

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

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 7, 1991, SHALL GOVERN.

INDEX

SHEET NO.	DESCRIPTION
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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. Mike Gabrick
 COUNTY ENGINEER

DESIGN SQUAD MIKE GABRICK

Recommended for Approval _____ 19

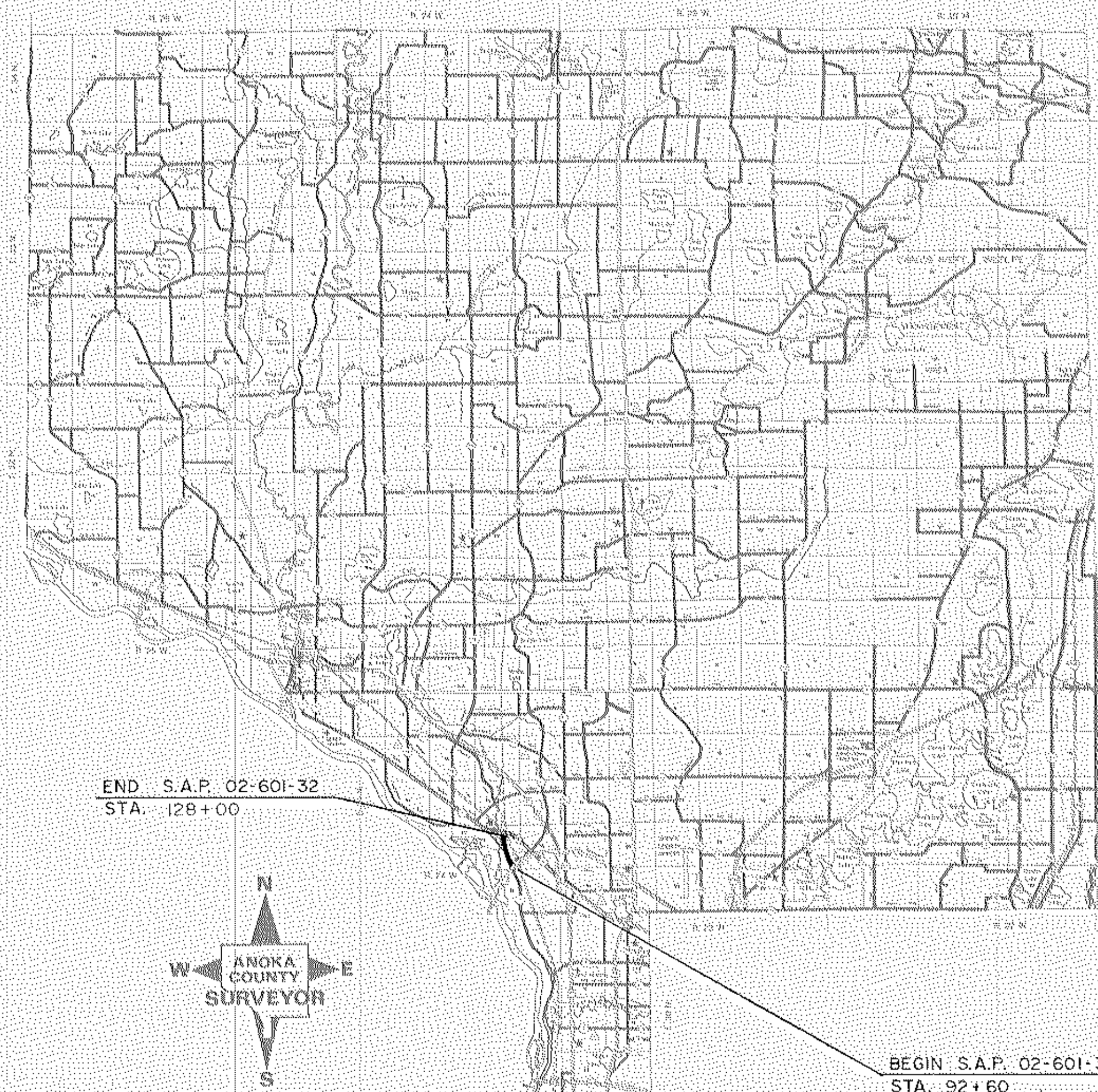
Recommended for Approval _____ 19

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

Recommended for Approval CE Wenzelbaum 6/26/1991
 DISTRICT STATE AID ENGINEER

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

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

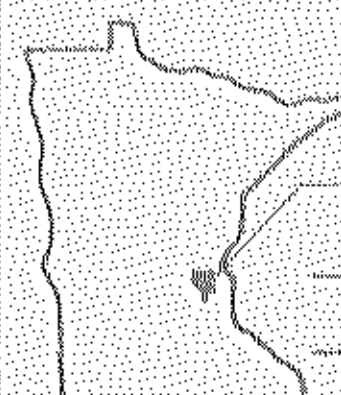


SCALES

PLAN 50
 PROFILE 50 H 5 V
 INDEX MAP 2.18 MI.
 CROSS SECTION JOH, IOV.

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)	= 1100+	STA TO STA	MPH
SOIL FACTOR	= 50%	STA TO STA	MPH
		R-VALUE	NA OR N 18 FACTOR NA



PROJECT LOCATION
 ANOKA COUNTY
 51st DISTRICT

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO. AREA JOB

STATE AID PROJ. NO. 02-601-32

STATE PROJ. NO.

COUNTY PROJ. NO.

SHEET NO. 1 OF 48 SHEETS

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.

STATEMENT OF ESTIMATED QUANTITIES

CHART NO.	ITEM NO.	ITEM	UNIT	SAP 02-601-32		100% LOCAL		STDRM 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	ACRE	0.85						0.85	
I	2101.502	CLEARING	TREE	39						39	
I	2101.506	GRUBBING	ACRE	0.85						0.85	
I	2101.507	GRUBBING	TREE	32						32	
B	2104.501	REMOVE CURB & GUTTER	LIN.FT	6020						6020	
L	2104.501	REMOVE SEWER PIPE (STDRM)	LIN.FT	1451						1451	
B	2104.503	REMOVE CONCRETE PAVEMENT	SQ.YD	5714						5714	
L	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ.YD	18481						18481	
L	2104.509	REMOVE MANHOLES AND CATCH BASINS	EACH	13						13	
L	2104.509	REMOVE CONCRETE MEDIAN NOSE	EACH	1						1	
L	2104.509	REMOVE RCP APRON	EACH	1						1	
L	2104.511	SAVING CONCRETE PAVEMENT	LIN.FT	31						31	
G	2104.513	SAVING BITUMINOUS PAVEMENT	LIN.FT	229						229	
	2104.521	SALVAGE FENCE	LIN.FT	167						167	
	2104.521	SALVAGE GUARDRAIL PLATE BEAM	LIN.FT	425						425	
	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	23215						23215	
J	2105.522	GRANULAR BORROW (EV)	CU.YD	4577						4577	
J	2105.522	SELECT GRANULAR BORROW(EV)	CU.YD	6922						6922	
J	2105.525	TOPSOIL BORROW (LV)	CU.YD	615						615	
	0105.609	GEOTEXTILE FABRIC	SQ.YD	5067						5067	
	2130.501	WATER	1000 GAL	40						40	
	2211.503	AGG. BASE PLACED, CLASS 5A (P)	CU.YD	4325						4325	
	0301.603	CONCRETE BUS PAD	SQ.YD	73						73	
	2331.508	TYPE 41 WEARING COURSE MIXTURE	TON	2119						2119	
	2331.510	TYPE 31 BINDER COURSE MIXTURE	TON	3154						3154	
	2331.514	TYPE 31 BASE COURSE MIXTURE	TON	5885						5885	
	2331.531	TEMPORARY LANE MARKING	RD.STA	237						237	
A	0331.601	2" THICK WEAR COURSE PLACED	SQ.YD	280	605					885	
L	2357.502	BIT. MAT'L FOR TACK	GAL	2568						2568	
L	2501.515	12" R.C.PIPE APRONS	EACH					1		1	
L	2501.515	24" R.C.PIPE APRONS	EACH					1		1	
	2502.541	3" PERE. CORR. P.E. PIPE DRAIN	LIN.FT	1250						1250	
L	2503.541	12" RCP SEWER, DES.3006F CL. III	LIN.FT					1597		1597	
L	2503.541	15" RCP SEWER, DES.3006F CL. III	LIN.FT					1059		1059	
L	2503.541	18" RCP SEWER, DES.3006F CL. III	LIN.FT					1147		1147	
L	2503.541	21" RCP SEWER, DES.3006F CL. III	LIN.FT					185		185	
L	2503.541	24" RCP SEWER, DES.3006F CL. III	LIN.FT					1750		1750	
L	2503.541	27" RCP SEWER, DES.3006F CL. III	LIN.FT					178		178	
C	0504.602	RELOCATE HYDRANT	EACH			5				5	
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	
	0504.602	8" PLUG	EACH			3				3	
	0504.602	CONNECT TO EXISTING WATERMAIN	EACH			2				2	
	0504.603	8" DIP WATERMAIN	LIN.FT		191					191	
L	2506.501	CONST. DRAINAGE STRUCTURES DES. A OR F	LIN.FT					118.9		118.9	
L	2506.501	CONST. DRAINAGE STRUCTURES DES. C OR G	LIN.FT					65.2		65.2	
L	2506.501	CONST. DRAINAGE STRUCTURES DES. H	LIN.FT					29.7		29.7	
L	2506.501	CONST. DRAINAGE STRUCTURES DES. 54-4020	LIN.FT					27.9		27.9	
L	2506.511	RECONSTRUCT MANHOLES	LIN.FT					5.4		5.4	
L	2506.512	RECONSTRUCT CATCH BASINS	LIN.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	0506.602	CONNECT TO EXIST STDRM SEWER	EACH					1		1	
L	2511.507	GRouted RIPRAP	CU.YD					5.8		5.8	
	2514.501	CONCRETE SLOPE PAVING	SQ.YD	100						100	
H	2521.501	4" CONCRETE WALK	SQ.FT	1566						13980	
H	2521.501	6" CONCRETE WALK	SQ.FT				100			100	
H	2531.501	CONC. CURB AND GUTTER DESIGN B-624	LIN.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	
	2554.501	TRAFFIC BARRIER, DES. B 8307	LIN.FT	425						425	
	2554.523	TWISTED END TREATMENT	EACH	4						4	
	0557.603	INSTALL FENCE	LIN.FT	167						167	
	0563.601	TRAFFIC CONTROL, PHASE I	LUMP.SUM	1						1	
	0563.601	TRAFFIC CONTROL, PHASE II	LUMP.SUM	1						1	
	0563.601	TRAFFIC CONTROL, PHASE III	LUMP.SUM	1						1	
	0563.601	DETOUR SIGNING	LUMP.SUM	1						1	
	2573.501	BALE CHECK	EACH	50						50	
	2573.502	SILT FENCE, HEAVY DUTY	LIN.FT	875						875	
	2575.501	SEEDING (P)	ACRE	2.8						2.8	
	2575.502	SEED MIXTURE NO. 500	POUND	140						140	
F	2575.505	SODDING, TYPE-EROSION CNTRL	SQ.YD	6352						6352	
	2575.511	MULCH MATERIAL TYPE-1	TON	5.6						5.6	
	2575.519	DISC ANCHORING (P)	ACRE	2.8						2.8	
	2575.531	COMM. FERT. ANALY. 10-10-10	TON	.93						0.93	
	2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LIN.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 TIERS
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

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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	SAVING 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 CON 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)

Table with columns: STATION, ADDRESS, REMARKS, REMOVE (CONC., BIT.), CONCRETE DRIVEWAY PAVEMENT (APRON SQ. YD., DRIVEWAY SQ. YD.), BIT. PAVEMENT DRIVEWAY SQ. YD. Includes data for stations like LSB 94+30 LT and LNB 111+16 RT.

CURB & GUTTER - MEDIAN - SIDEWALK CHART (H)

Table with columns: 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. Includes data for stations like LNB 93+00 - 128+00 and LSB 101+54 - 103+03.

MISCELLANEOUS REMOVAL (B)

Table with columns: STA. TO STA., LOC., DESCRIPTION, LIN. FT., SQ. YD., FINAL. Includes data for stations like LNB 93+00 - 94+10 and LNB 119+05 - 121+55.

SODDING (F)

Table with columns: STATION TO STATION, LOCATION, SQ. YDS., REMARKS. Includes data for stations like LSB 92+60 - 95+75 and LNB 114+00 - 135+00.

CLEARING AND GRUBBING (I)

Table with columns: STATION, LOCATION, CLEARING TREE, CLEARING ACRE, GRUBBING TREE, GRUBBING ACRE. Includes data for stations like LSB 95+45 and LNB 104+55-105+61.

HYDRANT LOCATION (C)

Table with columns: STA., LOC., NEW STA., NEW LOC. Includes data for stations like LSB 95+71 and LNB 107+49.

CURB STOPS (D)

Table with columns: STA., LOC., NEW LOC., LIN. FT. Includes data for stations like LNB 96+73 and LNB 112+64.

SAWING BITUMINOUS PAVEMENT (G)

Table with columns: STATION TO STATION, LOCATION, LIN. FT. Includes data for stations like LNB 93+00 and LNB 128+00.

G.V. LOC. (E)

Table with columns: STA., LOC. Includes data for stations like LSB 95+78 and LNB 107+49.

REVISIONS

Table with columns: DATE, BY, DATE, BY.

S.A.P. 02-601-32

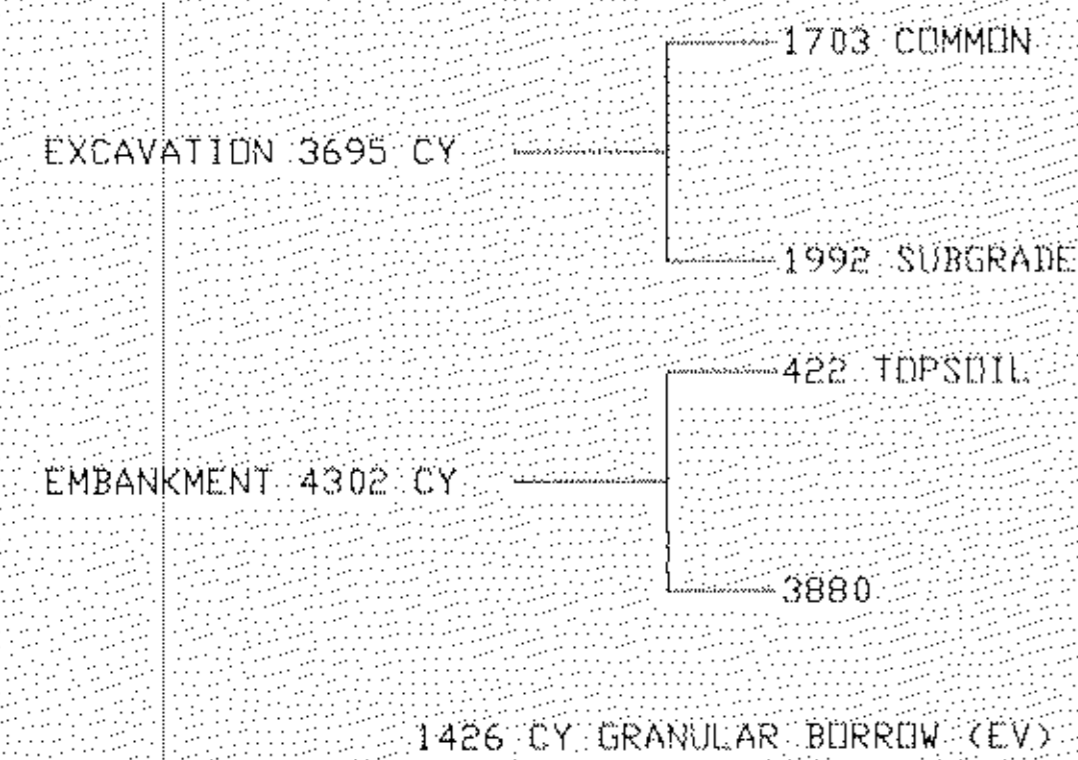
S.P.

C.P.

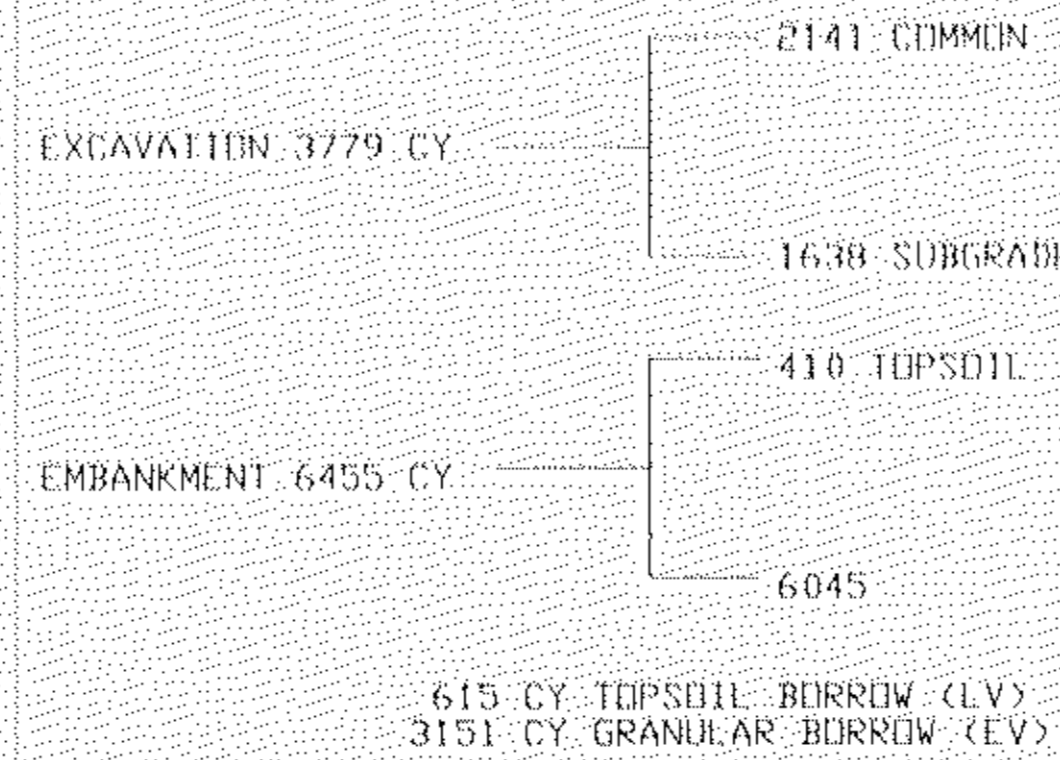
QUANTITY CHARTS

EARTHWORK SUMMARY

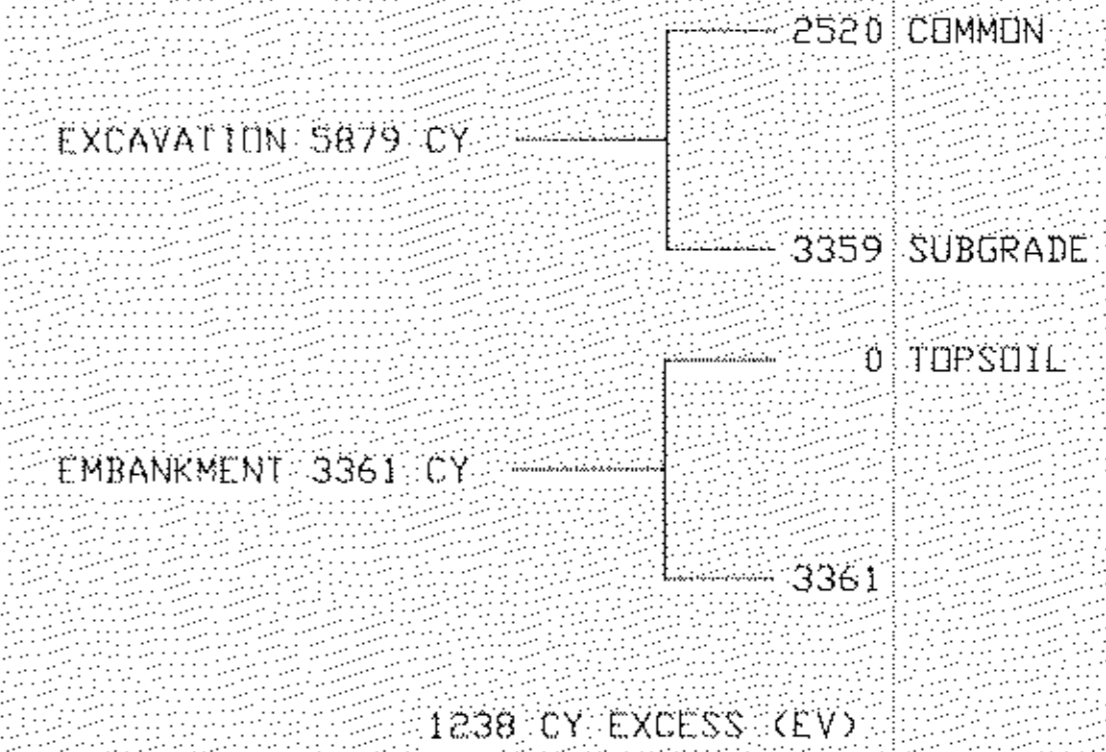
L^{NB}/L^{SB} 92+50 TO 112+00 - STAGE 1 CONSTRUCTION



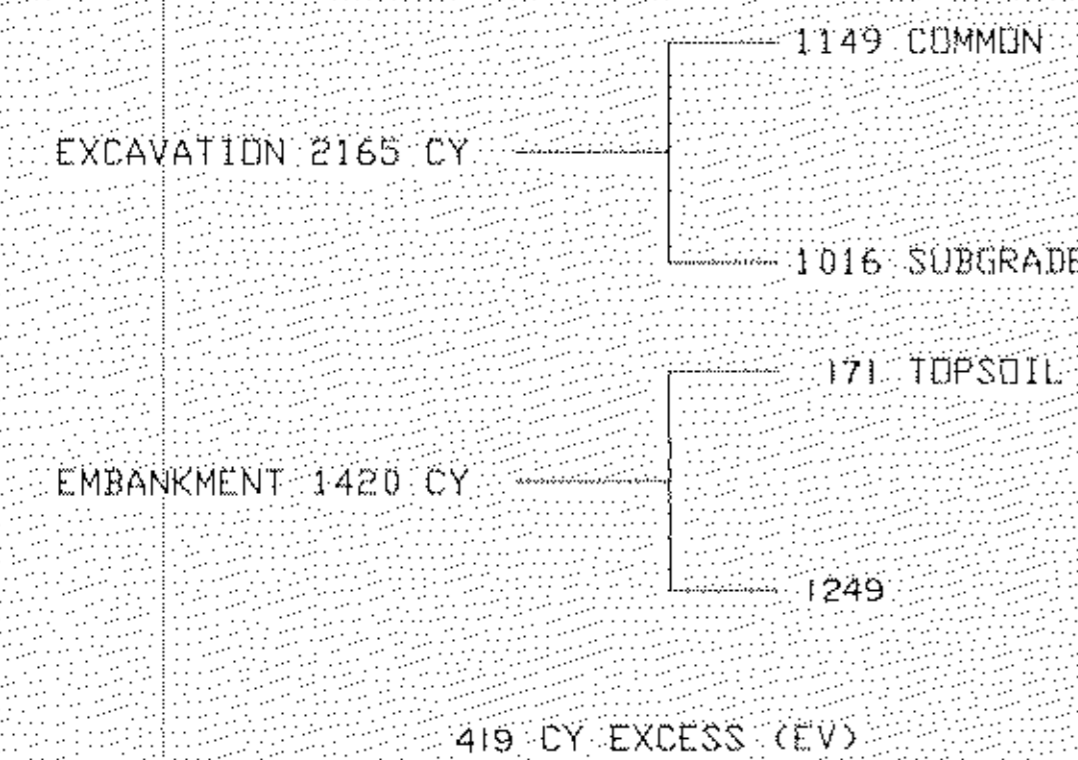
L^{NB}/L^{SB} 92+50 TO 112+00 - STAGE 2 CONSTRUCTION



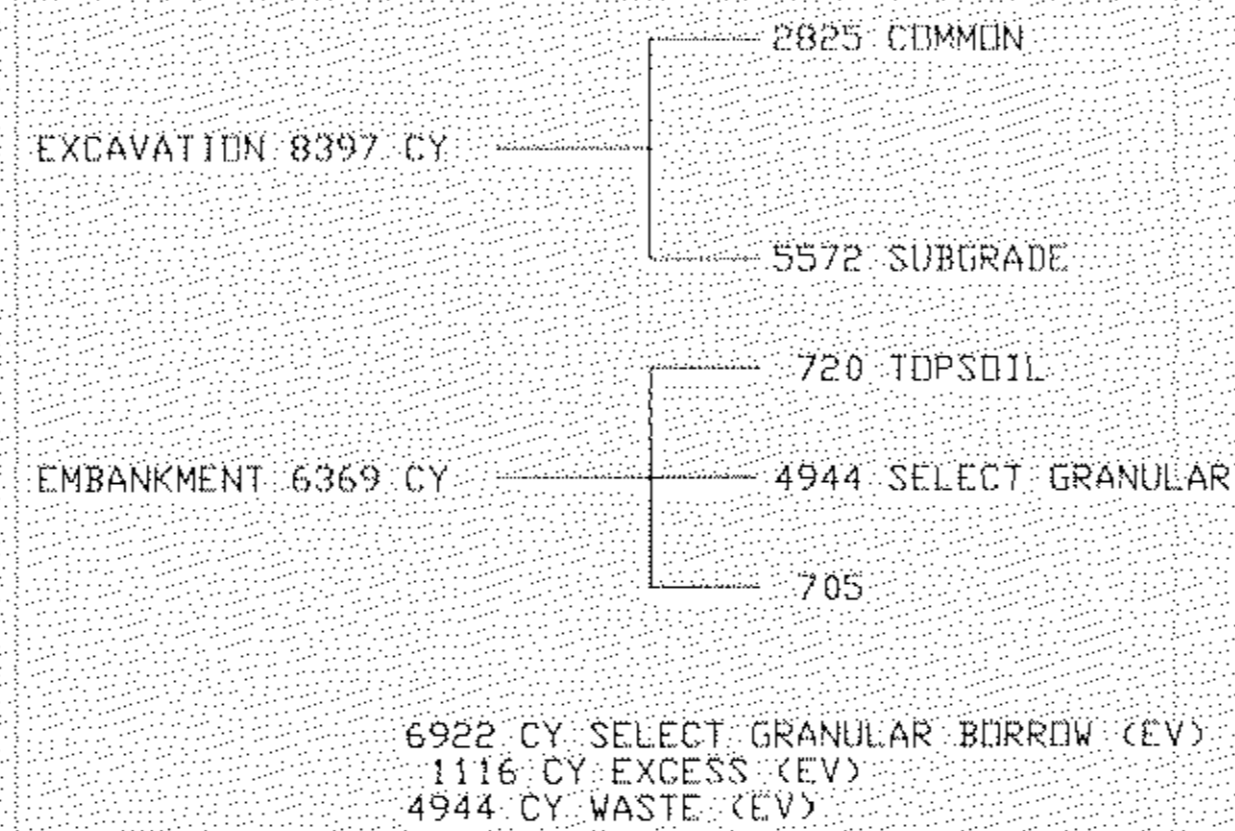
L^{NB}/L^{SB} 92+50 TO 112+00 - STAGE 3 CONSTRUCTION



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:

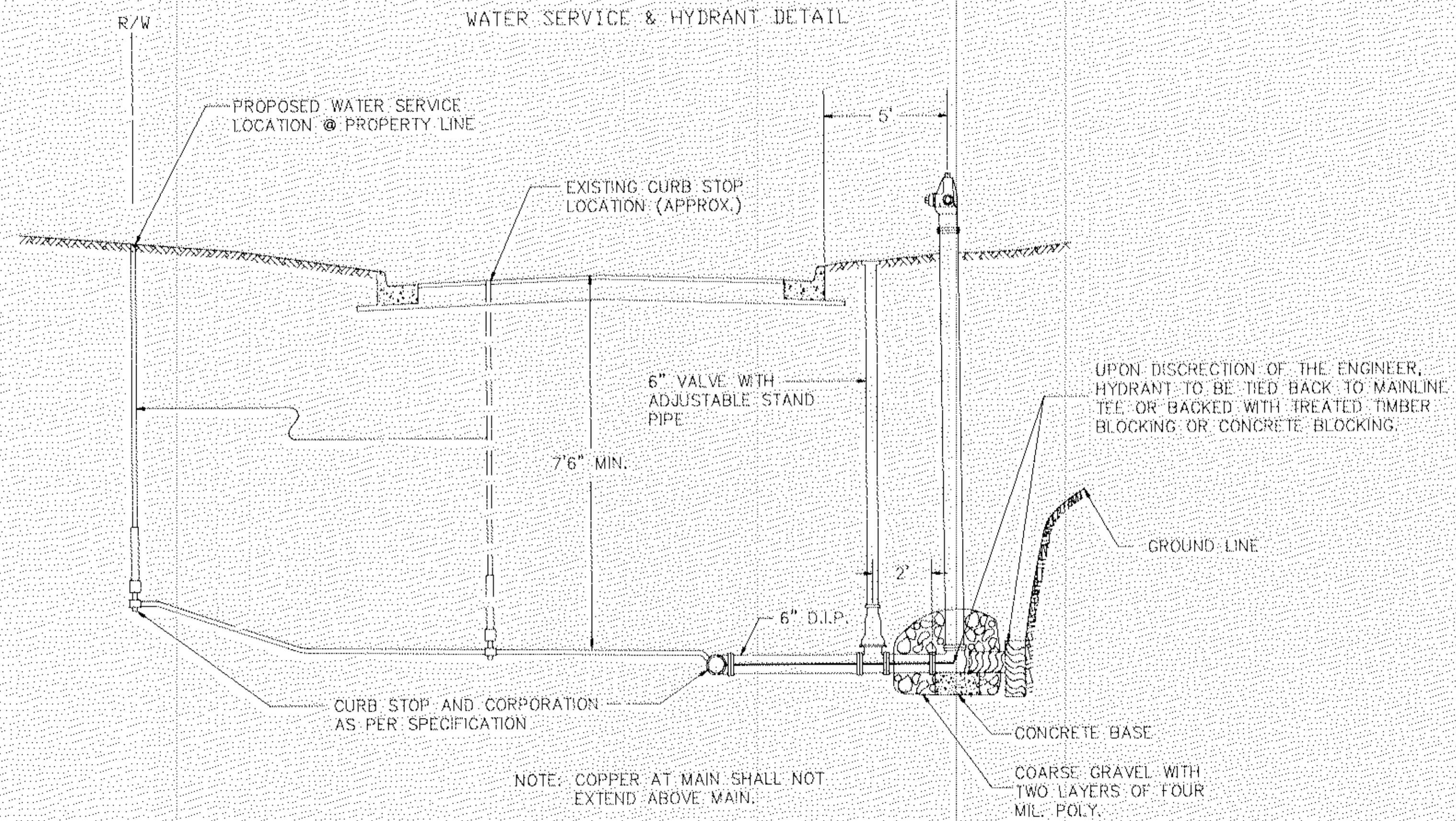
1. TOP OF GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE AGGREGATE BASE.
2. IN FILL AREAS, THE SUBGRADE SHALL BE CONSTRUCTED WITH SELECTED GRADING MATERIAL.
3. SELECTED GRADING MATERIALS SHALL CONSIST OF GRANULAR MATERIALS, OF WHICH THE UPPER 1.0 FOOT OF THE SUBGRADE SHALL CONSIST OF SELECT GRANULAR 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).

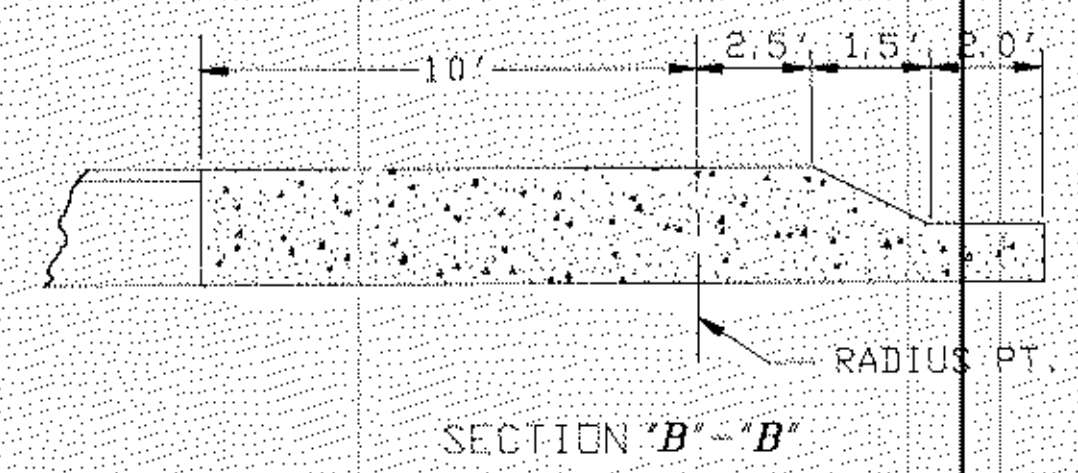
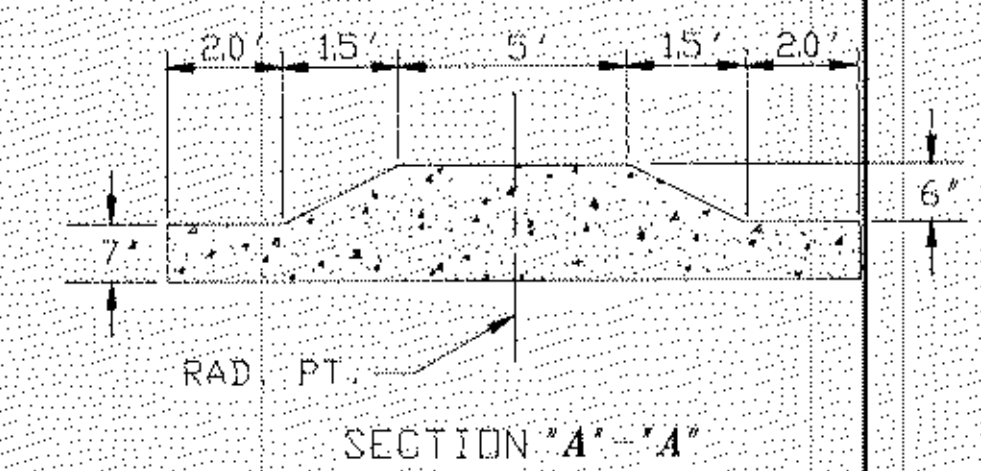
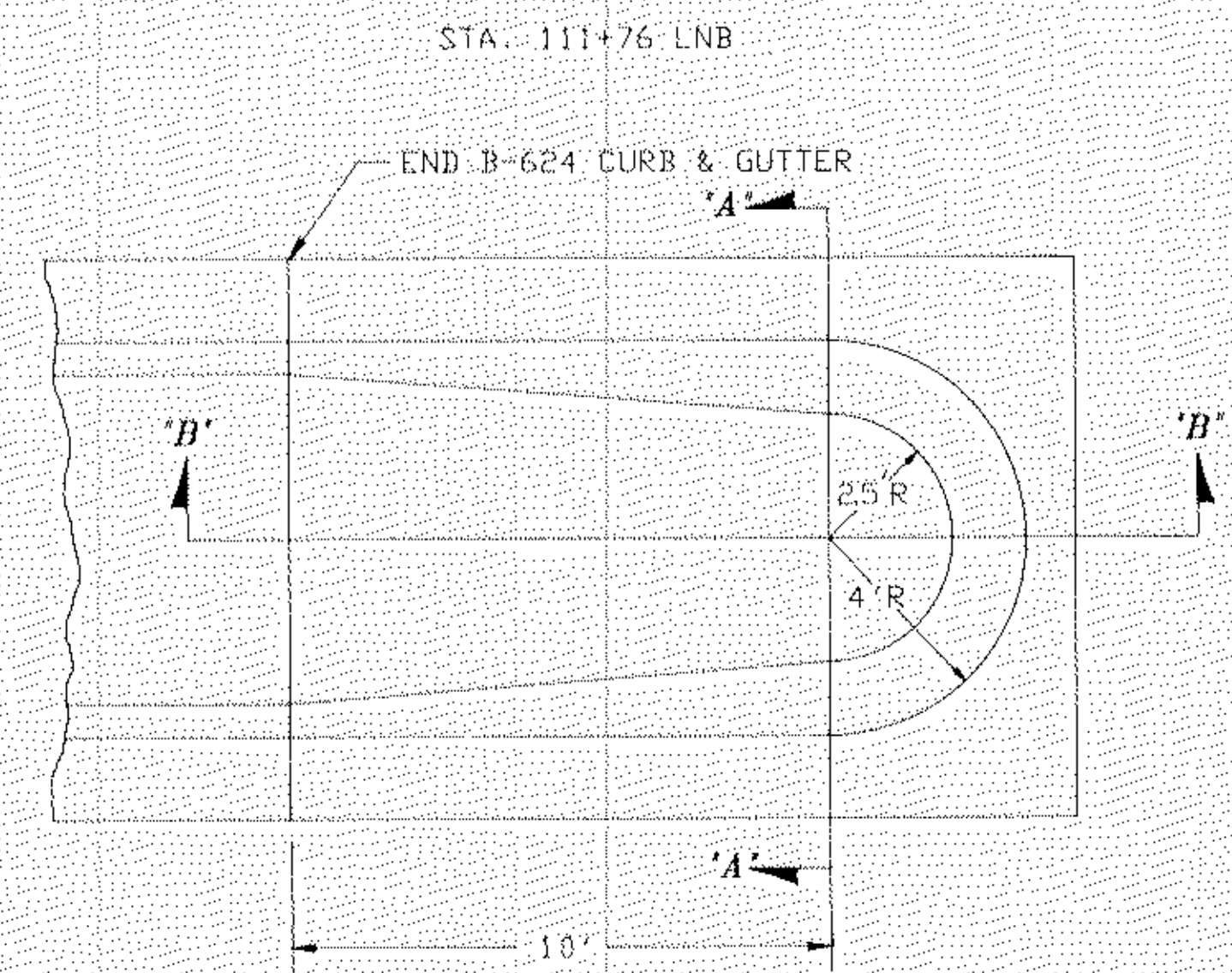
22. EXCESS TOPSOIL MAY BE USED IN EMBANKMENT CONSTRUCTION IN AREAS OUTSIDE OF A 1.1/2:1 SLOPE FROM THE BACK OF CURB.
23. EXISTING STABILIZED SUBGRADE MUST BE PULVERIZED PRIOR TO USE AS EMBANKMENT MATERIAL.
24. ALL SOD UTILIZED WITHIN THE PROJECT LIMITS SHALL MEET THE REQUIREMENTS OF SPEC. 3878.2B (EROSION 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

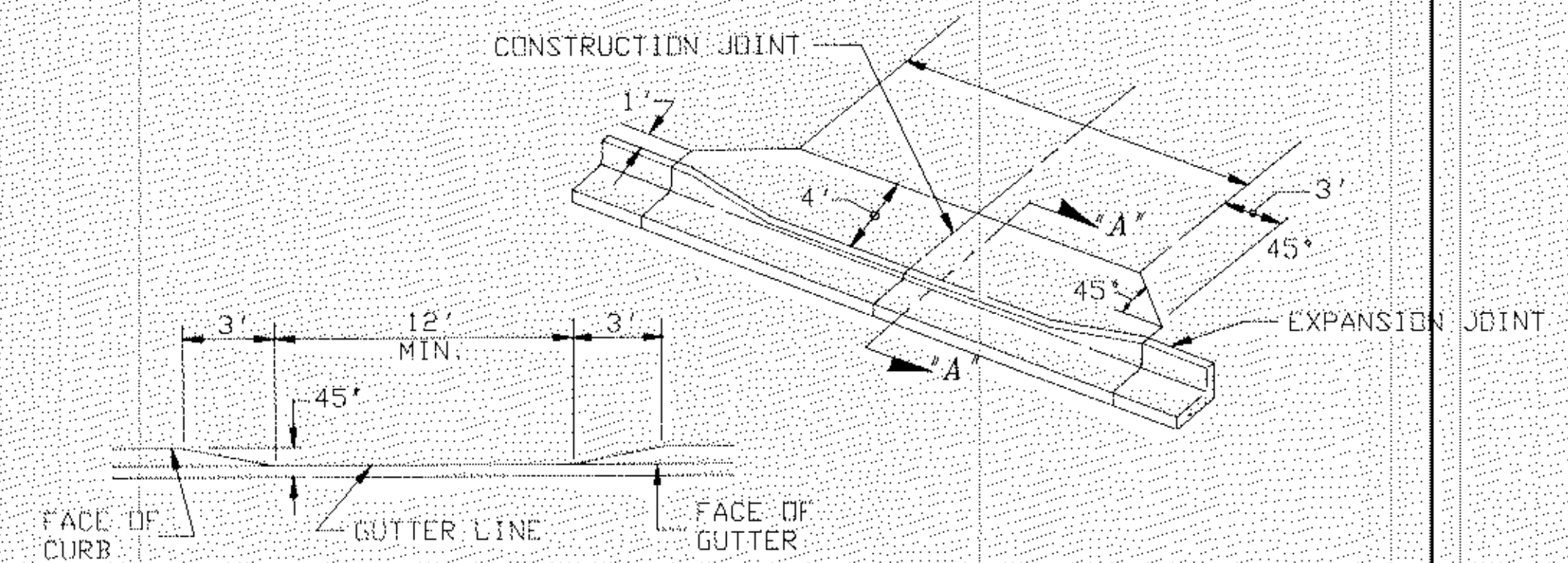
WATER SERVICE & HYDRANT DETAIL



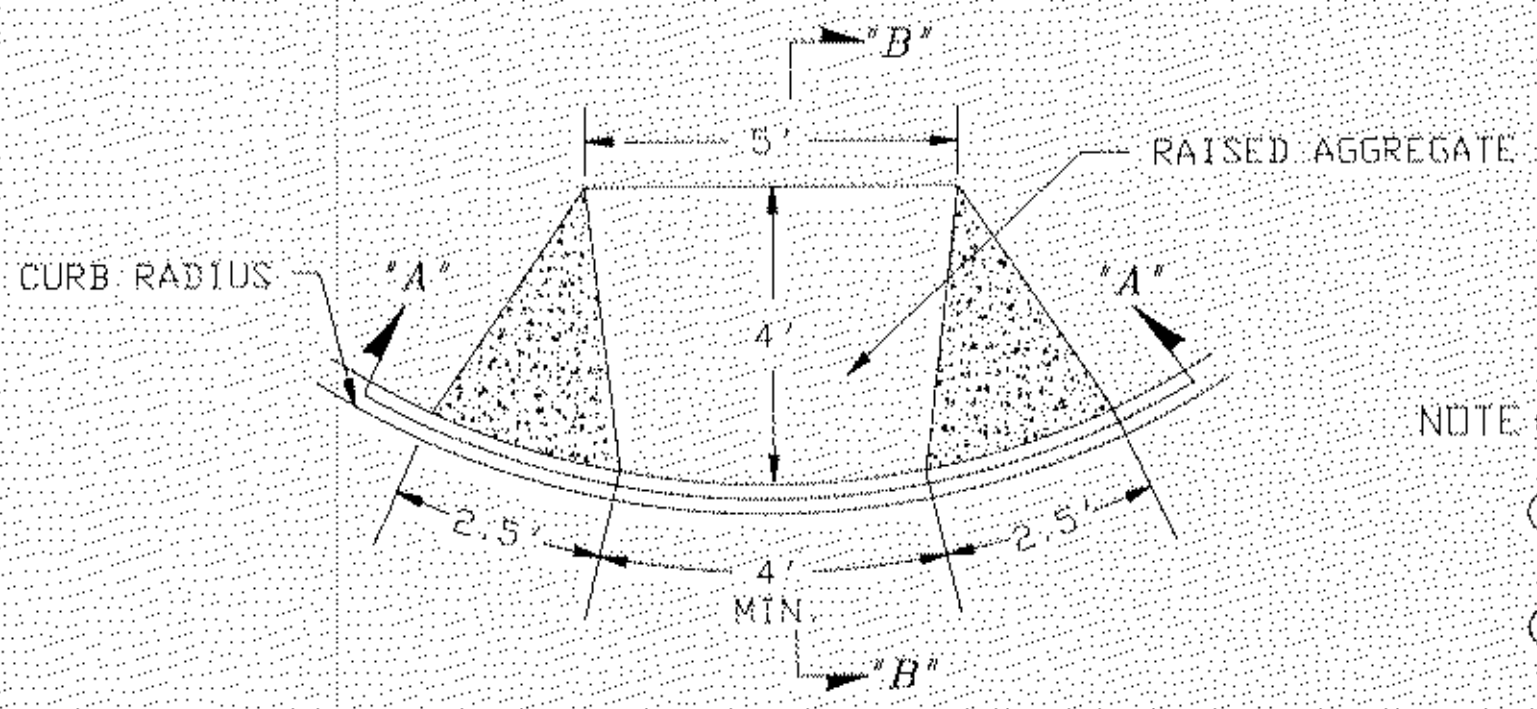
MEDIAN NOISE DETAIL



CONCRETE APRON DETAIL

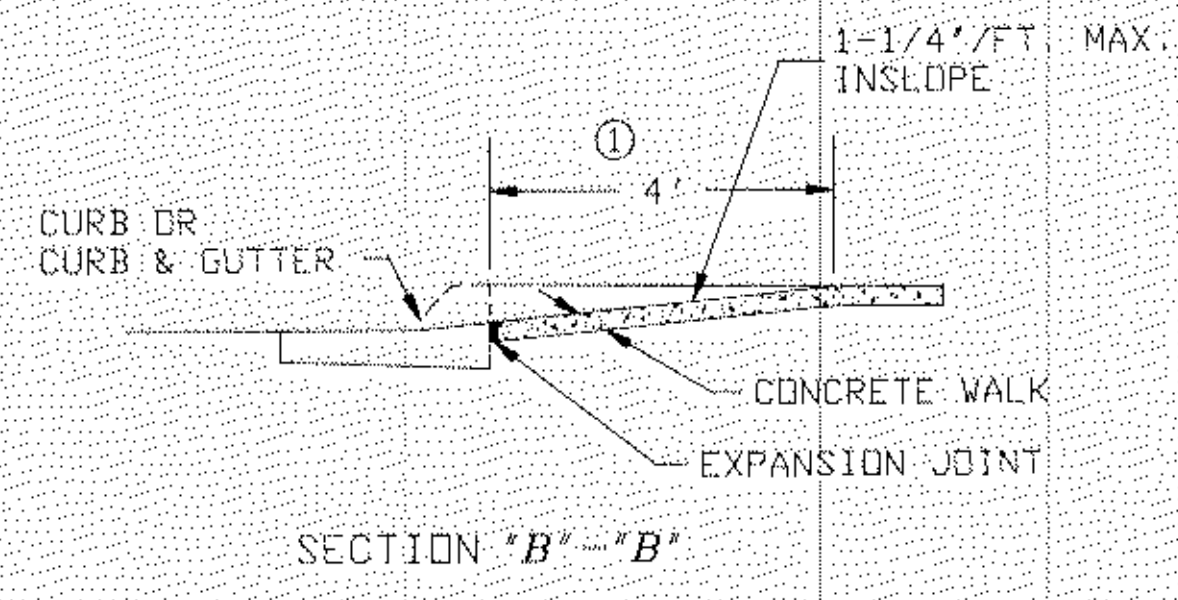
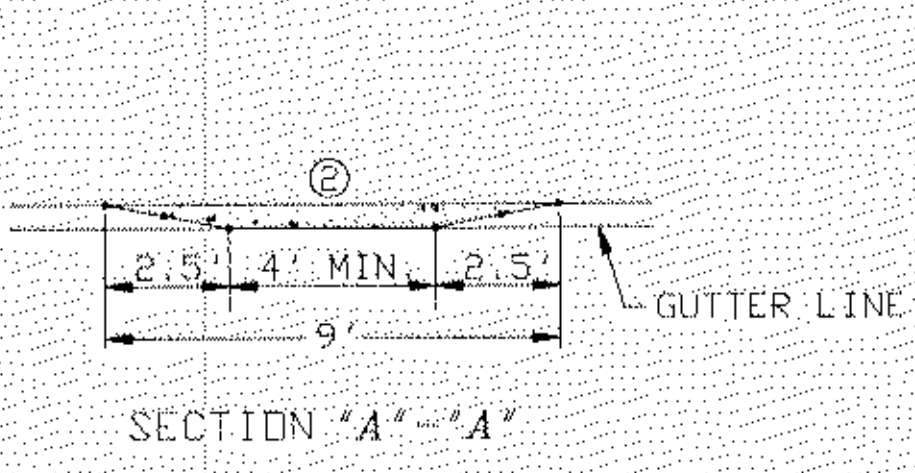
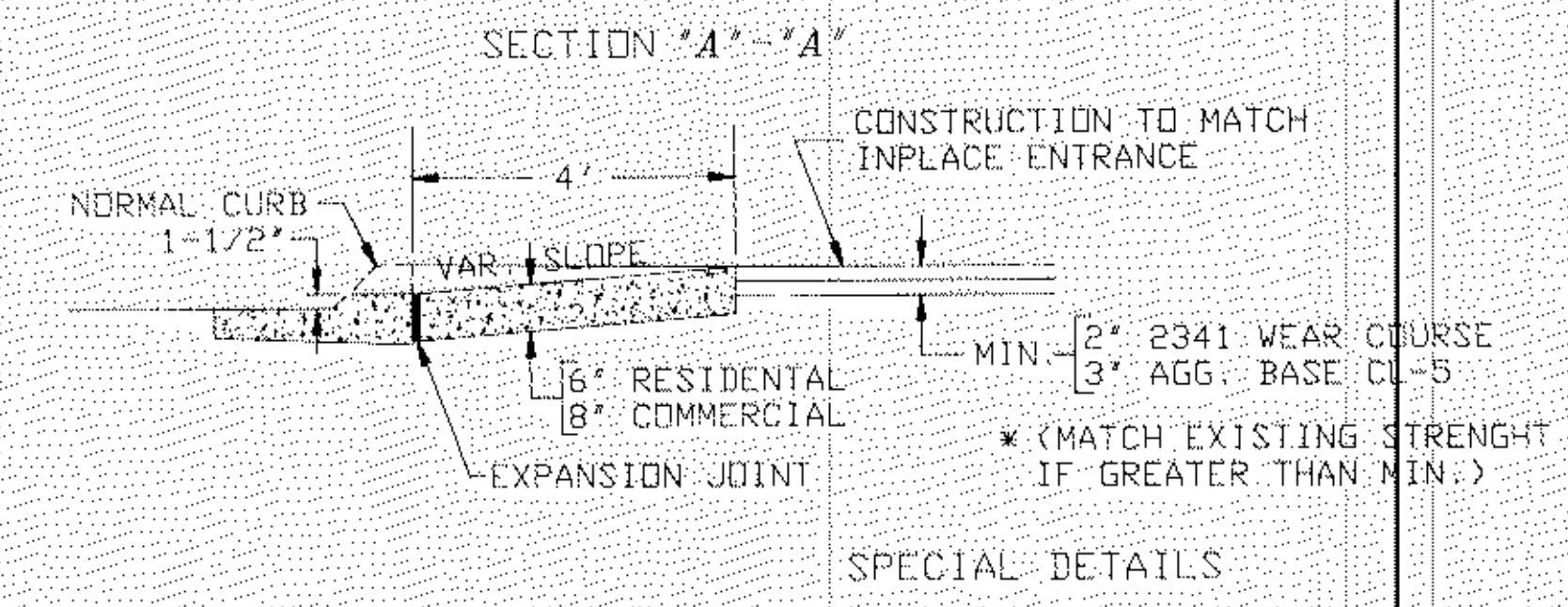
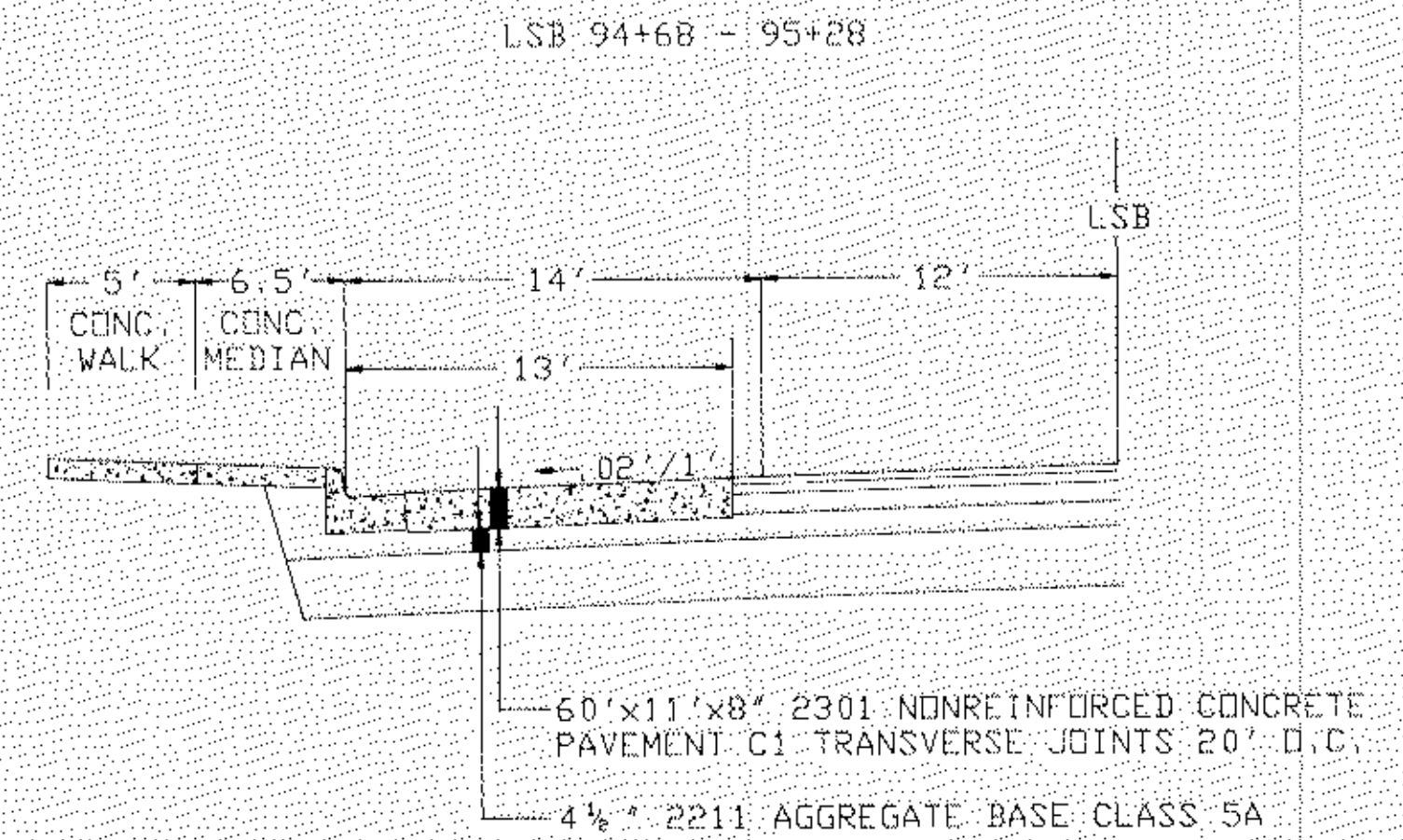


PEDESTRIAN RAMP DETAIL

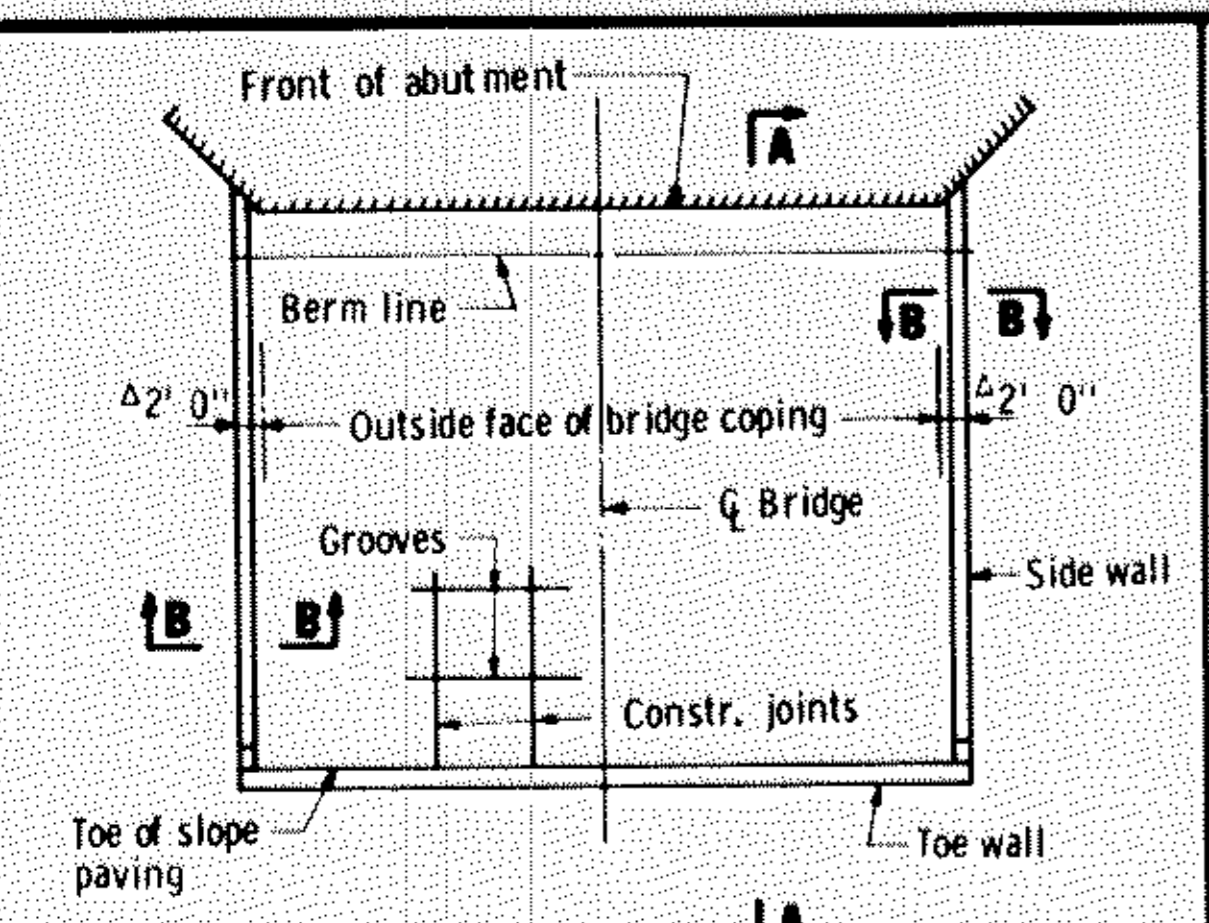


NOTE: PEDESTRIAN RAMP LOCATION TO BE DETERMINED BY ENGINEER.
 ① MINIMUM DIMENSION - MAY INCREASE TO ACHIEVE DESIRED SLOPE.
 ② 4' MIN. VALLEY FROM GUTTER LINE SHOULD HAVE A SMOOTH TRANSITION

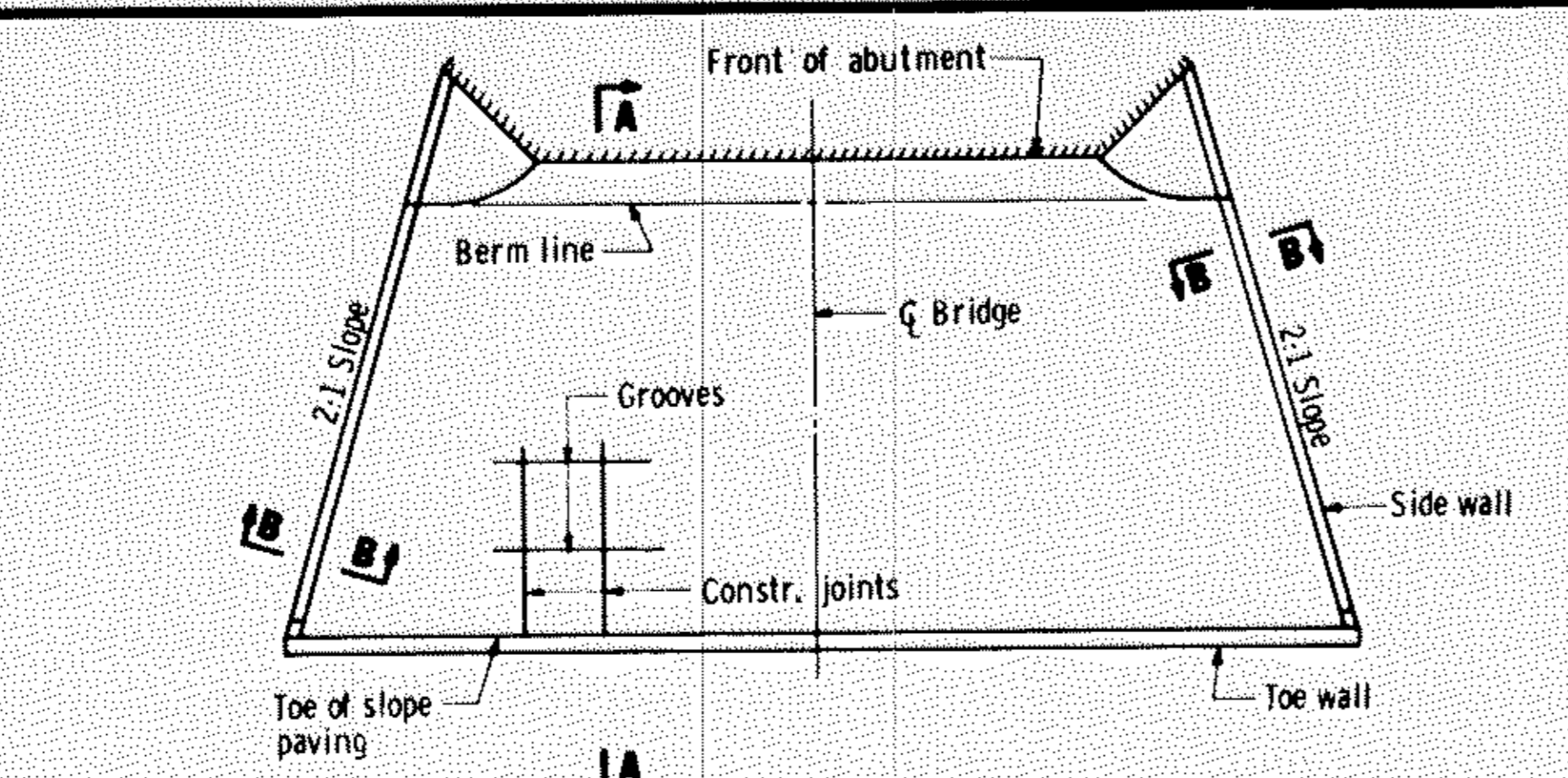
BUS PAD DETAIL



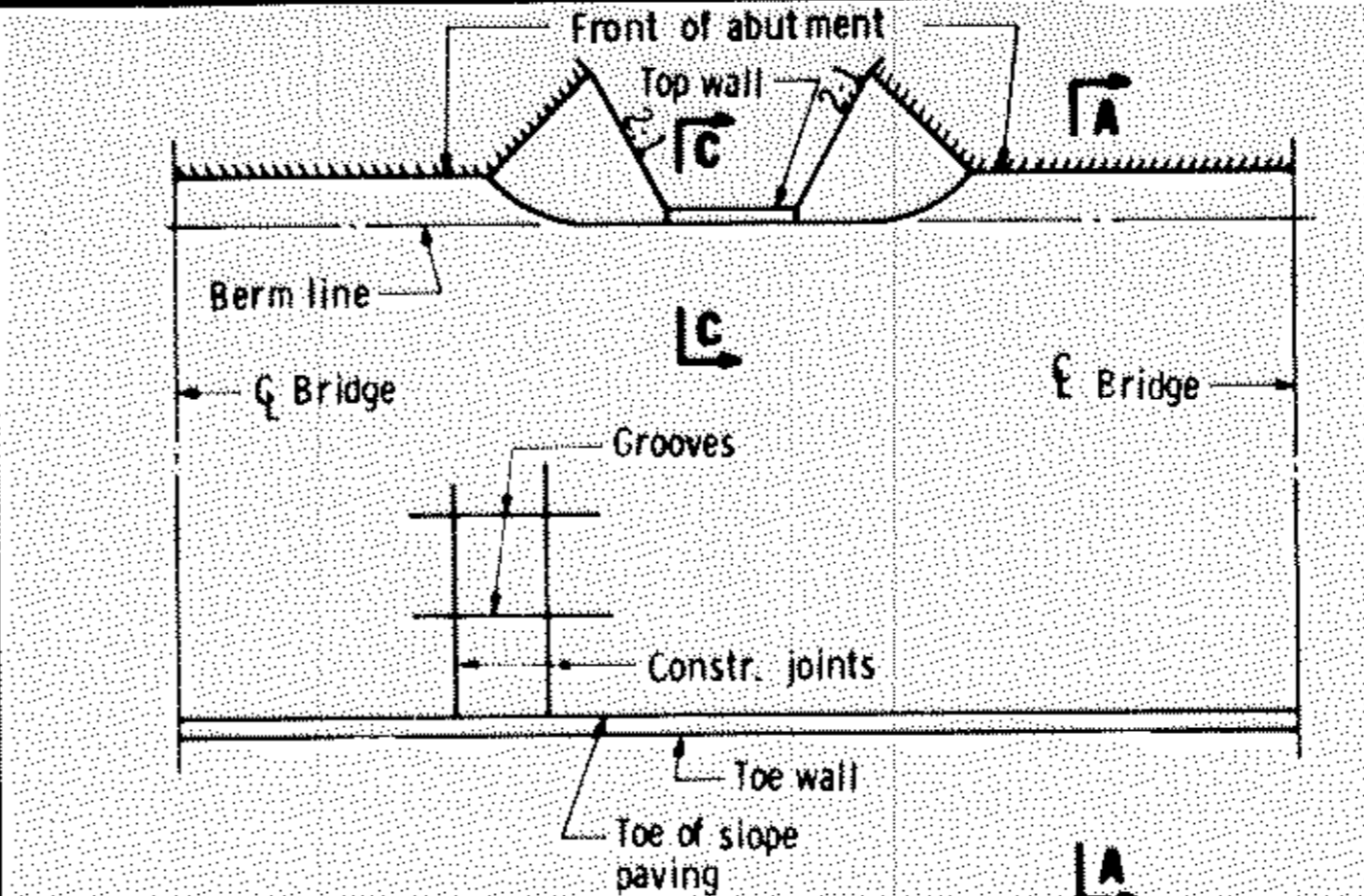
REVISIONS			
DATE	BY	DATE	BY



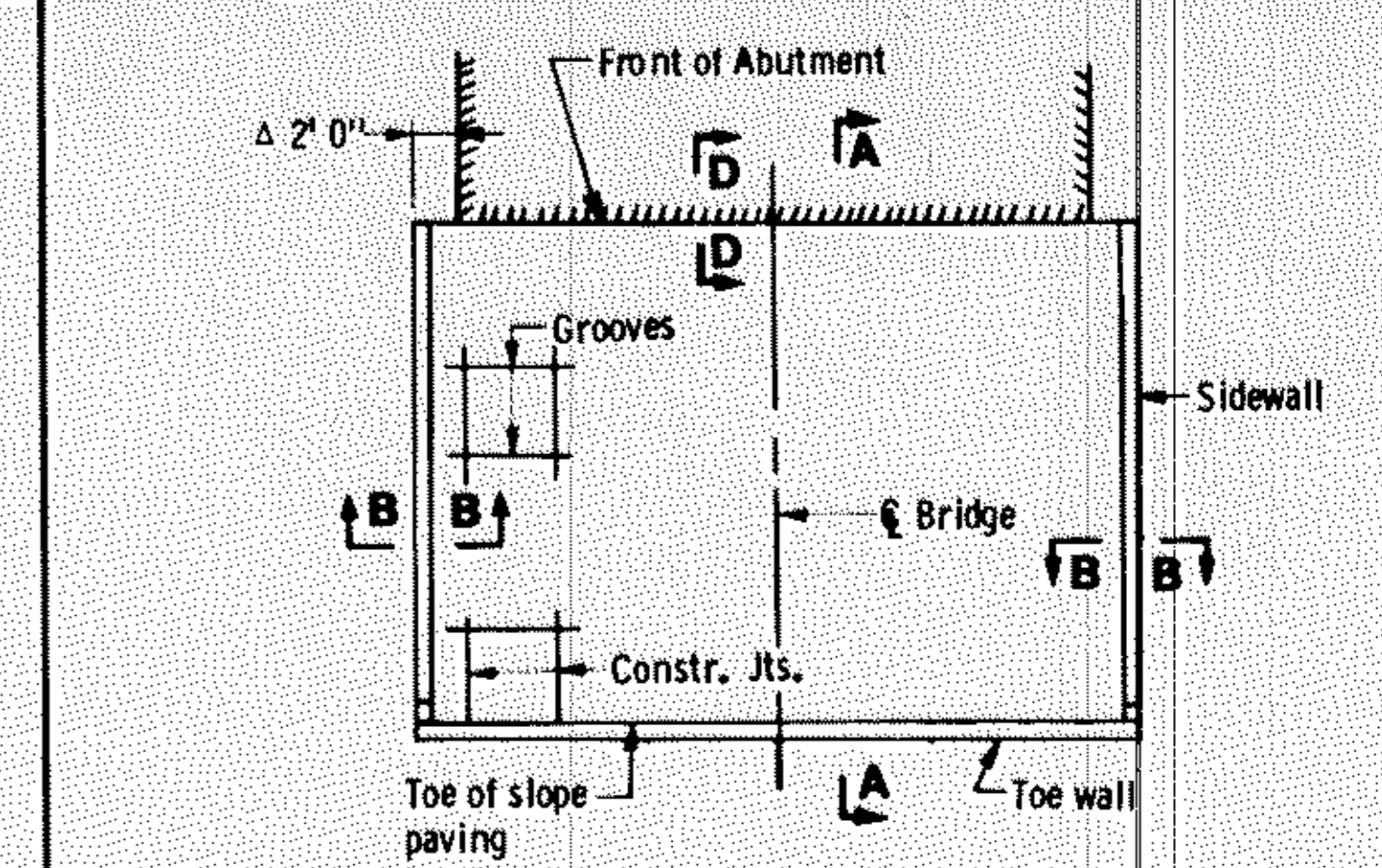
SQUARE BRIDGE



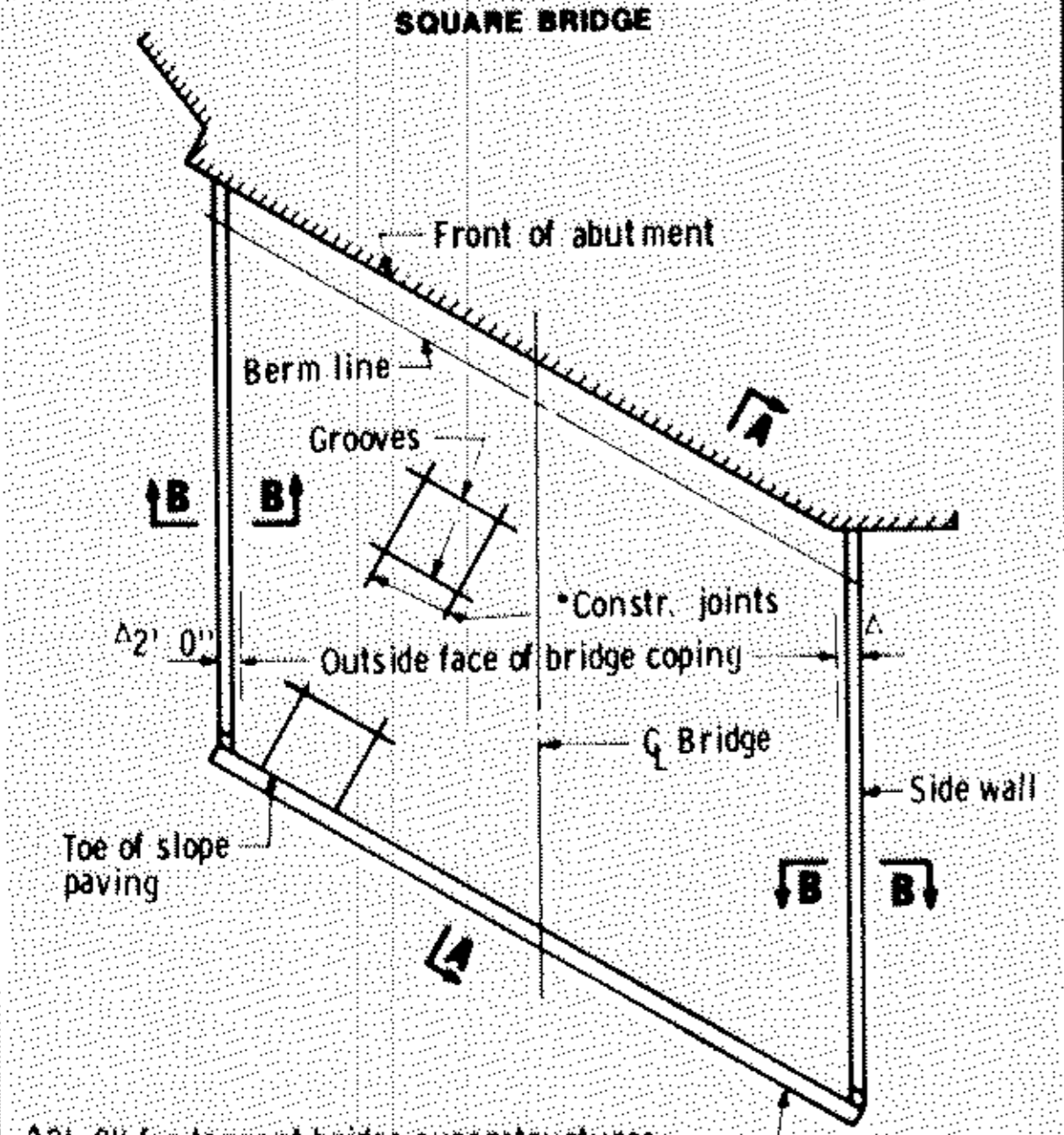
SQUARE BRIDGE



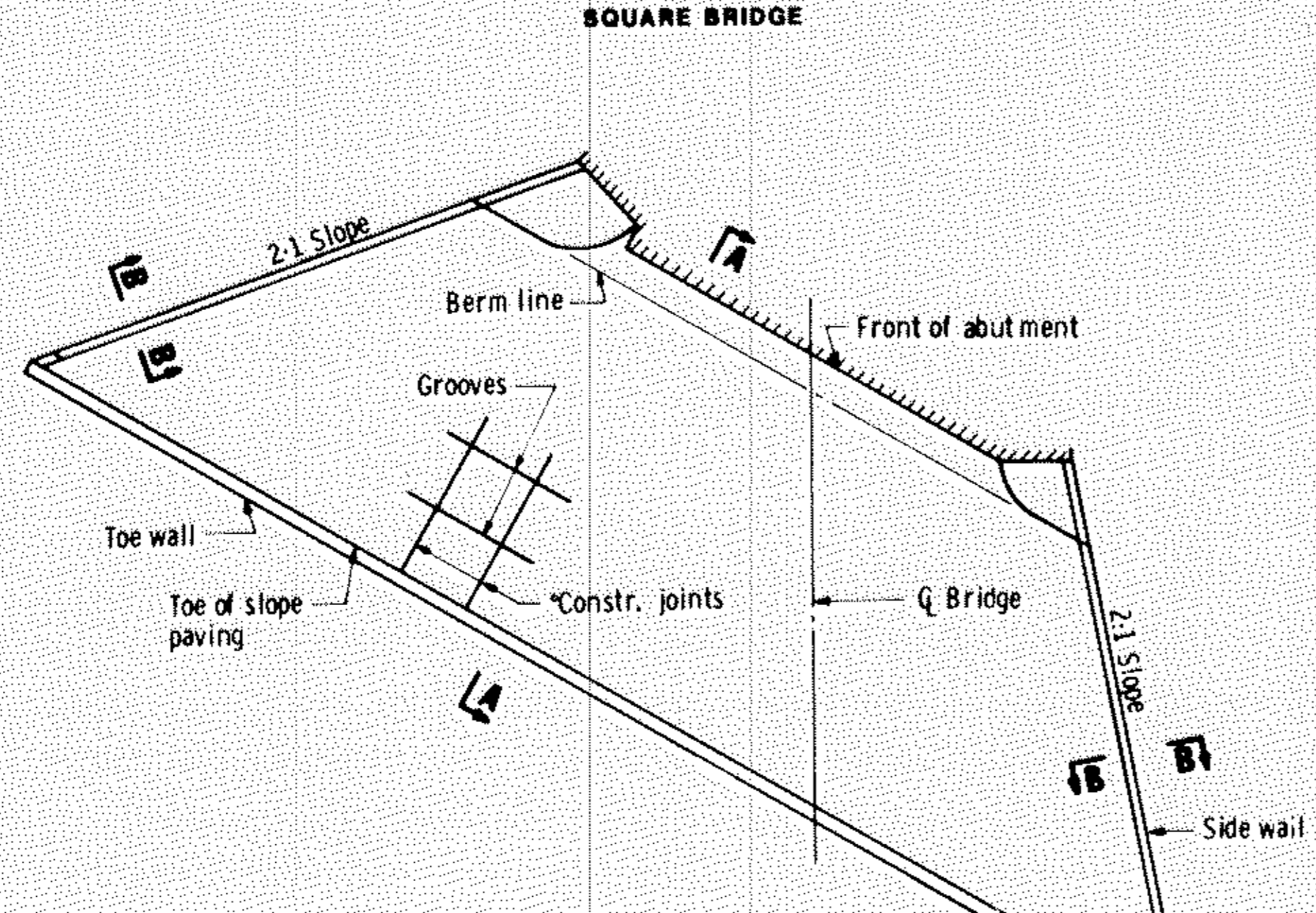
SQUARE BRIDGE



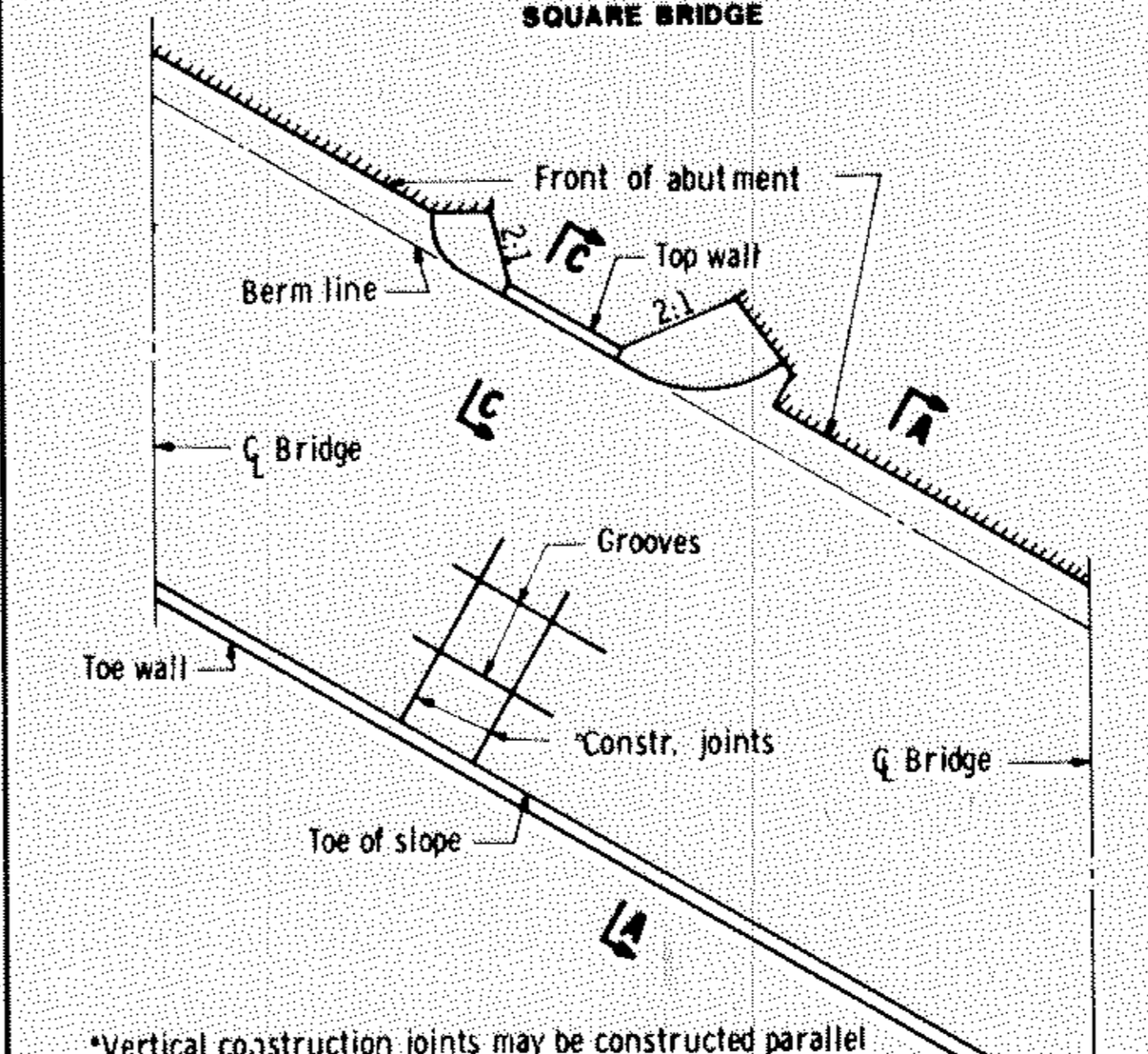
SQUARE BRIDGE



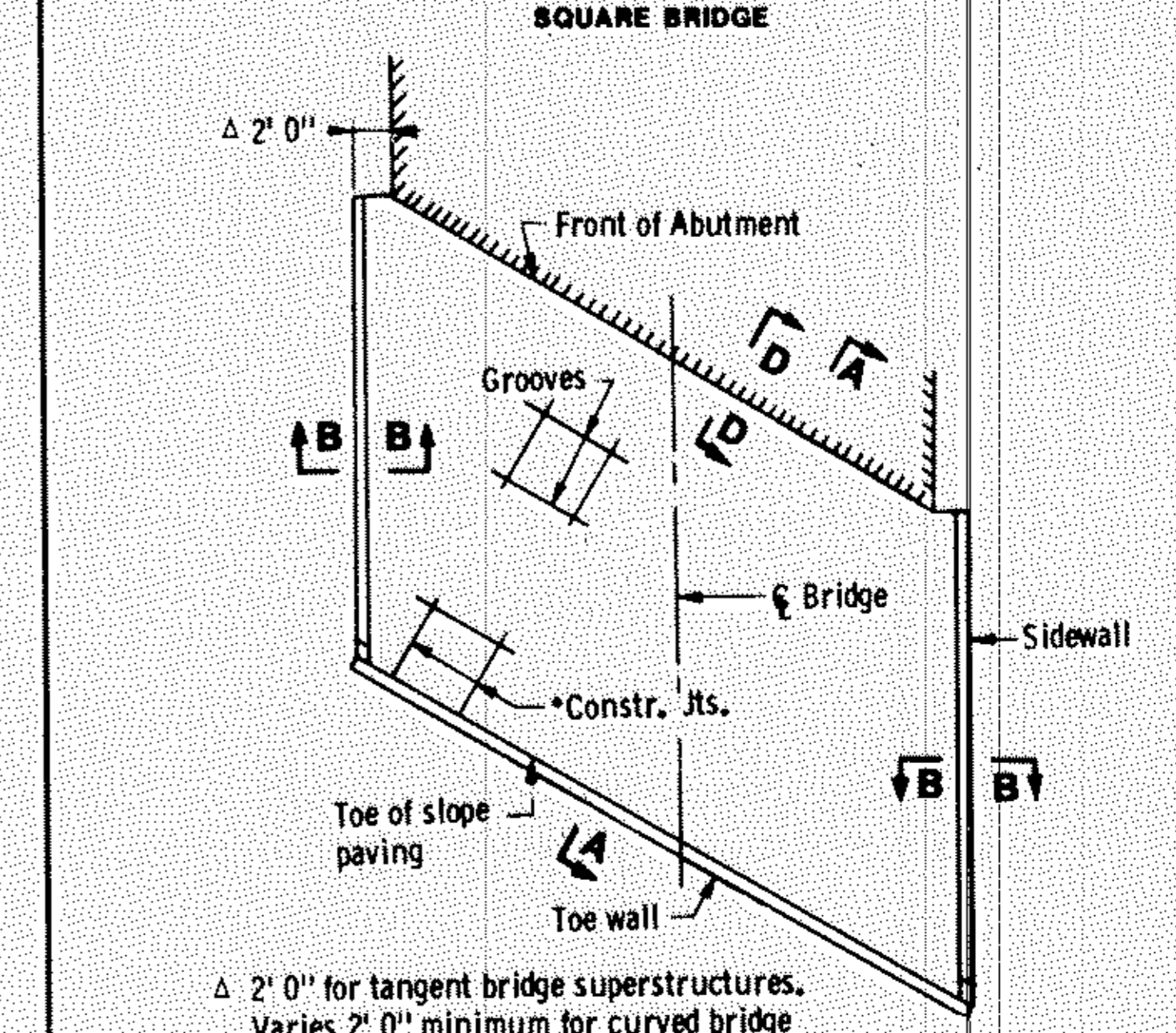
SKewed BRIDGE



SKewed BRIDGE



SKewed BRIDGE
LAYOUTS FOR SLOPES STEEPER THAN 2:1
BETWEEN BRIDGES



SKewed BRIDGE

LAYOUTS FOR SLOPES AT HIGH ABUTMENTS

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.

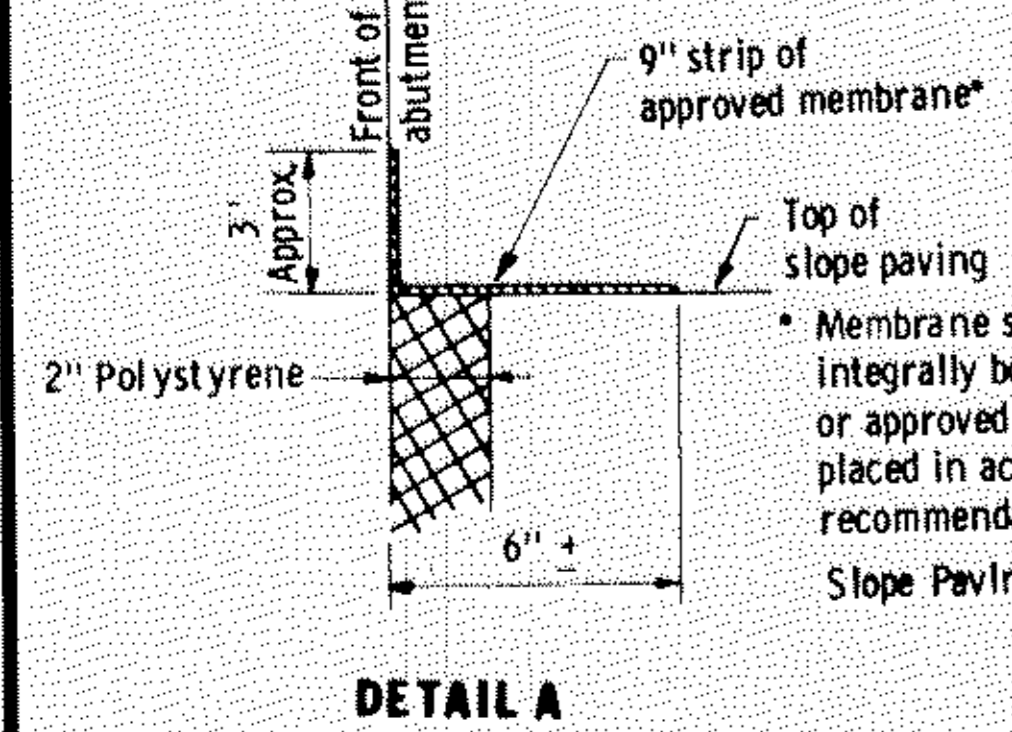
*Vertical construction joints may be constructed parallel to Q of bridge for skews to 10° only.

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

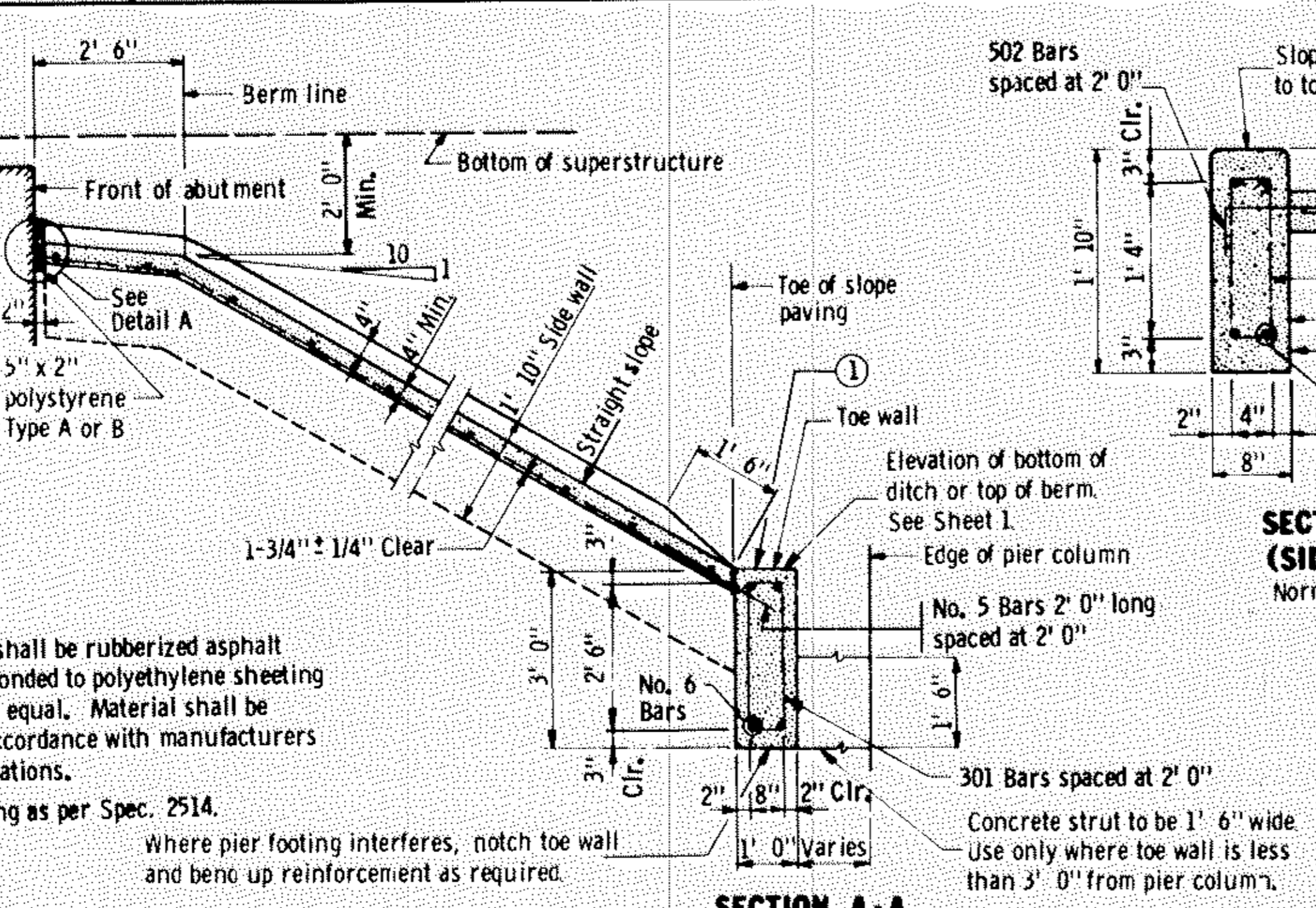
Δ 2' 0" for tangent bridge superstructures. Varies 2' 0" minimum for curved bridge superstructures.
*Vertical construction joints may be constructed parallel to Q of bridge for skew to 10° only.

CONCRETE & REINFORCEMENT UNIT QUANTITIES

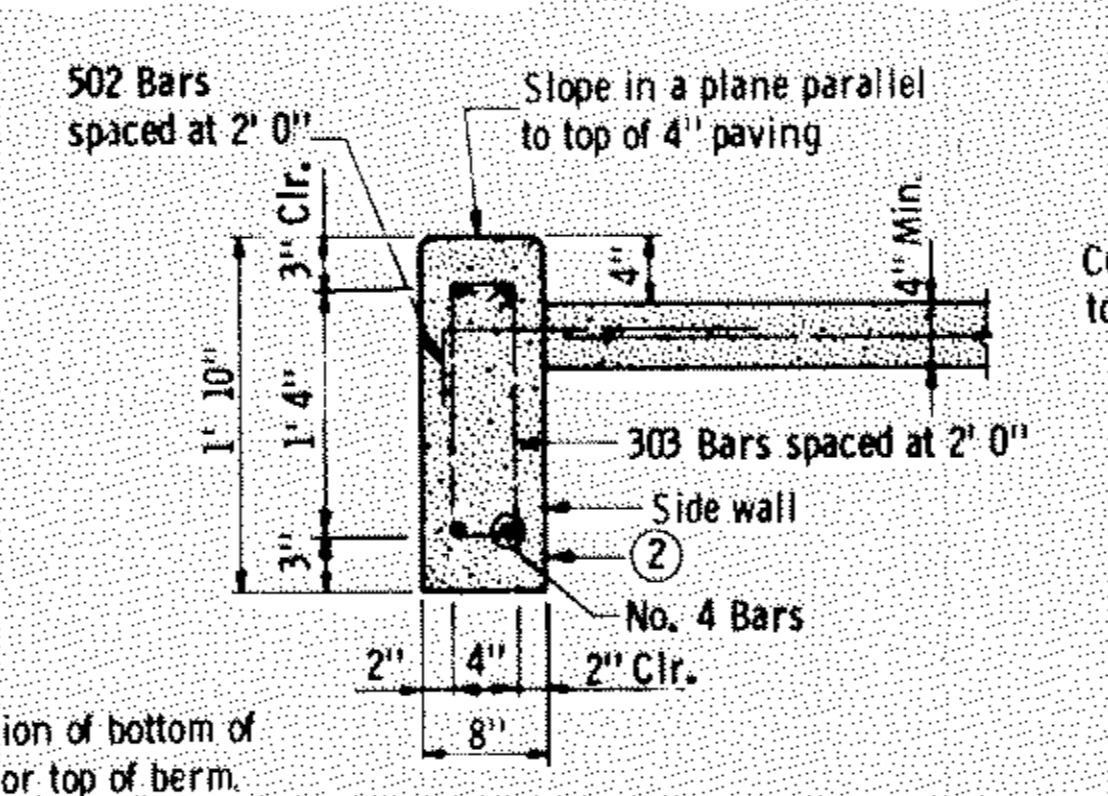
- ① 3.00 Sq. Ft. of concrete/Lin. Ft.
1.41 Lbs. of reinforcement/Lin. Ft.
- ② 1.23 Sq. Ft. of concrete/Lin. Ft.
4.46 Lbs. of reinforcement/Lin. Ft.
- ③ 1.56 Sq. Ft. of concrete/Lin. Ft.
3.70 Lbs. of reinforcement/Lin. Ft.
Based on a slope of 2:1
- ④ .33 Cu. Ft. of concrete/Sq. Ft.
.50 Lbs. of reinforcement/Sq.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



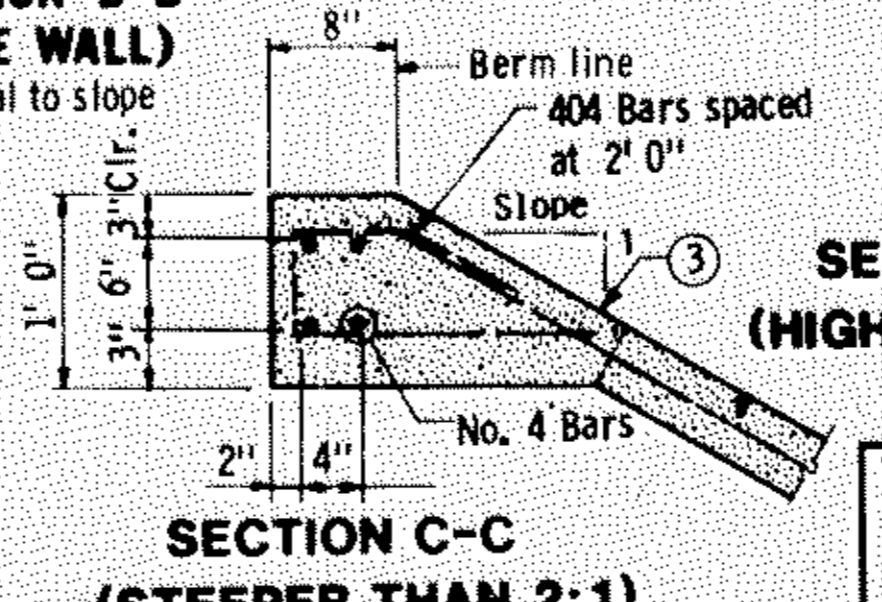
DETAIL A



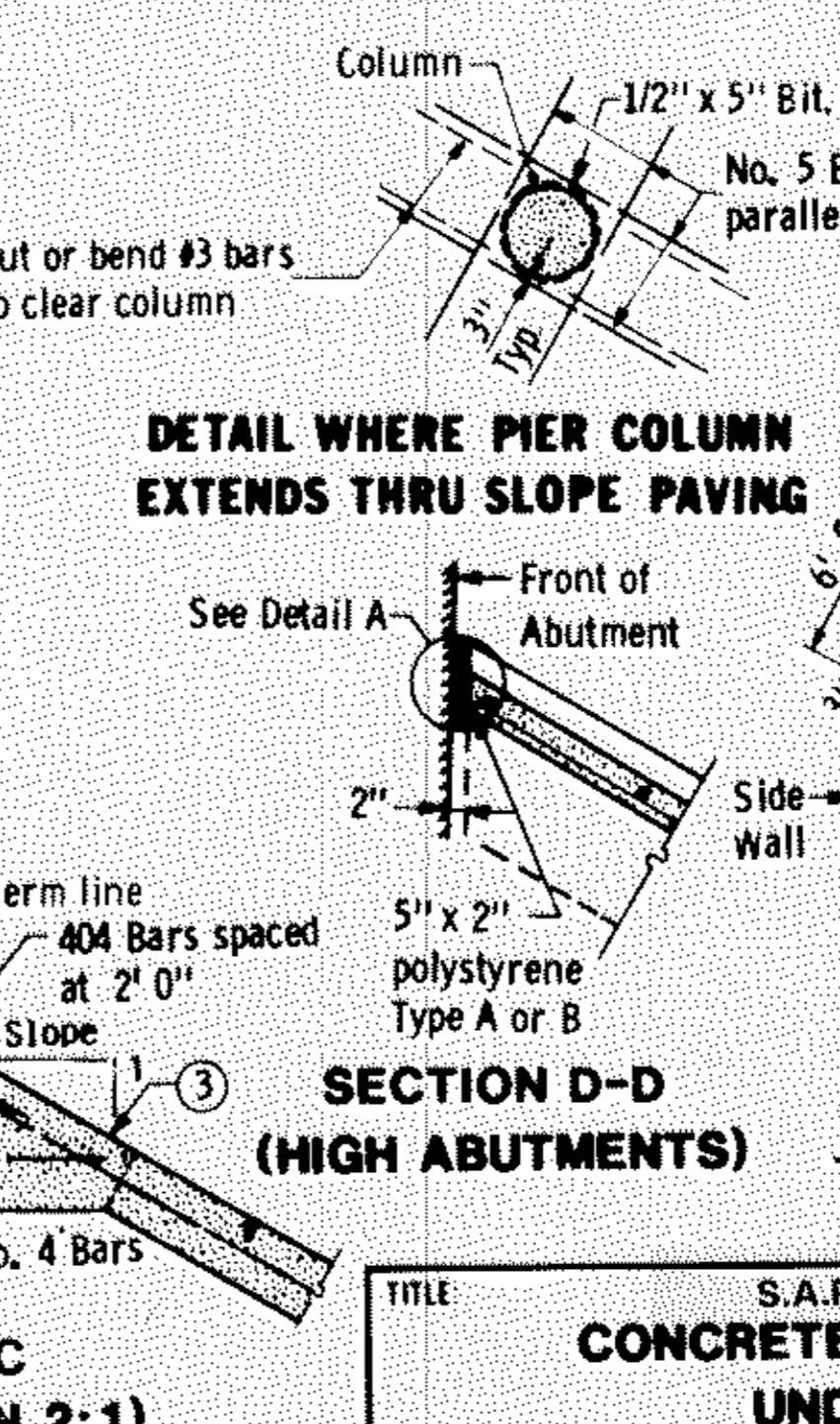
SECTION A-A



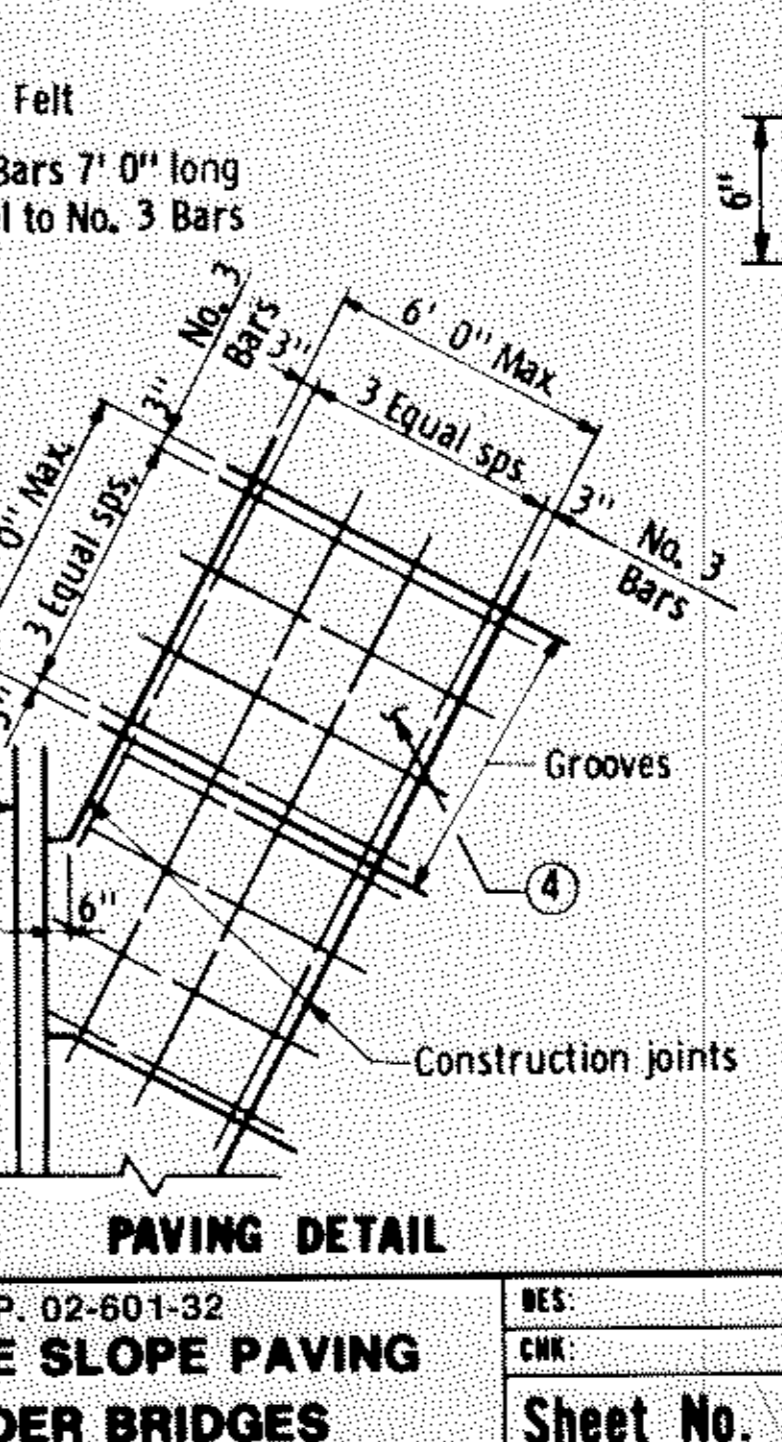
SECTION B-B (SIDE WALL)
Normal to slope



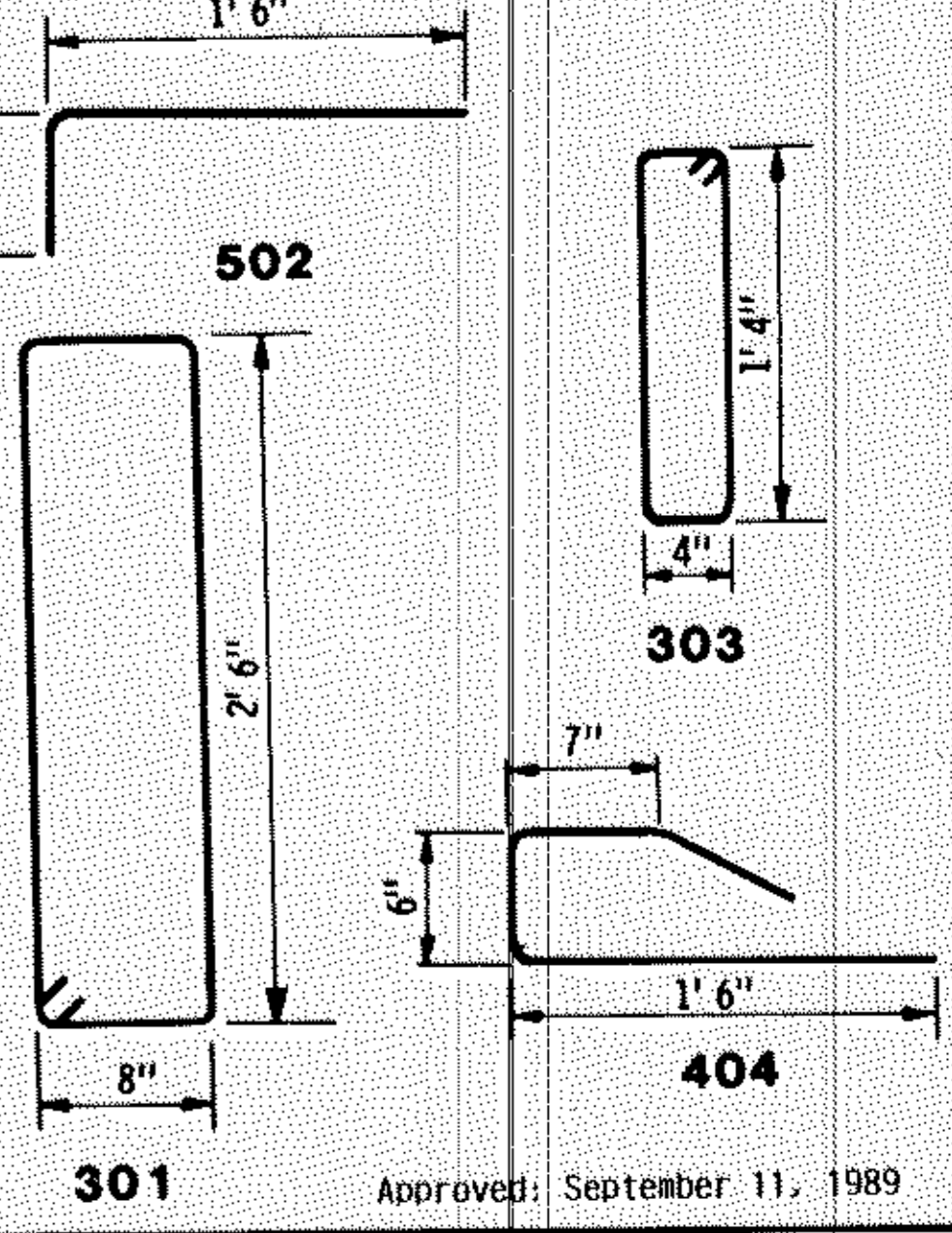
SECTION C-C (STEEPER THAN 2:1)



DETAIL WHERE PIER COLUMN EXTENDS THRU SLOPE PAVING



PAVING DETAIL



301

302

303

404

TITLE: **CONCRETE SLOPE PAVING UNDER BRIDGES**

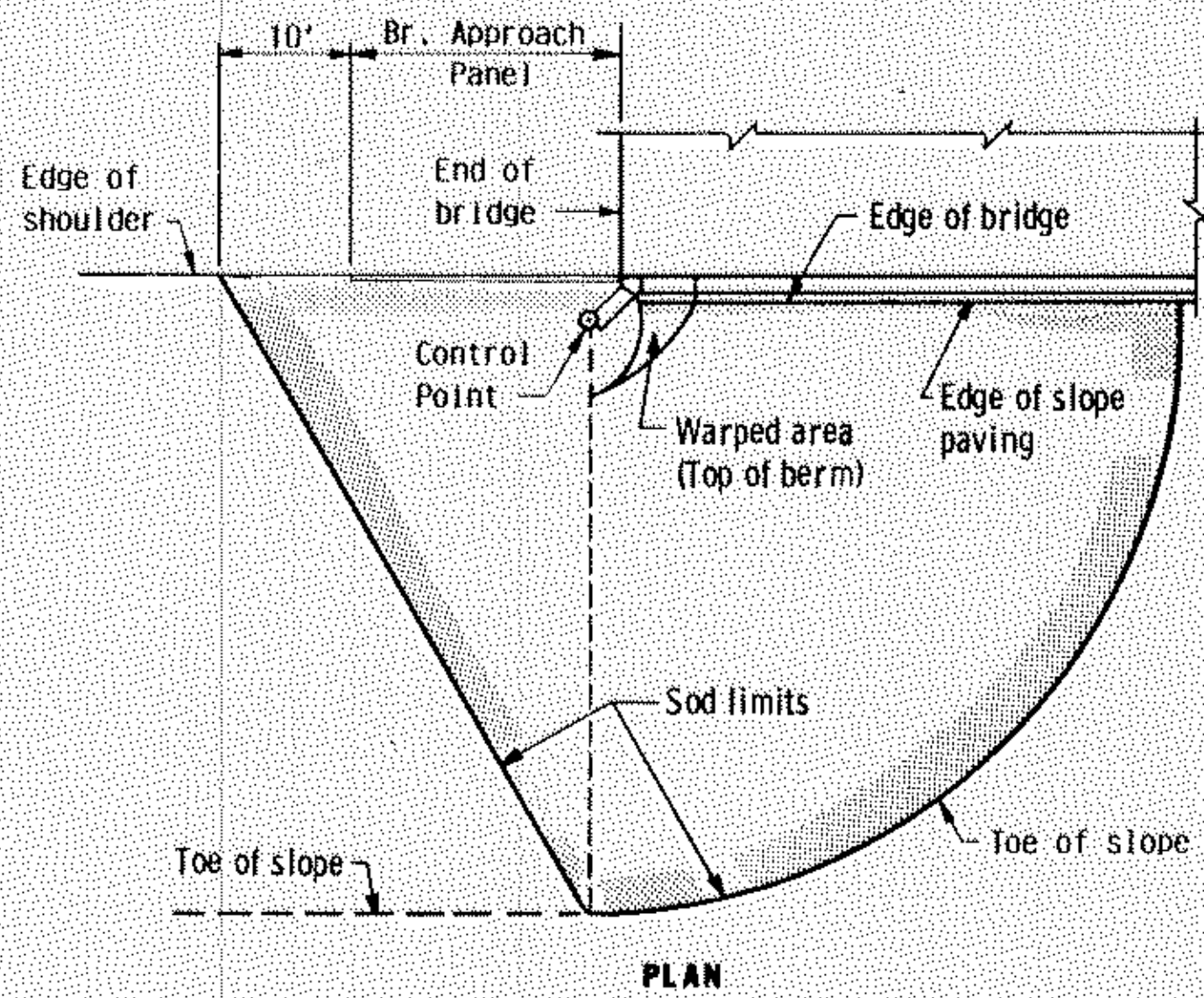
S.A.P. 02-601-32

DES: _____	DR: _____	APPROVED: _____
CHK: _____	CHK: _____	_____

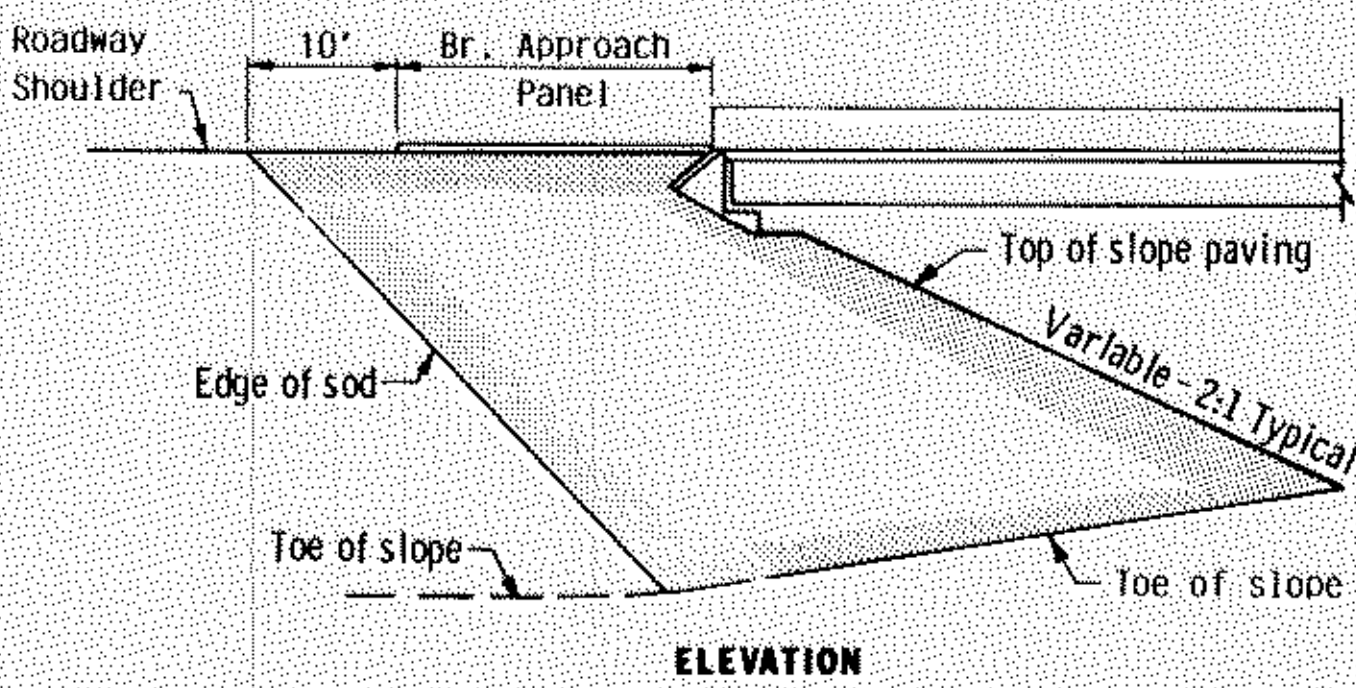
Sheet No. 6 of 48 Sheets

Bridge No. _____

Approved: September 11, 1989

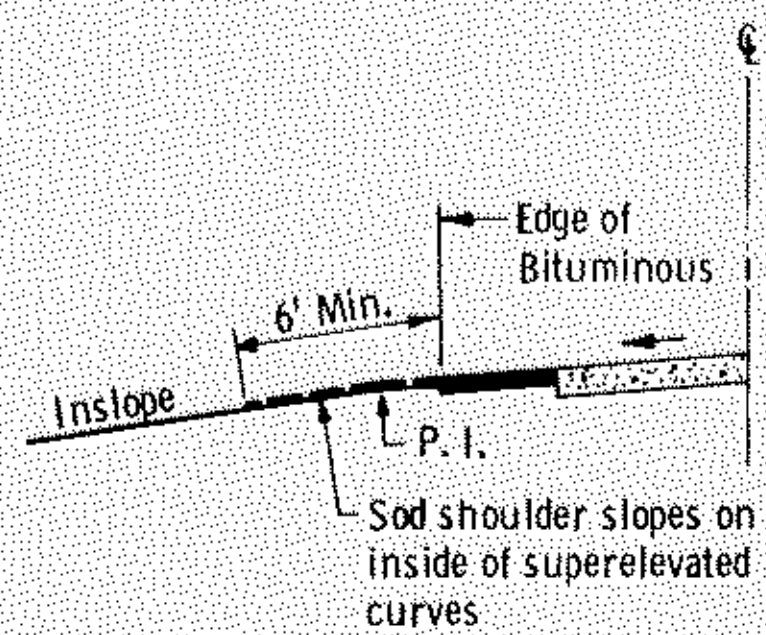


PLAN

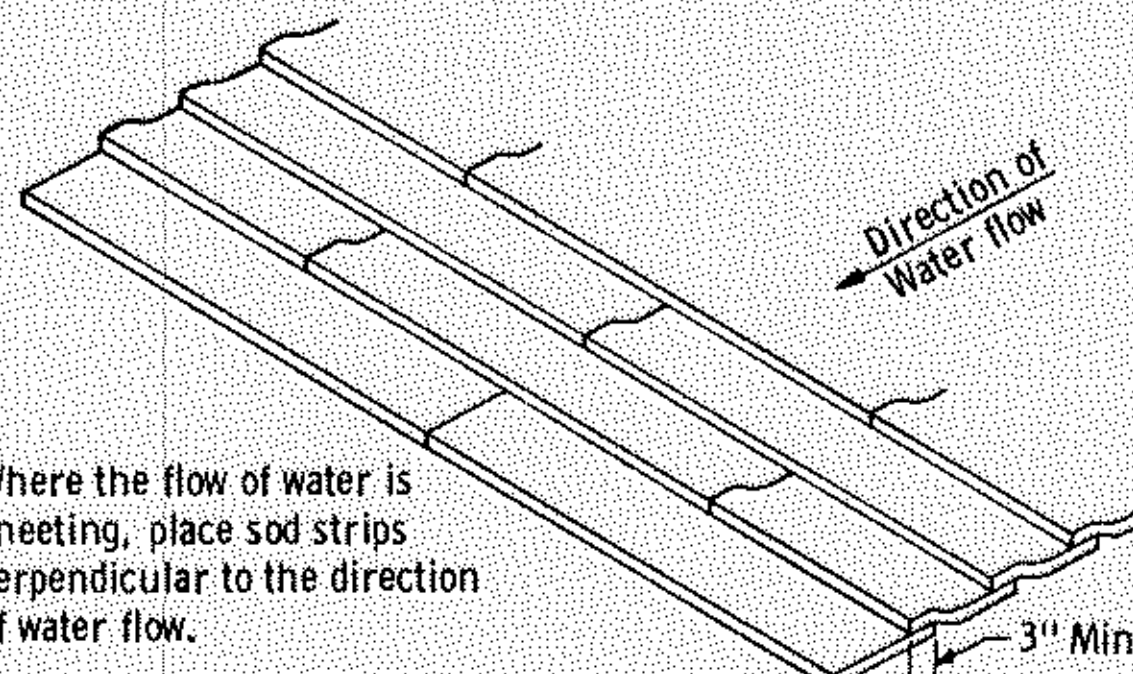


ELEVATION

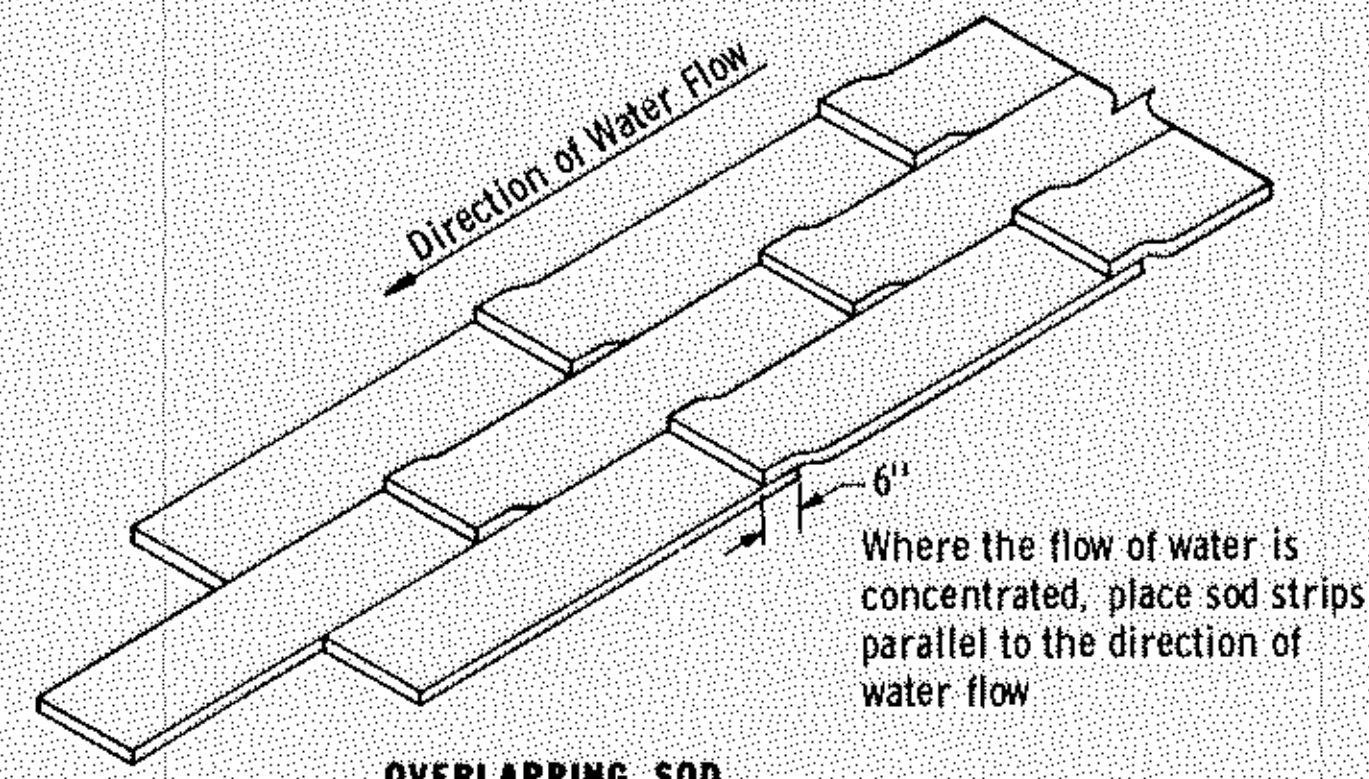
SODDING LIMITS AT BRIDGE APPROACH FILLS



SODDING INSLOPES OF SUPERELEVATED CURVES

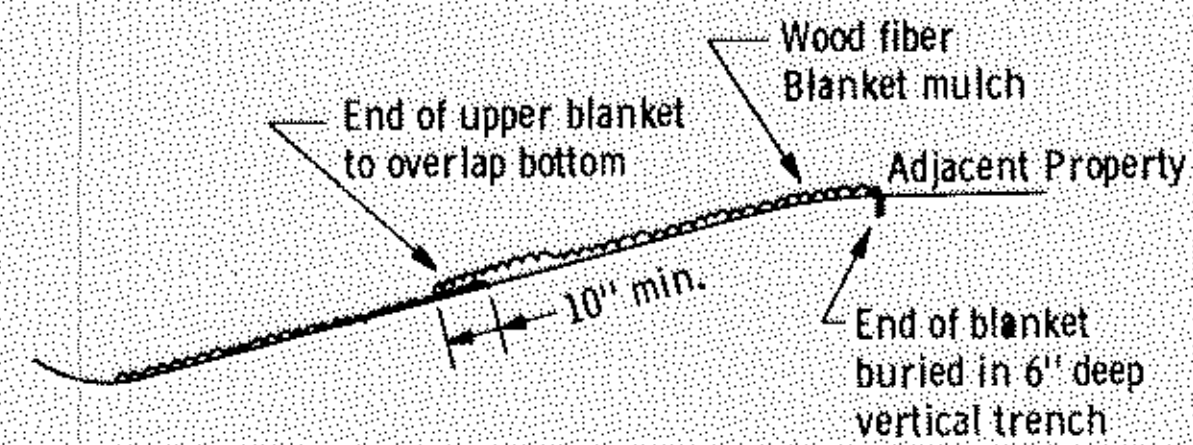


SHINGLING SOD

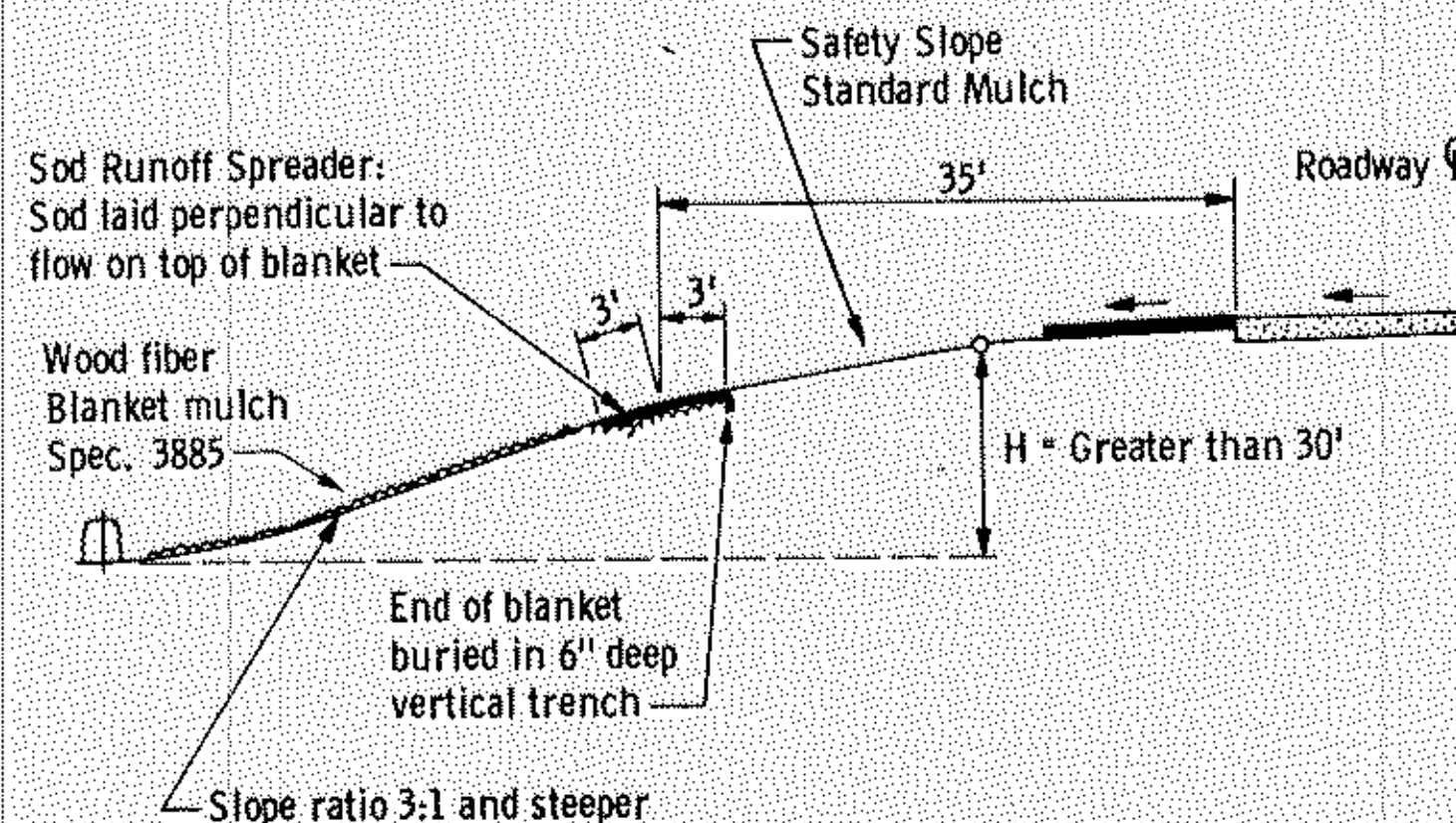


OVERLAPPING SOD

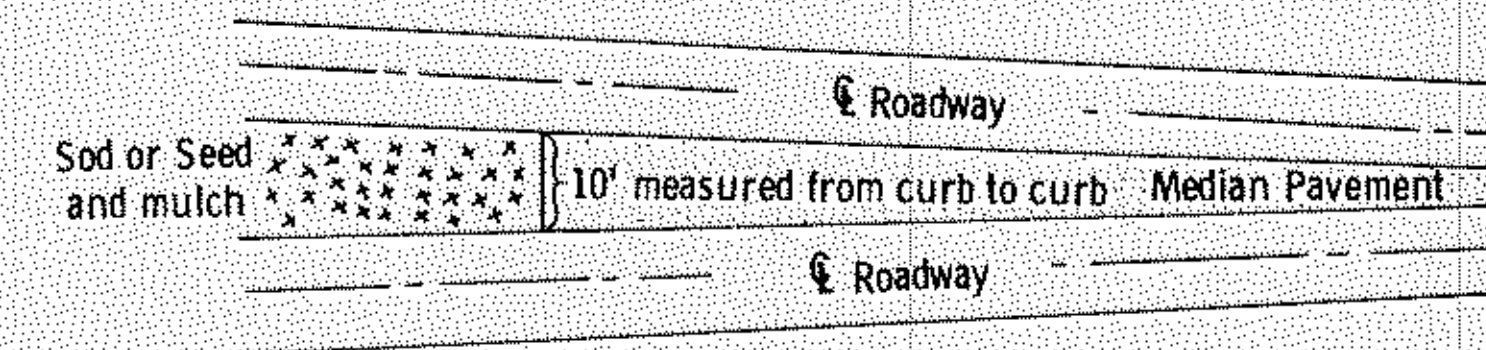
SPECIAL SOD PLACEMENT TECHNIQUES



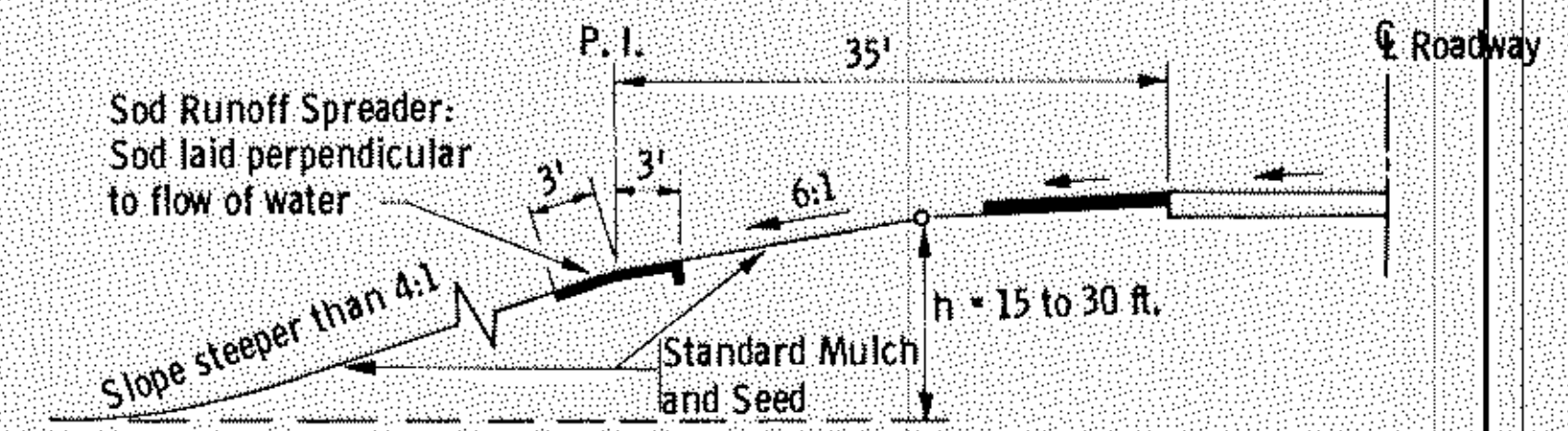
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



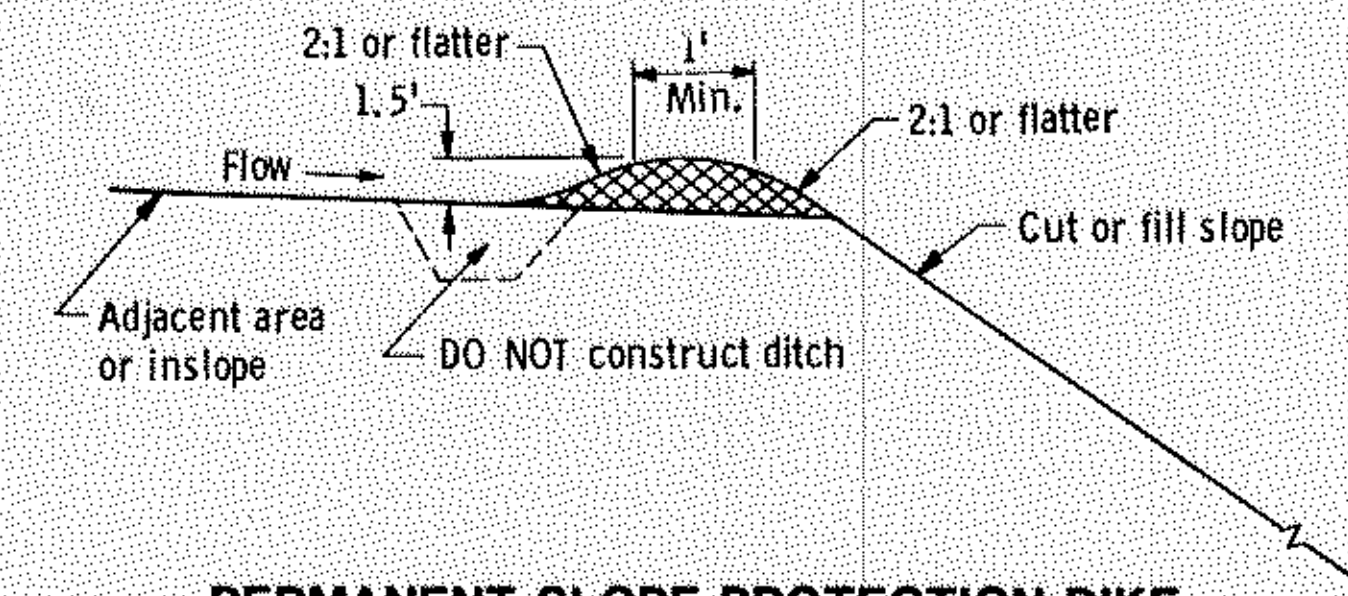
WOOD FIBER BLANKET INSTALLATION ON A BACKSLOPE (WHEN REQUIRED)



SODDING LIMITS AT GORE AREA

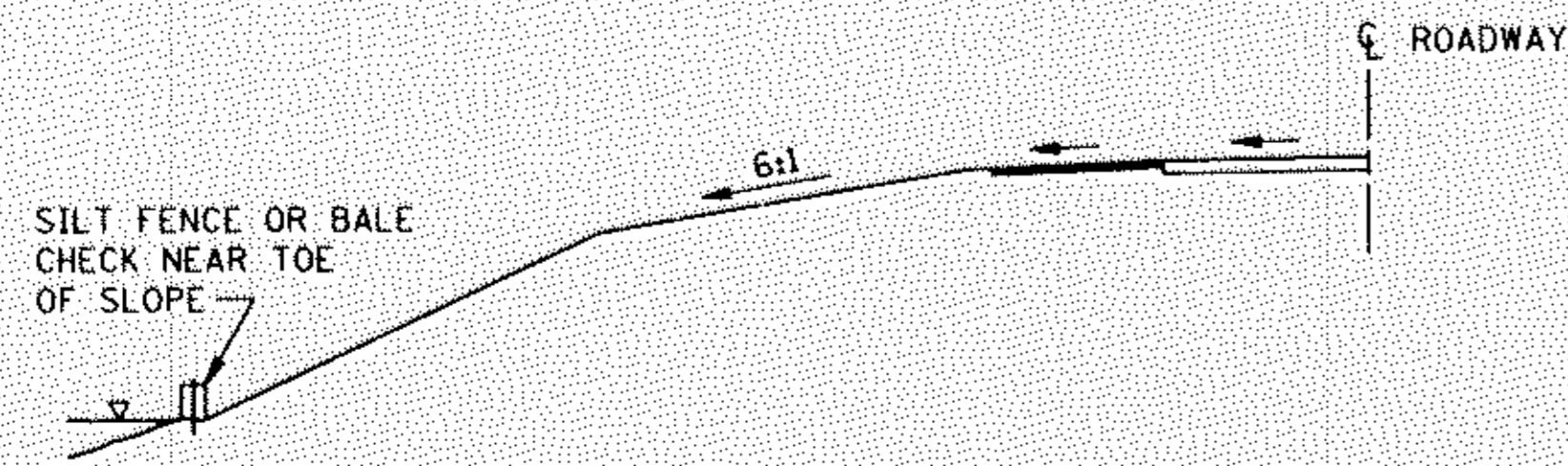


BROKEN - BACK SAFETY FILL SLOPE

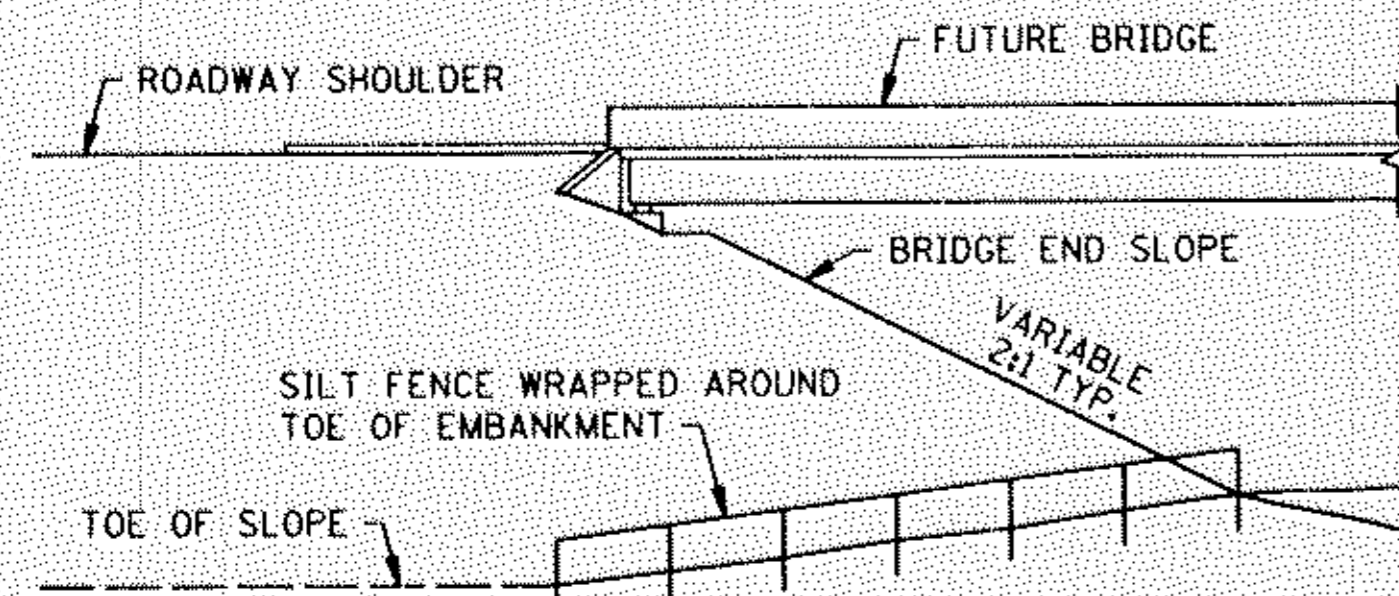


PERMANENT SLOPE PROTECTION DIKE

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

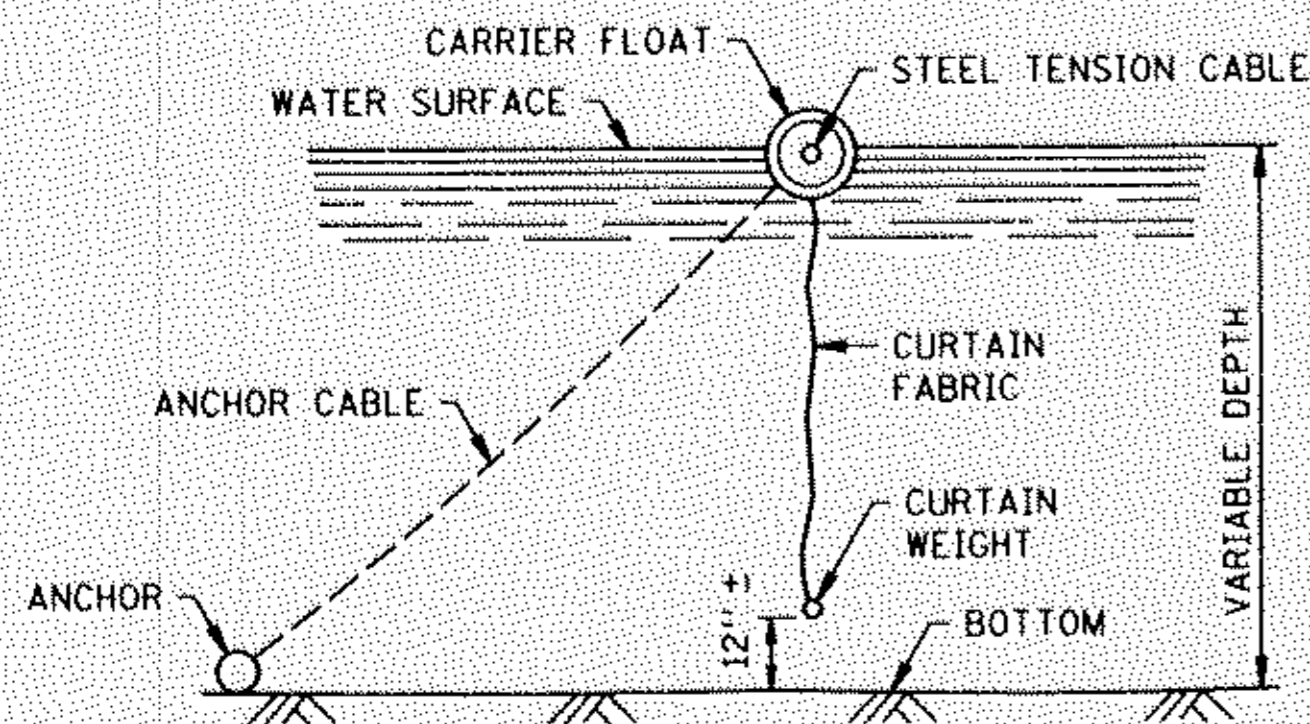


ROADWAY EMBANKMENT

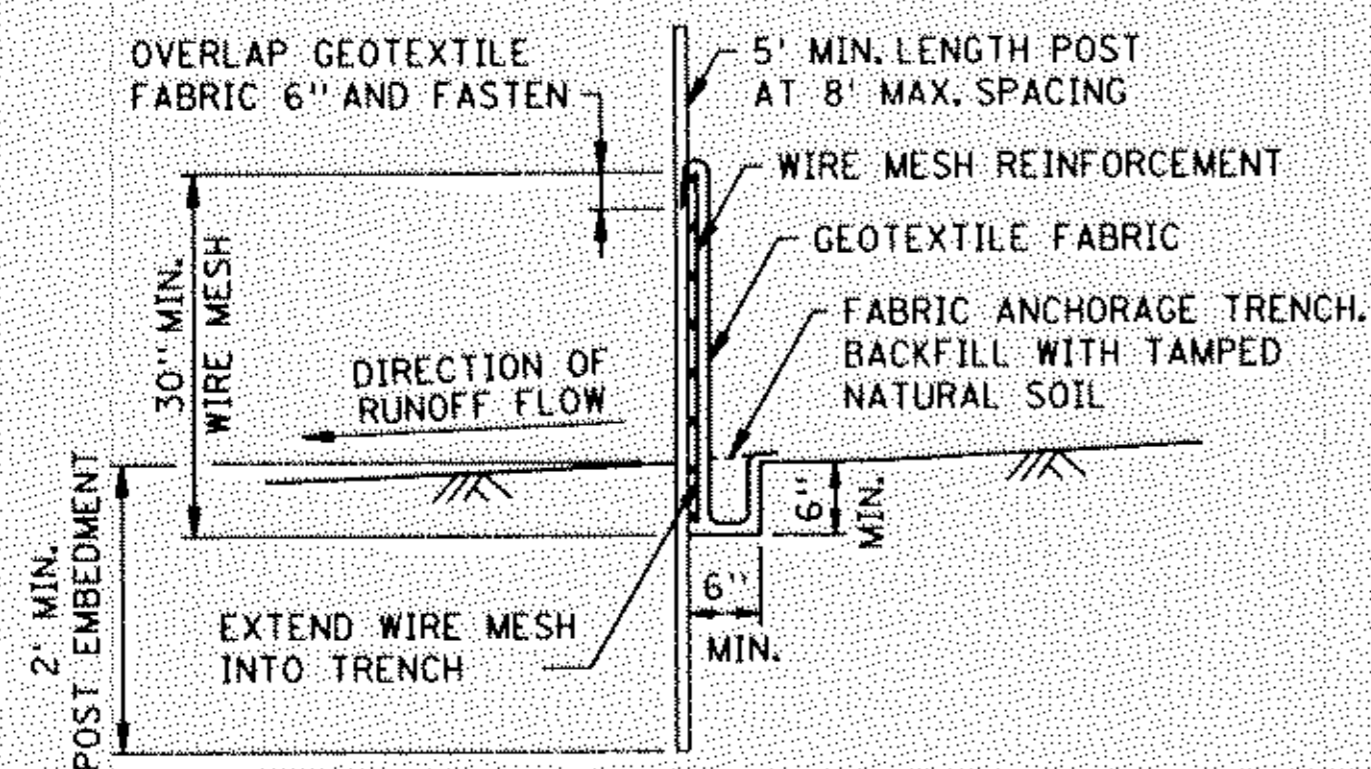


BRIDGE ABUTMENT

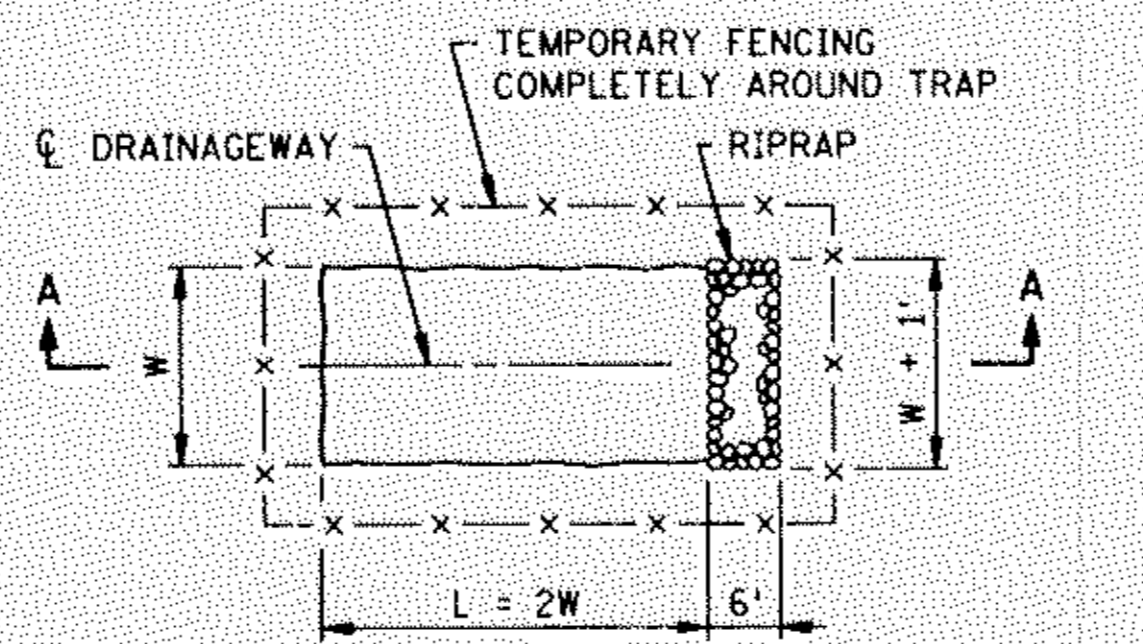
SILT FENCE OR BALE CHECK TO PROTECT ADJACENT CRITICAL AREAS



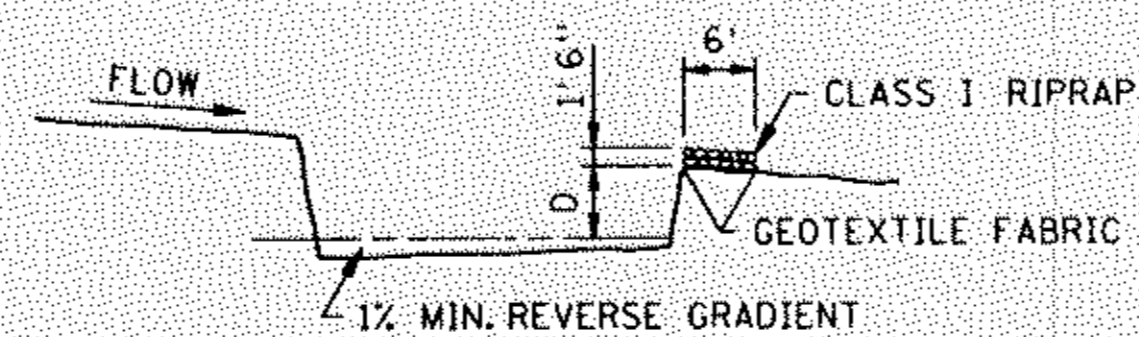
FLOATATION SILT CURTAIN



SILT FENCE DETAIL

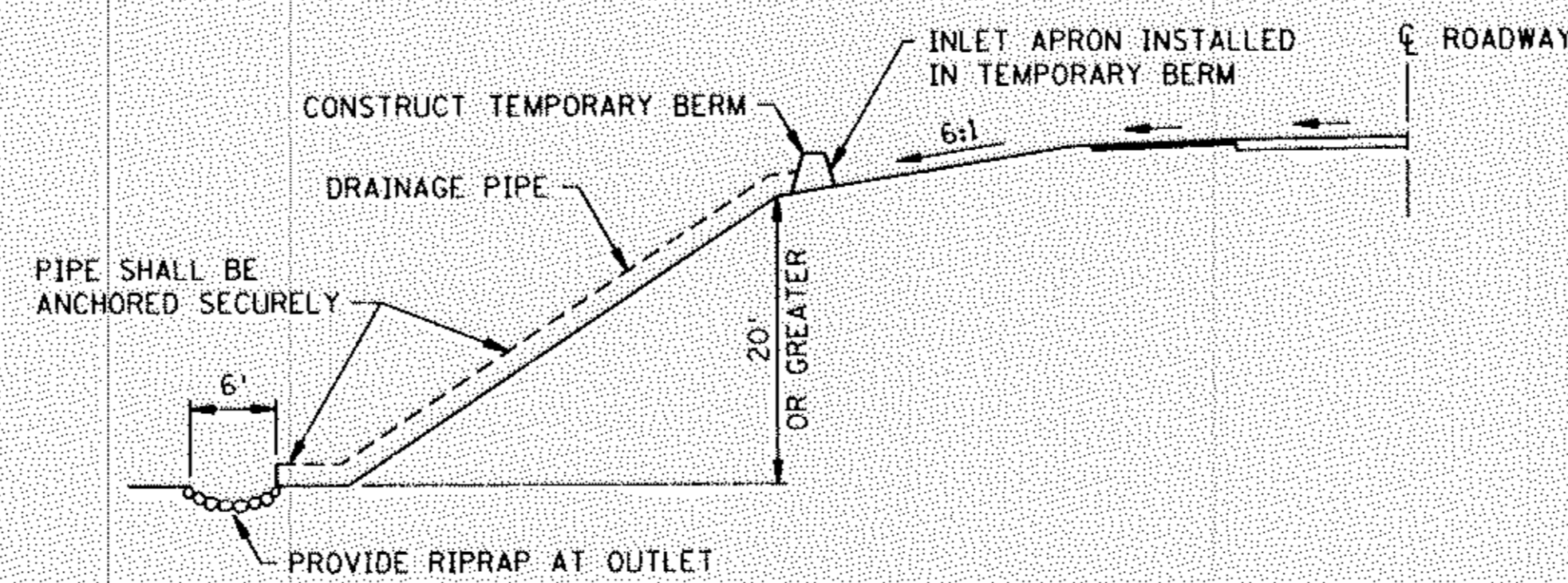


PLAN

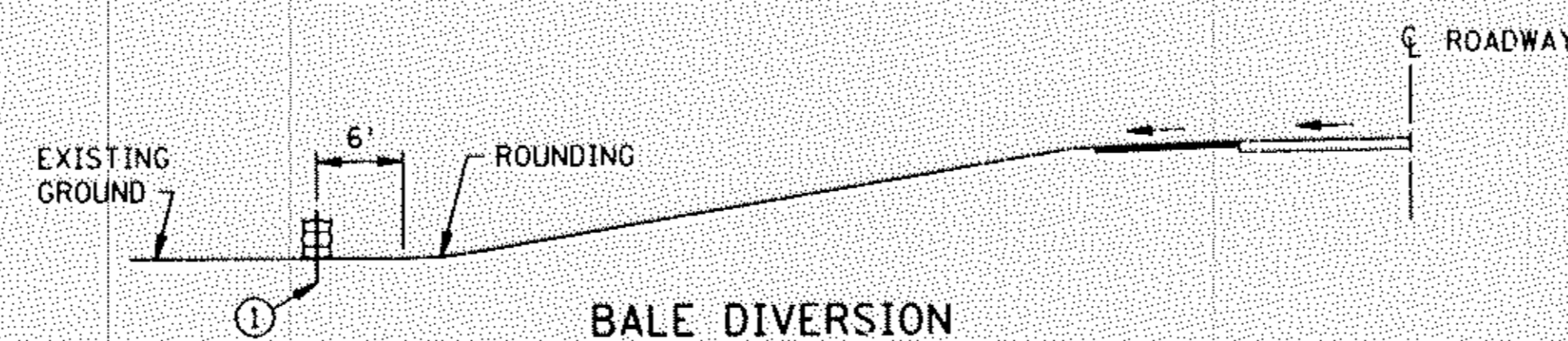


NOTE:
D = 3' MIN., 6' MAX.
W = 10' MIN., 20' MAX.

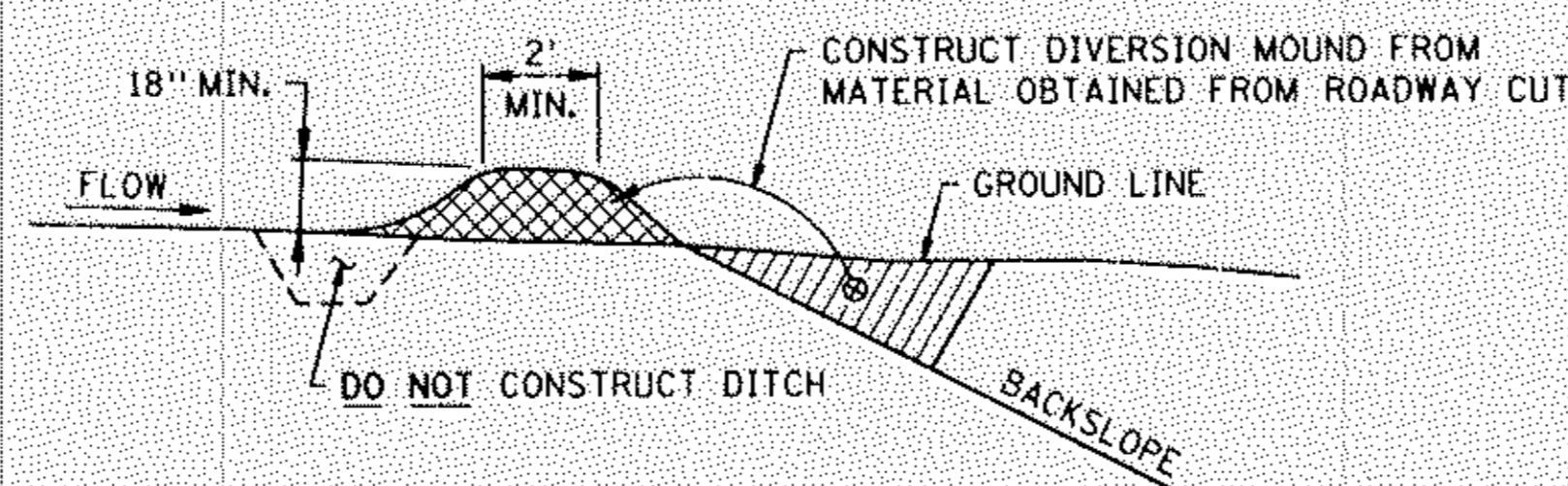
SECTION A-A
TEMPORARY SEDIMENT TRAP



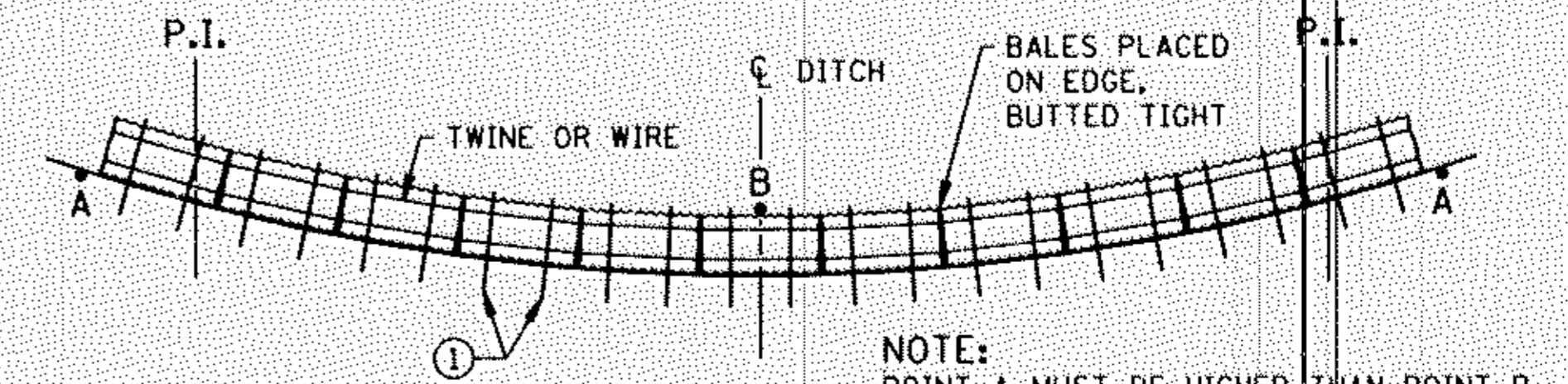
TEMPORARY DRAIN ON FILL SLOPE



BALE DIVERSION

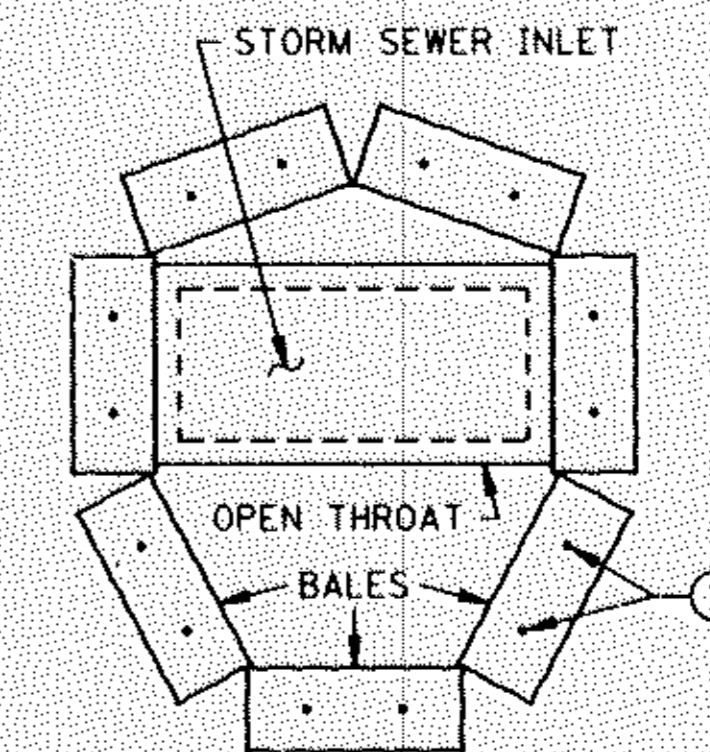


DIVERSION MOUND

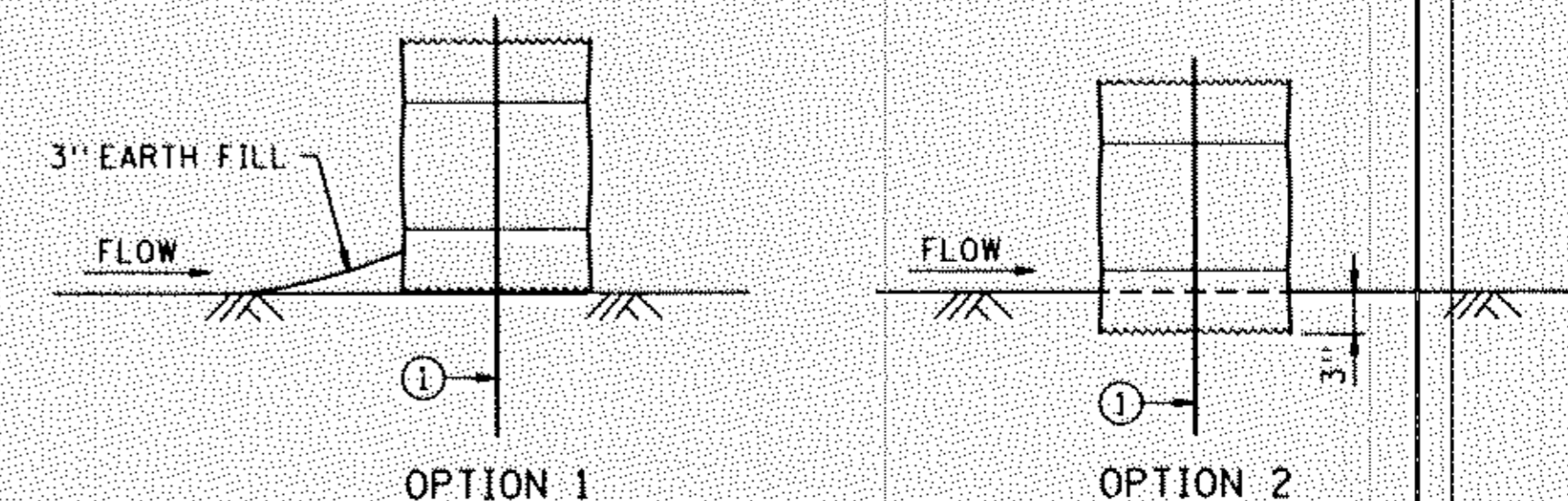


BALE DITCH CHECK

NOTE:
POINT A MUST BE HIGHER THAN POINT B



BALE CHECK TO PROTECT STORM SEWER INLETS

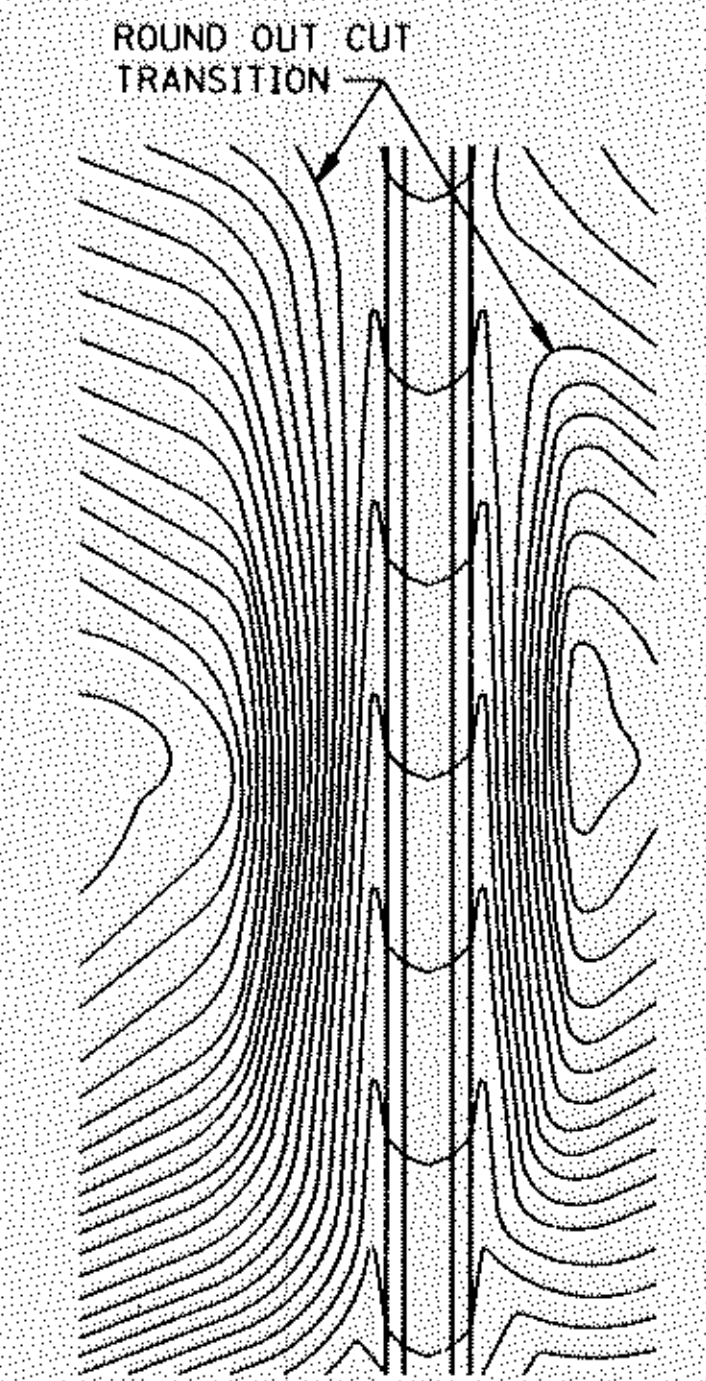


BALE CHECK DETAILS

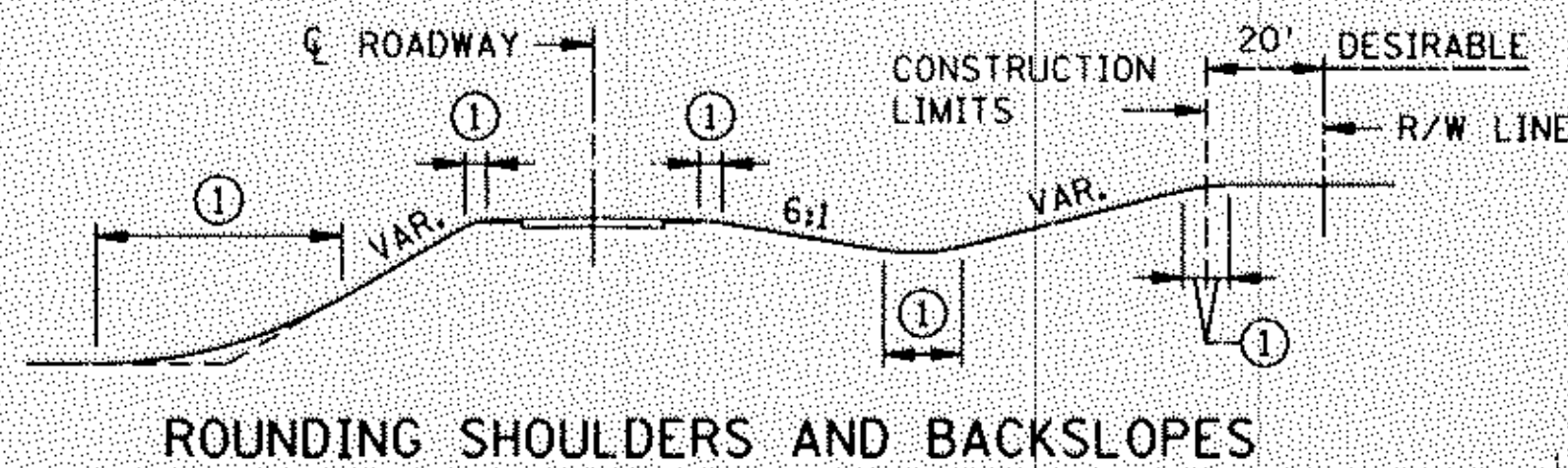
NOTE:
① TWO 2" X 2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10" MINIMUM.

VAX780 05A31 [45,100] FILE NAME S405L90.SPN

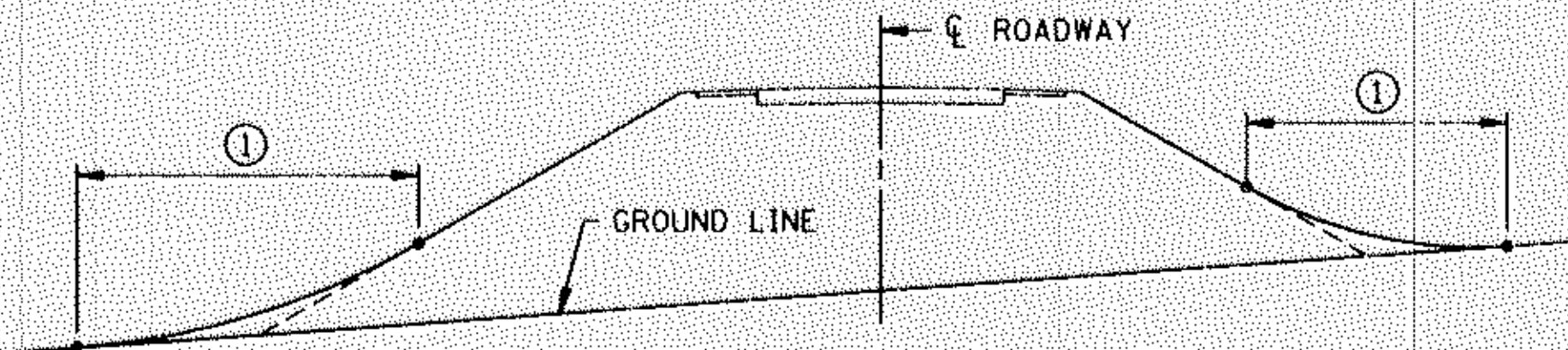
STANDARD SHEET NO. 5-297.405	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: DECEMBER 19, 1990	
STATE PROJ. NO. S.A.P. 02-601-32	SHEET NO. 8 OF 48 SHEETS



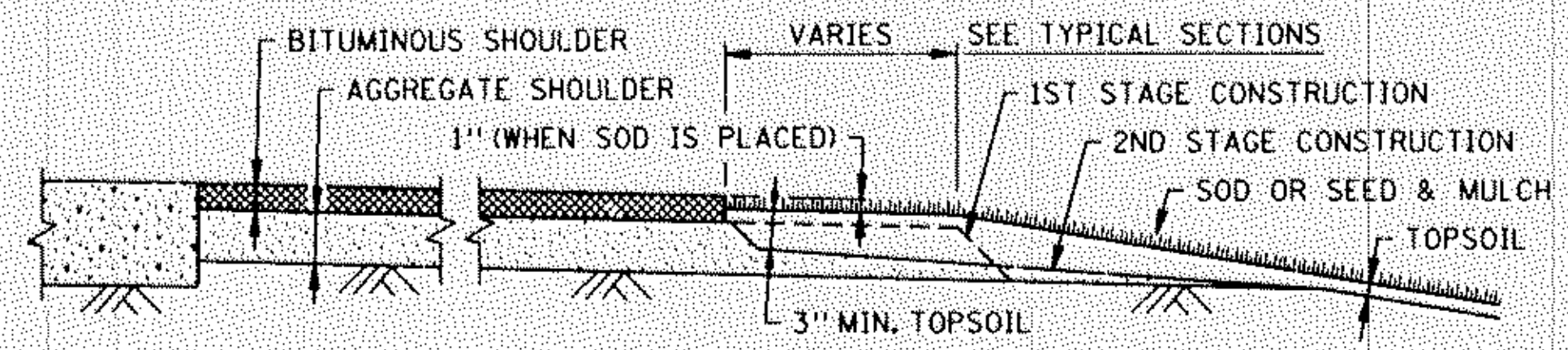
CONTOURING ROAD CUTS



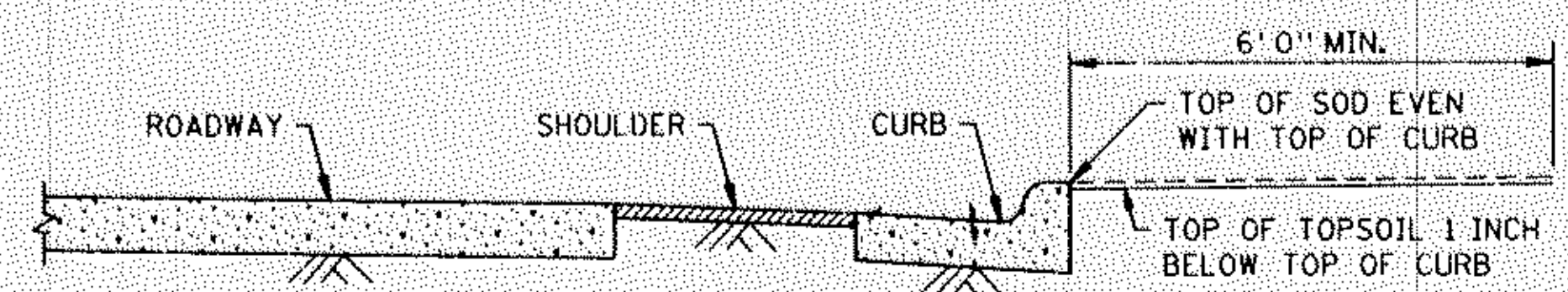
ROUNDING SHOULDERS AND BACKSLOPES



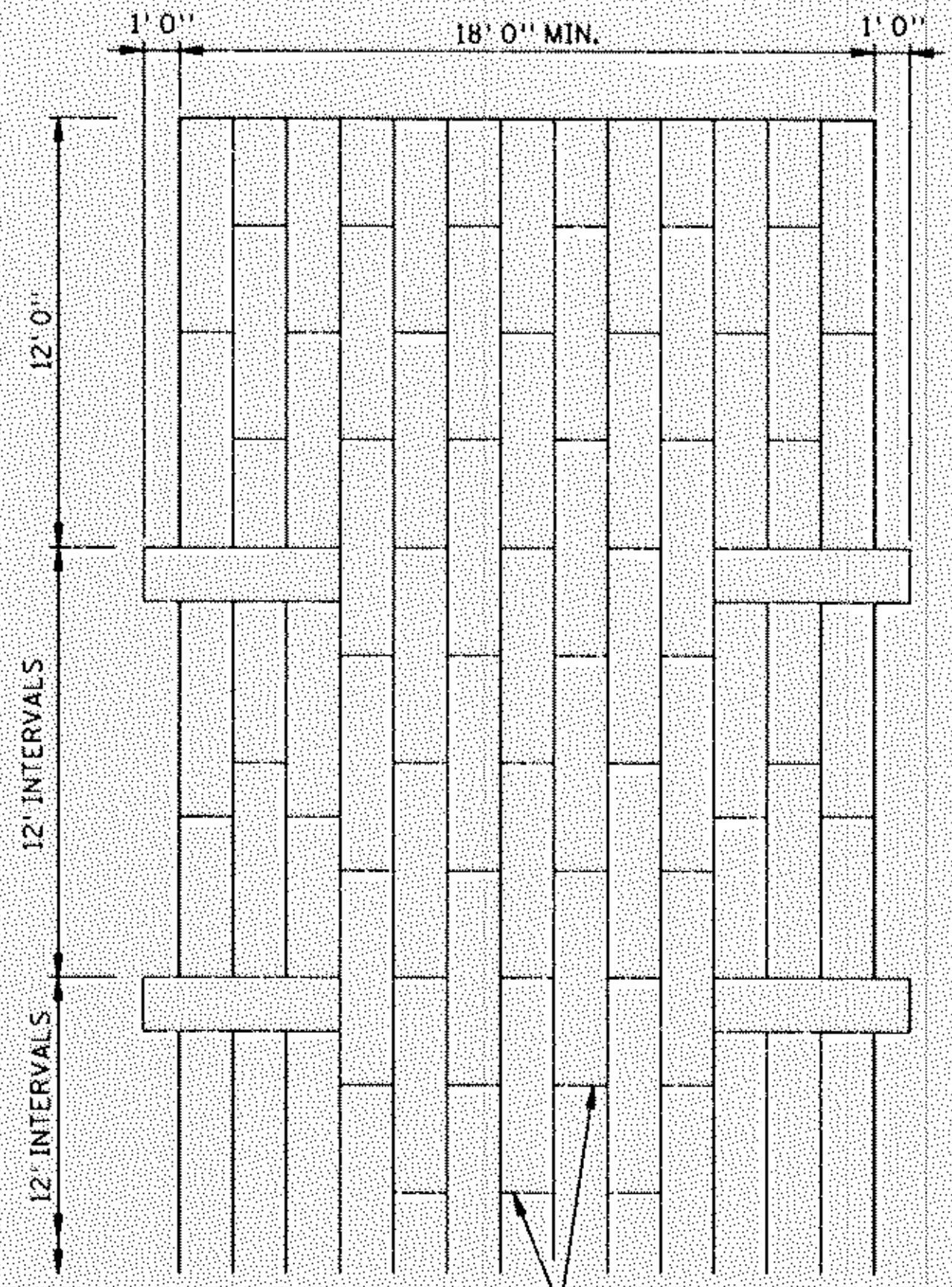
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



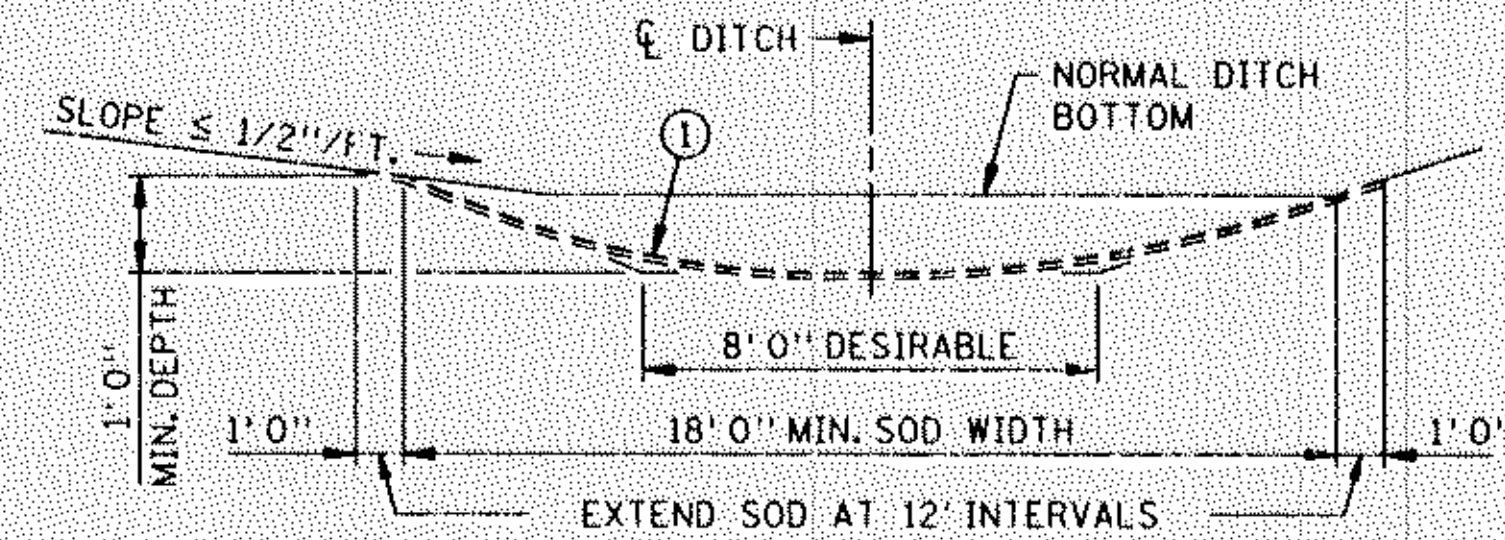
SHAPING AND TOPSOILING INSLOPES



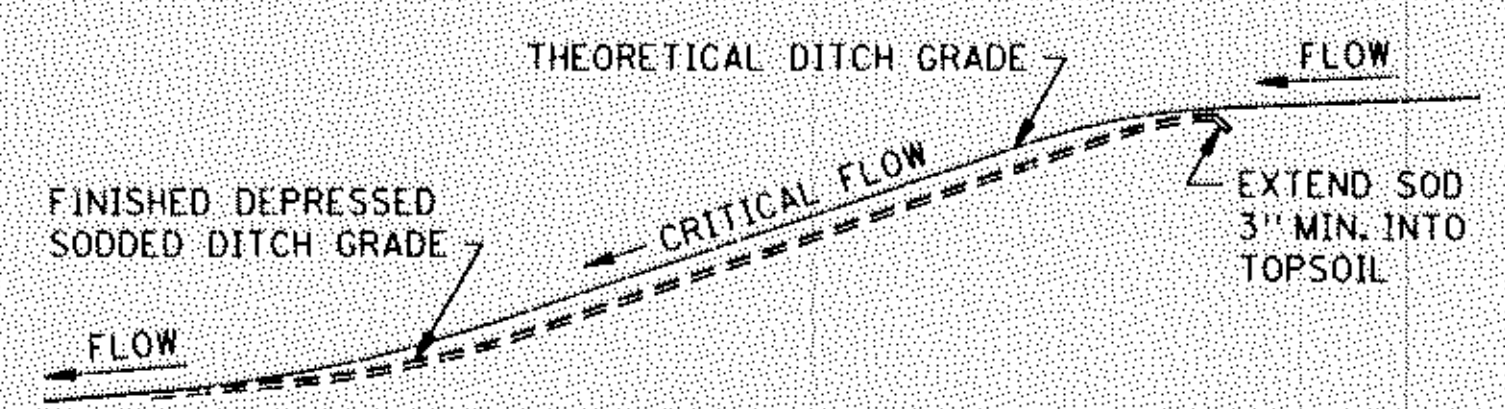
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



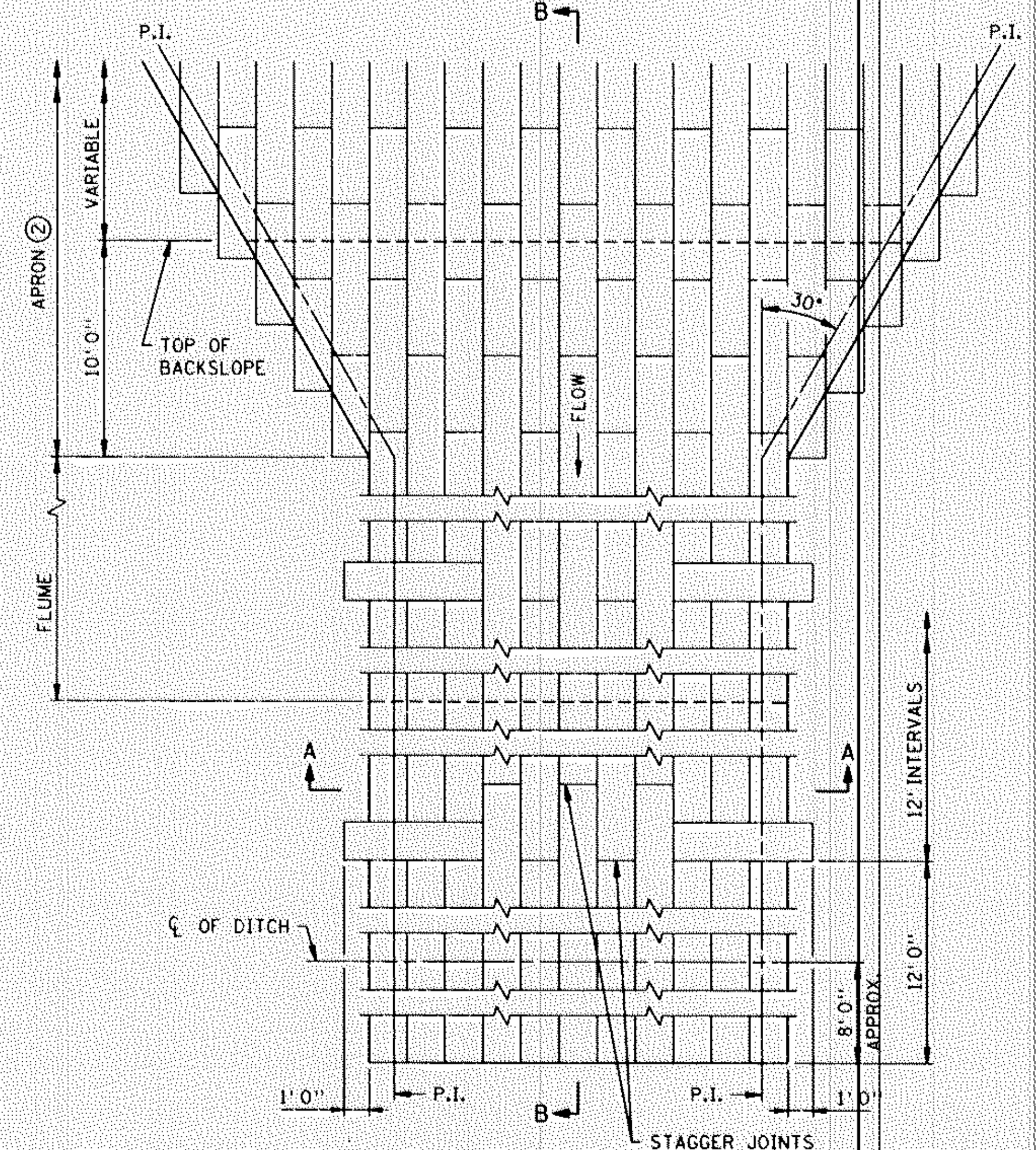
PLAN VIEW



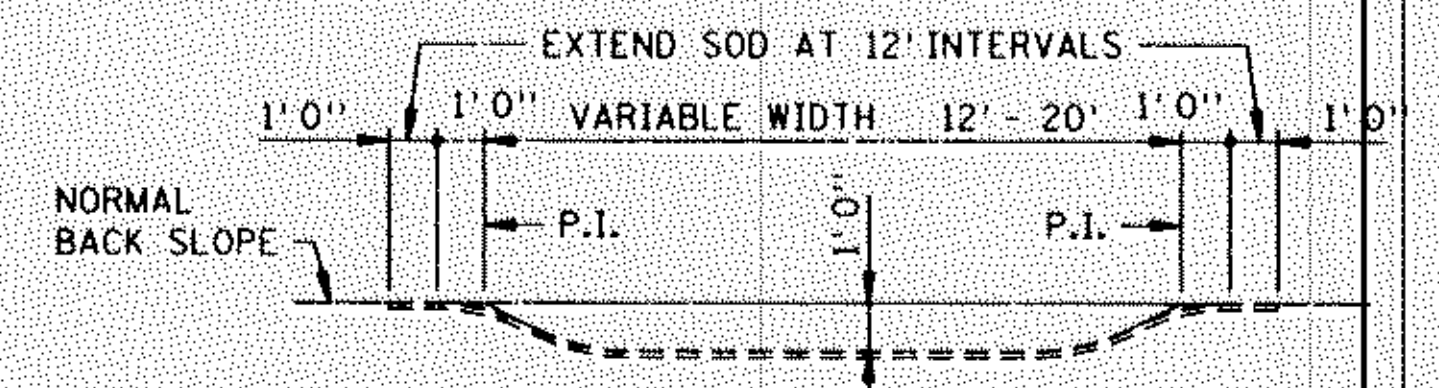
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



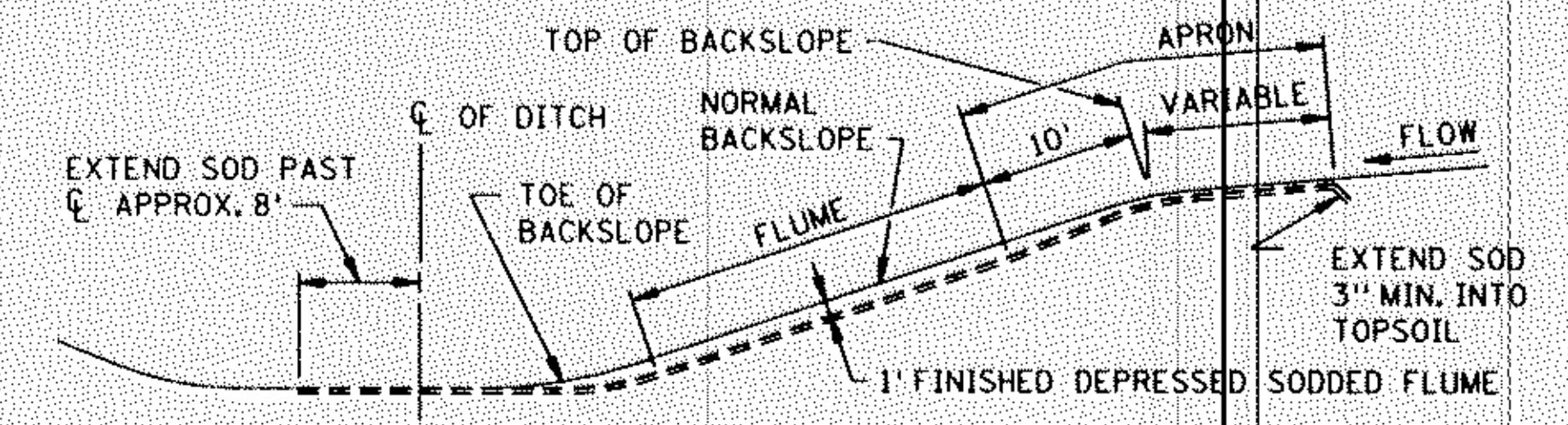
DITCH PROFILE
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B

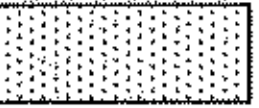


SODDED FLUME DETAILS

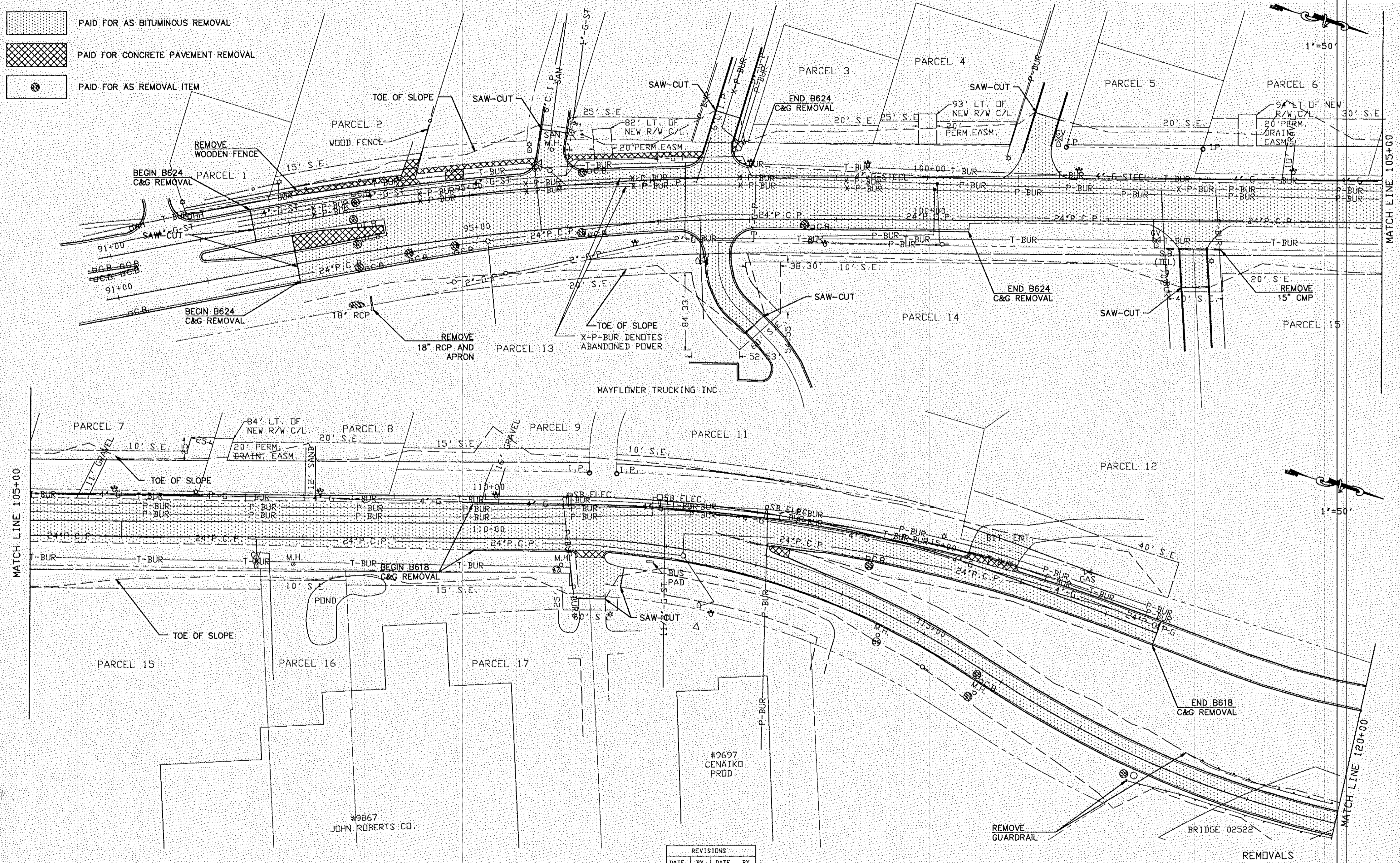
- NOTES:
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
① FOR ROUNDING, SEE ROAD DESIGN MANUAL.
② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

STANDARD SHEET NO. 5-297.404	TITLE:
STANDARD APPROVED: DECEMBER 19, 1990	

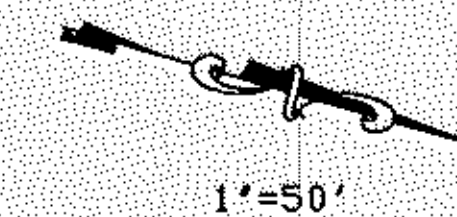
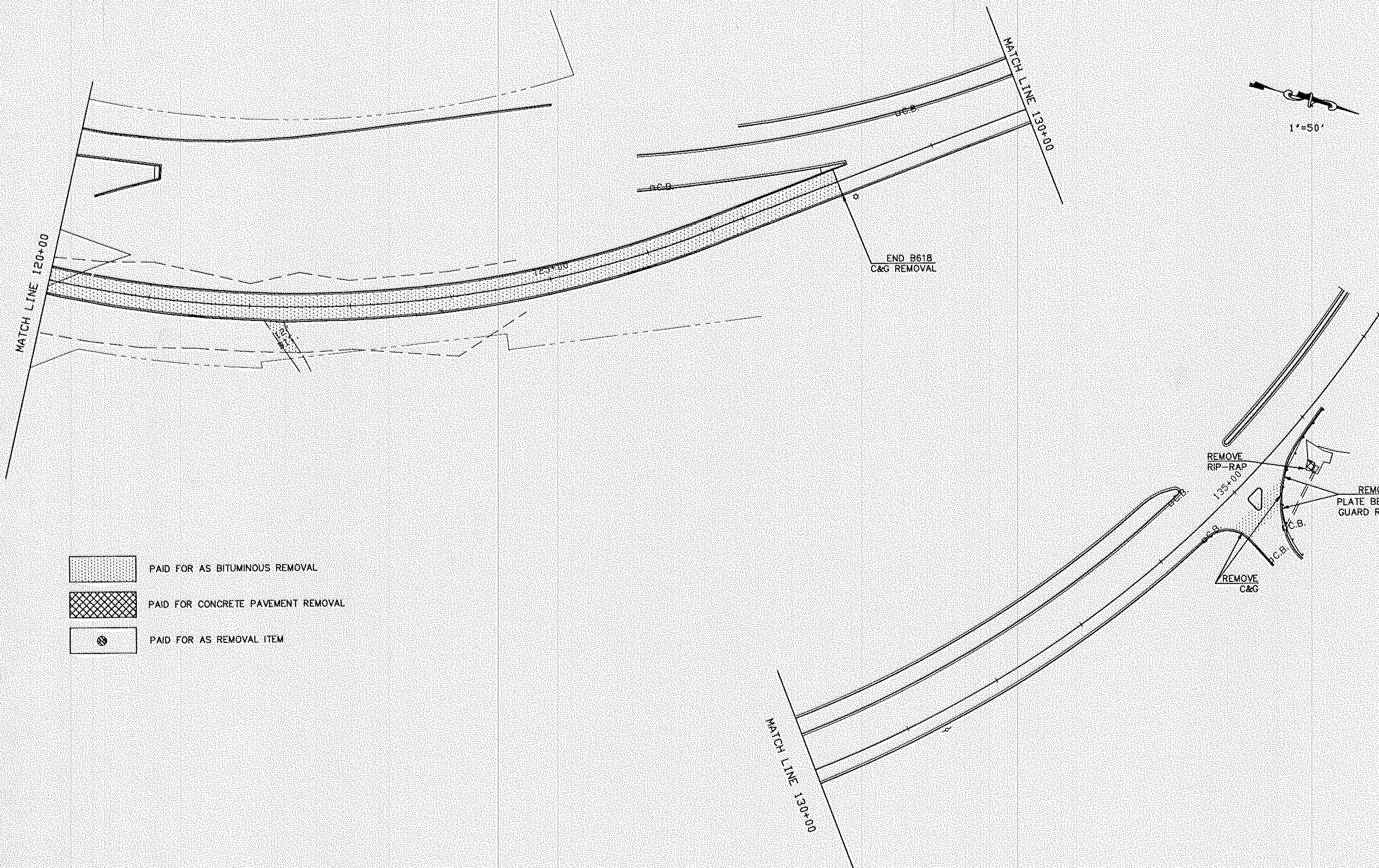
PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES


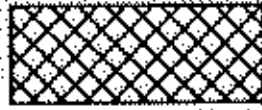

VAX780 05A3:[45,100] FILE NAME S404L90.SPN

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



REVISIONS			
DATE	BY	DATE	BY

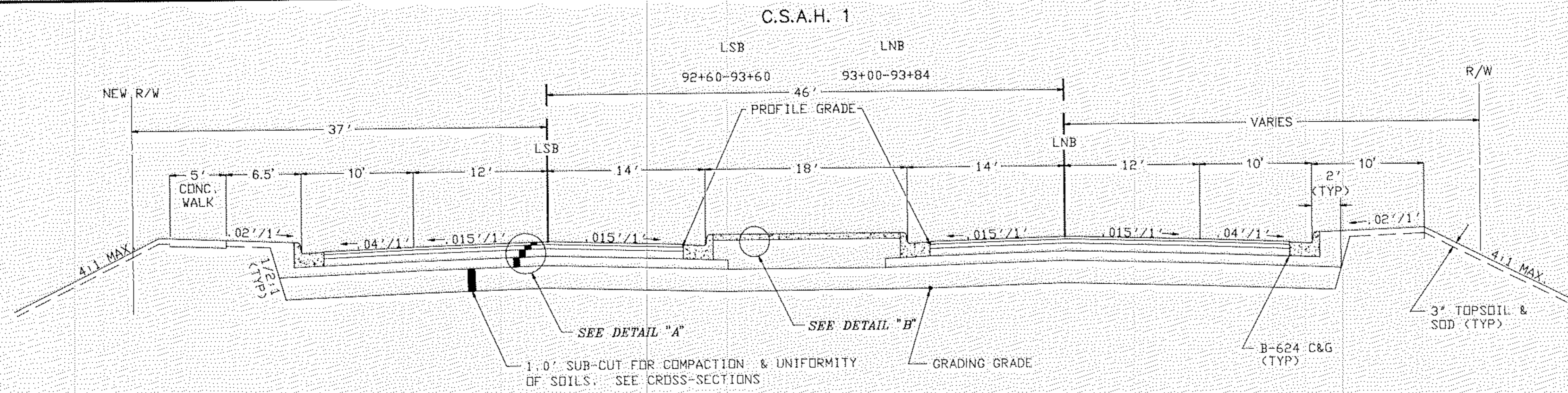


-  PAID FOR AS BITUMINOUS REMOVAL
-  PAID FOR CONCRETE PAVEMENT REMOVAL
-  PAID FOR AS REMOVAL ITEM

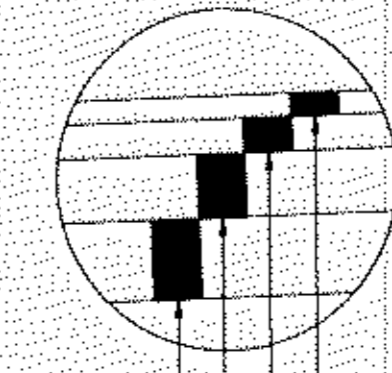
REVISIONS			
DATE	BY	DATE	BY

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

REMOVALS

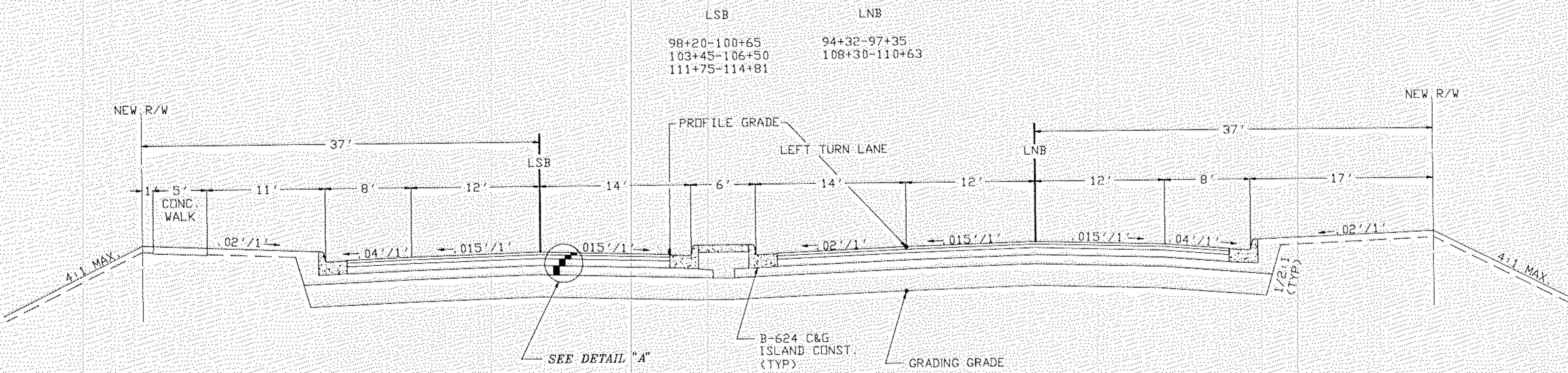


DETAIL "A"

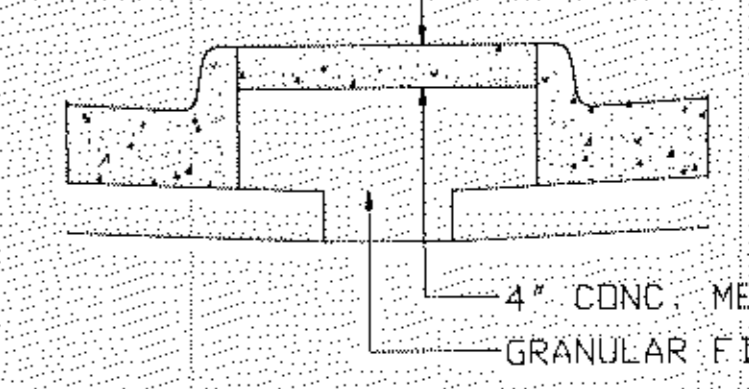


- 1 1/2" TYPE 41 WEARING COURSE-SPEC.2331
- 2" TYPE 31 BINDER COURSE-SPEC.2331
- 4" TYPE 31 BASE COURSE-SPEC.2331
- 5" AGG. BASE CL.-5A
- TACK COAT-SPEC.2357, TO BE APPLIED BETWEEN ALL BITUMINOUS LIFTS.

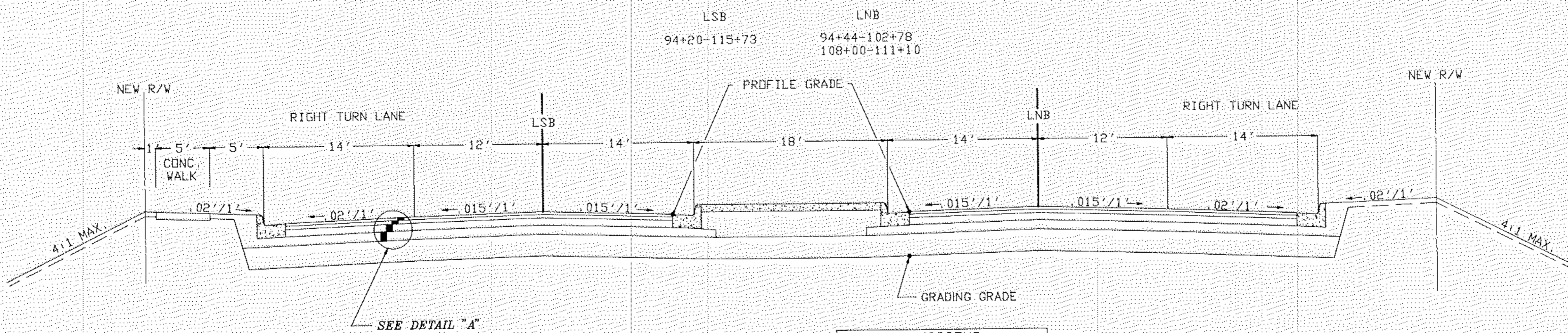
C.S.A.H. 1 - LEFT TURN LANES



DETAIL "B"



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

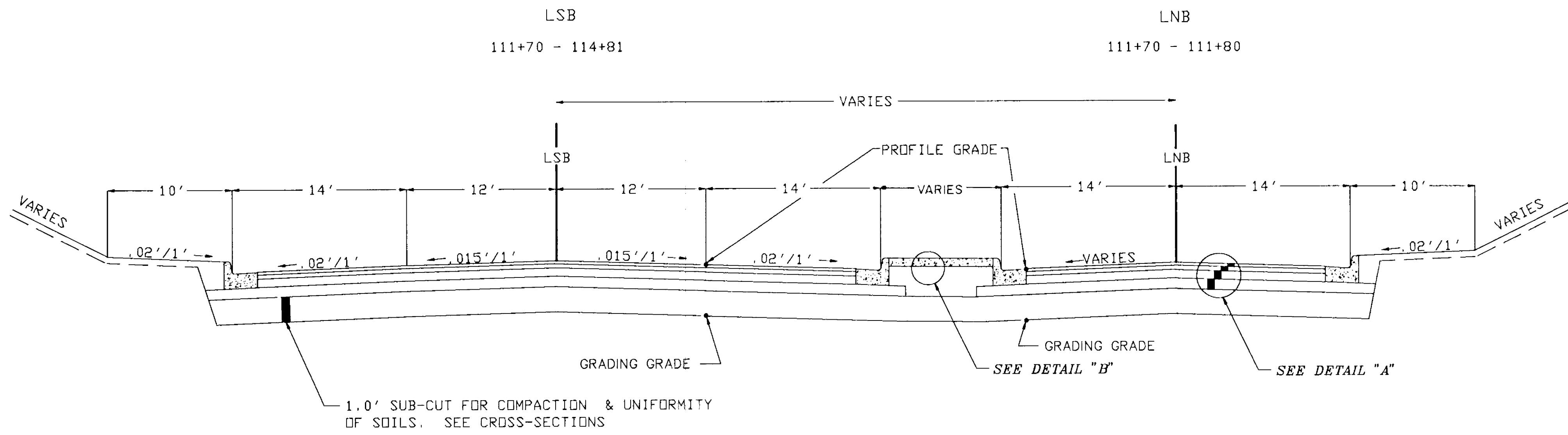


TYPICAL SECTIONS

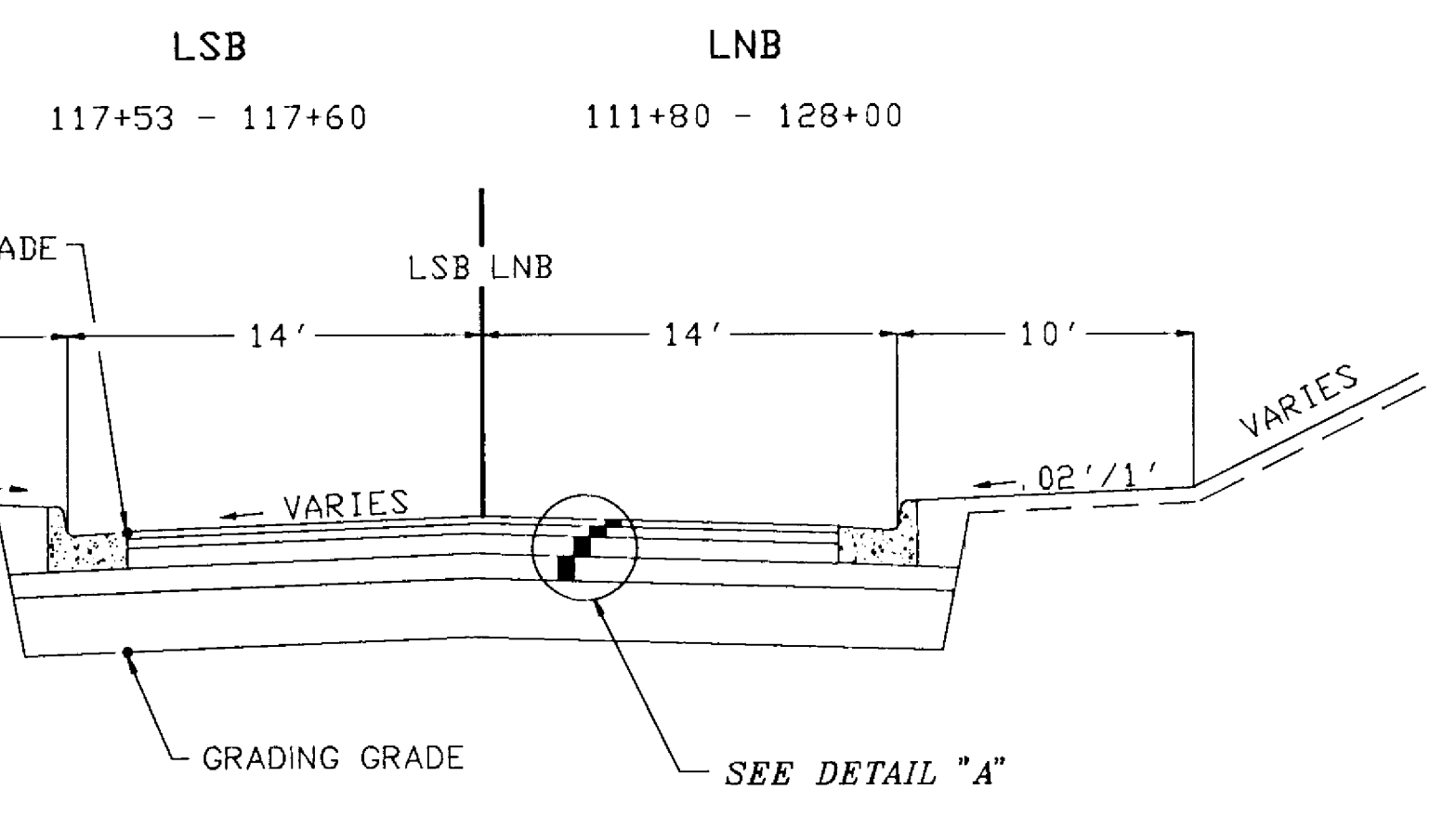
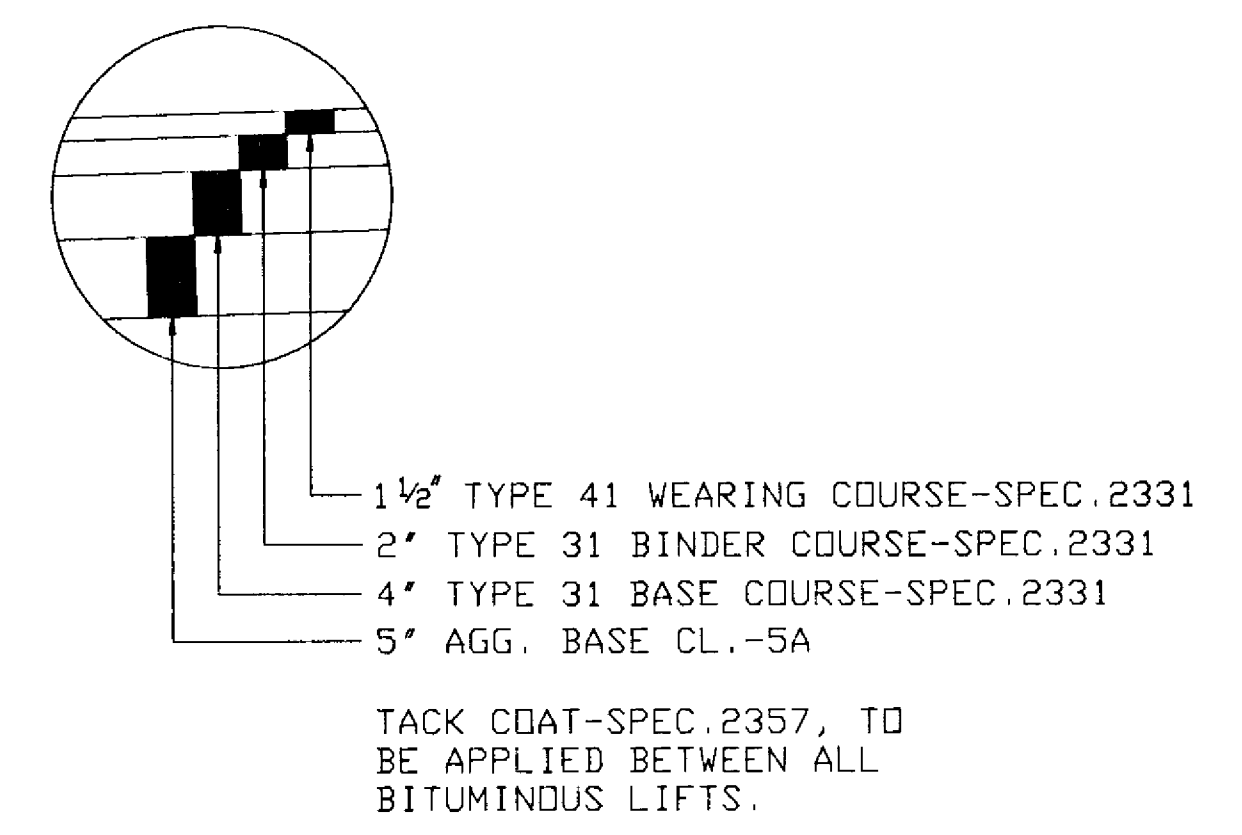
REVISIONS			
DATE	BY	DATE	BY

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

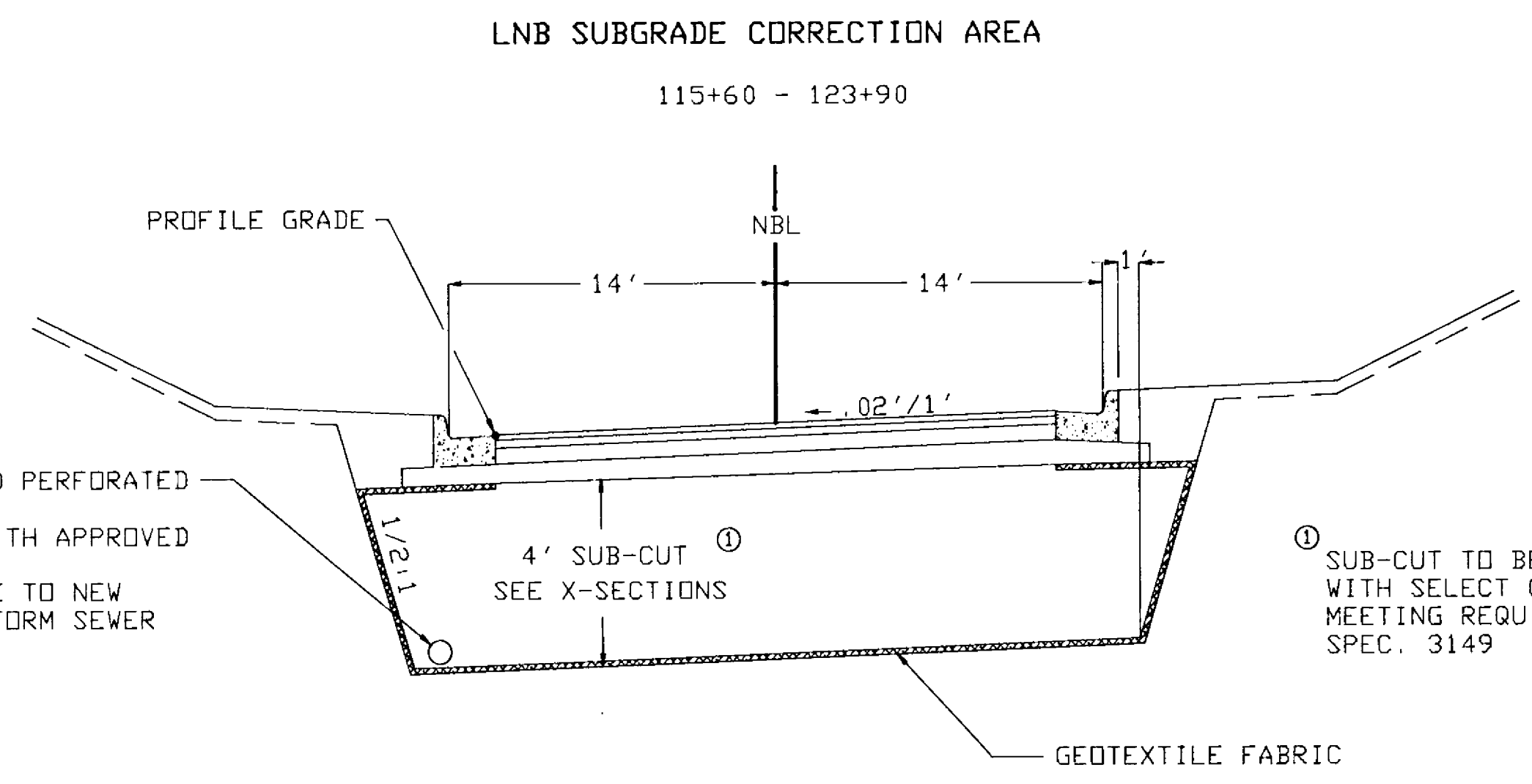
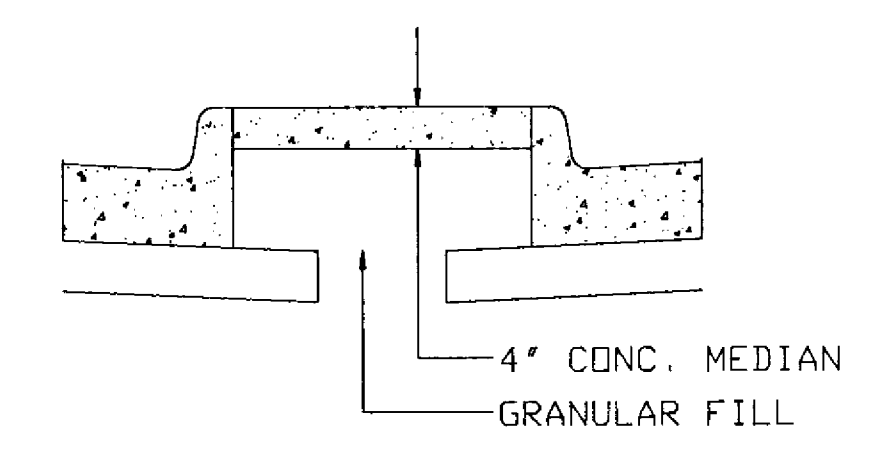
C.S.A.H. 1



DETAIL "A"



DETAIL "B"



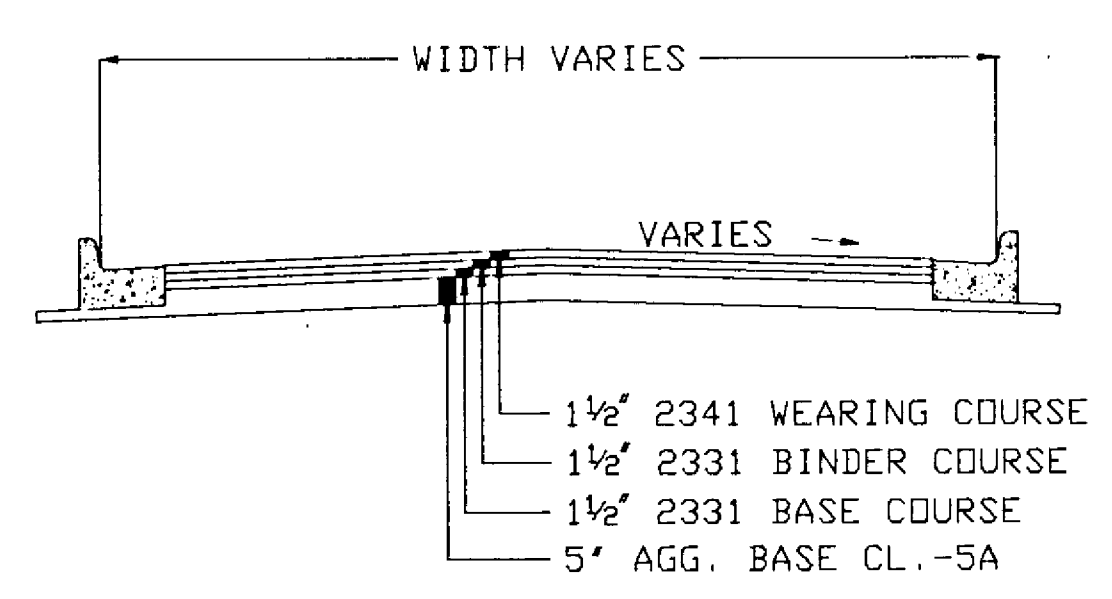
3" P.E. CORRUGATED PERFORATED PIPE DRAIN (TYP)
WRAP PERF. PIPE WITH APPROVED FILTER PLASTIC.
CONNECT PERF. PIPE TO NEW AND OR EXISTING STORM SEWER STRUCTURES.

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

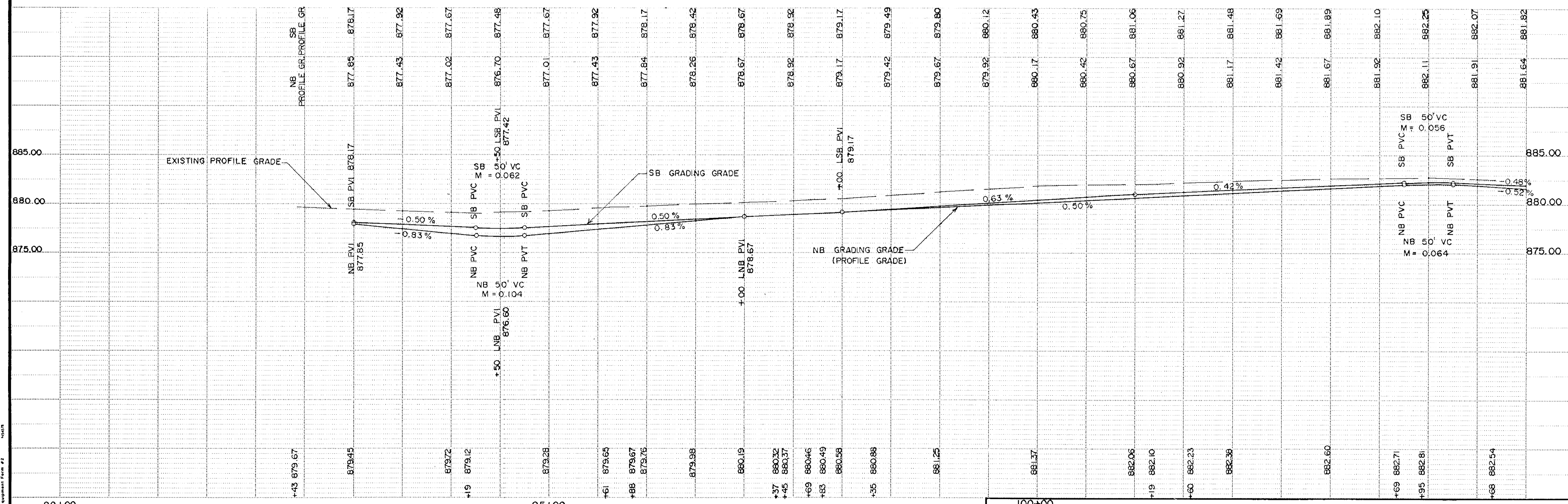
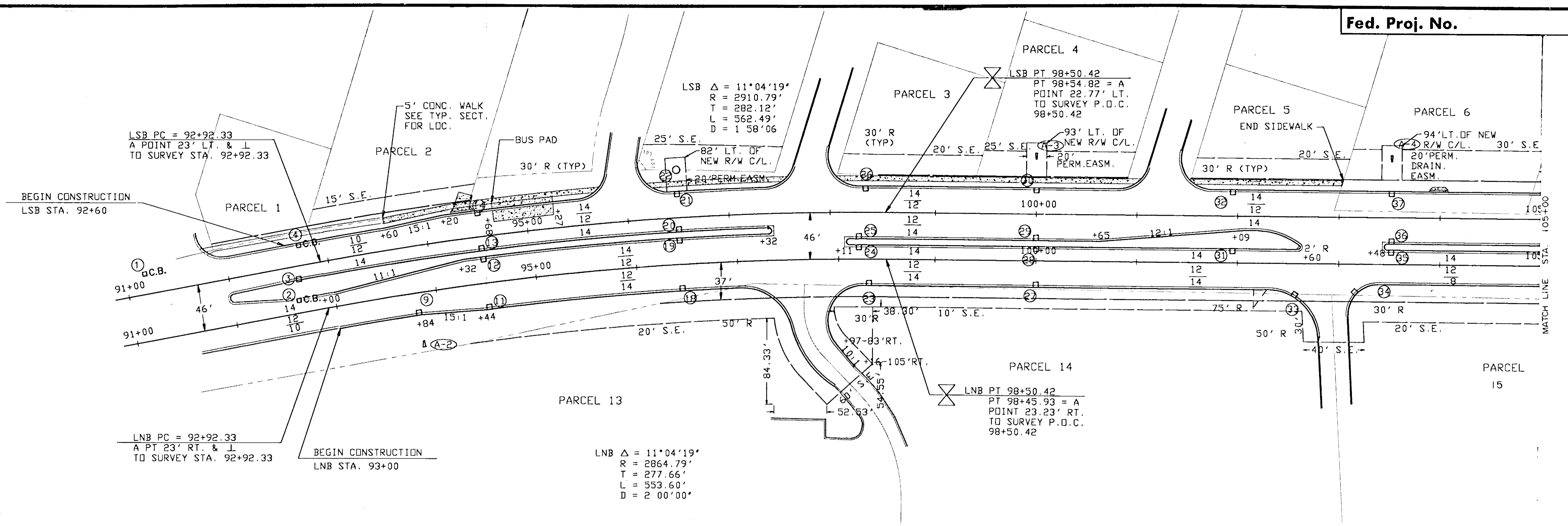
COMMERCIAL ENTRANCE TYPICAL

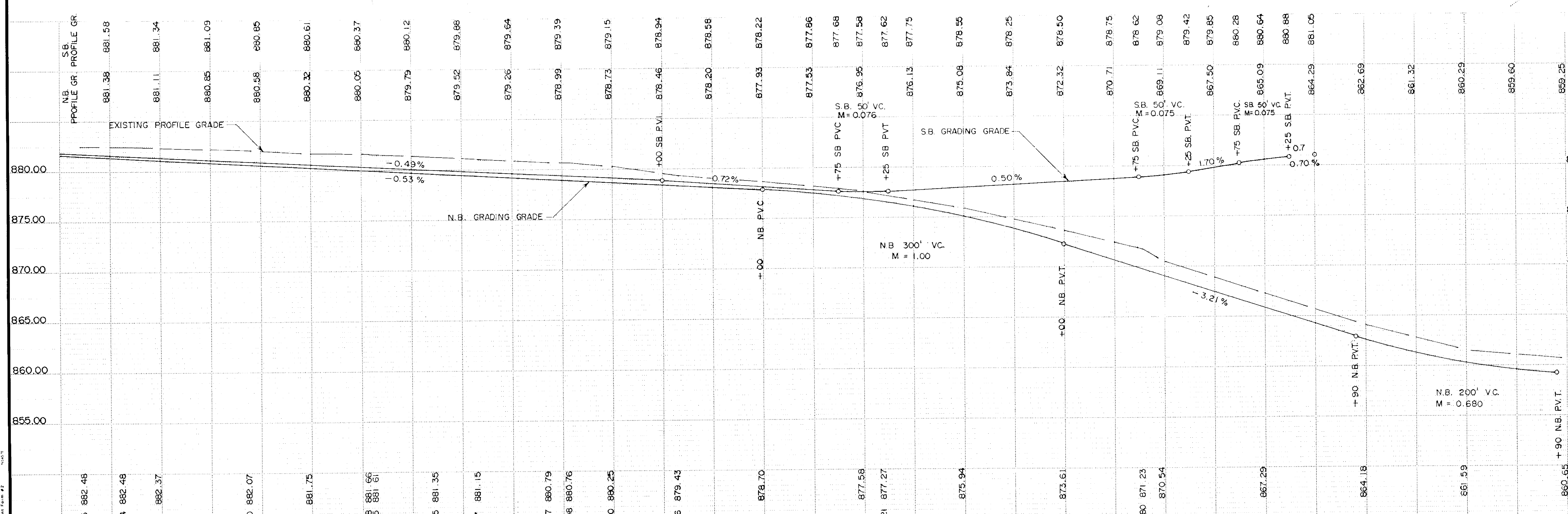
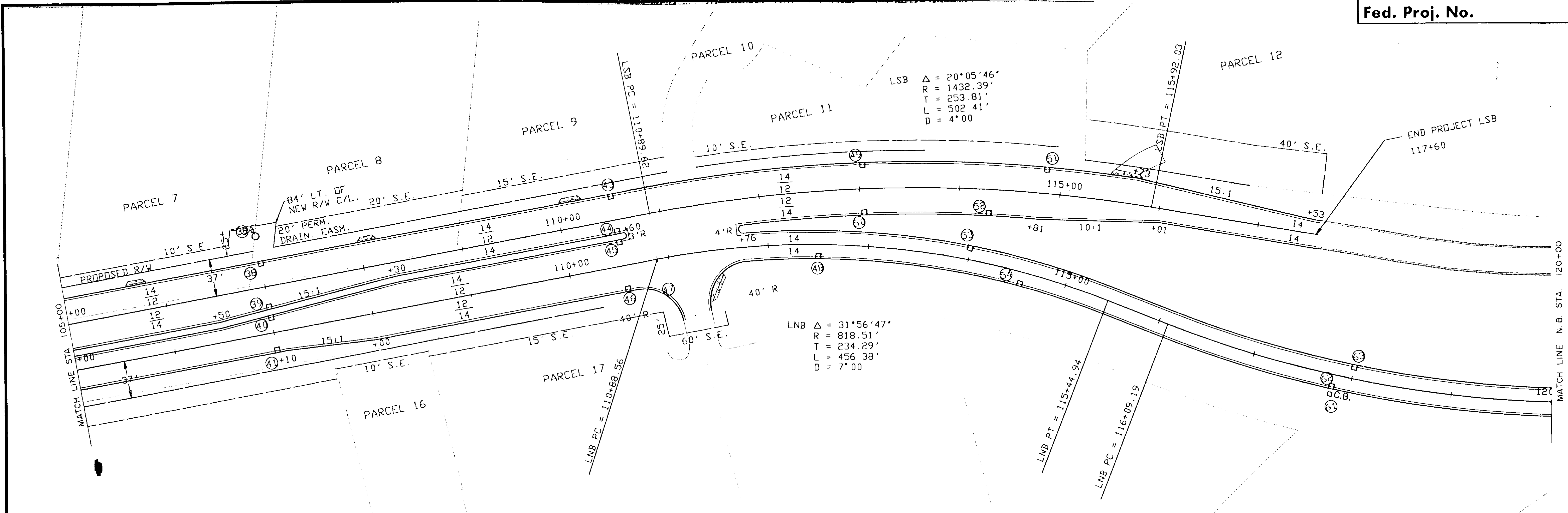
- LNB 97+60 RT (MAYFLOWER ENTRANCE)
- LNB 102+90 RT (JOHN ROBERTS ENTRANCE)
- LNB 111+18 RT (CENAIKO PROD. ENTRANCE)



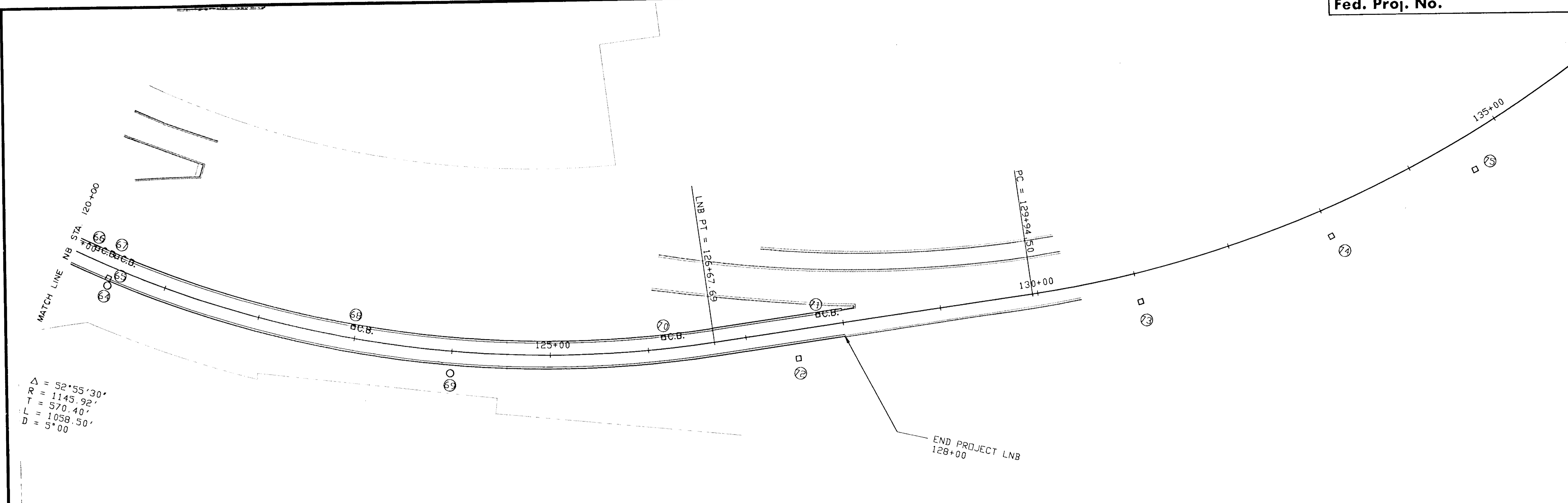
REVISIONS			
DATE	BY	DATE	BY

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

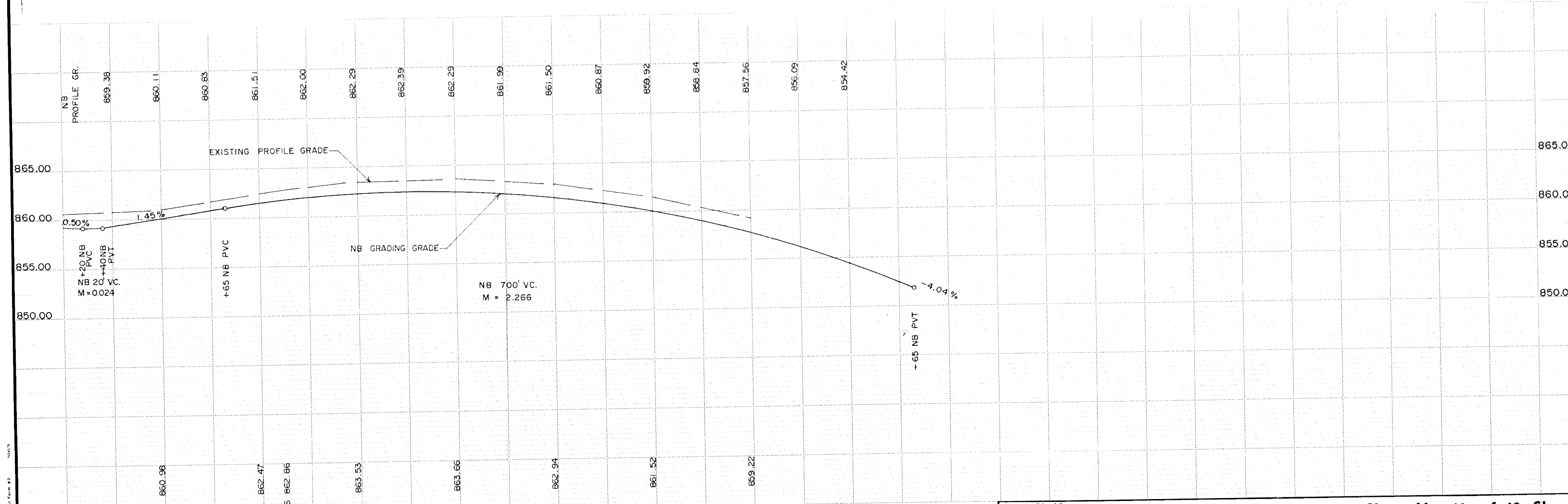




Copy Equipment Form #1



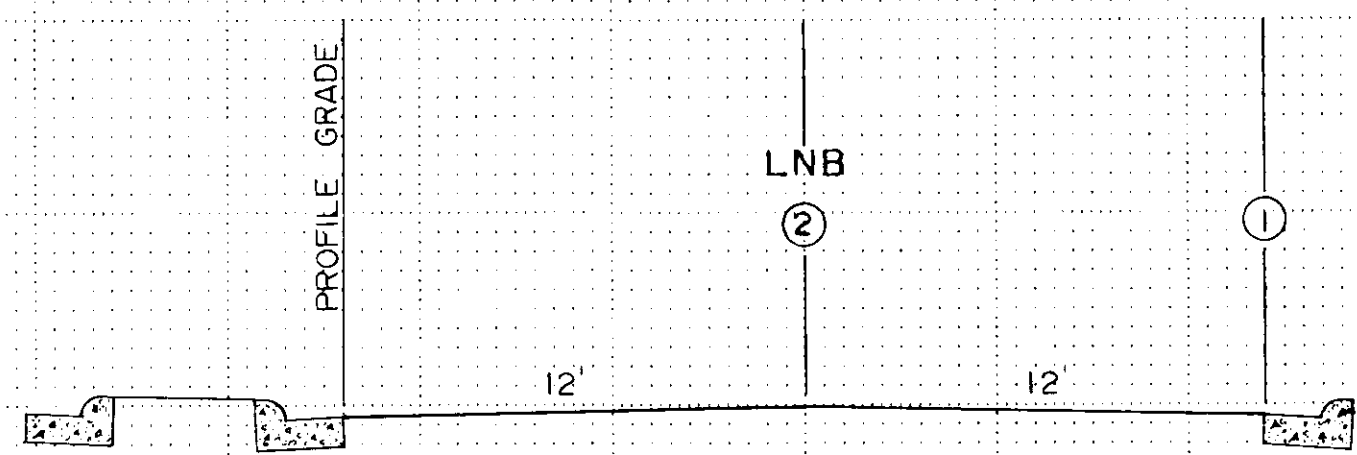
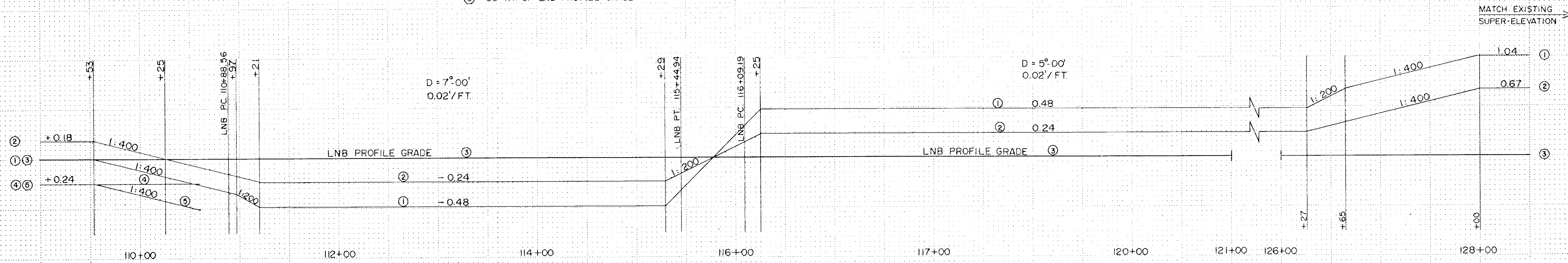
$\Delta = 52^\circ 55' 30''$
 $R = 1145.92'$
 $T = 570.40'$
 $L = 1058.50'$
 $D = 5^\circ 00'$

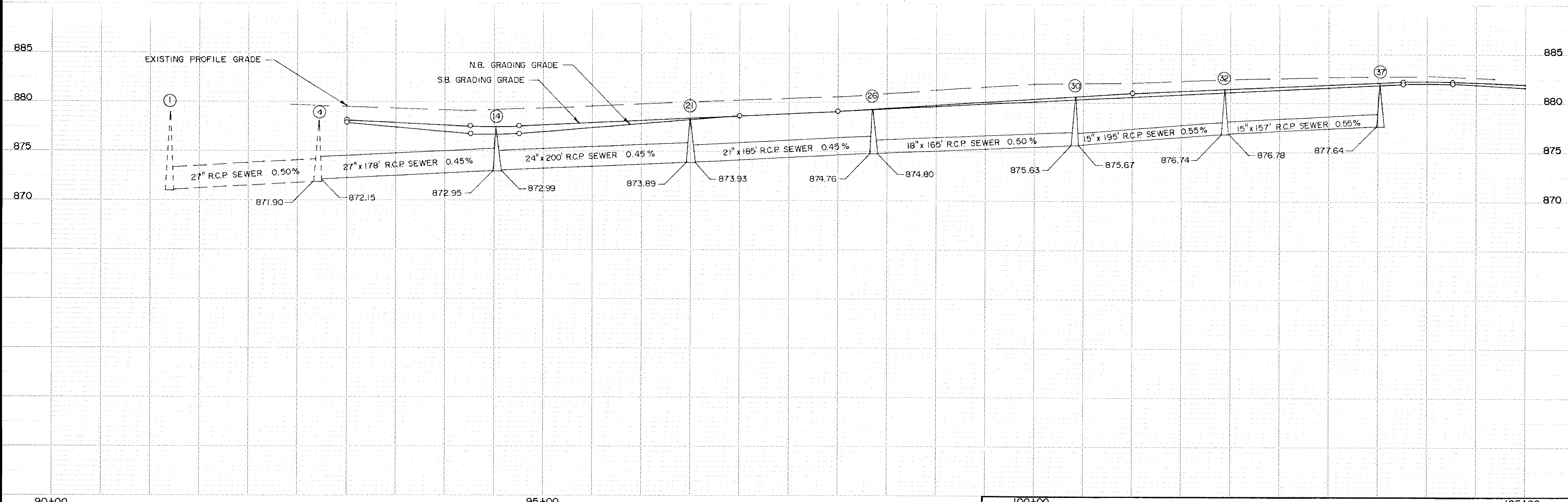
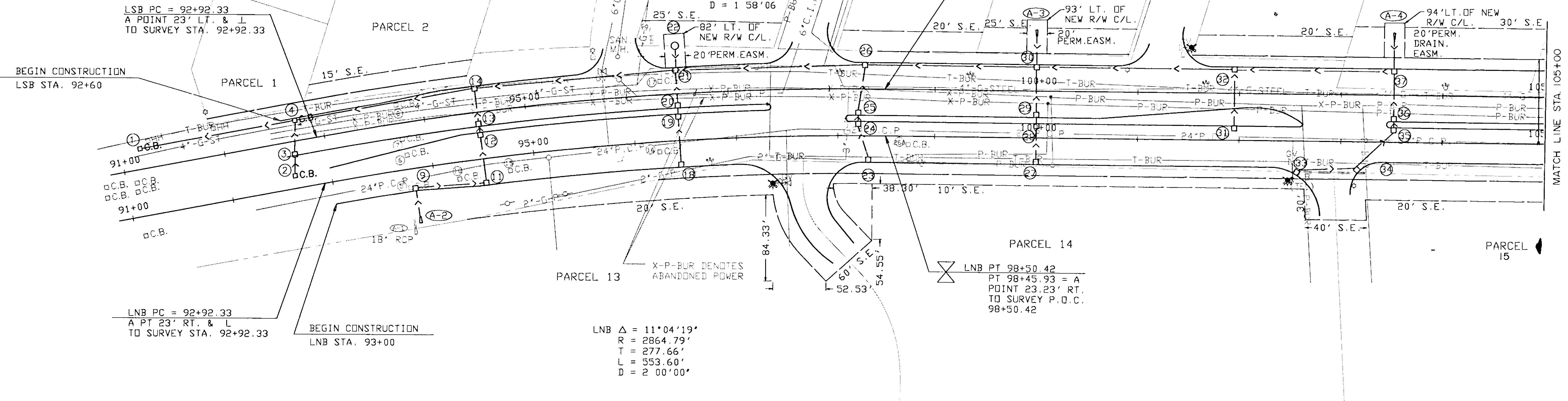


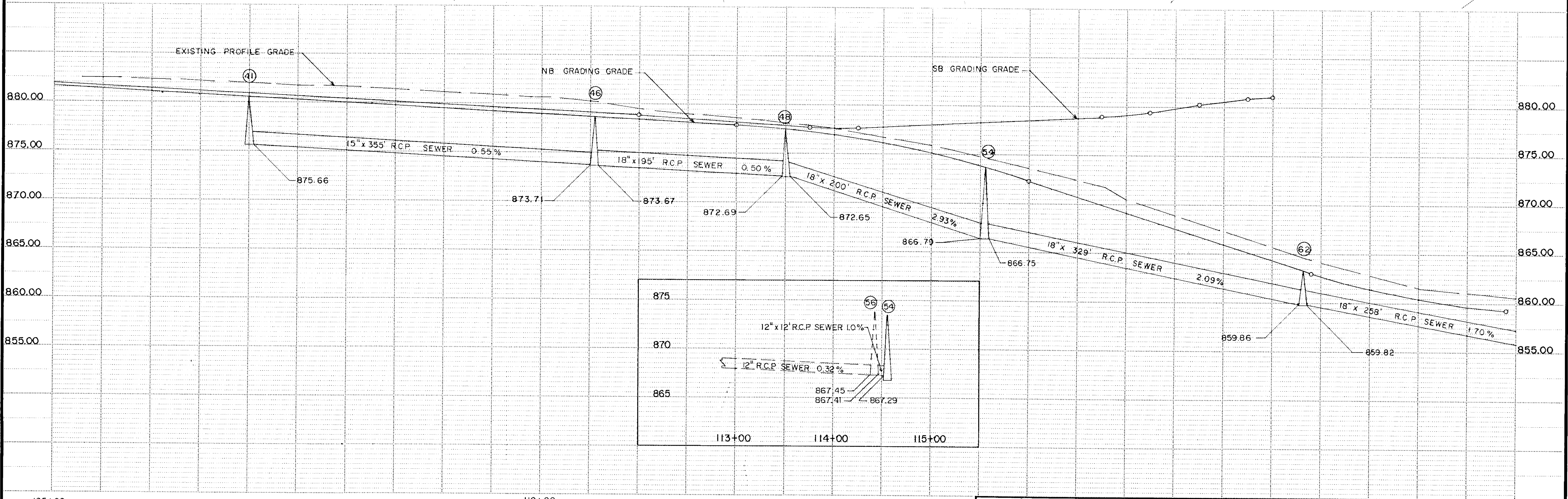
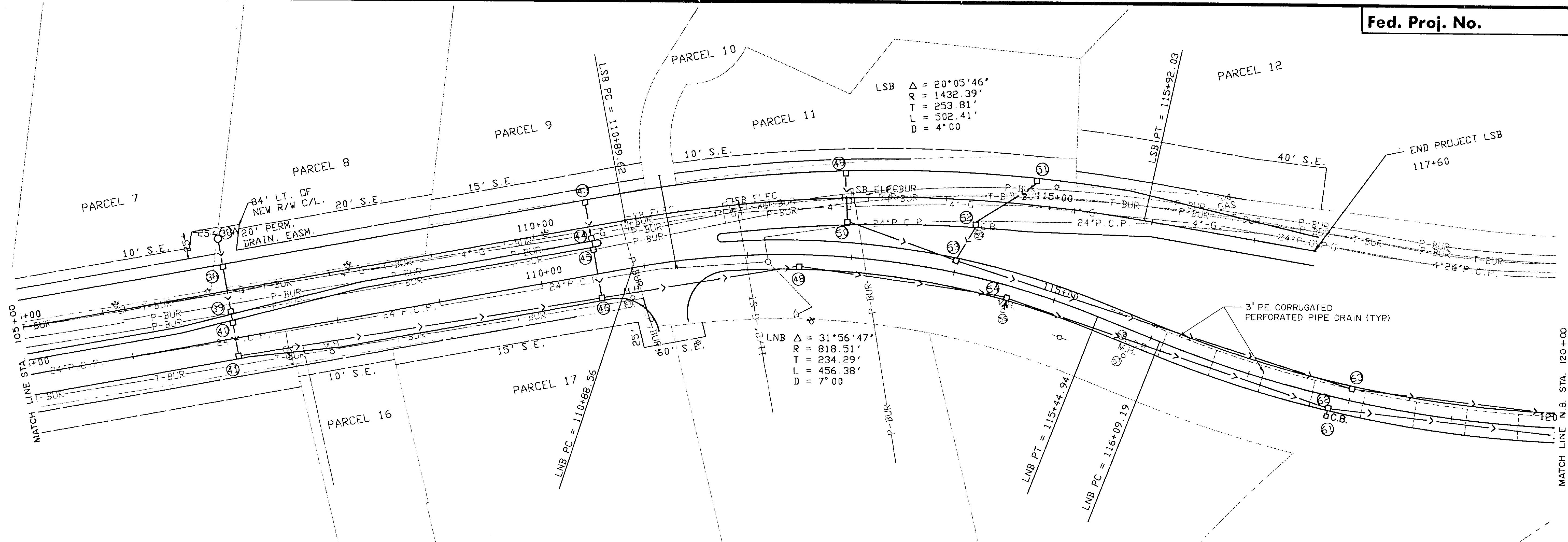
Copy Equipment Form #2

SUPER-ELEVATION
DESIGN SPEED 45 MPH

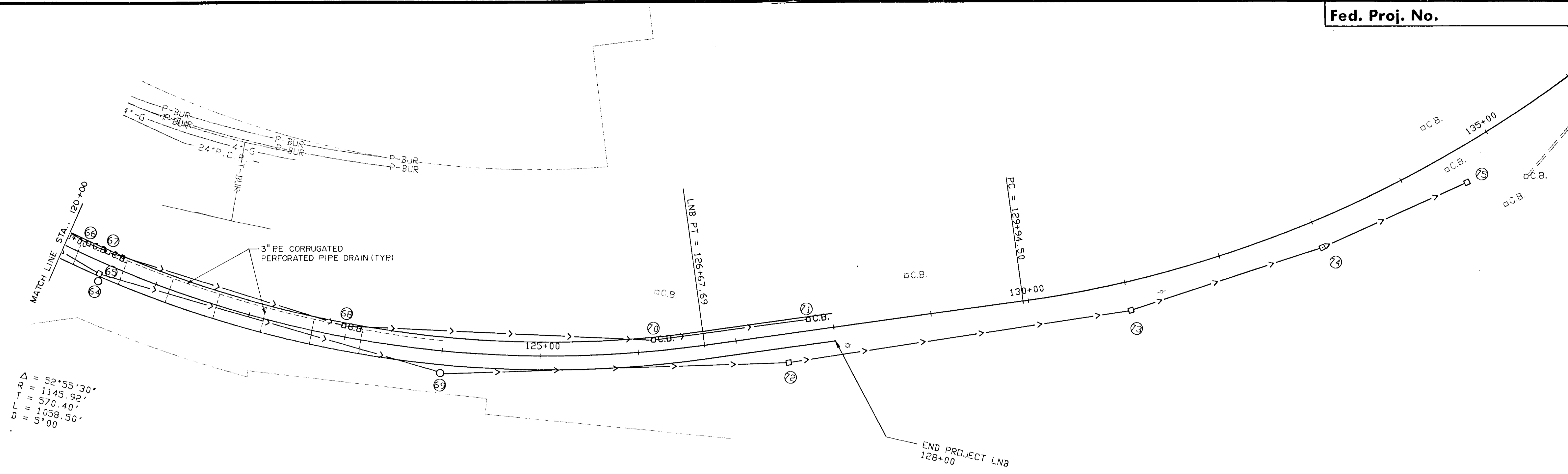
- ① - 24' RT. OF LNB PROFILE GRADE
- ② - 12' RT. OF LNB PROFILE GRADE
- ③ - LNB PROFILE GRADE
- ④ - 12' LT. OF LNB PROFILE GRADE
- ⑤ - 36' RT. OF LNB PROFILE GRADE



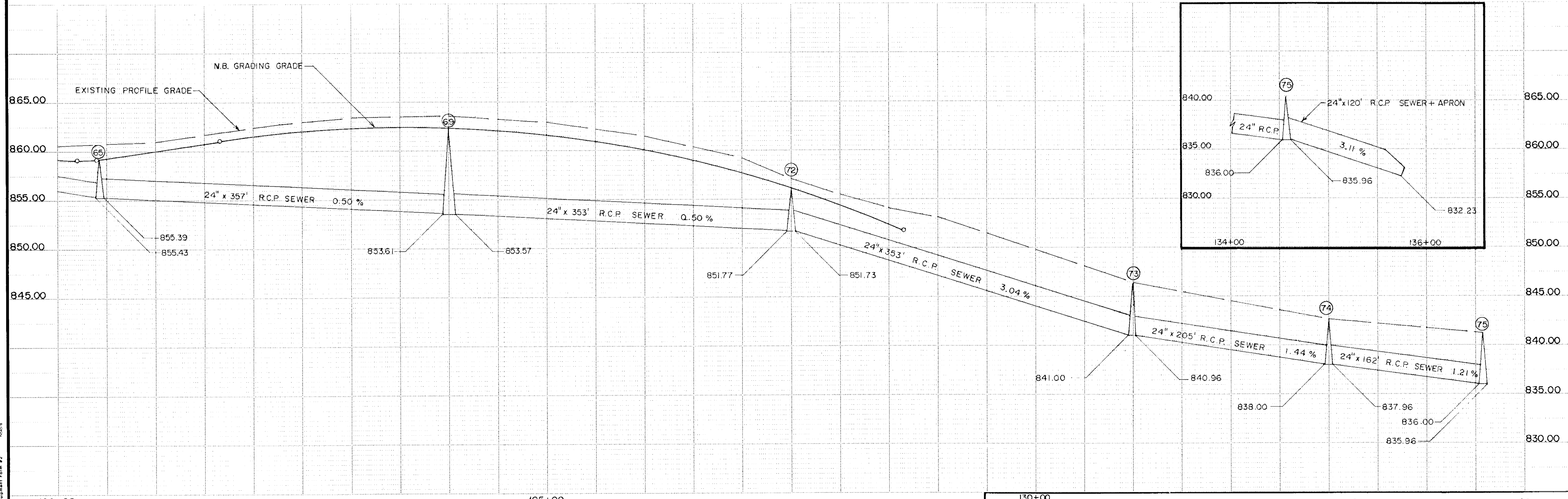




Copy Equipment Form #2



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



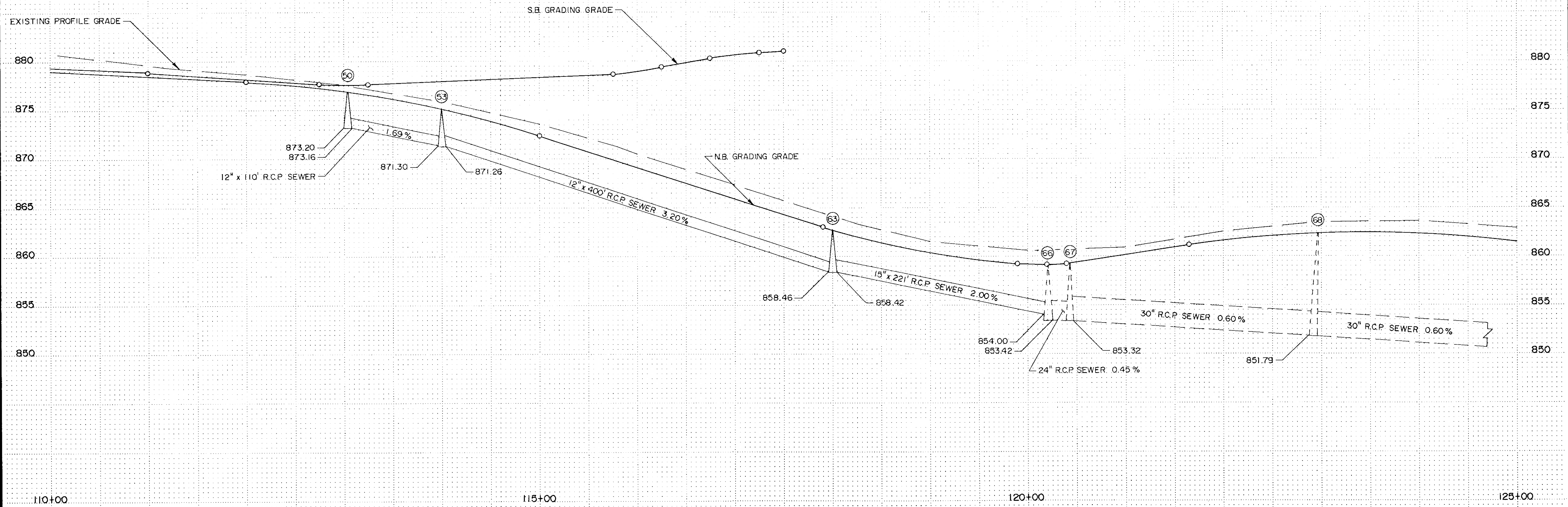
Copy Equipment Form #2

120+00

125+00

130+00
State Proj. No. 02-601-32

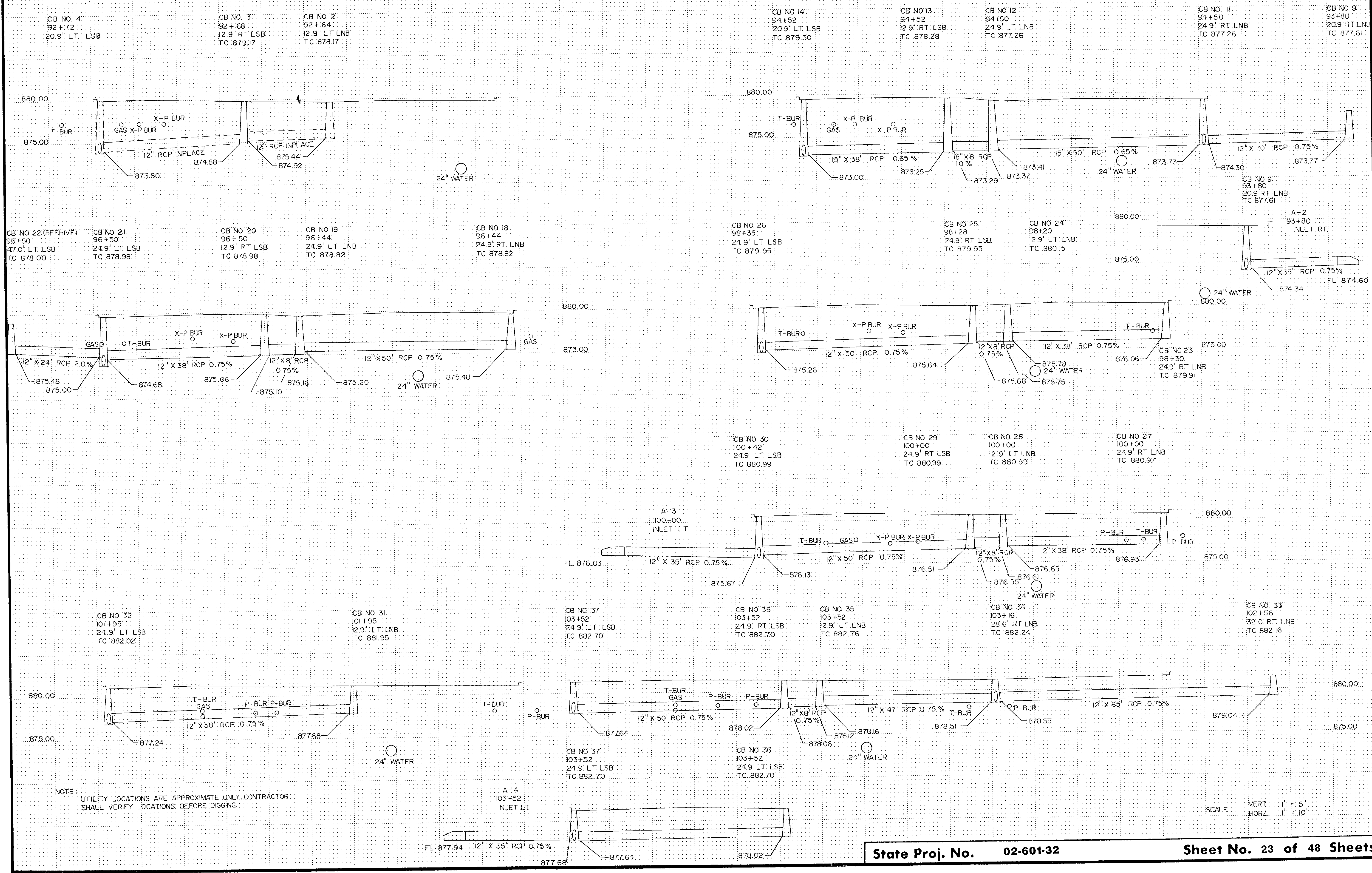
Sheet No. 21 of 48 Sheets



COPY EQUIPMENT FORM #1

STORM SEWER

Fed. Proj. No.



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

SCALE VERT. 1" = 5'
HORZ. 1" = 10'

State Proj. No. 02-601-32

Sheet No. 23 of 48 Sheets

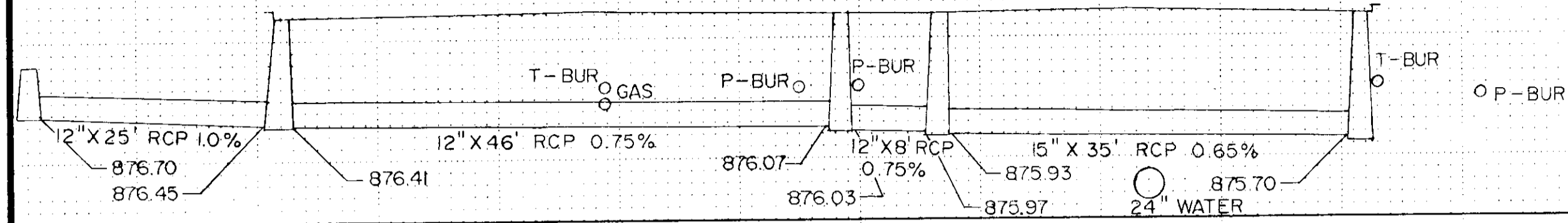
STORM SEWER

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
 21.6' 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

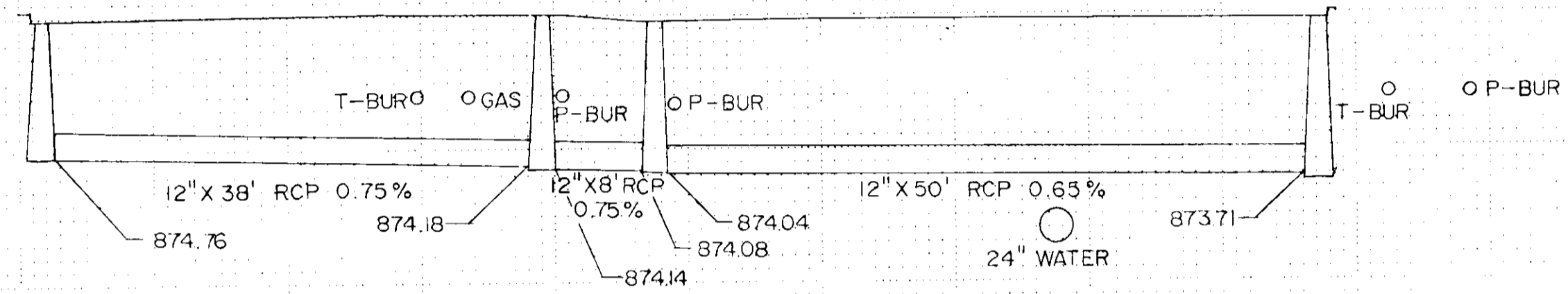


CB NO 43
 110+55
 24.9' LT LSB
 TC 879.71

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

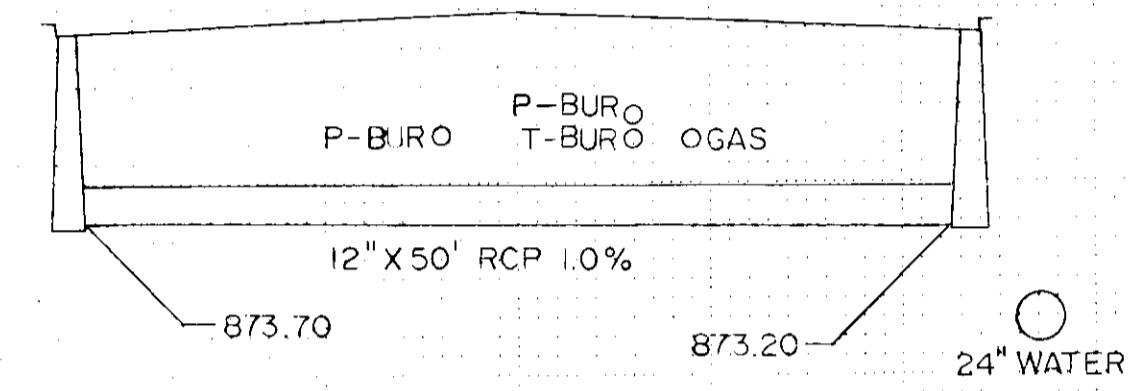
CB NO 45
 110+55
 24.9' LT LNB
 TC 879.27

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



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

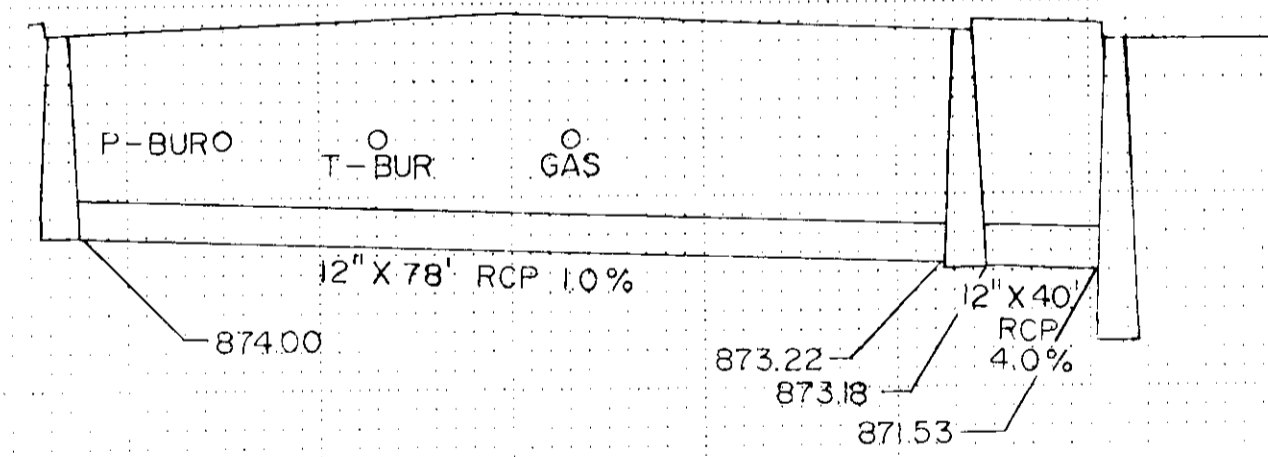
CB NO 50
 113+04
 24.9' LT LSB
 TC 878.14



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 875.68

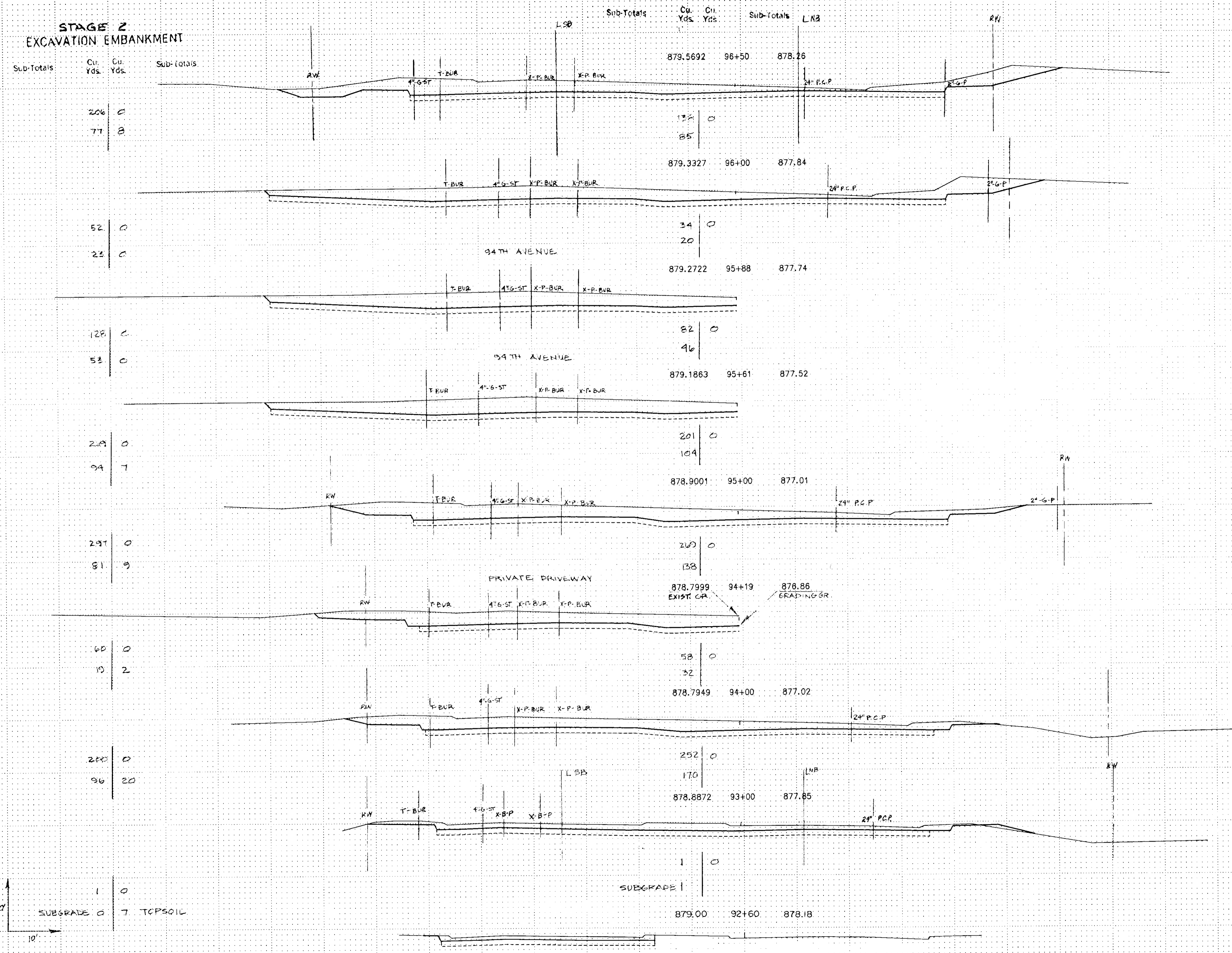


NOTE: UTILITY LOCATIONS ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LOCATIONS BEFORE DIGGING

STAGE 2
EXCAVATION EMBANKMENT

STAGE 2
EXCAVATION EMBANKMENT

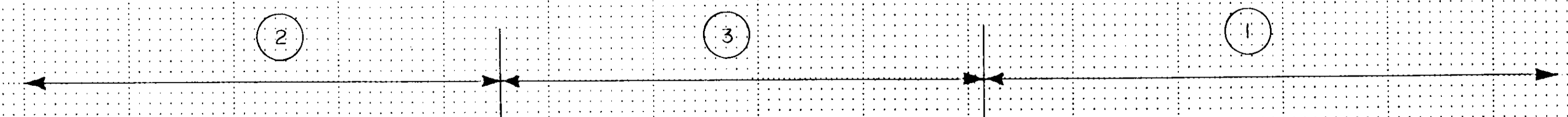
STAGE 1
EXCAVATION EMBANKMENT



Sub-Totals	Cu. Yds.	Cu. Yds.	Sub-Totals
135	0	51	15
217	0	96	26
146	0	93	17
109	7	91	17 Topsoil

10' SUBGRADE 0 7 TCPSOIL

SUBGRADE 1



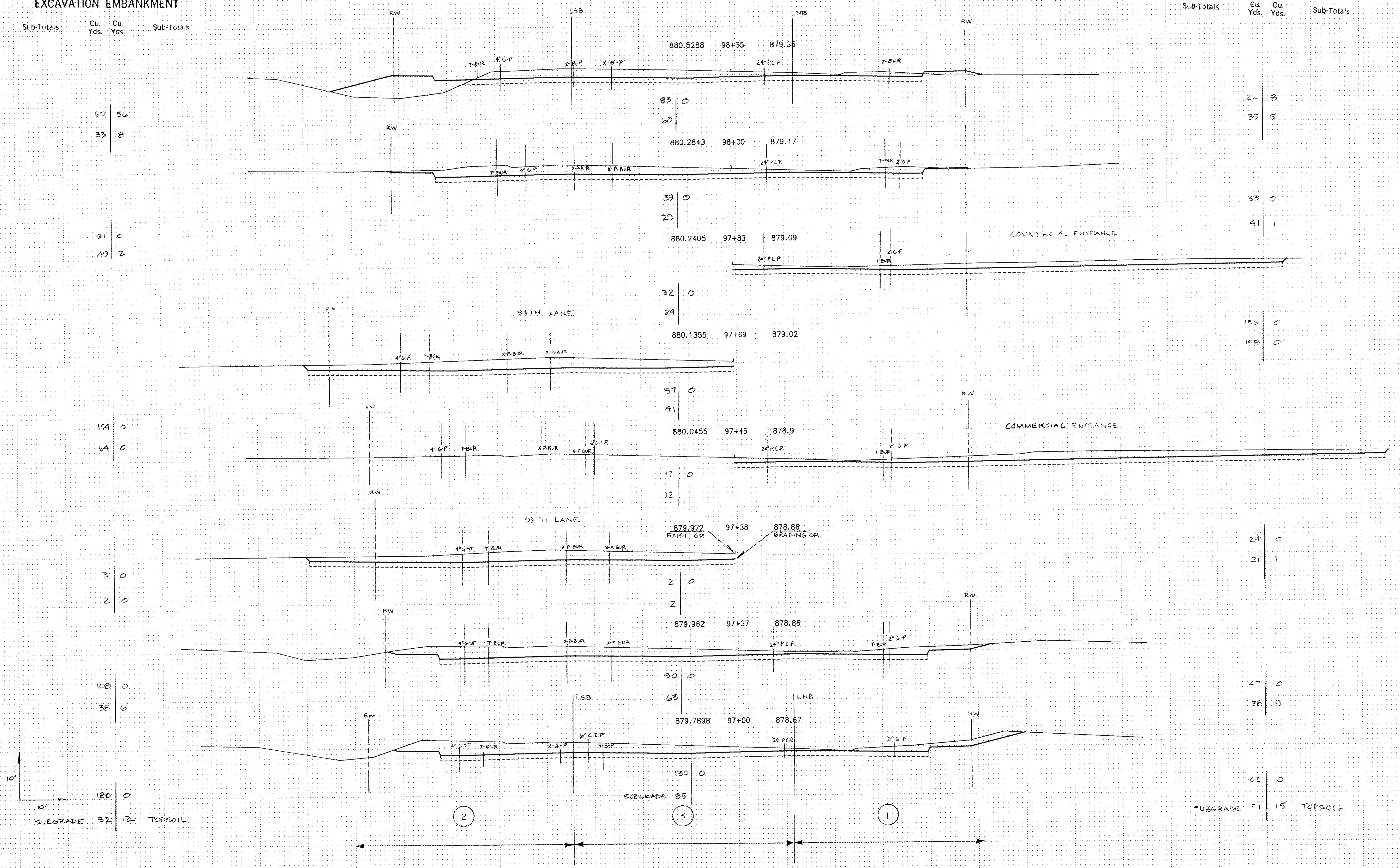
COPY EQUIPMENT FROM #1

STAGE 3
EXCAVATION EMBANKMENT

Fed. Proj. No.

STAGE 2
EXCAVATION EMBANKMENT

STAGE 1
EXCAVATION EMBANKMENT



COPY EQUIPMENT FORM #1

STAGE 3
EXCAVATION EMBANKMENT

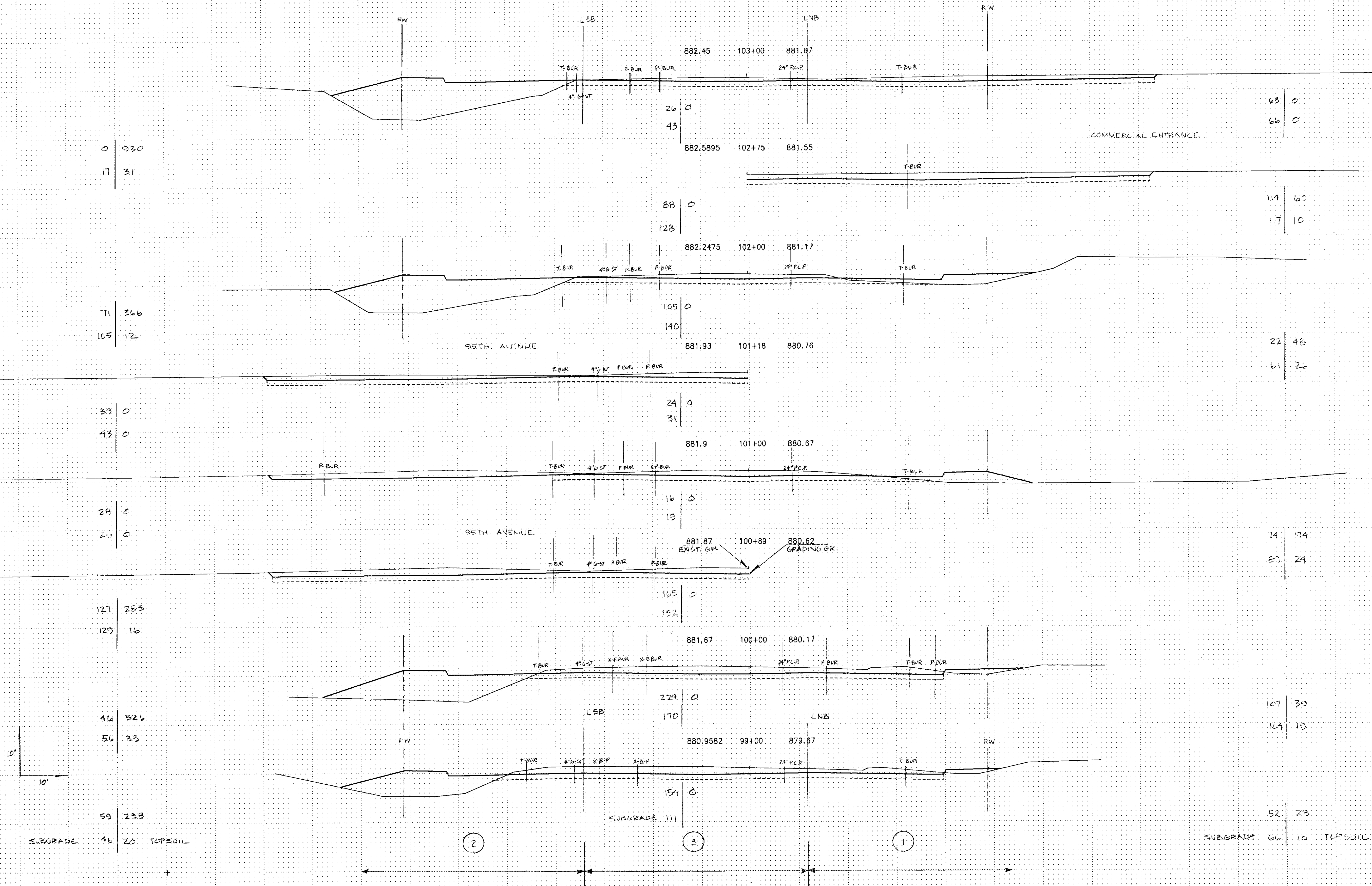
STAGE 1
EXCAVATION EMBANKMENT

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

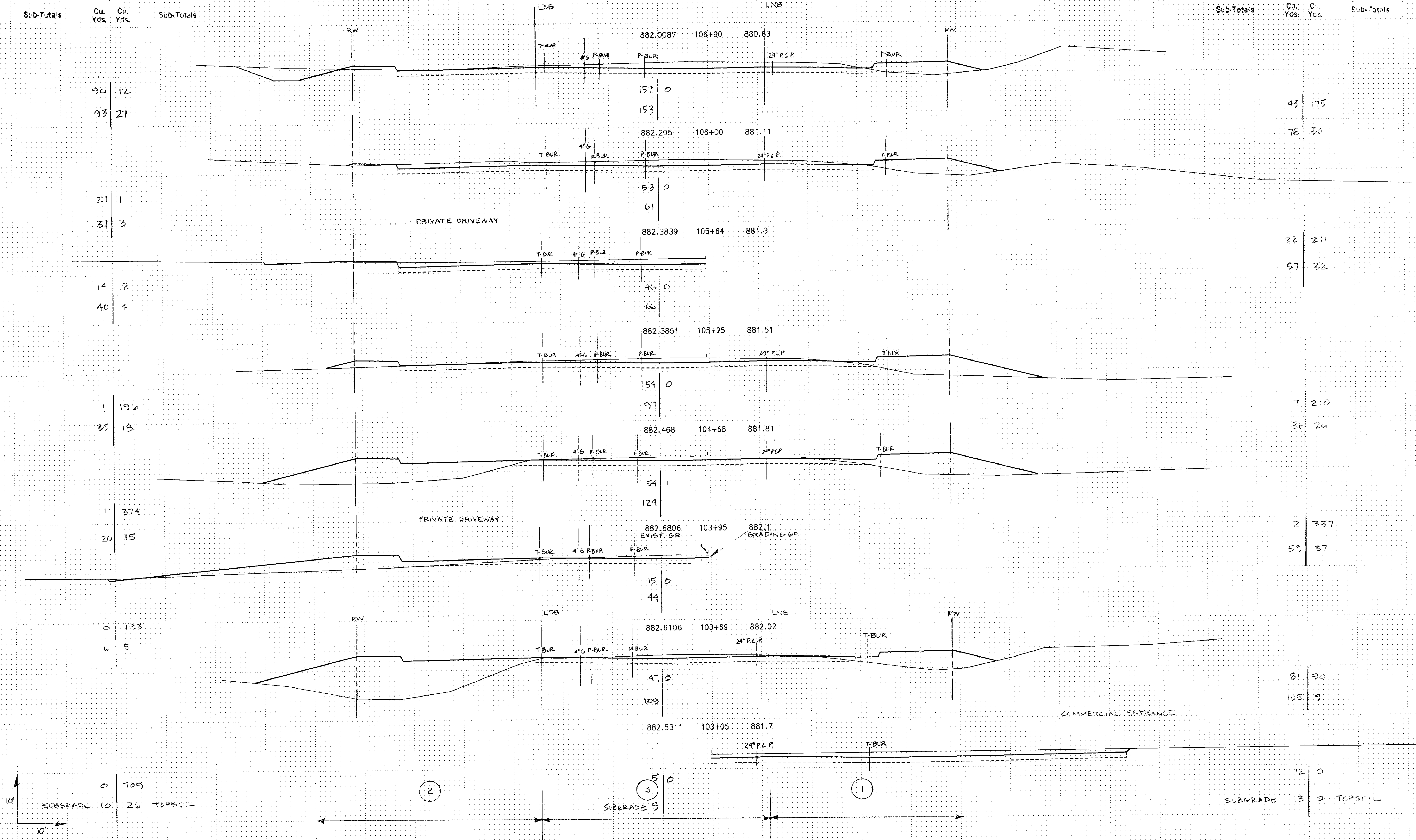


COPY EQUIPMENT FORM #1

STAGE 3
EXCAVATION EMBANKMENT

STAGE 2
EXCAVATION EMBANKMENT

STAGE 1
EXCAVATION EMBANKMENT



COPY EQUIPMENT FORM #1

STAGE 3
EXCAVATION EMBANKMENT

Fed. Proj. No.

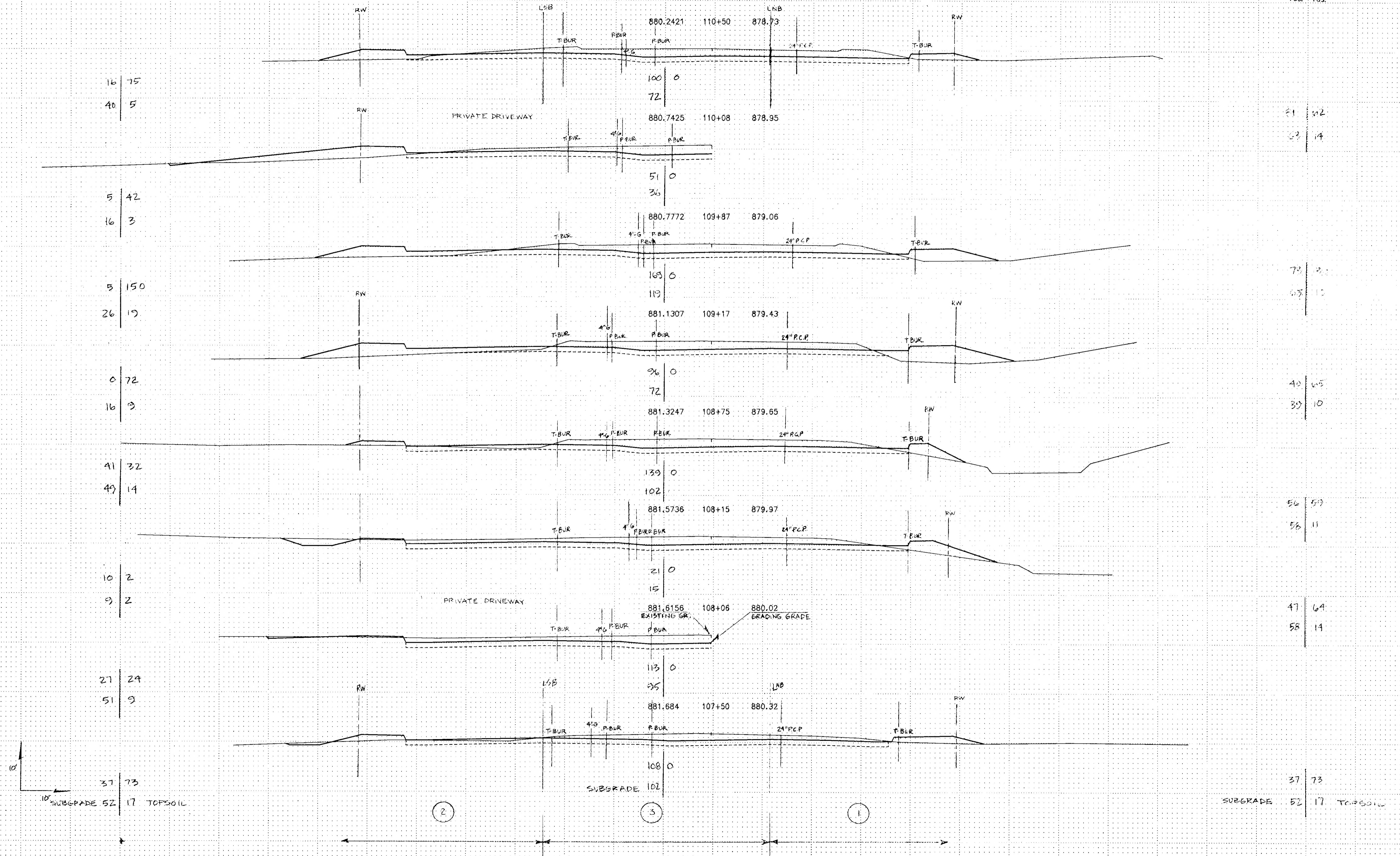
STAGE 2
EXCAVATION EMBANKMENT

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



COPY EQUIPMENT FORM #1

STAGE 2
EXCAVATION EMBANKMENT

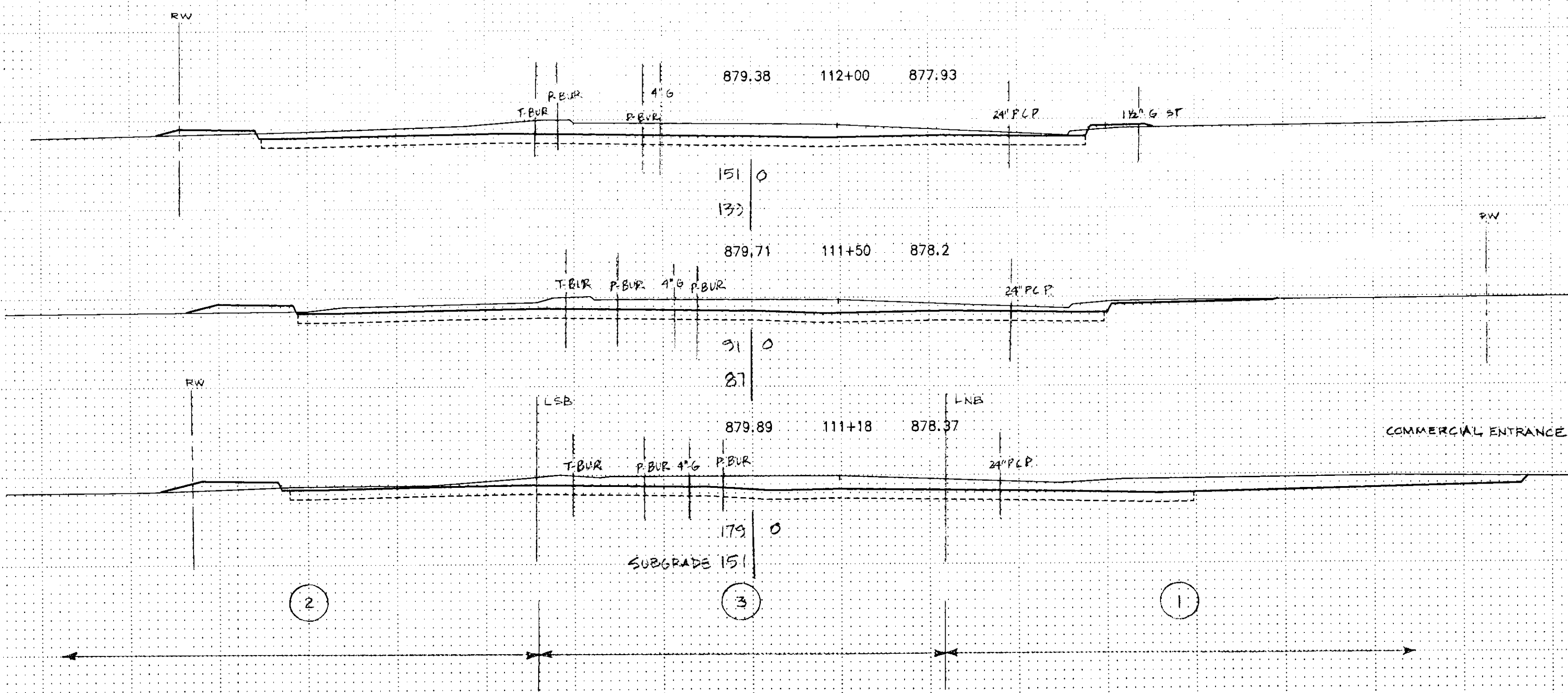
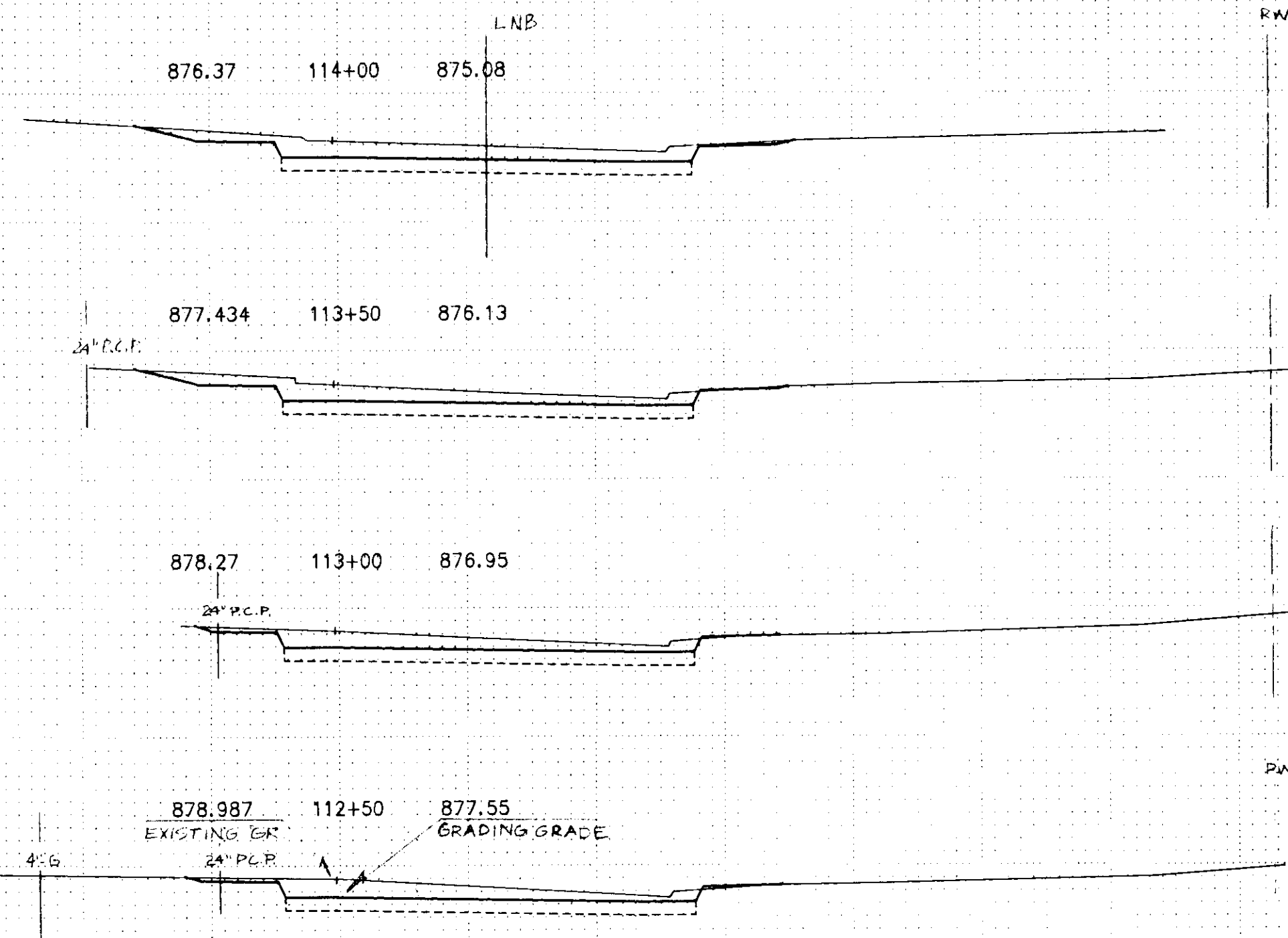
Sub-Totals	Cu. Yds.	Cu. Yds.	Sub-Totals

STAGE 3
EXCAVATION EMBANKMENT

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

STAGE 1
EXCAVATION EMBANKMENT

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



81	0
50	15
60	0
50	14
65	0
50	13
65	4
50	14
23	4
31	0
60	0
27	4
151	10
SUBGRADE 71	6 TOPSOIL

0 17
0 9
0 12
0 6

10
13 55
10' SUBGRADE 31 15 TOPSOIL

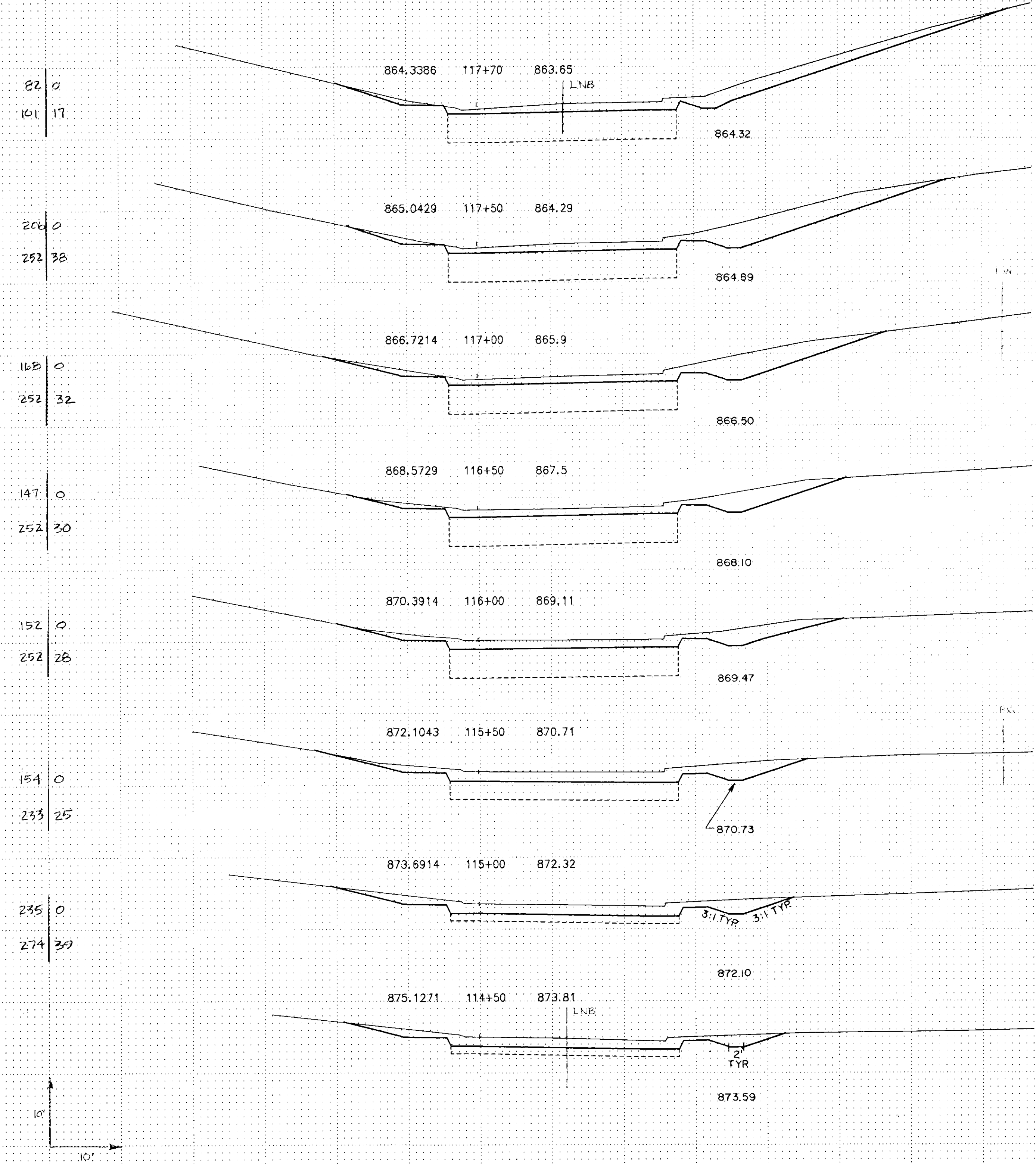
2

3

1

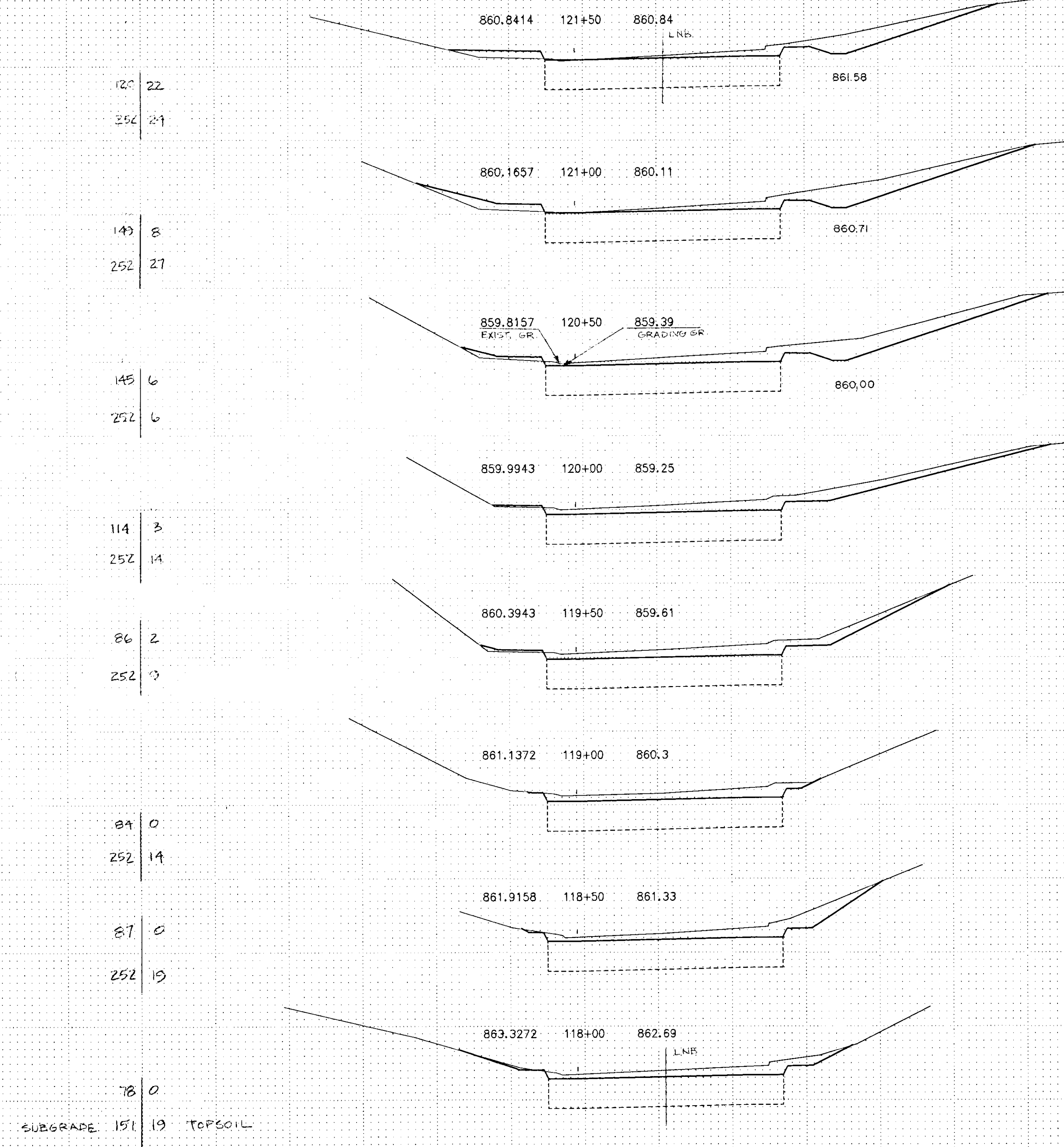
EXCAVATION EMBANKMENT

Sub-Totals Cu. Yds. C11 Yds. Sub-Totals



EXCAVATION EMBANKMENT

Sub-Totals Cu. Yds. C11 Yds. Sub-Totals



10'
10'

EXCAVATION EMBANKMENT

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

67	0		
30	13		

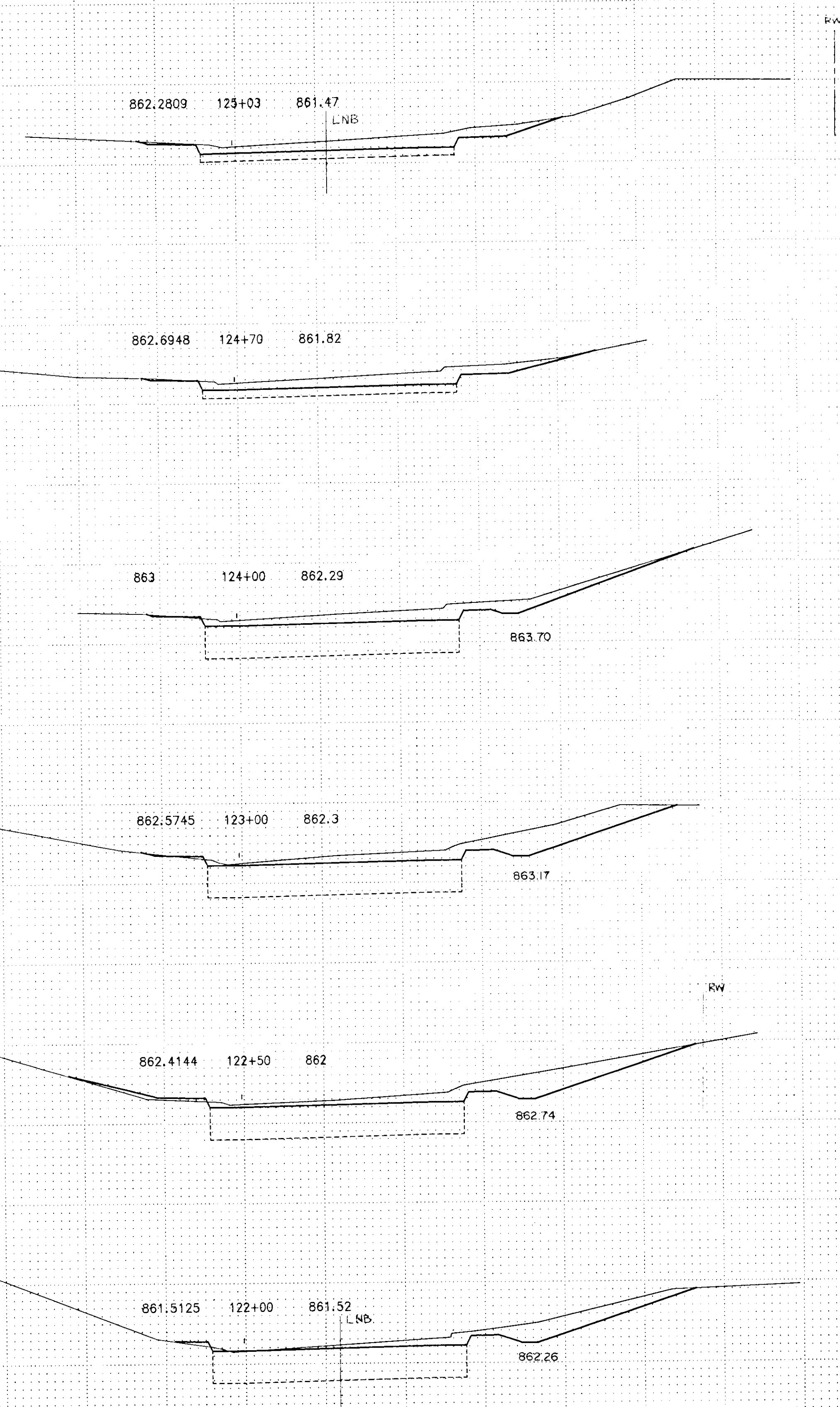
152	0		
192	36		

276	2		
467	57		

151	6		
252	31		

126	6		
252	31		

109	10		
252	25		



EXCAVATION EMBANKMENT

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

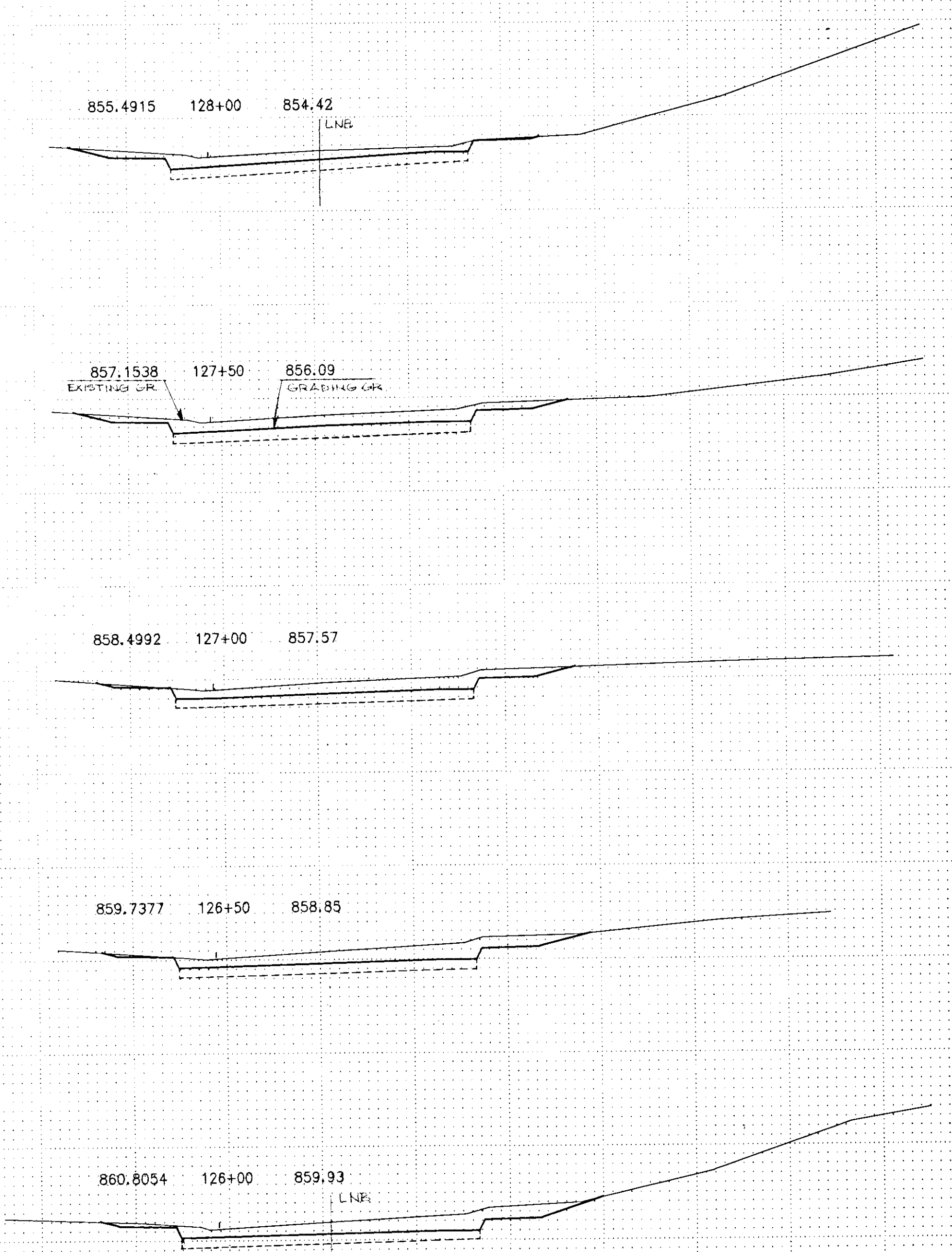
83	0		
50	19		

93	0		
59	19		

85	0		
59	19		

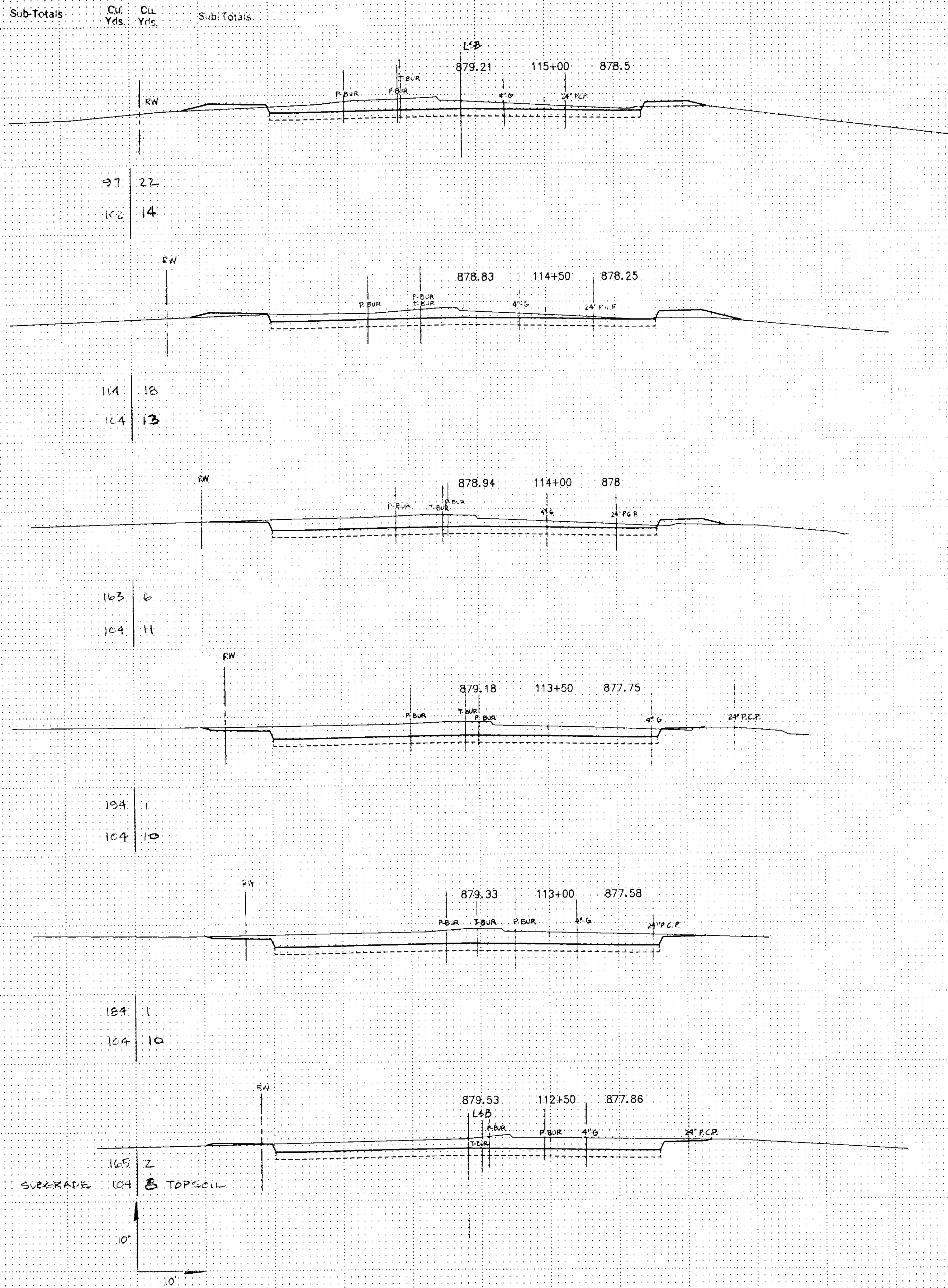
106	0		
59	19		

205	0		
SUPERGRADE 115		26	TOPOG. L

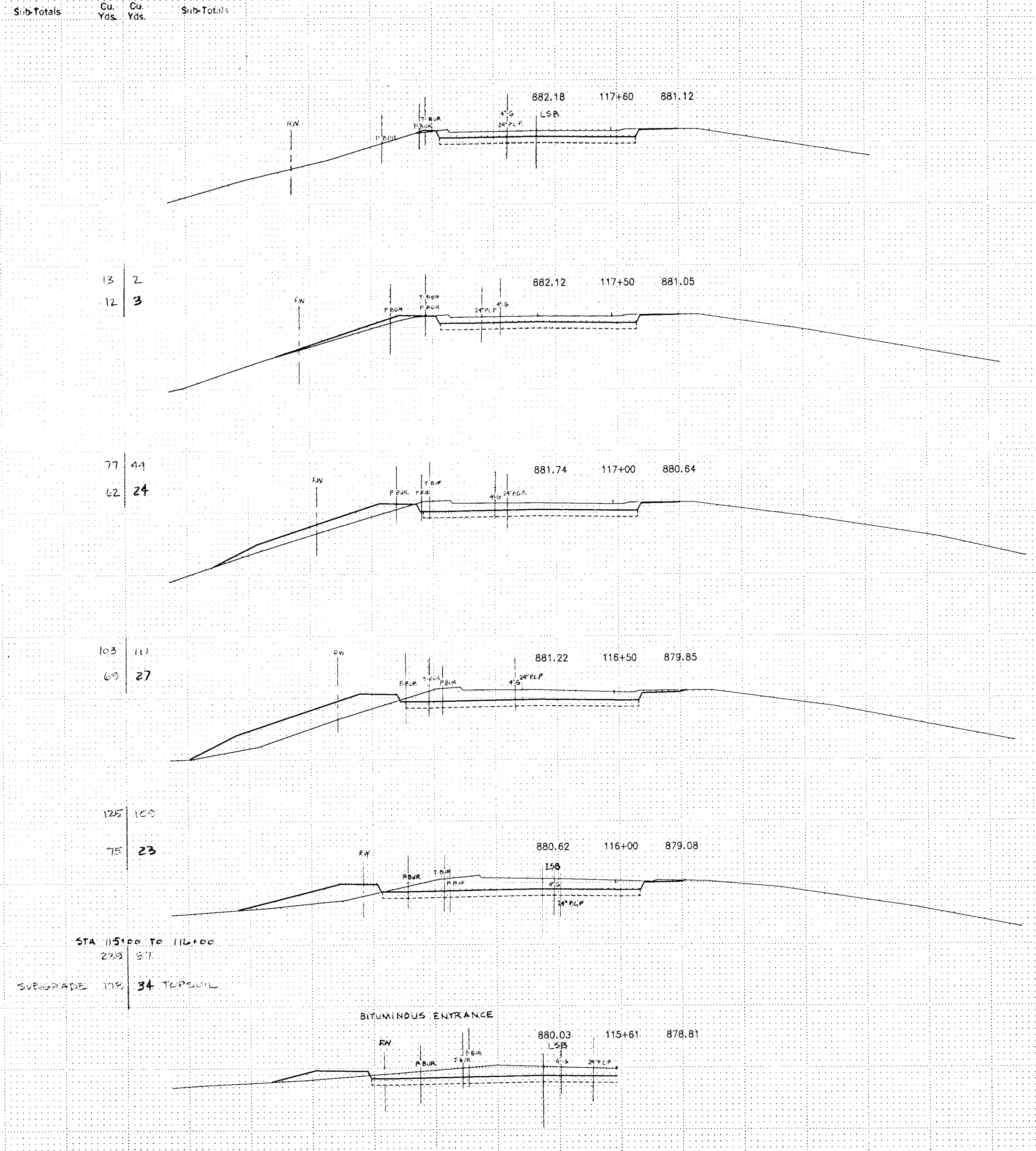


COPY EQUIPMENT FORM #1

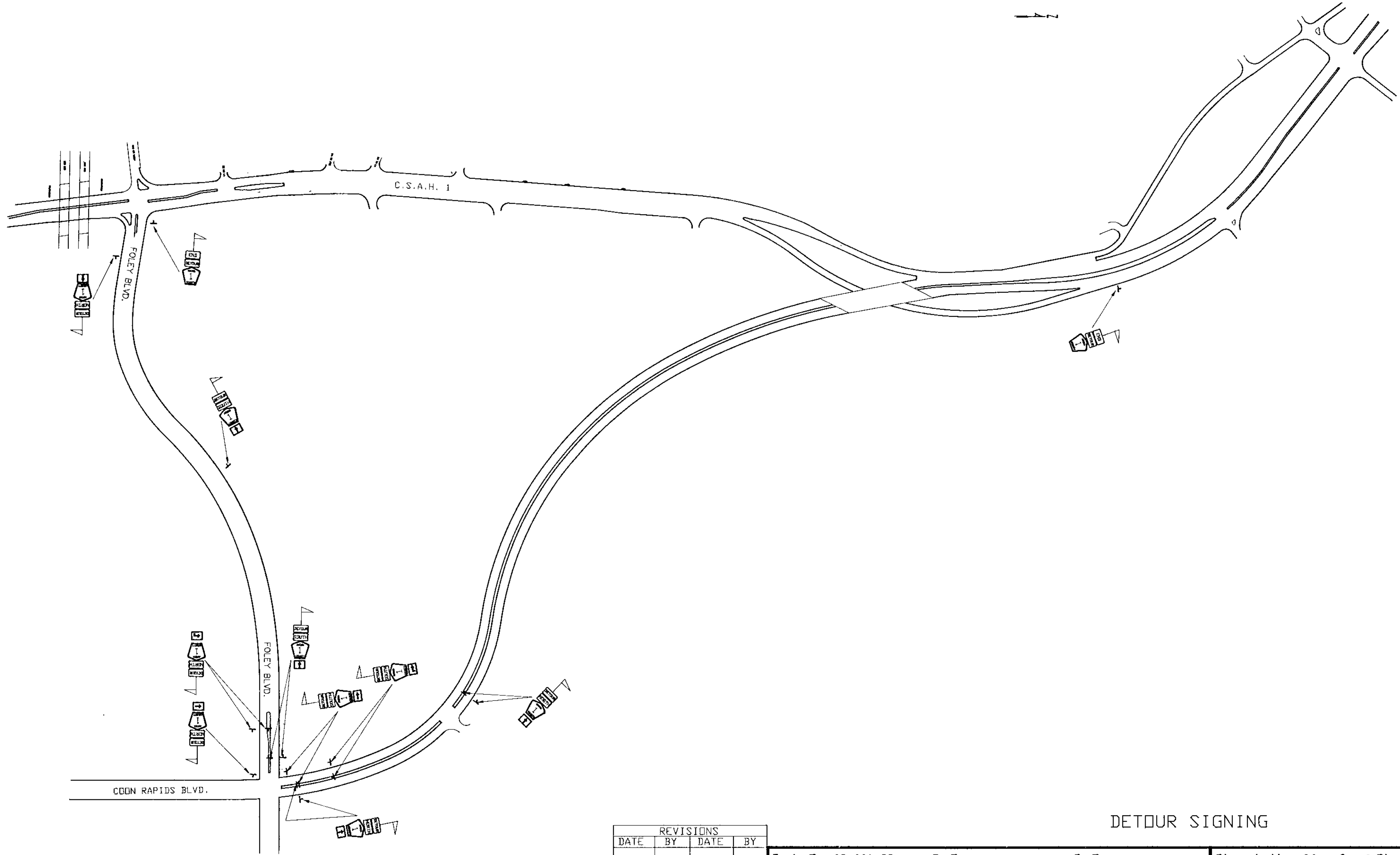
EXCAVATION EMBANKMENT



EXCAVATION EMBANKMENT



COPY EQUIPMENT FORM #1



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	POST
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"						1				
FLASHER											TYPE III			1				1				
W6-3	48"x48"			2		2					R11-2	48"x30"							2			
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"										
W20-2	48"x48"			2		2		2			TYPE III			1		1		1				
FLASHER											TYPE III											
W20-2	48"x48"			2		2		2			TYPE III			6		15		2				
W13-1	24"x24"										TYPE III											
FLASHER											TYPE III			3		15		2				
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.

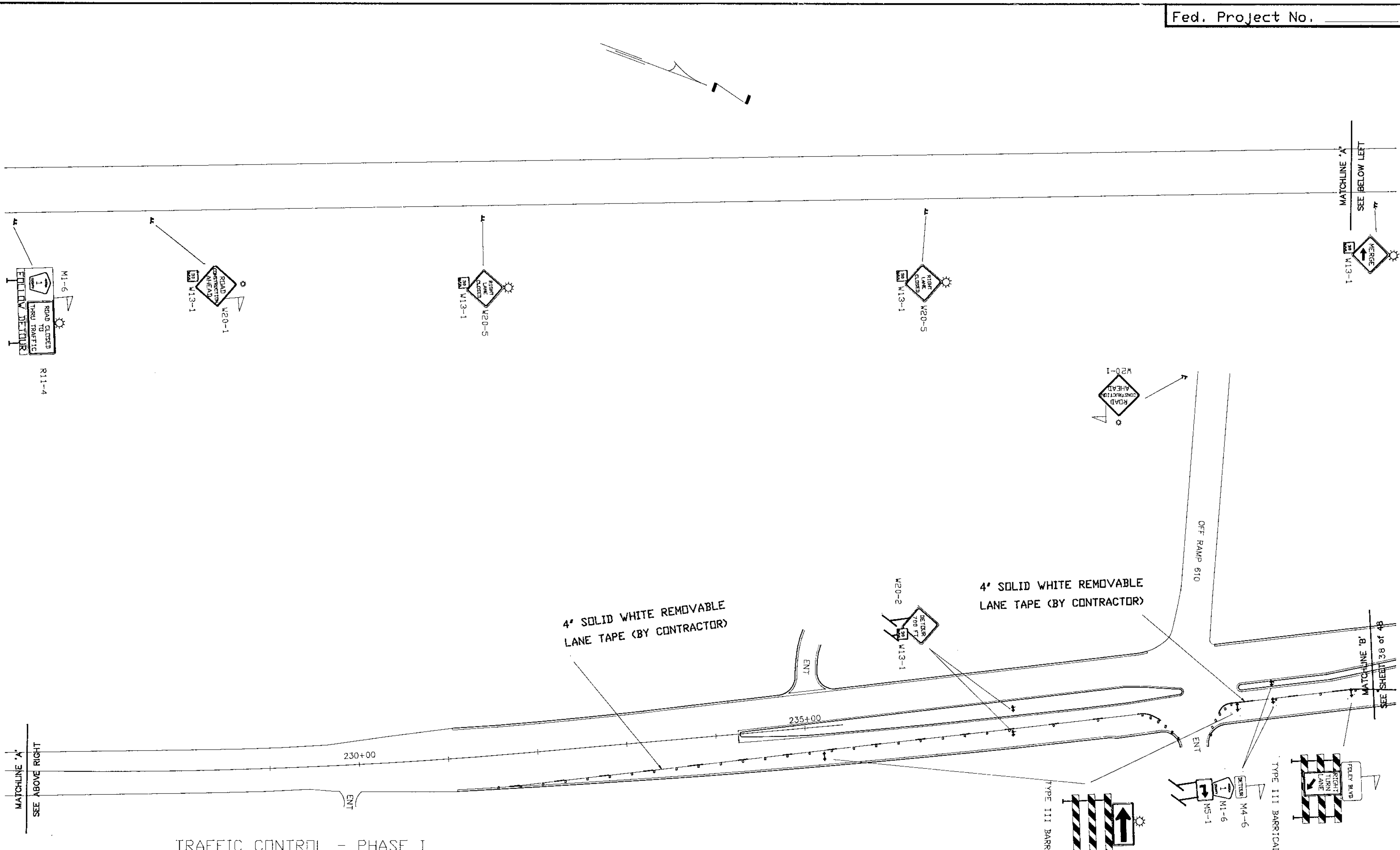
REVISIONS			
DATE	BY	DATE	BY

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		Fed. Project No. _____
			POST	TELSPAR	POST	TELSPAR	POST	TELSPAR	POST	TELSPAR				POST	TELSPAR	POST	TELSPAR	POST	TELSPAR	POST	TELSPAR	
M4-8	24"x12'	M5-1(L)							1	1	REBOUNDABLE DRUM	24"x12'		342		275		233				
M3-2	24"x12'	M5-1(R)																				
M1-6	24"x24'	M6-1(L)							1	1												
	21x15'	M6-1(R)																				
		M6-2(L)									REBOUNDABLE DRUM	24"x12'		18		23		18				
		M6-3							2	1	REBOUNDABLE DRUM	24"x12'										
M4-8	24"x12'	M5-1(L)							1	1												
M3-1	24"x12'	M5-1(R)																				
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'	M3-1(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												
M4-8																						
M1-6	24"x24'																					
	24"x36'	TO EAST RIVER ROAD	1		1		1															
M1-6	24"x24'	EAST RIVER ROAD CLOSED	1		1		1															
	48"x60'																					
	BLACK ON MIN. 10'																					
G20-2	48"x60'	END CONSTRUCTION	2		2		2															
	BLACK ON ORANGE																					
	12"x48'	DETOUR	1		1		1															
	BLACK ON MIN. 8'																					
	18"x72'	DETOUR	1		1		1															
	BLACK ON MIN. 12'																					

NOTES:

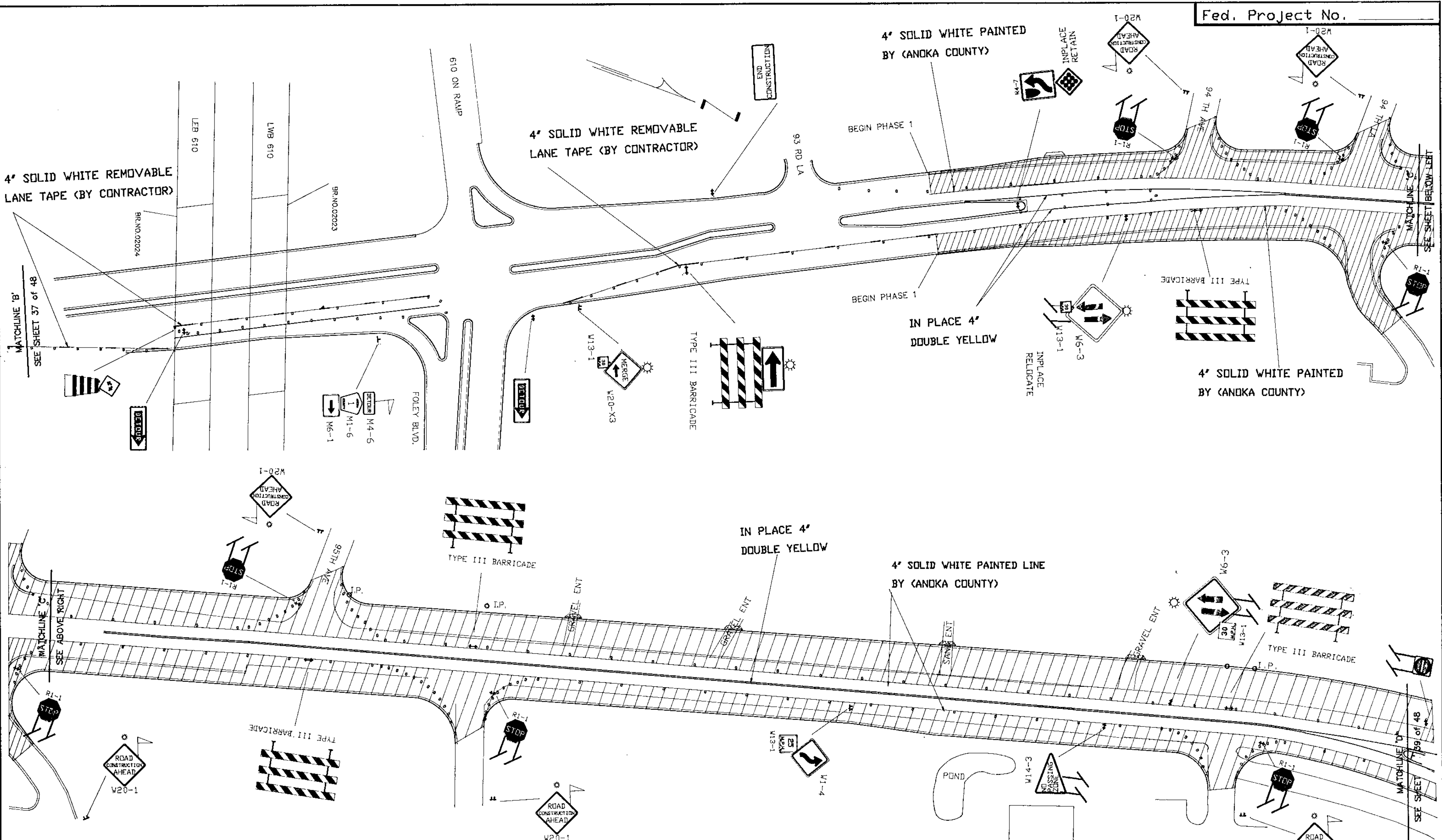
- LOCATIONS OF ALL SIGNS ARE APPROXIMATE, EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ALL SIGNS AND BARRICADES WILL BE PROPERLY WEIGHTED WITH SANDBAGS.
- ALL BARRICADES WILL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
- ALL BARRICADE MARKINGS WILL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
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REVISIONS			
DATE	BY	DATE	BY



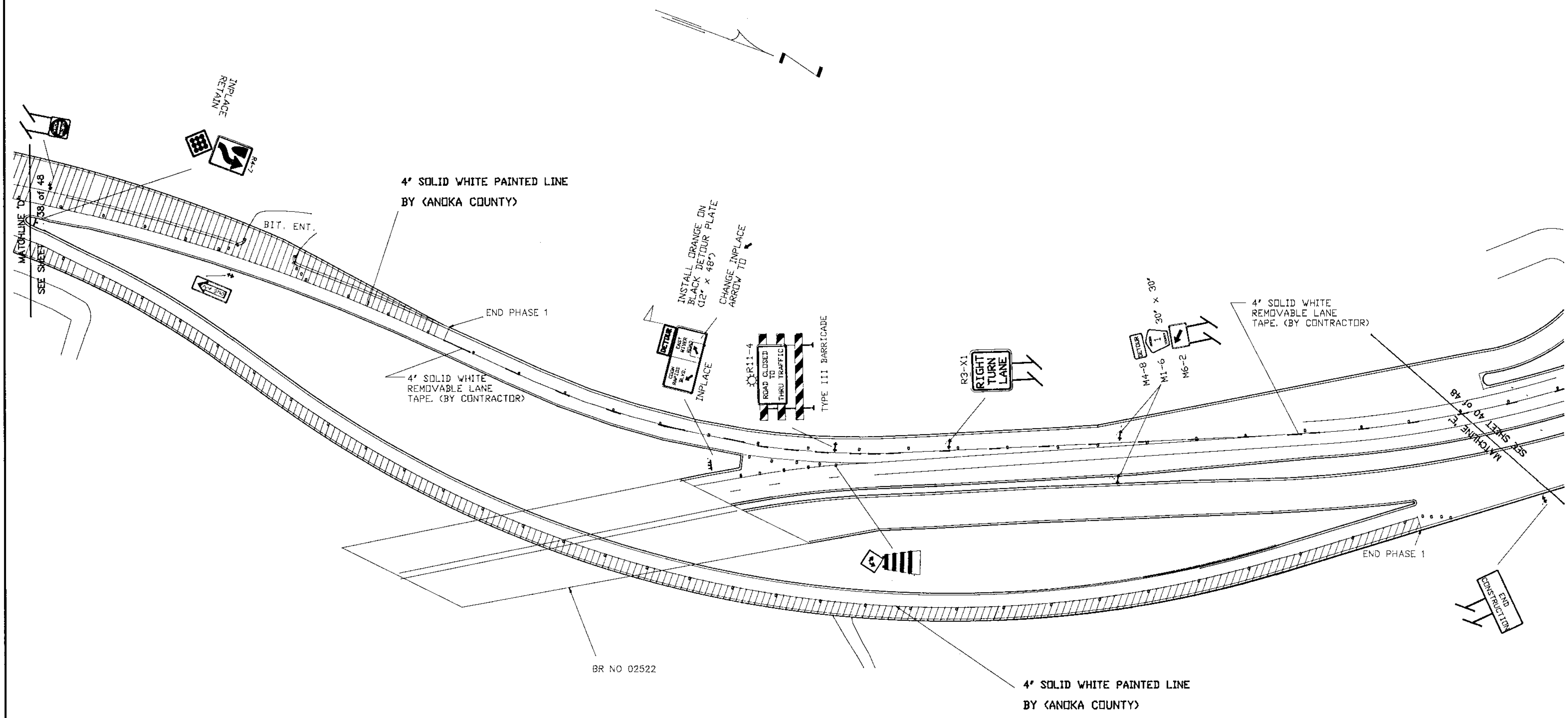
TRAFFIC CONTROL - PHASE I
 □ DENOTES

REVISIONS			
DATE	BY	DATE	BY



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

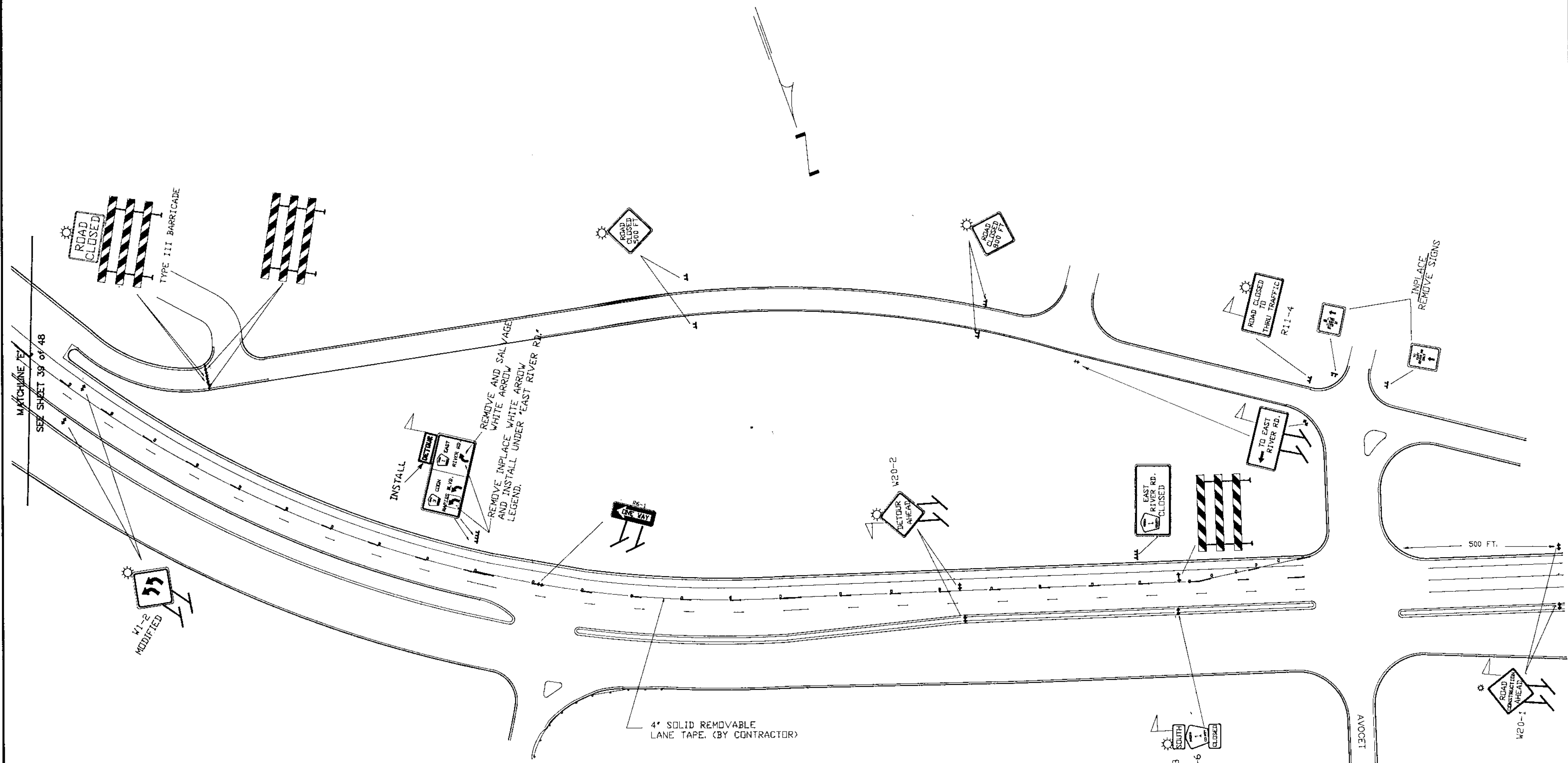
REVISIONS			
DATE	BY	DATE	BY



TRAFFIC CONTROL - PHASE I

- DENOTES
- ▨ DENOTES AREA TO BE CONSTRUCTED DURING PHASE I
- DENOTES
- ▮ DENOTES

REVISIONS			
DATE	BY	DATE	BY



MATCHLINE
SEE SHEET 39 OF 48

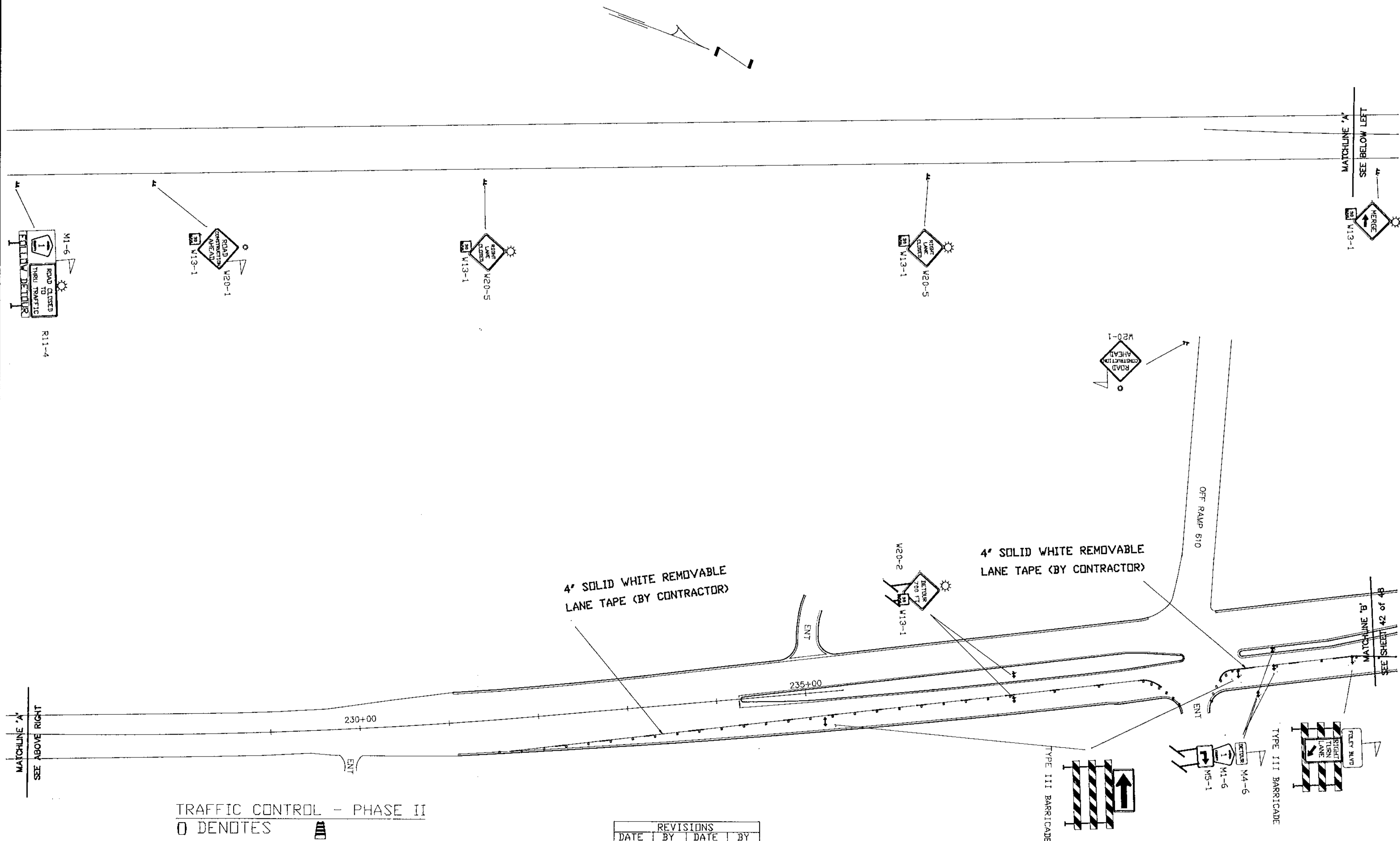
500 FT.

AVOCET

TRAFFIC CONTROL - PHASE I

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

REVISIONS			
DATE	BY	DATE	BY

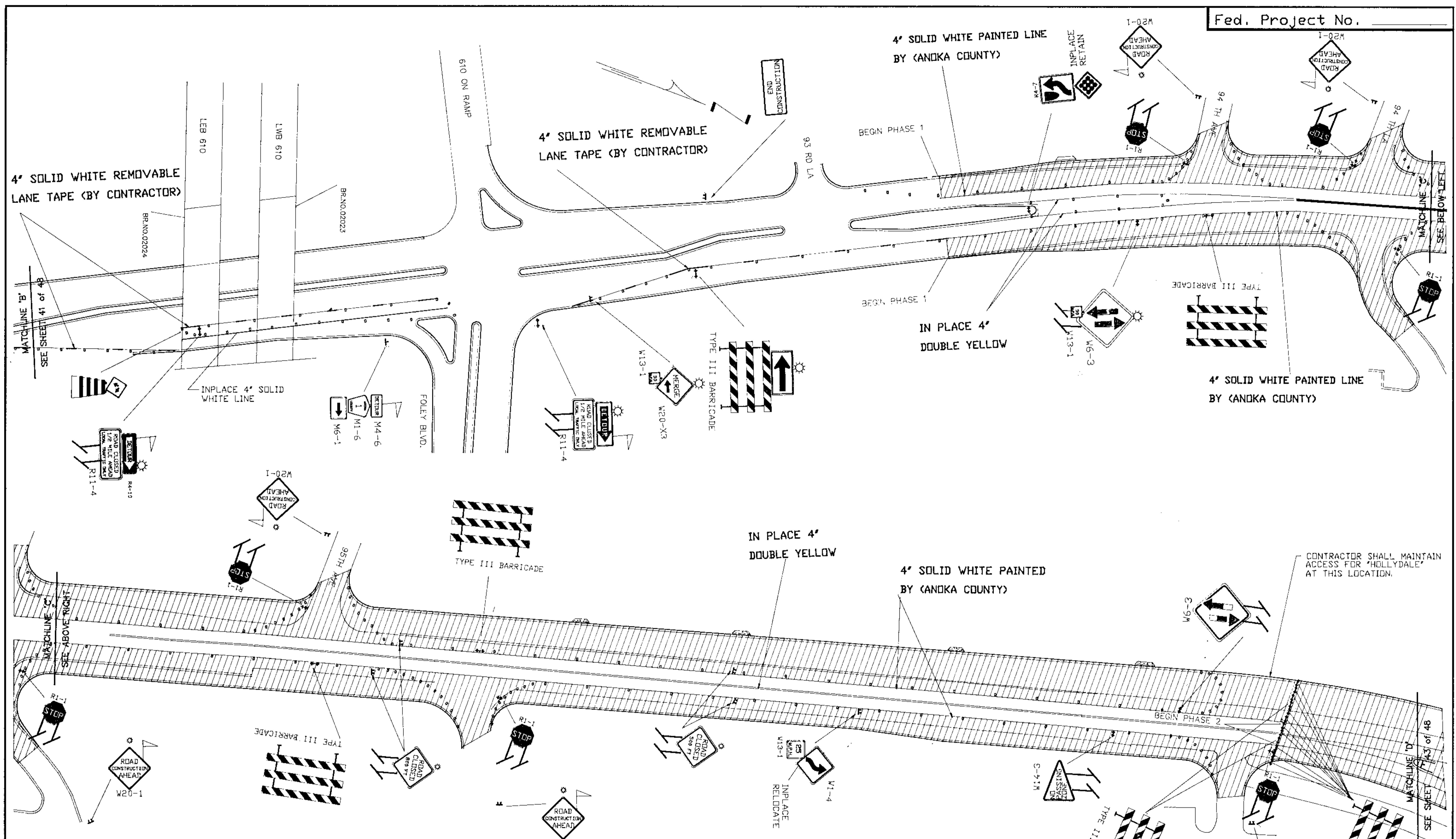


4' SOLID WHITE REMOVABLE
LANE TAPE (BY CONTRACTOR)

4' SOLID WHITE REMOVABLE
LANE TAPE (BY CONTRACTOR)

TRAFFIC CONTROL - PHASE II
O DENOTES

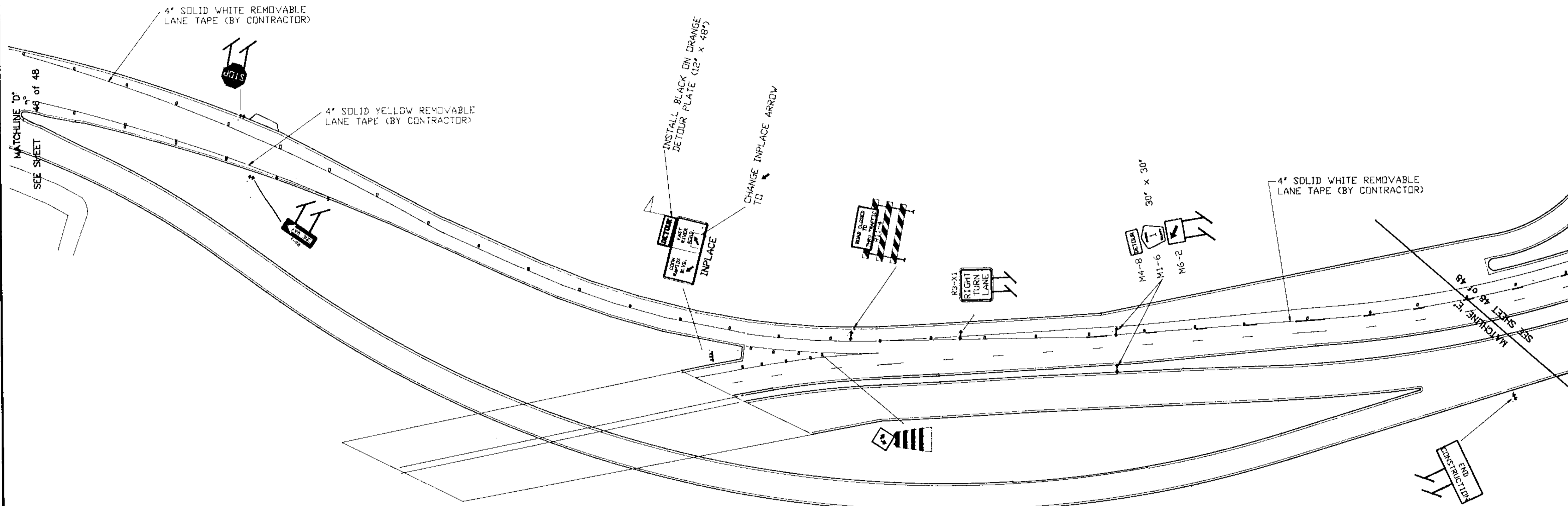
REVISIONS			
DATE	BY	DATE	BY



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

REVISIONS			
DATE	BY	DATE	BY

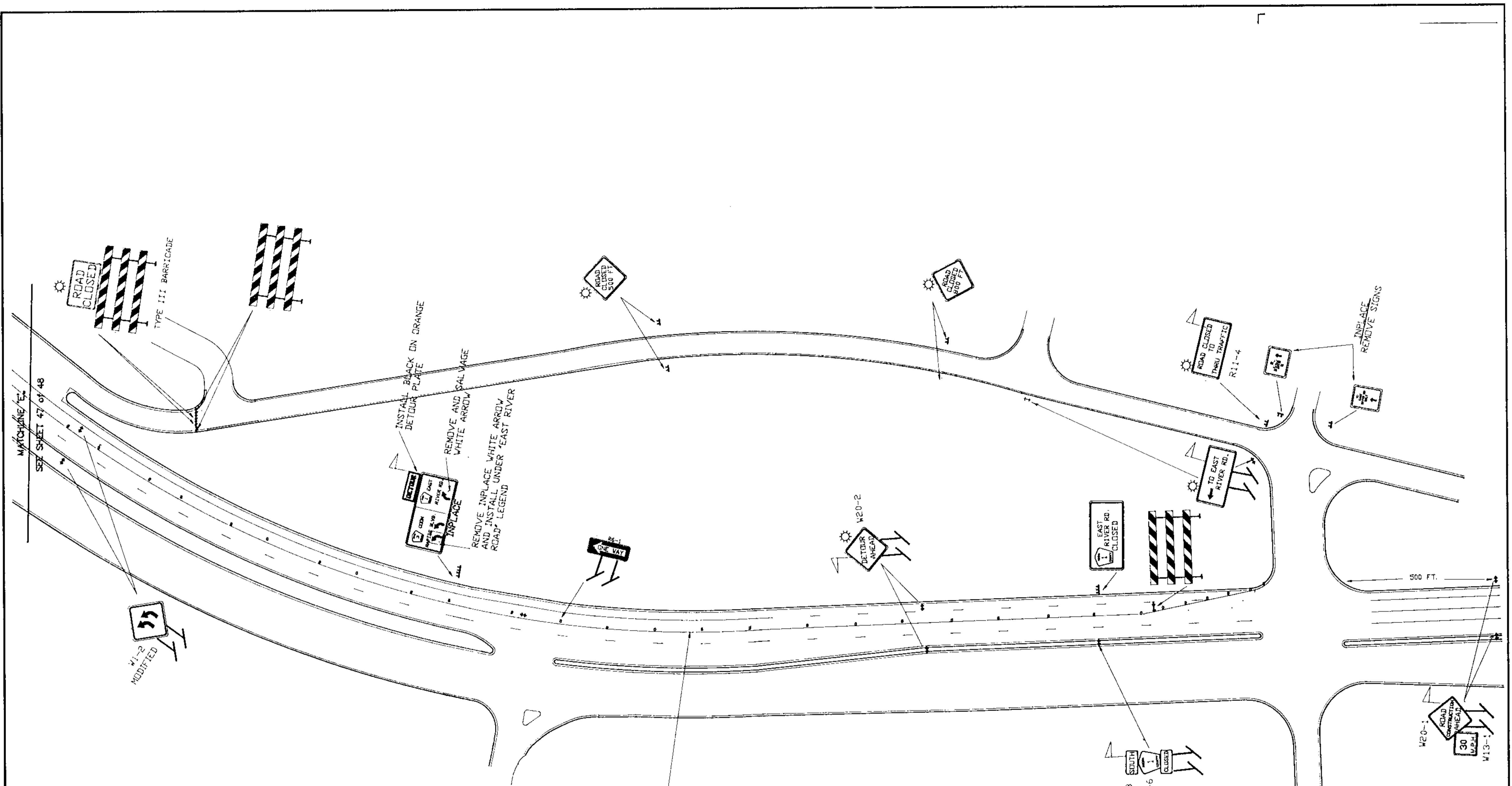
S.A.P. 02-601-32 S.P. _____ C.P. _____



TRAFFIC CONTROL - PHASE II

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

REVISIONS			
DATE	BY	DATE	BY

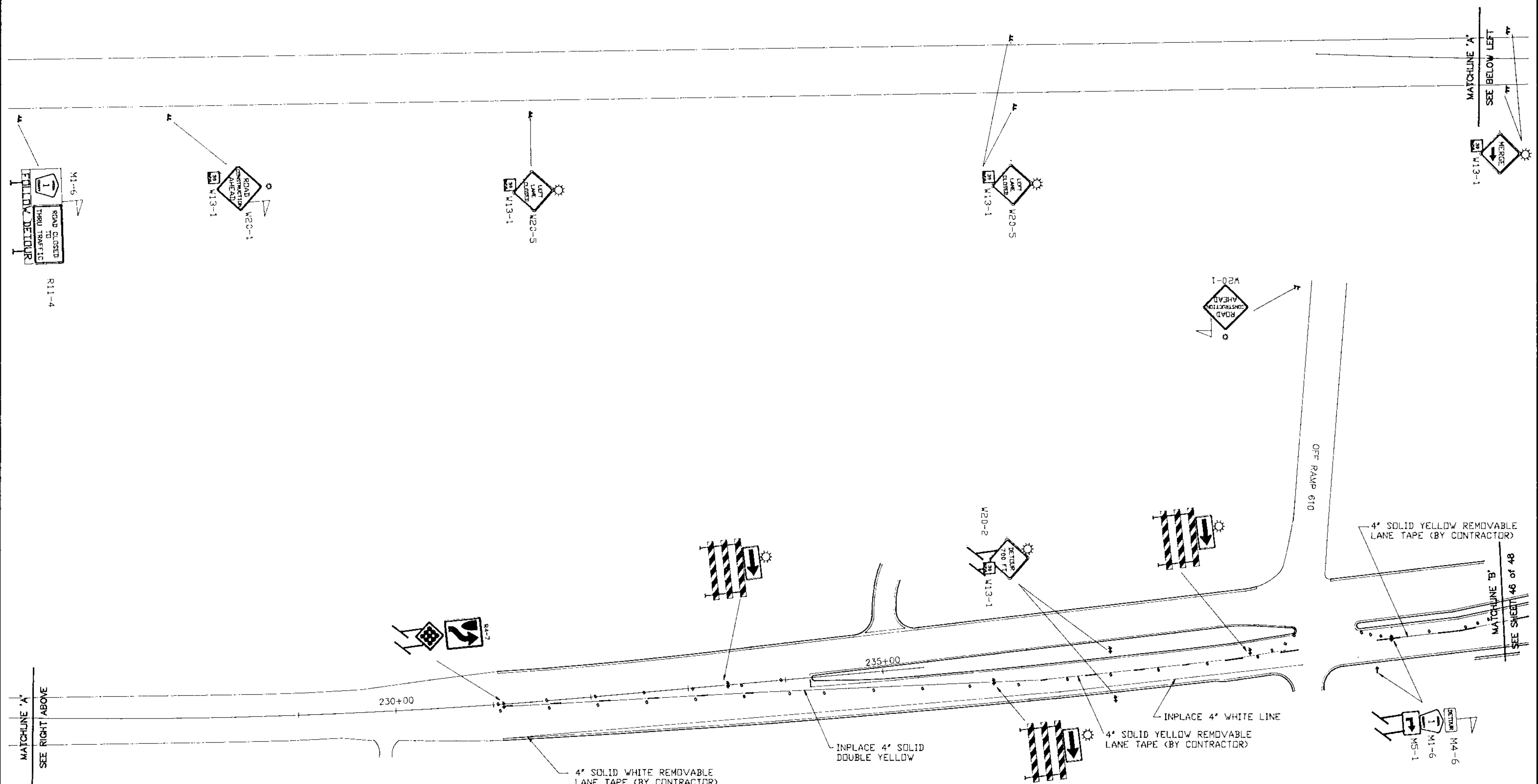


TRAFFIC CONTROL - PHASE II

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

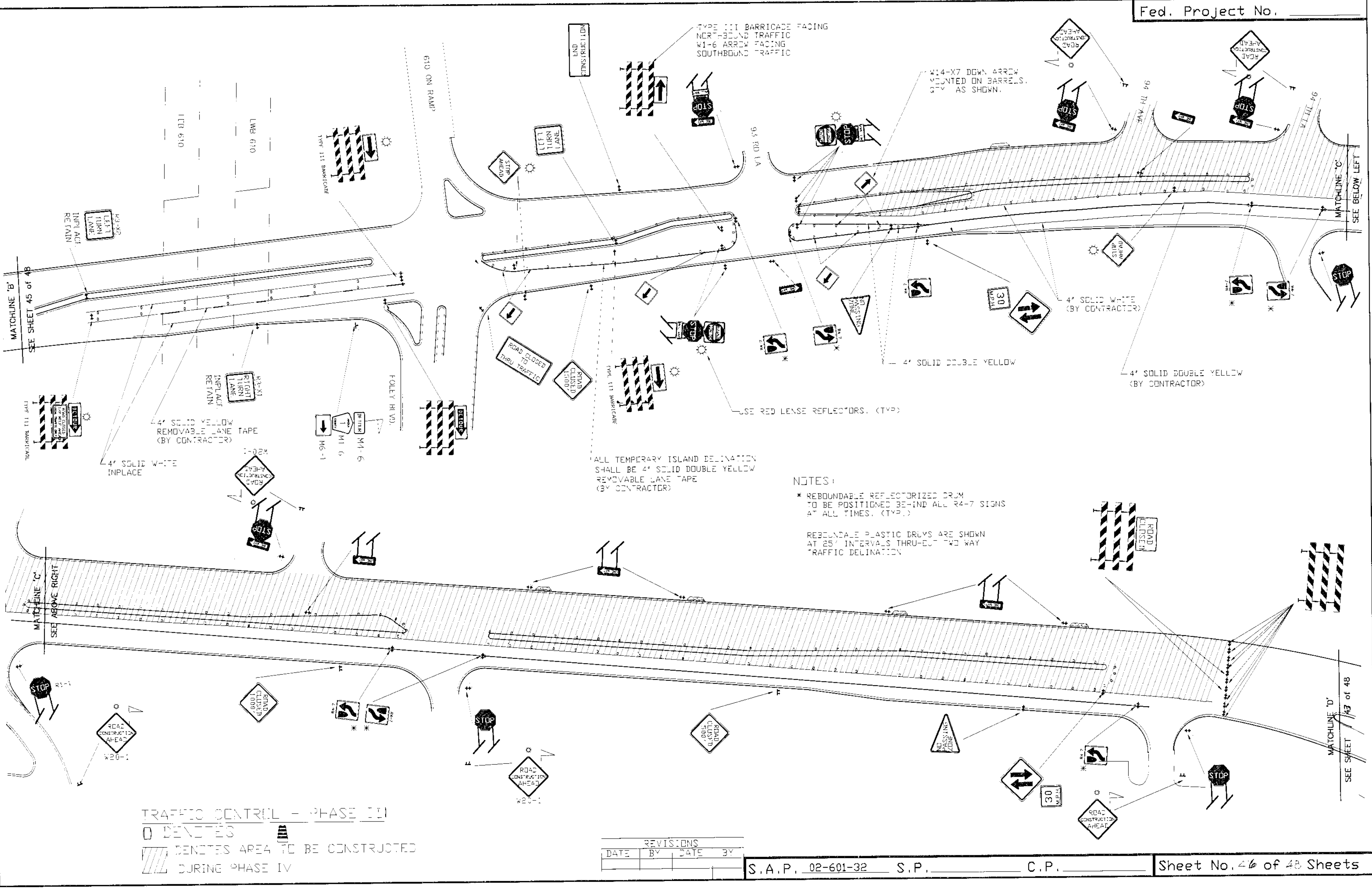
4" SOLID WHITE REMOVABLE LANE TAPE (BY CONTRACTOR)

REVISIONS			
DATE	BY	DATE	BY



TRAFFIC CONTROL -- PHASE III
 □ DENOTES

REVISIONS			
DATE	BY	DATE	BY



TRAFFIC CONTROL - PHASE III

DENOTES

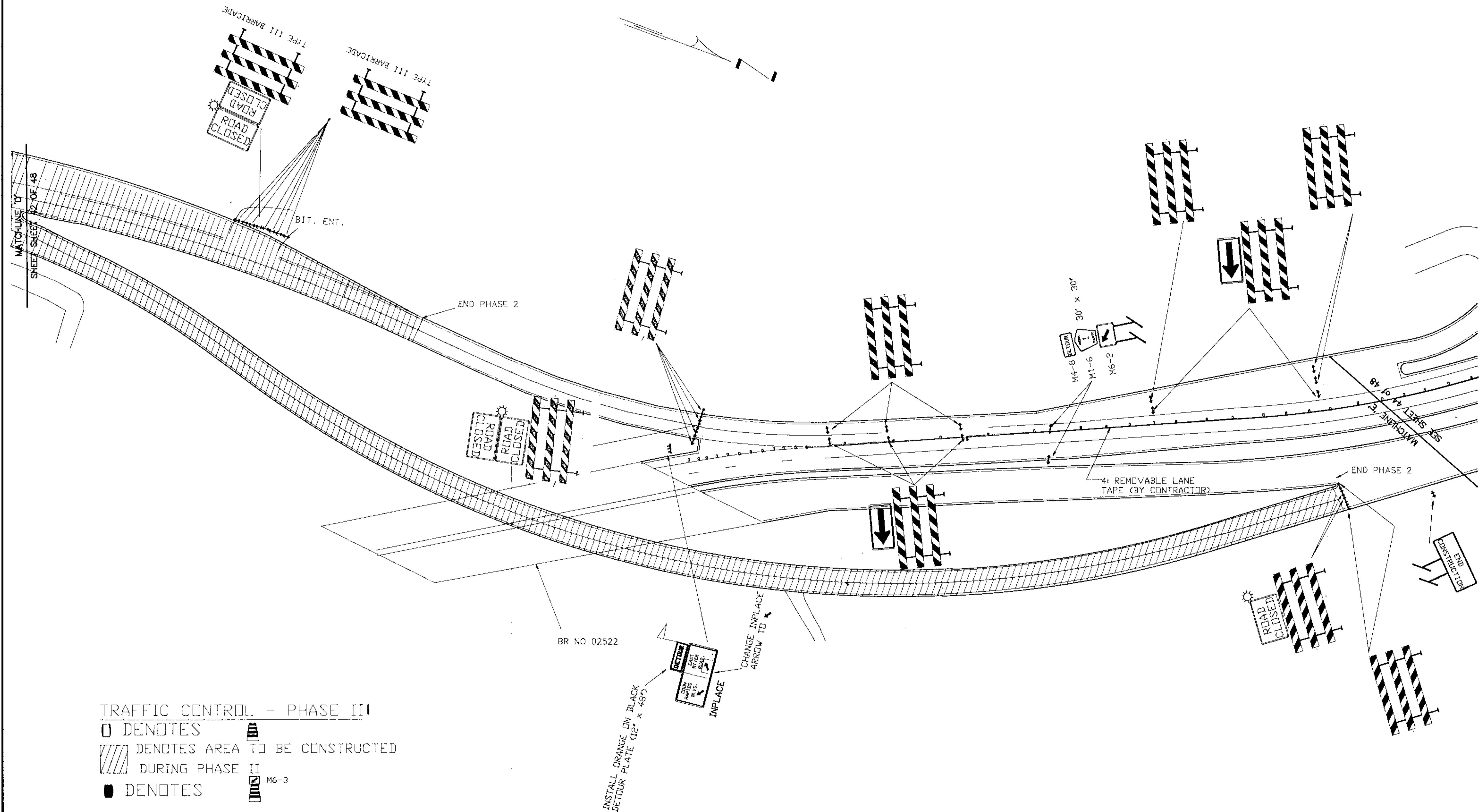
DENOTES AREA TO BE CONSTRUCTED DURING PHASE IV

ALL TEMPORARY ISLAND DELINEATION SHALL BE 4' SOLID DOUBLE YELLOW REMOVABLE LANE TAPE (BY CONTRACTOR)

NOTES:

- * REBOUNDABLE REFLECTORIZED DRUM TO BE POSITIONED BEHIND ALL R4-7 SIGNS AT ALL TIMES. (TYP.)
- REBOUNDABLE PLASTIC DRUMS ARE SHOWN AT 25' INTERVALS THRU-OUT TWO WAY TRAFFIC DELINEATION

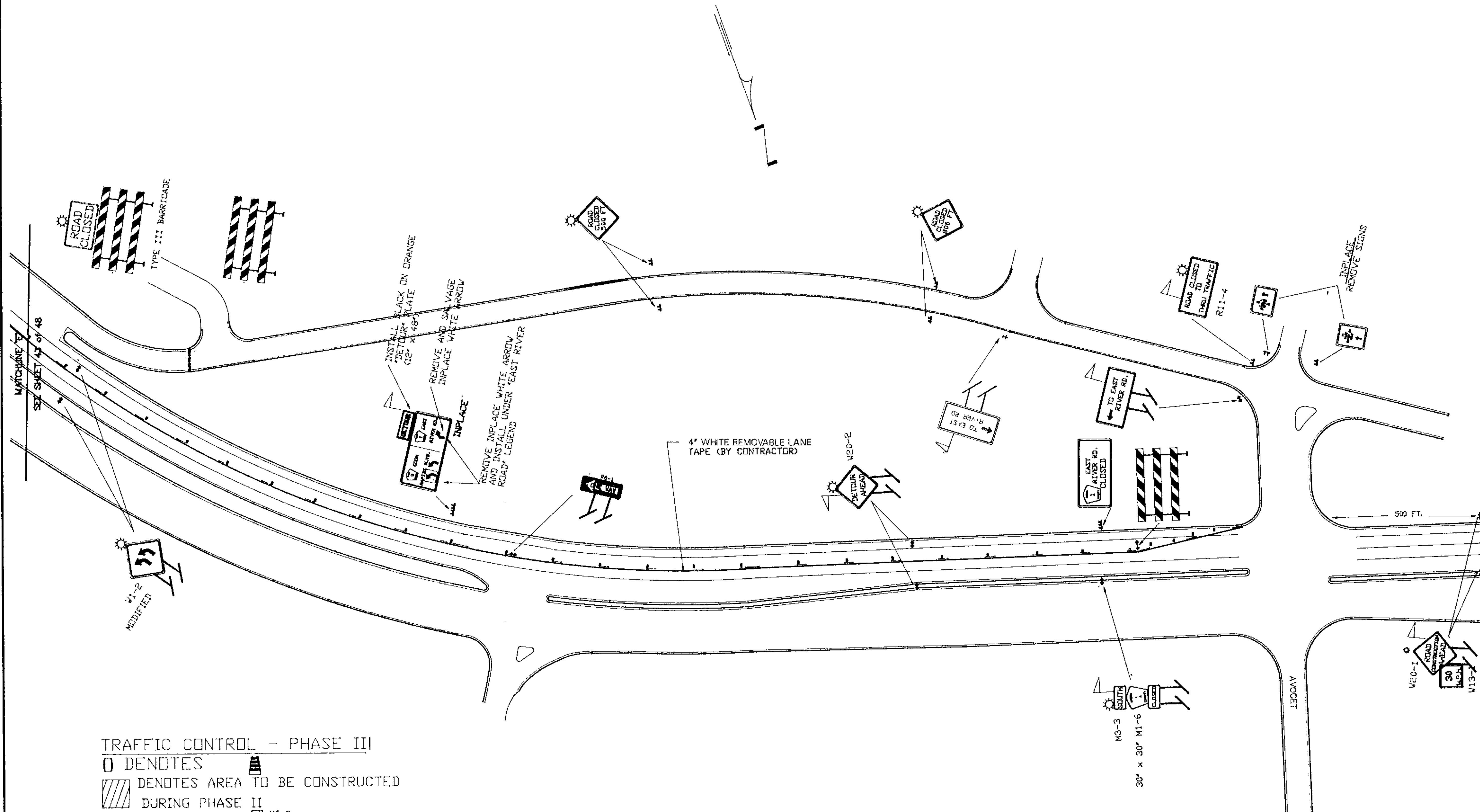
REVISIONS			
DATE	BY	DATE	BY



TRAFFIC CONTROL - PHASE III

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

REVISIONS			
DATE	BY	DATE	BY



TRAFFIC CONTROL - PHASE III

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

REVISIONS			
DATE	BY	DATE	BY

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