

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, BASE, SURFACING, C & G, AND STORM SEWER

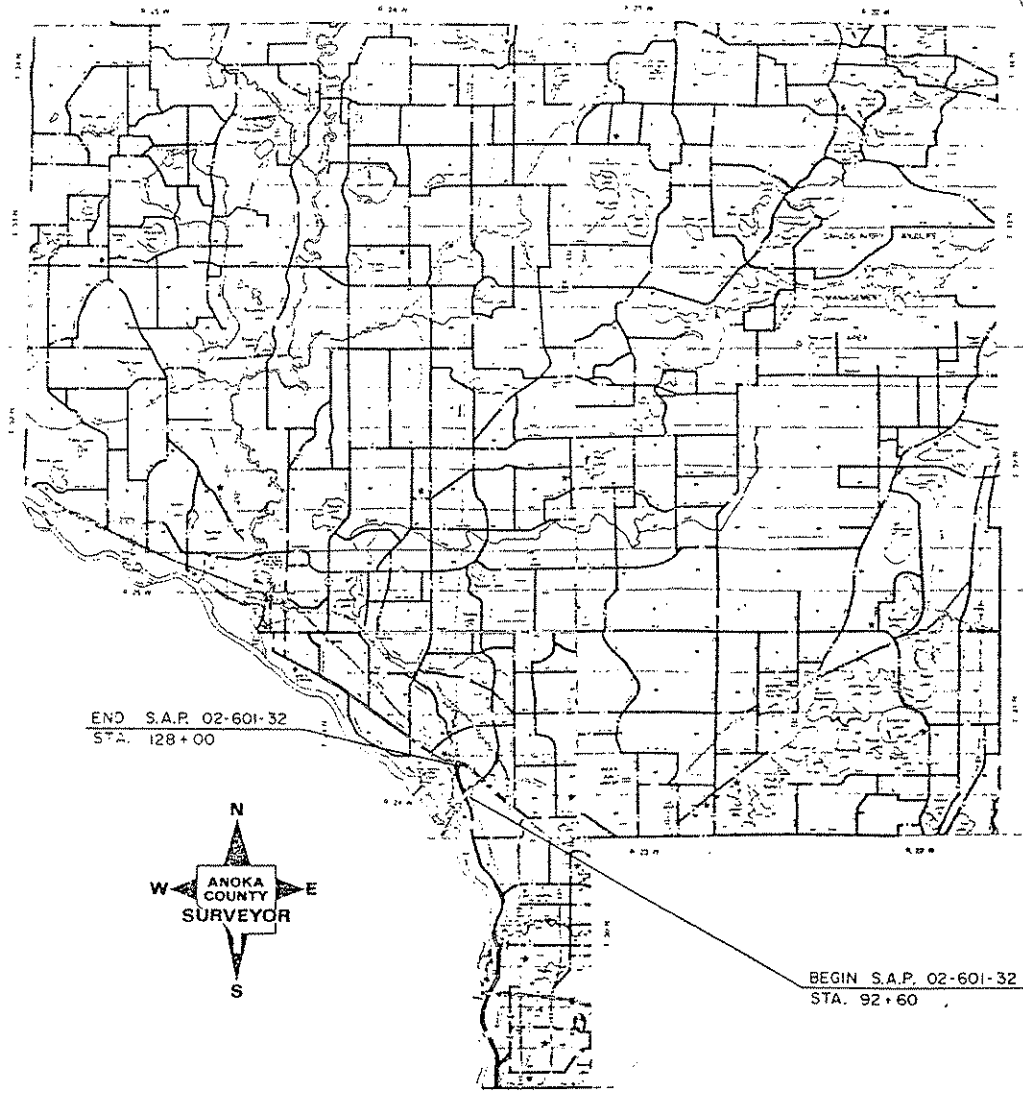


LOCATED ON C.S.A.H. 1 BETWEEN T.H. 610 AND C.R. 3 (Geographic Description)
 FROM TO (Legal Description)

STATE PROJ. NO. S.A.P. 02-601-32
 MINN. PROJ. NO. _____
 GROSS LENGTH 3540 FEET 0.67 MILES
 BRIDGES-LENGTH _____ FEET _____ MILES
 EXCEPTIONS-LENGTH _____ FEET _____ MILES
 NET LENGTH 3540 FEET 0.67 MILES
 MILE POINT _____ TO MILE POINT _____

STATE PROJ. NO. _____
 MINN. PROJ. NO. _____
 GROSS LENGTH _____ FEET _____ MILES
 BRIDGES-LENGTH _____ FEET _____ MILES
 EXCEPTIONS-LENGTH _____ FEET _____ MILES
 NET LENGTH _____ FEET _____ MILES
 MILE POINT _____ TO MILE POINT _____

02-601-32

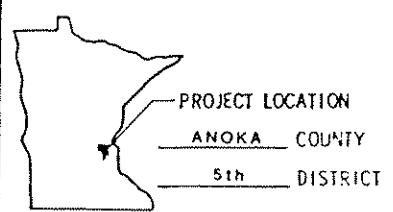


SCALES

PLAN _____ 50
 PROFILE _____ 50 H _____ 5 V
 INDEX MAP _____ 2.18 MI.
 CROSS SECTION _____ JOH. 10V

DESIGN DATA

FUNCTIONAL CLASSIFICATION	HIGH DENSITY ARTERIAL	NO. OF PARKING LANES	0
NO. OF TRAFFIC LANES	= 4	9 TON DESIGN SHOULDER WIDTH	10'
ADT (CURRENT YEAR)	= 19,935	DESIGN SPEED	45 MPH
ADT (FUTURE YEAR)	= 33,900	BASED ON STOPPING SIGHT DISTANCE	
DHV (DESIGN HR. VOL.)	= NA	HEIGHT OF EYE 3.5' HEIGHT OF OBJECT 0.5'	
D (DIRECTIONAL DISTR.)	= 50%	DESIGN SPEED NOT ACHIEVED AT:	NA
T (HEAVY COMMERCIAL)	= 00%	STA. _____ TO STA. _____ MPH	
SOIL FACTOR	= 50%	STA. _____ TO STA. _____ MPH	
		R-VALUE NA OR N 18 FACTOR	



FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO.	AREA	JOB

FED. PROJ. NO. _____

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND "SUPPLEMENTAL SPECIFICATIONS TO THE 1988 STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED JANUARY 2, 1991, SHALL GOVERN.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TABULATED QUANTITIES
4	EARTHWORK SUMMARY AND
5-9	DETAIL AND STANDARD PLAN SHEETS
10-11	EXISTING CONDITIONS AND REMOVALS
12-13	TYPICAL SECTIONS
14-16	PLAN AND PROFILE SHEETS
17	SUPERELEVATION CHARTS
18-24	STORM SEWER AND WATERMAIN
25-33	CROSS-SECTIONS
34-48	TRAFFIC CONTROL PLANS

THIS PLAN CONTAINS 48 SHEETS

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 June 5, 1991 REG. NO. 6549 ENGR. Tane K. Kinn
 COUNTY ENGINEER
 DESIGN SQUAD MIKE GABRICK

Recommended for Approval _____ 19____

Recommended for Approval _____ 19____

Recommended for Approval William R. Ottensmeyer 6/14 1991
 CITY OF COON RAPIDS ENGINEER

Recommended for Approval CE [Signature] 6/26 1991
 DISTRICT STATE AID ENGINEER

Recommended for Approval Julid Stallman 7/9 1991
 STATE AID PLANS AND SPECS ENGINEER

Approved 7/9 1991 Dennis C. Caska
 STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
APPROVED

 DIVISION ADMINISTRATOR DATE

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE 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 _____ REG. NO. _____

STATE AID PROJ. NO. 02-601-32 COUNTY PROJ. NO. _____
 STATE PROJ. NO. _____ SHEET NO. 1 OF 48 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

CHART NO.	ITEM NO.	ITEM	UNIT	SAP 02-601-32		100% LOCAL		STORM SEWER		TOTAL QUANTITIES	
				EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	2021.501	MOBILIZATION	LUMP SUM	1						1	
	2031.501	FIELD OFFICE, TYPE D	EACH	1						1	
I	2101.501	CLEARING	ACRF	0.85						0.85	
I	2101.502	CLEARING	TRFF	32						32	
I	2101.506	GRUBBING	ACRF	0.85						0.85	
I	2101.507	GRUBBING	TRFF	32						32	
B	2104.501	REMOVE CURB & GUTTER	LN FT	6020						6020	
I	2104.501	REMOVE SEWER PIPE (STORM)	LN FT	1451						1451	
B	2104.503	REMOVE CONCRETE PAVEMENT	SQ FT	5714						5714	
I	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	18481						18481	
L	2104.509	REMOVE MANHOLES AND CATCH BASINS	EACH	13						13	
I	2104.509	REMOVE CONCRETE MEDIAN NOSE	EACH	1						1	
L	2104.509	REMOVE RCP APRON	EACH	1						1	
I	2104.511	SAWING CONCRETE PAVEMENT	LN FT	31						31	
G	2104.513	SAWING BITUMINOUS PAVEMENT	LN FT	299						299	
I	2104.521	SALVAGE FENCE	LN FT	167						167	
I	2104.521	SALVAGE GUARDRAIL PLATE BEAM	LN FT	425						425	
I	2104.523	SALVAGE TWISTED END TREATMENT	EACH	4						4	
L	2104.523	SALVAGE CASTINGS	EACH	18						18	
J	2105.501	COMMON EXCAVATION (P)	CU YD	23915						23915	
J	2105.522	GRANULAR BORROW (FV)	CU YD	4577						4577	
J	2105.522	SELECT GRANULAR BORROW (FV)	CU YD	6922						6922	
J	2105.525	TOPSOIL BORROW (LV)	CU YD	615						615	
I	2105.509	GEOTEXTILE FABRIC	SQ YD	5067						5067	
I	2130.501	WATER	1000 GAL	40						40	
I	2211.503	AGG. BASE PLACED, CLASS 5A (P)	CU YD	4325						4325	
I	0301.603	CONCRETE BUS PAD	SQ YD	73						73	
I	2331.508	TYPE 41 WEARING COURSE MIXTURE	TON	2119						2119	
I	2331.510	TYPE 31 BINDER COURSE MIXTURE	TON	3154						3154	
I	2331.514	TYPE 31 BASE COURSE MIXTURE	TON	5885						5885	
I	2331.531	TEMPORARY LANE MARKING	RD STA	237						237	
A	0331.601	2" THICK WEAR COURSE PLACED	SQ YD	280		605				885	
I	2357.502	BIT. MAT'L FOR TACK	GAL	2568						2568	
I	2501.515	12" R.C. PIPE APRONS	EACH					1		1	
I	2501.515	24" R.C. PIPE APRONS	EACH					1		1	
I	2502.541	3" PERE. CORR. P.E. PIPE DRAIN	LN FT	1250						1250	
L	2503.541	12" RCP SEWER, DES. 3006F CL. III	LN FT					1597		1597	
L	2503.541	15" RCP SEWER, DES. 3006F CL. III	LN FT					1059		1059	
L	2503.541	18" RCP SEWER, DES. 3006F CL. III	LN FT					1147		1147	
L	2503.541	21" RCP SEWER, DES. 3006F CL. III	LN FT					185		185	
L	2503.541	24" RCP SEWER, DES. 3006F CL. III	LN FT					1750		1750	
L	2503.541	27" RCP SEWER, DES. 3006F CL. III	LN FT					178		178	
C	0504.602	RELOCATE HYDRANT	EACH					3		3	
E	0504.602	ADJUST WATER GATE HOUSING	EACH					5		5	
D	0504.602	RELOCATE WATERSTOPS	EACH					9		9	
D	0504.602	RELOCATE WATERSTOP BOXES	EACH					9		9	
I	0504.602	8" PLUG	EACH					3		3	
I	0504.602	CONNECT TO EXISTING WATERMAIN	EACH					2		2	
I	0504.603	8" DIP WATERMAIN	LN FT			191				191	
L	2506.501	CONST. DRAINAGE STRUCTURES DES. A OR F	LN FT					118.9		118.9	
L	2506.501	CONST. DRAINAGE STRUCTURES DES. C OR G	LN FT					65.2		65.2	
L	2506.501	CONST. DRAINAGE STRUCTURES DES. H	LN FT					29.7		29.7	
L	2506.501	CONST. DRAINAGE STRUCTURES DES. 54-4020	LN FT					27.9		27.9	
L	2506.511	RECONSTRUCT MANHOLES	LN FT					5.4		5.4	
L	2506.512	RECONSTRUCT CATCH BASINS	LN FT					12.7		12.7	
L	2506.516	CASTING ASSEMBLIES	EACH					56		56	
L	2506.522	ADJUST FRAME AND RING CASTING	EACH					5		5	
L	0505.602	CONNECT TO EXIST STORM SEWER	EACH					1		1	
L	2511.507	GRADED RIPRAP	CU YD					5.8		5.8	
I	2514.501	CONCRETE SLOPE PAVING	SQ YD	100						100	
H	2521.501	4" CONCRETE WALK	SQ FT	1566		12414				13980	
H	2521.501	6" CONCRETE WALK	SQ FT			100				100	
H	2531.501	CONC. CURB AND GUTTER DESIGN B-624	LN FT	7093		3851				10945	
A	2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD			21				21	
H	0531.602	CONCRETE MEDIAN NOSE SPECIAL	EACH	1						1	
I	2554.501	TRAFFIC BARRIER, DES. B 8307	LN FT	425						425	
I	2554.523	TWISTED END TREATMENT	EACH	4						4	
I	0557.503	INSTALL FENCE	LN FT	167						167	
I	0563.501	TRAFFIC CONTROL, PHASE I	LUMP SUM	1						1	
I	0563.501	TRAFFIC CONTROL, PHASE II	LUMP SUM	1						1	
I	0563.501	TRAFFIC CONTROL, PHASE III	LUMP SUM	1						1	
I	0563.501	DETOUR SIGNING	LUMP SUM	1						1	
I	2573.501	BALE CHECK	EACH	50						50	
I	2573.502	SILT FENCE, HEAVY DUTY	LN FT	875						875	
I	2575.501	SEEDING (P)	ACRE	2.8						2.8	
I	2575.502	SEED MIXTURE NO. 500	POUND	140						140	
F	2575.505	SODDING, TYPE-EROSION CONTRL	SQ YD	6352						6352	
I	2575.511	MULCH MATERIAL TYPE-1	TON	5.6						5.6	
I	2575.519	DISC ANCHORING (P)	ACRE	2.8						2.8	
I	2575.531	COMM. FERT. ANALY. 10-10-10	TON	.93						.93	
I	2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LN FT	12750						12750	

THE FOLLOWING 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
3007 B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133 B	RIPRAP AT RCP OUTLETS
3145 E	CONCRETE PIPE TIES
4000 I	MANHOLE OR CATCH BASIN (DESIGN A)
4002 E	MANHOLE OR CATCH BASIN (DESIGN C)
4005 K	MANHOLE OR CATCH BASIN (DESIGN F)
4006 K	MANHOLE OR CATCH BASIN (DESIGN G OR DESIGN H)
4010 G	CONC. SHORT CONE AND ADJUSTING RING
4011 D	PRECAST CONCRETE BASE
4020 E	MANHOLE OR CATCH BASIN (FOR USE UNDER TRAFFIC LOADS)
4101 C	RING CASTING FOR MANHOLE OR CATCH BASIN
4110 E	COVER CASTING FOR MANHOLE
4126 F	CATCH BASIN FRAME CASTING
4142 D	BEEHIVE GRATE CASTINGS FOR CATCH BASIN
4149 C	GRATE CASTING FOR CATCH BASIN
4161 F	CURB BOX CASTING FOR CATCH BASIN
4180 H	MANHOLE OR CATCH BASIN STEP
7100 F	CONCRETE CURB AND GUTTERS (DESIGN B)
7110 E	CURB AND GUTTER CONSTRUCTION AT CATCH BASIN
7111 G	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTINGS
8000 I	STANDARD BARRICADES
8307 N	STRUCTURAL PLATE BEAM GUARDRAIL
8319 G	TWISTED END TREATMENT
9000 B	APPROACHES AND ENTRANCES
9102 C	SODDING AT PIPE CULVERT ENDS

INDEX OF TABULATION CHARTS

SHEET NO.	CHART	DESCRIPTION
3	A	DRIVEWAY CONSTRUCTION CHART
3	B	MISCELLANEOUS REMOVAL
3	C	HYDRANT LOCATION
3	D	CURB STOPS
3	E	GATE VALVE LOCATIONS
3	F	SODDING
3	G	SAWING BITUMINOUS PAVEMENT
3	H	CURB & GUTTER - MEDIAN - SIDEWALK
3	I	CLEARING AND GRUBBING
4	J	EARTHWORK SUMMARY
17	K	SUPERELEVATIONS
18	L	STORM SEWER
18	M	DRAINAGE CASTING SCHEDULE

NOTES:

- ① INCLUDES ALL BITUMINOUS SURFACING REGARDLESS OF THE THICKNESS OF PAVEMENT.
- ② FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.
- ③ INCLUDES QUANTITY FOR ADDING 1/4" TO THE DESIGN THICKNESS.
- ④ INCLUDES CONCRETE SLOPE PAVING REMOVAL.
- ⑤ FOR USE ON RESIDENTIAL ENTRANCES AND FOR TEMPORARY PAVEMENT FOR MAINTENANCE OF TRAFFIC.
- ⑥ BASED ON AN APPLICATION RATE OF 0.05 GAL./SQ.YD./LAYER APPLIED.
- ⑦ FOR EROSION CONTROL AS DIRECTED BY THE ENGINEER.
- ⑧ INCLUDES ADDITIONAL QUANTITY FOR COMMERCIAL ENTRANCES AND FOR PAVEMENT SECTION TRENCH REPAIR ON CONN RAPIDS BLVD. EXTENSION.
- ⑨ TO BE USED FOR LANE TAPERS FOR PHASE I TRAFFIC CONTROL, OR AS DIRECTED BY THE ENGINEER.
- ⑩ GRANULAR FILTER MATERIAL WILL BE INCIDENTAL TO RIPRAP CONSTRUCTION.

DRIVEWAY CONSTRUCTION CHART (A)																					
STATION	ADDRESS	REMARKS	REMOVE		CONCRETE DRIVEWAY PAVEMENT						BIT. PAVEMENT										
			CONC.	BIT.	APRON SQ. YD.			DRIVEWAY SQ. YD.			DRIVEWAY SQ. YD.										
			S.Y.	S.Y.	WIDTH	6'	8'	WIDTH	REPLMT.	NEW	WIDTH	REPLMT.	NEW								
LSB 94+30 LT.	#9600		49		16	9		16	21												
LSB 103+95 LT.	#9530				12	7															13
LSB 105+74 LT.	#9540				14	8															16
LSB 108+08 LT.	#9564				12	7															13
LSB 110+14 LT.	#9602				16	9															18
LNB 111+16 RT.	#9867		26	167																	
LNB 111+40 RT.	#9697							22		12											
LSB 115+65 LT.	#9700		37	250	24	14						24	73								
LNB 122+25 RT.				55								13	42								

CURB & GUTTER - MEDIAN - SIDEWALK CHART (H)							
STATION TO STATION	LOC.	B624 C&G LIN. FT.	4" CONC. WALK SQ. FT.	6" CONC. WALK SQ. FT.	CONC. MEDIAN EACH	MED. NOSE EACH	FINAL MEASURE
LNB 93+00 - 128+00	RT.	3128					
LNB 111+70 - 128+00	LT.	1619					
LSB 92+60 - 117+60	LT.	2382					
LSB 111+75 - 117+60	RT.	574					
LNB 93+00 - 97+36	MEDIAN	441	2905				
LSB 92+60 - 97+45	MEDIAN	441					
LNB 98+06 - 102+62	MEDIAN	457	3371				
LSB 98+15 - 102+62	MEDIAN	460					
LNB 103+43 - 110+65	MEDIAN	721	3333				
LSB 103+45 - 110+65	MEDIAN	721					
LSB 92+60 - 94+30	LT.		850				
LSB 94+30 - 94+50	LT.			100			
LSB 94+50 - 95+74	LT.		620				
LSB 96+23 - 97+56	LT.		669				
LSB 98+09 - 101+01	LT.		1487				
LSB 101+54 - 103+03	LT.		745				

MISCELLANEOUS REMOVAL (B)					
STA. TO STA.	LOC.	DESCRIPTION	LIN. FT.	SQ. YD.	FINAL
LNB 93+00 - 94+10	RT.	CONC. CURB & GUTTER (ISLAND)	110		
LSB 92+60 - 94+10	RT.	CONC. CURB & GUTTER (ISLAND)	150		
LNB 93+00 - 100+46	RT.	CONC. CURB & GUTTER	551		
LSB 92+60 - 98+11	LT.	CONC. CURB & GUTTER	476		
LSB 92+60 - 94+28	LT.	CONC. PAVEMENT (S.W.)		100	
LNB 93+00 - 94+00	LT.	CONC. PAVEMENT (MEDIAN)		140	
LSB 94+47 - 95+78	LT.	CONC. PAVEMENT (S.W.)		74	
LSB 94+76 - 94+96	LT.	CONC. PAVEMENT (BUS PAD)		24	
LSB 95+95	LT.	CONC. CURB & GUTTER (94TH AVE.)	99		
LSB 96+08 - 97+58	LT.	CONC. PAVEMENT (S.W.)		85	
LSB 96+80	LT.	CONC. CURB & GUTTER (94TH LANE)	113		
LSB 101+25	LT.	CONC. CURB & GUTTER (95TH AVE.)	34		
LNB 103+14	RT.	CONC. CURB & GUTTER (J.R. ST. APPCH.)	66		
LSB 109+86 - 117+60	RT. & LT.	CONC. CURB & GUTTER	774		
LNB 109+88 - 128+00	RT.	CONC. CURB & GUTTER	1812		
LSB 113+17 - 117+60	RT.	CONC. CURB & GUTTER (MEDIAN)	443		
LNB 114+08 - 128+00	LT.	CONC. CURB & GUTTER (MEDIAN)	1392		
LNB 118+75 - 120+25	RT.	CONC. PAVEMENT (SLOPE PAVING)		100	
LNB 118+75 - 120+25	RT.	BIT. PAVING UNDER BRIDGE #02522		67	
LNB 119+05 - 121+55	LT.	BIT. PAVING UNDER BRIDGE #02522		250	
LNB 134+75 - 135+40	RT.	BIT. PAVING		117	

SODDING (F)			
STATION TO STATION	LOCATION	SQ. YDS.	REMARKS
LSB 92+60 - 95+75			
LNB 94+00 - 97+40	RT.	792	
LSB 96+25 - 97+50	LT.	348	
LNB 98+00 - 102+60	RT.	347	
LSB 98+00 - 101+00	LT.	739	
LSB 101+30 - 103+00	LT.	367	
LNB 102+20 - 107+50	RT.	220	
LSB 103+00 - 117+60	LT.	627	
LNB 107+50 - 111+00	RT.	748	
LNB 111+40 - 114+00	RT.	271	
LNB 112+00 - 128+00	LT.	711	
LSB 112+00 - 117+60	RT.	249	
LNB 114+00 - 135+00	RT.	933	

CLEARING AND GRUBBING (I)					
STATION	LOCATION	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
LSB 95+45	LT. 55'	1		1	
LSB 95+56	LT. 52'	1		1	
LNB 96+23-97+49	RT.		0.10		0.10
LSB 96+51	LT. 42'	2		1	
LSB 96+56	LT. 39'	1		1	
LSB 96+93-97+58	LT.		0.05		0.05
LSB 98+11-100+88	LT.		0.20		0.20
LSB 99+71	LT. 20'	1		1	
LSB 101+63-104+03			0.15		0.15
LSB 101+79	LT. 34'	1		1	
LSB 102+47	LT. 26'	1		1	
LSB 103+33	LT. 14'	1		1	
LSB 104+07	LT. 23'	1		1	
LSB 104+11	LT. 43'	1		1	
LSB 104+16	LT. 27'	1		1	
LSB 104+19	LT. 34'	1		1	
LSB 104+22	LT. 28'	1		1	
LSB 104+35	LT. 27'	1		1	
LSB 104+40	LT. 32'	1		1	
LSB 104+44	LT. 31'	1		1	
LSB 104+53	LT. 31'	1		1	
LNB 104+55-105+61	RT.		0.05		0.05
LSB 104+57	LT. 30'	1		1	
LSB 104+62	LT. 22'	3		1	
LSB 104+72	LT. 32'	1		1	
LSB 104+79	LT. 27'	1		1	
LSB 104+89	LT. 14'	1		1	
LSB 104+94	LT. 14'	1		1	
LSB 105+03	LT. 14'	1		1	
LSB 105+25	LT. 12'	1		1	
LSB 105+77	LT. 10'	1		1	
LSB 106+10	LT. 15'	1		1	
LSB 106+13	LT. 26'	2		1	
LSB 106+79	LT. 5'	1		1	
LSB 106+81-107+88	LT.		0.15		0.15
LSB 108+14-109+21	LT.		0.15		0.15
LSB 110+28	LT. 10'	1		1	
LSB 116+58	LT. 51'	4		1	
LSB 117+03	LT. 35'	1		1	
TOTALS		39	0.85	32	0.85

HYDRANT LOCATION (C)			
STA.	LOC.	NEW STA.	NEW LOC.
LSB 95+71	LT. 37'	LSB 95+71	SAME
LNB 97+43	RT. 45'	LNB 97+35	RT. 45'
LSB 101+44	LT. 37'	LSB 101+52	LT. 45'
LNB 102+52	RT. 27'	LNB 102+48	RT. 39'
LNB 107+49	RT. 31'	LNB 107+49	SAME

CURB STOPS (D)				
STA.	LOC.	NEW LOC.	LIN. FT.	
LNB 96+73	RT. 23'	RT. 37'	14'	
LSB 98+10	LT. 15'	LT. 37'	23'	
LNB 98+88	RT. 28'	RT. 37'	9'	
LSB 99+35	LT. 14'	LT. 37'	24'	
LSB 101+67	LT. 8'	LT. 37'	29'	
LSB 104+03	LT. 8'	LT. 37'	29'	
LSB 105+92	LT. 4'	LT. 37'	33'	
LSB 108+19	LT. 3'	LT. 37'	34'	
LSB 110+12	C/L	LT. 37'	37'	
LNB 112+64	RT. 64'	SAME		

SAWING BITUMINOUS PAVEMENT (G)		
STATION TO STATION	LOCATION	LIN. FT.
LNB 93+00	BEG. PROJECT	32
LSB 92+60	BEG. PROJECT	32
LSB 95+95	94TH AVE. LT.	27
LSB 96+80	94TH LANE LT.	27
LNB 98+06	ENT. RT.	26
LSB 101+25	95TH AVE. LT.	26
LNB 103+05	ENT. RT.	29
LNB 111+19	ENT. RT.	26
LNB 111+38	ENT. RT.	24
LSB 117+60	END PROJECT	25
LNB 128+00	END PROJECT	25
TOTAL		299

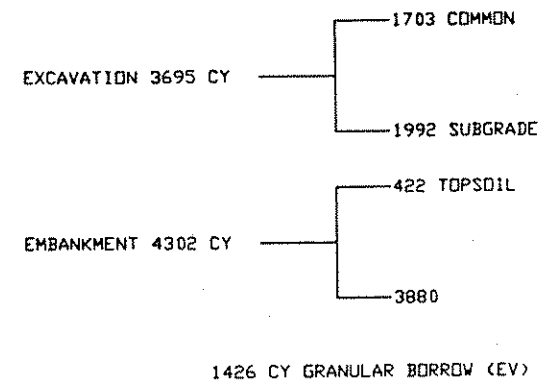
G.V. LOC. (E)	
STA.	LOC.
LSB 95+78	LT. 28'
LNB 97+47	RT. 46'
LSB 101+42	LT. 38'
LNB 102+53	RT. 24'
LNB 107+49	RT. 29'

REVISIONS			
DATE	BY	DATE	BY

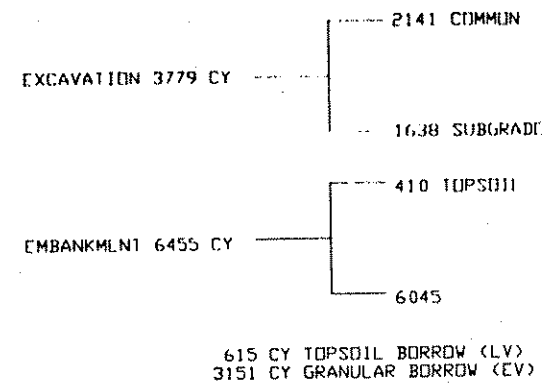
S.A.P. 02-601-32 S.P. C.P.

EARTHWORK SUMMARY

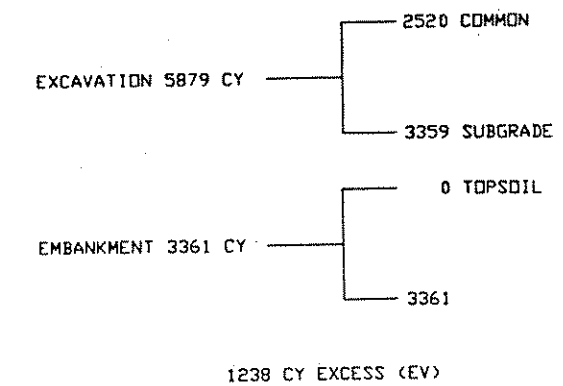
L^{NB}/L^{SB} 92+50 TO 112+00 - STAGE 1 CONSTRUCTION



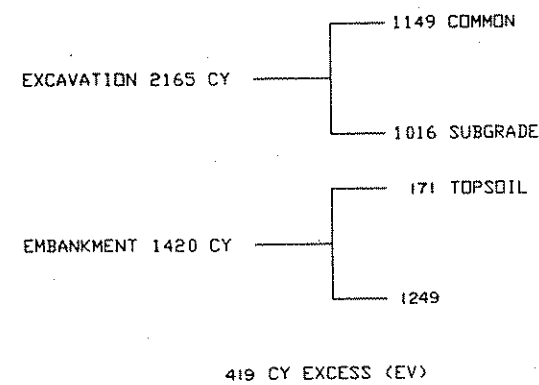
L^{NB}/L^{SB} 92+50 TO 112+00 - STAGE 2 CONSTRUCTION



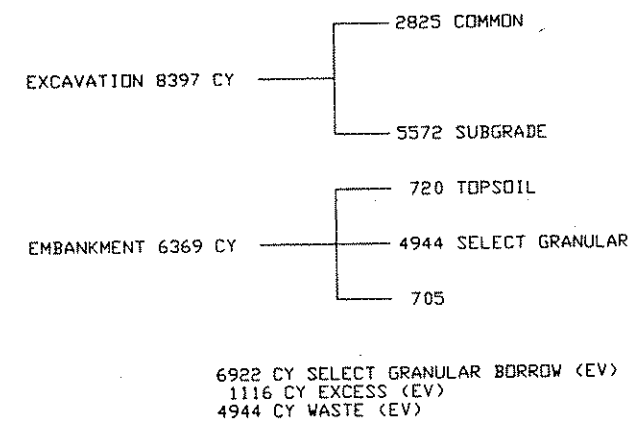
L^{NB}/L^{SB} 92+50 TO 112+00 - STAGE 3 CONSTRUCTION



L^{SB} 112+00 TO 117+60



L^{NB} 112+00 TO 128+00



NOTES:

- 1.) 120% SHRINKAGE FACTOR FOR SUBGRADE COMPACTION (EV TO CV)
- 2.) 140% SHRINKAGE FACTOR FOR NORMAL GRADING AND BORROW MATERIALS (EV TO CV)
- 3.) 150% SHRINKAGE FACTOR FOR TRUCK HAUL BORROW (LV TO CV)
- 4.) QUANTITIES FOR COMMON EXCAVATION AS SHOWN ON THE CROSS-SECTION SHEETS INCLUDE VOLUME TO BE REMOVED AS BITUMINOUS PAVEMENT REMOVAL. EARTHWORK SUMMARY INCLUDES DEDUCT FOR 7 1/2 INCHES OF PAVEMENT. CONTRACTOR SHALL INVESTIGATE AND MAKE OWN DETERMINATION OF ACTUAL PAVEMENT DEPTH.
- 5.) EXCESS MATERIAL FROM ONE STAGE SHALL BE USED AS BORROW MATERIAL FOR OTHER STAGES REQUIRING ADDITIONAL MATERIAL. STOCKPILING EXCESS MATERIAL AND REUSE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF COMMON EXCAVATION, AND WILL NOT BE PAID FOR AS BORROW MATERIAL.

SOILS AND CONSTRUCTION NOTES:

1. TOP OF GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE AGGREGATE BASE.
2. IN FILL AREAS, THE SUBGRADE SHALL BE CONSTRUCTED WITH SELECTED GRADING MATERIAL.
3. SELECTED GRADING MATERIALS SHALL CONSIST OF GRANULAR MATERIALS, OF WHICH THE UPPER 1.0 FOOT OF THE SUBGRADE SHALL CONSIST OF SELECT GRANULAR MATERIALS.
4. GRANULAR MATERIAL, REGARDLESS OF SOURCE, SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2A.
5. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC 3149.2B.
6. COMPACTION OF THE GRADING PORTION OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD".
7. TEST ROLLING WILL NOT BE REQUIRED.
8. 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.
9. DISPOSITION OF EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH SPEC. 2105.3D.
10. WHERE MATCHING INTO THE INPLACE ROADWAY AT THE ENDS OF CONSTRUCTION, CUT VERTICALLY TO THE TOP OF THE GRADING SUBGRADE AND THEN AT A 20:1 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
11. WHERE CONNECTING NEW SURFACING TO AN INPLACE PAVEMENT, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING THE INPLACE PAVEMENT.
12. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES PRIOR TO PLACING BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON EXISTING CONCRETE

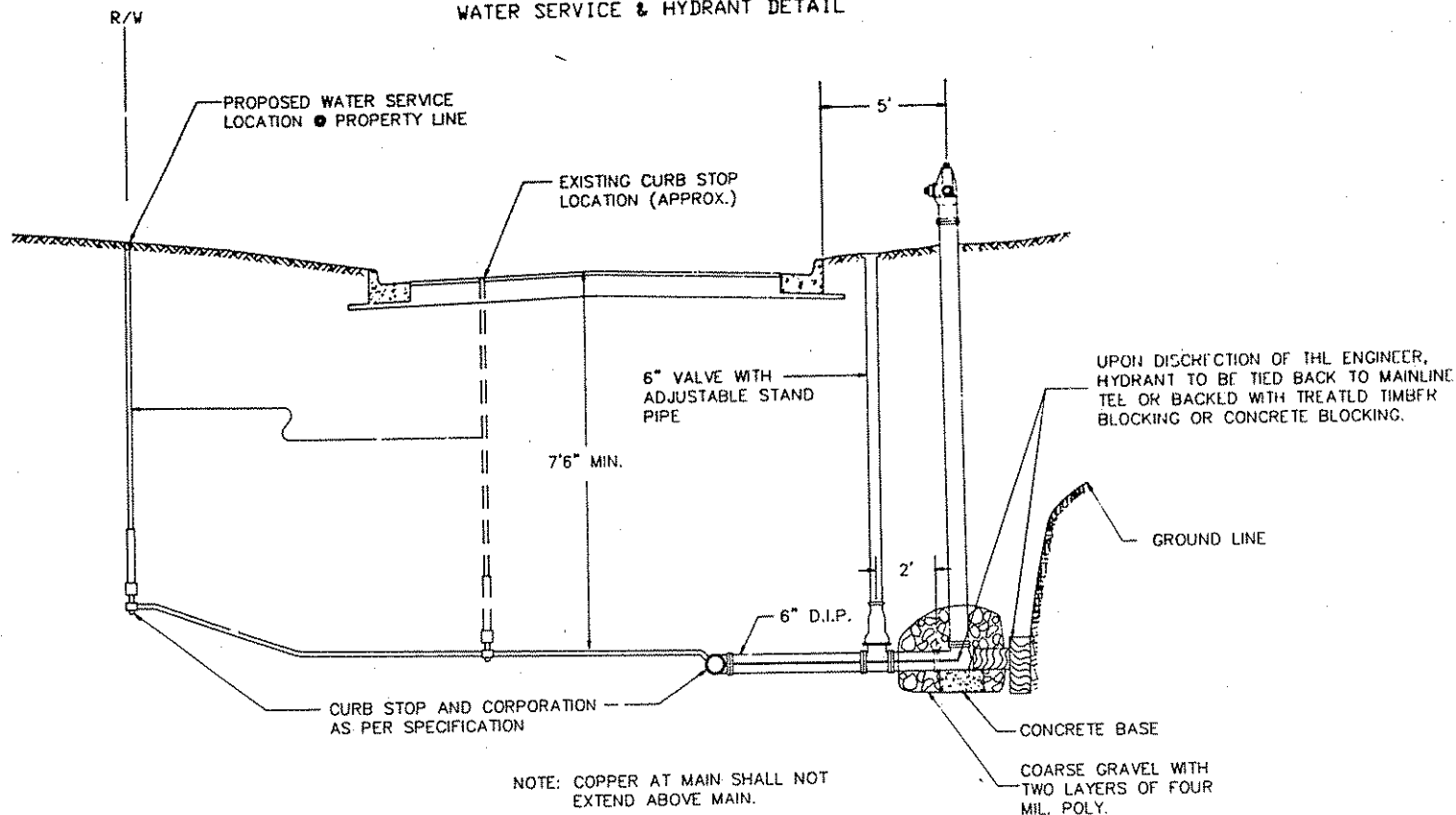
- OR BITUMINOUS SURFACES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GALLONS PER SQUARE YARD BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY); ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357.
13. COMPACTION OF THE BITUMINOUS BASE AND BINDER SHALL BE BY THE "SPECIFIED DENSITY METHOD". COMPACTION OF THE TYPE 41 WEAR SHALL BE BY THE "ORDINARY COMPACTION METHOD".
 14. COMPACTION OF THE AGGREGATE BASE LAYERS SHALL BE BY THE "SPECIFIED DENSITY METHOD".
 15. IN AREAS TO BE DISTURBED BY CONSTRUCTION, STRIP AND RE-USE AS SLOPE DRESSING ALL TOPSOIL AND INPLACE SLOPE DRESSING. REFER TO THE CROSS-SECTIONS FOR THE LIMITS OF TOPSOIL STRIPPING.
 16. SLOPE DRESSING ON THIS PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF.
 17. PLACE A MINIMUM OF 4 INCHES 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 450 POUNDS PER ACRE, OR EQUIVALENT.
 18. TOPSOIL BORROW IS REQUIRED ON ALL DISTURBED AREAS OF RESIDENTIAL PROPERTIES.
 19. ON ALL DISTURBED AREAS, USE MIXTURE 500 SEED WITH TYPE 1 MULCH, AND DISC ANCHORING, UNLESS SPECIFIED FOR SOD.
 20. SOD ALL PERMANENT BOULEVARD AREAS, AND DISTURBED LAWNS.
 21. ALL SOD UTILIZED WITHIN THE PROJECT LIMITS SHALL MEET THE REQUIREMENTS OF SPEC. 3878.2B (EROSION CONTROL SOD).

22. EXCESS TOPSOIL MAY BE USED IN EMBANKMENT CONSTRUCTION IN AREAS OUTSIDE OF A 1 1/2:1 SLOPE FROM THE BACK OF CURB.
23. EXISTING STABILIZED SUBGRADE MUST BE PULVERIZED PRIOR TO USE AS EMBANKMENT MATERIAL.
24. ALL SOD UTILIZED WITHIN THE PROJECT LIMITS SHALL MEET THE REQUIREMENTS OF SPEC. 3878.2B (EROSION CONTROL SOD).
25. GEOTEXTILE FABRIC AND SUBSURFACE DRAINAGE SHALL BE UTILIZED FROM STA. 115+00 TO STA. 124+50 AS SHOWN ON PLANS. EXISTING MATERIAL SHALL BE REMOVED AND DISPOSED OF OFFSITE. BACKFILL MATERIAL ON TOP OF FABRIC SHALL CONSIST OF SELECT GRANULAR MATERIAL.

REVISIONS			
DATE	BY	DATE	BY

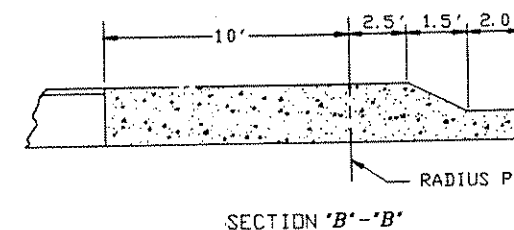
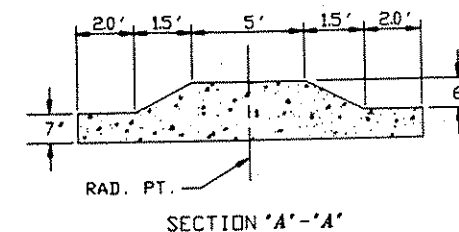
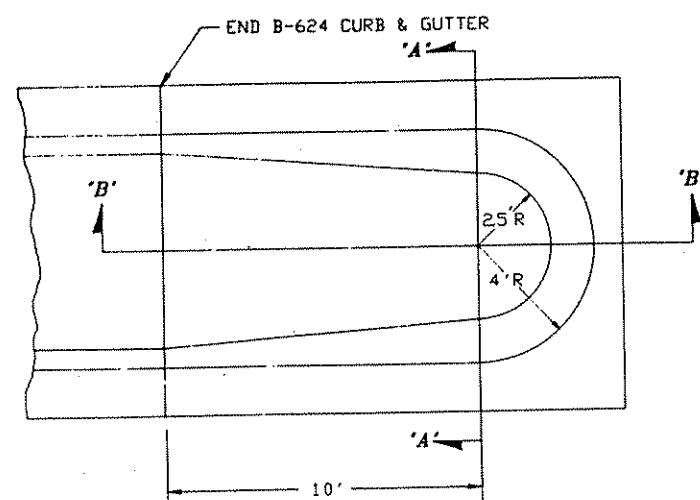
S.A.P. 02-601-32 S.P. _____ C.P. _____

WATER SERVICE & HYDRANT DETAIL

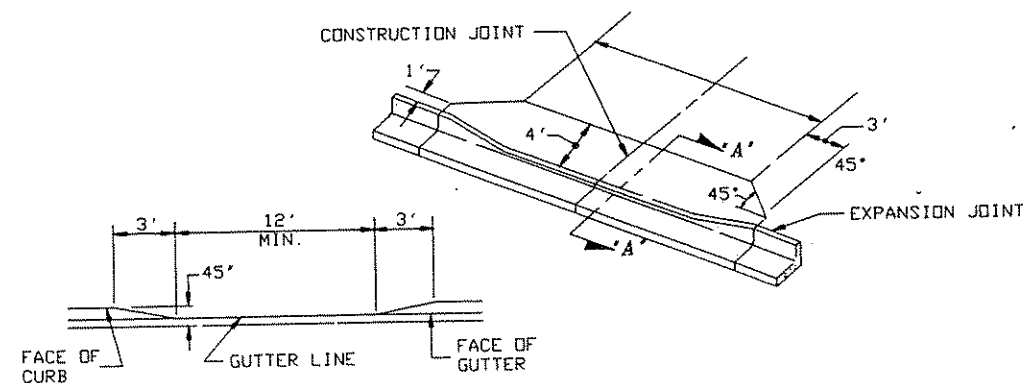


MEDIAN NOSE DETAIL

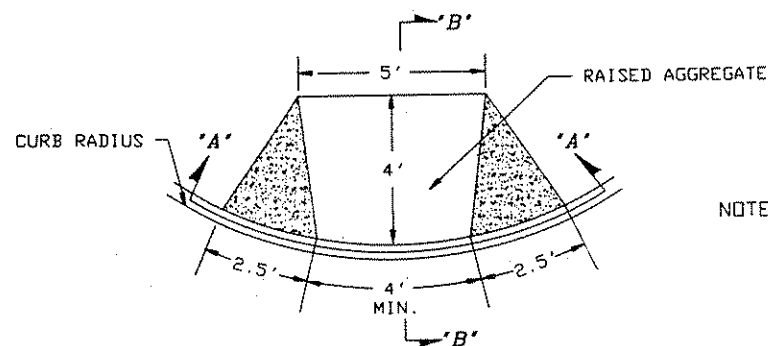
STA. 111+76 LNB



CONCRETE APRON DETAIL



PEDESTRIAN RAMP DETAIL



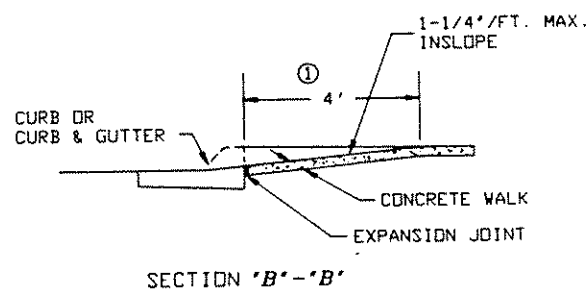
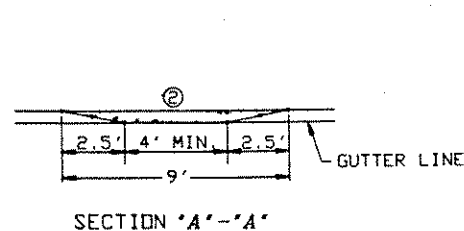
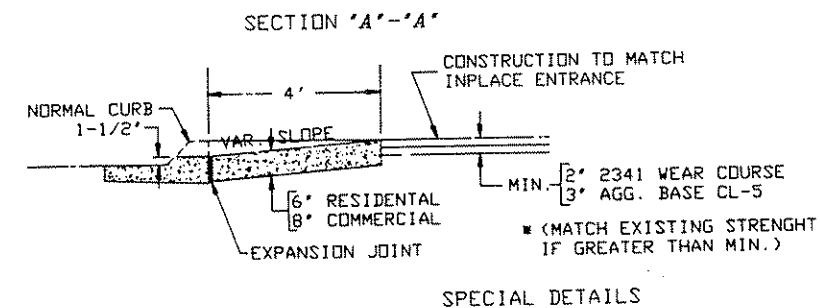
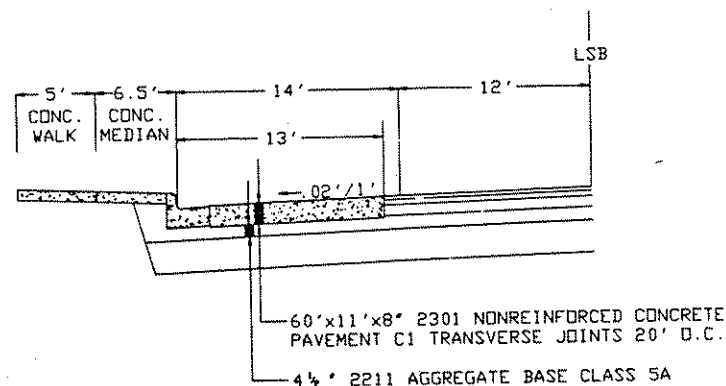
NOTE: PEDESTRIAN RAMP LOCATION TO BE DETERMINED BY ENGINEER.

① MINIMUM DIMENSION - MAY INCREASE TO ACHIEVE DESIRED SLOPE.

② 4' MIN. VALLEY FROM GUTTER LINE SHOULD HAVE A SMOOTH TRANSITION

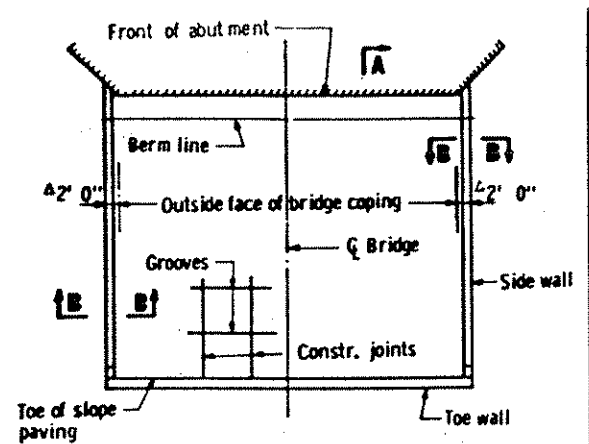
BUS PAD DETAIL

LSB 94+68 - 95+28

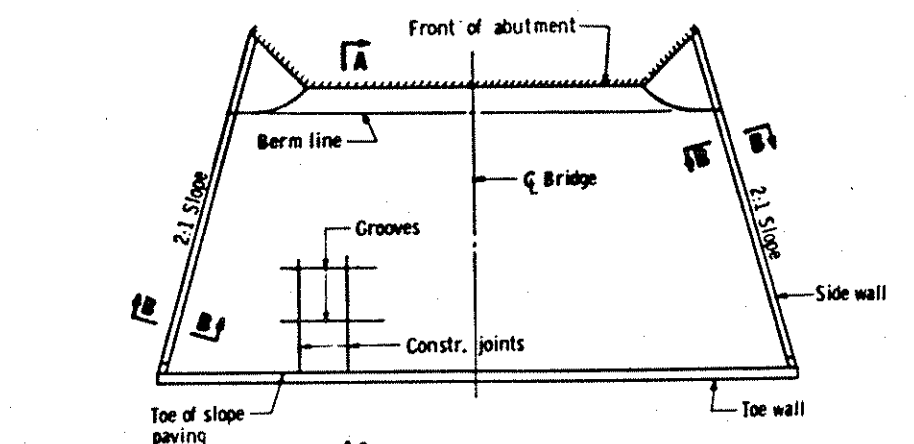


REVISIONS			
DATE	BY	DATE	BY

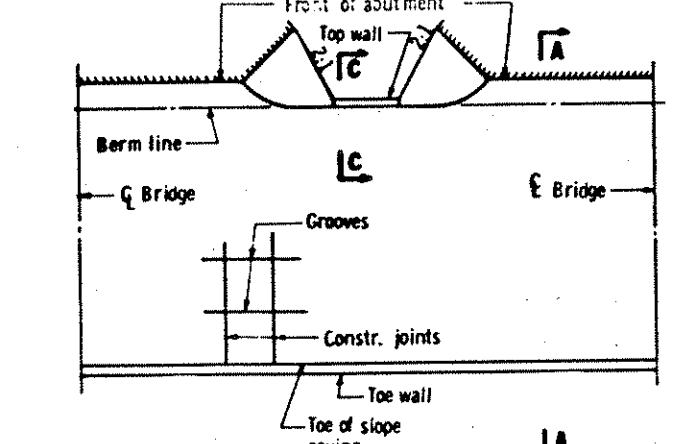
S.A.P. 02-601-32 S.P. _____ C.P. _____



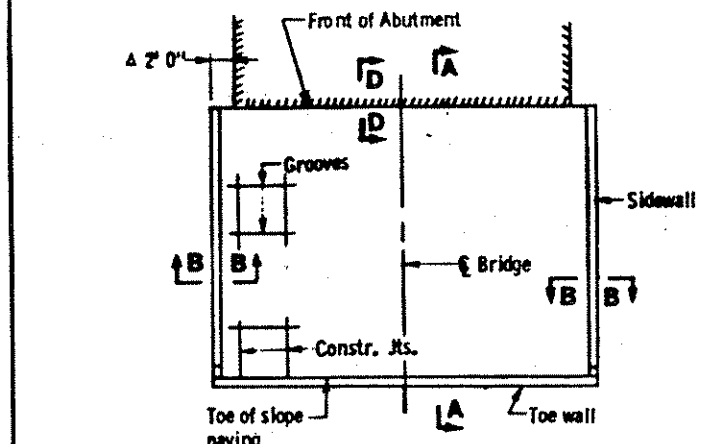
SQUARE BRIDGE



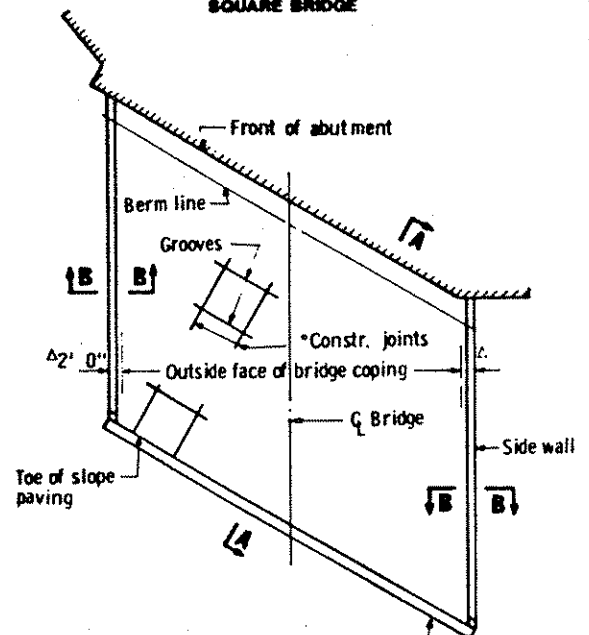
SQUARE BRIDGE



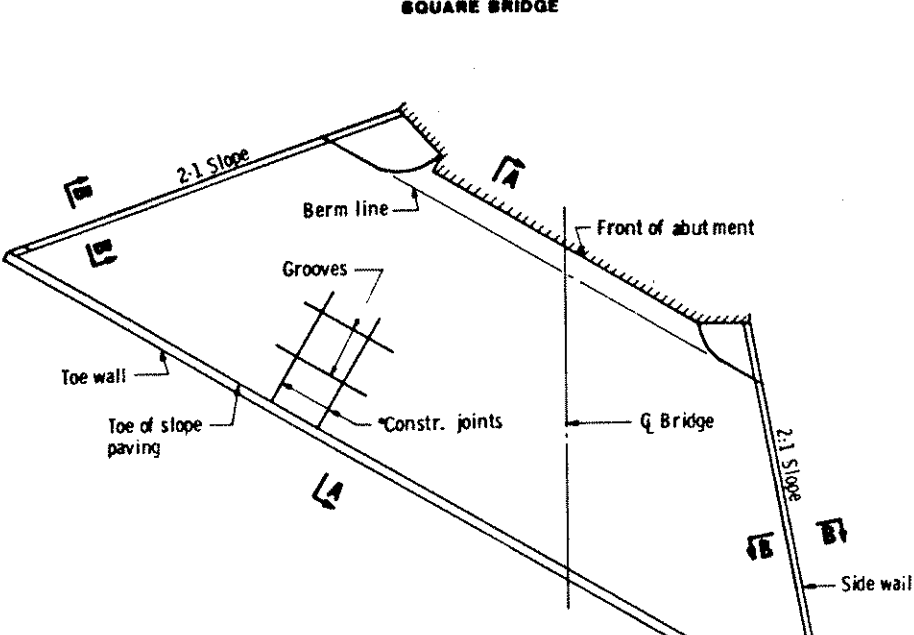
SQUARE BRIDGE



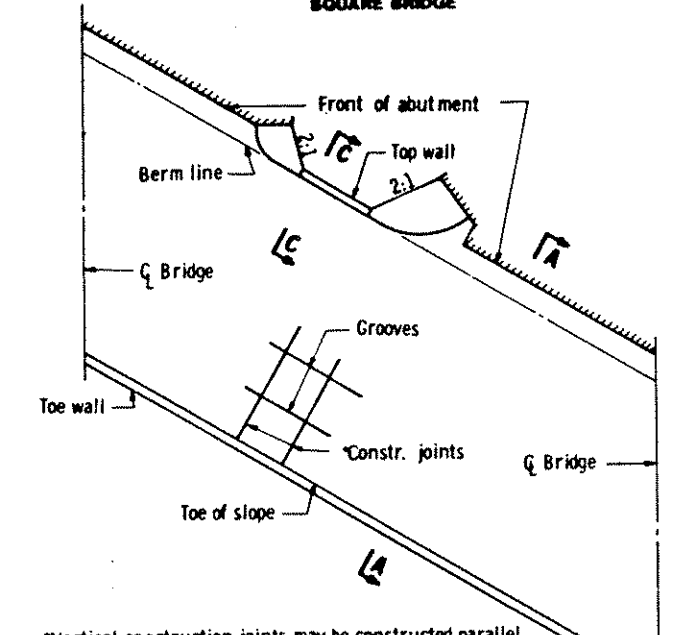
SQUARE BRIDGE



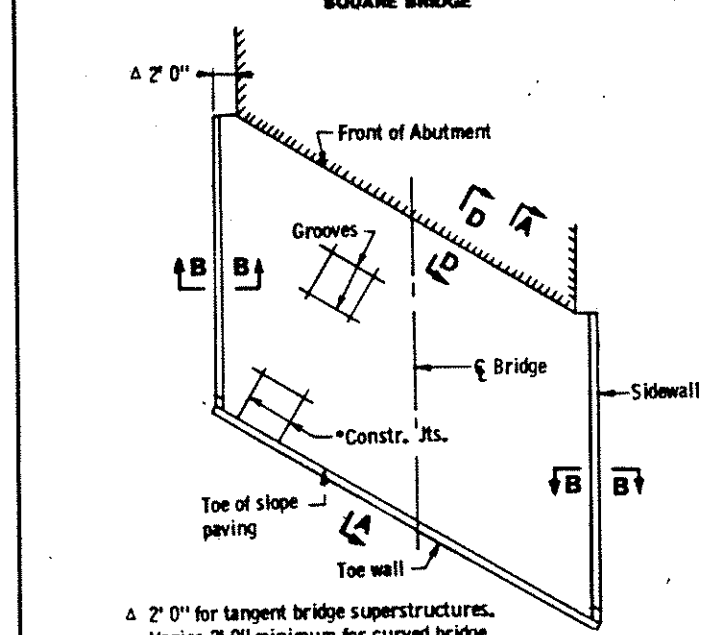
SKewed BRIDGE



SKewed BRIDGE



SKewed BRIDGE



SKewed BRIDGE

Δ 2' 0" for tangent bridge superstructures. Varies 2' 0" minimum for curved bridge superstructures.
*Vertical construction joints may be constructed parallel to Q of bridge for skews to 10° only.

*Vertical construction joints may be constructed parallel to Q of bridge for skews to 10° only.

*Vertical construction joints may be constructed parallel to Q of bridge for skews to 10° only.

Δ 2' 0" for tangent bridge superstructures. Varies 2' 0" minimum for curved bridge superstructures.
*Vertical construction joints may be constructed parallel to E of bridge for skew to 10° only.

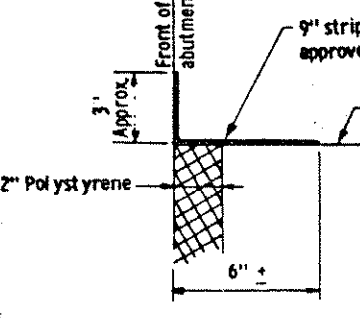
LAYOUTS FOR SLOPES 2:1 OR FLATTER

LAYOUTS FOR SLOPES STEEPER THAN 2:1

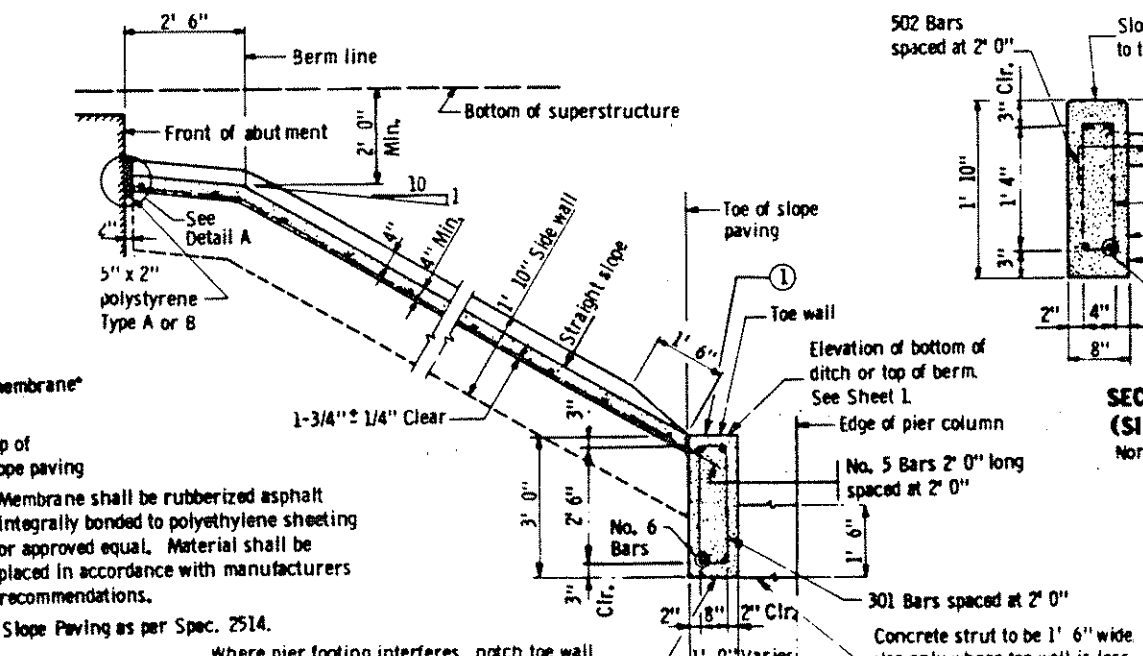
LAYOUTS FOR SLOPES AT HIGH ABUTMENTS

CONCRETE & REINFORCEMENT UNIT QUANTITIES

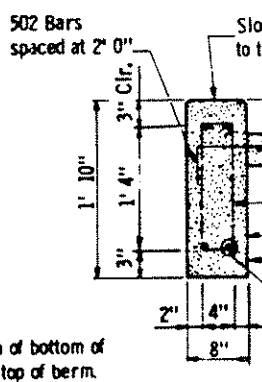
- ① 3.00 Sq. Ft. of concrete/Lin. Ft. 1.41 Lbs. of reinforcement/Lin. Ft.
- ② 1.23 Sq. Ft. of concrete/Lin. Ft. 4.46 Lbs. of reinforcement/Lin. Ft.
- ③ 1.56 Sq. Ft. of concrete/Lin. Ft. 3.70 Lbs. of reinforcement/Lin. Ft. Based on a slope of 2:1
- ④ .33 Cu. Ft. of concrete/Sq. Ft. .50 Lbs. of reinforcement/Sq. Ft.



DETAIL A

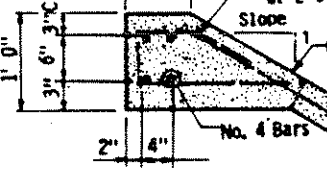


SECTION A-A

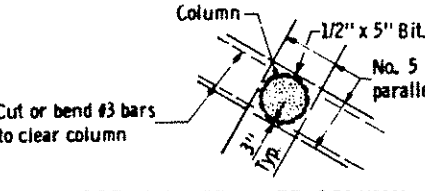


SECTION B-B (SIDE WALL)

Normal to slope



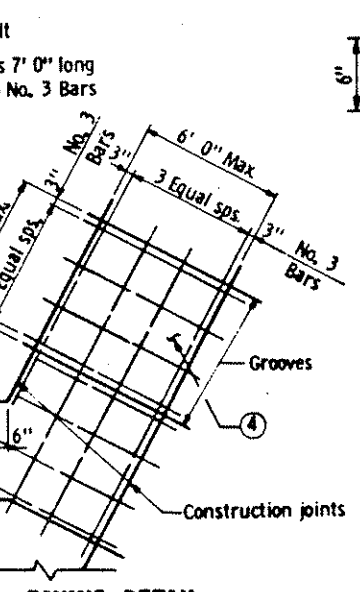
SECTION C-C (STEEPER THAN 2:1)



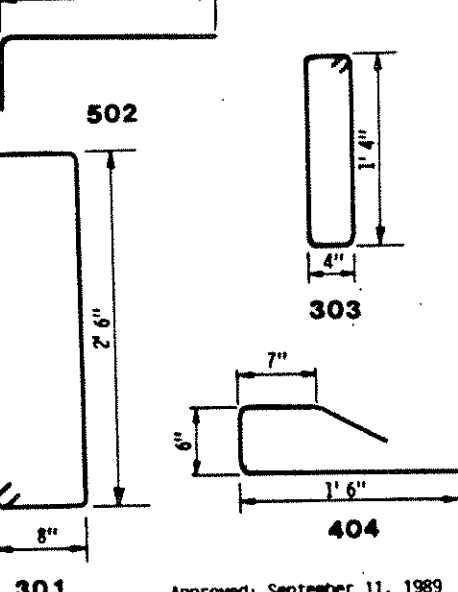
DETAIL WHERE PIER COLUMN EXTENDS THRU SLOPE PAVING



SECTION D-D (HIGH ABUTMENTS)

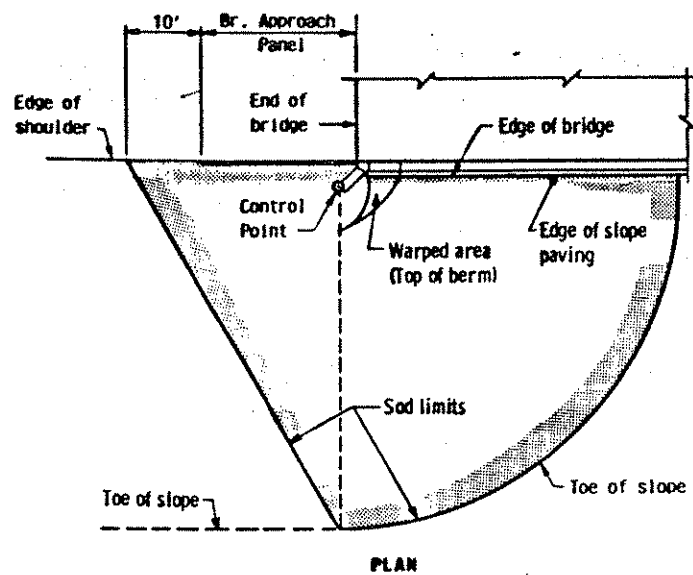


PAVING DETAIL

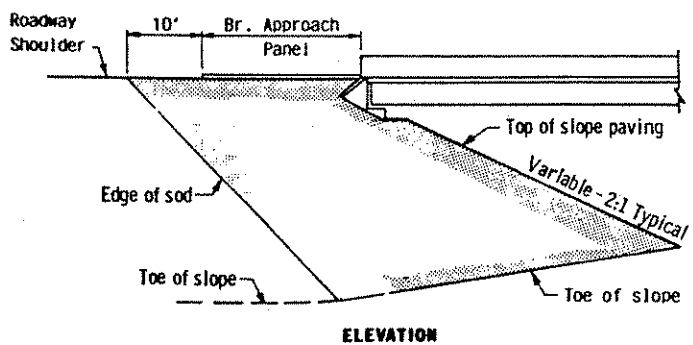


Approved: September 11, 1989

TITLE		S.A.P. 02-601-32		BRIDGE No.	
CONCRETE SLOPE PAVING UNDER BRIDGES		Sheet No. 6 of 48 Sheets			
DES:	DR:	APPROVED:			
CHEK:	CHEK:				

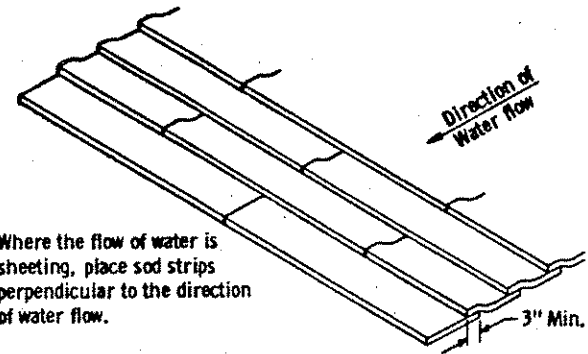


PLAN

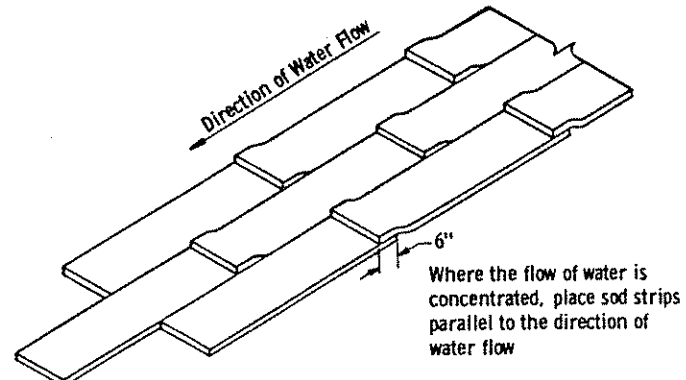


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

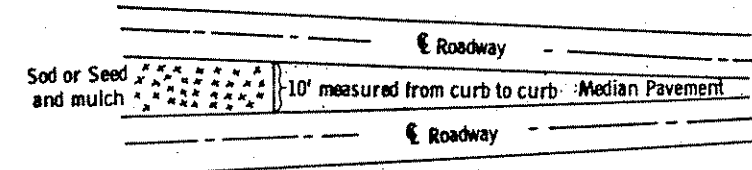


SHINGLING SOD

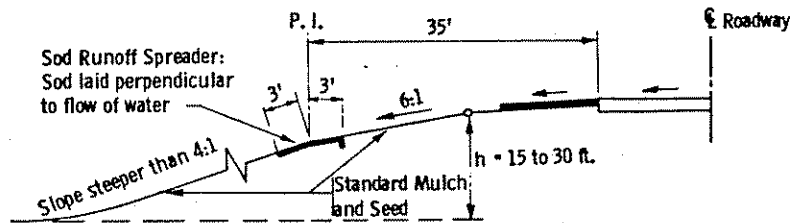


OVERLAPPING SOD

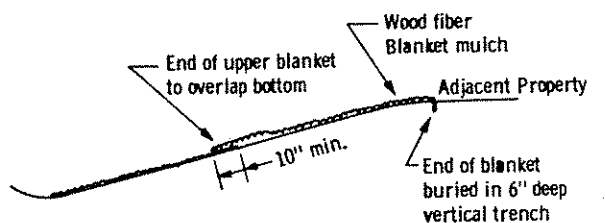
SPECIAL SOD PLACEMENT TECHNIQUES



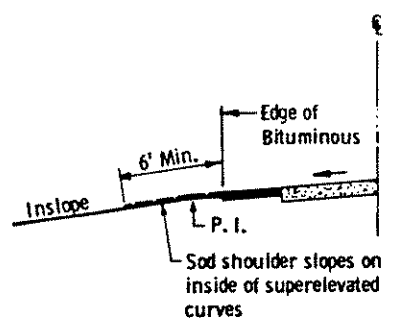
SODDING LIMITS AT GORE AREA



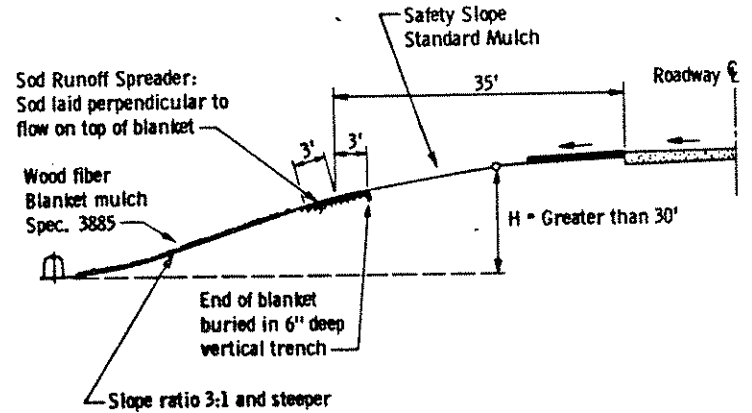
BROKEN - BACK SAFETY FILL SLOPE



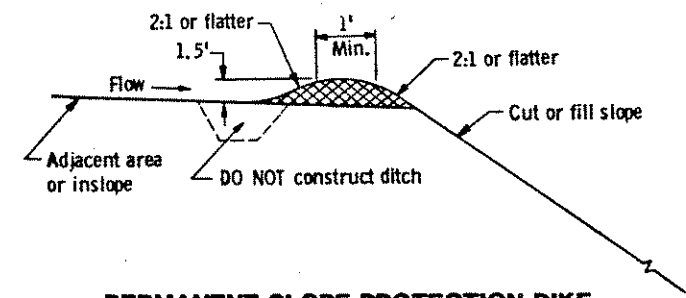
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



SODDING INSLOPES OF SUPERELEVATED CURVES

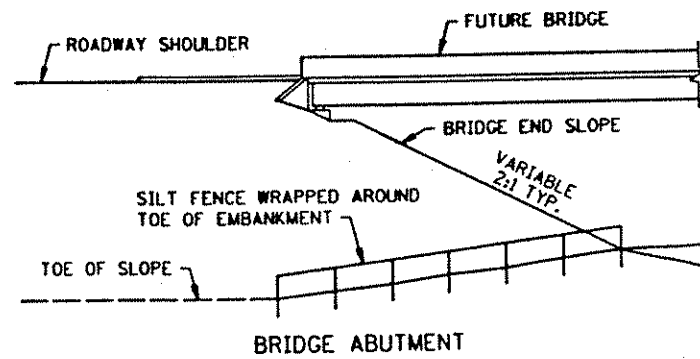
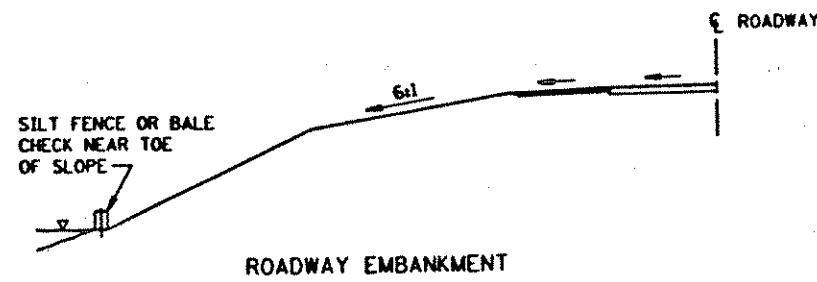


WOOD FIBER BLANKET INSTALLATION ON A BACKSLOPE (WHEN REQUIRED)

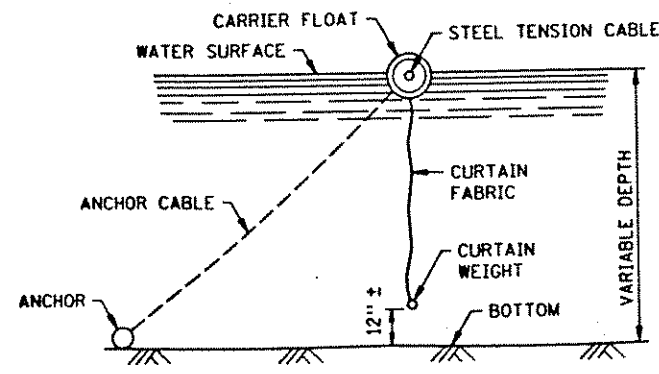


PERMANENT SLOPE PROTECTION DIKE

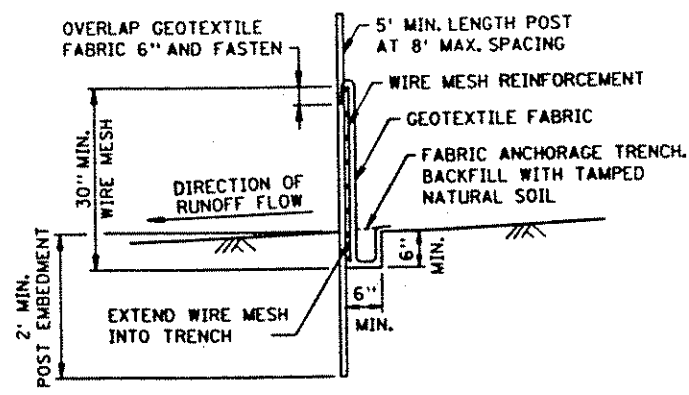
APPROVED January 31, 1985
 R. O. [Signature]
 Director
 OFFICE OF ENGINEERING STANDARDS



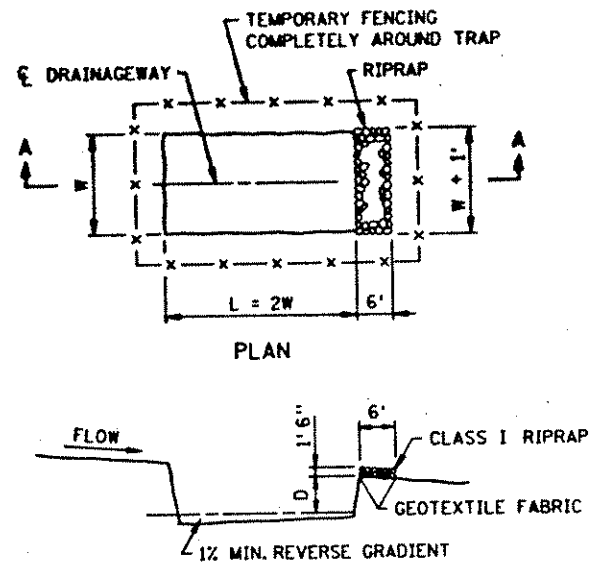
BRIDGE ABUTMENT
SILT FENCE OR BALE CHECK
TO PROTECT ADJACENT CRITICAL AREAS



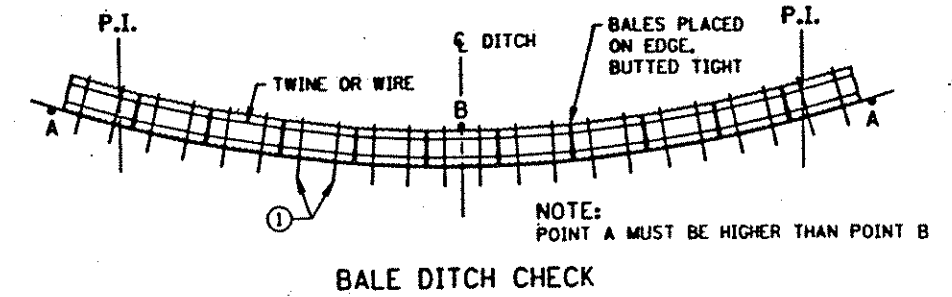
FLOATATION SILT CURTAIN



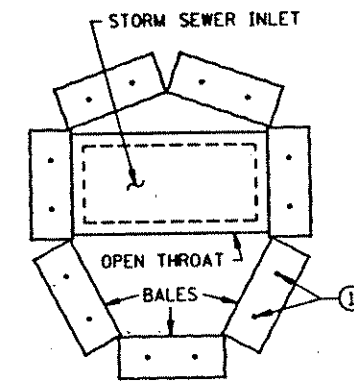
SILT FENCE DETAIL



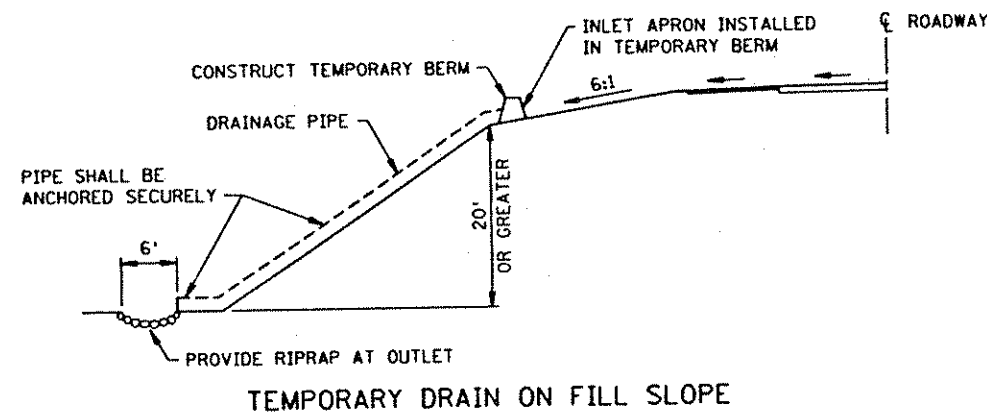
SECTION A-A
TEMPORARY SEDIMENT TRAP
NOTE:
D = 3' MIN., 6' MAX.
W = 10' MIN., 20' MAX.



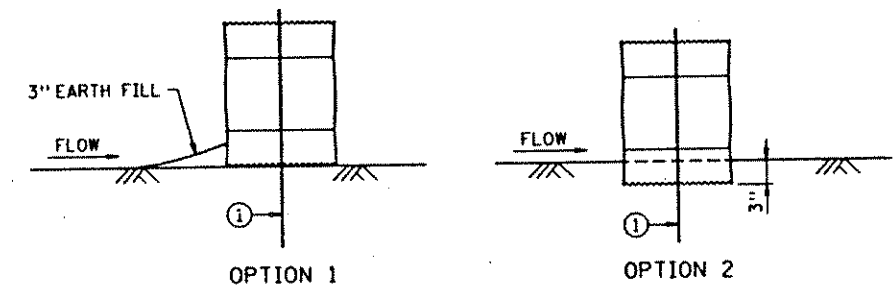
BALE DITCH CHECK



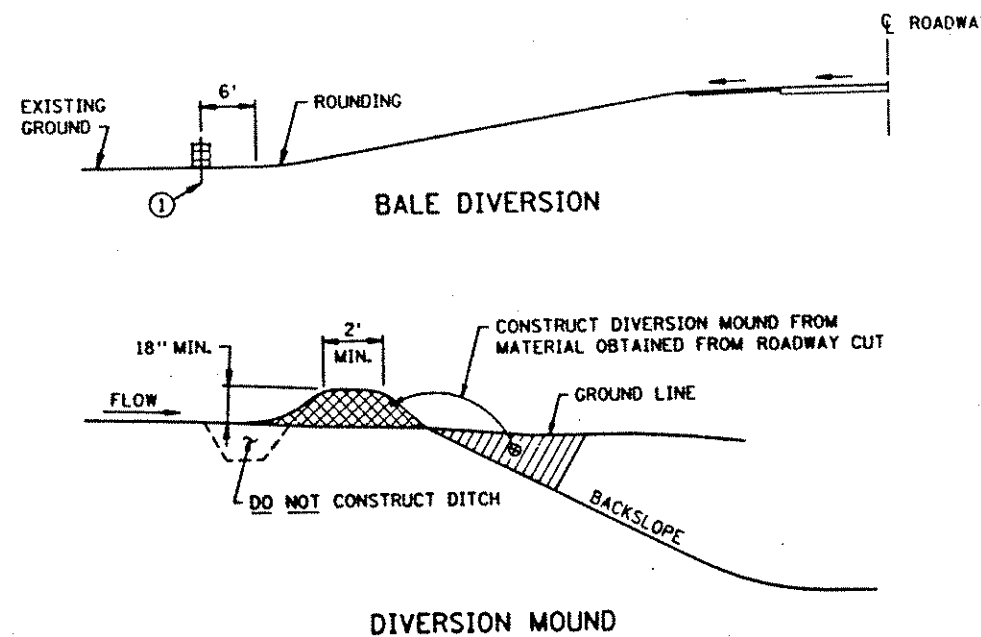
BALE CHECK
TO PROTECT STORM SEWER INLETS



TEMPORARY DRAIN ON FILL SLOPE



BALE CHECK DETAILS

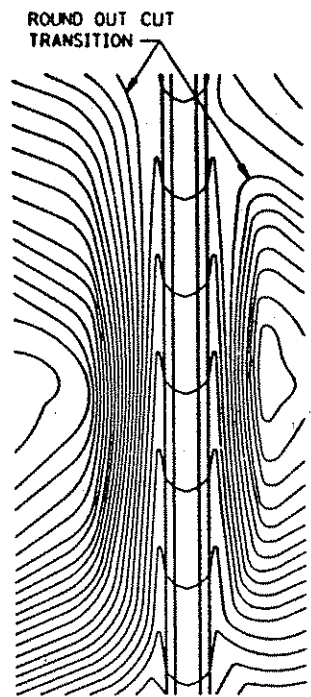


DIVERSION MOUND

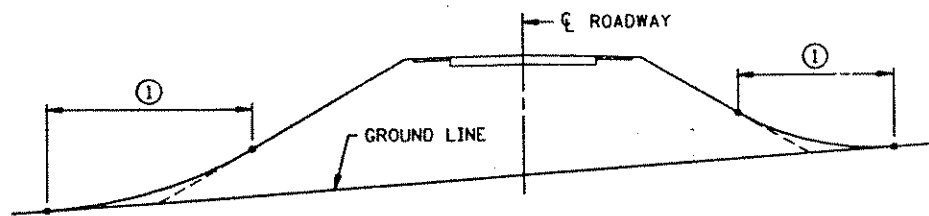
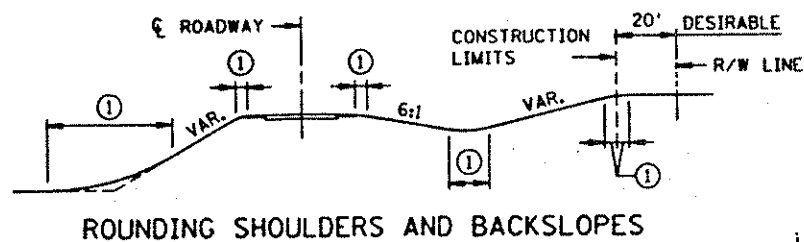
NOTE:
① TWO 2" X 2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10" MINIMUM.

VAX780 05A31(45,100) FILE NAME 5405L30.SPN

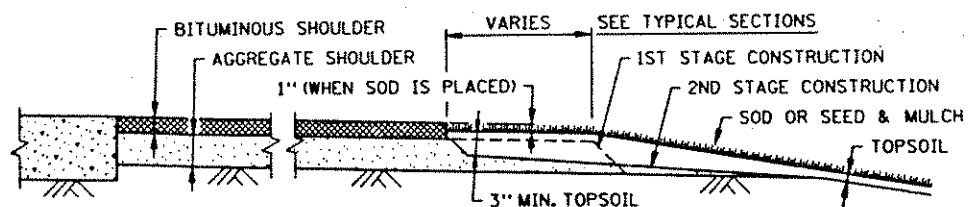
STANDARD SHEET NO. 5-297.405	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: DECEMBER 19, 1990	
STATE PROJ. NO. S.A.P. 02-601-32	SHEET NO. 8 OF 48 SHEETS



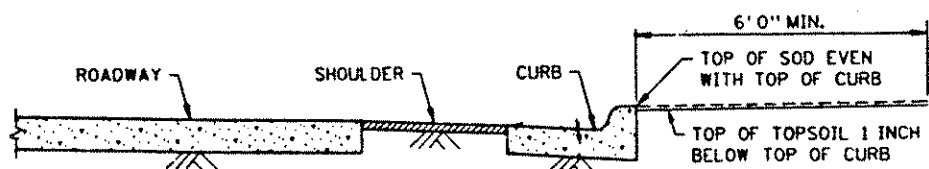
CONTOURING ROAD CUTS



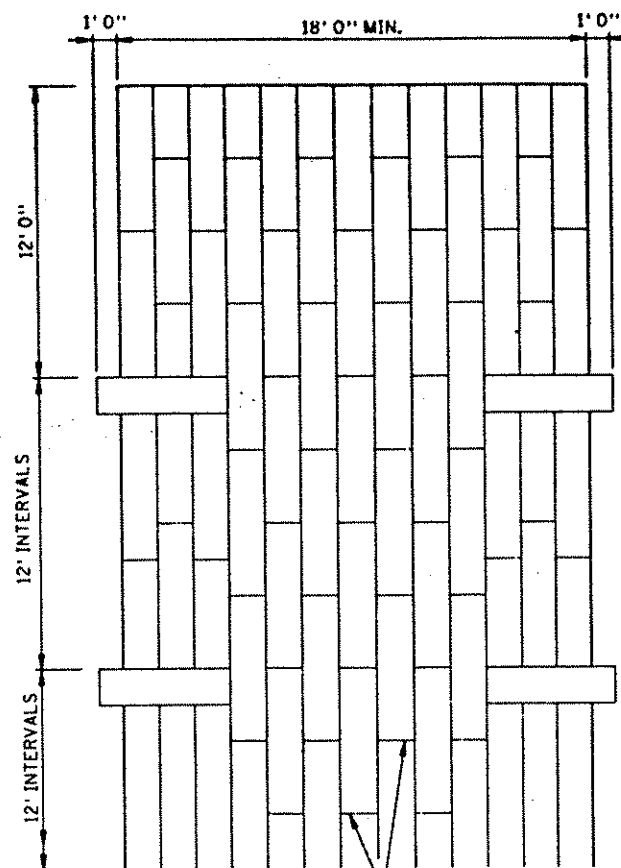
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



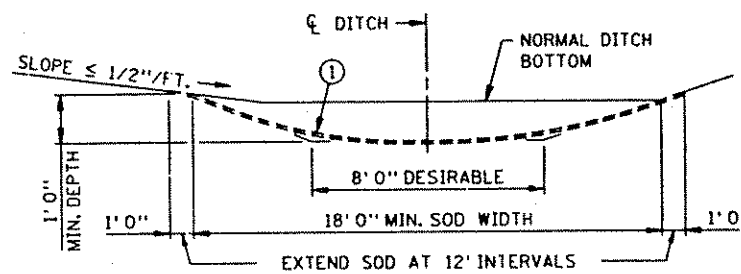
SHAPING AND TOPSOILING INSLOPES



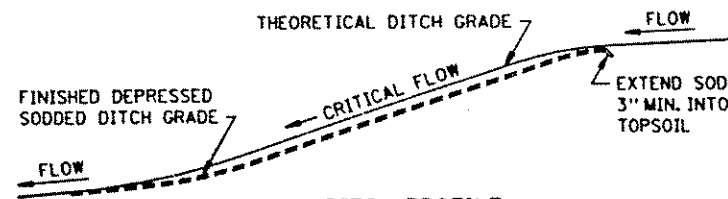
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



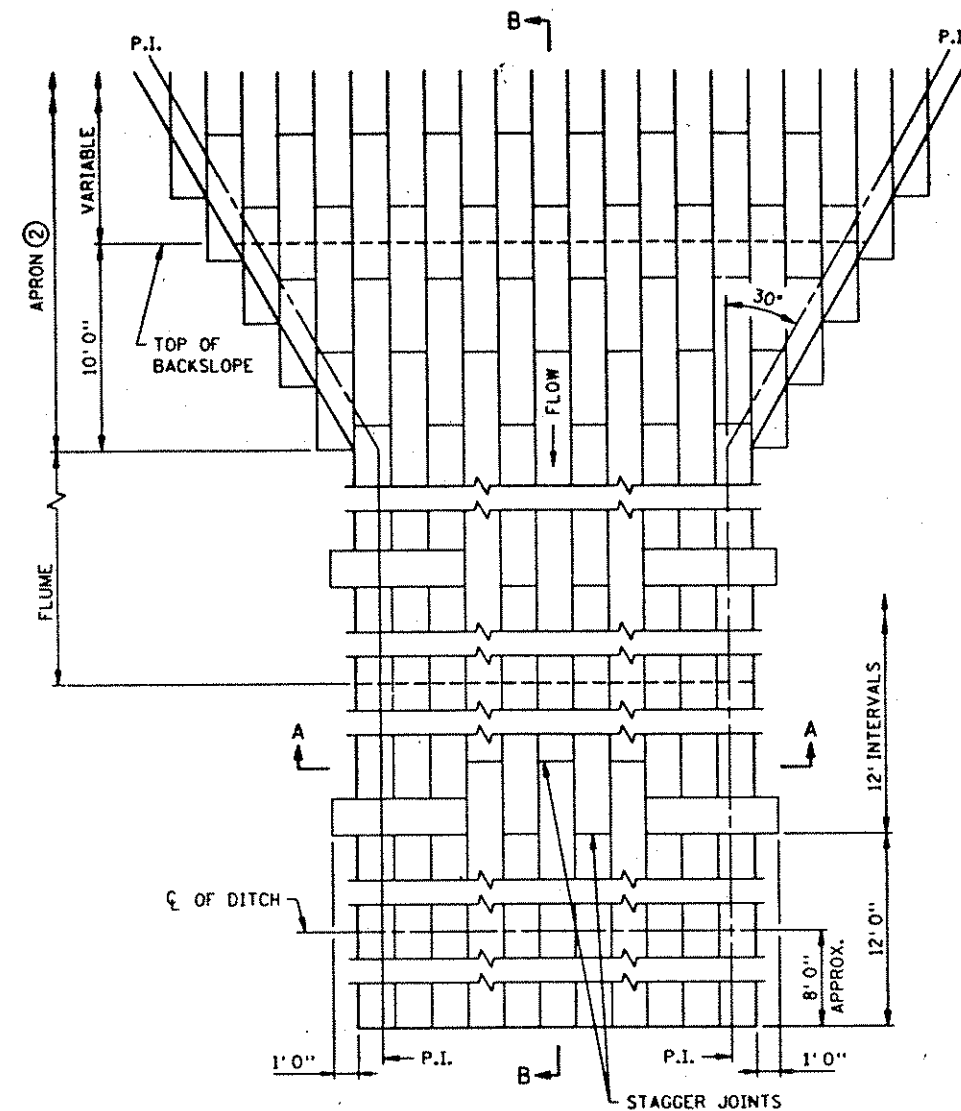
PLAN VIEW



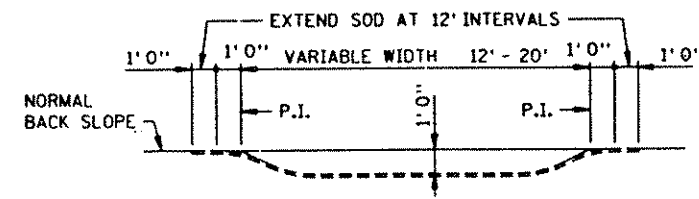
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.),
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



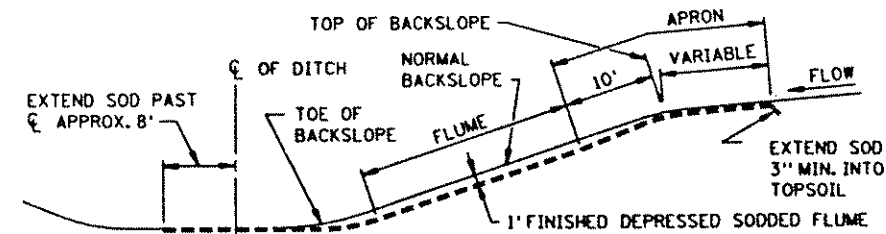
DITCH PROFILE
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



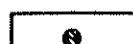


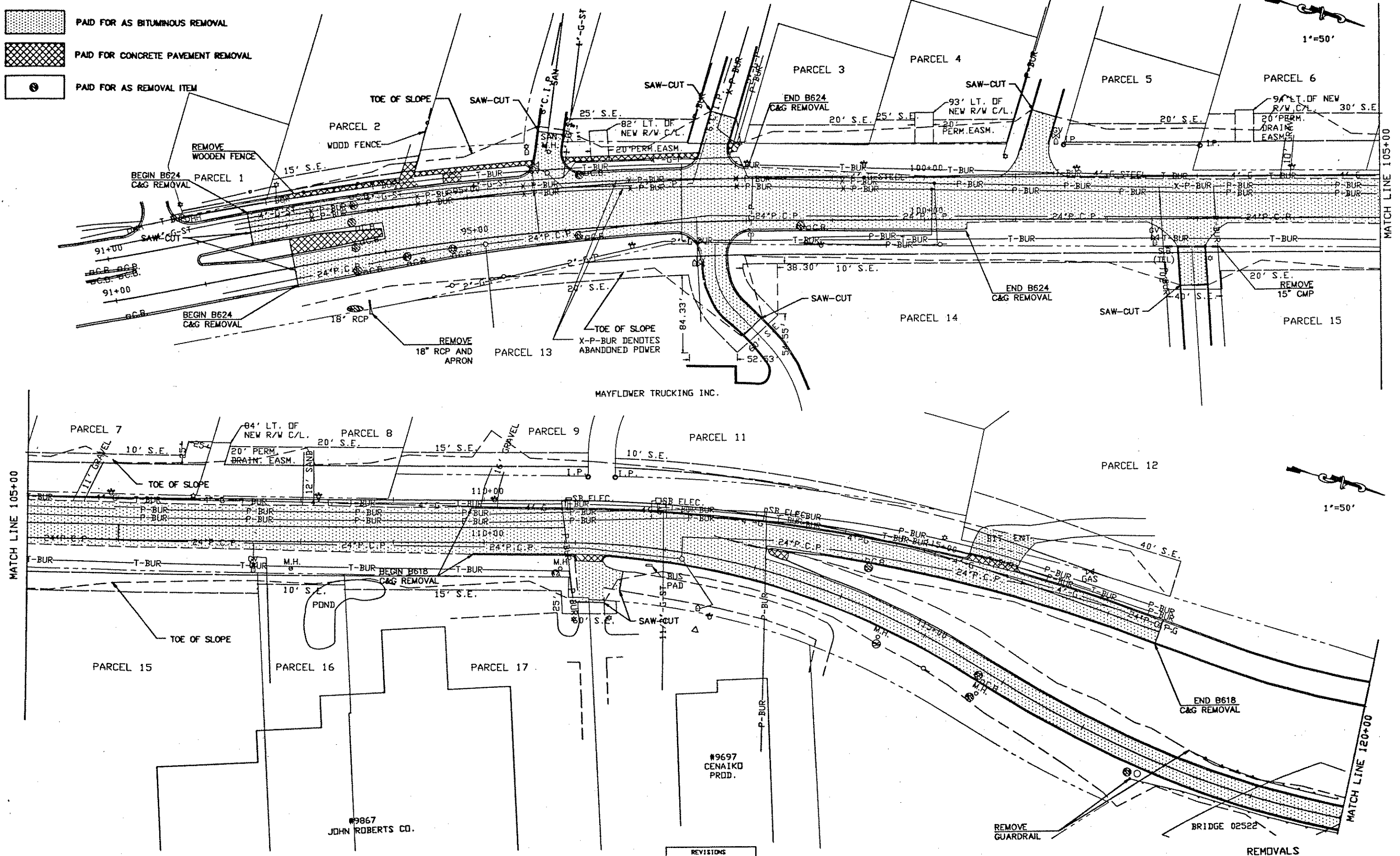
SECTION B-B
SODDED FLUME DETAILS

- 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	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: DECEMBER 19, 1990	
STATE PROJ. NO. S.A.P. 02-601-32	SHEET NO. 9 OF 48 SHEETS

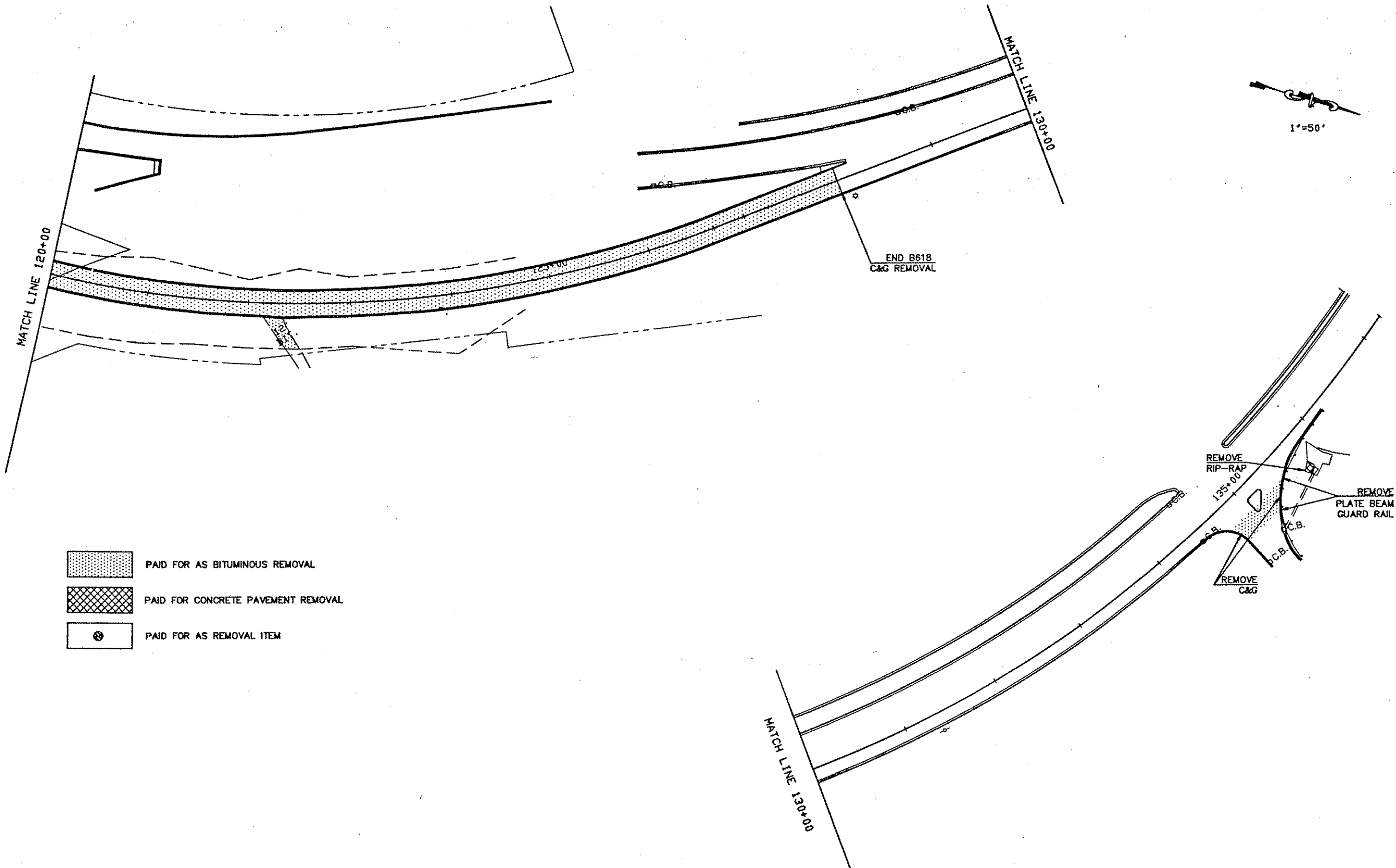
VAX780 Q5A3:[45,100] FILE NAME S404L90.SPN


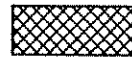

-  PAID FOR AS BITUMINOUS REMOVAL
-  PAID FOR CONCRETE PAVEMENT REMOVAL
-  PAID FOR AS REMOVAL ITEM



REVISIONS			
DATE	BY	DATE	BY

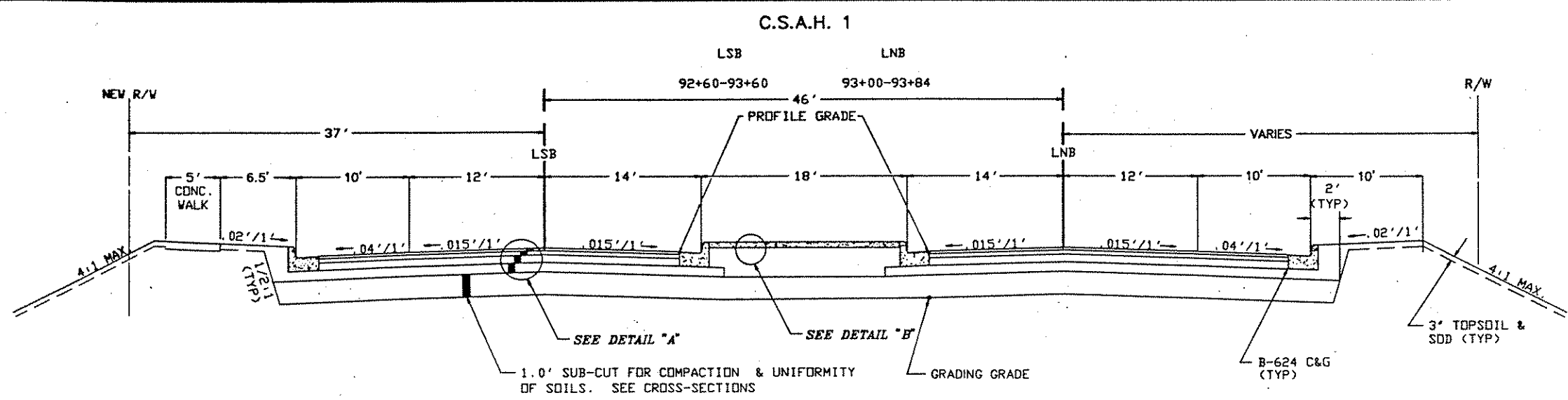
S.A.P. 02-601-32 S.P. _____ C.P. _____



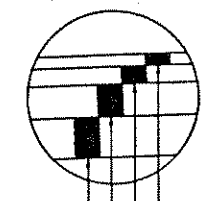
-  PAID FOR AS BITUMINOUS REMOVAL
-  PAID FOR CONCRETE PAVEMENT REMOVAL
-  PAID FOR AS REMOVAL ITEM

REVISIONS			
DATE	BY	DATE	BY

S.A.P. 02-601-32 S.P. _____ C.P. _____



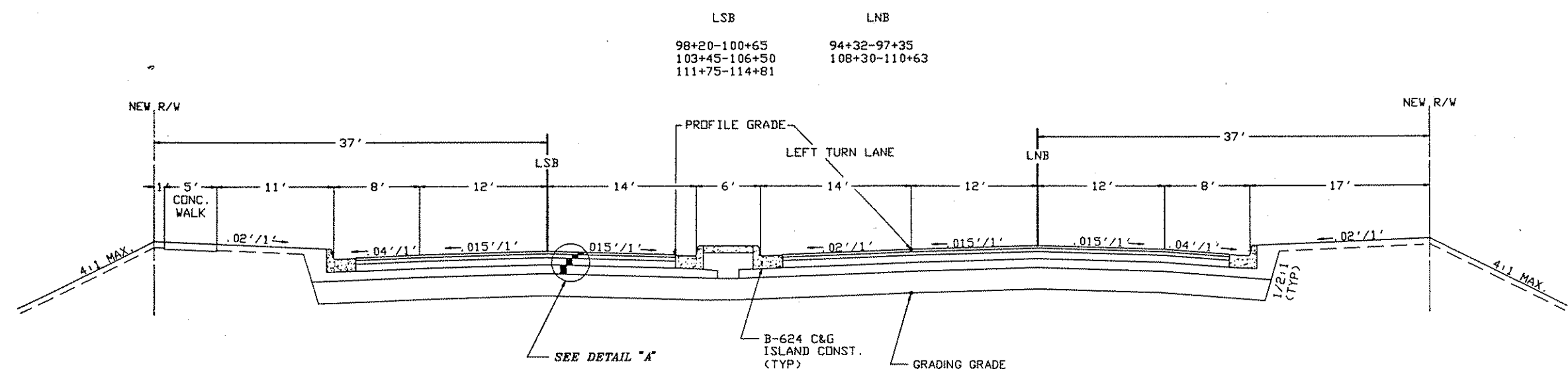
DETAIL "A"



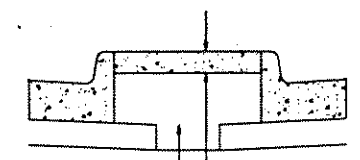
- 1½" TYPE 41 WEARING COURSE-SPEC.2331
- 2" TYPE 31 BINDER COURSE-SPEC.2331
- 4" TYPE 31 BASE COURSE-SPEC.2331
- 5" AGG. BASE CL.-5A

TACK COAT-SPEC.2357, TO BE APPLIED BETWEEN ALL BITUMINOUS LIFTS.

C.S.A.H. 1 - LEFT TURN LANES

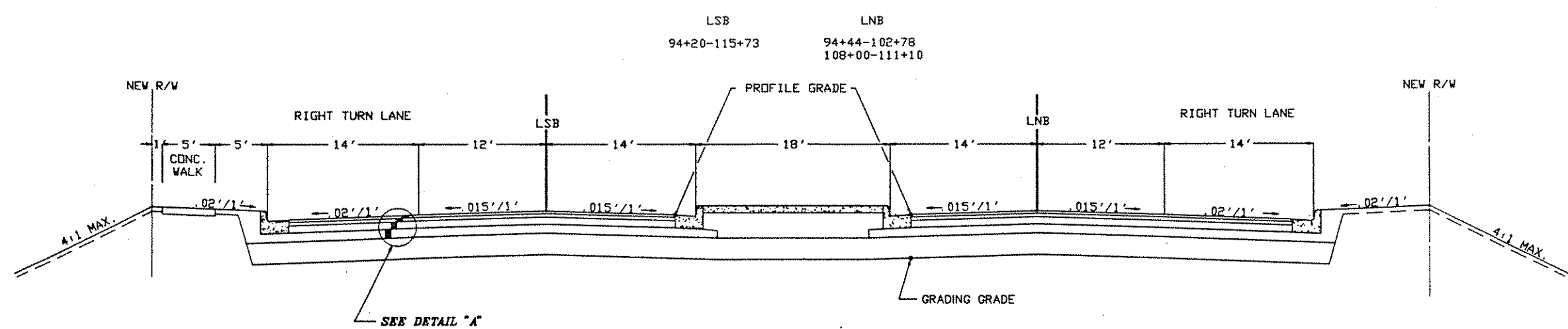


DETAIL "B"



4" CONC. MEDIAN GRANULAR FILL

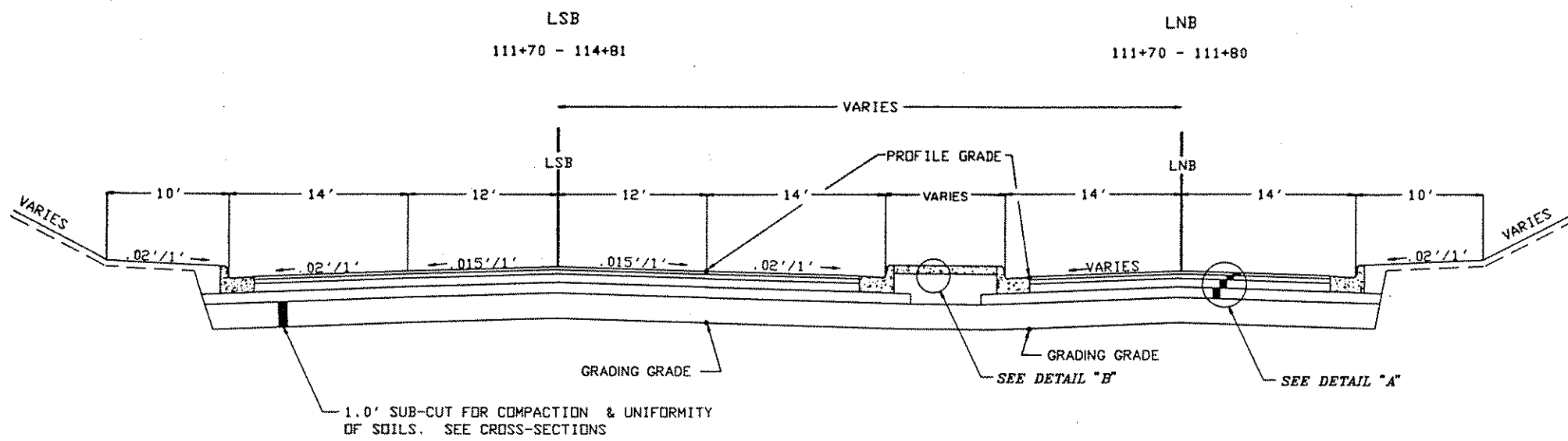
C.S.A.H. 1 - RIGHT TURN LANES



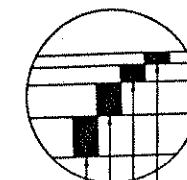
TYPICAL SECTIONS

REVISIONS			
DATE	BY	DATE	BY

C.S.A.H. 1



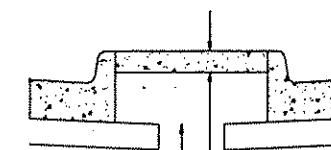
DETAIL "A"



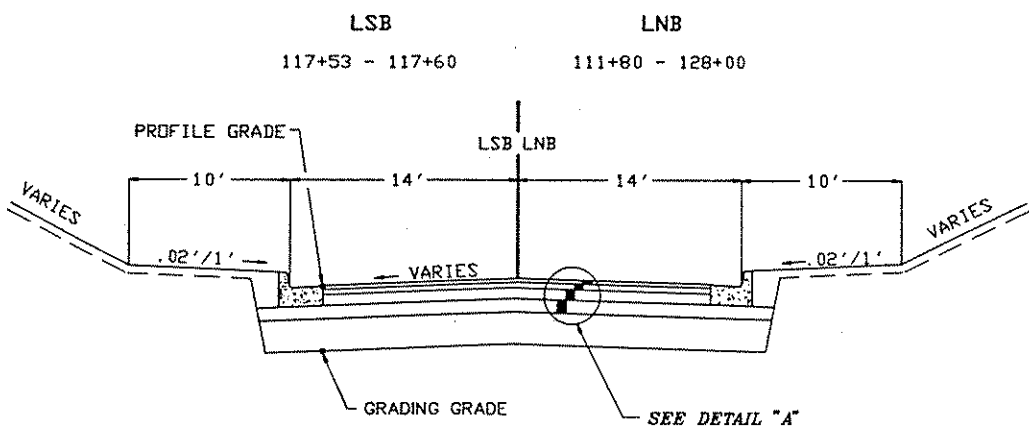
- 1 1/2" TYPE 41 WEARING COURSE-SPEC.2331
- 2" TYPE 31 BINDER COURSE-SPEC.2331
- 4" TYPE 31 BASE COURSE-SPEC.2331
- 5" AGG. BASE CL.-5A

TACK COAT-SPEC.2357, TO BE APPLIED BETWEEN ALL BITUMINOUS LIFTS.

DETAIL "B"

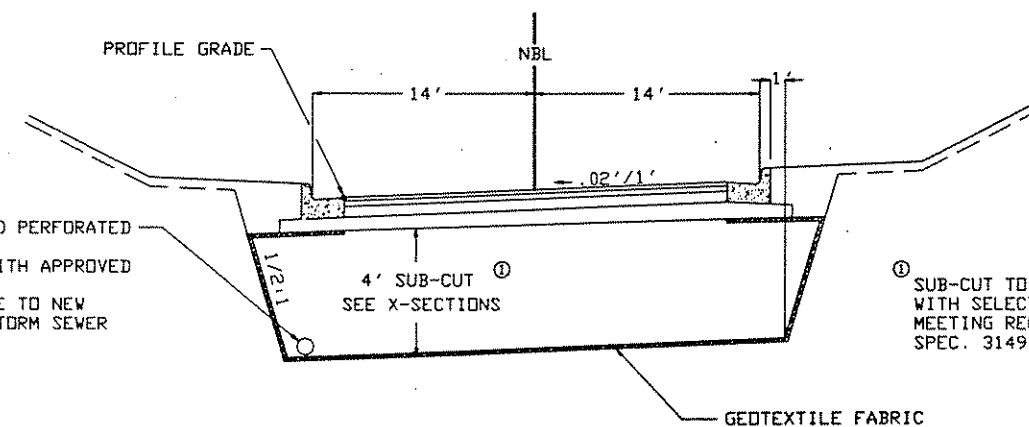


- 4" CONC. MEDIAN
- GRANULAR FILL



LNB SUBGRADE CORRECTION AREA

115+60 - 123+90



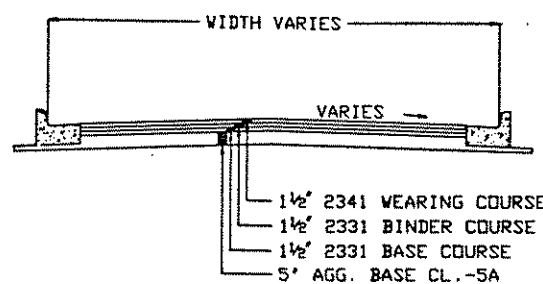
3" P.E. CORRUGATED PERFORATED PIPE DRAIN (TYP)
 WRAP PERF. PIPE WITH APPROVED FILTER PLASTIC.
 CONNECT PERF. PIPE TO NEW AND OR EXISTING STORM SEWER STRUCTURES.

① SUB-CUT TO BE BACKFILLED WITH SELECT GRANULAR MATERIAL MEETING REQUIREMENTS OF SPEC. 3149

NOTE: BEGIN 20:1 VERTICAL TAPER @ STA. 115+00 - 115+60 AND FROM 123+90-124+50'

COMMERCIAL ENTRANCE TYPICAL

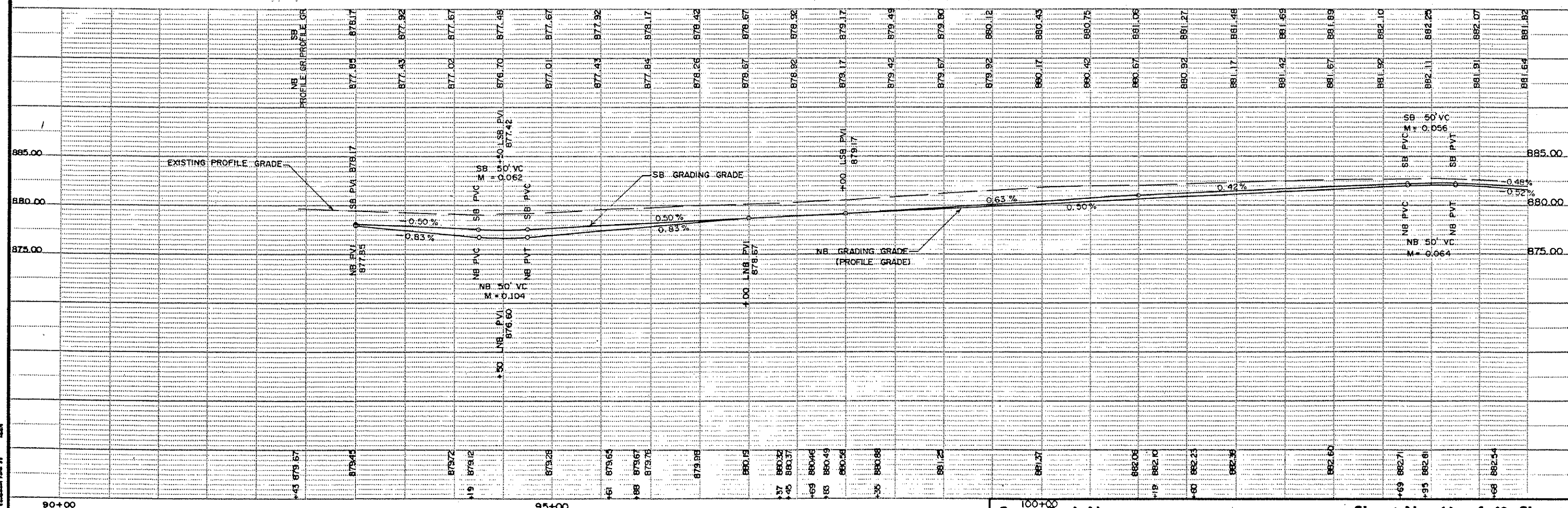
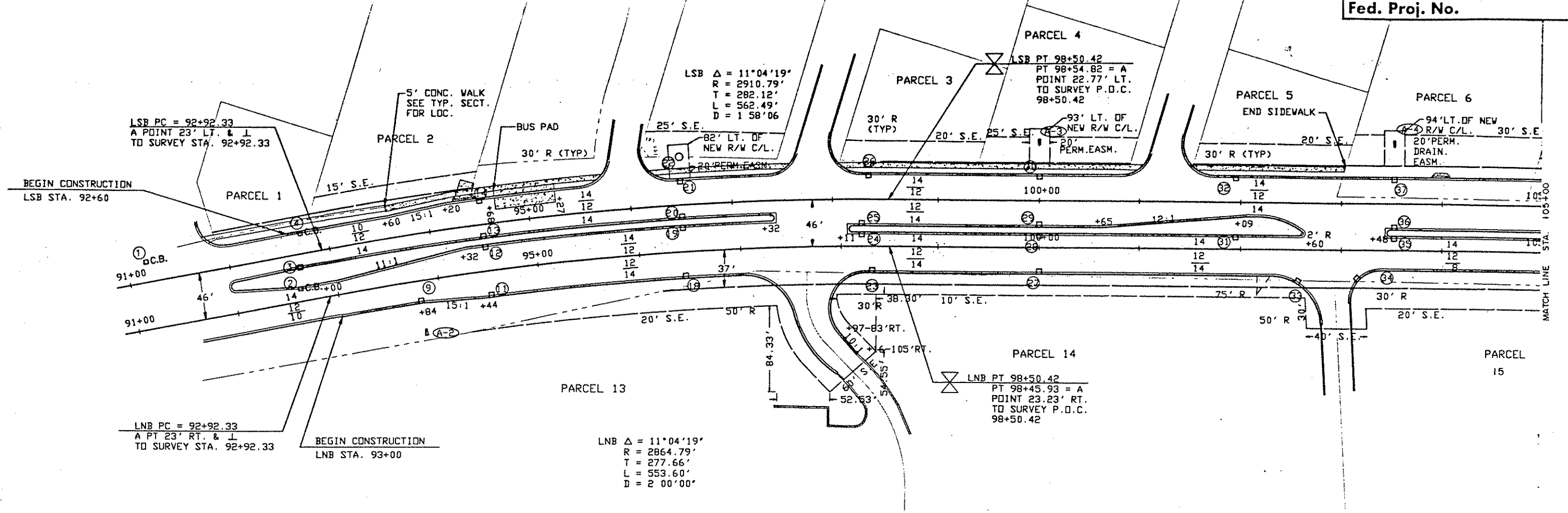
- LNB 97+60 RT (MAYFLOWER ENTRANCE)
- LNB 102+90 RT (JOHN ROBERTS ENTRANCE)
- LNB 111+18 RT (CENAICO PROD. ENTRANCE)

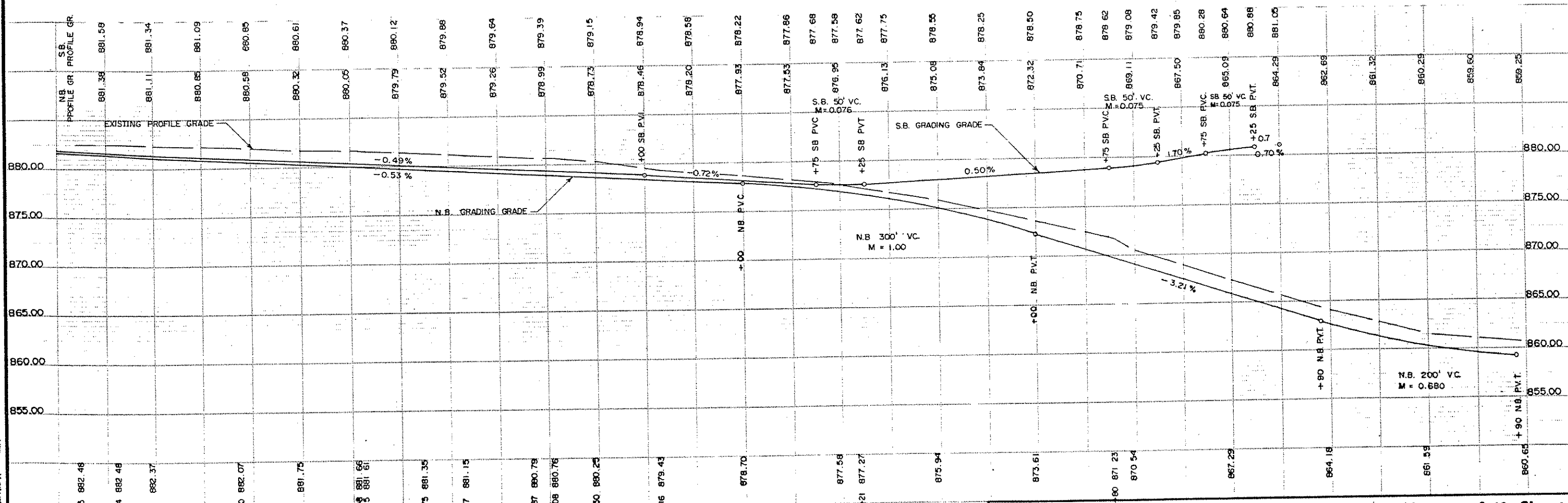
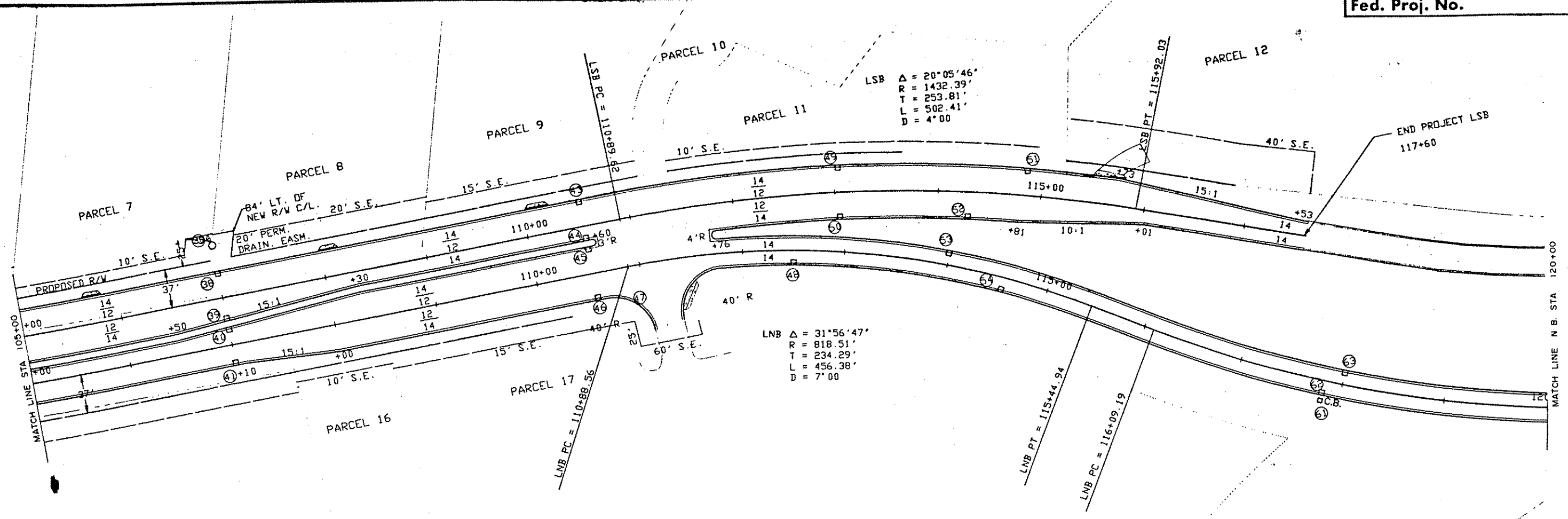


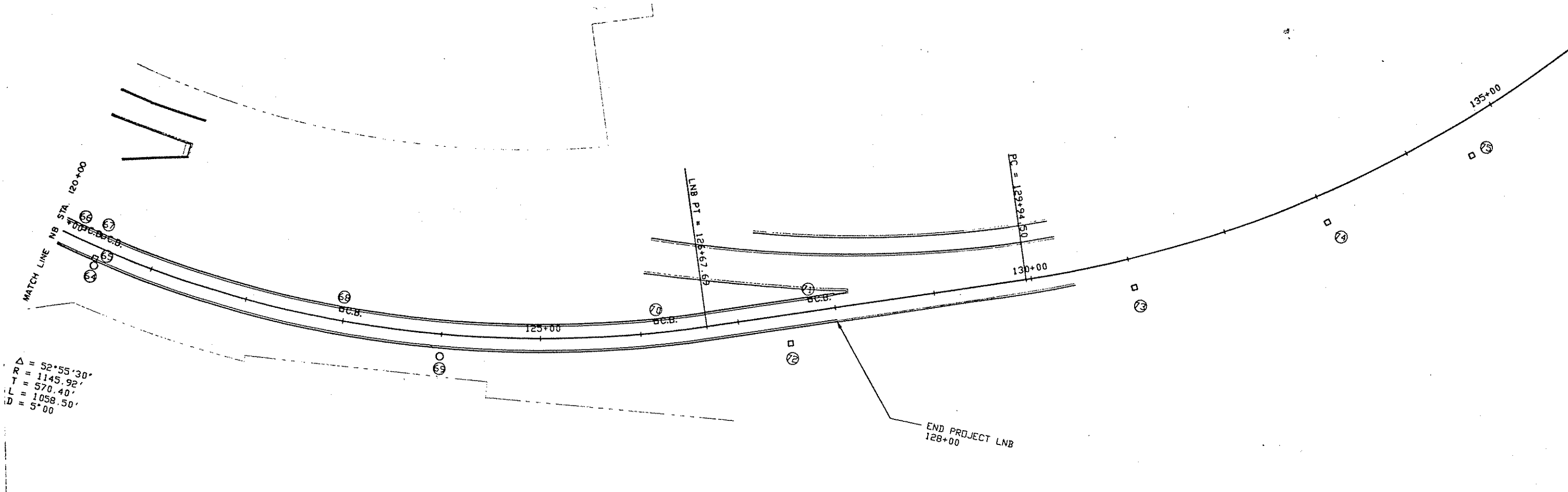
REVISIONS			
DATE	BY	DATE	BY

S.A.P. 02-601-32 S.P. _____ C.P. _____

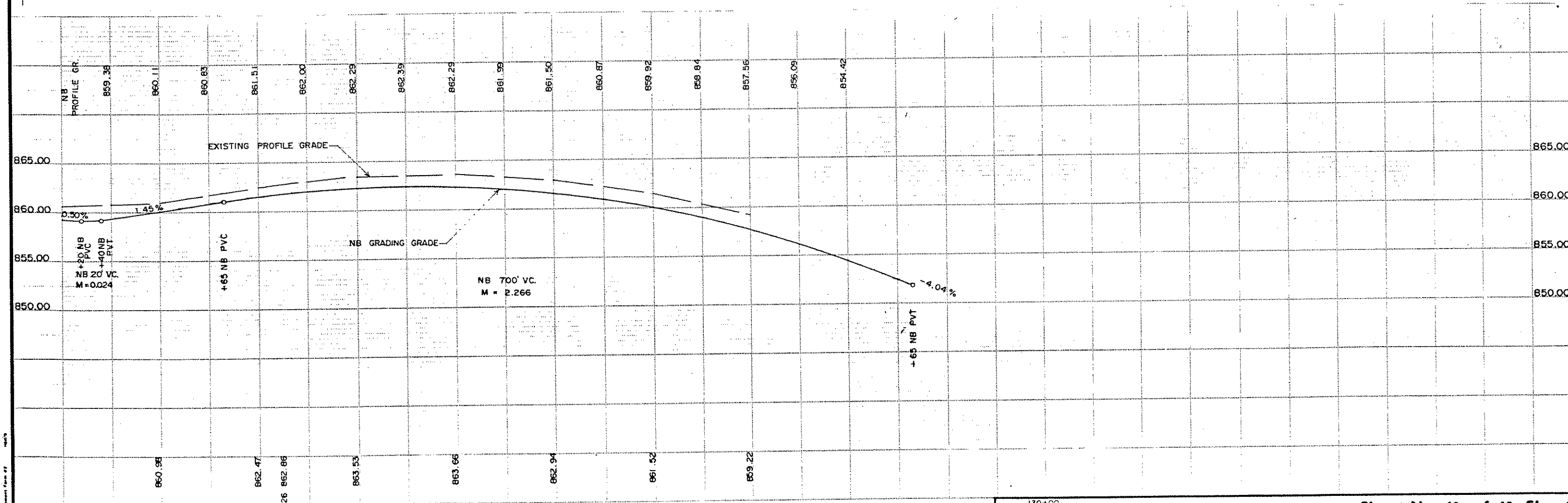
TYPICAL SECTIONS







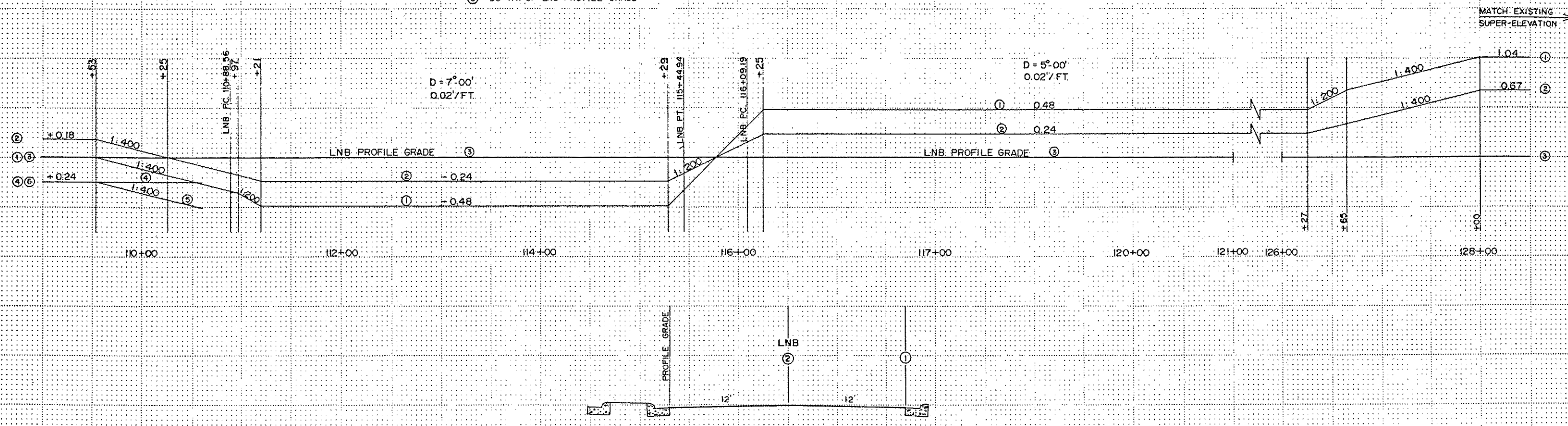
$\Delta = 52^\circ 55' 30''$
 $R = 1145.92'$
 $T = 570.40'$
 $L = 1058.50'$
 $D = 5^\circ 00'$



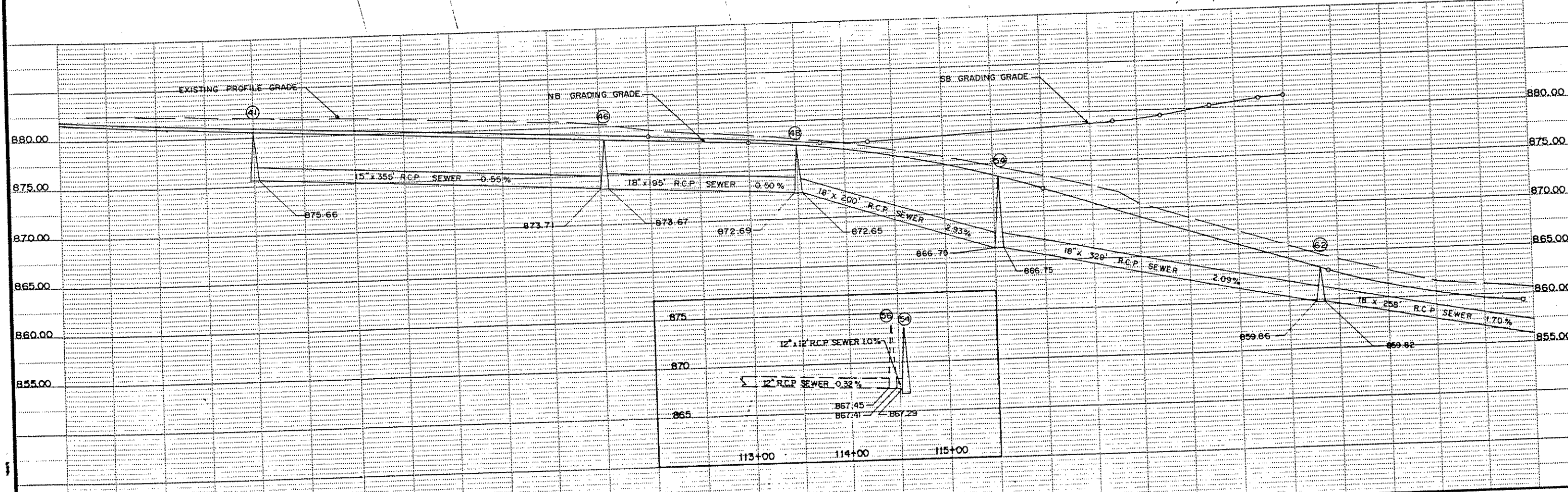
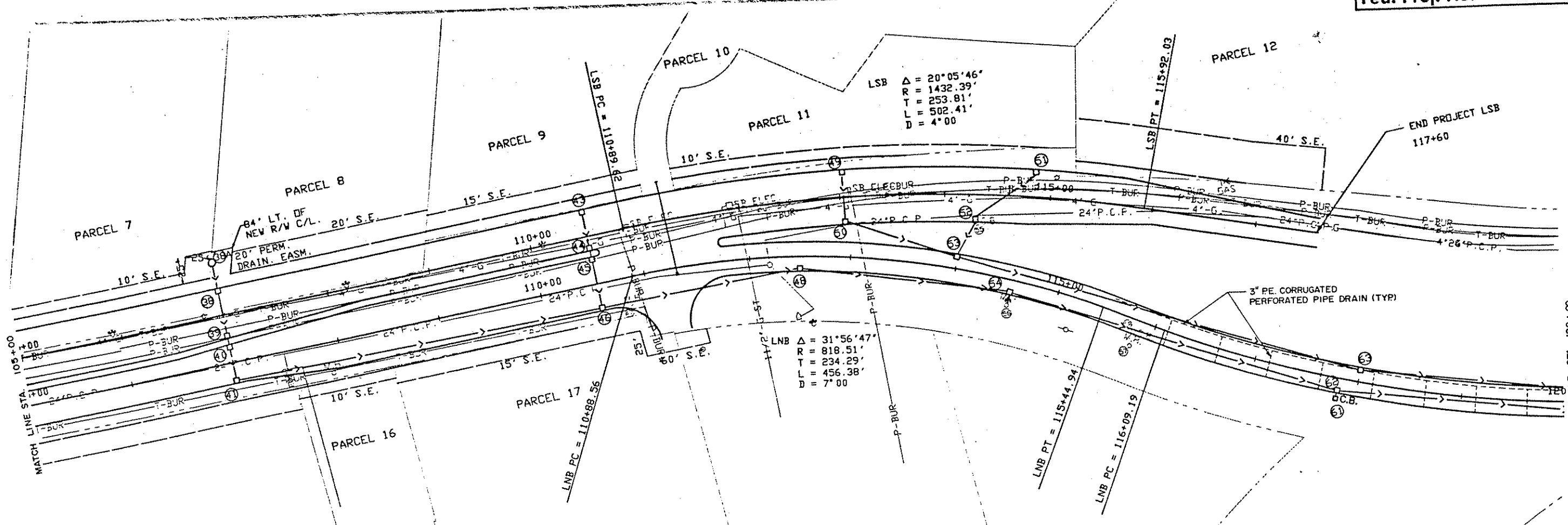
Civil Engineering Form #1
 11/87

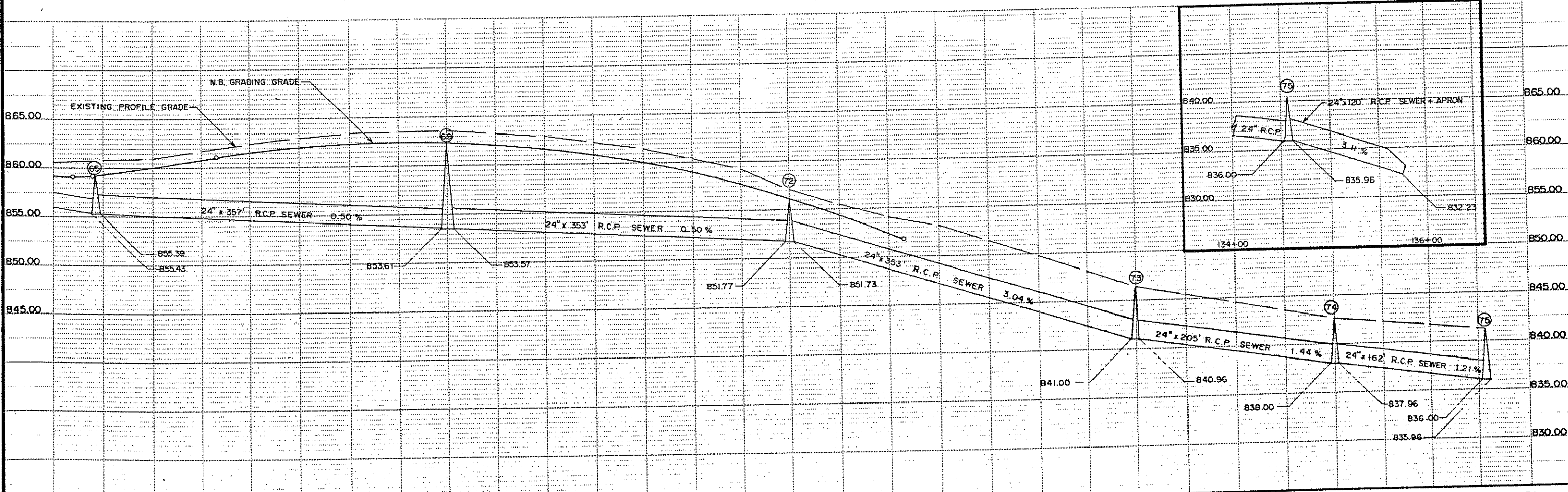
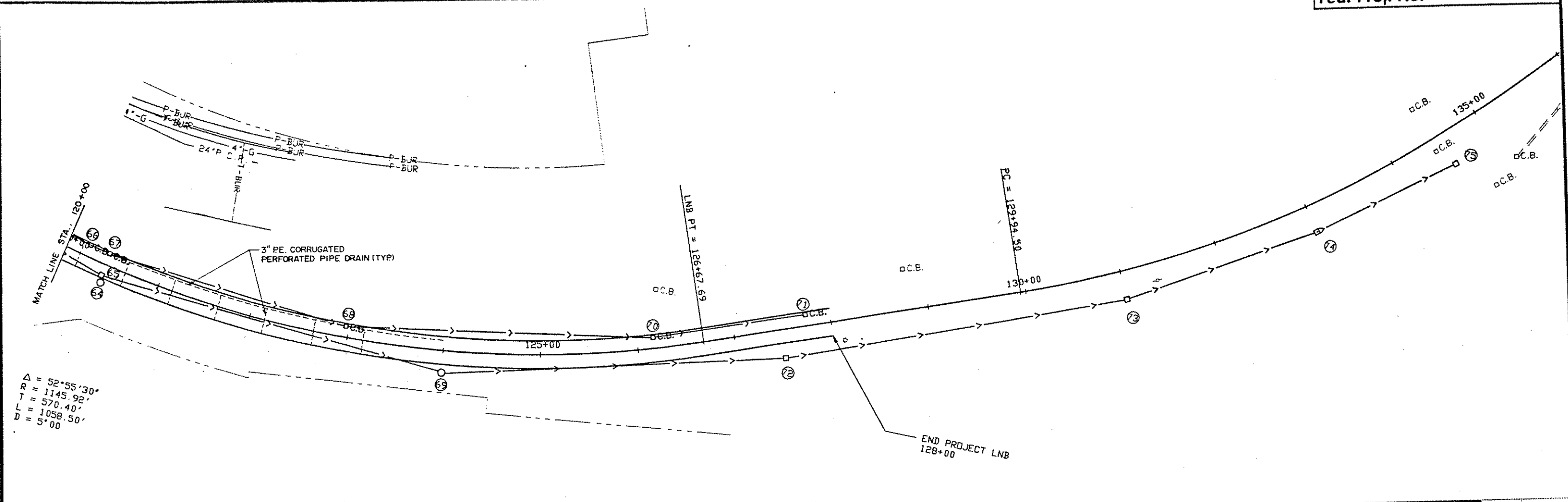
SUPER-ELEVATION
DESIGN SPEED 45 MPH

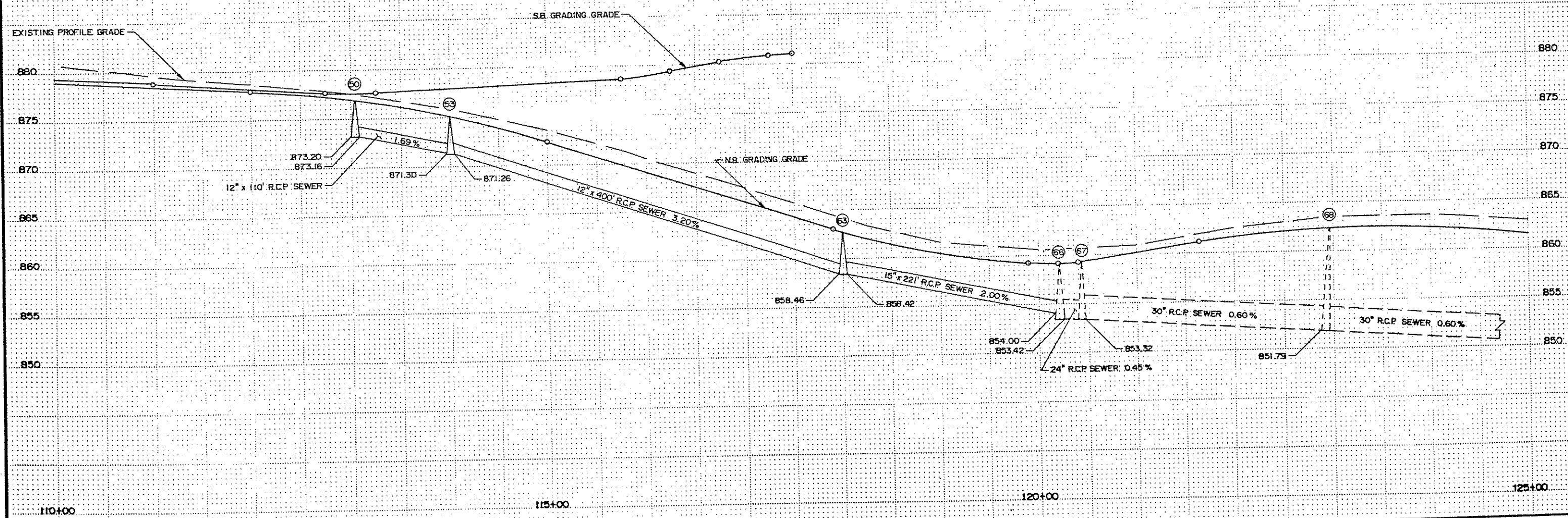
- ① - 24' RT. OF LNB PROFILE GRADE
- ② - 12' RT. OF LNB PROFILE GRADE
- ③ - LNB PROFILE GRADE
- ④ - 12' LT. OF LNB PROFILE GRADE
- ⑤ - 36' RT. OF LNB PROFILE GRADE



COPY EQUIPMENT MODEL 21



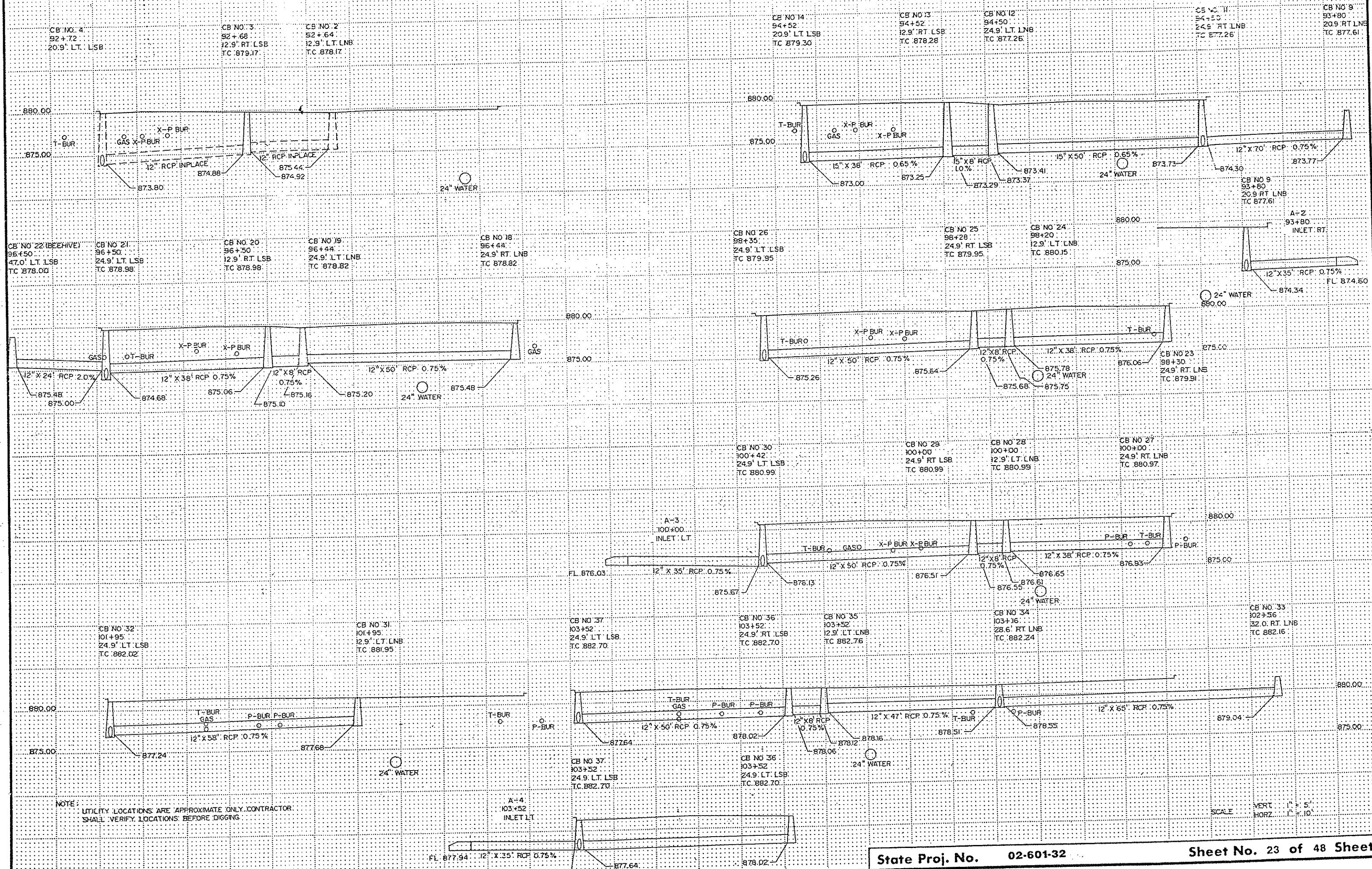




COPY EQUIPMENT FORM 91

STORM SEWER

Fed. Proj. No.



NOTE: UTILITY LOCATIONS ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LOCATIONS BEFORE DIGGING.

SCALE VERT 1" = 5'
HORIZ 1" = 10'

State Proj. No. 02-601-32

Sheet No. 23 of 48 Sheets

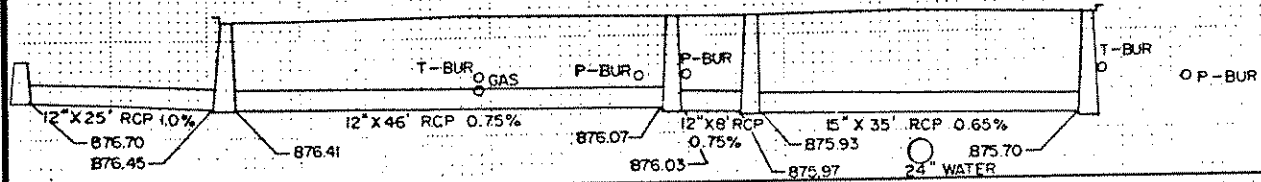
STORM SEWER

CB NO 38 A (BEEHIVE) CB NO 38
 107+00 107+00
 51.0' LT LSB 24.9' LT LSB
 TC 879.00 TC 881.41

CB NO 39
 107+00
 21.5' RT LSB
 TC 881.49

CB NO 40
 107+00
 16.2' LT LNB
 TC 881.33

CB NO 41
 107+00
 18.9' RT LNB
 TC 881.14

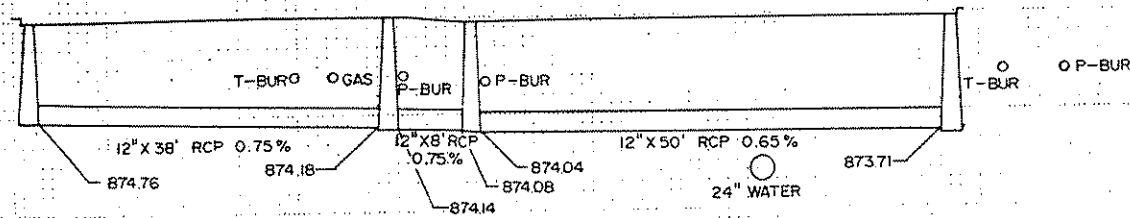


CB NO 43
 110+55
 24.9' LT LSB
 TC 879.71

CB NO 44
 110+55
 12.9' RT LSB
 TC 879.90

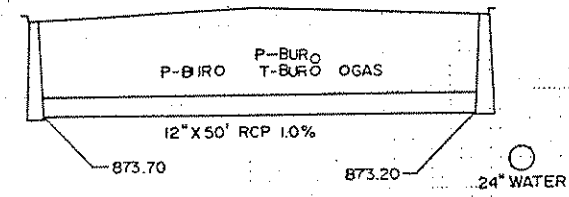
CB NO 45
 110+55
 24.9' LT LNB
 TC 879.27

CB NO 46
 110+55
 24.9' RT LNB
 TC 879.27



CB NO 49
 113+04
 24.9' LT LSB
 TC 878.14

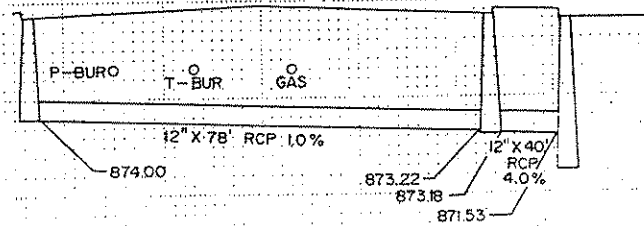
CB NO 50
 113+04
 24.9' LT LSB
 TC 878.14



CB NO 51
 114+50
 24.9' LT LSB
 TC 879.01

CB NO 52
 114+30
 24.9' RT LNB
 TC 878.71

CB NO 53
 114+00
 12.9' LT LNB
 TC 875.88



NOTE: UTILITY LOCATIONS ARE APPROXIMATE ONLY CONTRACTOR SHALL VERIFY LOCATIONS BEFORE DIGGING

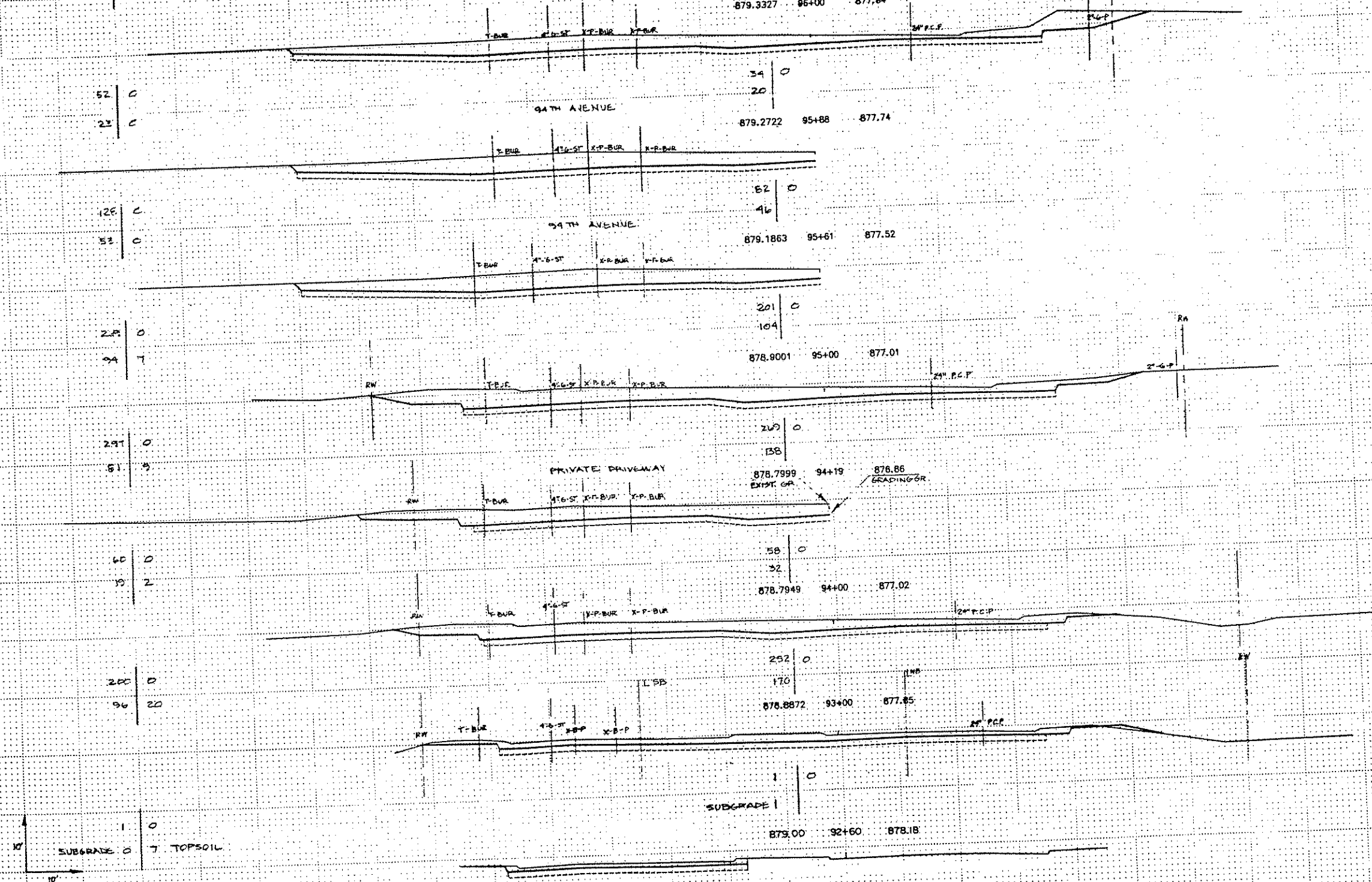
STAGE 2
EXCAVATION EMBANKMENT

STAGE 1
EXCAVATION EMBANKMENT

STAGE 2
EXCAVATION EMBANKMENT

Sub-Total	Cu. Yds.	Cu. Yds.	Sub-Total
206	0		
77	8		

Sub-Total	Cu. Yds.	Cu. Yds.	Sub-Total
135	0		
51	15		



217	0
96	26

146	0
93	17

109	7
SUBGRADE 91	17 TOPSOIL

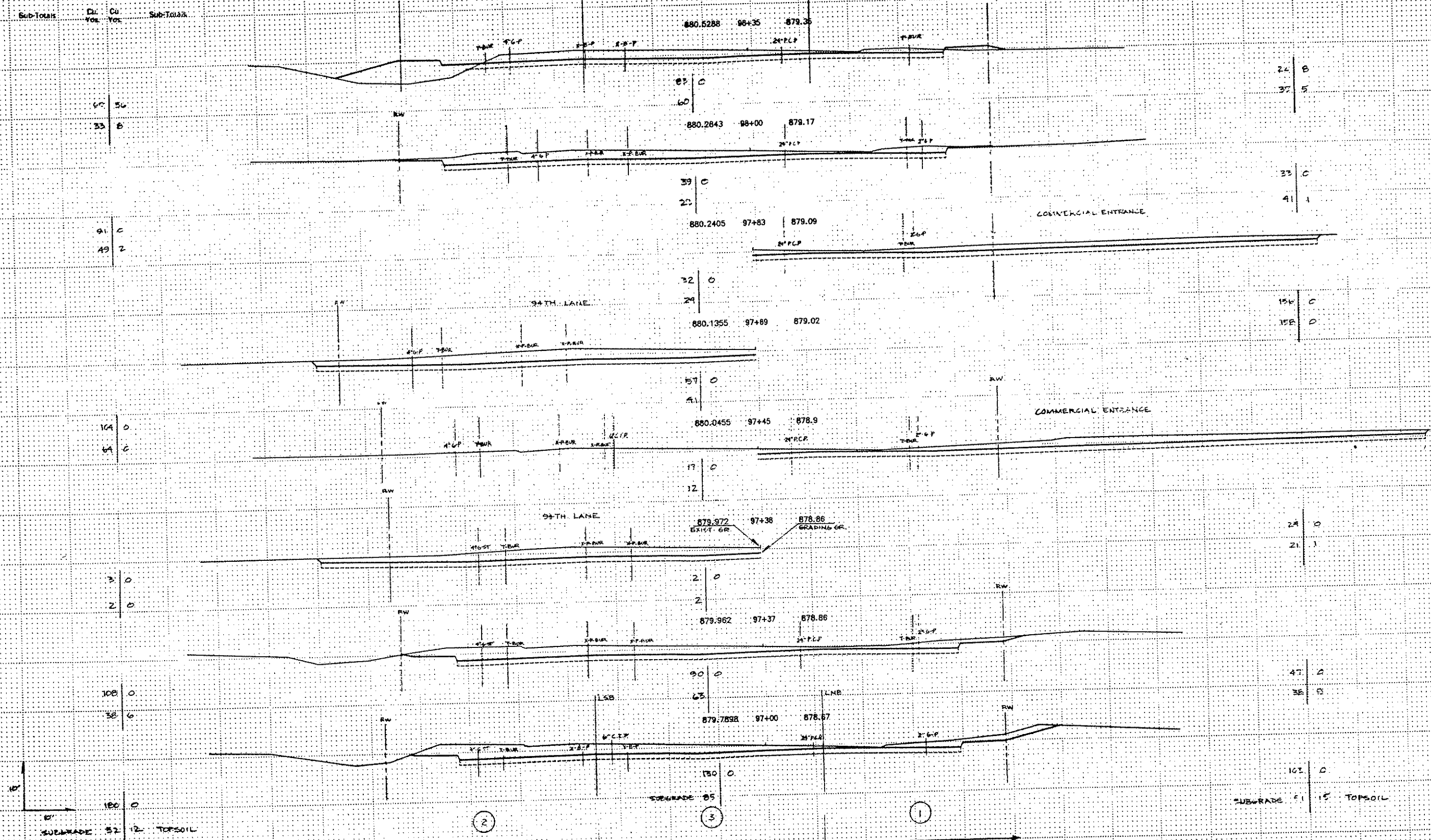
EXCAVATION EMBANKMENT

STAGE 2

STAGE 1
EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT



Sub-Totals	Cu Yds	Cu Yds	Sub-Totals
67	50		
33	8		
91	0		
49	2		
104	0		
64	0		
3	0		
2	0		
108	0		
38	6		
180	0		
52	12		

Sub-Totals	Cu Yds	Cu Yds	Sub-Totals
880.5288	98+35	879.35	
880.2843	98+00	879.17	
880.2405	97+83	879.09	
880.1355	97+89	879.02	
880.0455	97+45	878.9	
879.972	97+38	878.86	
879.962	97+37	878.86	
879.7852	97+00	878.67	

Sub-Totals	Cu Yds	Cu Yds	Sub-Totals
24	8		
35	5		
33	0		
41	1		
156	0		
158	0		
28	0		
21	1		
2	0		
2	0		
47	0		
38	0		
102	0		
51	15		

STAGE 3
EXCAVATION EMBANKMENT

STAGE 1
EXCAVATION EMBANKMENT

STAGE 2
EXCAVATION EMBANKMENT

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

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

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

0 930
17 31

71 366
105 12

39 0
43 0

28 0
20 0

127 263
129 16

46 926
56 33

59 228
SUBGRADE 40 20 TOPSOIL

65 0
62 0

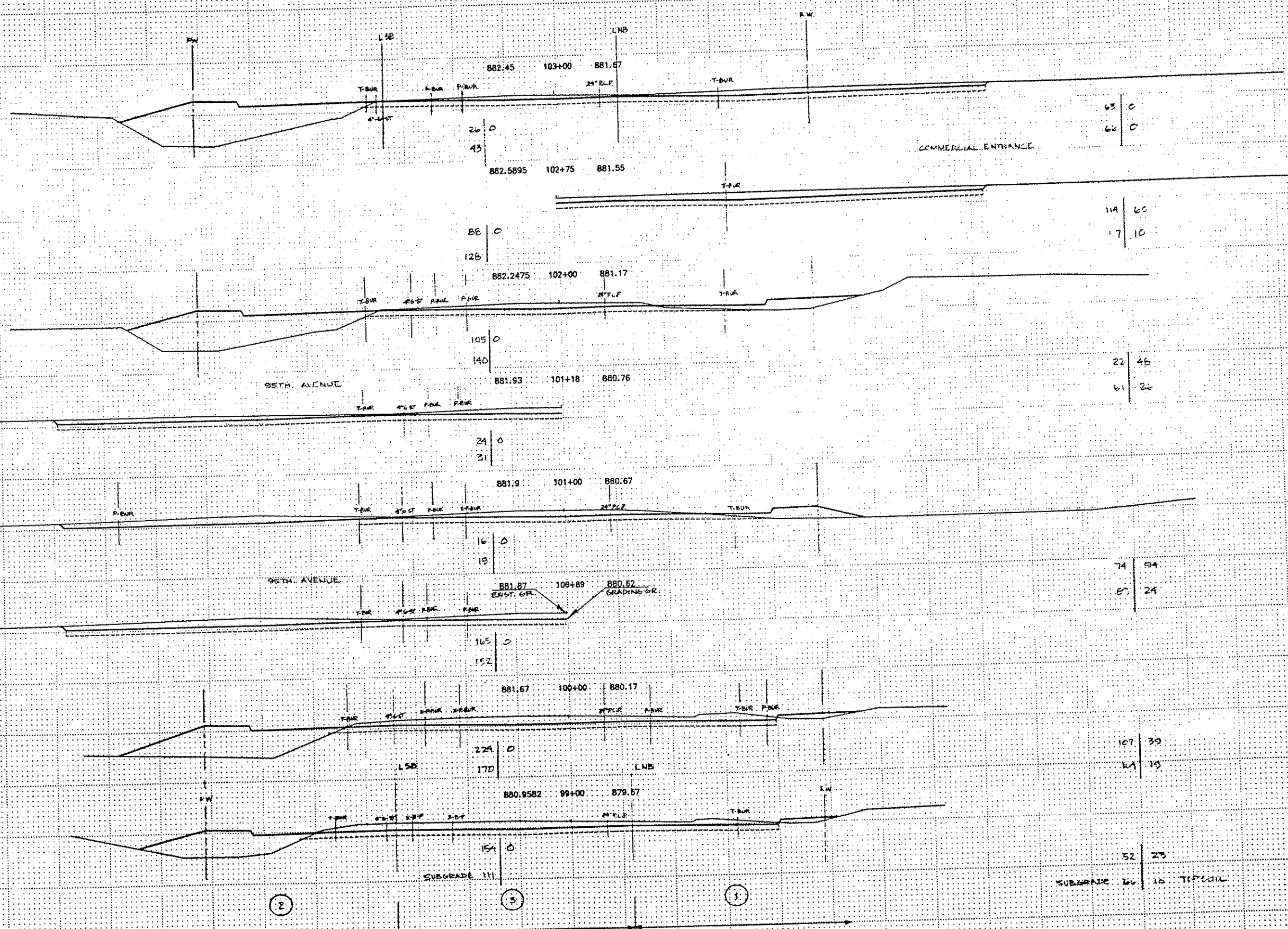
114 60
17 10

22 45
61 26

74 94
87 24

107 39
141 19

52 23
SUBGRADE 66 10 TOPSOIL



(2)

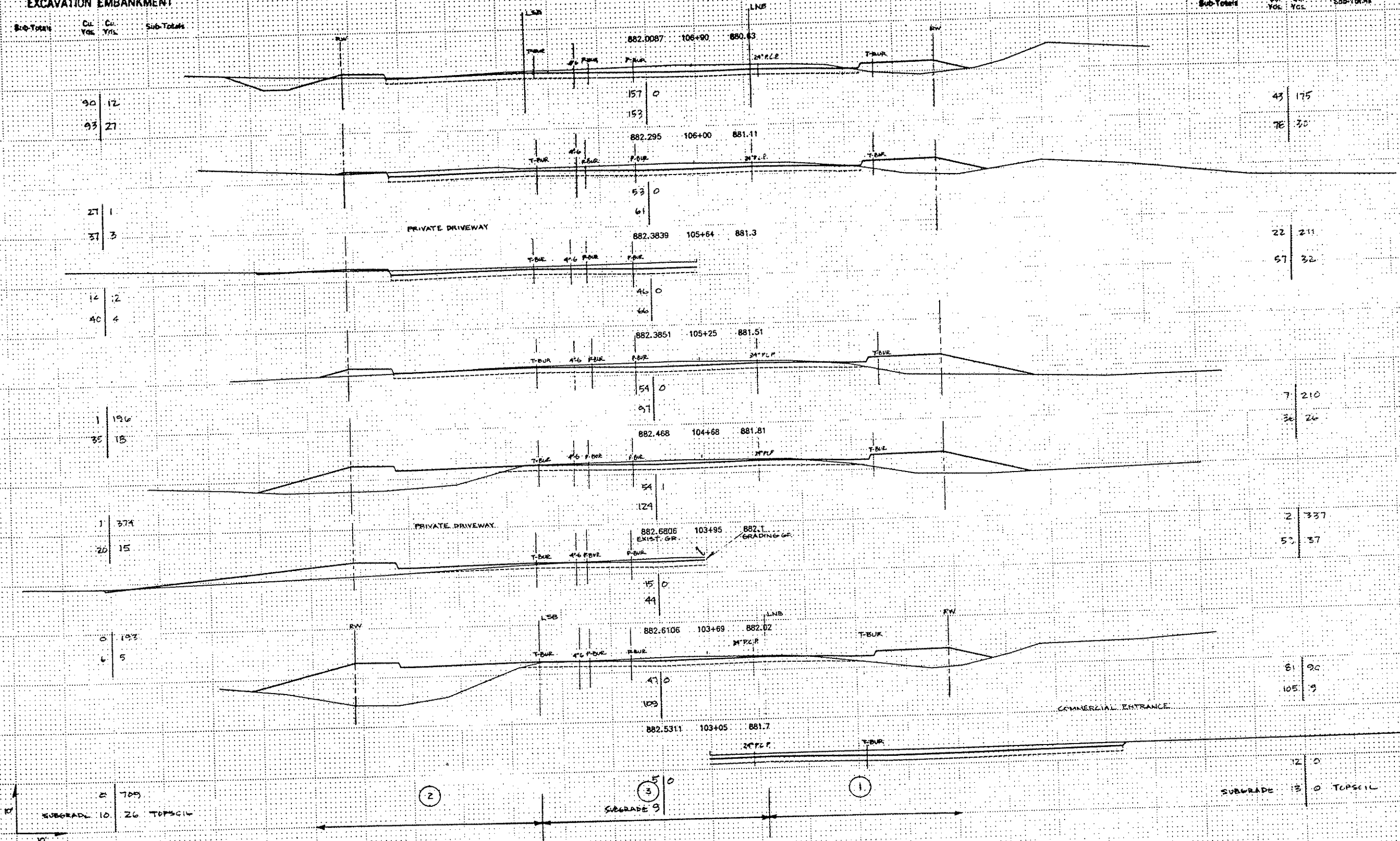
(3)

(1)

EXCAVATION EMBANKMENT

STAGE 2
EXCAVATION EMBANKMENT

STAGE 1
EXCAVATION EMBANKMENT



STAGE 3
EXCAVATION EMBANKMENT

STAGE 1
EXCAVATION EMBANKMENT

STAGE 2
EXCAVATION EMBANKMENT

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

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

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

16 75
40 5

880.2421 110+50 878.73
100 0
72
880.7425 110+08 878.95

61 62
23 14

5 42
16 3
5 150
26 19

880.7772 109+87 879.06
165 0
119
881.1307 109+17 879.43

73 2
65 11

0 72
16 9
41 32
49 14

881.3247 108+75 879.65
96 0
72
881.5736 108+15 879.97

40 65
30 10

10 2
9 2
27 29
51 9

881.6156 108+06 880.02
EXISTING GR. GRADING GRADE
115 0
21
881.684 107+50 880.32

47 64
58 14

37 75
SUBGRADE 52 17 TOPSOIL

SUBGRADE 102

37 73
SUBGRADE 52 17 TOPSOIL

2

3

1

STAGE 2
EXCAVATION EMBANKMENT

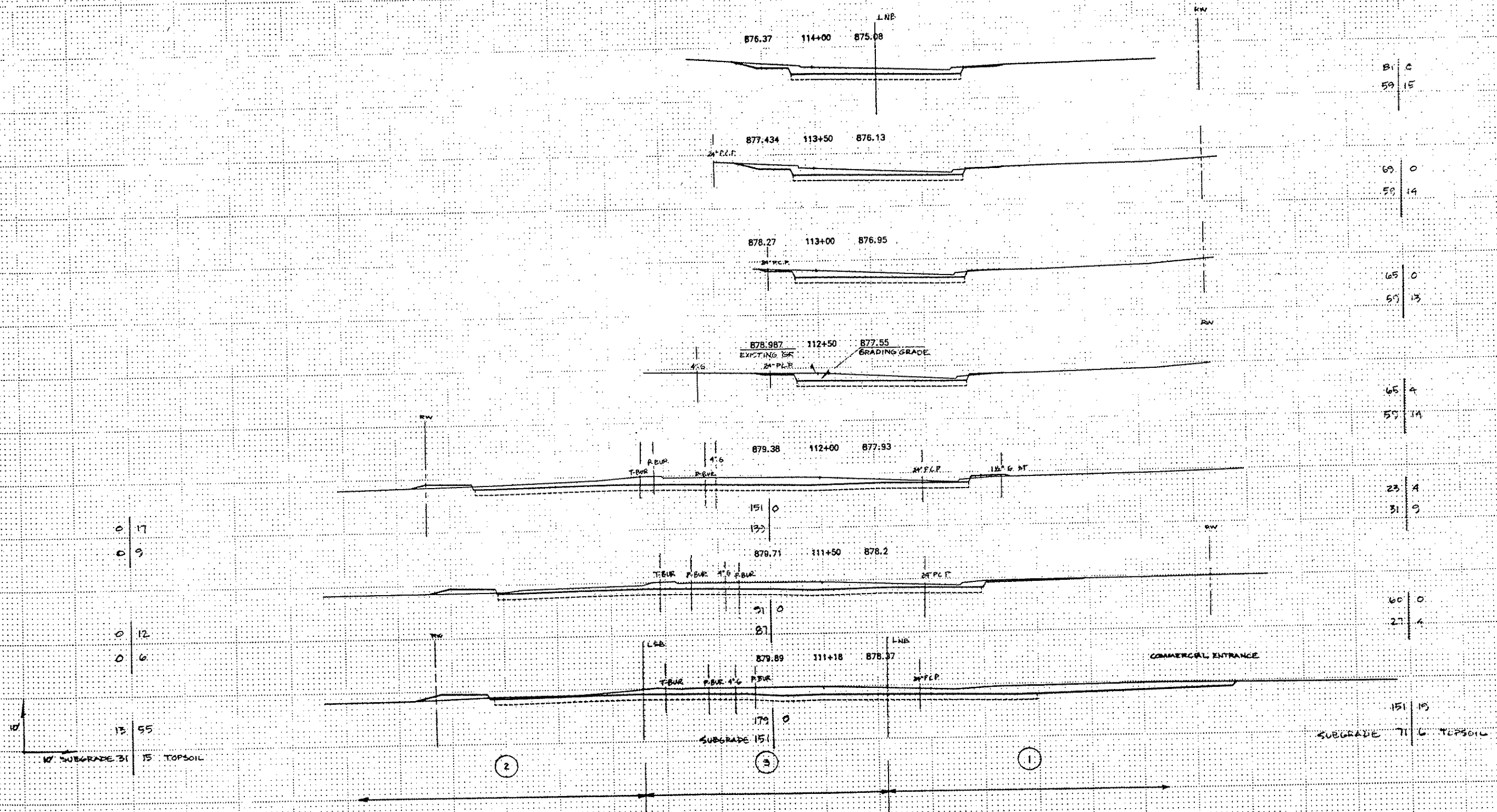
STAGE 3
EXCAVATION EMBANKMENT

STAGE 1
EXCAVATION EMBANKMENT

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

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

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



B1 C
59 15

69 0
59 14

65 0
59 13

65 4
59 14

23 4
31 9

60 0
27 4

151 15
SUBGRADE 71 6 TOPSOIL

0 17
0 9

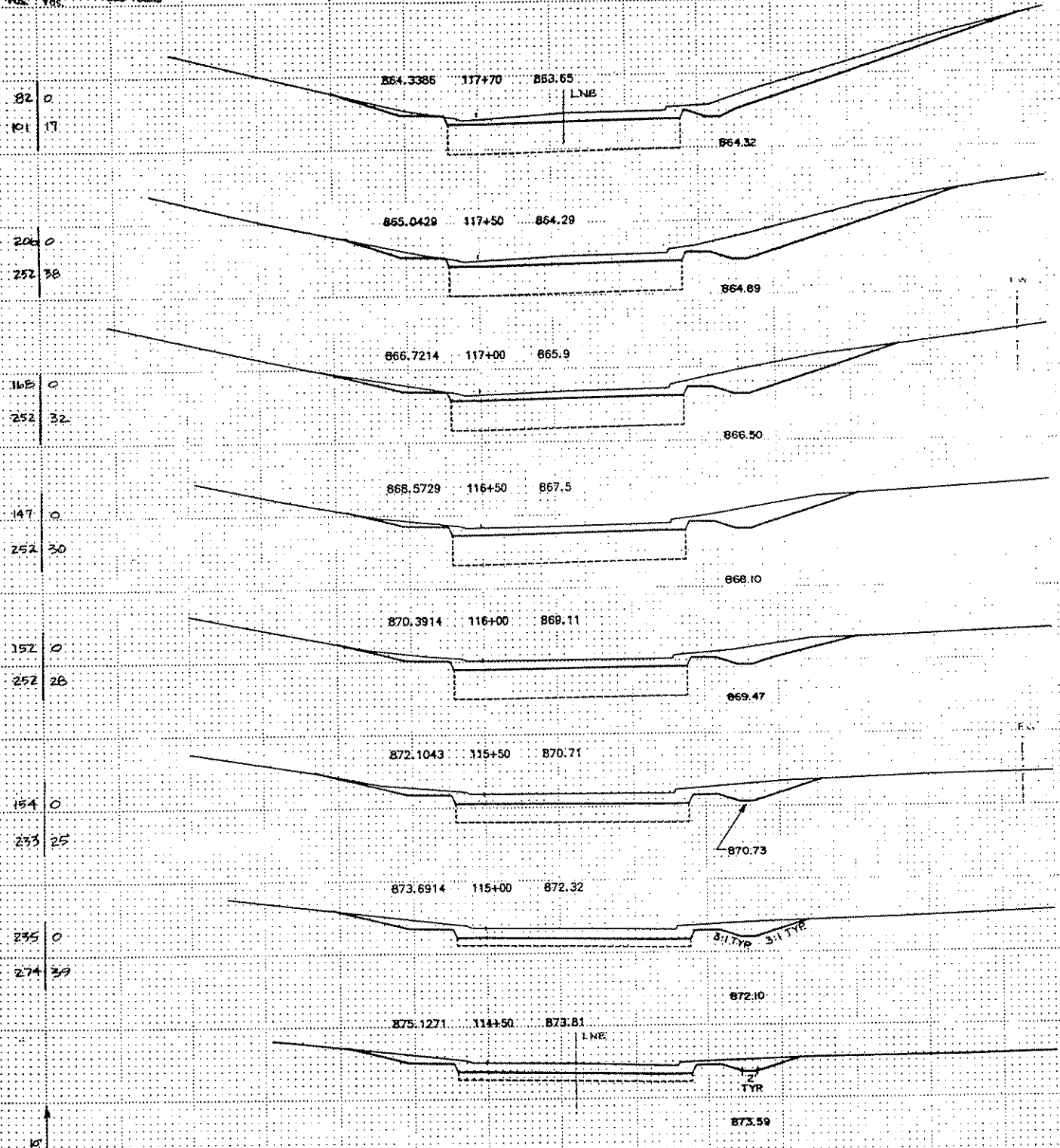
0 12
0 6

13 55

10' SUBGRADE 31 15 TOPSOIL

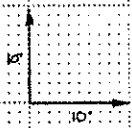
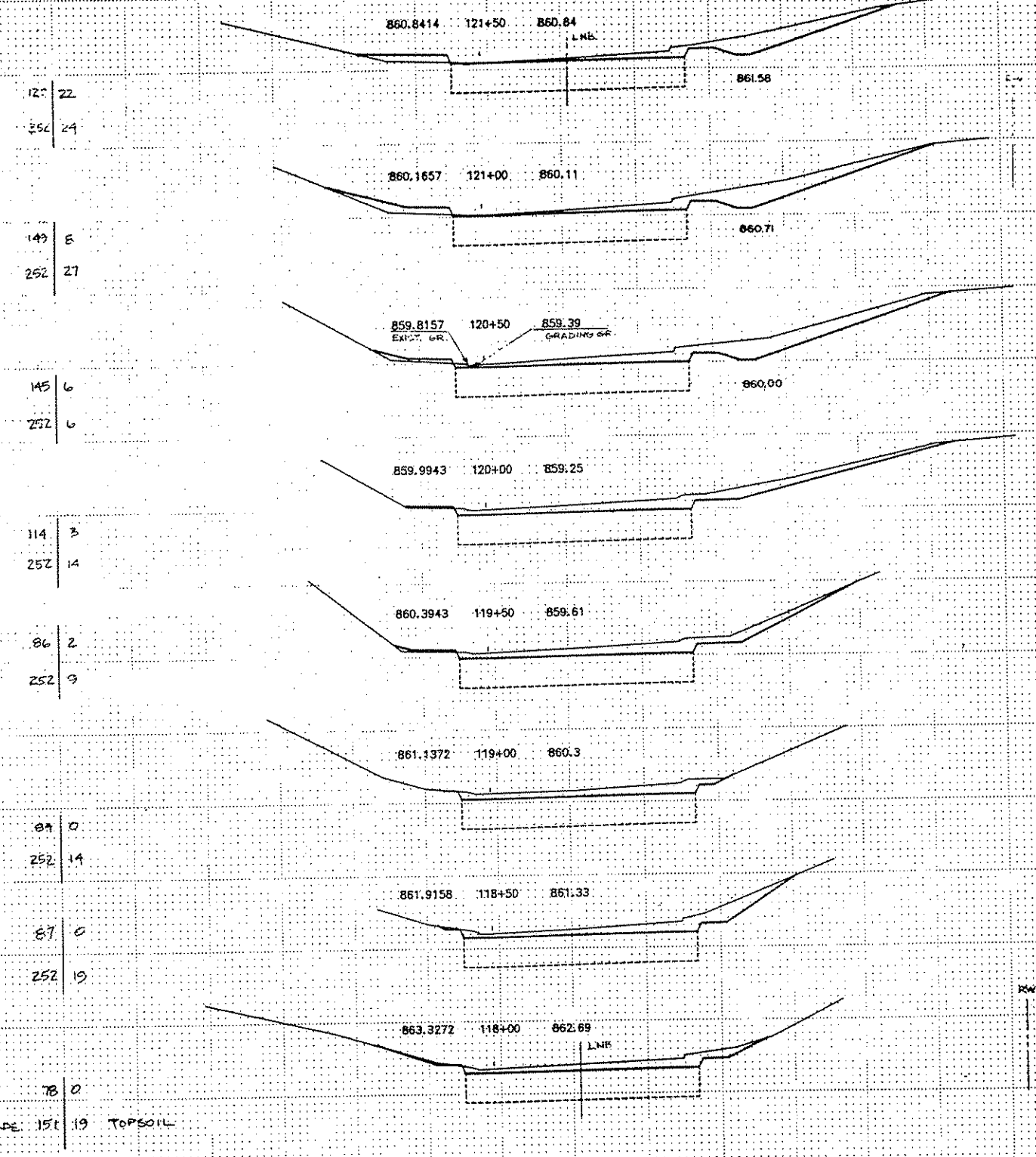
EXCAVATION EMBANKMENT

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



EXCAVATION EMBANKMENT

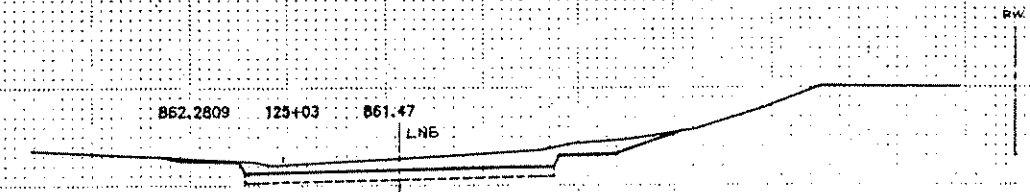
Sub-Totals Cu. Yds. Cu. Yds. Sub-Totals



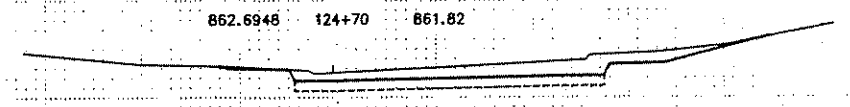
EXCAVATION EMBANKMENT

Sub-Total	Cu. Yds.	Cu. Yds.	Sub-Total
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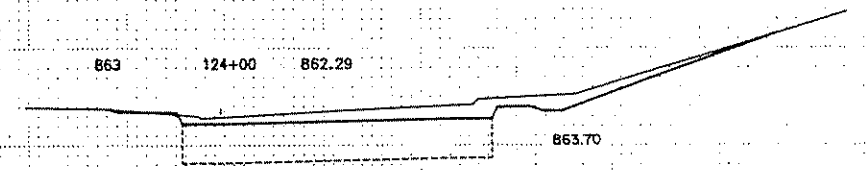
67	0		
37	13		



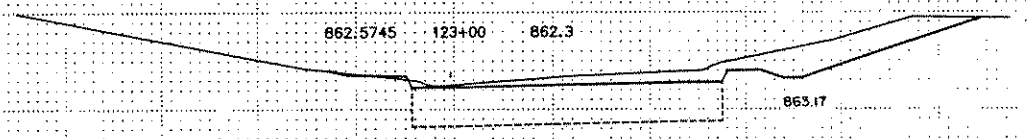
152	0		
192	36		



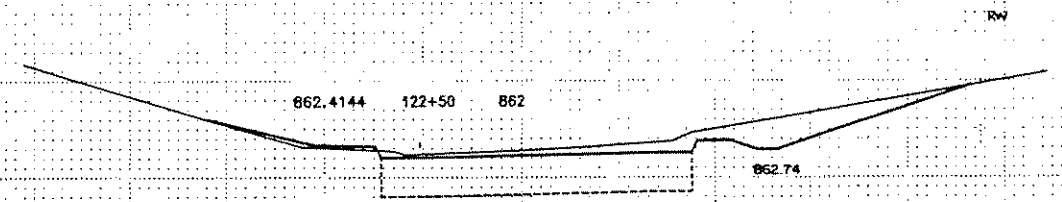
276	2		
467	57		



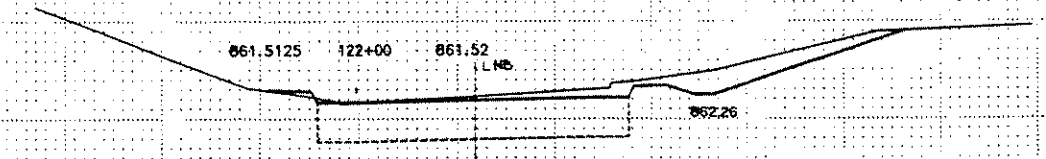
151	6		
252	31		



126	6		
252	31		



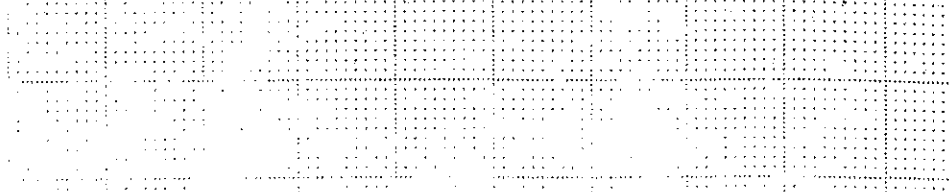
109	10		
252	25		



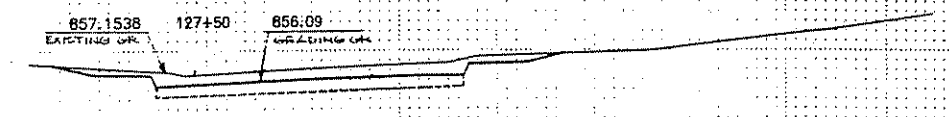
EXCAVATION EMBANKMENT

Sub-Total	Cu. Yds.	Cu. Yds.	Sub-Total
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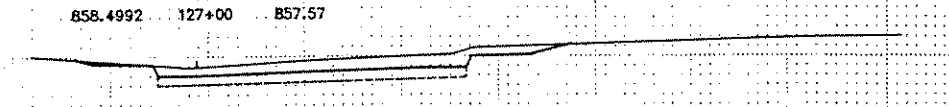
83	0		
53	13		



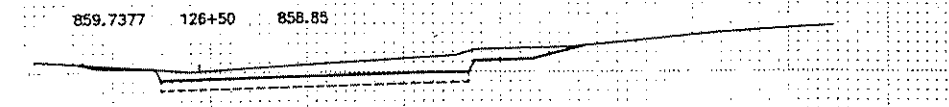
93	0		
59	19		



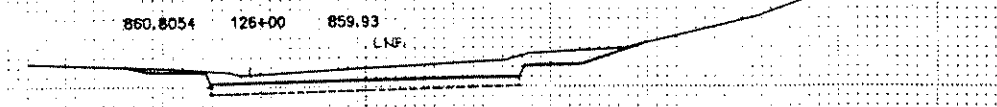
95	0		
59	15		



106	0		
59	19		

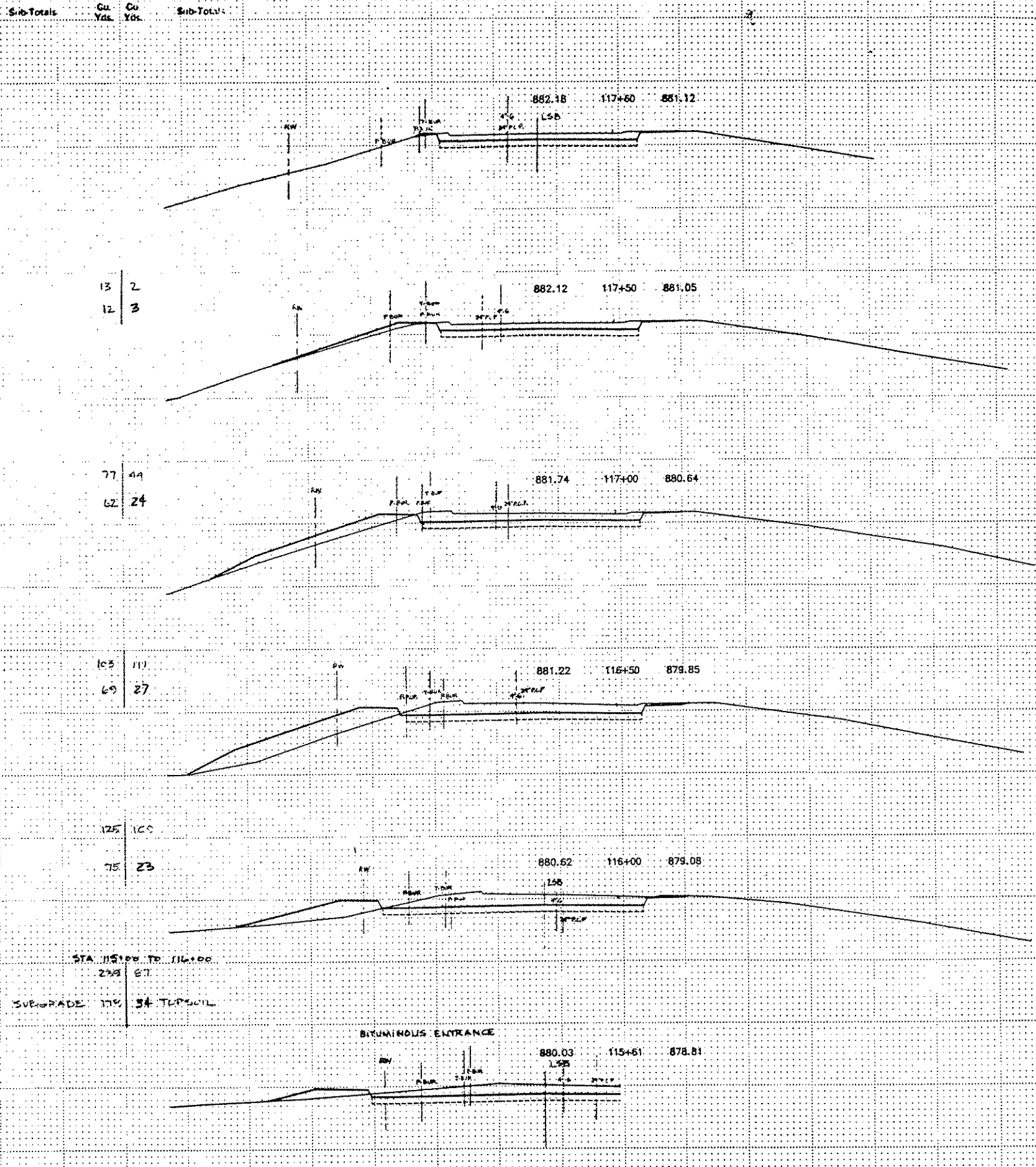
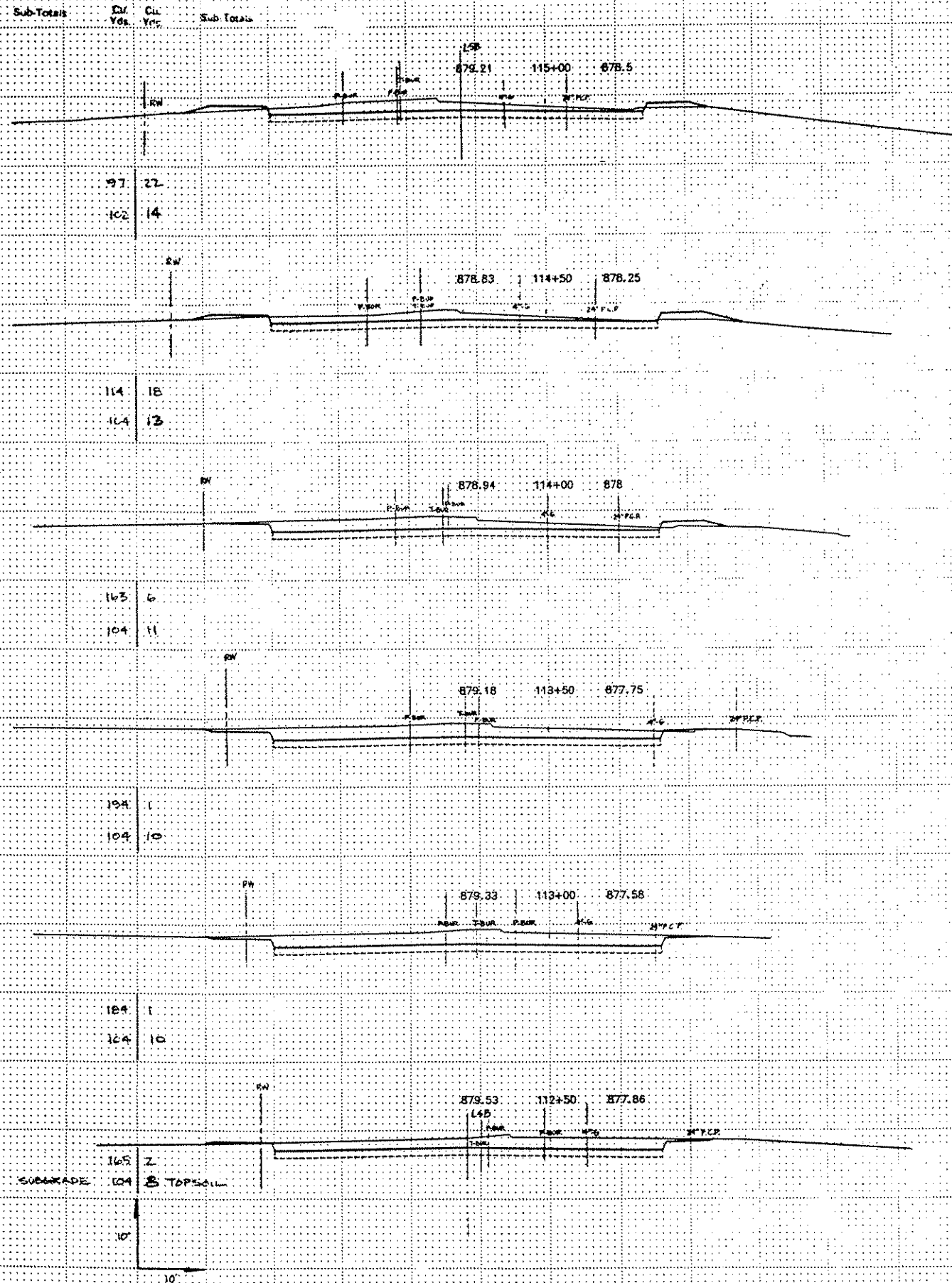


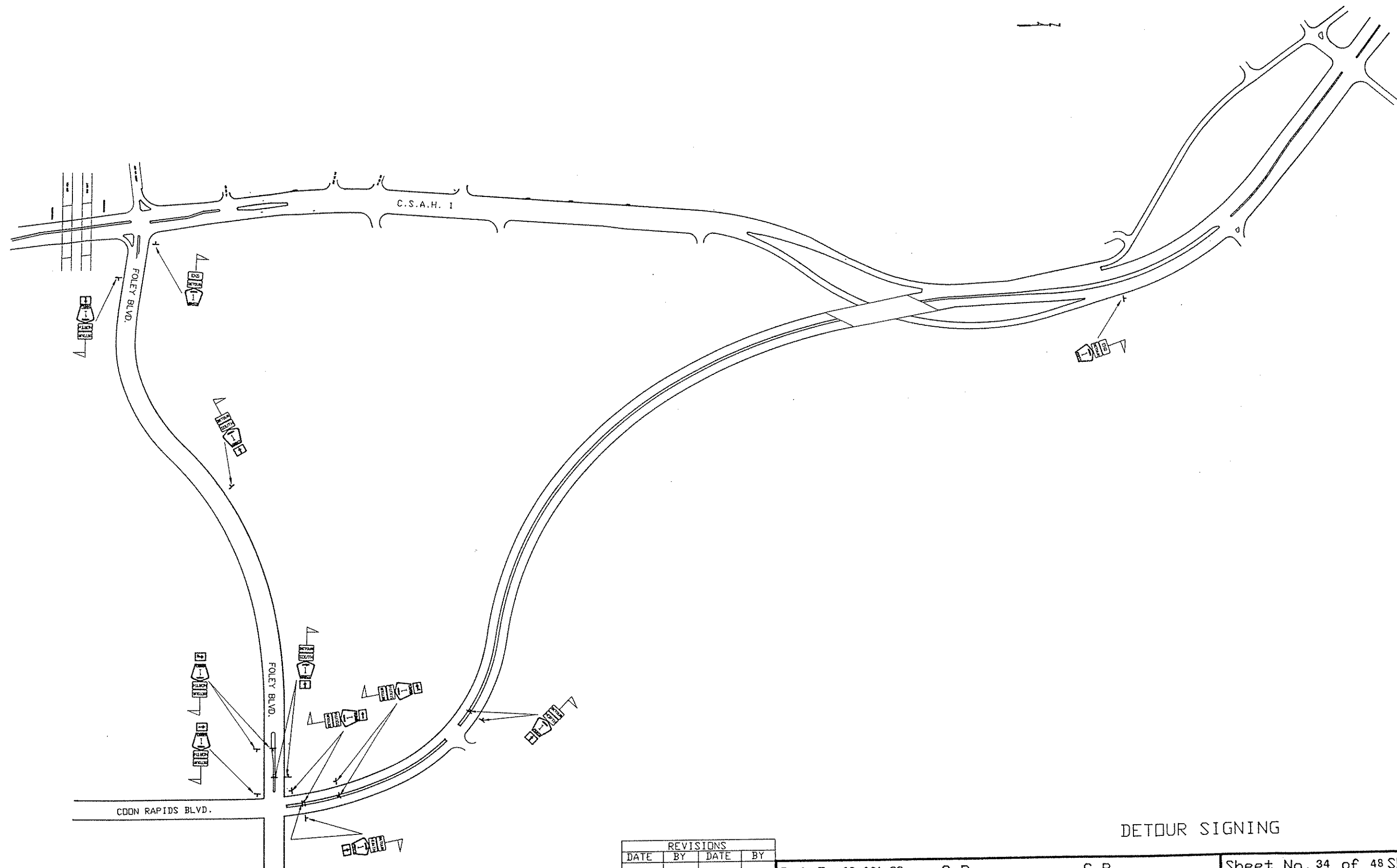
205	0		
36	TOPSOIL		



EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT





DETOUR SIGNING

REVISIONS			
DATE	BY	DATE	BY

M.U.T.C.D. CODE	SIZE	INSERT	PHASE I		PHASE II		PHASE III		DETOUR		M.U.T.C.D. CODE	SIZE	INSERT	PHASE I		PHASE II		PHASE III		DETOUR	
			POST	TELSPAR	POST	TELSPAR	POST	TELSPAR	POST	TELSPAR				POST	TELSPAR	POST	TELSPAR	POST	TELSPAR	POST	TELSPAR
R1-1	30'x30'			6		6		7			R6-1R	36'x12'		1					14		
R1-2	30'x30'x30'							6			R6-1L	36'x12'			1		1		6		
R3-X1	30'x30'			1				1			M4-1 R	48'x18'					1	2			
R4-7	24'x30'							1			R11-4	60'x30'									
X4-4	18'x18'										R11-4	60'x30'		1		1		1			
R5-1	30'x30'			1				16			M4-10R	48'x18'									
FLASHER											TYPE III				1			1			
W6-3	48'x48'			2		2					R11-2	48'x30'									
W13-1	24'x24'										TYPE III				2		6		2		
W14-3	36'x48'x48'			1		1					W1-6R	48'x30'							7		
FLASHER											TYPE III										
W20-1	48'x48'		10		8		9				W1-6L	48'x30'									
W13-1	24'x24'		3		3		3				TYPE III				3		8				
FLASHER											R11-4	60'x30'		1		1		1			
W20-2	48'x48'			2		2		2			TYPE III										
FLASHER											TYPE III				6		15		2		
W20-2	48'x48'			2		2		2			TYPE III										
W13-1	24'x24'										TYPE III				3		15		2		
FLASHER																					
W20-3	48'x48'		2		2		2														
FLASHER																					
W20-3	48'x48'		2		2		2														
FLASHER																					
W20-3	48'x48'		2		2																
W13-1	24'x24'																				
FLASHER																					
W20-3	48'x48'		1	1	1	1															
W13-1	24'x24'																				
FLASHER																					
W1-2_MDD	48'x48'			2		2		2													
M4-1 R	48'x18'			1		2															

NOTES:

LOCATIONS OF ALL SIGNS ARE APPROXIMATE, EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

ALL SIGNS AND BARRICADES WILL BE PROPERLY WEIGHTED WITH SANDBAGS.

ALL BARRICADES WILL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.

ALL BARRICADE MARKINGS WILL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B', DATED MARCH, 1990

ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AT ANYTIME AS DETERMINED BY THE ENGINEER.

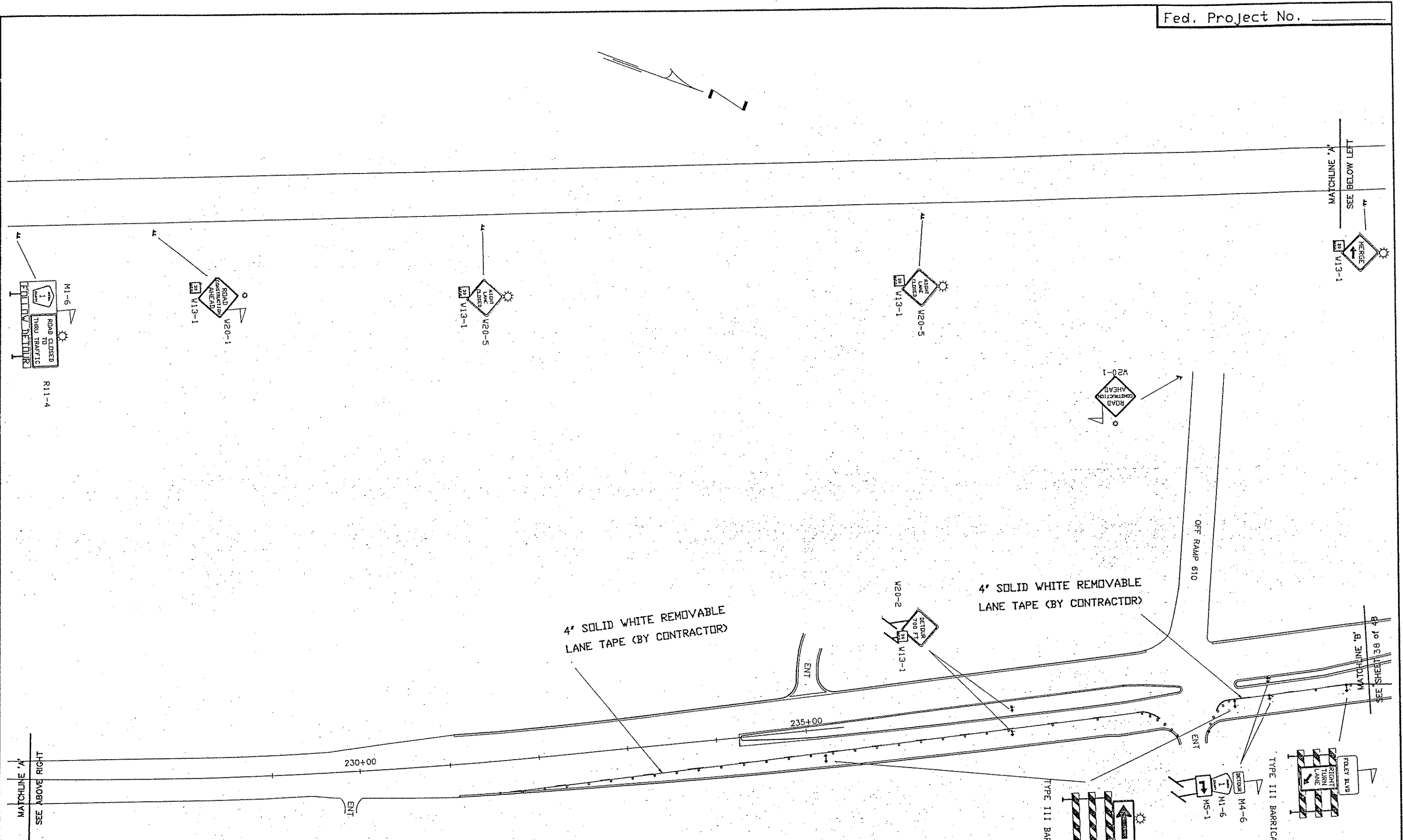
REVISIONS			
DATE	BY	DATE	BY

M.U.T.C.D. CODE	SIZE	INSERT	PHASE I		PHASE II		PHASE III		DETOUR		M.U.T.C.D. CODE	SIZE	INSERT	PHASE I		PHASE II		PHASE III		DETOUR	
			POST	TELSPAR	POST	TELSPAR	POST	TELSPAR	POST	TELSPAR				POST	TELSPAR	POST	TELSPAR	POST	TELSPAR	POST	TELSPAR
M4-8	24'x12'	M5-1(L)									REBOUNDABLE DRUM	24'x12'		342		275		233			
M3-2	24'x12'	M5-1(R)							1	1											
M1-6	24'x24'	M6-1(L)																			
	21x15'	M6-1(R)							1	1	REBOUNDABLE DRUM	24'x12'		18		23		18			
		M6-2(L)									REBOUNDABLE DRUM	24'x12'									
		M6-3							2	1											
M4-8	24'x12'	M5-1(L)							1	1	REBOUNDABLE DRUM	24'x12'		2		1		1			
M3-1	24'x12'	M5-1(R)									REBOUNDABLE DRUM	24'x12'									
M1-6	24'x24'	M6-1(L)																			
	21x15'	M6-1(R)							1												
		M6-3							3	2											
M4-8	21x15'	M6-1(R)		2		2	1	1			W20-X1	48'x48'						3			
M1-6	24'x24'	M5-1(R)	1		1		1				W13-1	30'x30'									
	21x15'																				
M4-8	21x15'										W1-4	48'x48'			1		1		1		
M1-6	30'x30'		2		2		2				W13-1	30'x30'									
M6-2(L)	21x15'																				
M3-3	24'x12'										W20-X3	48'x48'						2			
M1-6	30'x30'			1		1		1			W13-1	30'x30'									
	24'x12'																				
M4-6									2		R11-2	48'x30'					2				
M4-8																					
M1-6	24'x24'																				
											R3-X1MDD	30'x30'			1		1				
	24'x36'		1		1		1				TYPE III	8 FT.									
	ORANGE LETTERS																				
M1-6	24'x24'		1		1		1														
	48'x60'																				
	ORANGE LETTERS																				
G20-2	48'x60'		2		2		2														
	ORANGE																				
	12'x48'		1		1		1														
	ORANGE LETTERS																				
	18'x72'		1		1		1														
	ORANGE LETTERS																				

NOTES:

- LOCATIONS OF ALL SIGNS ARE APPROXIMATE, EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ALL SIGNS AND BARRICADES WILL BE PROPERLY WEIGHTED WITH SANDBAGS.
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- ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AT ANYTIME AS DETERMINED BY THE ENGINEER.

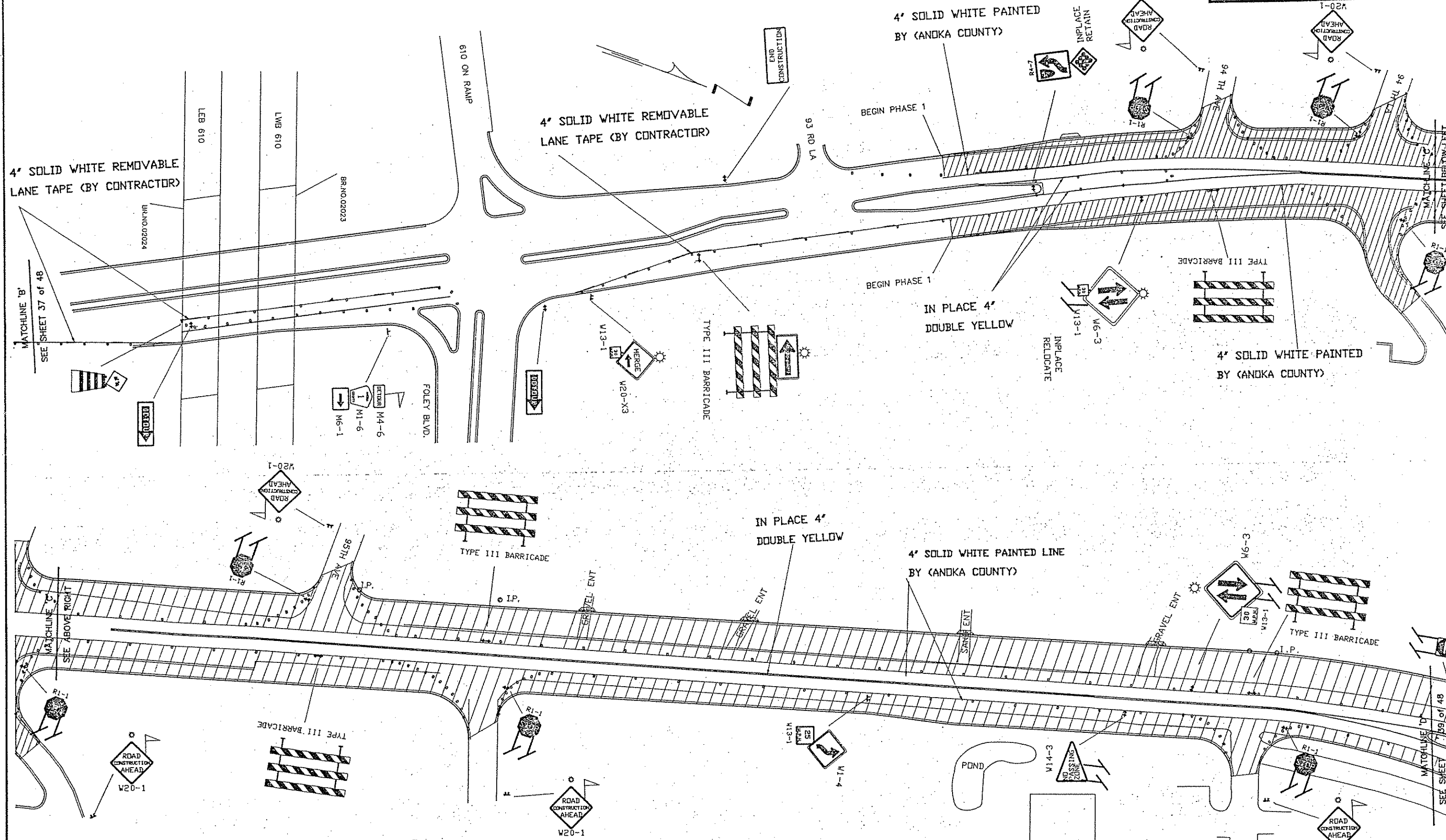
REVISIONS			
DATE	BY	DATE	BY



TRAFFIC CONTROL - PHASE I
 O DENOTES

REVISIONS			
DATE	BY	DATE	BY

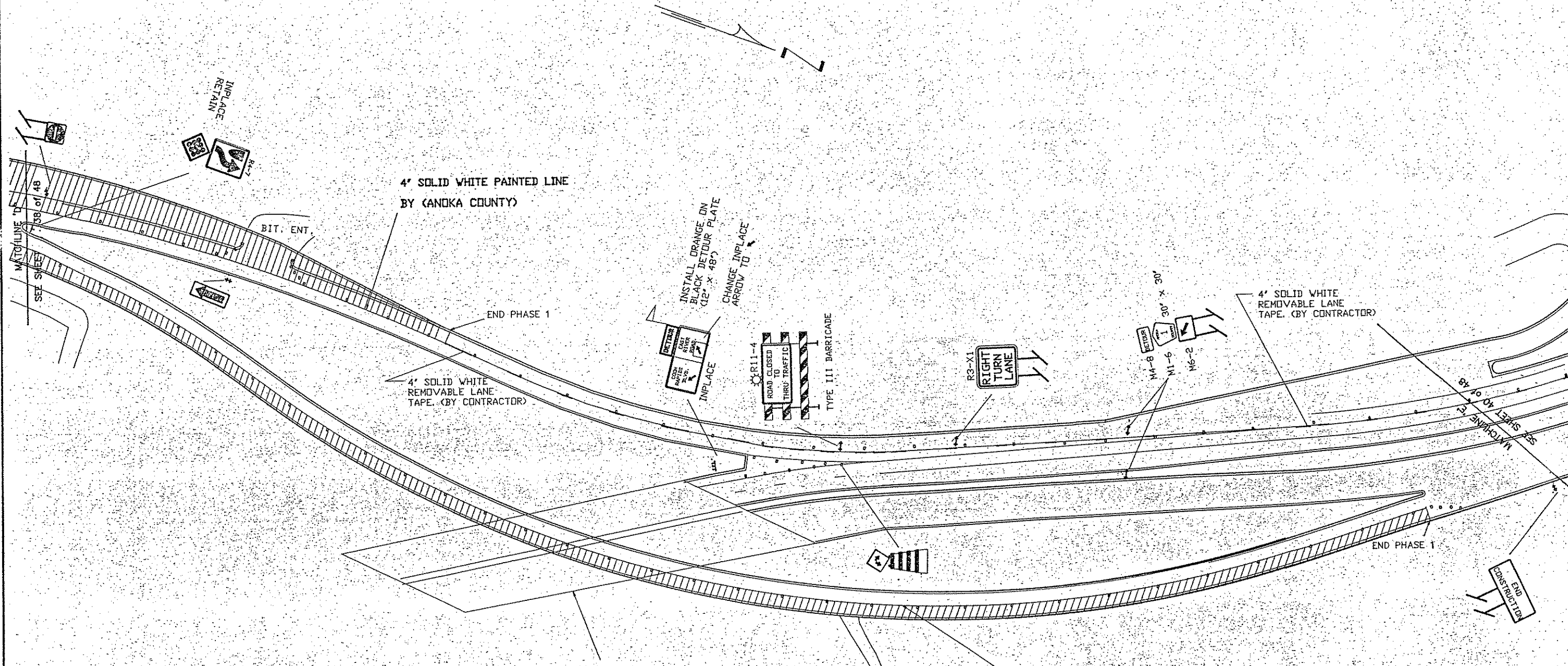
S.A.P. 02-601-32 S.P. _____ C.P. _____



TRAFFIC CONTROL - PHASE I
 □ DENOTES
 ▨ DENOTES AREA TO BE CONSTRUCTED DURING PHASE I

REVISIONS			
DATE	BY	DATE	BY

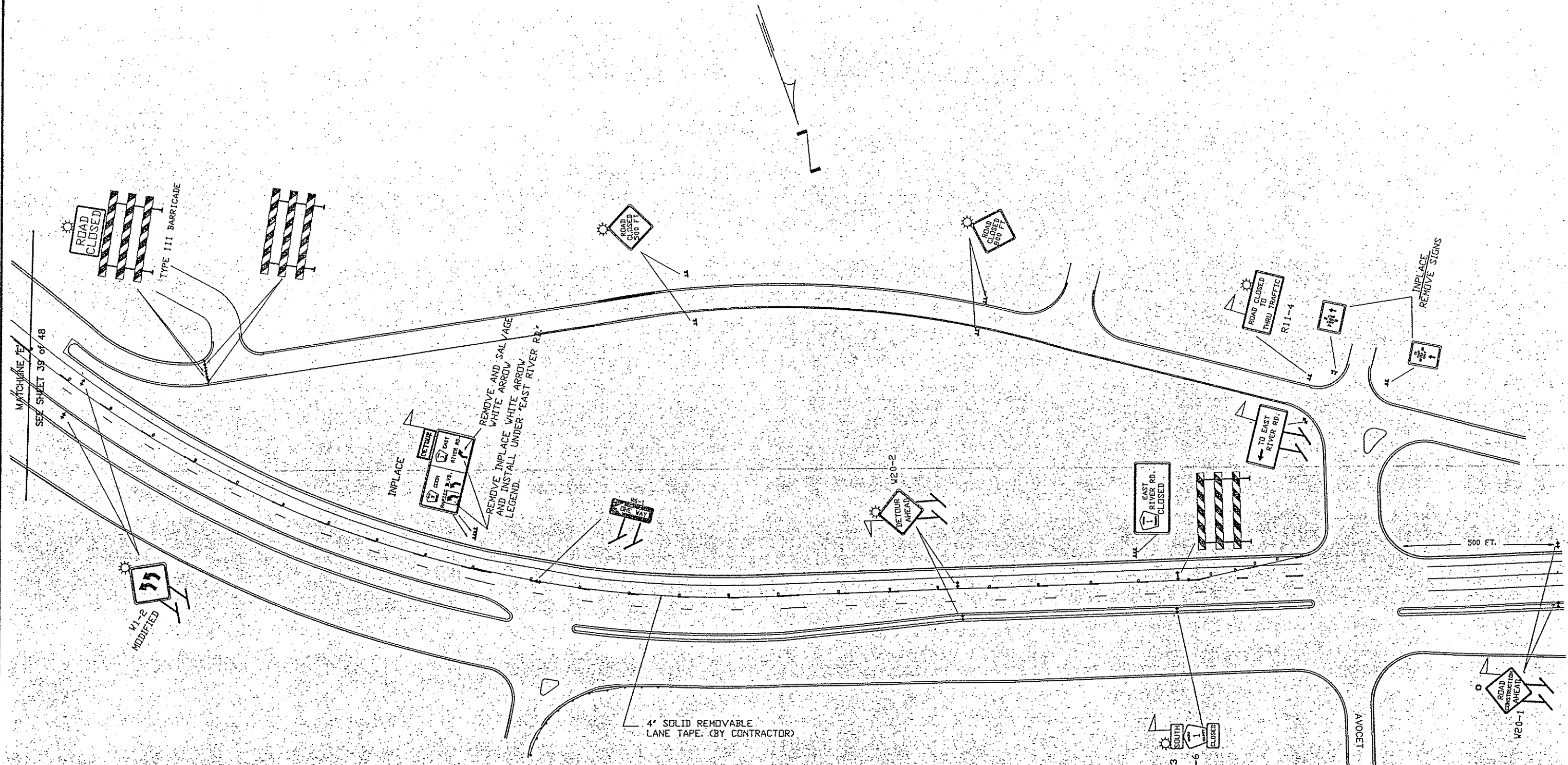
S.A.P. 02-601-32 S.P. _____ C.P. _____



TRAFFIC CONTROL - PHASE I

DENOTES AREA TO BE CONSTRUCTED DURING PHASE I
 DENOTES
 DENOTES
 M6-3

REVISIONS			
DATE	BY	DATE	BY

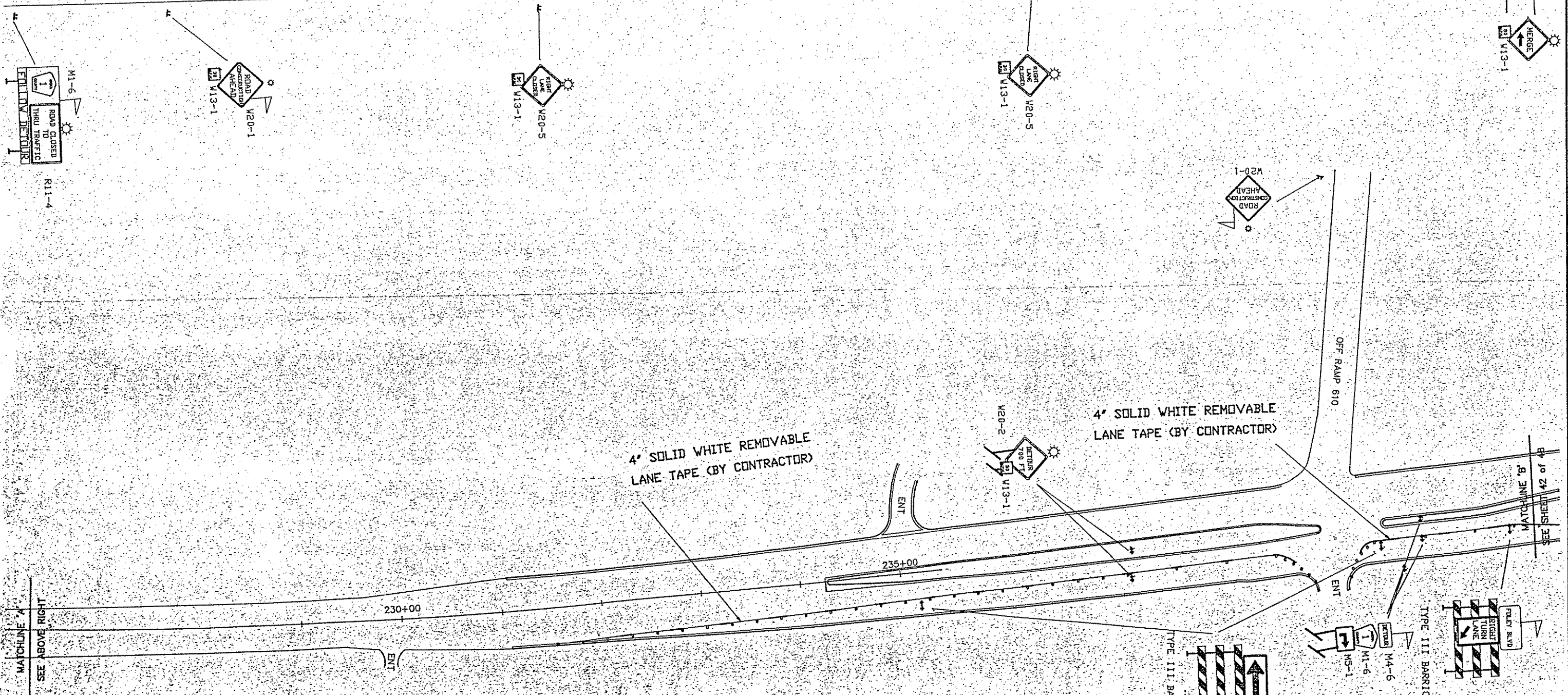


TRAFFIC CONTROL - PHASE I

- DENOTES
- ▨ DENOTES AREA TO BE CONSTRUCTED DURING PHASE I
- DENOTES
- ▧ M6-3

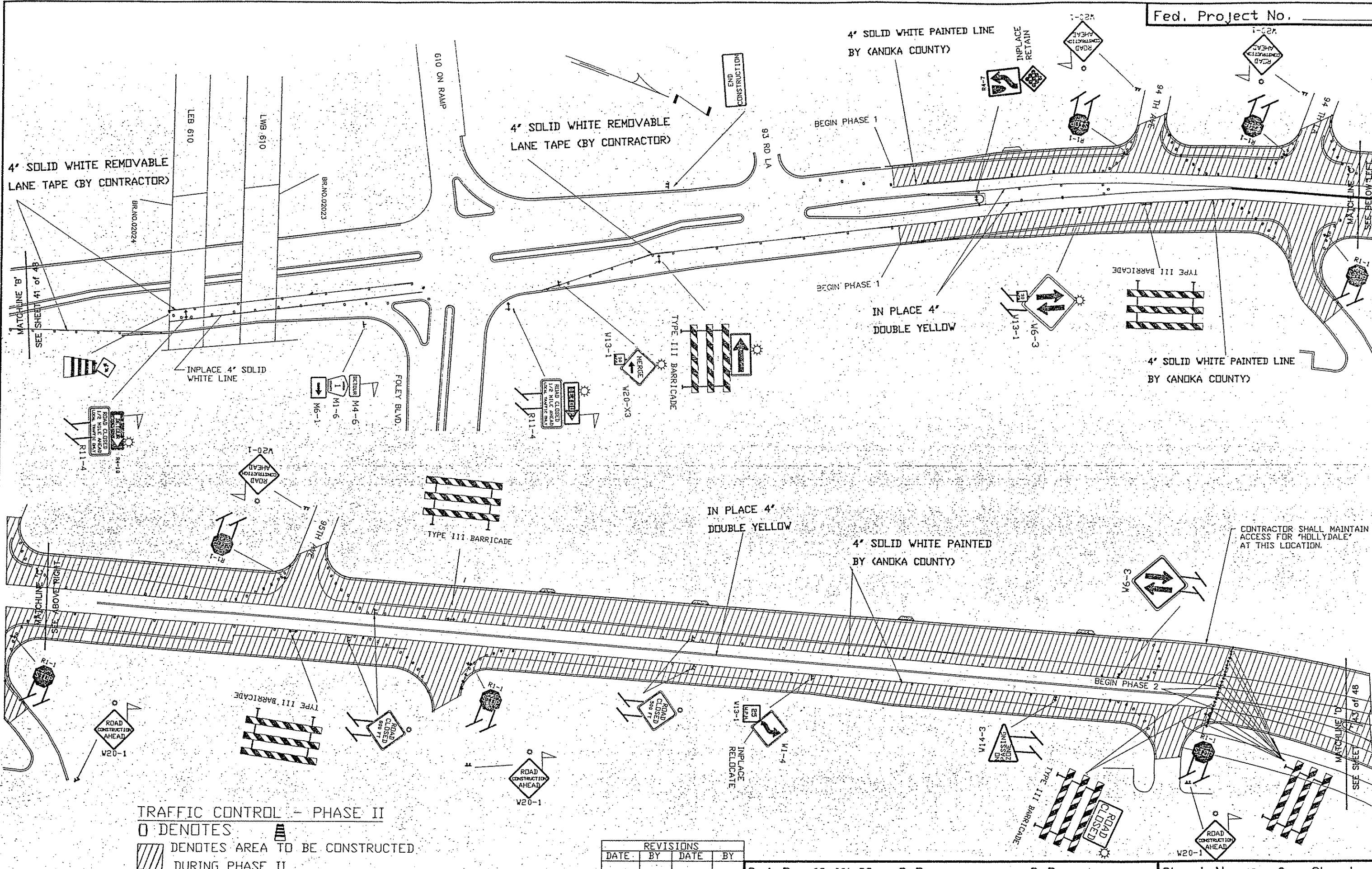
REVISIONS			
DATE	BY	DATE	BY



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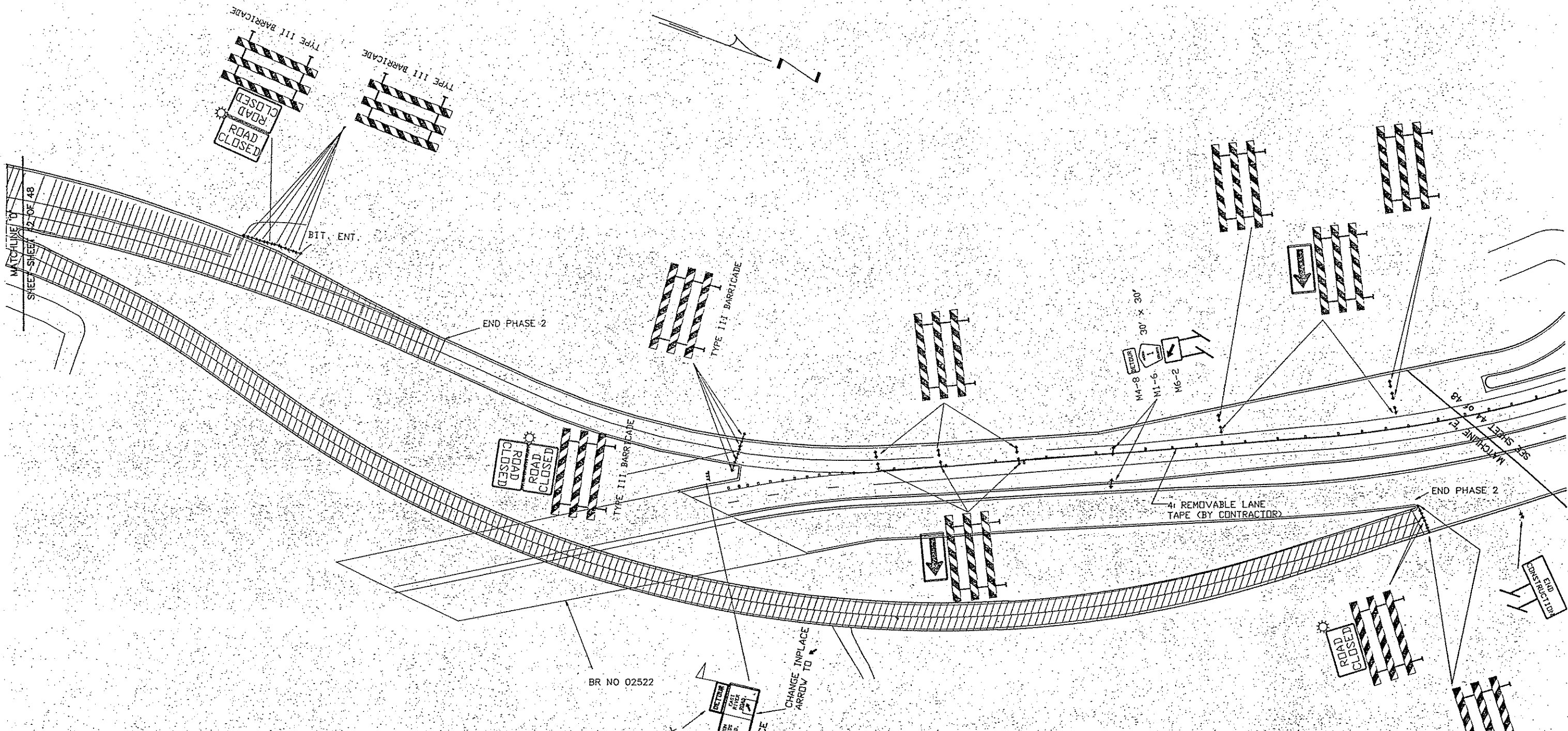
TRAFFIC CONTROL - PHASE II
 □ DENOTES

REVISIONS			
DATE	BY	DATE	BY



TRAFFIC CONTROL - PHASE II
 O DENOTES 
 DENOTES AREA TO BE CONSTRUCTED DURING PHASE II

REVISIONS			
DATE	BY	DATE	BY



TRAFFIC CONTROL - PHASE II

- DENOTES
- ▨ DENOTES AREA TO BE CONSTRUCTED DURING PHASE II
- DENOTES
- ▤ DENOTES

BR NO 02522

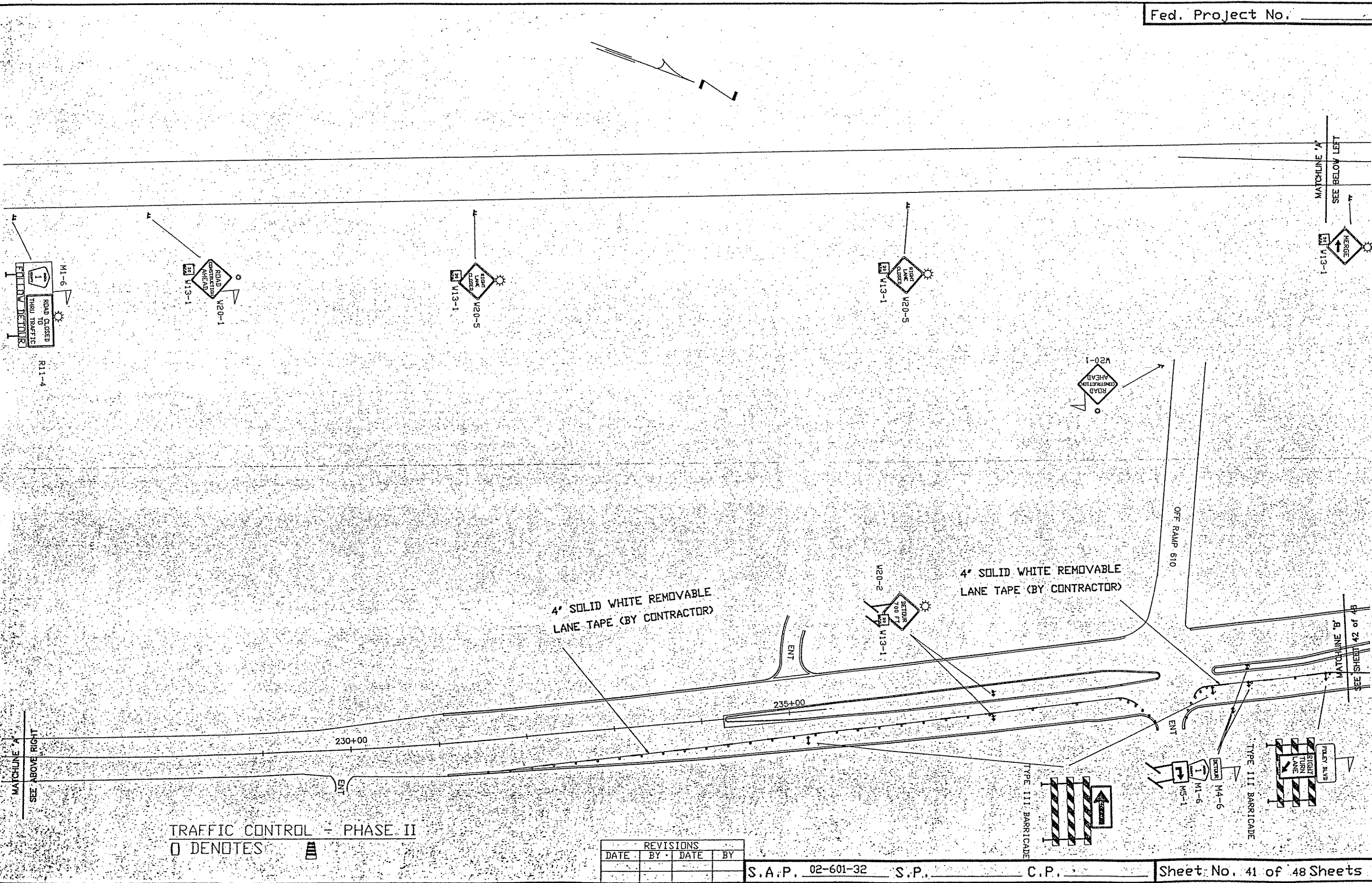
INSTALL ORANGE ON BLACK
DETOUR PLATE (12' x 48')

RETOUR

CHANGE IN PLACE
ARROW TO

IN PLACE

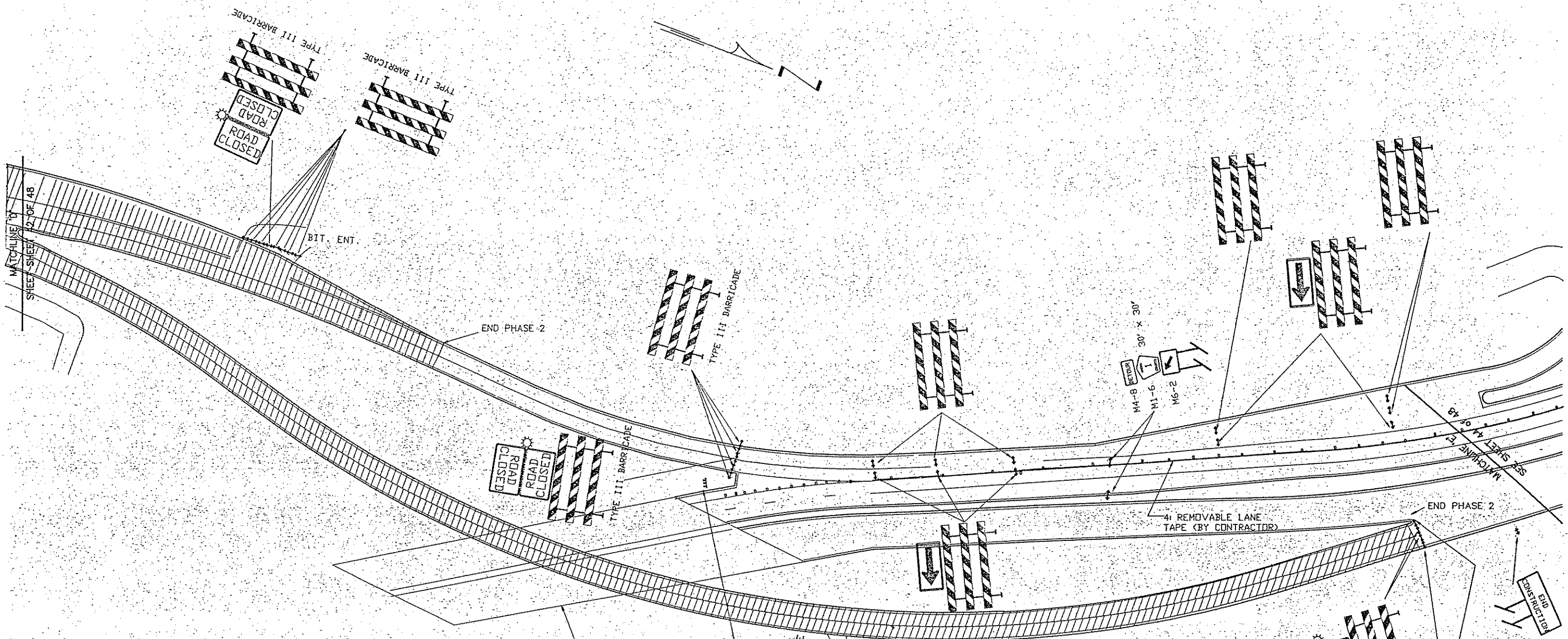
REVISIONS			
DATE	BY	DATE	BY



TRAFFIC CONTROL - PHASE II
 □ DENOTES

REVISIONS			
DATE	BY	DATE	BY

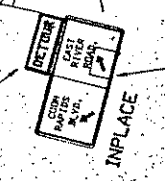
S.A.P. 02-601-32 S.P. _____ C.P. _____



TRAFFIC CONTROL - PHASE II

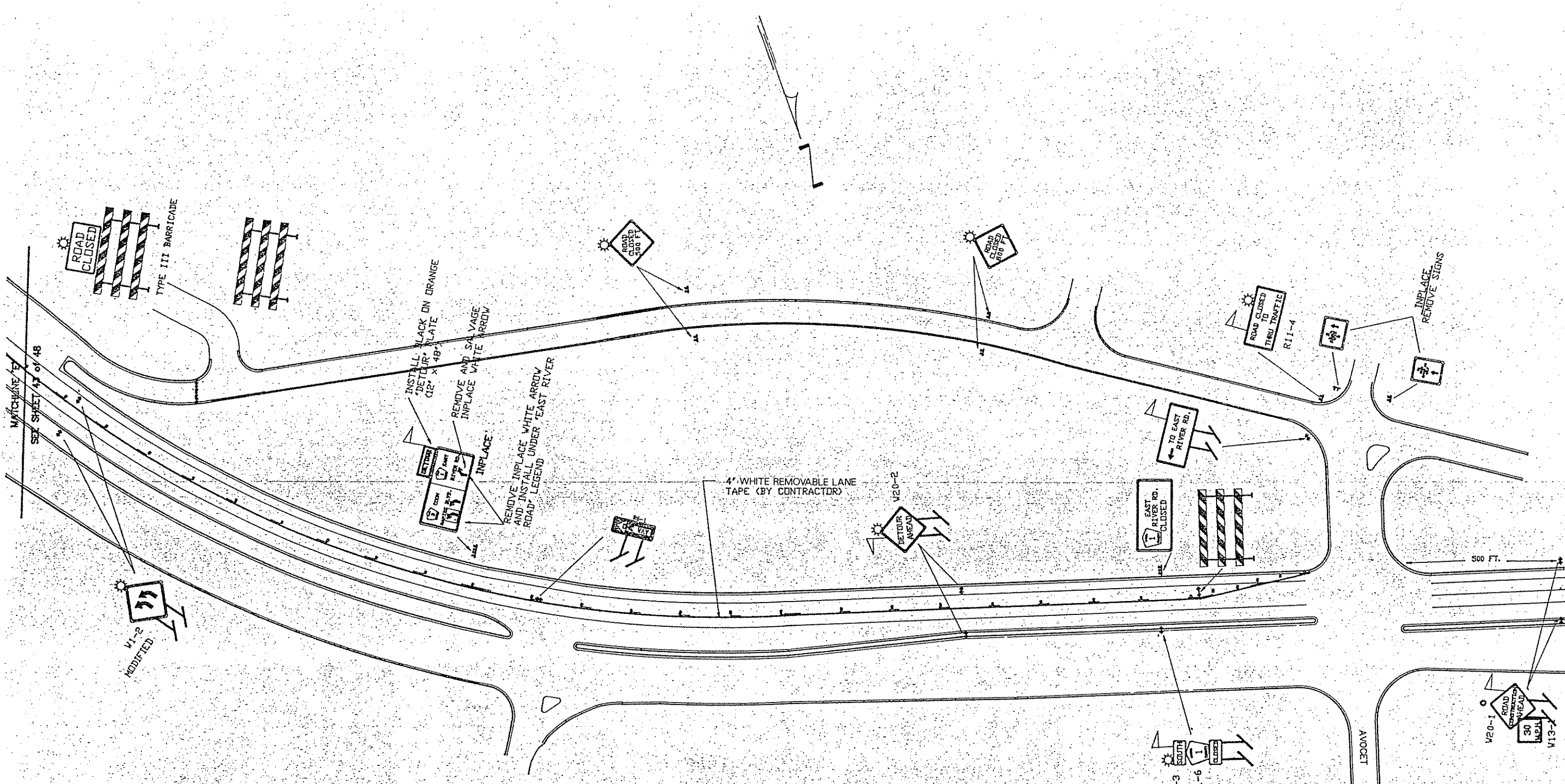
- DENOTES
- ▨ DENOTES AREA TO BE CONSTRUCTED DURING PHASE II
- DENOTES
- M6-3

INSTALL ORANGE ON BLACK DETOUR PLATE (12" x 48")



CHANGE INPLACE ARROW TO

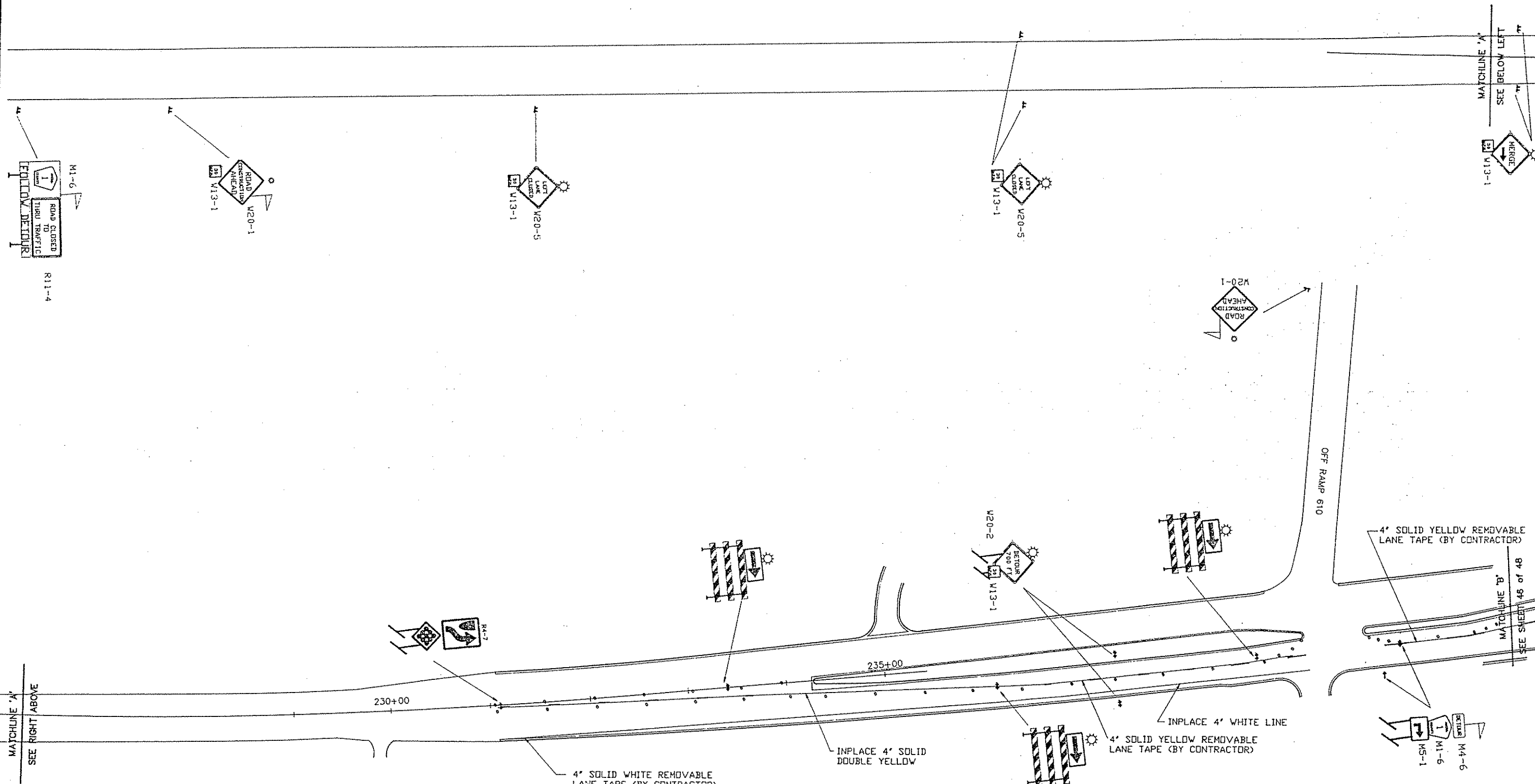
REVISIONS			
DATE	BY	DATE	BY



TRAFFIC CONTROL - PHASE II

- DENOTES
- ▨ DENOTES AREA TO BE CONSTRUCTED DURING PHASE II
- DENOTES

REVISIONS			
DATE	BY	DATE	BY

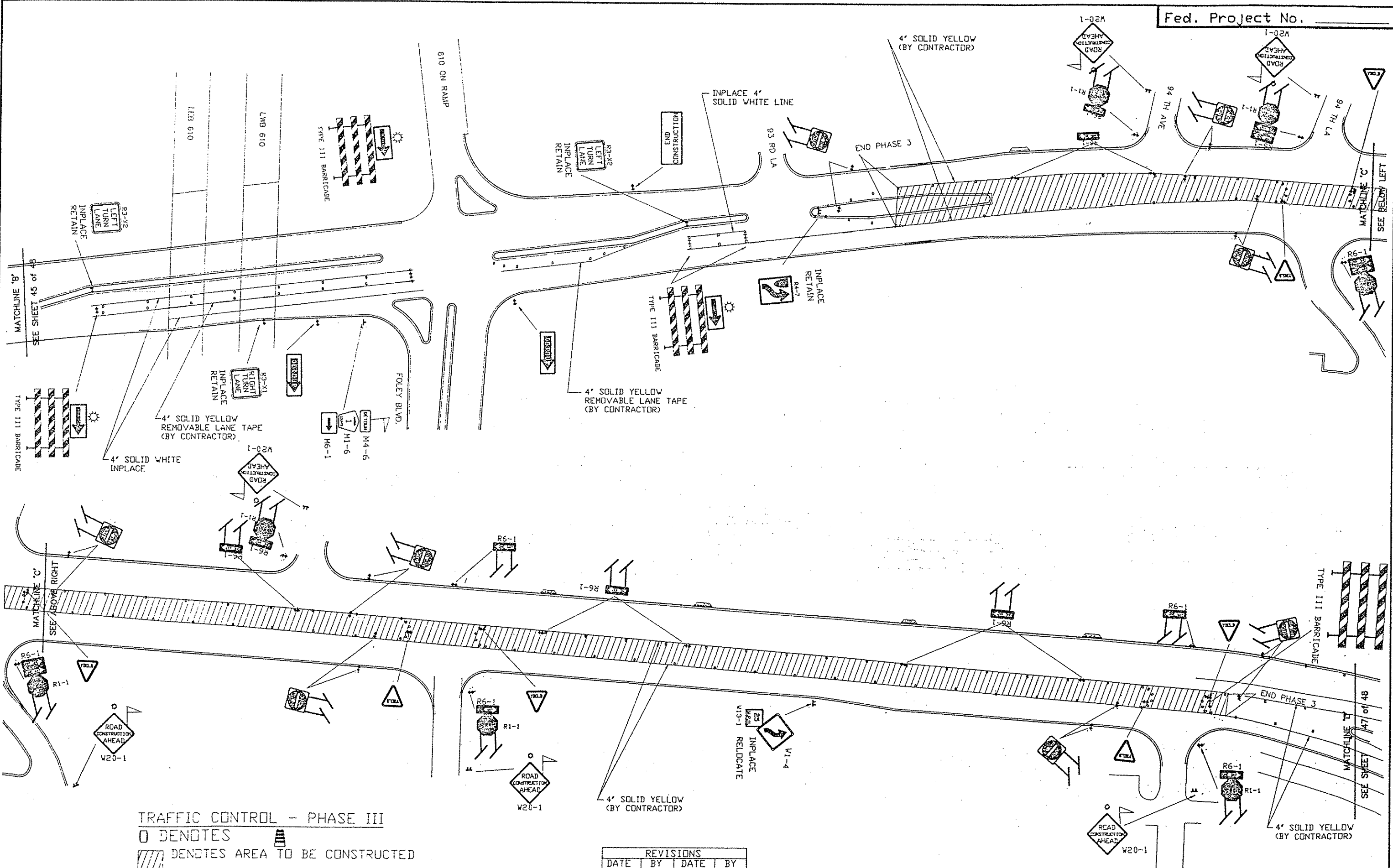


TRAFFIC CONTROL - PHASE III

□ DENOTES

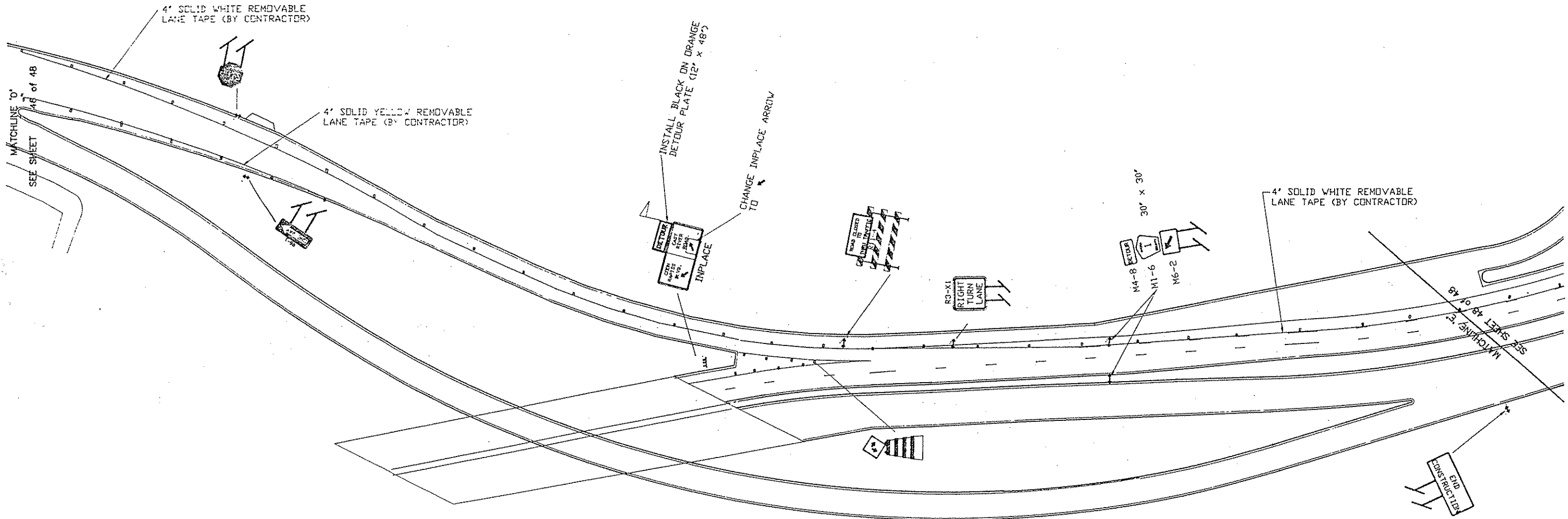
REVISIONS			
DATE	BY	DATE	BY

S.A.P. 02-601-32 S.P. _____ C.P. _____



TRAFFIC CONTROL - PHASE III
 □ DENOTES
 ▨ DENOTES AREA TO BE CONSTRUCTED
 ▨ DURING PHASE III

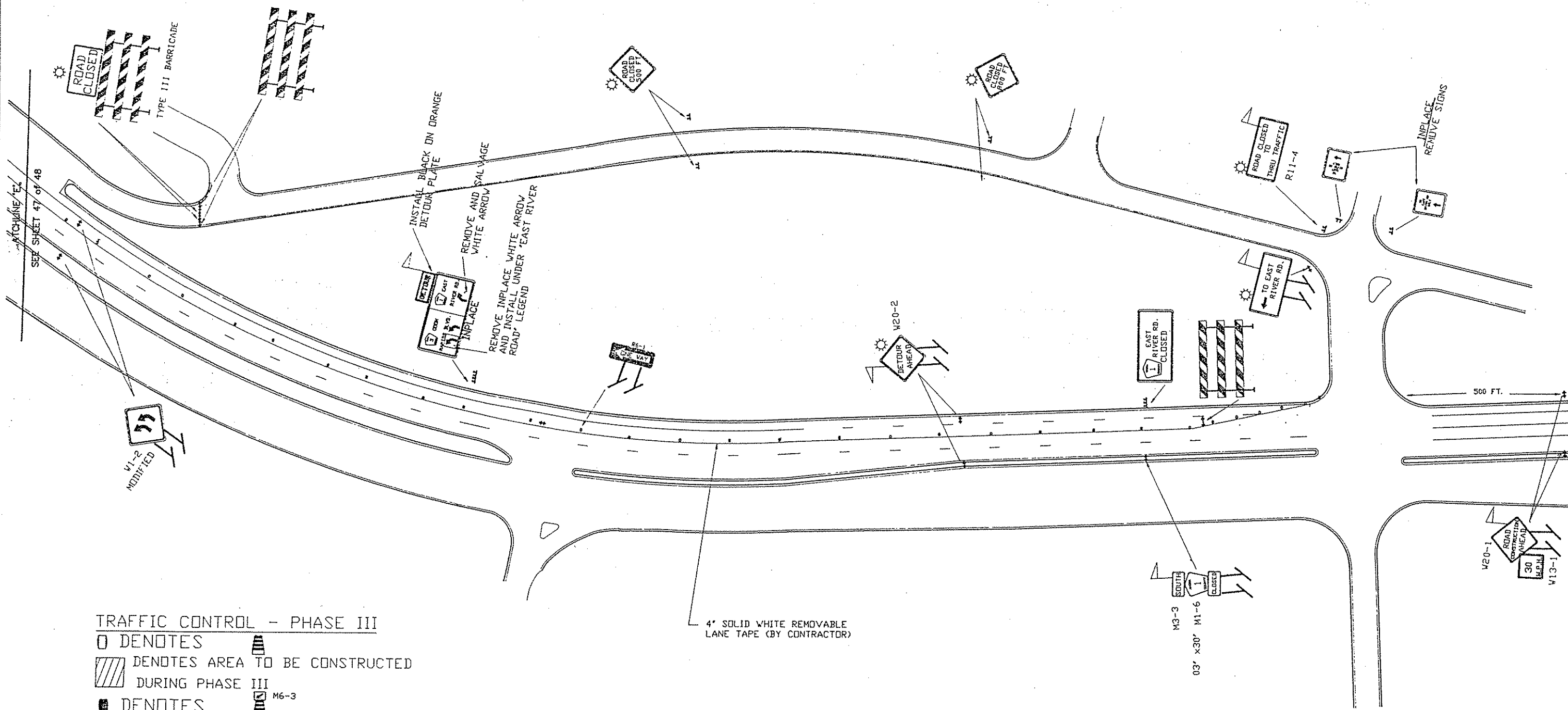
REVISIONS			
DATE	BY	DATE	BY



TRAFFIC CONTROL - PHASE III

- DENOTES
- ▨ DENOTES AREA TO BE CONSTRUCTED DURING PHASE III
- DENOTES
- M6-3

REVISIONS			
DATE	BY	DATE	BY



ATCHLINE 'E'
SEE SHEET 47 of 48

TRAFFIC CONTROL - PHASE III
 □ DENOTES
 ▨ DENOTES AREA TO BE CONSTRUCTED DURING PHASE III
 ■ DENOTES

4" SOLID WHITE REMOVABLE LANE TAPE (BY CONTRACTOR)

REVISIONS			
DATE	BY	DATE	BY

S.A.P. 02-601-32 S.P. C.P.