56, 326.57, 326.58, 326.59, 326.60, 326.61, 326.62, 326.63, 326.64, 326.65, 326.66, 326.67, 326.68, 326.69, 326.70, 326.71, 326.72, 326.73, 326.74, 326.75, 326.76, 326.77, 326.78, 326.79, 326.80, 326.81, 326.82, 326.83, 326.84, 326.85, 326.86, 326.87, 326.88, 326.89, 326.90, 326.91, 326.92, 326.93, 326.94, 326.95, 326.96, 326.97, 326.98, 326.99, 326.100.

Date 7/22/85 Min. Reg. No. 7216

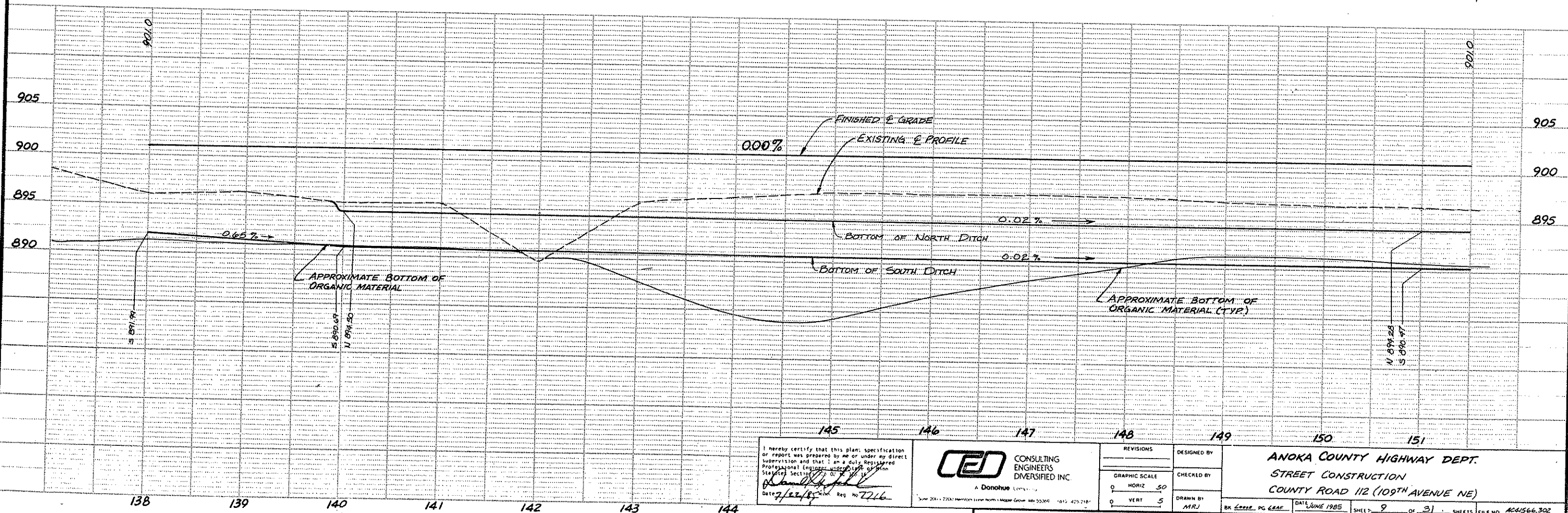
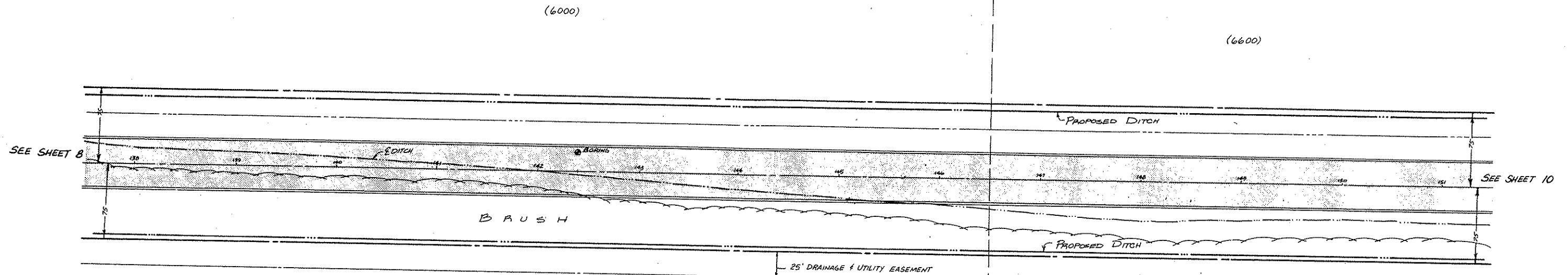


DESIGNED BY	ANOKA COUNTY HIGHWAY DEPT.
CHECKED BY	STREET CONSTRUCTION
DRAWN BY	COUNTY ROAD 112 (109TH AVENUE NE)
DATE	JUNE 1985
SHEET	8 OF 31 SHEETS
FILE NO.	AC41566.302



# COUNTY ROAD 112 (109TH AVENUE NE)

Fed. Proj. No.



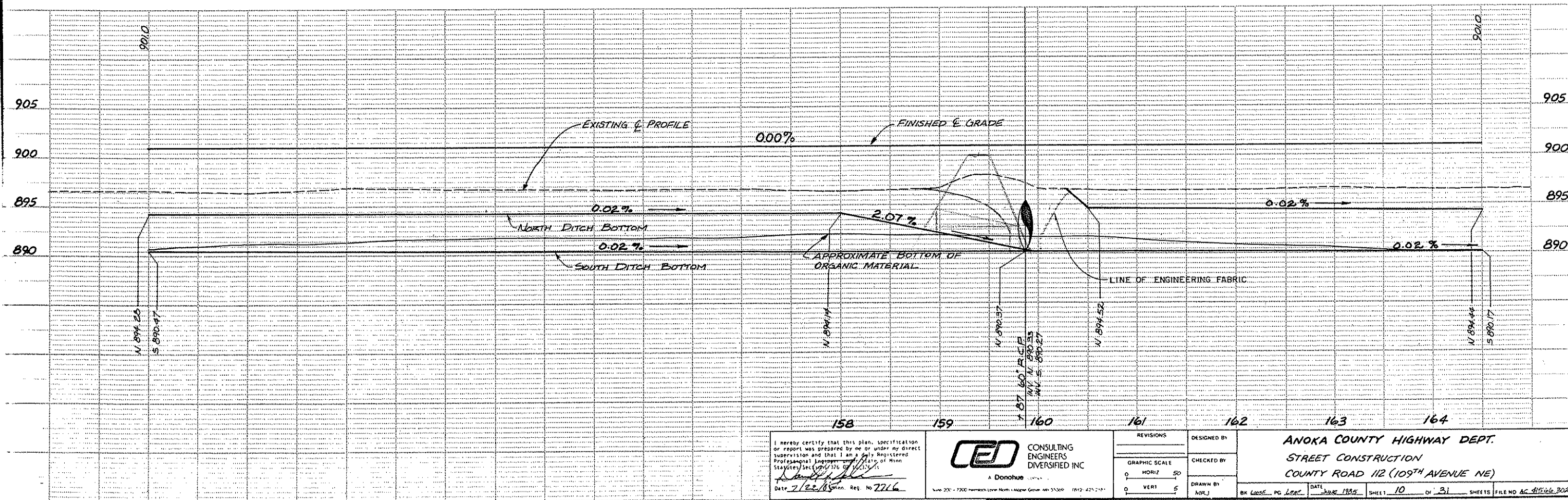
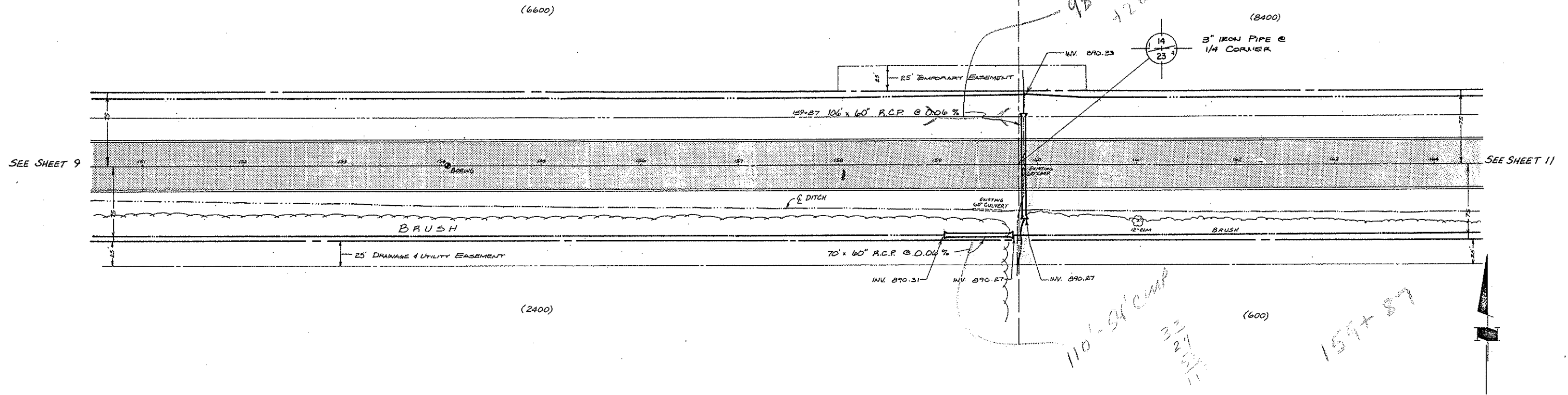
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minnesota, License No. 7226.  
 Date: 7/22/85  
 A. Donohue



REVISIONS		DESIGNED BY
0	HORIZ 50	
0	VERT 5	
DRAWN BY: MRJ		CHECKED BY:

ANOKA COUNTY HIGHWAY DEPT.  
 STREET CONSTRUCTION  
 COUNTY ROAD 112 (109TH AVENUE NE)  
 DATE: JUNE 1985  
 SHEET: 9 OF 31 SHEETS  
 FILE NO: AC4566.302

# COUNTY ROAD 112 (109TH AVENUE NE)



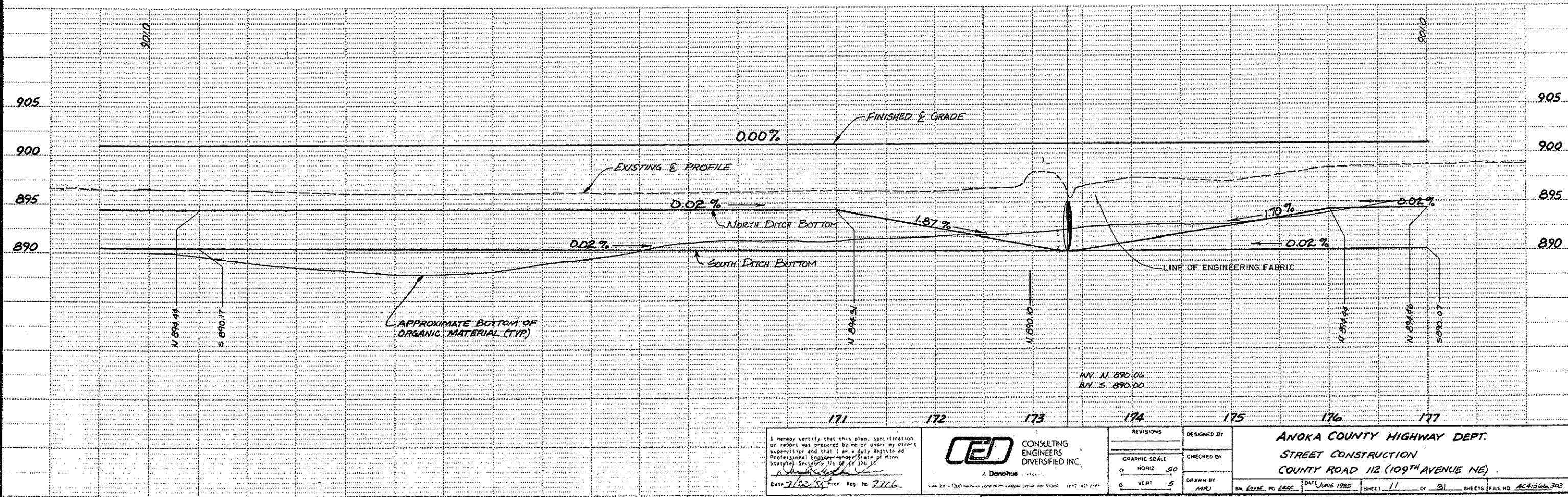
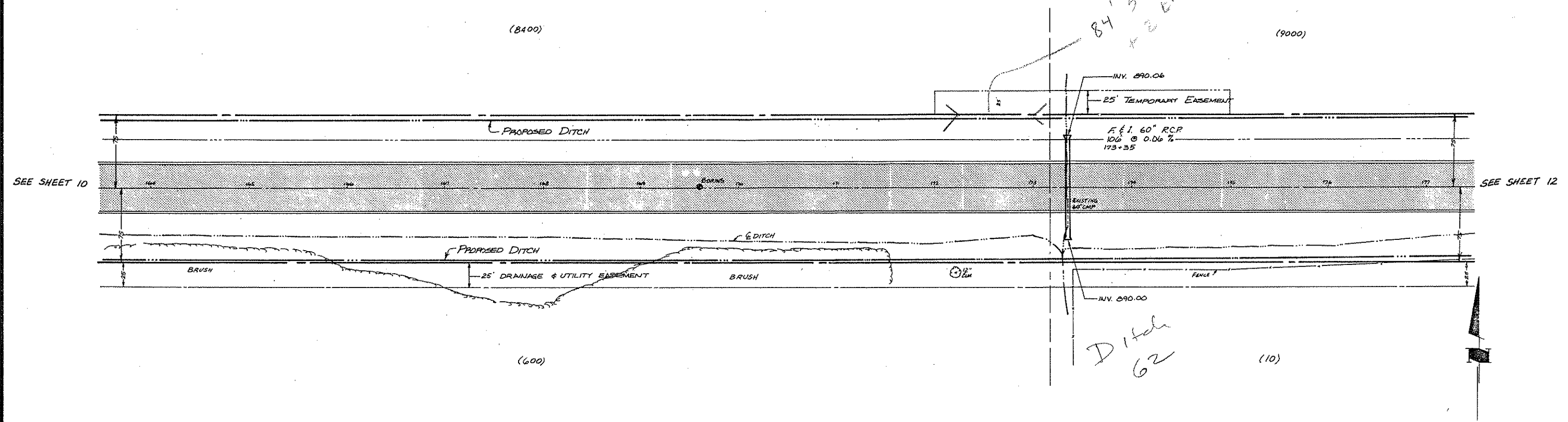
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer in the State of Minnesota, License No. 1276, dated 7/22/1935, Minn. Reg. No. 7216.

**CEO** CONSULTING ENGINEERS DIVERSIFIED INC.  
A Donohue Company  
1100 Hennepin Avenue, Minneapolis, MN 55402

REVISIONS		DESIGNED BY

ANOKA COUNTY HIGHWAY DEPT.  
STREET CONSTRUCTION  
COUNTY ROAD 112 (109TH AVENUE NE)

# COUNTY ROAD 112 (109TH AVENUE NE)



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 State of Minnesota, Statute Section 176.01 to 176.32.  
 Date 7/22/85 Min. Reg. No. 7216

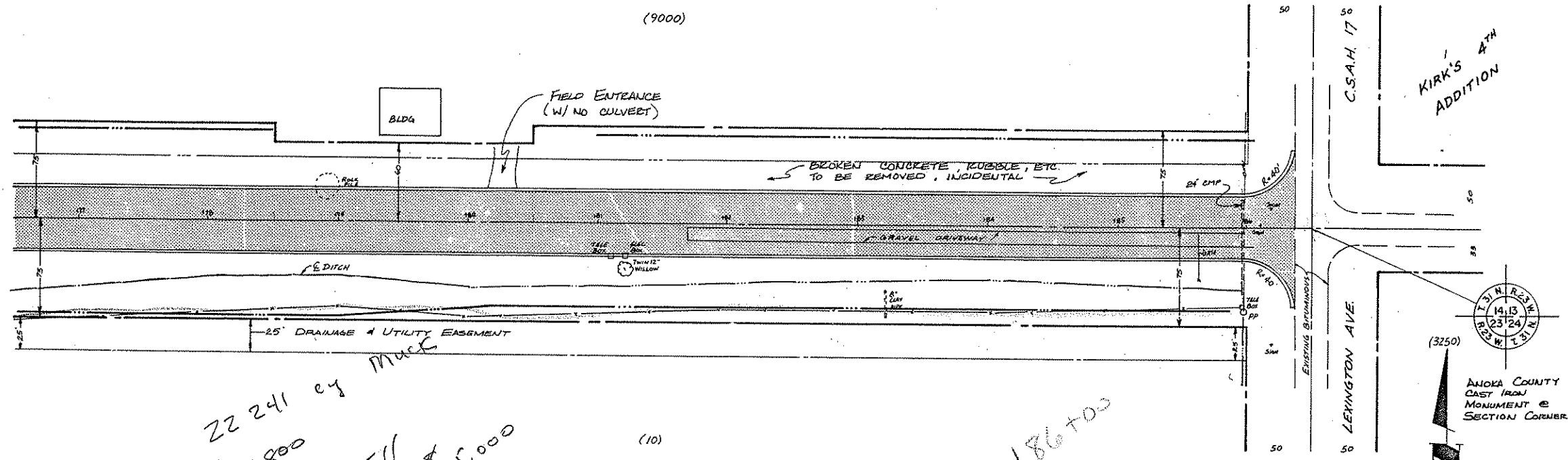


REVISIONS	
GRAPHIC SCALE	DESIGNED BY
0 HORIZ 50	CHECKED BY
0 VERT 5	DRAWN BY
	MAJ

ANOKA COUNTY HIGHWAY DEPT.  
 STREET CONSTRUCTION  
 COUNTY ROAD 112 (109TH AVENUE NE)  
 DATE JUNE 1985 SHEET 11 OF 31 SHEETS FILE NO. AC4566.302

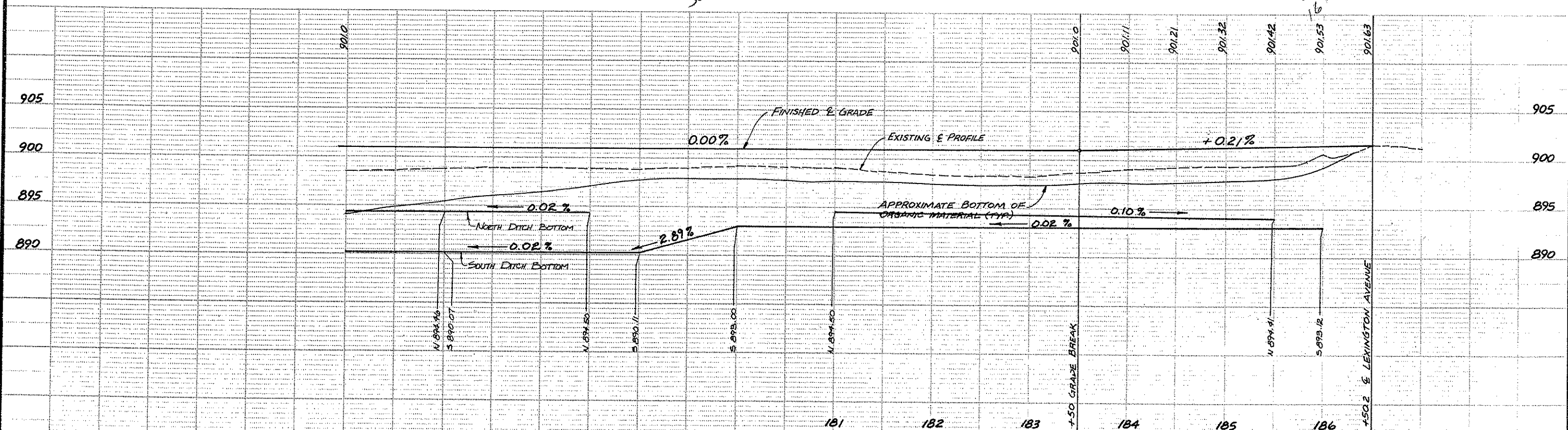
# COUNTY ROAD 112 (109TH AVENUE NE)

(9000)



22,241 cy Muck  
 \$27,800  
 32,000 c 2.04 Fill \$65,000  
 Soil 92,800  
 Trucks (10)

186+00  
 185+16.5



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 Statutes of the State of Minnesota.

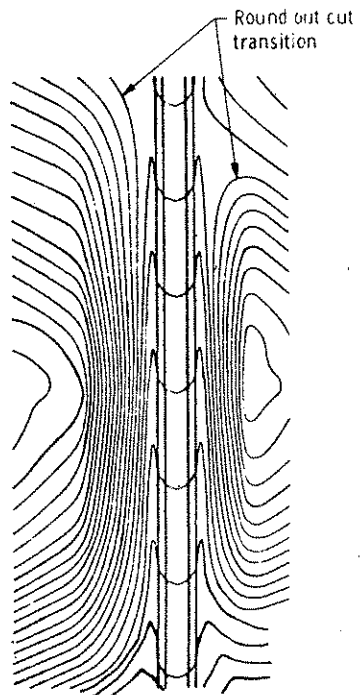
*Donohue*  
 Date 7/23/85 REG. NO. 7216

**ED** CONSULTING ENGINEERS DIVERSIFIED INC.  
 Donohue

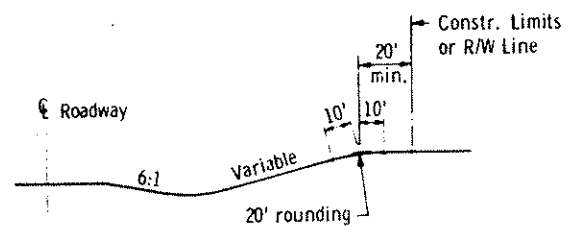
REVISIONS	DESIGNED BY
GRAPHIC SCALE	CHECKED BY
SCALE: 50'	DRAWN BY
DATE: 5	MRJ

ANOKA COUNTY HIGHWAY DEPT.  
 STREET CONSTRUCTION  
 COUNTY ROAD 112 (109TH AVENUE NE)

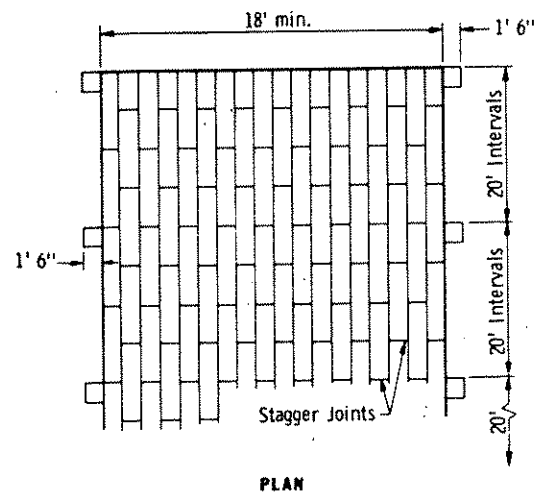
DATE: JUNE 1985 SHEET: 12 OF 31 SHEETS FILE NO: ACA1566.302



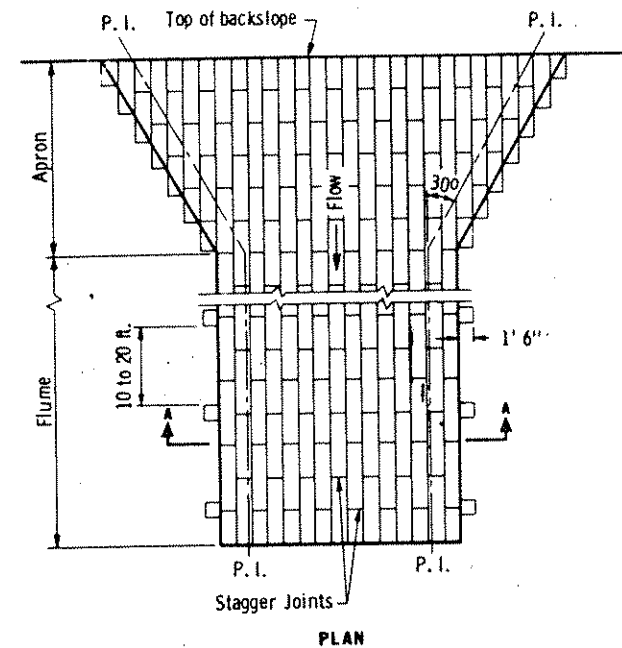
CONTOURING ROAD CUTS



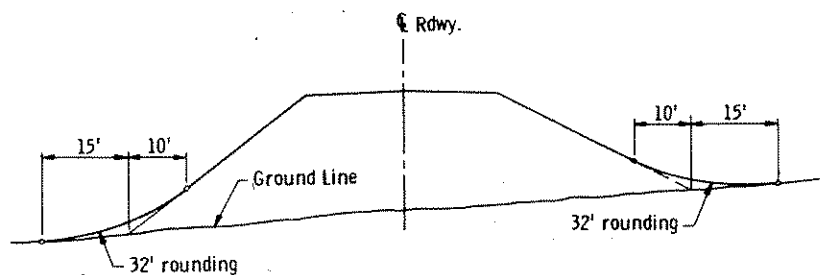
ROUNDING BACK SLOPES



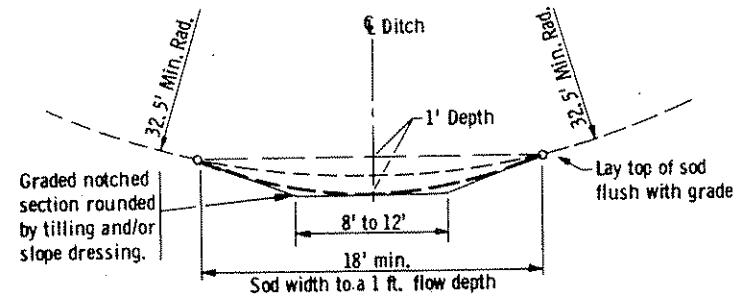
PLAN



PLAN

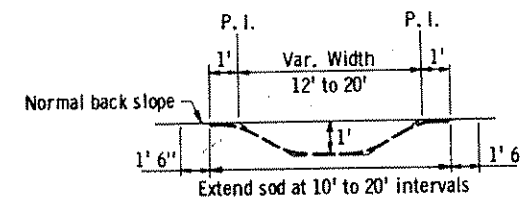


SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES

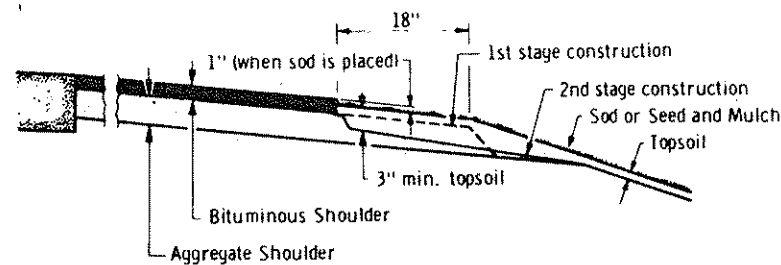


SODDED DITCH CROSS SECTION

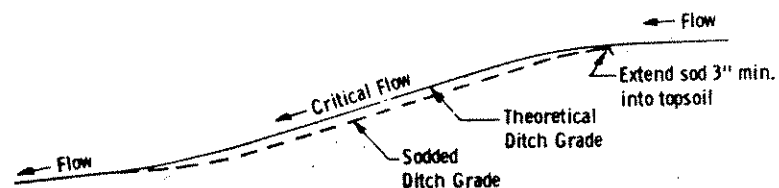
Ditches having a minimum radius of 32.5 feet and requiring sod shall be constructed according to the above details. Where ditch radius is less than 32.5 feet, notching is not required. Sod a minimum of 18 feet in width.



SECTION A-A

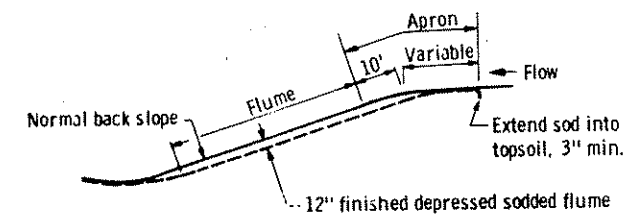


SHAPING AND TOPSOILING INSLOPES



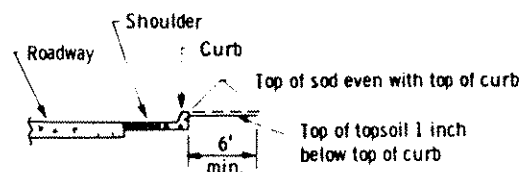
DITCH PROFILE

SODDED DITCH DETAILS



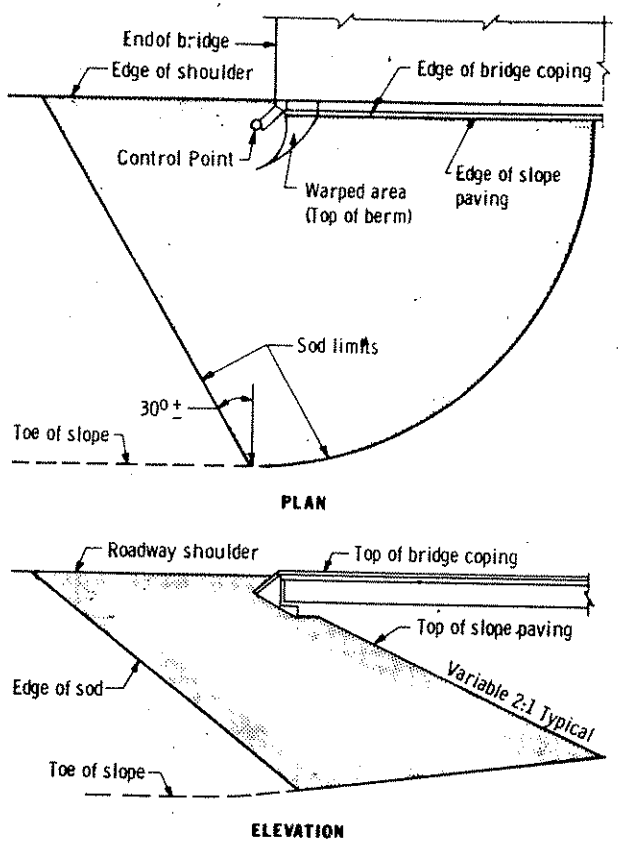
LONGITUDINAL CROSS SECTION

SODDED FLUME DETAILS

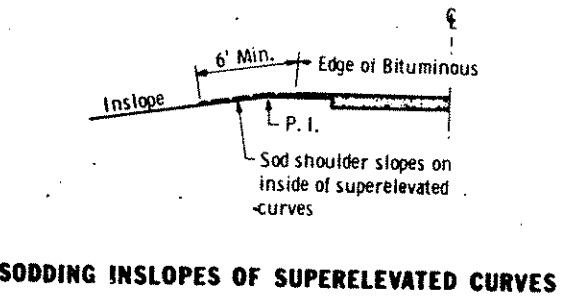


SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

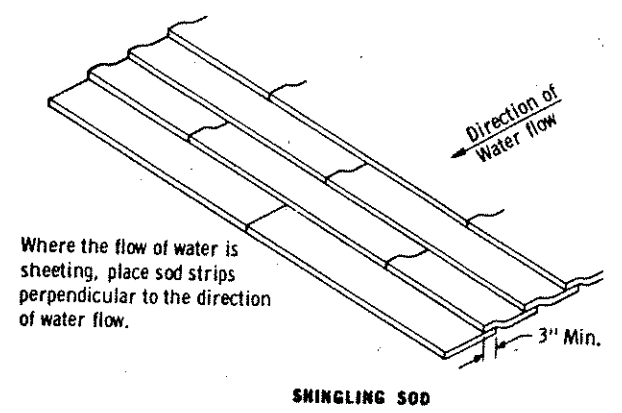
Approved: Dec 17 1976  
 Leonard & Estle  
 Engineers, Inc.  
 10000 E. 1st Ave., Suite 100  
 Denver, Colorado 80231



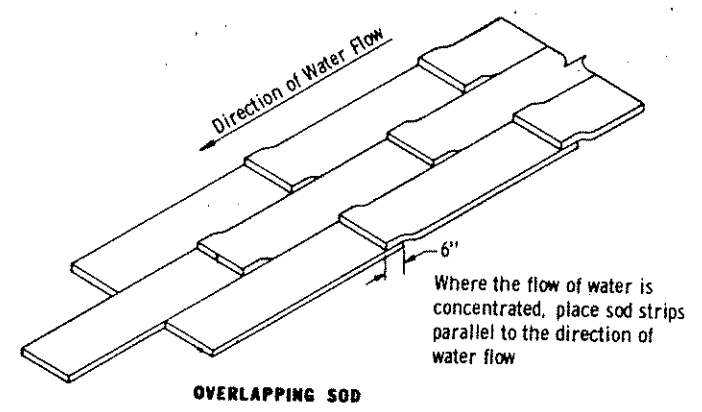
**SODDING LIMITS AT BRIDGE APPROACH FILLS**



**SODDING INSLOPES OF SUPERELEVATED CURVES**

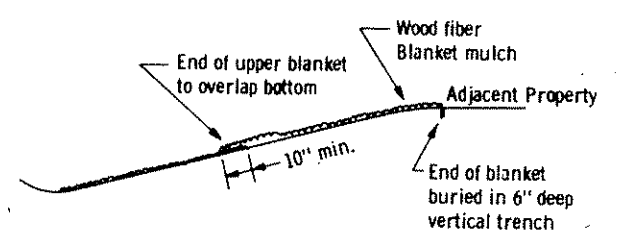


**SHINGLING SOD**

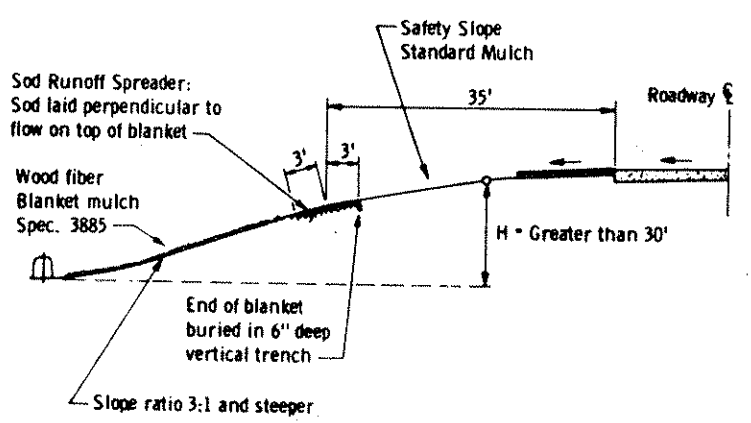


**OVERLAPPING SOD**

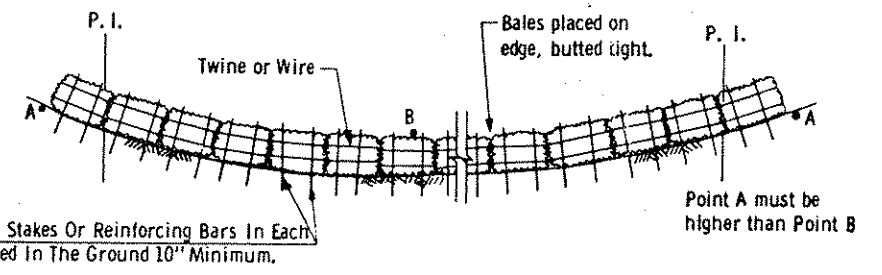
**SPECIAL SOD PLACEMENT TECHNIQUES**



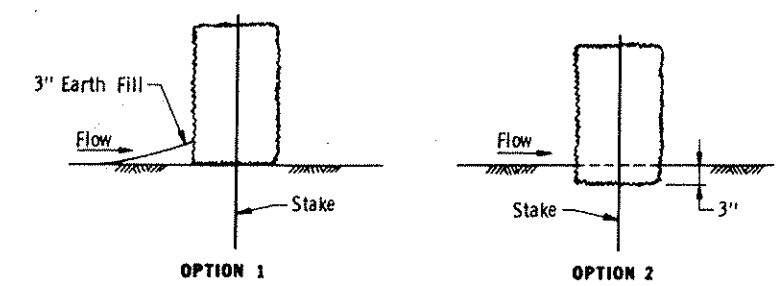
**WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE (WHEN REQUIRED)**



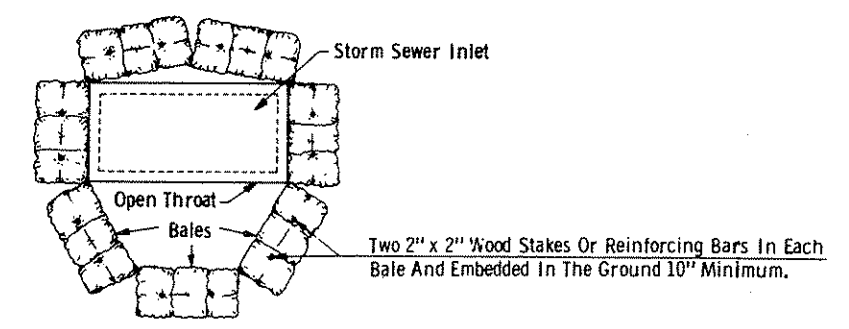
**WOOD FIBER BLANKET INSTALLATION ON A SAFETY FILL SLOPE (WHEN REQUIRED)**



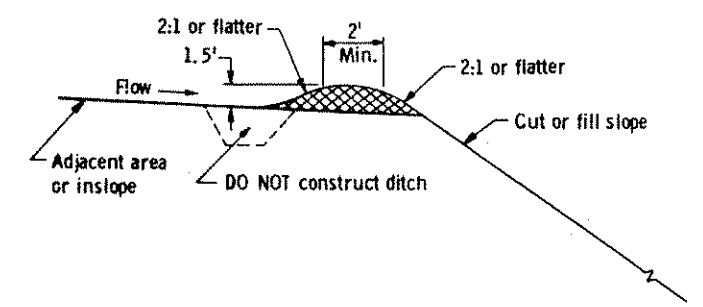
**BALE HAY OR STRAW DITCH CHECK**



**DITCH CHECK SECTIONS**

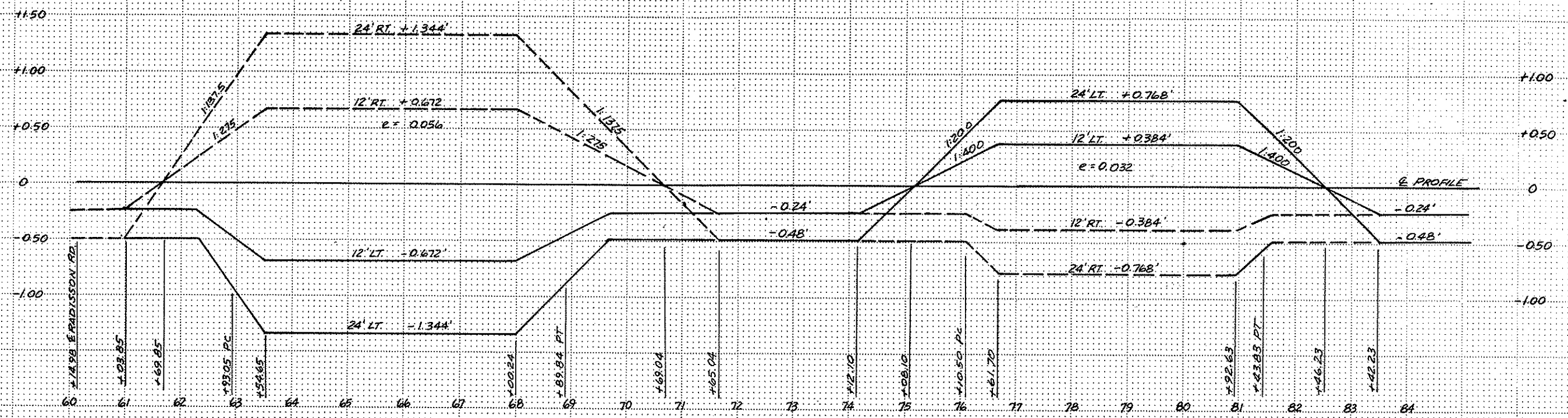


**BALE DIVERSION TO PROTECT STORM SEWER INLETS**



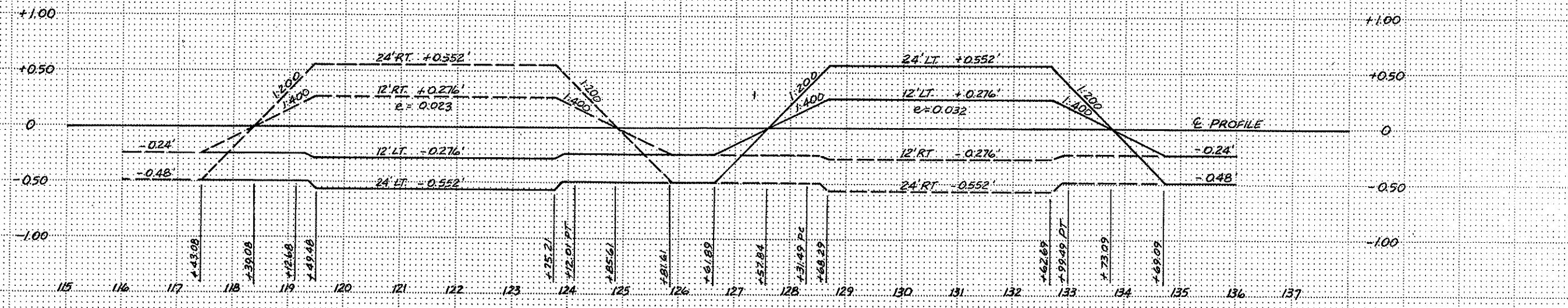
**TEMPORARY OR PERMANENT SLOPE PROTECTION DIKE**

APPROVED June 18, 1979  
 [Signature]  
 Director  
 ENGINEERING STANDARDS SECTION



**CURVE #1**  
MAX SUPER = 0.06

**CURVE #2**  
MAX SUPER = 0.06



**CURVE #3**  
MAX SUPER = 0.06

**CURVE #4**  
MAX SUPER = 0.06

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 State of Minn. Statutes Sections 376.00 to 376.16

Date \_\_\_\_\_ Minn. Reg. No. \_\_\_\_\_



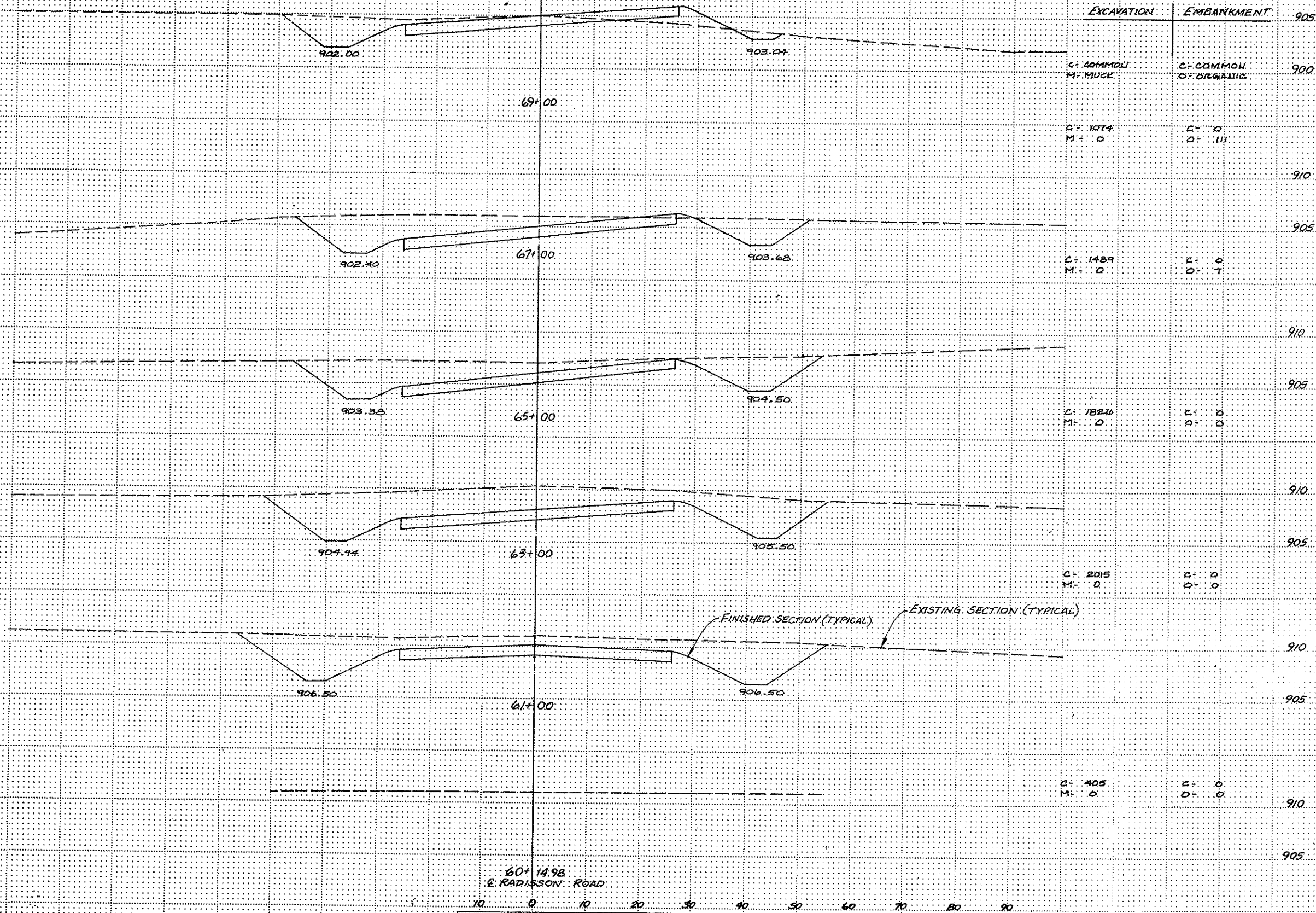
Engineering Corporation  
E. Lund Sunjovon

Supr 201  
7200 Hawthorn Lane North  
Maple Grove, MN 55309  
(612) 475-7161

REVISIONS		DESIGNED BY
GRAPHIC SCALE		CHECKED BY
0	HORIZ 100'	
0	VERT 0.5'	DRAWN BY
		MRJ

**ANOKA COUNTY HIGHWAY DEPT.**  
**SUPERELEVATION**  
**COUNTY ROAD 112 (109TH AVENUE NE)**

DATE: JULY 1985 SHEET: 15 OF 31 SHEETS FILE NO: AC41566.302



EXCAVATION	EMBANKMENT	ELEVATION
C- COMMON M- MUCK	C- COMMON D- ORGANIC	905
C- 1074 M- 0	C- 0 D- III	900
C- 1489 M- 0	C- 0 D- T	910
C- 1826 M- 0	C- 0 D- 0	905
C- 2015 M- 0	C- 0 D- 0	910
C- 405 M- 0	C- 0 D- 0	905

60+ 14.98  
E. RADISSON ROAD

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 State of Minn. Statutes Section 326.01.  
 Date 7/22/85 No. 2216

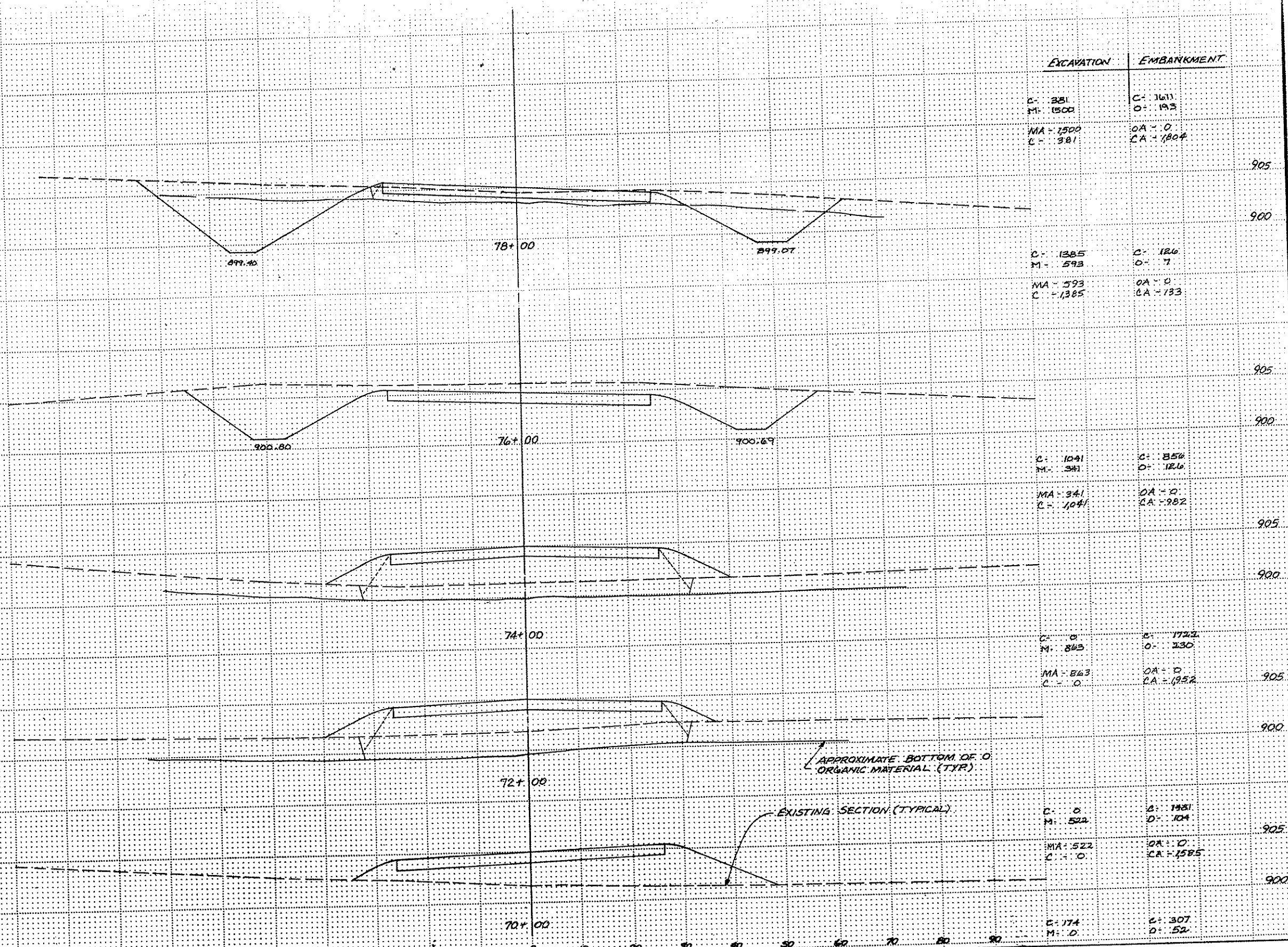


CONSULTING ENGINEERS DIVERSIFIED INC.  
A Donohue company

REVISIONS	DESIGNED BY
GRAPHIC SCALE	CHECKED BY
0 HORIZ 10	DRAWN BY
0 VERT 5	MRL

ANOKA COUNTY HIGHWAY DEPT.  
CROSS SECTIONS  
COUNTY ROAD 112 (109TH AVENUE NE)  
 DATE JUNE 1985 SHEET 16 of 31 SHEETS FILE NO. AC 41566.302

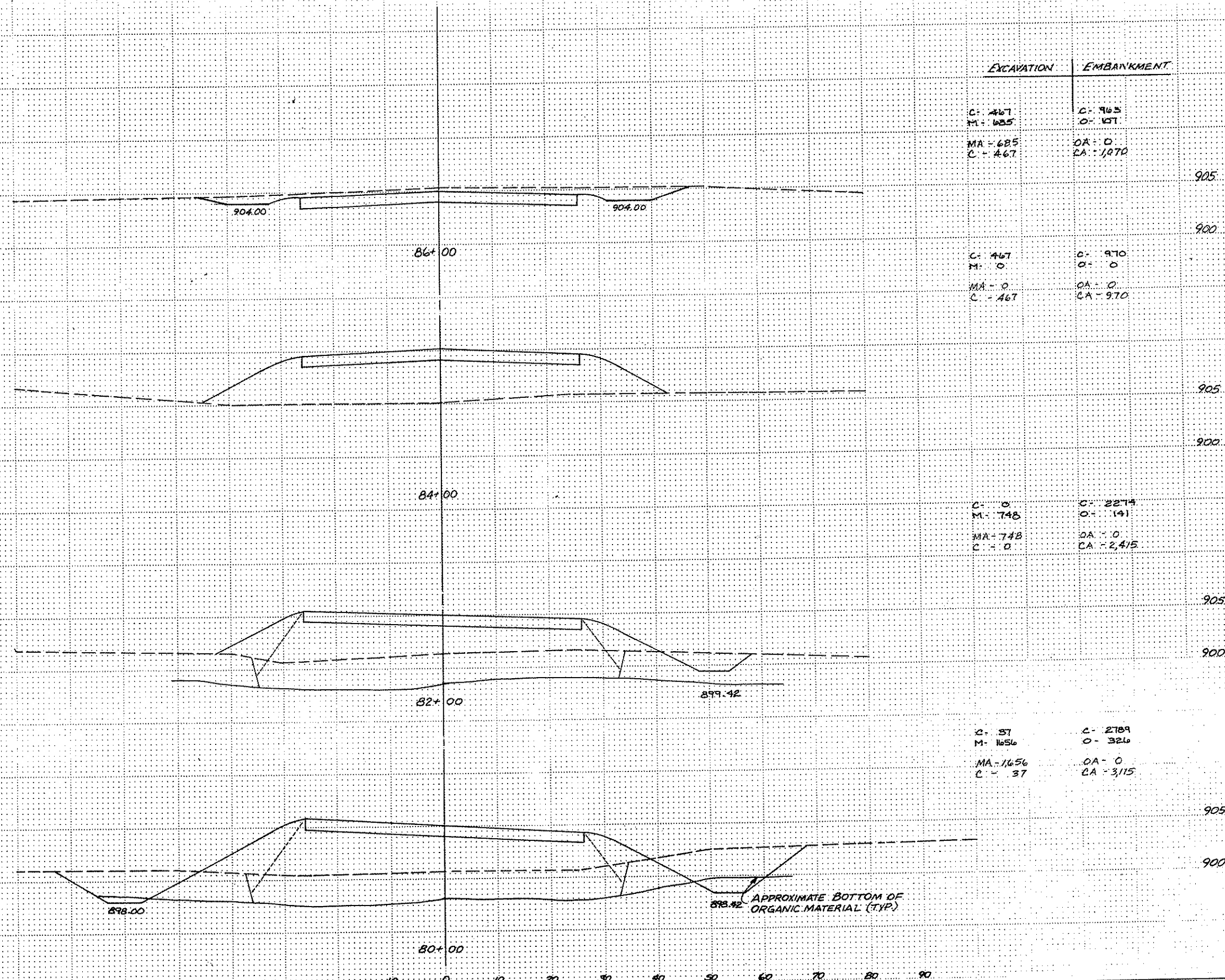




APPROXIMATE BOTTOM OF ORGANIC MATERIAL (TYR)

EXISTING SECTION (TYPICAL)

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 State of Minn. Statutes Section 326.02 to 326.16 Date: 7/22/86 Exp. Reg. No. 7216	CONSULTING ENGINEERS DIVERSIFIED INC. A Donohue Company 2000 • 2200 Hawthorn Lane North • Maple Grove, MN 55305 • (612) 427-2161	DESIGNED BY CHECKED BY DRAWN BY	ANOKA COUNTY HIGHWAY DEPT. CROSS SECTIONS COUNTY ROAD 112 (109TH AVENUE NE)
		REVISIONS GRAPHIC SCALE 0 HORIZ 10 0 VERT 5	DATE: JUNE 1985 SHEET: 17 OF 31 SHEETS FILE NO. AC41566-302



EXCAVATION	EMBANKMENT
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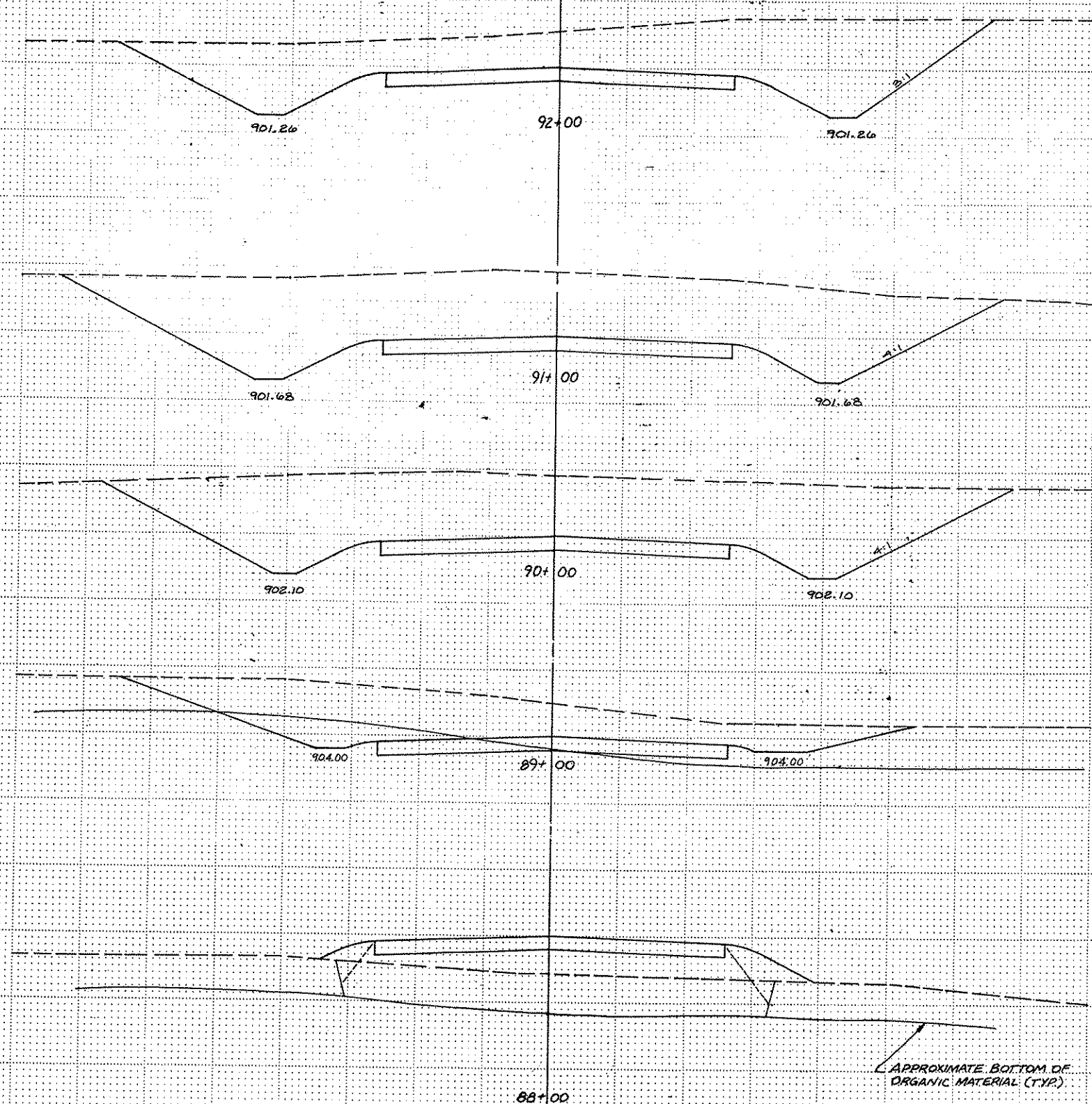
C- 467 M- 625	C- 963 O- 157
MA- 685 C- 467	OA- 0 CA- 1,070

C- 467 M- 0	C- 970 O- 0
MA- 0 C- 467	OA- 0 CA- 970

C- 0 M- 748	C- 2274 O- 141
MA- 748 C- 0	OA- 0 CA- 2,415

C- 37 M- 1656	C- 2789 O- 326
MA- 1,656 C- 37	OA- 0 CA- 3,115

<p>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.</p> <p><i>[Signature]</i> Date 7/22/85 Reg No 7716</p>		DESIGNED BY CHECKED BY DRAWN BY MRL	ANOKA COUNTY HIGHWAY DEPT. CROSS SECTIONS COUNTY ROAD 112 (109TH AVENUE NE)
		REVISIONS GRAPHIC SCALE HORIZ 10 VERT 5	DATE JUNE 1985 SHEET 18 OF 31 SHEETS FILE NO AC41566-302



EXCAVATION	EMBANKMENT	
		910
		905
C- 2311	C- 0	
M- 0	O- 0	
MA- 0	OA- 0	
C- 2,311	CA- 0	
		910
		905
C- 2626	C- 0	
M- 0	O- 0	
MA- 0	OA- 0	
C- 2626	CA- 0	
		910
		905
C- 1463	C- 31	
M- 615	O- 0	
MA- 615	OA- 0	910
C- 1463	CA- 31	
		905
		900
C- 183	C- 513	
M- 957	O- 54	
MA- 957	OA- 0	
C- 183	CA- 567	

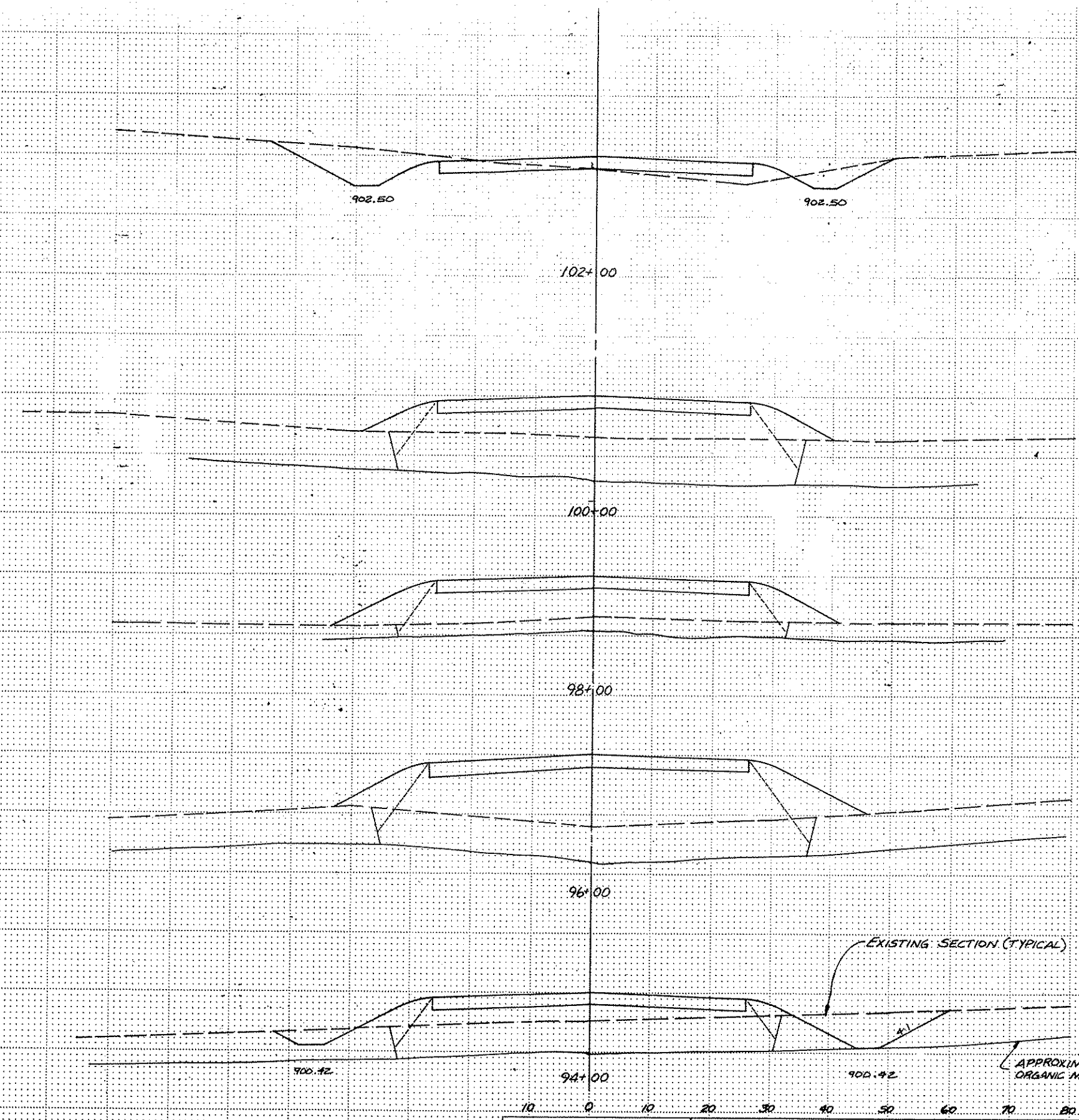
APPROXIMATE BOTTOM OF ORGANIC MATERIAL (TYP.)

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 in the State of Illinois.  
 Date: 7/27/85  
 Reg. No. 2216



DESIGNED BY	
CHECKED BY	
DRAWN BY	MRIJ

ANOKA COUNTY HIGHWAY DEPT.  
 CROSS SECTIONS  
 COUNTY ROAD 112 (109TH AVENUE NE)  
 DATE: JUNE 1985 SHEET 19 OF 31 SHEETS FILE NO. AC 41566 302



EXCAVATION		EMBANKMENT		
C- 2515	M- 0	C- 50	O- 0	
MA- 0		OA- 0		905
C- 2515		CA- 56		
				900
C- 311	M- 885	C- 1359	O- 156	
MA- 885		OA- 0		905
C- 311		CA- 151.5		
				900
C- 0	M- 1174	C- 2126	O- 348	
MA- 1174		OA- 0		905
C- 0		CA- 2474		
				900
C- 0	M- 2996	C- 2530	O- 459	
MA- 1096		OA- 0		905
C- 0		CA- 2,989		
				900
C- 0	M- 1637	C- 2322	O- 589	
MA- 1637		OA- 0		905
C- 0		CA- 2711		
				910
				905
MA- 830		OA- 0		
C- 1930		CA- 737		
C- 1930		C- 615		
M- 830		O- 122		

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 State of Minnesota Statute, Chapter 327, § 11.

*Signature*  
Date: 7/22/85 Reg. No. 7716

**CED**  
CONSULTING ENGINEERS DIVERSIFIED INC.  
A Donohue Company

REVISIONS	

DESIGNED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_

**ANOKA COUNTY HIGHWAY DEPT.**  
**CROSS SECTIONS**  
**COUNTY ROAD 112 (109TH AVENUE NE)**

DATE: JUNE 1985 SHEET: 20 OF 31 SHEETS FILE NO: AC41564-302

EXCAVATION      EMBANKMENT

NOTE:  
DO NOT EXCAVATE MUCK FROM STA. 110+00  
TO STA. 178+00 FOR ALTERNATE BID.

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M= 954  
MA= 0  
CA= 0  
E= 1677  
O= 259  
DA= 0  
EA= 982  
900

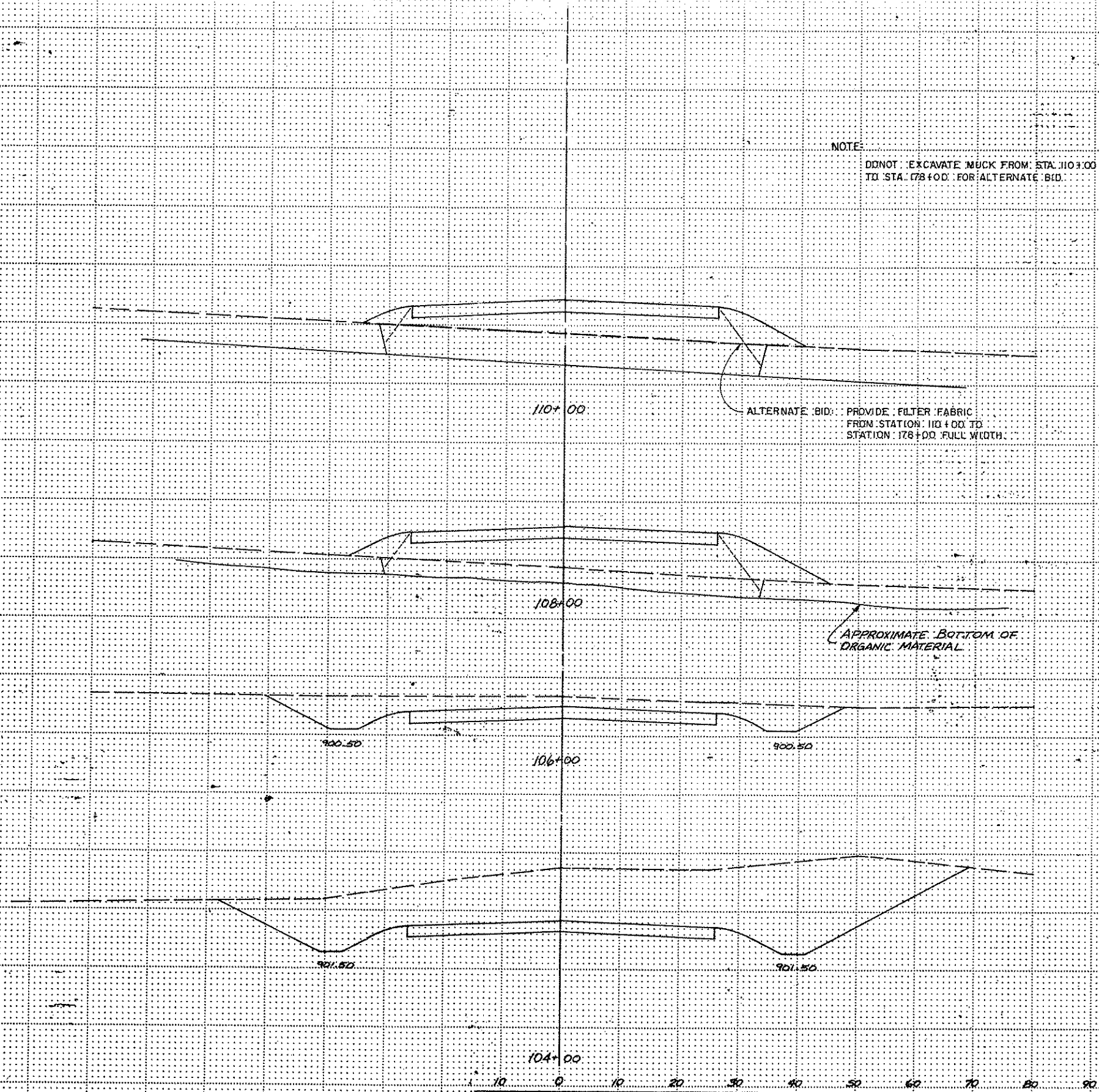
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M= 963  
MA= 963  
CA= 0  
E= 1774  
O= 270  
DA= 0  
EA= 2044  
905

C= 745  
M= 333  
MA= 333  
CA= 745  
E= 324  
O= 159  
DA= 0  
EA= 985  
905

C= 2952  
M= 0  
MA= 0  
CA= 2952  
E= 0  
O= 0  
DA= 0  
EA= 0  
905

ALTERNATE BID: PROVIDE FILTER FABRIC  
FROM STATION 110+00 TO  
STATION 178+00 FULL WIDTH.

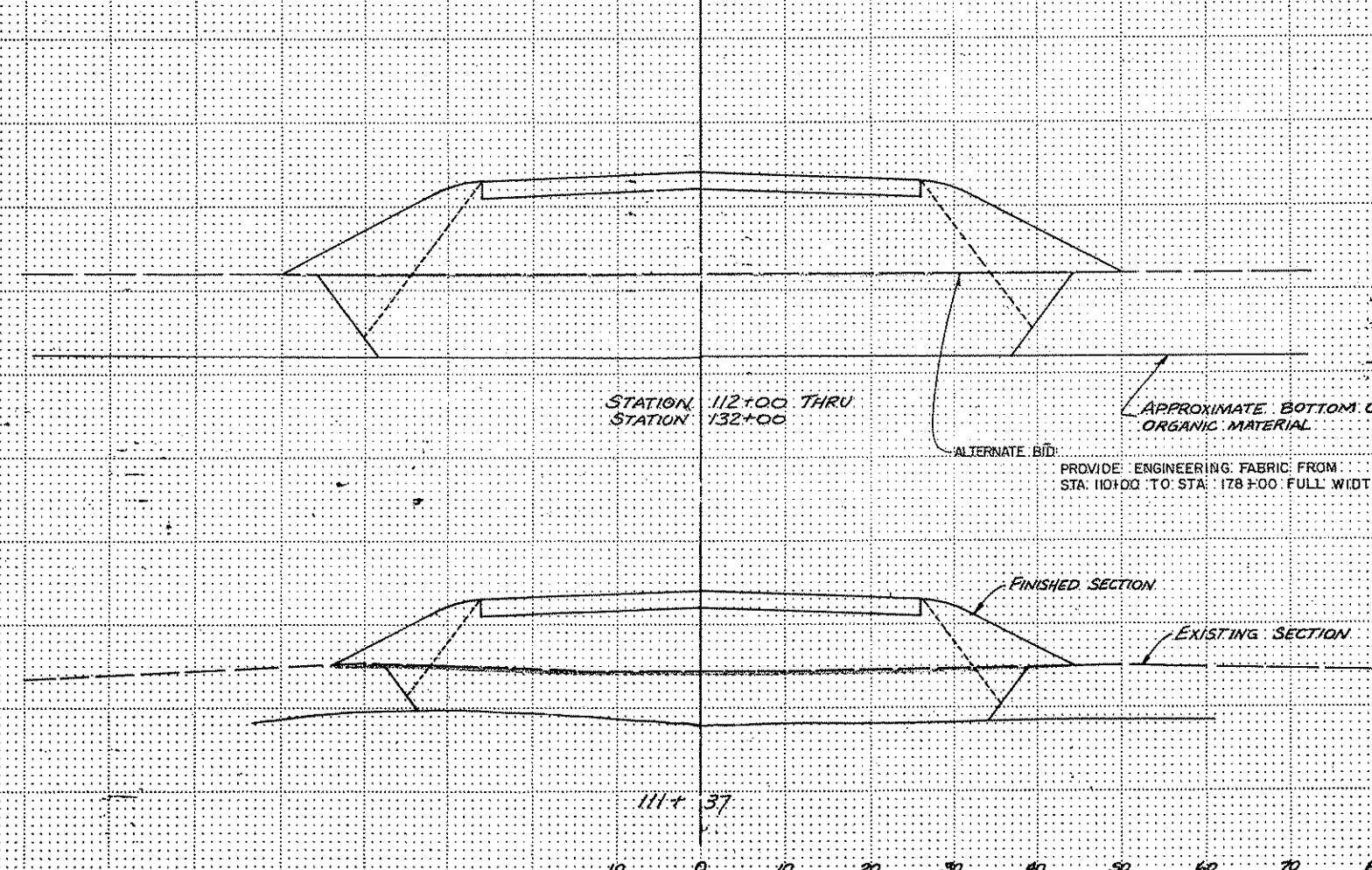
APPROXIMATE BOTTOM OF  
ORGANIC MATERIAL



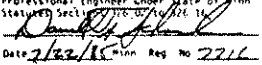

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota. Date: 7/22/85 Reg. No. 2216	CONSULTING ENGINEERS DIVERSIFIED INC. A Donohue Company 200 - 2000 METROUCH LANE NORTH - MAPLE GROVE, MN 55369 (612) 435-2181	REVISIONS _____ _____ _____	DESIGNED BY _____ CHECKED BY _____ DRAWN BY MRJ	ANOKA COUNTY HIGHWAY DEPT. CROSS SECTIONS COUNTY ROAD 112 (109TH AVENUE NE)
		GRAPHIC SCALE 0    HORIZ    10 0    VERT     5	BK. LEGAL PG. LEAF    DATE: JUNE 1985    SHEET 21 of 31    SHEETS    FILE NO. AC 841566.302	

EXCAVATION	EMBANKMENT
------------	------------

NOTE:  
 DONOT EXCAVATE MUCK FROM  
 STA. 110+00 TO STA. 178+00  
 FOR ALTERNATE BID.



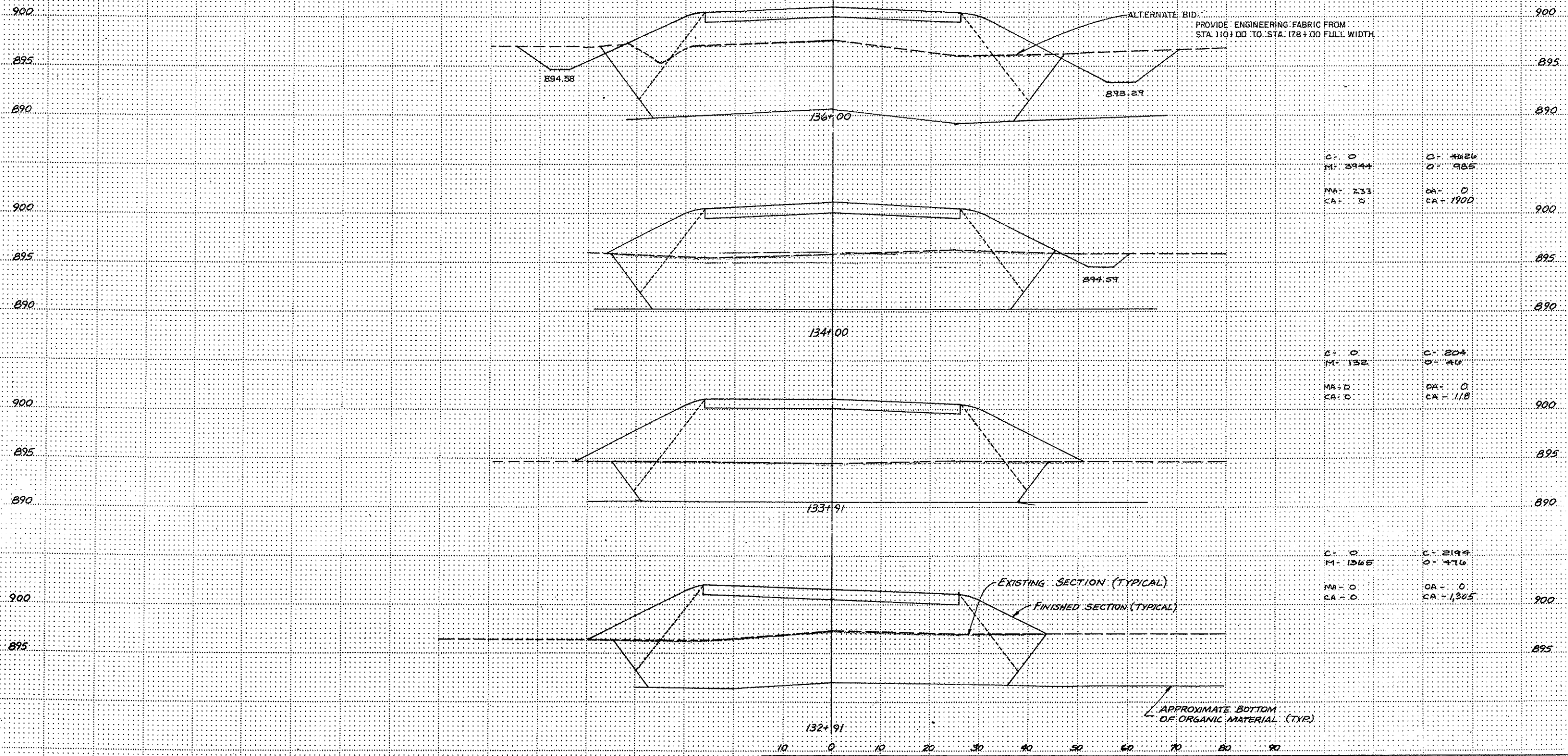
C- 0	C- 2064	
M- 1363	O- 423	
MA- 0	OA- 0	
CA- 0	CA- 1131	
C- 0	C- 43,518	900
M- 29,704	O- 10,219	
MA- 0	OA- 0	
CA- 0	CA- 29,332	895
C- 0	C- 1231	
M- 708	O- 250	905
MA- 0	OA- 0	
CA- 0	CA- 779	900

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 State of Minnesota Statutes Section 327.01, Subpart 1.  Date 7/22/85 Reg No 2211	 CONSULTING ENGINEERS DIVERSIFIED INC Donohue 200 - 7000 Hennepin Lake Road - Maple Grove MN 55309 (612) 475-2115	REVISIONS _____ _____ _____	DESIGNED BY _____ CHECKED BY _____ DRAWN BY MRJ	ANOKA COUNTY HIGHWAY DEPT. CROSS SECTIONS COUNTY ROAD 112 (109TH AVENUE NE)
		GRAPHIC SCALE 0 HORIZ 10 0 VERT 5	DATE JUNE 1985 SHEET 22 OF 31 SHEETS FILE NO AC41566-302	

NOTE:  
 DONOT EXCAVATE MUCK FROM  
 STA. 110+00 TO STA. 178+00  
 FOR ALTERNATE BID.

EXCAVATION	EMBANKMENT
C: 0 M: 5974 MA: 387 CA: 8	C: 4615 O: 796 MA: 0 CA: 782#

ALTERNATE BID:  
 PROVIDE ENGINEERING FABRIC FROM  
 STA. 110+00 TO STA. 178+00 FULL WIDTH



C: 0 M: 3944 MA: 233 CA: 0	C: 4626 O: 985 MA: 0 CA: 1900
-------------------------------------	--

C: 0 M: 132 MA: 0 CA: 0	C: 204 O: 40 MA: 0 CA: 118
----------------------------------	-------------------------------------

C: 0 M: 1365 MA: 0 CA: 0	C: 2194 O: 476 MA: 0 CA: 1305
-----------------------------------	--

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 in the State of Minn. Station Section 16 of 1926 16.  
 Date 7/22/85 Station Reg No 2716



REVISIONS	DESIGNED BY
GRAPHIC SCALE 0 HORIZ 10 0 VERT 5	CHECKED BY
	DRAWN BY

ANOKA COUNTY HIGHWAY DEPT.  
 CROSS SECTIONS  
 COUNTY ROAD 112 (109TH AVENUE NE)  
 DATE: JUNE 1985 SHEET 23 OF 31 SHEETS FILE NO AC8156-302

NOTE

DONOT EXCAVATE MUCK FROM STA. 110+00 TO 178+00 FOR ALTERNATE BID

EXCAVATION EMBANKMENT

C = 0  
M = 8104  
MA = 1035  
CA = 0

C = 1152  
O = 1674  
OA = 0  
CA = 2357

ALTERNATE BID: PROVIDE ENGINEERING FABRIC FROM STA. 110+00 TO 178+00 FULL WIDTH

APPROXIMATE BOTTOM OF ORGANIC MATERIAL (TYP)

C = 0  
M = 6319  
MA = 1081  
CA = 0

C = 1670  
O = 1330  
OA = 0  
CA = 2762

APPROXIMATE BOTTOM OF ORGANIC MATERIAL

C = 37  
M = 3378  
MA = 1060  
CA = 37

C = 4544  
O = 737  
OA = 0  
CA = 2963

EXISTING SECTION (TYPICAL)

FINISHED SECTION (TYPICAL)

C = 37  
M = 3430  
MA = 657  
CA = 37

C = 4393  
O = 630  
OA = 0  
CA = 2250

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 in the State of Minnesota.  
Date 7/22/85 Reg. No. 7716



REVISIONS		DESIGNED BY
GRAPHIC SCALE		CHECKED BY
0	HORIZ 1" = 40'	
0	VERT 1" = 5'	
DRAWN BY		
MFL		

ANOKA COUNTY HIGHWAY DEPT.  
CROSS SECTIONS  
COUNTY ROAD 112 (109TH AVENUE NE)

DATE: JUNE 1985 SHEET: 24 OF 31 SHEETS FILE NO: AC 41566.302



NOTE:  
DO NOT EXCAVATE MUCK FROM  
STA 110+00 TO 178+00 FOR ALTERNATE BID.

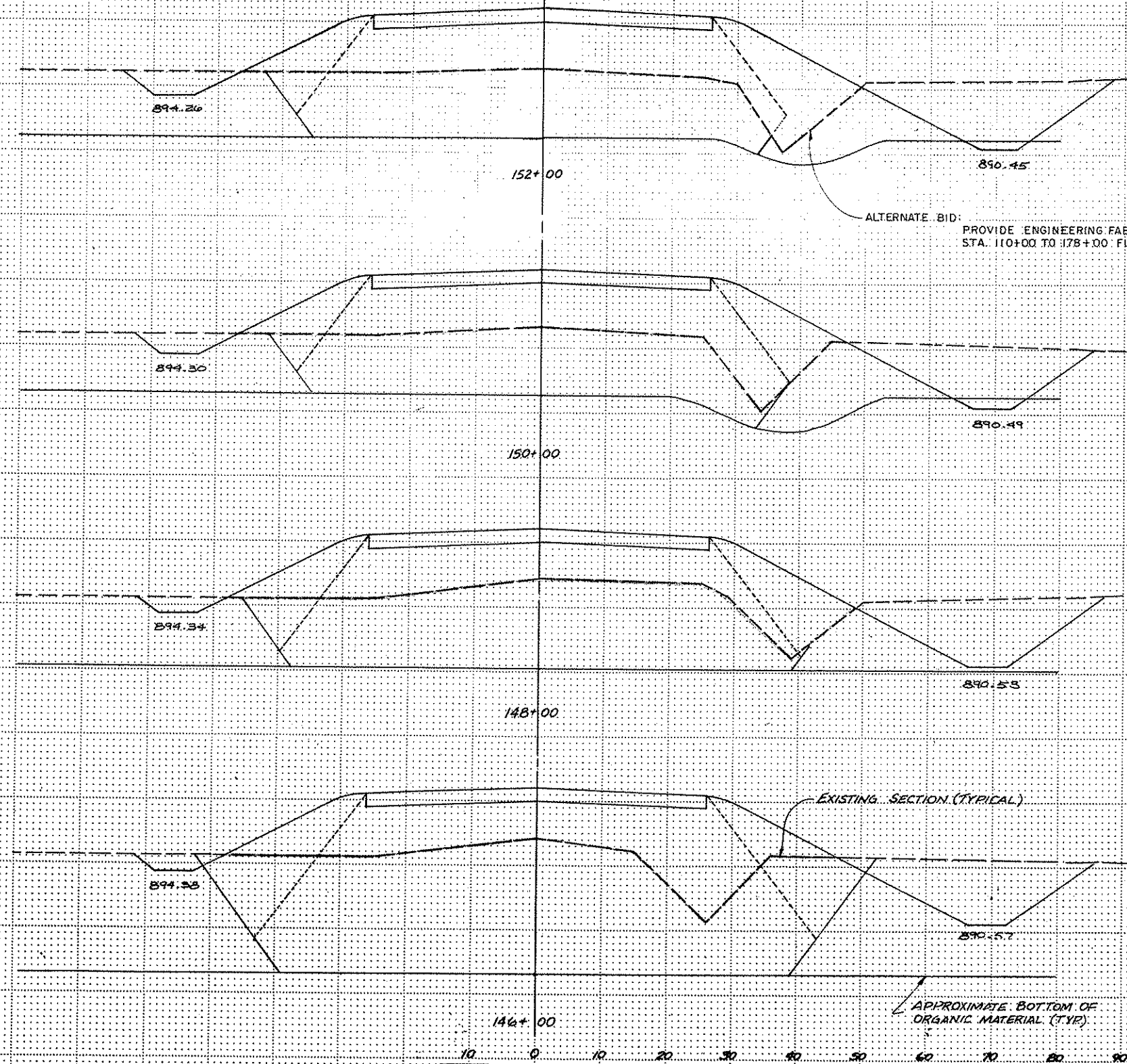
EXCAVATION	EMBANKMENT
------------	------------

C: 74 M: 3730 MA: 986 CA: 74	C: 4070 O: 1000 CA: 0 CA: 2326
---------------------------------------	---

C: 37 M: 3485 MA: 892 CA: 37	C: 4244 O: 922 CA: 0 CA: 2573
---------------------------------------	--

C: 19 M: 3870 MA: 901 CA: 19	C: 4504 O: 915 CA: 0 CA: 2450
---------------------------------------	--

C: 0 M: 5107 MA: 942 CA: 0	C: 5878 O: 1244 CA: 0 CA: 2356
-------------------------------------	---



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, State of Minnesota, State License No. 1977.

*Donald J. [Signature]*  
Date 7/22/85  
Reg No 7716

CONSULTING ENGINEERS DIVERSIFIED INC  
A Donohue Company

DESIGNED BY
CHECKED BY
DRAWN BY

REVISIONS
GRAPHIC SCALE
0 HORIZ 10
0 VERT 5

**ANOKA COUNTY HIGHWAY DEPT.**  
**CROSS SECTIONS**  
**COUNTY ROAD 112 (109TH AVENUE NE)**

DATE: JUNE 1985  
SHEET: 25 OF 31  
FILE NO: AC41566.302

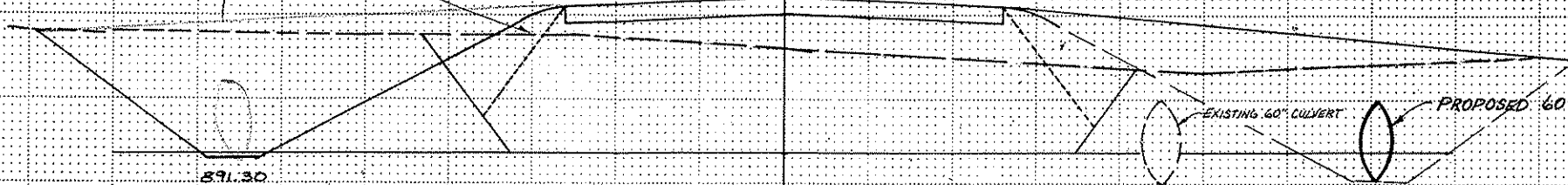
NOTE:

DO NOT EXCAVATE MUCK FROM STA. 104+00 TO 178+00 FOR ALTERNATE BID

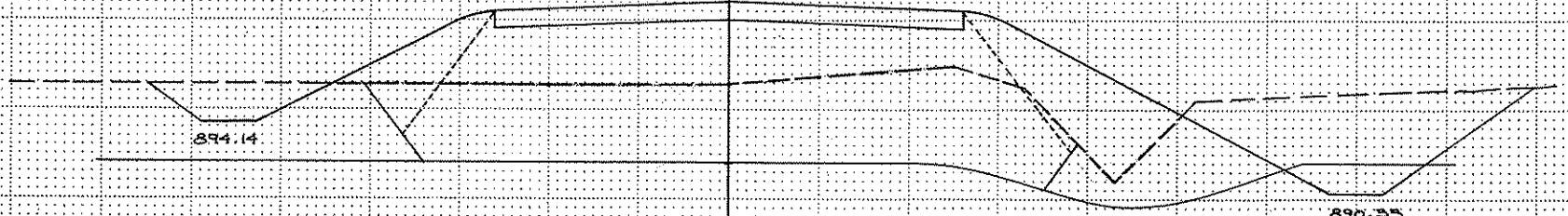
ALTERNATE BID  
PROVIDE ENGINEERING FABRIC FROM STA. 104+00 TO 178+00 FULL WIDTH

EXCAVATION      EMBANKMENT

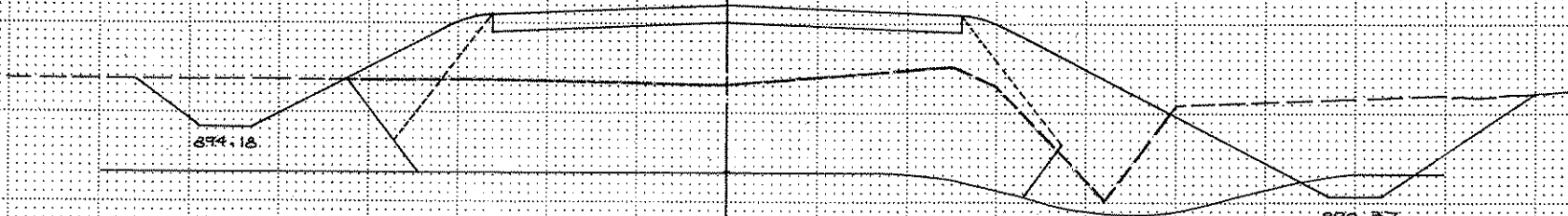
C- 44	C- 123	
M- 1617	O- 197	
MA- 375	OA- 0	900
CA- 44	CB- 226	



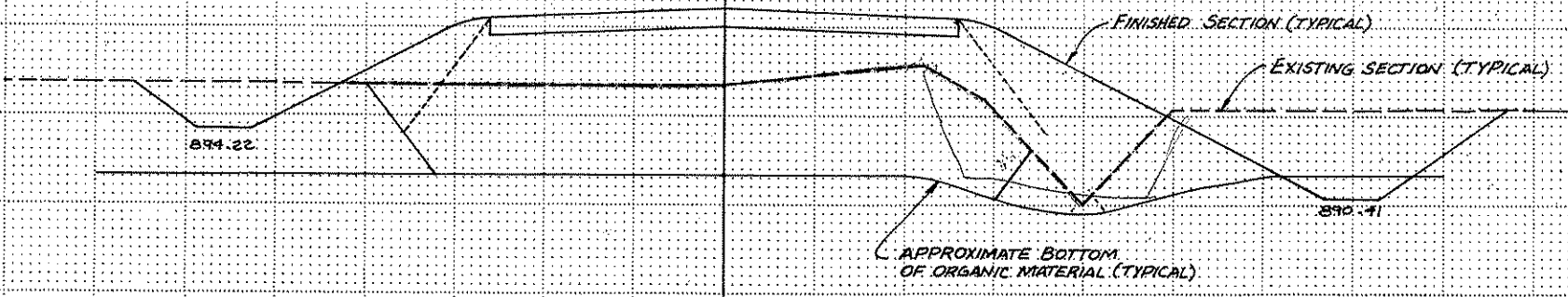
C- 109	C- 2588	
M- 3504	O- 561	
MA- 1339	OA- 0	
CA- 109	CB- 984	



C- 133	C- 3785	
M- 3822	O- 1037	
MA- 1037	OA- 0	
CA- 133	CB- 2037	



C- 104	C- 8893	
M- 5839	O- 1000	
MA- 1015	OA- 0	
CA- 104	CB- 2019	



154+00      10      0      10      20      30      40      50      60      70      80      90

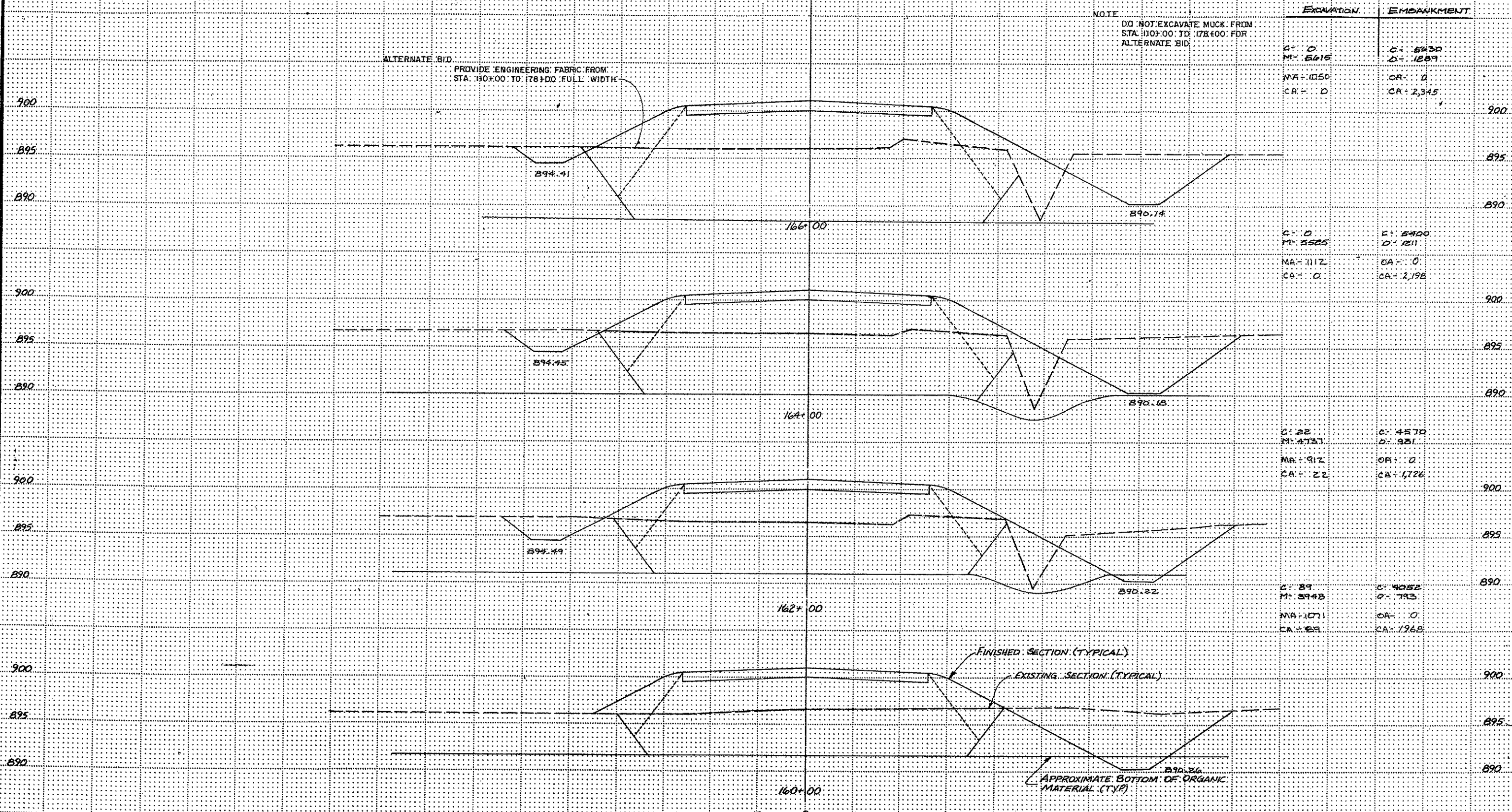
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly registered Professional Engineer in the State of Minnesota.  
Date: 7/23/85      Reg. No. 2216



CONSULTING ENGINEERS DIVERSIFIED INC.  
A Donohue Company

DESIGNED BY	
CHECKED BY	
DRAWN BY	MRJ

ANOKA COUNTY HIGHWAY DEPT.  
CROSS SECTIONS  
COUNTY ROAD 112 (109TH AVENUE NE)  
DATE: JUNE 1985      SHEET: 26 OF 31      SHEETS      FILE NO. AC41566.302



NOTE  
DO NOT EXCAVATE MUCK FROM  
STA. 110+00 TO 178+00 FOR  
ALTERNATE BID

ALTERNATE BID  
PROVIDE ENGINEERING FABRIC FROM  
STA. 180+00 TO 178+00 FULL WIDTH

EXCAVATION      EMBANKMENT

C: 0  
M: 5615  
MA: 0  
CA: 0

C: 5430  
D: 1289  
OR: 0  
CA: 2345

C: 0  
M: 5525  
MA: 1112  
CA: 0

C: 5400  
D: 1211  
OR: 0  
CA: 2198

C: 22  
M: 4737  
MA: 912  
CA: 22

C: 4570  
D: 981  
OR: 0  
CA: 1726

C: 89  
M: 3943  
MA: 1071  
CA: 22

C: 4052  
D: 793  
OR: 0  
CA: 1968

FINISHED SECTION (TYPICAL)  
EXISTING SECTION (TYPICAL)

APPROXIMATE BOTTOM OF ORGANIC MATERIAL (TYP)

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 State of Minn. Statute Section 326.02, 326.03, 326.11  
Date 7/22/85  
Reg. No. 7716



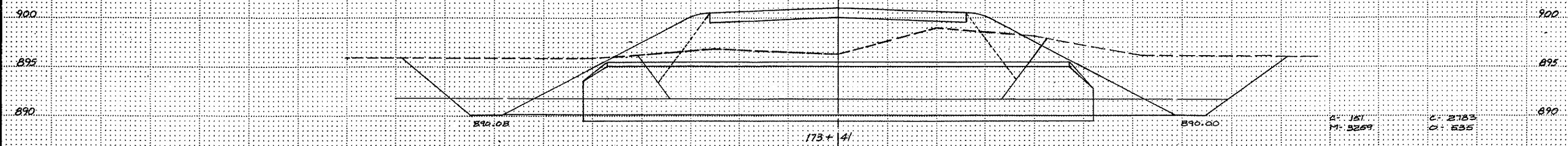
REVISIONS		DESIGNED BY

ANOKA COUNTY HIGHWAY DEPT.  
CROSS SECTIONS  
COUNTY ROAD 112 (109TH AVENUE NE)

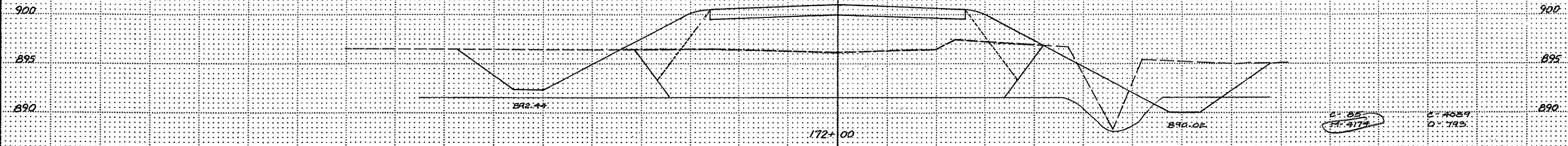
DATE: JUNE 1985 SHEET 27 OF 31 SHEETS FILE NO. AC41566.302

NOTE: DO NOT EXCAVATE MUCK FROM STA 110+00 TO 178+00 FOR ALTERNATE BID

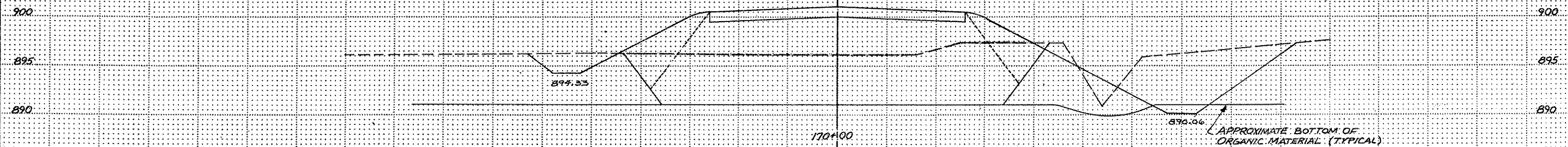
EXCAVATION	EMBANKMENT
C= 79 M= 1217	C= 1070 D= 214
MR= 473 CA= 79	CA= 0 CA= 542



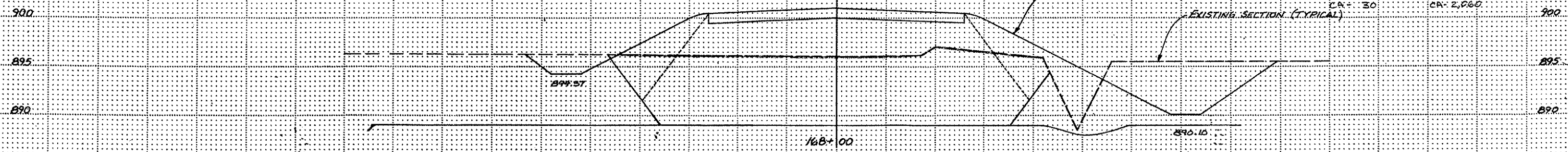
C= 181 M= 3259	C= 2783 D= 835
MR= 1112 CA= 151	CA= 0 CA= 1332



C= 85 M= 3174	C= 4089 D= 793
MR= 1147 CA= 85	CA= 0 CA= 1250



C= 50 M= 4841	C= 3815 D= 989
MR= 1097 CA= 30	CA= 0 CA= 2060



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 Title of Mine, State of Michigan, No. 326, 02/19/1913.  
Date 7/23/15, Reg. No 7276



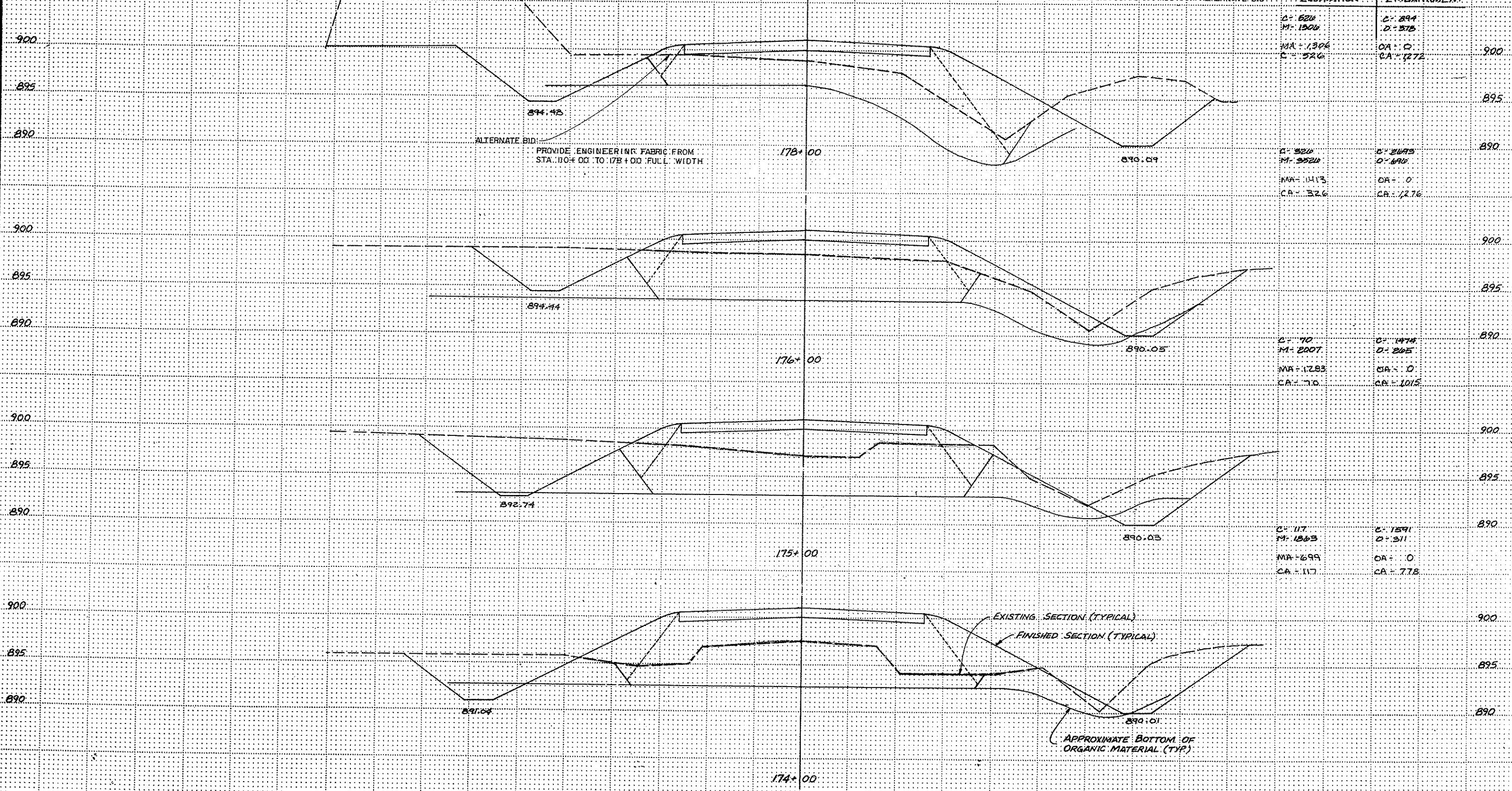
CONSULTING ENGINEERS DIVERSIFIED INC.  
A Donohue Company  
New 300 - 7700 Harwood Lane North - Maple Grove, MN 55309 (612) 425-2141

REVISIONS	DESIGNED BY
GRAPHIC SCALE 0 HORIZ 10 0 VERT 5	CHECKED BY
DRAWN BY	DATE

ANOKA COUNTY HIGHWAY DEPT. CROSS SECTIONS COUNTY ROAD 112 (109TH AVENUE NE)	
DATE: JUNE 1985	SHEET: 28 of 31 SHEETS
FILE NO: AC 84-19-112	

NOTE:  
DO NOT EXCAVATE MUCK FROM  
STA. 110+00 TO 178+00 FOR ALTERNATE BID

EXCAVATION	EMBANKMENT
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EXCAVATION	EMBANKMENT
C = 820 M = 1906 MA = 1306 CA = 526	C = 894 D = 578 OA = 0 CA = 1272

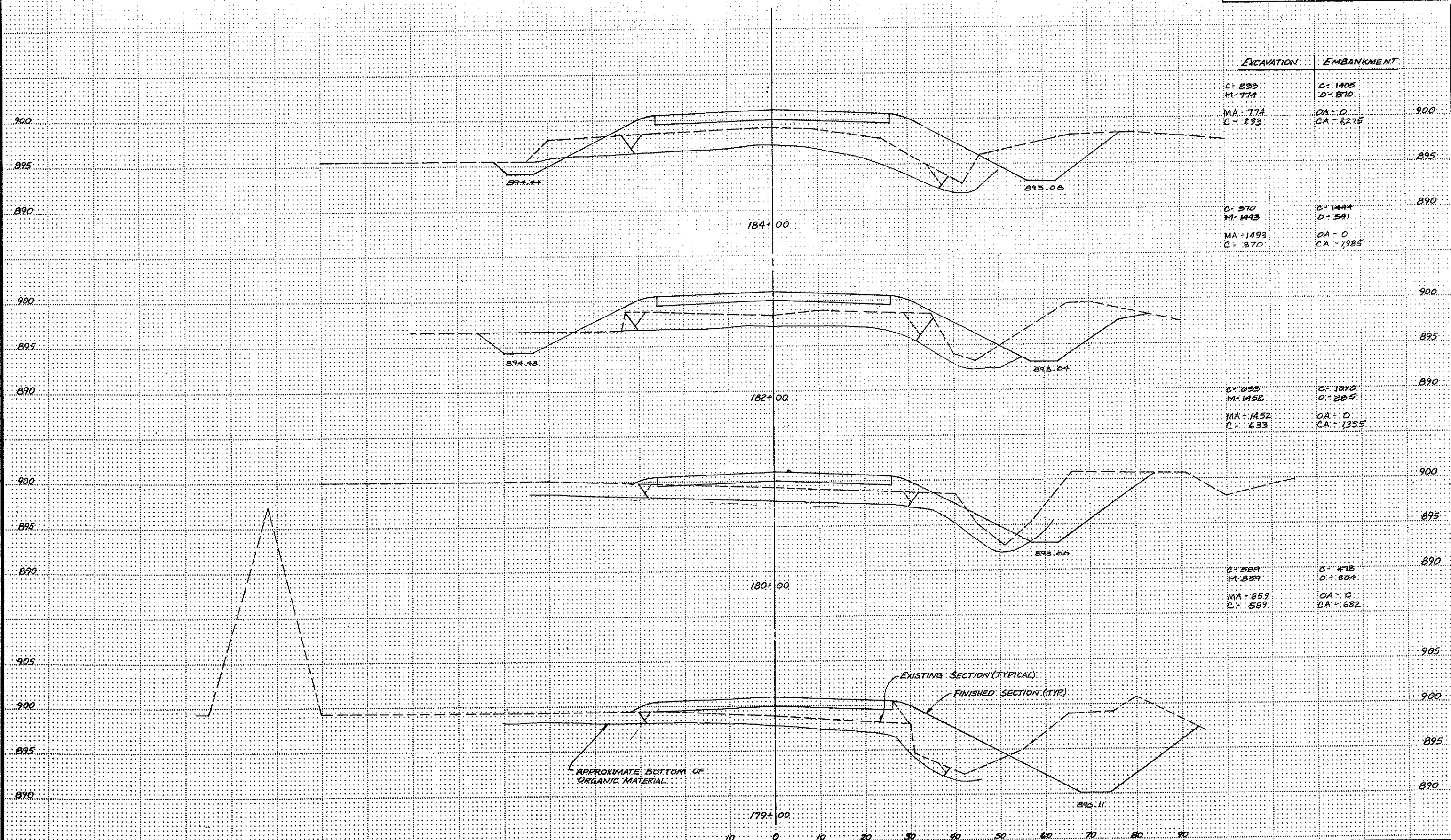
EXCAVATION	EMBANKMENT
C = 820 M = 9520 MA = 1413 CA = 326	C = 895 D = 690 OA = 0 CA = 1276

EXCAVATION	EMBANKMENT
C = 70 M = 2007 MA = 1283 CA = 70	C = 890 D = 245 OA = 0 CA = 1015

EXCAVATION	EMBANKMENT
C = 117 M = 1363 MA = 699 CA = 117	C = 890 D = 311 OA = 0 CA = 778

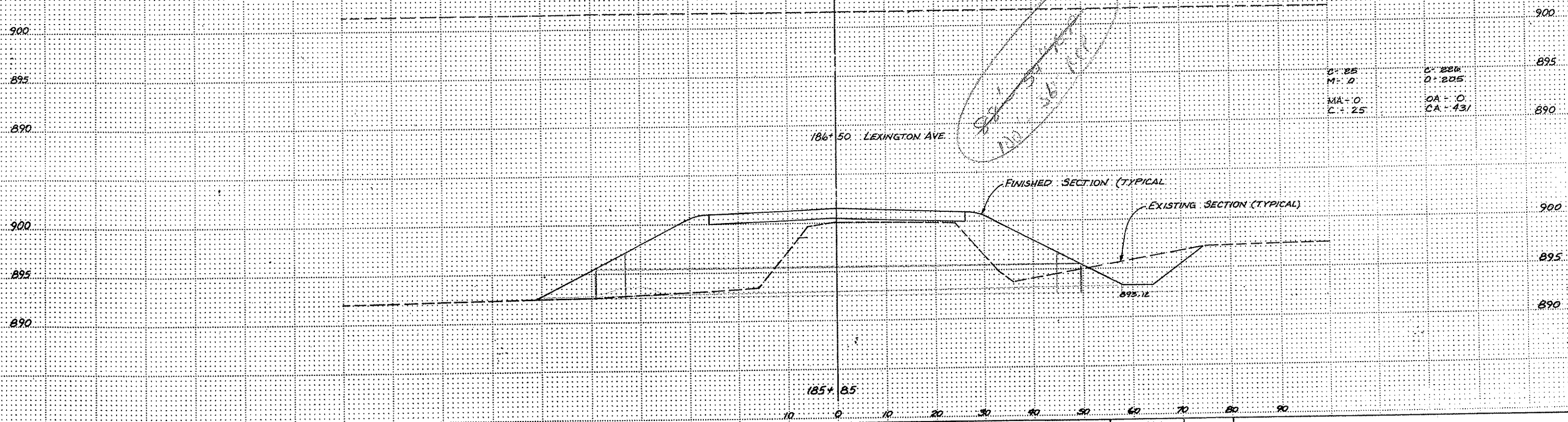
EXISTING SECTION (TYPICAL)  
FINISHED SECTION (TYPICAL)  
APPROXIMATE BOTTOM OF ORGANIC MATERIAL (TYP)

<p>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 in the State of Minnesota.</p> <p><i>Donohue</i> Date 7/22/85 Reg. No. 7716</p>		<p>REVISIONS</p> <table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>					<p>DESIGNED BY</p>	<p>ANOKA COUNTY HIGHWAY DEPT. CROSS SECTIONS COUNTY ROAD 112 (109TH AVENUE NE)</p>
<p>GRAPHIC SCALE</p> <p>0 HORIZ 10 0 VERT 5</p>	<p>CHECKED BY</p>	<p>DRAWN BY</p>						
<p>DATE</p>	<p>DATE</p>	<p>DATE</p>						



<p>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, Section 100.01, P.S. 100.01.</p> <p><i>Donohue</i> Date 7/22/85 Reg. No. 2216</p>		REVISIONS DESIGNED BY	ANOKA COUNTY HIGHWAY DEPT. CROSS SECTIONS COUNTY ROAD 112 (109TH AVENUE NE)	
		GRAPHIC SCALE 0 HORIZ 20 0 VERT 5		CHECKED BY
		DRAWN BY MRJ		DATE JUNE 1985
		SHEET 30		OF 31

EXCAVATION      EMBANKMENT

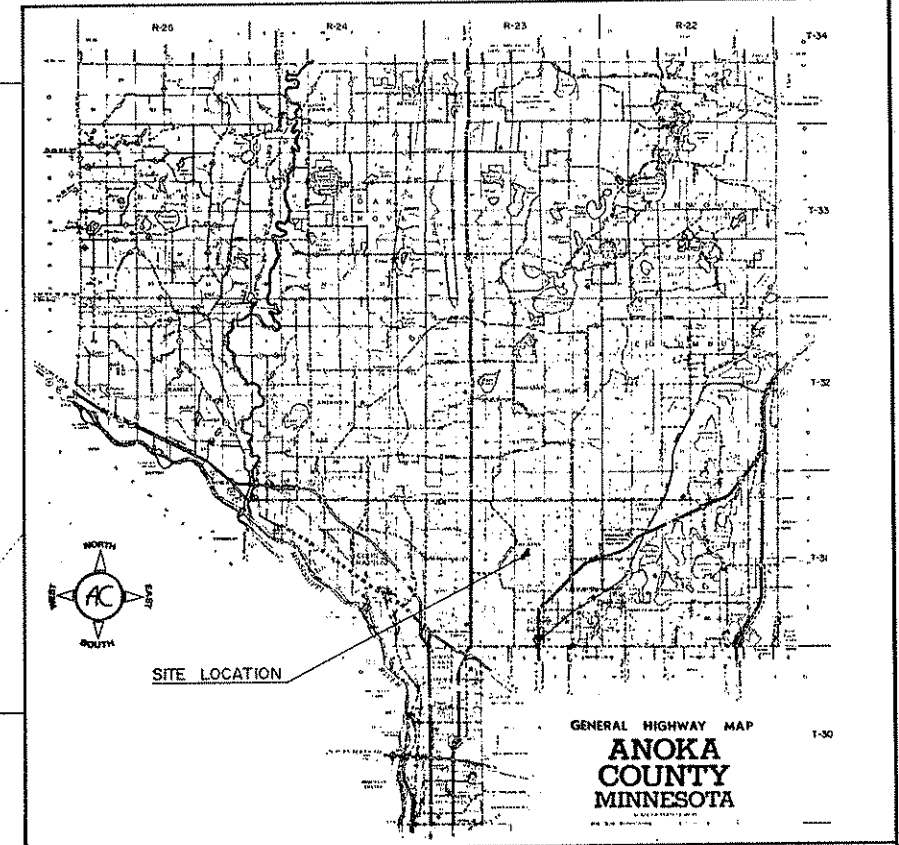
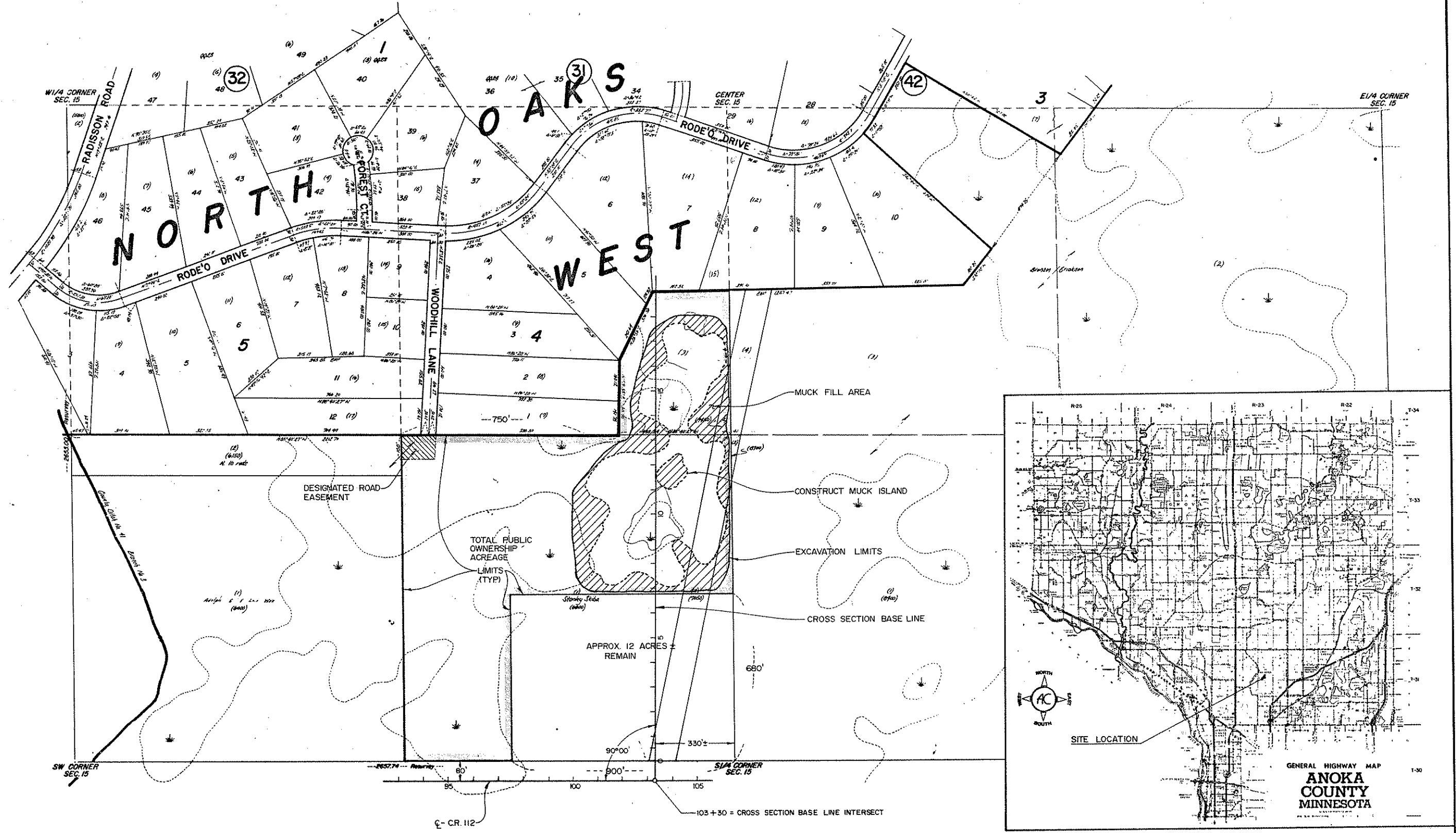


C: 25	C: 25	900
M: 0	O: 205	895
MA: 0	OA: 0	890
C: 25	CA: 43	

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 in the State of Minn. Statute Section 320.02 <i>[Signature]</i> Date 7/22/85 Reg No 7716		DESIGNED BY	<b>ANOKA COUNTY HIGHWAY DEPT.</b> <b>CROSS SECTIONS</b> <b>COUNTY ROAD 112 (109TH AVENUE NE)</b>
		CHECKED BY	
GRAPHIC SCALE 0 HORIZ 10 0 VERT 5		DRAWN BY	FILE NO AC 81566.302
		BY GEORGE PG SEAC	DATE JUNE 1985 SHEET 31 of 31 SHEETS

# S 1/2 SEC. 15, T.31, R.23

CITY OF BLAINE

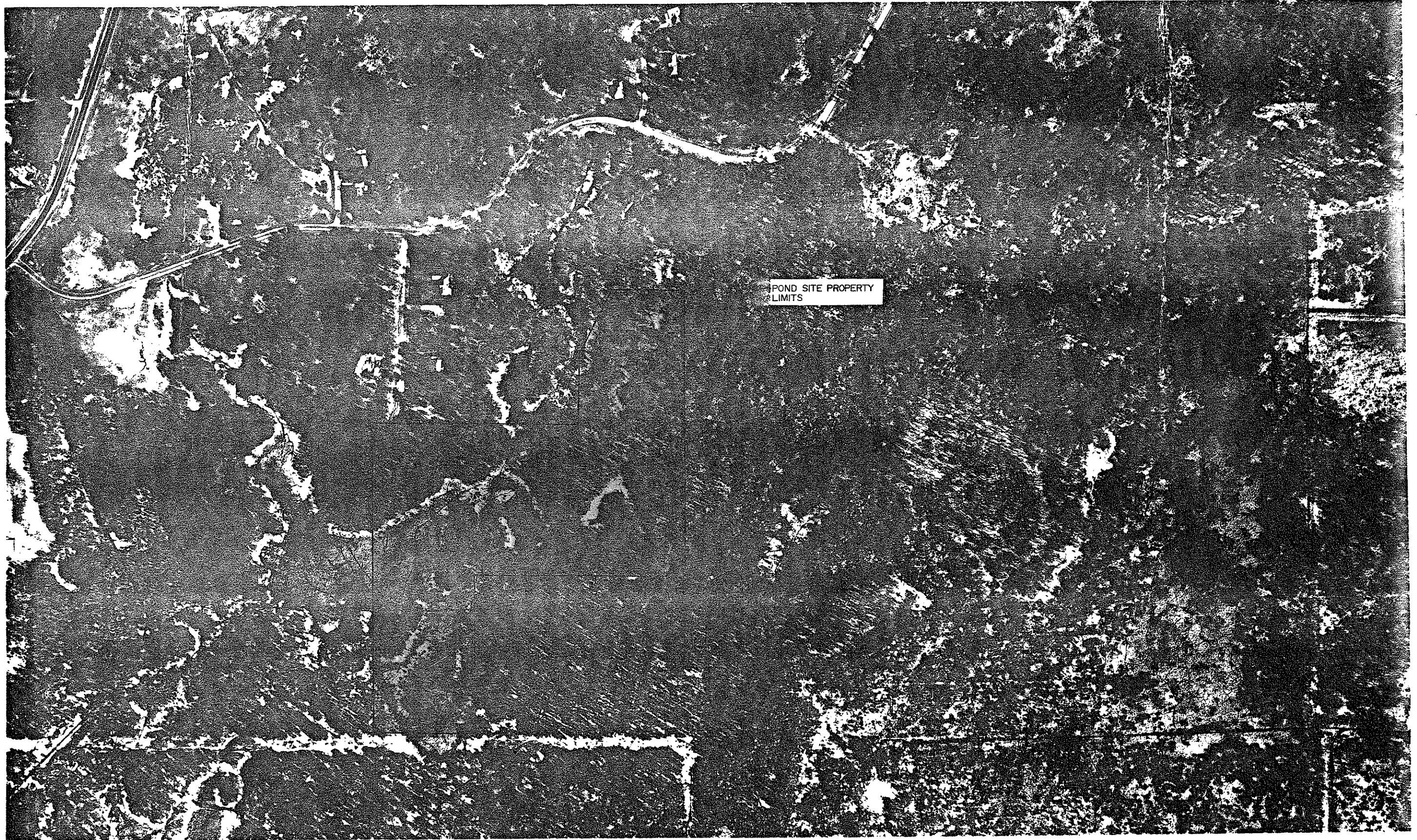


POND CONSTRUCTION - SITE PLAN

REVISIONS			
DATE	BY	DATE	BY

S.A.P. S.P. C.P. 84-19-112





POND SITE PROPERTY LIMITS



APPROX SCALE 1"=200'

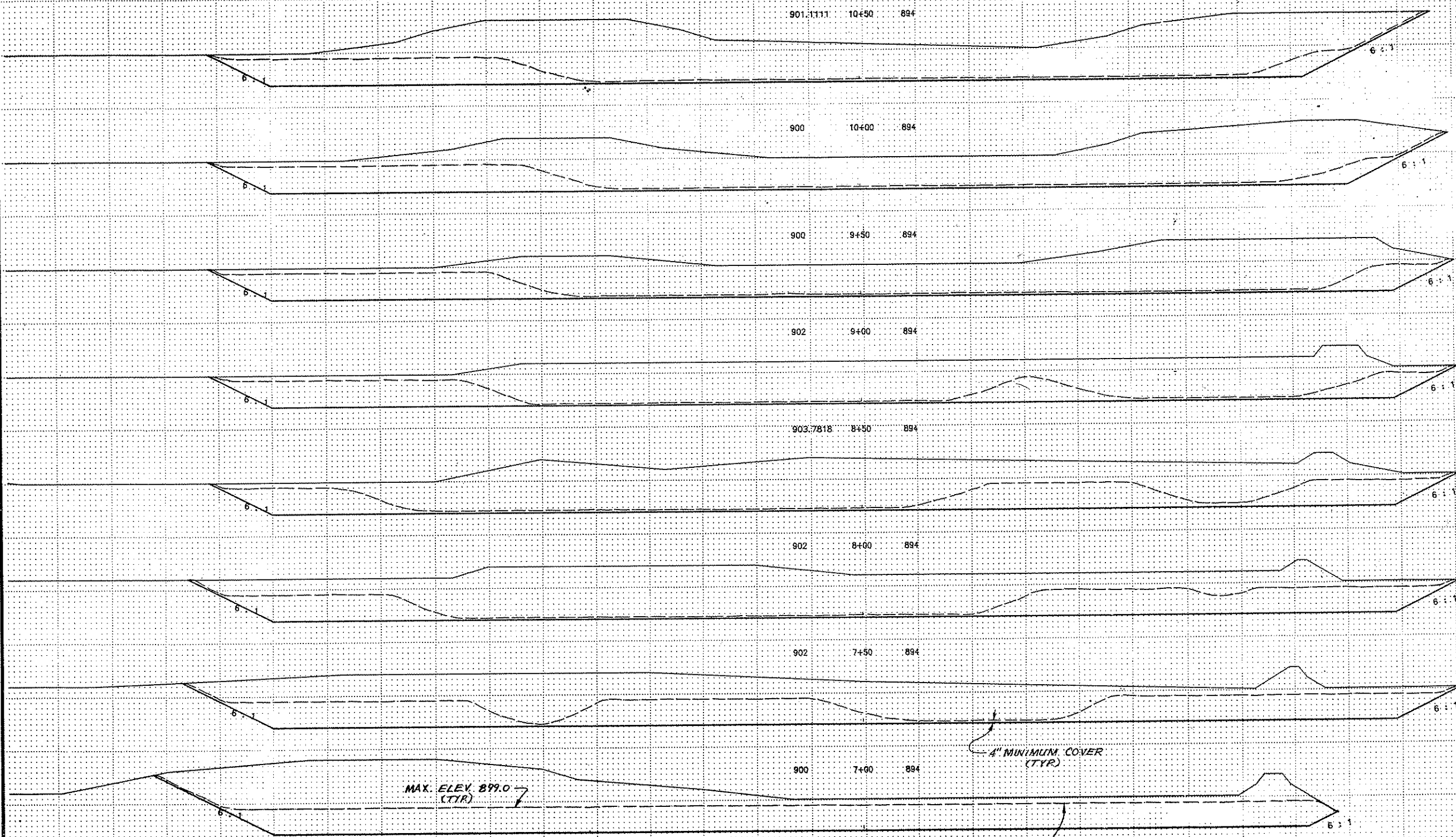
POND SITE PROPERTY LOCATION

REVISIONS			
DATE	BY	DATE	BY

S.A.P \_\_\_\_\_ S.P \_\_\_\_\_ C.P 84-19-112 \_\_\_\_\_

EXCAVATION      EMBANKMENT

Sub-Totals    Cu. Yds.    Cu. Yds.    Sub-Totals



EXCAVATION	Cu. Yds.	EMBANKMENT	Cu. Yds.
MUCK	10234	0	2078
MUCK	9452	0	2160
MUCK	9209	0	2269
MUCK	9788	0	2526
MUCK	10386	0	3590
MUCK	10485	0	3389
MUCK	10384	0	4550
MUCK	5173	0	2806

SCALE:  
HORIZ. 1"=50'  
VERT. 1"=10'

POND CONST. & BORROW PIT

QUANTITIES SHOWN APPLY TO BASE BID ONLY.

EXCAVATION      EMBANKMENT

Sub-Totals    Cu. Yds.    Cu. Yds.    Sub-Totals

902.375    14+00    894

902.375    13+50    894

905.5    13+20    894

905.8182    13+00    894

906.4    12+50    894

905.5    12+00    894

902.5    11+50    894

900.4    11+00    894

MUCK    5644    0  
2475

MUCK    3588    0  
1585

MUCK    2653    0  
901

MUCK    10030    0  
3141

MUCK    13232    0  
3246

MUCK    13583    0  
2578

MUCK    12740    0  
2206

MUCK    11222    0  
1898

MAX. ELEV. 899.0  
(TYP)

4" MINIMUM COVER  
(TYP)

MUCK EMBANKMENT LIMITS  
(TYP)

POND CONST. & BORROW PIT

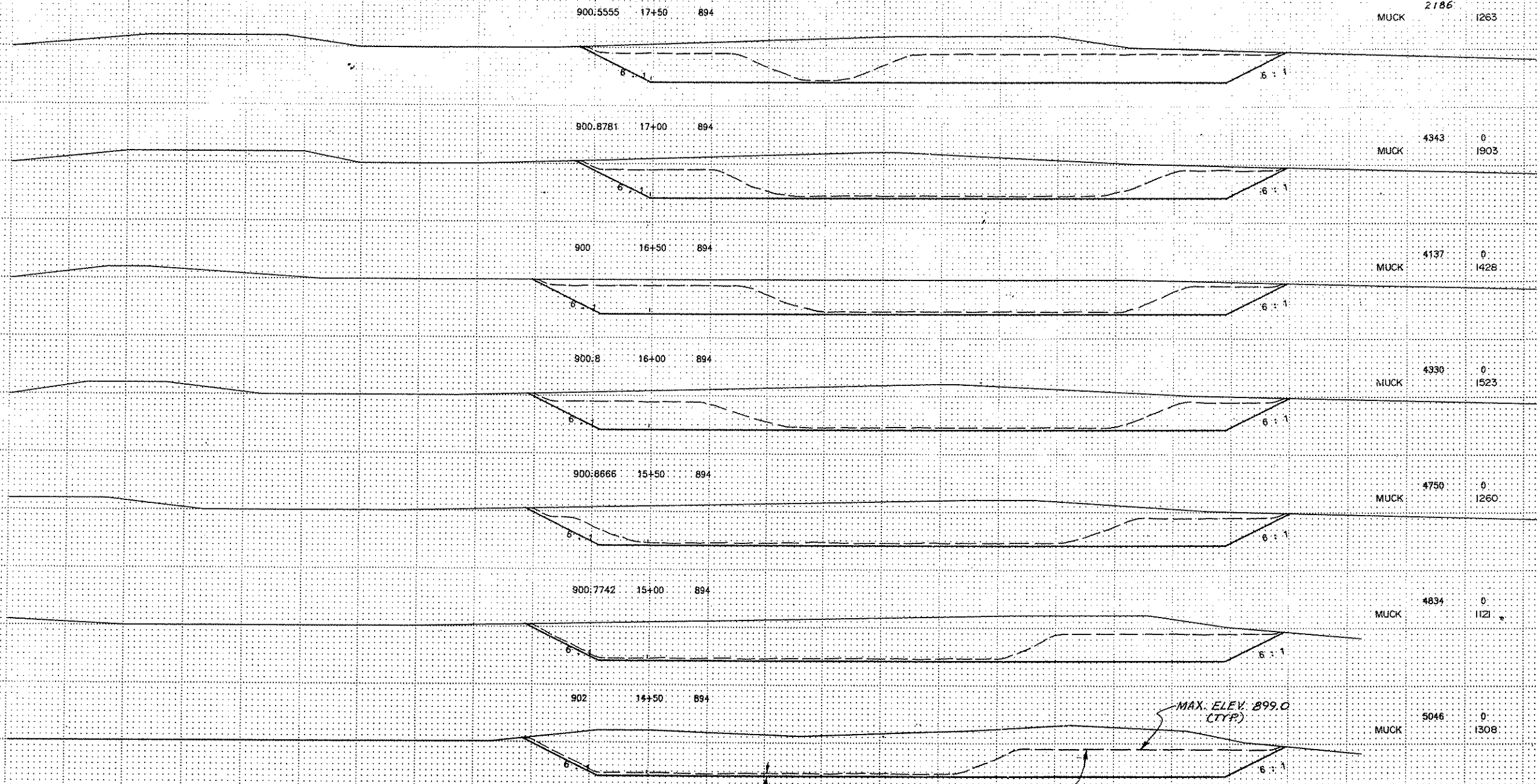
QUANTITIES SHOWN APPLY TO BASE BID ONLY.

State Proj. No.

C.P. 84-19-112

Sheet No. 35 of 36 Sheets

EXCAVATION		EMBANKMENT	
Sub-Totals	Cu Yds.	Cu Yds.	Sub-Totals



MUCK	2186	0	1263
MUCK	4343	0	1903
MUCK	4137	0	1428
MUCK	4330	0	1523
MUCK	4750	0	1260
MUCK	4834	0	1121
MUCK	5046	0	1308
MUCK	5982	0	1638

4" MINIMUM COVER (TYP)

MUCK EMBANKMENT LIMITS (TYP)

MAX. ELEV. 899.0 (TYP)

POND CONST. & BORROW PIT

QUANTITIES SHOWN APPLY TO BASE BID ONLY.

State Proj. No.

C.P. 84-19-112

Sheet No. 36 of 36 Sheets