

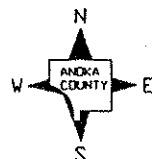
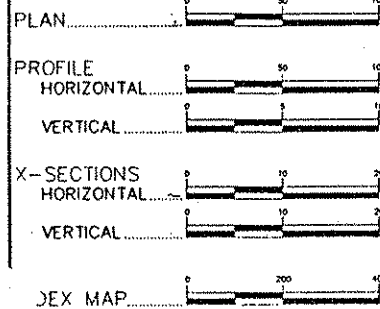
PLAN SYMBOLS

COUNTY LINE	-----
TOWNSHIP OR RANGE LINE	-----
SECTION LINE	-----
QUARTER LINE	-----
SIXTEENTH LINE	-----
RIGHT OF WAY LINE	-----
SLOPE EASEMENT	-----
PRESENT RIGHT OF WAY	-----
PROPERTY LINE	-----
CORPORATE OR CITY LIMITS	-----
RETAINING WALL	-----
RAILROAD	-----
RAILROAD RIGHT OF WAY	-----
RIVER OR CREEK	-----
DRAINAGE DITCH	-----
CULVERT	-----
DROP INLET	-----
GAUDD RAIL	-----
BARBED WIRE FENCE	-----
WOVEN WIRE FENCE	-----
CHAIN LINK FENCE	-----
WOOD FENCE	-----
STONE WALL OR FENCE	-----
HEDGE	-----
LOWLAND	-----
TIMBER	-----
ORCHARD	-----
BRUSH	-----
NURSERY	-----
CATTLE GAULD	-----
OVERPASS (Highway Over)	-----
UNDERPASS (Highway Under)	-----
BRIDGE	-----
BUILDING (One Story Frame)	-----
F--FRAME C--CONCRETE	-----
S--STONE T--TILE	-----
B--BRICK ST--STUCCO	-----
RAILROAD CROSSING BELL	-----
RAILROAD CROSSING GATE	-----
MANHOLE	-----
CATCH BASIN	-----
FIRE HYDRANT	-----
CAST IRON MONUMENT	-----
IRON PIN	-----
GRAVEL PIT	-----
SAND PIT	-----
BORROW PIT	-----
ROCK QUARRY	-----

UTILITY SYMBOLS

POWER POLE LINE	-----
TELEPHONE OR TELEGRAPH POLE LINE	-----
JOINT TELEPHONE & POWER ON POWER POLES	-----
ON TELEPHONE POLES	-----
ANCHOR	-----
STEEL TOWER	-----
STREET LIGHT	-----
PEDESTAL (Cable Terminal)	-----
GAS MAIN	-----
WATERMAIN	-----
TELEPHONE CABLE IN CONDUIT	-----
ELECTRIC CABLE IN CONDUIT	-----
TELEPHONE MANHOLE	-----
ELECTRIC MANHOLE	-----
BURIED TELEPHONE CABLE	-----
BURIED ELECTRIC CABLE	-----
AERIAL TELEPHONE CABLE	-----
SEWER (Sanitary or Storm)	-----
SEWER MANHOLE	-----

SCALES



MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, BITUMINOUS SURFACING, CONCRETE CURB & GUTTER, BITUMINOUS PATH AND UTILITIES

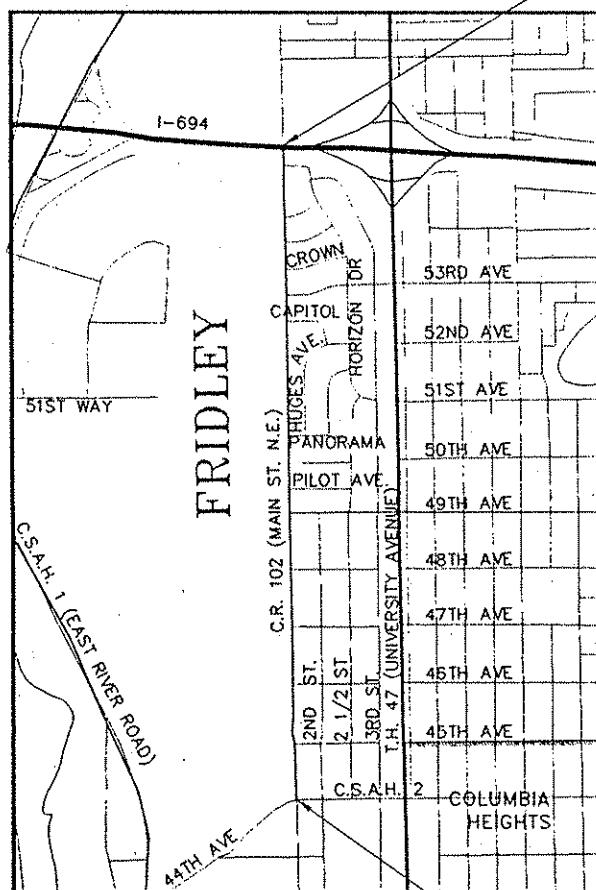
LOCATED ON C.R. 102 (MAIN ST.) BETWEEN C.S.A.H. 2 (44TH AVE.) AND I-694 (Geographic Description)

COUNTY PROJECT NO. 89-28-102

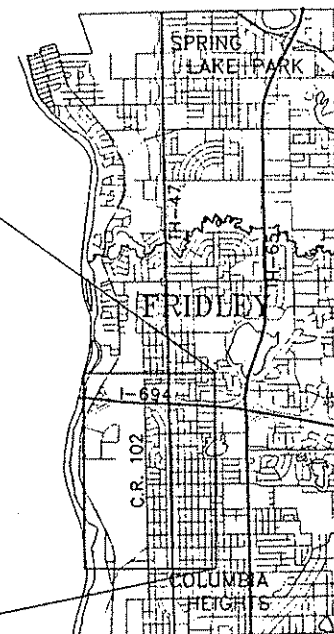
GROSS LENGTH 7,277.00 FEET 1.378 MILES
 BRIDGES-LENGTH 0.00 FEET 0.000 MILES
 EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES
 NET LENGTH 7,277.00 FEET 1.378 MILES

89-28-102

END C.P. 89-28-102
STA. 179+55.00



BEGIN C.P. 89-28-102
STA. 106+78.00



MINN. PROJ. NO. [REDACTED]
 MINN. PROJ. NO. [REDACTED]

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY "SUPPLEMENTAL SPECIFICATIONS", DATED MAY 2, 1994 SHALL APPLY.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-3	STATEMENT OF ESTIMATED QUANTITIES
4-6	TABULATION CHARTS
7	EARTHWORK SUMMARY & CONSTRUCTION NOTES
8-9	EROSION CONTROL DETAILS
10	TYPICAL SECTIONS
11-13	EXISTING CONDITIONS & REMOVAL PLAN
14-19	PLAN & PROFILE SHEETS
20-29	DRAINAGE PLAN & TABULATION
30-42	CROSS SECTIONS
43-43A	DETOUR LAYOUT

THIS PLAN CONTAINS 44 SHEETS

DESIGN DESIGNATION

EN1820	1,238,749
R VALUE	60
ADT (1994)	3263
Proj. ADT (2014)	5547
Proj. HCA DT (2014)	1387
Soil Factor	N/A
TON DESIGN	9
Shoulder Width	10

Functional Classification LOW DENSITY COLLECTOR
 No. of Traffic Lanes 2 No. of Parking Lanes 2
 Design Speed 35 MPH
 Based on Stopping Sight Distance
 Height of eye 3.5 Height of object 0.5
 Design Speed not achieved at: N/A
 STA. TO STA. MPH
 STA. TO STA. MPH
 STA. TO STA. MPH

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

DATE 7/13/94 REG. NO. 20235 ENGR. [Signature] DESIGN ENGINEER
 DESIGN SQUAD M. GABRICK

Recommended for Approval [Signature] 7/29/94
 Recommended for Approval [Signature] 7/20/94
 Recommended for Approval [Signature] 7/29/94
 Approved 7/29/94 [Signature] ANOKA COUNTY ENGINEER
 Approved 7/29/94 [Signature] ANOKA COUNTY ENGINEER
 Approved 7/29/94 [Signature] ANOKA COUNTY ENGINEER
 Approved 9/21/94 [Signature] CITY OF COLUMBIA HEIGHTS

DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 APPROVED: _____
 DIVISION ADMINISTRATOR DATE

STATEMENT OF ESTIMATED QUANTITIES

CHART NO.	NOTE	ITEM NO.	ITEM	UNIT	TOTAL QUANTITIES		ANOKA COUNTY		CITY OF COLUMBIA HEIGHTS		CITY OF FRIDLEY		STORM SEWER ①	
					EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
		2021.501	MOBILIZATION	LUMP SUM	1		1							
		2031.501	FIELD OFFICE, TYPE D	EACH	1		1							
F		2101.502	CLEARING	TREE	21		21							
F		2101.507	GRUBBING	TREE	18		18							
P	(2)	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	407		407							
A		2104.501	REMOVE CURB & GUTTER	LIN FT	714		714							
E	(3,4)	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	42627		42627							
B	(3)	2104.503	REMOVE CONCRETE PAVEMENT	SQ FT	2826		2826							
P	(2)	2104.509	REMOVE DRAINAGE STRUCTURE	EACH	15		15							
C	(3)	2104.511	SAVING CONCRETE PAVEMENT	LIN FT	141		141							
D	(3)	2104.513	SAVING BITUMINOUS PAVEMENT	LIN FT	1708		1708							
		2104.523	SALVAGE SIGNS, TYPE C	EACH	62		62							
P		2104.523	SALVAGE CASTING	EACH	13		13							
		2105.501	COMMON EXCAVATION	CU YD	28024		28024							
		2105.525	TOPSOIL BORROW (LV)	CU YD	2244		2244							
	(5)	2130.501	WATER	M-GAL	60		60							
M,N		2211.503	AGGREGATE BASE (CV), CLASS 5A	CU YD	6068		5546			522				
M,N		2340.508	TYPE 41 WEARING COURSE MIXTURE	TON	3807		3290			517				
N		2340.510	TYPE 31 BINDER COURSE MIXTURE	TON	4160		4160							
N		2340.514	TYPE 31 BASE COURSE MIXTURE	TON	4160		4160							
G		0340.601	2" THICK WEARING COURSE MIXTURE	SQ YD	310		310							
N		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	3909		3909							
P		2501.515	15' RC PIPE APRON	EACH	1								1	
P		2501.515	24' RC PIPE APRON	EACH	1								1	
P		2503.541	12' RC PIPE SEWER, DESIGN 3006 CL.III	LIN FT	1022								1022	
P		2503.541	12' RC PIPE SEWER, DESIGN 3006 CL.IV	LIN FT	24								24	
P		2503.541	15' RC PIPE SEWER, DESIGN 3006 CL.III	LIN FT	1880								1880	
P		2503.541	18' RC PIPE SEWER, DESIGN 3006 CL.III	LIN FT	235								235	
P		2503.541	21' RC PIPE SEWER, DESIGN 3006 CL.III	LIN FT	203								203	
P		2503.541	24' RC PIPE SEWER, DESIGN 3006 CL.III	LIN FT	439								439	
P		2503.541	27' RC PIPE SEWER, DESIGN 3006 CL.III	LIN FT	361								361	
P		2503.541	30' RC PIPE SEWER, DESIGN 3006 CL.III	LIN FT	312								312	
P		2503.541	33' RC PIPE SEWER, DESIGN 3006 CL.III	LIN FT	240								240	
P		2503.541	36' RC PIPE SEWER, DESIGN 3006 CL.III	LIN FT	144								144	
P		2503.541	42' RC PIPE SEWER, DESIGN 3006 CL.III	LIN FT	522								522	
P		2503.541	42' RC PIPE SEWER, DESIGN 3006 CL.IV	LIN FT	2363								2363	
P		0503.602	CONNECT TO EXISTING STORM SEWER PIPE	EACH	3								3	
I		0504.602	ADJUST WATER GATE VALVE MANHOLE	EACH	5			2			3			
I		0504.602	ADJUST WATER GATE VALVE BOX	EACH	18			4			14			
I		0504.602	RELOCATE HYDRANT & VALVE	EACH	3			1			2			
I		0504.602	RELOCATE WATER GATE VALVE AND BOX	EACH	5						5			
		0504.602	12" x 12" TEE	EACH	2						2			
		0504.602	12" x 45 DEGREE BEND	EACH	2						2			
		0504.602	12" GATE VALVE AND BOX	EACH	2						2			
		0504.603	12" D.I. WATERMAIN CLASS 50	LIN FT	127						127			
P		2506.501	CONST DRAINAGE STRUCTURE DES F	LIN FT	90.0								90.0	
P		2506.501	CONST DRAINAGE STRUCTURE DES G	LIN FT	86.3								86.3	
P		2506.501	CONST DRAINAGE STRUCTURE DES H	LIN FT	113.6								113.6	
P		2506.501	CONST DRAINAGE STRUCTURE DES 54-4020	LIN FT	24.9								24.9	
P		2506.501	CONST DRAINAGE STRUCTURE DES 60-4020	LIN FT	6.3								6.3	
P		2506.501	CONST DRAINAGE STRUCTURE DES 66-4020	LIN FT	158.1								158.1	
P		2506.501	CONST DRAINAGE STRUCTURE DES 72-4020	LIN FT	13.5								13.5	
P		2506.501	CONST DRAINAGE STRUCTURE DES 84-4020	LIN FT	12.8								12.8	
P		2506.501	CONST DRAINAGE STRUCTURE DES SPECIAL 1	LIN FT	5.5								5.5	
P		2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	34.6								34.6	
D		2506.516	CASTING ASSEMBLY	EACH	84								84	
P		2506.521	INSTALL CASTING	EACH	13								13	
P	(6)	2506.522	ADJUST FRAME & RING CASTING	EACH	8								8	
P		0506.602	CONNECT TO EXISTING DRAINAGE STRUCTURE	EACH	3								3	
H	(6)	0506.602	ADJUST FRAME & RING CASTING (SANITARY)	EACH	14			5			9			
H		0506.602	RECONSTRUCT STRUCTURE (SANITARY)	EACH	1						1			
P	(9)	2511.501	RANDOM RIPRAP CLASS III	CU YD	8.7								8.7	

(STATEMENT OF ESTIMATED QUANTITIES CONTINUES ON SHEET 3.)

- NOTES:
- (1) STORM SEWER COST PARTICIPATION TO BE BASED ON STATE AID HYDRAULICS LETTER.
 - (2) INCLUDES ALL TYPES AND SIZES.
 - (3) INCLUDES ALL PAVEMENTS REGARDLESS OF DEPTH OR WIDTH.
 - (4) INCLUDES BITUMINOUS CURB REMOVAL.
 - (5) FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.
 - (6) PAYMENT INCLUDED TO ADJUST EXISTING STRUCTURES TO NEW PAVEMENT ELEVATIONS. HOWEVER, THIS ITEM WILL ALSO BE USED FOR NEW STRUCTURES AS WELL IF WEAR COURSE IS DELAYED TO FOLLOWING CONSTRUCTION SEASON.
 - (7) FOR EROSION CONTROL AT STORM SEWER INLETS.
 - (8) FOR EROSION CONTROL AT TOE OF SLOPE, STA 127+00 TO STA 145+00, LEFT.
 - (9) RIPRAP TO BE PLACED AT ALL RCP APRON OUTLETS.

CHART	SHEET NO.	DESCRIPTION
A	4	CURB AND GUTTER REMOVAL
B	4	CONCRETE REMOVAL
C	4	SAVING CONCRETE PAVEMENT
D	4	SAVING BITUMINOUS PAVEMENT
E	4	BITUMINOUS REMOVAL
F	4	CLEARING & GRUBBING
G	5	DRIVEWAY CONSTRUCTION
H	5	SANITARY SEWER
I	5	WATERMAIN APPURTENANCES
J	5	TURF ESTABLISHMENT
K	6	CONCRETE CURB AND GUTTER
L	6	CONCRETE PEDESTRIAN RAMP
M	6	BITUMINOUS PATH
N	6	BASE AND BITUMINOUS
O	7	EARTHWORK SUMMARY
P	20-21	DRAINAGE TABULATION
Q	20	DRAINAGE CASTING SCHEDULE
R	41	DETOUR SIGNING

THESE STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY	
PLATE NO.	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 L	REINFORCED CONCRETE PIPE
3006 F	GASKET JOINT FOR R.C. PIPE
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133 B	RIPRAP AT RCP OUTLETS
3145 E	CONCRETE PIPE TIES
4005 K	MANHOLE OR CATCH BASIN (DESIGN F)
4006 K	MANHOLE OR CATCH BASIN (DESIGN H)
4006 K	MANHOLE OR CATCH BASIN (DESIGN G)
4010 G	CONCRETE SHORT CONE & ADJUSTING RING
4011 D	PRECAST CONCRETE BASE
4020 G	MANHOLE OR CATCH BASIN COVER
4101 C	RING CASTING FOR MANHOLE OR CATCH BASIN
4110 E	COVER CASTING FOR MANHOLE
4126 F	CATCH BASIN FRAME CASTING
4149 C	GRATE CASTING FOR CATCH BASIN
4161 F	CURB BOX CASTING FOR CATCH BASIN
4180 H	MANHOLE OR CATCH BASIN STEP
7035 J	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7036 D	PEDESTRIAN CURB RAMP
7100 F	CONCRETE CURB AND GUTTERS (DESIGN B)
7110 E	CURB AND GUTTER CONSTRUCTION AT CATCH BASIN
7111 G	INSTALL. & REINFORCEMENT OF CATCH BASIN CASTINGS
8000 I	STANDARD BARRICADES
9102 D	SODDING AT PIPE CULVERT ENDS

2340	TYPE 31 AND 41 BITUMINOUS COURSE MIXTURE: 110 LB/SQ.YD. PER 1" THICKNESS
2357	BIT. MAT'L FOR TACK COAT: 0.05 GALS/SQ.YD. PER LIFT APPLIED
2575	MULCH MATERIAL TYPE I: 2 TONS/ACRE
2575	SEEDING: HORIZONTAL MEASURE +10%
2575	COMMERCIAL FERTILIZER ANAL. 10-10-10: 500 LB/ACRE ON ALL SEED AND SOD AREAS
2575	SEEDING MIXTURE NO. 700: 35 LB/ACRE

STATEMENT OF ESTIMATED QUANTITIES

STATEMENT OF ESTIMATED QUANTITIES (CONT.)

CHART NO.	NOTE	ITEM NO.	ITEM	UNIT	TOTAL QUANTITIES		ANDKA COUNTY		CITY OF COLUMBIA HEIGHTS		CITY OF FRIDLEY		STORM SEWER (1)	
					EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
		2521.501	4" CONCRETE WALK	SQ. FT.	505		505							
K		2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT.	14806		7403		325		7078			
G		2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	43		43							
G		2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	238		238							
L		0531.602	PEDESTRIAN CURB RAMP	EACH	2		2							
R		0563.601	TRAFFIC CONTROL, DETOUR	LUMP SUM	1		1							
	(7)	2573.501	BALE CHECK	EACH	800		800							
	(8)	2573.503	SILT FENCE, PREASSEMBLED	LIN FT.	1800		1800							
J		2575.501	SEEDING	ACRE	3.1		3.1							
J		2575.502	SEED, MIXTURE 700	POUND	109		109							
J		2575.505	SODDING, TYPE LAWN & BOULEVARD	SQ YD	17176		17176							
J		2575.511	MULCH MATERIAL, TYPE I	TON	6.2		6.2							
J		2575.519	DISK ANCHORING	ACRE	3.1		3.1							
J		2575.531	COMMERCIAL FERT. ANALYSIS 10-10-10	TON	1.7		1.7							
		2580.501	TEMPORARY LANE MARKING	RD STA	73		73							

INDEX OF TABULATION CHARTS		
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E	4	BITUMINOUS REMOVAL
F	4	CLEARING & GRUBBING
G	5	DRIVEWAY CONSTRUCTION
H	5	SANITARY SEWER
I	5	WATERMAIN APPURTENANCES
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NOTES:

- (1) STORM SEWER COST PARTICIPATION TO BE BASED ON STATE AID HYDRAULICS LETTER.
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BASIS OF QUANTITIES

2340	TYPE 31 AND 41 BITUMINOUS COURSE MIXTURE: 110 LB/SQ. YD. PER 1" THICKNESS
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2575	SEEDING MIXTURE NO. 700: 35 LB/ACRE

STATEMENT OF ESTIMATED QUANTITIES

CURB AND GUTTER REMOVAL (A)

STATION TO STATION	LOC.	DESCRIPTION	LIN. FT.
106+78 - 106+91	RT	RADIUS @ 44TH AVE.	15
106+83 - 107+34	LT	RADIUS	65
113+13 - 113+22	LT	RADIUS	13
113+36 - 113+59	RT	RADIUS @ 45TH AVE.	21
113+48 - 113+56	LT	RADIUS	12
119+40 - 119+63	RT	RADIUS @ 46TH AVE., SO.	21
119+92 - 120+03	RT	RADIUS @ 46TH AVE., NO.	21
126+02 - 126+23	RT	RADIUS @ 47TH AVE., SO.	20
126+52 - 126+68	RT	RADIUS @ 47TH AVE., NO.	15
132+58 - 132+82	RT	RADIUS @ 48TH AVE., SO.	20
133+12 - 133+35	RT	RADIUS @ 48TH AVE., NO.	21
139+16 - 139+34	RT	RADIUS @ 49TH AVE., SO.	23
139+78 - 139+94	RT	RADIUS @ 49TH AVE., NO.	22
142+32 - 142+53	RT	RADIUS @ PILOT AVE., SO.	21
142+87 - 143+10	RT	RADIUS @ PILOT AVE., NO.	21
148+36 - 148+60	RT	RADIUS @ PANORAMA AVE., SO.	21
148+53 - 148+61	LT	RADIUS @ API	10
148+94 - 149+16	RT	RADIUS @ PANORAMA AVE., NO.	21
153+99 - 154+10	LT	RADIUS @ FORD	11
154+31 - 154+40	LT	RADIUS @ FORD	11
155+19 - 155+31	LT	RADIUS @ FORD	11
155+51 - 155+61	LT	RADIUS @ FORD	11
155+89 - 156+00	LT	RADIUS @ GLADWIN	11
156+42 - 156+55	LT	RADIUS @ GLADWIN	11
158+69 - 158+81	LT	RADIUS	13
159+40 - 159+50	LT	RADIUS	13
161+40 - 161+63	RT	RADIUS @ CAPITOL AVE., SO.	21
161+97 - 162+16	RT	RADIUS @ CAPITOL AVE., NO.	21
162+27 - 162+31	LT	RADIUS	13
164+24 - 164+52	RT	RADIUS @ 53RD AVE., SO.	30
164+97 - 165+27	RT	RADIUS @ 53RD AVE., NO.	30
167+29 - 167+53	RT	RADIUS @ CROWN RD., SO.	21
167+87 - 168+10	RT	RADIUS @ CROWN RD., NO.	21
170+43 - 170+63	RT	RADIUS @ HORIZON CIR., SO.	20
170+47 - 171+19	RT	RADIUS @ HORIZON CIR., NO.	20
173+38 - 173+58	RT	RADIUS @ VENTURA AVE., SO.	21
173+93 - 174+13	RT	RADIUS @ VENTURA AVE., NO.	21
TOTAL			714

SAWING CONCRETE PAVEMENT (C)

STATION TO STATION	LOCATION	DESCRIPTION	LIN. FT.
113+21-113+48	35' LT	ENTRANCE	27
118+52-118+78	35' LT	ENTRANCE	26
122+62-122+73	31' RT	ENTRANCE	11
148+62-148+85	35' LT	ENTRANCE	23
149+90-150+06	28' RT	ENTRANCE	16
154+19-154+29	28' RT	ENTRANCE	10
160+15-160+27	28' RT	ENTRANCE	12
172+67-172+83	28' RT	ENTRANCE	16
TOTAL			141

BITUMINOUS REMOVAL (E)

STATION TO STATION	LOC.	DESCRIPTION	SO. YD.
106+78 - 179+54	LT/RT	CR 102 MAINLINE PAVEMENT	38,395
113+01 - 113+35	RT	45TH ST. PAVEMENT	135
114+51, RT	#4513	DRIVEWAY	4
115+87, RT	#4523	DRIVEWAY	8
116+54, RT	#4543	DRIVEWAY	17
117+21, RT	#4551/4553	DRIVEWAY	11
118+01, RT	#4571/4573	DRIVEWAY	13
118+81, RT	#4591/4593	DRIVEWAY	12
119+63 - 119+90	RT	46TH STREET PAVEMENT	108
119+76, LT	---	DRIVEWAY	89
120+97, RT	#4615	DRIVEWAY	8
121+02, LT	---	DRIVEWAY	180
123+50, RT	#4651	DRIVEWAY	8
124+18, RT	#4663	DRIVEWAY	8
124+21, LT	---	DRIVEWAY	46
125+10, RT	#4675	DRIVEWAY	6
125+93, LT	---	DRIVEWAY	117
126+24 - 126+51	RT	47TH STREET PAVEMENT	95
129+53, RT	#4757	DRIVEWAY	6
132+83 - 133+10	RT	48TH STREET PAVEMENT	110
135+45, RT	#4833	DRIVEWAY	11
136+24, RT	#4845	DRIVEWAY	11
137+06, RT	#4857	DRIVEWAY	9
137+81, RT	#4869	DRIVEWAY	9
139+35 - 139+76	RT	49TH STREET PAVEMENT	145
142+54 - 142+86	RT	PILOT AVE. PAVEMENT	118
144+01, RT	#101	DRIVEWAY	4
146+75, LT	API	DRIVEWAY	101
148+61 - 148+93	RT	PANORAMA AVE. PAVEMENT	117
153+27, LT	#5130	DRIVEWAY	144
154+19, LT	#5130, SO.	DRIVEWAY	64
155+42, LT	#5130, NO.	DRIVEWAY	51
156+23, LT	#5170, SO.	DRIVEWAY	196
156+66, RT	#5108	DRIVEWAY	8
157+70, RT	#5132	DRIVEWAY	2
158+24, RT	#5144	DRIVEWAY	4
159+13, LT	#5170, NO.	DRIVEWAY	399
159+88, RT	#5156	DRIVEWAY	5
160+75, LT	#5220	DRIVEWAY	331
161+28, LT	#5250	DRIVEWAY	110
161+64 - 161+96	RT	CAPITOL STREET PAVEMENT	120
162+18 - 162+81	RT	53RD STREET PAVEMENT	161
162+58, LT	#5250/5280	DRIVEWAY	266
163+11, RT	#5269	DRIVEWAY	6
163+41, RT	#100	DRIVEWAY	5
164+45, LT	---	DRIVEWAY	111
165+78, RT	#101	DRIVEWAY	5
166+18, LT	#5280	DRIVEWAY	105
166+45, RT	#100	DRIVEWAY	6
167+54 - 167+86	RT	CROWN ROAD PAVEMENT	123
168+90, RT	#101	DRIVEWAY	8
169+32, LT	#5300	DRIVEWAY	283
170+64 - 170+96	RT	HORIZON CIRCLE PAVEMENT	124
171+82, RT	#101	DRIVEWAY	11
173+60 - 173+92	RT	VENTURA AVE. PAVEMENT	130
175+43, RT	#5475	DRIVEWAY	8
TOTAL			42,687

SAWING BITUMINOUS PAVEMENT (D)

STATION TO STATION	LOCATION	DESCRIPTION	LIN. FT.
106+78	51' RT - 59' LT	PAVEMENT	110
113+01 - 113+35	52' RT	PAVEMENT	34
114+42 - 114+59	31' RT	ENTRANCE	17
115+80 - 115+90	31' RT	ENTRANCE	10
116+38 - 116+65	31' RT	ENTRANCE	27
117+12 - 117+29	31' RT	ENTRANCE	17
117+91 - 118+10	31' RT	ENTRANCE	19
118+70 - 118+88	31' RT	ENTRANCE	18
119+54 - 119+79	32' LT	ENTRANCE	25
119+63 - 119+90	52' RT	PAVEMENT	27
119+64 - 119+89	31' RT	ENTRANCE	25
120+88 - 121+17	31' RT	ENTRANCE	29
120+88 - 121+17	32' LT	ENTRANCE	29
120+91 - 121+01	31' RT	ENTRANCE	10
123+43 - 123+53	31' RT	ENTRANCE	10
124+08 - 124+35	31' RT	ENTRANCE	27
124+08 - 124+35	32' LT	ENTRANCE	27
124+10 - 124+25	31' RT	ENTRANCE	15
125+04 - 125+13	31' RT	ENTRANCE	9
125+80 - 126+05	32' LT	ENTRANCE	25
125+80 - 126+05	31' RT	ENTRANCE	25
126+24 - 126+51	52' RT	PAVEMENT	27
129+47 - 129+56	31' RT	ENTRANCE	9
132+83 - 133+10	52' RT	PAVEMENT	27
135+36 - 135+52	31' RT	ENTRANCE	16
136+16 - 136+30	31' RT	ENTRANCE	14
136+97 - 137+11	31' RT	ENTRANCE	14
137+73 - 137+87	31' RT	ENTRANCE	14
139+35 - 139+76	52' RT	PAVEMENT	41
142+54 - 142+86	52' RT	PAVEMENT	32
143+93 - 144+08	28' RT	ENTRANCE	15
146+62 - 146+88	32' LT	ENTRANCE	26
148+61 - 148+93	52' RT	PAVEMENT	32
153+14 - 153+31	32' LT	ENTRANCE	26
154+10 - 154+31	32' LT	ENTRANCE	21
155+31 - 155+51	20' LT	ENTRANCE	20
156+00 - 156+42	33' LT	ENTRANCE	42
156+58 - 156+75	28' RT	ENTRANCE	17
157+59 - 157+79	28' RT	ENTRANCE	20
158+14 - 158+34	28' RT	ENTRANCE	20
158+81 - 159+43	32' LT	ENTRANCE	62
159+79 - 159+95	28' RT	ENTRANCE	16
160+53 - 161+40	33' LT	ENTRANCE	87
161+15 - 161+31	32' LT	ENTRANCE	26
161+64 - 161+96	52' RT	PAVEMENT	32
162+18 - 162+81	32' LT	ENTRANCE	63
163+01 - 163+20	28' RT	ENTRANCE	19
163+31 - 163+49	28' RT	ENTRANCE	17
164+54 - 164+95	52' RT	PAVEMENT	41
165+69 - 165+85	28' RT	ENTRANCE	16
166+03 - 166+30	32' LT	ENTRANCE	27
166+34 - 166+53	28' RT	ENTRANCE	19
167+54 - 167+86	52' RT	PAVEMENT	32
168+76 - 169+01	28' RT	ENTRANCE	25
169+06 - 169+58	32' LT	ENTRANCE	52
169+86 - 170+06	28' RT	ENTRANCE	20
170+64 - 170+96	52' RT	PAVEMENT	32
171+66 - 171+98	28' RT	ENTRANCE	32
173+60 - 173+92	55' RT	PAVEMENT	32
175+33 - 175+51	28' RT	ENTRANCE	18
179+54	19' LT - 53' RT	PAVEMENT	72
TOTAL			1708

CONCRETE REMOVAL (B)

STATION, LT/RT	LOC.	DESCRIPTION	SO. FT.
107+79, RT	#4411	SIDEWALK	25
108+30, RT	#4415	SIDEWALK	39
108+68, RT	#4419	SIDEWALK	30
109+09, RT	#4421	SIDEWALK	37
109+76, RT	#4427/4429	SIDEWALK	24
110+01, RT	#4433/4435	SIDEWALK	25
112+38, RT	#4455	SIDEWALK	33
113+35, LT	---	PAVEMENT	864
118+66, LT	---	PAVEMENT	936
120+56, RT	#4603	SIDEWALK	12
121+35, RT	#4615	SIDEWALK	13
122+69, LT	#4639	PAVEMENT	72
123+77, RT	#4651	SIDEWALK	21
124+57, RT	#4663	SIDEWALK	20
125+37, RT	#4675	SIDEWALK	15
127+19, RT	#4701	SIDEWALK	19
127+24, RT	#4401	SIDEWALK	20
127+70, RT	#4705	SIDEWALK	16
128+27, RT	#4709	SIDEWALK	11
128+88, RT	#4715	SIDEWALK	14
129+87, RT	#4757	SIDEWALK	17
131+46, RT	#4765	SIDEWALK	20
132+31, RT	#4769	SIDEWALK	16
138+82, RT	#4881	SIDEWALK	14
140+66, RT	---	SIDEWALK	18
148+74, LT	API SUPPLY	PAVEMENT	342
150+00, RT	#5012	PAVEMENT	45
154+25, RT	#5072	PAVEMENT	27
160+22, RT	#5288	PAVEMENT	36
172+75, RT	#100	PAVEMENT	45
TOTAL			2826

CLEARING AND GRUBBING (F)

STATION	LOCATION	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
108+87	28 FT. RT	1		1	
119+34	38 FT. LT	2		1	
119+59	38 FT. LT	2		1	
119+91	39 FT. LT	1		1	
120+17	39 FT. LT	1		1	
120+27	38 FT. LT	1		1	
120+38	39 FT. LT	1		1	
120+74	40 FT. LT	1		1	
121+41	38 FT. LT	1		1	
121+62	38 FT. LT	1		1	
124+51	38 FT. LT	1		1	
125+60	38 FT. LT	1		1	
126+36	39 FT. LT	2		1	
159+58	38 FT. LT	1		1	
159+64	33 FT. LT	1		1	
159+91	40 FT. LT	1		1	
160+36	40 FT. LT	1		1	
160+45	37 FT. LT	1		1	
TOTAL		21		18	

TABULATION CHARTS

CURB AND GUTTER REMOVAL, SAWING CONCRETE PAVEMENT,
BITUMINOUS REMOVAL, SAWING BITUMINOUS PAVEMENT,
CONCRETE REMOVAL, CLEARING AND GRUBBING.

DRIVEWAY CONSTRUCTION CHART (G)

STATION/LOC.	ADDRESS	LOC.	REMARKS	LENGTH	WIDTH	REPLACEMENT DRIVEWAY		REMOVALS		CONC. REPLMT		BIT. REPLMT		
						LENGTH	WIDTH	CONC.	BIT.	6'	8'	2' PLACED (1)	SQ. YD.	
113+35	-----	LT	COMMERCIAL/CONCRETE	32	27	32	27	96			96			
114+51	#4513	RT	RESIDENTIAL/BIT.	2	17	4	17		4			8		
115+87	#4523	RT	RESIDENTIAL/BIT.	7	10	9	10		8			10		
116+54	#4543	RT	RESIDENTIAL/BIT.	6	27	8	27		17			24		
117+21	#4551/4553	RT	RESIDENTIAL/BIT.	6	17	8	17		11			15		
118+01	#4571/4573	RT	RESIDENTIAL/BIT.	6	19	8	19		13			17		
118+56	-----	LT	COMMERCIAL/CONCRETE	36	26	36	26	104		104				
118+80	#4591/4593	RT	RESIDENTIAL/BIT.	6	18	8	18		12			16		
119+76	-----	LT	COMMERCIAL/BIT	32	25	32	25		89			8		
120+97	#4615	RT	RESIDENTIAL/BIT.	5	10	7	10		8			8		
121+02	-----	LT	COMMERCIAL/BIT	56	29	56	29		180			8		
121+79	#4627	RT	RESIDENTIAL/GRAVEL		15							8		
122+69	#4639	RT	RESIDENTIAL/CONCRETE	8	11	10	11	8		12				
123+50	#4651	RT	RESIDENTIAL/BIT.	7	10	9	10		8			10		
124+18	#4663	RT	RESIDENTIAL/BIT.	5	15	7	15		8			12		
124+21	-----	LT	COMMERCIAL/BIT	32	27	32	27		46			8		
125+10	#4675	RT	RESIDENTIAL/BIT.	6	9	8	9		6			8		
125+93	-----	LT	COMMERCIAL/BIT	42	25	42	25		117			8		
126+51	-----	LT	FIELD ENTRANCE/SAND		29							8		
129+53	#4757	RT	RESIDENTIAL/BIT.	6	9	8	9		6			8		
135+45	#4833	RT	RESIDENTIAL/BIT.	6	16	8	16		11			14		
136+24	#4845	RT	RESIDENTIAL/BIT.	7	14	9	14		11			14		
137+06	#4857	RT	RESIDENTIAL/BIT.	6	14	8	14		9			12		
137+81	#4869	RT	RESIDENTIAL/BIT.	6	14	8	14		9			12		
144+01	#101	RT	RESIDENTIAL/BIT.	2	15	4	15		4			7		
144+63	-----	LT	FIELD ENTRANCE/SAND		44							8		
146+75	API SUPPLY	LT	COMMERCIAL/BIT	35	26	35	26		101			8		
148+74	API SUPPLY	LT	COMMERCIAL/CONCRETE	15	23	15	23	38			38			
150+00	#5012	RT	RESIDENTIAL/CONCRETE	3	16	5	16	5		9				
153+27	#5130	LT	COMMERCIAL/CONCRETE	58	37	58	37		241			8		
154+19	#5130	LT	COMMERCIAL/BIT	48	21	48	21		64			8		
154+25	#5072	RT	RESIDENTIAL/CONCRETE	3	10	5	10	3		6				
155+42	#5130	LT	COMMERCIAL/BIT	38	20	38	20		51			8		
156+23	#5170	LT	COMMERCIAL/BIT	42	42	42	42		196			8		
156+66	#5108	RT	RESIDENTIAL/BIT.	4	17	6	17		8			11		
157+70	#5132	RT	RESIDENTIAL/BIT.	1	20	3	20		2			6		
158+24	#5144	RT	RESIDENTIAL/BIT.	2	20	4	20		4			8		
159+13	#5170	LT	COMMERCIAL/BIT	50	61	50	61		339			8		
159+88	#5156	RT	RESIDENTIAL/BIT.	3	16	5	16		5			8		
160+22	#5268	RT	RESIDENTIAL/CONCRETE	3	12	5	12	4		7				
160+75	#5220	LT	COMMERCIAL/BIT	48	62	48	62		331			8		
161+28	#5250	LT	COMMERCIAL/BIT	38	26	38	26		110			8		
162+58	#5280/5250	LT	COMMERCIAL/BIT	38	63	38	63		266			8		
163+11	#5269	RT	RESIDENTIAL/BIT.	3	19	5	19		6			11		
163+41	#100	RT	RESIDENTIAL/BIT.	3	17	5	17		5			9		
164+45	-----	LT	COMMERCIAL/BIT	27	37	27	37		111			8		
165+78	#101	RT	RESIDENTIAL/BIT.	3	16	5	16		5			8		
166+18	#5280	LT	COMMERCIAL/BIT	35	27	35	27		105			8		
166+45	#100	RT	RESIDENTIAL/BIT.	3	19	5	19		6			10		
168+90	#101	RT	RESIDENTIAL/BIT.	3	25	5	25		8			14		
169+32	#5300	LT	COMMERCIAL/BIT	10	51	10	51		283			8		
171+82	#101	RT	RESIDENTIAL/BIT.	3	32	5	32		11			18		
172+75	#100	RT	RESIDENTIAL/CONCRETE	3	16	5	16	5		9				
175+43	#5475	RT	RESIDENTIAL/BIT.	4	18	6	18		8			12		
TOTAL								263	2843	43	238	310		

- ① PAID FOR AS 2" THICK WEARING COURSE PLACED
- ② RECONSTRUCT WITH FULL ROADWAY PAVEMENT SECTION. SEE CHART (H)

SANITARY SEWER APPURTENANCES (H)

STATION	LOC.	INPLACE ITEM	OWNERSHIP	INPLACE ELEVATION	PROPOSED ELEVATION	ADJUST EACH	RECONSTRUCT EACH	REMARKS
106+58	13' RT	MANHOLE	COL. HTS.	847.40	847.40	1		SANITARY SEWER
106+94	6' RT	MANHOLE	COL. HTS.	846.40	846.24	1		SANITARY SEWER
109+95	9' RT	MANHOLE	COL. HTS.	841.85	841.10	1		SANITARY SEWER
112+85	14' RT	MANHOLE	COL. HTS.	840.66	840.07	1		SANITARY SEWER
112+96	8' RT	MANHOLE	COL. HTS.	840.74	840.27	1		SANITARY SEWER
116+68	2' LT	MANHOLE	FRIDLEY	841.45	841.72	1		SANITARY SEWER
119+77	3' LT	MANHOLE	FRIDLEY	842.03	841.00	1		SANITARY SEWER
123+18	3' LT	MANHOLE	FRIDLEY	842.94	842.31	1		SANITARY SEWER
129+67	3' LT	MANHOLE	FRIDLEY	845.32	844.84		1 (4.5 CONE)	SANITARY SEWER
132+96	3' LT	MANHOLE	FRIDLEY	847.15	847.72	1		SANITARY SEWER
136+19	2' LT	MANHOLE	FRIDLEY	853.88	854.50	1		SANITARY SEWER
139+57	2' LT	MANHOLE	FRIDLEY	856.51	856.06	1		SANITARY SEWER
172+55	2' LT	MANHOLE	FRIDLEY	860.16	860.74	1		SANITARY SEWER
176+19	2' LT	MANHOLE	FRIDLEY	858.41	858.75	1		SANITARY SEWER
179+80	2' LT	MANHOLE	FRIDLEY	859.22	859.22	1		SANITARY SEWER
TOTAL						14	1	

WATERMAIN APPURTENANCES (I)

STATION	LOCATION	DESCRIPTION	RELOCATE EACH	ADJUST EACH
106+24	21' RT	GATE VALVE		1
106+51	34' RT	GATE VALVE		1
107+76	15' LT	G.V. MANHOLE		1
112+79	23' RT	HYDRANT & VALVE	1	
113+08	46' RT	GATE VALVE		1
113+08	37' RT	GATE VALVE		1
113+11	26' RT	G.V. MANHOLE		1
113+16	30' RT	GATE VALVE		1
113+19	37' RT	GATE VALVE		1
113+52	14' LT	GATE VALVE		1
113+56	23' LT	GATE VALVE		1
113+74	31' LT	HYDRANT		1
119+50	27' RT	HYDRANT & VALVE	1	
126+06	29' RT	HYDRANT		1
126+25	18' RT	GATE VALVE		1
139+20	31' RT	HYDRANT		1
139+41	19' RT	GATE VALVE		1
139+51	29' RT	GATE VALVE		1
142+36	29' LT	HYDRANT		1
142+61	28' RT	GATE VALVE		1
142+75	14' RT	GATE VALVE		1
145+77	10' LT	GATE VALVE		1
148+36	13' LT	GATE VALVE		1
148+43	27' LT	HYDRANT		1
154+29	13' LT	G.V. MANHOLE		1
154+35	13' LT	G.V. MANHOLE		1
154+72	29' LT	HYDRANT		1
160+20	15' LT	G.V. MANHOLE		1
161+60	28' LT	HYDRANT		1
161+61	1' LT	GATE VALVE	1	
164+53	13' LT	GATE VALVE		1
164+58	3' LT	GATE VALVE	1	
164+78	22' LT	HYDRANT & VALVE	1	
165+99	16' LT	GATE VALVE		1
167+56	27' LT	HYDRANT		1
167+57	1' LT	GATE VALVE	1	
170+64	2' LT	GATE VALVE	1	
173+68	2' LT	GATE VALVE	1	
173+82	28' LT	HYDRANT		1
179+32	31' LT	HYDRANT		1
179+48	12' LT	GATE VALVE		1
TOTAL			8	23

TURF ESTABLISHMENT (J)

STATION - STATION	LOCATION	SOD SQ. YDS.	SEEDING ACRE	SEED MIX 700 POUND	FERTILIZER TON	MULCH TON
106+78 - 113+01	RT	693			0.04	
113+35 - 119+63	RT	540			0.03	
113+75 - 116+25	LT		0.8	28	0.20	1.6
119+90 - 126+24	RT	537			0.03	
126+51 - 132+83	RT	692			0.04	
133+10 - 139+35	RT	631			0.03	
139+76 - 142+54	RT	309			0.02	
142+86 - 148+61	RT	622			0.03	
148+93 - 161+64	RT	1330			0.07	
161+96 - 164+54	RT	247			0.01	
164+95 - 167+54	RT	225			0.01	
167+86 - 170+64	RT	247			0.01	
170+96 - 173+60	RT	262			0.01	
173+92 - 179+54	RT	593			0.03	
106+78 - 179+54	LT	10,248			0.53	
126+50 - 144+75	LT		2.3	81	0.58	4.6
TOTAL		17,176	3.1	109	1.67	6.2

TABULATION CHARTS
 DRIVEWAY CONSTRUCTION
 SANITARY SEWER
 WATERMAIN APPURTENANCES
 TURF ESTABLISHMENT

REVISIONS
 DATE BY DATE BY

CONCRETE CURB AND GUTTER (K)				
STA.	TO STA.	LIN. FT.		LOCATION
		LT.	RT.	
CL	106+79	110+47	388	
CL	106+79	113+00	650	
CL	110+47	113+48	271	
CL	113+18	139+56	2639	
CL	113+37	119+63	659	
CL	119+92	126+23	664	
CL	126+52	132+82	665	
CL	133+12	139+34	658	
CL	139+56	165+95	2639	
CL	139+78	142+53	512	
CL	142+88	148+60	608	
CL	148+94	161+62	1304	
CL	161+97	164+53	292	
CL	164+97	167+53	293	
CL	165+95	179+54	311	
CL	167+87	170+62	1359	
CL	170+97	173+59	298	
CL	173+93	179+52	596	
TOTAL		7296	7510	

BITUMINOUS PATH (M)						
STA.	TO STA.	LOCATION	BIT. SURFACE	BIT. WEAR	AGGR. BASE	REMARKS
			SQ. YD.	TON	CU. YD.	
CL	106+93	113+21	558.2	61.4	62.0	
CL	113+48	118+52	448.0	49.3	49.8	
CL	118+78	119+64	76.4	8.4	8.5	
CL	119+89	120+87	87.1	9.6	9.7	
CL	121+17	124+07	257.8	78.4	28.6	
CL	124+34	125+80	129.8	74.3	14.4	
CL	126+05	146+63	1829.5	201.2	203.3	
CL	146+89	148+62	193.8	21.3	21.5	
CL	148+85	153+14	381.3	41.9	42.4	
CL	153+40	154+09	61.3	6.7	6.8	
CL	154+30	155+32	90.7	10.0	10.1	
CL	155+52	156+02	44.4	4.9	4.9	
CL	156+44	158+83	212.4	23.4	23.6	
CL	159+44	160+44	88.9	9.8	9.9	
CL	161+06	162+27	135.1	14.9	15.0	
CL	162+90	163+04	101.3	11.1	11.3	
TOTAL			4696.0	516.6	521.8	

CONCRETE PEDESTRIAN RAMPS (L)			
STATION	LOCATION	EACH	REMARKS
CL	106+93	40' LT.	1
CL	164+04	24' LT.	1
TOTAL		2	

BASE AND BITUMINOUS QUANTITIES CHART (N)									
LOCATION	DESCRIPTION	BIT. SURF.	WEARING COURSE	BINDER COURSE	BASE COURSE	BIT. TACK	AGGR. BASE BASE CLASS 5		
		SQ. YD.	TONS	TONS	TONS	GALLON	SQ. YD.	CU. YD.	
CL	105+60 106+78	2" MILLING BIT. SURFACE	995	109.5		99.5			
CL	106+79 179+54	MAINLINE	33142	2734.3	3645.5	3645.5	3314.3	37714	4857.1
CL	107+78 110+47	RIGHT TURN LANE	150	12.4	16.5	16.5	15.0	315	30.0
CL	179+54 180+71	2" MILLING BIT. SURFACE	546	60.1			27.3		
45 TH. AVE.	FROM SAWCUT TO END RADIUS	166	13.7	18.3	18.3	16.6	199	24.9	
46 TH. AVE.	FROM SAWCUT TO END RADIUS	145	12.0	16.0	16.0	14.5	178	21.9	
47 TH. AVE.	FROM SAWCUT TO END RADIUS	145	12.0	16.0	16.0	14.5	178	21.9	
48 TH. AVE.	FROM SAWCUT TO END RADIUS	145	12.0	16.0	16.0	14.5	178	21.9	
49 TH. AVE.	FROM SAWCUT TO END RADIUS	191	15.8	21.0	21.0	19.1	224	28.3	
PILOT AVE.	FROM SAWCUT TO END RADIUS	152	12.5	16.7	16.7	15.2	185	22.9	
PANORAMA AVE.	FROM SAWCUT TO END RADIUS	152	12.5	16.7	16.7	15.2	185	22.9	
CAPITOL AVE.	FROM SAWCUT TO END RADIUS	152	12.5	16.7	16.7	15.2	185	22.9	
53 RD. AVE.	FROM SAWCUT TO END RADIUS	191	15.8	21.0	21.0	19.1	224	28.3	
CROWN ROAD	FROM SAWCUT TO END RADIUS	152	12.5	16.7	16.7	15.2	185	22.9	
HORIZON CIRCLE	FROM SAWCUT TO END RADIUS	156	12.9	17.2	17.2	15.6	189	23.5	
VENTURA AVE.	FROM SAWCUT TO END RADIUS	152	12.5	16.7	16.7	15.2	185	22.9	
COMMERCIAL BIT. ENT. (1)	BACK OF CURB TO MATCH EXIST.	2630	217.0	289.3	289.3	263.0	2780	373.6	
TOTAL		39362	3290.0	4160.3	4160.3	3909.0	43104	5545.9	

(1) SEE CHART (C) FOR LOCATION.

TABULATION CHARTS

- CONCRETE CURB AND GUTTER
- CONCRETE PEDESTRIAN RAMPS
- BITUMINOUS PATH
- BASE AND BITUMINOUS QUANTITIES CHART
- BASE AND BITUMINOUS QUANTITIES CHART

REVISIONS	BY	DATE

CERTIFIED BY Douglas M. Jumbly P.E. REG NO. 20235 7/11 19 94

S.P. _____ S.A.P. _____ C.P. 89-28-102 Sheet No. 6 of 43 Sheets

FILE NAME: P9801021.DWG DATE: 09-09-94

EARTHWORK SUMMARY ©

SOILS AND CONSTRUCTION NOTES

EXCAVATION:				
COMMON:	CU.YDS.	REGULAR:	8,357	CU.YDS.
		SUBCUT:	12,945	CU.YDS.
		RET. POND:	6,722	CU.YDS.

EMBANKMENT (CV):

FILLS:	1,759	CU.YDS.	
SUBCUT:	12,945	CU.YDS.	
TOPSOIL DRESSING:	1,870	CU.YDS.	(INCLUDES 401 CU.YDS. FOR RETENTION POND.)

BALANCE:

TOPSOIL:
 TOPSOIL DRESSING (CV) x SWELL FACTOR = BORROW REQUIREMENT (LV)
 $1,870 \times 1.2 = 2,244$

GRANULAR:
 REGULAR FILL (CV) + SUBCUT FILL (CV) - [REGULAR EXCAVATION (EV) x SHRINKAGE FACTOR] -
 [SUBCUT EXCAVATION x SHRINKAGE FACTOR] = EXCESS(-) OR SHORTAGE(+)
 $1,759 + 12,945 - (8,357 \times 0.85) - (12,945 \times 0.90) = -4,050$ CU.YDS.

BORROW (LV)/EXCESS (EV):

GRADING EXCESS:	4,050	CU.YDS.
TOPSOIL BORROW:	2,244	CU.YDS.

SOIL FACTORS:

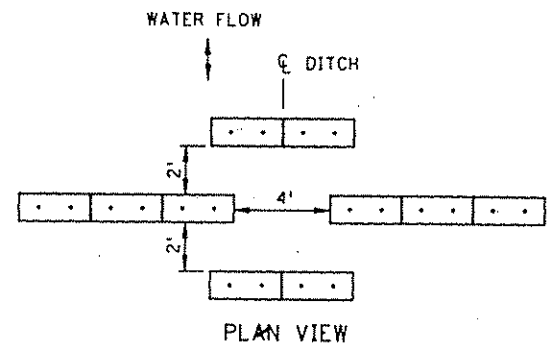
(1) REGULAR GRADING AND TOPSOIL DRESSING (EV TO CV): 85% SHRINKAGE
 (2) SUBCUT COMPACTION (EV TO CV): 90% SHRINKAGE
 (3) TOPSOIL BORROW (CV TO LV): 120% SWELL

1. TOP OF GRADING GRADE IS DEFINED AS THE BOTTOM OF THE AGGREGATE BASE.
2. IN FILL AREAS, THE SUBGRADE SHALL BE CONSTRUCTED WITH SELECT GRADING MATERIAL.
3. SELECT GRADING MATERIALS SHALL CONSIST OF GRANULAR MATERIALS.
4. GRANULAR MATERIAL, REGARDLESS OF SOURCE, SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2A
5. COMPACTION OF THE GRADING PORTION OF THIS PROJECT SHALL BE BY THE 'ORDINARY COMPACTION METHOD' WITH THE EXCEPTION OF THE STORM SEWER AND UTILITY TRENCHES WHICH SHALL BE COMPACTED BY THE 'SPECIFIED DENSITY METHOD'.
6. TEST ROLLING WILL NOT BE REQUIRED.
7. BITUMINOUS AND/OR CONCRETE ITEMS REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED OR DISPOSED OF OFF THE PROJECT LIMITS WITH NO DIRECT COMPENSATION MADE THEREFORE.
8. DISPOSITION OF EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH SPEC. 2105.3D WITH NO DIRECT COMPENSATION MADE THEREFORE.
9. WHERE CONNECTING NEW SURFACING TO AN INPLACE PAVEMENT, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING THE INPLACE PAVEMENT.
10. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES PRIOR TO PLACING BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON EXISTING CONCRETE OR BITUMINOUS SURFACES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GALLONS PER SQUARE YARD BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY); ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357.
11. COMPACTION OF ALL BITUMINOUS COURSES SHALL BE BY THE 'MODIFIED SPECIFIED DENSITY METHOD'.
12. COMPACTION OF THE AGGREGATE BASE LAYERS SHALL BE BY THE 'SPECIFIED DENSITY METHOD'.
13. IN ALL UNDEVELOPED AREAS TO BE DISTURBED BY CONSTRUCTION, STRIP AND RE-USE AS SLOPE DRESSING ALL TOPSOIL AND INPLACE SLOPE DRESSING. REFER TO THE CROSS-SECTION FOR THE LIMITS OF TOPSOIL STRIPPING. GENERAL DEPTHS OF TOPSOIL LAYER ARE ASSUMED TO BE 0'-3'.
14. USE TOPSOIL BORROW AS SLOPE DRESSING ON ALL DEVELOPED AREAS DISTURBED BY CONSTRUCTION
15. SLOPE DRESSING ON THIS PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF.
16. PLACE A MINIMUM OF 4 INCHES OF TOPSOIL OR SLOPE DRESSING ON ALL AREAS DISTURBED BY CONSTRUCTION AND SCHEDULED FOR PERMANENT TURF ESTABLISHMENT. FERTILIZE WITH COMMERCIAL FERTILIZER, ANALYSIS 10-10-10, AT A RATE OF 500 POUNDS PER ACRE OR EQUIVALENT.
17. SOD ALL DISTURBED LAWNS.
18. ALL SOD UTILIZED WITHIN THE PROJECT LIMITS SHALL MEET THE REQUIREMENTS OF SPEC. 3878.2A (LAWN AND BOULEVARD SOD).
19. EXCESS TOPSOIL MAY BE USED IN EMBANKMENT CONSTRUCTION IN AREAS OUTSIDE OF A 1 1/2:1 SLOPE FROM THE GRADING SHOULDER P.I.
20. BITUMINOUS REMOVAL QUANTITY BASED ON APPROXIMATELY 4' TO 12' OF BITUMINOUS SURFACING. THE CONTRACTOR SHALL INVESTIGATE AND MAKE THEIR OWN DETERMINATION OF ACTUAL PAVEMENT DEPTH.

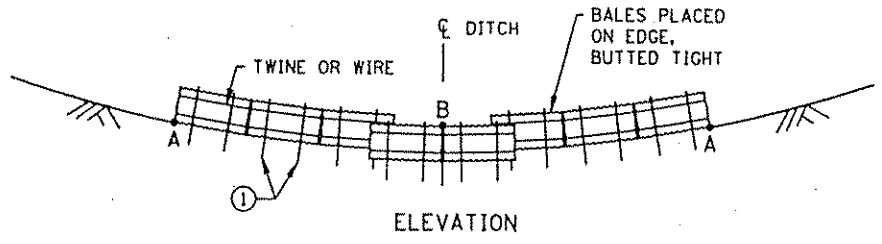
REVISIONS BY DATE

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SERVER CAG4511/USR/STANDARDS FILE NAME S4052493.SPN



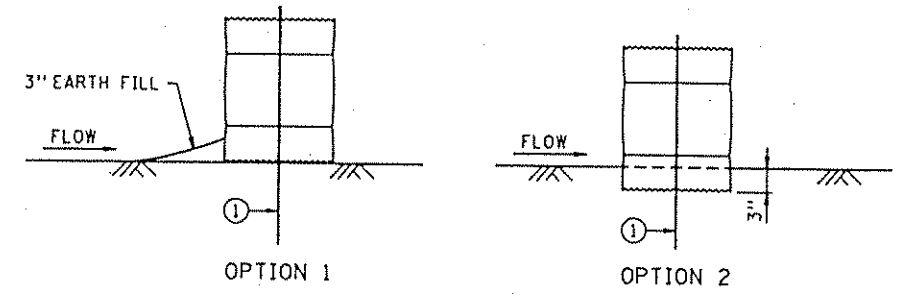
PLAN VIEW



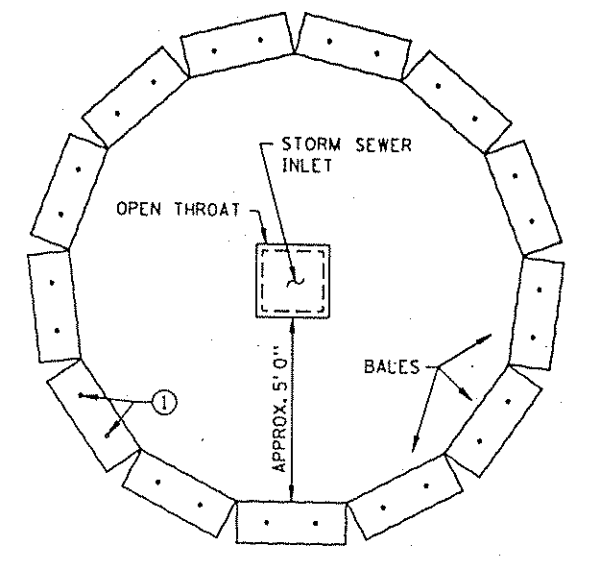
ELEVATION

NOTE:
POINT A MUST BE HIGHER THAN POINT B

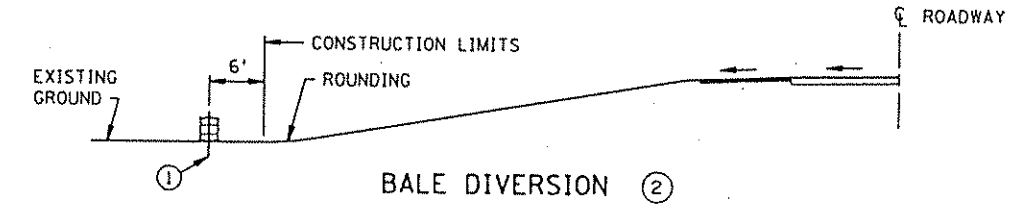
BALE DITCH VELOCITY CHECKS
(WILL REQUIRE A MINIMUM OF 10 BALES PER SITE)



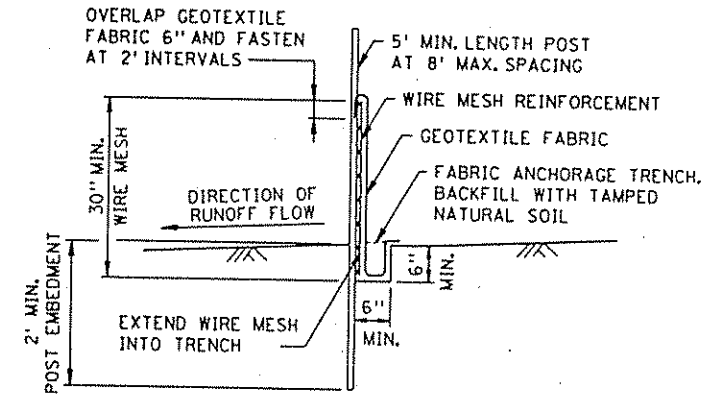
BALE CHECK DETAILS



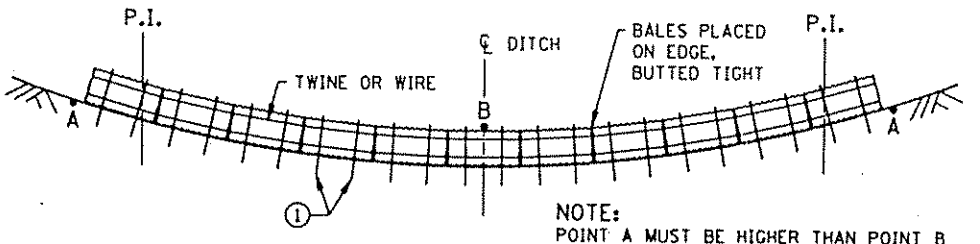
BALE CHECK TO PROTECT STORM SEWER INLETS



BALE DIVERSION ②



SILT FENCE DETAIL



BALE DITCH SEDIMENT CHECK

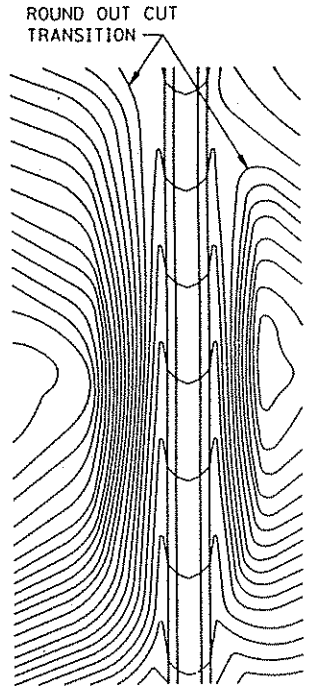
NOTE:
POINT A MUST BE HIGHER THAN POINT B

RECOMMENDED SPACING BETWEEN BALES DITCH CHECKS	
DITCH GRADE (%)	SPACING (FT.)
2	100
4	75
6	50
8	40
10	25

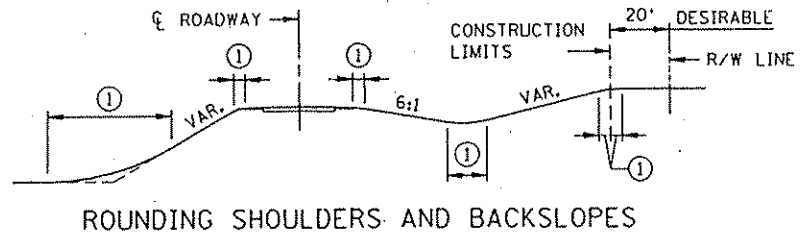
NOTE:
① TWO 2" X 2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10" MINIMUM.
② SILT FENCE MAY ALSO BE USED AS A DEVIATION DEVICE.

STANDARD SHEET NO. 5-297.405 (MODIFIED)	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: AUGUST 2, 1993	
CO. PROJ. NO. 89-28-1Q2	SHEET NO. 8 OF 43 SHEETS

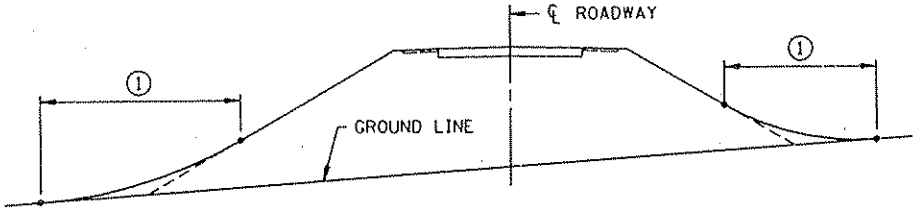
CERTIFIED BY Douglas R. Tomlin P.E. REG NO. 20235 7/11 19 94



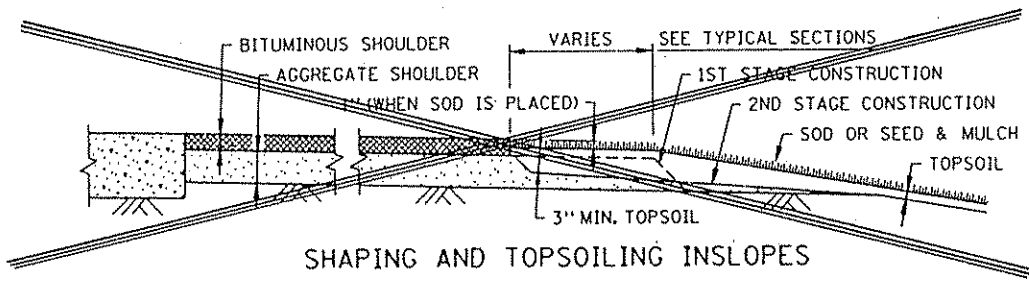
CONTOURING ROAD CUTS



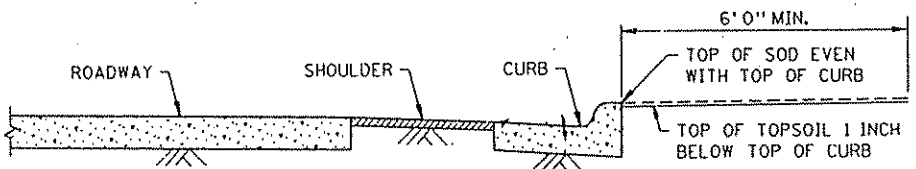
ROUNDING SHOULDERS AND BACKSLOPES



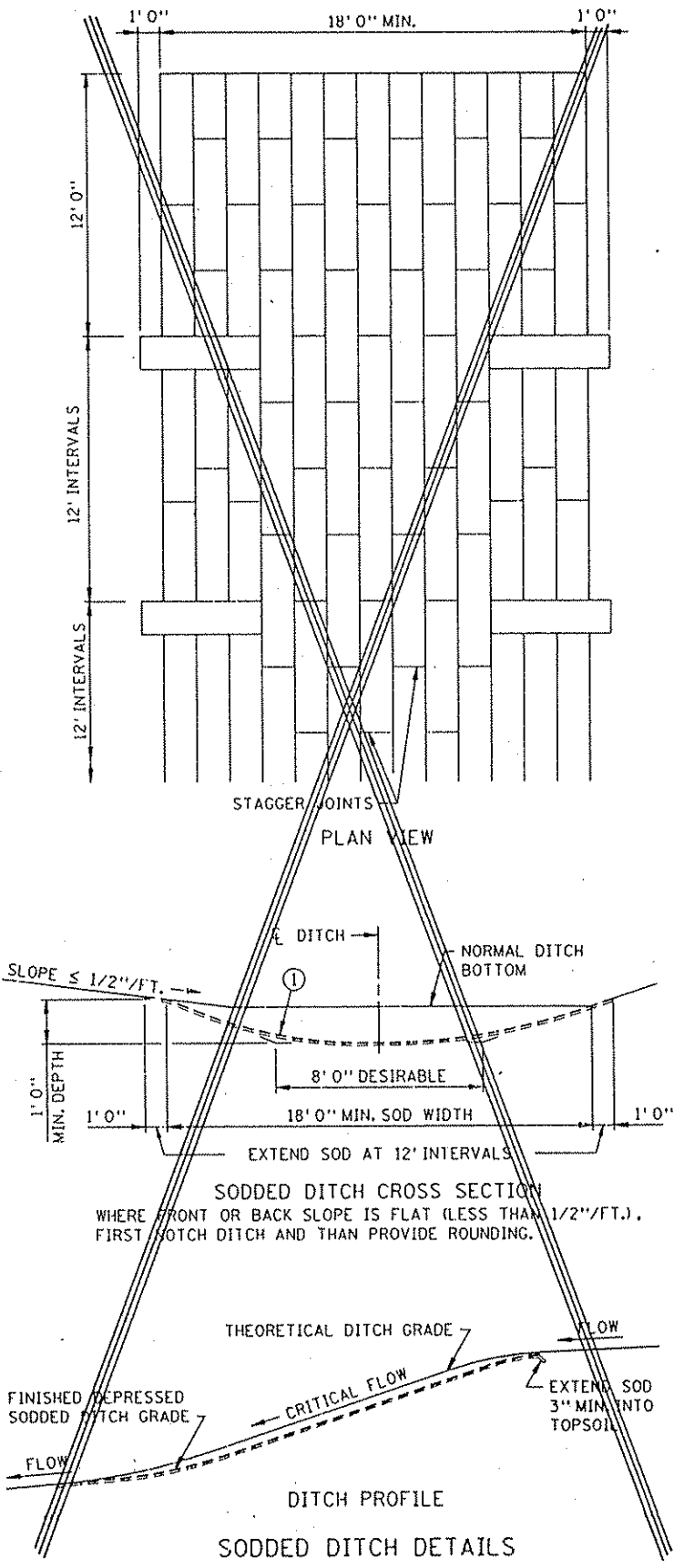
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



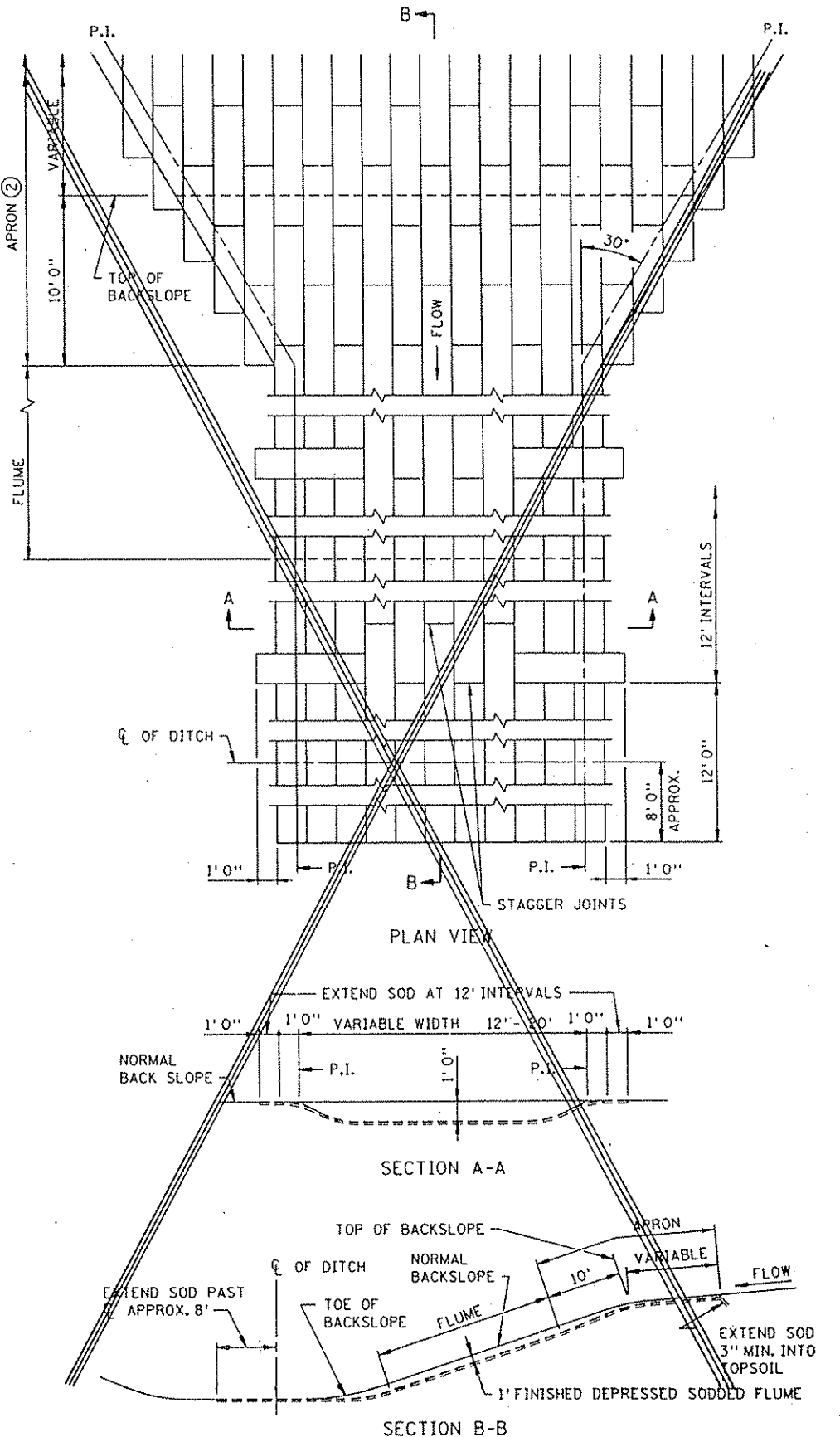
SHAPING AND TOPSOILING INSLOPES



SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



SODDED DITCH DETAILS



SODDED FLUME DETAILS

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. 5-297.404
 STANDARD APPROVED: DECEMBER 19, 1990

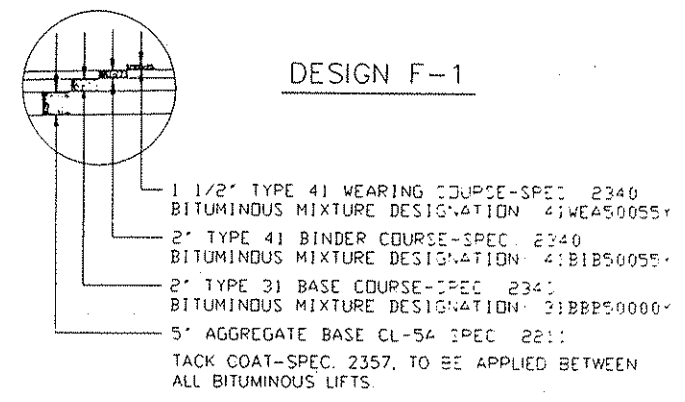
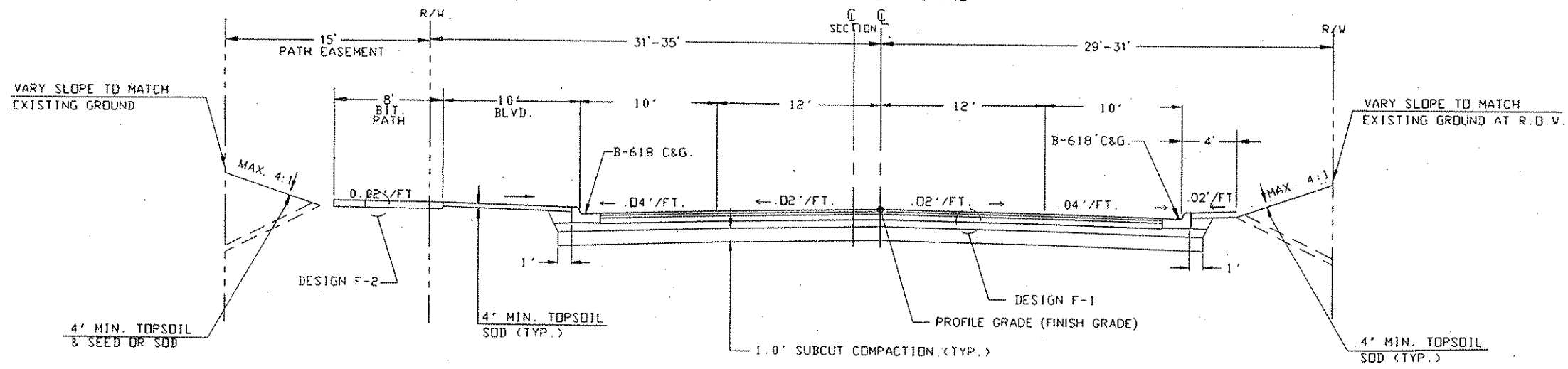
TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
 CO. PROJ. NO. 89-28-102
 SHEET NO. 9 OF 43 SHEETS

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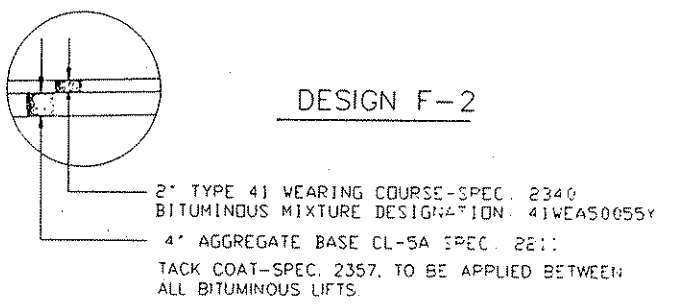
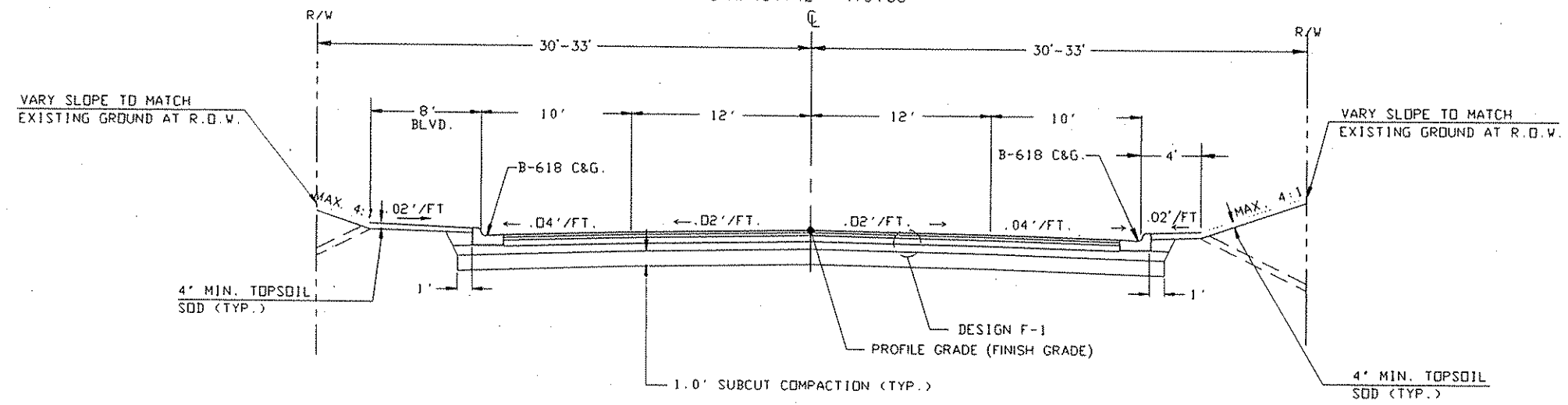
CERTIFIED BY *Douglas M. Thomas* P.E. REG NO. 20235

7/11 19 94

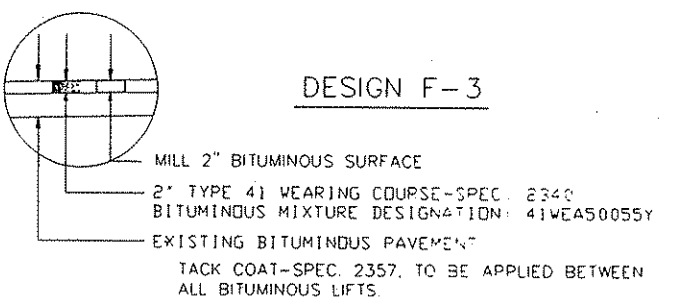
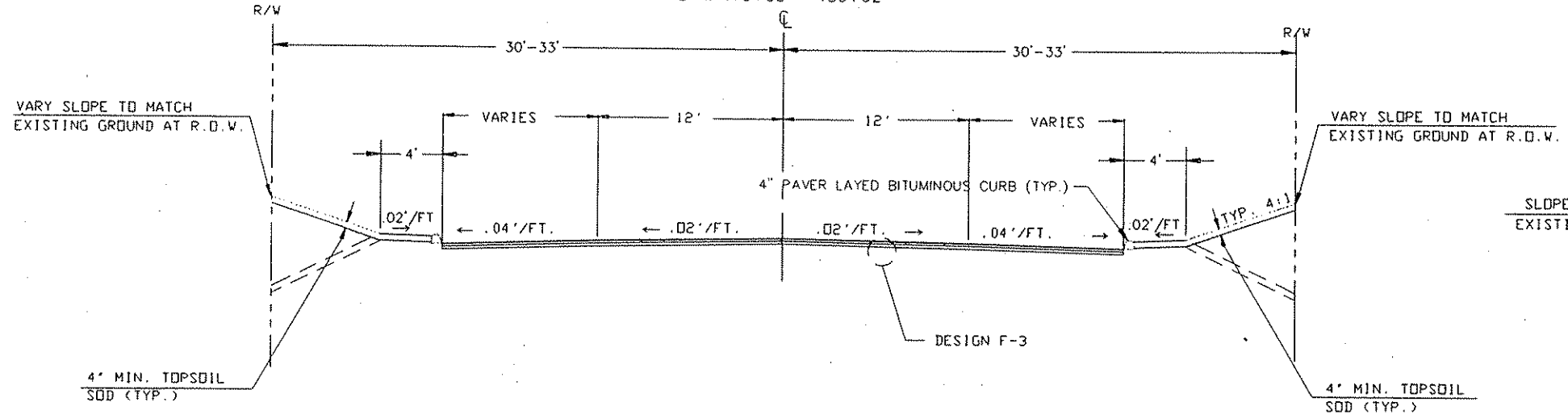
C.R. 102-MAINLINE
STA. 106+78 - 164+42



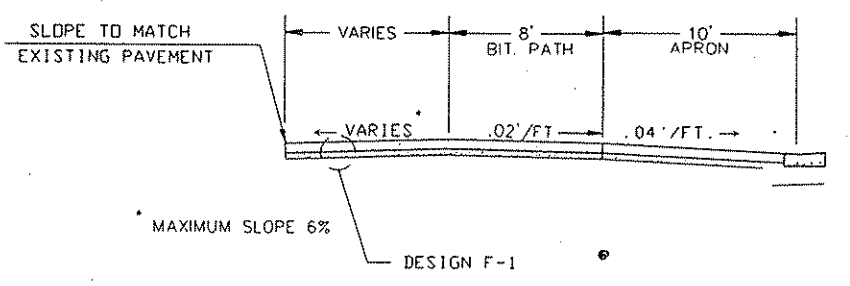
C.R. 102-MAINLINE
STA. 164+42 - 179+55



C.R. 102-MAINLINE
STA. 179+55 - 180+62







COMMERCIAL ENTRANCE APRON

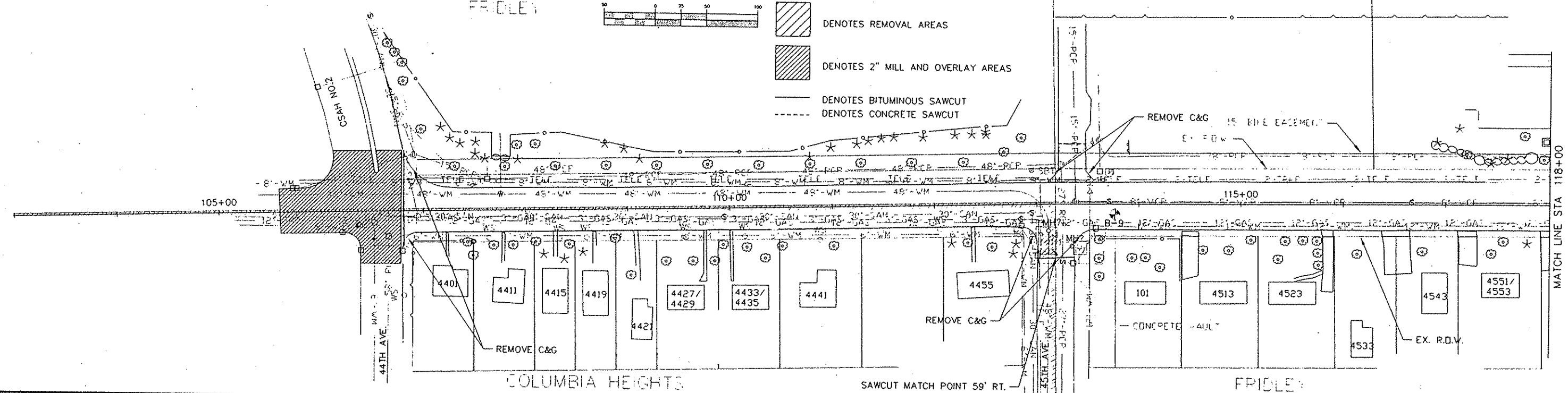


TYPICAL SECTIONS





REVISIONS	DATE	BY

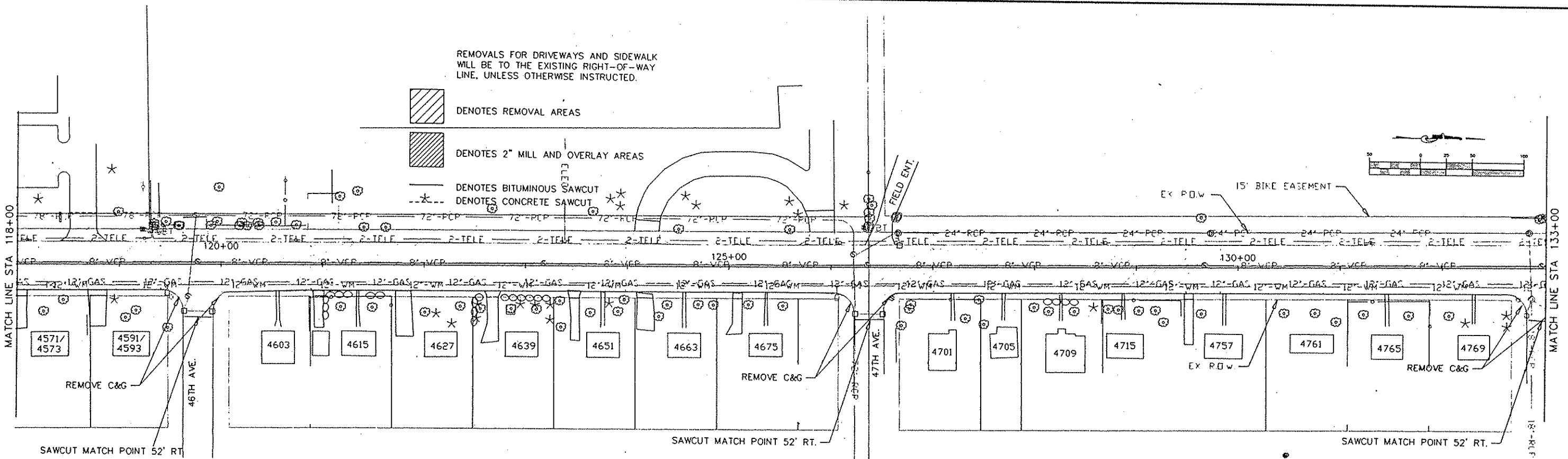
REMOVALS FOR DRIVEWAYS AND SIDEWALK WILL BE TO THE EXISTING RIGHT-OF-WAY LINE, UNLESS OTHERWISE INSTRUCTED.

-  DENOTES REMOVAL AREAS
-  DENOTES 2" MILL AND OVERLAY AREAS
-  DENOTES BITUMINOUS SAWCUT
-  DENOTES CONCRETE SAWCUT



REMOVALS FOR DRIVEWAYS AND SIDEWALK WILL BE TO THE EXISTING RIGHT-OF-WAY LINE, UNLESS OTHERWISE INSTRUCTED.

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-  DENOTES CONCRETE SAWCUT







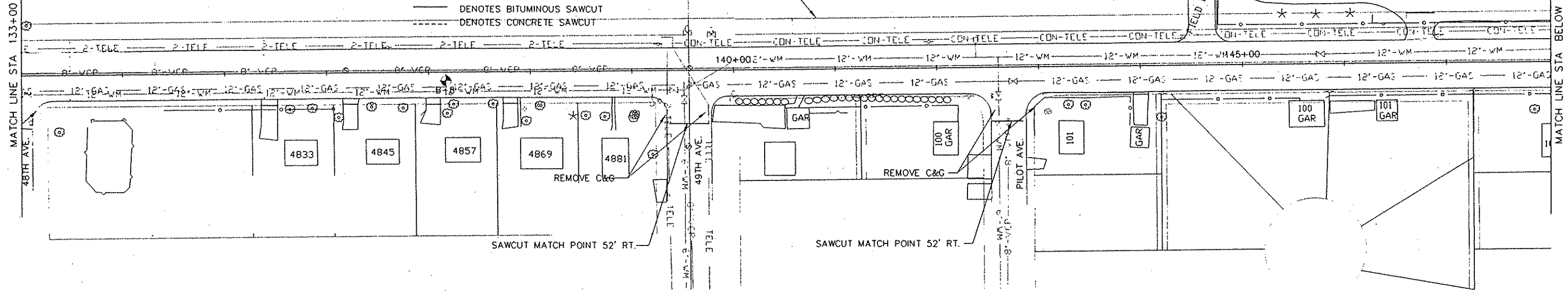
REVISIONS	DATE	BY

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EXISTING CONDITIONS AND REMOVALS





REMOVALS FOR DRIVEWAYS AND SIDEWALK
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LINE, UNLESS OTHERWISE INSTRUCTED.

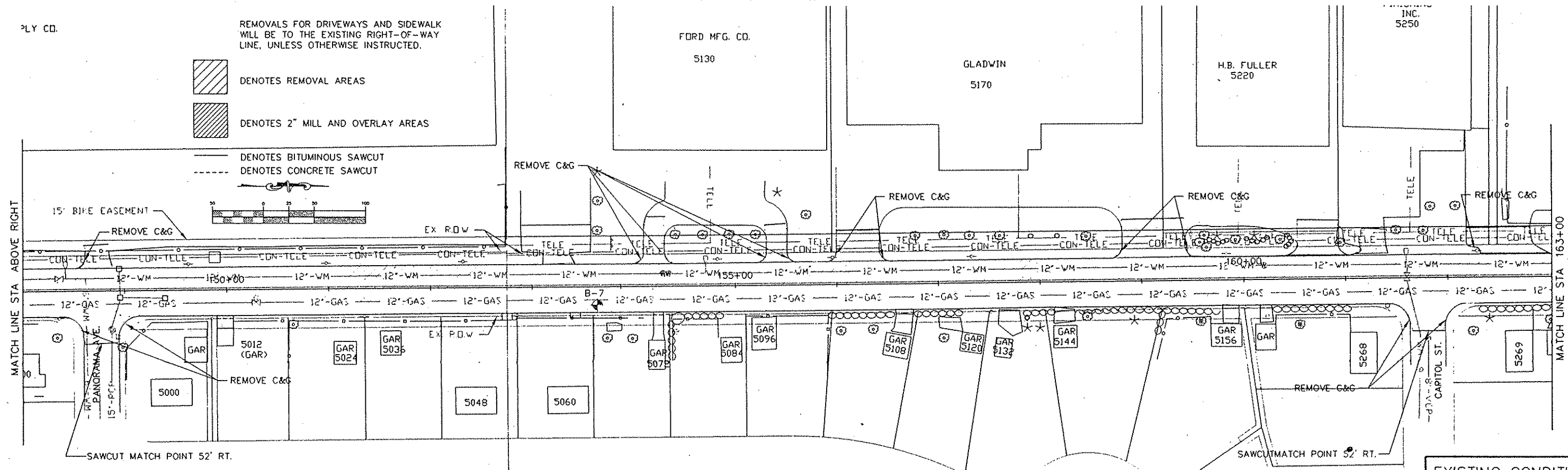
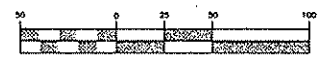
-  DENOTES REMOVAL AREAS
-  DENOTES 2" MILL AND OVERLAY AREAS
-  DENOTES BITUMINOUS SAWCUT
-  DENOTES CONCRETE SAWCUT



PLY CO.

REMOVALS FOR DRIVEWAYS AND SIDEWALK
WILL BE TO THE EXISTING RIGHT-OF-WAY
LINE, UNLESS OTHERWISE INSTRUCTED.

-  DENOTES REMOVAL AREAS
-  DENOTES 2" MILL AND OVERLAY AREAS
-  DENOTES BITUMINOUS SAWCUT
-  DENOTES CONCRETE SAWCUT







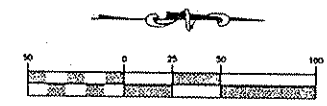
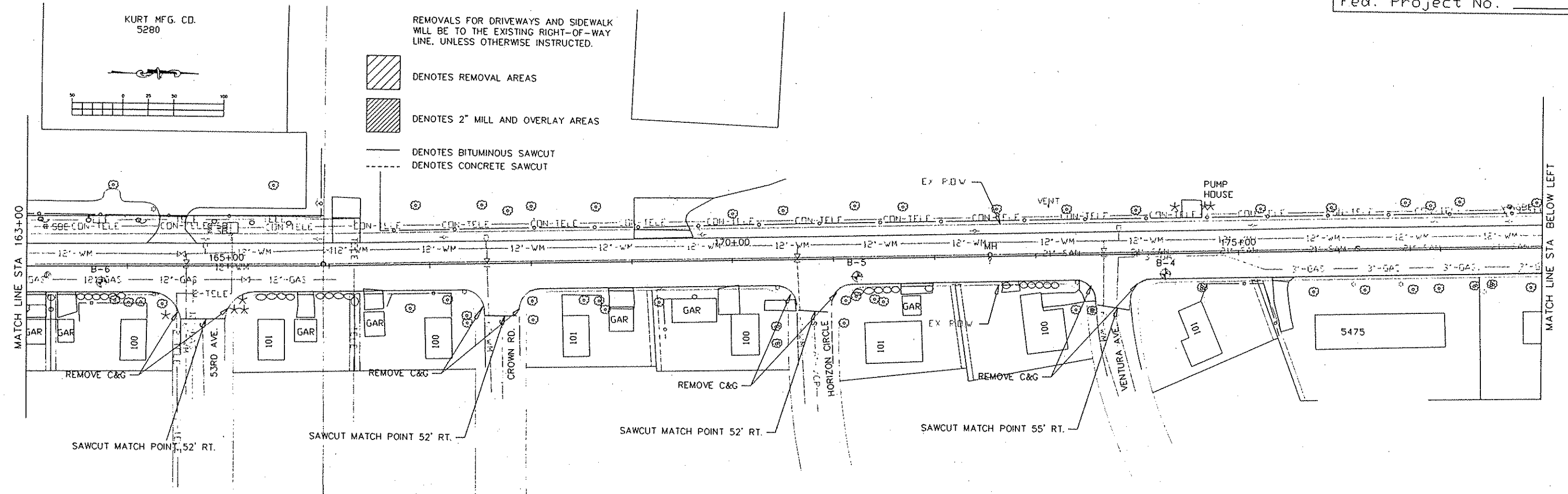
REVISIONS	DATE	BY

EXISTING CONDITIONS
AND REMOVALS

KURT MFG. CD.
5280





REMOVALS FOR DRIVEWAYS AND SIDEWALK
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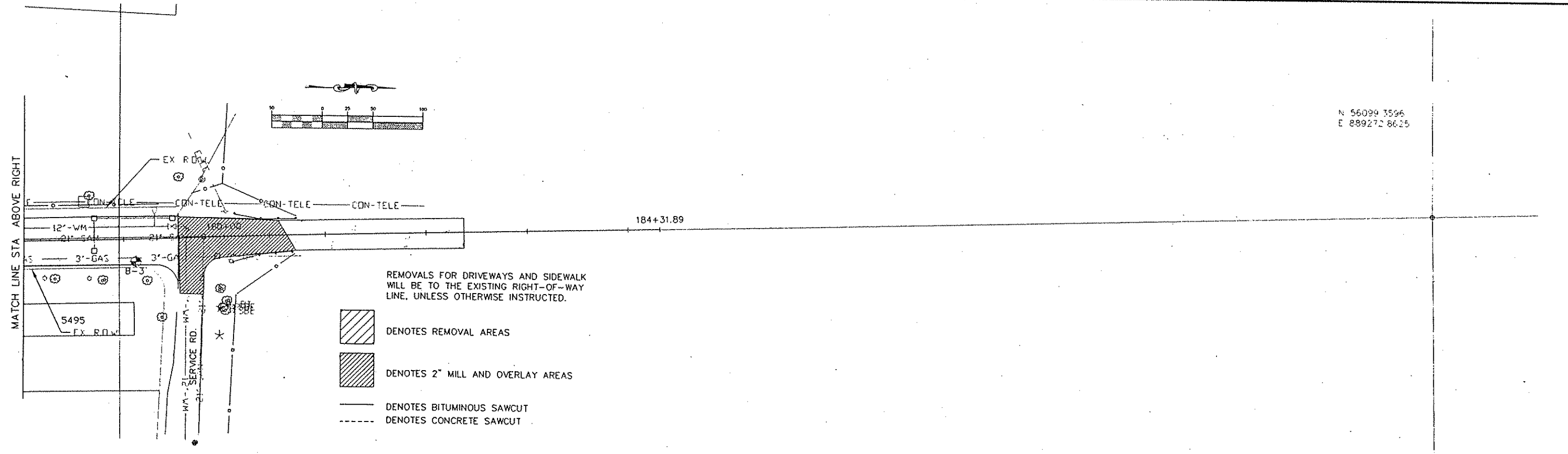
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-  DENOTES 2" MILL AND OVERLAY AREAS
-  DENOTES BITUMINOUS SAWCUT
-  DENOTES CONCRETE SAWCUT



N 56099 3596
E 889272 8625

REMOVALS FOR DRIVEWAYS AND SIDEWALK
WILL BE TO THE EXISTING RIGHT-OF-WAY
LINE, UNLESS OTHERWISE INSTRUCTED.

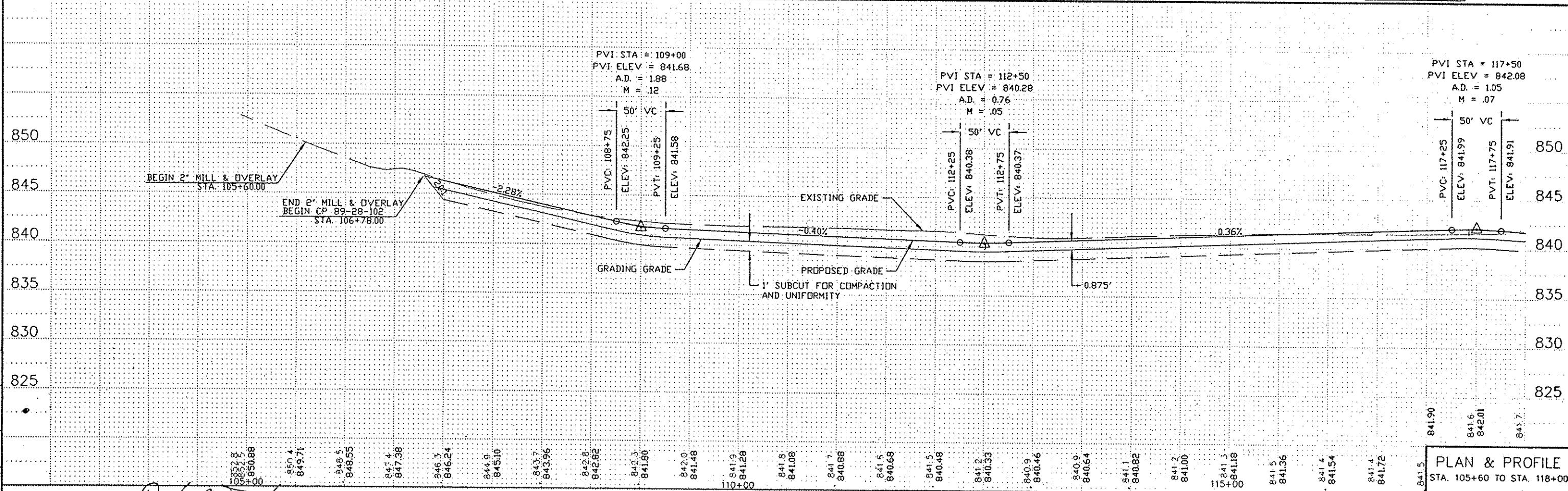
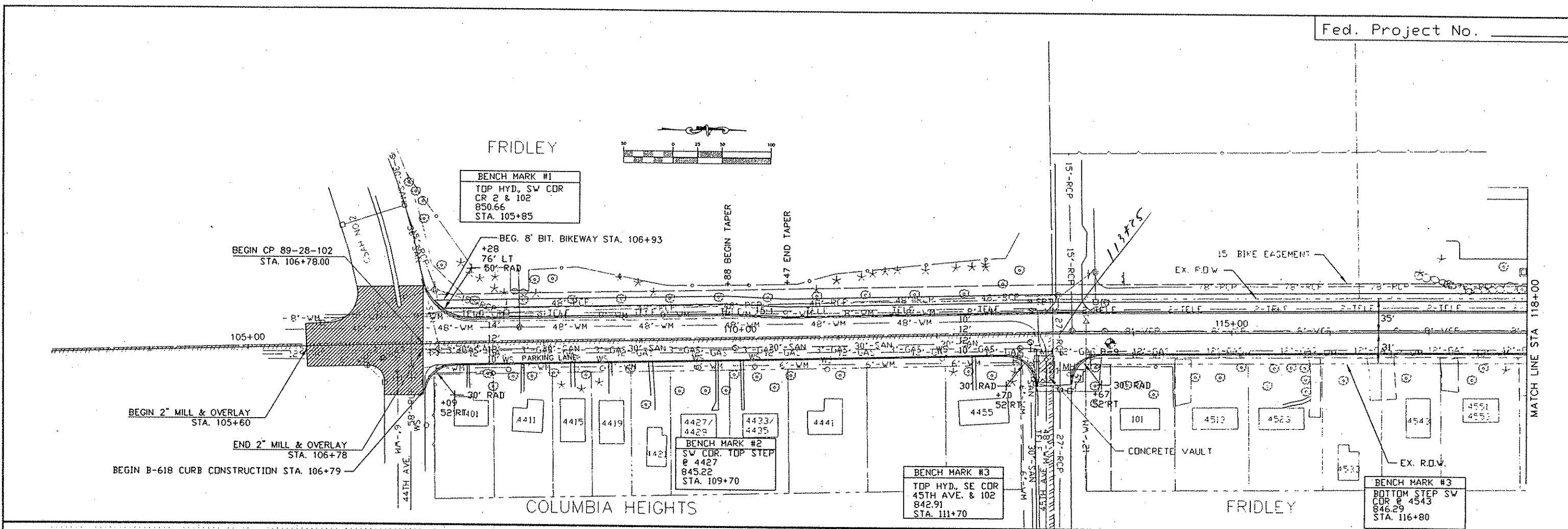
-  DENOTES REMOVAL AREAS
-  DENOTES 2" MILL AND OVERLAY AREAS
-  DENOTES BITUMINOUS SAWCUT
-  DENOTES CONCRETE SAWCUT



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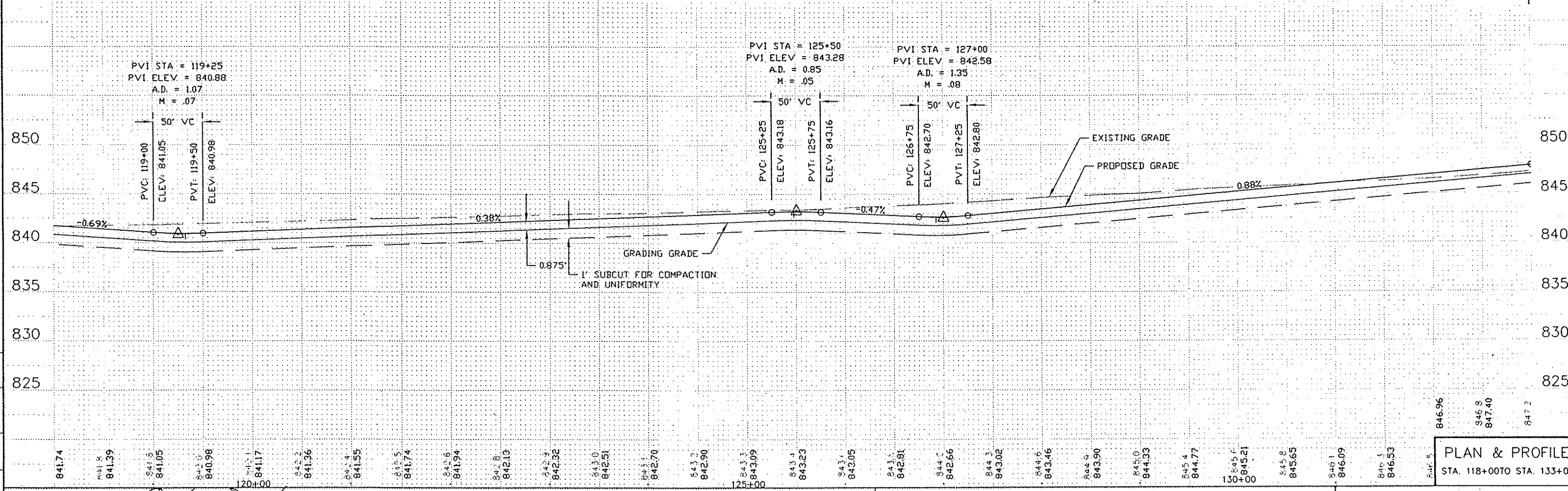
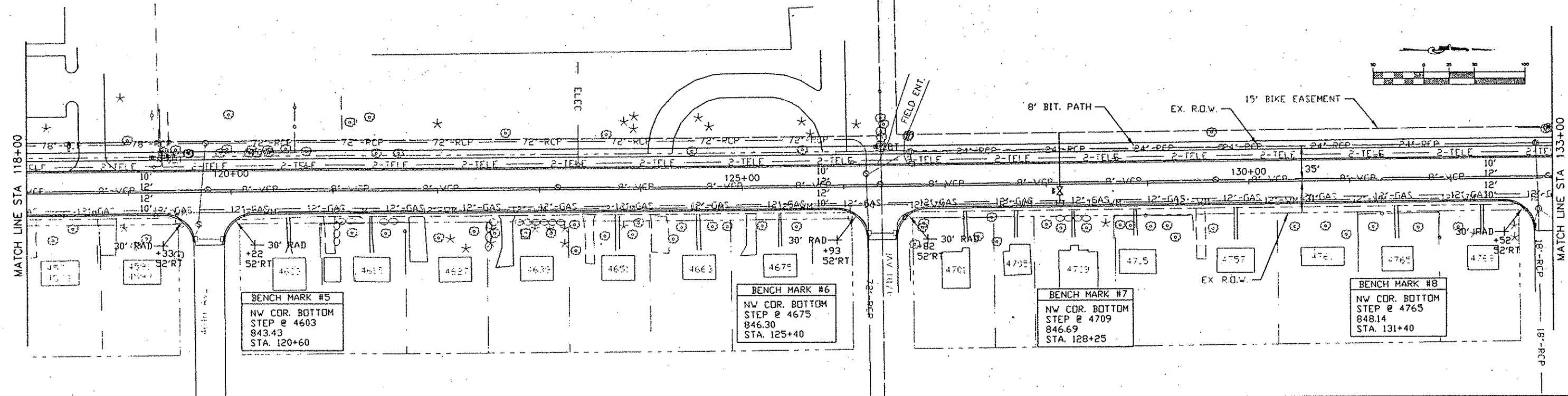
EXISTING CONDITIONS
AND REMOVALS



C:\P\8928102\SIPLAN
 1994070622081551E+007

REVISIONS	DATE	BY

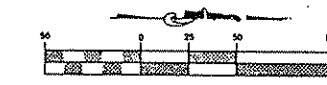
F&I WATER SERVICE
 70 L.F. 12" D.I.P.
 1 EA. 12" GATE VALVE & BOX
 1 EA. 12" X 12" TEE



REVISIONS	DATE	BY

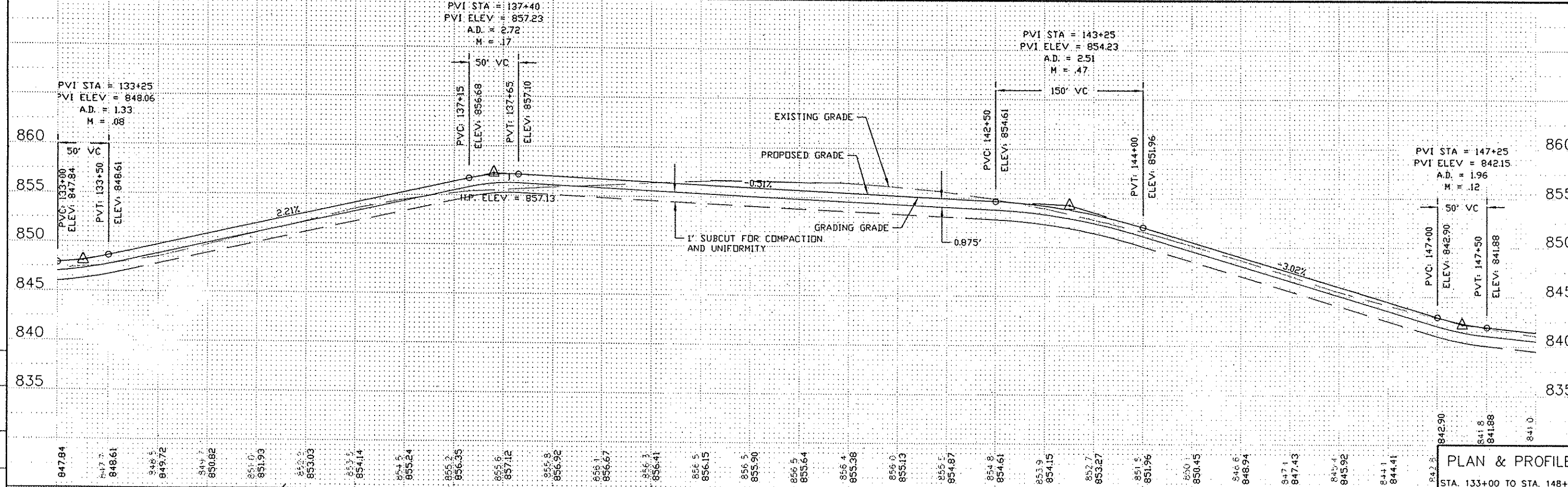
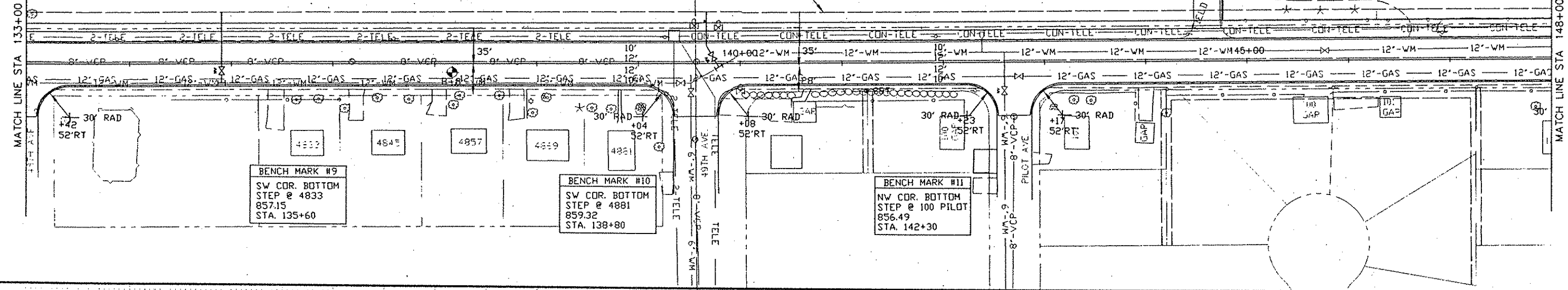
PLAN & PROFILE
 STA. 118+00 TO STA. 133+00

F&I WATER SERVICE
 70 L.F. 12" D.I.P.
 1 EA. 12" GATE VALVE & BOX
 1 EA. 12" X 12" TEE



F&I WATER SERVICE
 60 L.F. 12" D.I.P.
 1 EA. 12" GATE VALVE & BOX
 1 EA. 12" X 12" TEE
 1 EA. 12" X 45" BEND

15' BIKE EASEMENT



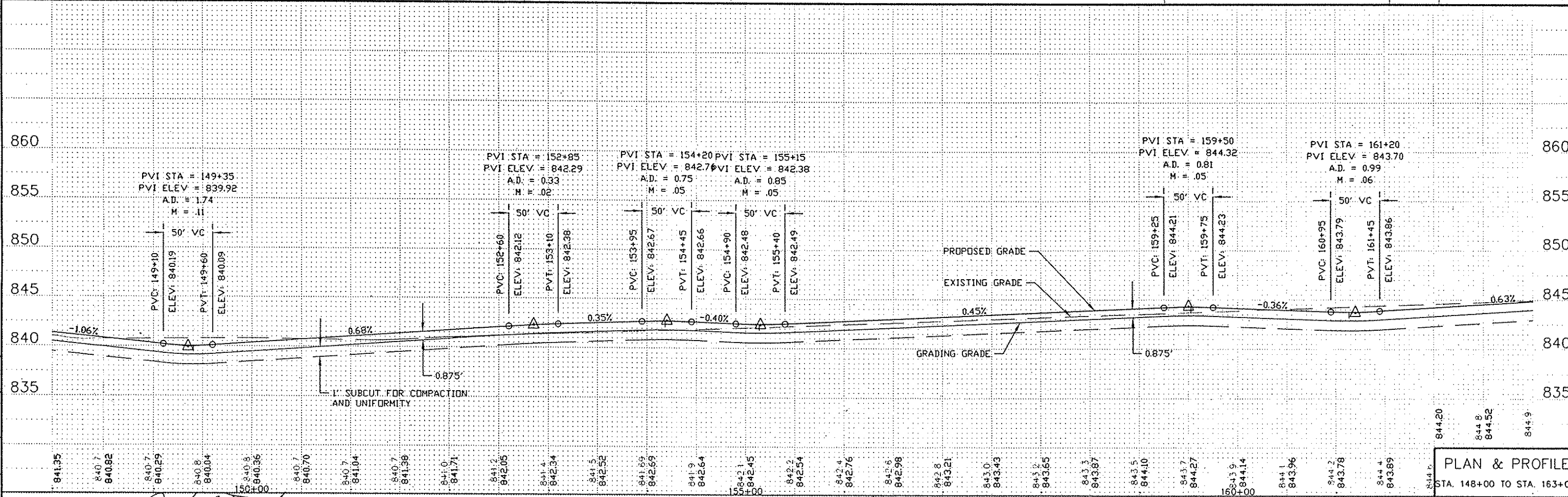
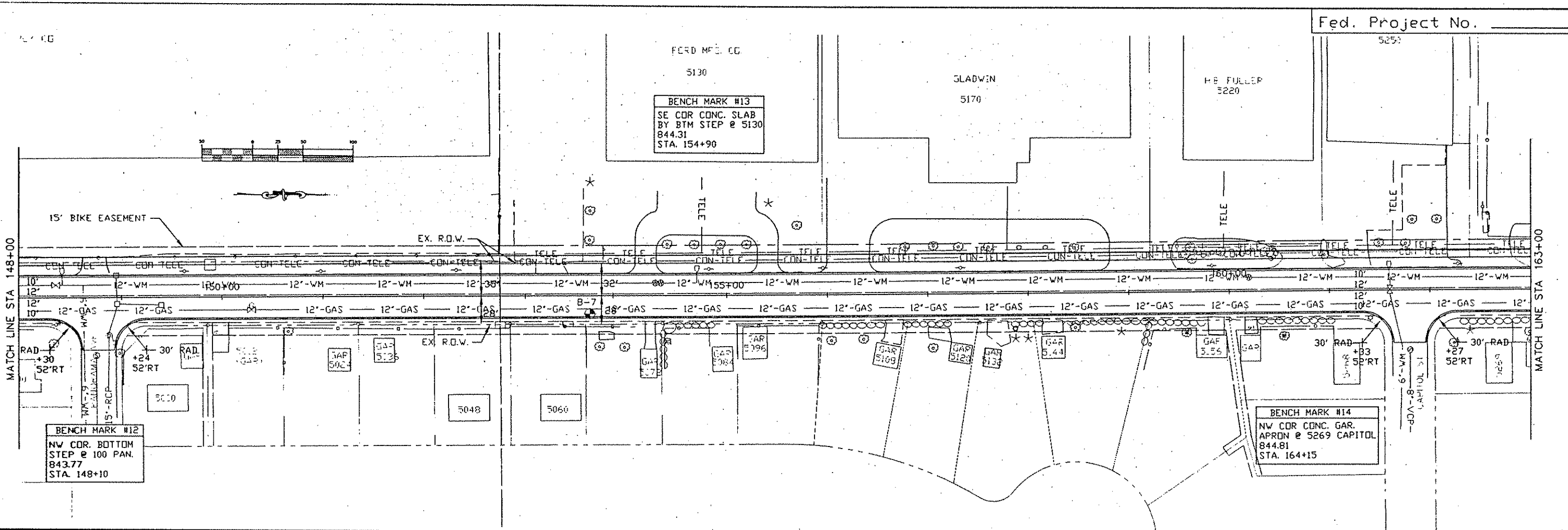
DATE	REVISIONS	BY	DATE

FEDD MFG. CO.
5130
BENCH MARK #13
SE COR CONC. SLAB
BY BTM STEP @ 5130
844.31
STA. 154+90

GLADWIN
5170

HE FULLER
5220

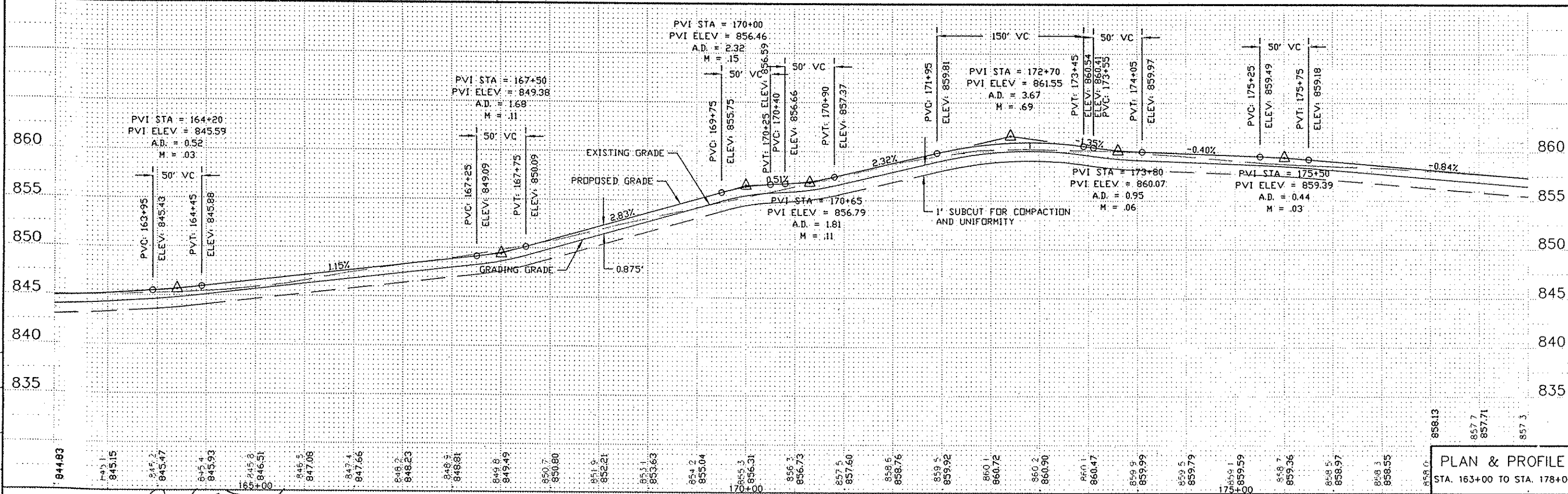
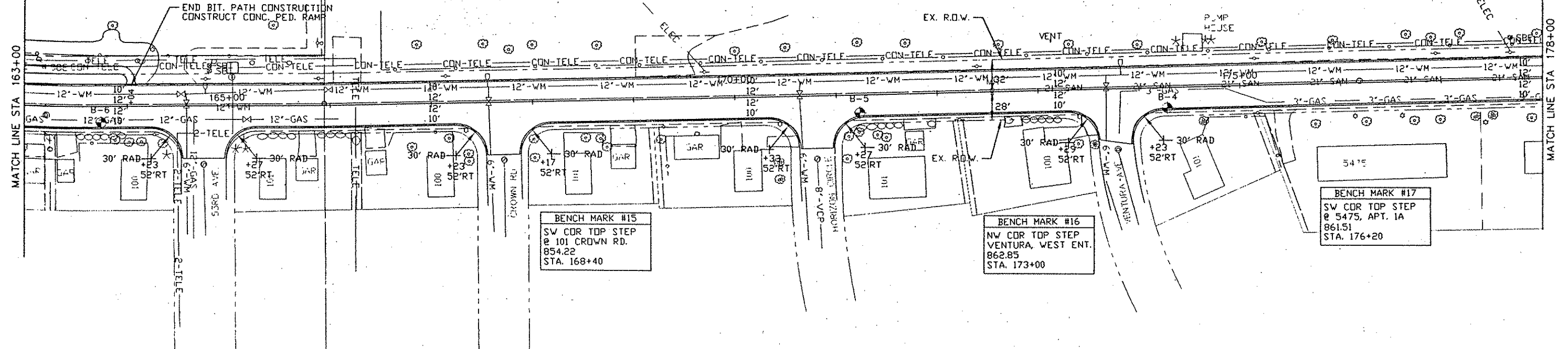
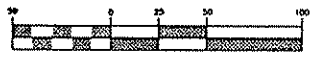
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REVISIONS

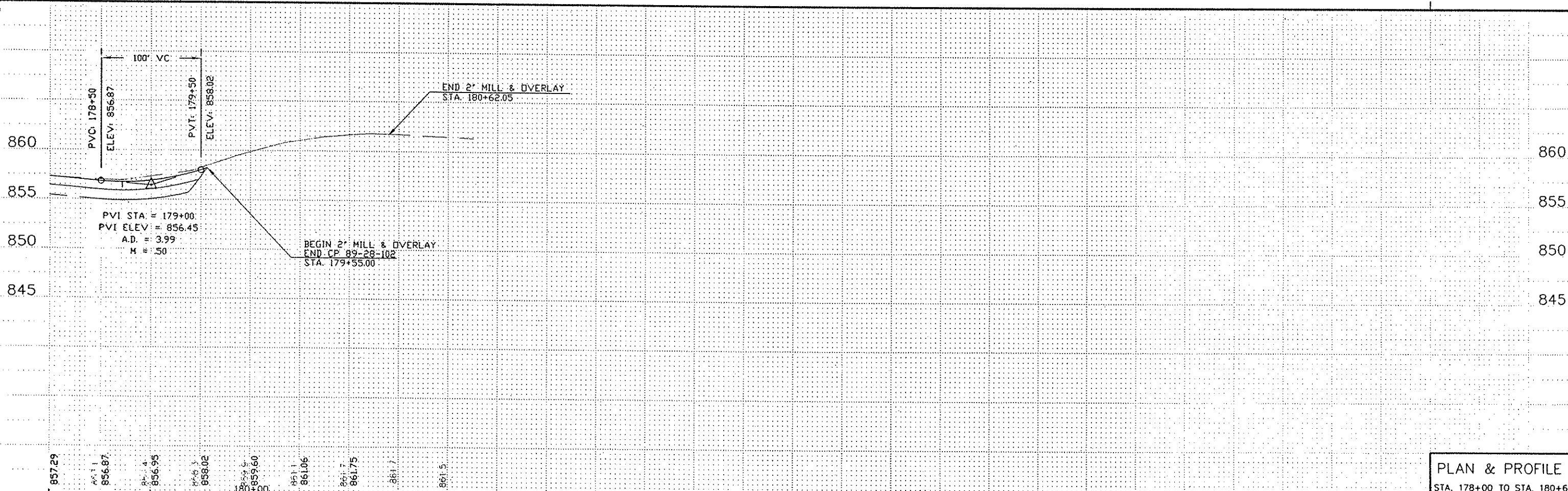
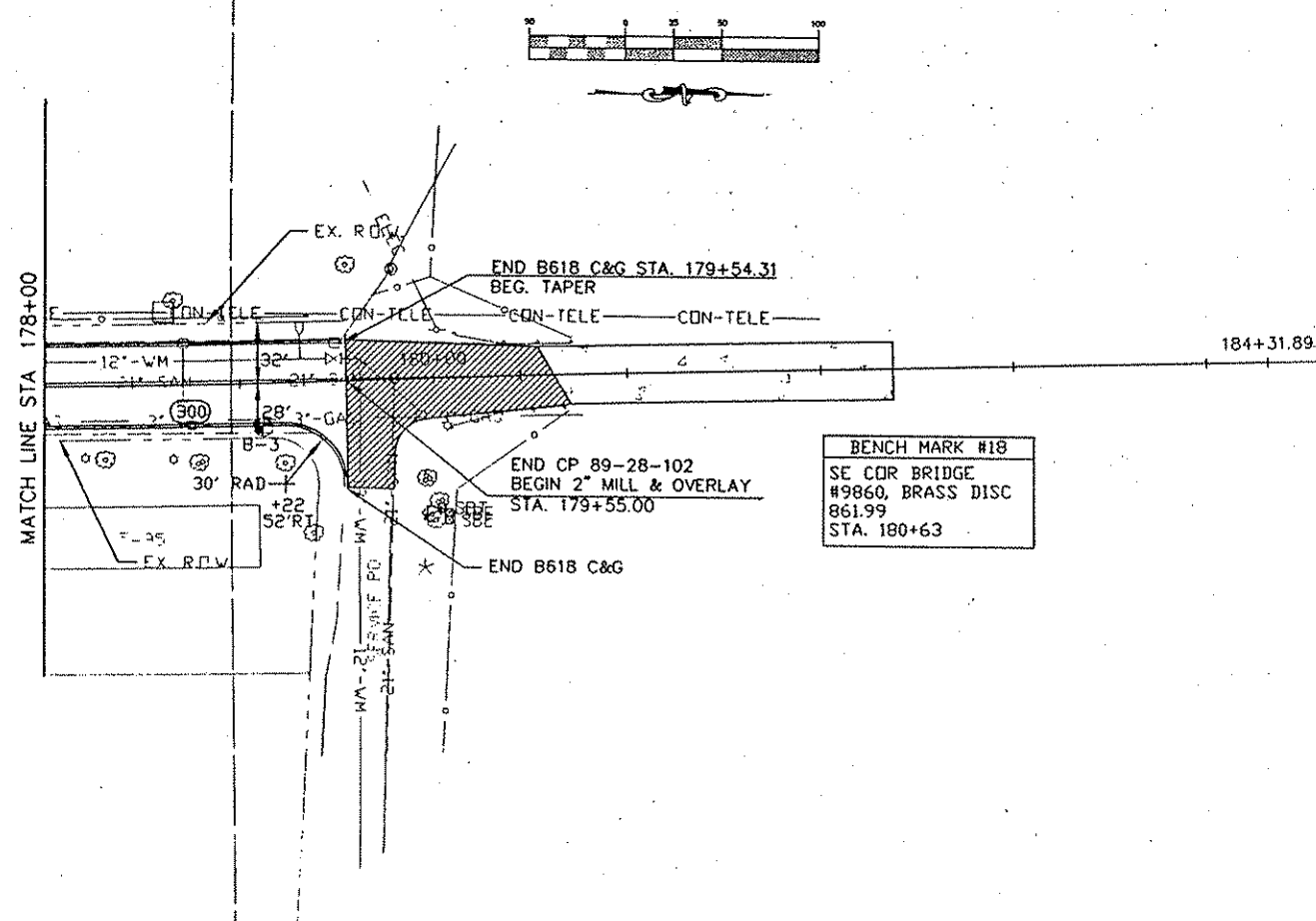
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PLAN & PROFILE
STA. 163+00 TO STA. 178+00

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CERTIFIED BY Douglas McEwen P.E. REG NO. 20235 7/11 19 94

S.P. _____ S.A.P. _____ C.P. 89-28-102 Sheet No. 19 of 43 Sheets

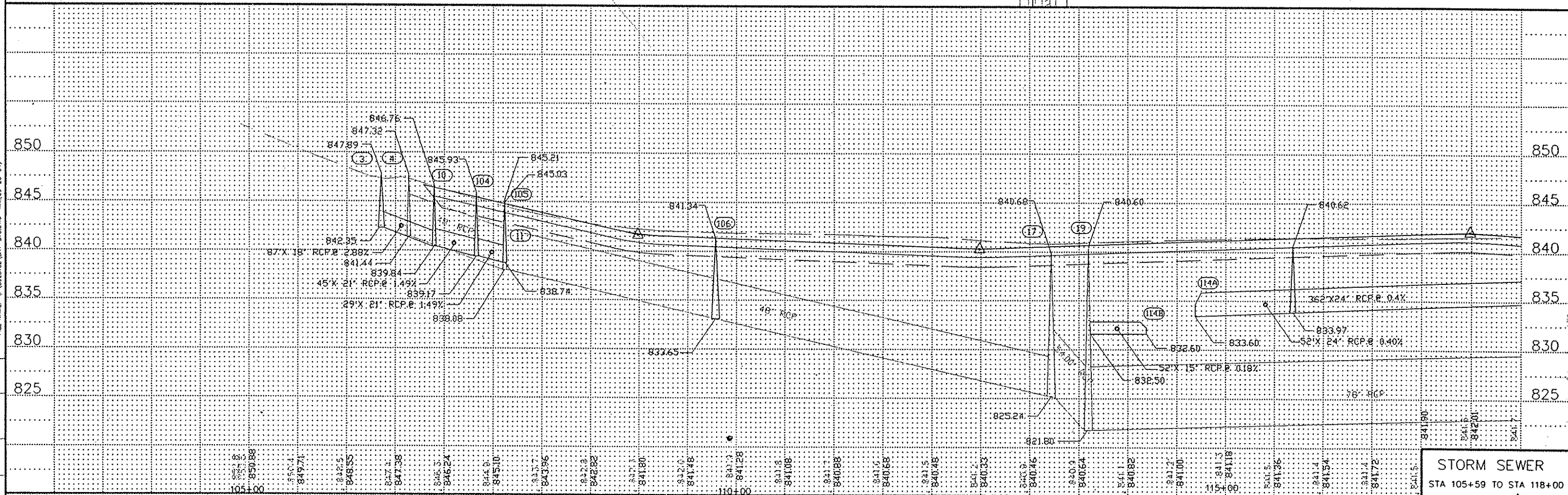
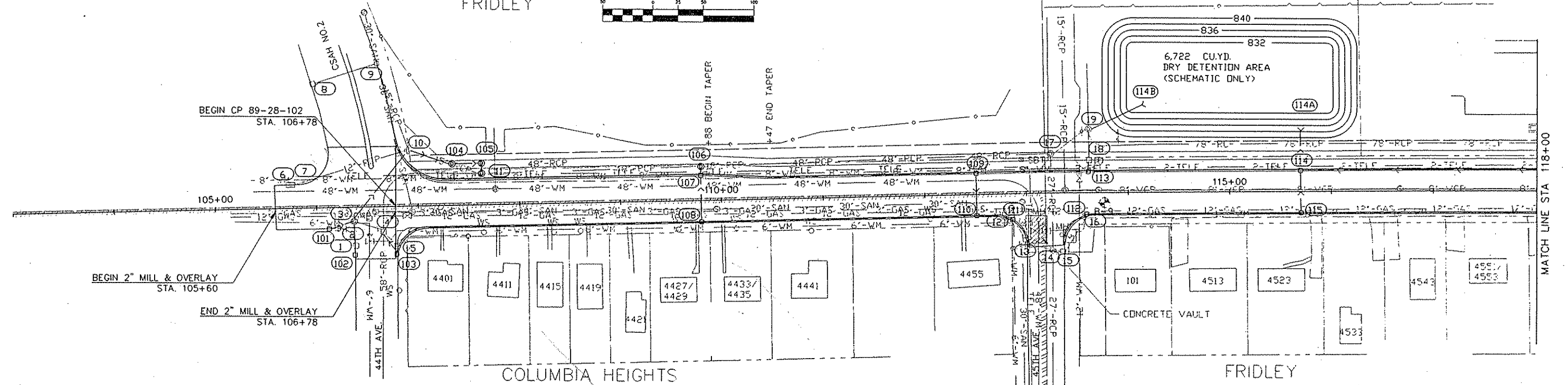
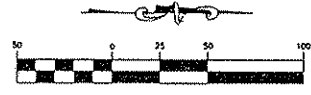
PLAN & PROFILE
STA. 178+00 TO STA. 180+61

DRAINAGE TABULATION

(P)

STRUCT NO.	STATION	LOCATION DIST. DUT FT. RT/LT	REMARKS	STRUCT TYPE MH/CB	DESIGN	REMOVAL		SALV. CAST. ASSY. EACH	INSTALL. CAST. ASSY. EACH	ADJ. CAST. EACH	RECONST. MH/CB LIN.FT.	PAY HEIGHT LIN.FT.	TOP CAST. ELEV.	OUTLET ELEV.	DRAINS TO		F & I CASTING ASS'Y	PIPE GRADE	FURNISH & INSTALL												CLASS PIPE	APRON EACH	STRUCT. NO.			
						DRAIN. STRUCT. EACH	PIPE SEWER LIN.FT.								EXIST	NEW			12"RCP LIN.FT.	15"RCP LIN.FT.	18"RCP LIN.FT.	21"RCP LIN.FT.	24"RCP LIN.FT.	27"RCP LIN.FT.	30"RCP LIN.FT.	33"RCP LIN.FT.	36"RCP LIN.FT.	42"RCP LIN.FT.								
200	13898	20.9'RT		CB	H							3.8	855.62	851.69		202	A	0.40	42																200	
202	13898	20.9'LT		CB	F							5.7	855.62	849.79		256	A	1.00	39															202		
203	14218	20.9'RT		CB	H							3.0	853.99	850.84		204	A	1.00	21															203		
204	14218	C/L		MH	F							5.1	854.75	849.78		252	B	1.62		192														204		
205	14218	20.9'LT		CB	H							3.8	853.99	849.99		204	A	1.00	21															205		
206	14650	20.9'RT		CB	H							3.8	843.62	839.68		207	A	1.00	21															206		
207	14650	C/L		MH	66-4020							10.9	844.39	833.61		255	B	0.20										190						207		
208	14650	20.9'LT		CB	H							3.8	843.62	839.62		207	A	1.00	21															208		
209	14861	57.0'RT		CB	H							2.8	840.03	837.01		210	A	1.00	29															209		
210A	14890	55.0'RT	CONSTRUCT ON EXISTING 15' RCP	MH	G							3.1	840.05	836.72	15'RCP	B																		210		
210	14893	57.0'RT		CB	H							3.2	839.83	836.76		210	A	1.00	4															210A		
211	14941	20.9'RT		CB	H							3.6	839.21	835.46		212	A	1.00		21														211		
212	14941	C/L		MH	66-4020							5.9	839.99	834.18		207	B	0.20																212		
213	14941	20.9'LT		CB	H							3.8	839.21	835.21		212	A	1.00		21								291						213		
214	15085	20.9'RT		CB	H							3.8	840.14	836.14		215	A	1.00	21																214	
215	15085	C/L		MH	60-4020							6.3	840.91	834.69		212	B	0.35										144						215		
216	15085	20.9'LT		CB	H							3.8	840.14	836.14		215	A	1.00	21																216	
217	15325	C/L		MH	54-4020							6.8	842.40	835.77		215	B	0.45										240						217		
218	15325	70.0'LT		CB	F							5.5	841.46	836.12		217	C	0.50		70														218		
221	15514	20.9'RT		CB	H							3.3	841.62	838.13		222	A	1.00		21															221	
222	15514	C/L LT		MH	54-4020							6.0	842.40	836.52		217	B	0.40										189							222	
223	15514	20.9'LT		CB	H							3.8	841.62	837.61		222	A	1.00		21															223	
225	15640	C/L		MH	54-4020							6.0	842.91	837.02		222	B	0.40										126							225	
226	15643	50.0'LT		CB	G							4.7	842.15	837.27		225	A	0.50		50															226	
227	15600	50.0'LT		CB	G							4.7	842.38	837.48		226	A	0.50		43															227	
228	15752	20.9'RT		CB	H							3.6	842.64	838.83		229	A	1.00	21																228	
229	15752	C/L		MH	54-4020							6.1	843.41	837.41		225	B	0.35																	229	
230	15752	20.9'LT		CB	H							3.8	842.64	838.64		229	A	1.00	21																	230
231	15910	C/L LT		MH	F							6.1	844.11	838.12		229	B	0.45																	231	
232	15910	55.0'LT		CB	G							4.5	843.08	838.39		231	A	0.50		55															232	
233	15915	55.0'LT		CB	G							4.5	843.12	838.44		232	A	1.00		5															233	
234	16113	20.9'RT		CB	G							3.1	842.95	839.67		235	A	1.00		21																234
235	16113	C/L		MH	F							5.0	843.73	838.80		231	B	0.34																		235
236	16113	20.9'LT		CB	H							3.8	842.95	839.01		235	A	1.00		21																236
234A	16232	20.9'RT		CB	H							3.6	843.61	839.82		235A	A	1.00	21																	234A
235A	16226	C/L RT		MH	G							5.0	844.37	839.50		235	B	0.62																		235A
236A	16220	20.9'LT		CB	H							3.7	843.54	839.71		235A	A	1.00	21																	236A
239	16532	20.9'RT		CB	H							3.6	846.08	842.27		240	A	1.00	21																	239
240	16532	C/L RT		MH	F							5.1	846.85	841.90		235A	B	0.78																		240
241	16532	20.9'LT		CB	H							3.6	846.08	841.95		240	A	1.00	21																	241
242	16637	C/L LT		MH	F							5.1	848.04	843.09		240	B	1.13		105																242
243	16637	50.0'LT		CB	F							5.5	848.70	843.34		242	C	0.50		50																243
245	16823	20.9'RT		CB	H							3.4	850.65	847.10		246	A	1.00	21																	245
246	16823	C/L RT		MH	F							5.1	851.41	846.46		242	B	1.81		186																246
247	16823	20.9'LT		CB	H							3.8	850.65	846.67		246	A	1.00	21																	247
248	17133	20.9'RT		CB	H							3.8	857.58	853.58		249	A	1.00	21																	248
249	17133	C/L		MH	F							5.1	858.34	853.37		246	B	2.23		310																249
250	17133	20.9'LT		CB	H							3.8	857.58	853.58		249	A	1.00	21																	250
251	14410	20.9'RT		CB	G							3.4	850.87	847.28		252	A	1.00	21																	251
252	14410	C/L		MH	F							5.8	851.64	846.00		253	B	1.00		21																252
253	14410	20.9'LT		CB	66-4020							17.6	850.87	833.11		254	A	0.20																		253
254	14335	60.0'LT		MH	66-4020							18.7	851.55	832.94		256	B	0.20																		254
255	14460	C/L		MH	66-4020							17.0	850.13	835.22		253	B	0.20																		255
256	13898	60.0'LT		MH	66-4020							20.3	852.25	832.07		257	B	0.32																		256
257	13530	60.0'LT		MH	66-4020							17.7	848.50	830.90		258	B	0.25																		257
258	13110	60.0'LT		MH	66-4020							16.4	846.10	829.85		259	B	0.25																		258
259	12690	60.0'LT		MH	66-4020							14.8	843.50	828.80		24	B	0.35																		259
300	17875	20.9'RT		CB	H</																															

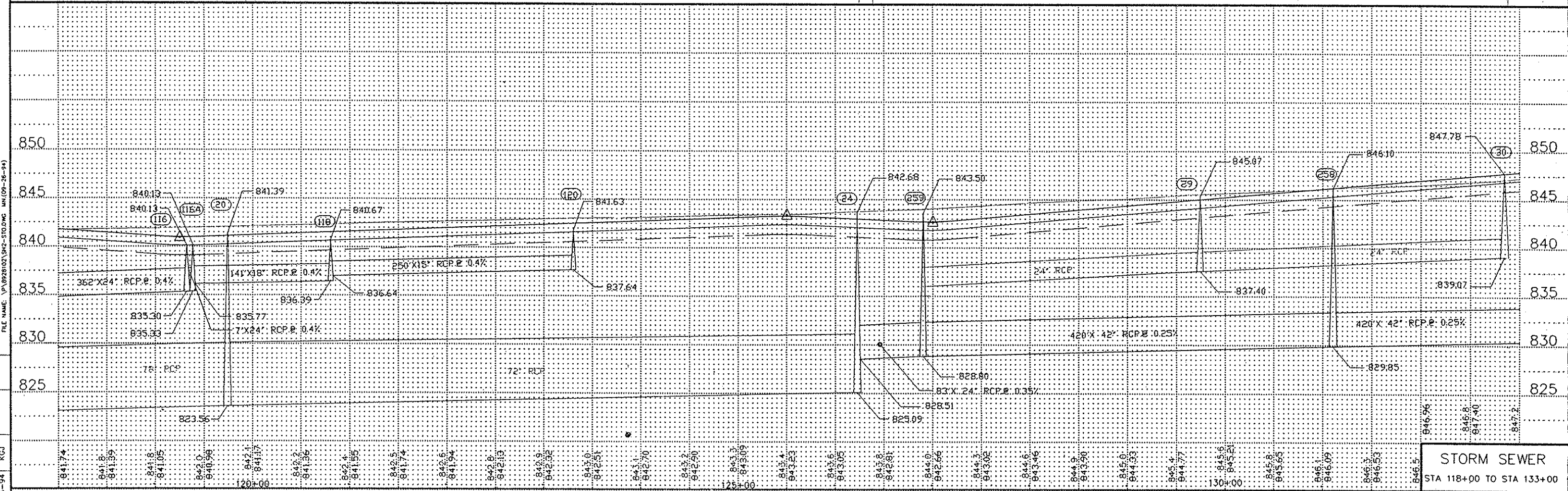
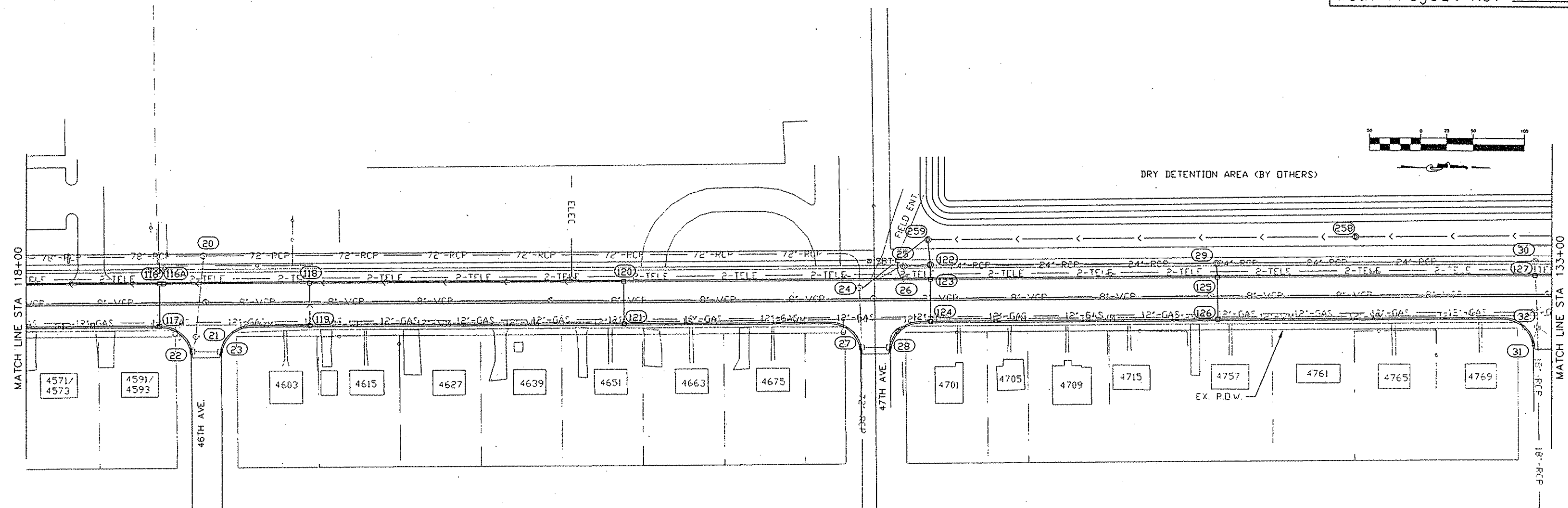
FRIDLEY



REVISIONS	DATE	BY
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8-16-94	KGJ	

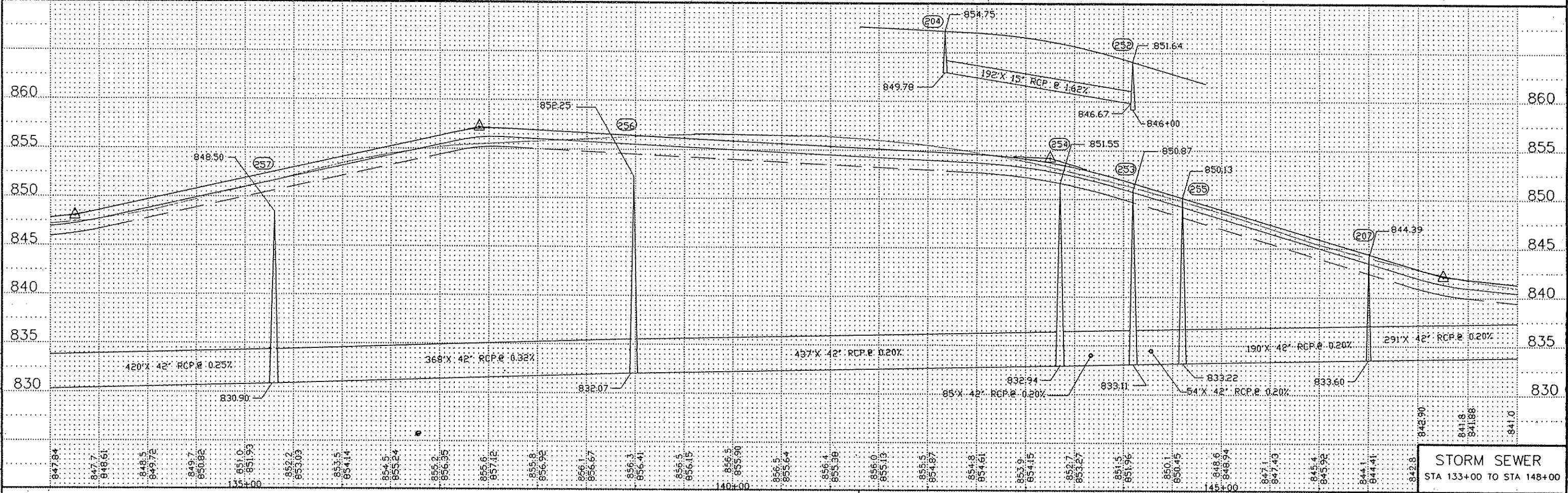
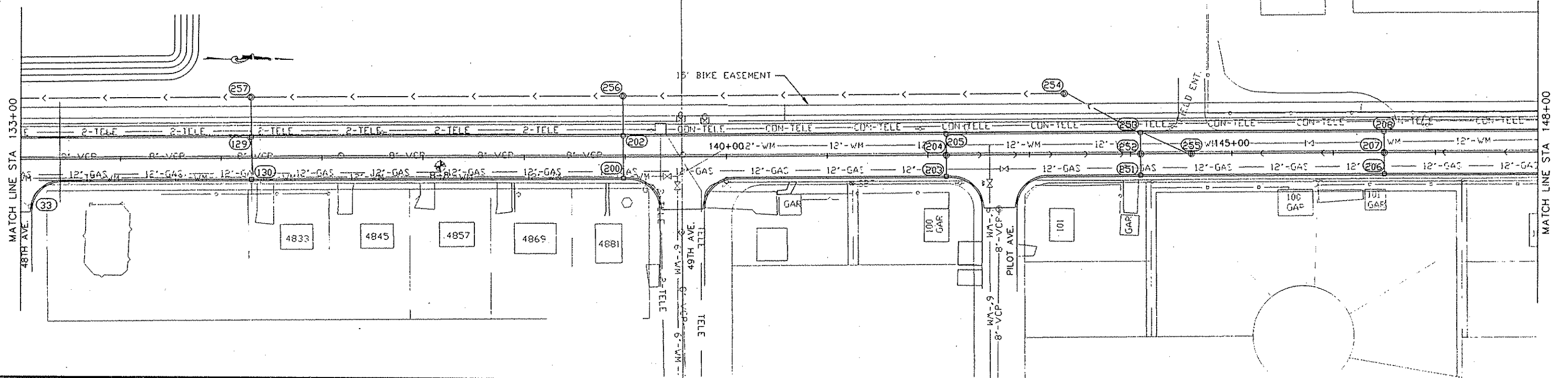
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STORM SEWER
STA 105+59 TO STA 118+00



REVISIONS	DATE	BY
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8-16-94	KCJ	

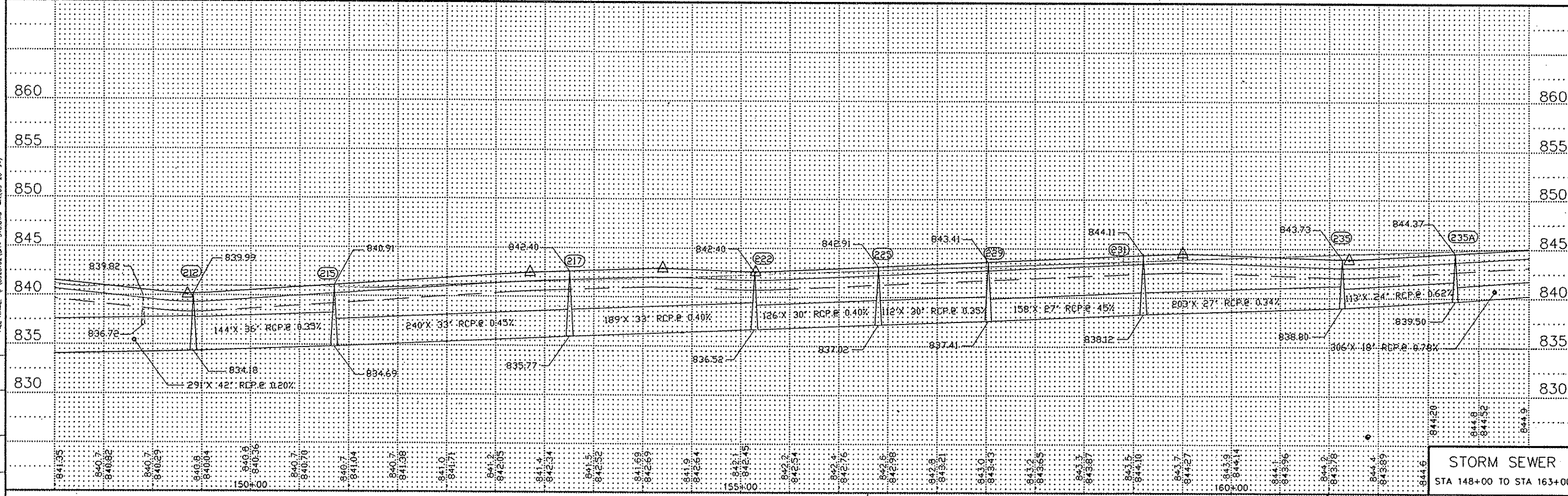
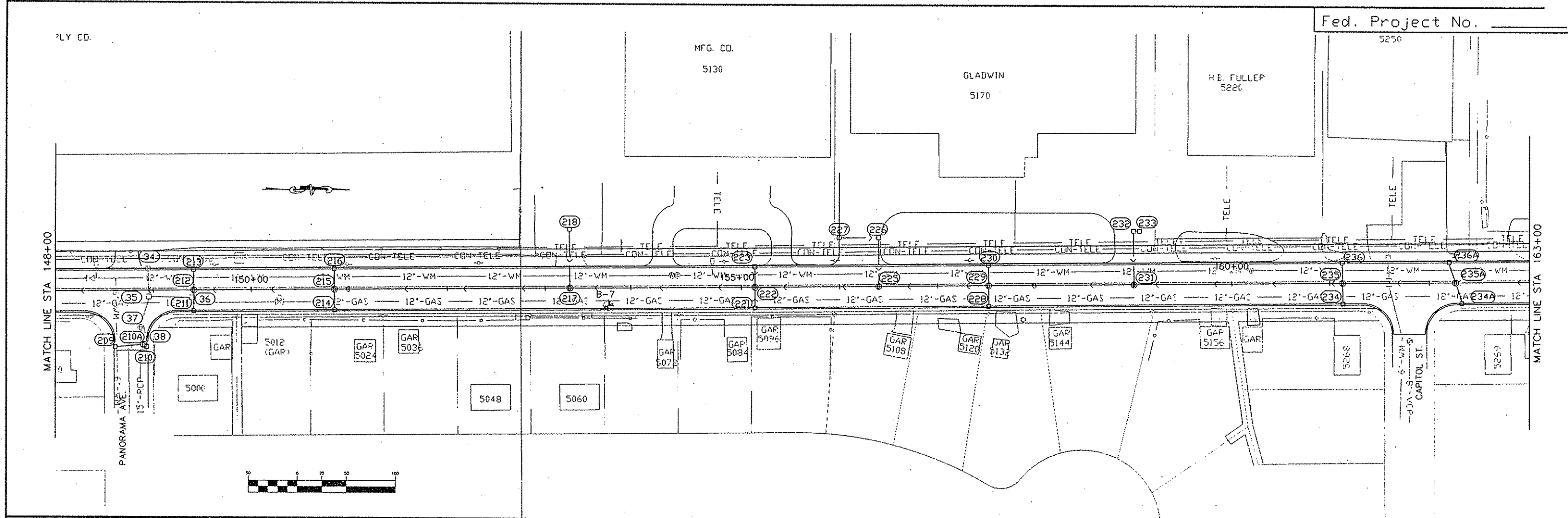
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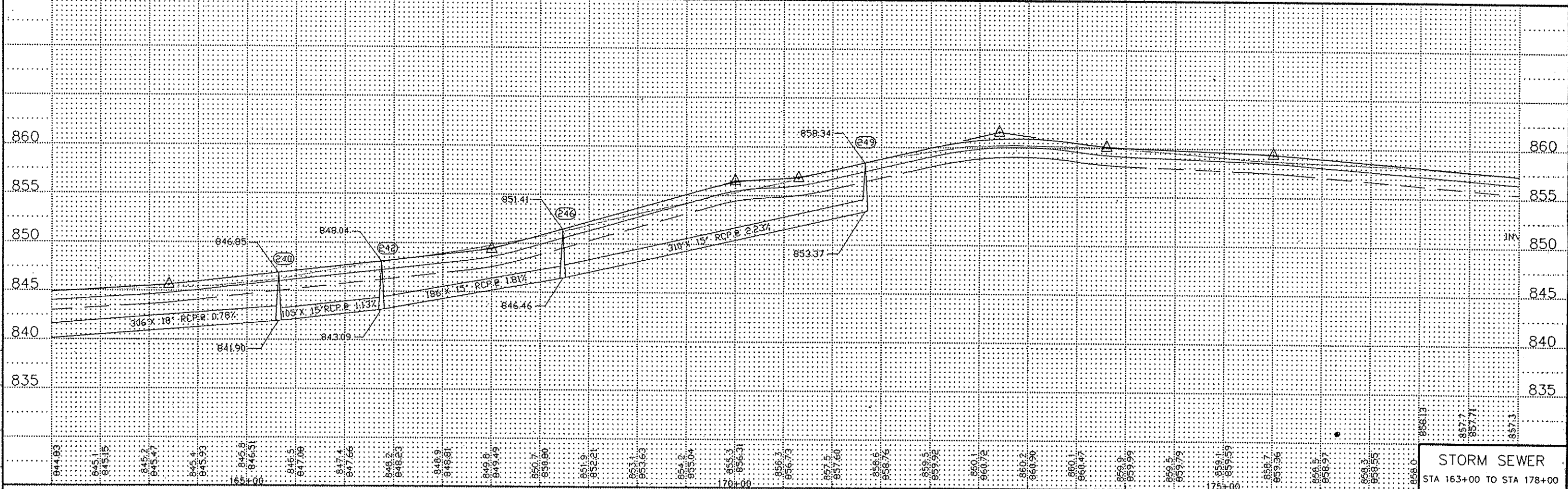
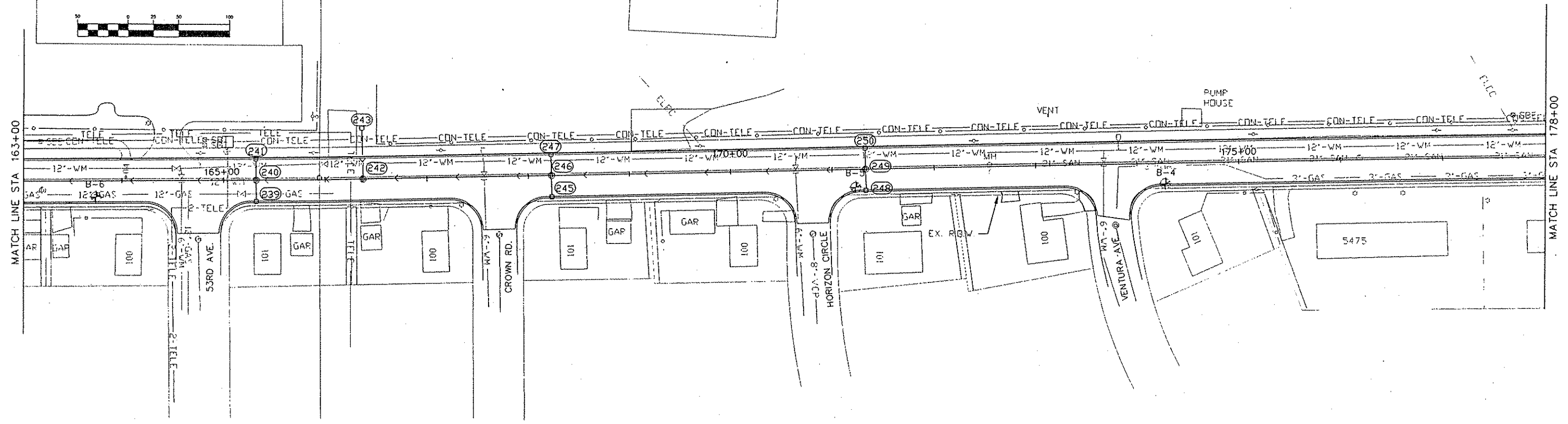
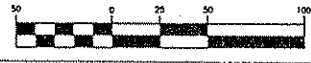
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8-16-94	KGJ	

STORM SEWER
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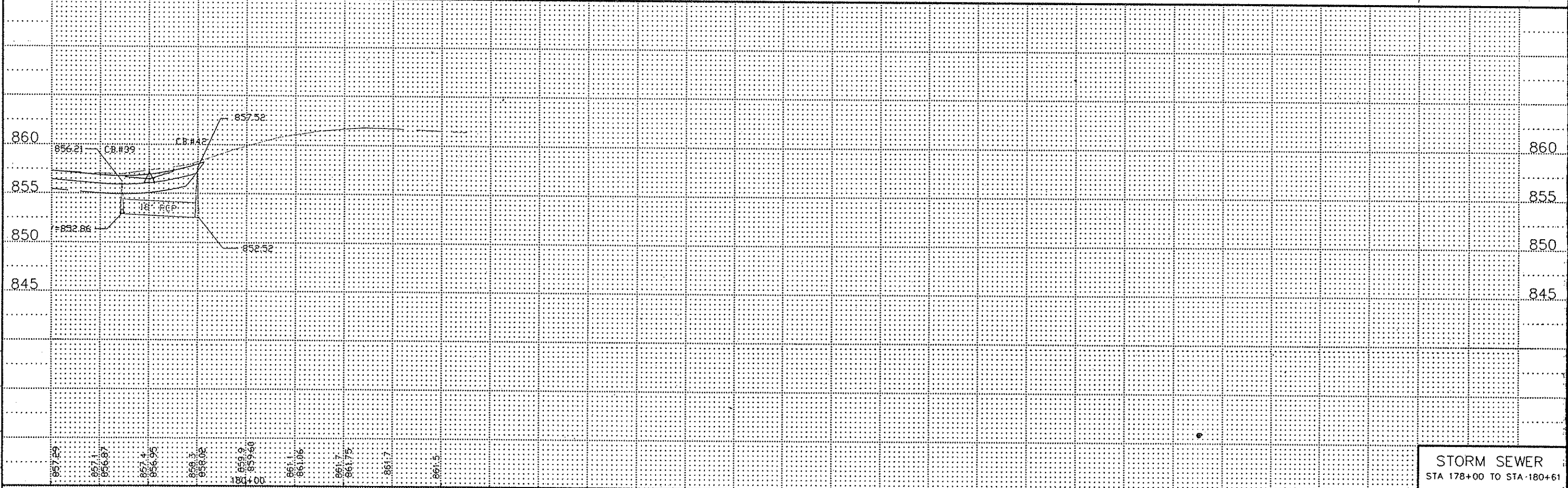
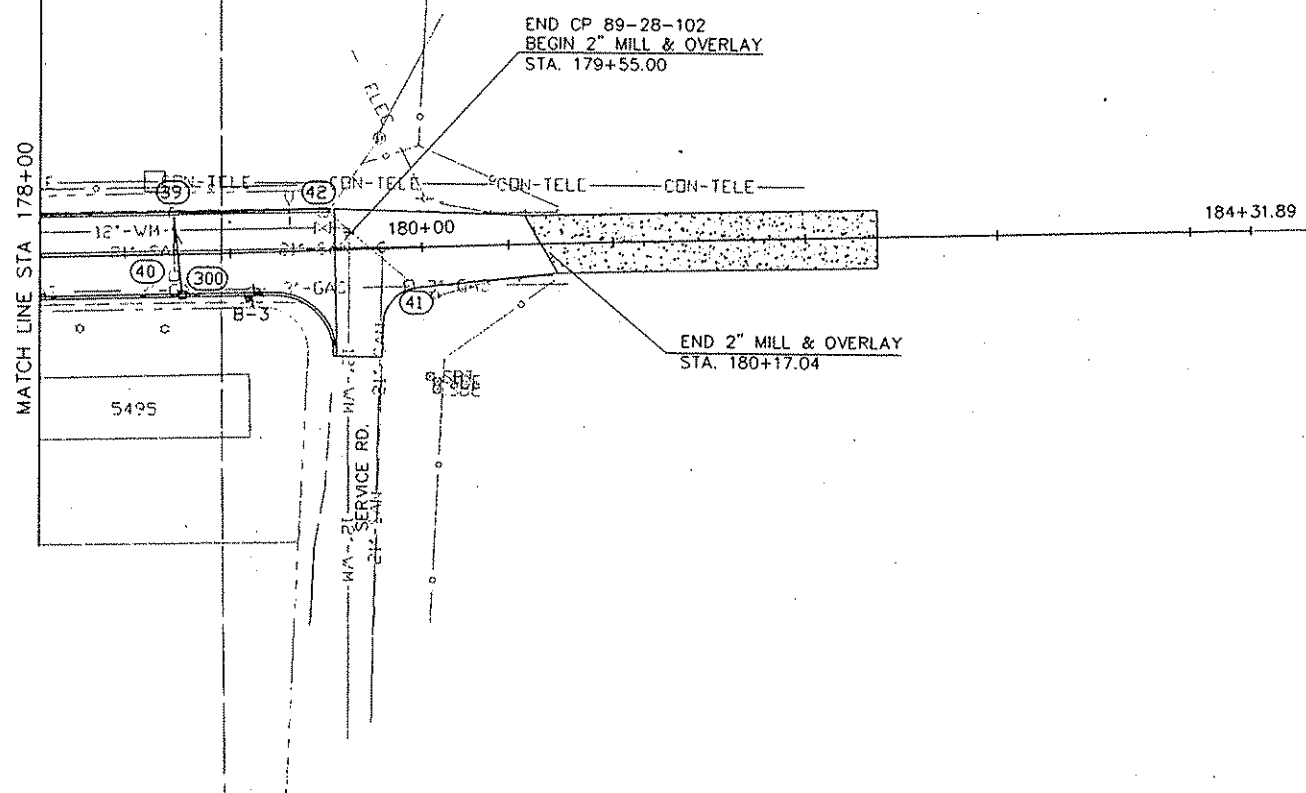
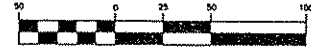
KURT MFG. CO.
5280



DATE	BY	DATE	BY
8-12-94	DWF		
8-16-94	KCU		

STORM SEWER
STA 163+00 TO STA 178+00

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REVISIONS		
DATE	BY	BY
8-12-94	DWF	
8-16-94	KGI	

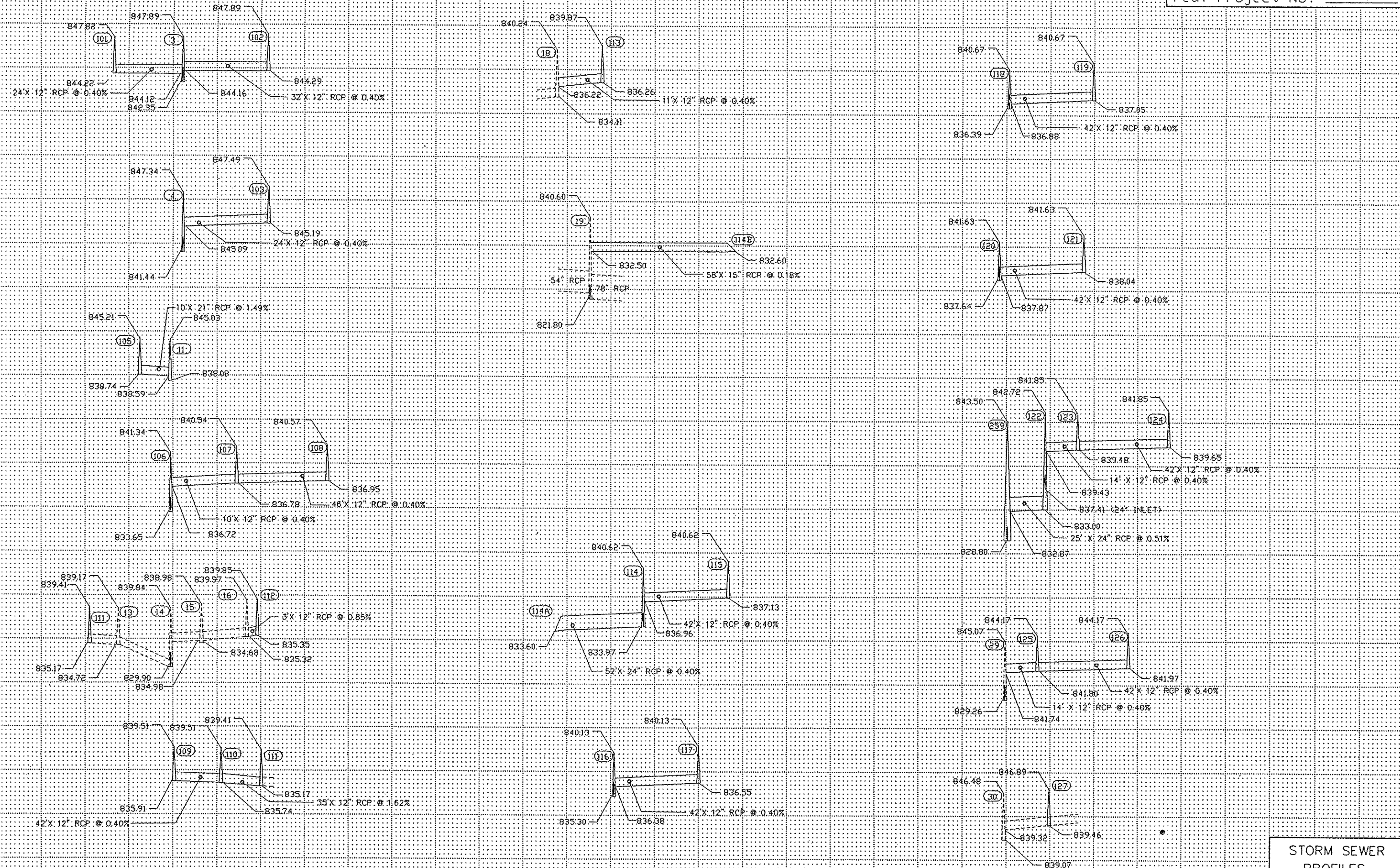
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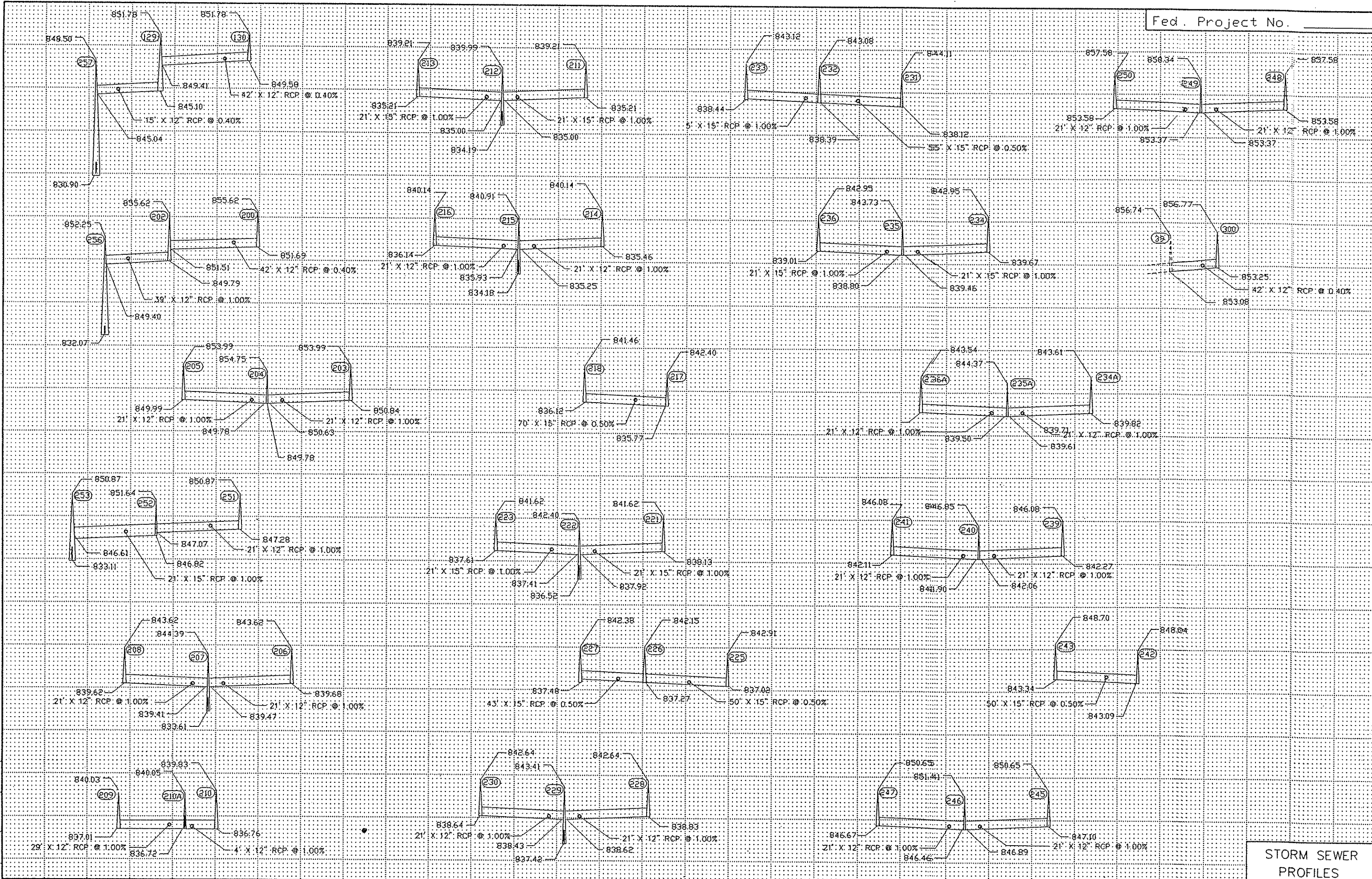
STORM SEWER
STA 178+00 TO STA 180+61



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DATE	BY	DATE	BY
8-12-94	DWF		
8-16-94	KGJ		

STORM SEWER
PROFILES



REVISIONS	DATE	BY
8-12-94	DWF	
8-16-94	KCJ	

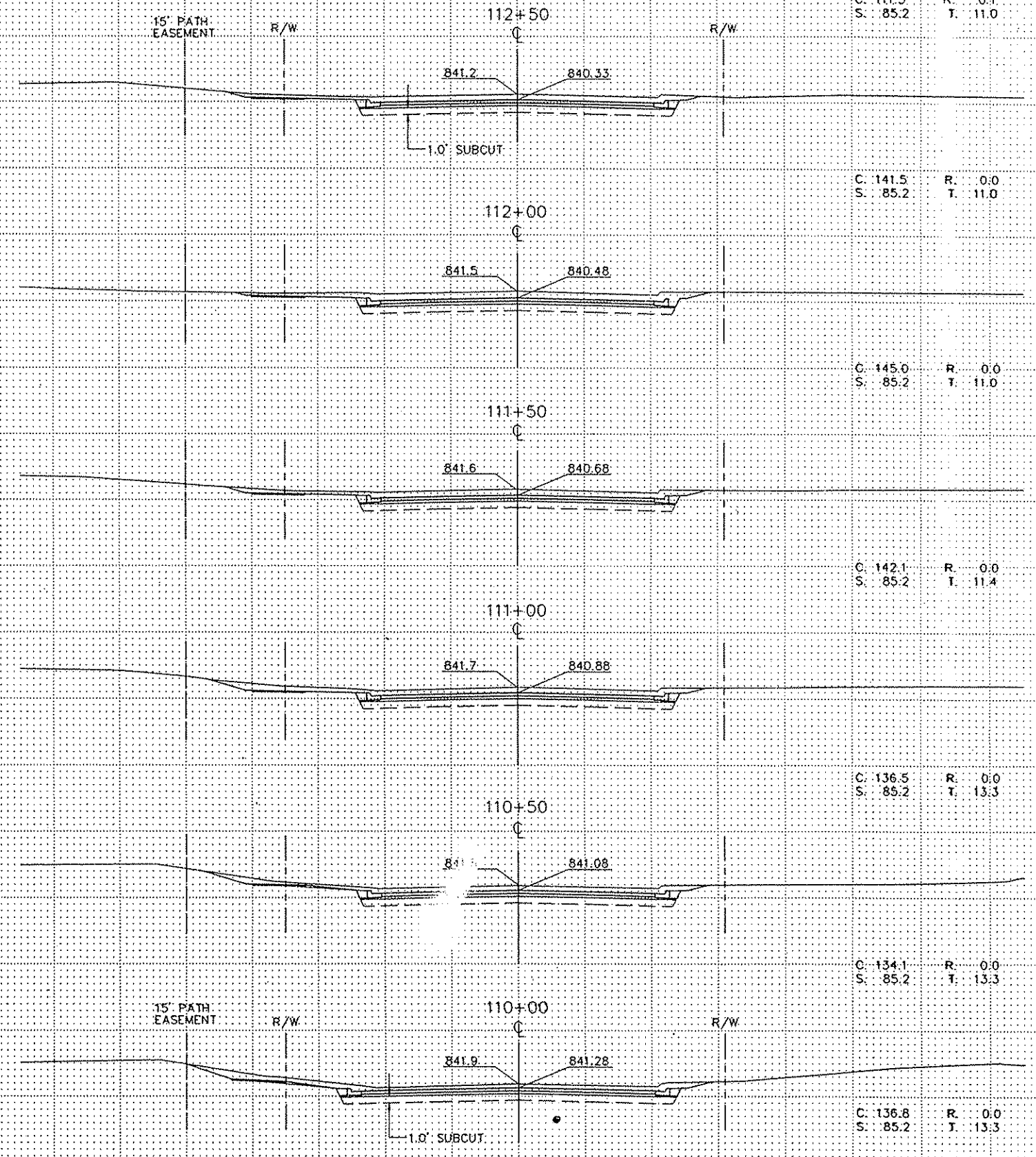
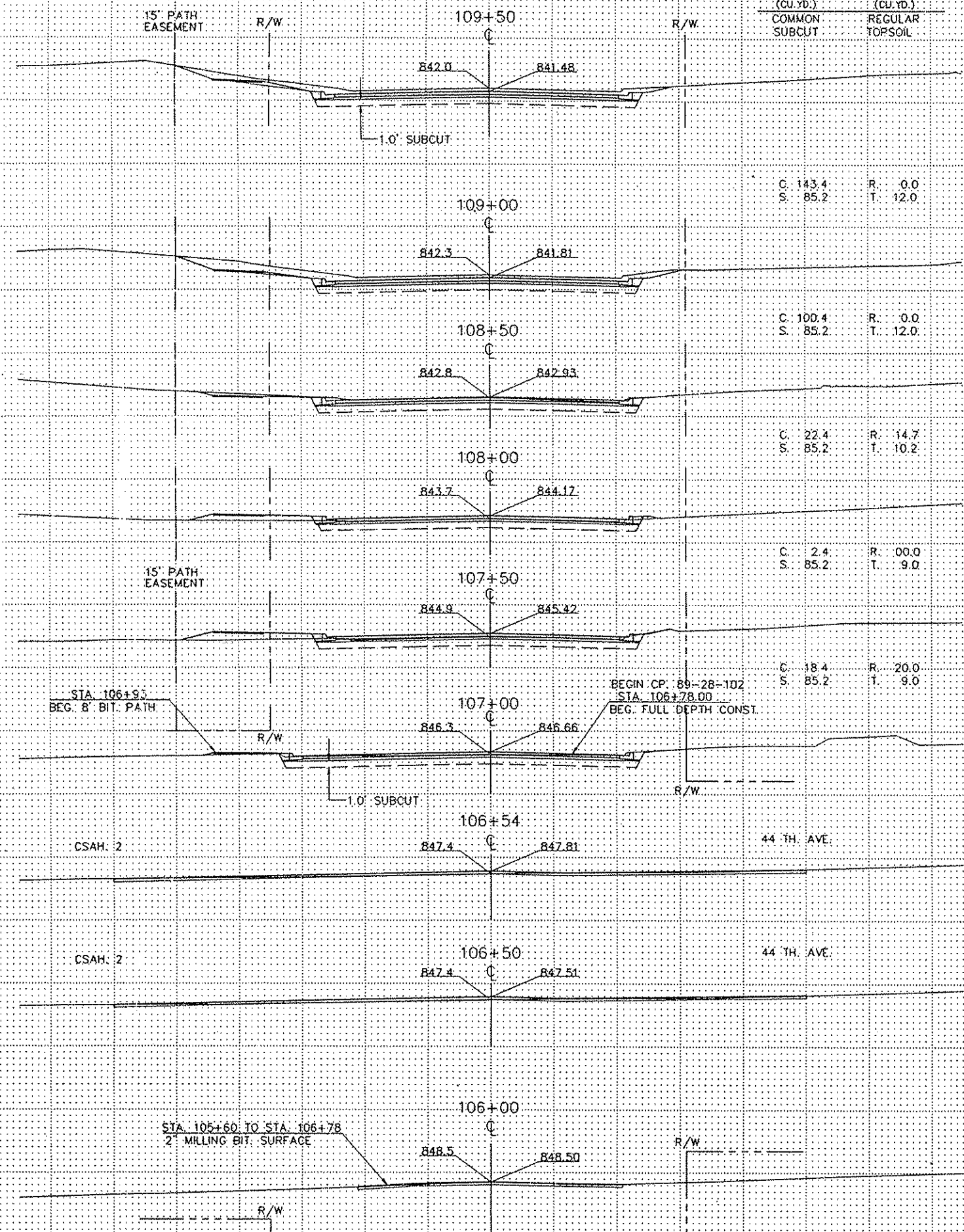
STORM SEWER PROFILES

EXCAVATION (CU.YD.)
COMMON SUBCUT

EMBANKMENT (CU.YD.)
REGULAR TOPSOIL

EXCAVATION (CU.YD.)
COMMON SUBCUT

EMBANKMENT (CU.YD.)
REGULAR TOPSOIL



Station	Excavation (CU.YD.)	Embankment (CU.YD.)
109+50	C. 143.4 S. 85.2	R. 0.0 T. 12.0
109+00	C. 100.4 S. 85.2	R. 0.0 T. 12.0
108+50	C. 22.4 S. 85.2	R. 14.7 T. 10.2
108+00	C. 2.4 S. 85.2	R. 00.0 T. 9.0
107+50	C. 18.4 S. 85.2	R. 20.0 T. 9.0

Station	Excavation (CU.YD.)	Embankment (CU.YD.)
112+50	C. 111.3 S. 85.2	R. 0.1 T. 11.0
112+00	C. 141.5 S. 85.2	R. 0.0 T. 11.0
111+50	C. 145.0 S. 85.2	R. 0.0 T. 11.0
111+00	C. 142.1 S. 85.2	R. 0.0 T. 11.4
110+50	C. 136.5 S. 85.2	R. 0.0 T. 13.3
110+00	C. 134.1 S. 85.2	R. 0.0 T. 13.3
110+00	C. 136.8 S. 85.2	R. 0.0 T. 13.3

REVISIONS	DATE	BY

EXCAVATION (CU. YD.)
COMMON SUBCUT

EMBANKMENT (CU. YD.)
REGULAR TOPSOIL

EXCAVATION (CU. YD.)
COMMON SUBCUT

EMBANKMENT (CU. YD.)
REGULAR TOPSOIL

15' PATH EASEMENT R/W

114+50

841.2 841.00

1.0' SUBCUT

114+00

841.1 840.82

113+50

840.9 840.64

113+34

840.9 840.58

2.1%

113+20

840.8 840.53

15' PATH EASEMENT R/W

113+00

840.9 840.46

1.0' SUBCUT

45 TH. AVE

R/W

C 55.7 R 14.4
S 85.2 T 9.6

C 58.8 R 14.21
S 85.2 T 9.9

C 61.8 R 10.1
S 85.2 T 9.6

C 54.0 R 0.9
S 27.3 T 3.3

C 44.5 R 0.9
S 54.9 T 77.9

C 29.7 R 0.9
S 34.1 T 4.1

15' PATH EASEMENT R/W

117+50

841.6 842.01

1.0' SUBCUT

117+21

841.5 841.98

117+00

841.5 841.90

116+54

841.4 841.73

116+50

841.4 840.72

116+00

841.4 841.54

115+84

841.4 841.48

115+50

841.5 841.36

115+00

841.3 841.18

15' PATH EASEMENT R/W

R/W

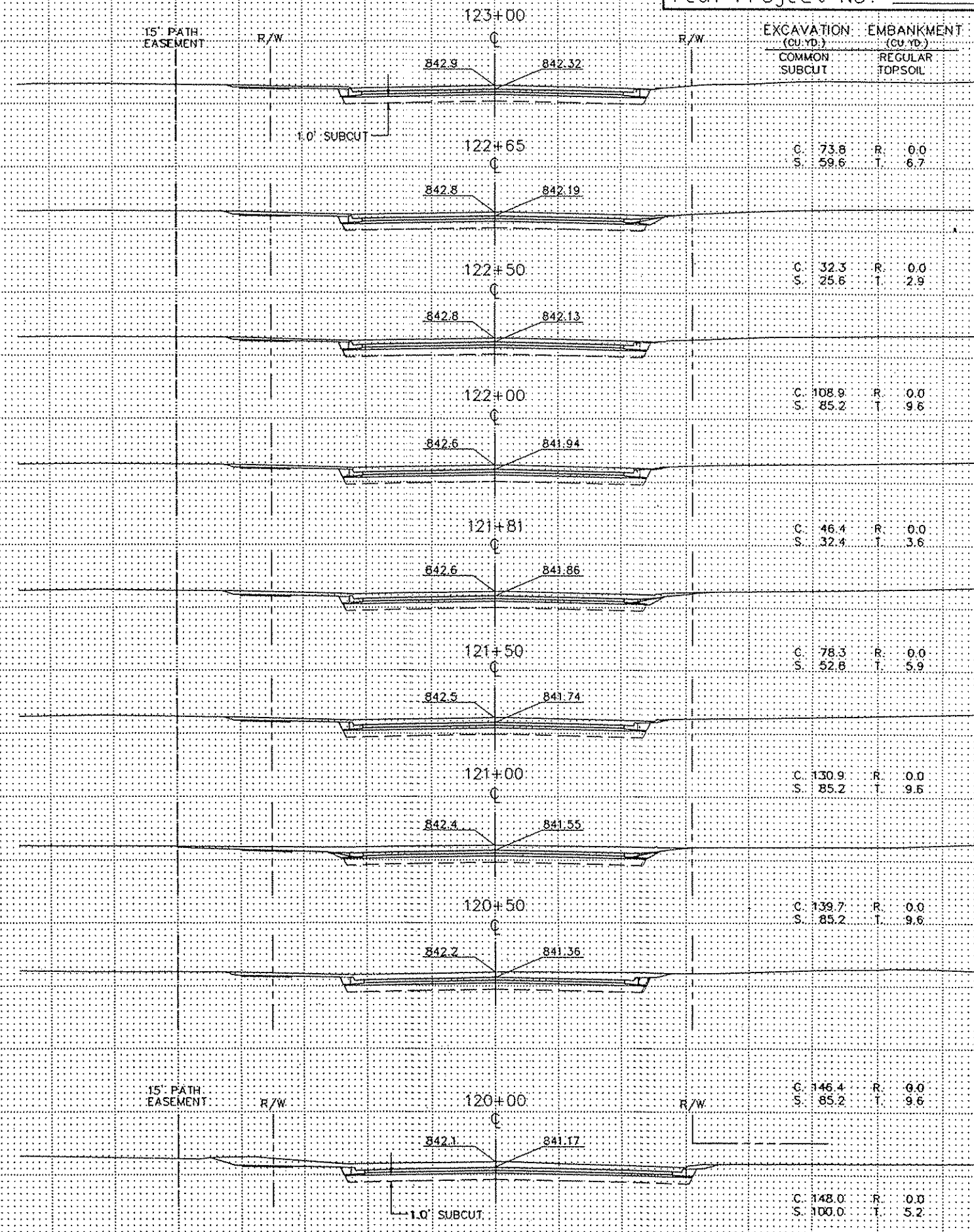
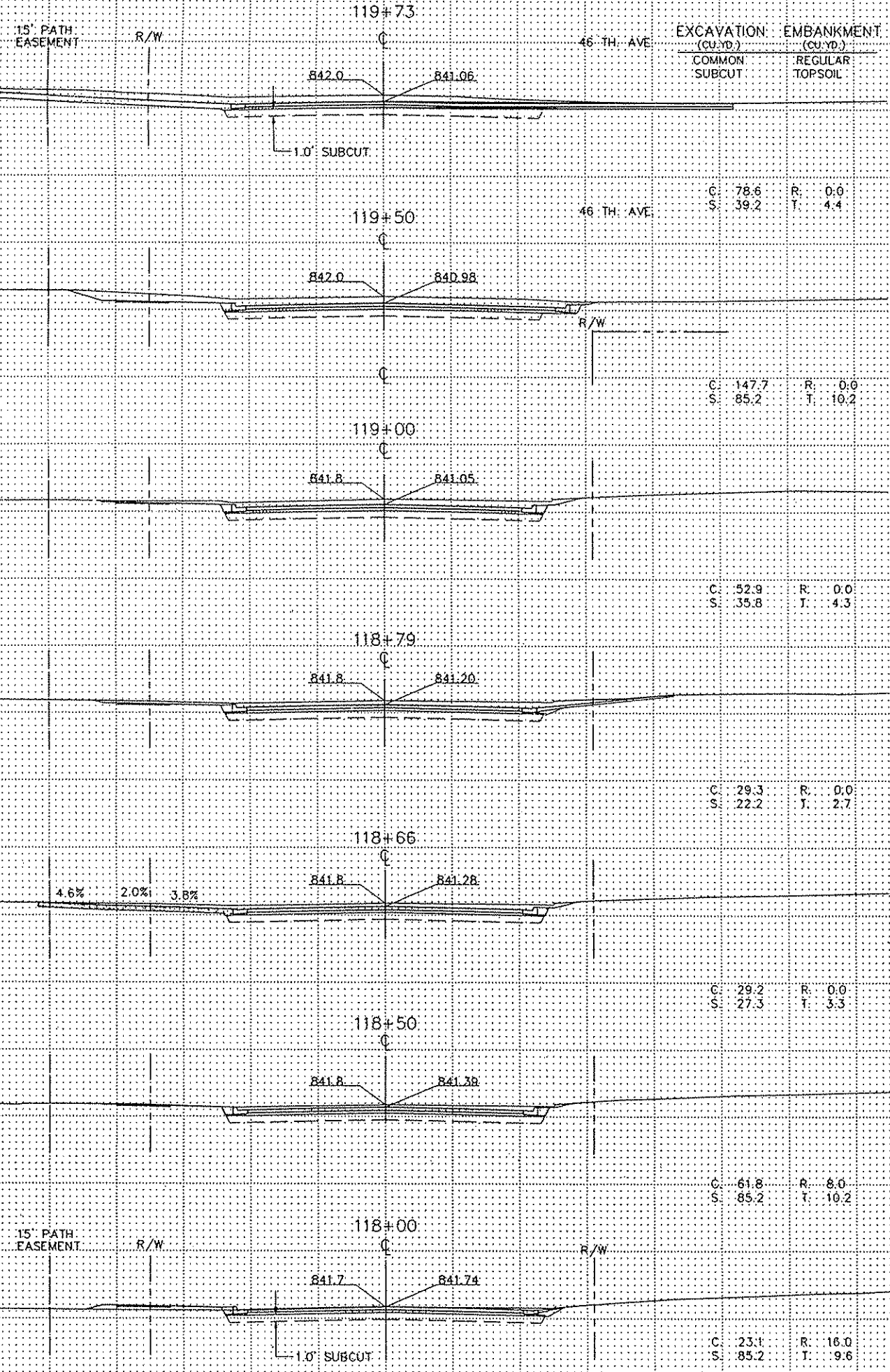
R/W

15' PATH EASEMENT R/W

CROSS-SECTION
STA. 113+00 TO STA. 117+50

REVISIONS	BY	DATE

FILE NAME: 8928102\XSDWG.MN (08-30-94)



CROSS-SECTION
STA. 118+00 TO STA. 123+00

DATE BY DATE BY
FILE NAME: 8928102.VST.DWG MN. (06-30-94)

15' PATH
EASEMENT

R/W

126+39

841.6

842.86

47 TH. AVE

EXCAVATION (CU.YD.)	EMBANKMENT (CU.YD.)	
	COMMON SUBCUT	REGULAR TOPSOIL
C. 58.3 S. 72.7	R. 0.0 T. 2.1	

126+00

843.6

843.05

C. 93.9 S. 66.4	R. 0.0 T. 7.5	
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125+91

843.6

843.09

C. 17.5 S. 15.3	R. 0.0 T. 1.7	
--------------------	------------------	--

125+50

843.4

843.23

C. 67.0 S. 69.9	R. 0.0 T. 7.9	
--------------------	------------------	--

125+05

843.3

843.11

C. 64.8 S. 76.7	R. 0.0 T. 8.6	
--------------------	------------------	--

125+00

843.3

843.09

C. 7.0 S. 8.8	R. 0.0 T. 1.0	
------------------	------------------	--

124+50

843.2

842.90

C. 66.1 S. 85.2	R. 0.7 T. 9.6	
--------------------	------------------	--

124+18

843.1

842.77

C. 45.6 S. 54.5	R. 0.4 T. 6.1	
--------------------	------------------	--

124+00

843.1

842.70

C. 27.4 S. 30.7	R. 0.1 T. 3.5	
--------------------	------------------	--

123+50

843.0

842.51

C. 89.5 S. 85.2	R. 0.3 T. 9.6	
--------------------	------------------	--

C. 101.1 S. 85.2	R. 0.0 T. 9.6	
---------------------	------------------	--

15' PATH
EASEMENT

R/W

131+00

846.1

846.09

R/W

EXCAVATION (CU.YD.)	EMBANKMENT (CU.YD.)	
	COMMON SUBCUT	REGULAR TOPSOIL

130+50

845.8

845.65

C. 48.8 S. 85.2	R. 3.6 T. 9.6	
--------------------	------------------	--

130+00

845.6

845.21

C. 67.9 S. 85.2	R. 1.2 T. 9.6	
--------------------	------------------	--

129+50

845.4

844.77

C. 95.5 S. 83.2	R. 0.1 T. 9.6	
--------------------	------------------	--

129+00

845.0

844.33

C. 117.6 S. 85.2	R. 0.0 T. 11.4	
---------------------	-------------------	--

128+50

844.8

843.90

C. 139.4 S. 85.2	R. 0.0 T. 11.4	
---------------------	-------------------	--

128+00

844.5

843.46

C. 169.5 S. 85.2	R. 0.0 T. 11.4	
---------------------	-------------------	--

127+50

844.3

843.02

C. 188.4 S. 85.2	R. 0.0 T. 11.4	
---------------------	-------------------	--

127+00

844.0

842.66

C. 195.9 S. 85.2	R. 0.0 T. 11.4	
---------------------	-------------------	--

126+50

843.8

842.81

R/W

C. 171.4 S. 85.2	R. 0.0 T. 11.4	
---------------------	-------------------	--

47 TH. AVE

CROSS-SECTION
STA. 123+50 TO STA. 131+00

REVISIONS	DATE	BY

FILE NAME: 8928102\510.DWG JUN (06-30-94)

EXCAVATION (CU. YD.)		EMBANKMENT (CU. YD.)	
COMMON	SUBCUT	REGULAR	TOPSOIL
C.	0.0	R.	76.9
S.	85.2	T.	11.4

EXCAVATION (CU. YD.)		EMBANKMENT (CU. YD.)	
COMMON	SUBCUT	REGULAR	TOPSOIL
C.	0.0	R.	111.6
S.	85.2	T.	11.4

C.	0.0	R.	74.3
S.	85.2	T.	11.4

C.	0.0	R.	90.19
S.	85.2	T.	11.4

C.	0.0	R.	65.8
S.	85.2	T.	11.4

C.	1.1	R.	44.6
S.	47.7	T.	6.4

C.	4.0	R.	33.7
S.	37.5	T.	5.0

C.	13.0	R.	47.9
S.	113.2	T.	10.8

C.	0.0	R.	80.3
S.	85.2	T.	11.4

C.	14.0	R.	5.0
S.	37.2	T.	1.3

48 TH. AVE

C.	0.0	R.	34.9
S.	75.0	T.	9.5

C.	0.0	R.	12.6
S.	13.6	T.	1.8

C.	0.0	R.	32.0
S.	85.2	T.	9.6

C.	0.0	R.	65.4
S.	71.6	T.	9.6

C.	14.1	R.	22.8
S.	85.2	T.	9.6

C.	31.1	R.	10.7
S.	85.2	T.	9.6

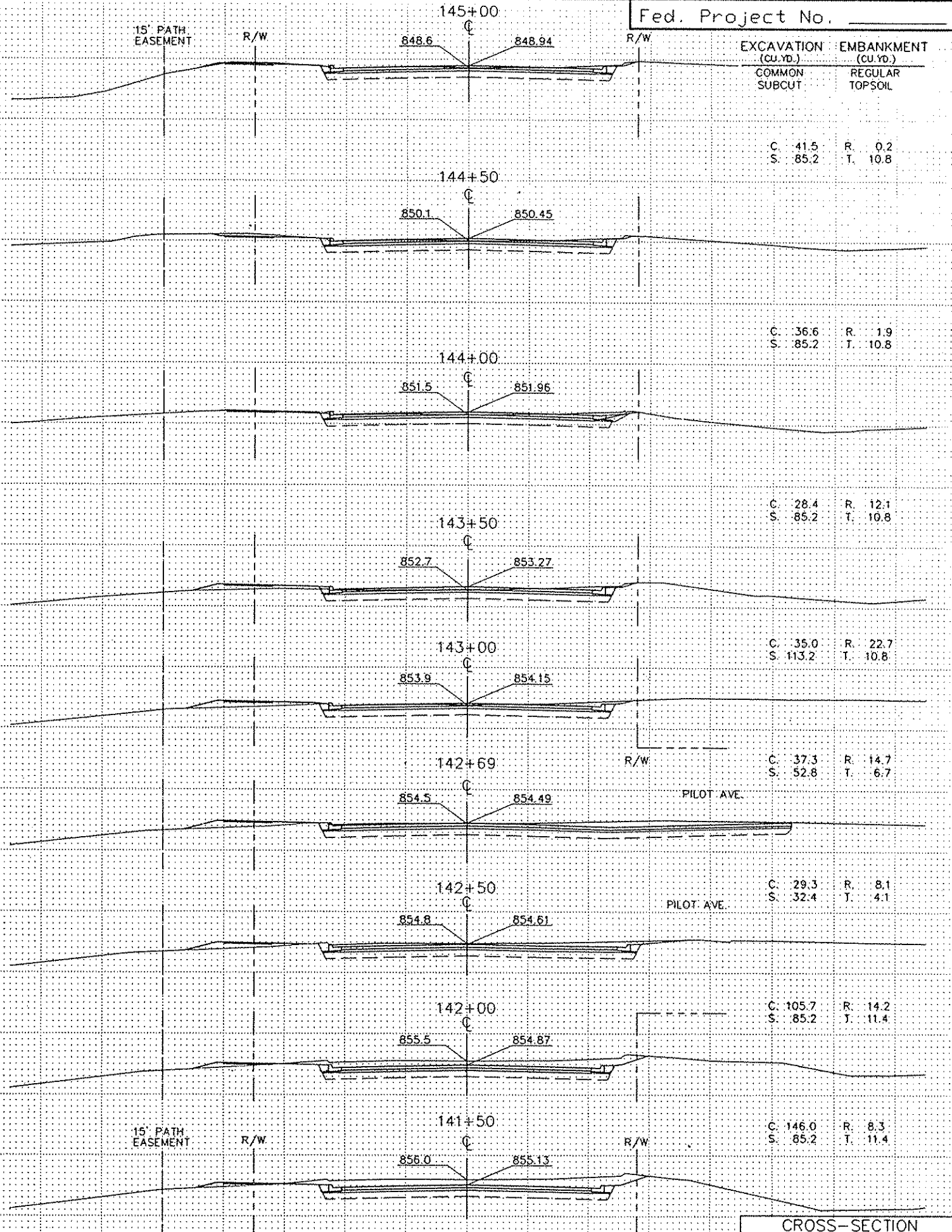
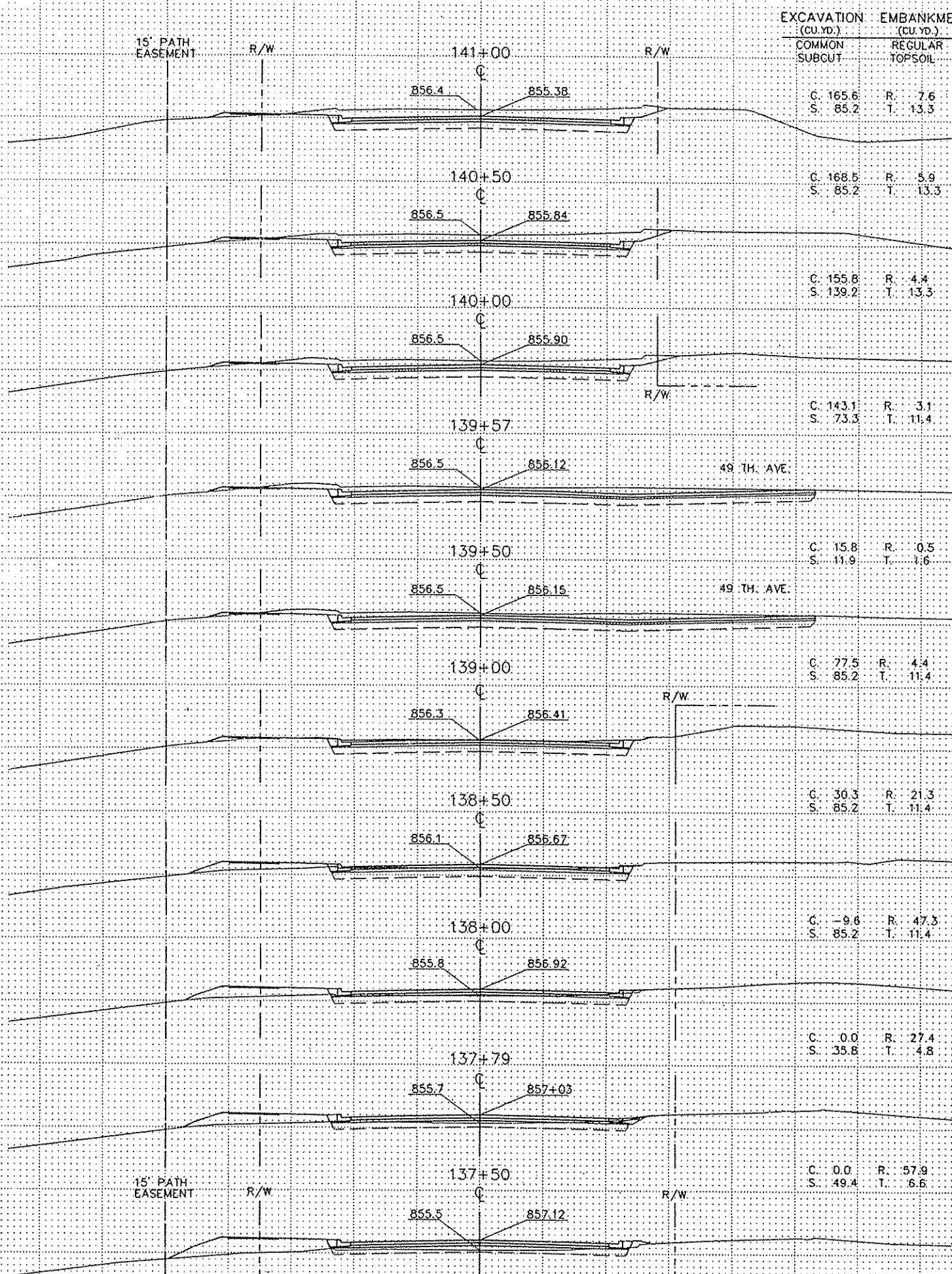
CROSS-SECTION
STA. 131+50 TO STA. 137+00

REVISIONS	DATE	BY

FILE NAME: 8928102.XSZ.DWG MN. (08-30-94)

EXCAVATION (CU. YD.)		EMBANKMENT (CU. YD.)	
COMMON	SUBCUT	REGULAR	TOPSOIL
C. 165.6	S. 85.2	R. 7.6	T. 13.3

EXCAVATION (CU. YD.)		EMBANKMENT (CU. YD.)	
COMMON	SUBCUT	REGULAR	TOPSOIL
C. 41.5	S. 85.2	R. 0.2	T. 10.8



REVISIONS	DATE	BY

FILE NAME: 8928102.XSD.DWG IN: (08-30-94)

CROSS-SECTION
STA. 137+50 TO STA. 145+00

EXCAVATION (CU. YD.)		EMBANKMENT (CU. YD.)	
COMMON	SUBCUT	REGULAR	TOPSOIL

EXCAVATION (CU. YD.)		EMBANKMENT (CU. YD.)	
COMMON	SUBCUT	REGULAR	TOPSOIL

C. 14.34	R. 5.5
S. 39.2	T. 4.7

C. 7.4	R. 3.9
S. 85.2	T. 9.6

C. 29.4	R. 8.5
S. 85.2	T. 10.2

C. 18.8	R. 3.1
S. 85.2	T. 10.2

C. 41.38	R. 2.6
S. 85.2	T. 10.2

C. 42.7	R. 1.7
S. 85.2	T. 10.2

C. 57.0	R. 5.3
S. 85.2	T. 10.2

C. 68.3	R. 0.0
S. 85.2	T. 10.2

C. 25.0	R. 4.8
S. 39.2	T. 4.7

C. 60.6	R. 2.7
S. 85.2	T. 10.2

C. 22.1	R. 11.7
S. 46.0	T. 5.5

C. 26.4	R. 33.3
S. 85.2	T. 10.2

C. 26.2	R. 29.4
S. 85.2	T. 9.6

C. 36.5	R. 1.9
S. 85.2	T. 10.8

15' PATH EASEMENT

R/W

148+50

PANORAMA AVE.

1.0' SUBCUT

148+00

841.0

841.35

147+50

841.8

841.88

147+00

842.8

842.90

146+77

843.4

843.60

-4.2%

-2%

3.8%

146+50

844.1

844.41

146+00

845.4

845.92

15' PATH EASEMENT

R/W

145+50

R/W

1.0' SUBCUT

847.0

847.43

15' PATH EASEMENT

R/W

151+00

R/W

1.0' SUBCUT

840.7

841.04

150+50

840.8

840.70

150+00

840.8

840.36

149+50

840.8

840.04

149+00

840.7

840.29

15' PATH EASEMENT

R/W

148+73

PANORAMA AVE.

2%

3.8%

1.0' SUBCUT

840.7

840.58

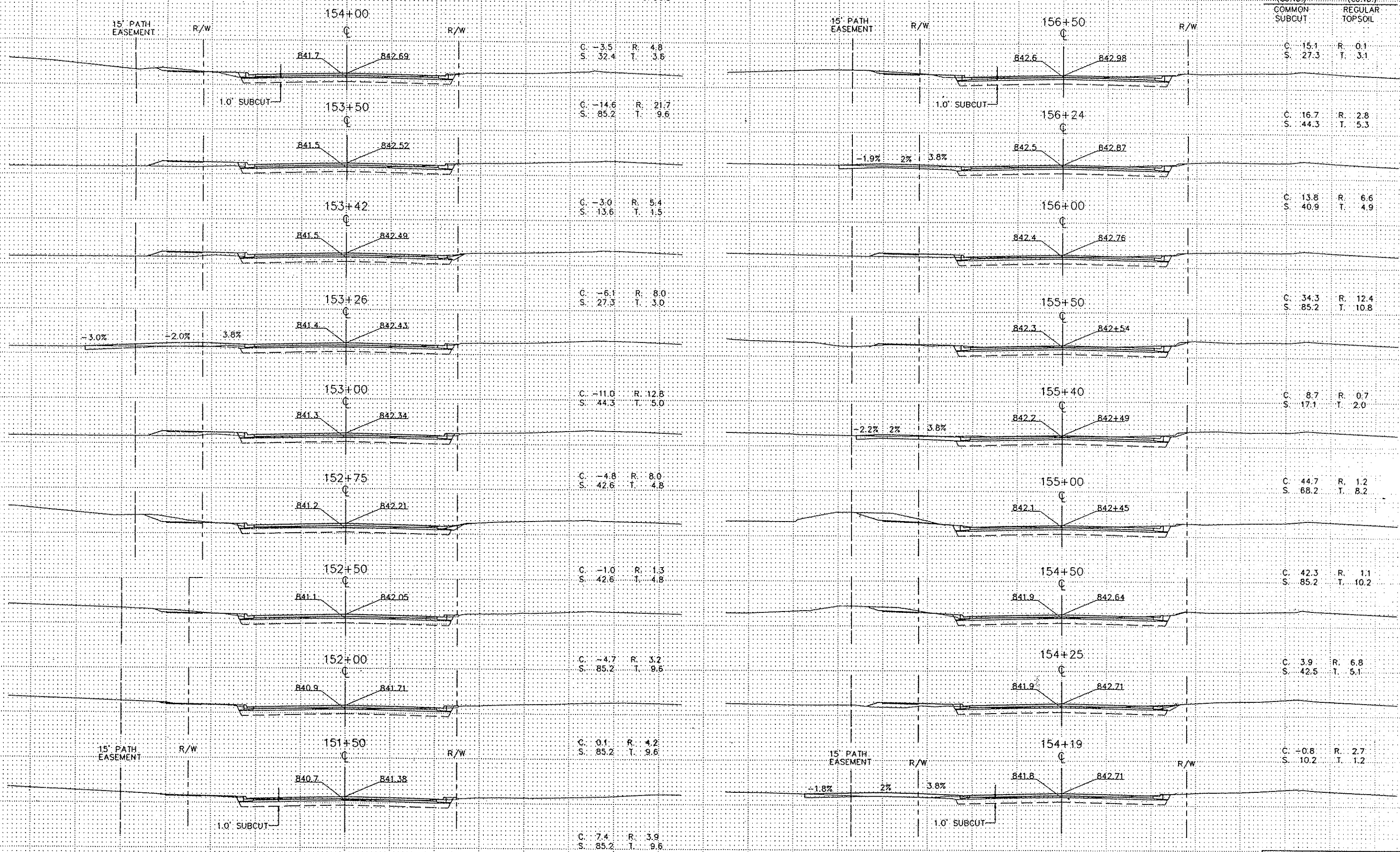
CROSS-SECTION
STA. 145+50 TO STA. 151+00

FILE NAME: 8928102.XSD DWG. MN. (06-30-94)

REVISIONS	DATE	BY

EXCAVATION (CU. YD.)		EMBANKMENT (CU. YD.)	
COMMON	SUBCUT	REGULAR	TOPSOIL

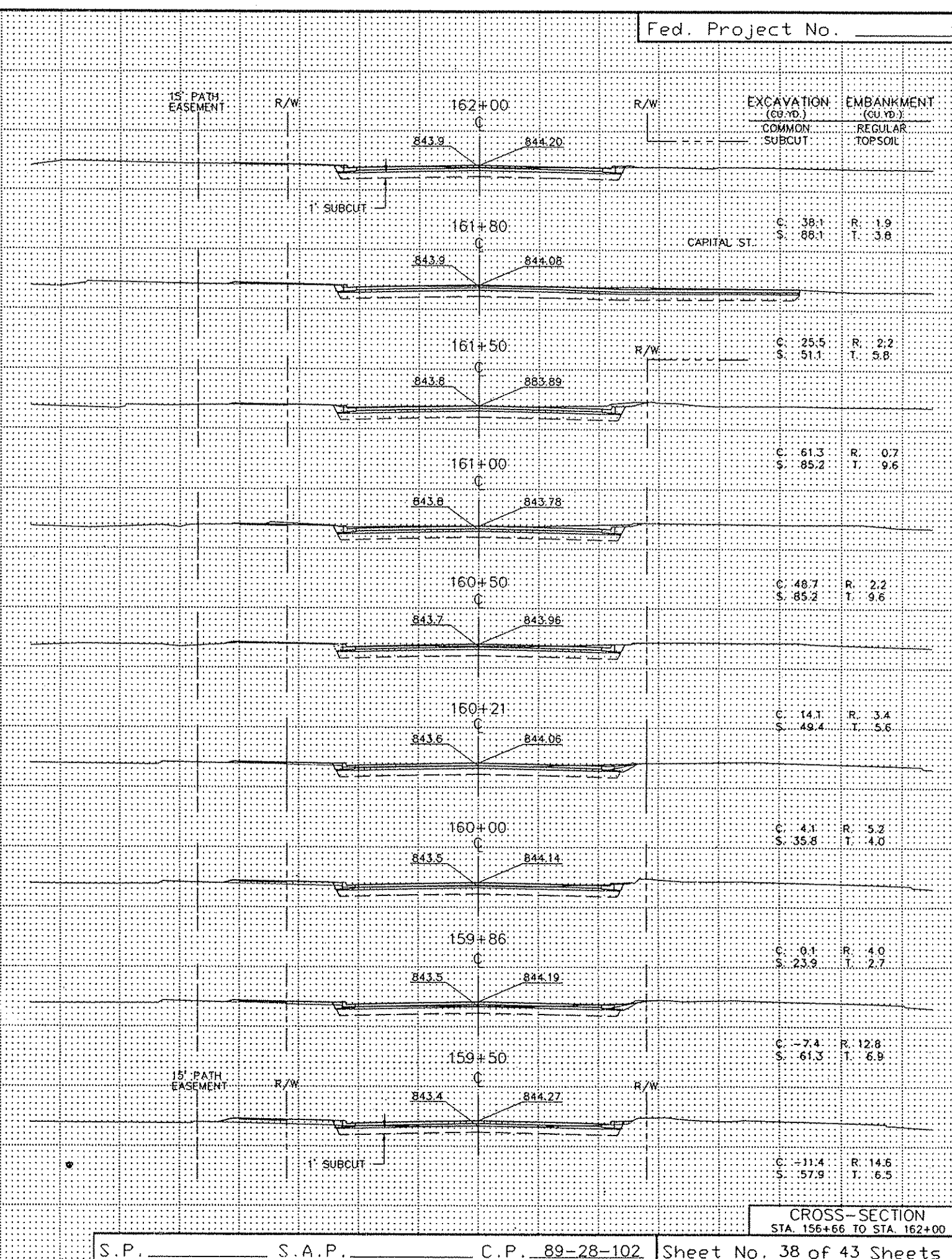
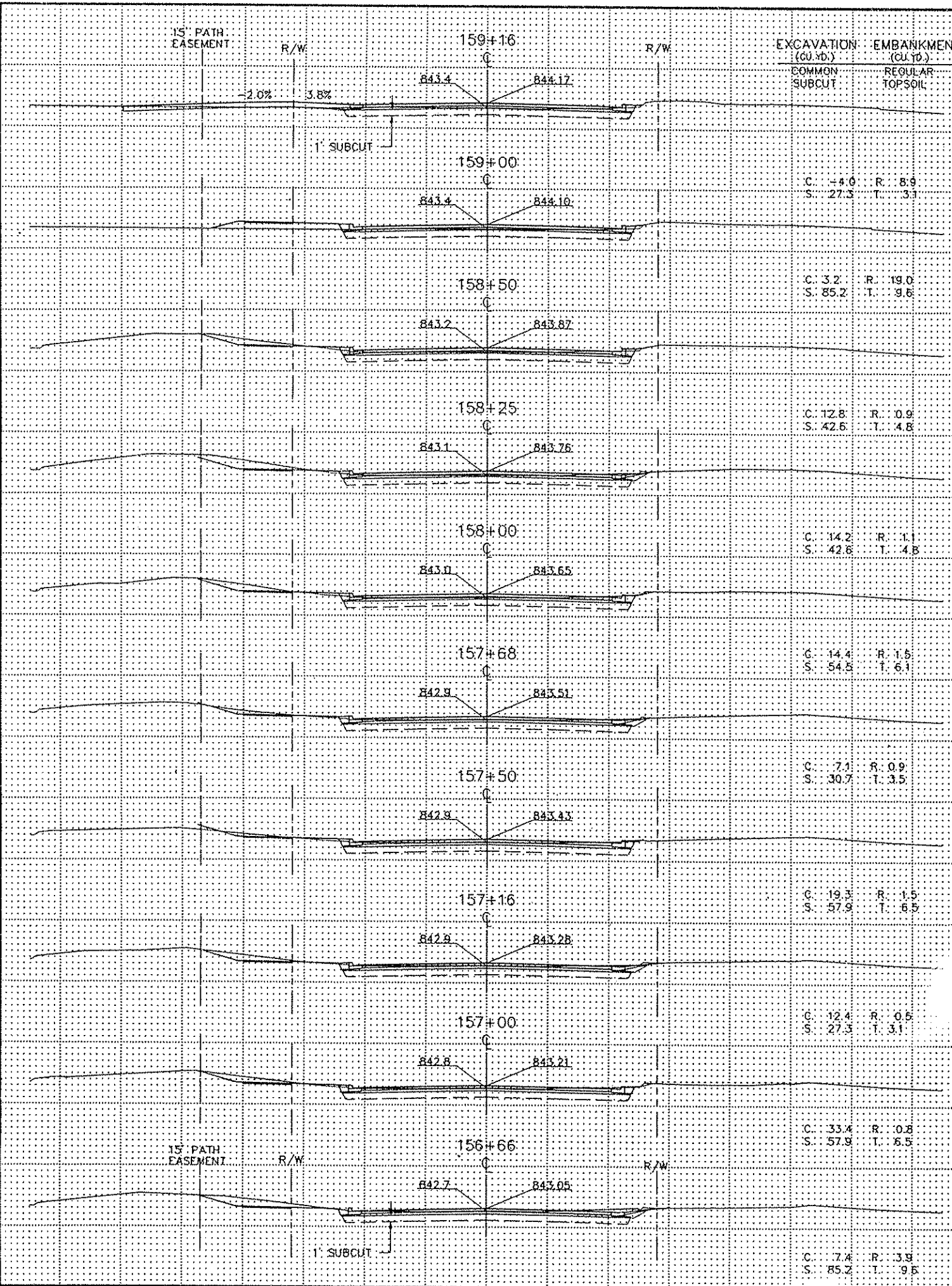
EXCAVATION (CU. YD.)		EMBANKMENT (CU. YD.)	
COMMON	SUBCUT	REGULAR	TOPSOIL



REVISIONS	DATE	BY

FILE NAME: 8928102_VS2.DWG, MK (06-30-94)

CROSS-SECTION
STA. 151+50 TO STA. 156+50



FILE NAME: 8928102.VS3.DWG IN: (06-30-94)

REVISIONS	DATE	BY

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 17.7 S. 85.2	R. 2.4 T. 14.5

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 74.6 S. 85.2	R. 0.0 T. 9.6

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 36.1 S. 96.6	R. 3.8 T. 7.2

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 53.8 S. 85.2	R. 1.2 T. 9.0

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 4.4 S. 42.6	R. 4.7 T. 7.2

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 6.3 S. 11.9	R. 0.2 T. 1.3

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 11.3 S. 85.2	R. 4.0 T. 14.5

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 19.4 S. 46.0	R. 0.4 T. 4.8

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 20.2 S. 85.2	R. 1.7 T. 9.6

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 7.1 S. 27.3	R. 0.1 T. 2.9

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 3.7 S. 15.3	R. 0.4 T. 1.7

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 7.1 S. 39.2	R. 0.1 T. 4.1

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 7.1 S. 51.1	R. 5.0 T. 5.8

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 0.4 S. 18.7	R. 3.4 T. 2.1

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 7.1 S. 39.2	R. 0.1 T. 4.1

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 6.0 S. 85.2	R. 16.8 T. 9.6

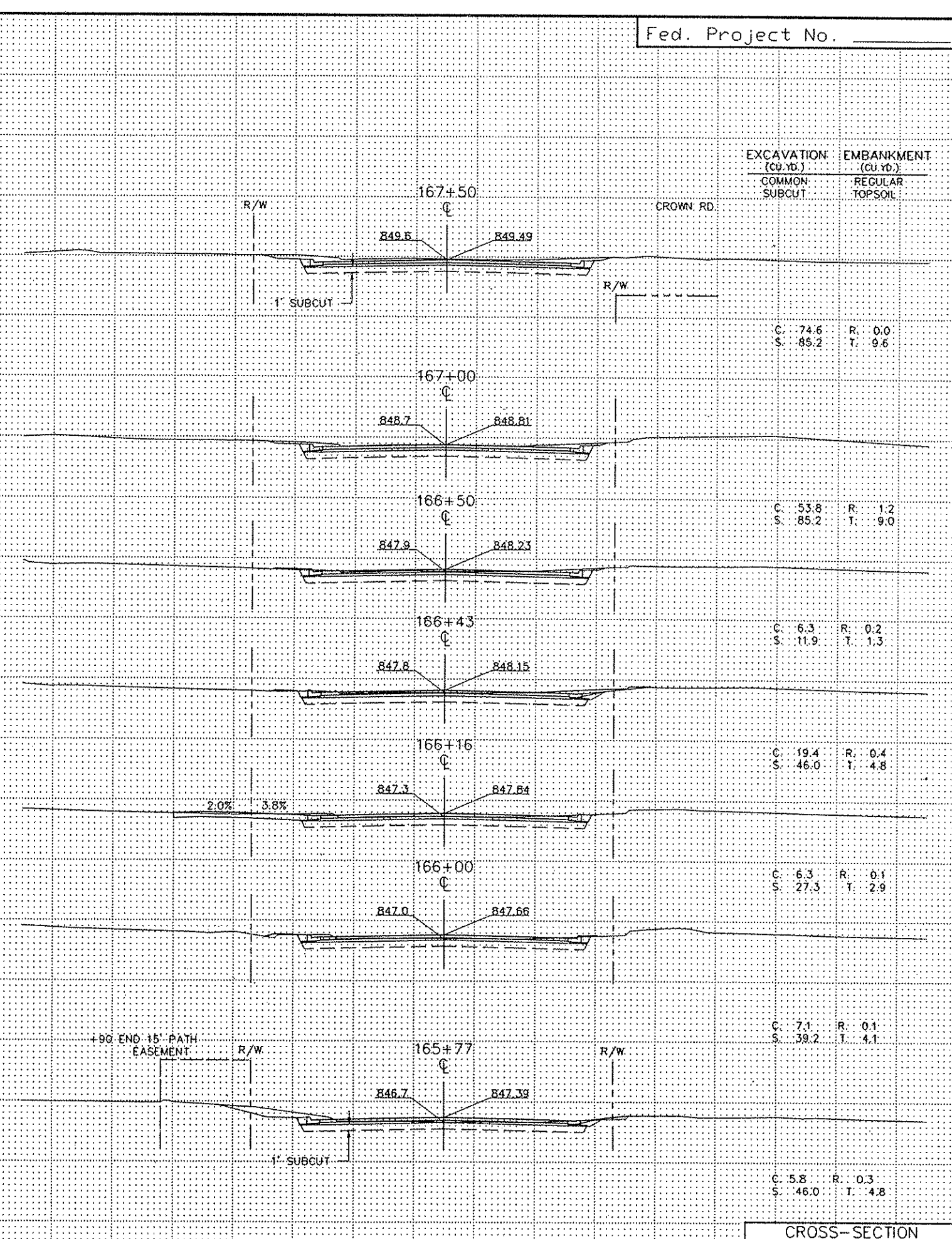
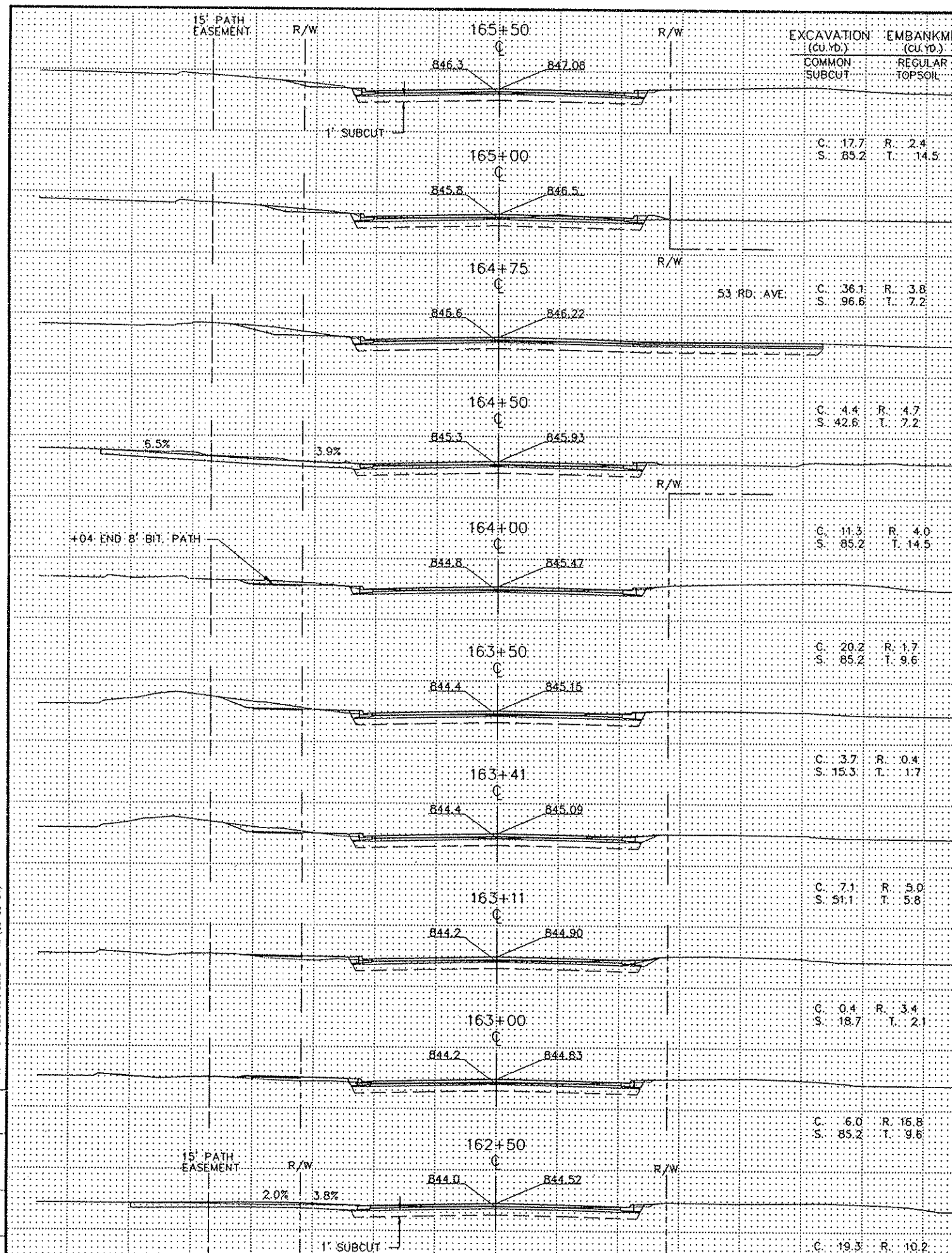
EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 5.8 S. 46.0	R. 0.3 T. 4.8

EXCAVATION (CU. YD.) COMMON SUBCUT	EMBANKMENT (CU. YD.) REGULAR TOPSOIL
C. 19.3 S. 85.2	R. 10.2 T. 9.6

CROSS-SECTION
STA. 162+50 TO STA. 167+50

REVISIONS	BY	DATE

FILE NAME: 8928102\XS3.DWG MN. (06-30-94)

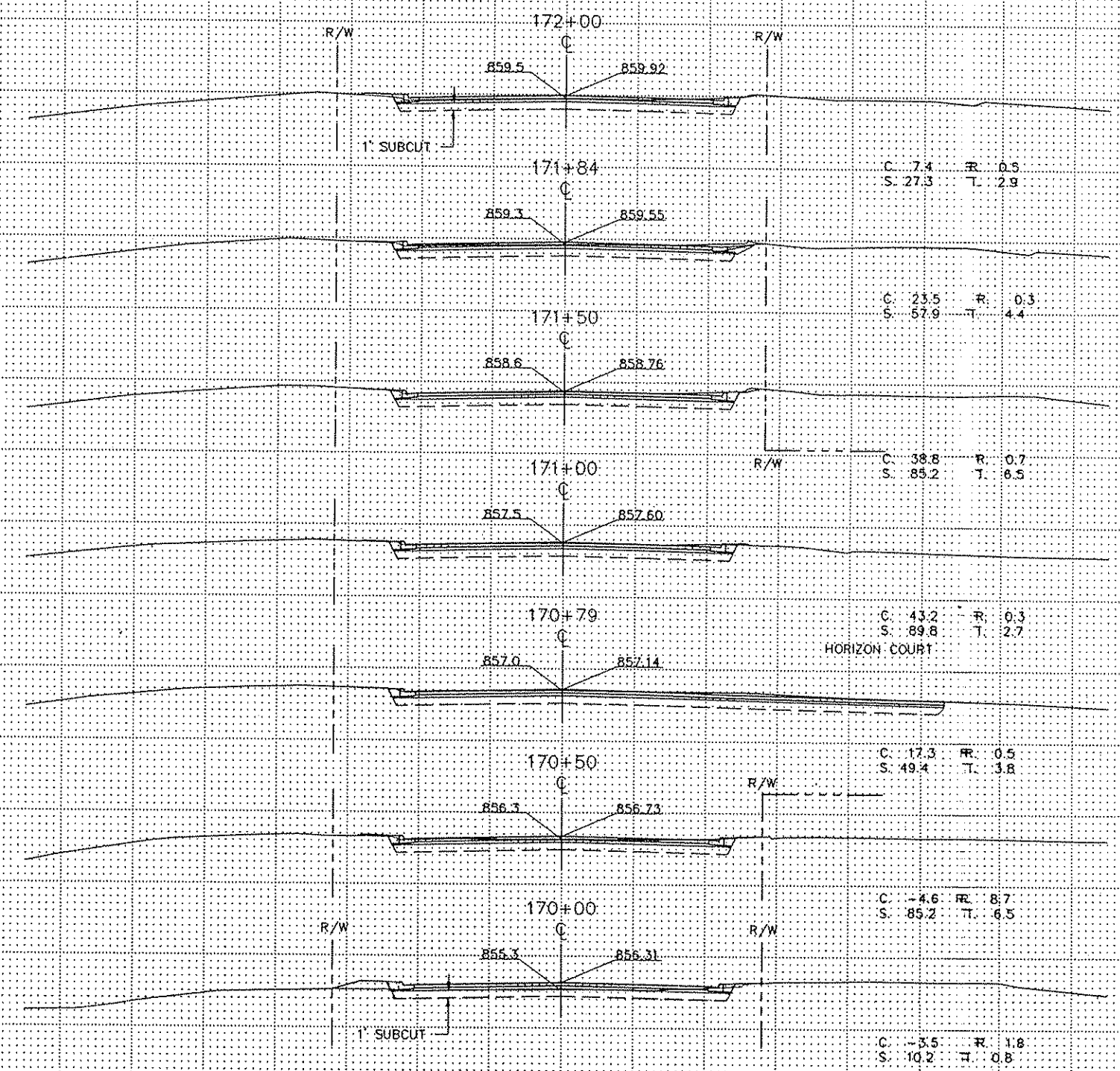
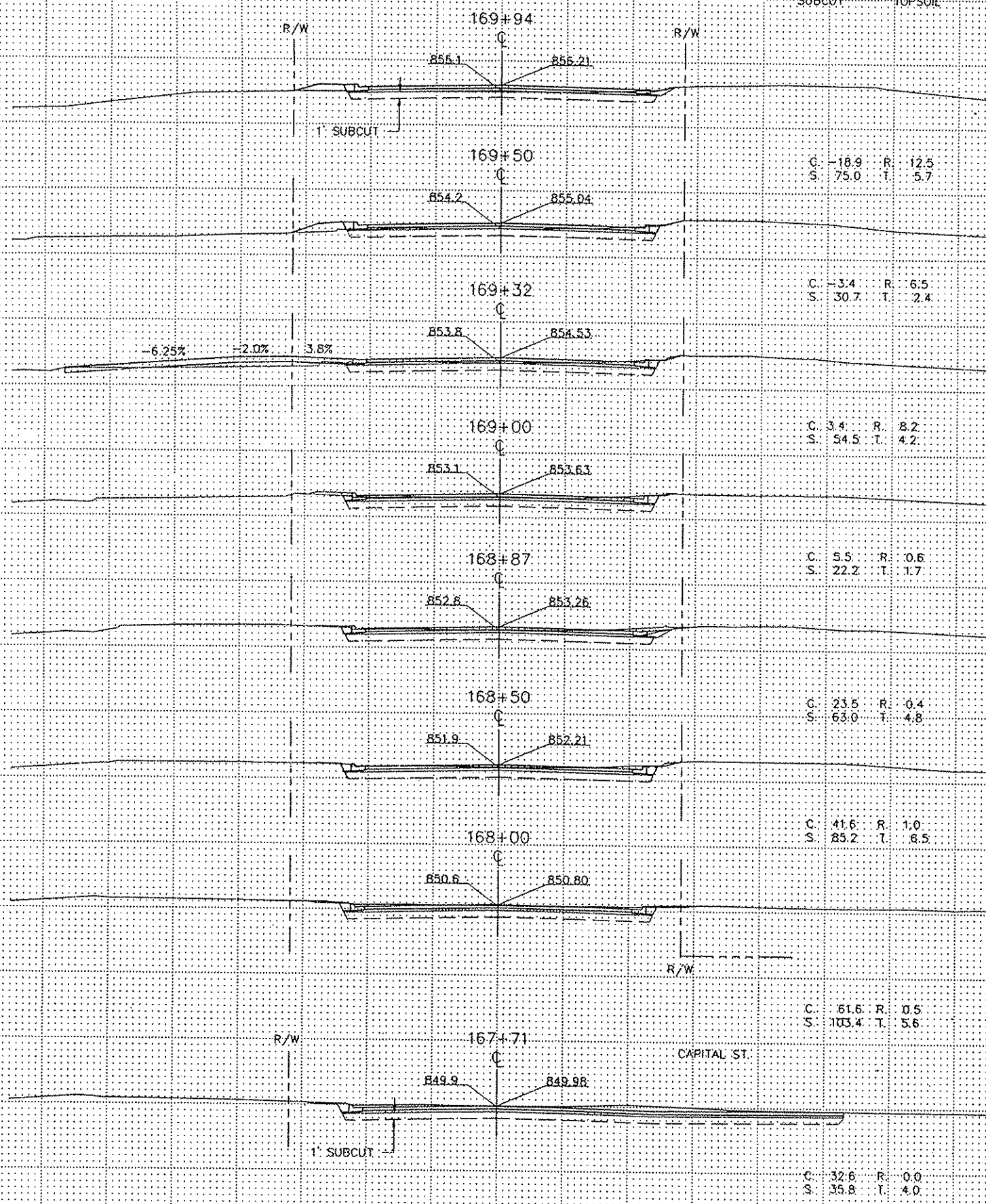


EXCAVATION (CU.YD.)
COMMON SUBCUT

EMBANKMENT (CU.YD.)
REGULAR TOPSOIL

EXCAVATION (CU.YD.)
COMMON SUBCUT

EMBANKMENT (CU.YD.)
REGULAR TOPSOIL



FILE NAME: 8928101.VS3.DWG MN: 08-30-94

REVISIONS	DATE	BY

CROSS-SECTION
STA. 167+71 TO STA. 172+00

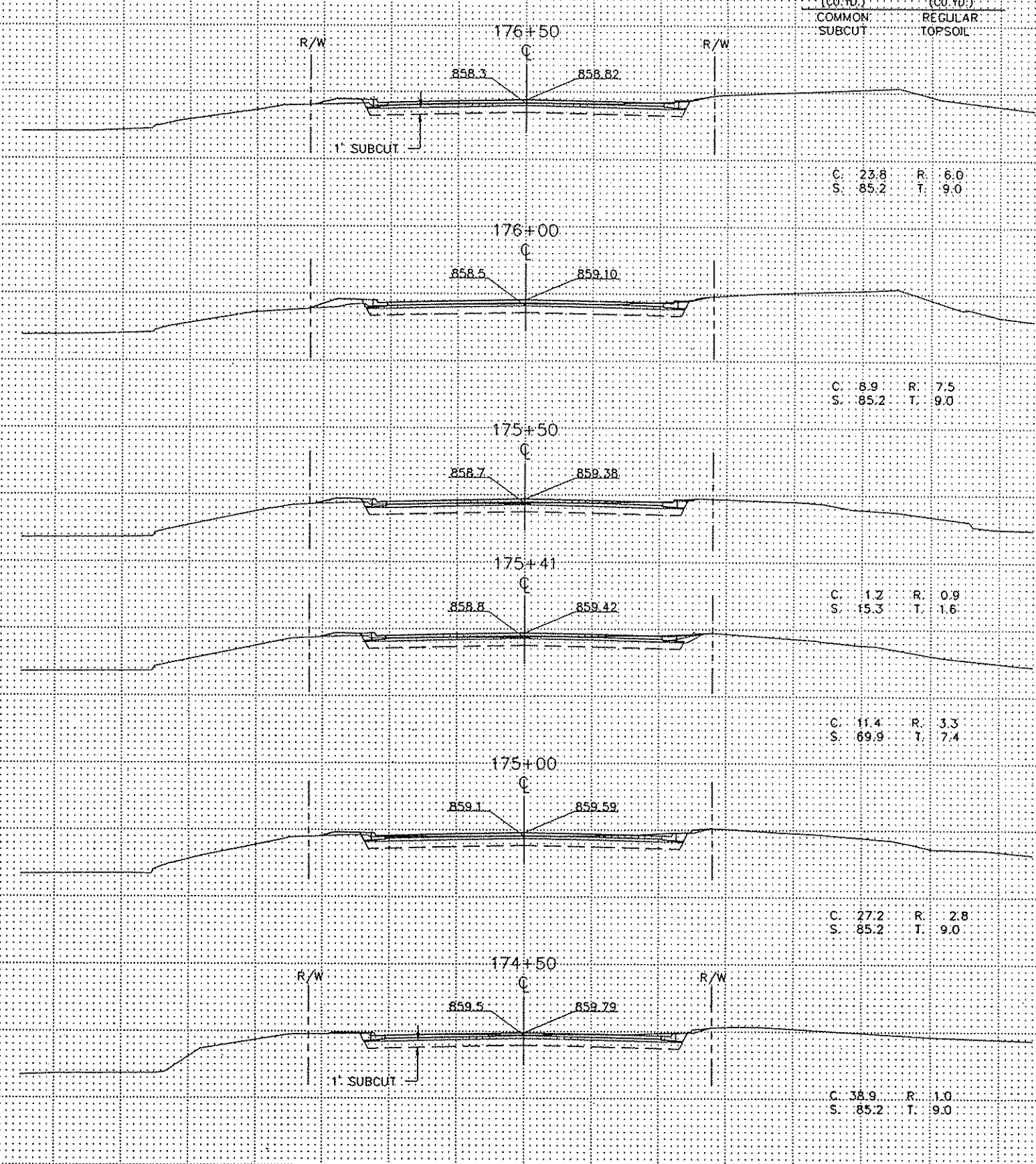
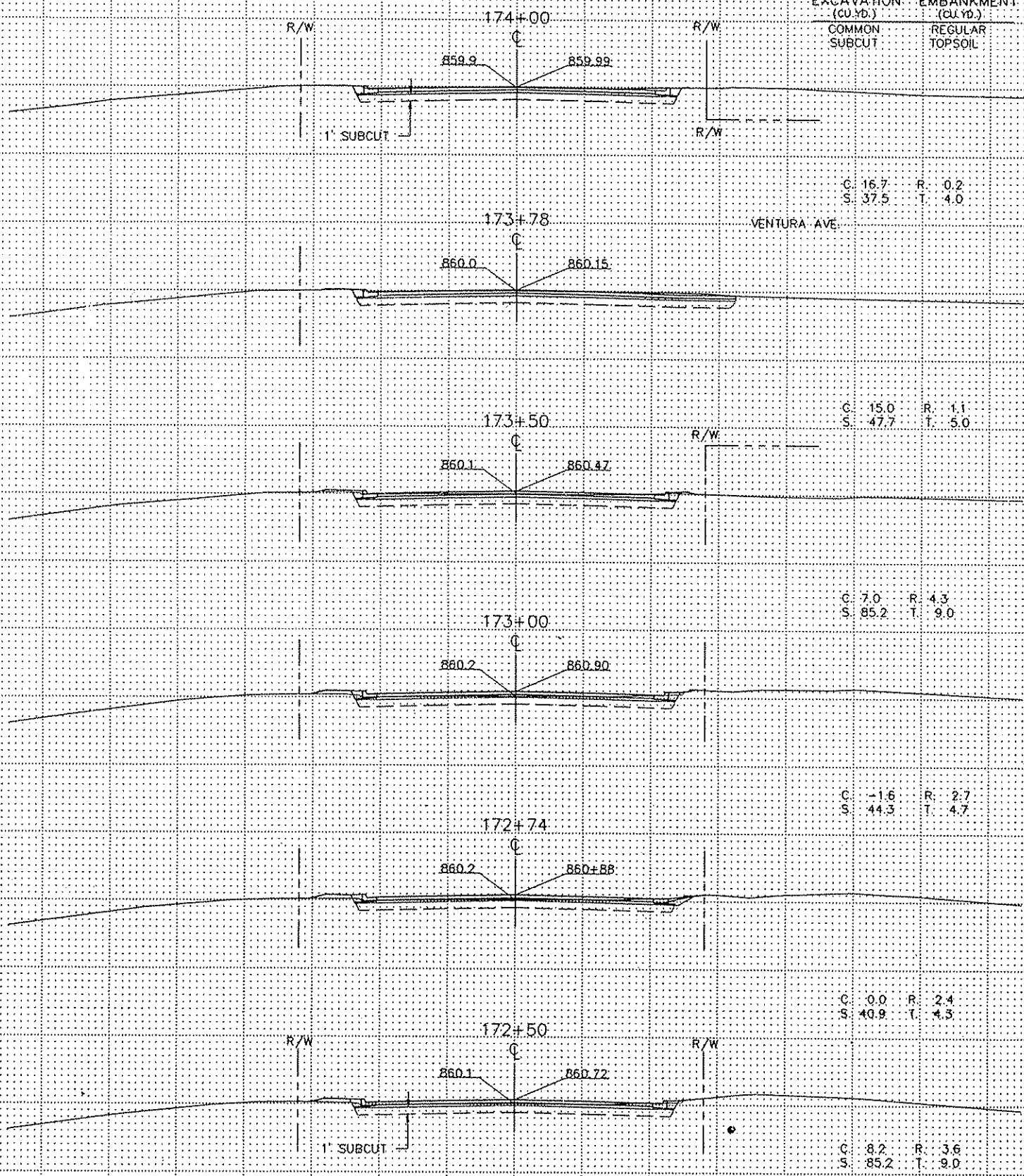
EXCAVATION (CU. YD.) EMBANKMENT (CU. YD.)
 COMMON SUBCUT REGULAR TOPSOIL

EXCAVATION (CU. YD.) EMBANKMENT (CU. YD.)
 COMMON SUBCUT REGULAR TOPSOIL

VENTURA AVE.

REVISIONS	DATE	BY

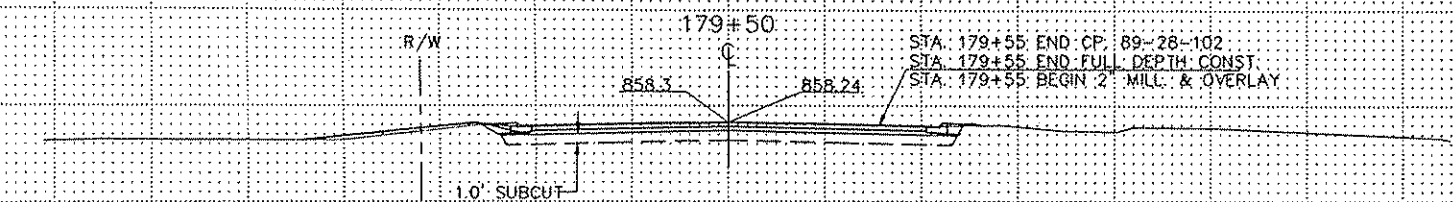
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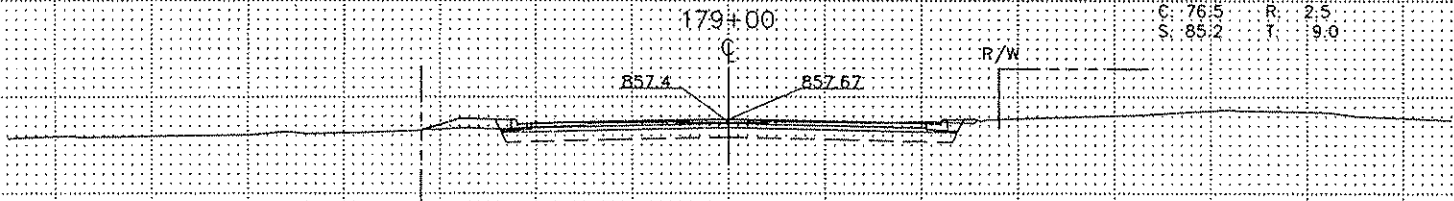
CROSS-SECTION
 STA. 172+50 TO STA. 176+50

EXCAVATION (CU. YD.)		EMBANKMENT (CU. YD.)	
COMMON	SUBCUT	REGULAR	TOPSOIL
C. 18.9		R. 0.7	
S. 25.6		T. 2.7	

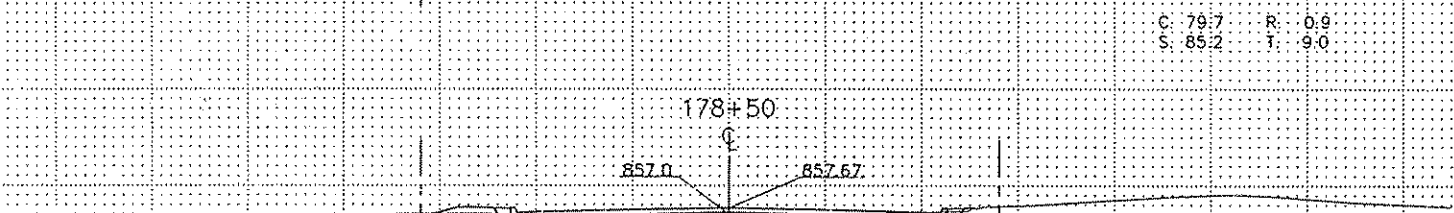
STA. 179+55 END CP 89-28-102
 STA. 179+55 END FULL DEPTH CONST.
 STA. 179+55 BEGIN 2" MILL. & OVERLAY



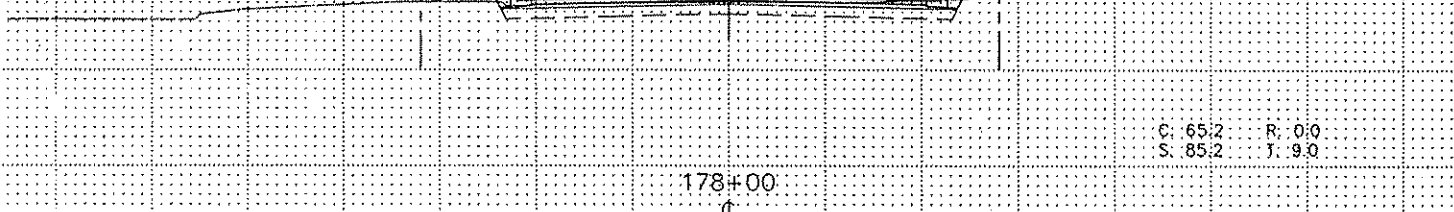
C. 76.5	R. 2.5
S. 85.2	T. 9.0



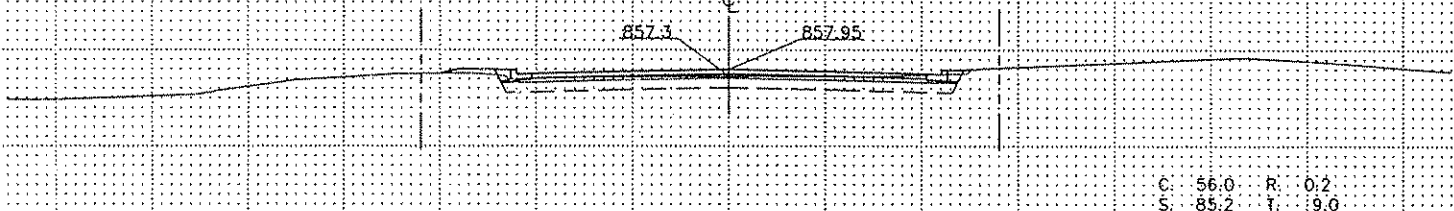
C. 79.7	R. 0.9
S. 85.2	T. 9.0



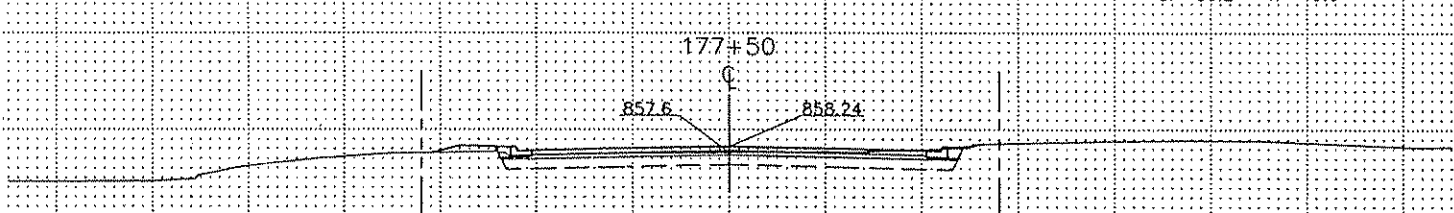
C. 65.2	R. 0.0
S. 85.2	T. 9.0



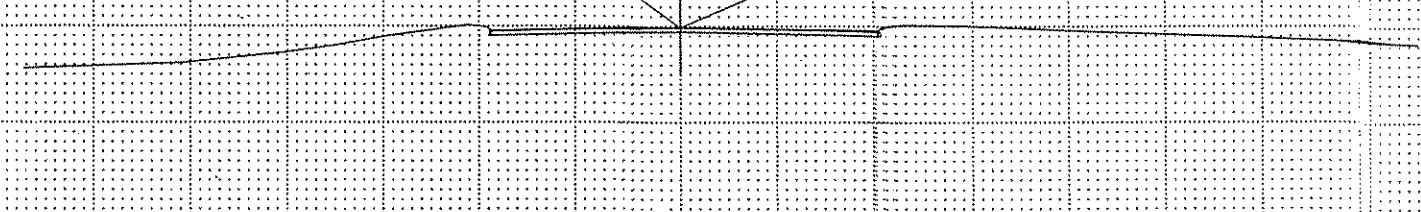
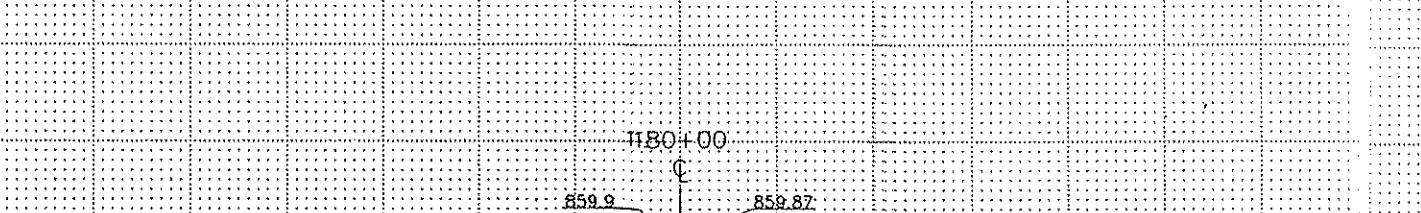
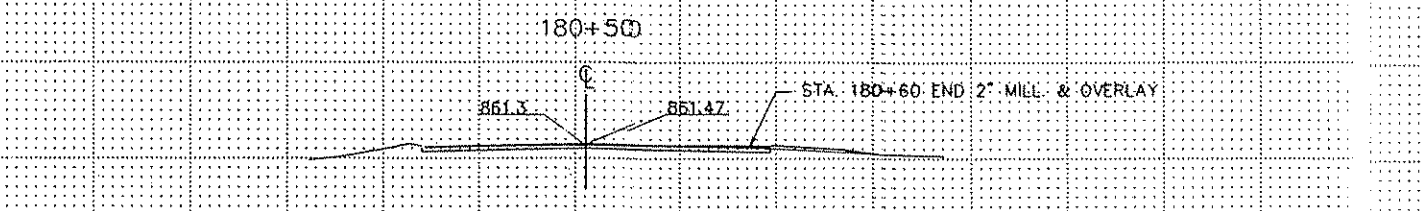
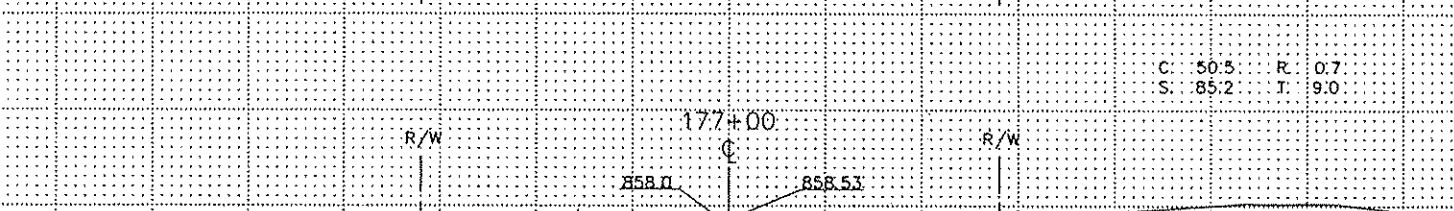
C. 56.0	R. 0.2
S. 85.2	T. 9.0



C. 50.5	R. 0.7
S. 85.2	T. 9.0

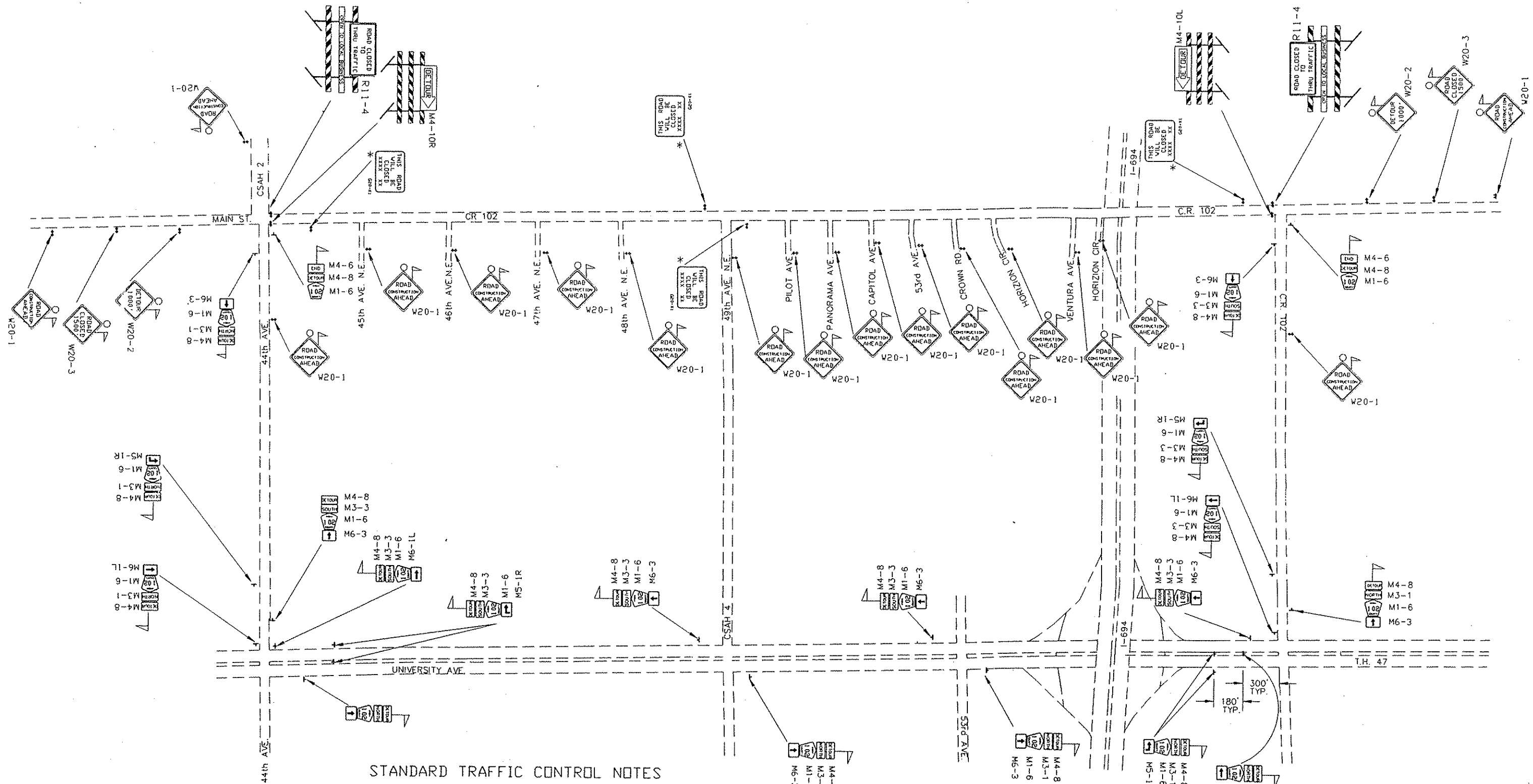


C. 40.6	R. 2.3
S. 85.2	T. 9.0



FILE NAME: 8928102\3.DWG IN: (06-30-94)

DATE	BY



STANDARD TRAFFIC CONTROL NOTES

- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL BARRICADES SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
- 3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
- 4) ALL BARRICADE MARKINGS SHALL BE SLANTED IN THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B', DATED NOVEMBER 1992.
- 6) ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.

* THESE SIGNS ARE TO BE INSTALLED AT LEAST 7 DAYS PRIOR TO THE DETOUR INSTALLATION, AND REMOVED IMMEDIATELY FOLLOWING THE DETOUR INSTALLATION.

DRAWING NOT TO SCALE

DETOUR CR 102

REVISIONS	DATE	BY

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
FLAG			• 18
FLASHER	TYPE 'A'		
W20-1	48' x 48'		
FLAG			• 2
FLASHER	TYPE 'A'		
W20-2	48' x 48'		
FLAG			• 2
FLASHER	TYPE 'A'		
W20-3	48' x 48'		
FLAG			• 1
FLASHER	TYPE 'A'		
M4-10R	48' x 18'		
TYPE III	8 FOOT		
FLAG			• 1
FLASHER	TYPE 'A'		
M4-10L	48' x 18'		
TYPE III	8 FOOT		
FLAG			• 2
FLASHER	TYPE 'A'		
R11-4	60' x 30'		
TYPE III	8 FOOT		
G20-X1	60' x 48'		• 4

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
FLAG			• 3
M5-1L			• 0
M4-8	24' x 12'		• 2
M3-1	21' x 12'		• 0
M1-6	24' x 24'		• 0
	21' x 15'		• 5
FLAG			• 0
M5-1L			• 3
M4-8	24' x 12'		• 0
M3-3	21' x 12'		• 2
M1-6	24' x 24'		• 5
	21' x 15'		
FLAG			• 2
M4-6	24' x 12'		
M4-8	24' x 12'		
M1-6	24' x 24'		

THESE SIGNS ARE TO BE INSTALLED AT LEAST 7 DAYS PRIOR TO THE DETOUR INSTALLATION, AND REMOVED IMMEDIATELY FOLLOWING THE DETOUR INSTALLATION.

STANDARD TRAFFIC CONTROL NOTES

- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL BARRICADES SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
- 3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
- 4) ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B', DATED NOVEMBER 1992.
- 6) ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.

DETOUR QUANTITIES CR 102

REVISIONS	DATE	BY