

PLANS SYMBOLS

STATE LINE	----
COUNTY LINE	----
TOWNSHIP OR RANGE LINE	----
SECTION LINE	----
QUARTER LINE	----
SIXTEENTH LINE	----
RIGHT-OF-WAY LINE	----
SLOPE EASEMENT	----
PRESENT RIGHT-OF-WAY LINE	----
CONTROL OF ACCESS LINE	----
PROPERTY LINE (Except Land Lines)	----
VACATED PLATTED PROPERTY	----
CORPORATE OR CITY LIMITS	----
TRUNK HIGHWAY CENTER LINE	----
RETAINING WALL	----
RAILROAD	----
RAILROAD RIGHT-OF-WAY LINE	----
RIVER OR CREEK	----
DRY RUN	----
DRAINAGE DITCH	----
DRAIN TILE	----
COVERT	----
DRAIN W/LET	----
RAILROAD	----
BARBED WIRE FENCE	----
WOVEN WIRE FENCE	----
CHAIN LINK FENCE	----
RAILROAD SNOW FENCE	----
STONE WALL OR FENCE	----
HEDGE	----
RAILROAD CROSSING SIGN	----
RAILROAD CROSSING BELL	----
ELECTRIC WARNING SIGN	----
CROSSING GATE	----
MEANDER CORNER	----
SPRINGS	----
MARSH	----

TIMBER	----
ORCHARD	----
BRUSH	----
NURSERY	----
CATCH BASIN	----
FIRE HYDRANT	----
CATTLE GUARD	----
OVERPASS (Highway Over)	----
UNDERPASS (Highway Under)	----
BRIDGE	----
BUILDING (One Story Frame)	----
F - FRAME	----
S - STONE	----
B - BRICK	----
C - CONCRETE	----
T - TILE	----
ST - STUCCO	----
IRON PIPE OR ROD	----
MONUMENT (STONE, CONCRETE, OR METAL)	----
WOODEN HUB	----
GRAVEL PIT	----
SAND PIT	----
BORROW PIT	----
ROCK QUARRY	----

UTILITIES SYMBOLS

POWER POLE LINE	----
TELEPHONE OR TELEGRAPH	----
POLE LINE	----
JOINT TELEPHONE AND POWER	----
ON POWER POLES	----
ON TELEPHONE POLES	----
ANCHOR	----
STEEL TOWER	----
STREET LIGHT	----
PEDESTAL (TELEPHONE CABLE TERMINAL)	----
GAS MAIN	----
WATER MAIN	----
CONDUIT	----
TELEPHONE CABLE IN CONDUIT	----
ELECTRIC CABLE IN CONDUIT	----
TELEPHONE MANHOLE	----
ELECTRIC MANHOLE	----
BURIED TELEPHONE CABLE	----
BURIED ELECTRIC CABLE	----
AERIAL TELEPHONE CABLE	----
SEWER (SANITARY OR STORM)	----
SEWER MANHOLE	----

SCALES

PLAN	50'
PROFILE	10'
INDEX MAP	2.66
CROSS SECTION	10'

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR

GRADING, BASE & BITUMINOUS SURFACING

LOCATED ON C.R. 83 BETWEEN 161st AVE. NW. AND 600' ± N. OF 173rd AVE. NW. (Geographic Description)

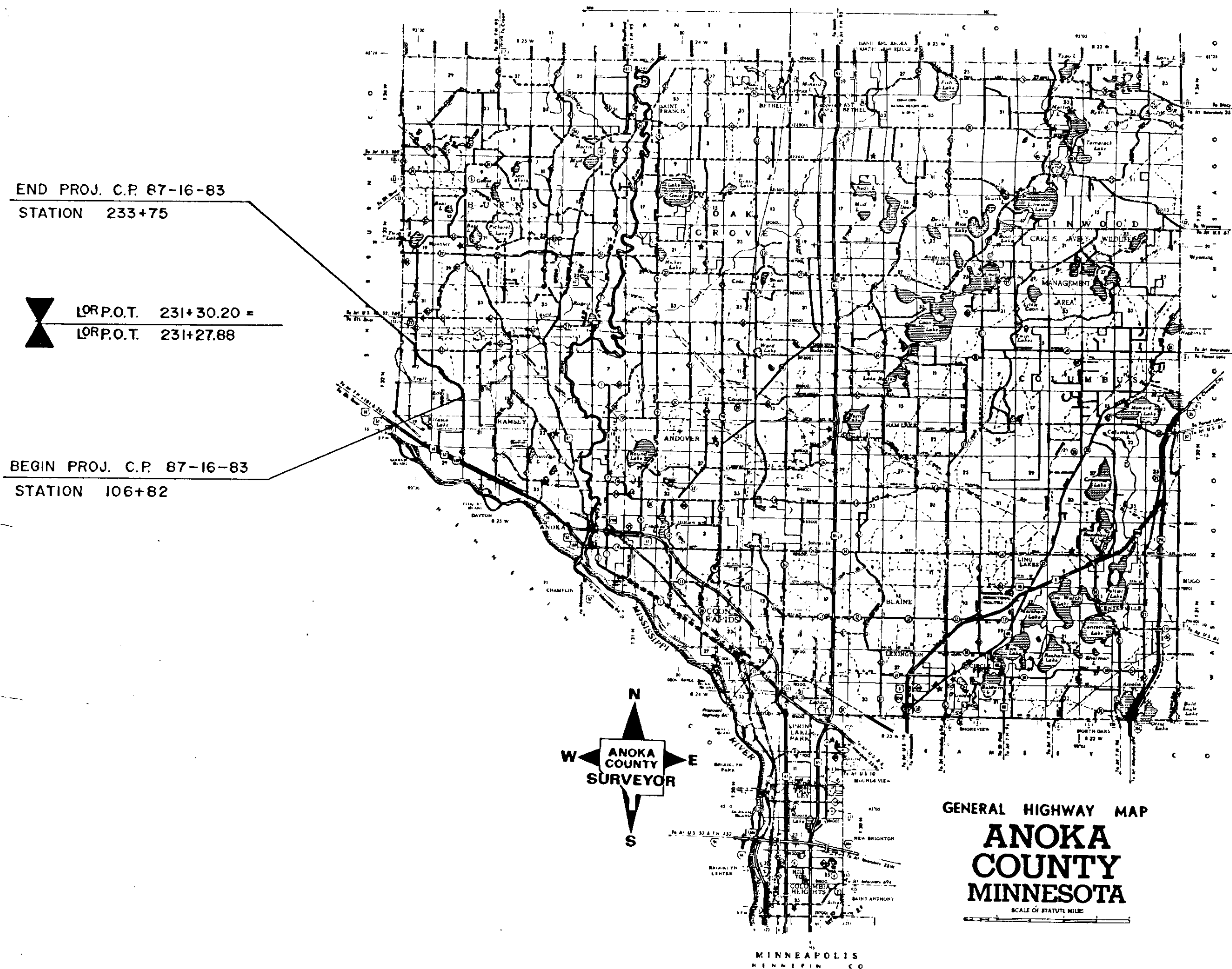
FROM A POINT 36.0' EAST AND 60.0' NORTH OF THE WEST 1/4 COR. SEC. 16, T32N, R25W. TO A POINT 615.0' NORTH AND 4.5' EAST OF THE SOUTH 1/4 COR. SEC. 6, T 32N, R 25W. (Legal Description)

COUNTY PROJ. NO. C.P. 87-16-83

STATE AID PROJ. NO. _____

GROSS LENGTH 12,690.680 FEET 2.404 MILES
 BRIDGES-LENGTH 0 FEET 0 MILES
 EXCEPTIONS-LENGTH 0 FEET 0 MILES
 NET LENGTH 12,690.680 FEET 2.404 MILES

GROSS LENGTH _____ FEET _____ MILES
 BRIDGES-LENGTH _____ FEET _____ MILES
 EXCEPTIONS-LENGTH _____ FEET _____ MILES
 NET LENGTH _____ FEET _____ MILES



END PROJ. C.P. 87-16-83
 STATION 233+75

LRP.O.T. 231+30.20 =
 LRP.O.T. 231+27.88

BEGIN PROJ. C.P. 87-16-83
 STATION 106+82

MINN. PROJ. NO. _____

MINN. PROJ. NO. _____

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO.	TITLE
1	TITLE SHEET & INDEX MAP
2	ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4	DRAINAGE & GUARD RAIL
5	MISCELLANEOUS DETAILS
6	EROSION CONTROL DETAILS
7	SUPERELEVATION
8-17	PLAN & PROFILE
18	PLAN & PROFILE - L' & L'
19-37	CROSS SECTIONS
38-40	CROSS SECTIONS - L' & L'
41-43	TRAFFIC DETOUR DETAILS

THIS PLAN CONTAINS 24 SHEETS

DESIGN DESIGNATION

ΣN18 20
 R Value _____
 ADT (1988) = 2364
 Proj. ADT (2008) = 3785
 Proj. HCADT (2008) = 300 - 600
 Soil Factor A-3 50%
9 Ton Design
 Shoulder Width 8'

Design Speed 55 MPH
 Based on STOPPING Sight Distance
 Height of eye 3.5' Height of object 0.5'
 Design Speed not achieved at:
 STA. 120+76 TO STA. 130+89 MPH 50
 STA. 157+35 TO STA. 162+87 MPH 50
 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 2/28/90 REG. NO. 6549 ENGR. Lawrence R. Lund

COUNTY ANOKA

Recommended for Approval _____ 19 _____
 DISTRICT STATE AID ENGINEER

Recommended for Approval _____ 19 _____
 STATE AID PLANS AND SPECS ENGINEER

Approved _____ 19 _____
 STATE AID ENGINEER

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

STATE AID PROJ. NO. _____ COUNTY PROJ. NO. C.P. 87-16-83
 STATE PROJ. NO. _____ SHEET NO. 1 OF 43 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITIES
2021.501	MOBILIZATION	LUMP SUM	1	
2031.501	FIELD OFFICE, TYPE 'D'	EACH	1	
2101.501	CLEARING	ACRE	5.95	
2101.502	CLEARING	TREE	38	
2101.506	GRUBBING	ACRE	5.95	
2101.507	GRUBBING	TREE	28	
2104.501	REMOVE CULVERT PIPE	LIN. FT.	146	
2104.505	REMOVE BITUMINOUS PAVEMENT	SQ. YD.	27,147	
2104.513	SAWING BITUMINOUS PAVEMENT	LIN. FT.	380	
2104.521	SALVAGE FENCE	LIN. FT.	2,458	
0557.603	INSTALL FENCE	LIN. FT.	1,841	
2105.501	COMMON EXCAVATION (P)	CU. YD.	94,687	
2105.505	MUCK EXCAVATION	CU. YD.	33,819	
2105.521	GRANULAR BORROW (EV)	CU. YD.	29,021	
2105.535	SALVAGE TOPSOIL (LV)	CU. YD.	4,715	
2130.501	WATER	M. GAL.	450	
2211.503	AGGREGATE BASE PLACED, CLASS 5A (P)	CU. YD.	15,714	
0211.503	5" THICK AGG. BASE PLACED, CLASS 5A	SQ. YD.	2,033	
2331.508	TYPE 41 WEARING COURSE MIXTURE	TON	5,252	
2331.510	TYPE 31 BINDER COURSE MIXTURE	TON	5,138	
2331.514	TYPE 31 BASE COURSE MIXTURE	TON	5,533	
2331.531	TEMPORARY LANE MARKING	RD. STA.	401	
0331.601	2" THICK WEARING COURSE PLACED	SQ. YD.	105	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	4,348	
2501.511	15" CM PIPE CULVERT	LIN. FT.	212	
2501.511	18" CM PIPE CULVERT	LIN. FT.	398	
2501.515	15" CM PIPE APRON	EACH	10	
2501.515	18" CM PIPE APRON	EACH	12	
2501.521	28.5' SPAN RC PIPE-ARCH CULVERT	LIN. FT.	322	
2501.521	102' SPAN RC PIPE-ARCH CULVERT	LIN. FT.	82	
2501.525	28.5' SPAN RC PIPE-ARCH APRON	EACH	8	
2501.525	102' SPAN RC PIPE-ARCH APRON	EACH	2	
2511.507	GROUTED RIPRAP	CU. YD.	24	
2511.515	GEOTEXTILE FILTER TYPE IV	SQ. YD.	53	
2535.501	BITUMINOUS CURB	LIN. FT.	100	
2554.501	TRAFFIC BARRIER, DESIGN B. 8307	LIN. FT.	258	
2554.523	TWISTED END TREATMENT	EACH	2	
0563.501	TRAFFIC CONTROL	LUMP SUM.	1	
2573.501	BALE CHECK	EACH	150	
2573.502	SILT FENCE, HEAVY DUTY	LIN. FT.	2,427	
2575.501	SEEDING (P)	ACRE	24.7	
2575.502	SEED, MIXTURE NO. 700	POUND	1,112	
2575.505	SODDING, (TYPE EROSION CONTROL SOD)	SQ. YD.	14,280	
2575.511	MULCH MATERIAL, TYPE 1	TON	49	
2575.519	DISC ANCHORING (P)	ACRE	25	
2575.531	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10	TON	6	

STATEMENT OF ESTIMATED QUANTITIES

- ① REMOVE OF BITUMINOUS FLUMES WILL BE CONSIDERED AS INCIDENTAL TO ITEM 2104.505 AND NO ADDITIONAL COMPINSATION WILL BE MADE.
- ② INCLUDES 12,679 CU. YDS. OF SUBCUT EXCAVATION.
- ③ SEE SPECIAL DETAILS.
- ④ INCLUDES 450 M-GALLONS FOR DUST CONTROL AND 300 M-GALLONS FOR CLASS 5 AGGREGATE COMPACTION.
- ⑤ INCLUDES 1,149 CU. YDS. FOR STREET APPROACHES AND 206 CU. YDS. FOR L1 ROAD CONSTRUCTION AND 118 CU. YDS. FOR L2 ROAD CONST. TO BE USED FOR AGGREGATE DRIVEWAY CONSTRUCTION, 5' THICK.
- ⑥ INCLUDES 928 TON FOR ROAD APPROCHES, 199 TON FOR L1, 141 TON FOR L2 AND 784 TON FOR RIGHT TURN LANES.
- ⑦ INCLUDES 162 TON FOR ROAD APPROACHES, 189 TON FOR L1, 141 TON FOR L2.
- ⑧ TO BE USED FOR BITUMINOUS DRIVEWAY CONSTRUCTION AND IS TO INCLUDE 2' 2331 WEARING COURSE MIX AND 3' AGGREGATE BASE. AGGREGATE BASE WILL BE CONSIDERED INCIDENTAL TO 2' WEARING COURSE PLACED AND NO ADDITIONAL COMPENSATION WILL BE MADE. INCLUDES 2,139 TON FOR ROAD APPROACHES, 158 TON FOR L1, 98 TON FOR L2 APPROACH.
- ⑨ SEE BITUMINOUS CURB DETAIL FOR LOCATION.
- ⑩ SEE BALE CHECK CHART - EROSION CONTROL SHEET FOR LOCATION.
- ⑪ SEE SILT FENCE CHART - EROSION CONTROL SHEET FOR LOCATION.

EARTHWORK SUMMARY

EXCAVATION (CU. YDS.)		
REG. COMMON	82,008	
SUBCUT	12,679	94,687
MUCK		33,819
EMBANKMENT (CU. YDS.)		
REG.	32,321 x 145% = 46,867	
REG.	35,215 x 175% = 61,626	123,708
SUB.	12,679 x 120% = 15,215	
GRANULAR BORROW (123,708-94,687)		= 29,021
MUCK	5,321 x 125% = 6,651	
⑩ EXCESS MUCK	(33,819-6,651)	= 27,168
TOPSOIL --		
	REMOVE & REPLACE 9,344	
	⑪ SALVAGE TOPSOIL 4,715	14,059
BITUMINOUS REMOVAL		27,147
⑫ SEE SPECIAL DETAILS		

BASIS OF PLANNED QUANTITIES

2331	TYPE 41 PLANT MIXED WEARING COURSE
	BITUMINOUS MIXTURE 110 LBS./SQ.YD. PER 1" THICKNESS
	BITUMINOUS MATERIAL FOR MIXTURE 5.8% BY WEIGHT
2331	TYPE 31 PLANT MIXED BASE AND BINDER COURSE
	BITUMINOUS MIXTURE 110 LBS./SQ.YD. PER 1" THICKNESS
	BITUMINOUS MATERIAL FOR MIXTURE 5.3% BY WEIGHT
2357	BITUMINOUS MATERIAL FOR TACK
	0.05 GALLONS PER SQ.YD.
2575	MULCH MATERIAL TYPE 1, 2 TONS PER ACRE
2575	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10
	500 LBS./ACRE ON ALL SEED AND SOD AREAS
2575	ROADSIDE SEEDING BASED ON HORIZONTAL MEASUREMENT - PLUS 10%
2575	SEED MIXTURE NO. 700, 35LBS. PER ACRE

SPECIAL DETAILS

THE CONTRACTOR WILL BE REQUIRED TO REMOVE APPROX. 9,344 CU. YDS. OF EXISTING TOPSOIL MATERIAL WITHIN THE DISTURBED AREAS. THIS MATERIAL IS TO BE USED AS TOPSOIL DRESSING TO PROVIDE A UNIFORM, MINIMUM, 3" COVER OVER THE FINISHED SLOPES AND DITCH BOTTOMS. THIS WORK WILL BE CONSIDERED AS INCIDENTAL TO COMMON EXCAVATION, ITEM 2105.501, AND NO ADDITIONAL COMPENSATION WILL BE MADE.

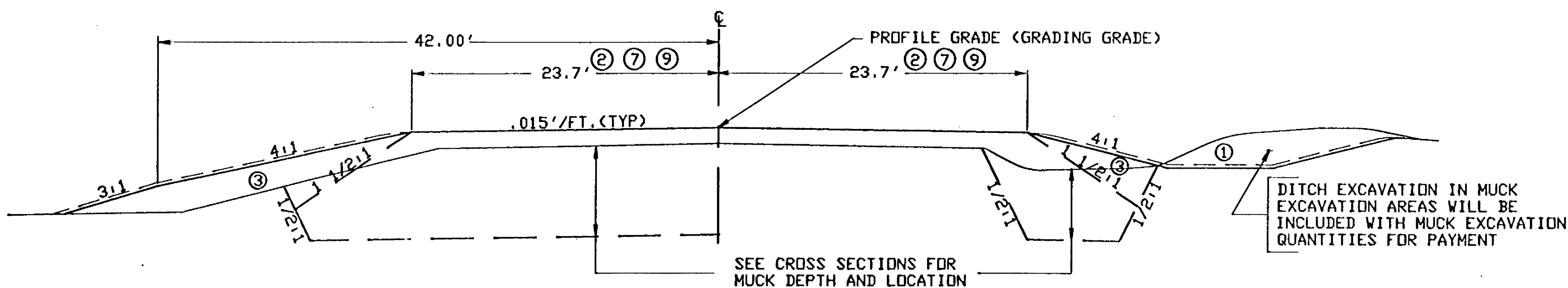
APPROXIMATELY 4,715 CU. YDS. OF EXCESS MUCK EXCAVATION MATERIAL, SHALL BE USED, BY THE CONTRACTOR, TO PROVIDE A UNIFORM 3" THICKNESS OF TOPSOIL DRESSING. APPROXIMATELY 900 CU. YDS. IS TO BE USED AS TOPSOIL DRESSING IN AREAS TO BE SODDED WITH THE REMAINDER TO BE USED AS EMBANKMENT MATERIAL IN THE MITIGATION POND SITE AREA, STA. 220+00 TO STA. 226+75 LT., AS INDICATED IN THE CROSS SECTIONS. THIS WORK WILL BE PAID FOR AS SALVAGED TOPSOIL, ITEM 2105.535, AND WILL BE CONSIDERED AS PAYMENT IN FULL FOR SALVAGED TOPSOIL WORK AND NO ADDITIONAL COMPENSATION WILL BE MADE. THE REMAINING EXCESS MUCK EXCAVATION MATERIAL, APPROXIMATELY 22,453 CU. YDS., WILL BECOME THE PROPERTY OF THE CONTRACTOR AND IS TO BE DISPOSED OF OUTSIDE THE LIMITS OF THE CONSTRUCTION PROJECT AND RIGHT-OF-WAY LIMITS.

STANDARD PLATES

PLAT NO.	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 K	REINFORCED CONCRETE PIPE
3006 F	GASKET JOINT FOR R.C. PIPE
3014 J	REINFORCED CONCRETE PIPE ARCH DETAIL
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3123 I	METAL APRON FOR C.S. PIPE
3145 E	CONCRETE PIPE TIES
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
7065 C	BITUMINOUS CURB
8000 I	STANDARD BARRICADES
8307 N	STEEL PLAT BEAM GUARDRAIL
8319 G	TWISTED END TREATMENT
9000 B	APPROACHES AND ENTRANCES
9102 C	SODDING AT PIPE CULVERT ENDS

REVISIONS			
DATE	BY	DATE	BY
4-2-79	ZZ		

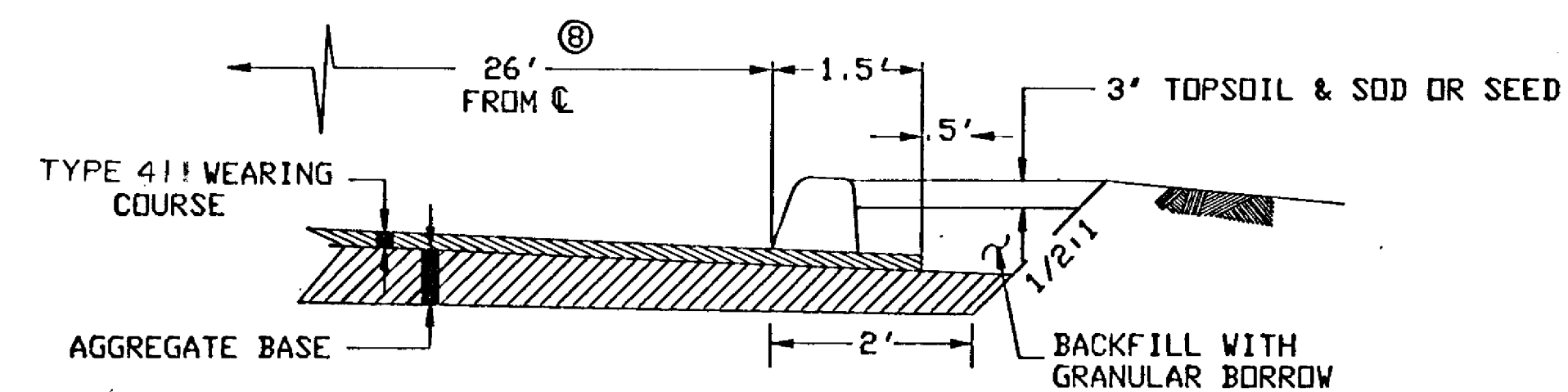
**GRADING SECTION
MUCK EXCAVATION AREAS**



① FOR SPECIAL DITCHES SEE PROFILE SHEETS & CROSS SECTIONS

BITUMINOUS CURB DETAIL

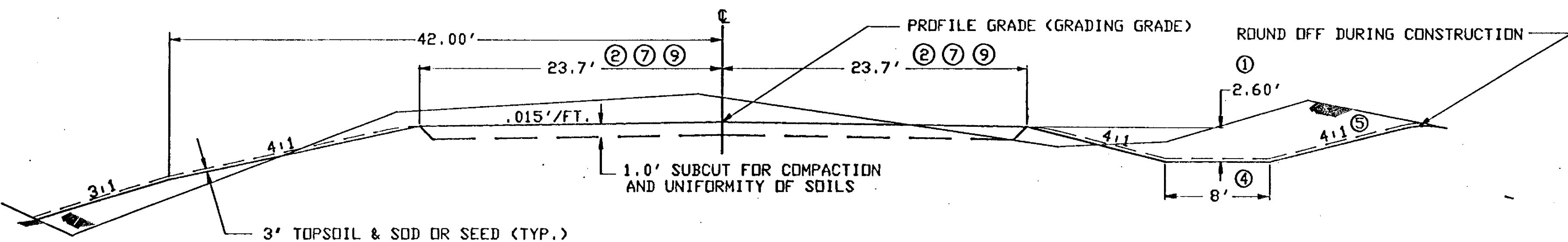
STANDARD PLATE NO. 7065
(USE IN BERM LOCATIONS)



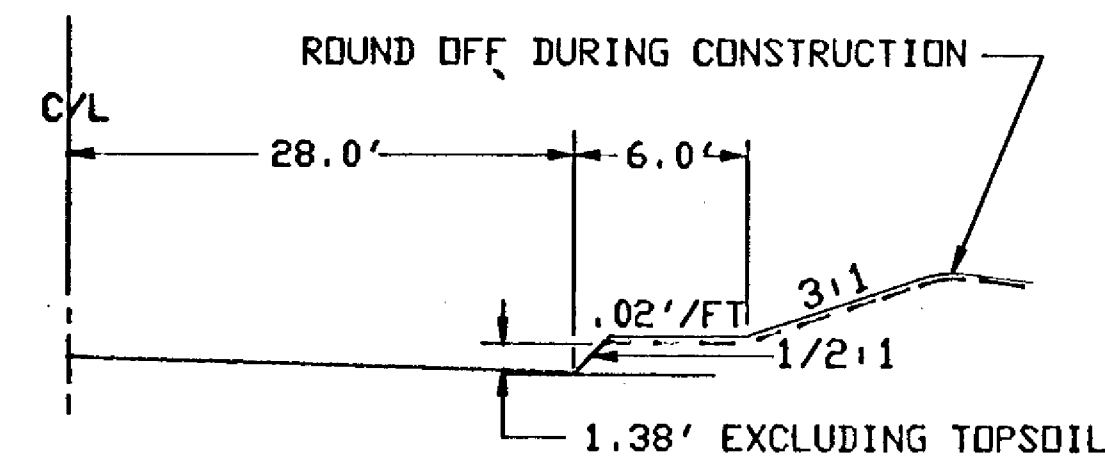
CURB LOCATIONS

STA. 230+00 TO STA. 231+00

GRADING SECTION



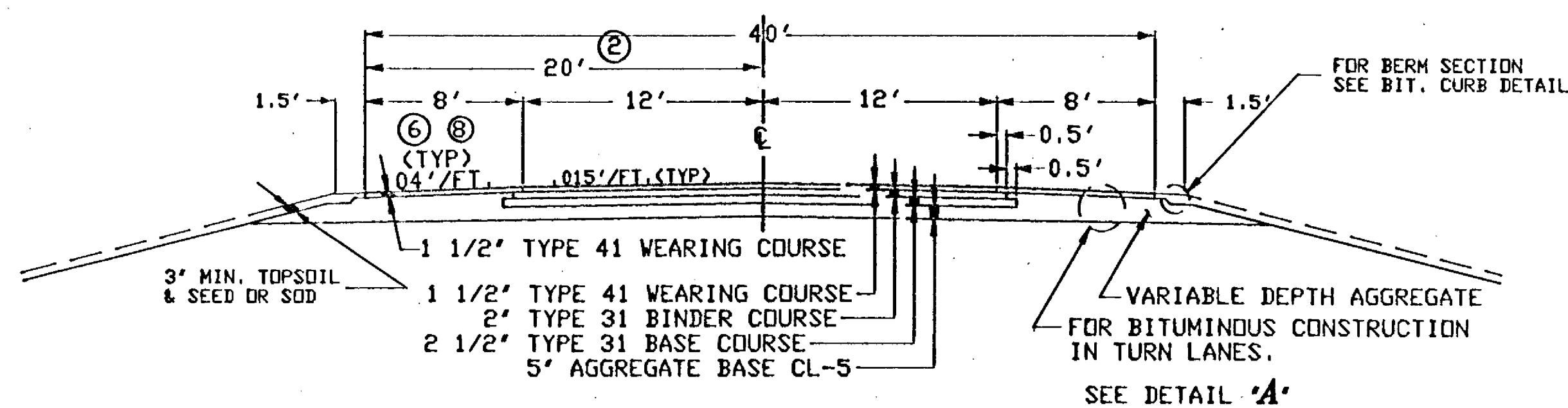
GRADING BERM



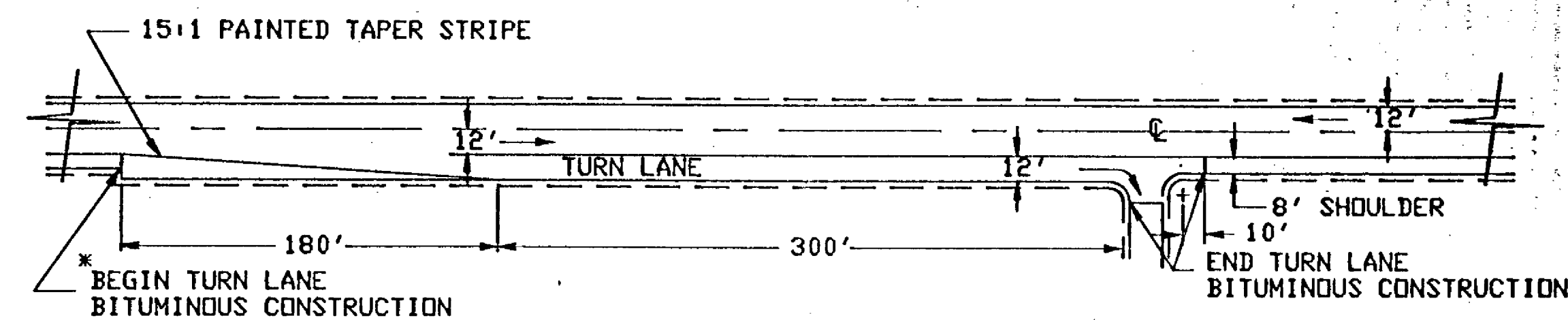
LOCATION

STA. 230+00 TO STA. 231+00

TYPICAL BASE & SURFACING SECTION



TYPICAL RIGHT TURN LANE



* SEE DETAIL "A" FOR BASE AND BITUMINOUS CONSTRUCTION

RIGHT TURN LOCATIONS

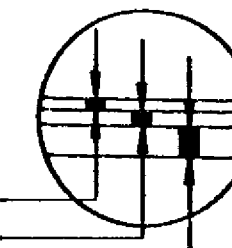
STATION	TO	STATION	LT./RT.
106+82	-	111+32	LT.
117+90	-	122+70	RT.
142+99	-	147+79	RT.
148+10	-	154+19	LT.
154+49	-	159+29	LT.
162+47	-	167+27	RT.
167+48	-	172+28	LT.
184+95	-	189+75	LT.
188+40	-	193+20	RT.
222+16	-	226+96	RT.
227+24	-	231+50	LT.
L1APR.			
0+20	-	3+30	LT.
L2APR.			
0+52	-	1+34	RT.
1+68	-	2+60	LT.

- ① FOR SPECIAL DITCHES SEE PLAN AND PROFILE AND CROSS SECTION SHEETS.
- ② 28.4' IN RIGHT TURN LANES.
- ③ FILL WITH SWAMP EXCAVATION MATERIAL.
- ④ FOR MODIFIED DITCH WIDTHS SEE CROSS SECTIONS.
- ⑤ SEE CROSS SECTIONS FOR MODIFIED DITCH SLOPES.
- ⑥ .02'/FT. IN RIGHT TURN LANES.
- ⑦ 25.4' ON LOW SIDE IN SUPERELEVATION 29.4' IN LOW SIDE OF SUPERELEVATION IN RIGHT TURN LANE.
- ⑧ .01'/FT. ON HIGH SIDE SHOULDER OR TURN LANE IN SUPERELEVATION.
- ⑨ 24.4' ON HIGH SIDE SUPERELEVATION, 28.4' ON HIGH SIDE SUPERELEVATION IN RIGHT TURN LANES.

DETAIL "A"

RIGHT TURN LANE CONSTRUCTION

1 1/2' TYPE 41 WEARING COURSE
2' TYPE 31 BINDER COURSE
VARIABLE DEPTH CL-5 AGGREGATE



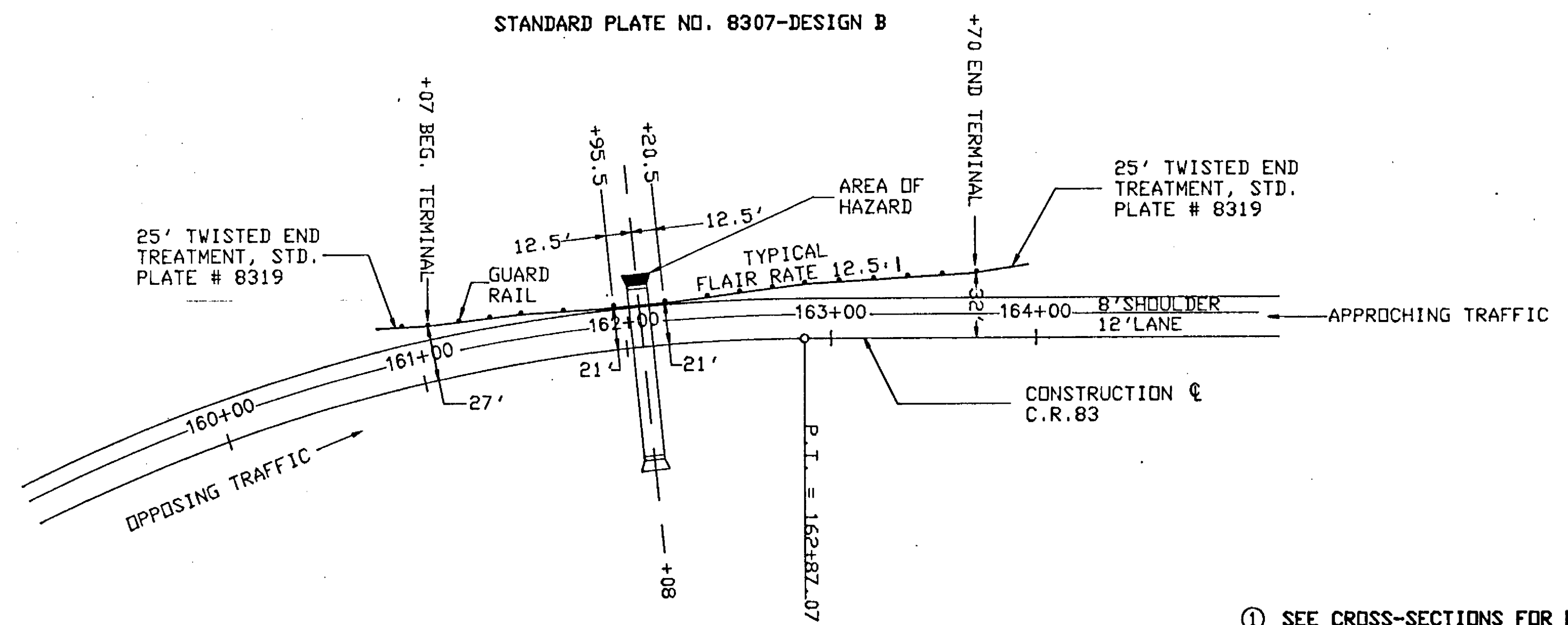
NOTE: NO SCALE - USE DIMENSIONS

REVISIONS			
DATE	BY	DATE	BY

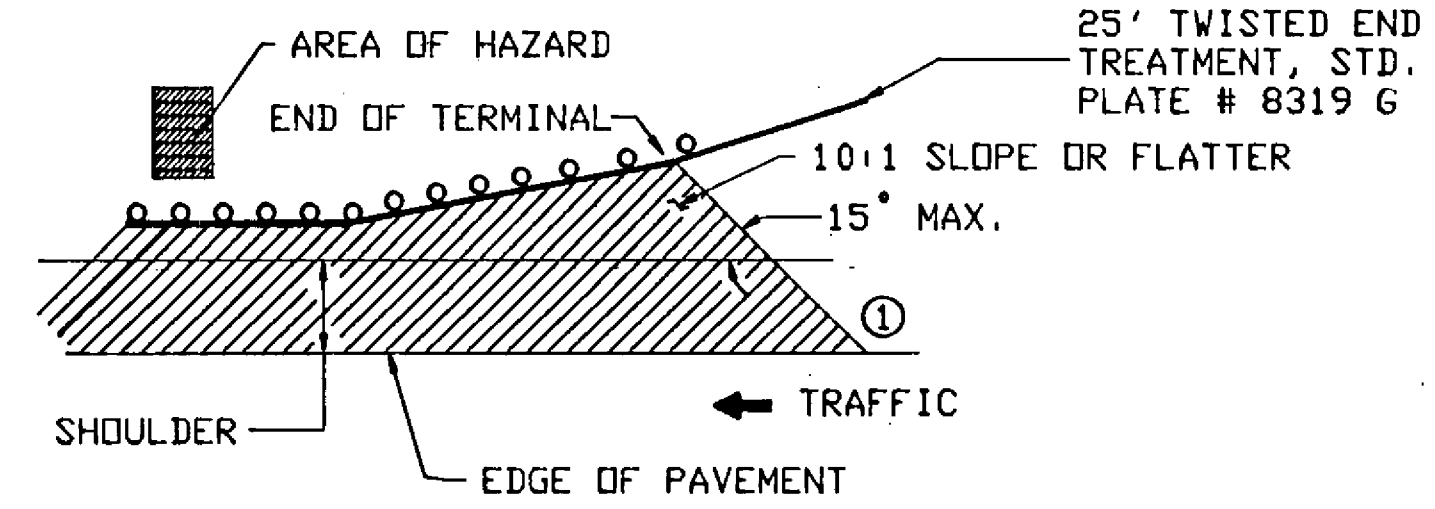
S.A.P. _____ S.P. _____ C.P. 87-16-83

DRAINAGE CHART							F & I CULV.									
STATION	LOC	INPLACE	REMARKS	SODDING	REMOVE	SALVAGE	15' CMP		18' CMP		28.5' SPAN RCP-A		102' SPAN RCP-A			
				CULV. PIPE	CULV. PIPE	CULV. PIPE	LIN. FT.	AP.	LIN. FT.	AP.	LIN. FT.	AP.	LIN. FT.	AP.		
119+64	RT.		14' FIELD ENT.	17			38	2								
122+92	RT.		163rd. LANE N.W.	23					54	2						
124+36	RT.		12' SAND ENT.	17			38	2								
141+31	RT.		12' SAND ENT.	17			40	2								
143+25	RT.		16' FIELD ENT.	17			48	2								
147+93	RT.		28' BIT. KANGAROO CIR.													
147+95	LT.		NO CULV. REQ. KANGAROO STREET													
154+34	LT.		30' BIT. MAROSET ST.	23					44	2						
162+08	C/T	84'x 66' CMP	NO APRON	85	66								82	2		
167+36	LT.		24' BIT. 167th. LN.	23					78	2						
167+39	RT.		24' BIT. 167th. LN.	23					110	2						
184+84	LT.	15'x 50' CMP	22' BIT. RABBIT ST. NO CULV. REQ.		50											
185+23	RT.		21' CONCRETE ENT. NO CULV. REQ.													
192+00	C/L		C/L CULVERT - NEW	31							100	2				
210+00	C/L		C/L CULVERT - NEW	31							46	2				
226+30	C/L		C/L CULVERT - NEW	31							86	2				
L1 2+00	RT.	15'x 30' CMP	14' SAND ENT.	23	30						44	2				
L2 0+68	RT.		30' GRAV. BAUGH ST. C/L CULVERT - NEW	17			38	2								
L2 1+00	C/L		173rd. AVENUE C/L CULVERT - NEW	17						68	2					
L2 2+10	C/L		CD. RD. 63 EAST C/L CULVERT - NEW	31							90	2				
TOTALS				432	146	0	0	0	212	10	398	12	322	8	82	2

GUARD RAIL CONSTRUCTION DETAIL



APPROACH BARRIER SLOPE DETAIL



① SEE CROSS-SECTIONS FOR MODIFIED SLOPES.

REVISIONS			
DATE	BY	DATE	BY

S.A.P. S.P. C.P. 87-16-83

CLEARING AND GRUBBING

STATION	LOCATION	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
107+46 - 122+10	34-55.6 RT	0	1.1	0	1.1
124+08	30' LT	1	0	1	0
124+11	30' LT	1	0	1	0
124+50 - 124+61	33-43 LT	0	0.05	0	0.05
128+84	50' LT	1	0	1	0
129+80 - 133+05	49-60 RT	0	0.2	0	0.2
134+80 - 137+22	48-54.7 RT	0	0.15	0	0.15
139+55 - 140+00	48-55 RT	0	0.05	0	0.05
141+93 - 147+00	50-56 RT	0	0.3	0	0.3
142+25	42' LT	3	0	1	0
143+14	42' LT	1	0	1	0
148+17 - 154+95	23-52.6 RT	0	0.55	0	0.55
148+50 - 154+45	27-63.6 LT	0	0.6	0	0.6
154+69 - 154+94	34-40 LT	0	0.05	0	0.05
155+35 - 157+00	42-63.7 RT	0	0.15	0	0.15
156+07	30' LT	1	0	1	0
156+29 - 161+24	36-75 LT	0	0.5	0	0.5
157+39	24' LT	1	0	1	0
157+49	42' RT	3	0	1	0
157+64	42' RT	1	0	1	0
157+67	42' RT	1	0	1	0
158+90	45' RT	1	0	1	0
163+75	35' RT	1	0	1	0
164+70	40' RT	1	0	1	0
165+20	46' RT	1	0	1	0
165+45 - 167+00	30-54 RT	0	0.15	0	0.15
165+68 - 166+16	33-60.1 LT	0	0.05	0	0.05
166+90	40' LT	2	0	1	0
168+25 - 175+50	22-67 RT	0	0.7	0	0.7
168+93	60' LT	3	0	1	0
169+10 - 174+20	28-71 LT	0	0.5	0	0.5
176+27	42' RT	1	0	1	0
176+69 - 178+45	32-60.7 RT	0	0.15	0	0.15
177+95 - 180+72	18-49 LT	0	0.25	0	0.25
185+49	34' RT	1	0	1	0
185+52	57' RT	3	0	1	0
185+60	40' RT	1	0	1	0
185+66	32' RT	1	0	1	0
186+57	50' RT	1	0	1	0
190+58	51' LT	1	0	1	0
202+45	20' LT	1	0	1	0
215+94	20' RT	1	0	1	0
225+00 - 226+00	50-100.6LT	0	0.1	0	0.1
225+19	38' LT	2	0	1	0
225+78	20' LT	1	0	1	0
225+83	31' LT	1	0	1	0
229+06 - 233+25	27-55.2 RT	0	0.35	0	0.35
TOTALS		38	5.95	28	5.95

SALVAGE & INSTALL FENCE

STATION	LOCATION	SALVAGE	INSTALL
119+75 - 123+07	32' RT	343'	332'
121+40 - 124+00	50' LT	260'	260'
134+32	54' RT	6'	0
137+85 - 140+20	48' LT	235'	235'
140+13 - 141+19	50' RT	106'	106'
141+15 - 143+00	44' LT	185'	185'
141+48 - 143+24	48' RT	201'	176'
184+10 - 184+86	52' RT	95'	76'
185+35 - 190+20	33' RT	514'	27'
208+20 - 208+85	28' RT	134'	65'
229+06 - 232+85	27' RT	379'	379'
TOTALS		2458'	1841'

SAW CUT BITUMINOUS

STATION	LOCATION	LENGTH	DIST. - ¢	REMARKS
106+82	¢	44	0	BEG. MAINLINE
122+95	RT	30	65	163RD. LN. NW.
147+93	RT	30	54	KANGAROO CIR.
147+95	LT	30	54	KANGAROO ST.
154+34	LT	30	51	MARMOSET ST. NW.
167+36	LT	24	69	167TH. LN.
167+39	RT	24	69	167TH. LN.
184+84	LT	22	57	RABBIT ST. NW.
233+25	¢	24	0	END MAINLINE
L1				
4+50	¢	24	0	END L1/C.R.#83
L2				
0+00	¢	24	0	BEG L2/173RD.AVE.
3+00	¢	24	0	END L2/C.R.#83
TOTALS		330		

SODDING

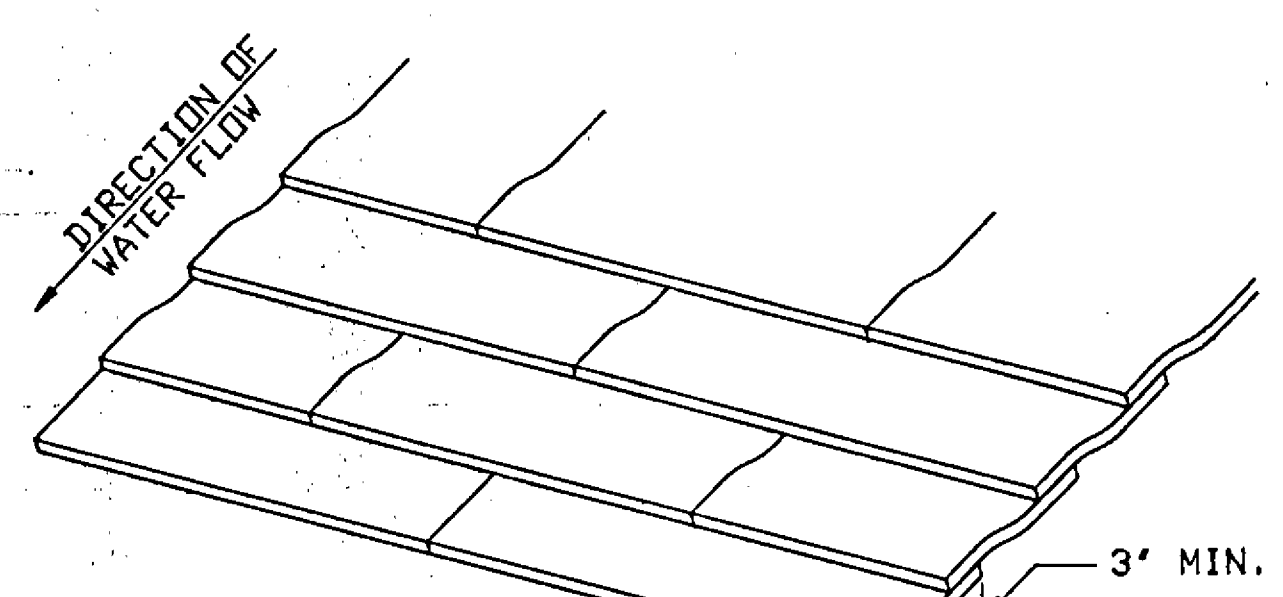
STATION TO STATION	LOCATION	SQ. FT.	REMARKS
120+00 - 132+00	LT	800	LOW SIDE OF CURVE
140+25 - 142+00	RT	681	YARD
152+00 - 157+25	LT	933	DITCH BOTTOM
152+00 - 155+50	RT	622	DITCH BOTTOM
156+50 - 164+00	RT	500	LOW SIDE OF CURVE
167+50 - 172+00	LT & RT	1600	DITCH BOTTOMS
171+00 - 183+50	LT	833	LOW SIDE OF CURVE
185+00 - 186+00	RT	356	YARD
186+00 - 190+50	RT	300	LOW SIDE OF CURVE
187+00 - 191+50	LT	1500	YARD
215+00 - 232+00	RT	1133	LOW SIDE OF CURVE
226+70 - 226+90	LT	380	(2) CULV. OUTLET IN RADIUS
L1 1+50 - L1 4+00	LT	444	DITCH
L1 1+50 - L1 2+61	RT	197	DITCH
L2 1+80 - L2 2+10	LT	57	LOW SIDE OF CURVE
L2 1+80 - L2 2+40	RT	56	LOW SIDE OF CURVE
PIPE CULVERT ENDS		3888	(SEE DRAINAGE CHART)
TOTALS		14280	

REVISIONS			
DATE	BY	DATE	BY

SODDED DITCH DETAILS

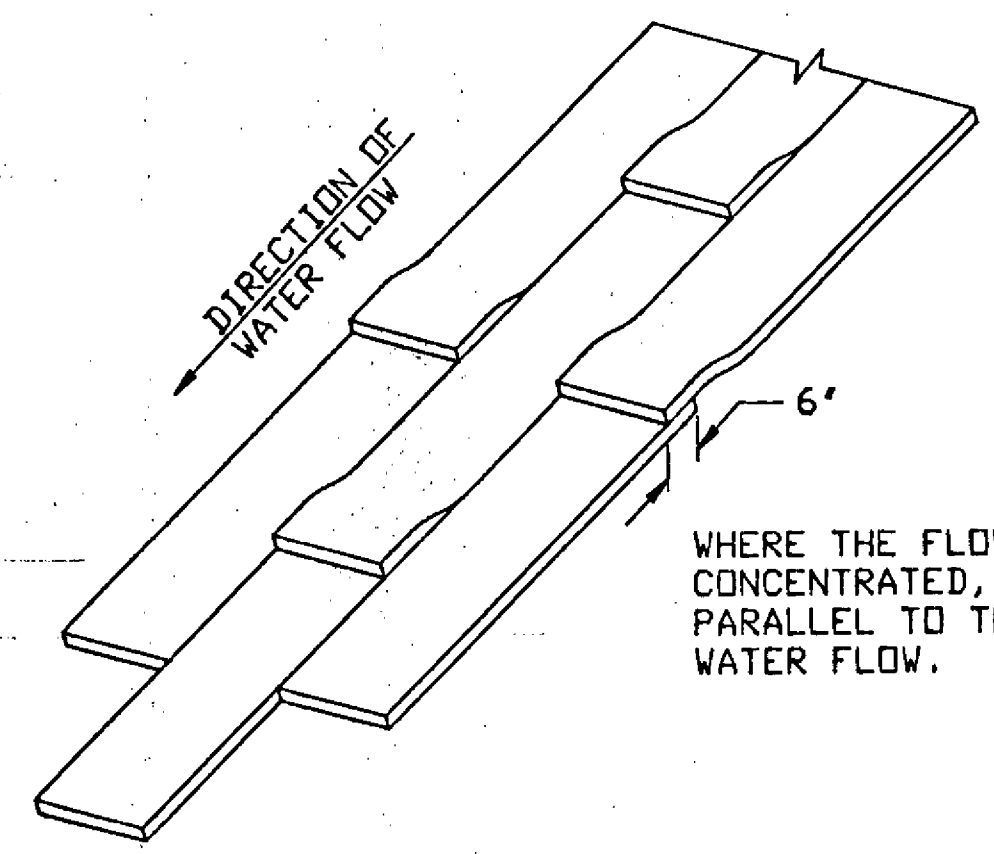
SPECIAL SOD PLACEMENT TECHNIQUES

SHINGLING SOD



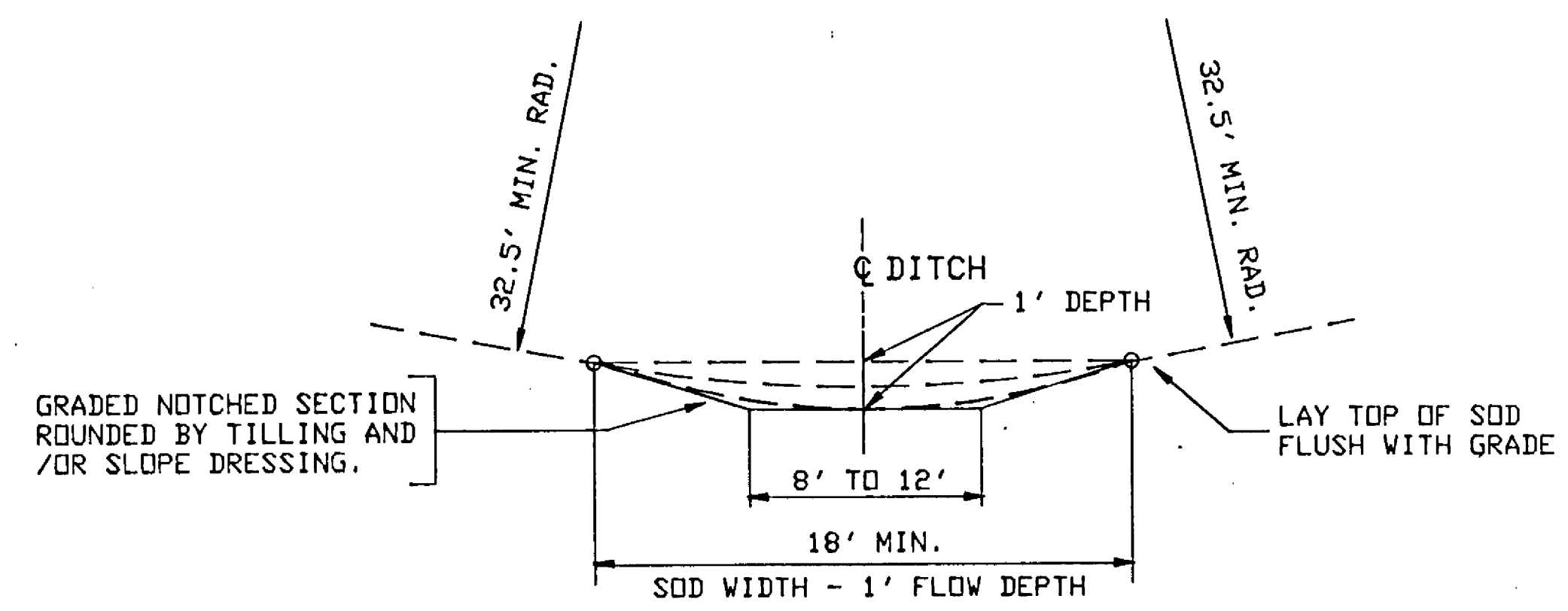
WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

OVERLAPPING SOD



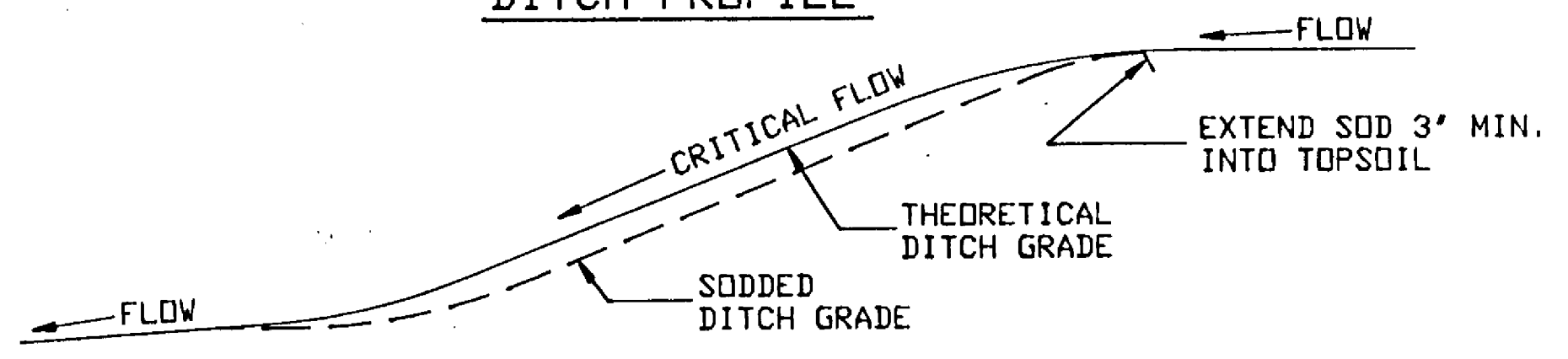
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.

SOD DITCH CROSS SECTION



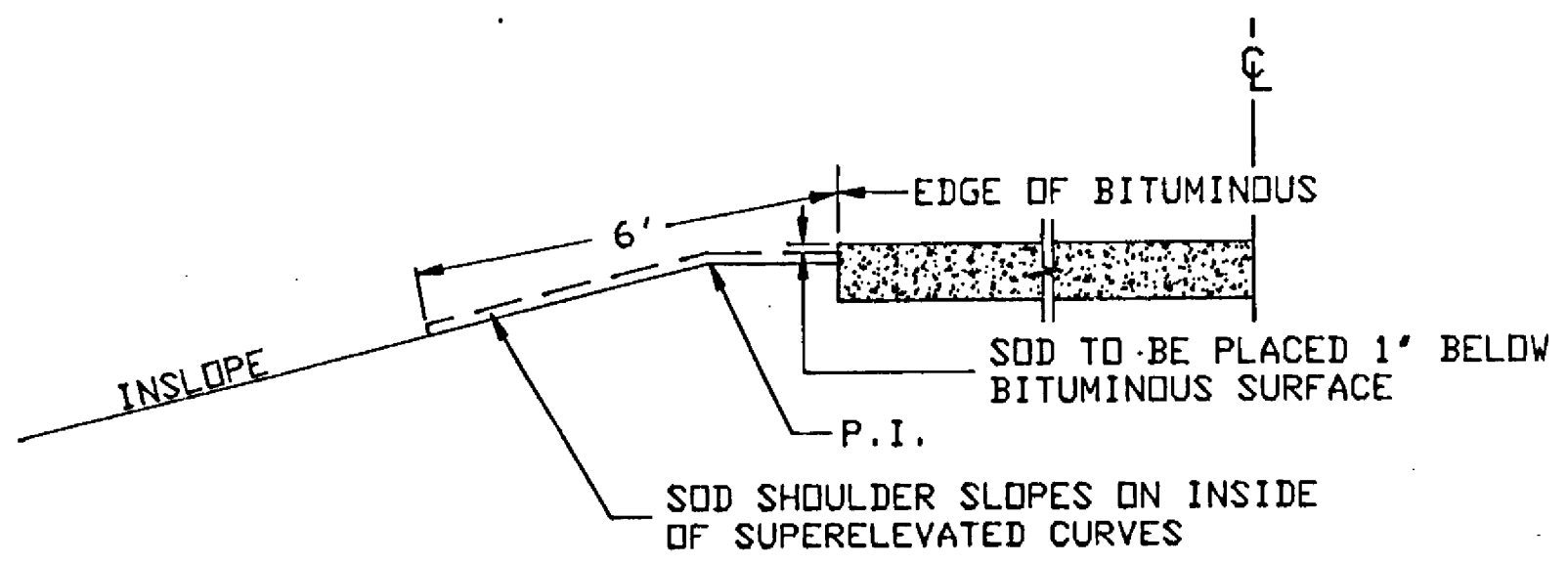
DITCHES HAVING A MINIMUM RADIUS OF 32.5 FEET AND REQUIRING SOD SHALL BE CONSTRUCTED ACCORDING TO THE ABOVE DETAILS. WHERE DITCH RADIUS IS LESS THAN 32.5 FEET, NOTCHING IS NOT REQUIRED. SOD A MINIMUM OF 18 FEET IN WIDTH.

DITCH PROFILE



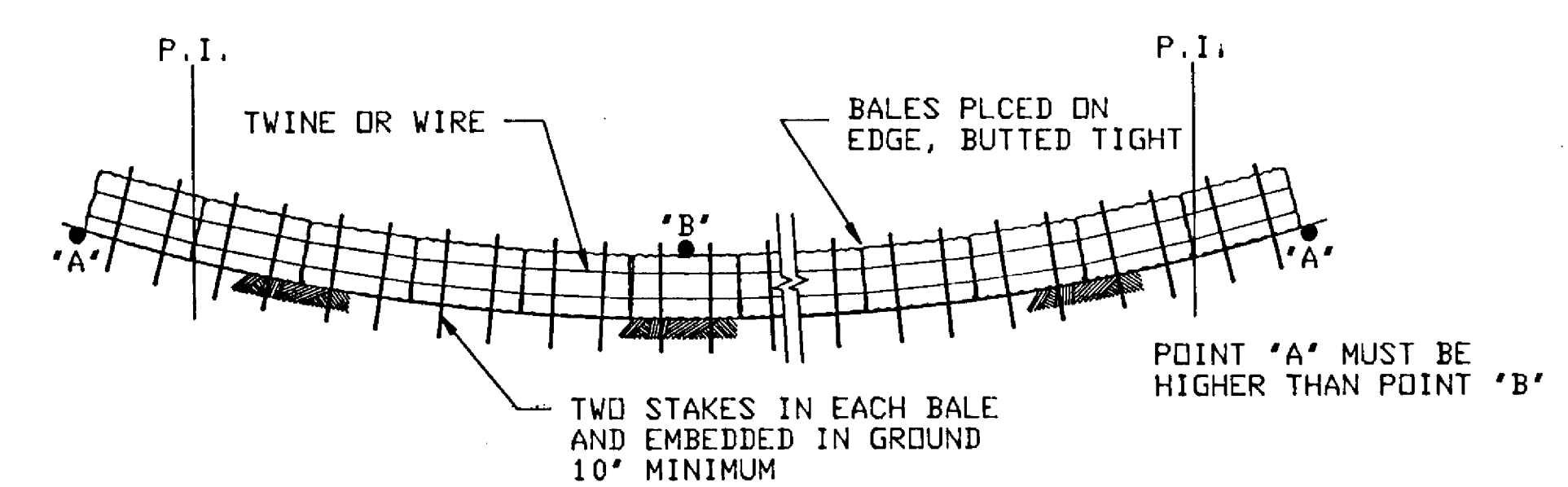
NOTE: APPLIES TO DITCH GRADE 2.0% OR GREATER.

SOD INSLOPES OF SUPERELEVATED CURVES

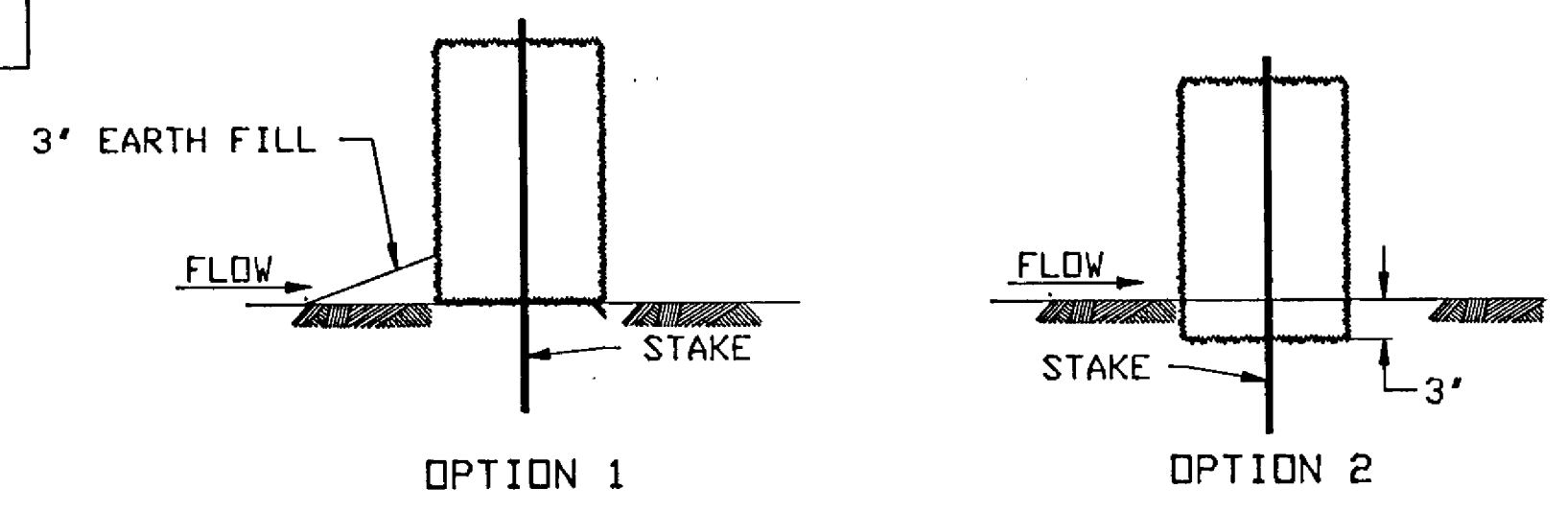


BALE CHECK		
STATION	LOCATION	QUANTITY
125+75	RT	5
127+00	RT	5
132+00	LT	5
136+00	RT	5
140+00	RT	5
141+00	LT	5
152+50	RT	5
153+50	LT	5
155+75	LT & RT	10
167+00	LT & RT	10
168+00	LT & RT	10
169+50	LT & RT	10
173+00	LT & RT	10
190+00	RT	5
193+00	LT	5
202+00	RT	5
203+00	LT	5
207+00	LT	5
220+00	LT	5
224+50	RT	5
228+75	LT	5
229+50	RT	5
LI		
1+75	RT	5
2+25	RT	5
2+80	RT	5
TOTAL		150

BALE HAY OR STRAW DITCH CHECK



DITCH CHECK SECTIONS



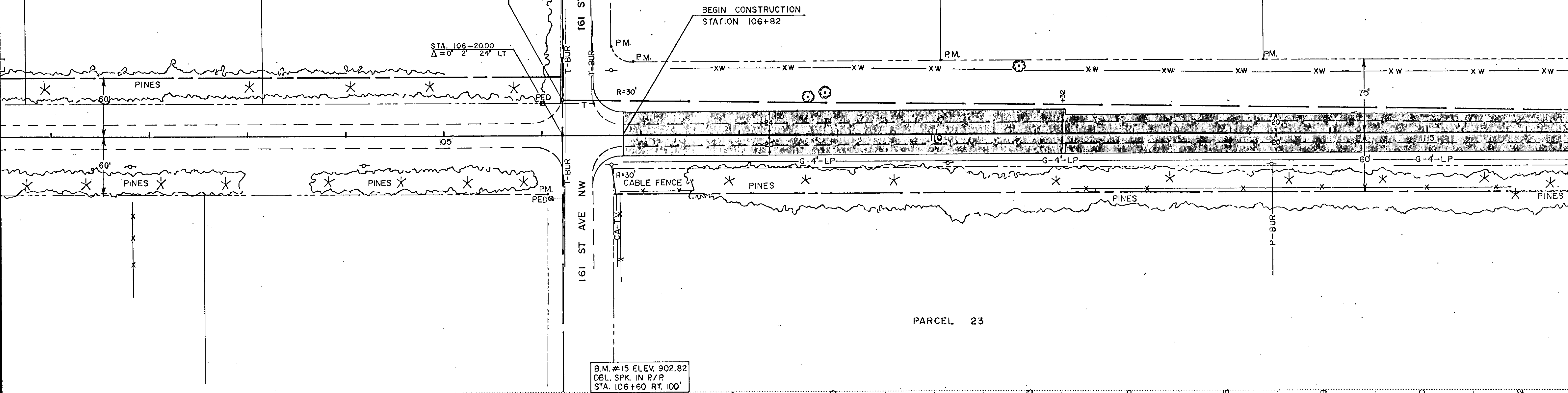
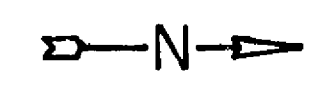
EROSION CONTROL DETAILS

SILT FENCE				
STATION TO STATION	LIN. FT.	LT.	RT.	
126+50 -- 166+81	1031		RT.	
156+50 -- 166+81	931	LT.		
225+74 -- 226+77	103		RT.	
227+38 -- 229+00	162		RT.	
LI2 APPROACH				
2+00 -- 3+00	100	LT.		
2+00 -- 3+00	100		RT.	
TOTAL	2427			

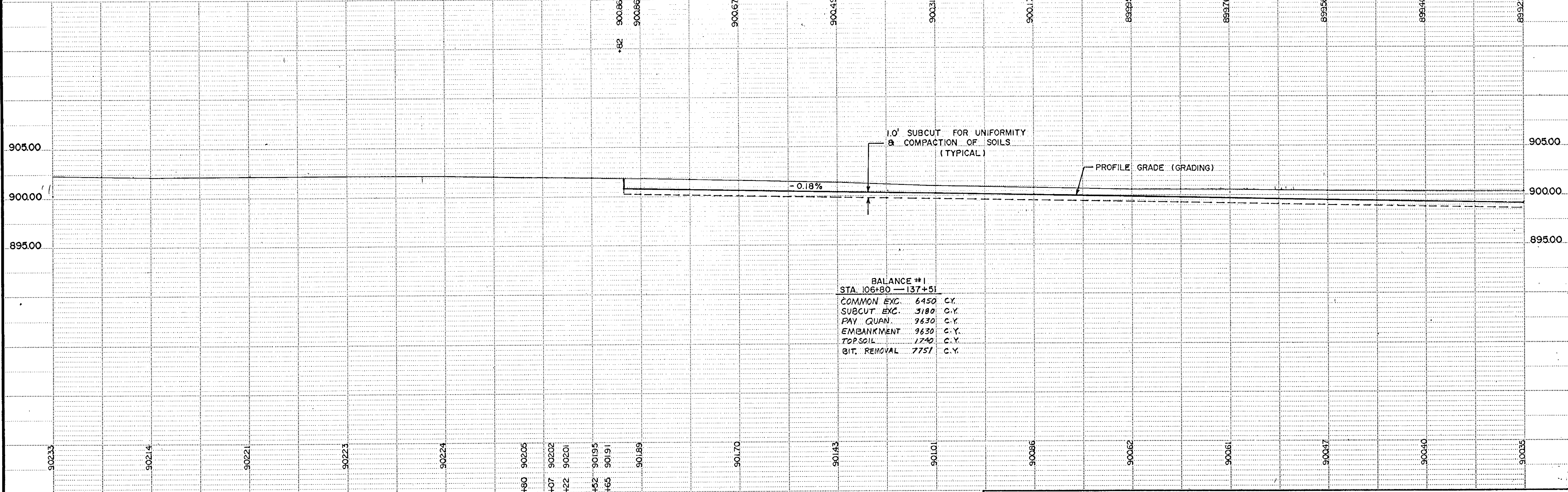
REVISIONS			
DATE	BY	DATE	BY

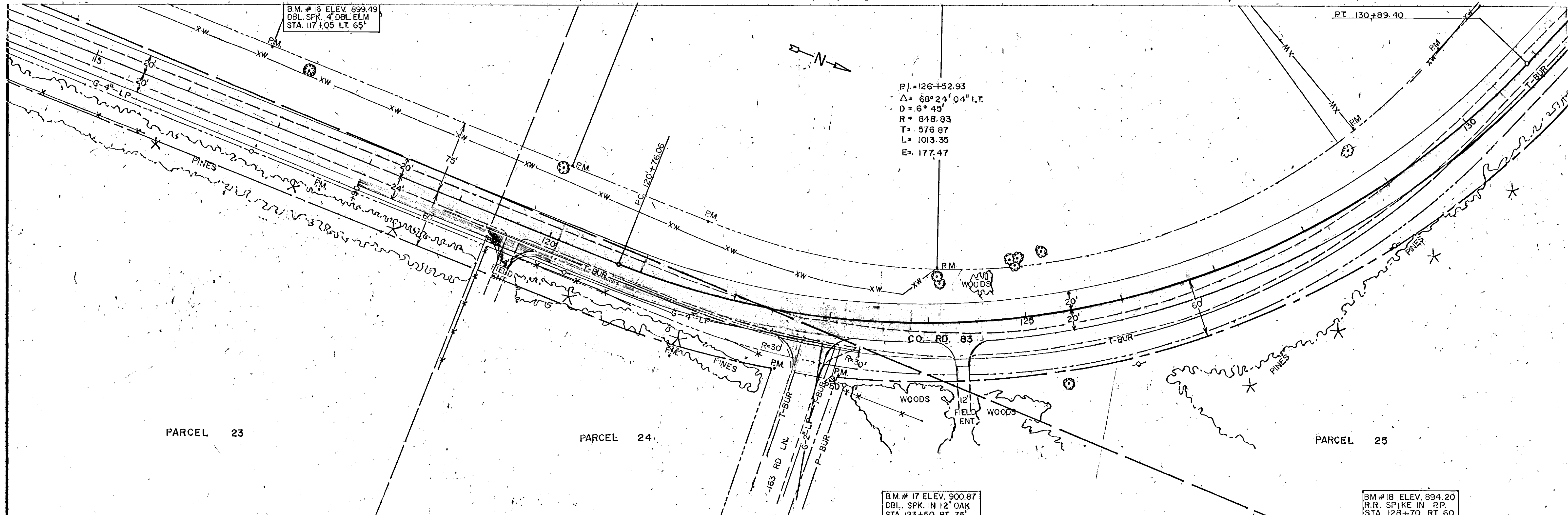
PARCEL #21

PARCEL #22



PARCEL 23





B.M. # 16 ELEV. 899.49
 DBL. SPK. 4\"/>

P.I. = 126+52.93
 $\Delta = 68^\circ 24' 04''$ LT.
 $D = 6^\circ 45'$
 $R = 848.83$
 $T = 576.87$
 $L = 1013.35$
 $E = 177.47$

PT. 130+89.40

B.M. # 17 ELEV. 900.87
 DBL. SPK. IN 12\"/>

B.M. # 18 ELEV. 894.20
 RR. SPIKE IN RP.
 STA. 128+70 RT 60

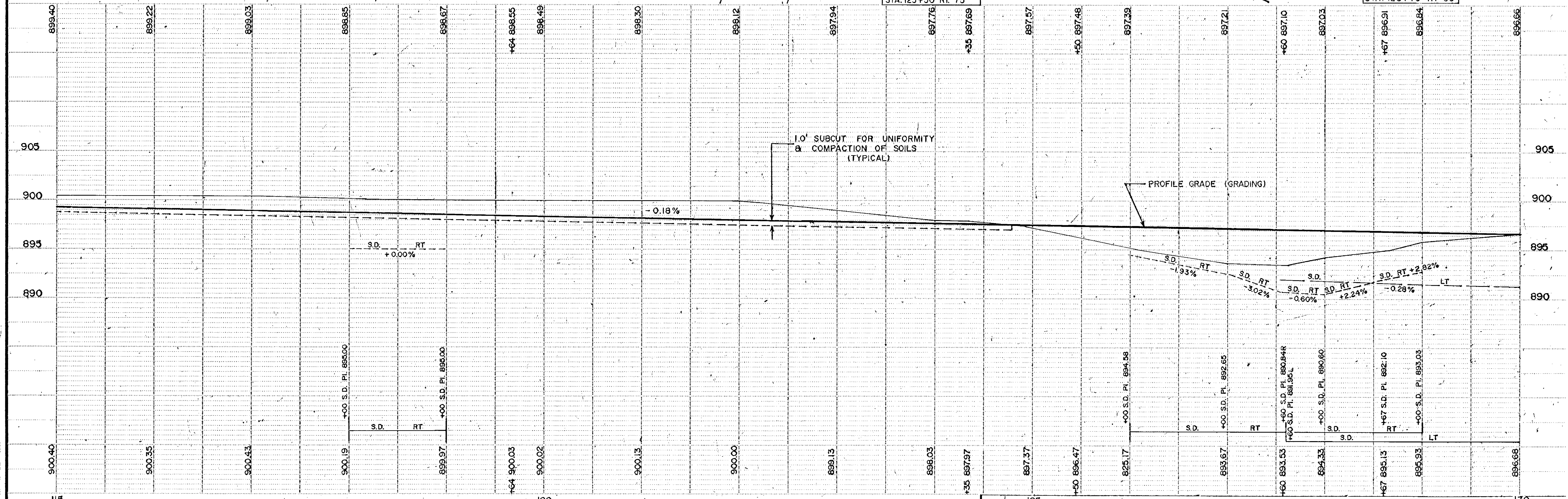
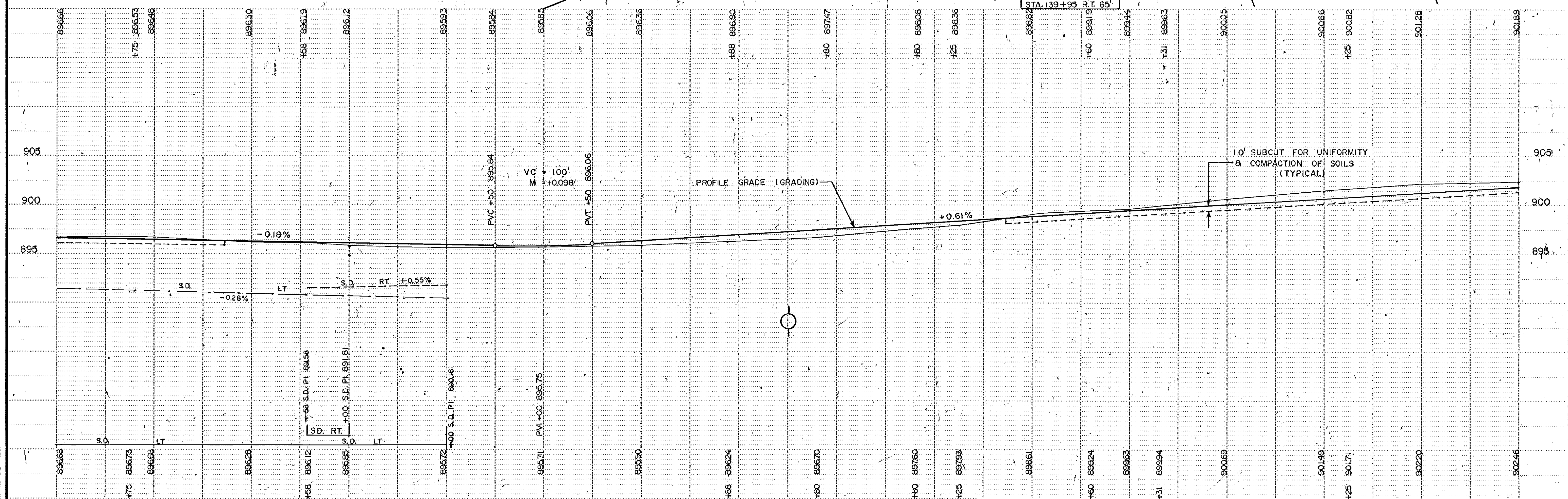
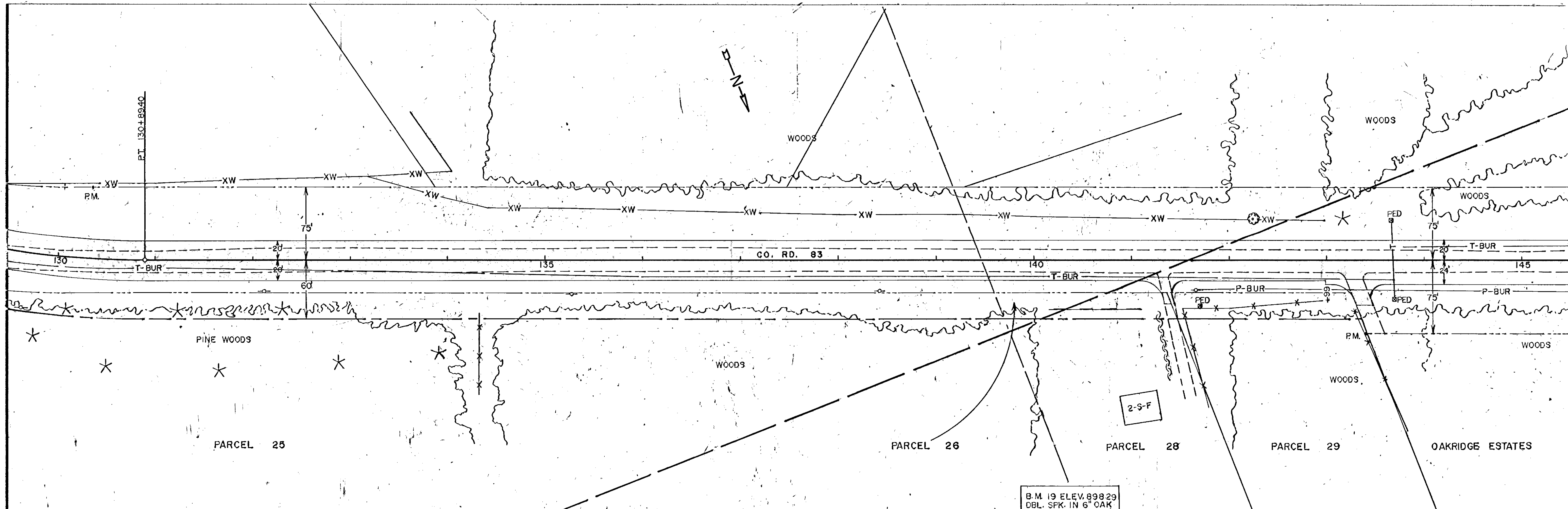


ILLUSTRATION BY: J.W. - 10/24

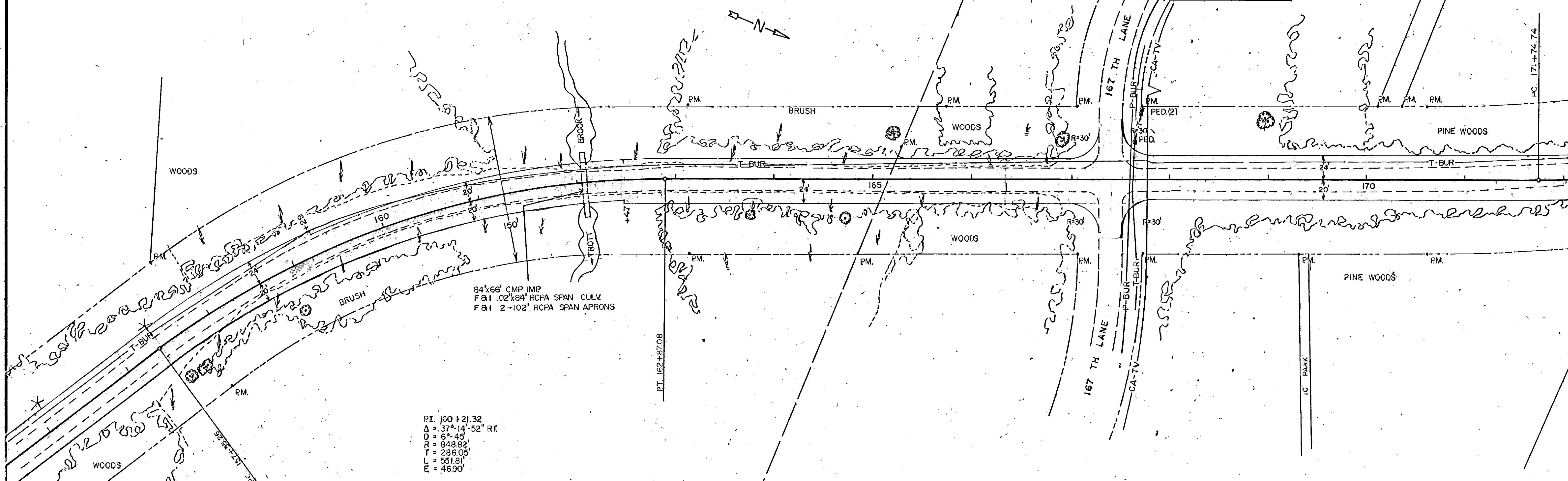


B.M. 19 ELEV. 898.29
 DEL. SFK. IN 6" OAK
 STA. 139+95 RT. 65'

ILLUSTRATION BY J. AND J. W. H. 1984

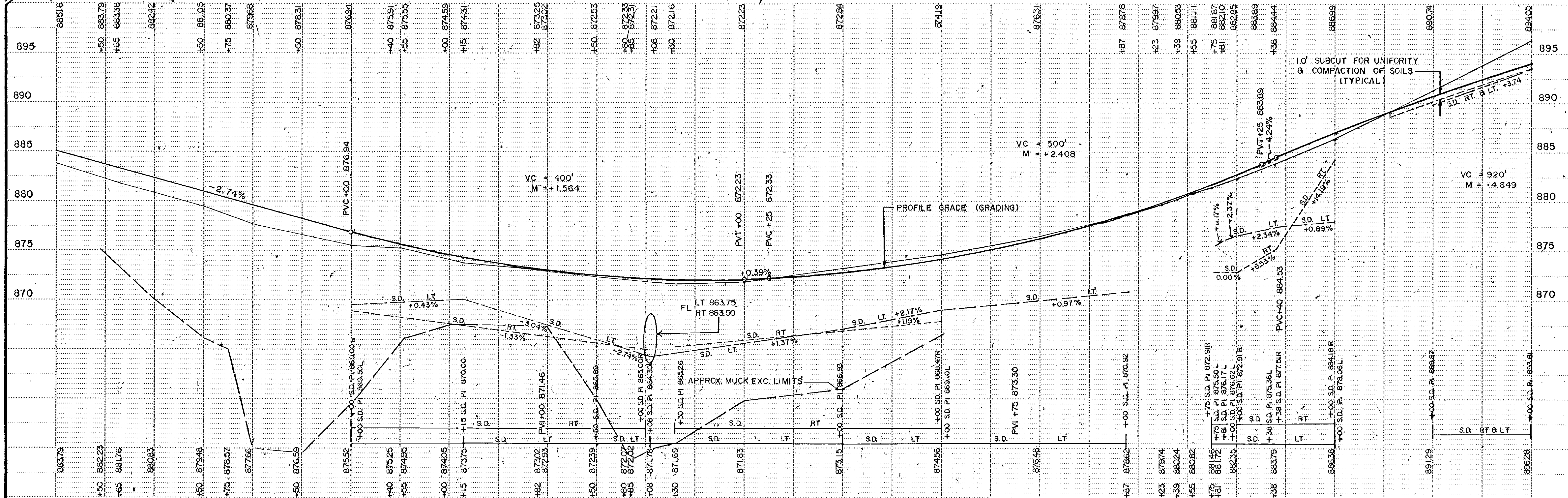
B.M. # 22 ELEV. 876.72
 DEL. SPK. 10' OAK
 STA. 160+00 LT. 75'

B.M. # 23 ELEV. 879.84
 S.E. COR. CONC. WALK
 STA. 168+00 LT. 175' #8543



84'x66' CMP IMP
 F&I 102'x84' RCPA SPAN CULV.
 F&I 2-102' RCPA SPAN APRONS

PI. 160+21.32
 $\Delta = 37^{\circ}14'52''$ RT
 $\Delta O = 6^{\circ}45'$
 $TR = 848.82'$
 $T = 286.05'$
 $RT = 581.81'$
 $LT = 46.90'$



VC = 500'
 M = +2.408

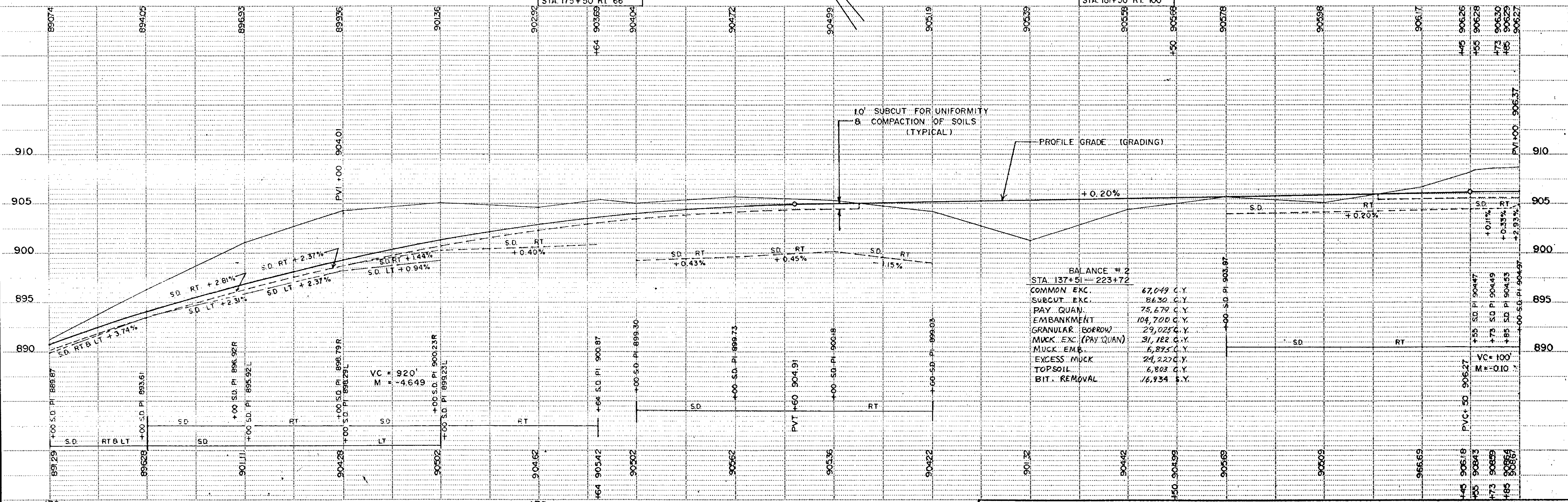
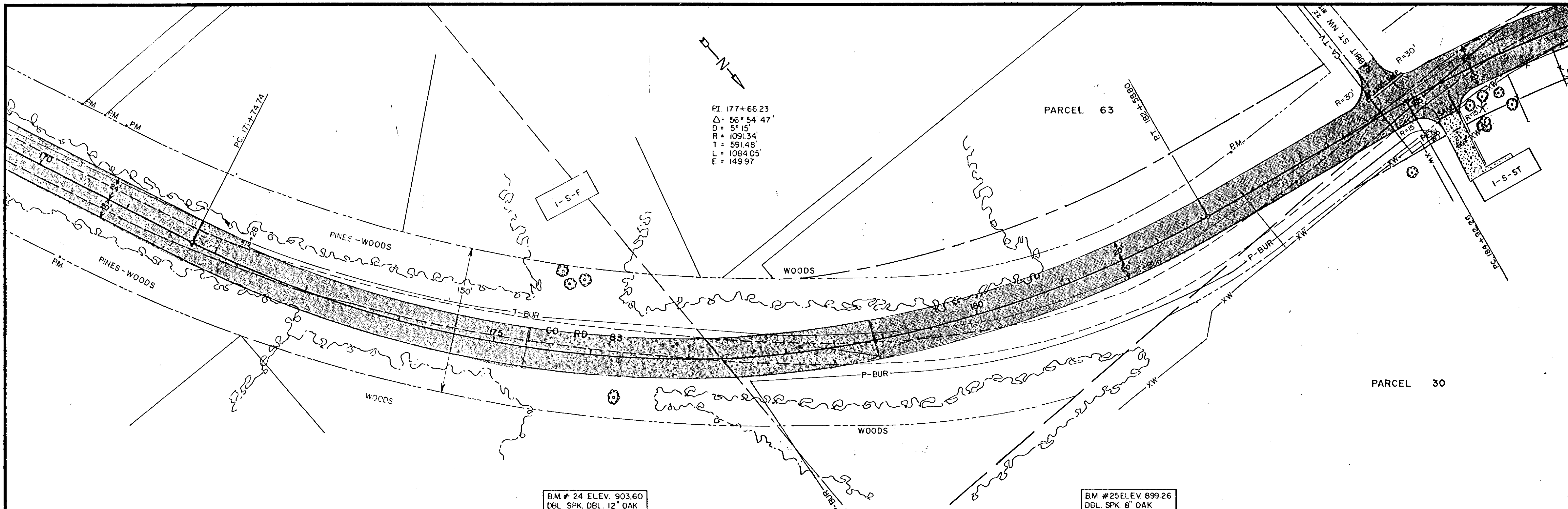
VC = 400'
 M = +1.564

VC = 920'
 M = -4.649

APPROX. MUCK EXC. LIMITS

10' SUBCUT FOR UNIFORMITY
 & COMPACTION OF SOILS
 (TYPICAL)

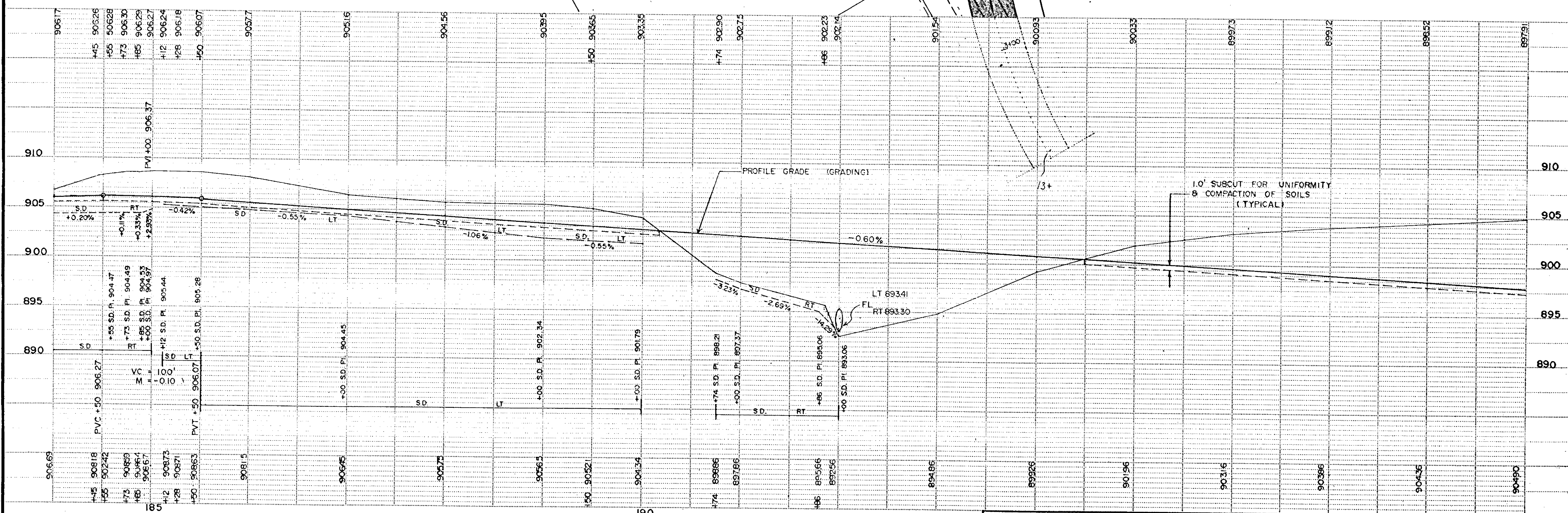
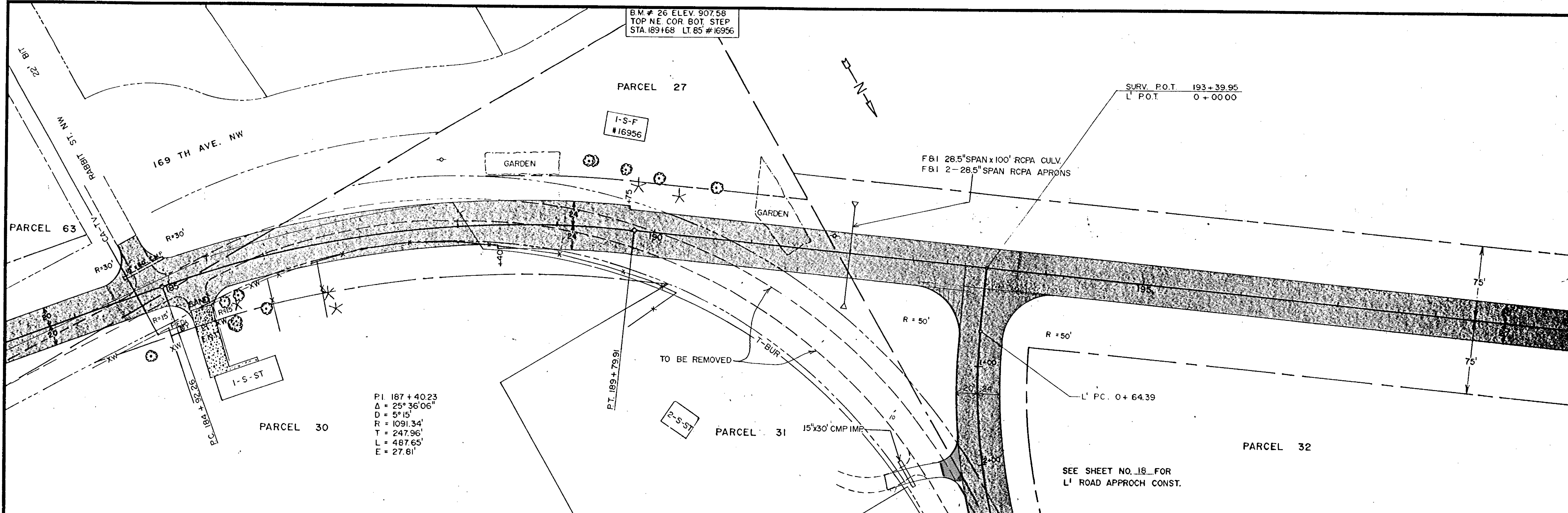
ILLUSTRATION FILE NO. 100-1000



BALANCE # 2
STA 137+51 - 223+72

COMMON EXC.	67,049 C.Y.
SUBCUT EXC.	86,30 C.Y.
PAY QUAN.	75,679 C.Y.
EMBANKMENT	104,700 C.Y.
GRANULAR BORROW	29,023 C.Y.
MUCK EXC. (PAY QUAN)	31,122 C.Y.
MUCK EMB.	6,895 C.Y.
EXCESS MUCK	24,227 C.Y.
TOPSOIL	6,803 C.Y.
BIT. REMOVAL	16,934 S.Y.

VC = 100'
M = -0.10'



B.M. # 27 ELEV. 900.27
DBL. SPK. IN 12' ELM.
STA. 202+45 LT. 20'

PARCEL 33

PARCEL 35

F01 28.5" SPAN x 46" RCPC CULV.
F01 2-28.5" SPAN RCPC APRONS

75'
20'
20'
75'

200

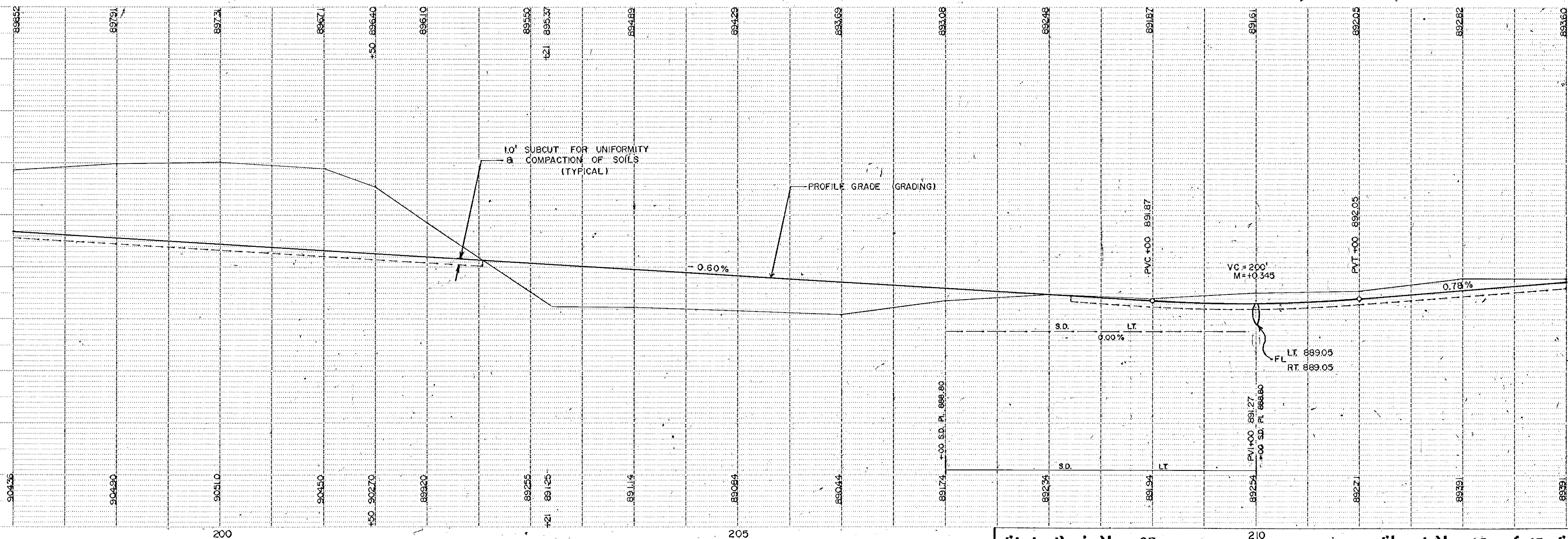
205

20

PARCEL 32

PARCEL 34

PARCEL 35

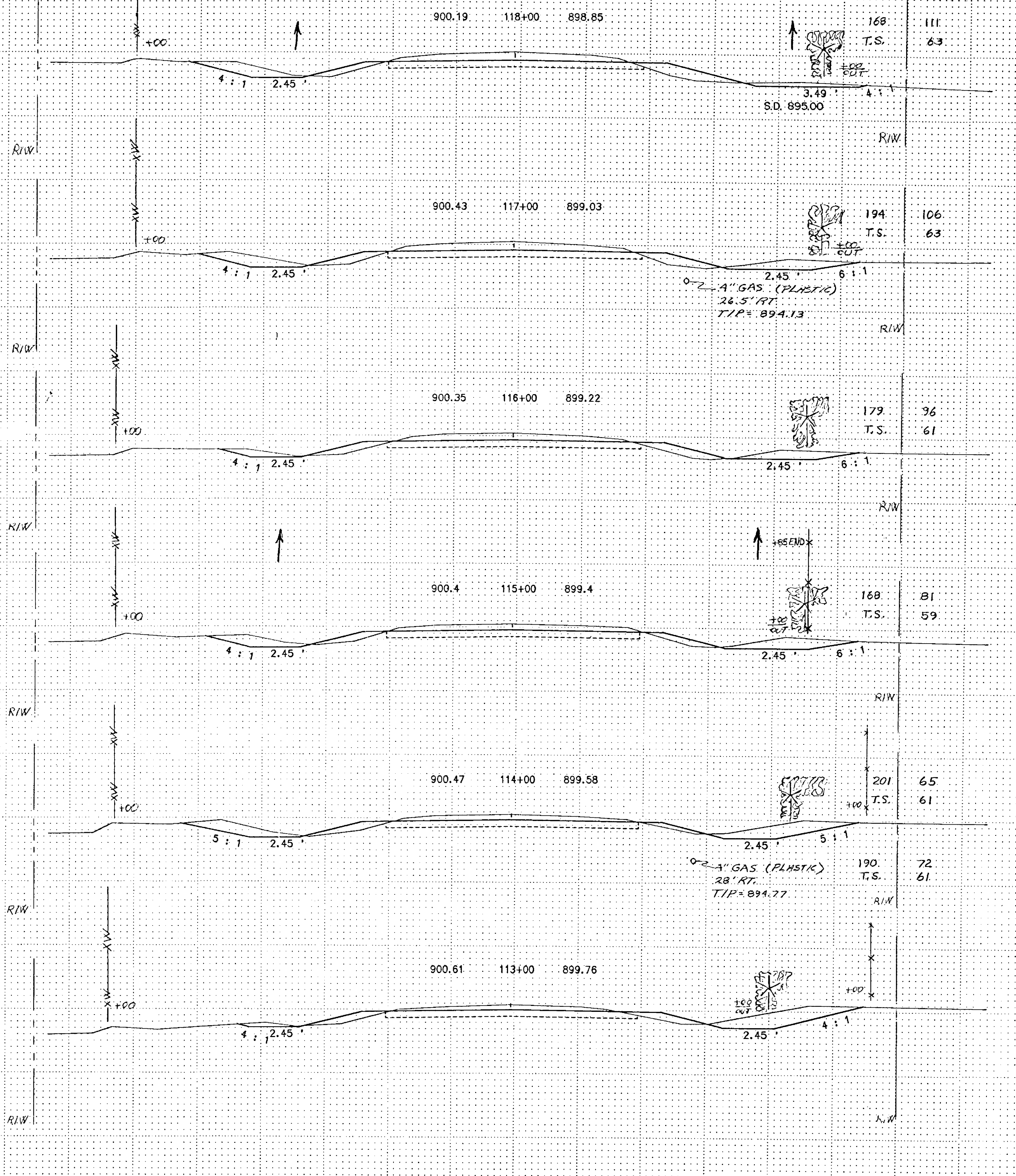
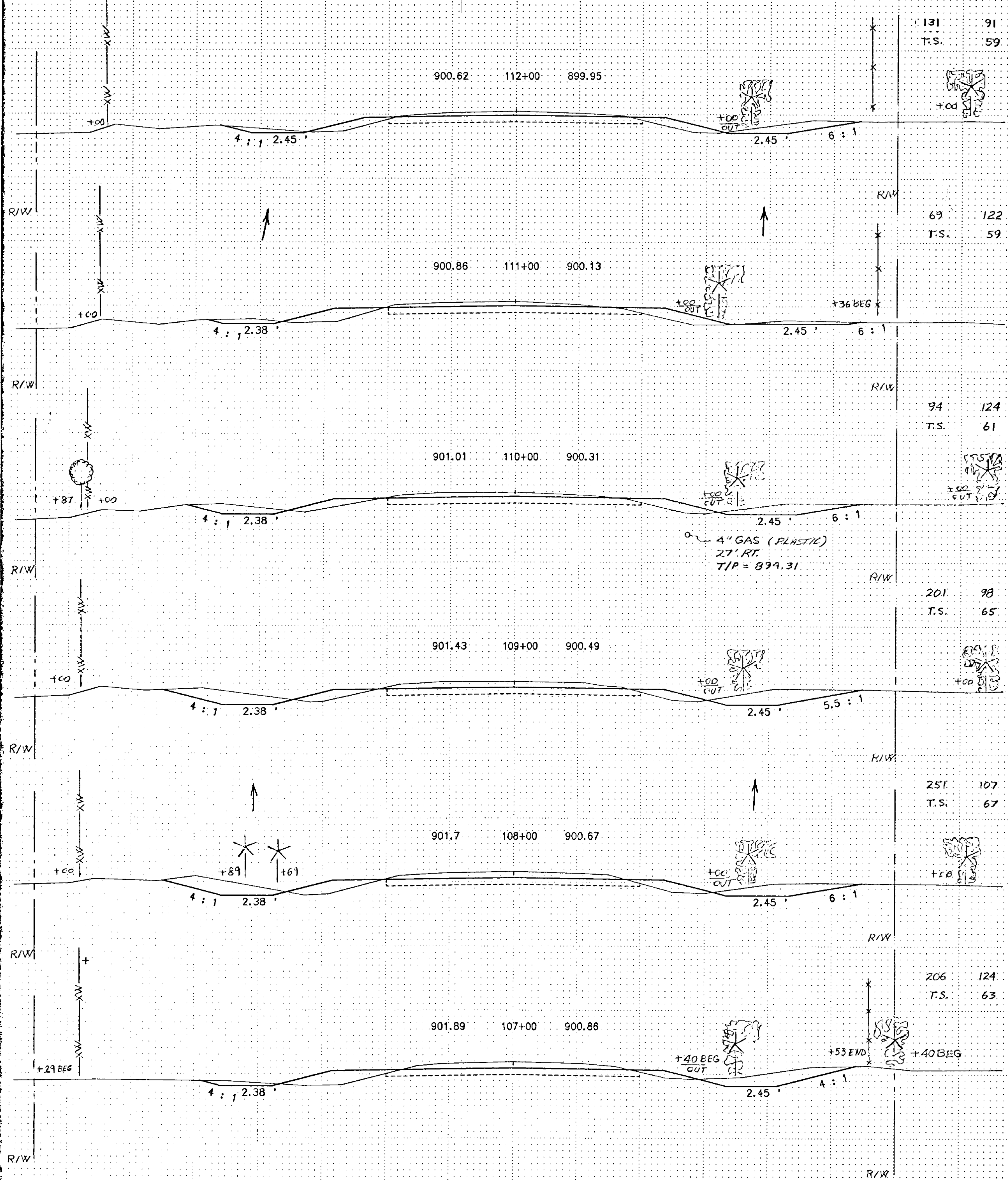


EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



131	91
T.S.	59

69	122
T.S.	59

94	124
T.S.	61

201	98
T.S.	65

251	107
T.S.	67

206	124
T.S.	63

168	111
T.S.	63

194	106
T.S.	63

179	96
T.S.	61

168	81
T.S.	59

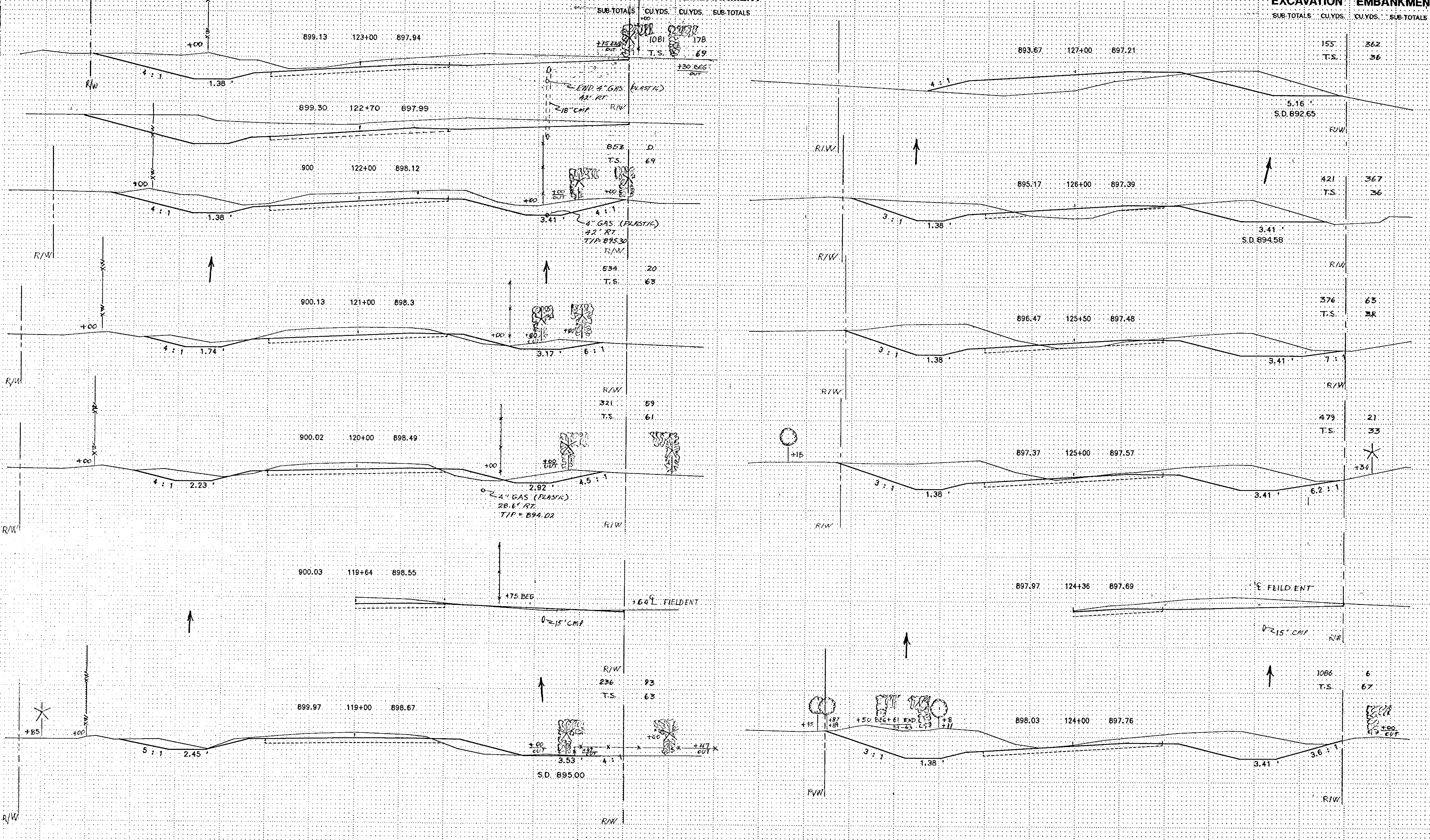
201	65
T.S.	61

190	72
T.S.	61

STA. 107+00 TO STA. 118+00

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT



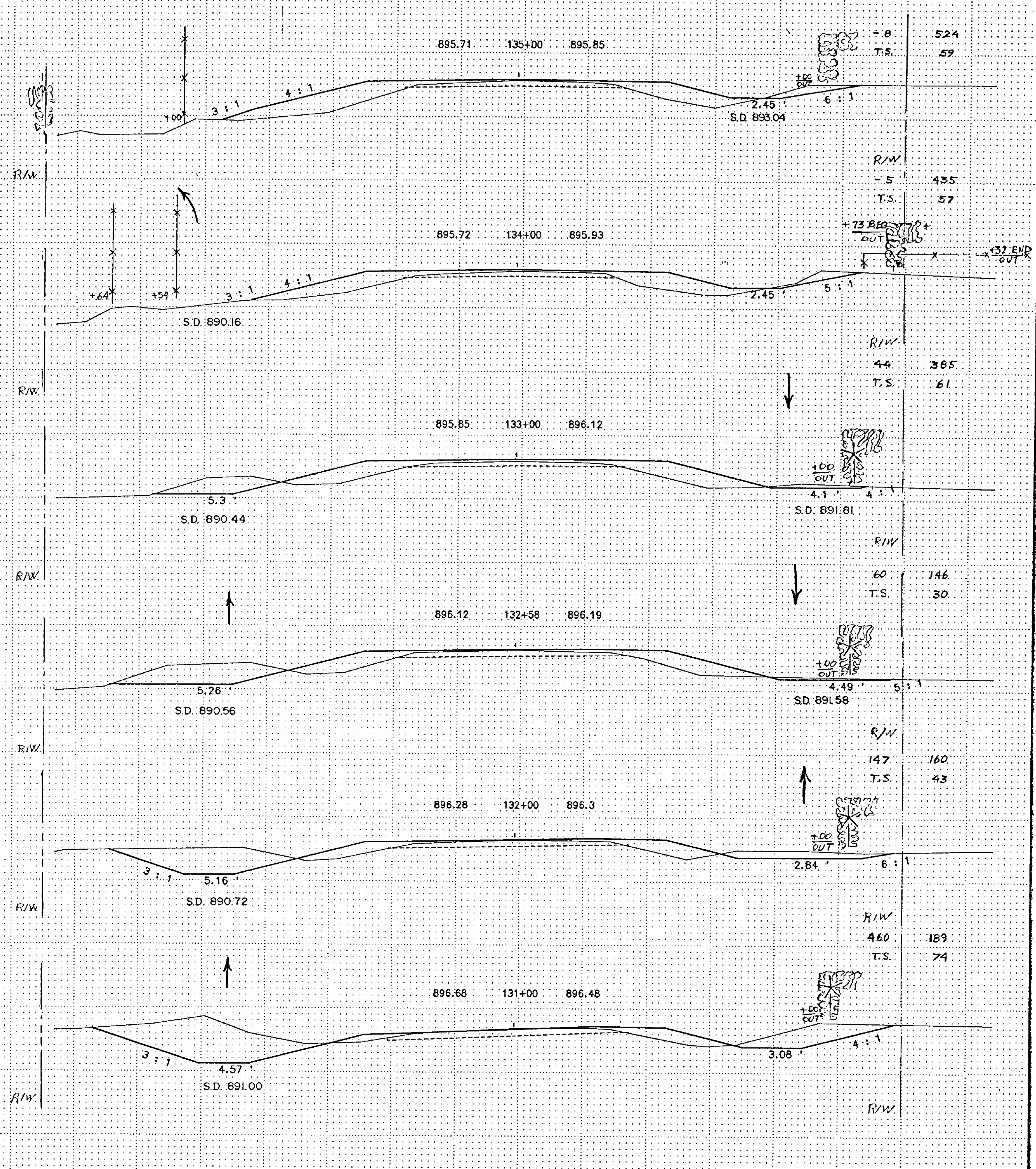
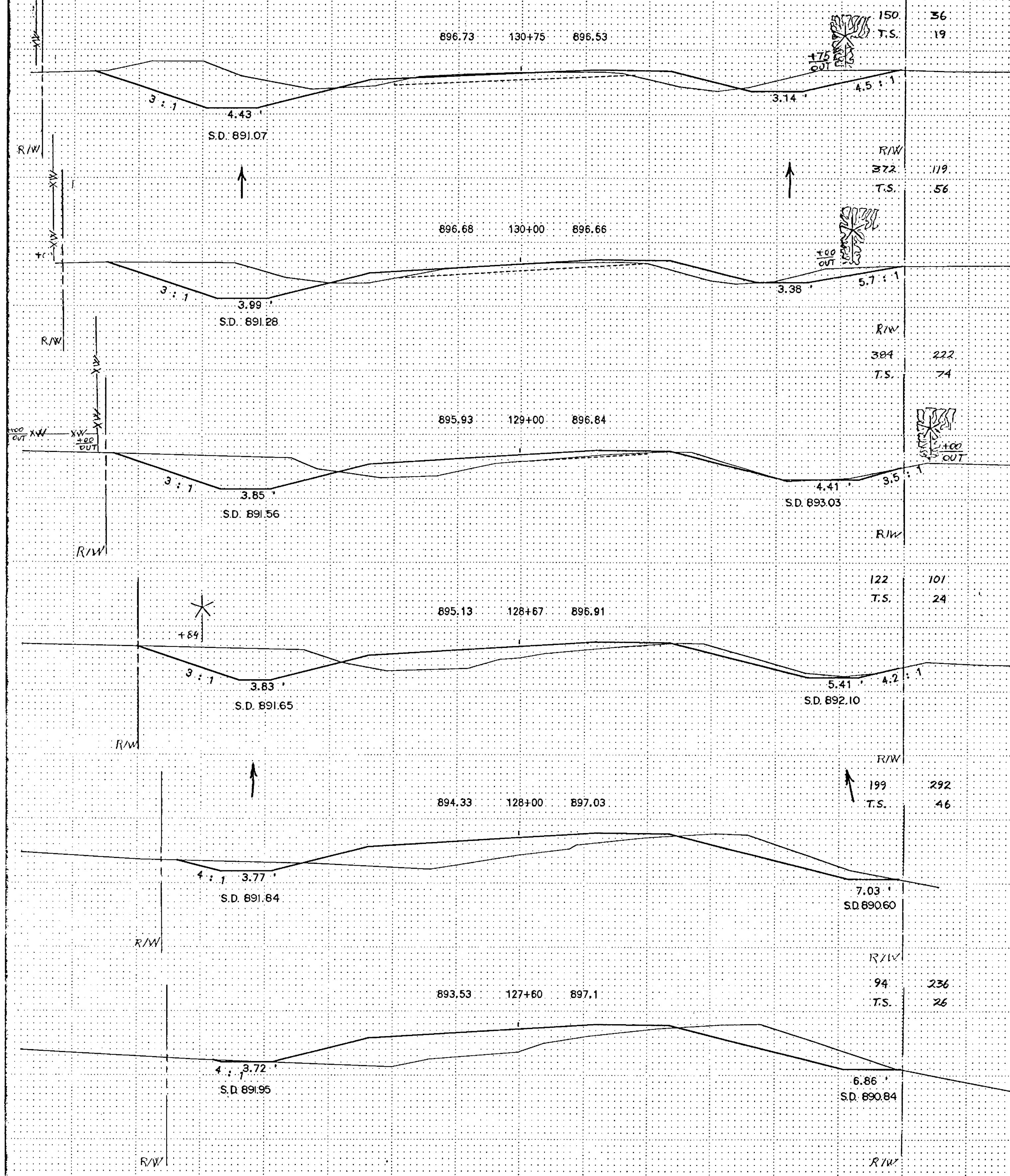
STA. 119+00 TO STA. 127+00

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



STA. 127+60 TO STA. 135+00

EXCAVATION EMBANKMENT

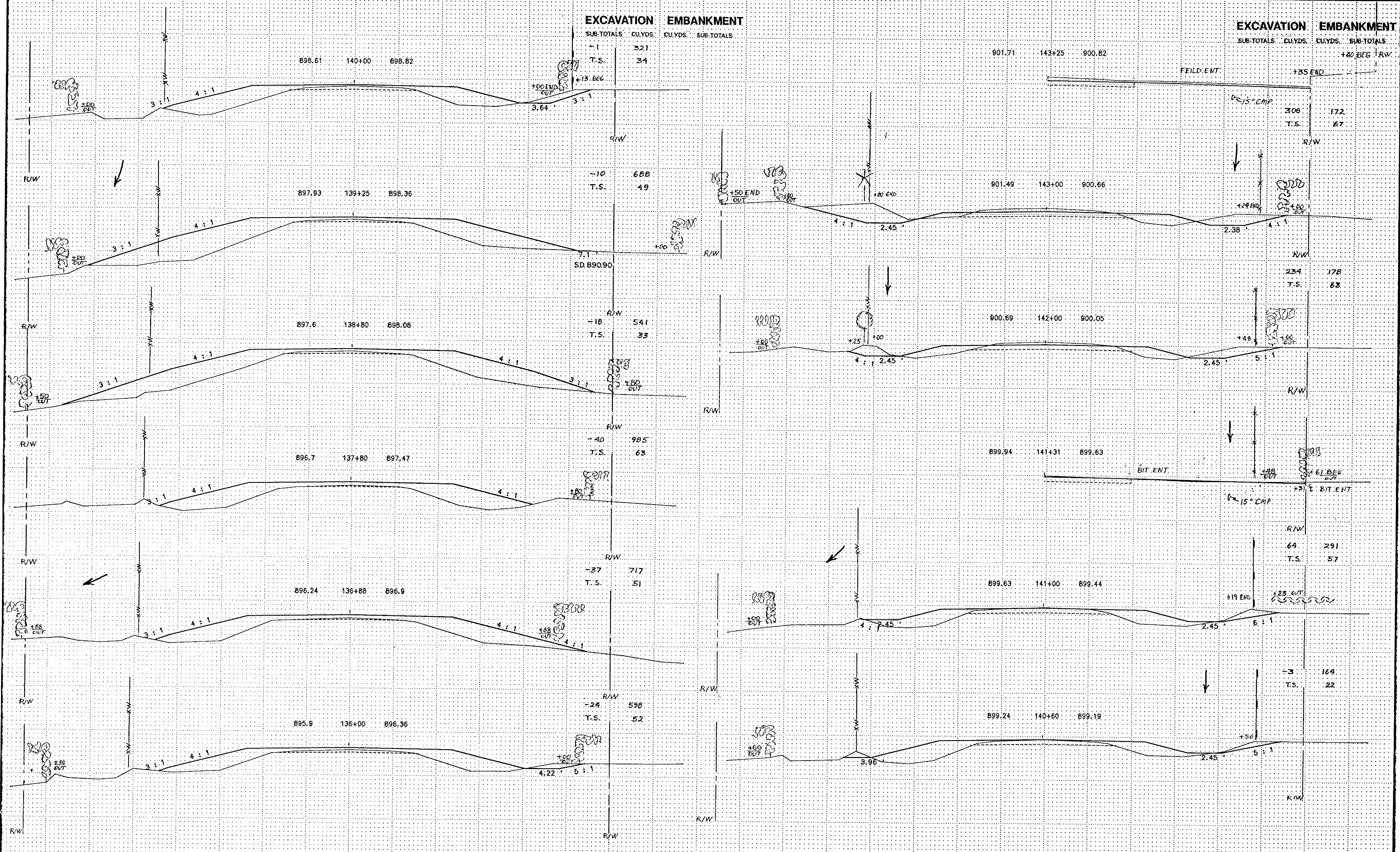
SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

-1 521
T.S. 34

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

+40 BEG. R/W 172
T.S. 67



R/W

-10 688
T.S. 49

-18 541
T.S. 33

-40 985
T.S. 63

-37 717
T.S. 51

-24 598
T.S. 52

R/W

308 172
T.S. 67

234 178
T.S. 63

64 291
T.S. 57

-3 164
T.S. 22

STA. 136+00 TO STA. 143+25

EXCAVATION EMBANKMENT

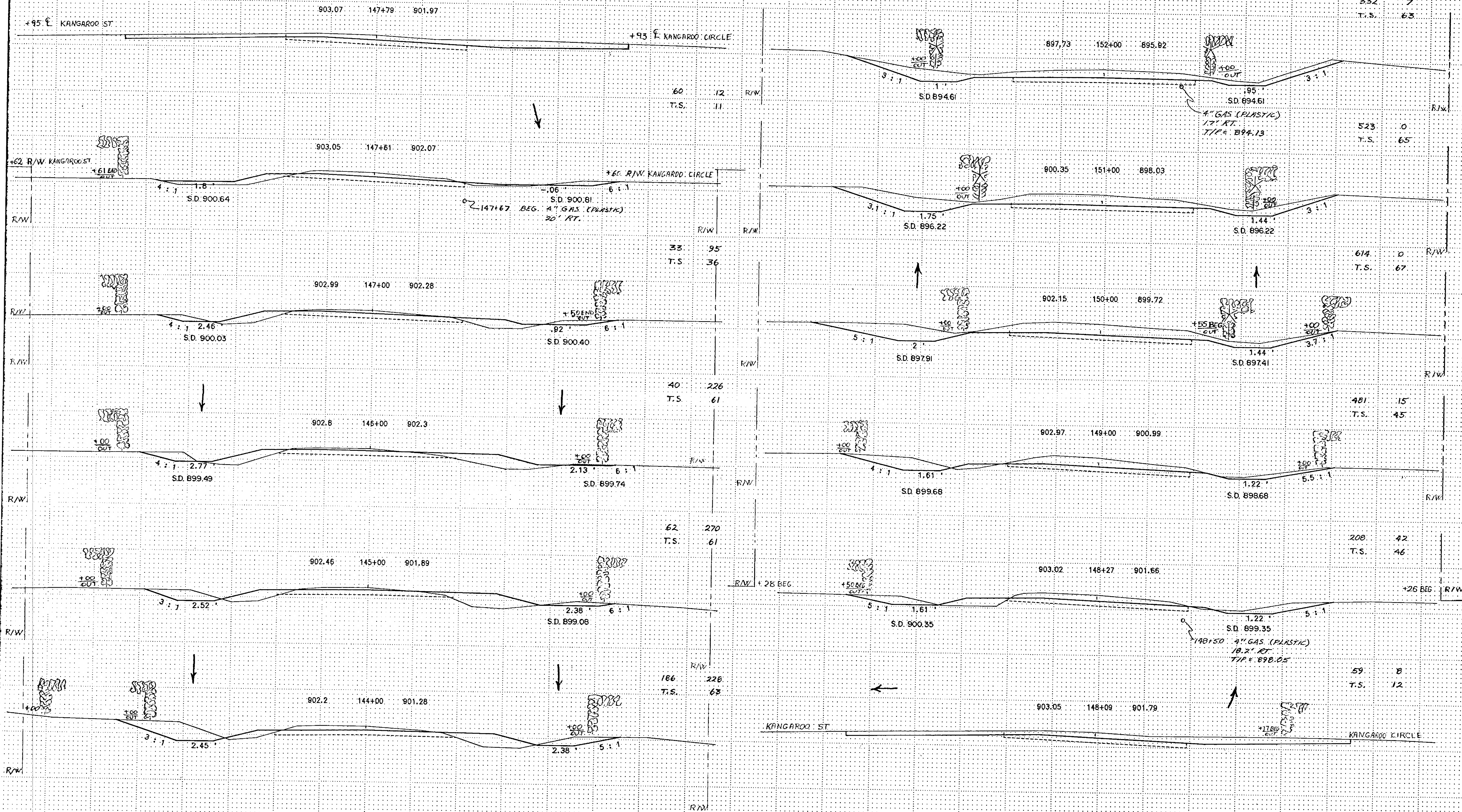
SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

189 0
T.S. 20

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

332 7
T.S. 63



+95 E KANGAROO ST 903.07 147+79 901.97

+93 E KANGAROO CIRCLE

+62 R/W KANGAROO ST

+60 R/W KANGAROO CIRCLE

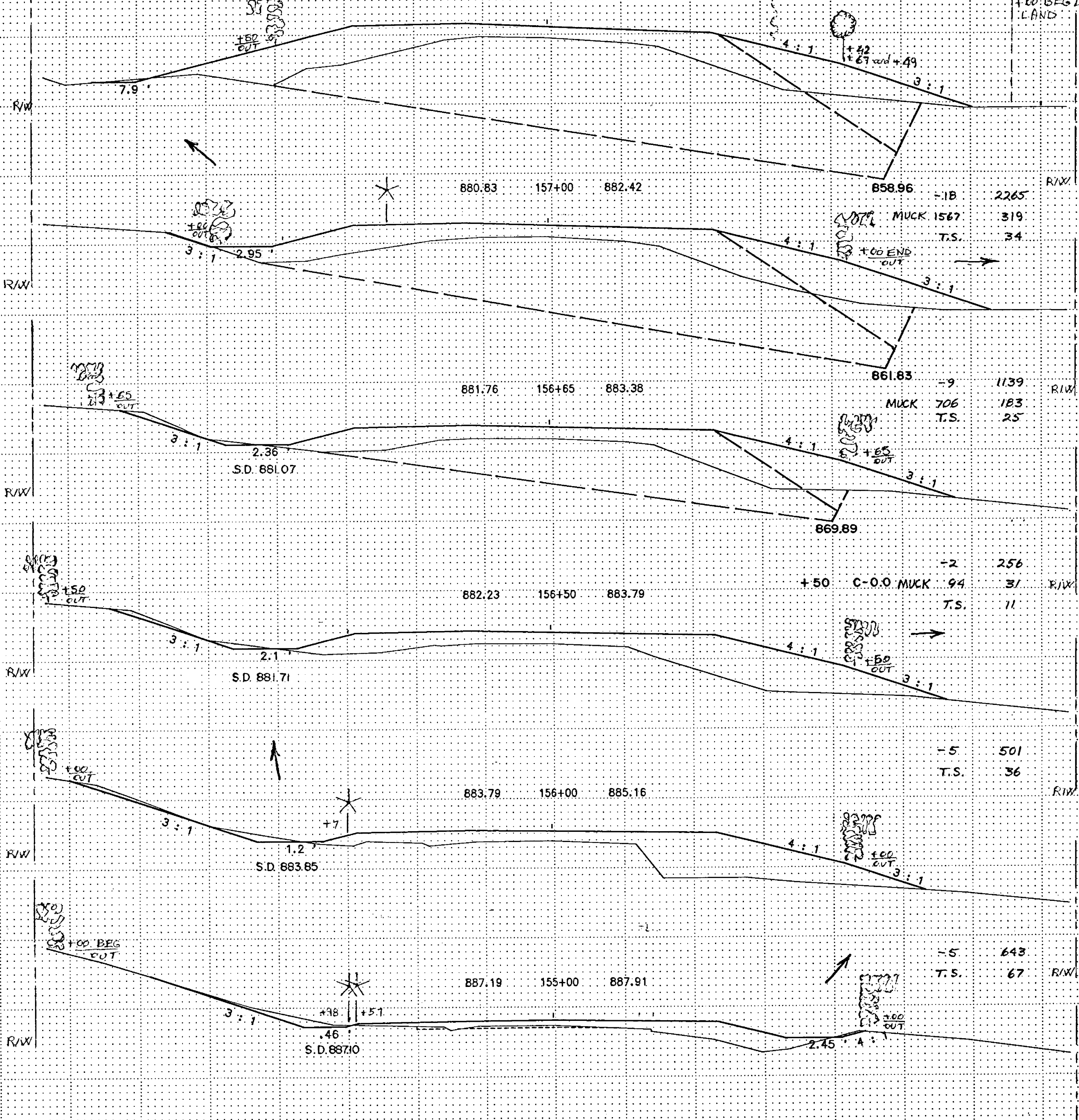
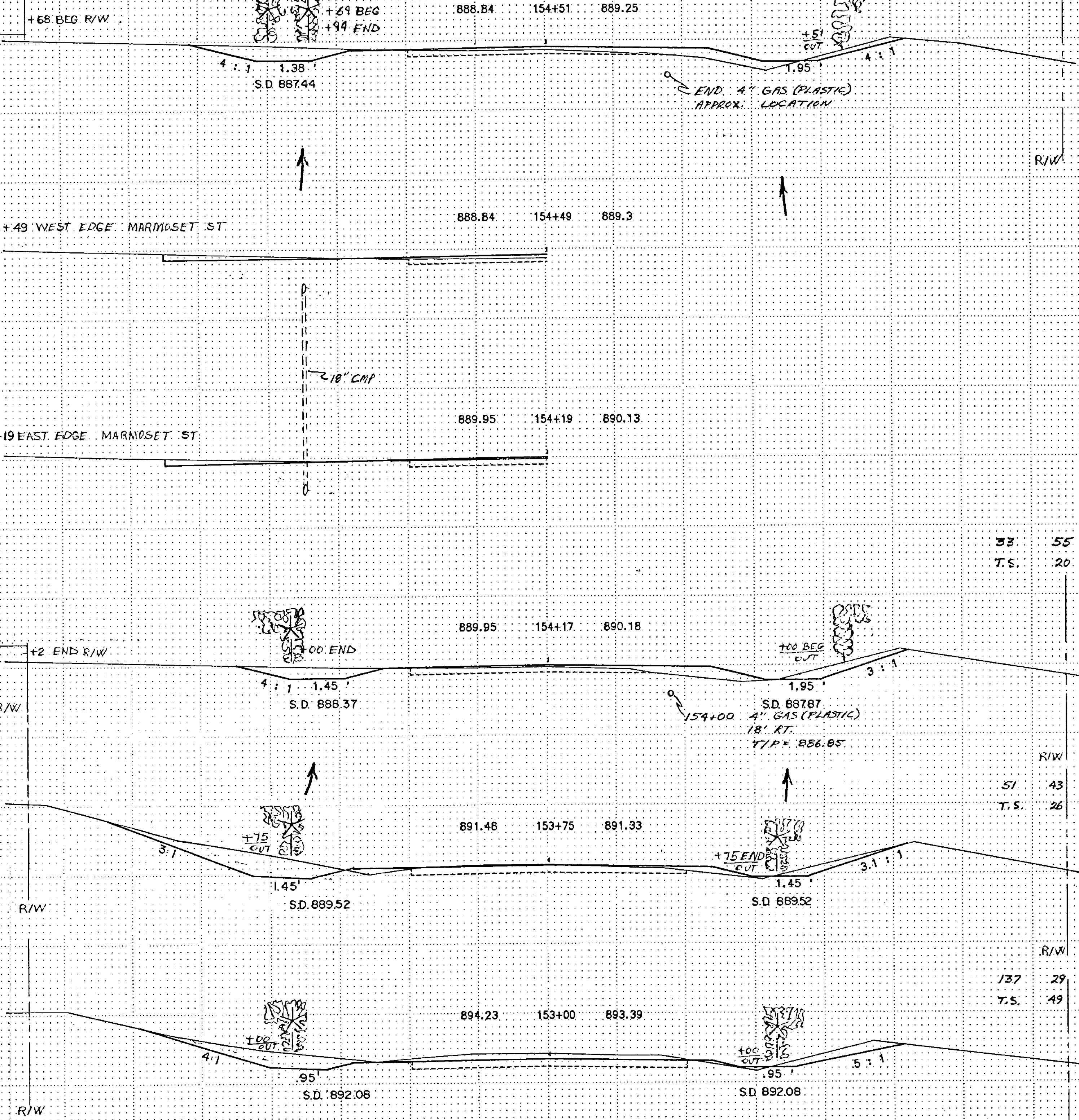
KANGAROO ST

KANGAROO CIRCLE

STA. 144+00 TO STA. 152+00

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



9	129
T.S.	29

-9	1294
MUCK 903	163
T.S.	17

33	55
T.S.	20

-2	256
C-0.0 MUCK 94	31
T.S.	11

51	43
T.S.	26

-5	501
T.S.	36

137	29
T.S.	49

-5	643
T.S.	67

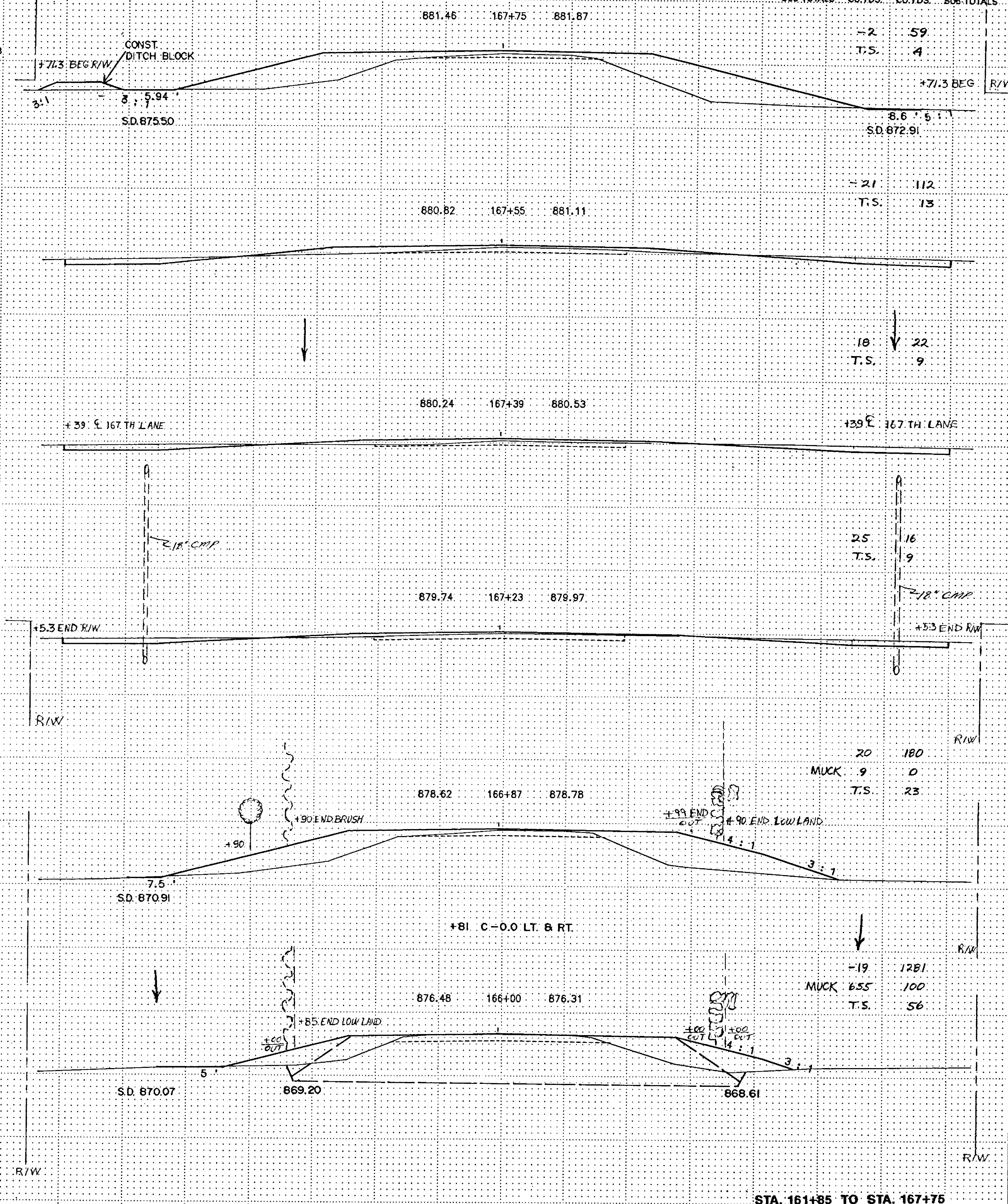
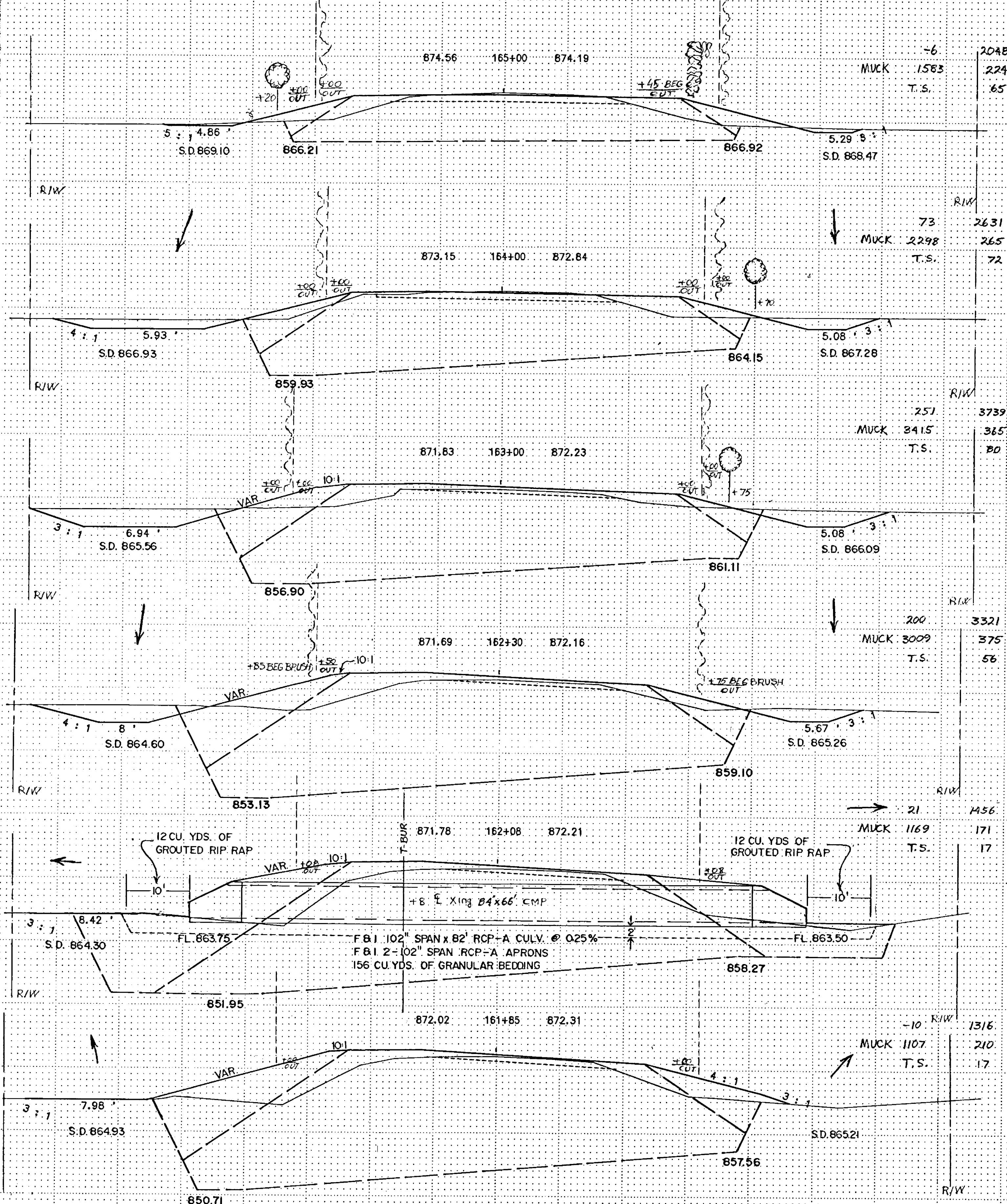
STA. 153+00 TO STA. 157+50

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

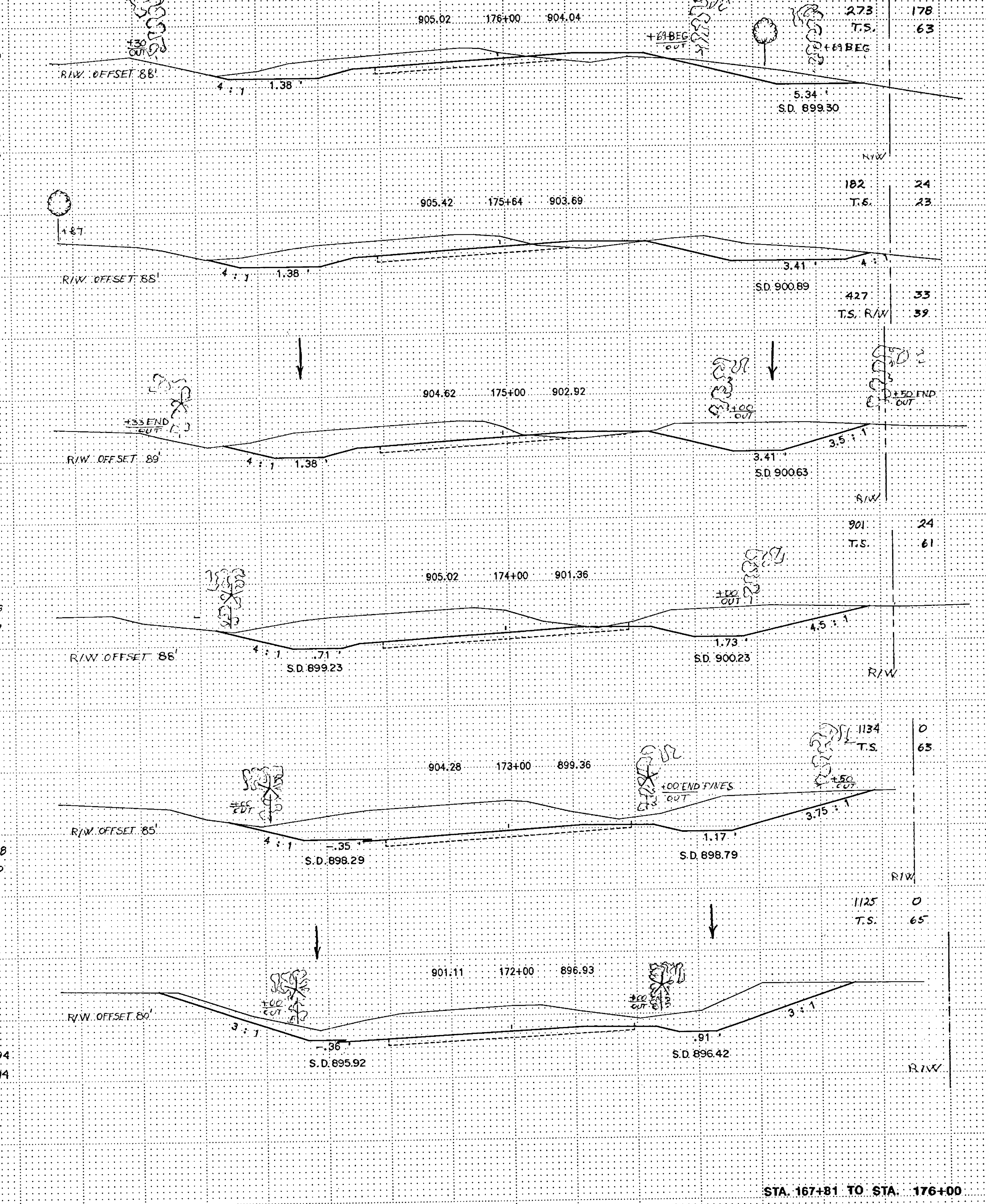
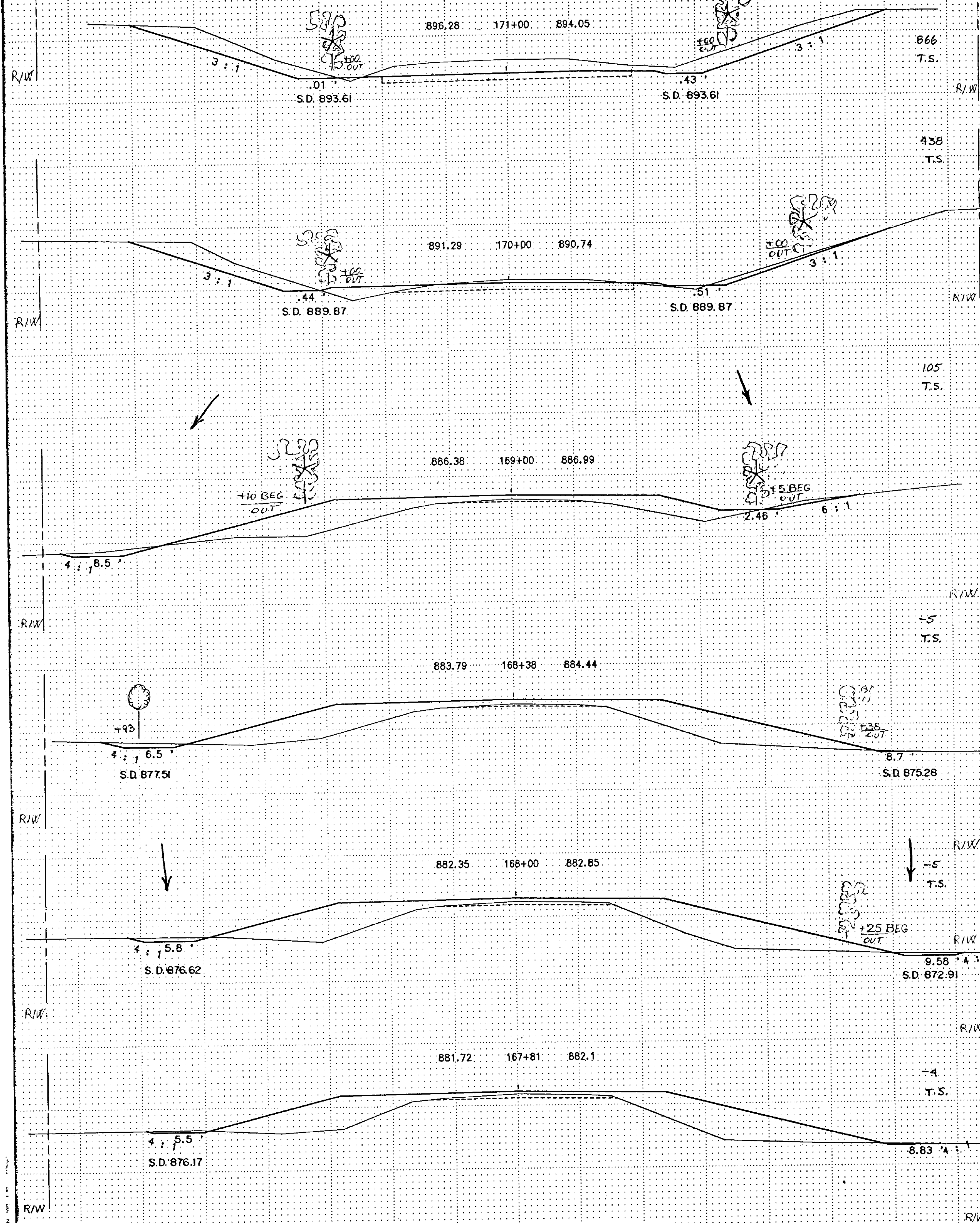


EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. SUB-TOTALS



STA. 167+81 TO STA. 176+00

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

271 100

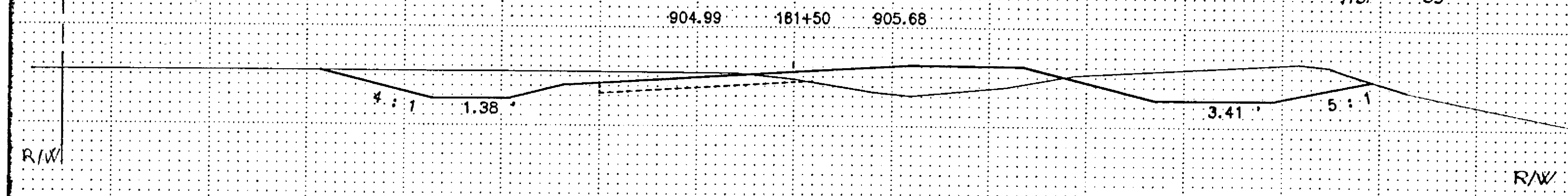
T.S. 33

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

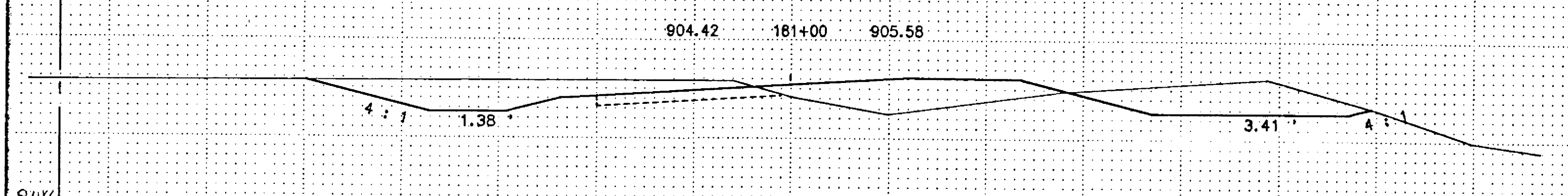
96 0

T.S. 8



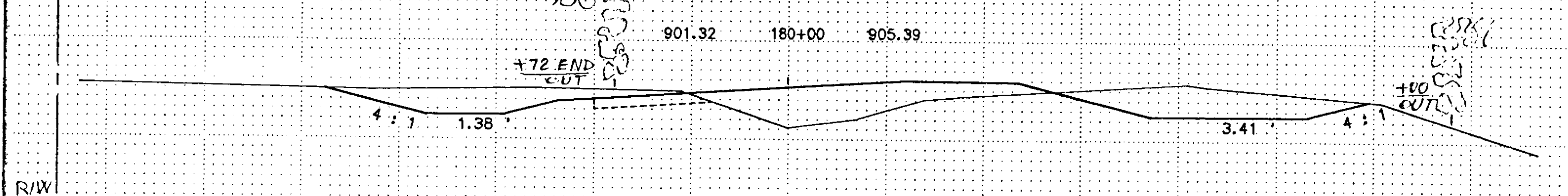
237 126

T.S. 31



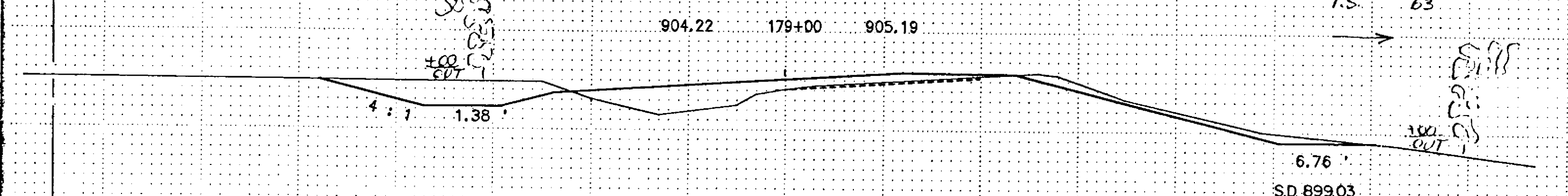
436 298

T.S. 63



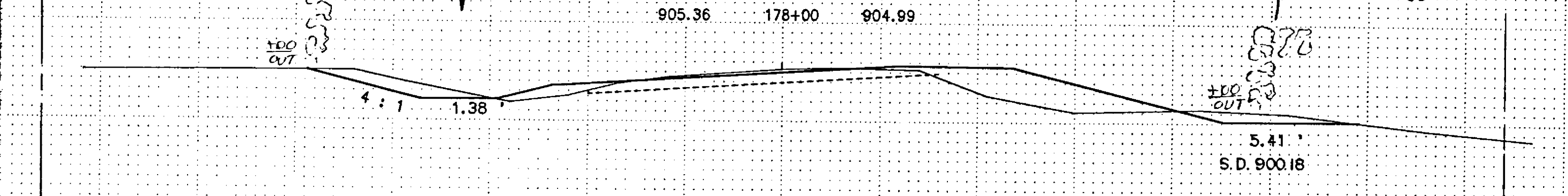
273 200

T.S. 63



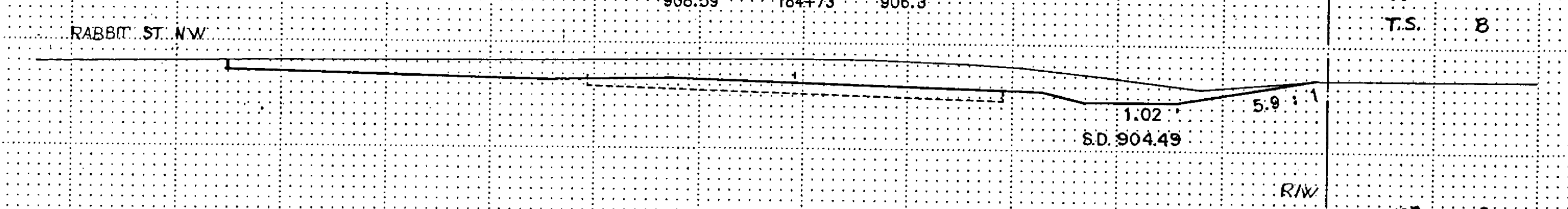
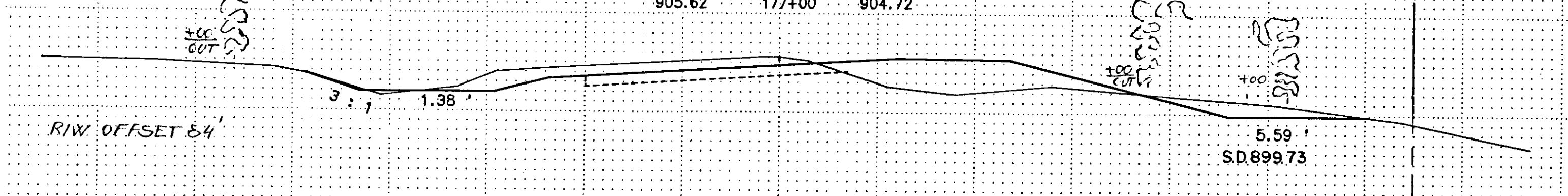
116 250

T.S. 63



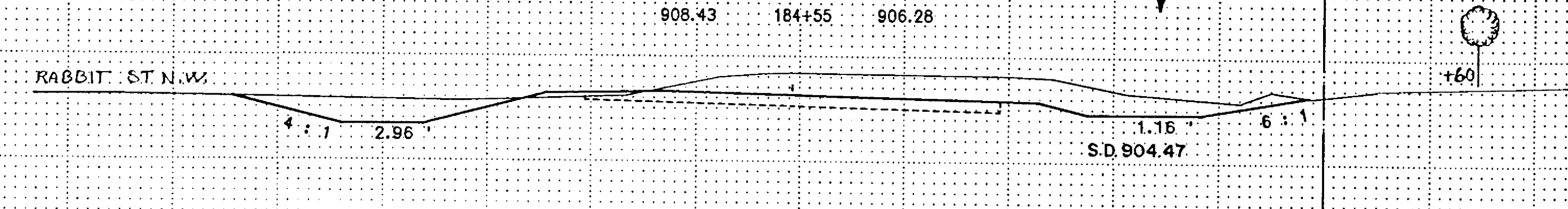
106 274

T.S. 63



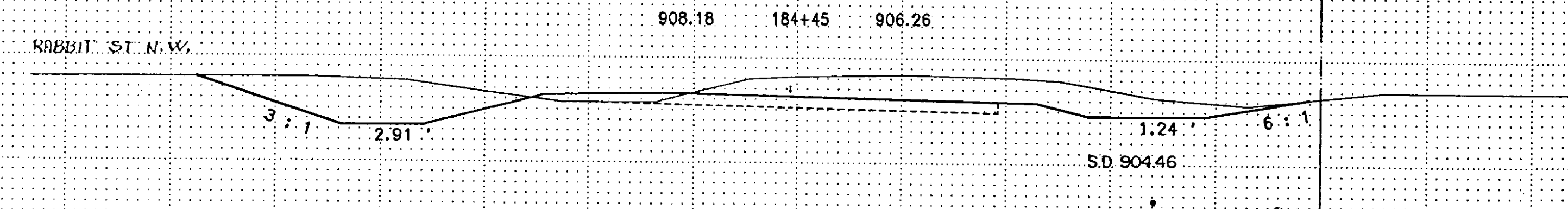
123 2

T.S. 11



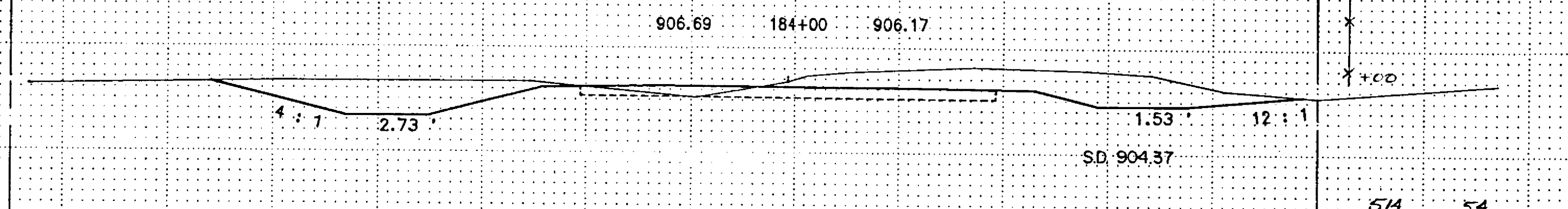
56 3

T.S. 6



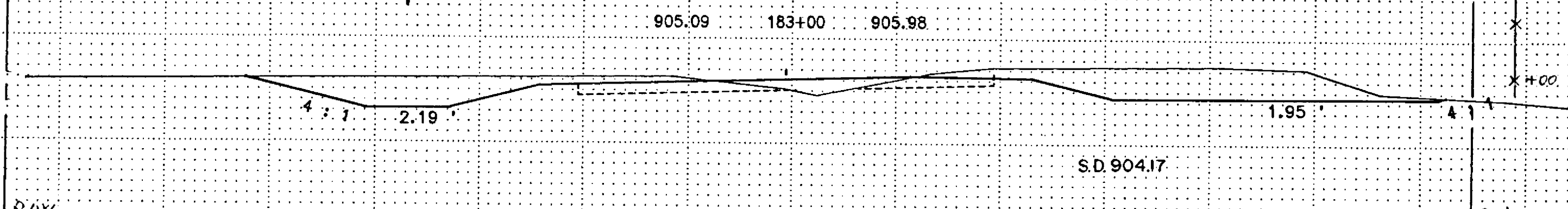
259 19

T.S. 28



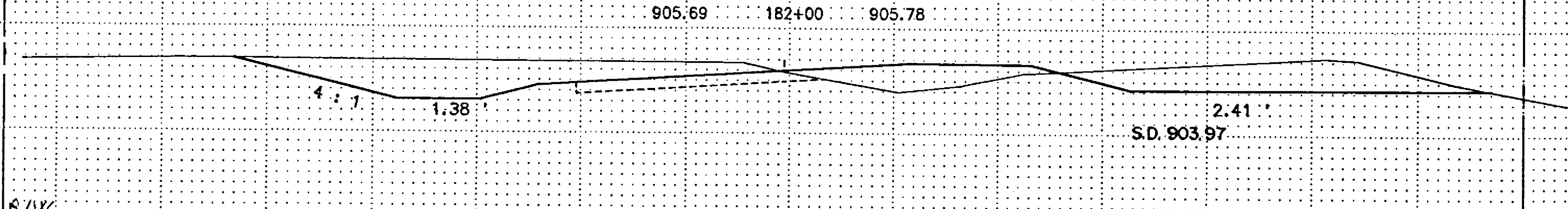
514 54

T.S. 65



568 113

T.S. 69



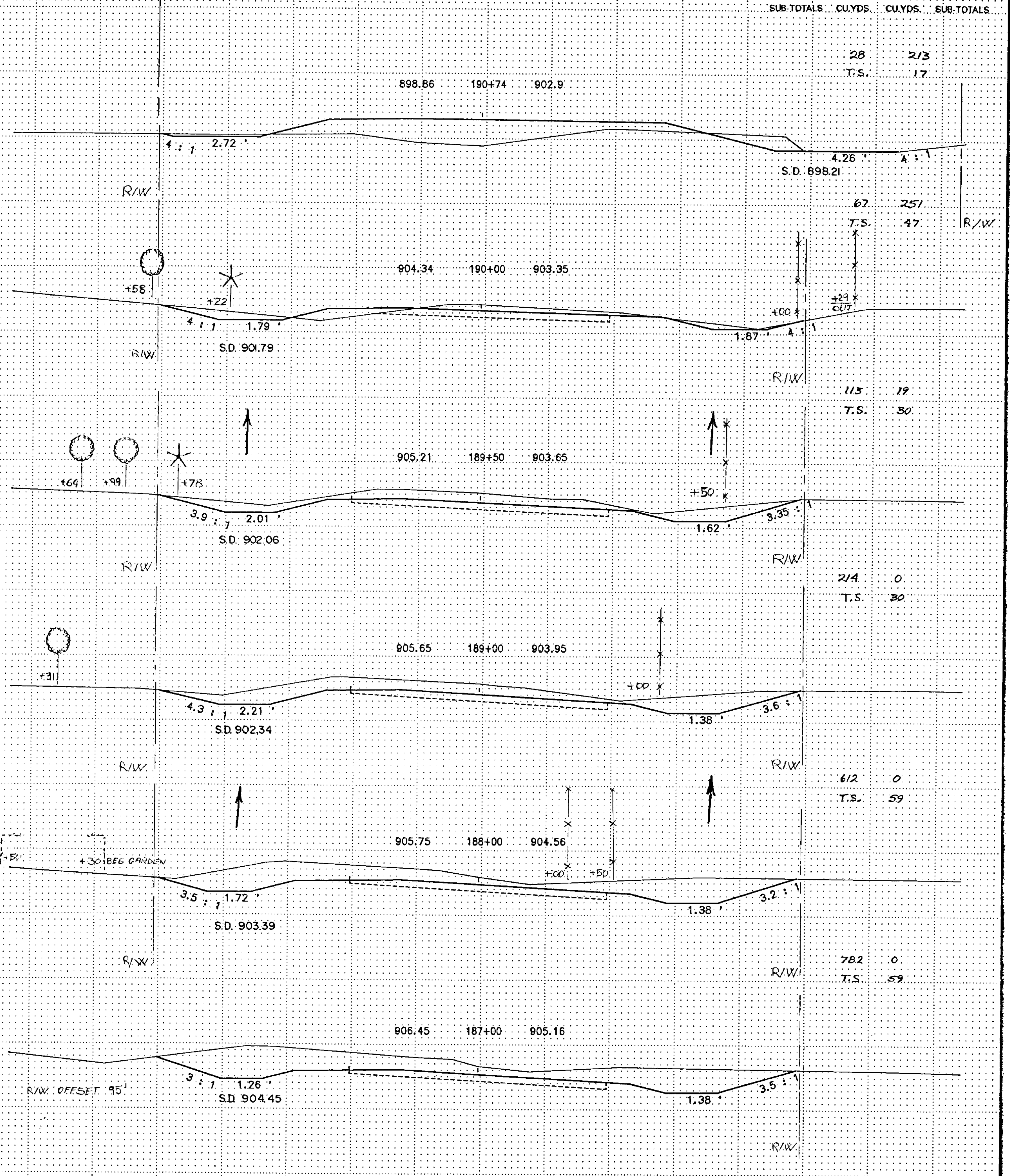
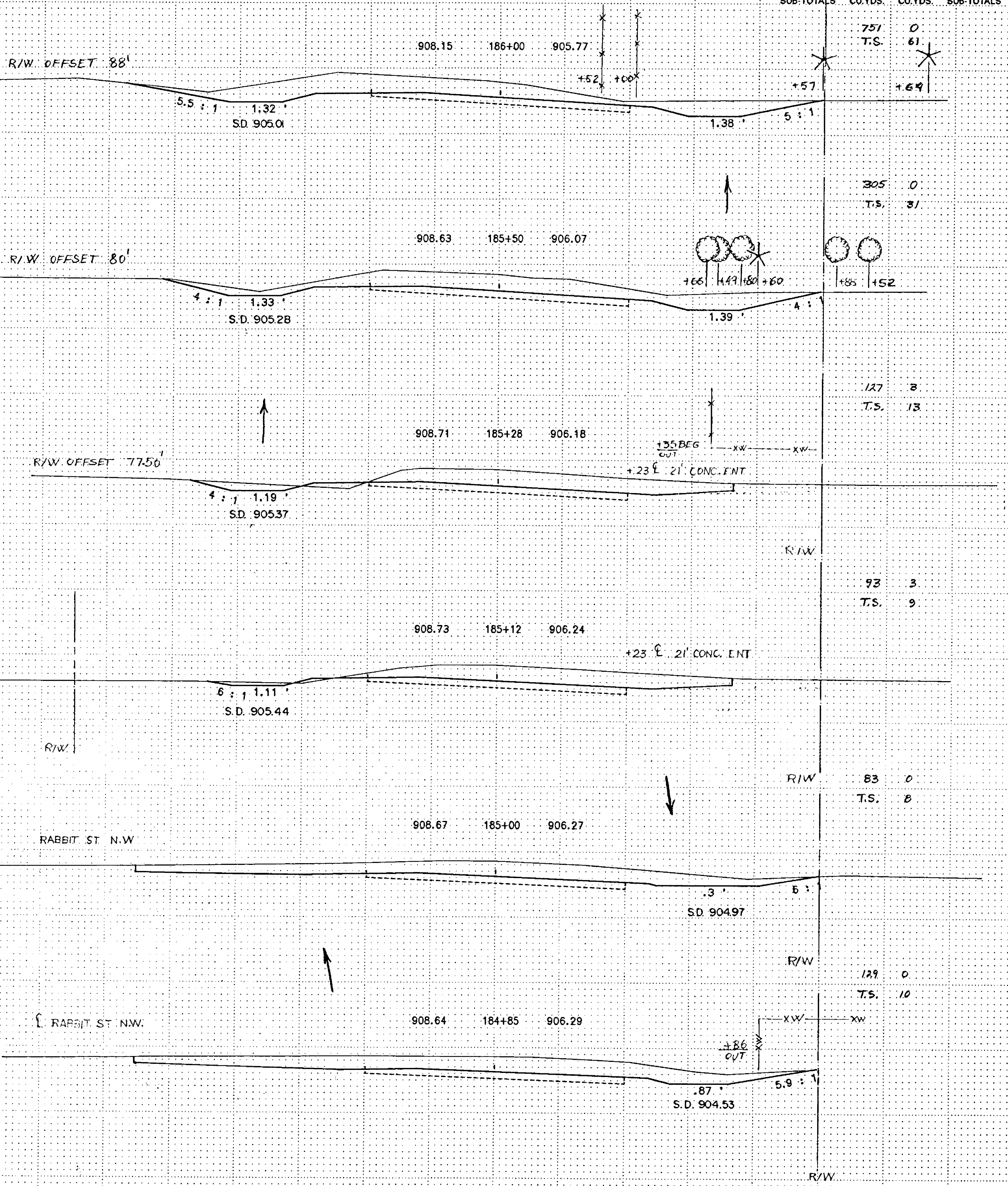
STA. 177+00 TO STA. 184+73

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

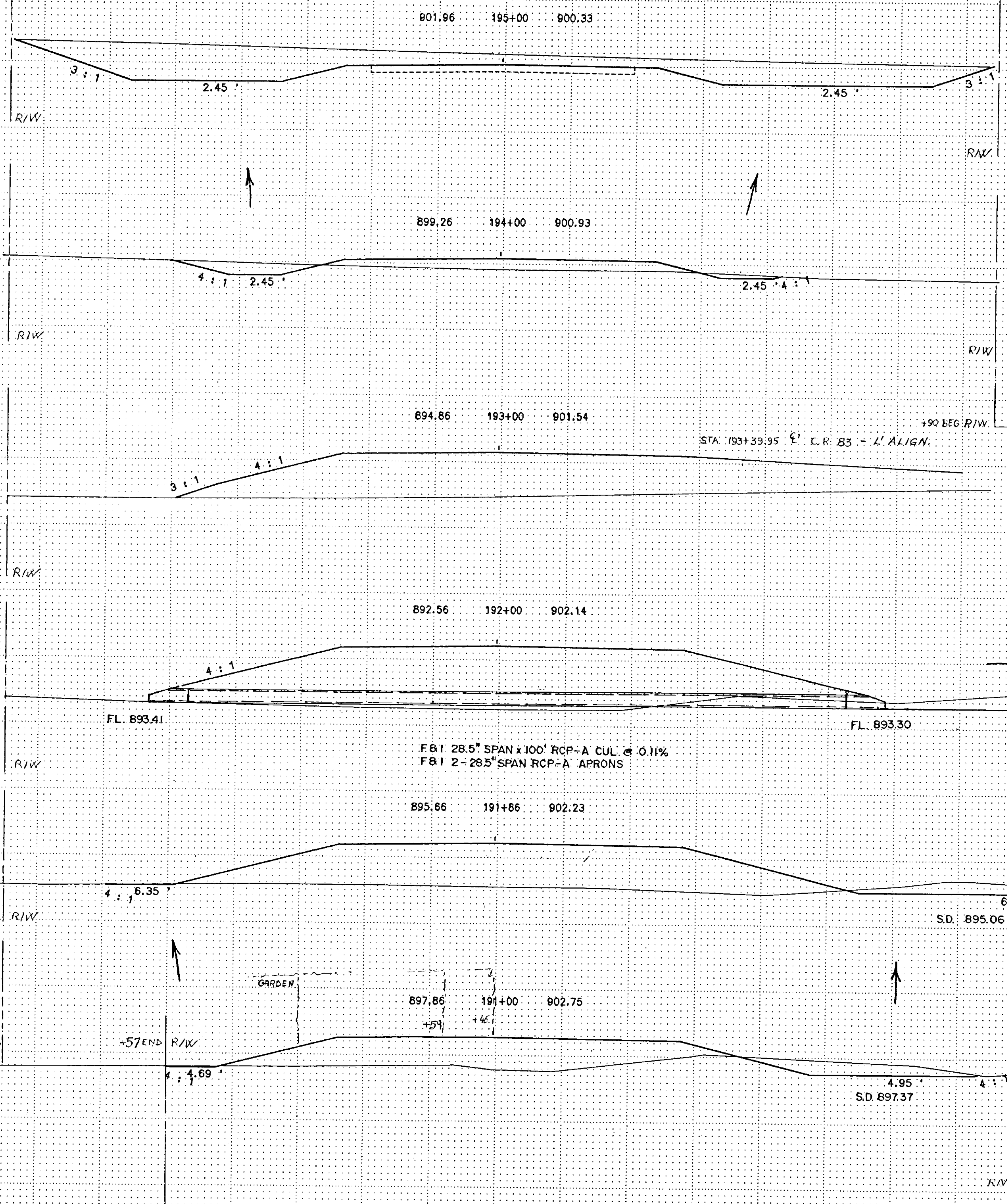
EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



STA. 184+85 TO STA 190+74

EXCAVATION EMBANKMENT

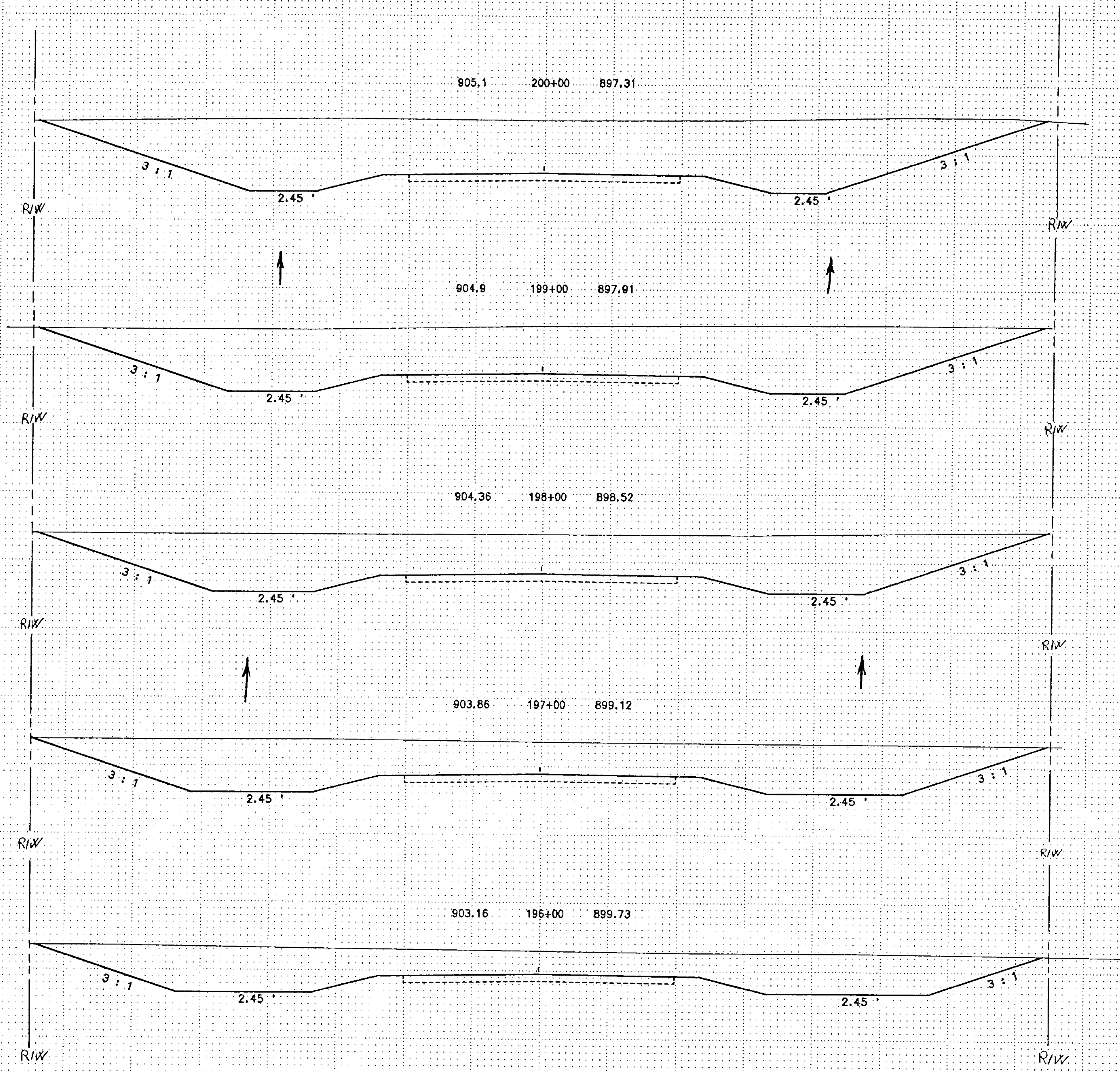


EXCAVATION	EMBANKMENT
SUB-TOTALS	SUB-TOTALS
CUYDS.	CUYDS.
1959	0
T.S.	89
B30	152
T.S.	72
-35	1069
T.S.	56
103	2319
T.S.	80
38	330
T.S.	13
R/W: CR. 83	
135	1265
T.S.	67

NOTE: SEE SHEET NO. 38-39 L
STA. 191+00 TO STA. 195+00

EXCAVATION EMBANKMENT

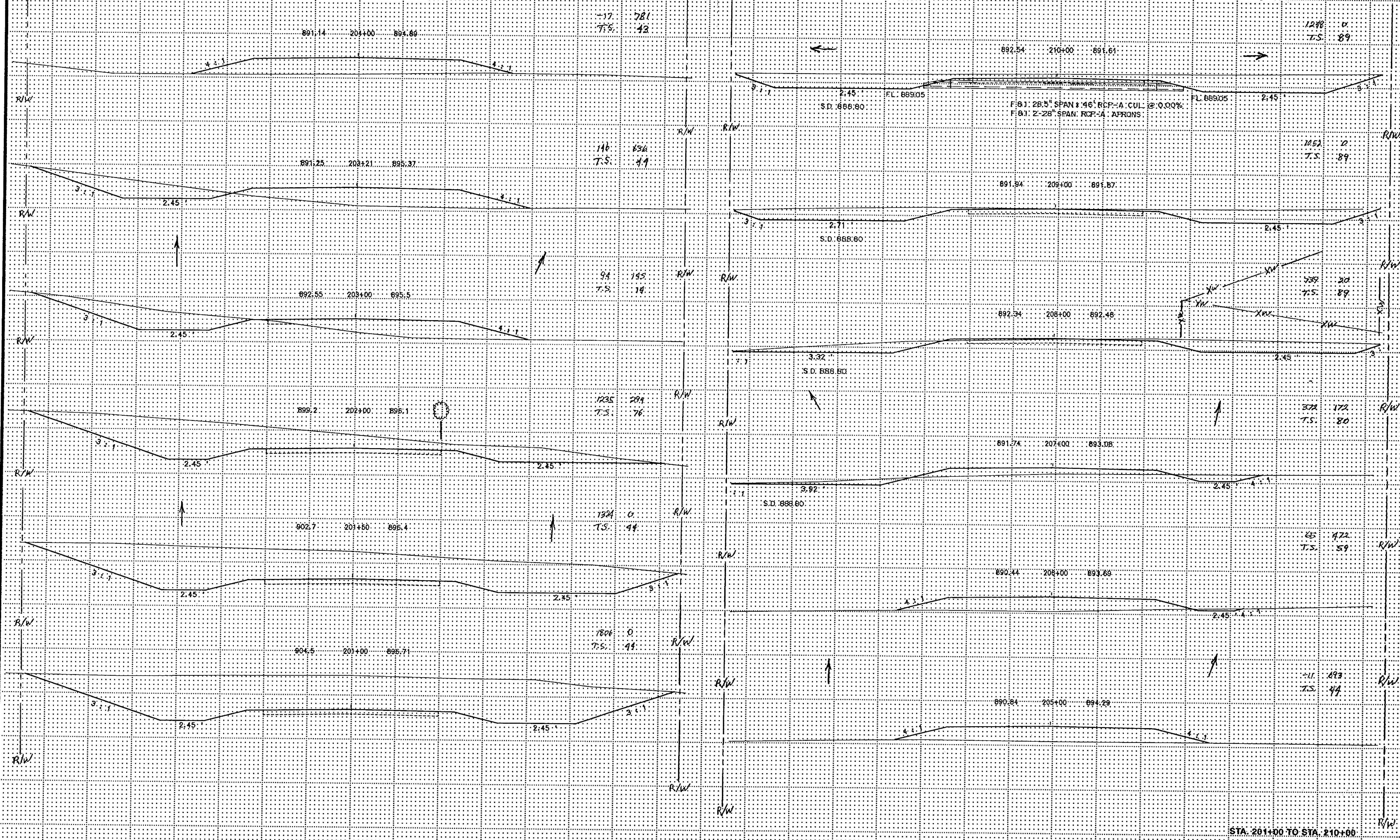
SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



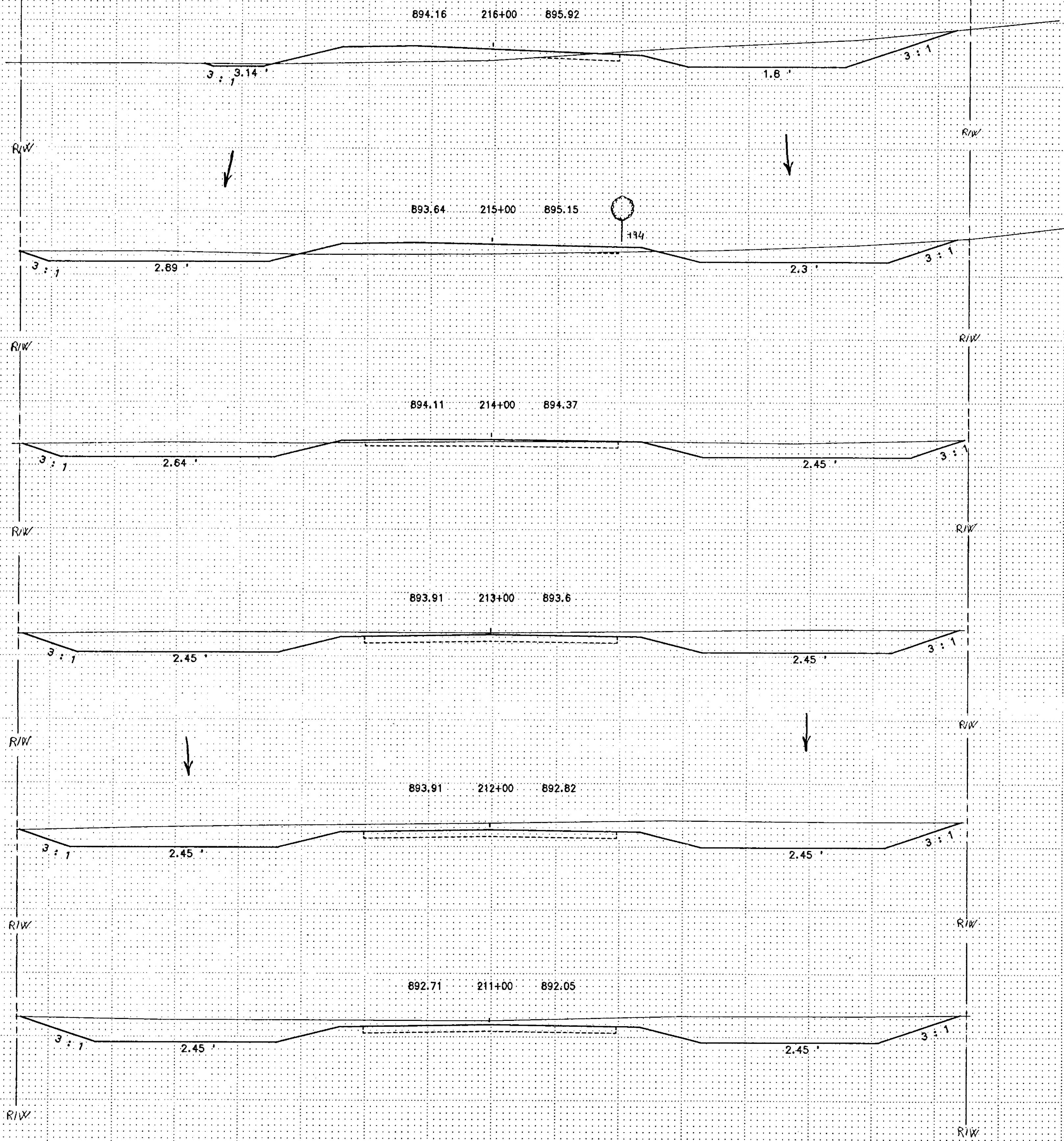
STA. 196+00 TO STA. 200+00

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



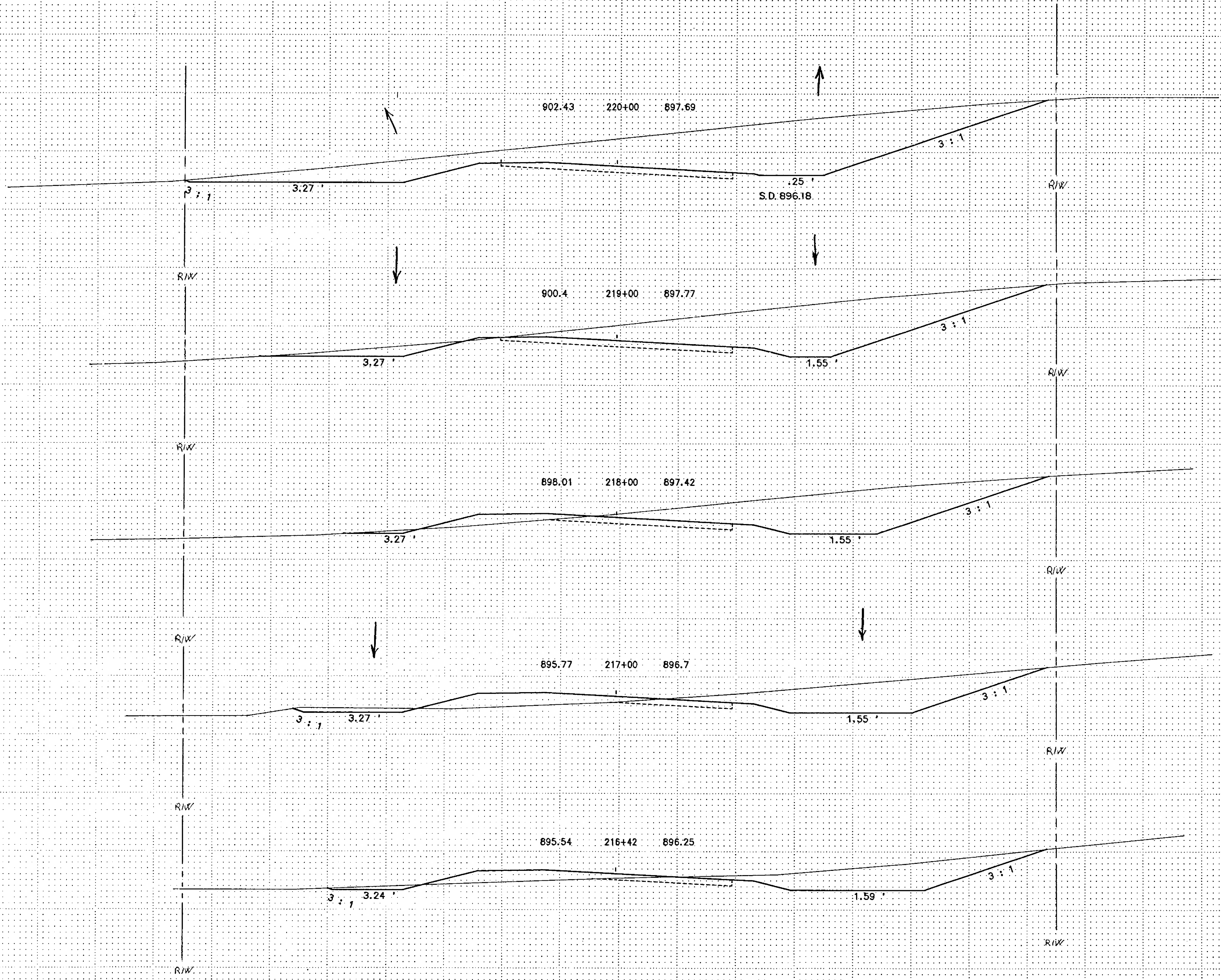
EXCAVATION		EMBANKMENT	
SUB-TOTALS	CU.YDS.	CU.YDS.	SUB-TOTALS



	221	174	
	T.S.	30	
	502	319	
	T.S.	80	
	578	185	
	T.S.	89	
	844	35	
	T.S.	89	
	1167	0	
	T.S.	89	
	1280	0	
	T.S.	89	

STA. 211+00 TO STA. 216+00

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



4339 0
 T.S. 466

1941 4
 T.S. 65

1343 69
 T.S. 76

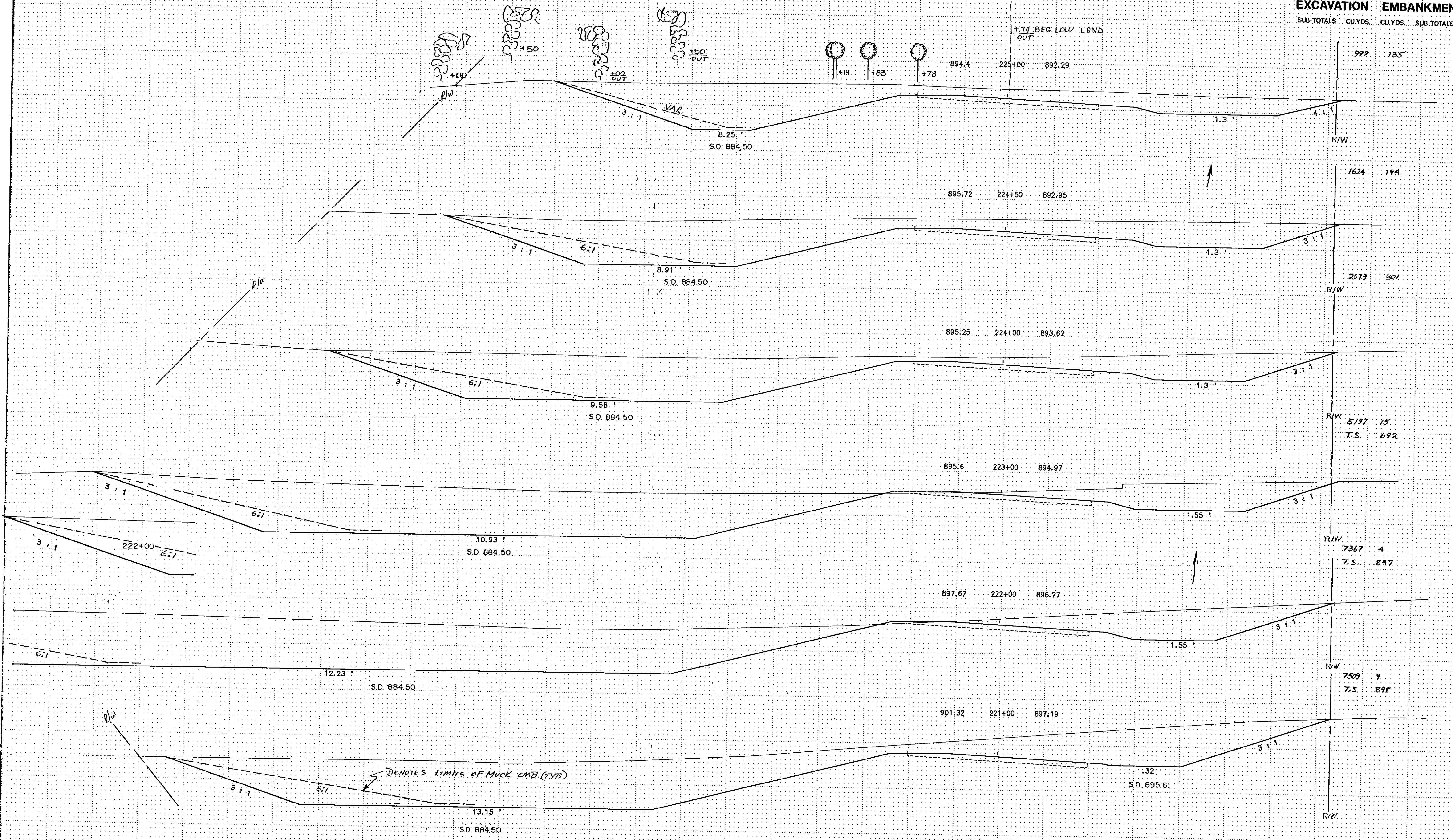
928 191
 T.S. 74

577 133
 T.S. 44

NOTE: STA. 220+00 — STA. 226+75 (LT) =
 MITIGATION POND.

STA. 216+42 TO STA. 220+00

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



1.74 BEG LOW LAND OUT

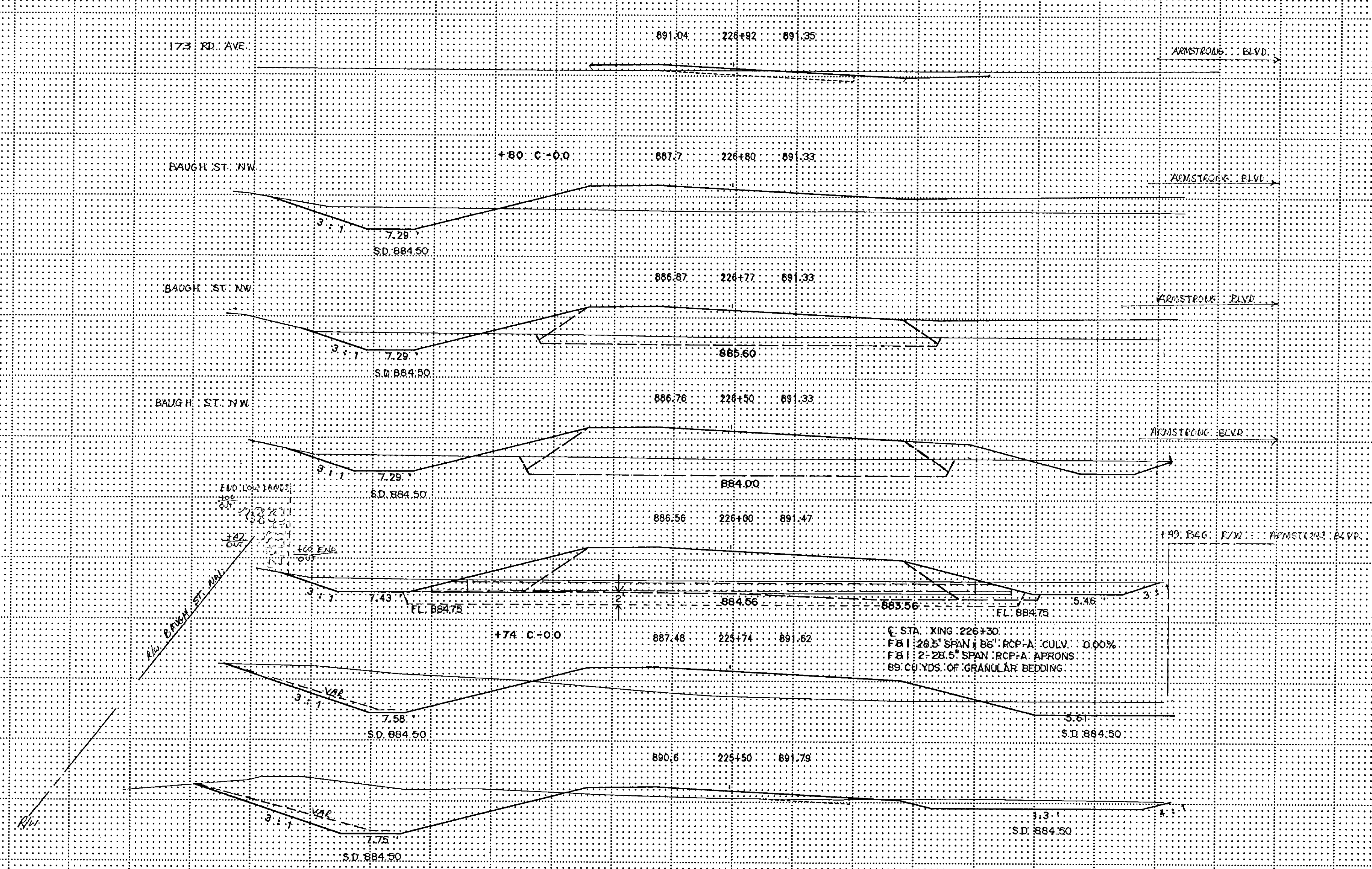
DENOTES LIMITS OF MUCK EMB (TYP)

NOTE: STA. 220+00 - 226+75 (LT) = MITIGATION FOND

STA. 221+00 TO STA. 225+00

EXCAVATION EMBANKMENT

SUB-TOTALS CU YDS. CU YDS. SUB-TOTALS



	10	2
	49	89
MUCK	33	0
	13	48
MUCK	20	3
	92	560
MUCK	286	52
	115	1196
MUCK	586	113
	148	235
MUCK	273	31
	255	262
MUCK	127	22

C STA. XING: 226+30
 FB 1: 28.5' SPAN; 66" RCP-A; CULV. 0.00%
 FB 2: 28.5' SPAN; RCP-A; APRONS
 89 CU YDS. OF GRANULAR BEDDING

NOTE: STA. 220+00 - 226+75 (LTH)
 MITIGATION FOND

SEE SHEET NO. 40 FOR L¹ ROAD
 APPROX. CONSTRUCTION

STA. 225+50 TO STA. 226+92

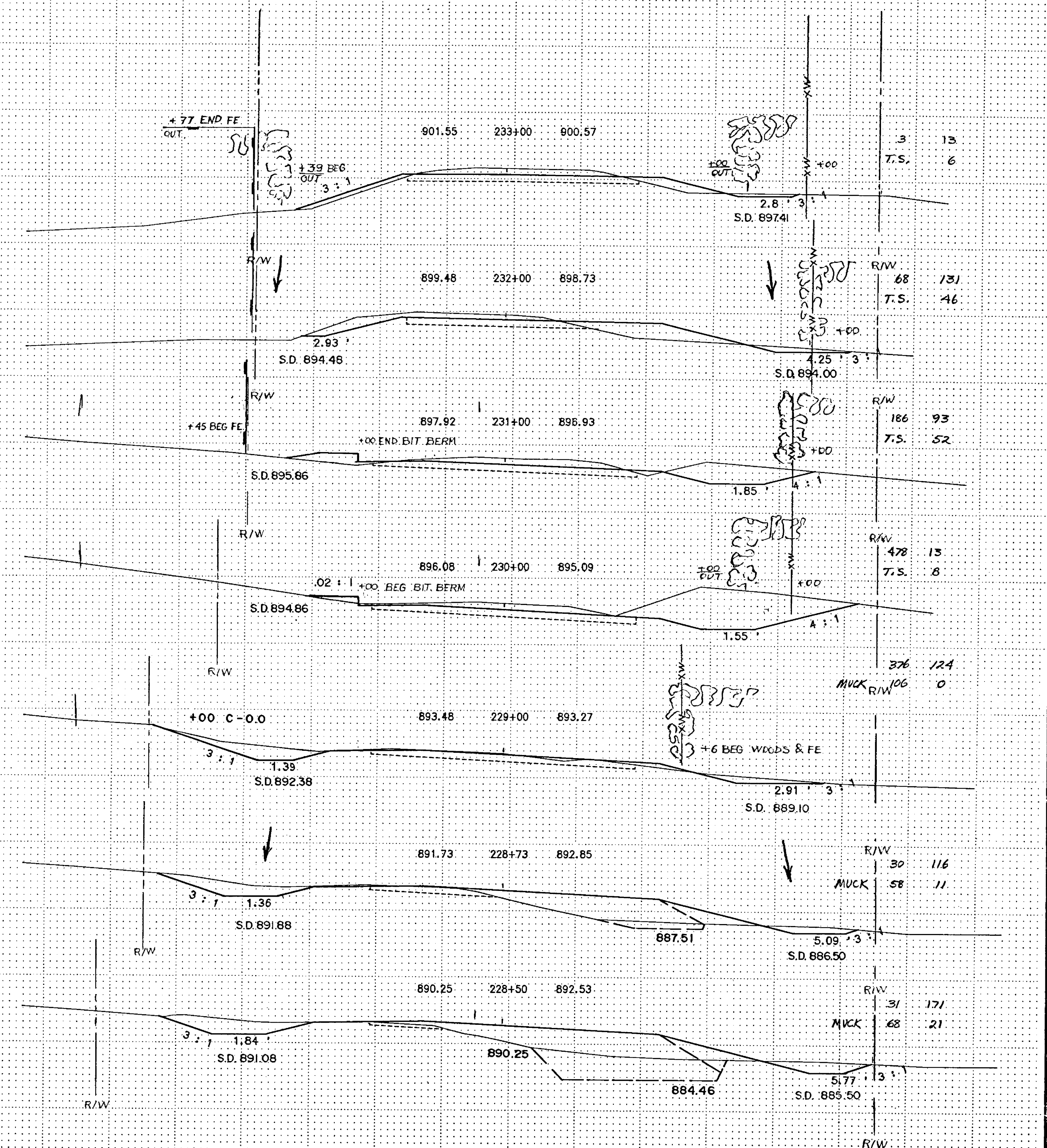
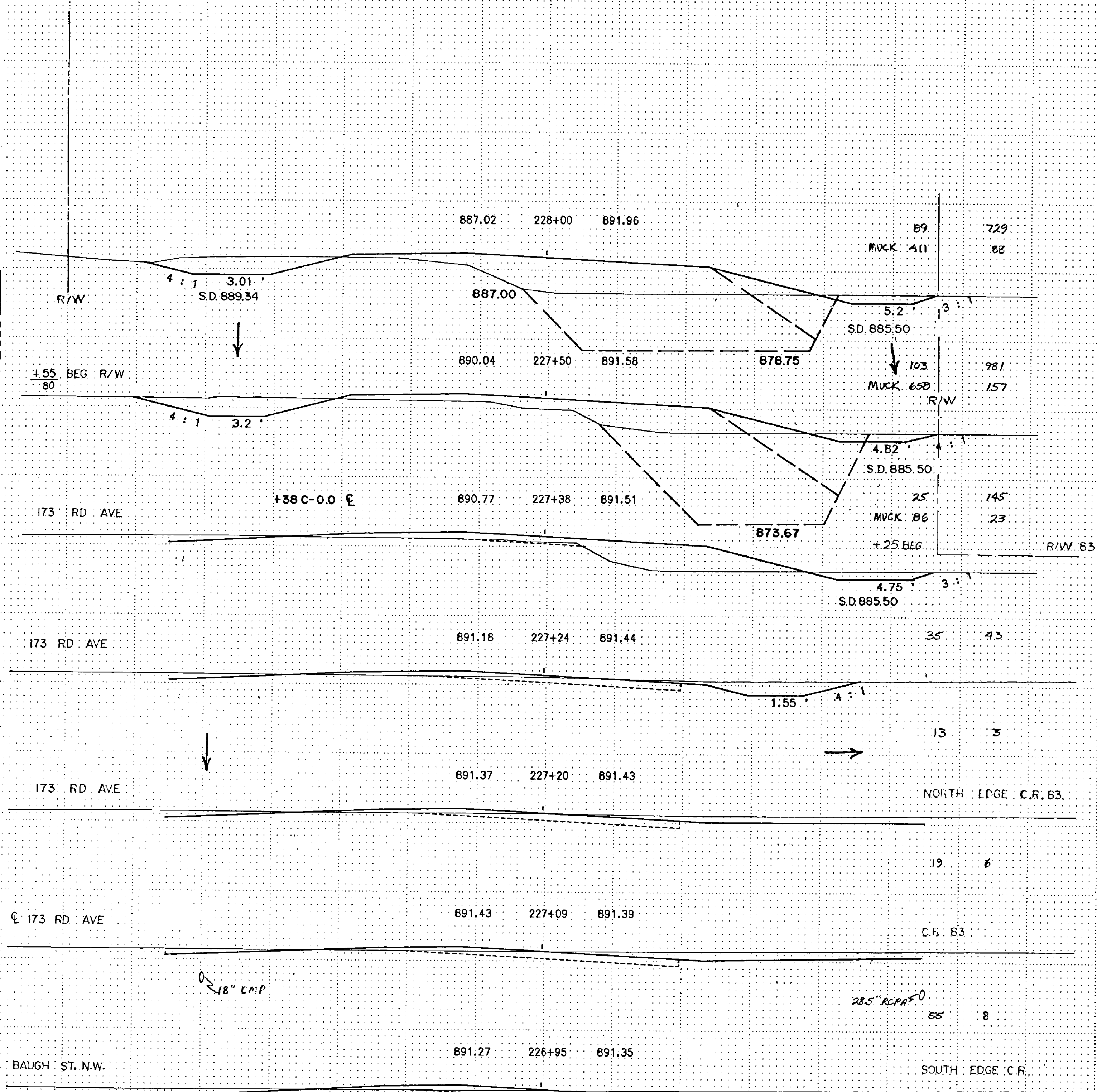
GRAPHIC CONTROLS CROSS SECTION 0000

EXCAVATION EMBANKMENT

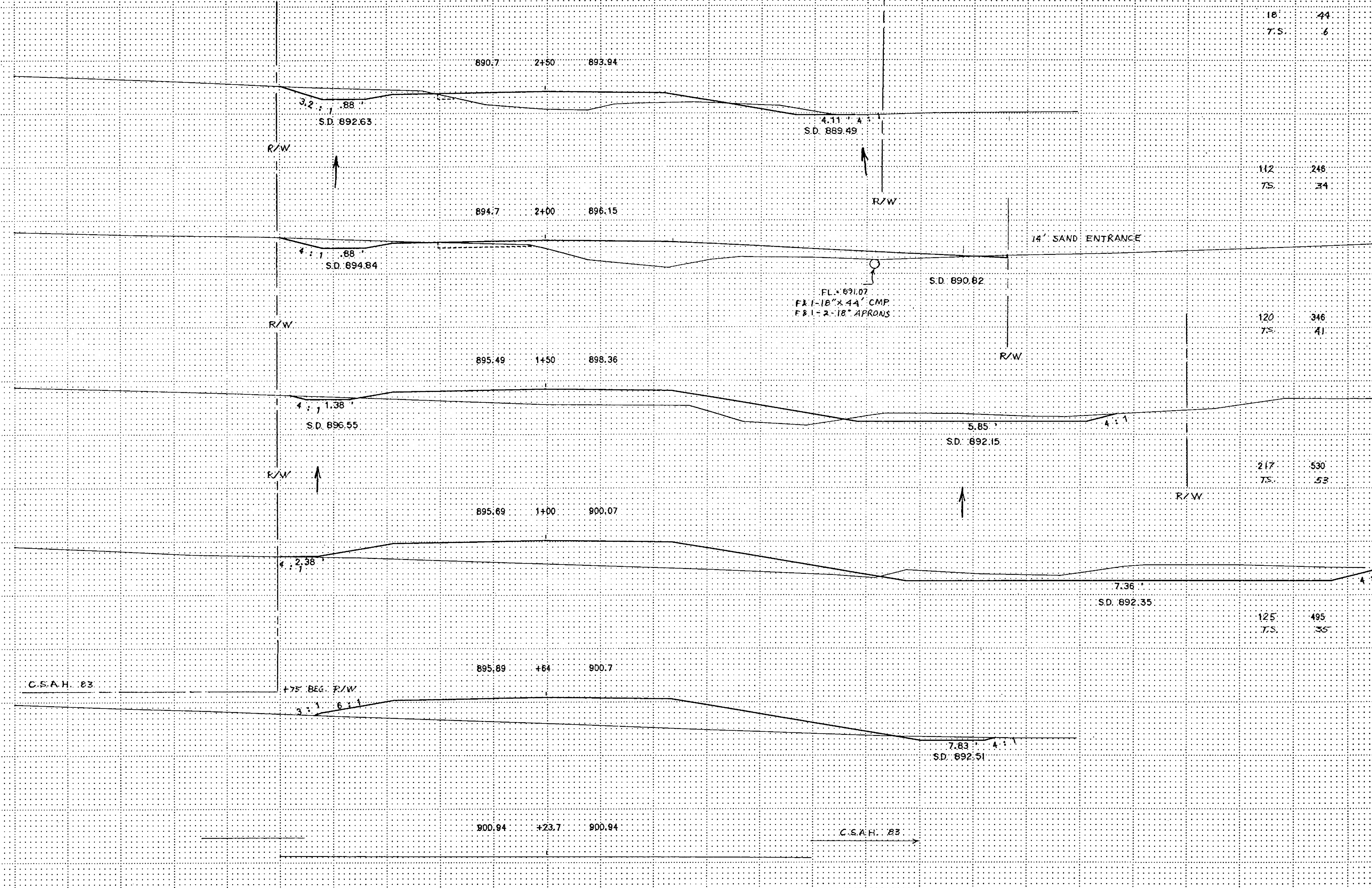
SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



STA. 226+95 TO STA. 233+00



EXCAVATION	EMBANKMENT
SUB-TOTALS CU.YDS.	SUB-TOTALS CU.YDS.
18 7.5	44 6
112 7.5	248 34
120 7.5	346 41
217 7.5	530 53
125 7.5	495 35

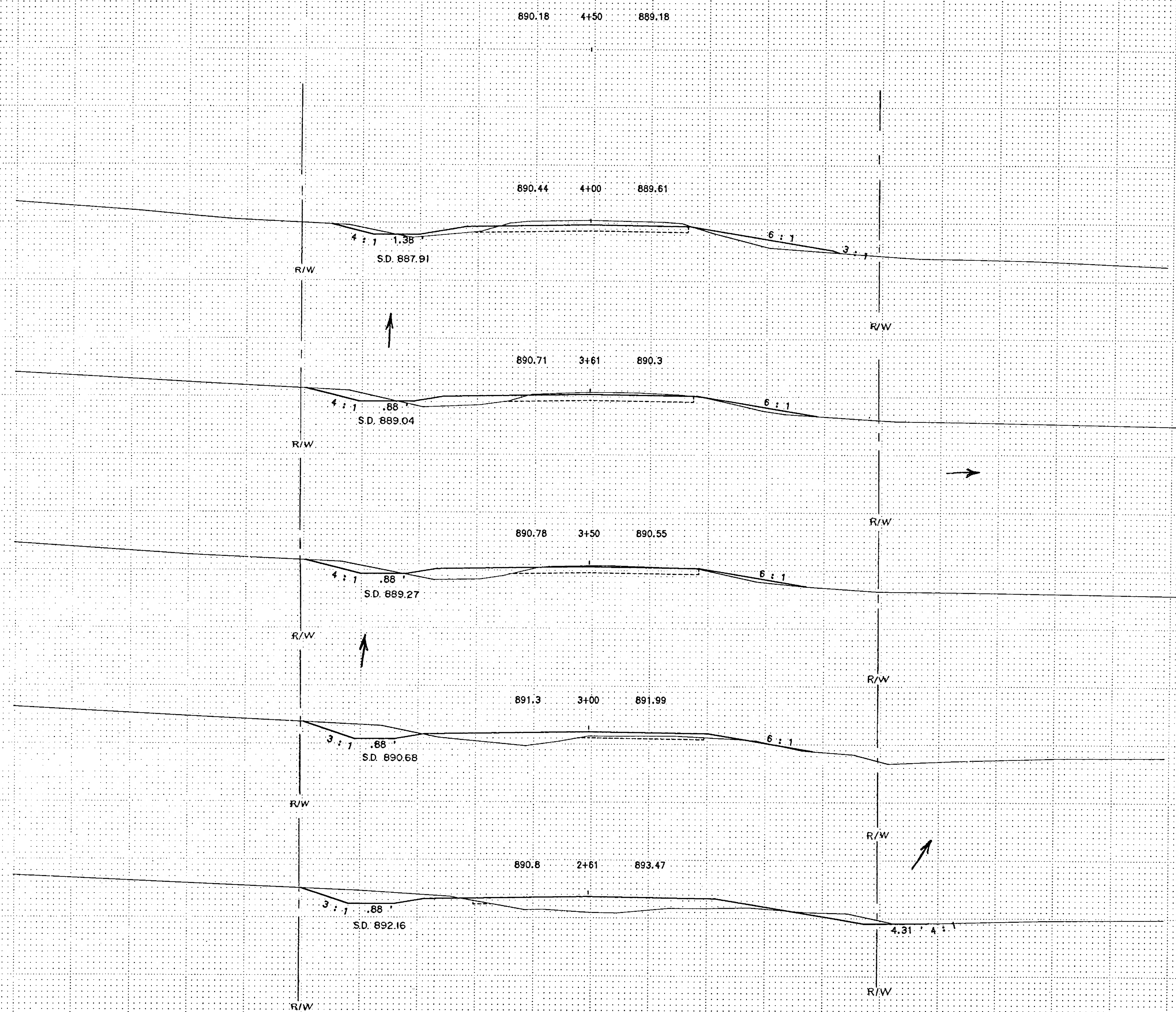
C.S.A.H. 83

+75' BEG. R/W

C.S.A.H. 83

ROAD APPROACH CONT.

STA. 0+23.7 TO STA. 2+50



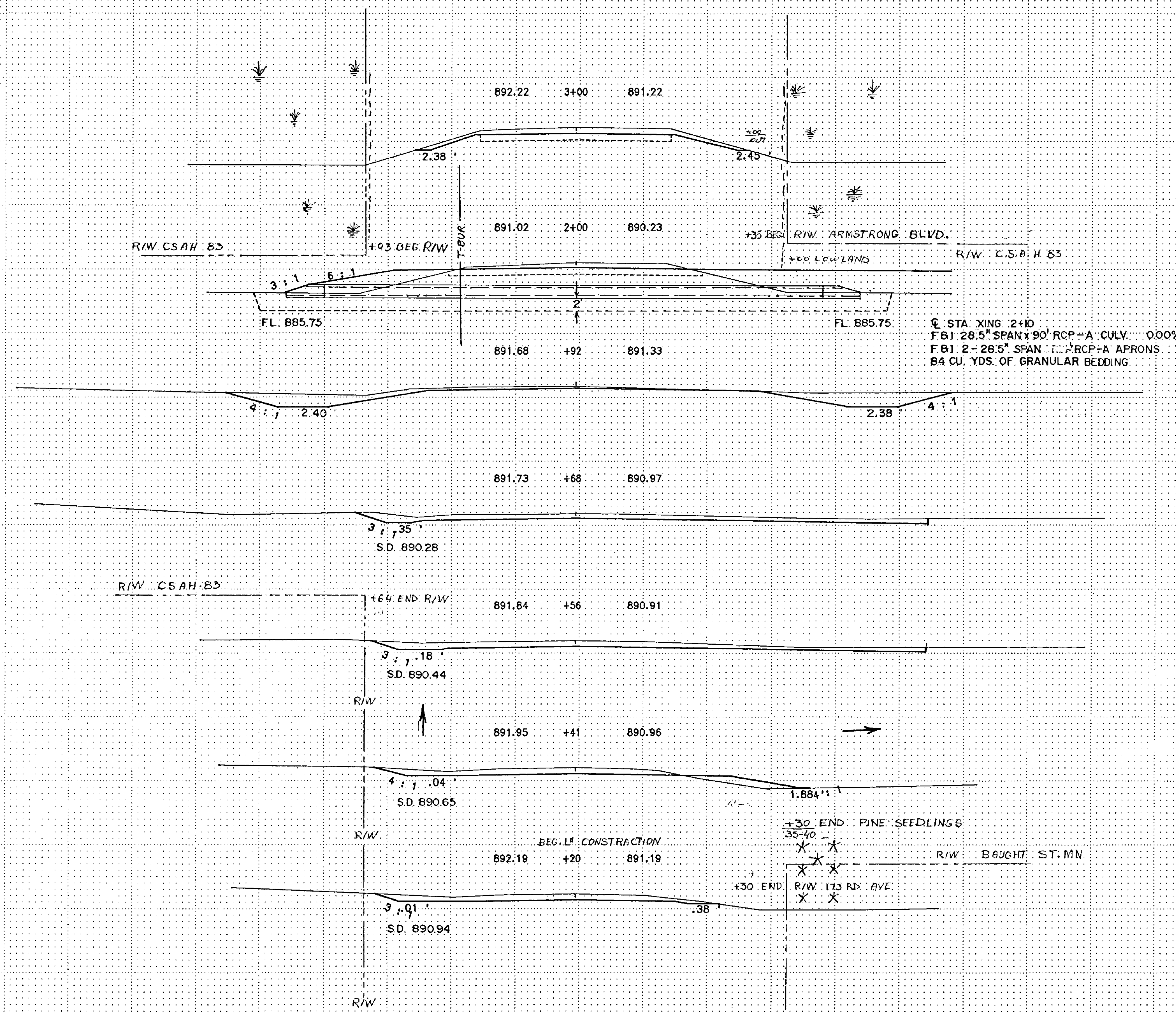
75 102
 T.S. 20

18 28
 T.S. 5

74 133
 T.S. 25

58 125
 T.S. 22

L' ROAD APPROCH CONST.
 STA. 2+61 TO STA. 4+50



208
T.S.

282
41

53
T.S.

0
14

15
T.S.

0
4

14
T.S.

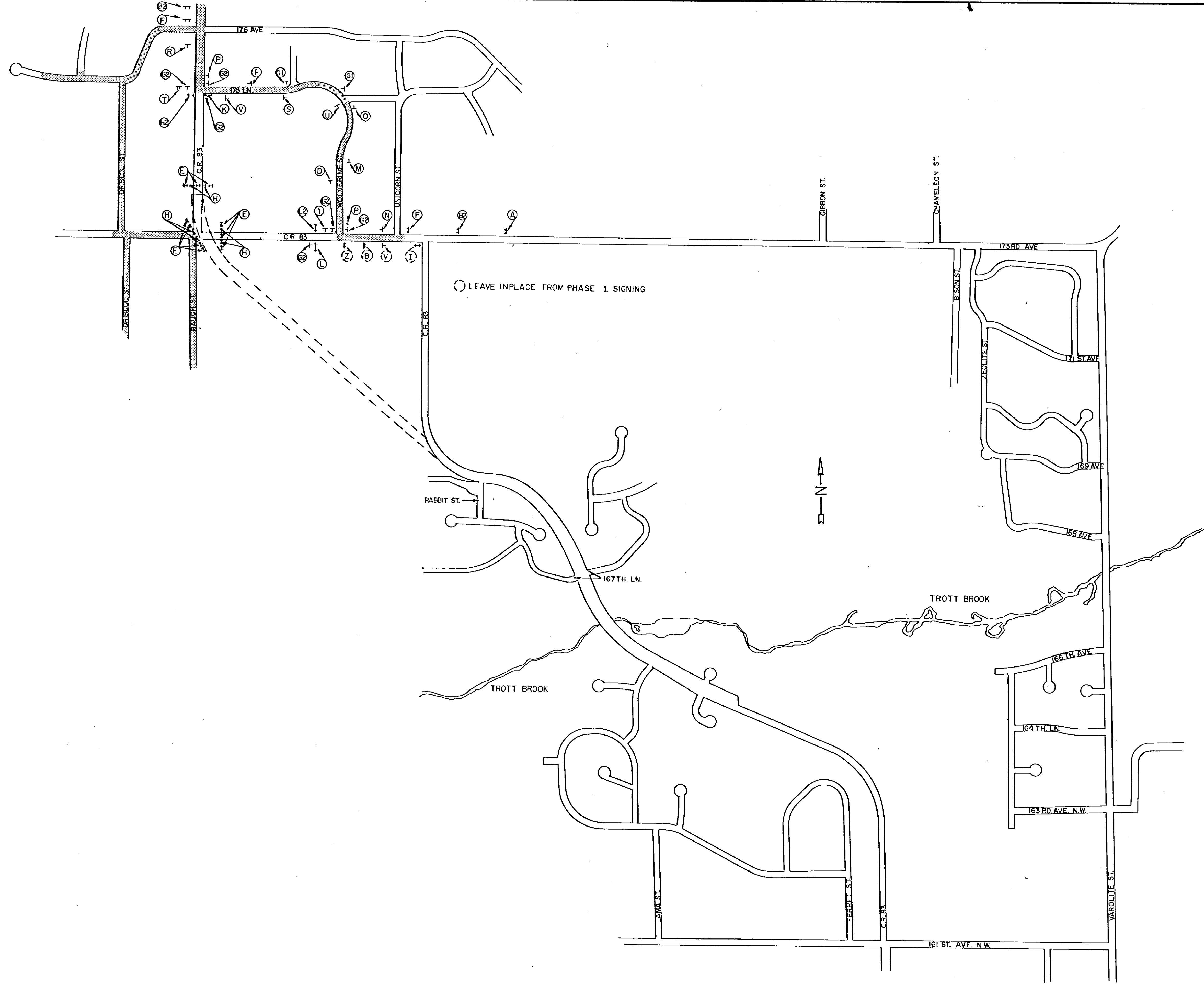
2
4

24
T.S.

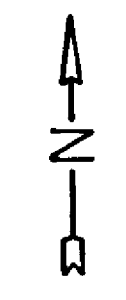
3
7

L¹ ROAD APPROCH CONST.

STA. +20 TO STA. 3+00



○ LEAVE INPLACE FROM PHASE 1 SIGNING

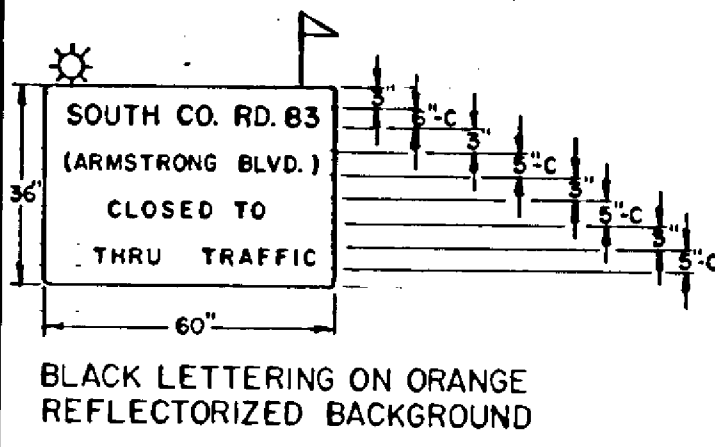


PHASE 2

REVISIONS			
DATE	BY	DATE	BY

S.A.P. _____ S.P. _____ C.P. 87-16-83

M.U.T.C.D. CODE	SIZE	INSERT	CODE	PHASE I	PHASE II	M.U.T.C.D. CODE	SIZE	INSERT	CODE	PHASE I	PHASE II
W20-1	48"x48"	AHEAD 500 FT 1000 FT 1500 FT	A	4		R11-4 M4-10(R)	60"x30"	ROAD CLOSED TO THRU TRAFFIC	L2		I
W20-2	48"x48"	AHEAD 500 FT 1000 FT 1500 FT	B	I							
			B-2		2						
W20-3	48"x48"	AHEAD 500 FT 1000 FT 1500 FT	C	2		MI-6	24"x12" 24"x12"	M5-1(L)	M	2	I
			D	2	I		24"x24" 21" x 15"	M5-1(R)	N	I	I
								M6-1(L)	O	2	I
								M6-1(R)	P	I	2
								M6-3	Q	4	
WI-6(L) TYPE III	24"x48" 8 FT	TYPE III	Y	I				M5-1(L)	R	I	I
								M5-1(R)	S	2	I
TYPE III	8 FT	TYPE III	E	8	10	MI-6	24"x24" 21" x 15"	M6-1(L)	T	2	2
								M6-3	U	2	I
								M6-4	V	4	I
W3-1	48"x48"	STOP AHEAD	F	4	3	RI-X2	36" x 12"	CROSS TRAFFIC DOES NOT STOP	W	2	
RI-1 RI-1 RI-1	48"x48" 48"x48" 30"x30"	STOP	G G2(X) G1	2 I	6 2	RI-4	18" x 6"	ALL WAY	X	2	6
R11-2 TYPE III	48"x30" 8 FT	ROAD CLOSED	H	8	6			SOUTH CO. RD. 83 (ARMSTRONG BLVD.) CLOSED TO THRU TRAFFIC	Z	2	
R11-3 M4-10(L)	60"x30" 48"x18"	BRIDGE OUT AHEAD LEGAL TRAFFIC ONLY	I	I							
R11-3 M4-10(R)	60"x30" 48"x18"	BRIDGE OUT AHEAD LEGAL TRAFFIC ONLY	J	I							
M4-10(L) TYPE III	48" x 18" 8 FT	TYPE III	K	I	I						
M4-10(R) TYPE III	48" x 18" 8 FT	TYPE III	L	I							
R11-4 M4-10(L)	60"x30"	ROAD CLOSED TO THRU TRAFFIC	H-2		I						



LOCATION: CO. RD. 83-161ST. AVE. N.W. TO 700' N. OF 173RD. AVE. N.W. (C.P. 87-16-83/PHASE II)
 REASON FOR DETOUR: CULVERT REPLACEMENT-167TH. LN. N.W. TO MARMOSET ST. N.W.
 INSTALLED BY: _____ DATE: _____ TIME: _____
 REMOVED BY: _____ DATE: _____ TIME: _____

REVISIONS			
DATE	BY	DATE	BY

S.A.P. _____ S.P. _____ C.P. 87-16-83