

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR STORM SEWER, GRADING, BASE & BITUMINOUS SURFACING & CURB/GUTTER

County State Aid Highway No. 14

Between 4th AVE. (LINO LAKES) And INTERSTATE 35

From A POINT ON THE NORTH LINE OF SEC. 7, 360.71 WEST OF THE NE. COR. SEC. 7, T31N, R22W To A POINT 988.39' SOUTH & 766.57' EAST OF THE N. 1/4 COR. SEC. 10, T31N, R22W

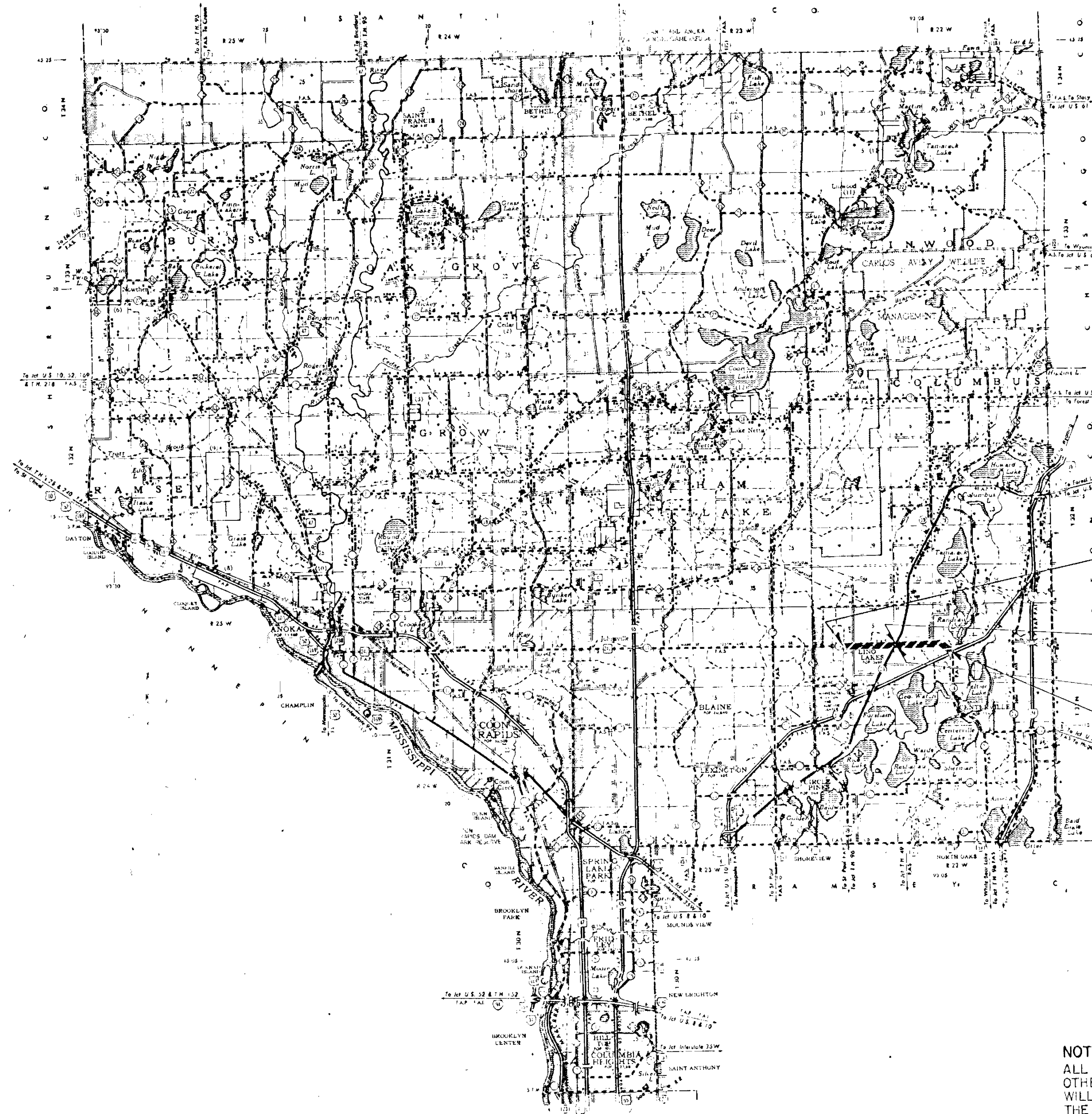
Give proper reference to Sections, Townships and Range

GROSS LENGTH 13,100' FEET 2.48 MILES
BRIDGES LENGTH 0' FEET 0 MILES
EXCEPTIONS LENGTH 90' FEET 0.0170 MILES
NET LENGTH 13,010' FEET 2.46 MILES

INDEX OF SHEETS

- Sheet No. 1 Title Sheet & Layout Map
- No. 2 To 5 Est. Quant. & Typicals
- No. 6 Super-elevation Chart
- No. 7 To 12 Plan & Profile
- No. 13 To 32 Cross Sections

SCALE
INDEX MAP 2 MI.
PLAN & PROFILE { HORIZ. 100'
 { VERT. 10'
CROSS SECTIONS { HORIZ. 10'
 { VERT. 10'



BEGIN PROJECT S.A.P. 02-614-II
STA. 41+00

BEGIN EXCEPTION STA. 100+60

END EXCEPTION STA. 101+50

END PROJECT S.A.P. 02-614-II
STA. 172+00

NOTE:
ALL UTILITY POLES AND
OTHER UNYIELDING OBJECTS
WILL BE REMOVED FROM
THE CLEAR ZONE.

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

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

Paul K. Rensel DATE 7/10/86
COUNTY ENGINEER

ANOKA COUNTY REG. NO. 6549

RECOMMENDED FOR APPROVAL *C. E. Weckert* 10/86
DISTRICT STATE AID ENGINEER

RECOMMENDED FOR APPROVAL *Robert D. Ojala* 8-29, 1986

APPROVED 8/28, 1986 *Stanley M. Gray*
STATE AID ENGINEER

Minn. Proj. No. _____ County Proj. No. _____
State Proj. No. _____ S.A.P. 02-614-II

CONVENTIONAL SIGNS

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- PRESENT RIGHT OF WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE (Easement Line)
- UNGATED PLANTED PROPERTY
- CONCRETE OR CITY LIMITS
- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY LINE
- RIVER OR CREEK
- DRY RUM
- SEWERAGE DITCH
- ELECTRIC POWER LINE
- TELEPHONE OR TELEGRAPH LINE
- JOINT TELEPHONE AND POWER
- CONDUIT
- TELEPHONE CABLE AERIAL
- TELEPHONE CABLE UNDERGROUND
- POWER CABLE UNDERGROUND
- GAS MAIN
- CULVERT
- GRAP HOLE
- GRAB BANK
- BARRIED WIRE FENCE
- WOODEN WIRE FENCE
- CHAIN LINK FENCE
- RAILROAD SNOW FENCE
- STONE WALL OR FENCE
- HEDGE
- WATER PIPE
- SEWER PIPE
- DRAIN TILE
- SPRING
- MARSH
- TIMBER
- ORCHARD
- BRUSH
- NURSERY
- CATCH BASIN
- MANHOLE
- FIRE HYDRANT
- STREET LIGHT
- RAILROAD CROSSING SIGN
- RAILROAD CROSSING SIGN
- ELECTRIC WARNING SIGN
- CROSSING GATE
- CATTLE GUARD
- OVERPASS (Highway Over)
- UNDERPASS (Highway Under)
- BRIDGE
- BUILDING (One Story Frame)
- F FRAME CONCRETE
- S STONE TILE
- B BRICK STUCCO
- IRON PIPE OR ROD
- MONUMENT (STONE, CONCRETE OR METAL)
- WOODEN PILE
- GRAVEL PIT
- SAND PIT
- BURNED PIT
- ROCK QUARRY
- MEANER CONUR

DESIGN DESIGNATION

	WEST OF CSA.H. # 23	EAST OF CSA.H. # 23
ADT (CURRENT YEAR)	4400	2900
ADT (FUTURE YEAR)	7040	4640
H.C.A.D.T.	300-1100	300-600
9 Ton Design, Soil Factor	A-3, 50%	
Design Speed	60 MPH	
Design Speed not achieved at:		
STA 170+00 TO STA 171+00	MPH 40	
STA 150+00 TO STA 170+00	MPH 55	

STOPPING SIGHT DISTANCE BASED ON
35' HEIGHT OF EYE - 0.5 HEIGHT OF OBJECT

SPECIFICATIONS

THE "STANDARD" SPECIFICATIONS FOR CONSTRUCTION, 1983 EDITION AND SUPPLEMENTAL SPECIFICATIONS, DATED JUNE 10, 1986 SHALL GOVERN.

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO	ITEM	UNIT	TOTAL EST MATED QUANTITIES	TOTAL FINAL QUANTITIES
2021.501	MOBILIZATION	LUMP SUM	1	
2031.501	FIELD OFFICE, TYPE 'D'	EACH	1	
2101.501	CLEARING	ACRE	3.15	
2101.502	CLEARING	TREE	133	
2101.506	GRUBBING	ACRE	3.15	
2101.507	GRUBBING	TREE	111	
2104.501	REMOVE CULVERT PIPE	LIN. FT.	923	
2104.501	REMOVE SEWER PIPE	LIN. FT.	64	
2104.501	REMOVE CONCRETE CURB	LIN. FT.	88	
2104.503	REMOVE CONCRETE SIDEWALK	SQ. FT.	70	
2104.505	REMOVE CONCRETE PAVEMENT	SQ. YD.	115	
2104.505	REMOVE BITUMINOUS PAVEMENT	SQ. YD.	26,877	
2104.509	REMOVE MANHOLES	EACH	1	
2104.521	SALVAGE CULVERT PIPE	LIN. FT.	915	
2104.521	SALVAGE FENCE	LIN. FT.	3331	
2104.523	SALVAGE CASTINGS	EACH	1	
0557.604	INSTALL FENCE	LIN. FT.	2758	
2105.501	COMMON EXCAVATION	CU. YD.	43,094	
2105.505	MUCK EXCAVATION	CU. YD.	50,047	
2105.521	GRANULAR BORROW (R.V.)	CU. YD.	37,048	
2105.535	SALVAGED TOPSOIL (L.V.)	CU. YD.	5752	
0105.615	CHANNEL EXCAVATION	STA.	20	
2130.501	WATER	M-GAL	400	
2211.503	AGGREGATE BASE PLACED, CLASS 5A (P)	CU. YD.	9039	
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	1051	
2331.510	BINDER COURSE MIXTURE	TON	5930	
2331.514	BASE COURSE MIXTURE	TON	13,879	
2231.531	TEMPORARY LANE MARKING	ROAD STA.	1560	
0331.601	2" WEARING COURSE PLACED	SQ. YD.	3642	
2241.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	381	
2341.508	WEARING COURSE MIXTURE	TON	5851	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	7190	
2501.511	6" C.M. PIPE CULVERT	LIN. FT.	64	
2501.511	15" C.M. PIPE CULVERT	LIN. FT.	971	
2501.511	30" C.M. PIPE CULVERT	LIN. FT.	146	
2501.515	15" C.M. PIPE APRONS	EACH	56	
2501.515	30" C.M. PIPE APRONS	EACH	12	
2501.515	36" C.M. PIPE APRONS	EACH	2	
2501.515	12" R.C. PIPE APRONS	EACH	1	
2501.515	15" R.C. PIPE APRONS	EACH	3	
2501.515	24" R.C. PIPE APRONS	EACH	1	
2501.515	30" R.C. PIPE APRONS	EACH	1	
2501.515	36" R.C. PIPE APRONS	EACH	1	
2501.515	48" R.C. PIPE APRONS	EACH	2	
2501.521	51" SPAN R.C. PIPE-ARCH CULVERT	LIN. FT.	92	
2501.525	51" SPAN R.C. PIPE-ARCH APRONS	EACH	2	
2501.561	48" R.C. PIPE CULVERT DES. 3006D	LIN. FT.	82	
2501.571	INSTALL C.M.P. CULVERT	LIN. FT.	164	
2503.541	12" R.C.P. SEWER PIPE DES. 3006	LIN. FT.	362	
2503.541	15" R.C.P. SEWER PIPE DES. 3006	LIN. FT.	202	
2503.541	18" R.C.P. SEWER PIPE DES. 3006	LIN. FT.	256	
2503.541	24" R.C.P. SEWER PIPE DES. 3006	LIN. FT.	1463	
2503.541	30" R.C.P. SEWER PIPE DES. 3006	LIN. FT.	38	
2503.541	36" R.C.P. SEWER PIPE DES. 3006	LIN. FT.	259	
2506.506	CONSTRUCT MANHOLES, DES. A or F	LIN. FT.	19.4	
2506.506	CONSTRUCT MANHOLES, DES. C or G	LIN. FT.	26.5	
2506.506	CONSTRUCT MANHOLES, DES. 60"-4020	LIN. FT.	12.5	
2506.507	CONSTRUCT CATCH BASIN, DES. C or G	LIN. FT.	50.9	
2506.507	CONSTRUCT CATCH BASIN, DES. H	LIN. FT.	3.1	
2506.516	CASTING ASSEMBLIES	EACH	21	
2506.521	INSTALL CASTINGS	EACH	1	
2511.501	RANDOM RIPRAP CLASS II	CU. YD.	14	
2511.507	GROUTED RIPRAP	CU. YD.	7	
2521.501	4" CONCRETE WALK	SQ. FT.	70	
2531.501	CONCRETE CURB AND GUTTER, DES. B-618	LIN. FT.	9565	
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ. YD.	431	
2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ. YD.	24	

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO	ITEM	UNIT	TOTAL EST MATED QUANTITIES	TOTAL FINAL QUANTITIES
0411.603	STONE RETAINING WALL	SQ. FT.	135	
2573.502	SILT FENCE, HEAVY DUTY	LIN. FT.	3100	
2573.501	RALE CHECK	EACH	195	
2573.508	BITUMINOUS LINED FLUME	SQ. YD.	88	
2575.501	ROADSIDE SEEDING	ACRE	11.7	
2575.502	SEED MIXTURE #4	POUND	527	
2575.505	SODDING	SQ. YD.	29.53	
2575.511	MULCH MATERIAL TYPE # 1	TON	23.3	
2575.519	DISC ANCHORING	ACRE	11.7	
2575.531	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10	TON	2.7	
2123.506	15 CY DRAGLINE	HOUR	40	
2123.509	DOZER	HOUR	40	
①	PROVIDED FOR DUST CONTROL AS DIRECTED BY THE ENGINEER			
②	INCLUDES 171 CUBIC YARDS FOR STREET APPROACHES			
③	INCLUDES 25 TON FOR STREET APPROACHES			
④	INCLUDES 130 TON FOR STREET APPROACHES			
⑤	INCLUDES 342 TON FOR STREET APPROACHES			
⑥	INCLUDES QUANTITY FOR BASE, BINDER, AND WEAR			
⑦	PROVIDED FOR DRIVEWAY PAVING, PAYMENT BY SQ. YD., INCLUDES BITUMINOUS MATERIAL, AND 3" CLASS #5 AGGREGATE BASE.			
⑧	INCLUDES 8.5 TON FOR STREET APPROACHES			
⑨	INCLUDES 130 TON FOR STREET APPROACHES			
⑩	FOR ROCK FILTER DETAIL SEE SHEET NO. 5 OF 32			
⑪	FOR SILT FENCE DETAIL, SEE SHEET NO. 5 OF 32			
⑫	INCLUDES QUANTITY NEEDED FOR DITCH CLEANOUT CONST. FOR DITCH CLEANOUT CONST.			
⑬	FOR DITCH CLEANOUT CONST.			
⑭	FOR POND CONST. - SEE SPECIAL PROVISIONS.			

SPECIAL DETAILS

EXCAVATED MUCK MATERIAL SHALL BE USED TO CONSTRUCT INSLOPES ADJACENT TO MUCK EXCAVATION AREAS AND AS TOPSOIL COVERING THROUGHOUT THE PROJECT

APPROXIMATELY 5752 CU. YDS. OF EXCESS MUCK MATERIAL SHALL BE SPREAD TO A UNIFORM 3" TO 4" DEPTH OVER THE LENGTH OF THE PROJECT. THIS WORK WILL BE COMPENSATED FOR UNDER ITEM 2105.535 SALVAGE TOPSOIL.

REMAINING MUCK MATERIAL WILL BE DISPOSED OF OUTSIDE OF THE RIGHT OF WAY BY THE CONTRACTOR, IN ACCORDANCE WITH THE PROVISIONS OF 2104.3C

BASIS OF PLANNED QUANTITIES

- 2331 PLANT MIXED BASE COURSE BITUMINOUS MIXTURE 110 LBS./S.Y. PER 1" THICKNESS BITUMINOUS MATERIAL FOR MIXTURE 5.3% BY WT.
- 2331 PLANT MIXED BINDER COURSE BITUMINOUS MIXTURE 110 LBS./S.Y. PER 1" THICKNESS BITUMINOUS MATERIAL FOR MIXTURE 5.3% BY WT.
- 2341 PLANT MIXED WEARING COURSE BITUMINOUS MIXTURE 110 LBS./S.Y. PER 1" THICKNESS BITUMINOUS MATERIAL FOR MIXTURE 6.3% BY WT.
- 2357 BITUMINOUS MATERIAL FOR TACK COAT 0.05 GAL. PER S.Y.
- 2575 COMMERCIAL FERTILIZER ANALYSIS 10-10-10 500 LBS./ACRE ON ALL SOD AREAS AND SEED AREAS
- 2575 ROADSIDE SEEDING BASED ON HORIZONTAL MEASUREMENTS PLUS 10% SEED MIXTURE NO.3 @ 45 LBS./ACRE

MHD 21166 (9/73)

The following Standard Plates, approved by the Federal Highway Administration, shall apply on this project.

PLATE NO.	DESCRIPTION
0004A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000K	REINFORCED CONCRETE PIPE
3006D	GASKET JOINT FOR R.C. PIPE
3014J	REINFORCED CONCRETE PIPE ARCH DETAIL
3040F	CORRUGATED METAL PIPE CULVERT
3100F	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110F	CONCRETE APRON FOR REINFORCED CONCRETE ARCH PIPE
3123I	METAL APRON FOR C.S. PIPE
3133B	RIPRAP AT RCP OUTLETS
3145D	CONCRETE PIPE TIES
3221C	CORRUGATED STEEL PIPE COUPLING BAND
4000I	MANHOLE OR CATCH BASIN
4002E	MANHOLE OR CATCH BASIN
4005K	MANHOLE OR CATCH BASIN
4006K	MANHOLE OR CATCH BASIN
4010F	CONCRETE SHORT CONE AND ADJUSTING RING
4011D	PRECAST CONCRETE BASE
4020E	MANHOLE OR CATCH BASIN
4101C	RING CASTING FOR MANHOLE OR CATCH BASIN
4101D	COVER CASTING FOR MANHOLE
4126E	CATCH BASIN FRAME CASTING
4149C	GRATE CASTING FOR CATCH BASIN
4161F	CURB BOX CASTING FOR CATCH BASIN
4108G	MANHOLE OR CATCH BASIN STEP
7100F	CONCRETE CURB AND GUTTER
7101E	CURB AND GUTTER CONSTRUCTION AT CATCH BASIN
7111F	INSTALLATION OF CATCH BASIN CASTINGS
8000I	STANDARD BARRICADES
9000B	APPROACHES AND ENTRANCES
9100C	SODDING AT PIPE CULVERT ENDS

SALVAGE & INSTALL FENCE				
STATION	LQC	SAL.	INSTALL	REMARKS
45+02		39' LT.	38'	LINE
77+69	78+37	43' RT.	68'	68'
78+37		43' RT.	17'	LINE
78+66		43' RT.	17'	LINE
78+66	80+67	43' RT.	201'	201'
80+67		44' RT.	16'	LINE
93+70		47' LT.	3'	CYC.
93+70	94+68	45' LT.	98'	98'
94+68		45' LT.	5'	LINE
97+24		28" LT.	22'	LINE
97+24	98+89	28' LT.	165'	165'
98+89		28' LT.	22'	LINE
102+95	105+15	33' RT.	220'	220'
105+15		33' RT.	17'	WOOD
107+66		34' RT.	16'	WOOD
125+28		34' LT.	26'	LINE
125+28	126+97	34' LT.	169'	169'
126+97		34' LT.	26'	LINE
126+97	130+82	40' LT.	385'	385'
130+82		45' LT.	15'	LINE
131+30		44' RT.	16'	LINE
131+30	134+15	44' RT.	285'	285'
134+15		44' RT.	16'	LINE
138+82		23' RT.	27'	LINE
138+82	139+75	27' RT.	93'	93'
139+75		27' RT.	23'	LINE
140+04		41' LT.	19'	R/R
140+04	140+45	41' LT.	41'	41'
141+75	142+75	39' RT.	100'	100'
142+75		39' RT.	11'	LINE
143+10	143+25	41' LT.	15'	15'
143+25		41' LT.	19'	R/R
143+60		41' LT.	19'	R/R
143+60	143+70	41' LT.	10'	10'
145+27	147+75	30' RT.	243'	243'
147+75		30' RT.	30'	LINE
147+00	147+50	40' LT.	50'	50'
147+50		40' LT.	20'	R/R
163+97		20' LT.	40'	LINE
163+97	171+00	44'-60" LT.	703'	703'
TOTALS			3331'	2753'

ALL FENCE TO BE INSTALLED ON R/W LINE.

FORM 21167 - 2-65

Table with columns: STATION (TO STATION), LOC, CLEARING TREE, ACRES, GRUBBING TREE, ACRES. Lists various stationing and clearing/grubbing details.

FORM 21167 - 2-65

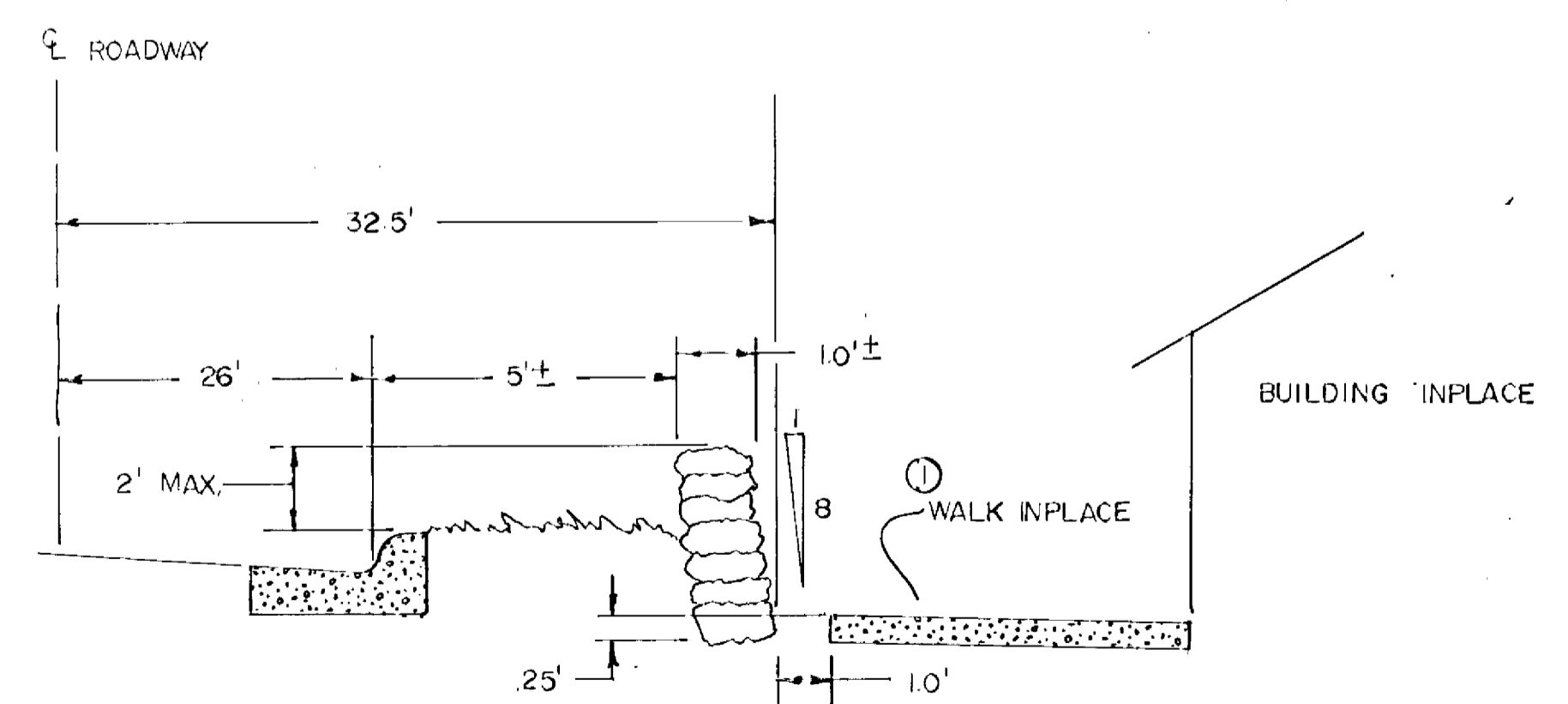
Table with columns: ~STATION (TO STATION), LOC, CLEARING TREE, ACRES, GRUBBING TREE, ACRES. Lists various stationing and clearing/grubbing details.

* QUANTITY INCLUDES 20 STA. OF DITCH CLEANOUT.

DRIVEWAY CONSTRUCTION

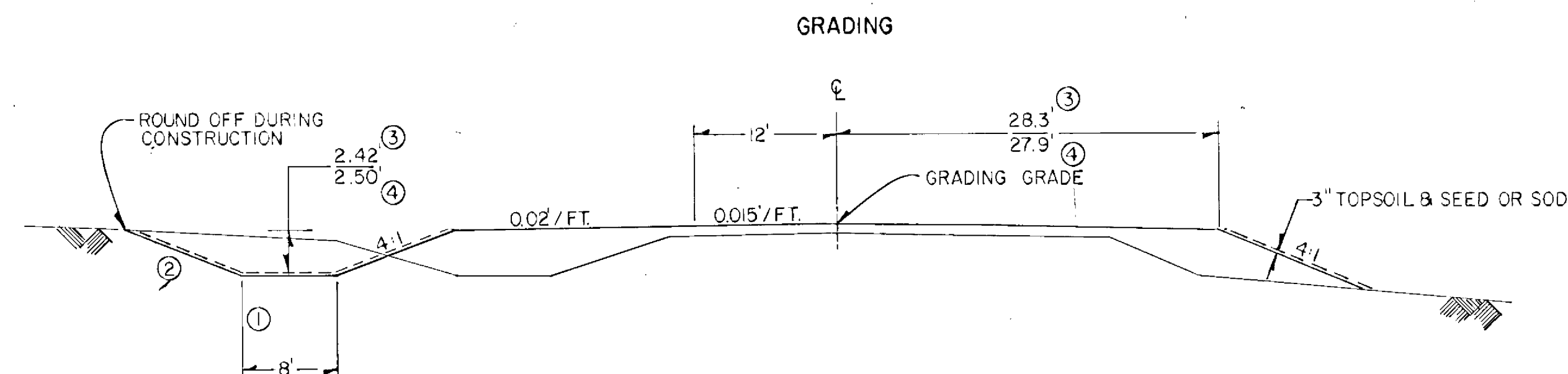
Large table for Driveway Construction with columns: STATION, ADDRESS, REMARKS, REMOVE CONCRETE, BITUMINOUS, CONCRETE DRIVEWAY PAVEMENT (APRON, DRIVEWAY), BIT PAVEMENT (DRIVEWAY). Includes a TOTALS row at the bottom right.

RETAINING WALL DETAIL STA. 102+50 RT -- STA. 102+95 RT.

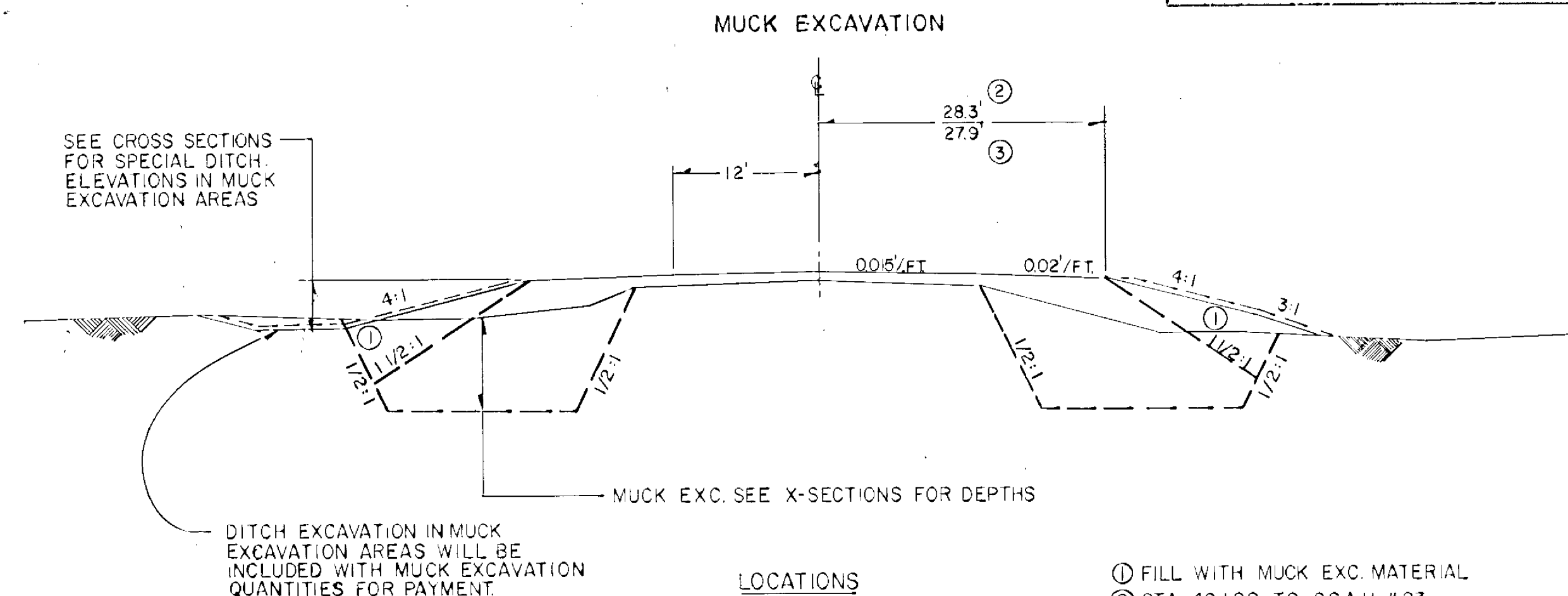


MORTAR ALL EXCEPT LOWER 2 COURSES (INCIDENTAL TO STONE MASONRY RETAINING WALL) RANDOM COURSED DRY RUBBLE MASONRY (LANNON STONE QUARRY FACED) REMOVE SIDEWALK FROM STA. 102+51 TO STA. 102+67 RT. 29' / 32.5 OUT. REPLACE SIDEWALK FROM STA. 102+51 TO STA. 102+67 RT. 33.5' / 37' OUT.

SODDING table with columns: STATION, LOC, S. Y. Lists sodding stations and locations.



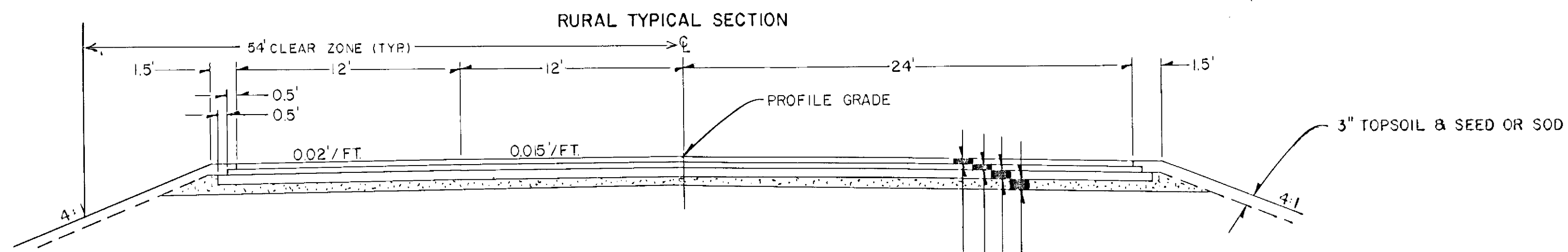
- ① FOR SPECIAL DITCHES SEE PROFILE SHEETS & X-SECTIONS
- ② SEE X-SECTIONS FOR MODIFIED BACKSLOPES
- ③ STA. 42+00 TO C.S.A.H. # 23
- ④ C.S.A.H. # 23 TO STA. 172+00



LOCATIONS

42+00 LT	44+38 LT
45+00 LT	58+55 LT
58+55 LT/RT	61+50 LT/RT
61+50 LT	66+58 LT
72+00 LT	73+30 LT
79+60 RT	80+40 RT
80+40 LT/RT	81+50 LT/RT
119+00 LT	120+00 LT
127+00 LT/RT	135+00 LT/RT
135+00 LT	139+50 LT
161+00 LT	161+50 LT
161+50 LT/RT	164+00 LT/RT
164+00 LT	167+50 LT

- ① FILL WITH MUCK EXC. MATERIAL
- ② STA. 42+00 TO C.S.A.H. #23
- ③ C.S.A.H. # 23 TO STA. 172+00

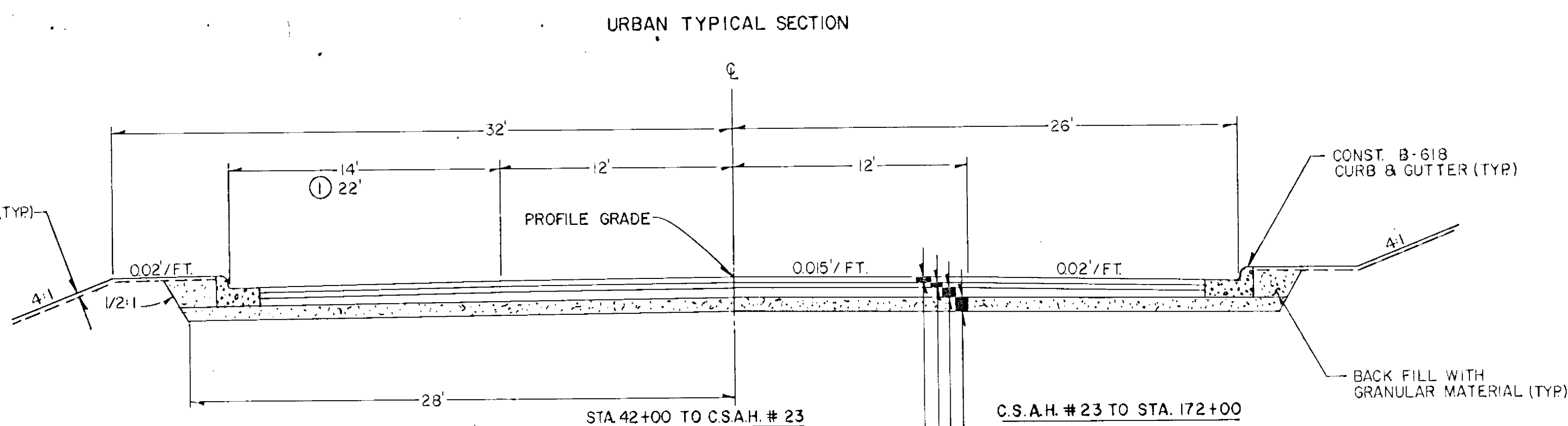
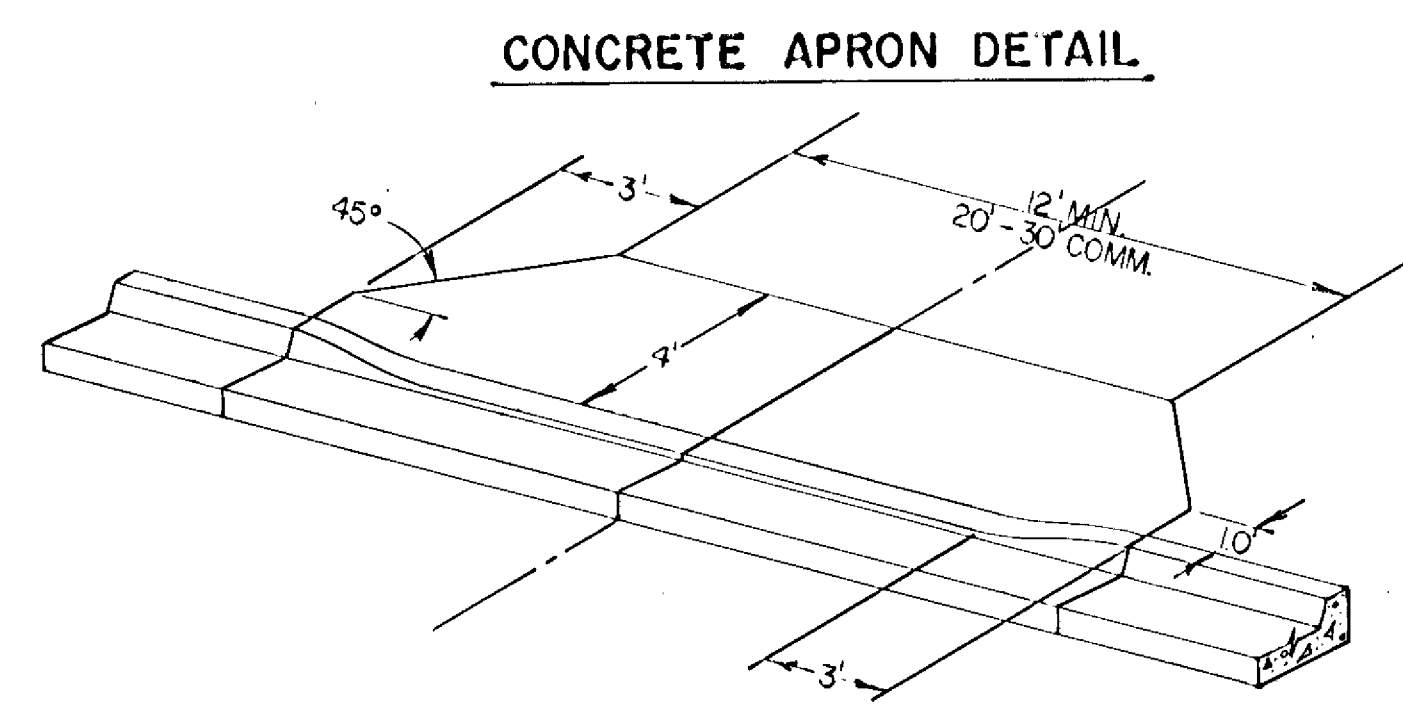


RURAL LOCATIONS

STA. 42+50 TO STA. 74+00 LT/RT
STA. 77+20 TO STA. 83+00 LT
STA. 77+20 TO STA. 84+36 RT
STA. 101+50 TO STA. 106+00 LT
STA. 125+00 TO STA. 136+25 RT
STA. 125+77 TO STA. 140+00 LT
STA. 145+20 TO STA. 172+00 RT
STA. 149+49 TO STA. 172+00 LT

STA. 42+00 TO C.S.A.H. # 23 C.S.A.H. # 23 TO STA. 172+00

1 1/2" 234I WEAR COURSE	1 1/2" 234I WEAR COURSE
1 1/2" 233I BINDER COURSE	1 1/2" 233I BINDER COURSE
4" 233I BASE COURSE	3" 233I BASE COURSE
4" 221I AGGREGATE BASE CLASS-5A	4" 221I AGGREGATE BASE CLASS-5A



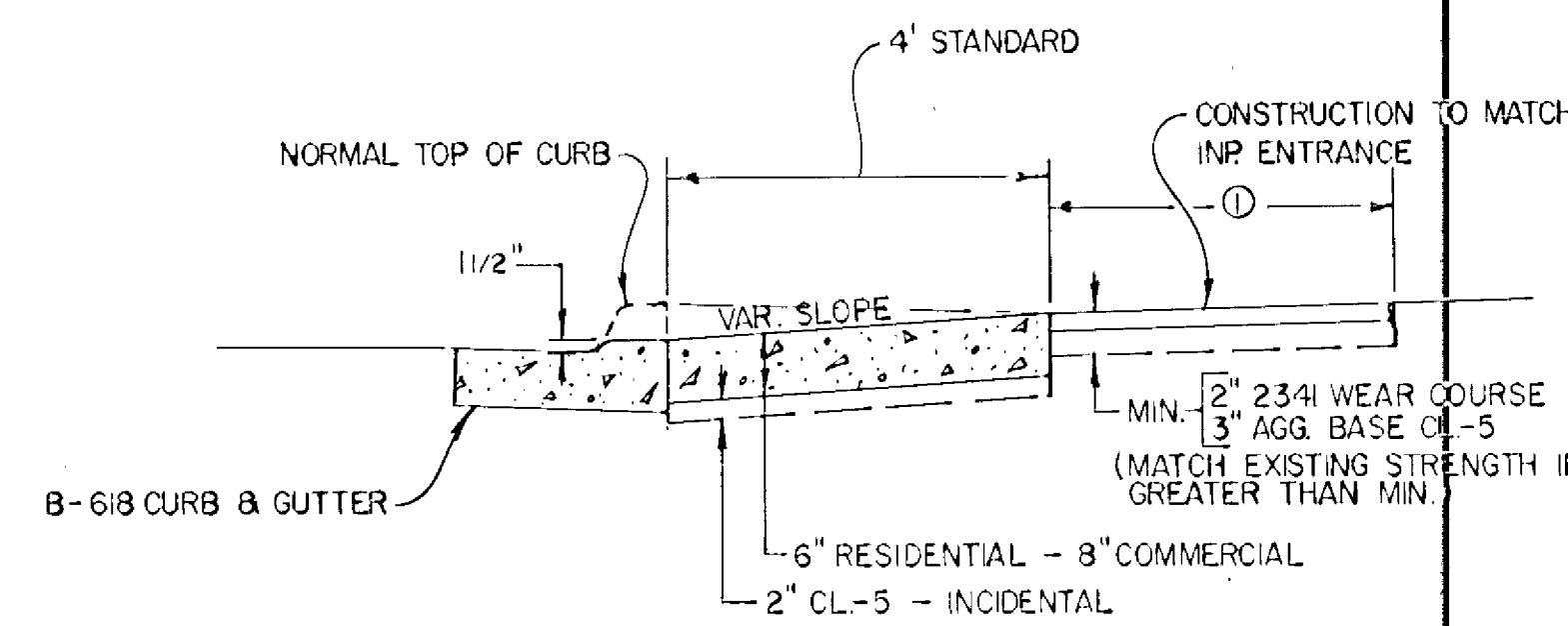
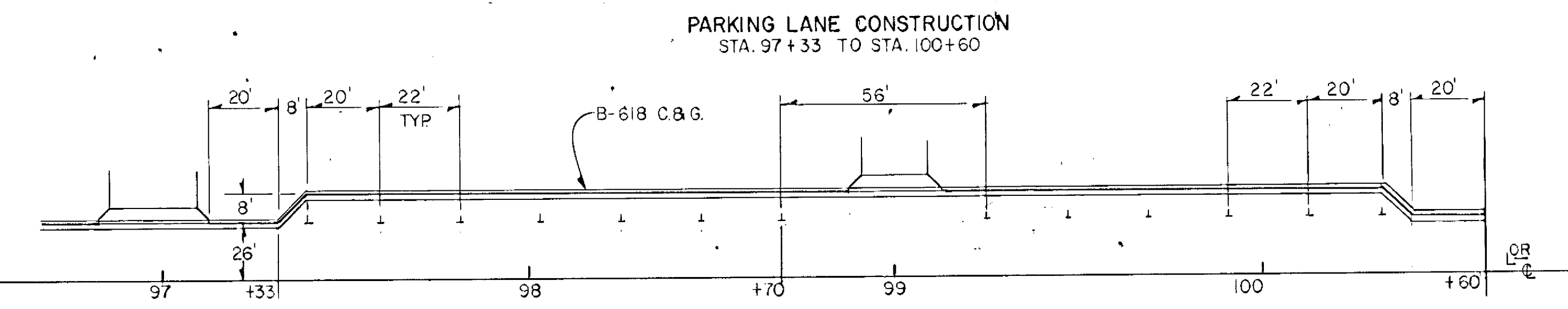
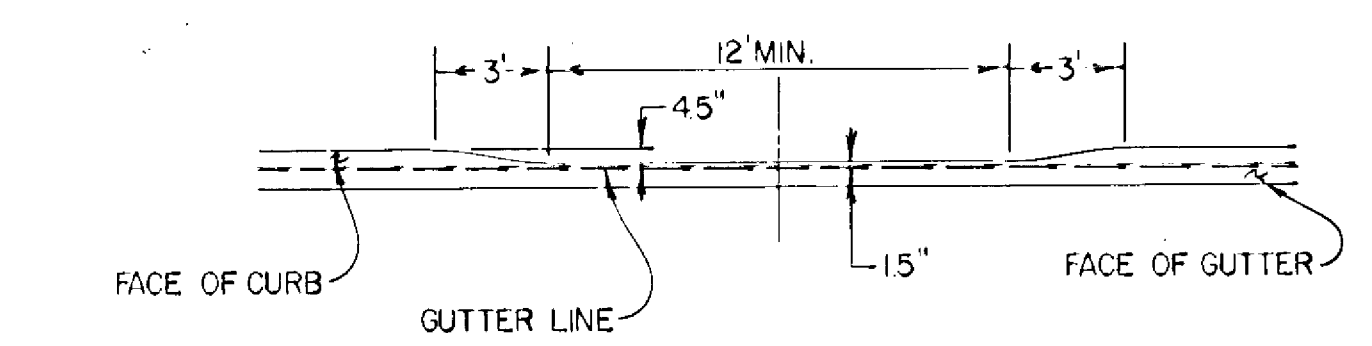
CURB & GUTTER LOCATIONS

STA. 74+00 TO STA. 77+20 LT/RT
STA. 83+00 TO STA. 100+60 LT
STA. 84+36 TO STA. 97+50 RT
STA. 106+00 TO STA. 125+77 LT
STA. 101+50 TO STA. 125+00 RT
STA. 136+25 TO STA. 145+20 RT
STA. 140+00 TO STA. 149+43 LT

- ① STA. 97+33 LT. TO STA. 100+42 LT.
- 8' ADDITIONAL WIDTH FOR PARKING CONST.

STA. 42+00 TO C.S.A.H. # 23 C.S.A.H. # 23 TO STA. 172+00

1 1/2" 234I WEAR COURSE	1 1/2" 234I WEAR COURSE
1 1/2" 233I BINDER COURSE	1 1/2" 233I BINDER COURSE
4" 233I BASE COURSE	3" 233I BASE COURSE
4" 221I AGGREGATE BASE CLASS 5A	4" 221I AGGREGATE BASE CLASS 5A



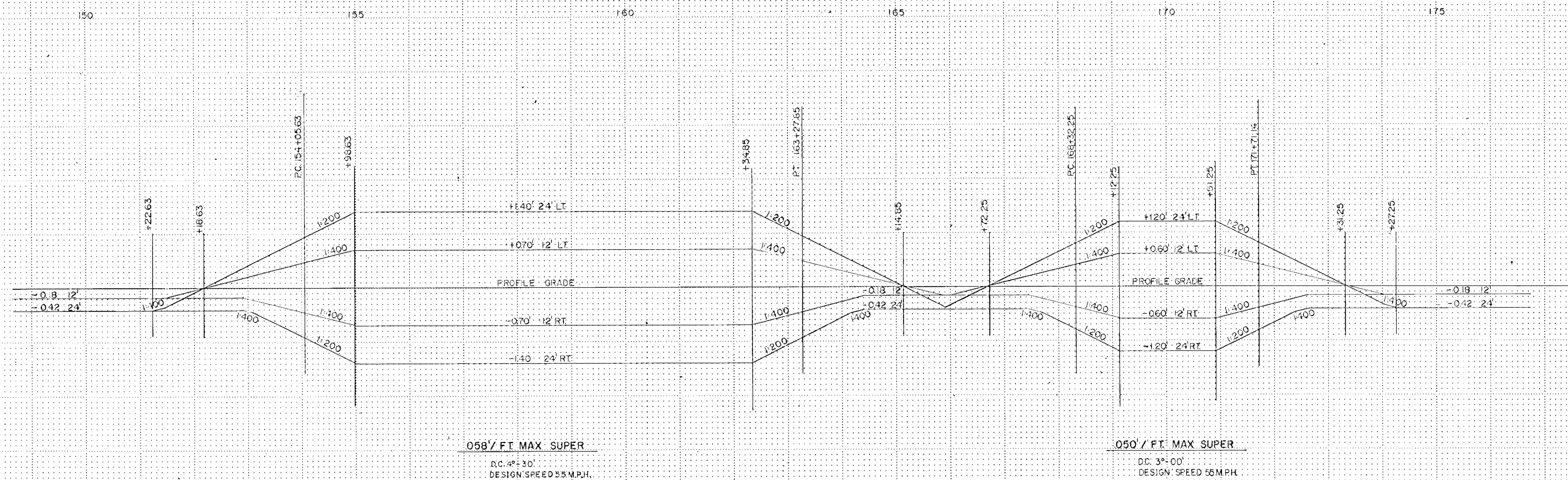
- ① PAVE WITH 234I WEAR MAT'L. THE WIDTH OF ENT. TO 10' BACK EXCEPT IN CONCRETE DRIVE.

NOTE: ALSO SEE STD. PLATE NO. 7035 J

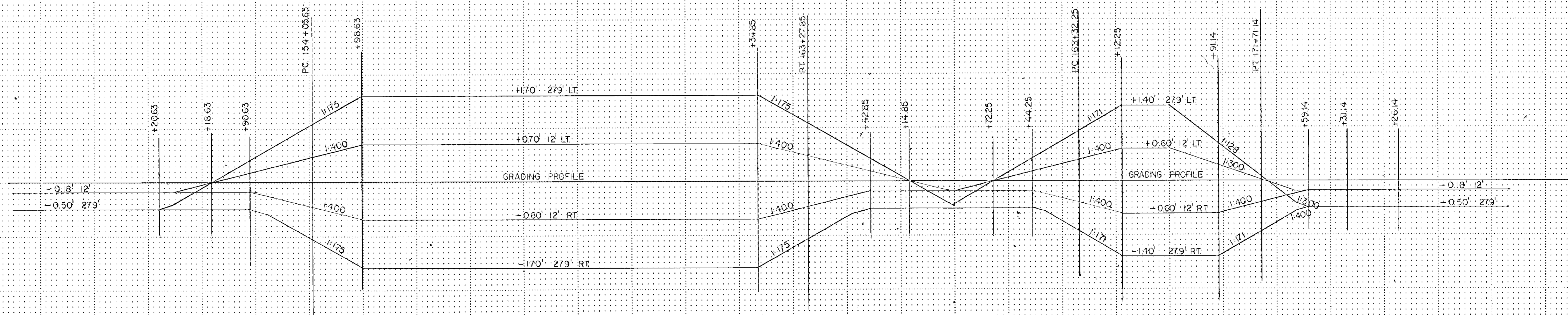
Rev. 5-12-87

SUPER ELEV. CHARTS

FINISHED SUPER ELEV. CHARTS



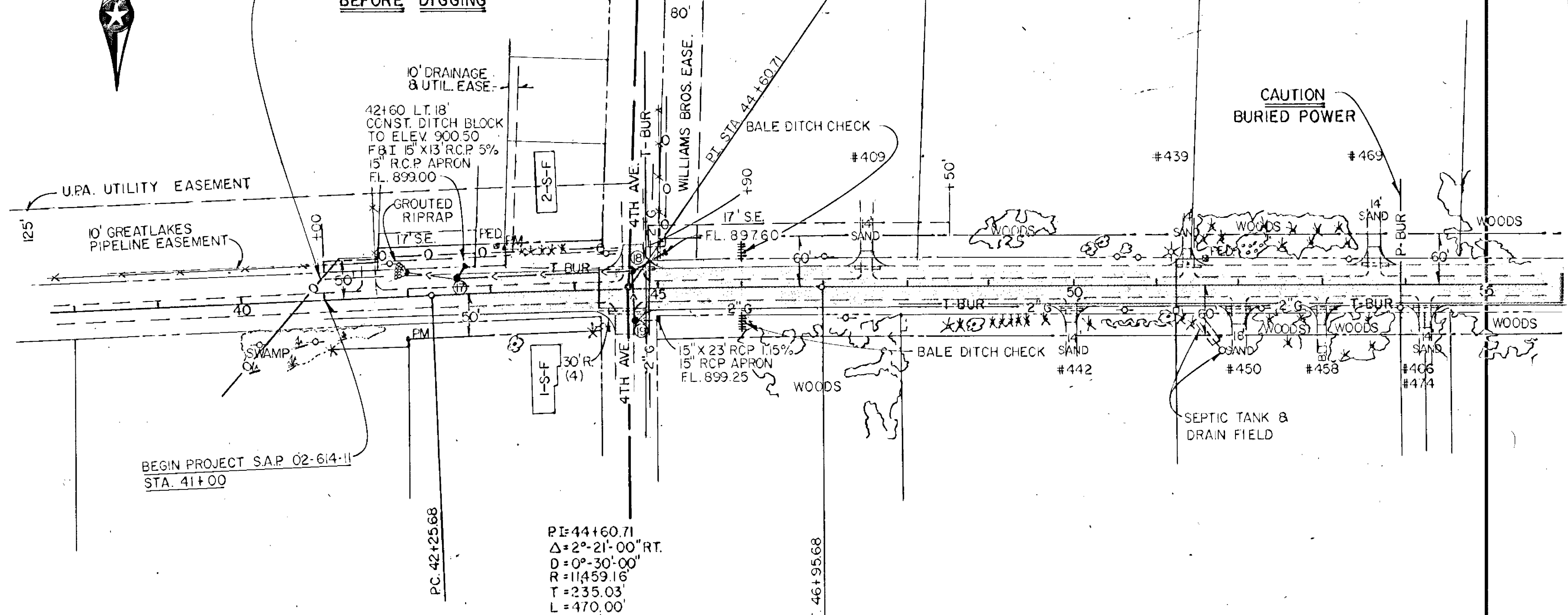
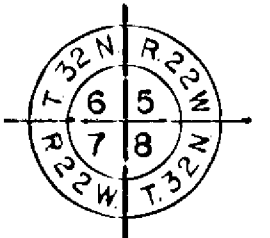
GRADING SUPER ELEV. CHARTS



BM.#1 ELEV. 905.88
 TOP SE. COR. BOT. STEP
 SOUTHERLY SET #8001
 STA. 44+05 LT. 100



CAUTION
 OIL PIPELINE CROSSING 12"
 PH. 612-633-1555
 CONTRACTOR TO CALL
 BEFORE DIGGING

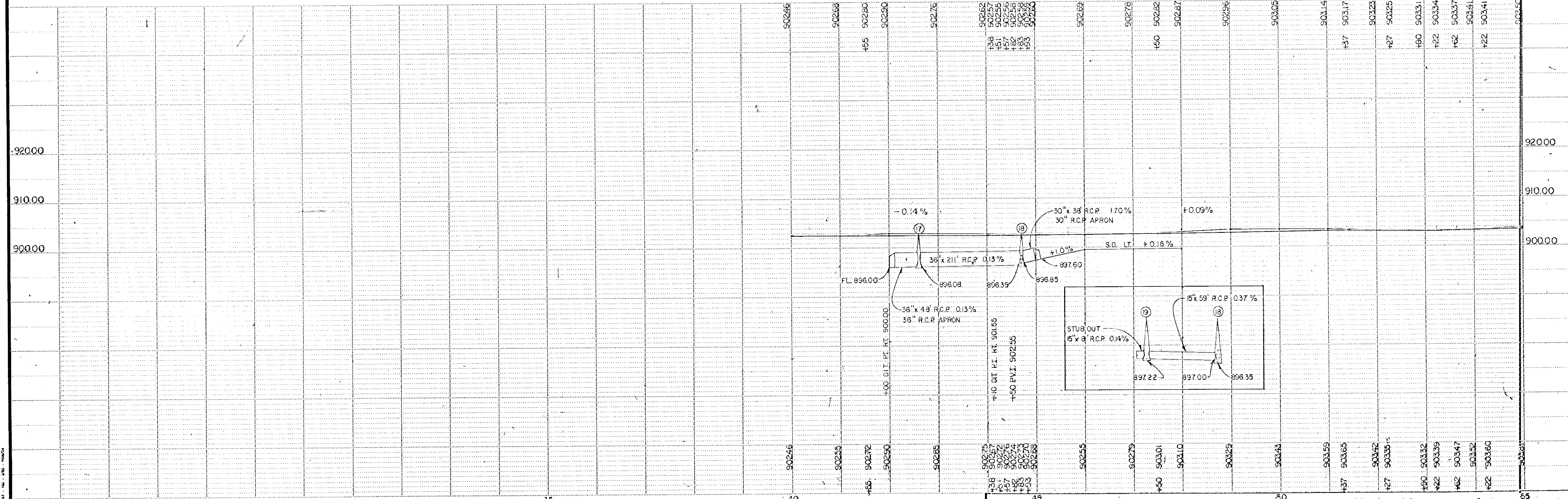


BEGIN PROJECT S.A.P. 02-614-11
 STA. 41+00

PI: 44160.71
 $\Delta = 2^\circ 21' 00''$ RT.
 $D = 0^\circ 30' 00''$
 $R = 11459.16'$
 $T = 235.03'$
 $L = 470.00'$
 $E = 2.41'$

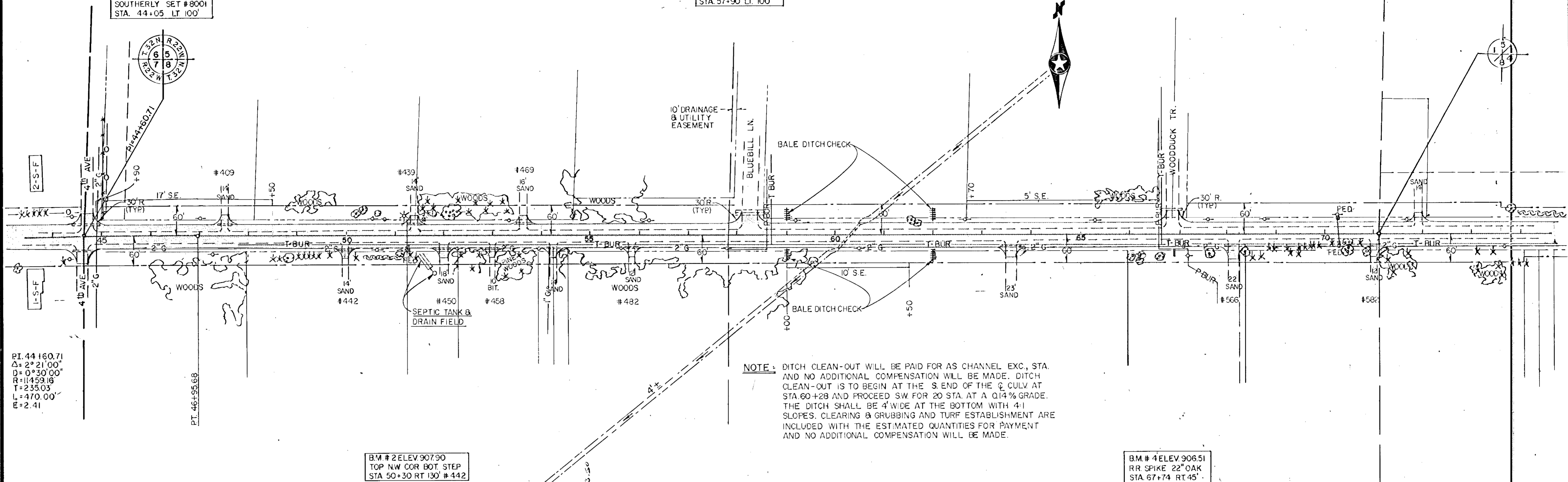
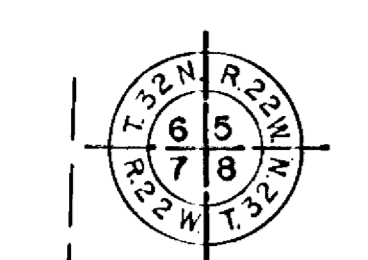
UTILITY LOCATIONS ARE
 APPROXIMATE ONLY

SYMBOLS
 --- SILT FENCE
 ##### BALE DITCH CHECK



B.M. # 1 ELEV. 905.88
TOP SE. COR. BOT. STEP
SOUTHERLY SET #8001
STA. 44+05 LT 100'

B.M. # 3 ELEV. 906.43
RR SPIKE 36" OAK
STA. 57+90 LT 100'

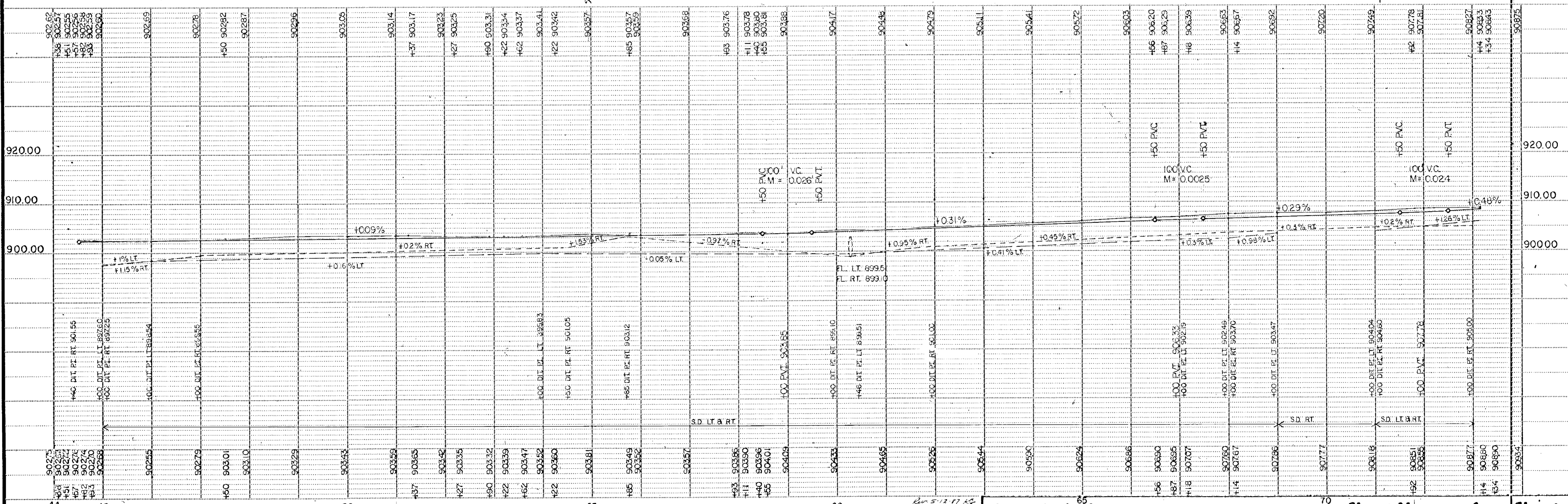


PI. 44+160.71
Δ=2° 21' 00"
D=0° 30' 00"
R=11459.16
T=235.03
L=470.00'
E=2.41

PT. 46+95.68

B.M. # 2 ELEV. 907.90
TOP NW COR. BOT. STEP
STA. 50+30 RT 130' # 442

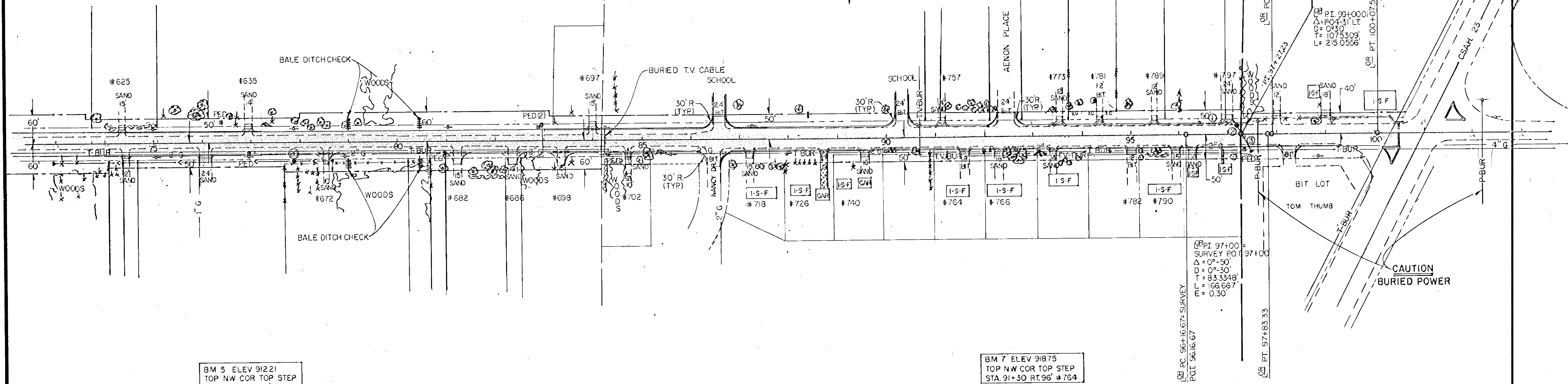
B.M. # 4 ELEV. 906.51
RR SPIKE 22" OAK
STA. 67+74 RT 45'



TELETYPE POST - SINGLE PLAN - PROFILE - 1024

BM 6 ELEV 910.46
TOP SE. COR. BOT. STEP
SOUTHERLY SET # 697
STA. 83+60 LT. 100'

BM 8 ELEV 914.41
TOP SE. COR. CONC. APRON
EAST ENT. OF LEE'S
STA. 100+55 LT. 42'

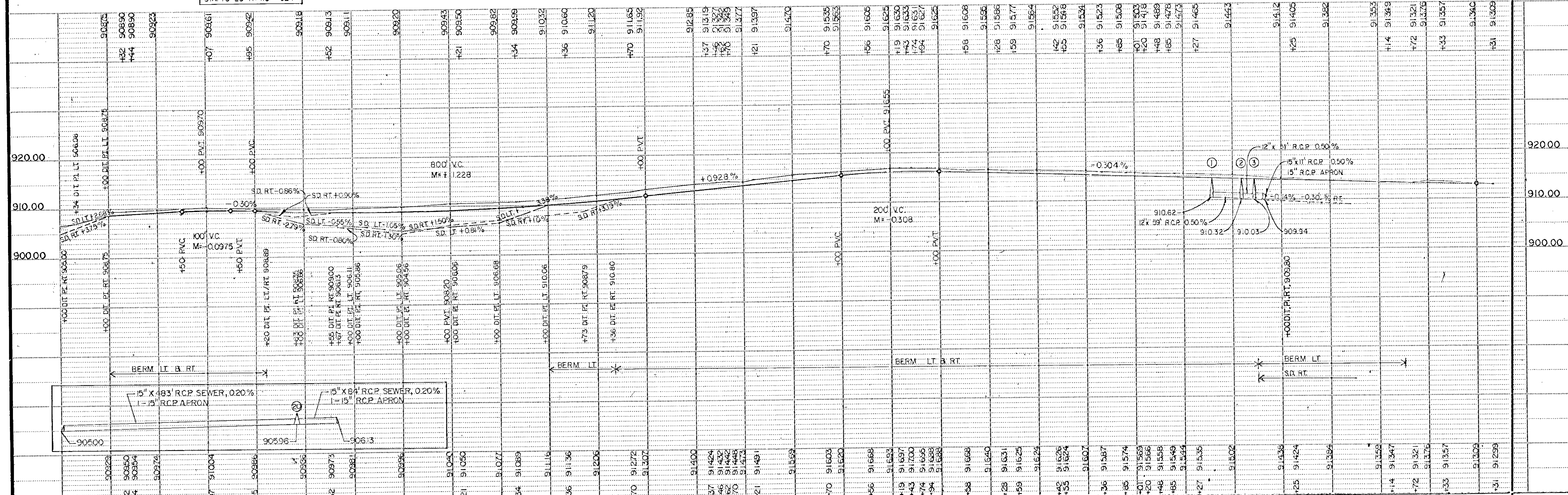


BM 5 ELEV 912.21
TOP NW COR TOP STEP
STA. 76+25 RT. 15' #624

BM 7 ELEV 918.75
TOP NW COR TOP STEP
STA. 91+30 RT. 96' #764

PI 97+00
SURVEY POINT
 $\Delta = 0^\circ - 50'$
 $D = 0^\circ - 30'$
 $T = 83.3348'$
 $E = 166.6667'$
 $F = 0.30$

PI 99+00
SURVEY POINT
 $\Delta = 0^\circ - 30'$
 $D = 0^\circ - 30'$
 $T = 107.5303'$
 $E = 215.0556'$
 $F = 0.30$



TELEPHONE POST - SINGLE PLAN - NICKLE - 102M

$\text{CB PI } 102+50.01 = 0^\circ 14' 47''$
 $\text{D} = 0^\circ 30'$
 $\text{T} = 24.6389'$
 $\text{L} = 49.2778'$
 $\text{R} = 0.0265'$

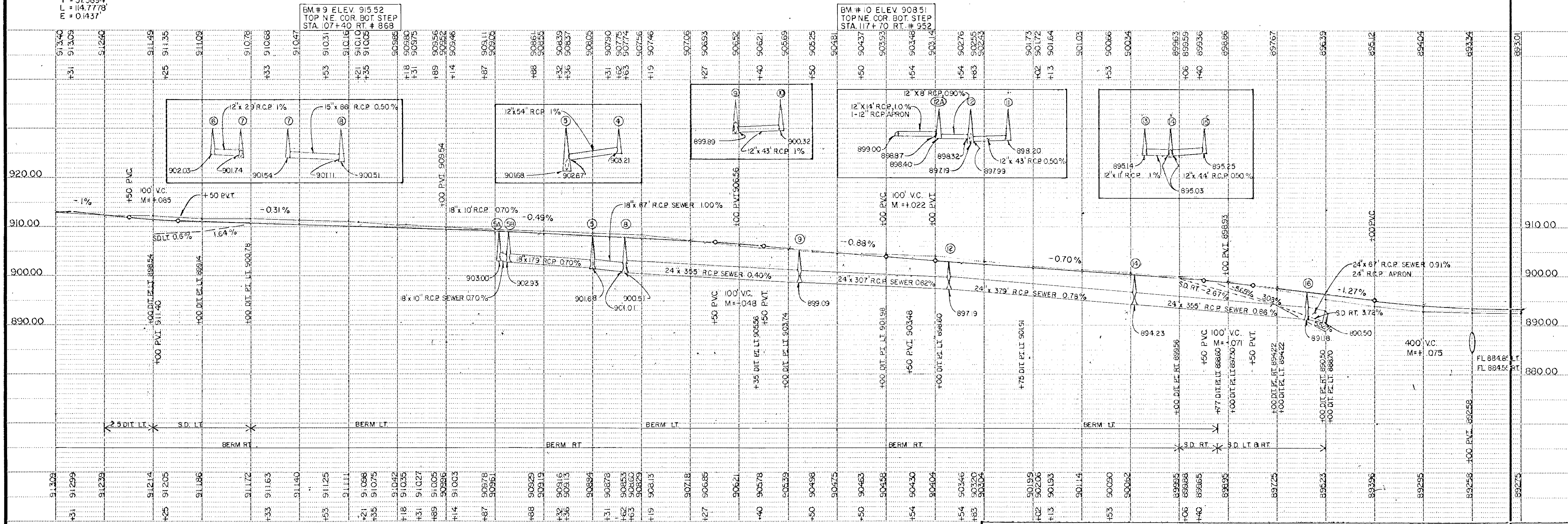
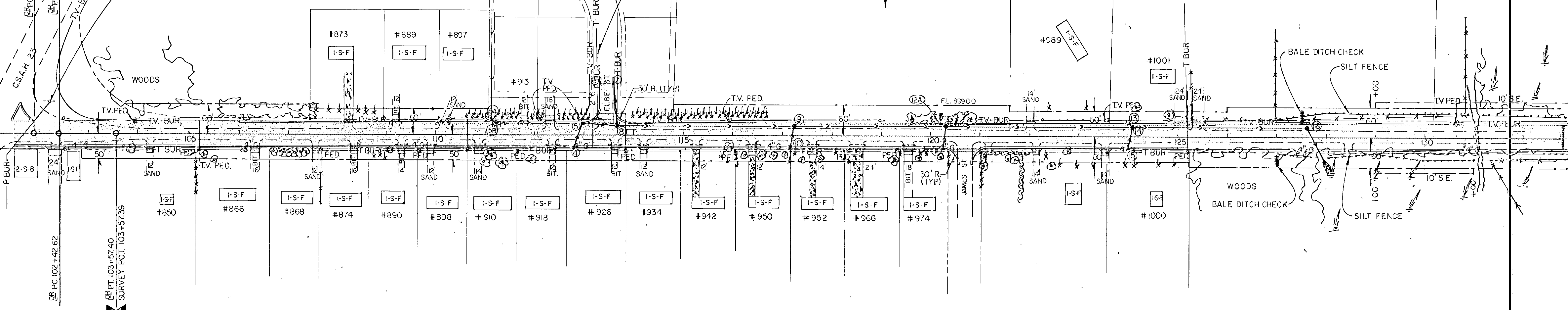
$\text{CB PI } 102+42.62 = 0^\circ 10' 21.37''$
 $\text{DPT } 102+39.65$
 $\text{SURVEY POT. } 103+57.39$

$\text{CB PI } 103+00.01 = \text{SURVEY POT. } 103100$
 $= 0^\circ 34' 28''$
 $\text{D} = 0^\circ 30'$
 $\text{T} = 57.3894'$
 $\text{L} = 114.7778'$
 $\text{R} = 0.1437'$

$\text{CB FLOWLINE } 90891$
 $18" \text{ RCP}$

CAUTION
 BURIED POWER

10' DRAINAGE &
 UTILITY EASEMENT

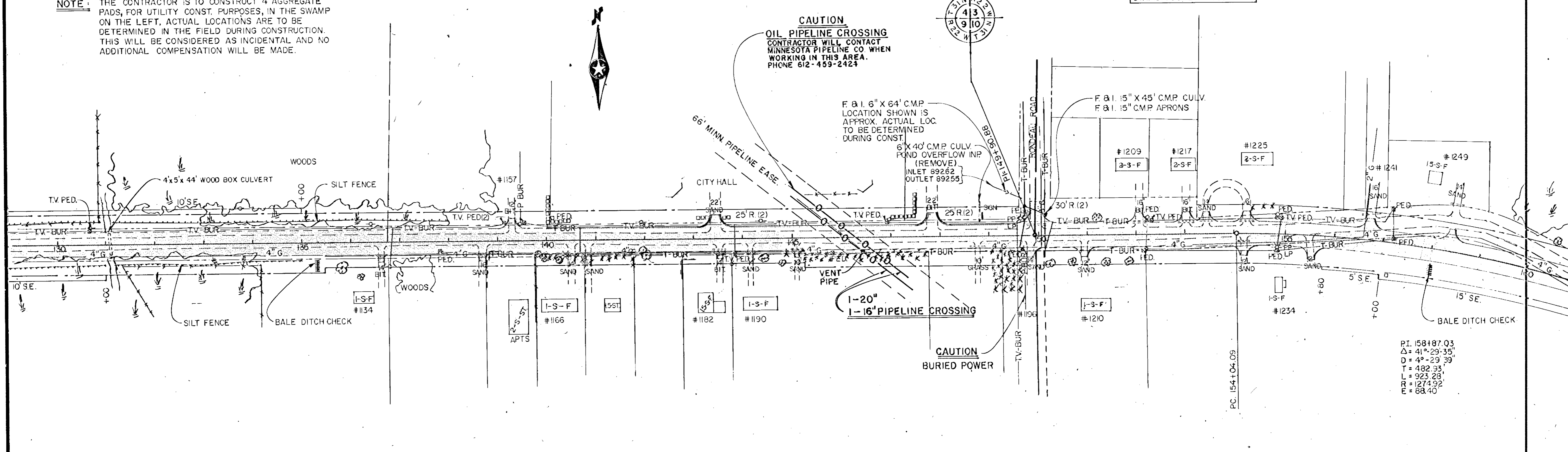


TELEPHONE POST - SINGLE PLAN - PROFILE - 102A

NOTE: THE CONTRACTOR IS TO CONSTRUCT 4 AGGREGATE PADS, FOR UTILITY CONST. PURPOSES, IN THE SWAMP ON THE LEFT. ACTUAL LOCATIONS ARE TO BE DETERMINED IN THE FIELD DURING CONSTRUCTION. THIS WILL BE CONSIDERED AS INCIDENTAL AND NO ADDITIONAL COMPENSATION WILL BE MADE.

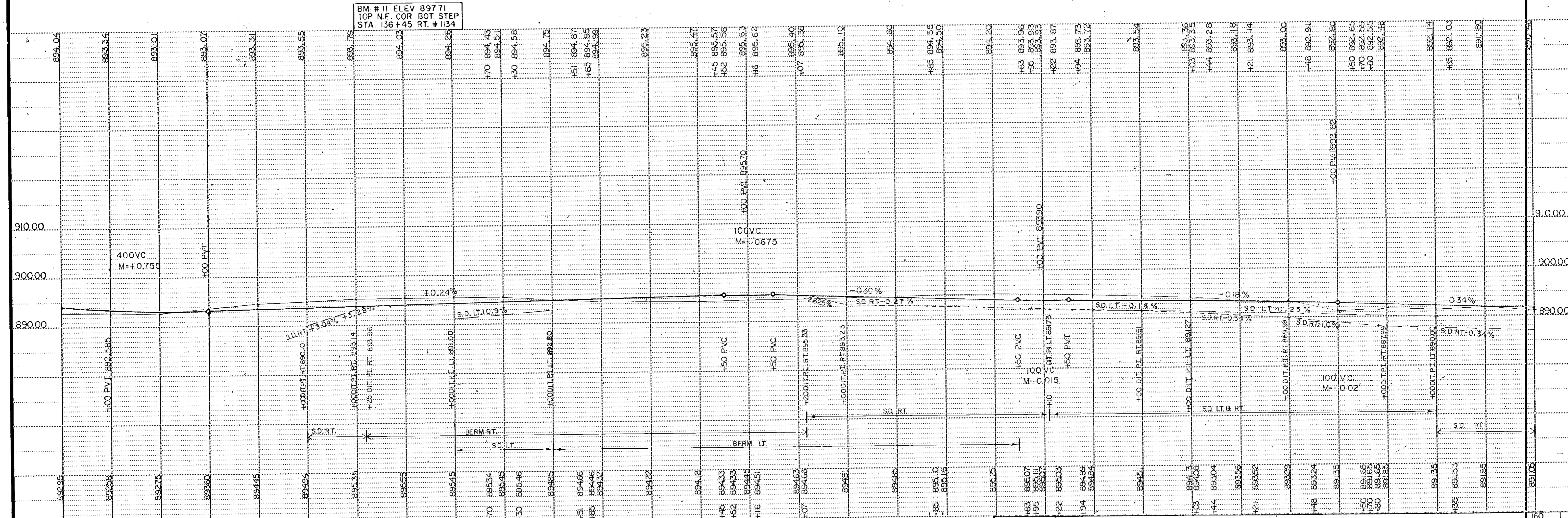
BM # 12 ELEV 89789
TOP NW COR BOT STEP (SLAB)
STA. 151+90 LT # 1209

CAUTION
OIL PIPELINE CROSSING
CONTRACTOR WILL CONTACT
MINNESOTA PIPELINE CO WHEN
WORKING IN THIS AREA.
PHONE 612-459-2424



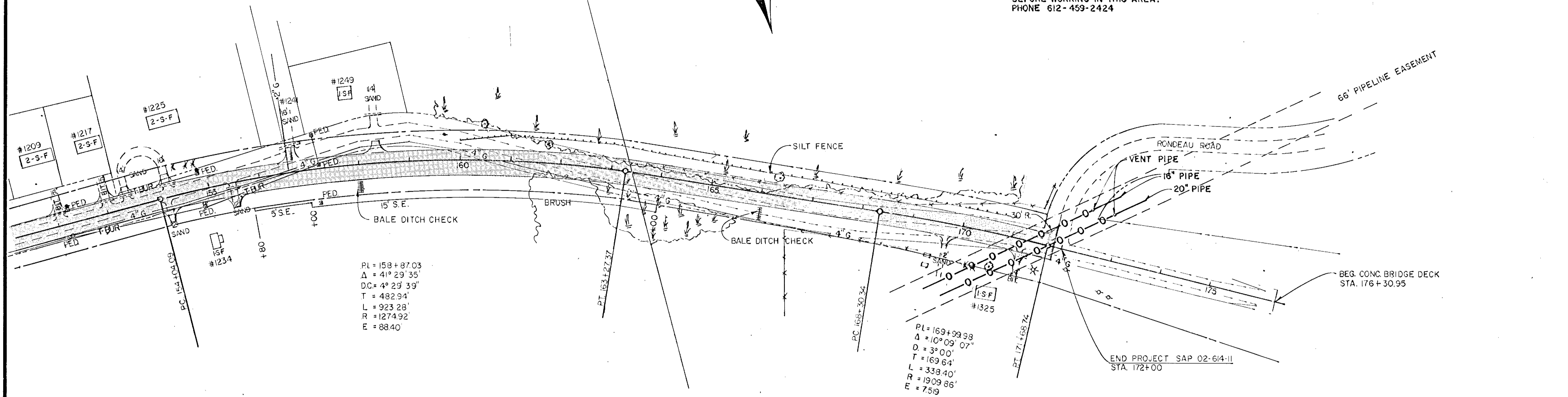
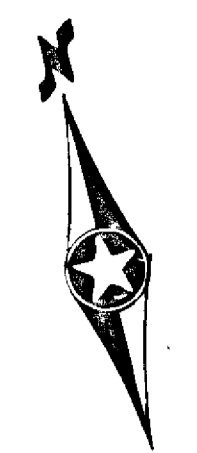
PI. 158187.03
Δ = 41°-29'-35"
D = 4°-29'-39"
L = 482.33'
T = 923.28'
R = 1271.92'
E = 68.40'

BM # 11 ELEV 89771
TOP NE COR BOT STEP
STA. 136+45 RT # 1134



TELETYPE POST - SINGLE PLAN - PROFILE - 102M

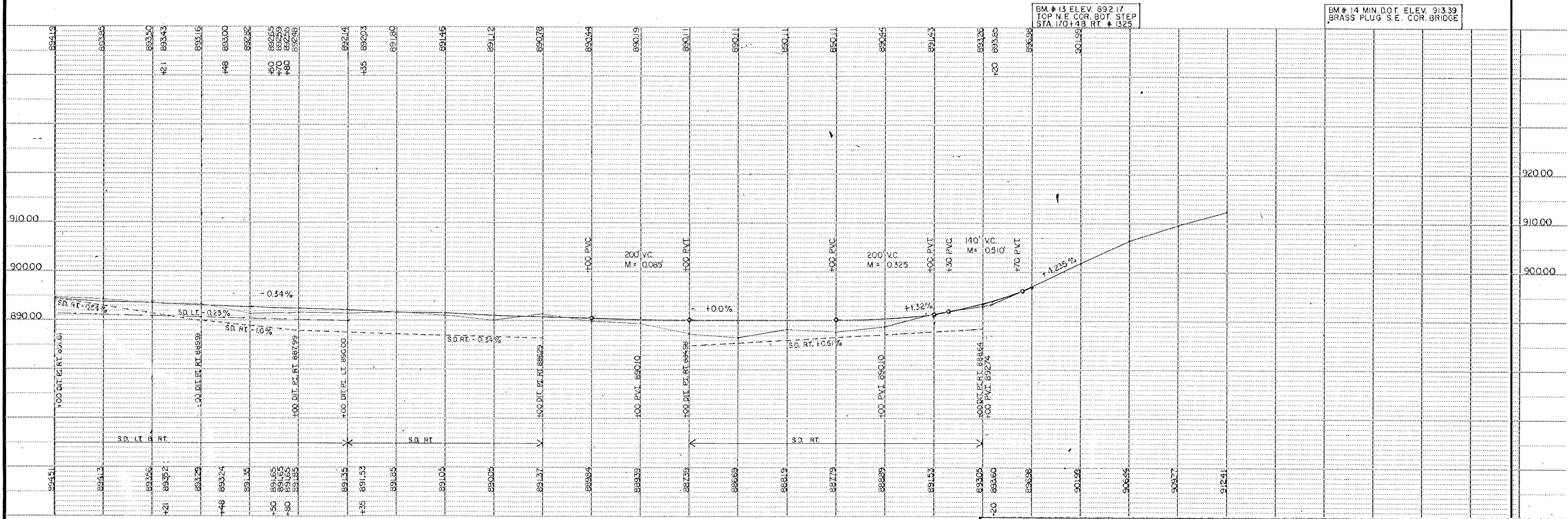
CAUTION
OIL PIPELINE CROSSING
 CONTRACTOR WILL CONTACT
 MINNESOTA PIPELINE CO. 24 HOURS
 BEFORE WORKING IN THIS AREA.
 PHONE 612-459-2424



$PI = 158+87.03$
 $\Delta = 4^{\circ} 29' 35''$
 $DC = 4^{\circ} 29' 39''$
 $T = 482.94'$
 $L = 923.28'$
 $R = 1274.92'$
 $E = 88.40'$

$PI = 169+99.98$
 $\Delta = 10^{\circ} 09' 07''$
 $D = 3^{\circ} 00'$
 $T = 169.64'$
 $L = 338.40'$
 $R = 1909.86'$
 $E = 75.9'$

END PROJECT SAP 02-614-II
 STA. 172+00



BM # 13 ELEV. 892.17
 TOP N.E. COR. BOT. STEP
 STA. 170+49 RT. # 1325

BM # 14 MIN. DOT. ELEV. 913.39
 BRASS PLUG S.E. COR. BRIDGE

TELETYPE POST - SINGLE PLAN - PROFILE - 1024

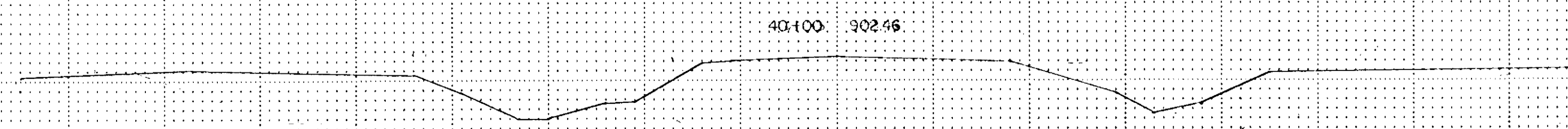
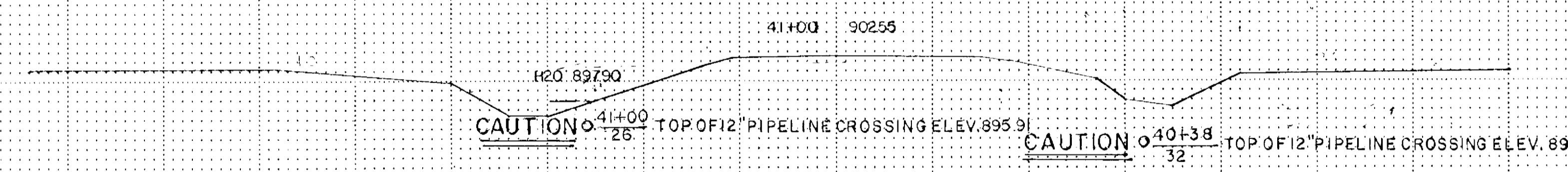
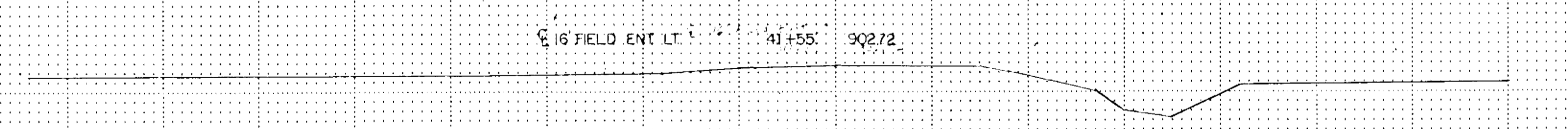
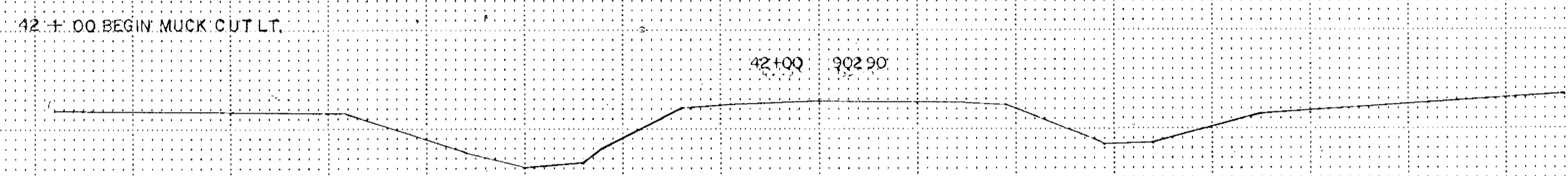
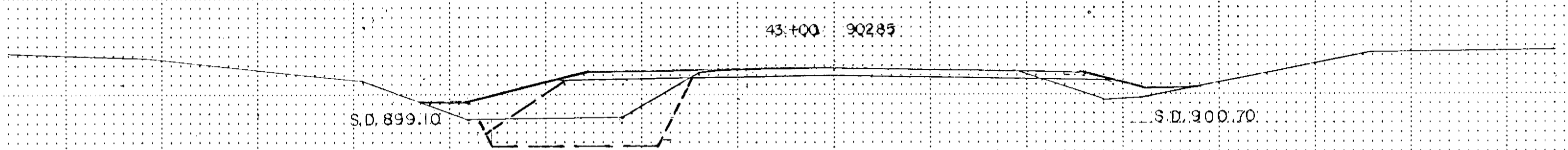
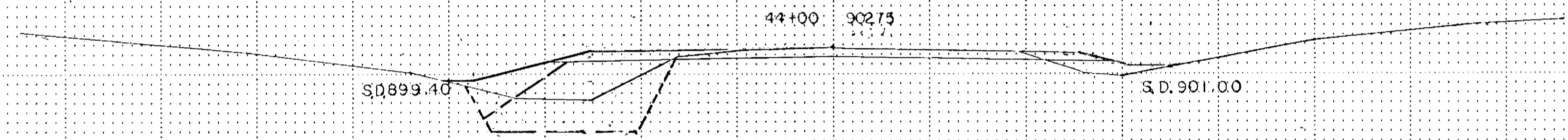
EXCAVATION EMBANKMENT

EST. STA. CU. CU. SUB. STA.

56 198
TS 6
MUCK
139 39

165 470
TS 20
MUCK
267 109

43 123
TS 6
MUCK
65 31



STA 40+00 TO STA 44+00

PLANNING DIVISION, CALIFORNIA HIGHWAYS DEPARTMENT

Cal. 11-6-86 (S)

EXCAVATION EMBANKMENT

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

EXCAVATION EMBANKMENT

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

45
11 X 4' FILL
135
47 X 4' FILL
135
47 X 4' FILL
135
47 X 4' FILL

135
47 X 4' FILL
135
47 X 4' FILL
135
47 X 4' FILL

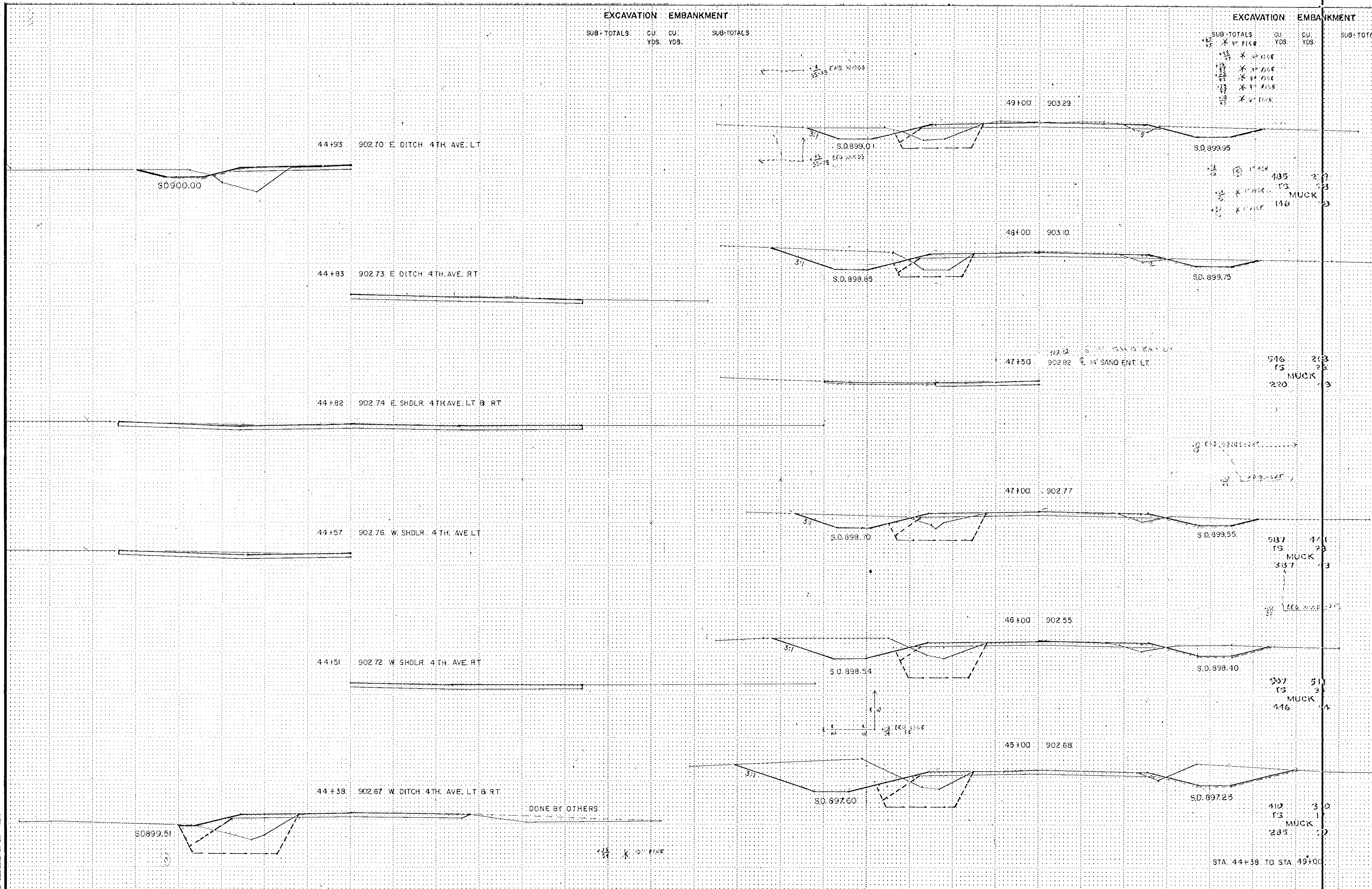
516
15
220
MUCK

587
15
387
MUCK

507
15
416
MUCK

410
15
285
MUCK

STA. 44+38 TO STA. 49+00



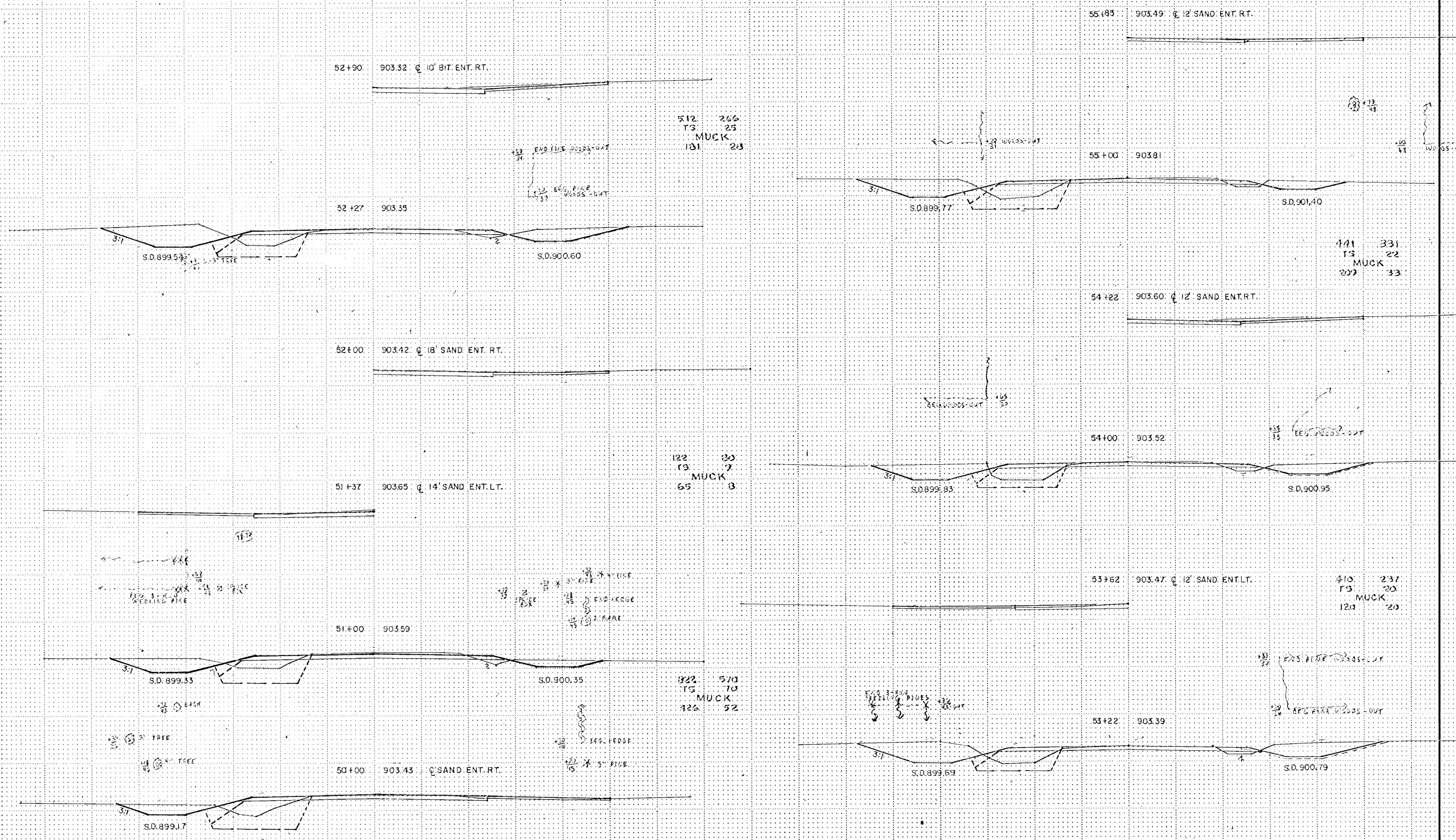
DONE BY OTHERS

X D RIVE

ILLINOIS DIST. CIVIL ENGINEERING UNIT

EXCAVATION EMBANKMENT
 SUB-TOTALS CU CU SUB-TOTALS
 YDS: YDS:

EXCAVATION EMBANKMENT
 SUB-TOTALS CU CU SUB-TOTALS
 YDS: YDS:



512 266
 TS 25
 MUCK 23
 181

122 30
 TS 7
 MUCK 3
 65

122 570
 TS 70
 MUCK 52
 426

191 331
 TS 22
 MUCK 33
 202

410 237
 TS 20
 MUCK 20
 120

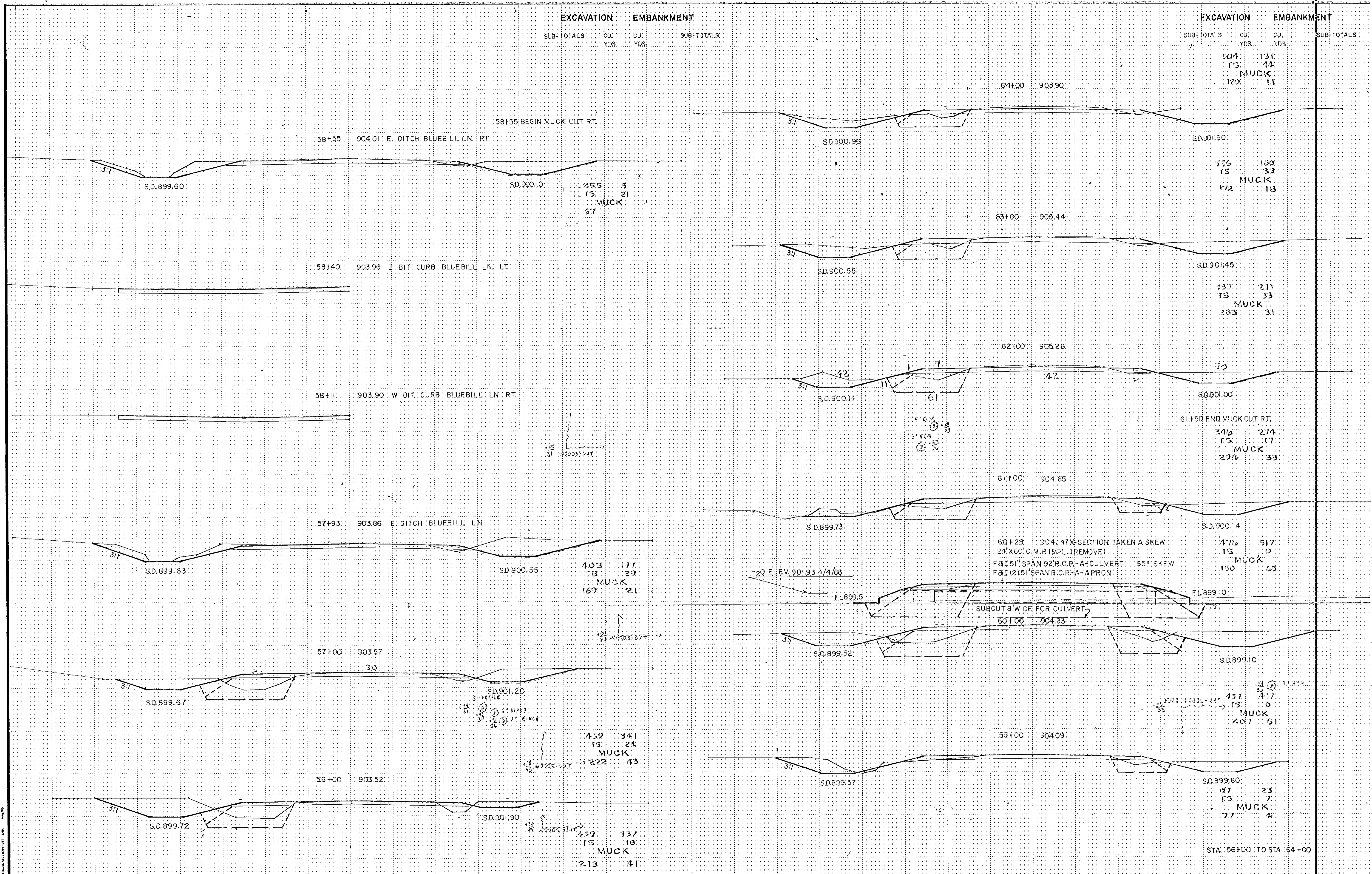
STA. 50+00 TO STA 55+00

EXCAVATION EMBANKMENT

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

EXCAVATION EMBANKMENT

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

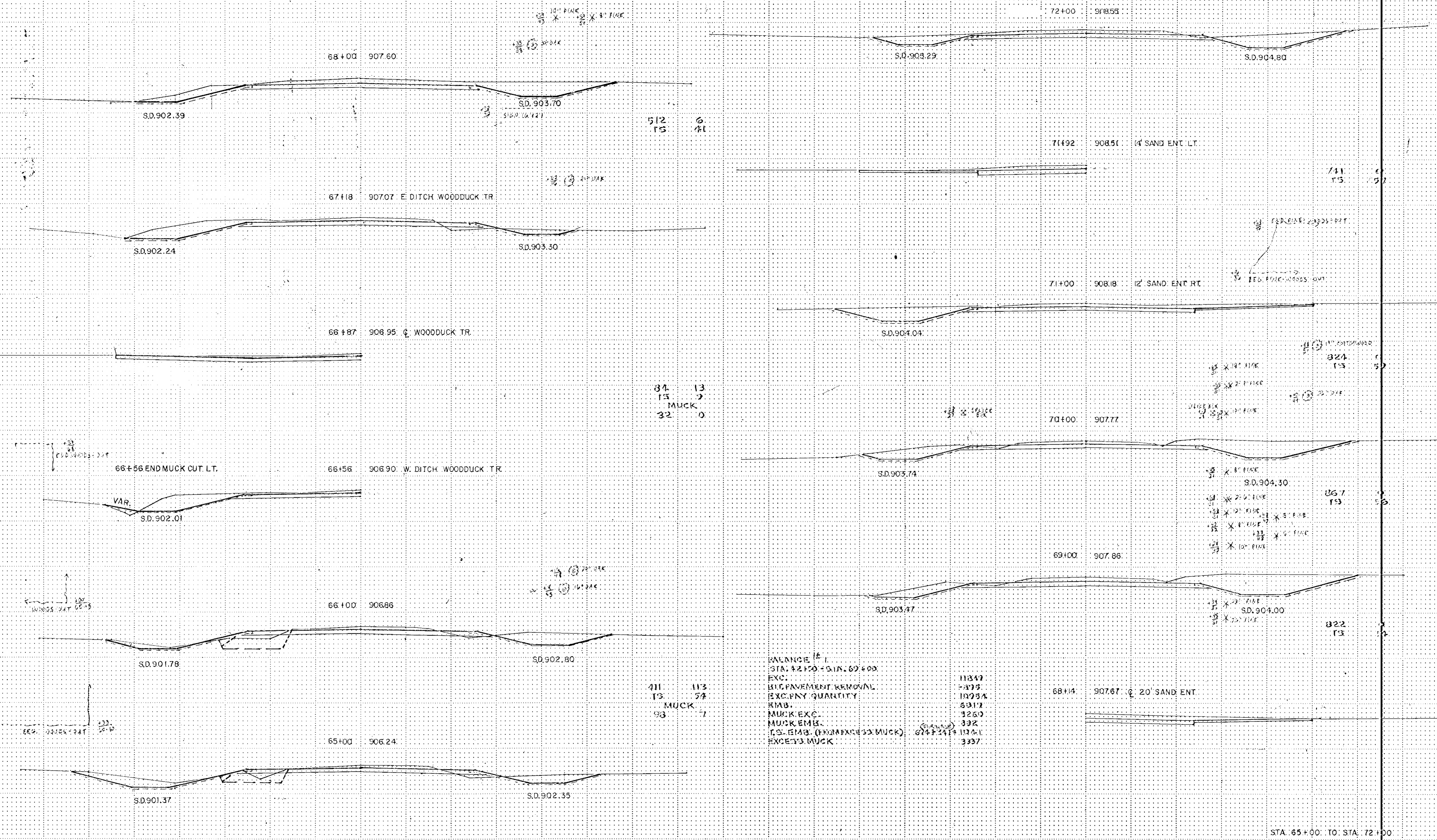


EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

SUB-TOTALS CU CU SUB-TOTALS
YDS YDS YDS

SUB-TOTALS CU CU SUB-TOTALS
YDS YDS YDS



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84
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MUCK
32
13
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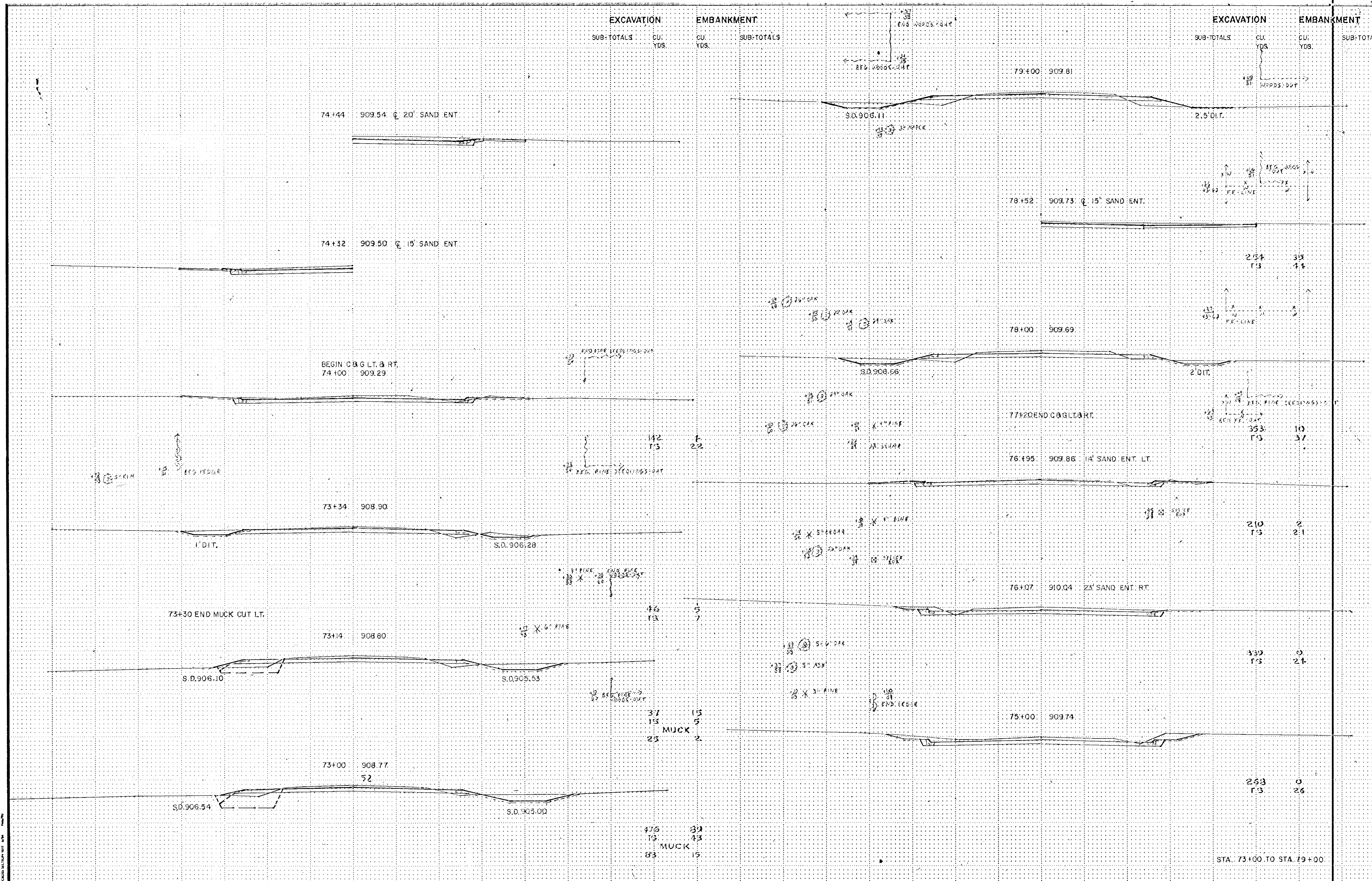
411
TS
MUCK
53
113
57
7

BALANCE 16
STA. 42+00 TO STA. 62+00
EXC. 11847
BIG PAVEMENT REMOVAL -875
EXC. PNY QUANTITY 10954
EMB. 6317
MUCK EXC. 3250
MUCK EMB. 392
TS - EMB. (FROM EXCESS MUCK) 674+347=1041
EXCESS MUCK 3337

STA. 65+00 TO STA. 72+00

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

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



STA. 73+00 TO STA. 79+00

PLANNING DEPT. CIVIL ENGINEERING UNIT

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

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

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

15' X 5' PILE

86+37 914.24 W. GUTTER NANCY DR.

21' X 4' PILE

83+00 911.16

11' X 10' PILE

#2 26 36' LEE
#3 32 42' LEE
83+00 BEGIN C & G LT.

SD.908.08

86+00 914.00

82+34 910.89 6' SAND ENT. RT.

#1 34
#2 31
#3 28
#4 25
#5 22
#6 19
#7 16
#8 13
#9 10
#10 7
#11 4
#12 1
#13 0
#14 0
#15 0
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366 T'S 2 13

#10 34' STAMP
#11 31' B'MEN
#12 28' B'MEN
#13 25' B'MEN
#14 22' B'MEN
#15 19' B'MEN
#16 16' B'MEN
#17 13' B'MEN
#18 10' B'MEN
#19 7' B'MEN
#20 4' B'MEN
#21 1' B'MEN
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END MUCK CUT LT. & RT.
82+00 910.77

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SD.906.68

SD.907.06

81+21 910.50 @ 15 SAND ENT.

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100 T'S 0 13

84+70 912.72 @ 12 BIT ENT. RT. 37' OUT

#1 34
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#10 7
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84+00 912.06 @ 15 SAND ENT. LT. 84+36 BEGIN C & RT.

SD.909.65

81+00 910.40

SD.905.87

SD.906.06

80+40 BEGIN MUCK CUT LT.

#1 34
#2 31
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#5 22
#6 19
#7 16
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56 X 100 PILE
313 T'S 0 23

83+36 911.36 @ 16 SAND ENT.

80+00 909.96

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SD.905.06

79+20 BEGIN MUCK CUT RT.

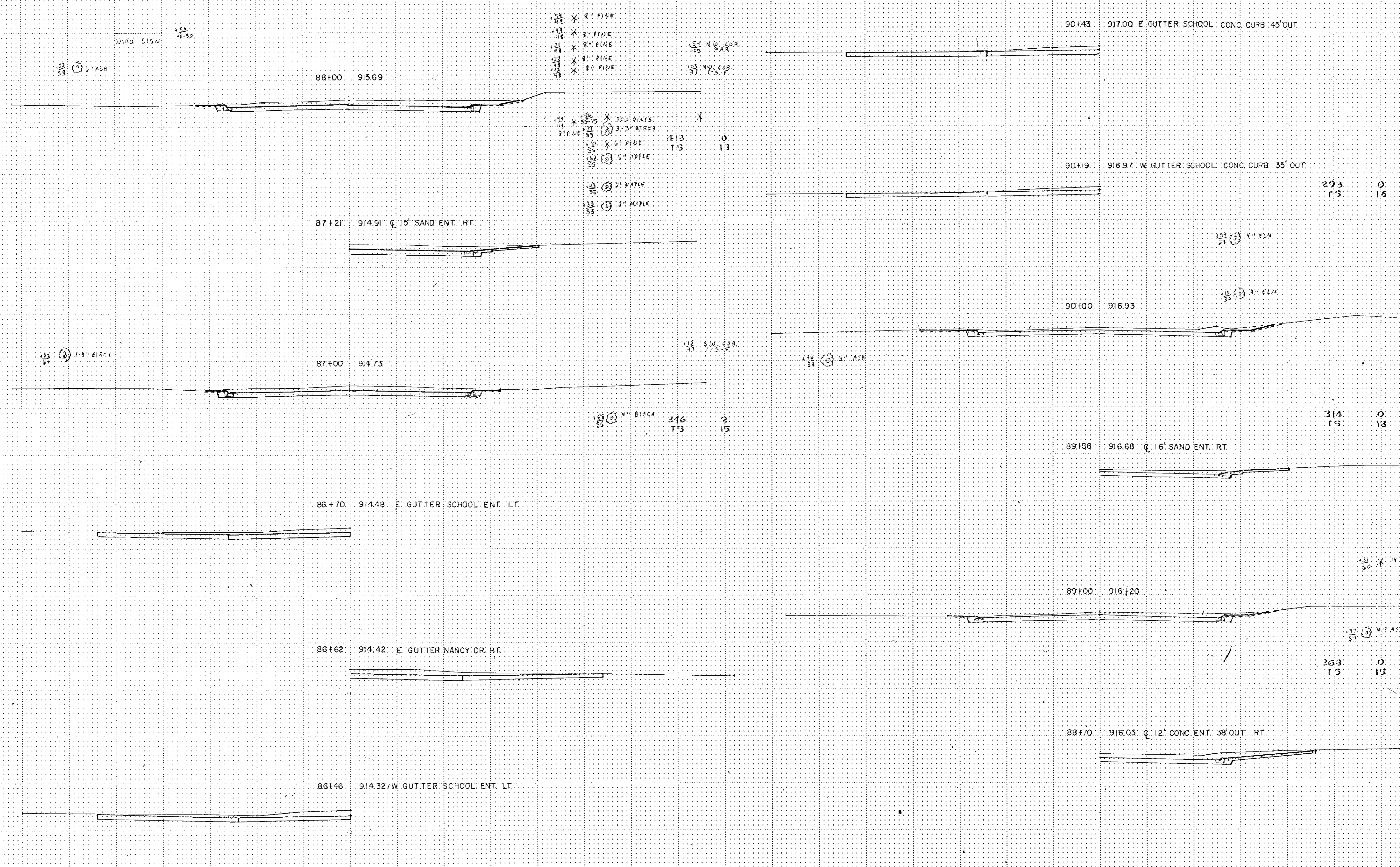
STA. 80+00 TO 86+37

EXCAVATION
SUB-TOTALS CU. YDS.

EMBANKMENT
SUB-TOTALS CU. YDS.

EXCAVATION
SUB-TOTALS CU. YDS.

EMBANKMENT
SUB-TOTALS CU. YDS.



STA. 86+46 TO STA. 90+43

EXCAVATION

EMBANKMENT

EXCAVATION

EMBANKMENT

SUB-TOTALS CU. YDS.

SUB-TOTALS CU. YDS.

SUB-TOTALS CU. YDS.

SUB-TOTALS CU. YDS.

92+28 91631
W. GUTTER AENON PL. LT. 18' SAND ENT. RT.

94+36 91587 12' BIT. ENT. LT. 35'-OUT

92+00 91640

94+00 91607

91+58 91688 18' BIT. ENT. RT.

93+55 91624 12' SAND ENT. LT.

91+00 91688

93+42 91626 @ 14' SAND ENT. RT.

90+94 91688 14' SAND ENT. LT.

93+00 91624

90+74 91695

92+59 91625 E. GUTTER AENON PL.

STA. 90+74 TO STA. 94+36

ILLINOIS ROAD CONSTRUCTION UNIT 204

CUB3 X 100-100-20

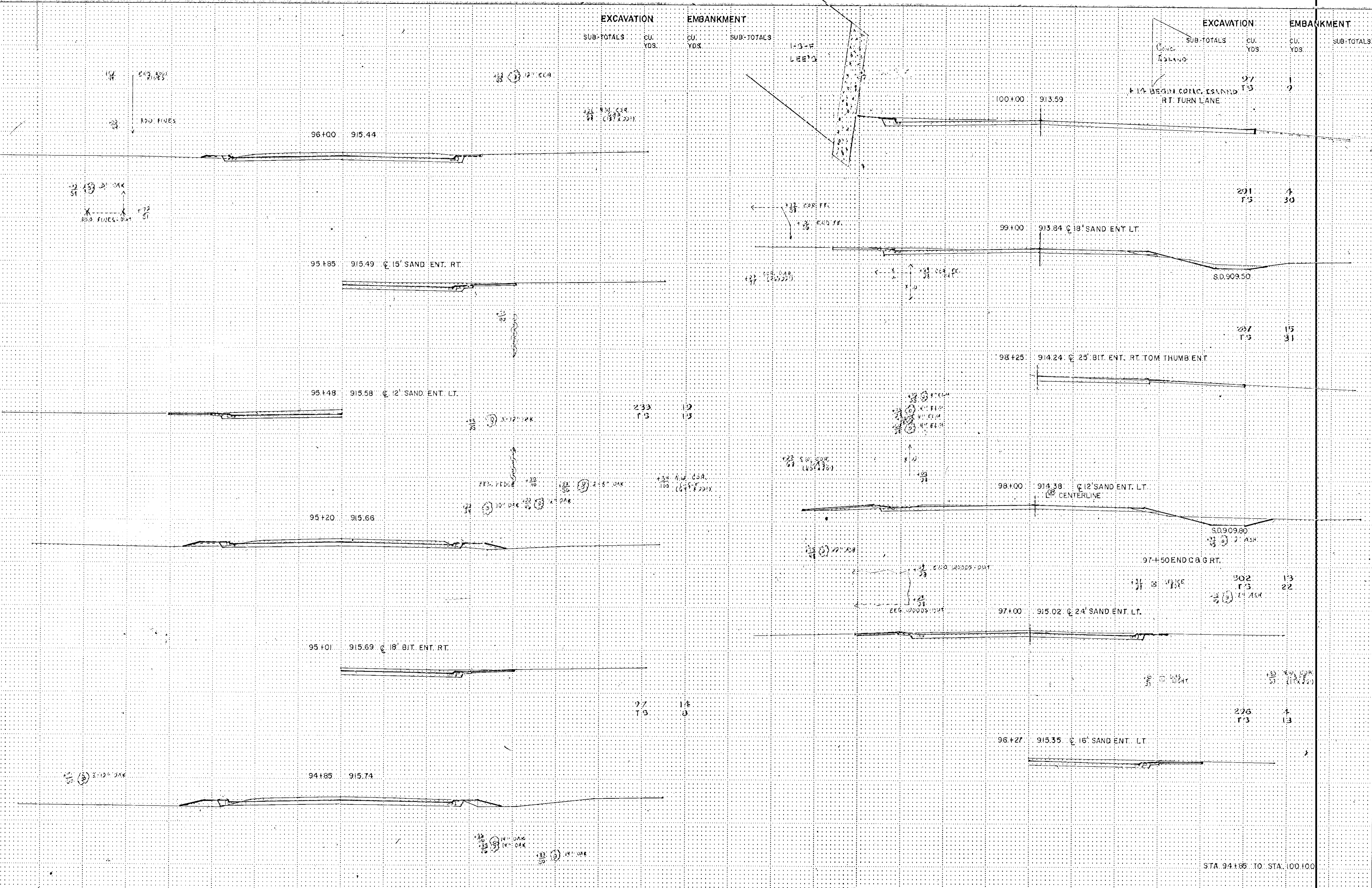
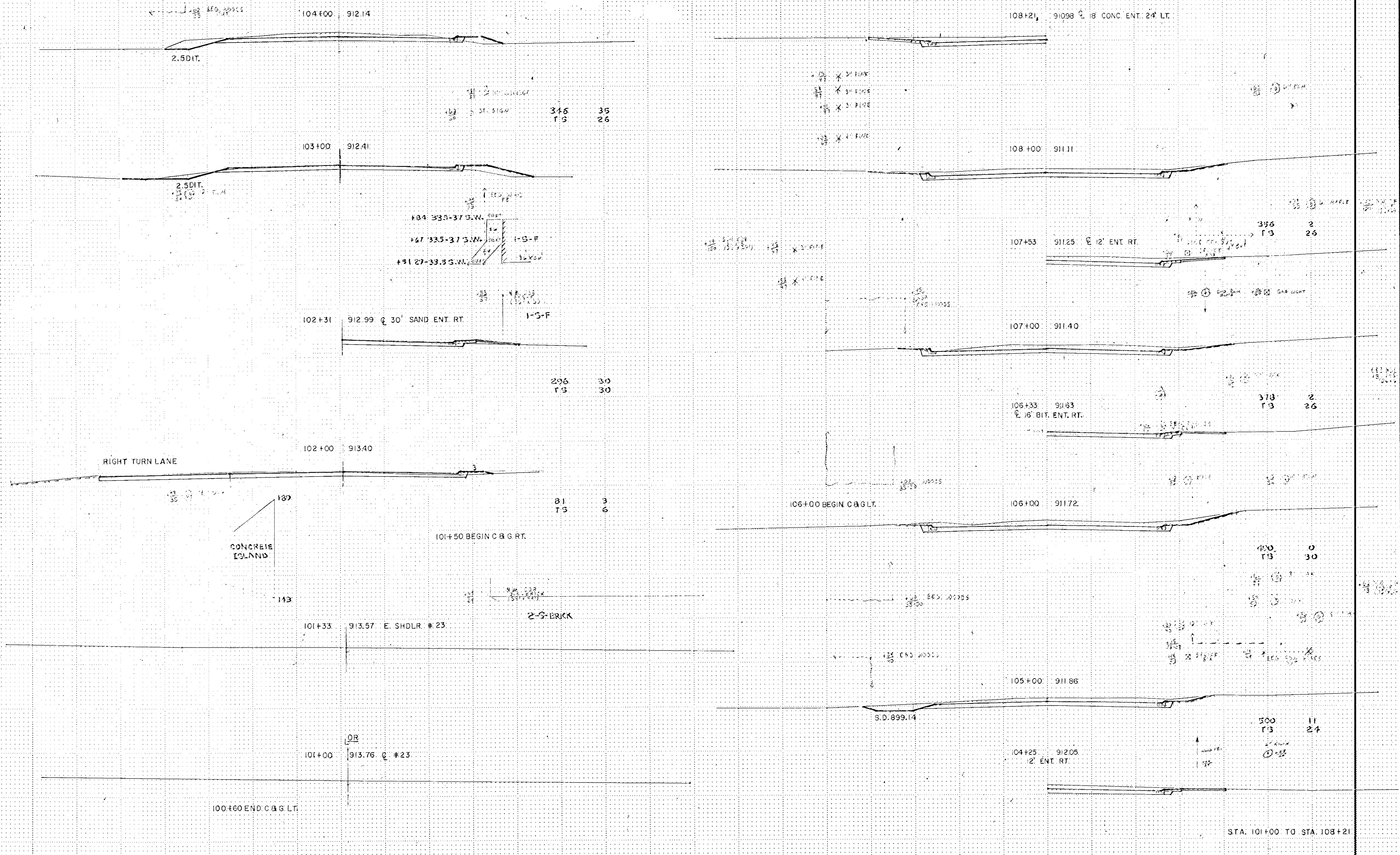
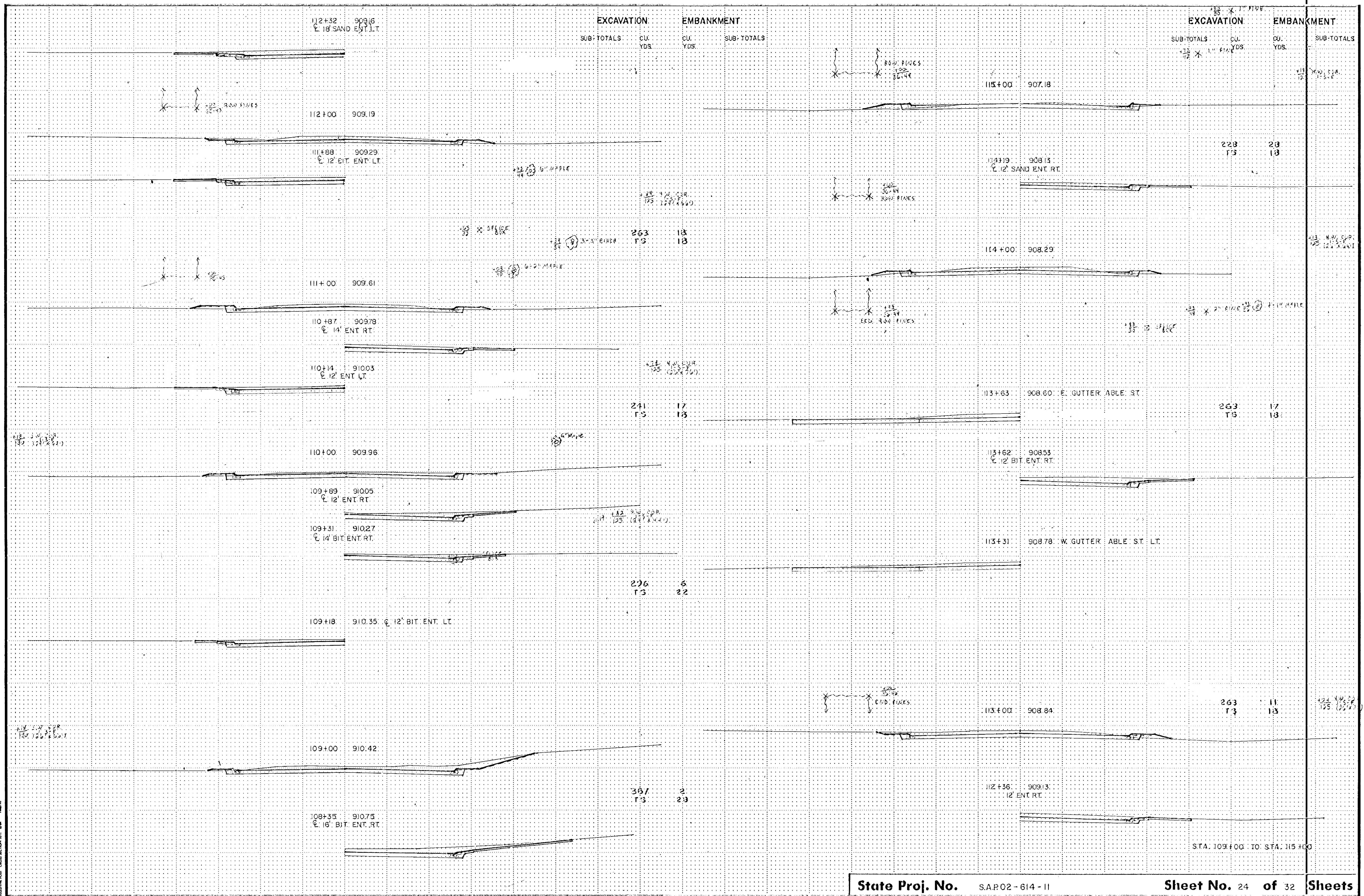


ILLUSTRATION: CROSS SECTION 1011

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

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





112+32 909.16
E 18' SAND ENT. LT.

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

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

112+00 909.19

115+00 907.18

111+88 909.29
E 12' ENT. ENT. LT.

114+19 908.13
E 12' SAND ENT. RT.

111+00 909.61

114+00 908.29

110+87 909.78
E 14' ENT. RT.

113+63 908.60 E. GUTTER ABLE ST.

110+14 910.03
E 12' ENT. LT.

113+62 908.53
E 12' BIT. ENT. RT.

110+00 909.96

109+89 910.05
E 12' ENT. RT.

109+31 910.27
E 14' BIT. ENT. RT.

113+31 908.78 W. GUTTER ABLE ST. LT.

109+18 910.35 E 12' BIT. ENT. LT.

109+00 910.42

113+00 908.84

108+35 910.75
E 16' BIT. ENT. RT.

112+36 909.13
E 12' ENT. RT.

STA. 109+00 TO STA. 115+00

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

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

118+50 90463. 24' CONC. ENT. 21' OUT. RT.

121+00 END MUCK LT.

121+00 90304.

118+00 90475

337 209
 15 27
 MUCK
 200 43

117+50 90501
 14' ENT. RT.

198 0
 TS 37

120+83 90320 E. GUTTER JAMES ST. RE

117+00 90539

164 0
 TS 13

120+54 90346 W. GUTTER JAMES ST. RT

116+40 90578 14' CONC. ENT. 40' OUT. RT.

44 0
 TS 3

120+00 90404

116+35 END C&G LT.

116+00 90621

139 17
 TS 18

119+54 90430
 18' BIT ENT. RT.

346 203
 15 24
 MUCK
 200 43

115+27 90685
 12' ENT. RT.

119+00 90458

155 0
 TS 33

STA. 115 + 27 TO STA. 121+00

2005-12-17

125+06 899.88 @ 24' SAND ENT LT

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

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

125+00 899.95 END C&G RT.

125+00
122 0
13 30
12 14' PINE
12 12' DUNE
12 12' PINE

130+00 892.95

124+00 900.62

124+00
12 14' PINE

129+00 893.96

41 33.15
13 0
140.4 MUCK
132.3

123+53 900.90 @ 14' ENT. RT.

123+53
12 14' PINE

128+00 895.23

37 24.20
13 0
29.12 MUCK
31.4

123+00 901.14

S.D. 888.70

S.D. 890.50

122+13 901.93 @ 14' ENT. RT.

122+13
12 14' PINE

127+00 897.25 BEGIN MUCK CUT LT. & RT.

37 10.53
13 1.7
122.7 MUCK
33.5

122+02 902.06 @ 14' SAND ENT. LT.

122+02
35.5 0
13 2.3

S.D. 894.22

S.D. 894.22

215 13
13 3.7

122+00 901.99

122+00
12 14' PINE

126+00 898.95

121+75 BEGIN C & G LT.

121+75
12 14' PINE
12 12' DUNE
12 12' PINE

S.D. 897.30
125+77 END OF C&G LT.

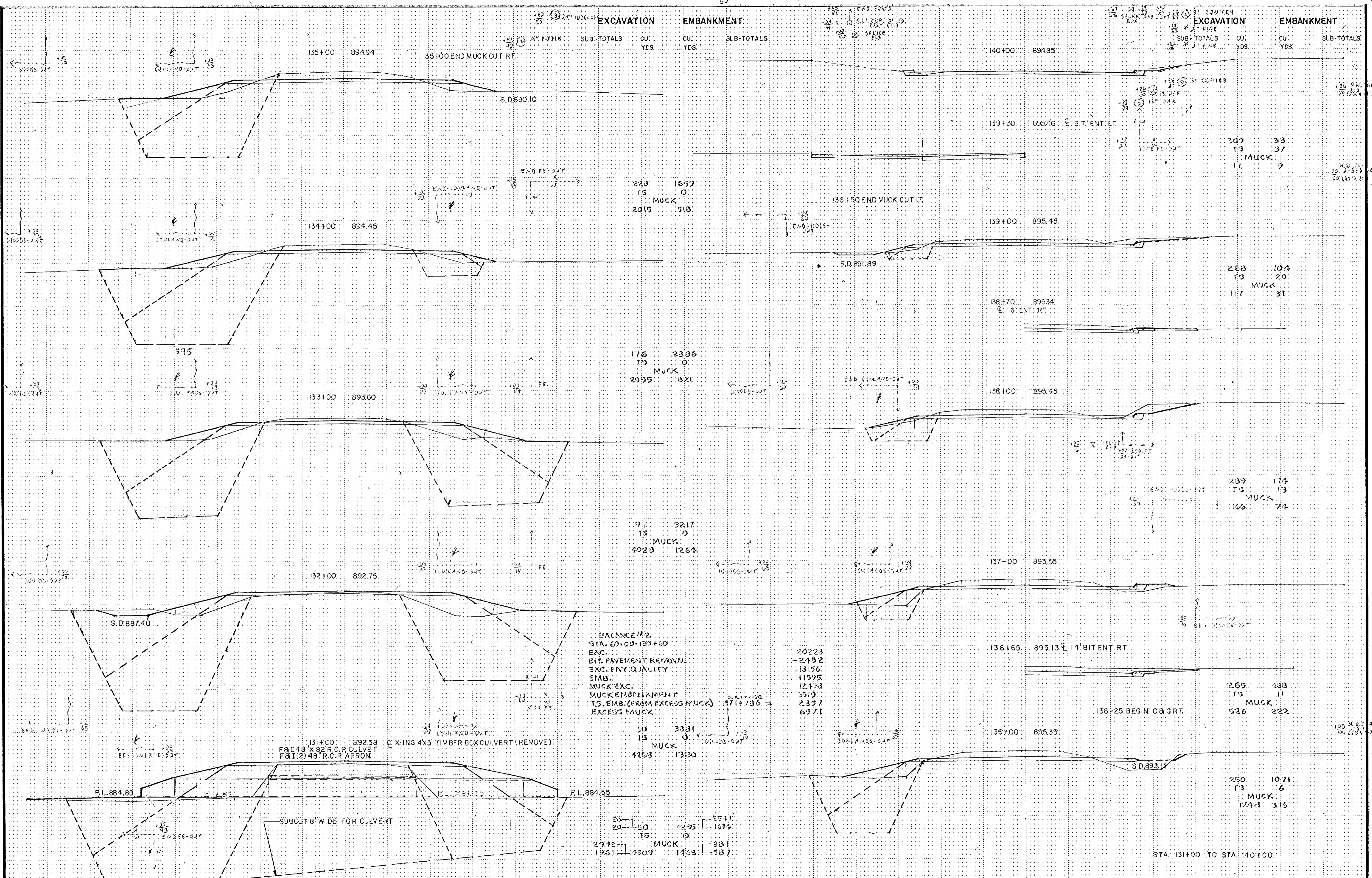
S.D. 896.89

23.2 1
13 3.5

125+40 899.65 @ 24' SAND ENT. LT.

125+40
38.3 6
13 3.1

STA. 122+00 TO STA. 130+00



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

223 1632
TS 0
2015 MUCK 513

176 2386
TS 0
2995 MUCK 321

91 3217
TS 0
4023 MUCK 1264

BALANCE #2
STA. 69+00-133+00
EAC. 20223
BIF. PAVEMENT REMOVAL -2432
EXC. FRY QUALITY -18156
EMB. 11595
MUCK EXC. 12438
MUCK EMBANKMENT 559
TS. EMB. (FROM EXCESS MUCK) 1371+736 = 2357
EXCESS MUCK 6371

50 3831
TS 0
4263 MUCK 1330

2912 1235 2341
TS 0 1637
1961 4907 1433 537

207 33
TS 37
17 MUCK 9

268 104
TS 20
117 MUCK 31

237 174
TS 13
166 MUCK 74

265 133
TS 11
526 MUCK 222

250 1071
TS 6
1243 MUCK 316

STA. 131+00 TO STA. 140+00

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

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

145+00 894.63

143+00 894.18

222 77
 TS 39

126 48
 TS 33

144+16 89451 14' ENT. RT.

142+00 89422

266 18
 TS 41

144+00 89445

25 92
 TS 31

141+00 89432

342 4
 TS 44

143+52 89433 14' BIT ENT. RT.

140+85 89446 14' ENT. RT.

143+45 89433 22' SAND ENT. LT.

140+51 89466 14' ENT. RT.

STA 140+51 TO 145+00

Rev. 5-12-17

REVISIONS: 1. 5/12/17
 2. 5/12/17
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 100. 5/12/17

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

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

149+00 895.23

150+94 894.99
 ENT. RT.

S.D. 892.42

107 43
 TS YDS.

148+00 895.16

S.D. 892.69

147+85 895.10
 ENT. LT.

397 43
 TS YDS.

150+22 895.03

S.D. 891.71

S.D. 892.09

147+00 894.65

S.D. 892.96

CAUTION 146+39 TOP OF 20" PIPELINE CROSSING ELEV. 889.49
 21
 146+55 TOP OF 16" PIPELINE CROSSING ELEV. 889.47
 20

125 23
 TS YDS.

146+00 894.81

150+00 895.07 RONDEAU DRIVE

S.D. 892.15

CAUTION 145+85 TOP OF 20" PIPELINE CROSSING ELEV. 889.74
 19
 145+05 TOP OF 16" PIPELINE CROSSING ELEV. 889.87
 20

S.D. 893.23

113 37
 TS YDS.

145+20 END C&G RT.

BEG. SD. LT.

145+07 894.66
 ENT. RT.

89304

-250%

INLET FL. 892.27
 15' X 45' CMP. CULV. UNDER RONDEAU DRIVE

149+95 895.11
 ENT. RT.

149+73 894.94

149+83 895.07
 ENT. RT.

STA 145+07 TO 150+94

20 5-12-11

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

SUB-TOTALS CU. CU. SUB-TOTALS

SUB-TOTALS CU. CU. SUB-TOTALS

155+48 893.24
Q 12' ENT. RT.

158+00 891.35

S.D. 890.75

S.D. 887.65

155+00 893.29

261 113
TS YDS. YDS.

27' 2" X 2" PINE
31' 2" X 2" PINE
33' 2" X 2" PINE

154+21 893.52
Q 16' ENT. LT.

S.D. 889.99

157+00 891.65

S.D. 887.99

150 89
TS YDS.

154+00 893.56

111 16
TS YDS. YDS.

S.D. 891.00

S.D. 890.53

153+44 893.04 Q 12' SAND ENT. LT.

156+80 891.65

S.D. 888.19

153+03 894.08 Q 16' BIT. ENT. LT.

183 61
TS YDS. YDS.

156+70 893.11 Q 16' ENT. LT.

174 20
TS YDS. YDS.

153+00 894.13

156+50 891.65

S.D. 891.27

S.D. 891.87

463 24
TS YDS. YDS.

S.D. 890.37

S.D. 888.49

152+00 894.51 Q 16' BIT. ENT. LT.

241 23
TS YDS. YDS.

S.D. 891.87

31 3
TS YDS.

156+00 891.35

157' 5" X 2" PINE
153' 2" X 2" PINE

151+00 894.84 EAST EDGE OF ENT.

857 3
TS YDS. YDS.

S.D. 890.60

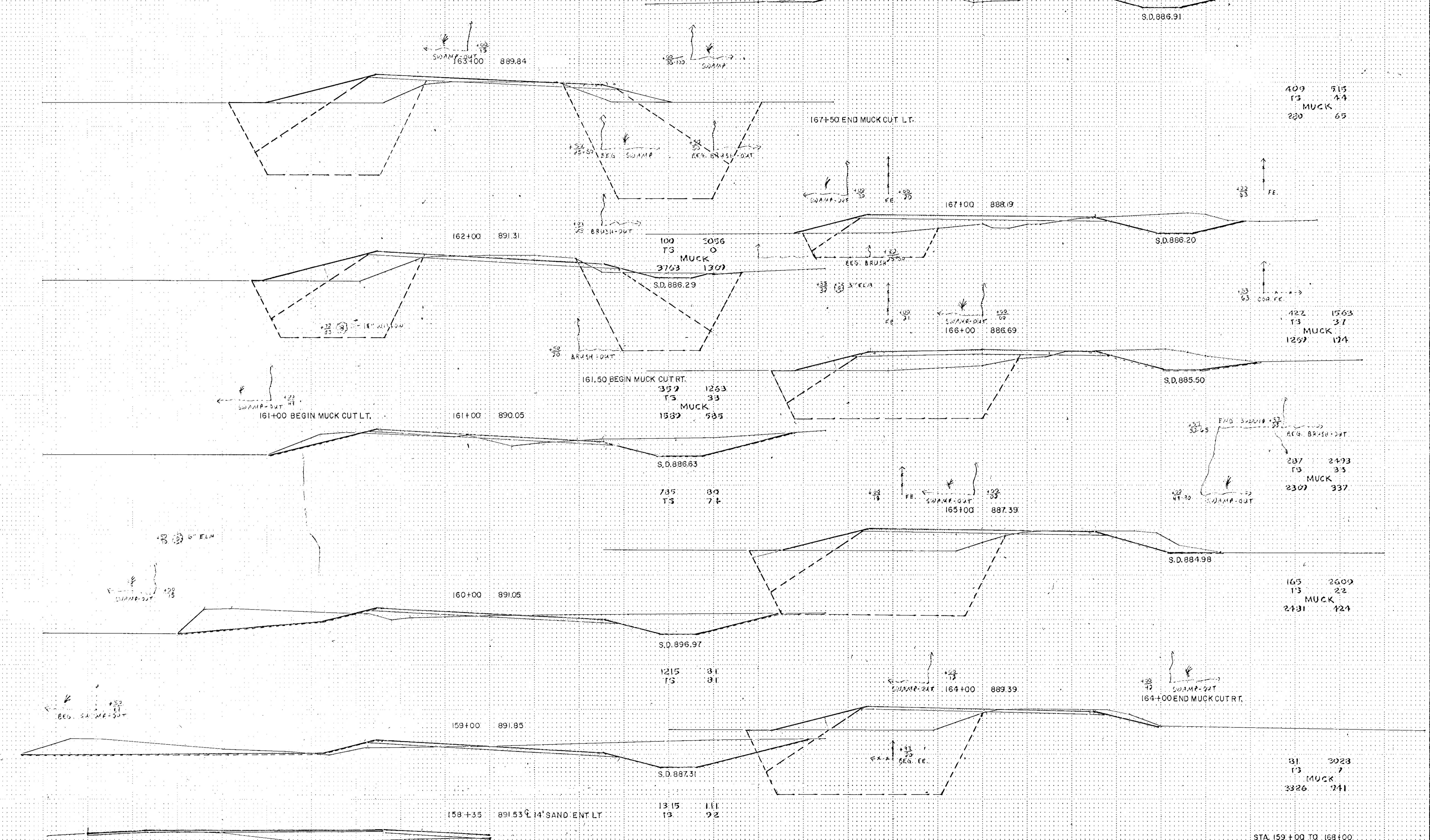
S.D. 888.99

S.D. 891.59

100 37
TS YDS. YDS.

STA. 151+00 TO STA. 158+00

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



100	3056
TS	0
MUCK	
3763	1307

357	1263
TS	33
MUCK	
1562	535

735	89
TS	74

409	515
TS	44
MUCK	
230	65

422	1563
TS	37
MUCK	
1257	174

237	2493
TS	33
MUCK	
2307	337

165	2609
TS	22
MUCK	
2431	424

31	3028
TS	7
MUCK	
3326	241

STA. 159+00 TO 168+00

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

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

CAUTION

○ TOP OF 16" PIPELINE CROSSING ELEV. 881.77
172+41
88

172+00 896.98 @ RONDEAU LK. DR. LT.

118	73
TS	25

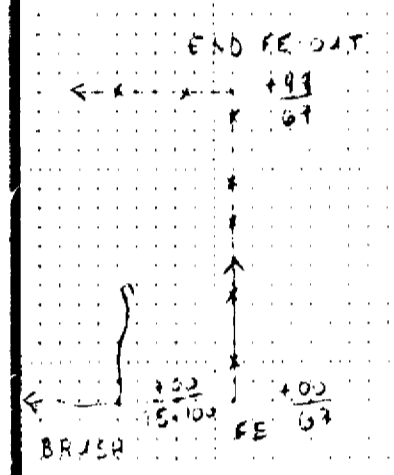
○ PIPE SIGN

171+20 893.60 @ 14' BIT. ENT. 19'-45' RT.

CAUTION

○ TOP OF 20" PIPELINE CROSSING ELEV. 887.12
171+37
38

18	29
TS	3



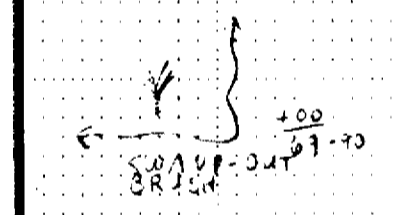
171+00 893.05

CAUTION

○ TOP OF 16" PIPELINE CROSSING ELEV. 882.85
170+72
40

115	254
TS	44

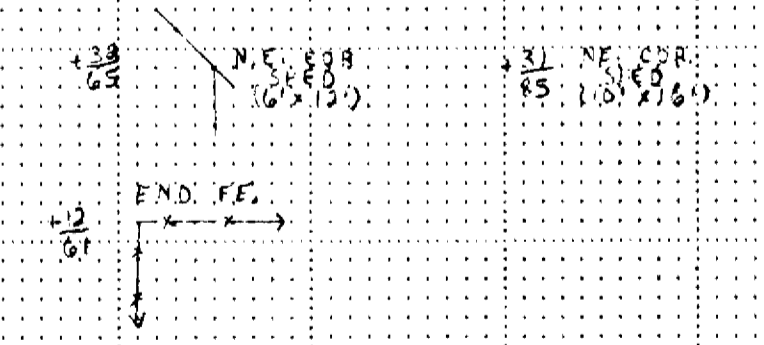
BALANCE 16-3
STA. 130+00 - 172+00
EXC. -1047
BLT. PAVEMENT REMOVAL 15051
EXC. PAY QUANTITY 13984
EMB. 31109
MUCK EXC. 32303
MUCK EMB. 9143
TS EMB. (FROM EXCESS MUCK) 1570+785 = 2355
GRN. BORROW 38001
EXCESS MUCK 20851



170+00 891.53

S.D. 888.03

131	233
TS	35



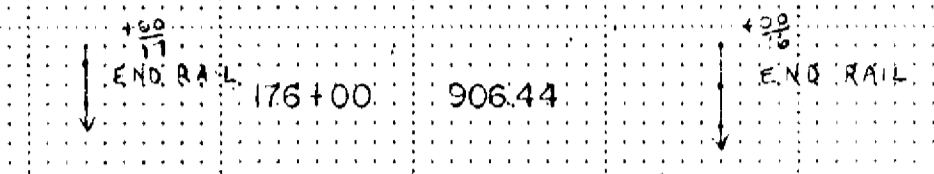
169+00 888.89

S.D. 887.42

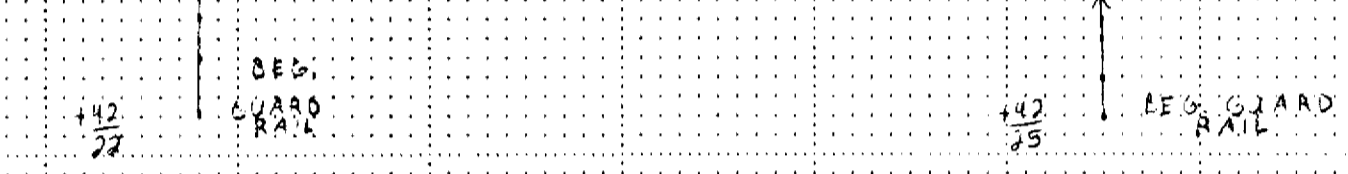
239	196
TS	43

CAUTION

○ TOP OF 20" PIPELINE CROSSING ELEV. 882.82
172+87
87



175+00 909.77



174+00 906.44

173+00 901.99

STA. 169+00 TO STA. 176+00