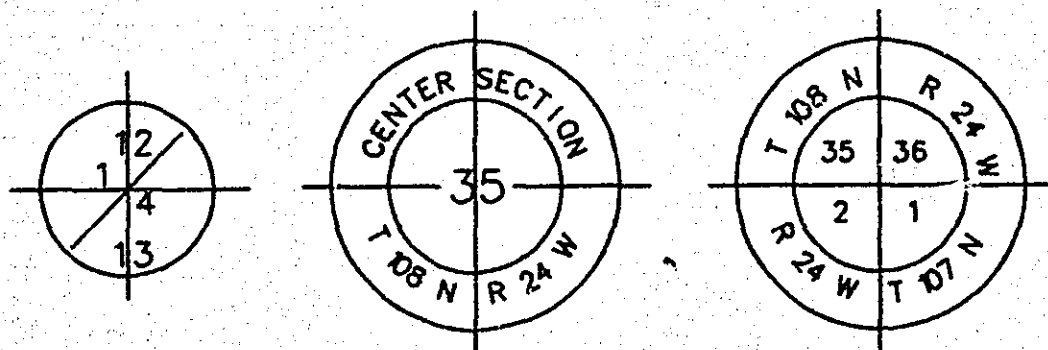


STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
EXISTING RIGHT OF WAY LINE
PROPOSED RIGHT OF WAY LINE
PROPERTY LINE
CORPORATE OR CITY LIMITS
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY
RIVER OR CREEK
CULVERT
GUARDRAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
STONE WALL
HEDGE
RAILROAD CROSSING SIGN
CROSSING GATE
MEANDER CORNER
CONSTRUCTION LIMITS

UTILITY POLE	
GUY OR ANCHOR	
STREET LIGHT	
TELEPHONE PEDESTAL	
GAS MAIN	
WATER MAIN	
TELEPHONE VAULT	
ELECTRIC VAULT	
BURIED TELEPHONE CABLE	
BURIED ELECTRIC CABLE	
SEWER (SANITARY OR STORM)	
SEWER MANHOLE	
GATE VALVE	
CONTROLLER CABINET	
EXISTING HYDRANT	
CABLE TELEVISION CABLE	

—GOVERNING SPECIFICATIONS—

ALL TRAFFIC CONTROL DEVICES AND SIGNING
SHALL CONFORM TO THE MMUTCD,
INCLUDING APPENDIX B, DATED NOV. 1992.



PLAN

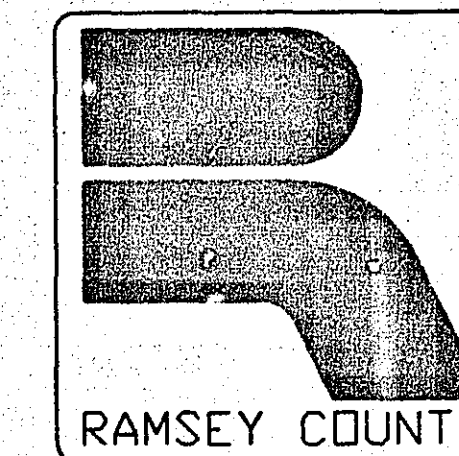
PROFILE HORIZ.

PROFILE VERT.

CROSS SECTIONS

GROSS LENGTH	2757.0 FEET	0.52 MILES	GROSS LENGTH	2570.0 FEET	0.49 MILES
BRIDGE LENGTH	0 FEET	0 MILES	BRIDGE LENGTH	0 FEET	0 MILES
EXCEPTIONS	0 FEET	0 MILES	EXCEPTIONS	0 FEET	0 MILES
NET LENGTH	2757.0 FEET	0.52 MILES	NET LENGTH	2570.0 FEET	0.49 MILES

GROSS LENGTH	2570.0 FEET	0.49 MILES
BRIDGE LENGTH	0 FEET	0 MILES
EXCEPTIONS	0 FEET	0 MILES
NET LENGTH	2570.0 FEET	0.49 MILES



CONSTRUCTION PLAN FOR: GRADING, AGGREGATE BASE,
BITUMINOUS BASE & SURFACING, STORM SEWER, CONCRETE
CURB & GUTTER, UTILITY IMPROVEMENTS, & SIDEWALK

S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. NO. 174-020-11

BEGINNING: AT THE SE CORNER OF SECTION 25, T30N, R22W

ENDING: AT A POINT APPROXIMATELY 163 FEET NORTH OF THE
NE CORNER OF THE SE 1/4 OF SECTION 25, T30N, R22W

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	CONSTRUCTION NOTES AND STANDARD PLATES
4-6	QUANTITY TABULATIONS
7-8	TRAFFIC CONTROL
9	TYPICAL SECTION
10-12	CONSTRUCTION DETAILS
13	ALIGNMENT PLAN
14-15	EXISTING CONDITIONS AND REMOVALS
16-19	PLAN AND PROFILES
20	INTERSECTION LAYOUT
21	GEOMETRIC LAYOUT STA. 51+00 TO STA. 56+00
22	SIDE STREET PROFILES
23-26	STORM SEWER PLAN AND PROFILES
27-28	STANDARDS PLANS
29-36	CROSS SECTIONS

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.

Timothy S. Chelgren REG. NO. 15400 DATE 7-15-94

RECOMMENDED FOR APPROVAL Paul Kirby DATE 7/25/17
COUNTY ENGINEER

APPROVED _____ DATE _____
CHAIR OF THE RAMSEY COUNTY BOARD

WASHINGTON COUNTY

APPROVED *Donald P. Reiser* DATE 7-18-94
FOR COUNTY ENGINEER

APPROVED Mark Bouch DATE 7-19-9
CITY OF WHITE BEAR LAKE

APPROVED _____ DATE _____

MINNESOTA DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL [Signature] DATE 8/2/84
METRO-ASSISTANT DIVISION ENGINEER - STATE AID

RECOMMENDED FOR APPROVAL Brian L. Smith DATE 2/8/94
C - STATE AID PLANS & SPEC ENGR

RECOMMENDED FOR APPROVAL _____ DATE _____
TRAFFIC ENGINEER

APPROVED Julie Skallman DATE 8/11/91
STATE AID ENGINEER

28-139

S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. NO. 174-020-11

Sheet No. 1 of 36 Sheets

ASBUILT
1-8-96
JSC

STATEMENT OF ESTIMATED QUANTITIES

Fed. Proj. No.

CHART	NOTE	ITEM NO.	CONTRACT ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITIES	S.A.P. 62-672-03 RAMSEY COUNTY		S.A.P. 82-627-03 WASHINGTON COUNTY		M.S.A.P. 174-020-11 CITY OF WHITE BEAR LAKE		NON-PARTICIPATING CITY OF WHITE BEAR LAKE		STORM SEWER (7)	
							ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES
		2021.501	MOBILIZATION	LS	1	1	0.5	0.5	0.5	0.5						
		2031.501	FIELD OFFICE, TYPE "D"	EA	1	1	0.5	0.5	0.5	0.5						
A		2101.502	CLEARING	TREE	42	81	9	31	33	50						
A		2101.507	GRUBBING	TREE	42	49	9	27	33	22						
N		2104.501	REMOVE PIPE CULVERT	LF	20	20			20	20						
N		2104.501	REMOVE PIPE SEWERS	LF	241	296	120.5	148	120.5	148						
B		2104.501	REMOVE CURB AND GUTTER	LF	2505	2512	1174	1154	1331	1358						
C		2104.505	REMOVE BITUMINOUS PAVEMENT	SY	14562	14532	7772	7742	6790	6790						
B		2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SY	77	77	55	55	22	22						
N		2104.509	REMOVE CATCH BASINS	EA	4	6	2	3	2	3						
D		2104.513	SAWING BITUMINOUS PAVEMENT	LF	1829	1371	950	774	879	597						
		2104.521	SALVAGE CHAIN LINK FENCE	LF	80	0	80	0								
		2104.523	SALVAGE MAILBOX POST	EA	9	9	9	9								
	1,5	2105.501	COMMON EXCAVATION (P)	CY	8514	8514	4257	4257	4257	4257						
	1	2105.507	SUBGRADE EXCAVATION (P)	CY	6194	6194	3097	3097	3097	3097						
		2105.522	SELECT GRANULAR BORROW MOD 10% (CV)	CY	6434	5076	3217	2931	3217	1907	240	238				
	2	2130.501	WATER	MGAL	15	115	7.5	58	7.5	57						
K	1	2211.503	AGGREGATE BASE PLACED, CLASS 6 (P)	CY	3124	3124	1562	1562	1562	1562						
E		2232.501	MILL BITUMINOUS SURFACE	SY	1580	1713	930	1007	650	706						
K		2340.508	TYPE 31 WEARING COURSE MIXTURE	TON	89	148.6	56	81.1	33	67.5						
K		2340.508	TYPE 41 WEARING COURSE MIXTURE	TON	1023	1394.8	511.5	883.3	511.5	511.5						
K		2340.510	TYPE 31 BINDER COURSE MIXTURE	TON	1750	1448.2	875	724.1	875	724.2						
K		2340.514	TYPE 31 BASE COURSE MIXTURE	TON	2786	2750.1	1393	1389	1393	1361.1						
K		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	1822	1210	911	605	911	605						
		0412.602	INSTALL MAILBOX POST	EA	9	9	9	9								
	3	0412.604	BRICK PAVERS	SF	1070	1070	535	535	535	535						
		0412.604	KEystone RETAINING WALL	SF	700	1101	55	0	480	881	165	220				
L		2501.515	24" RC PIPE APRON	EA	1	1										
L		2502.541	4" PE CORR PERF PIPE DRAIN	LF	4113	4113	2081	2081	2032	2032						
L		2503.511	15" RC PIPE SEWER, CLASS II	LF	1077	1046									1077	1046
L		2503.511	18" RC PIPE SEWER, CLASS II	LF	1531	1531									1531	1531
L		2503.511	24" RC PIPE SEWER, CLASS II	LF	312	312		UNIT							312	312
F		0503.603	6" PVC SANITARY SERVICE PIPE	LF	80	100							80	100		
F		0504.602	RELOCATE HYDRANT	EA	3	3	1.5	1.5	1.5	1.5						
F		0504.602	ADJUST GATE VALVE	EA	22	24	11	12	11	12						
F		0504.602	ADJUST WATER MANHOLES	EA	2	1	1	0	1	1						
	4	0504.602	WATER SERVICE DETERMINATION	EA	4	4	2	2	2	2						
	4	0504.602	1" CURB STOP AND BOX	EA	2	0	1	0	1	0						
	4	0504.602	1" CORPORATION STOP	EA	2	0	1	0	1	0						
	4	0504.602	CONNECT TO EXISTING WATER SERVICE	EA	2	0	1	0	1	0						
	4	0504.603	1" TYPE K COPPER PIPE	LF	100	0	50	0	50	0						
	4	0504.605	4" POLYSTYRENE INSULATION	SY	860	398.2	430	199.1	430	199.1						
L		2506.501	CONSTRUCT DRAINAGE STRUCTURE, DESIGN G	LF	36.68	39.2									36.68	39.2
L		2506.501	CONSTRUCT DRAINAGE STRUCTURE, DESIGN H	LF	61.23	73.8									61.23	73.8
L		2506.501	CONSTRUCT DRAINAGE STRUCTURE, DESIGN LP	LF	12.46	10.1									12.46	10.1
L		2506.501	CONSTRUCT DRAINAGE STRUCTURE, 48-4020	LF	40.59	40.59									40.59	40.59
L		2506.501	CONSTRUCT DRAINAGE STRUCTURE, 54-4020	LF	4.74	3									4.74	3
L		2506.501	CONSTRUCT DRAINAGE STRUCTURE, 60-4020	LF	13.81	13.81									13.81	13.81
L		2506.516	CASTING ASSEMBLY	EA	42	45									42	45
F		2506.522	ADJUST FRAME AND RING CASTING	EA	16	15	5.5	5.5	5.5	4.5					5	5
L		2511.501	RANDOM RIPRAP, CLASS III	CY	5.8	508									5.8	5.8
H		2521.501	4" CONCRETE WALK	SF	12985	12,845					12985	12,847				
H		2531.501	CONCRETE CURB & GUTTER, DESIGN B612	LF	812	829	406	414	406	415						
H		2531.501	CONCRETE CURB & GUTTER, DESIGN B618	LF	350	199	50	50	300	149						
H		2531.501	CONCRETE CURB & GUTTER, DESIGN B624	LF	4768	5263	1010	749	1414	2510	2344	2004				
H		2531.501	CONCRETE CURB & GUTTER, DESIGN D412	LF	260	99	260	99								
H		2531.501	CONCRETE CURB & GUTTER, DESIGN D418	LF	130	110			130	110						
I		2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SY	246	265	179	184	67	81						
		0557.603	INSTALL CHAIN LINK FENCE	LF	80	0	80	0								
	6	0563.601	TRAFFIC CONTROL	LS	1	1	0.5	0.5	0.5	0.5						
	6	0563.602	TYPE III BARRICADES	UNIT DAY	100	0	50	0	50	0						
	6	0563.602	FLASHER TYPE A (LOW INTENSITY)	UNIT DAY	200	0	100	0	100	0						
	6	0563.602	48"x48" SIGN	UNIT DAY	100	0	50	0	50	0						
	6	0563.602	48"x48" SIGN WITH SUPPORTS	UNIT DAY	100	0	50	0	50	0						
		0565.602	LOOP DETECTOR 6' X 6'	EA	3	6	1.5	3	1.5	3						
		0565.602	PVC HANDHOLE (CONCRETE COVER)	EA	1	2	0.5	1	0.5	1						
	4	2571.501	SPRUCE, COLORADO BLUE 5' HT B&B	TREE	10	7	4	2.8	6	4.2						
	4	2571.502	ASH, SUMMIT 3" CAL B&B	TREE	10	7	3	2.1	7	4.9						
	4	2571.502	HONEYLOCUST, IMPERIAL 3" CAL B&B	TREE	10	4.2	3	2.1	7	2.1						
	4	2571.502	LINDEN, GREENSPIRE 2.5" CAL B&B	TREE	10	7	4	2.8	6	4.2						
	4	2571.502	MAPLE, NORWAY 2.5" CAL B&B	TREE	10	7	4	2.8	6	4.2						
G	4	2571.541	TRANSPLANT TREE (44" DIAM SPADE)	TREE	6	3	5	0	1	3						
		2573.501	BALE CHECK	EA	50	0	25	0	25	0						
		2573.502	SILT FENCE, HEAVY DUTY	LF	300	95	150	0	150	95						
J		2575.502	SEED MIXTURE 500	LB	7	0			7	0						
J		2575.505	SODDING, TYPE LAWN	SY	5741	8138	3311	3311	2492	4827						
J		2575.511	MULCH MATERIAL, TYPE 1	TON	0.3	0			0.3	0						
J		2575.532	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	LB	53	103		0	53	103						

QUANTITY NOTES

1. (P) PLAN QUANTITY.
2. FOR DUST CONTROL, AS DIRECTED BY THE ENGINEER.
3. THE DIFFERENCE IN COST BETWEEN "BRICK PAVERS" AND "4" CONCRETE WALK" WILL BE A NON-PARTICIPATING EXPENSE.
4. LOCATIONS TO BE DETERMINED BY THE ENGINEER.
5. TOPSOIL EXCAVATION SHALL BE INCIDENTAL AND SHALL BE INCLUDED IN ITEM 2105.501, COMMON EXCAVATION FOR PAYMENT.
6. ALL TRAFFIC CONTROL SIGNING AND DEVICES SHALL SHALL CONFORM TO THE MMUTCD, INCLUDING APPENDIX B, DATED NOVEMBER, 1992.
7. STORM SEWER COST SPLIT:
S.A.P. 62-672-03 -43.35%
S.A.P. 82-627-03 -43.35%
CITY OF WHITE BEAR LAKE -13.3%

BASIS FOR ESTIMATED QUANTITIES

- 2340.XXX BITUMINOUS MIXTURES ESTIMATED AT 110 LBS/SQ YD/INCH OF THICKNESS
- 2357.502 BITUMINOUS MATERIAL FOR TACK COAT ESTIMATED AT 0.05 GAL/SQ YD FOR UNMILLED AREAS AND 0.085 GAL/SQ YD FOR MILLED AREAS
- 2575.502 SEED, MIXTURE 500 ESTIMATED AT 50 LBS/ACRE
- 2575.511 MULCH MATERIAL, TYPE 1 ESTIMATED AT 2 TONS/ACRE
- 2575.532 COMMERCIAL FERTILIZER, 12-12-12 ESTIMATED AT 350 LBS/ACRE

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: J.B.C.

DATE 1\8\96

28-139

STATEMENT OF
ESTIMATED QUANTITIES

CERTIFIED BY

PROFESSIONAL ENGINEER

REG. NO.

DATE

S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. NO. 174-020-11

Sheet No. 2 of 36 Sheets

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL COOPERATE WITH RAMSEY AND WASHINGTON COUNTIES RELATING TO PERPETUATING MONUMENTATION. ADVANCE NOTICE OF ANY DISTURBANCE OF MONUMENTS SHOULD BE MADE TO THE RAMSEY COUNTY SURVEYOR'S OFFICE AT 298-5278 AND TO THE WASHINGTON COUNTY SURVEYOR'S OFFICE AT 430-6875.
2. THE CONTRACTOR SHALL OBTAIN FROM THE UTILITY COMPANIES THE EXACT LOCATION OF ANY UNDERGROUND UTILITIES WHICH MAY EXIST WITHIN, OR ADJACENT TO, THE CONSTRUCTION AREA.
3. PRIVATE UTILITY COMPANY FACILITIES WILL BE ADJUSTED BY OTHERS.
4. PEDESTRIAN CURB RAMPS SHALL BE INSTALLED AT ALL STREET RADII. THE EXACT LOCATION SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
5. STRIP TOPSOIL FROM ALL AREAS TO BE DISTURBED BY CONSTRUCTION AND STOCKPILE (IF PRACTICAL) FOR REPLACEMENT LATER AS SLOPE DRESSING.
6. PROVIDE FOR REMOVAL AND DISPOSAL OF (OUTSIDE THE CONSTRUCTION ZONE) ANY INPLACE SURFACING AND STRUCTURES THAT WILL INTERFERE WITH CONSTRUCTION.
7. FROM A SOILS STANDPOINT, TRAFFIC SHALL BE MAINTAINED NO CLOSER THAN AN IMAGINARY 2:1 LINE DRAWN FROM THE BOTTOM OF ANY EXCAVATION INTERSECTING THE SURFACING.
8. THE QUALITY COMPACTION METHOD SHALL BE USED ON THIS PROJECT FOR GRADING AND BASE.
9. PROVIDE DRAINAGE OUTLETS FOR ALL SUBCUTS DURING CONSTRUCTION. DITCHES SHOULD BE DEEPER THAN SUBCUT TO PROVIDE OUTLET DRAINAGE.
10. PROVIDE A TACK COAT, SPEC 2357.2A, BETWEEN BITUMINOUS COURSES.
11. WHERE THE PROPOSED SUBCUT IS LOCATED UNDER INPLACE BASE AND BITUMINOUS SURFACING OR CONCRETE PAVEMENT, THE ENDS OF SUBCUT SHALL BE VERTICAL FOR THE DEPTH OF THE BITUMINOUS OR CONCRETE AND 2:1 IN AGGREGATE BASE.

12. TAPER ENDS OF SUBCUT TO A 20:1 SLOPE UNLESS OTHERWISE RECOMMENDED.
13. UNSUITABLE GRADING MATERIAL SHALL CONSIST OF TOPSOIL, OTHER ORGANIC SOIL, AND DEBRIS.
14. SILT FENCE SHALL BE INSTALLED AT ALL FILL SLOPES AND MAY BE REQUIRED AT OTHER LOCATIONS DURING CONSTRUCTION AS DETERMINED BY THE ENGINEER (SPEC 2573, 3886, 1707 AND 1803.5).
15. NO TREES SHALL BE REMOVED UNTIL THE CONTRACTOR HAS VERBALLY BEEN TOLD TO DO SO BY THE ENGINEER. TREES SHALL BE MARKED FOR REMOVAL BY THE ENGINEER. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT OTHER TREES.
16. STREET NAME SIGNS AND TRAFFIC SIGNS SHALL BE REMOVED AND SALVAGED AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
17. LOCATION AND DIMENSIONS OF DRIVEWAY REMOVALS AND CONSTRUCTION SHALL BE VERIFIED BY THE ENGINEER.
18. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES DURING THE COURSE OF THE PROJECT. DURING PERIODS OF GRADING OR PAVING, WHEN ACCESS CANNOT BE PROVIDED, THE PROPERTY OWNER SHALL BE CONTACTED AT LEAST 24 HOURS IN ADVANCE TO BE MADE AWARE OF AND AGREE TO THE TEMPORARY ACCESS RESTRICTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY AGREEMENTS REACHED WITH PROPERTY OWNERS.

TOTAL EARTHWORK QUANTITIES

COMMON EXCAVATION	- 8514 C.Y.
SUBGRADE EXCAVATION	- 6194 C.Y.
EMBANKMENT (453 C.Y. X 1.3)	- 589 C.Y.
SELECT GRANULAR BORROW	- 6674 C.Y.

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL
HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT

STANDARD PLATES	
PLATE NO.	DESCRIPTION
0005A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000L	REINFORCED CONCRETE PIPE
3006F	GASKET JOINT FOR REINFORCED CONCRETE PIPE
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133B	RIPRAP AT RCP OUTLETS
3145E	CONCRETE PIPE TIES
4006K	MANHOLE OR CATCH BASIN (DESIGN G AND H)
4011D	PRECAST CONCRETE BASE
4101C	RING CASTING FOR MANHOLE OR CATCH BASIN
4108F	ADJUSTING RINGS
4110E	COVER CASTING FOR MANHOLE
4129F	CATCH BASIN FRAME CASTING
4132E	CATCH BASIN FRAME CASTING
4154B	CATCH BASIN GRATE CASTING
4160D	CURB BOX CASTING FOR CATCH BASIN
7036D	PEDESTRIAN CURB RAMP
7100G	CONCRETE CURB AND GUTTER (DESIGN B)
7102I	CONCRETE CURB AND GUTTER (DESIGN D)
7111G	INSTALLATION AND REINFORCEMENT OF CATCH BASIN CASTINGS
8000I	STANDARD BARRICADES
8130D	SAW CUT LOOP DETECTORS

INDEX OF TABULATION CHARTS

[illegible]

AS Built
IBC 1/8/96

28-139

CLEARING & GRUBBING ①

STATION	TREES (EACH)		DESCRIPTION
	LT.	RT.	
STA 57+50 TO STA 58+00 (RT)			SHRUBS
STA 60+65		13	2-6"; 3-8"; 1-10"; 5-12"; 2-15"
STA 60+90		4	2-10"; 2-12"
STA 61+15		5	2-4"; 1-6"; 2-8"
STA 67+45	1		24"
STA 67+90	2		2-4"
STA 68+50 TO 69+00 (LT)			SHRUBS
STA 68+60		1	78"
STA 68+60	4		1-8"; 3-12"
STA 72+60		3	1-4"; 2-12"
STA 72+65 TO 73+00 (LT)			SHRUBS
STA 72+75		1	24"
STA 73+80	1		12"
STA 74+20	1		8"
STA 74+70		1	4"
STA 74+75		2	1-12"; 1-18"
STA 74+90		3	2-12"; 1-15"
STA 76+00 TO STA 76+30 (RT)			WOODS (1)
TOTALS	9	33	

NOTES:
(1) INCIDENTAL

SAWING BITUMINOUS PAVEMENT ②

LOCATION	SIDE		DESCRIPTION
	LT.	RT.	
50+40	41	44	
50+47 TO 53+25	287	287	MEDIAN REMOVAL
51+50 TO 53+25		176	CURB REMOVAL
52+21 TO 53+25	104		CURB REMOVAL
53+25	35	27	
53+70		34	ENT
53+87	34		ENT
55+00	24		ENT
55+55		30	ENT
9+35 SPRUCE PLACE	30		
57+00		42	ENT
9+25 CROWN HILL CT	30		
11+15 SHAMROCK WAY		31	
9+25 MAYFAIR CT	29		
63+80		16	DRIVEWAY
64+56		17	DRIVEWAY
65+08		17	DRIVEWAY
65+33	37		DRIVEWAY
66+19	16		DRIVEWAY
9+25 SUN TERRACE	30		
10+75 SUN TERRACE		29	
67+66	18		DRIVEWAY
69+24	31		DRIVEWAY
9+35 RIVIERA DR SO	28		
11+25 RIVIERA DR SO		29	
71+00		11	DRIVEWAY
72+56	19		DRIVEWAY
9+25 RIVIERA DR NO	31		
9+45 RIVIERA DR NO	10		DRIVEWAY
11+00 RIVIERA DR NO		29	
74+00	22		DRIVEWAY
75+60	17		DRIVEWAY
75+85		13	DRIVEWAY
9+25 CEDAR AV	37		
76+90		11	DRIVEWAY
77+36	23		DRIVEWAY
77+81 TO 77+97		16	
77+97	17	20	
TOTALS	950	879	

MILL BITUMINOUS-1 1/2 IN. ③

LOCATION	S. Y.	
	LT.	RT.
STA 50+40 TO STA 53+25	930	650
TOTALS		

TRANSPLANT TREES ④

LOCATION	SIDE		DESCRIPTION
	LT.	RT.	
STA 63+35	1		4"
STA 64+00	1		4"
STA 64+20	1		4"
STA 64+40	1		6"
STA 68+20	1		4"
STA 72+90		1	4" EVERGREEN
TOTALS	5	1	

CONCRETE REMOVAL ⑤

LOCATION	C & G (LIN. FT.)		MEDIAN (SQ. YD.)		DRIVEWAY (SQ. YD.)	
	LT.	RT.	LT.	RT.	LT.	RT.
STA 50+47 TO STA 53+46 (MEDIAN)	301	301	145	145		
STA 51+50 TO STA 53+60		231				
STA 52+21 TO STA 53+60	170					
STA 53+87 (VALLEY GUTTER)					30	
STA 53+70 (APRON)						22
STA 53+90 TO STA 55+40		181				
STA 54+10 TO STA 54+85	122					
STA 55+00 (VALLEY GUTTER)					25	
STA 55+10 TO SPRUCE	224					
STA 55+70 TO STA 56+27		81				
SPRUCE (NORTH SIDE)	31					
CROWN HILL	66					
SHAMROCK		132				
MAYFAIR	82					
SUN TERRACE	60					
SUN TERRACE		89				
RIVIERA SOUTH	48					
RIVIERA SOUTH		185				
RIVIERA NORTH		131				
CEDAR	70					
TOTALS	1174	1331	145	145	55	22

BITUMINOUS REMOVAL ⑥

LOCATION	S. Y.	
	LT.	RT.
STA 50+47 TO STA 53+25 (MEDIAN)	50	50
STA 51+50 TO 53+25		20
STA 52+21 TO STA 53+25	12	
STA 53+25 TO STA 58+00	1800	1350
STA 58+00 TO STA 66+00	2300	1790
STA 66+00 TO STA 74+00	2500	2800
STA 74+00 TO STA 77+97	1110	780
TOTALS	7772	6790

INPLACE UTILITIES ⑦

TYPE	STATION	LOCATION	ADJUST VALVE BOX	ADJUST RIM ELEV	RELOCATE HYDRANT
WATER	53+48	44' LT			1
WATER	53+48	28' LT	1		
SAN SEW	53+63	30' LT		1	
SAN SEW	53+64	53' LT		1	
WATER	53+73	22' LT	1		
STM SEW	53+89	35' LT		1	
SAN SEW	55+52	30' LT		1	
WATER	55+65	20' LT	1		
WATER	56+65	22' LT	1		
SAN SEW	56+97	32' LT		1	
WATER	57+25	22' LT	1		
SAN SEW	59+99	31' LT		1	
WATER	60+11	39' LT	1		
WATER	62+61	20' LT	1		
SAN SEW	62+92	31' LT		1	
WATER	63+01	41' LT	1		
WATER	66+61	23' LT	1		
SAN SEW	66+92	31' LT		1	
WATER	67+01	23' LT	1		
WATER	67+03	43' RT	1		
WATER	67+11	44' LT			1
WATER	67+21	23' LT	1		
SAN SEW	70+01	34' LT		1	
SAN SEW	70+01	33' RT		1	
WATER	70+12	46' LT	1		
WATER	70+13	38' LT	1		
WATER	70+35	23' LT	1		
STM SEW	73+10	27' LT		1	
WATER	73+21	43' LT	1		
STM SEW	73+22	46' RT		1	
WATER	73+41	44' RT	1		
STM SEW	73+44	51' LT		1	
WATER	73+60	23' LT	1		
STM SEW	73+90	26' LT		1	
WATER	75+98	18' LT	1		
SAN SEW	76+34	31' LT		1	
WATER	76+44	11' RT	1		
WATER	76+45	16' RT	1		
WATER	76+47	43' LT	1		
SAN SEW	76+55	30' LT		1	
WATER	76+67	20' LT		1	
WATER	76+69	16' RT		1	
WATER	76+75	23' RT			1
TOTALS			22	18	3

As Built
J.B.C.
11/10/96

28-139

QUANTITY TABULATIONS

CONCRETE SUMMARY ⑧

STATION	DESCRIPTION	CURB AND GUTTER								SIDEWALK	
		B612		B618		B624 ①		D412	D418		
		LIN. FT.		LIN. FT.		LIN. FT.		LIN. FT.	LIN. FT.	SQ. FT.	
		LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.
STA 50+40 TO STA 53+50										1600	
STA 50+50 TO STA 53+56											1560
STA 50+50 TO STA 53+45	(MEDIAN)	298	298								
STA 54+19 TO STA 55+24	(MEDIAN)	108	108								
STA 51+50 TO STA 53+60							220				
STA 52+21 TO STA 53+60						219					
STA 53+90 TO STA 55+40							166				760
STA 54+10 TO STA 54+85						110				330	
STA 55+10 TO SPRUCE						174				840	
SPRUCE PLACE								30			
STA 55+70 TO STA 56+80							126				
SPRUCE TO CROWN HILL						252				1350	
CROWN HILL CT								50			
STA 57+20 TO SHAMROCK							283				
SHAMROCK WAY									130		
SHAMROCK TO SUN TERRACE							690				
CROWN HILL TO MAYFAIR						237				1280	
MAYFAIR CT								50			
MAYFAIR TO SUN TERRACE						372				1670	
SUN TERRACE				50				50			
SUN TERRACE TO RIVIERA SO							307				
SUN TERRACE TO RIVIERA SO						308				1125	
RIVIERA DRIVE SO				150				30			
RIVIERA SO TO RIVIERA NO							328				
RIVIERA SO TO RIVIERA NO						327				1400	
RIVIERA DRIVE NO				100				50			
RIVIERA NO TO STA 76+30							297				
RIVIERA NO TO CEDAR						295				1070	
CEDAR AVE				50							
CEDAR TO STA 76+95						57					
TOTALS		406	406	50	300	2351	2417	260	130	10665	2320

NOTE:

① TRANSITION FROM B624 TO OTHER TYPES IN LAST 10' OF CURVE ALONG
SIDE STREET OR DRIVE. TRANSITION PAID FOR AS B624 CURB AND GUTTER.

AGGREGATE AND BITUMINOUS SUMMARY ⑨

STATION	DESCRIPTION	AGGREGATE BASE CLASS 6	WEARING COURSE MIXTURE TYPE 31		WEARING COURSE MIXTURE TYPE 41		BINDER COURSE MIXTURE TYPE 31		BASE COURSE MIXTURE TYPE 31		BITUMINOUS MATERIAL FOR TACK COAT
			DEPTH	TOTAL	DEPTH	TOTAL	DEPTH	TOTAL	DEPTH	TOTAL	
			CU. YD.	IN.	TON	IN.	TON	IN.	TON	IN.	
53+25 TO 58+00		539			1	168	2	336	3	504	306
58+00 TO 65+00		798			1	239	2	478	3	717	435
65+00 TO 72+00		829			1	249	2	498	3	747	452
72+00 TO 77+97		658			1	201	2	402	3	603	366
53+87 LT	ENT	35	2	20					4	40	18
55+00 LT	ENT	14	2	8					4	16	8
53+70 RT	ENT	17	2	10					4	19	9
55+55 RT	ENT	14	2	8					4	16	8
57+00 RT	ENT	16	2	10					4	19	9
52+21 TO 53+25 LT		9					1.5	2	3	4	2
50+47 TO 53+25	MEDIAN AREA	87					1.5	29	3	58	18
51+50 TO 53+25 RT		18					1.5	5	3	10	3
50+40 TO 53+25					1.5	166					172
63+80 RT	DRIVEWAY	3									
64+56 RT	DRIVEWAY	3									
65+08 RT	DRIVEWAY	4	2	1					2	1	1
65+33 LT	DRIVEWAY	11	2	3					2	3	2
66+19 LT	DRIVEWAY	5									
SUN TERRACE 9+46 LT	DRIVEWAY	15	2	9							
RIVIERA DR S 9+49 RT	DRIVEWAY	15	2	9					2	9	4
71+00 RT	DRIVEWAY	4	2	2					2	2	1
72+56 LT	DRIVEWAY	5									
RIVIERA DR N 9+45 LT	DRIVEWAY	1	2	1					2	1	
74+00 LT	DRIVEWAY	8	2	2					2	2	1
75+60 LT	DRIVEWAY	8	2	2					2	2	1
75+85 RT	DRIVEWAY	2									
76+90 RT	DRIVEWAY	3	2	2					2	2	1
77+36 LT	DRIVEWAY	3	2	2					2	2	1
TOTALS		3124		89		1023		1750		2786	1822

CONCRETE DRIVEWAY ⑩

LOCATION	SQ. YD.	
	LT.	RT.
63+80		14
64+56		15
65+08		14
65+33	45	
66+19	26	
71+00		12
72+56	30	
74+00	29	
75+60	28	
75+85		12
9+46 SUN TERRACE	10	
9+49 RIVIERA DR SO	11	
TOTALS	179	67

TURF ESTABLISHMENT ⑪

LOCATION	SODDING, TYPE LAWN SQ. YD.		SEEDING ACRE	SEED MIX 500 POUND	MULCH TYPE 1 TON	FERTILIZER 12-12-12 POUND
	LT.	RT.				
STA. 50+39 TO STA. 58+00	722	589				
STA. 58+00 TO STA. 65+00	820	827				
STA. 65+00 TO STA. 72+00	1005	914				
STA. 72+00 TO STA. 77+97	632					
STA. 72+00 TO RIVIERA DR. SO.		162				
RIVIERA DR. SO. TO STA. 77+97 (RT.)			0.15	7	0.3	53
TOTALS	3249	2492	0.15	7	0.3	53

CERTIFIED BY *Frank A. Chabot*
PROFESSIONAL ENGINEER15400
REG. NO.7/15/94
DATES.A.P. No. 62-672-03, 82-627-03
M.S.A.P. NO. 174-020-1128-139
QUANTITY TABULATIONS
Sheet No. 5 of 36 Sheets

STORM SEWER TABULATION ①

STORM SEWER TABULATION ①														
STATION	LOCATION (7)	STRUCTURE NO.	CONSTRUCT C.B. AND M.H.				PIPE SEWERS			DRAINS TO			REMARKS	
			DESIGN	TOP OF CASTING ELEV.	OUTLET ELEV.	PAY HEIGHT (LIN. FT.)		15" RCP	18" RCP	24" RCP	STRUCT. NO.	GRADE %		INVERT ELEV.
						EST.	FINIAL							
63+25	24' LT	200	H(B)	1016.37	1012.87	3.40		65			203	1.6	1012.23	
9+40 (MAYFAIR CT)	LT	201	H(D)	1016.40	1012.30	3.41		31			202	0.6	1012.62	
9+40 (MAYFAIR CT)	RT	202	G(D)	1016.12	1012.62	3.50		60			203	0.7	1012.20	
62+75	CL	203	60-4020	1016.12	1011.72	4.34			125		204	2.6	1008.75	
61+50	CL	204	48-4020	1013.03	1008.45	4.53			105		207	2.2	1006.44	
61+50	24' LT	205	H(B)	1012.54	1009.08	3.40		24			204	0.5	1008.96	
61+50	24' RT	206	H(B)	1012.42	1008.72	3.40		24			204	0.5	1008.96	
60+45	CL	207	48-4020	1010.97	1005.87	4.56			59		212	1.8	1005.38	
60+45	24' LT	208	H(B)	1010.31	1006.80	3.40		24			207	0.5	1006.68	
60+45	24' RT	209	H(B)	1010.26	1006.36	3.40		24			207	0.5	1006.68	
9+47 (CROWN HILL CT)	LT	210	H(D)	1009.89	1005.45	3.58		32			211	0.8	1006.05	
9+47 (CROWN HILL CT)	RT	211	G(D)	1009.85	1006.05	3.74		53			212	0.8	1005.63	
59+86	CL	212	48-4020	1010.34	1005.38	5.13			246		213	1.8	1000.95	
57+40	CL	213	48-4020	1005.50	1000.60	4.71			59		218	2.0	999.77	
57+40	24' LT	214	H(B)	1005.00	1001.90	3.40		24			213	0.5	1001.22	
57+40	24' RT	215	H(B)	1004.95	1001.15	3.40		24			213	0.5	1001.22	
9+40 (SPRUCE PL)	LT	216	H(D)	1003.95	1000.05	3.51		32			217	0.5	1000.23	
9+40 (SPRUCE PL)	RT	217	G(D)	1003.62	999.87	3.39		60			218	0.5	999.93	
56+81	CL	218	54-4020	1003.95	999.33	4.74				153	221	1.0	997.80	
55+88	29.6' RT	219	H(B)	1001.60	998.41	3.02		60			220	0.5	998.28	
55+28	32.7' RT	220	G(B)	1000.90	998.40	2.94		30			221	0.4	998.16	IN RADIUS
55+28	3' RT	221	60-4020	1002.15	997.56	4.71				27	222	0.5	997.43	
55+28	LT	222	60-4020	1001.67	997.18	4.61								CONSTRUCT OVER EXISTING 24" RCP TO SOUTH
55+34	36' LT	223	LP(4)	1001.34	997.74	3.95		15			222	0.5	997.78	INSTALL CASTING ASSEMBLY FOR DESIGN 4020
54+62	27' LT	224		1001.88										
66+47	24' LT	101	H(B)	1012.10	1007.70	3.40		48			102	0.6	1008.25	
66+47	24' RT	102	G(B)	1012.06	1007.56	3.89		60			103	3.1	1006.19	
67+07	24' RT	103	48-4020	1010.20	1005.70	4.10			250		107	4.5	994.94	
9+29 (SUN TERRACE)	RT	104	H(D)	1010.95	1006.85	3.40		32			105	0.6	1007.03	
9+29 (SUN TERRACE)	LT	105	G(D)	1010.55	1006.45	3.29		95			103	0.6	1006.46	
69+57	24' LT	106	H(B)	998.97	995.07	3.39		48			107	0.7	995.14	
69+57	24' RT	107	G(B)	998.87	994.48	3.93			30		108	4.8	993.50	
69+87	24' RT	108	48-4020	997.77	993.27	4.29			88		110	4.7	989.36	
11+05 (RIVIERA SO)	RT	109	H(B)	997.64	993.74	3.40		81			108	1.5	993.77	
70+75	24' RT	110	G(B)	993.55	989.15	4.19			210		112	2.5	984.11	
72+85	24' LT	111	H(B)	988.04	984.41	3.40		48			112	0.6	984.35	
72+85	24' RT	112	G(B)	988.04	983.84	3.93			62		115	1.7	983.07	
10+70 (RIVIERA NO)	RT	113	H(B)	987.51	983.81	3.51		30			114	0.5	983.85	
10+70 (RIVIERA NO)	LT	114	G(B)	987.41	983.10	3.76			35		115	0.5	983.47	
73+46	35' RT	115	48-4020	986.97	982.67	4.42				103	117	1.0	981.64	
74+49	26.5' LT	116	LP(4)	986.25	982.75	3.54		29			119	1.0	982.53	
74+49	26.5' RT	117	LP(4)	986.42	981.44	4.92				29	118	0.9	981.18	
74+49	61.5' RT	(2)118		981.21								0.9	981.13	24" RC PIPE APRON
74+49	CL	119	48-4020	986.43	982.33	4.22			29		117	1.0	982.04	
76+82	24' LT	121	H(B)	989.33	985.33	3.51		24			120	1.0	985.53	
76+82	CL	120	48-4020	985.06	985.33	4.63			233		119	1.2	982.53	
TOTALS								1077	1531	312				

4" PE PERFORATED PIPE DRAIN ②

DRAIN FROM STRUC./STA.	DRAIN TO STRUC./STA.	LIN. FT.	
		LT.	RT.
54+75	220		51
54+75	223	57	
220	55+70		40
223	57+25	189	
219	57+25		135
214	60+30	288	
215	60+30		288
208	61+35	88	
209	61+35		88
205	63+10	158	
206	63+70		188
200	63+70	43	
64+30	101	215	
64+30	102		215
66+65	106	290	
66+65	107		290
69+75	111	326	
69+75	110		98
70+90	112		193
73+00	116	147	
73+00	117		147
116	76+65	214	
117	77+50		299
121	77+50	66	
TOTALS		2081	2032

NOTE: 4" PE PIPE DRAINS SHALL BE INSTALLED PER SPEC 2502 AND CONNECTED TO STORM SEWER STRUCTURES PER SPEC REFERENCE 2502.3B. GRANULAR MATERIAL FOR BEDDING SHALL BE FINE FILTER AGGREGATE, SPEC REFERENCE 3149.2J, FOR WHICH WHICH PAYMENT SHALL BE INCLUDED IN ITEM 2502.541 4" PE PIPE DRAIN BY THE LF.

NOTES:

- FOR STRUCTURES WITH GRATE, LOCATION POINTS ARE AT CENTER OF GRATE AND TOP ELEVATIONS ARE AT GUTTERLINE. FOR LP CATCH BASINS, SEE DETAIL.
- INSTALL GALVANIZED TRASH GUARD, 5.8 CU YD, CLASS III RIPRAP, AND 2.9 CU YD GRANULAR FILTER. TRASH GUARD AND GRANULAR FILTER ARE INCIDENTAL.
- DESIGN FRAME/RING CASTING GRATE/COVER CASTING CURB BOX CASTING
G(B), H(B) 802A 816 823A
G(D), H(D) 805 816
4020 700-7 712
LP 790-2 712
- CASTINGS ARE INCIDENTAL.
- ALL PIPE IS CLASS II.
- (B) - WITH DESIGN B CURB AND GUTTER.
(D) - WITH DESIGN D CURB AND GUTTER.
- SIDESTREET CATCH BASINS ARE TO BE LOCATED WITH FRONT EDGE OF FRAME IN LINE WITH THE EDGE OF BITUMINOUS.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: J.B.C.
DATE 1\4\96

SEE STORM SEWER PROFILE SHEETS
FOR ADDITIONAL CHANGES (PAY HIEGHTS NOT CHANGED)

STORM SEWER REMOVALS ③

LOCATION	PIPE SEWER LIN. FT.	PIPE CULVERT LIN. FT.	CATCH BASIN	DESCRIPTION
STA 10+34 TO STA 10+90 (RIVIERA DR NO)	56			12" RCP WITH END SECTION
STA 56+17 TO STA 56+65 (LT)	48			24" CMP TRENCH DRAIN
STA 56+17 (LT)			1	
STA 55+34 TO STA 56+17 (LT)	83			24" RCP
STA 55+34 (LT)			1	
STA 55+28 TO STA 55+34 (LT)	6			24" RCP
STA 55+28 (LT)			1	
STA 55+28 (RT)			1	
STA 55+28	48			12" RCP
STA 75+85 (RT)		20		15" CMP
TOTALS	241	20	4	

CERTIFIED BY

PROFESSIONAL ENGINEER

REG. NO.

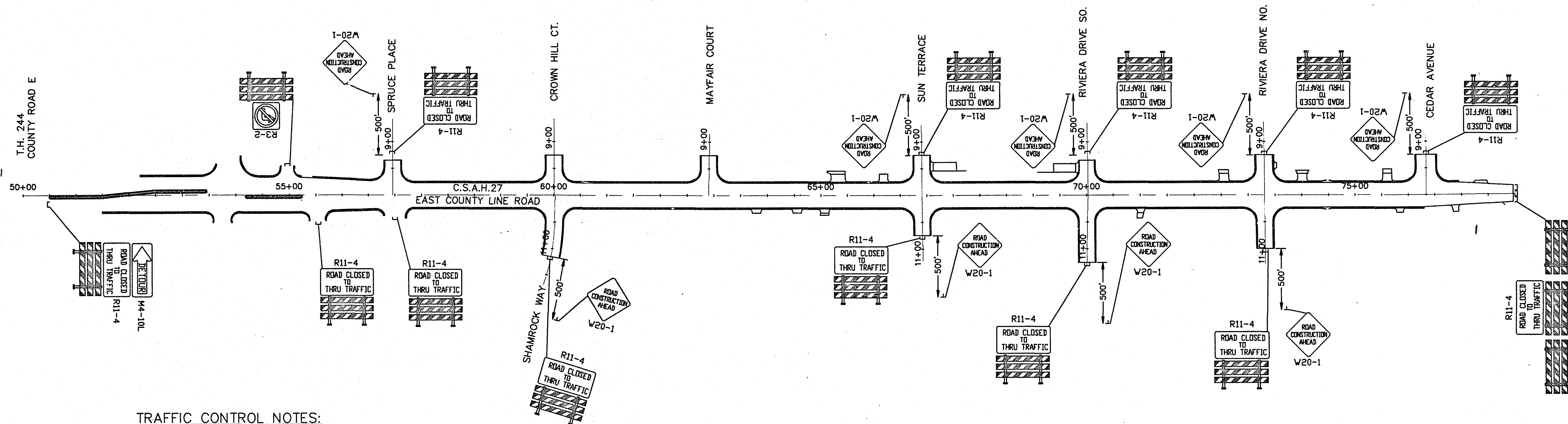
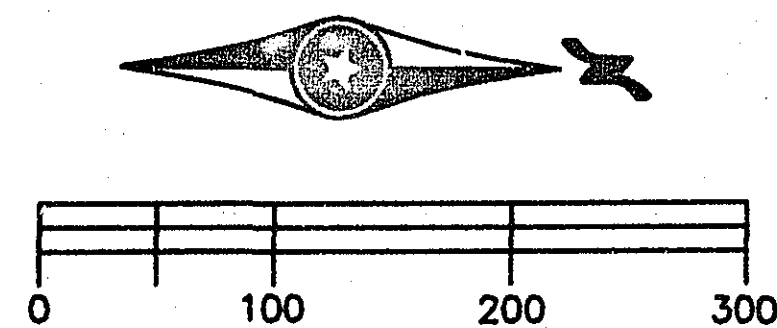
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S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. NO. 174-020-11

Sheet No. 6 of 36 Sheets

QUANTITY TABULATIONS

28-139



TRAFFIC CONTROL NOTES:

1. 2-TYPE A FLASHERS SHALL BE MOUNTED ON ALL TYPE III BARRICADES.

AS BUILT
JBC
11/10/96
28-139

28-139

CERTIFIED BY T. K. A. Chappell
PROFESSIONAL ENGINEER

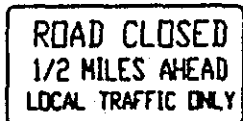
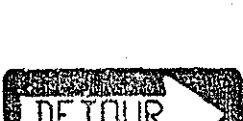
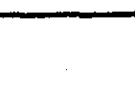
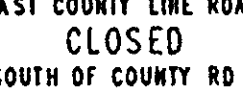
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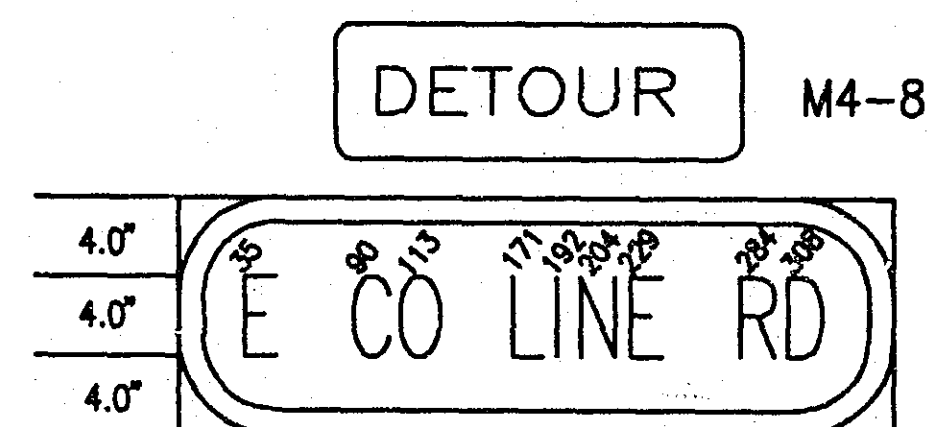
7/15/94
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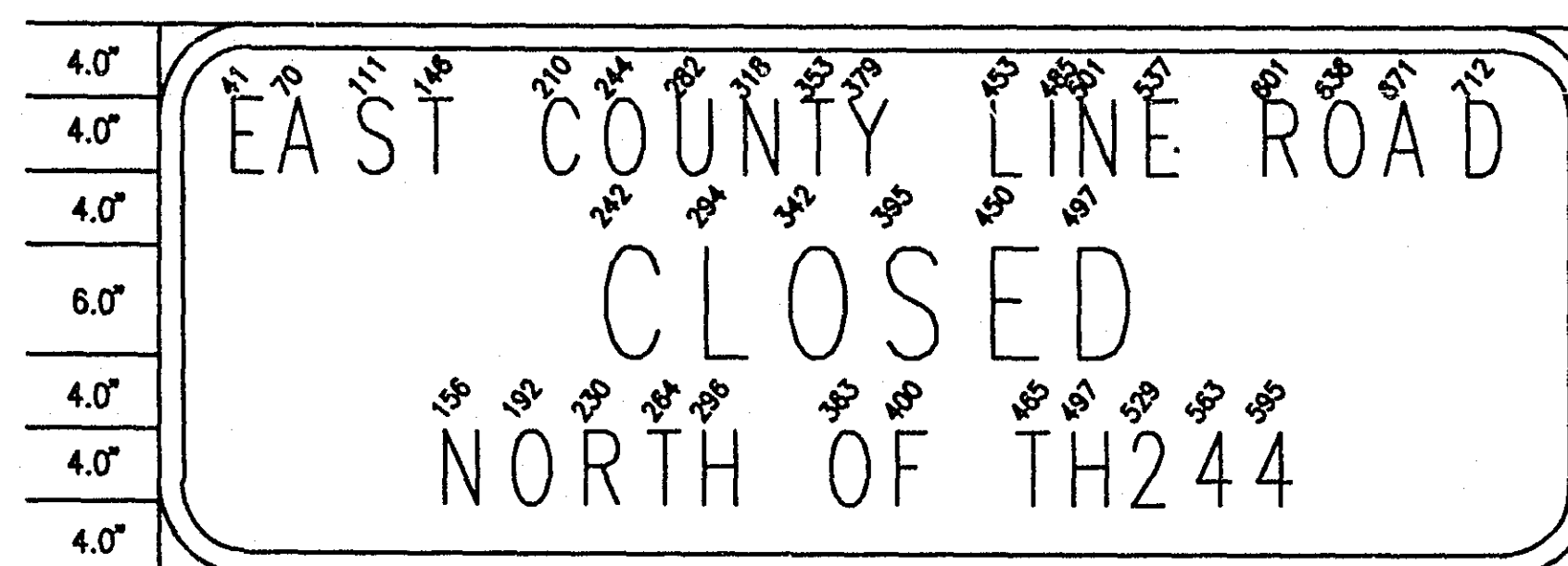
TRAFFIC CONTROL PLAN

Sheet No. 7 of 36 Sheets

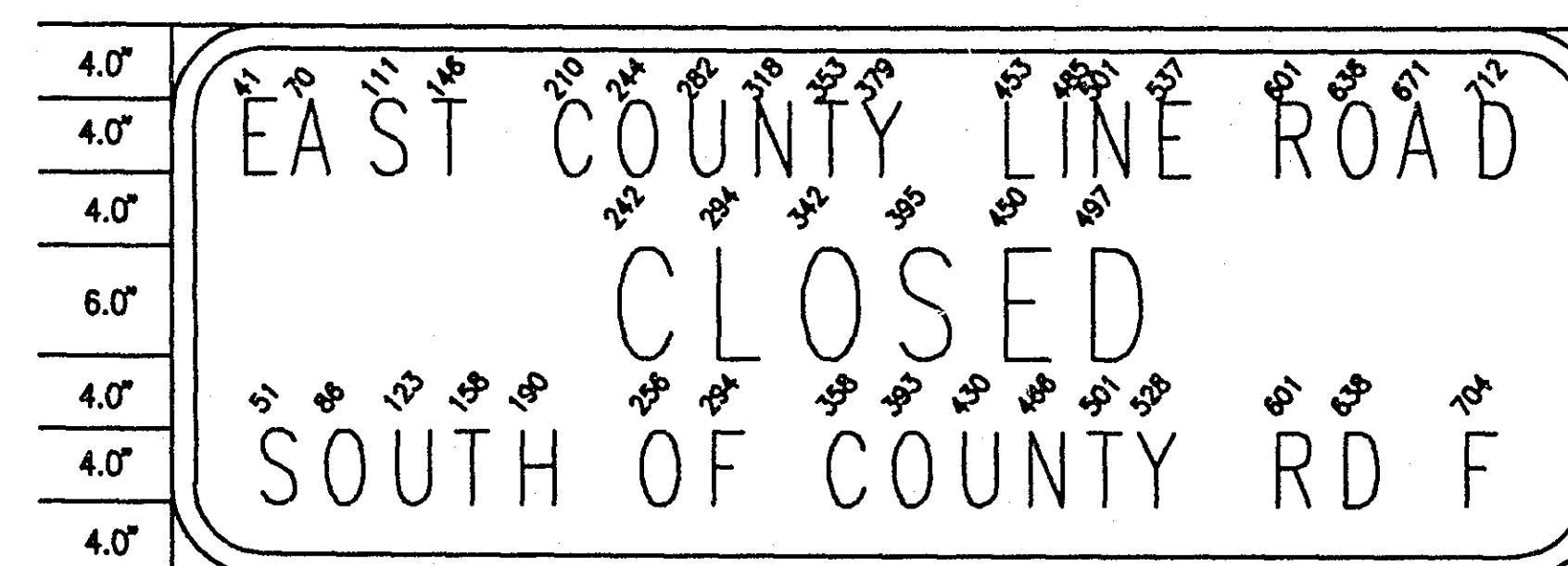
TRAFFIC CONTROL DEVICES FOR TRAFFIC CONTROL (0563.601)				
ITEM	SIGN NO. OR TYPE OF DEVICE	SIZE	COLOR	QUANTITY
	R3-2	24"x24"	BLACK & RED ON WHITE	1
	R11-3	60"x30"	BLACK ON WHITE	1
	R11-4	60"x30"	BLACK ON WHITE	13
	G20-2	60"x24"	BLACK ON ORANGE	2
	M3-1	24"x12"	BLACK ON WHITE	1
	M3-3	24"x12"	BLACK ON WHITE	1
	M4-10R	48"x18"	BLACK ON ORANGE ON BLACK	1
	M4-10L	48"x18"	BLACK ON ORANGE ON BLACK	1
	M6-1	21"x15"	BLACK ON WHITE	13
	M6-3	21"x15"	BLACK ON WHITE	4
	W20-1	48"x48"	BLACK ON ORANGE	9
	W20-2	48"x48"	BLACK ON ORANGE	2
	W20-3	48"x48"	BLACK ON ORANGE	2
	TYPE III BARRICADE	8' (MIN.)	ORANGE ON WHITE	17
	FLASHER TYPE "A"			34
	M4-8	24"x12"	BLACK ON ORANGE	16
	SPECIAL "A" (SEE LAYOUT)	36"x12"	BLACK ON ORANGE	2
	SPECIAL "B" (SEE LAYOUT)	78"x30"	BLACK ON ORANGE	2
	SPECIAL "C" (SEE LAYOUT)	78"x30"	BLACK ON ORANGE	3



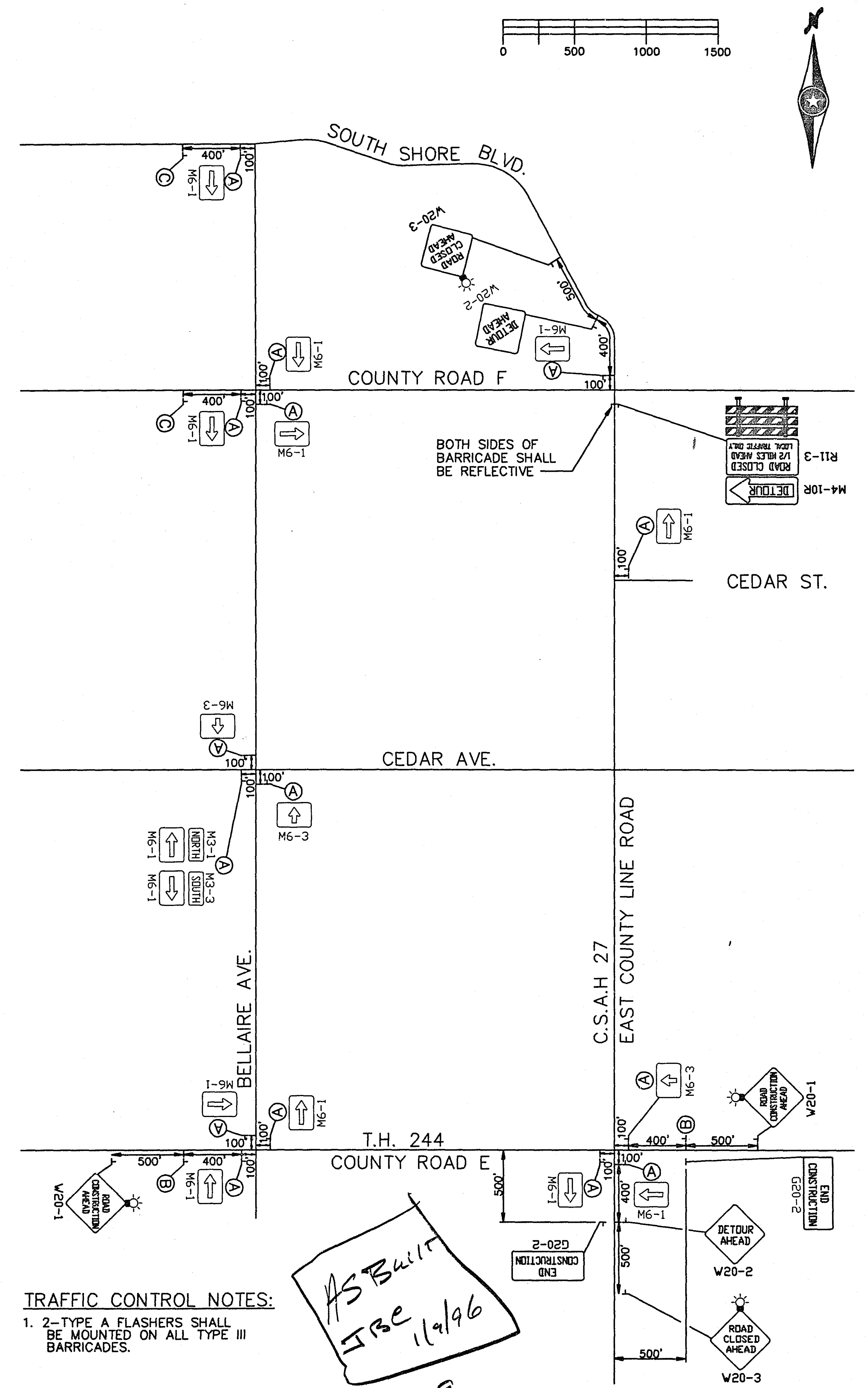
SIGN A
36"x12" 2.0"R. 1.0"B BLACK ON ORANGE
LINE 1 29.0" 4" B



SIGN B
78"x30" 3.0"R. 1.0"B. BLACK ON ORANGE
LINE 1 69.8" 4" D
LINE 2 29.5" 6" D
LINE 3 46.8" 4" D

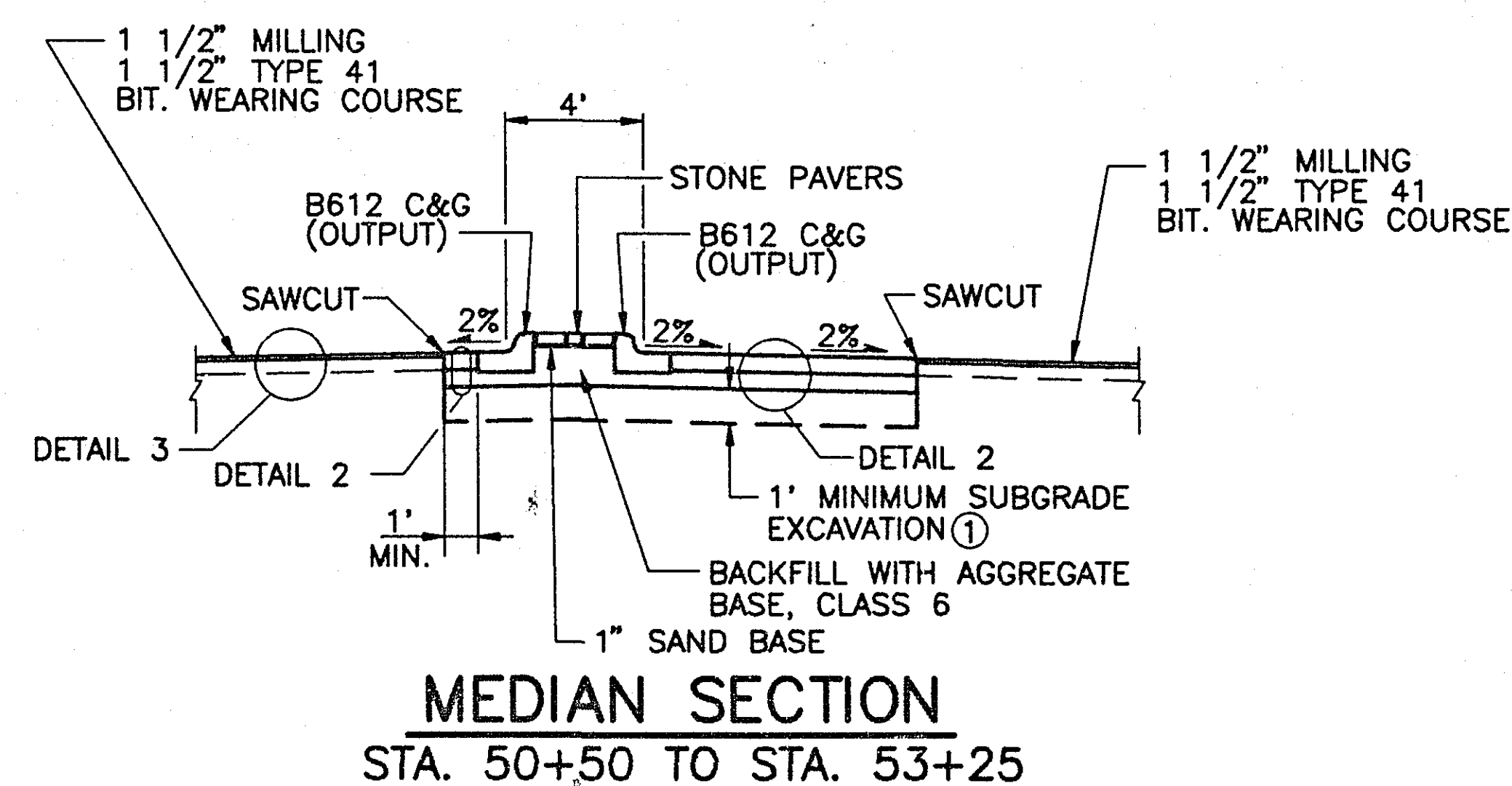
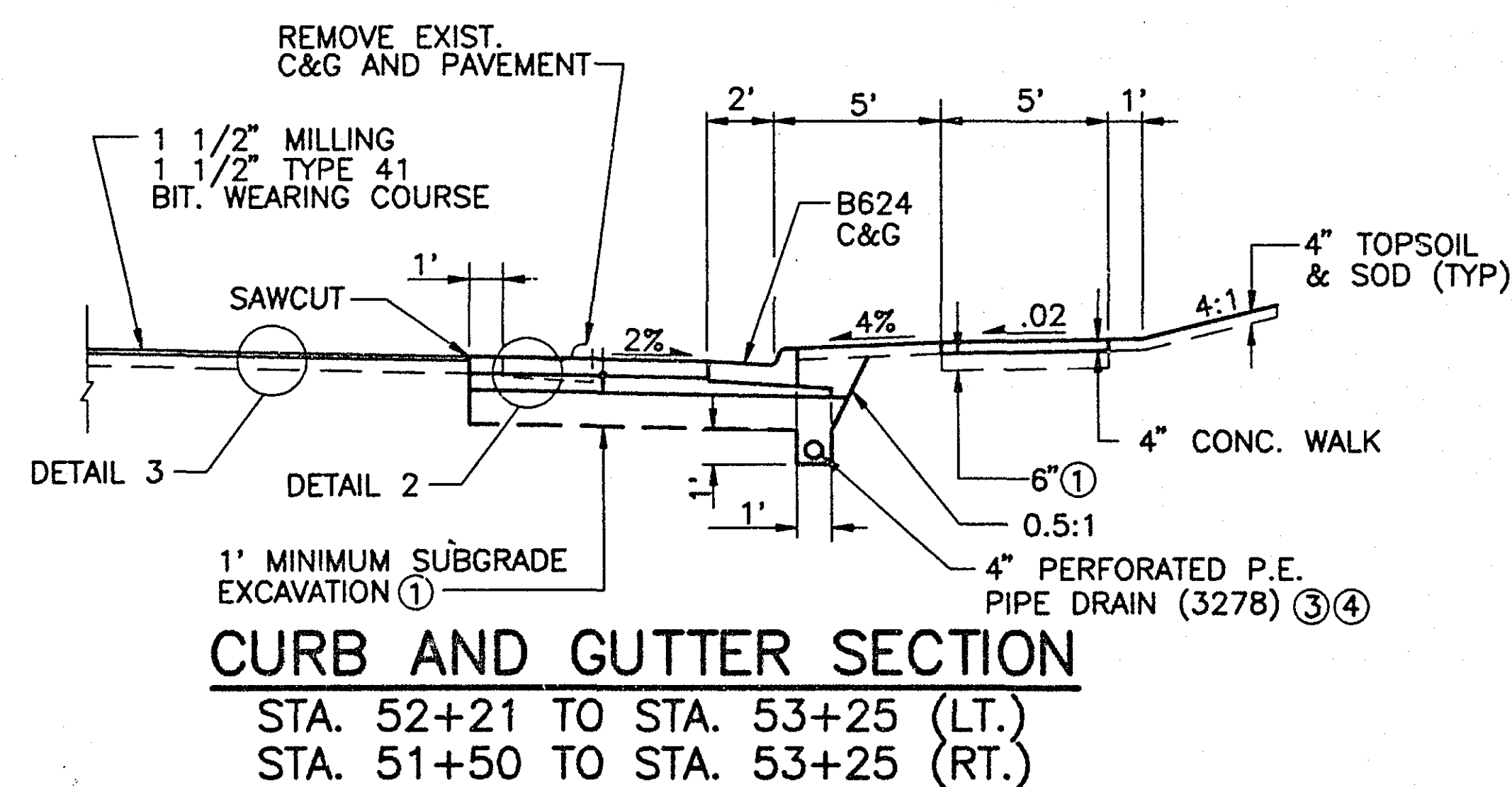
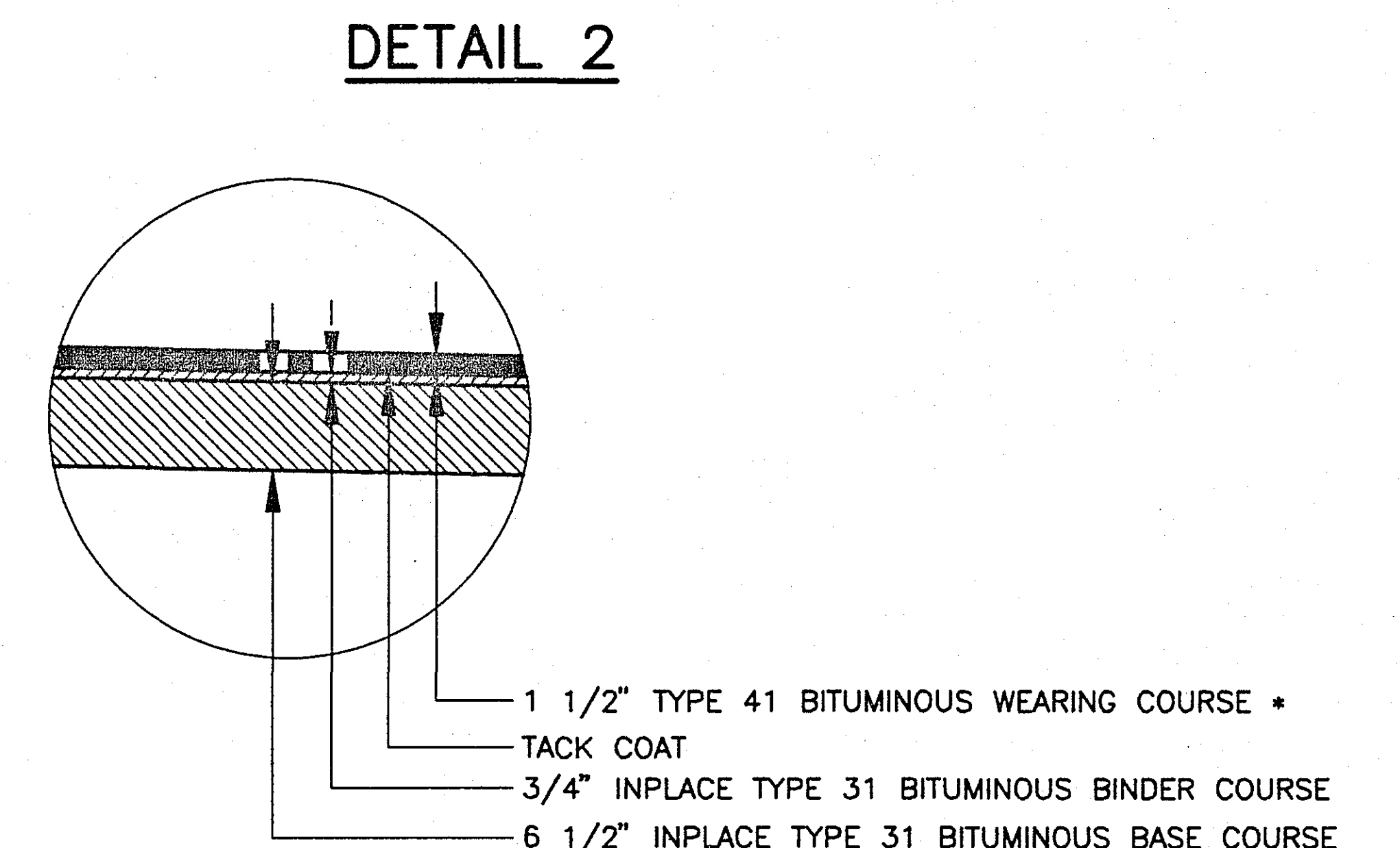
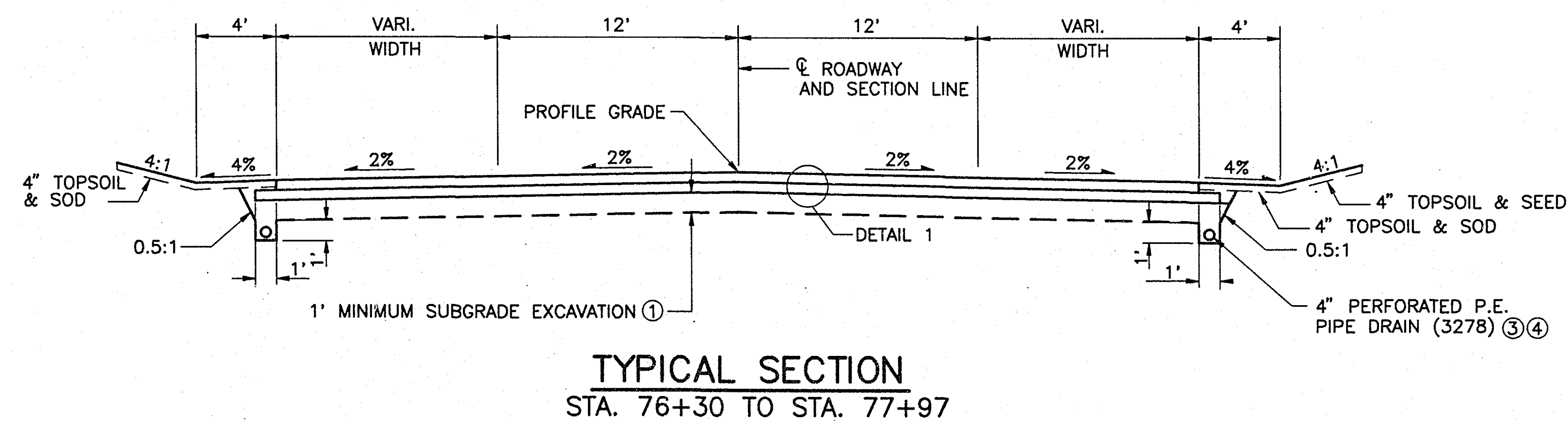
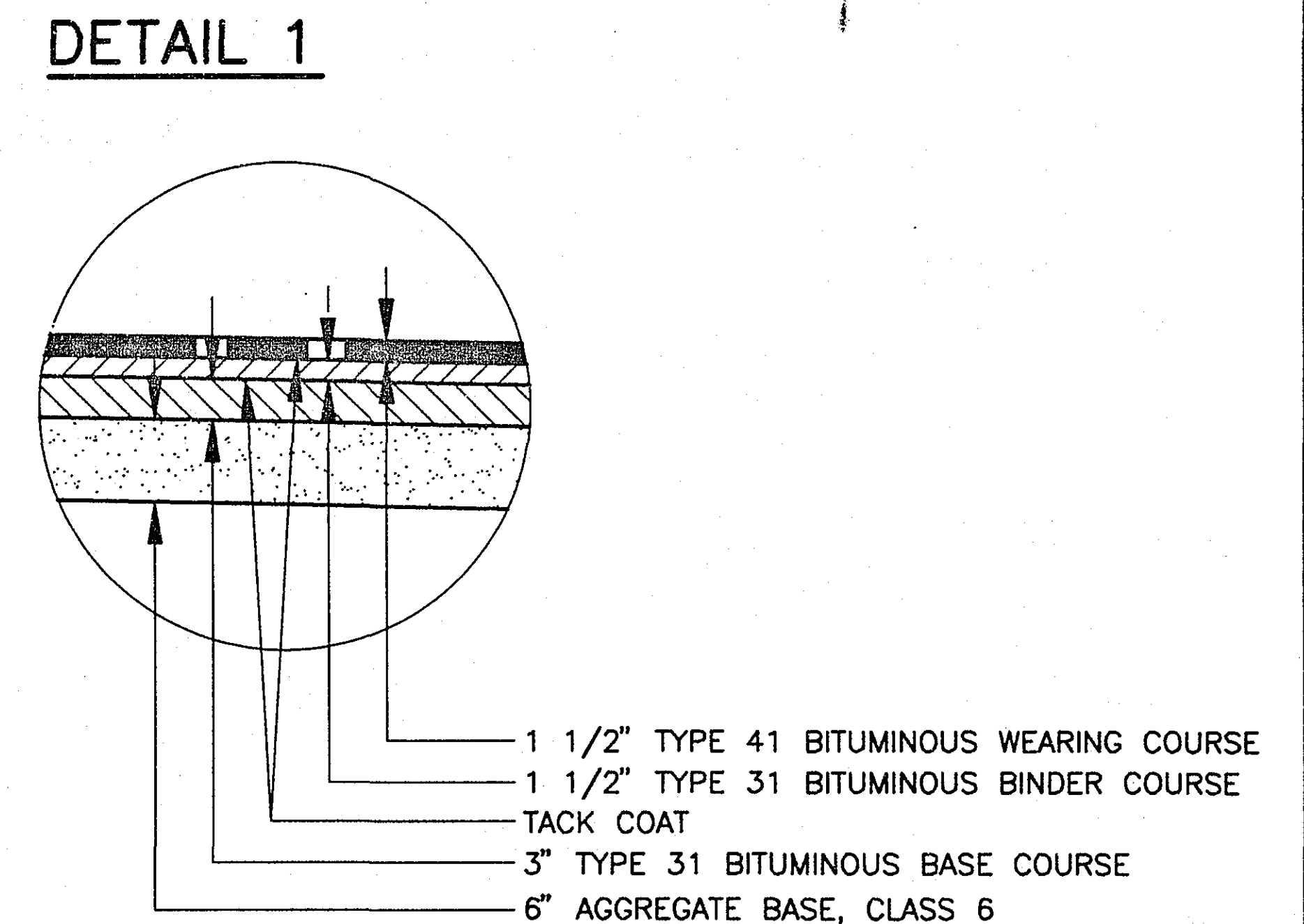
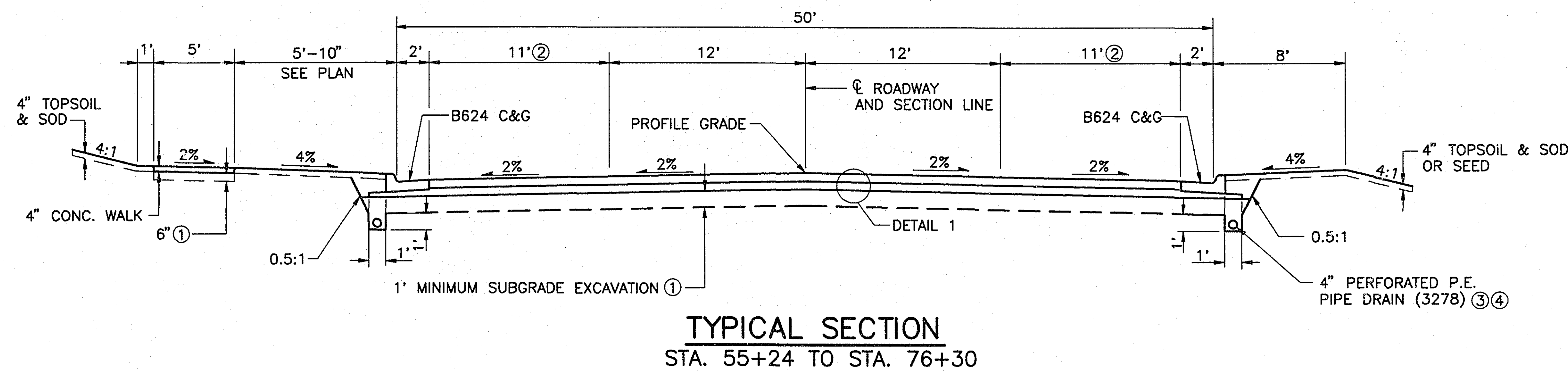
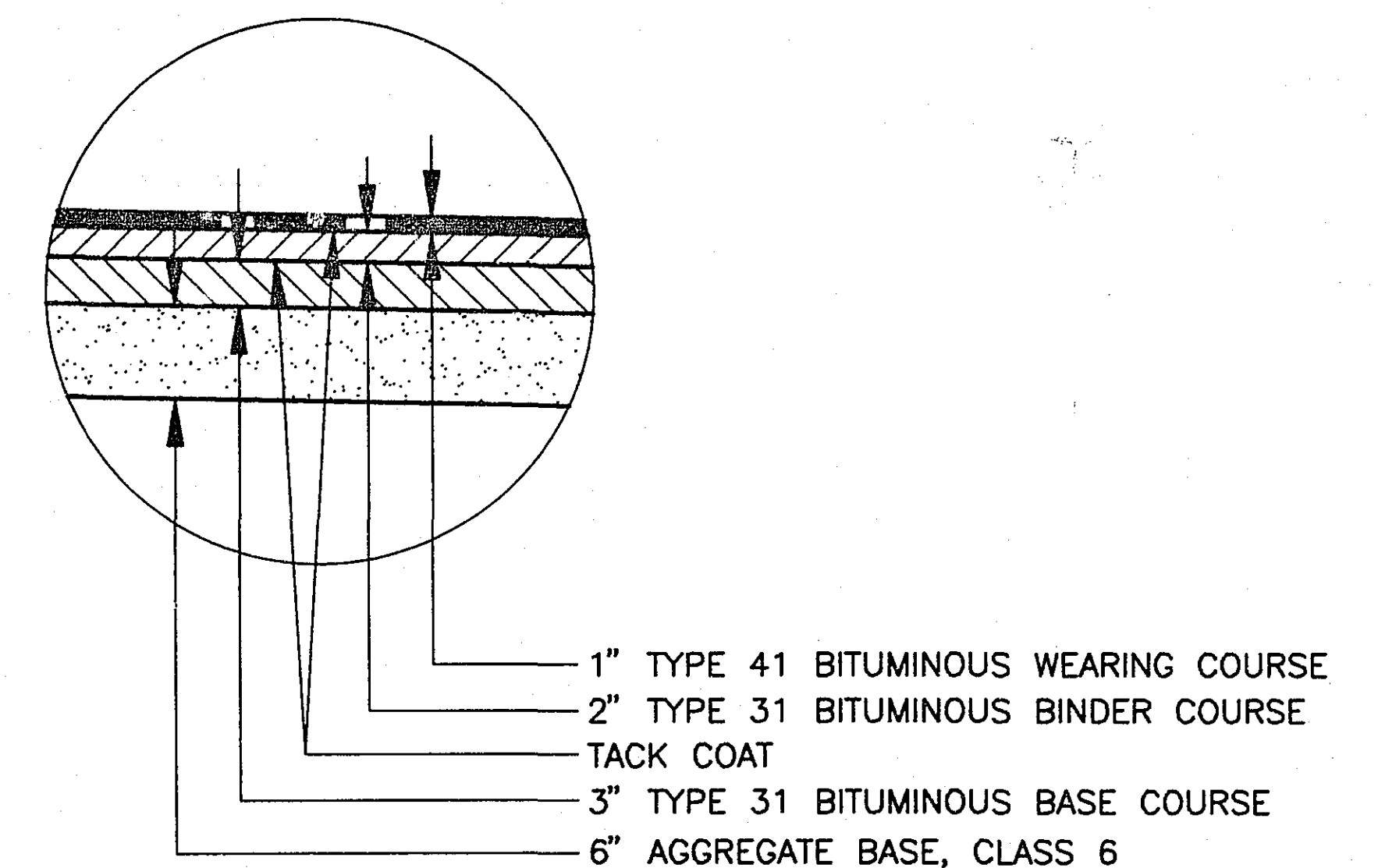
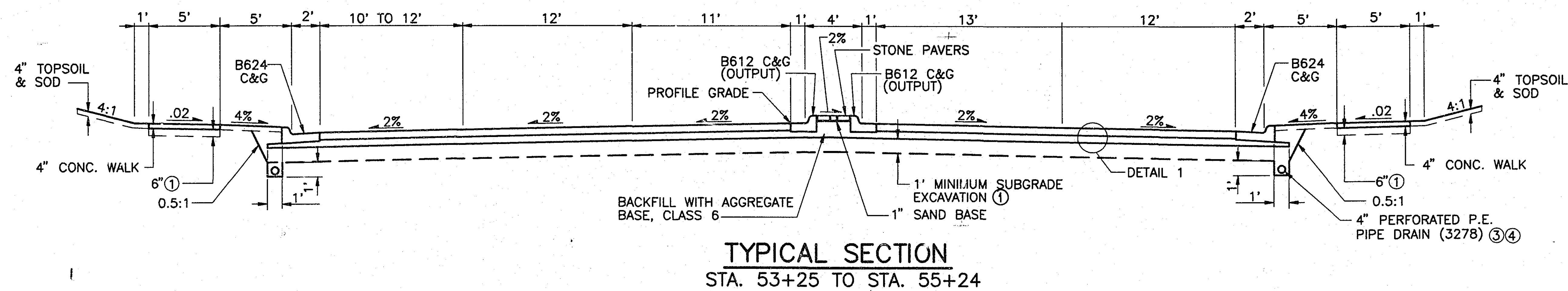


SIGN C
78"x30" 3.0"R. 1.0"B. BLACK ON ORANGE
LINE 1 69.8" 4" D
LINE 2 29.5" 6" D
LINE 3 67.8" 4" D



TRAFFIC CONTROL NOTES:
1. 2-TYPE A FLASHERS SHALL
BE MOUNTED ON ALL TYPE III
BARRICADES.

AS BUILT
JRE
11/9/96
28-139



- NOTES:**
- BACKFILL WITH SELECT GRANULAR BORROW MOD. 10%.
 - VARIABLE WIDTH (11.0' MIN.) BETWEEN STA. 55+24 AND STA. 57+37.
 - WRAP WITH TYPE 1 GEOTEXTILE INSTALLED PER SPEC. 2573. 2" MINIMUM GRANULAR AT ALL POINTS BELOW PIPE.
 - SEE SHT. 10 FOR OPTIONAL PIPE DRAIN DETAILS.

DETAIL 3

- 1 1/2" TYPE 41 BITUMINOUS WEARING COURSE *
- TACK COAT
- 3/4" INPLACE TYPE 31 BITUMINOUS BINDER COURSE
- 6 1/2" INPLACE TYPE 31 BITUMINOUS BASE COURSE

* DEPTH OF MILLING
INPLACE: 3/4" TYPE 61 BITUMINOUS WEARING COURSE
3/4" TYPE 31 BITUMINOUS BINDER COURSE

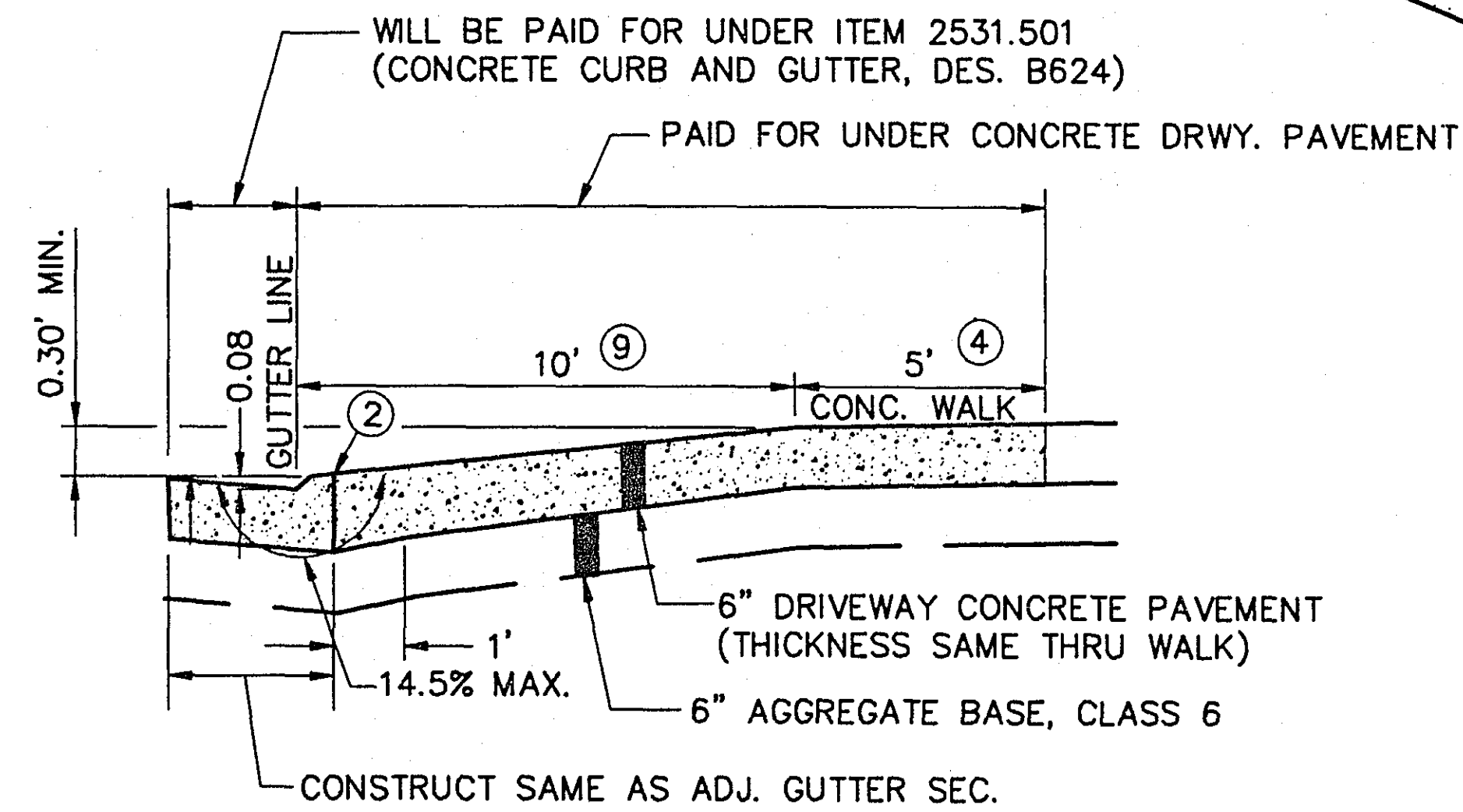
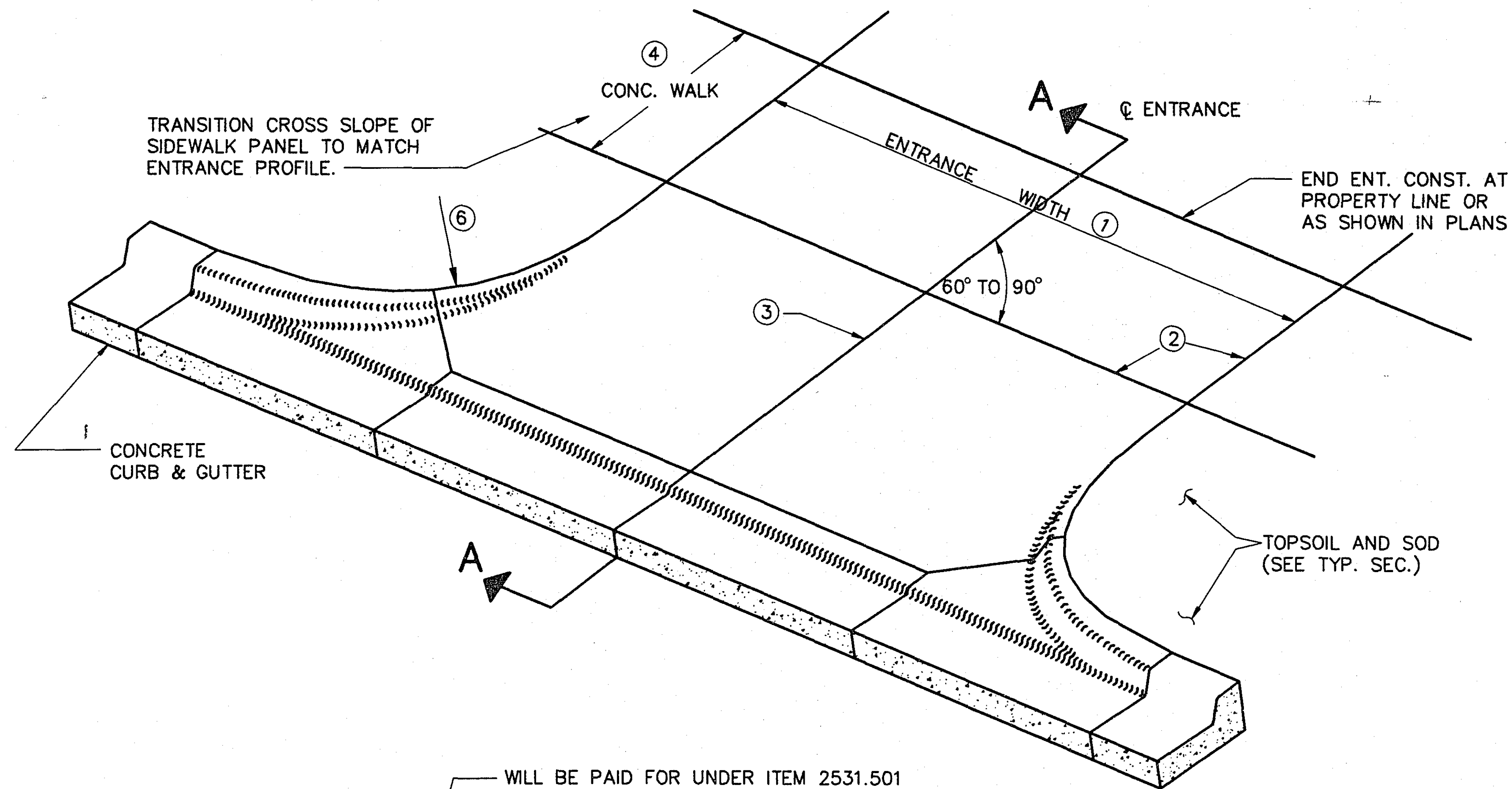
CERTIFIED BY *Timothy A. Chubb*
PROFESSIONAL ENGINEER

15400
REG. NO.

7/15/94
DATE

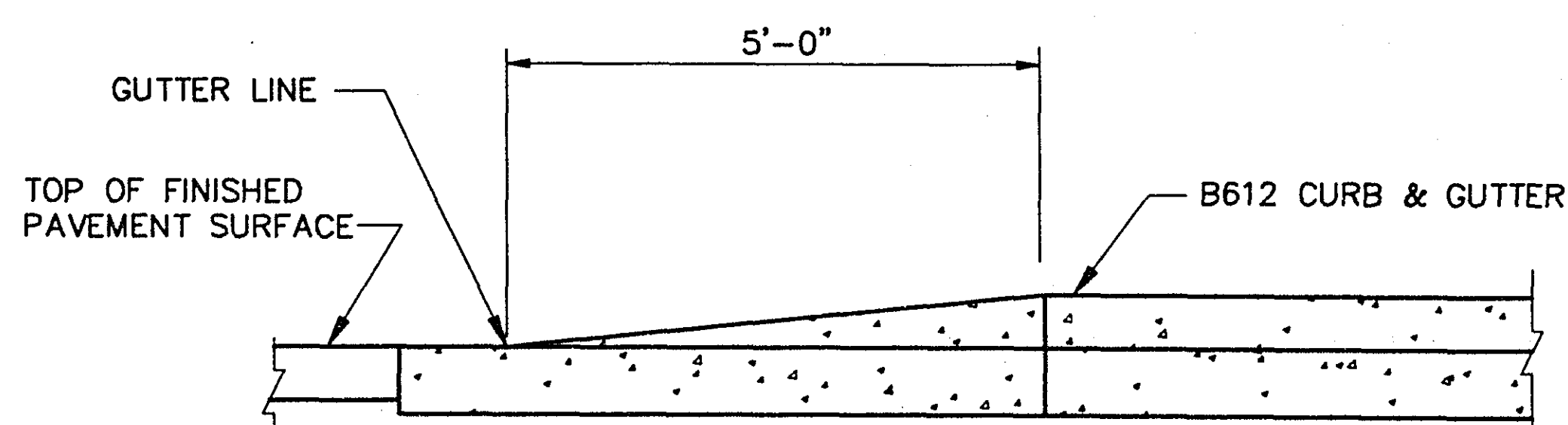
S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. No. 174-020-11

28-139
TYPICAL SECTIONS
Sheet No. 9 of 36 Sheets



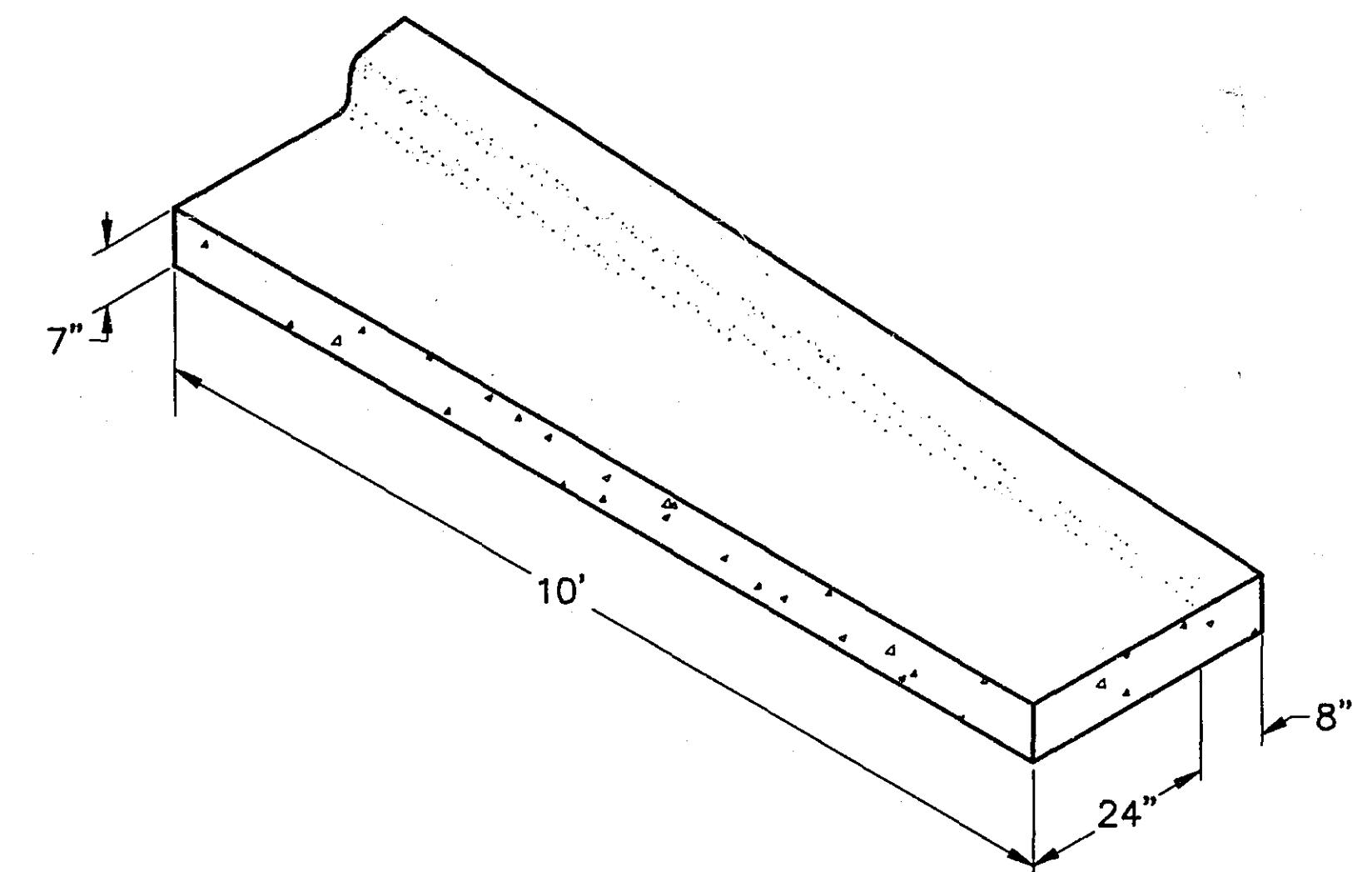
SECTION A-A

CONCRETE APRON DETAIL



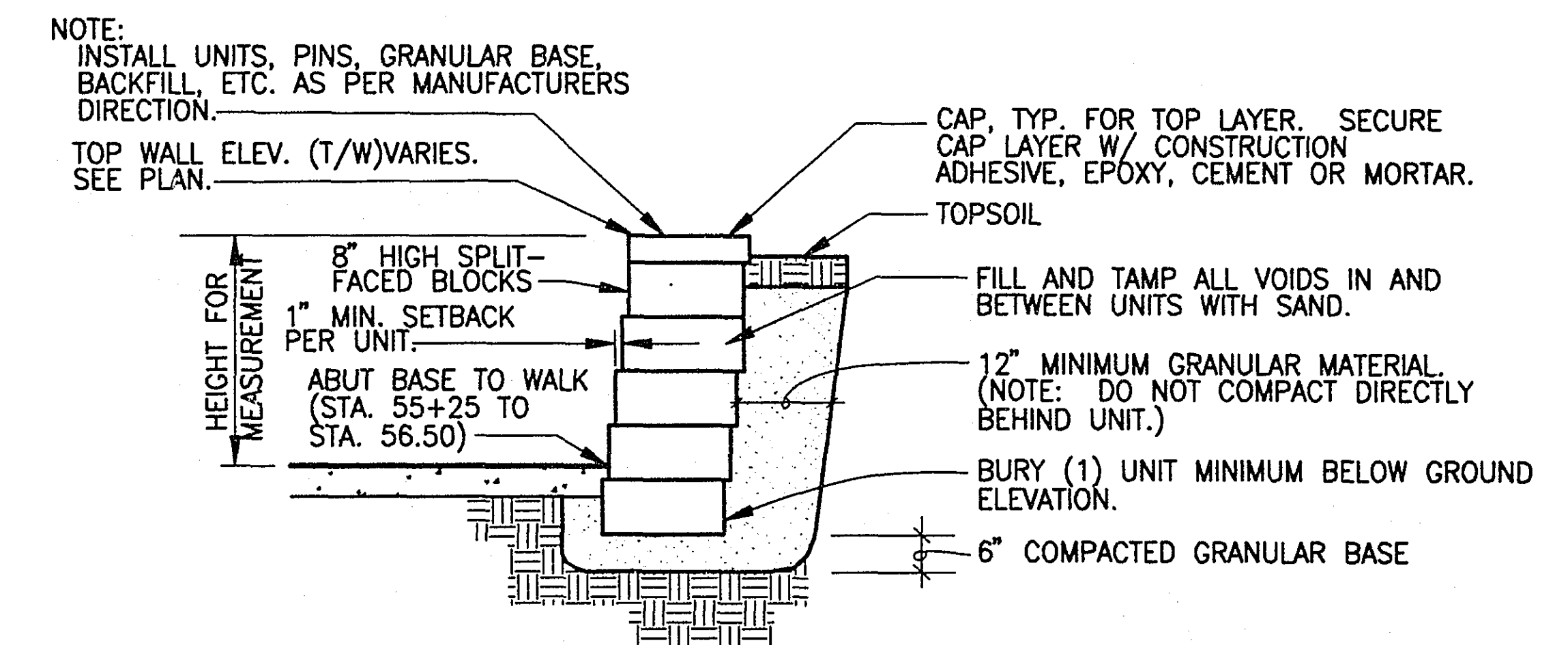
MEDIAN NOSE DETAIL

- ① EXACT WIDTH OF ENTRANCE SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER (12' MIN., 20' MAX.)
- ② 1/2" EXPANSION JOINT
- ③ PLACE JOINTS AS REQUIRED FOR CONCRETE CONSTRUCTION
- ④ SEE PLANS FOR SIDEWALK LOCATION
- ⑤ BEYOND APRON OR SIDEWALK REPLACE DRIVEWAY WITH THE SAME SURFACE TYPE AS INPLACE DRWY. SURFACING SHALL BE AS FOLLOW:
 - A.) RESIDENTIAL
 - 1.) CONCRETE SURFACE
 - 6" DRIVEWAY CONCRETE
 - 6" AGGREGATE BASE, CL6
 - 2.) BITUMINOUS SURFACE
 - 2" BIT WEARING COURSE TYPE 31
 - 2" BIT BASE COURSE TYPE 31
 - 6" AGGREGATE BASE, CL6
 - B.) COMMERCIAL
 - 1.) BITUMINOUS SURFACE
 - 2" BIT WEARING COURSE TYPE 31
 - 4" BIT BASE COURSE TYPE 31
 - 6" AGGREGATE BASE, CL6
- ⑥ 5' (RESIDENTIAL) AND 15' (COMMERCIAL) RADIUS TYPICALLY. UNLESS STATED DIFFERENTLY IN THE PLANS.
- ⑦ FOR COMMERCIAL DRIVEWAYS, FACE OF CURB CONTINUES AROUND RADIUS.
- ⑧ SLOPES MAY VARY TO MATCH EXISTING CONDITIONS.
- ⑨ 8' ON EAST SIDE OF ROADWAY.

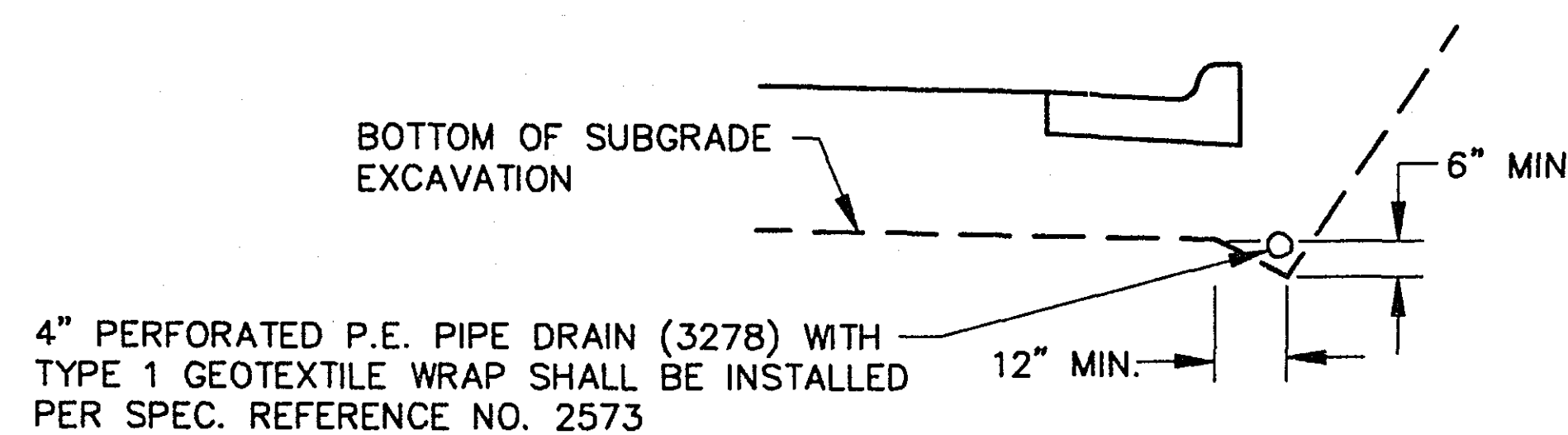


FOR OTHER DIMENSIONS SEE STD. PLATE NO. 7100

TRANSITION B624 VERTICAL TAPER



MODULAR BLOCK WALL DETAIL

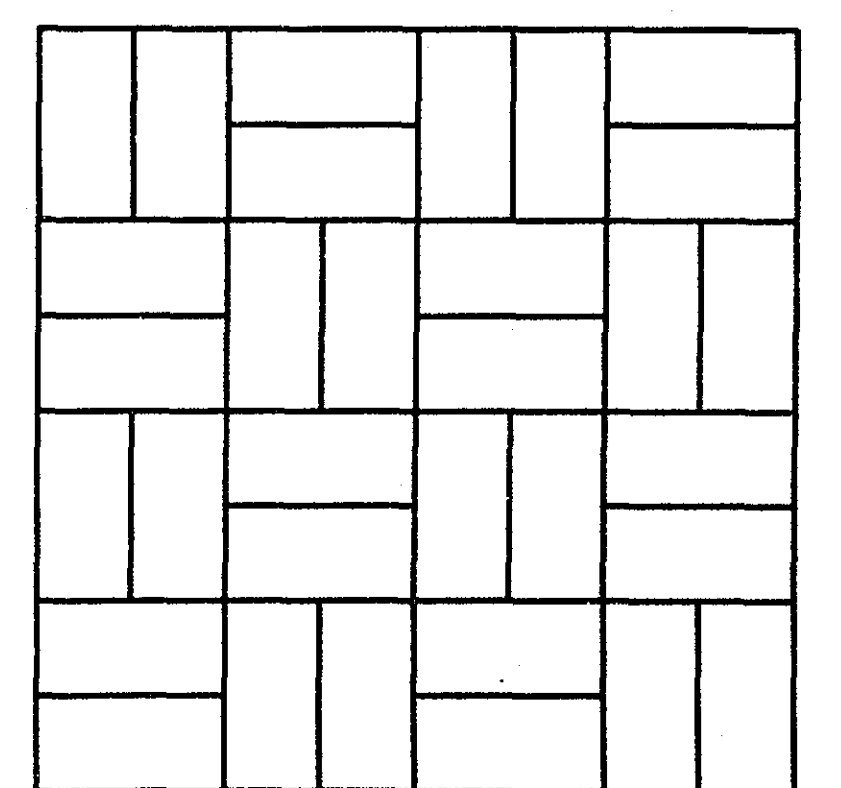


OPTION NO. 1

4" LONGITUDINAL P.E. PIPE DETAIL - SUBCUT DRAINAGE

2" MIN. GRANULAR AT ALL POINTS BELOW PIPE

AS BUILT
JBC 1/10/96



STONE PAVER PATTERN

CERTIFIED BY T. J. B. O'Neil
PROFESSIONAL ENGINEER

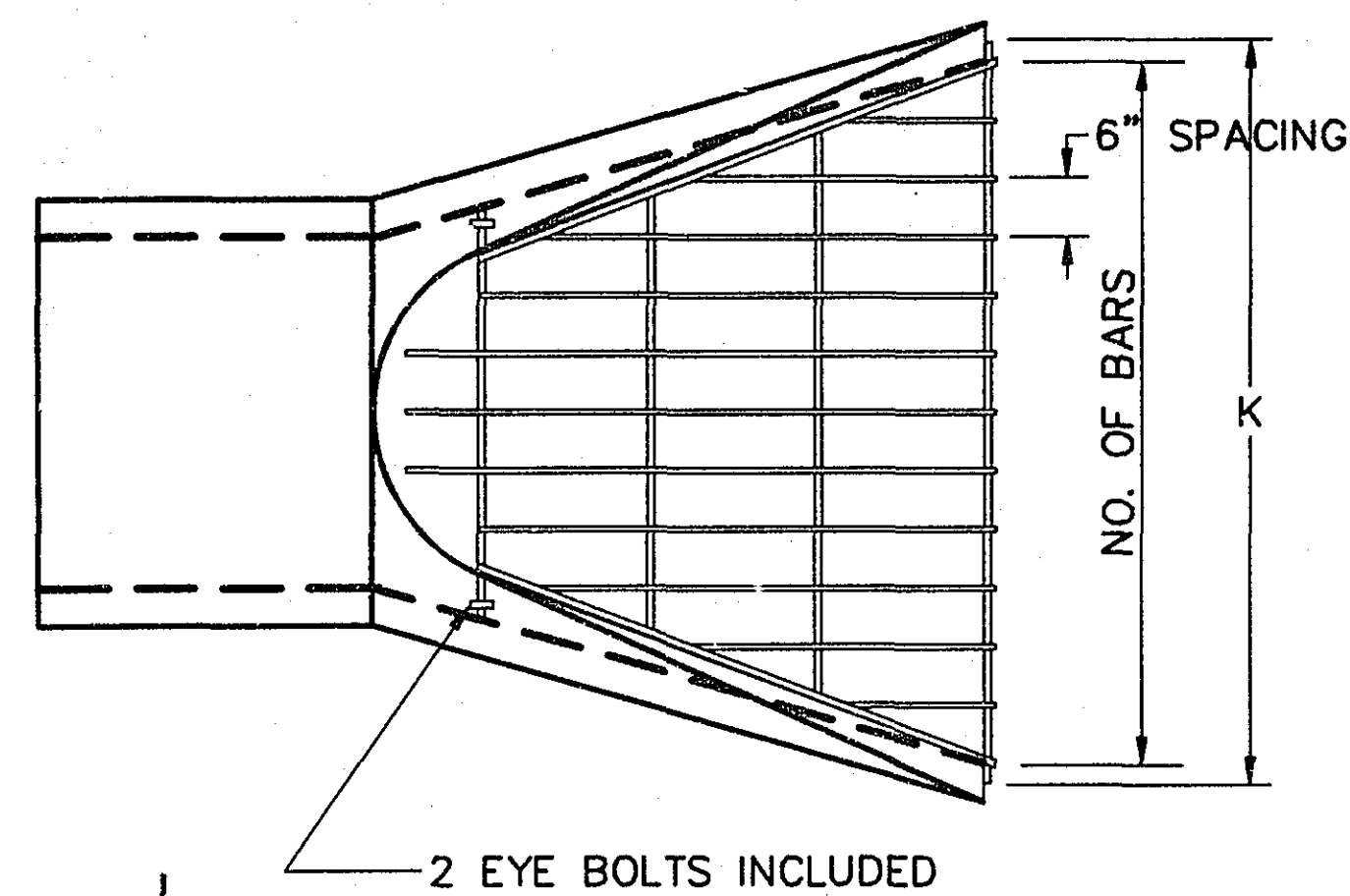
15/100
REG. NO.

7/15/94
DATE

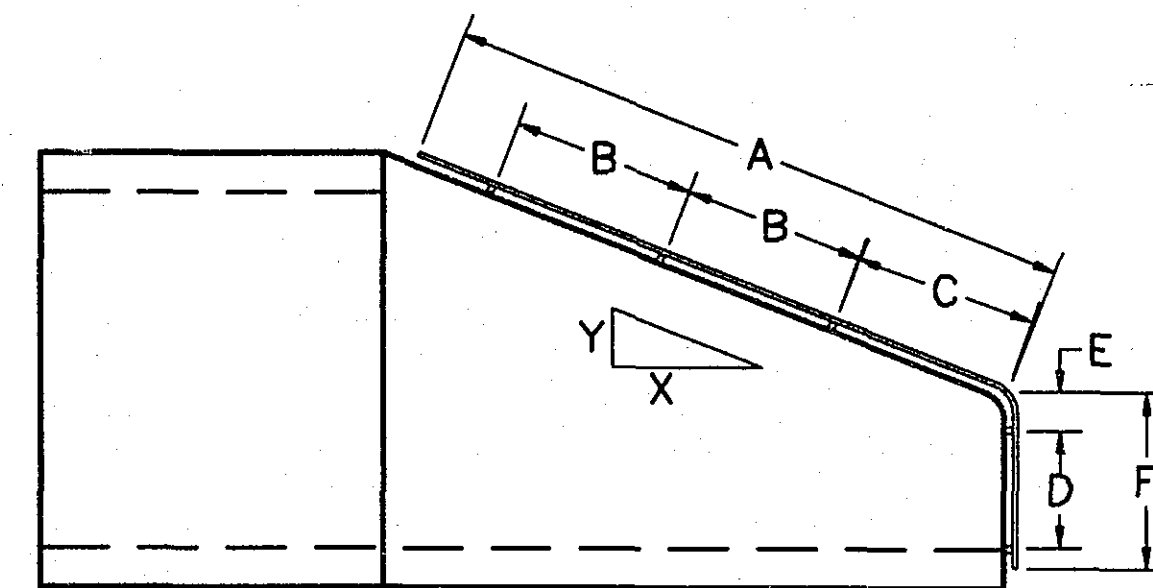
S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. NO. 174-020-11

28-139 CONSTRUCTION DETAILS
Sheet No.10 of 36 Sheets

3/4" BARS FOR TRANSVERSE
AND EDGE REINFORCEMENT



2 EYE BOLTS INCLUDED

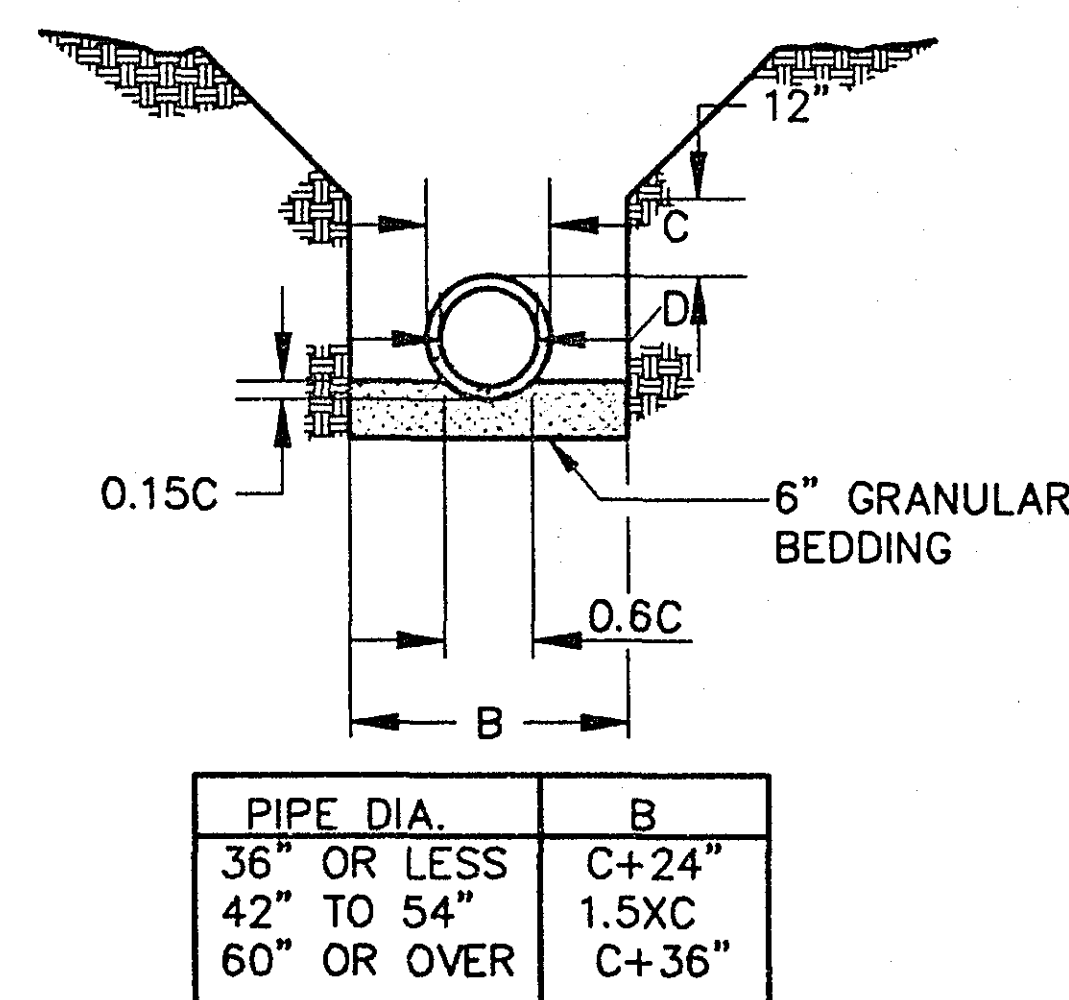


1/2" BARS FOR LONGITUDINAL INTERIOR
BARS, WELD EACH INTERSECTION.

CONTRACTOR SHALL FURNISH SUITABLE
LOCKING DEVICE APPROVED BY ENGINEER.

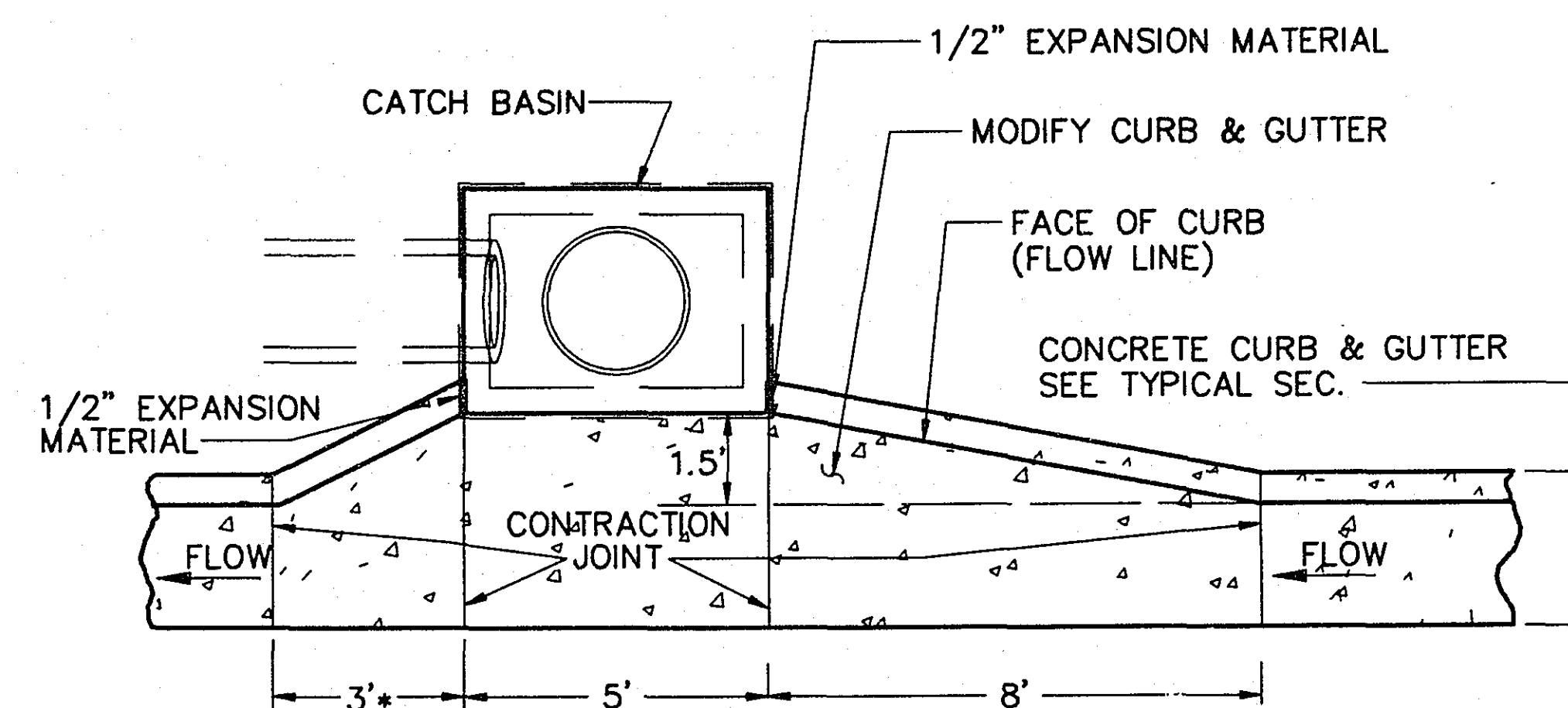
SIZE	NO. OF BARS	X-Y SLOPE	A	B	C	D	E	F	K
12"	5	3 to 1	24"	7"	6"	3"	1"	5"	26"
15"	6	3 to 1	24"	7"	6"	6"	2"	10"	34"
18"	7	3 to 1	24"	7"	6"	6"	3"	12"	40"
21"	8	3 to 1	36"	11"	10"	7"	3"	12"	50"
24"	9	3 to 1	44"	14"	12"	10"	4"	16"	52"
27"	10	3 to 1	50"	16"	14"	10"	4"	16"	58"
30"	11	3 to 1	56"	18"	16"	12"	4"	18"	64"
36"	13	3 to 1	64"	20"	20"	12"	4"	18"	76"
42"	15	3 to 1	68"	22"	20"	14"	8"	26"	88"
48"	16	3 to 1	76"	24"	24"	16"	10"	28"	92"
54"	17	2.4:1	76"	24"	24"	16"	12"	32"	96"

TRASH GUARD (GALVANIZED) (FOR CONCRETE APRON)

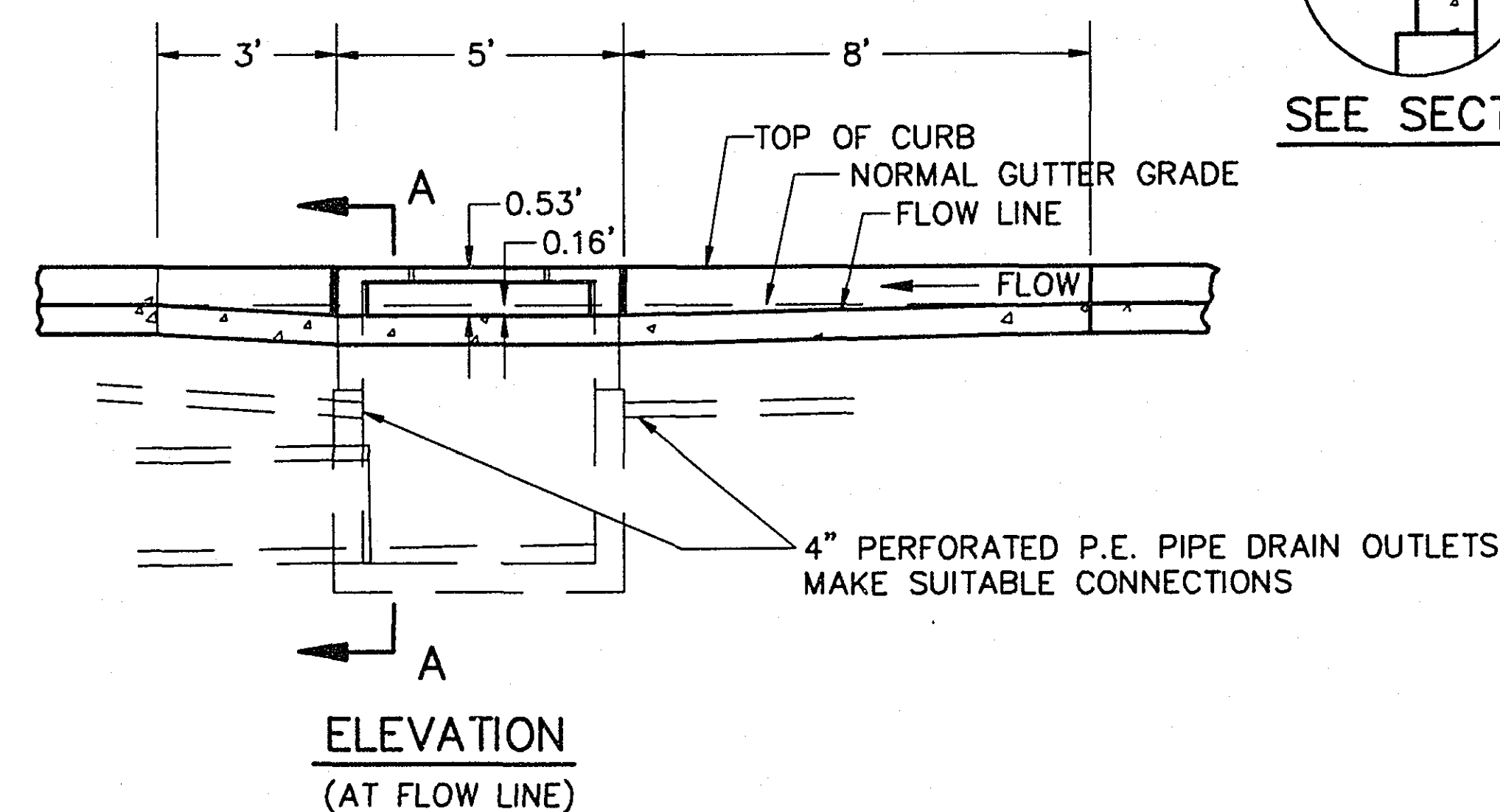


TRENCH WIDTH REQUIREMENTS AS SHOWN
DO NOT APPLY FOR OVERFILLS LESS THAN 15"

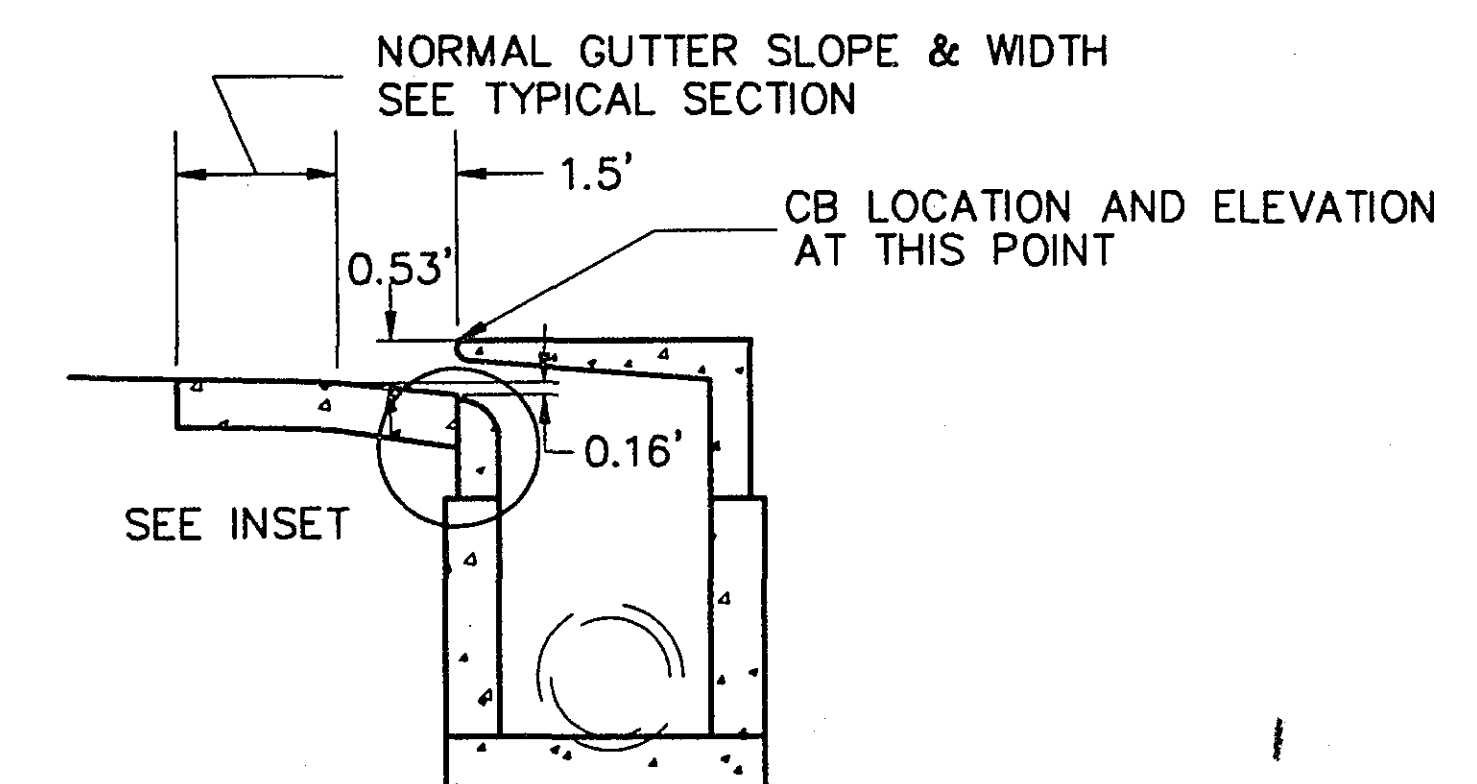
PIPE BEDDING DETAIL



PLAN VIEW



ELEVATION (AT FLOW LINE)



SECTION A-A

NOTES

* DIMENSION SHALL BE 8' WHEN
STRUCTURE IS INSTALLED AT LOW
POINT IN GRADE.

CATCH BASIN - DESIGN LP - SEE
MN/DOT STD. PL. NO. 4021.

TOP OF CATCH BASIN SHALL BE
INSTALLED AT SAME SLOPE AS BLVD.
GRADES AND TOP OF CURB GRADE
EACH SIDE OF STRUCTURE.

ELEVATION OF STRUCTURE IS COM-
PUTED AT LOCATION SHOWN IN SEC.
A-A AT Q. OF C.B. OPENING.

CURB OPENING CATCH BASIN - DESIGN LP INSTALLATION DETAIL

AS BUILT
JBC 11/9/96

28-139

CONSTRUCTION DETAILS

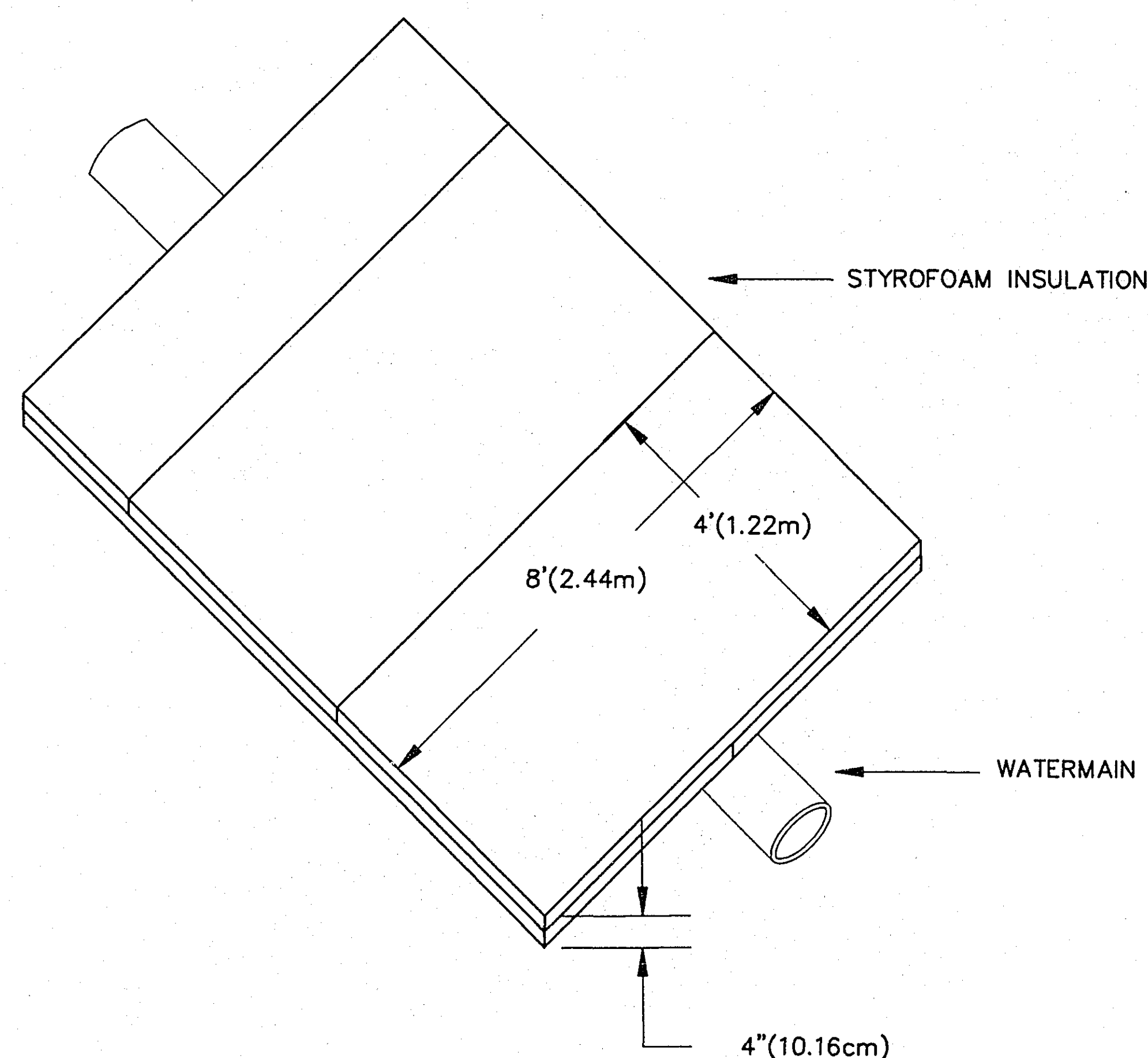
CERTIFIED BY *Timothy A. Carroll*
PROFESSIONAL ENGINEER

16400
REG. NO.

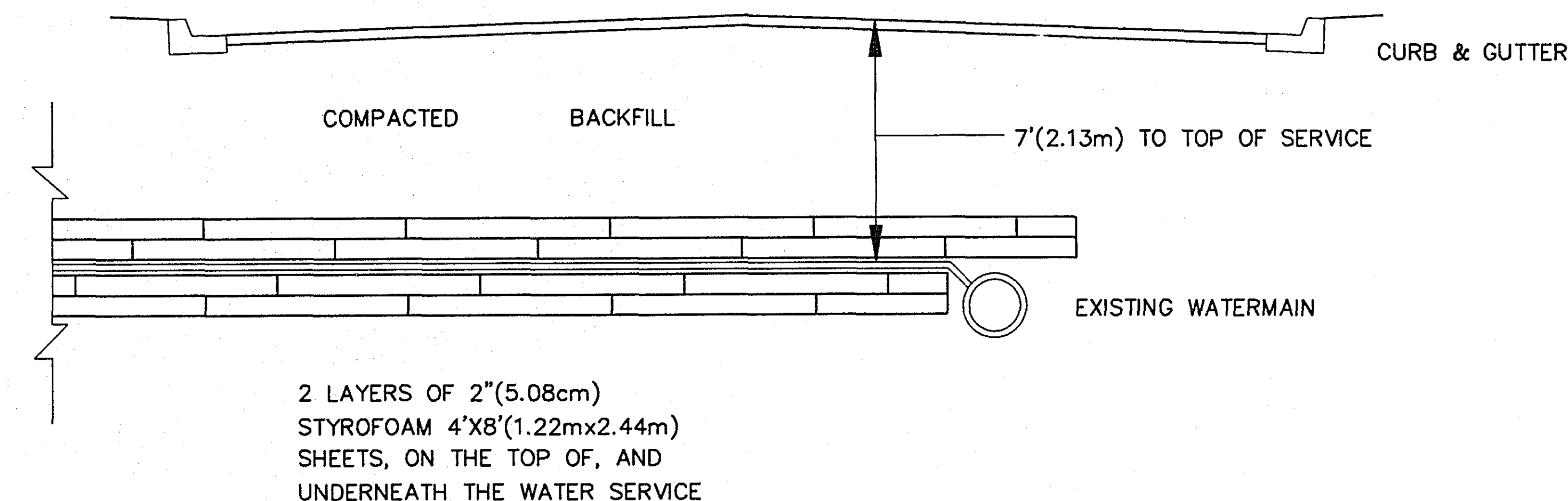
7/15/94
DATE

S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. NO. 174-020-11

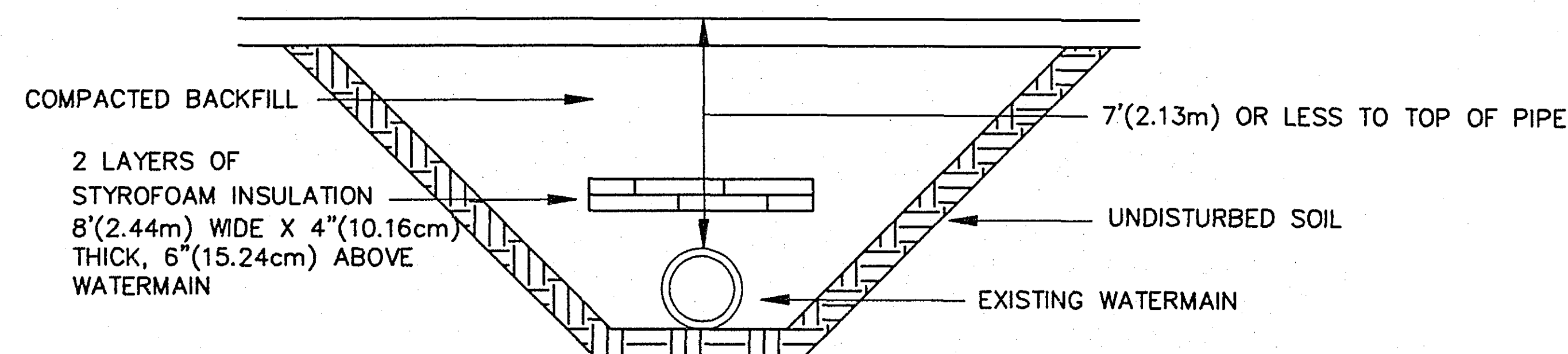
Sheet No. 11 of 36 Sheets



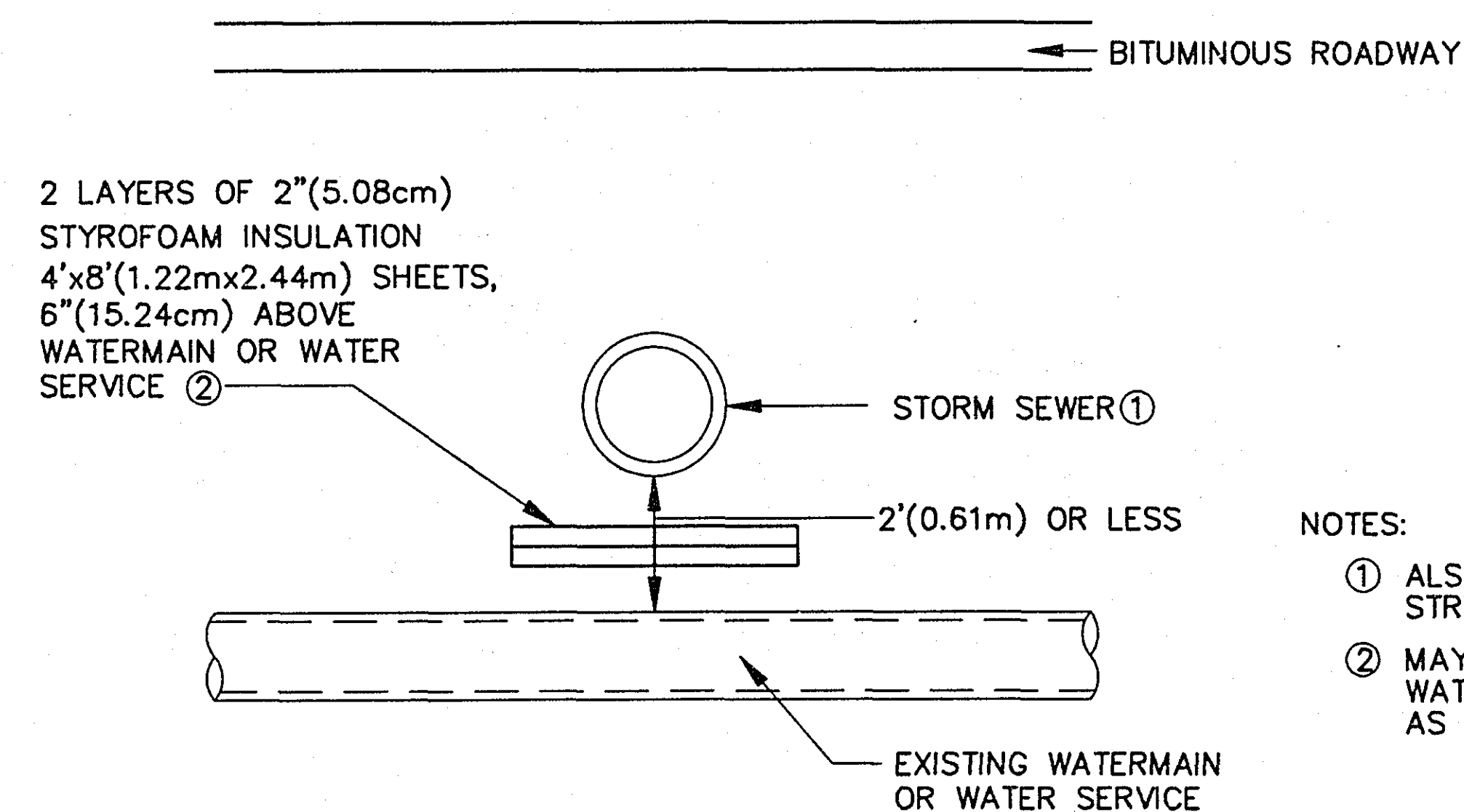
TYPICAL INSTALLATION



INSULATED WATER SERVICE



ROAD SECTION
INSULATED WATERMAIN



STORM SEWER CROSSING

NOTES:

- ① ALSO APPLIES TO STORM SEWER STRUCTURES
- ② MAY REQUIRE INSULATION BELOW WATERMAIN OR WATER SERVICE, AS DIRECTED BY THE ENGINEER.

*AS BUILT
11/10/96 J.B.E*

28-139

WATERMAIN AND SERVICE INSULATION DETAILS

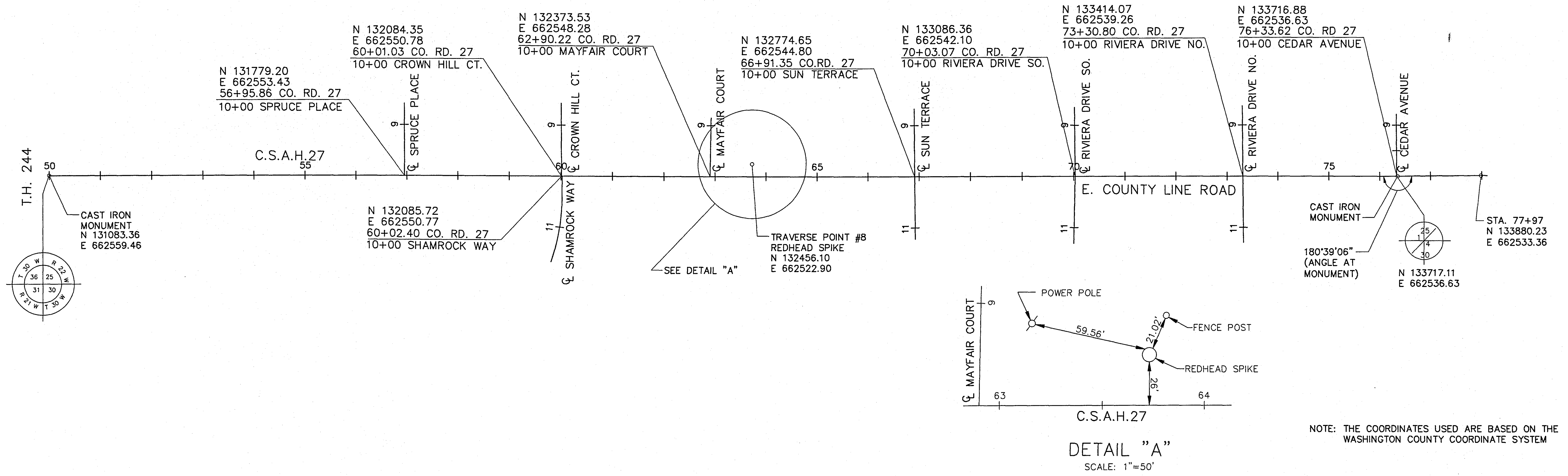
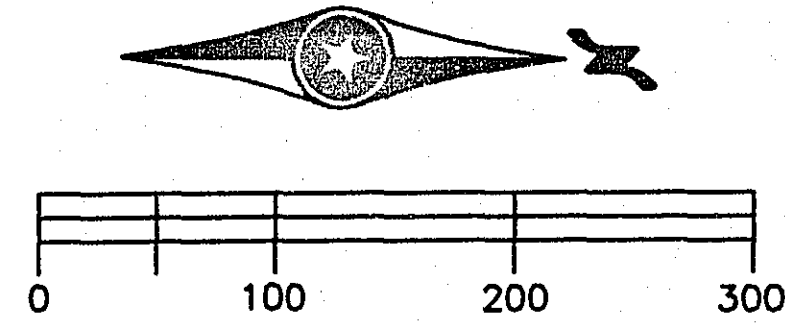
Sheet No.12 of 36 Sheets

CERTIFIED BY *T. A. Chalk*
PROFESSIONAL ENGINEER

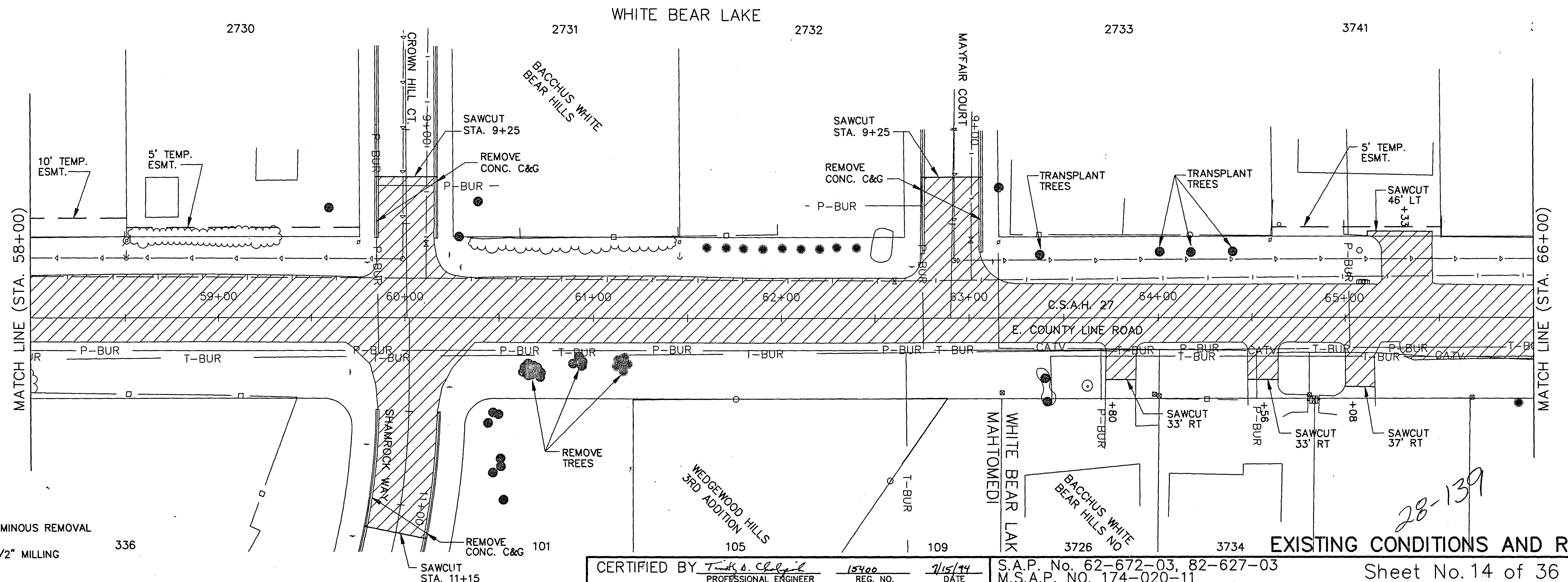
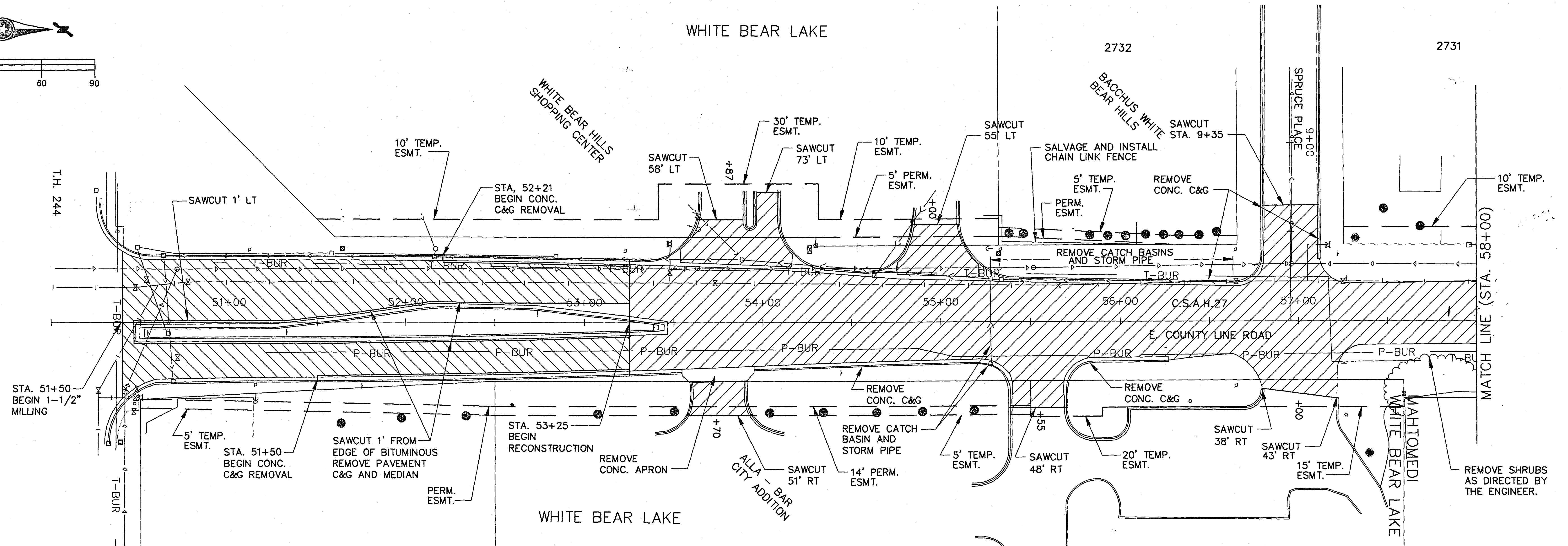
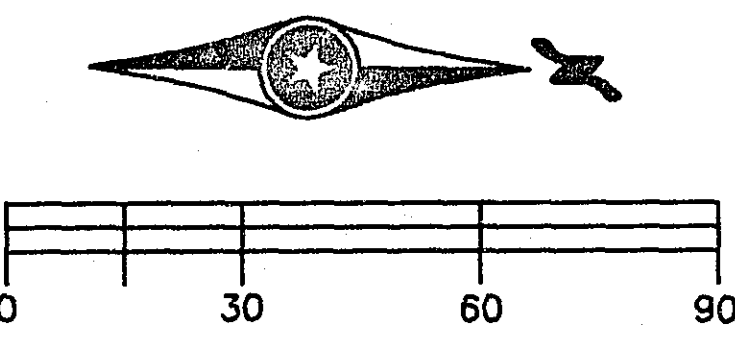
15400
REG. NO.

7/15/84
DATE

S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. NO. 174-020-11



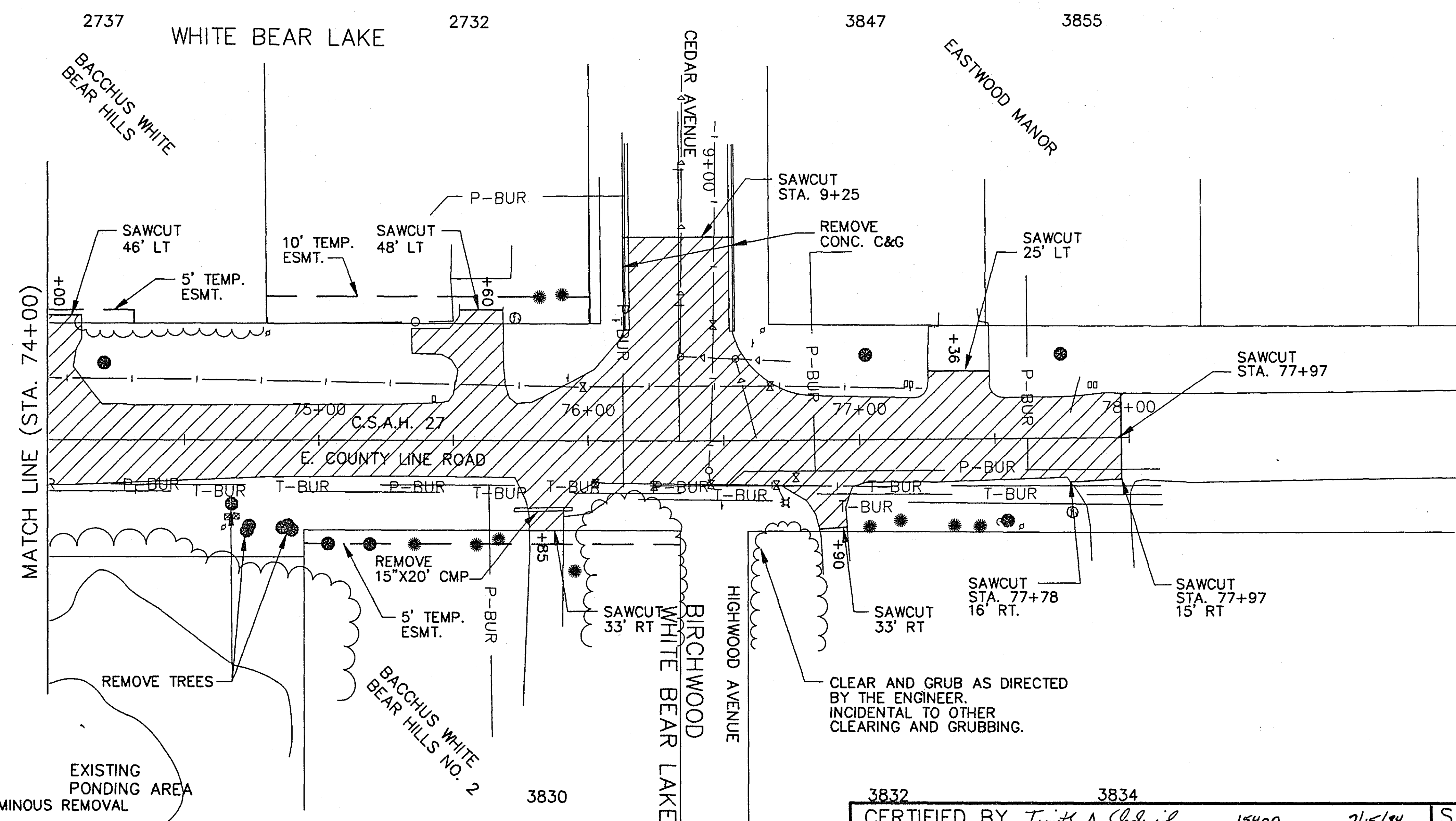
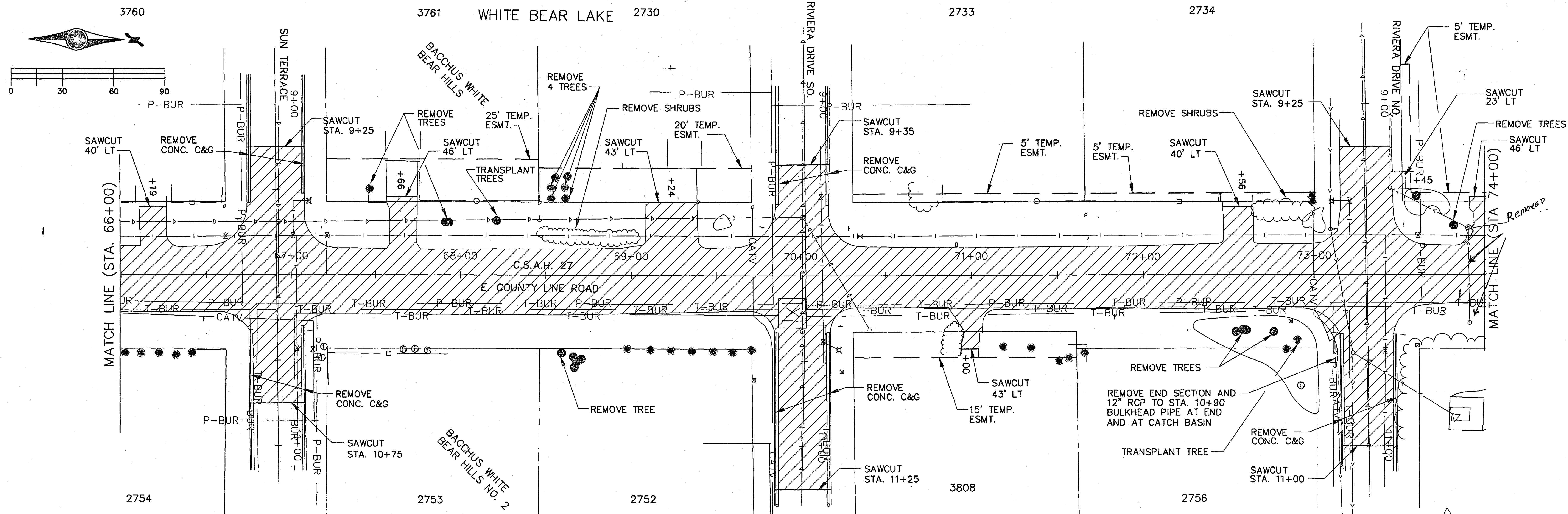
AS BUILT
 IBC
 11/16/96 28-139



LEGEND

BITUMINOUS REMOVAL

1-1/2" MILLING

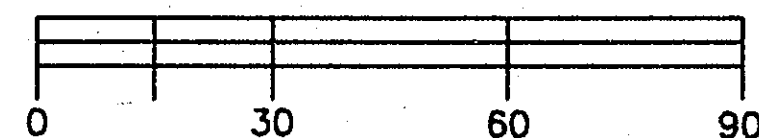


ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *ABC*
DATE: *11/14/95*

EXISTING CONDITIONS AND REMOVALS

Sheet No. 15 of 36 Sheets

3832	3834		E
CERTIFIED BY <u>Timothy A. Chelap</u> PROFESSIONAL ENGINEER		<u>15400</u> REG. NO.	<u>7/15/94</u> DATE
		S.A.P. No. 62-672-03, 82-627-03 M.S.A.P. NO. 174-020-11	



BEGIN M.S.A.P. 174-020-11
STA. 50+40
MATCH EXISTING SIDEWALK

T.H. 244

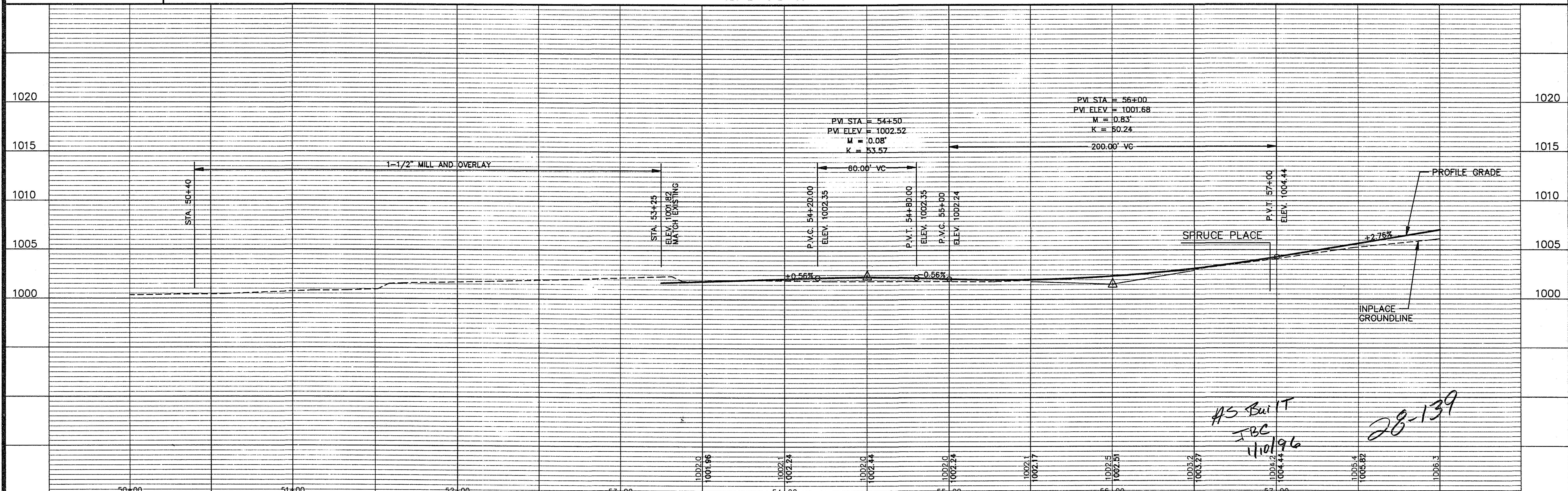
INSTALL 6'X6' LOOP DETECTORS

BEGIN S.A.P. 62-672-03,
S.A.P. 82-627-03
STA. 50+40

INSTALL HANDHOLE

NOTE:
EXACT LOCATION OF LOOP
DETECTORS SHALL BE
DETERMINED BY THE ENGINEER

T.B.M. TOP NUT OF HYDRANT
NW CORNER SPRUCE
PLACE AND C.S.A.H.27
EL. 1006.90



CERTIFIED BY *Timothy A. Alford*
PROFESSIONAL ENGINEER

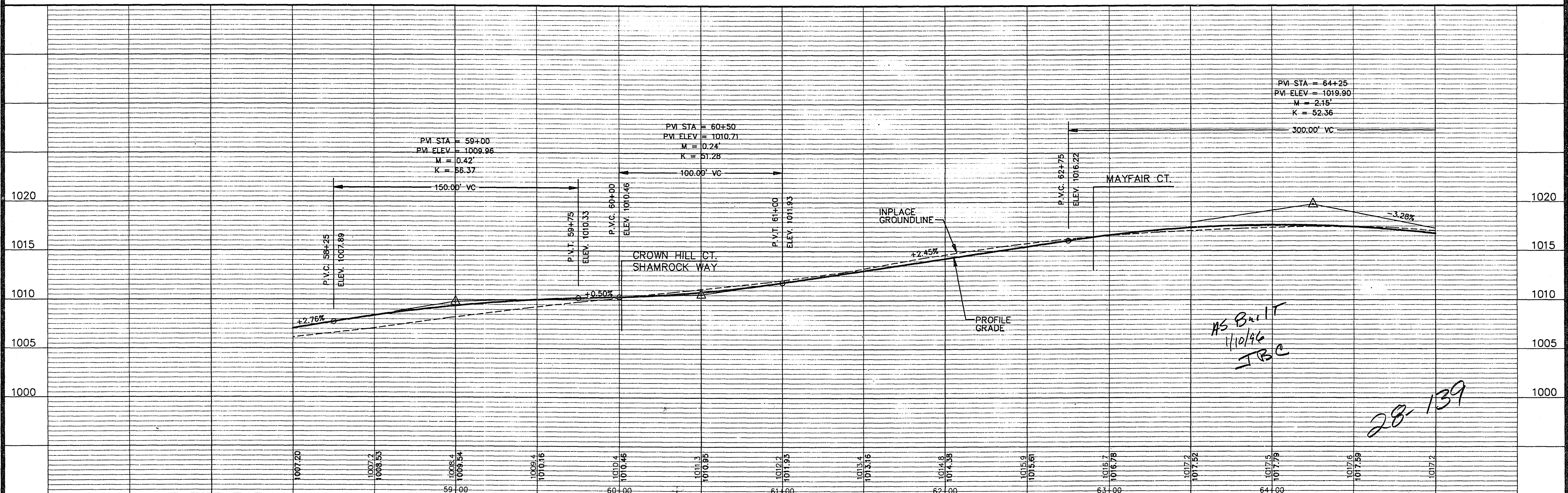
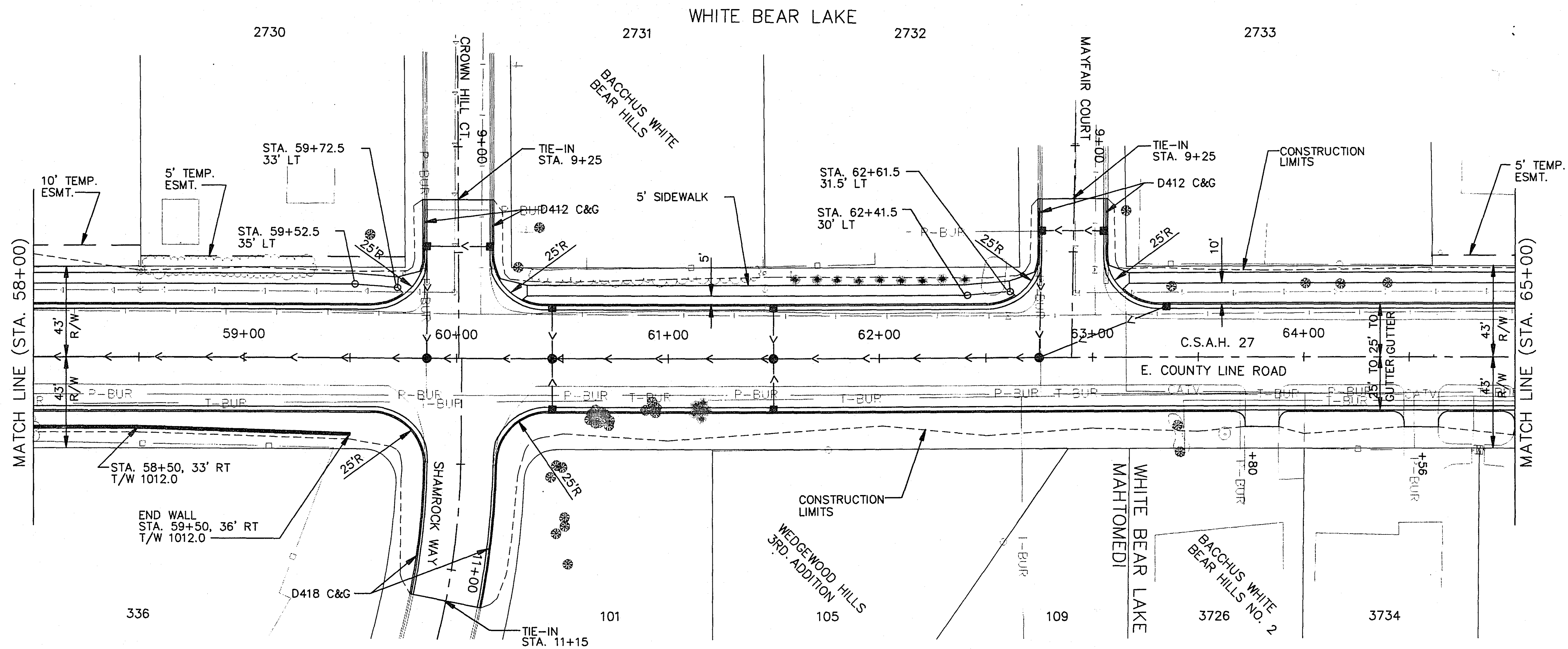
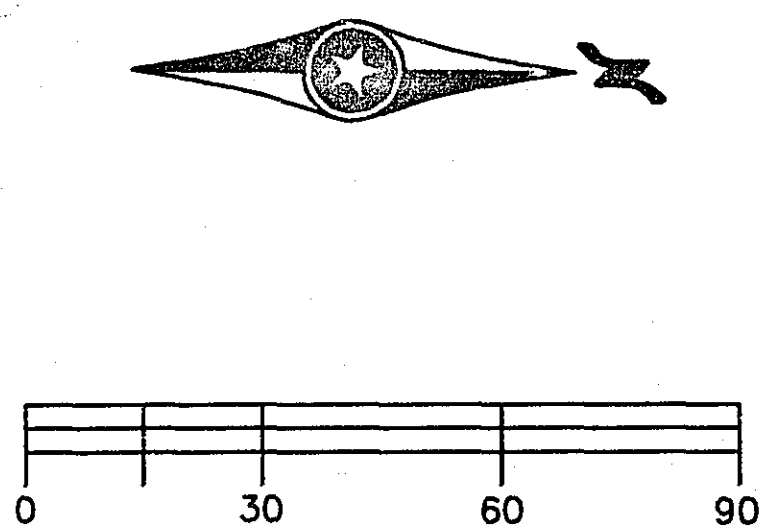
15400
REG. NO. 7/15/94
DATE

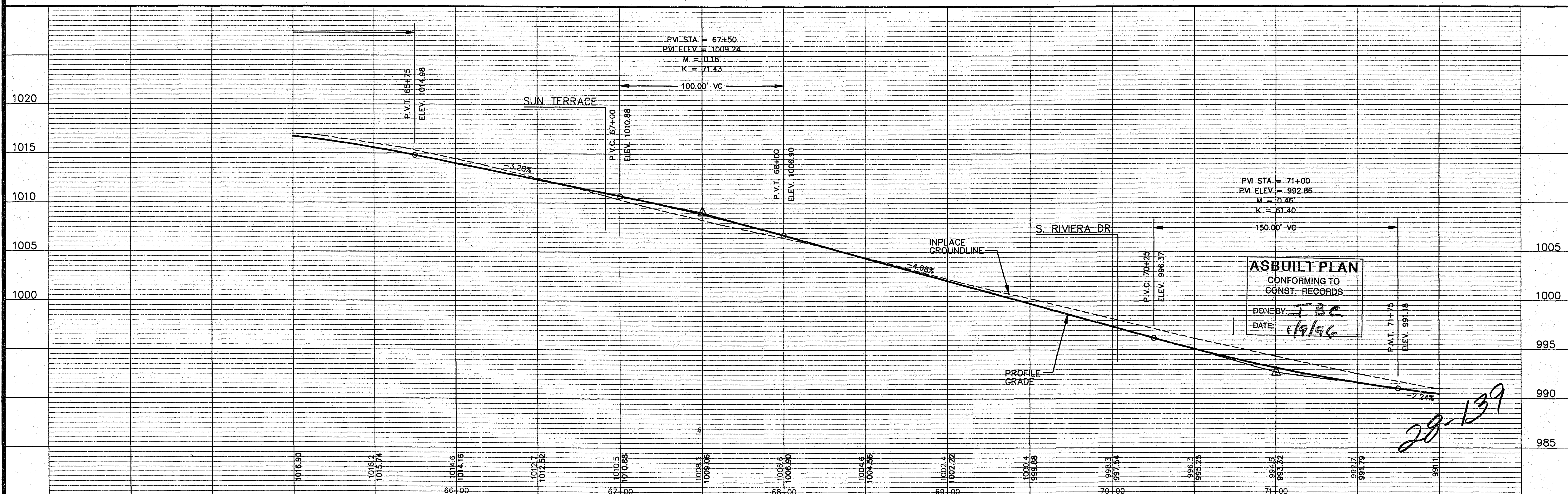
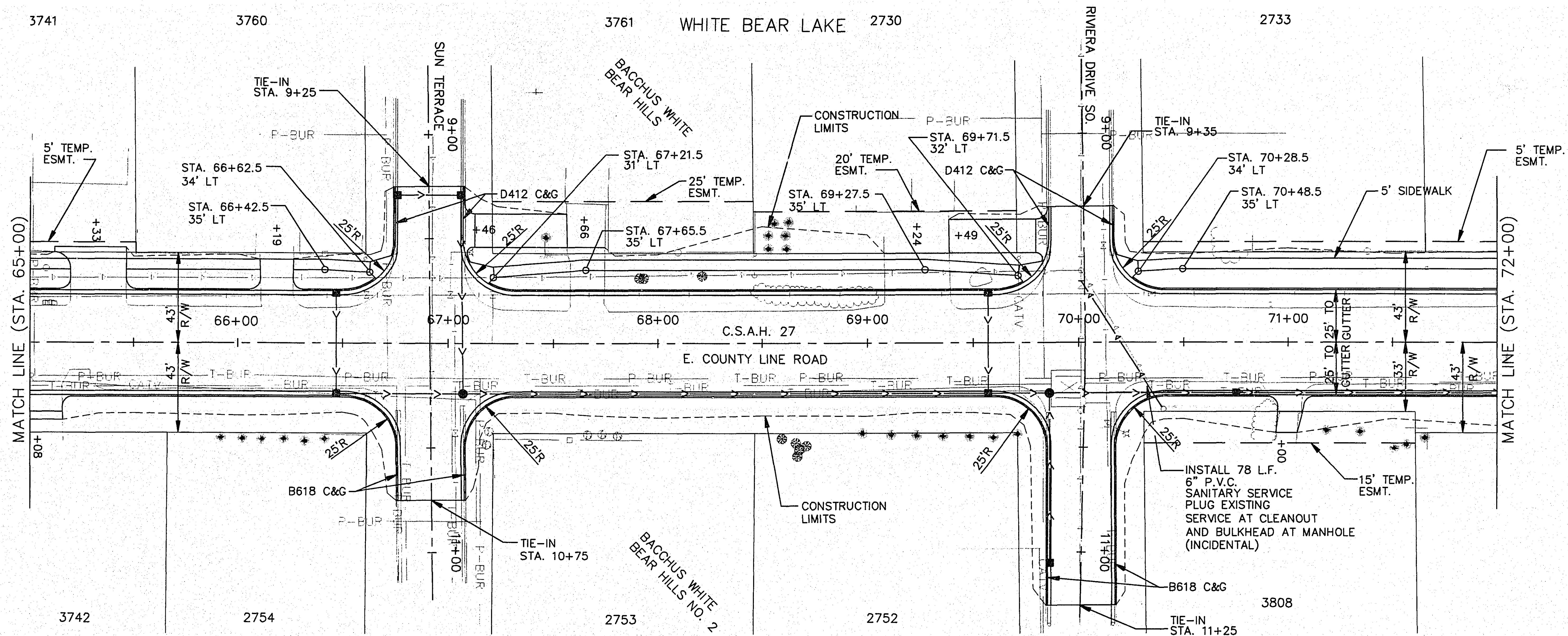
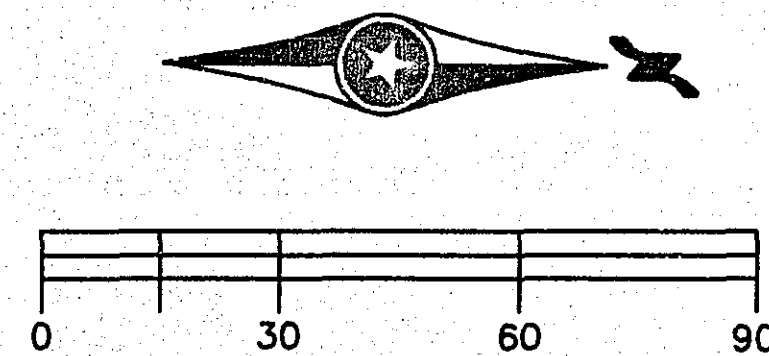
S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. NO. 174-020-11

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#5 Built
IBC
11/10/96

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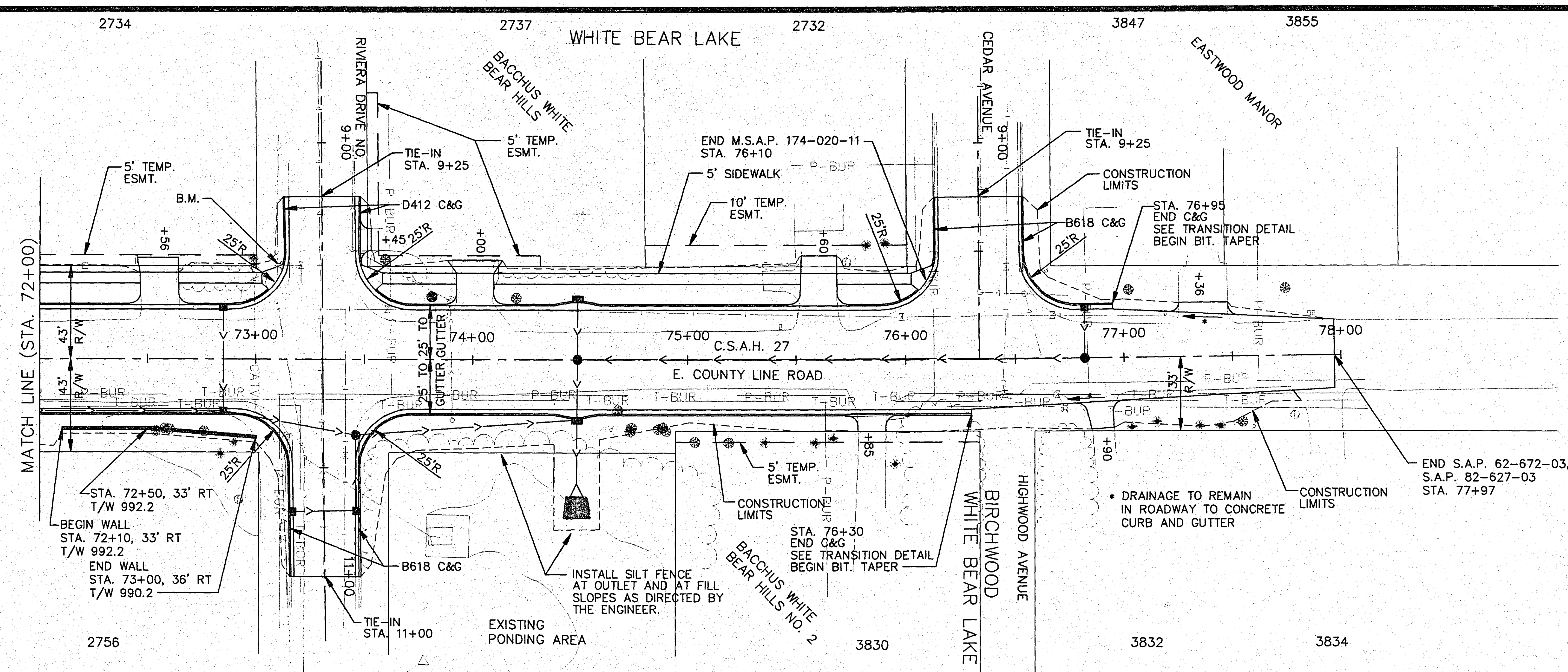
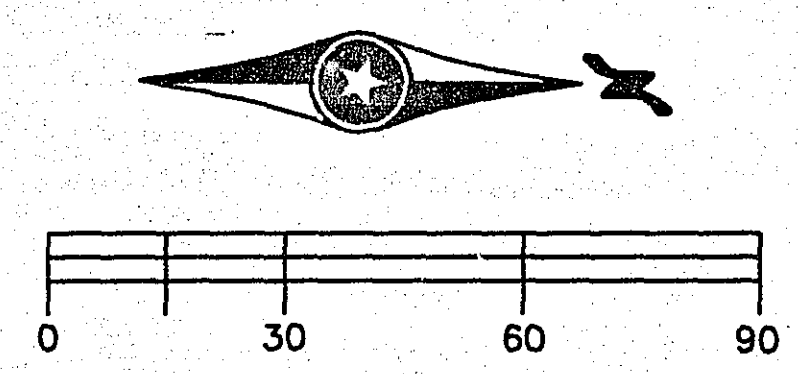
CERTIFIED BY *Timothy S. Calhoun*
PROFESSIONAL ENGINEER

15400
REG. NO.

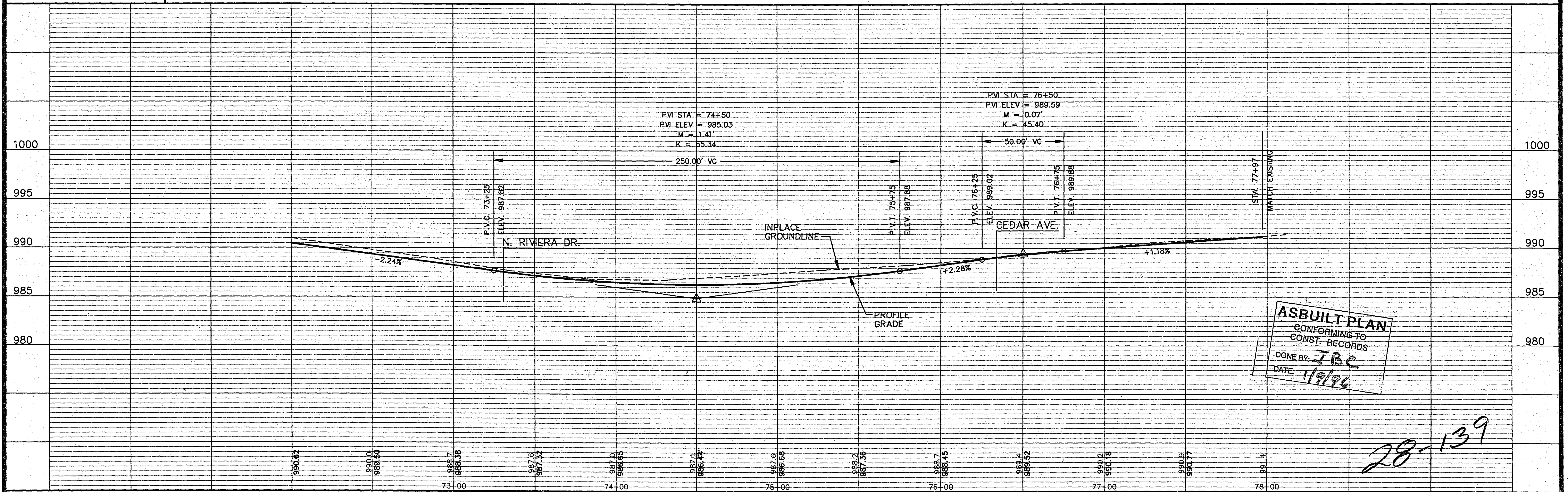
7/15/94
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M.S.A.P. NO. 174-020-11

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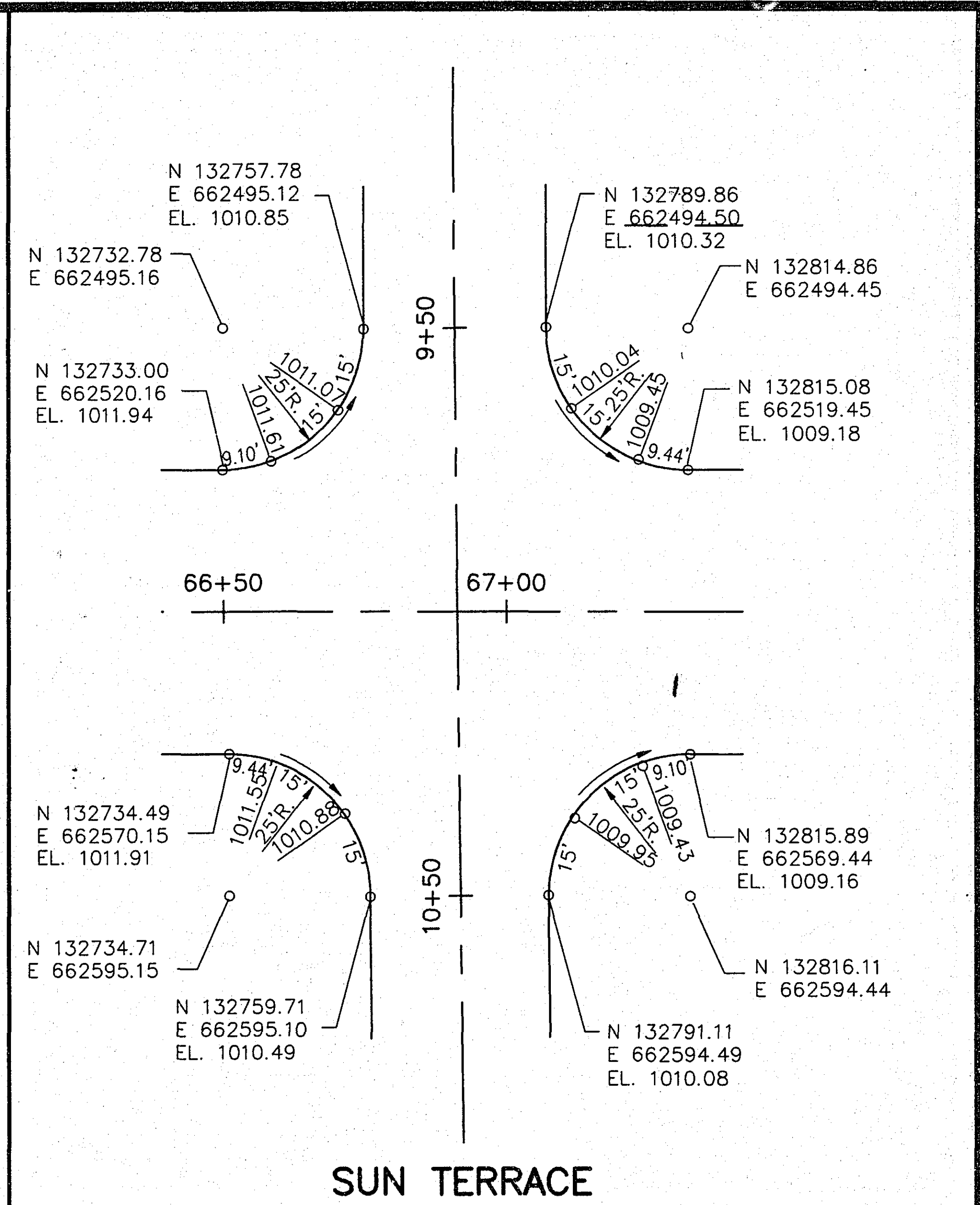
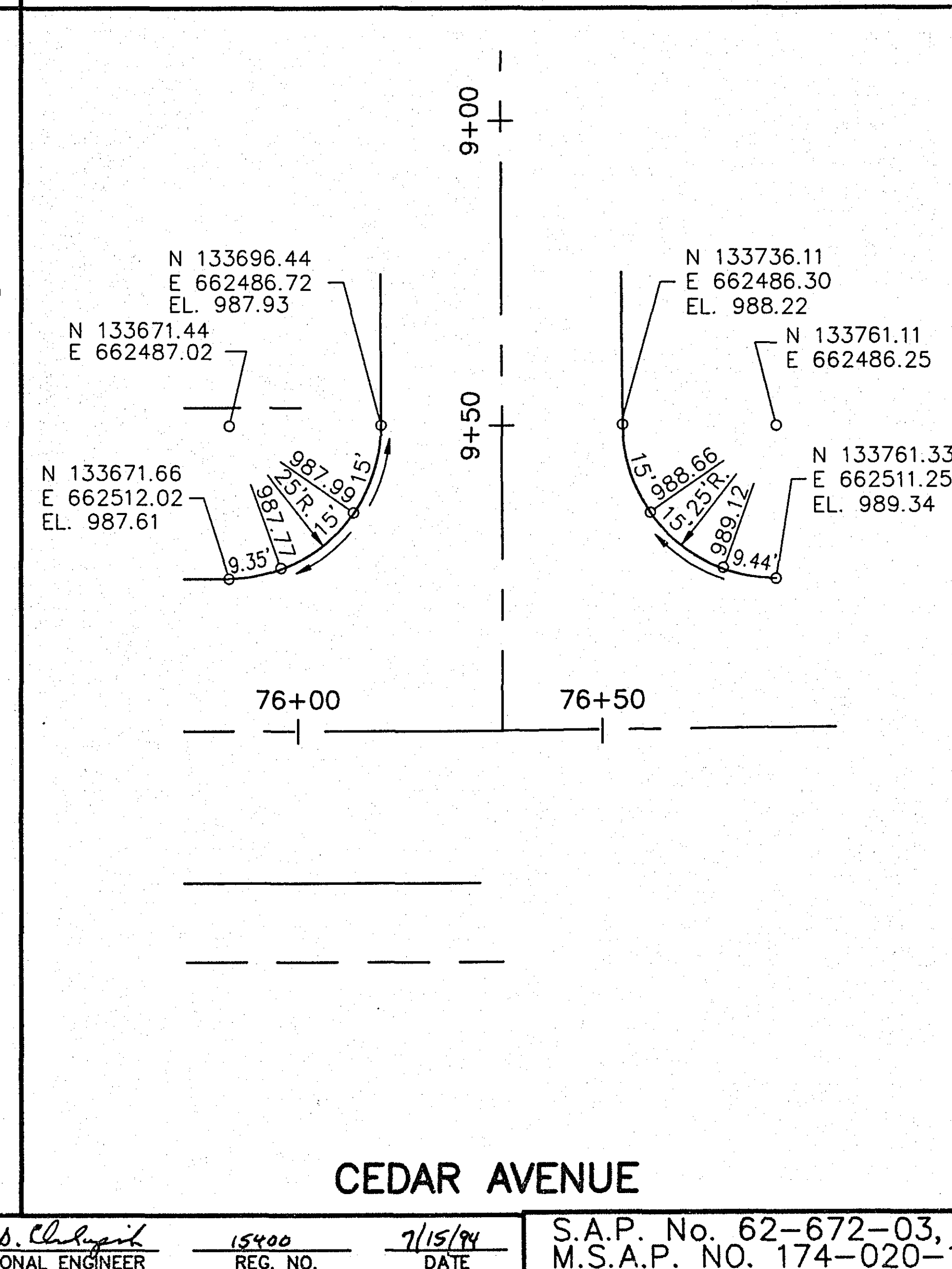
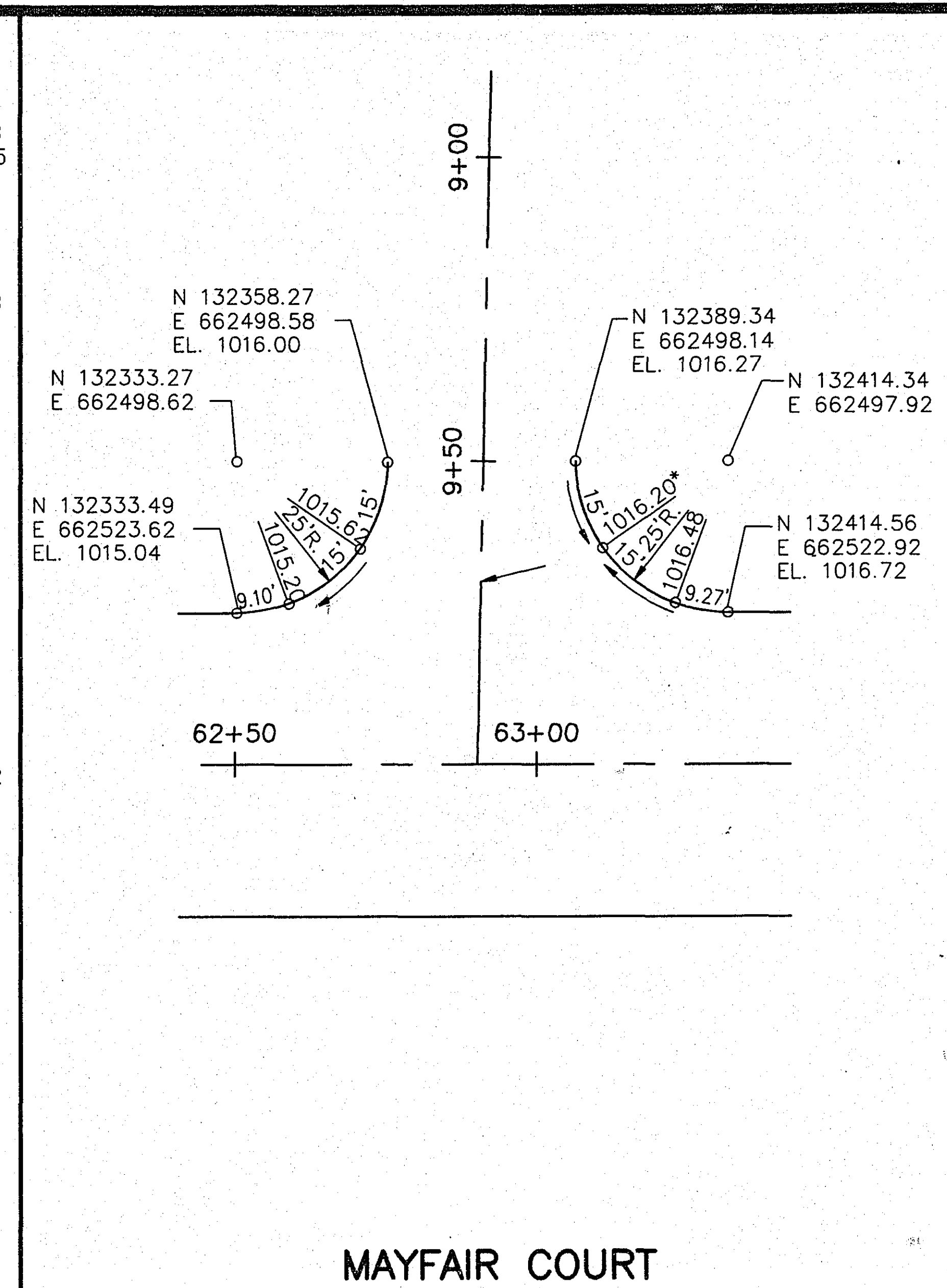
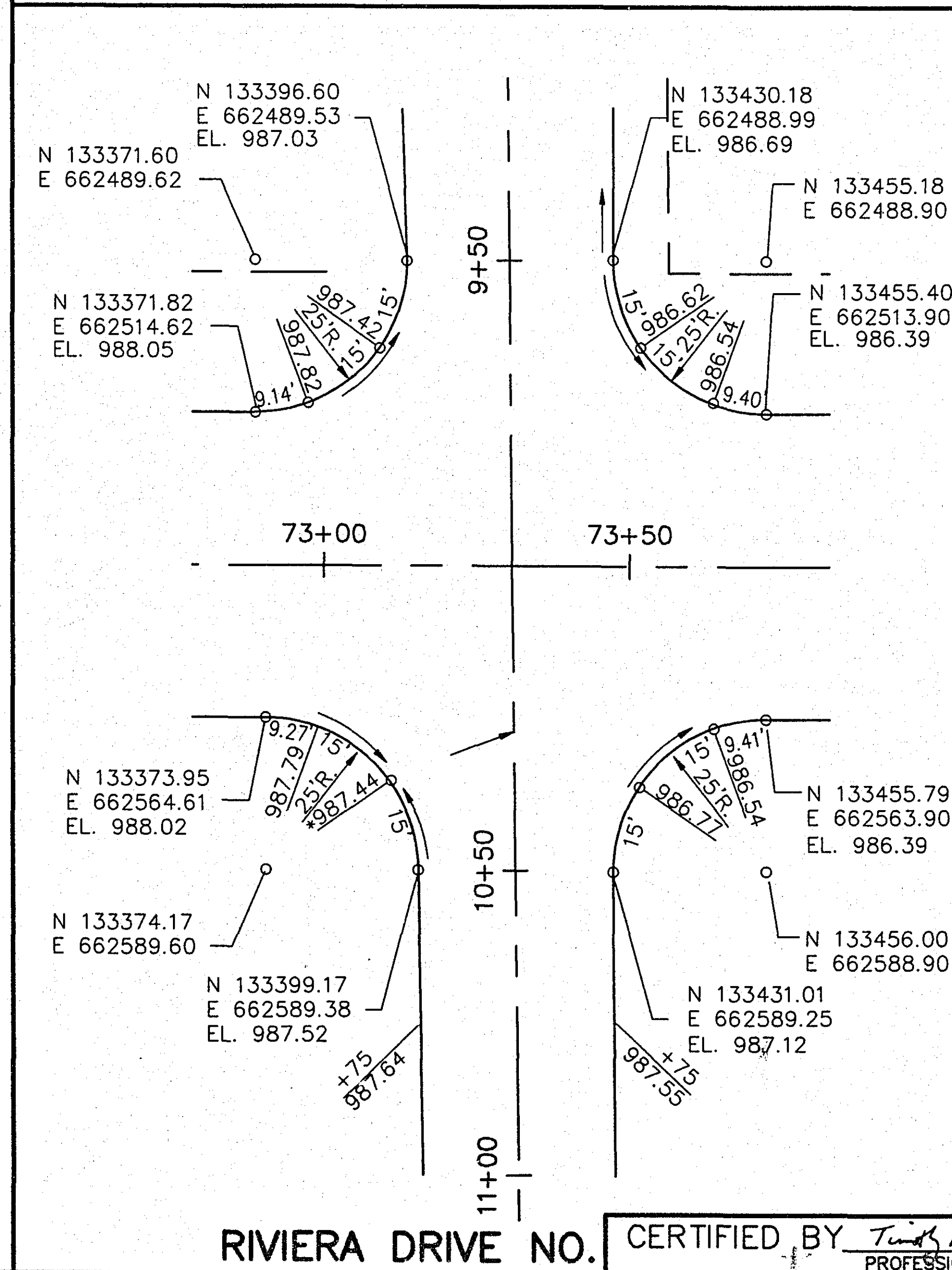
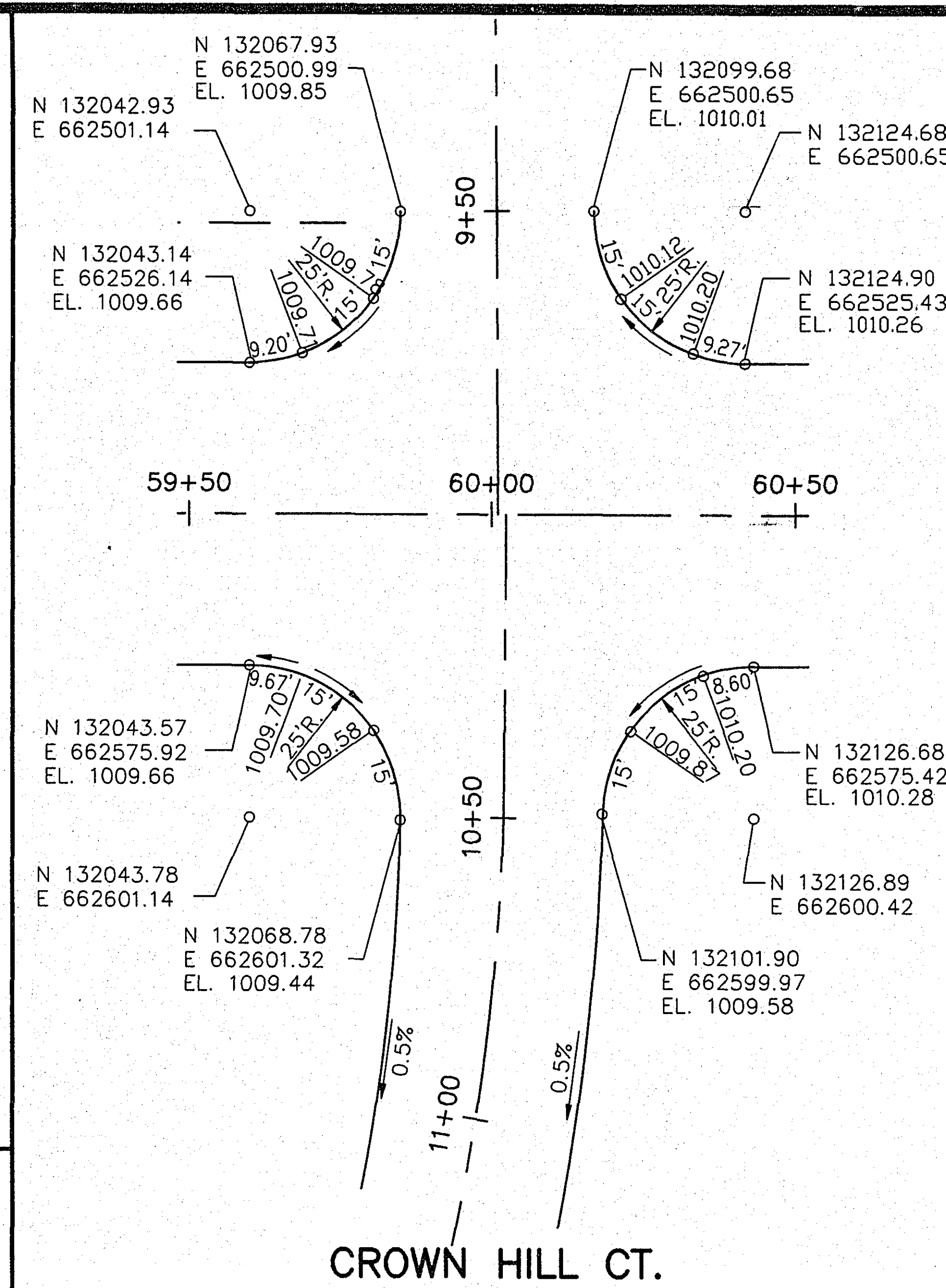
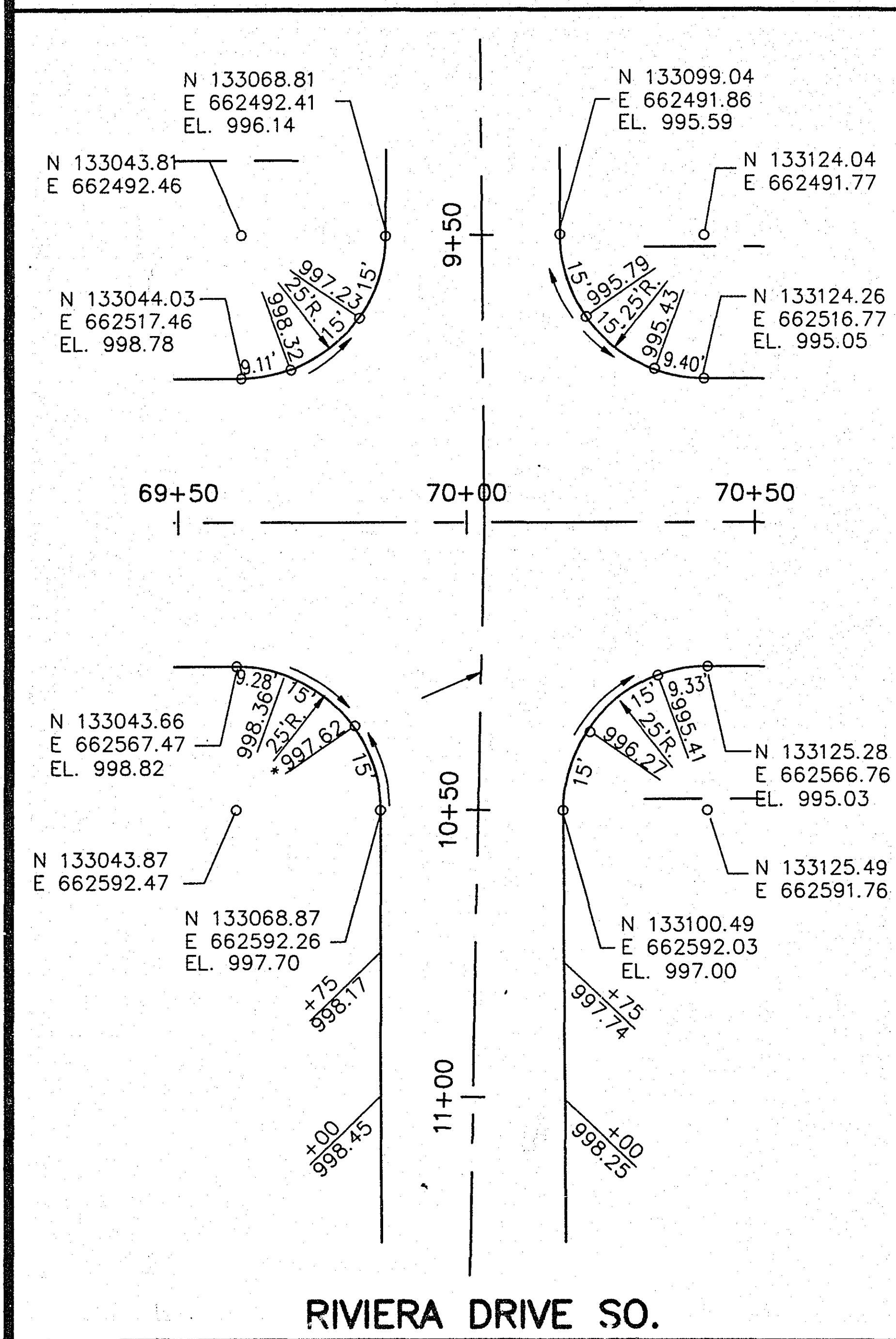
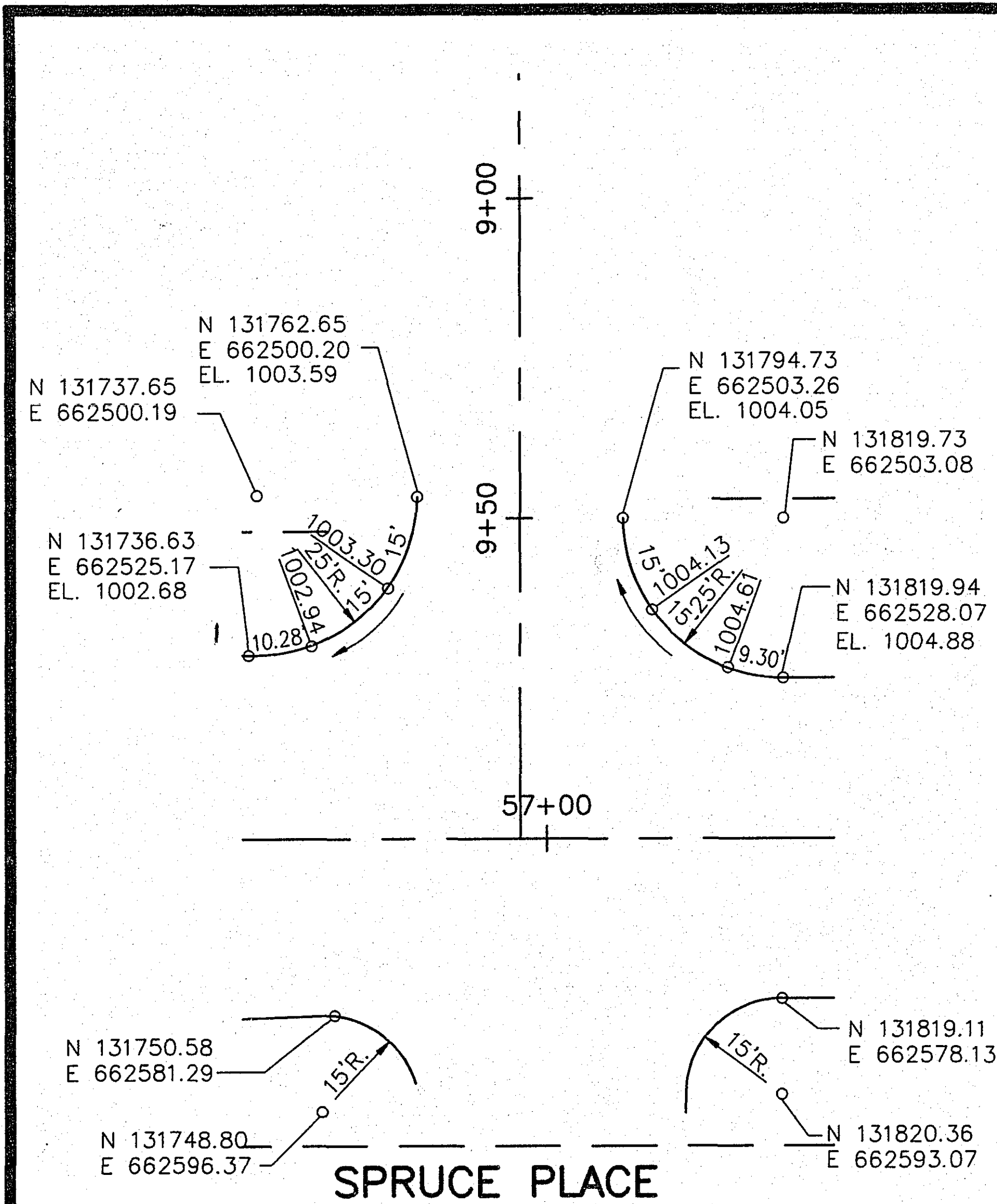


B.M. TOP NUT OF HYDRANT
SW CORNER RIVIERA
DR. NO. AND C.S.A.H.27
EL. 990.37



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: JBC
DATE: 1/9/96

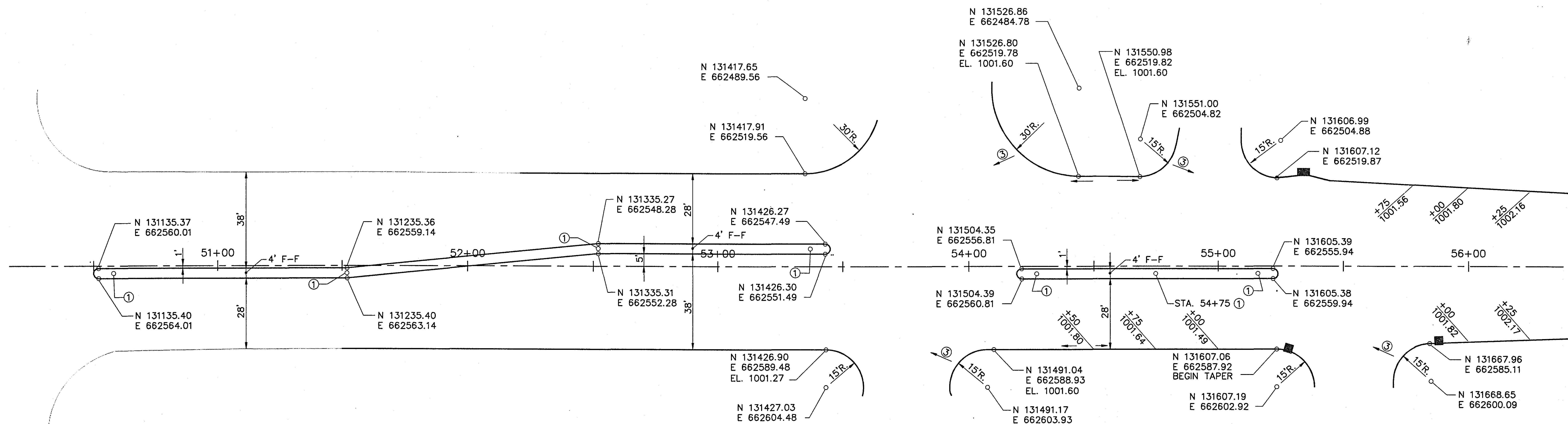
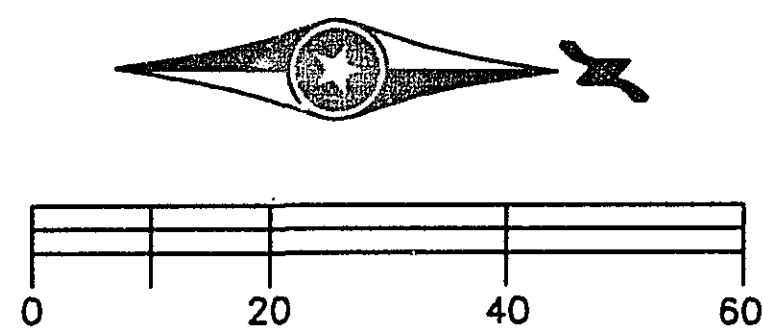
28-139



- NOTES:**
- CONTROL POINTS AND ELEVATIONS SHOWN ARE GUTTER POINTS.
 - (*) - 5' LENGTH OF OUTPUT GUTTER WITH 5' TRANSITIONS.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: **TBC**
DATE: **1/10/96**

28-139



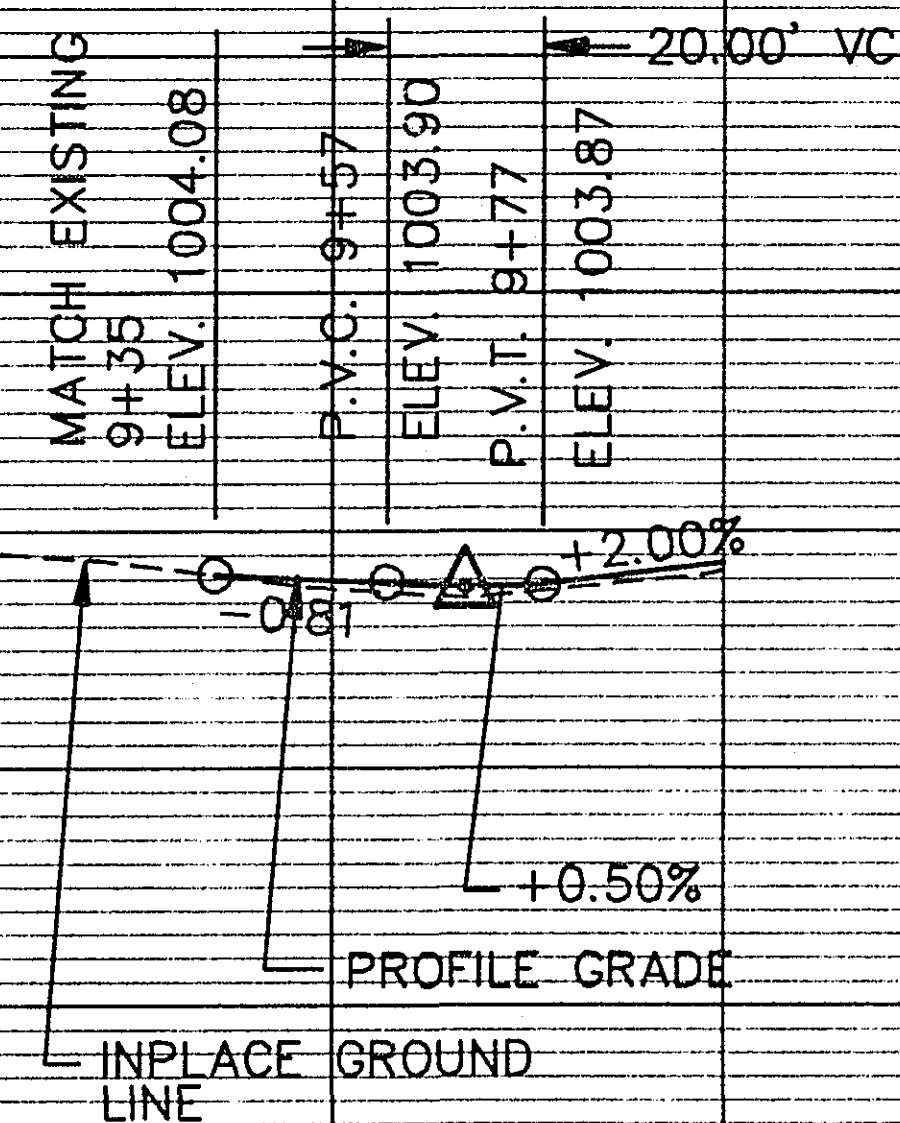
- NOTES:**
- ① SIGN POST OPENING (2"x2" SOCKET FURNISHED BY RAMSEY COUNTY, INSTALLED BY CONTRACTOR)
 - ② CONTROL POINTS SHOWN ARE GUTTER POINTS
 - ③ OUTPUT CURB AND GUTTER

ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: JPC
 DATE: 1/9/94

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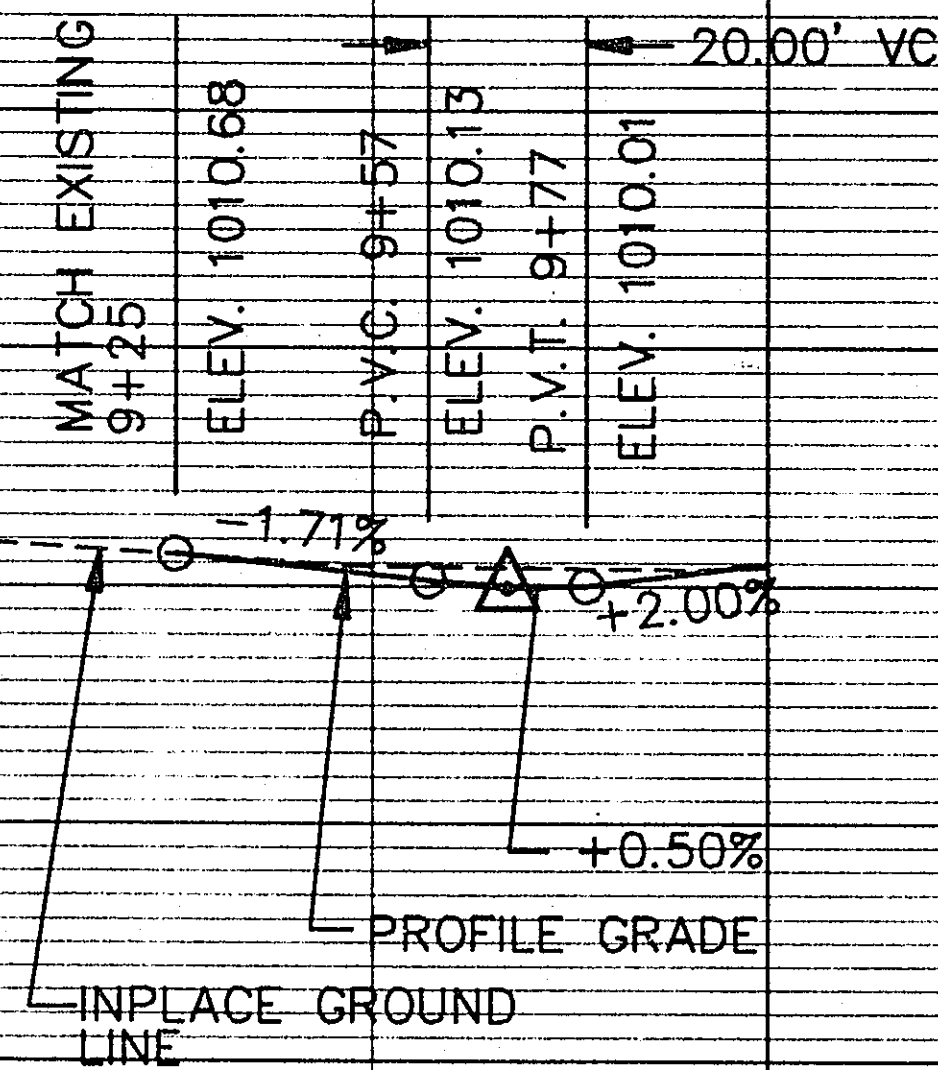
SPRUCE PLACE

PVI STA = 9+67
PVI ELEV = 1003.82



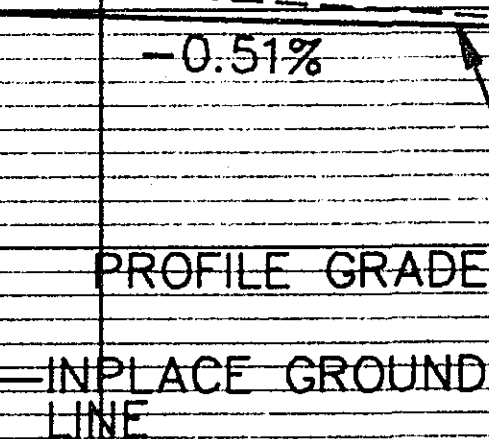
CROWN HILL CT.

PVI STA = 9+67
PVI ELEV = 1009.96



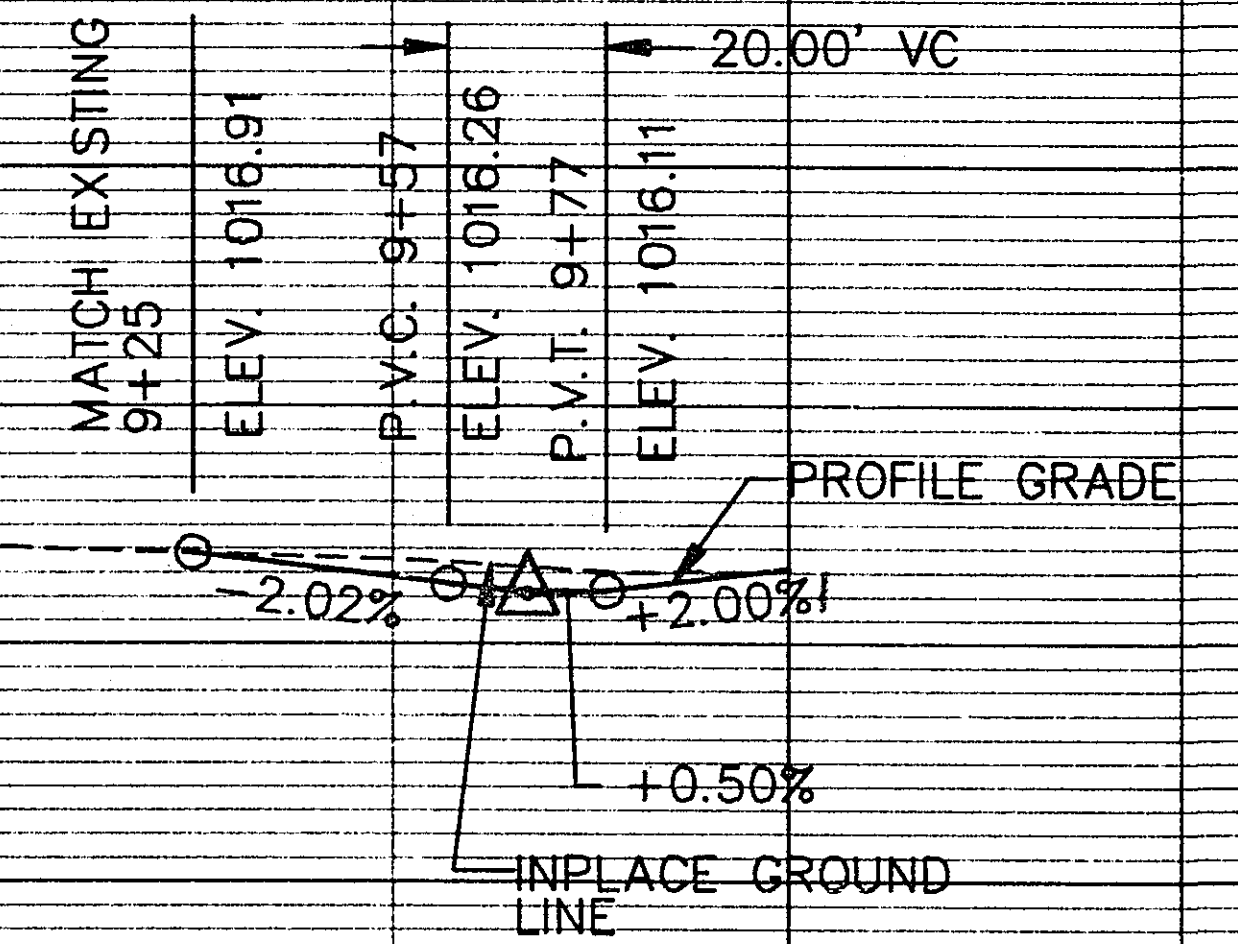
SHAMROCK WAY

PVI STA = 10+25
PVI ELEV = 1010.01

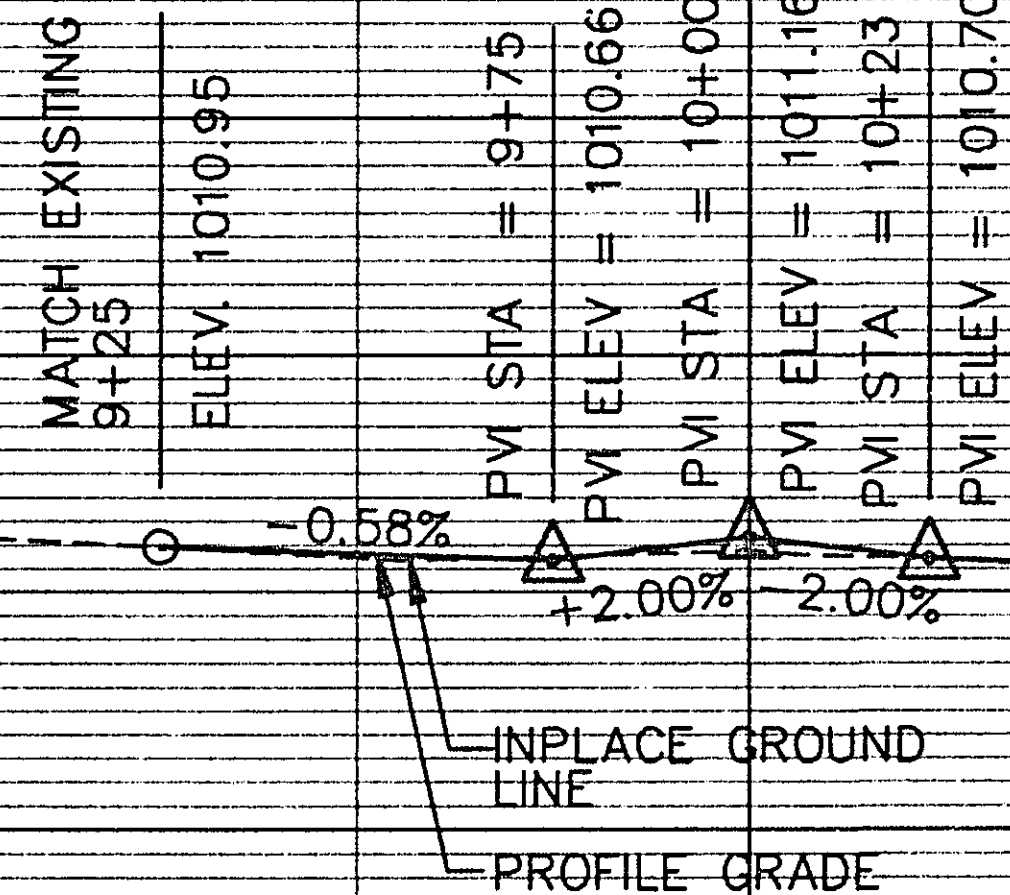


MAYFAIR COURT

PVI STA = 9+67
PVI ELEV = 1016.06

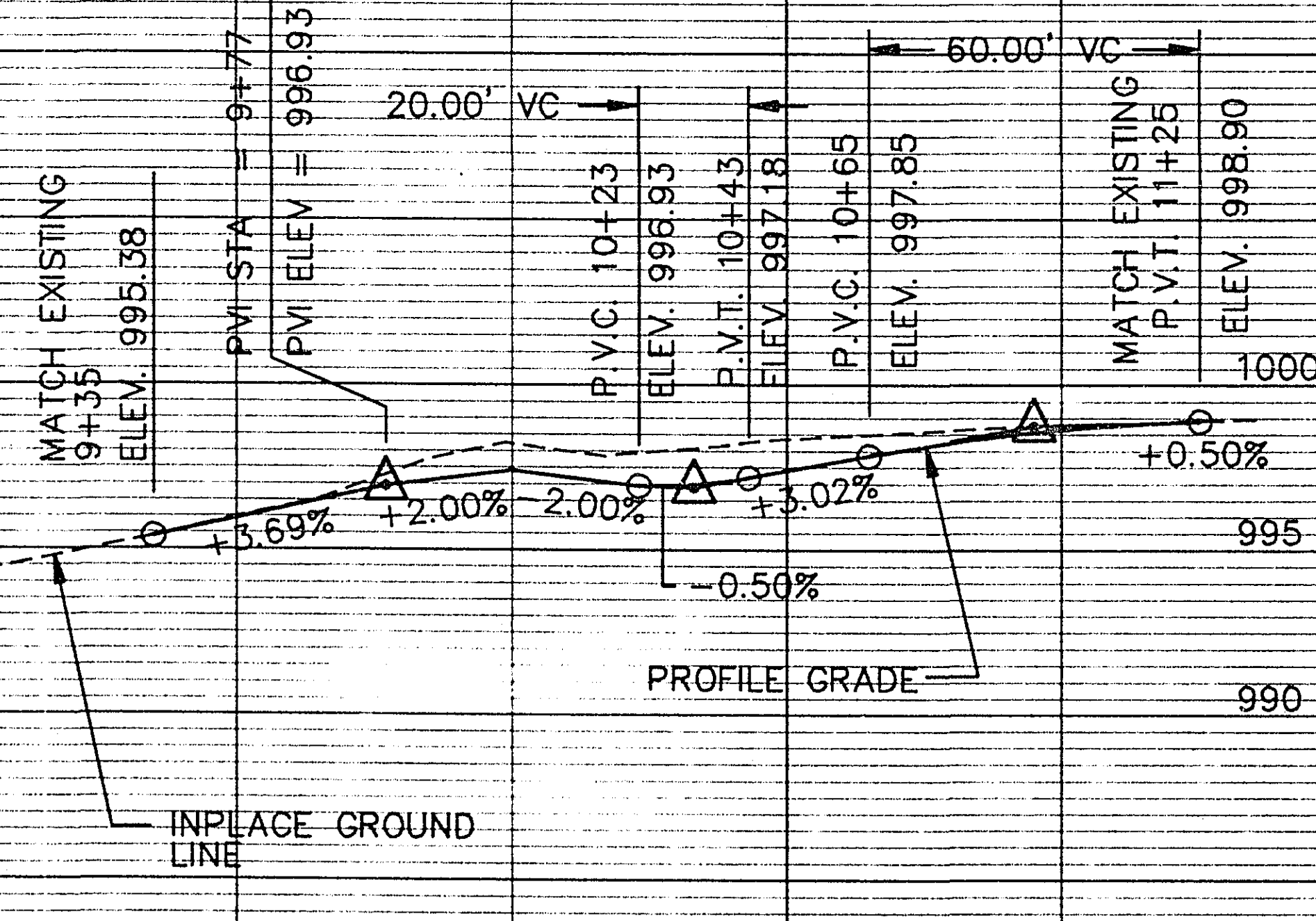


SUN TERRACE



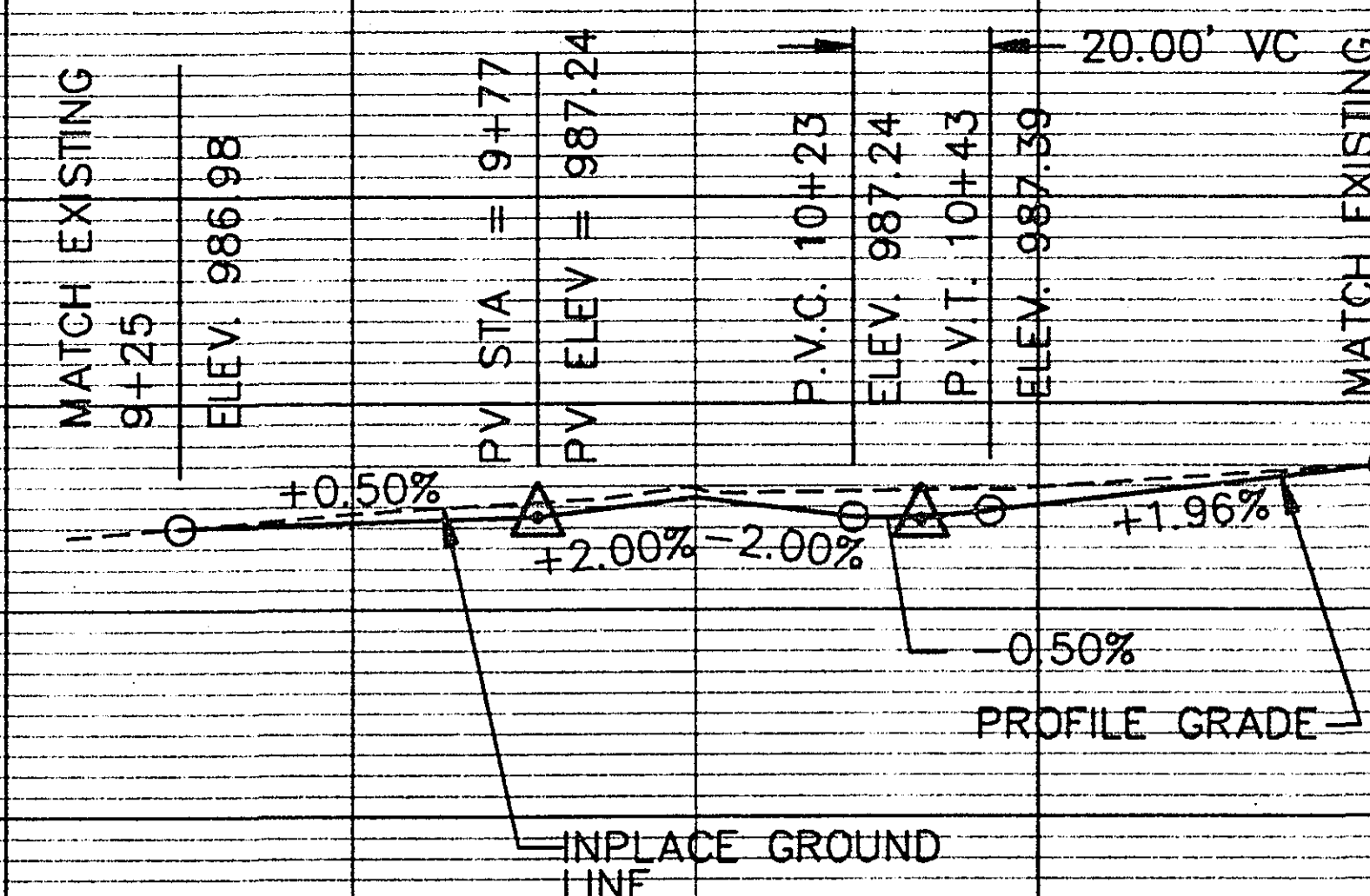
RIVIERA DRIVE SO.

PVI STA = 10+33
PVI ELEV = 996.88
M = 0.09'

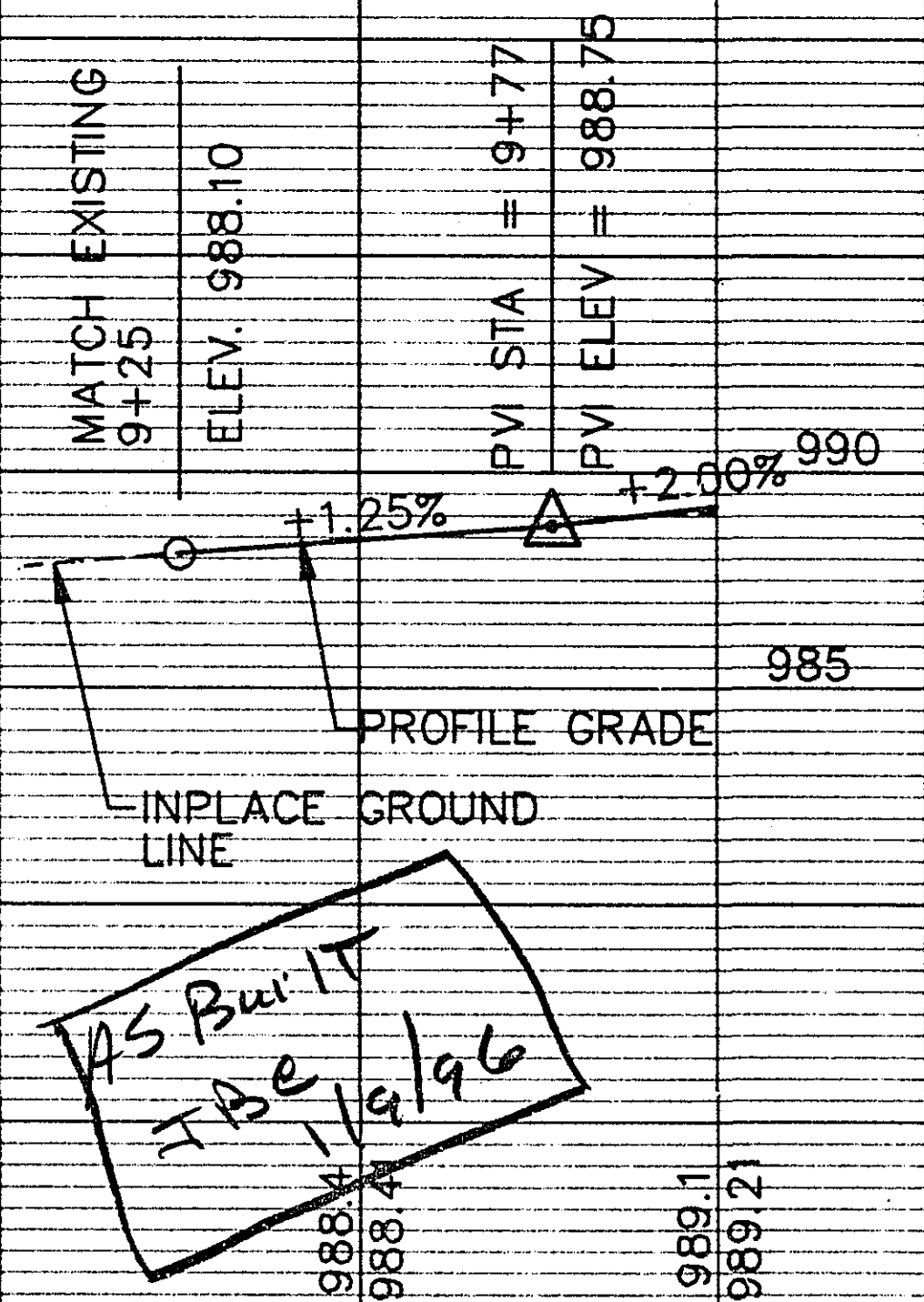


RIVIERA DRIVE NO.

PVI STA = 10+33
PVI ELEV = 987.19
M = 0.06'



CEDAR AVENUE



AS BUILT
JAE
1/9/96

28-139

SIDE STREET PROFILES

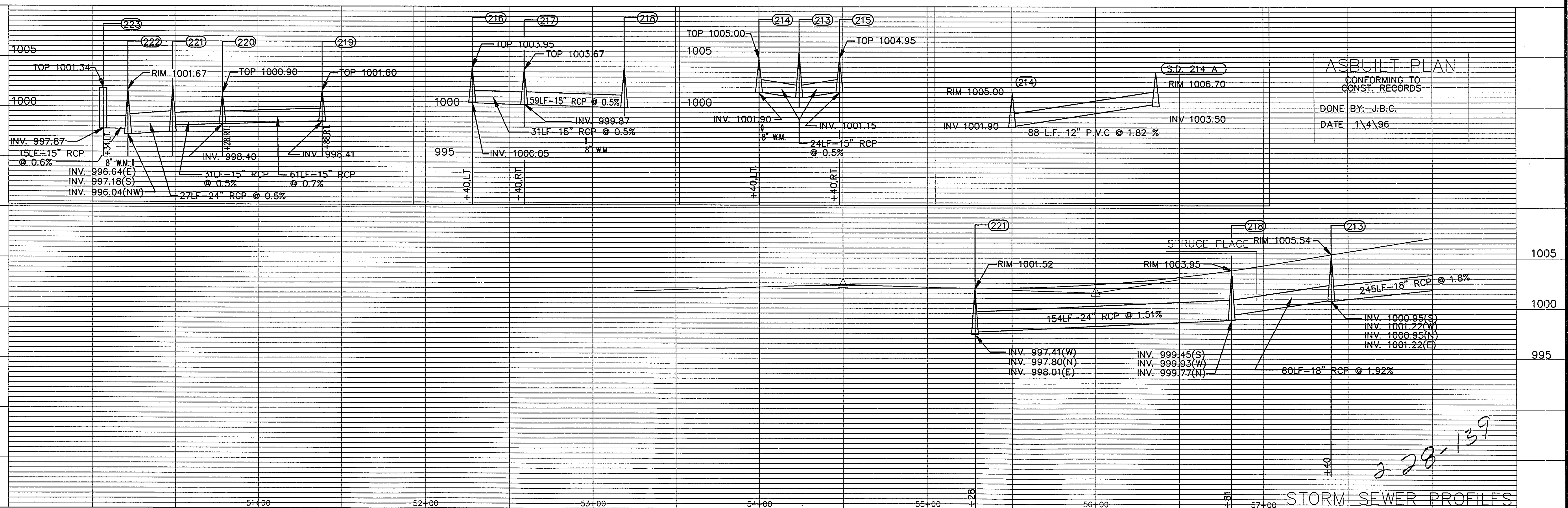
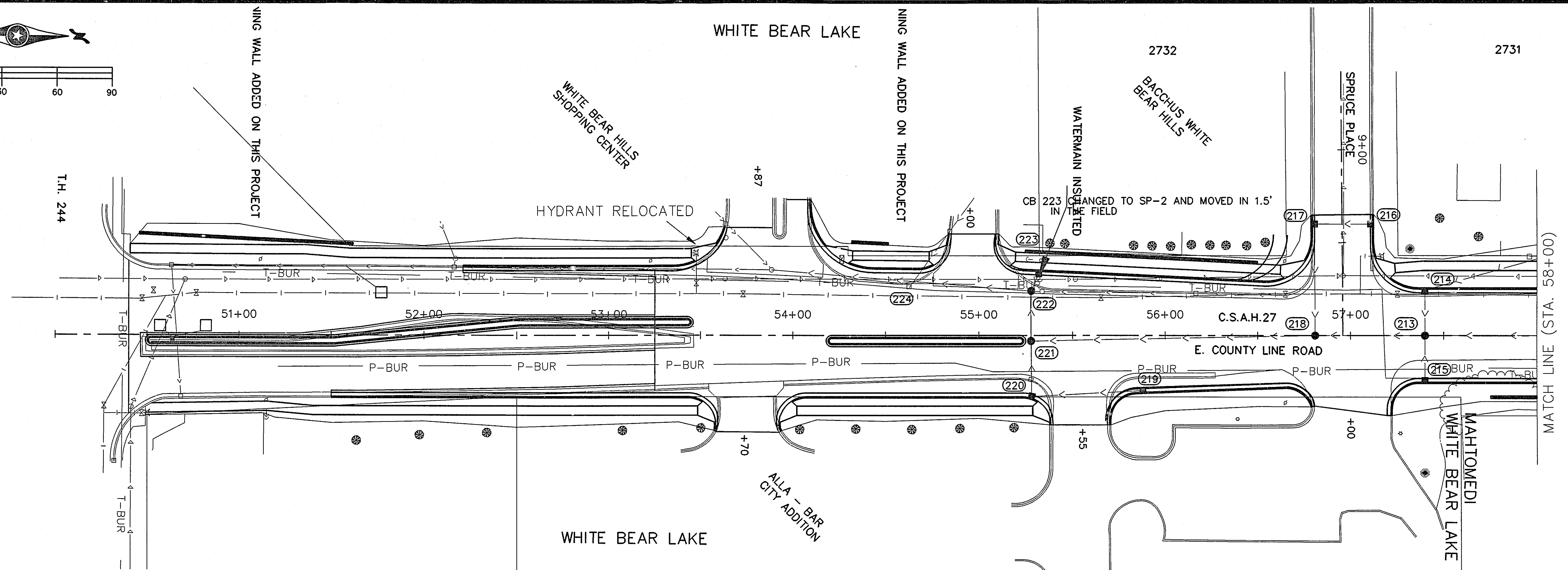
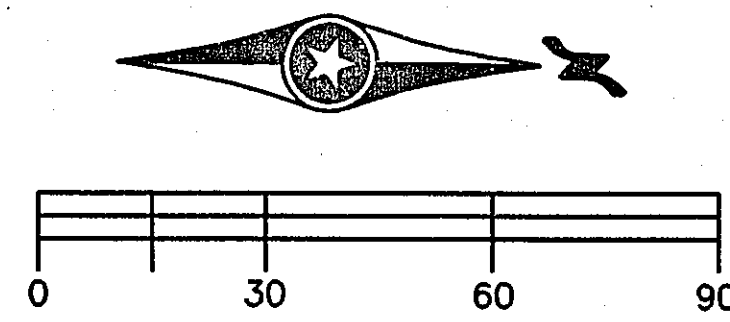
CERTIFIED BY *Timothy B. O'Neil*
PROFESSIONAL ENGINEER

15400
REG. NO.

7/15/11
DATE

S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. No. 174-020-11

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ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: J.B.C.
DATE 1/4/96

228-139

STORM SEWER PROFILES

CERTIFIED BY

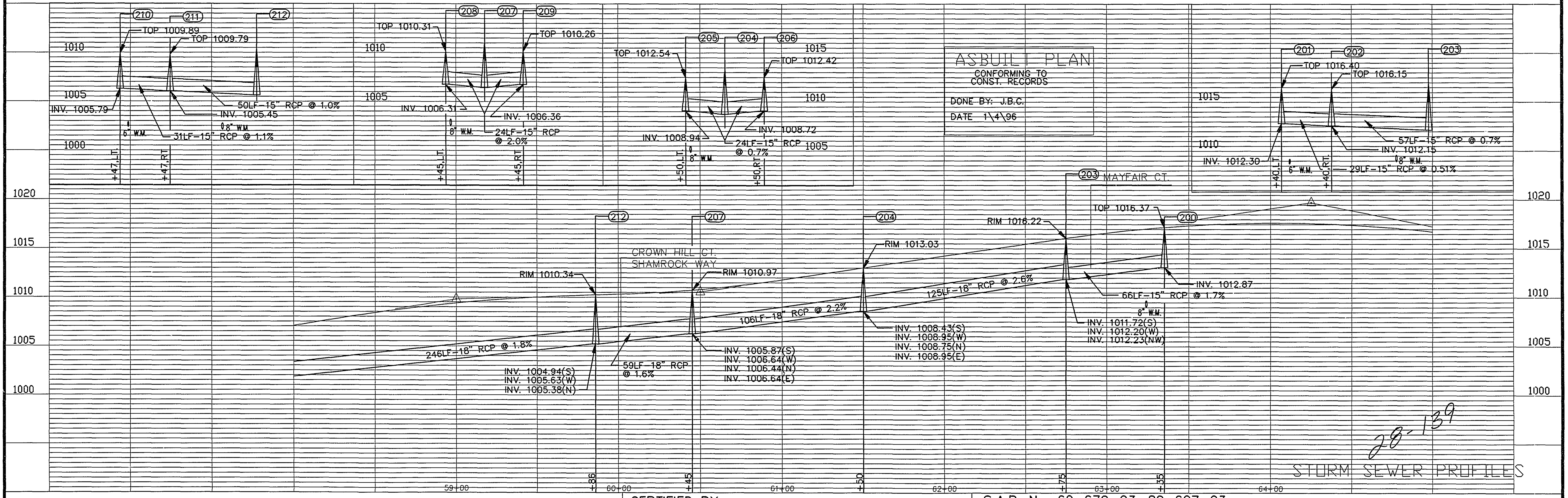
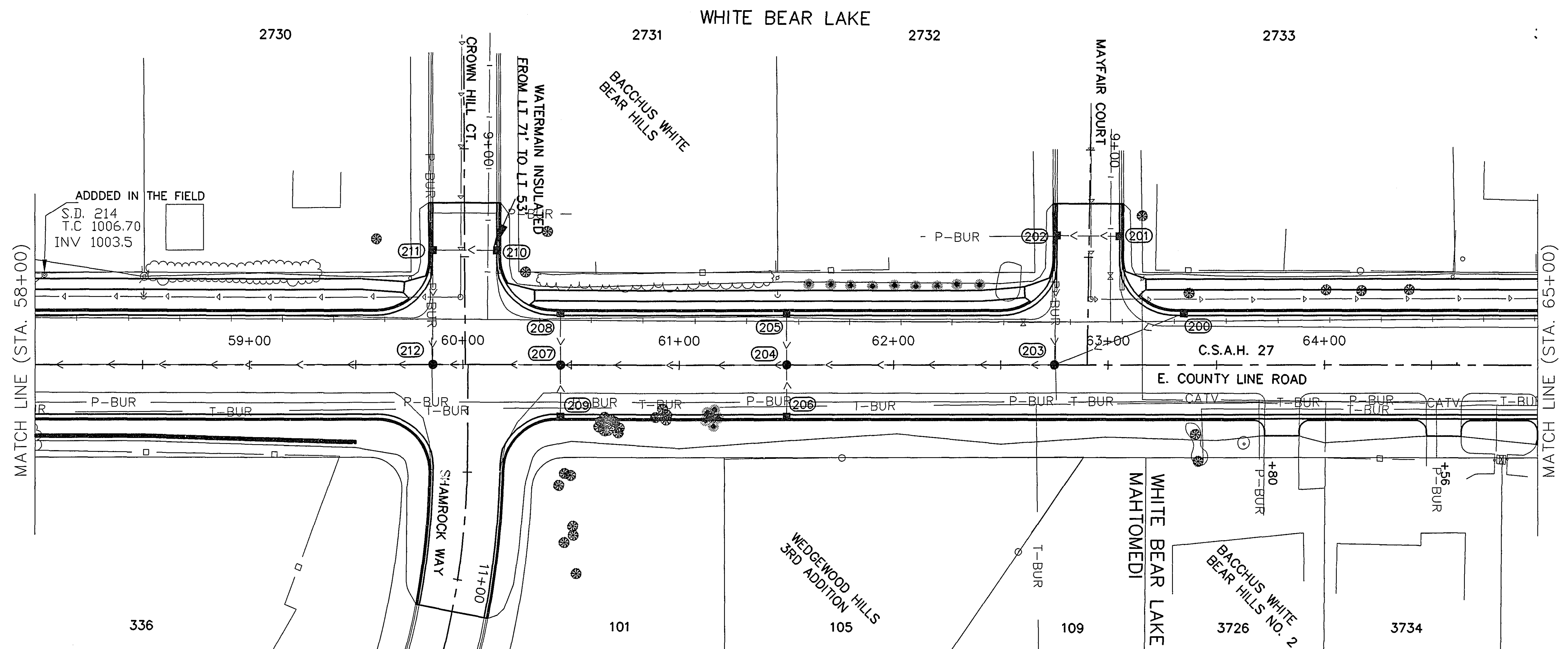
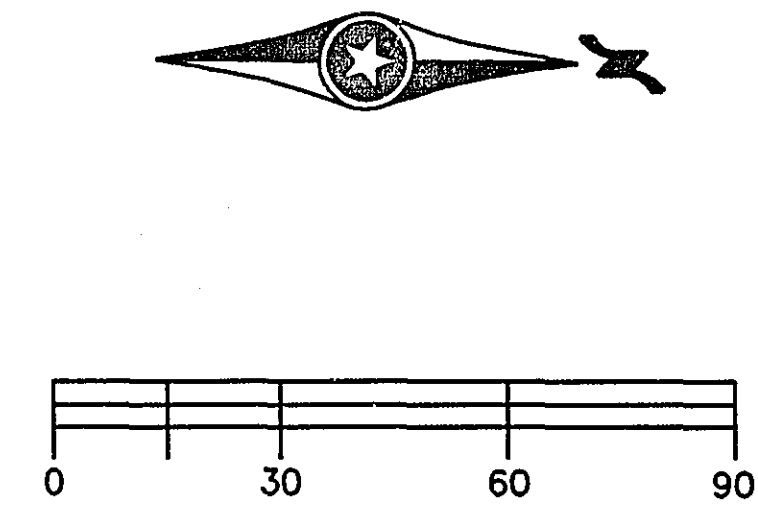
PROFESSIONAL ENGINEER

REG. NO.

DATE

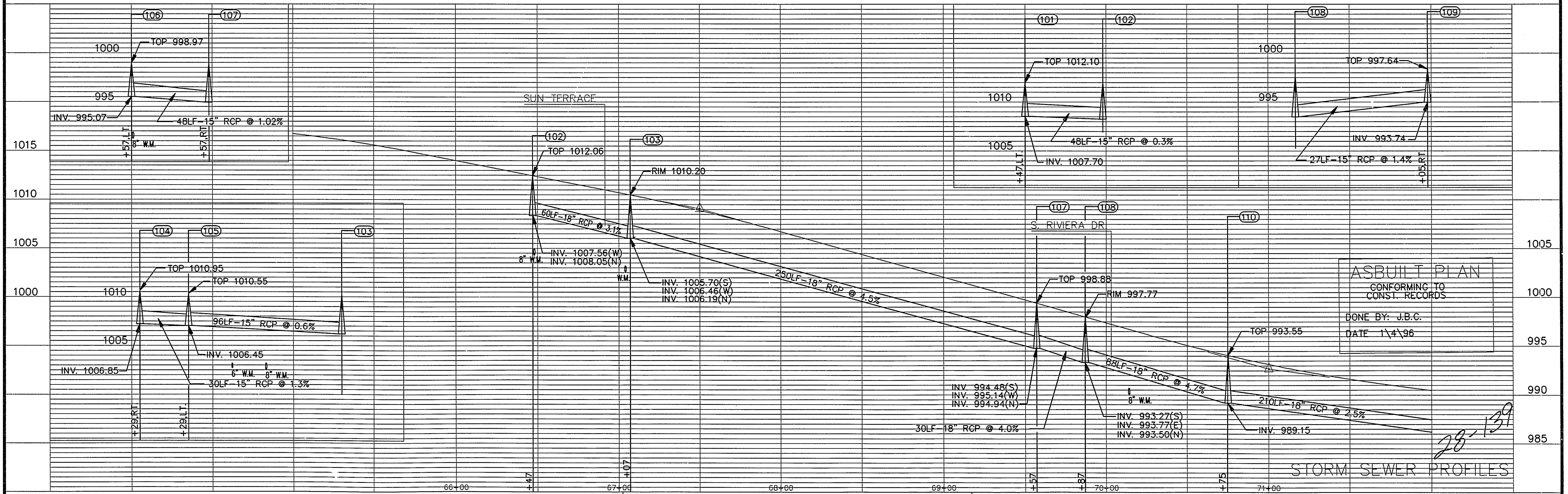
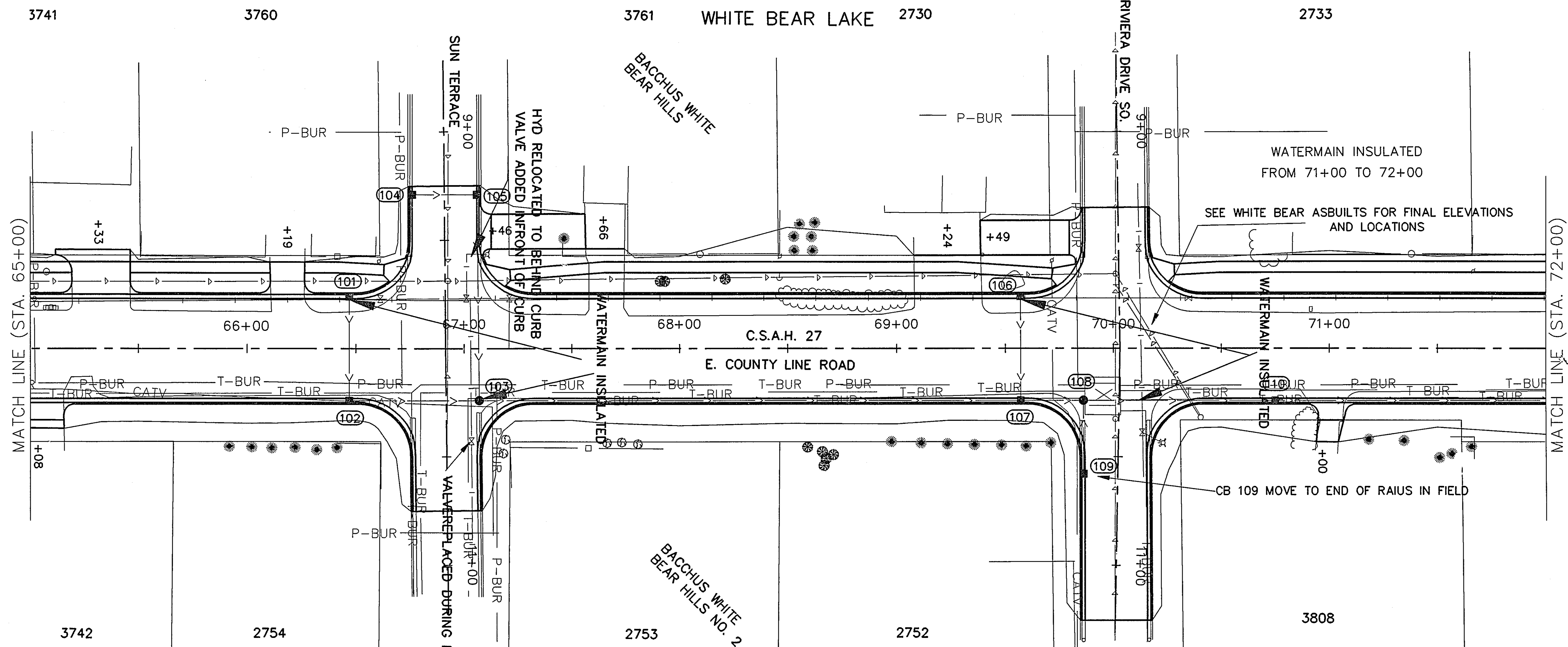
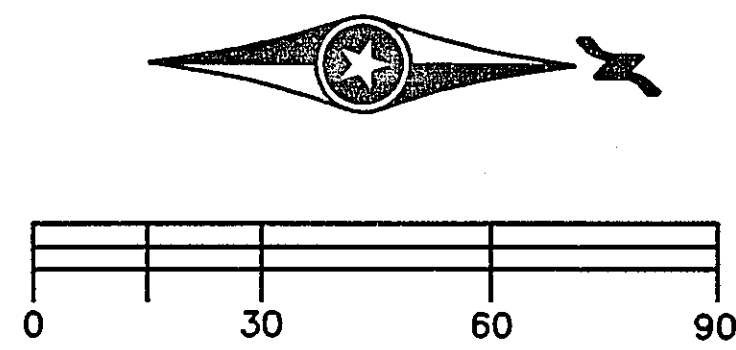
S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. NO. 174-020-11

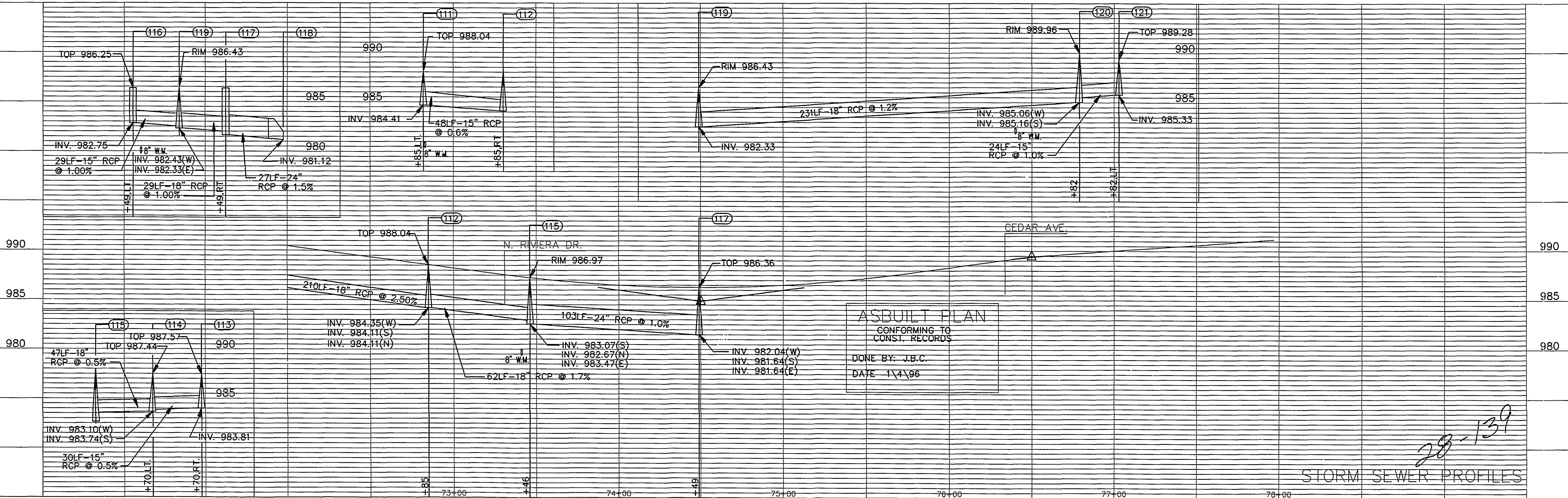
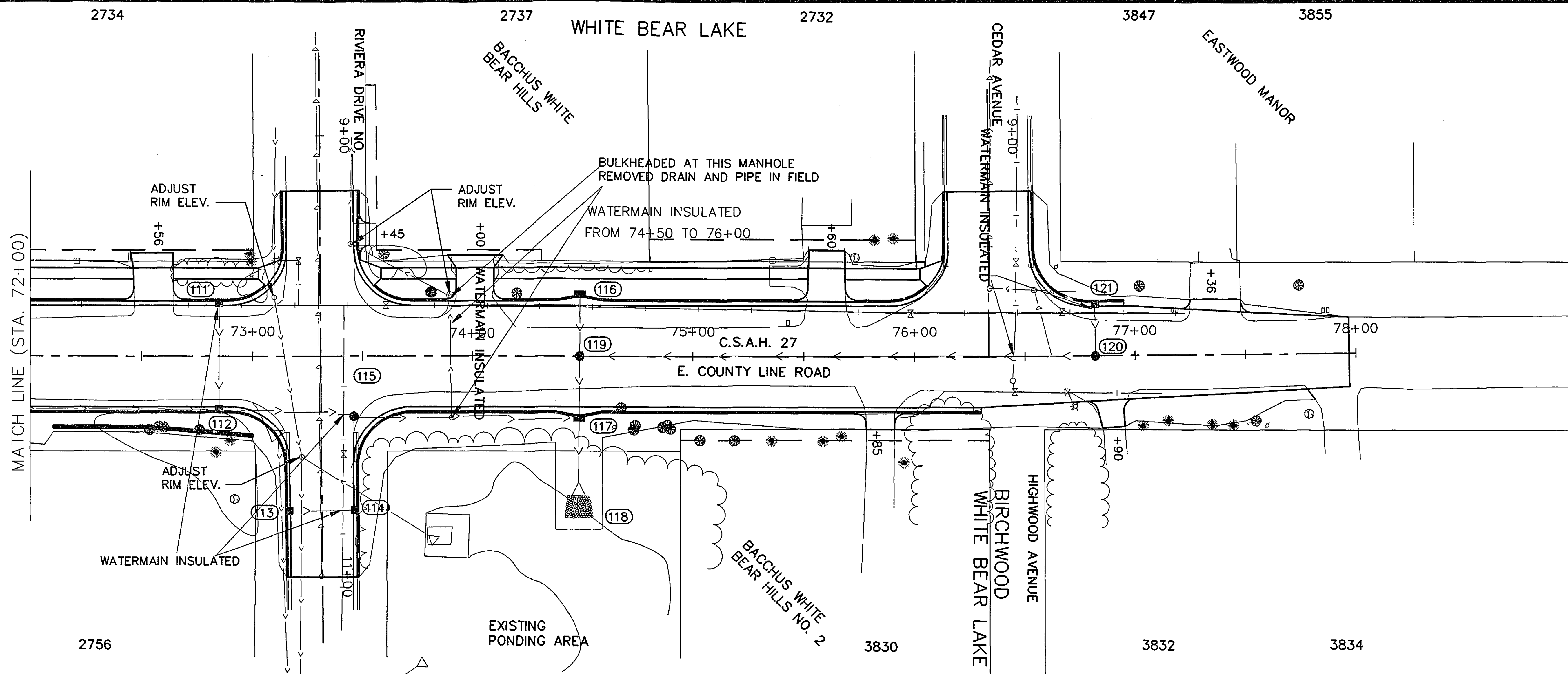
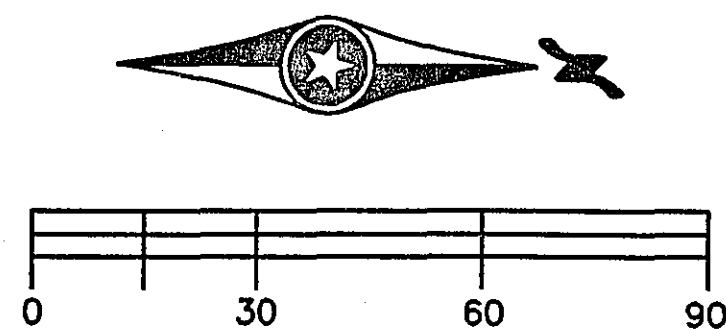
Sheet No.23 of 36 Sheets



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: J.B.C.
DATE 1/4/96

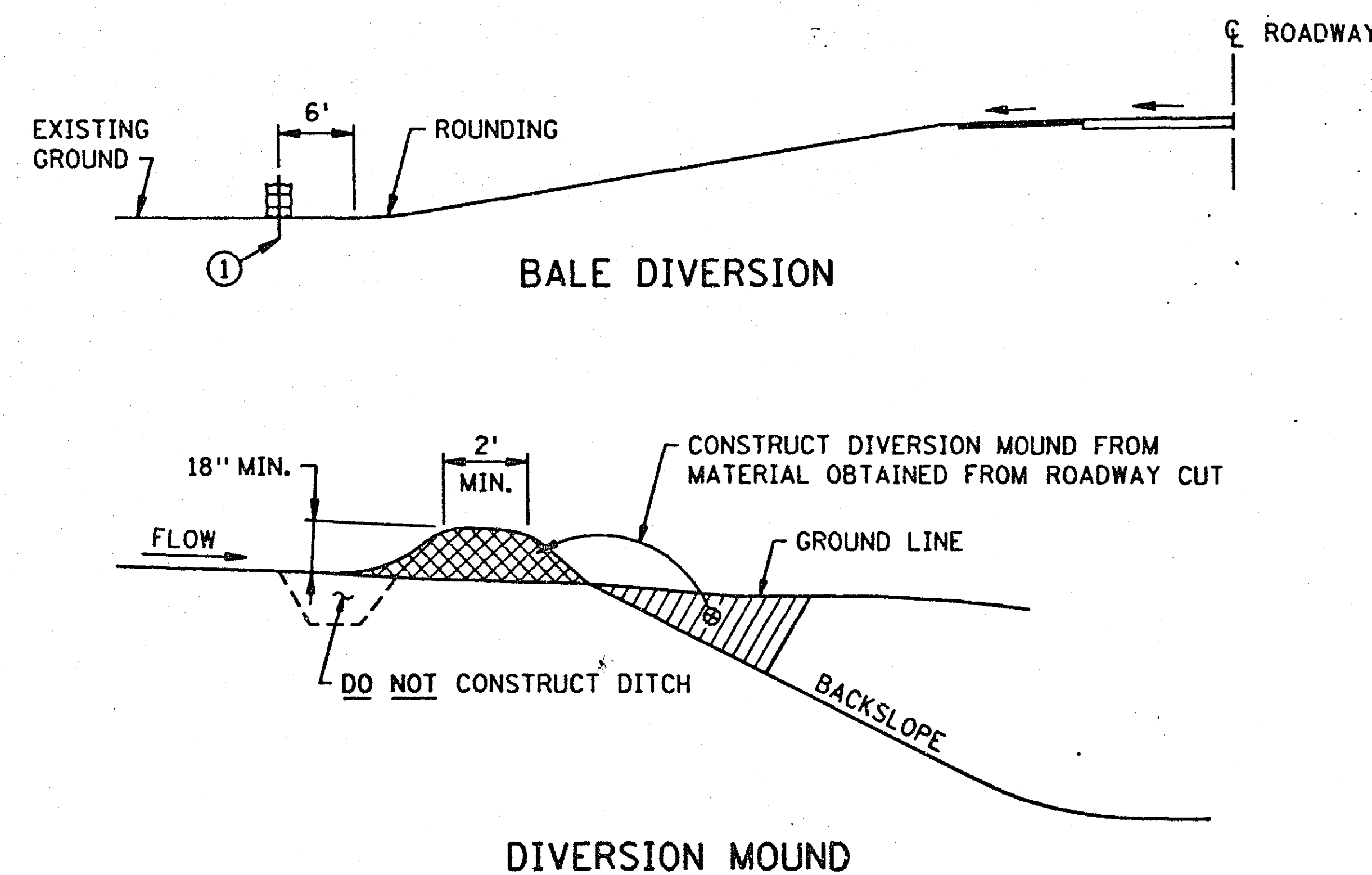
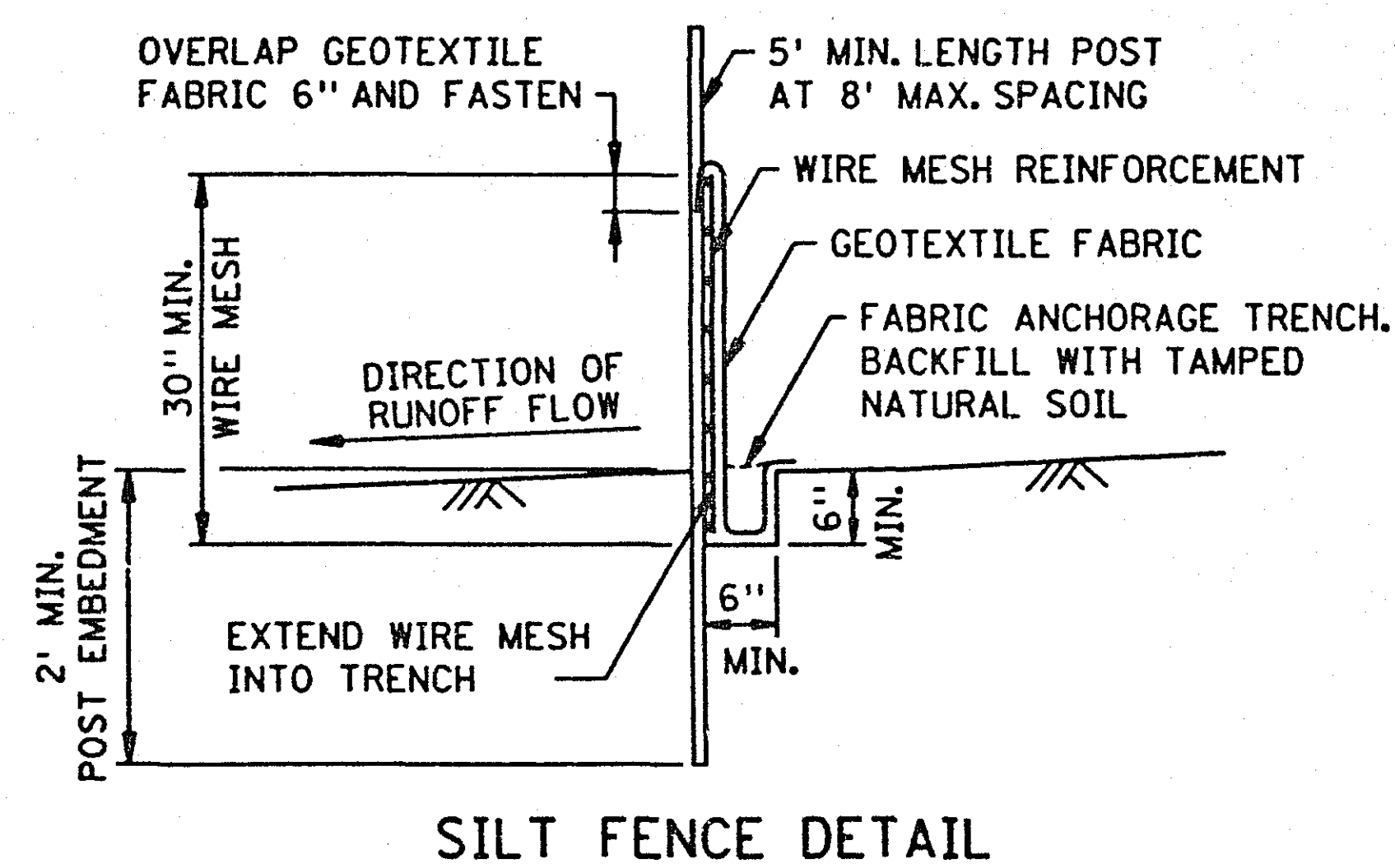
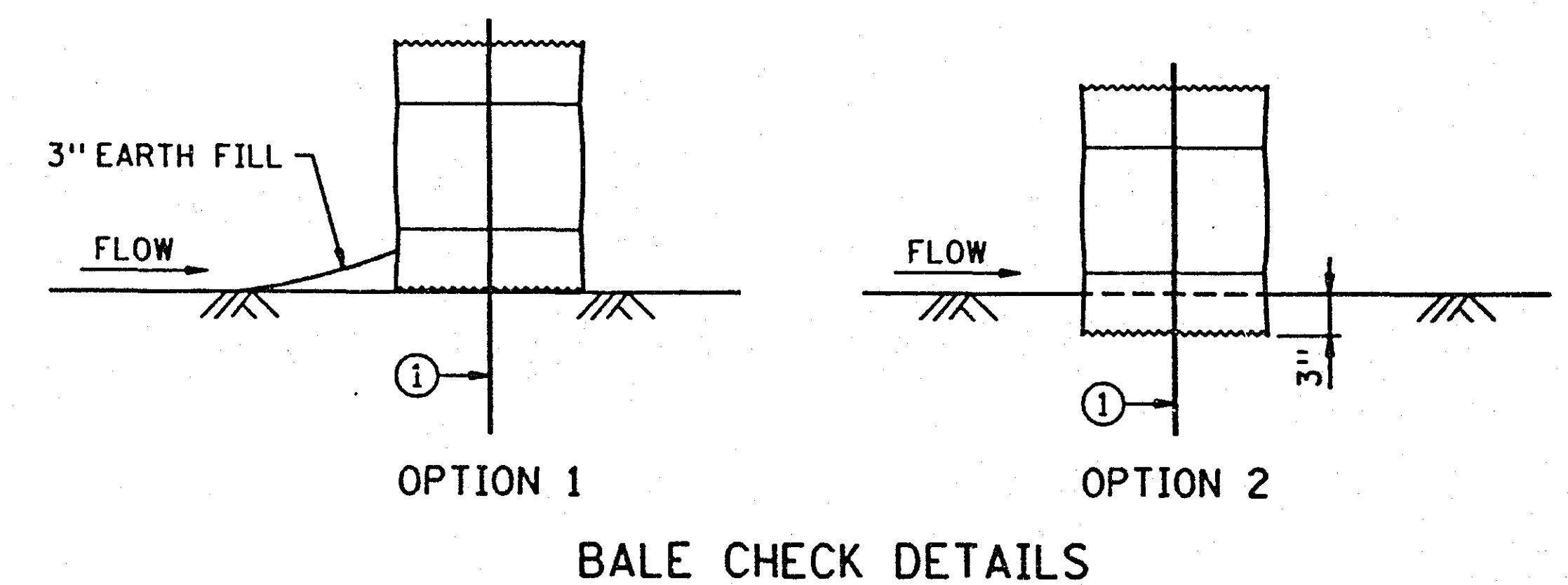
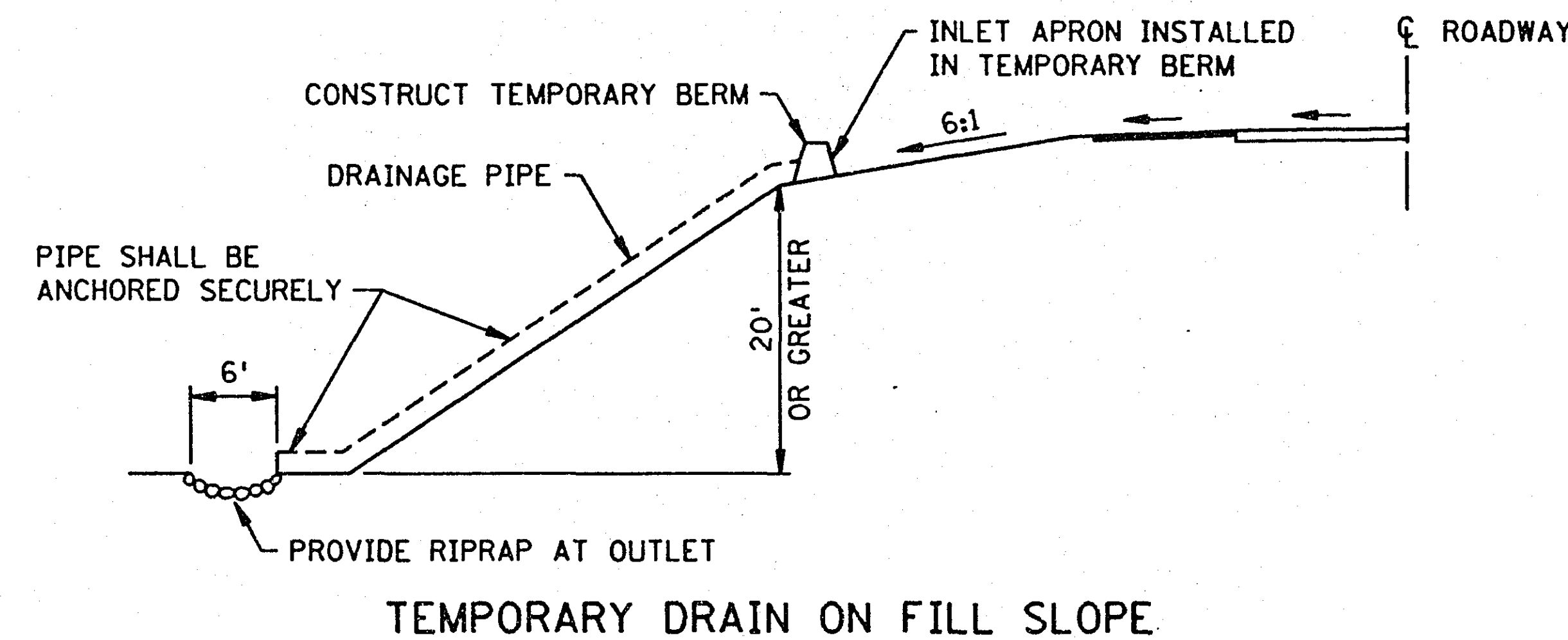
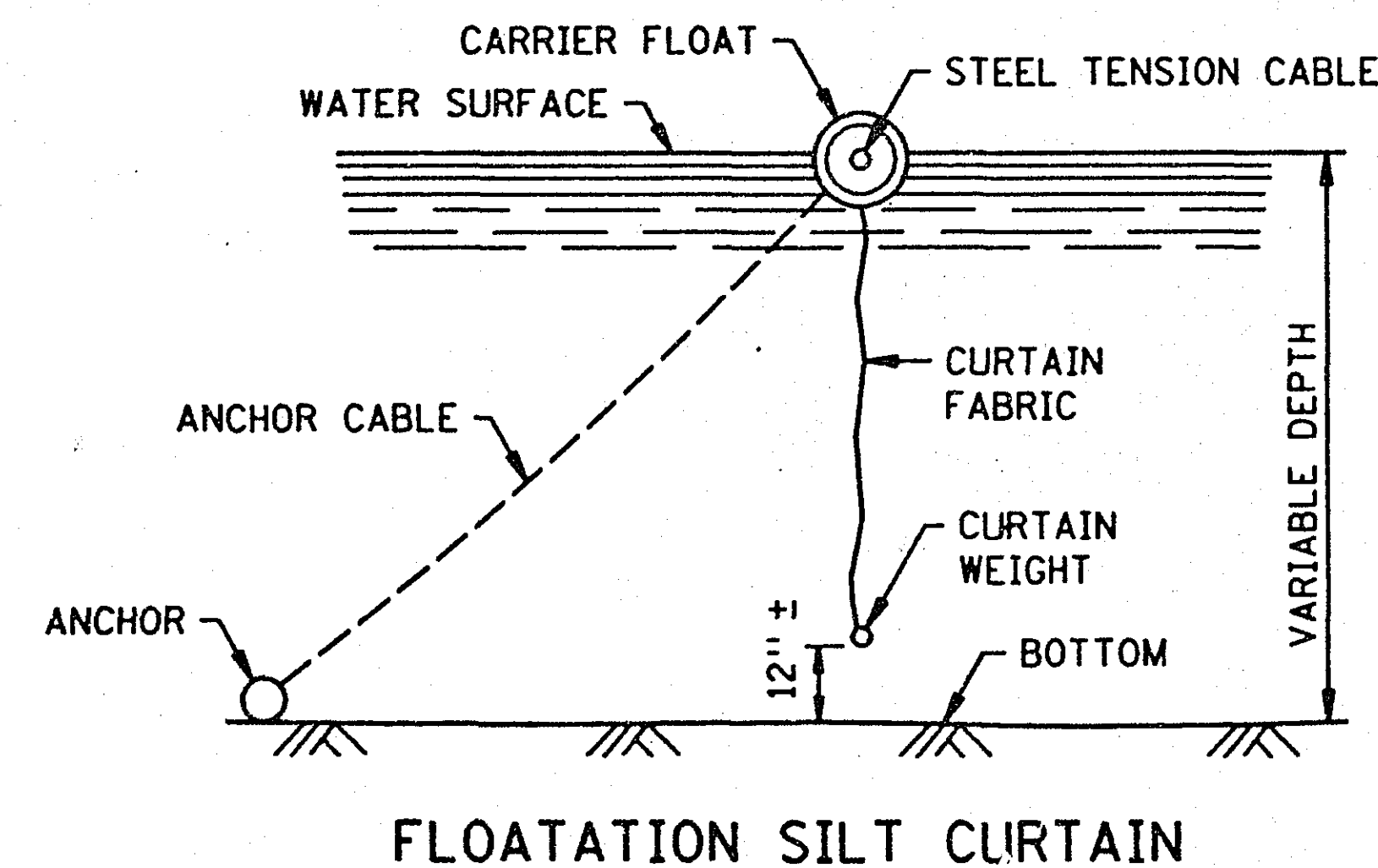
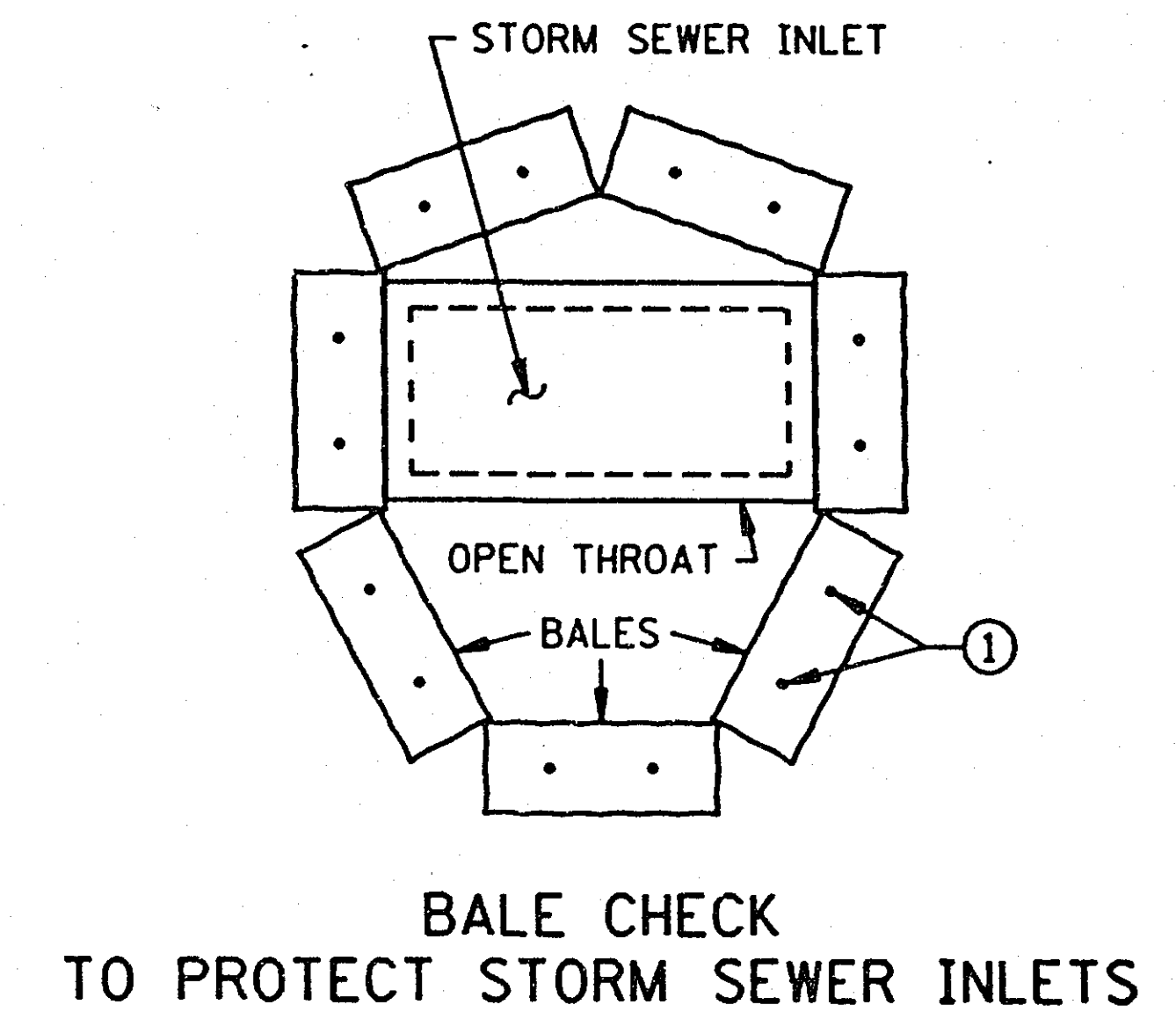
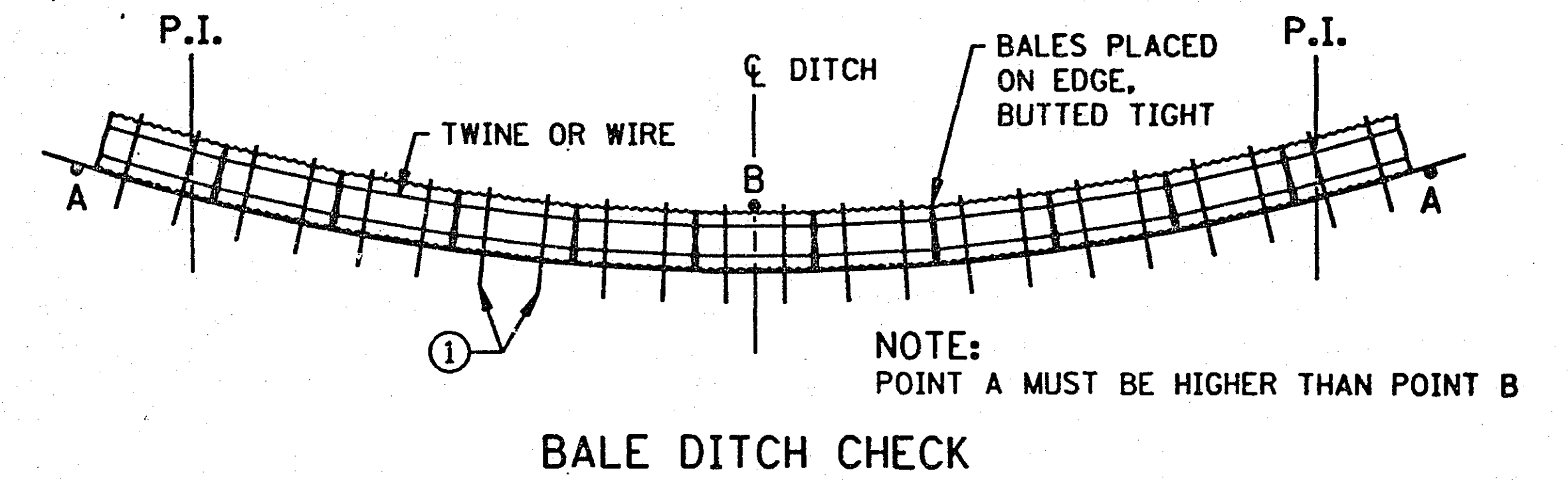
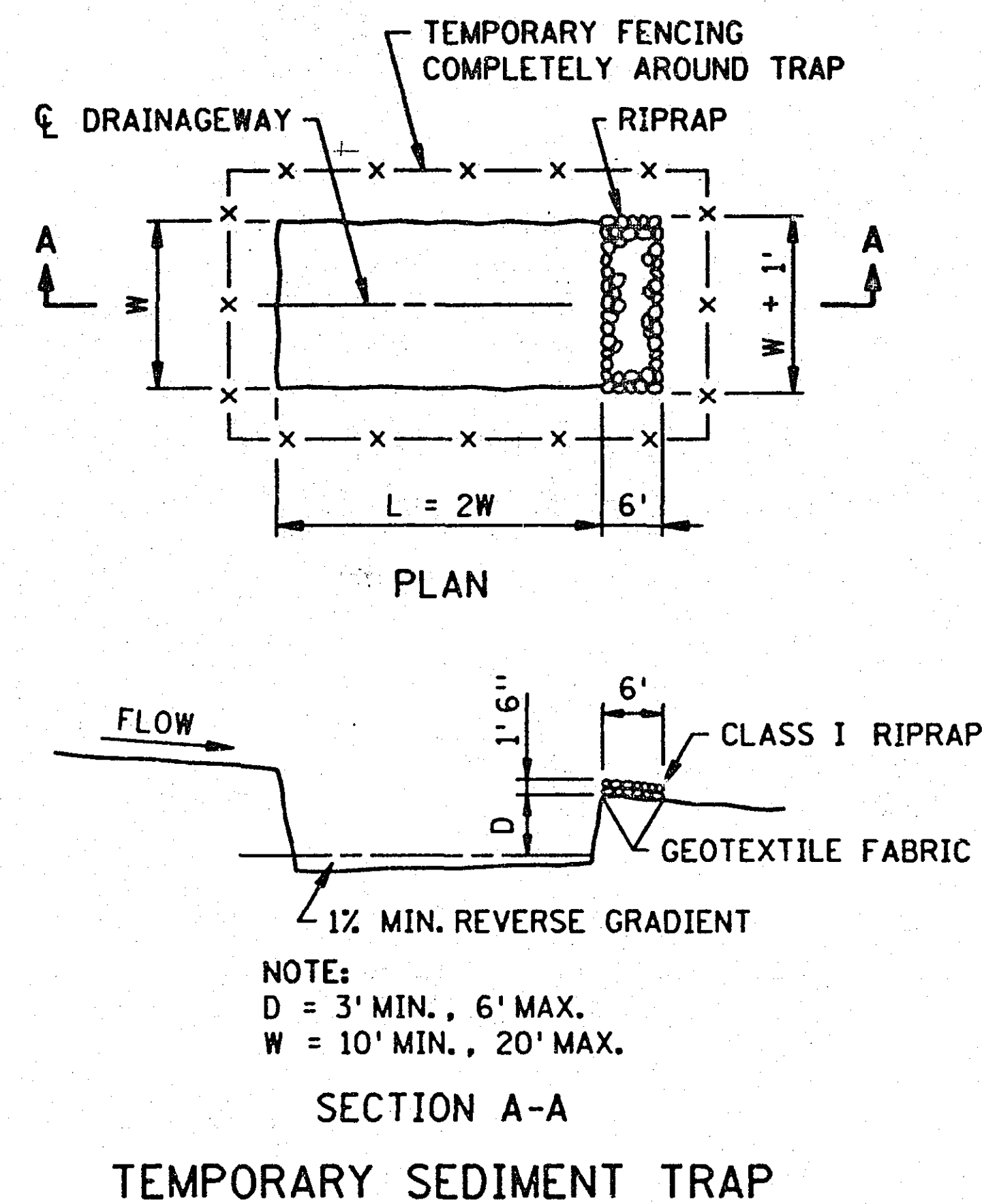
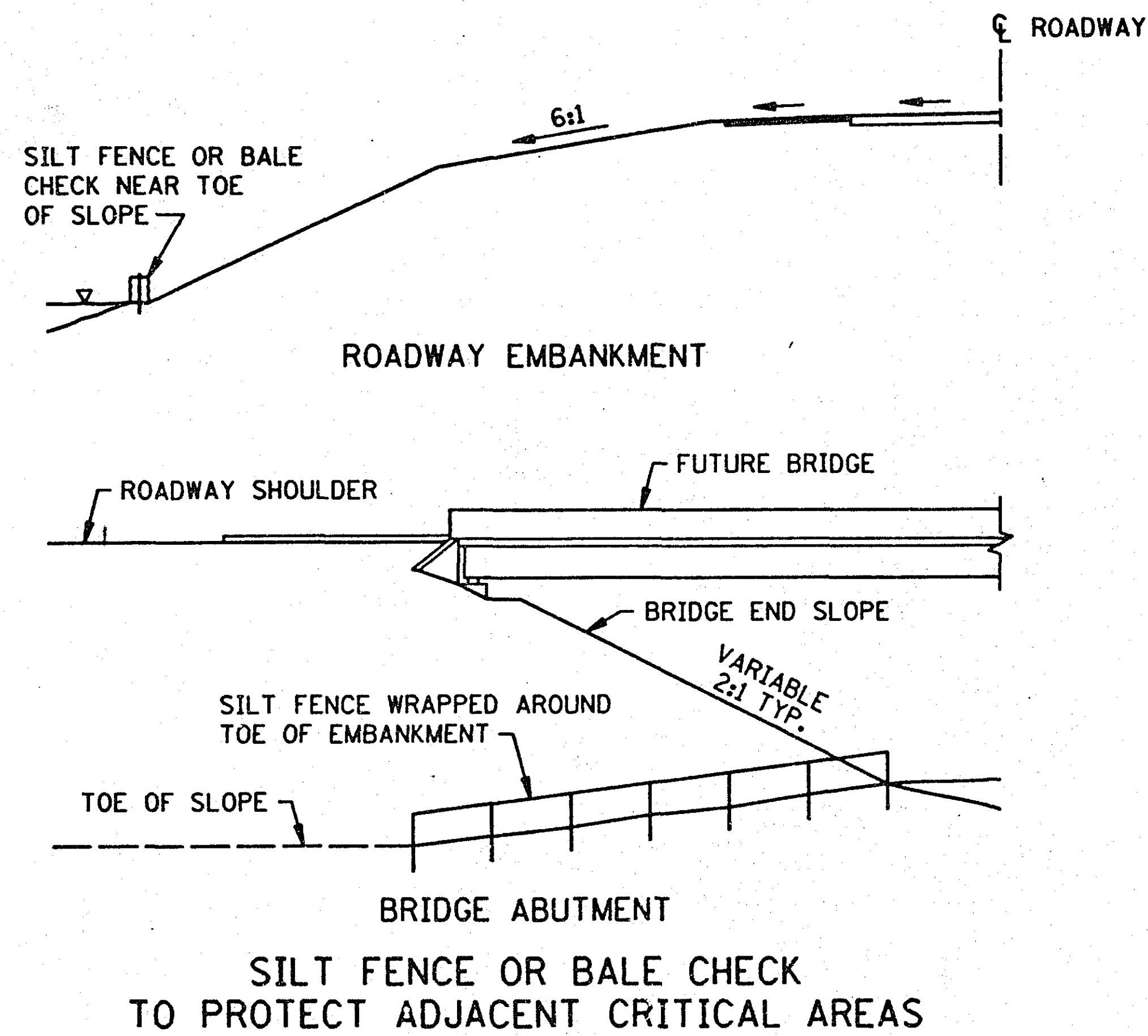
28-139
STORM SEWER PROFILES





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STORM SEWER PROFILES

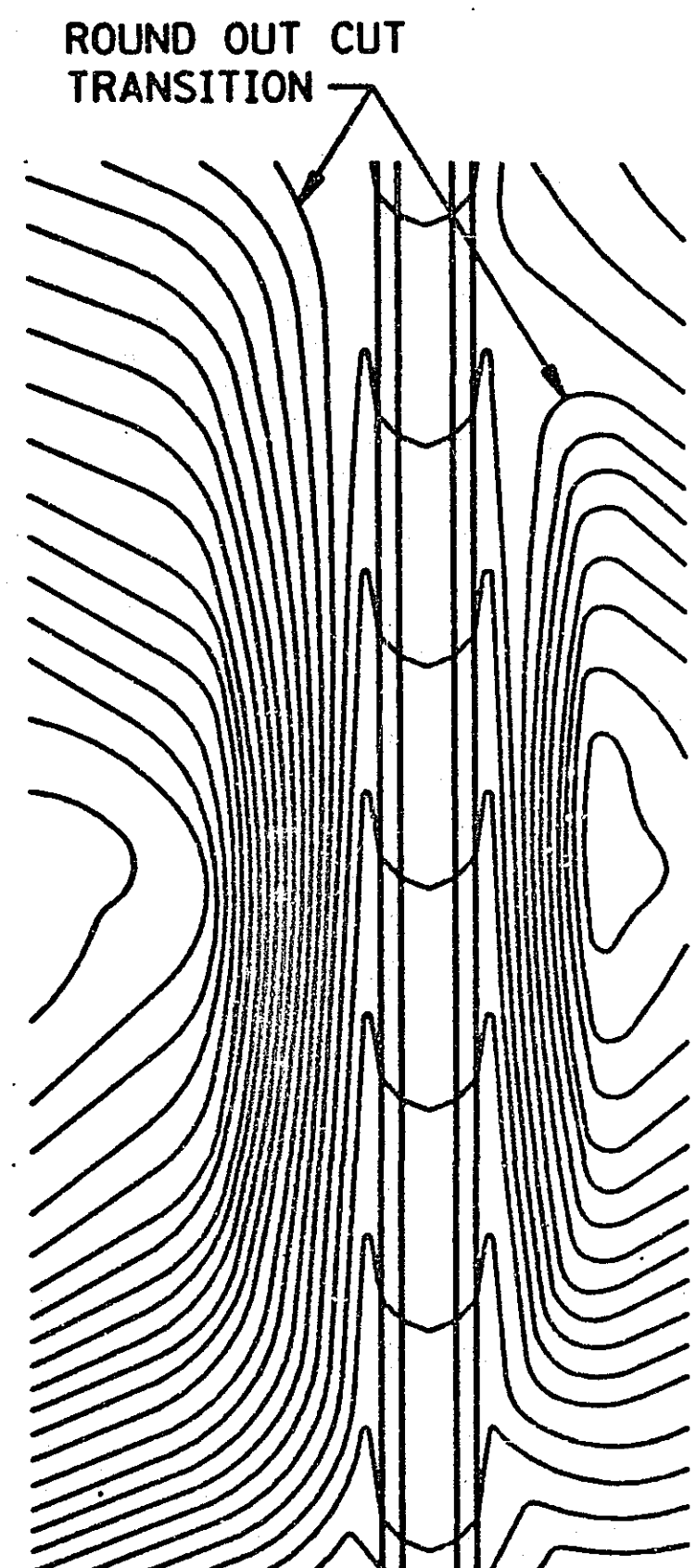


ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: J.30
DATE: 1/10/90

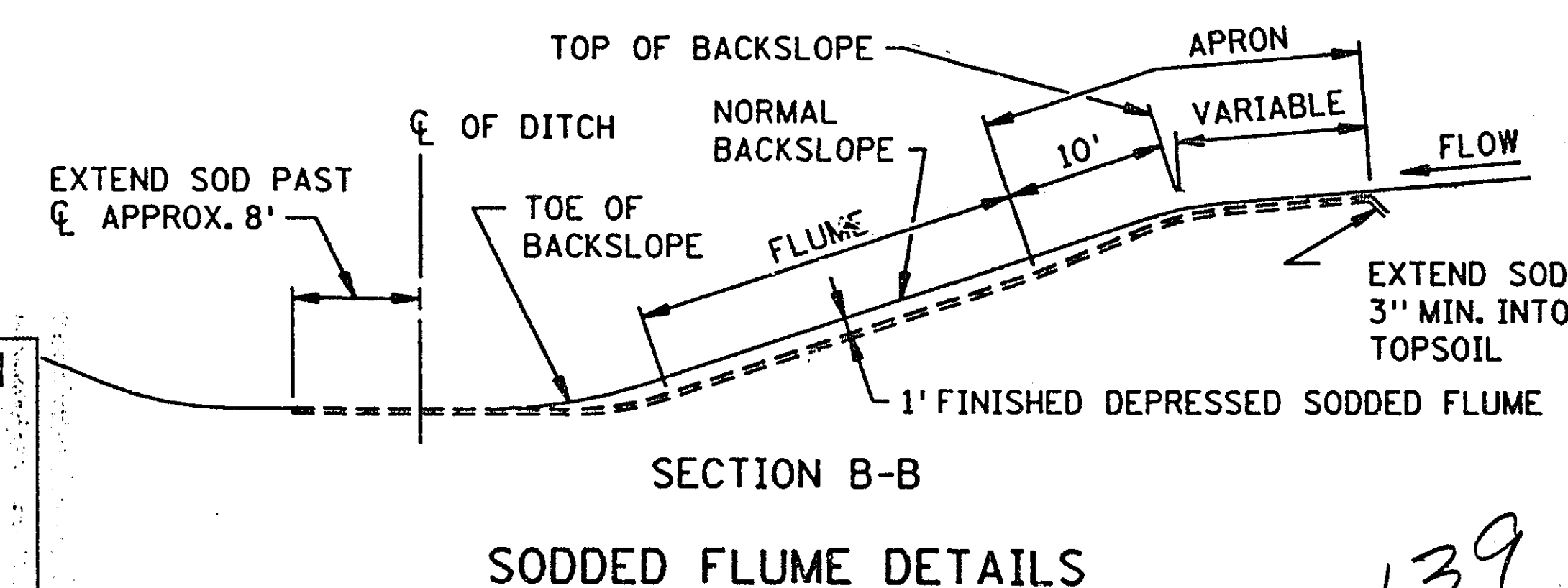
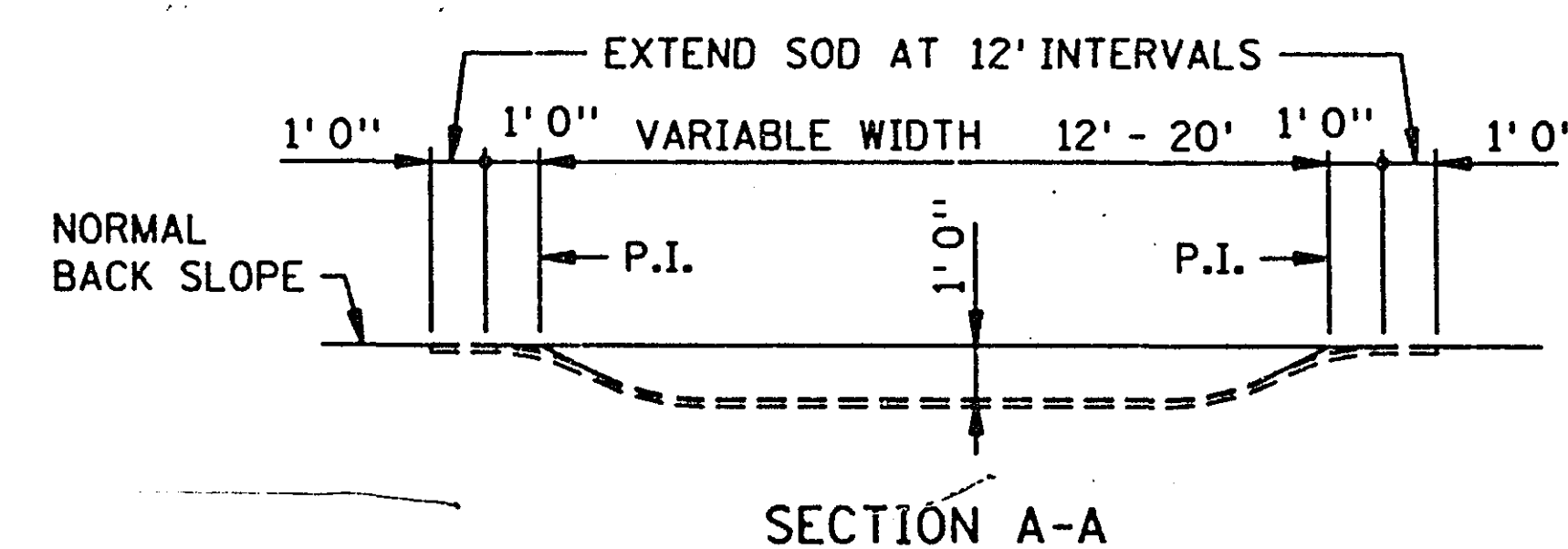
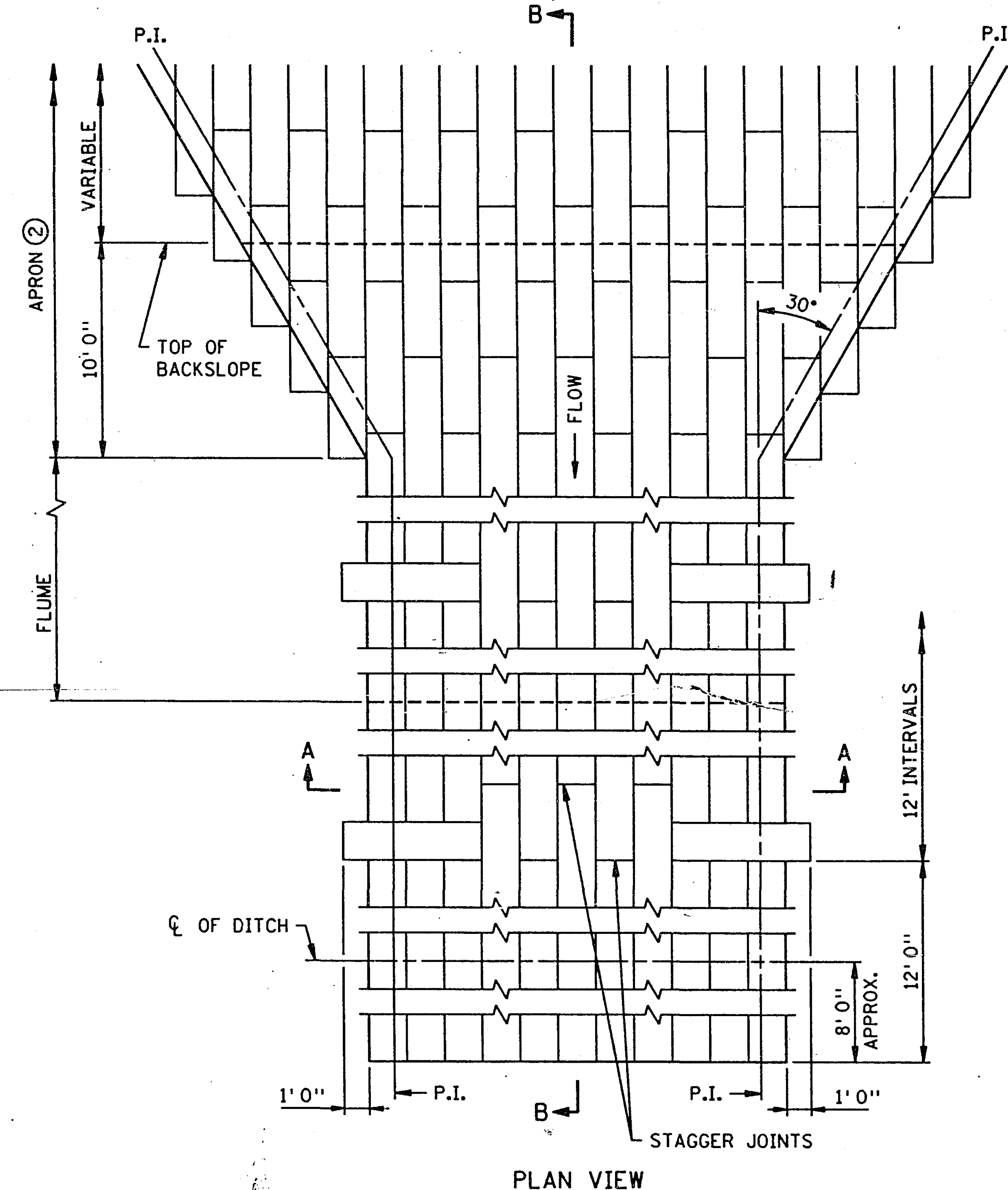
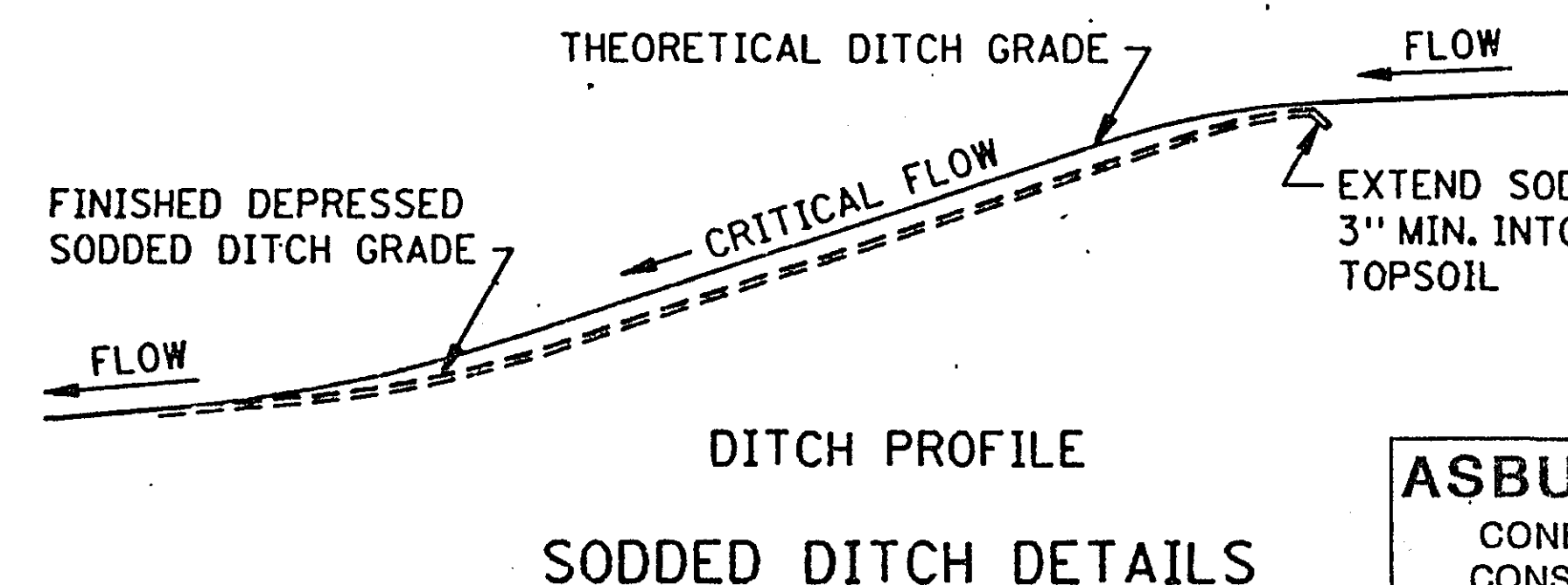
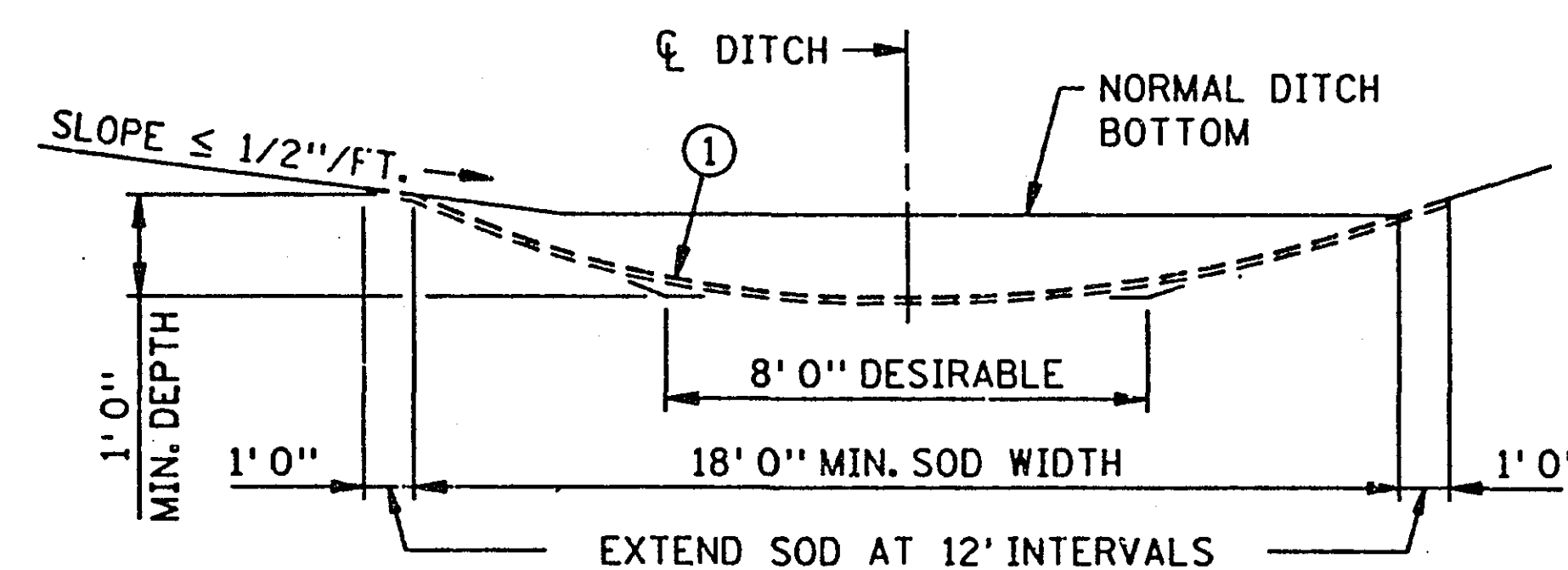
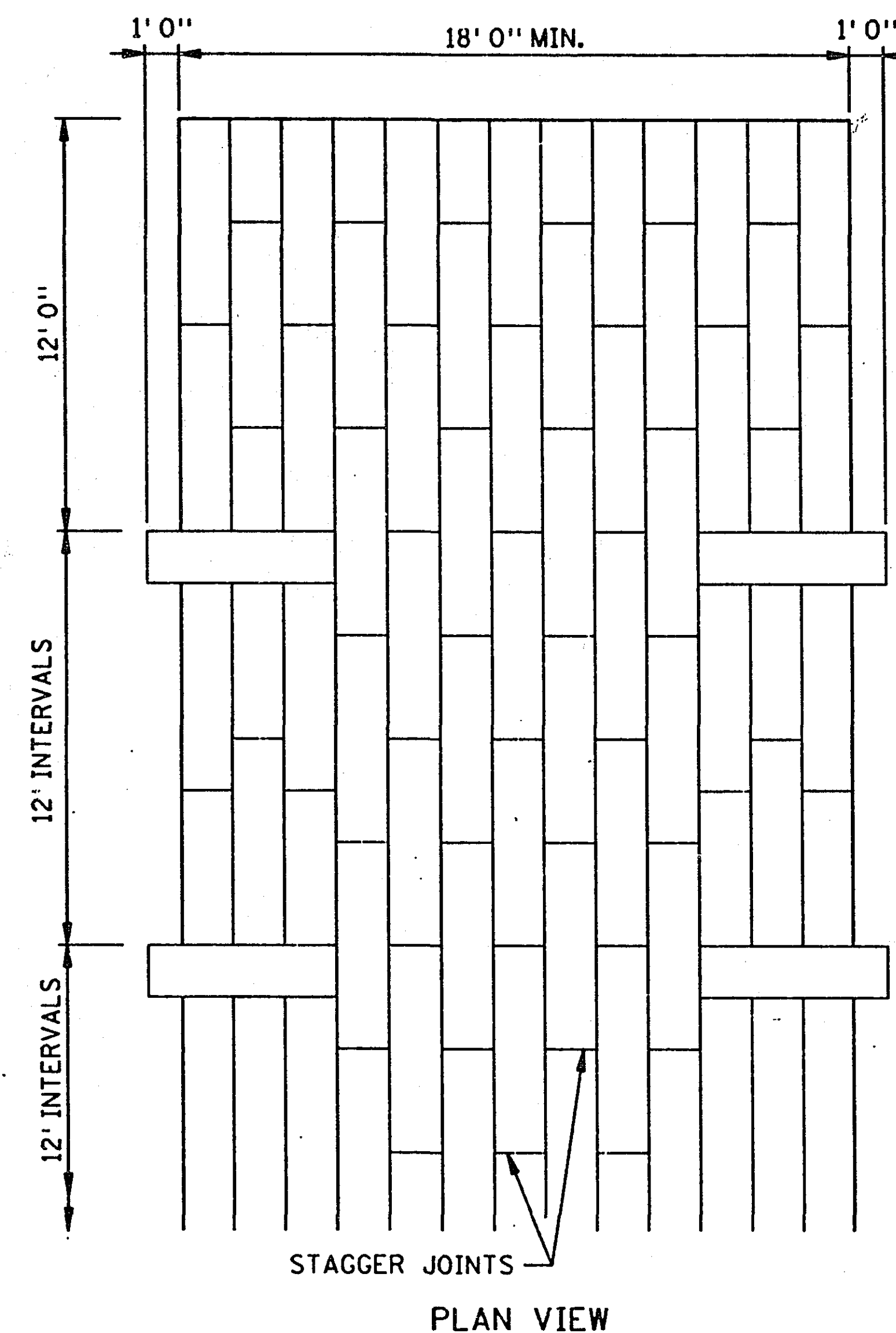
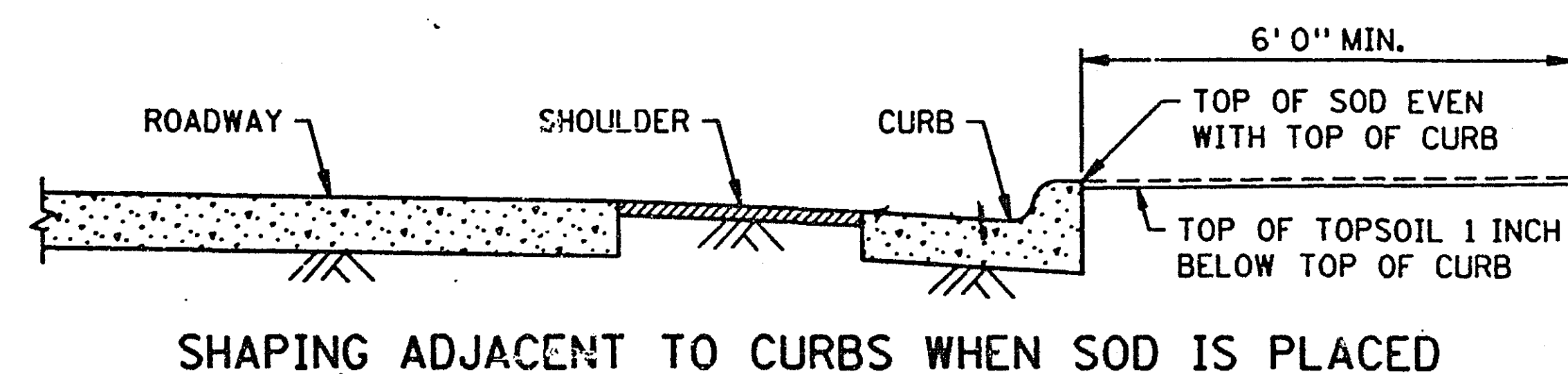
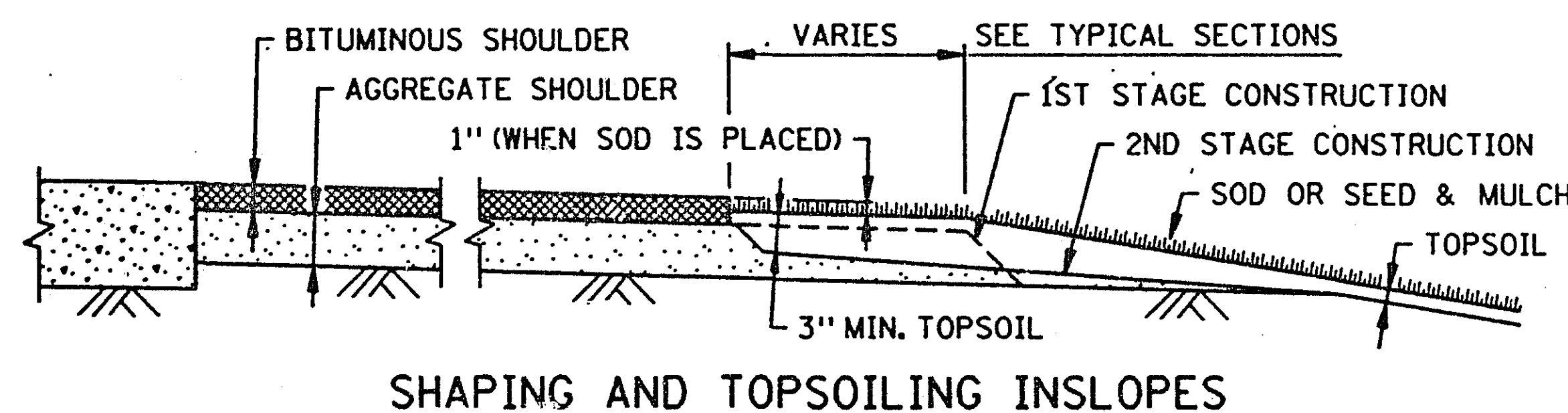
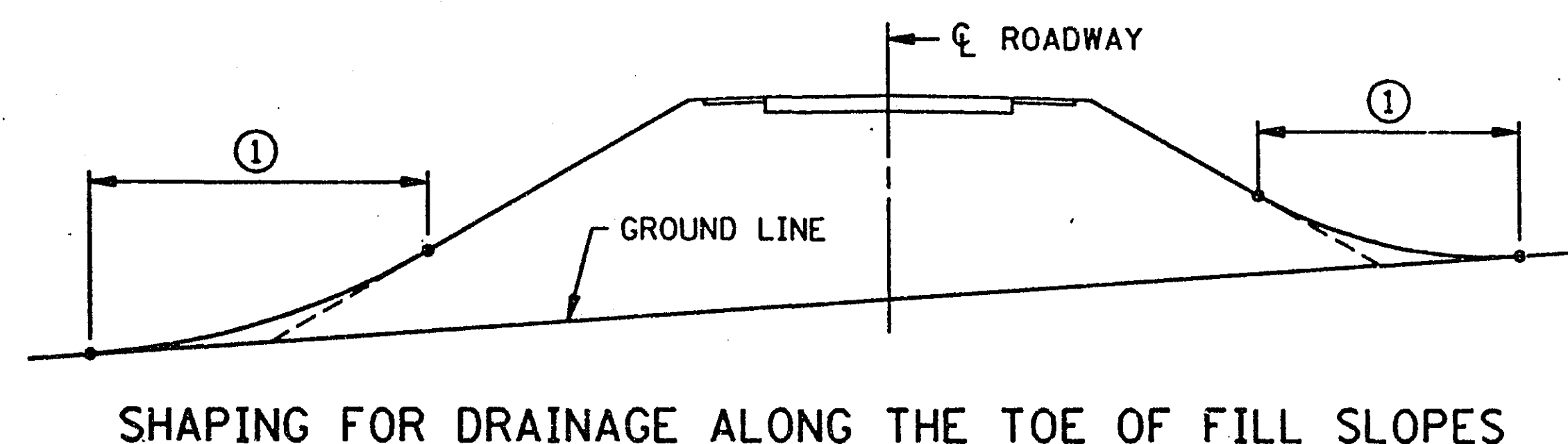
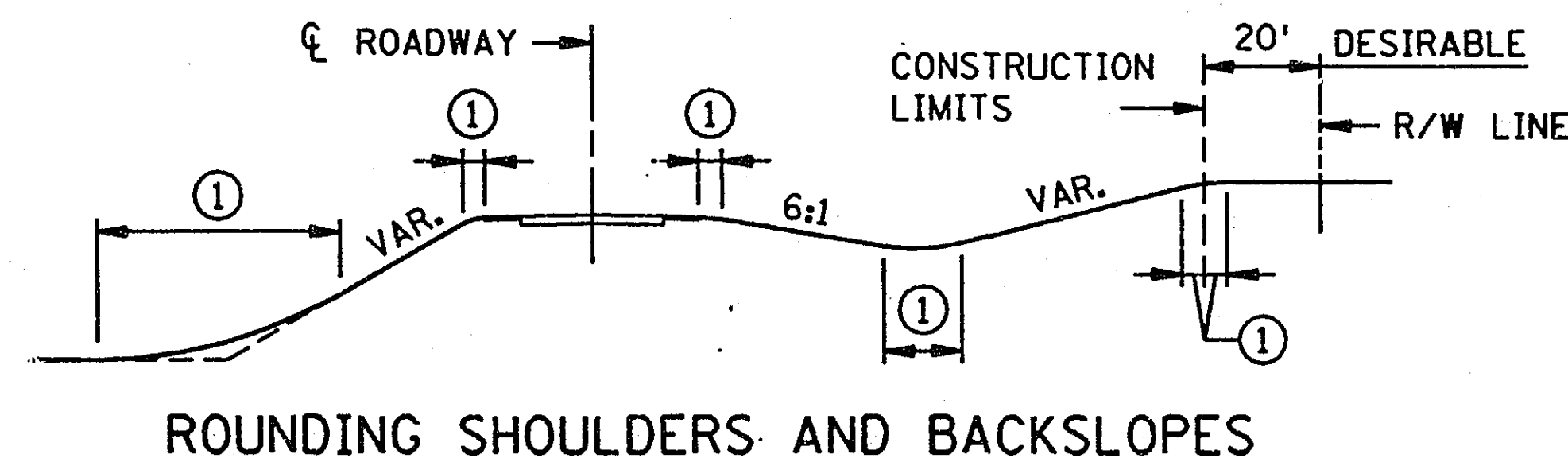
NOTE:
① TWO 2" X 2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10" MINIMUM.

STANDARD SHEET NO. 5-297.405	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: DECEMBER 19, 1990	
S.A.P. No. 62-672-03, 82-627-03 M.S.A.P. NO. 174-020-11	SHEET NO. 27 OF 36 SHEETS

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CONTOURING ROAD CUTS

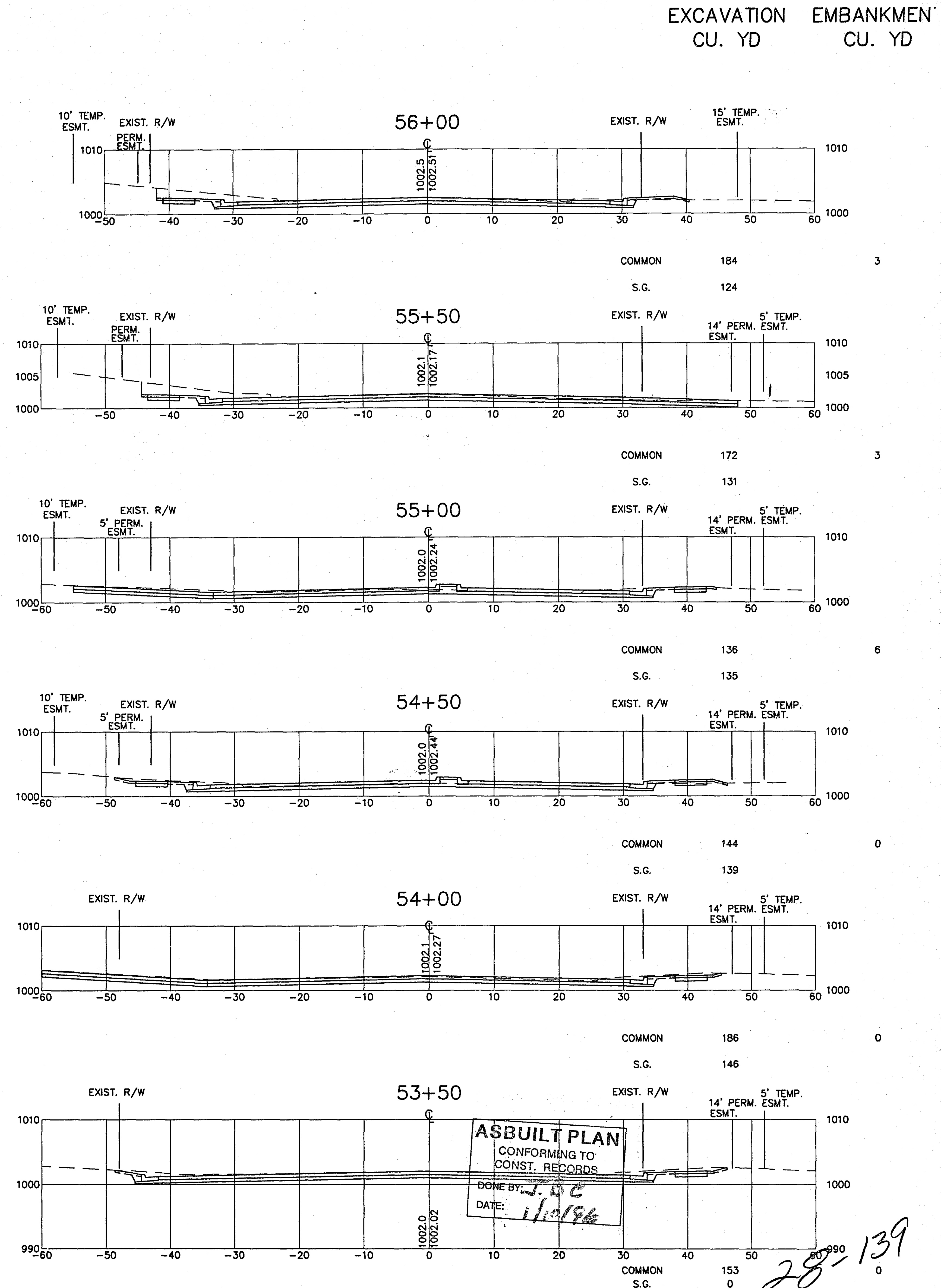
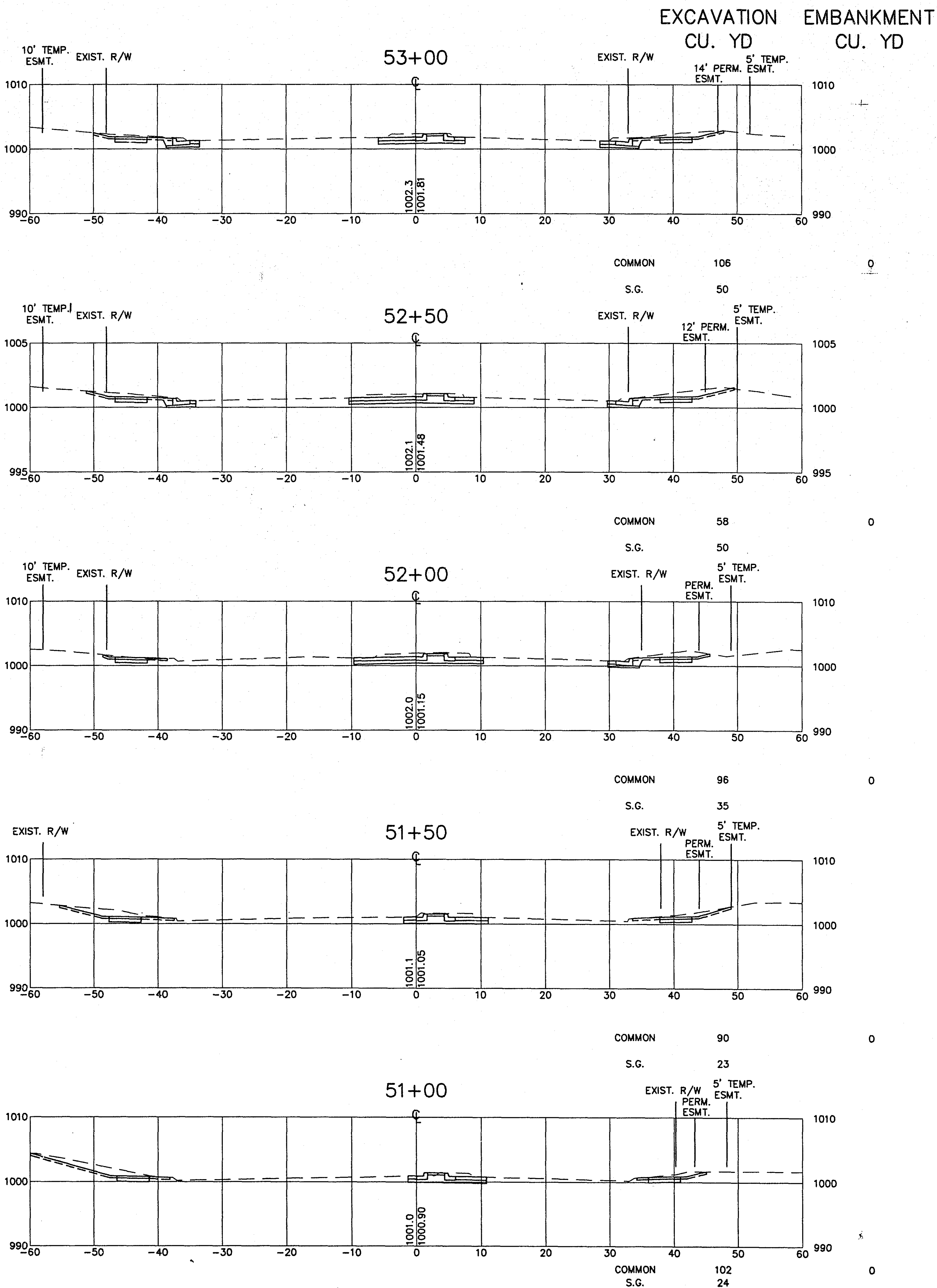


NOTES:
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
① FOR ROUNDING, SEE ROAD DESIGN MANUAL.
② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

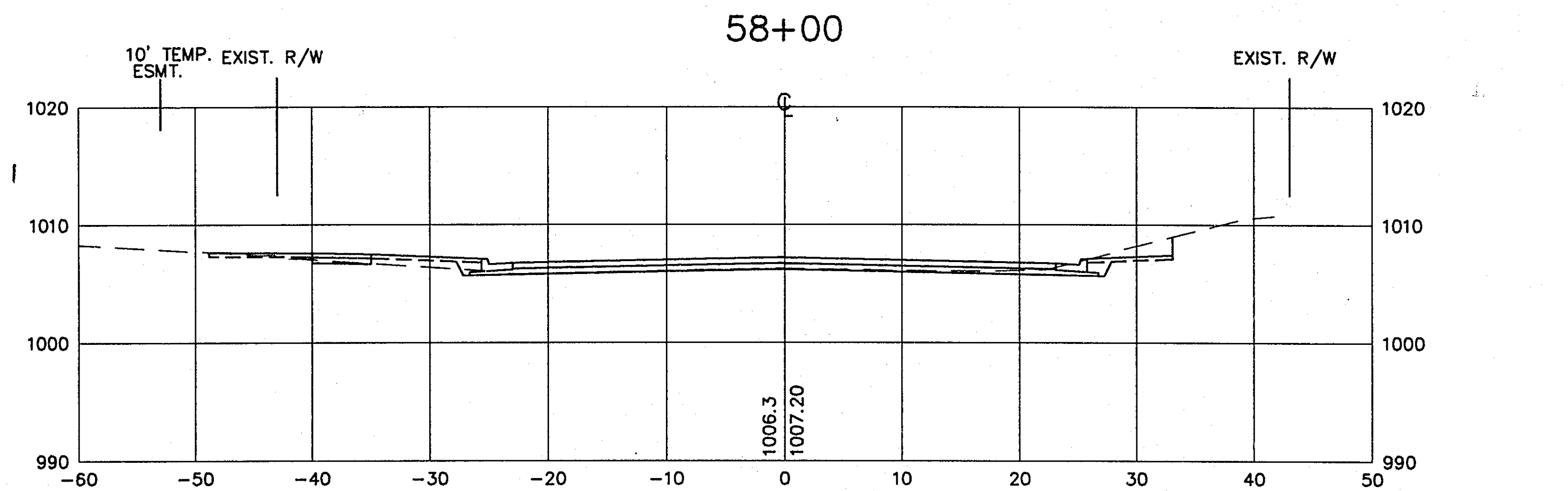
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: J.B.C
DATE: 11/1/96

STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: DECEMBER 19, 1990	
S.A.P. No. 62-672-03, 82-627-03 M.S.A.P. NO. 174-020-11	SHEET NO. 28 OF 36 SHEETS

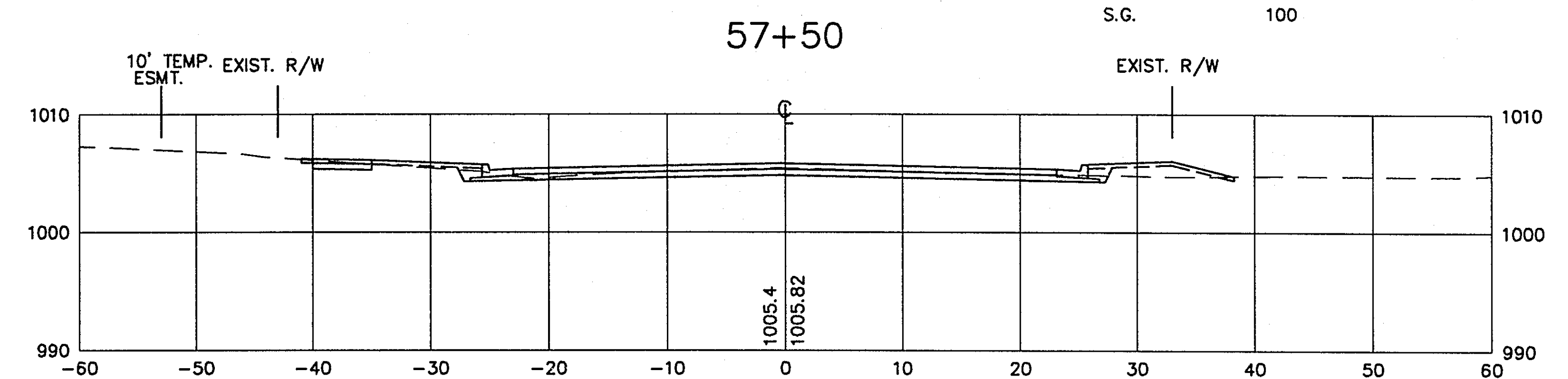
28-139



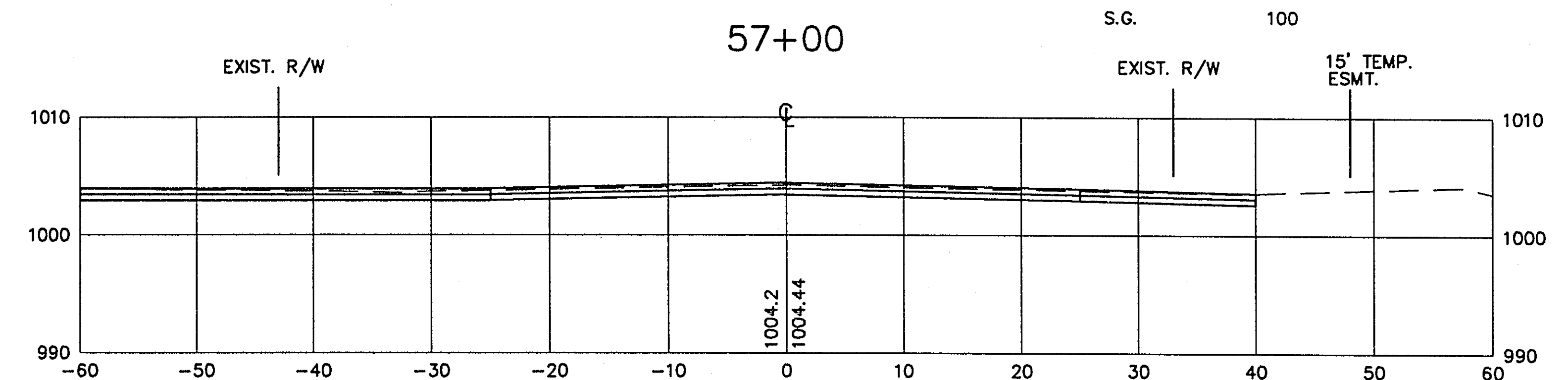
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CU. YD CU. YD



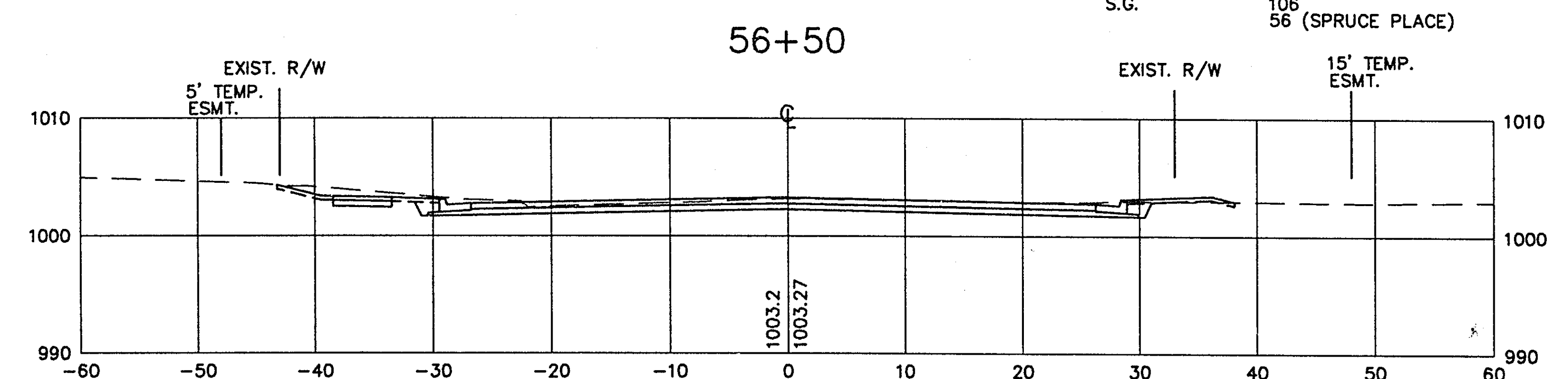
COMMON 48
S.G. 100



COMMON 117
S.G. 100

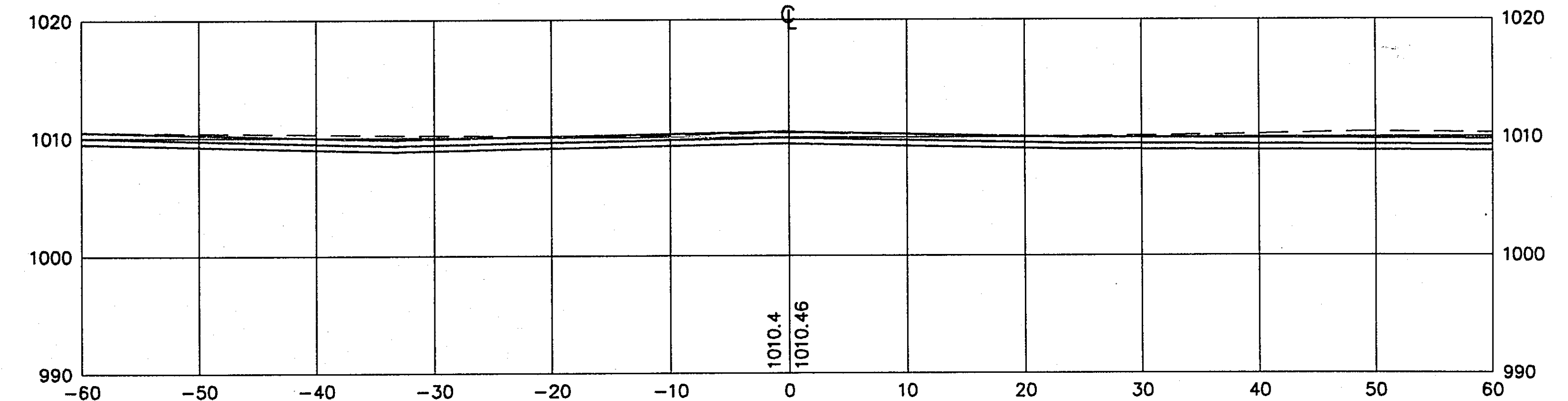


COMMON 181
S.G. 106
56 (SPRUCE PLACE)

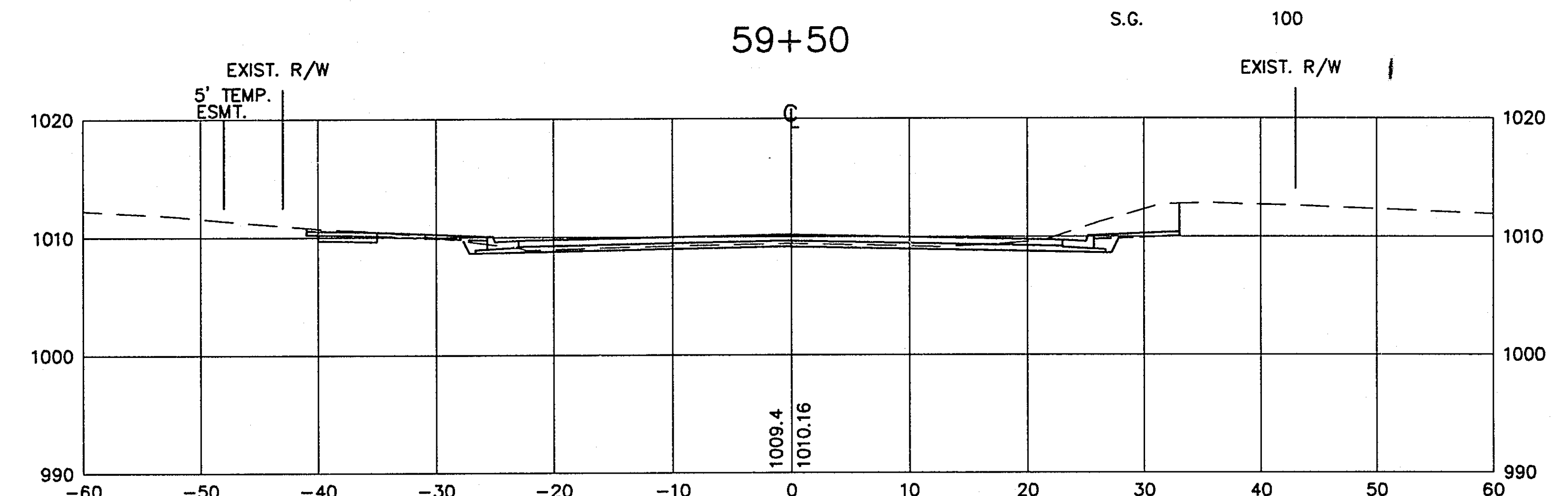


COMMON 157
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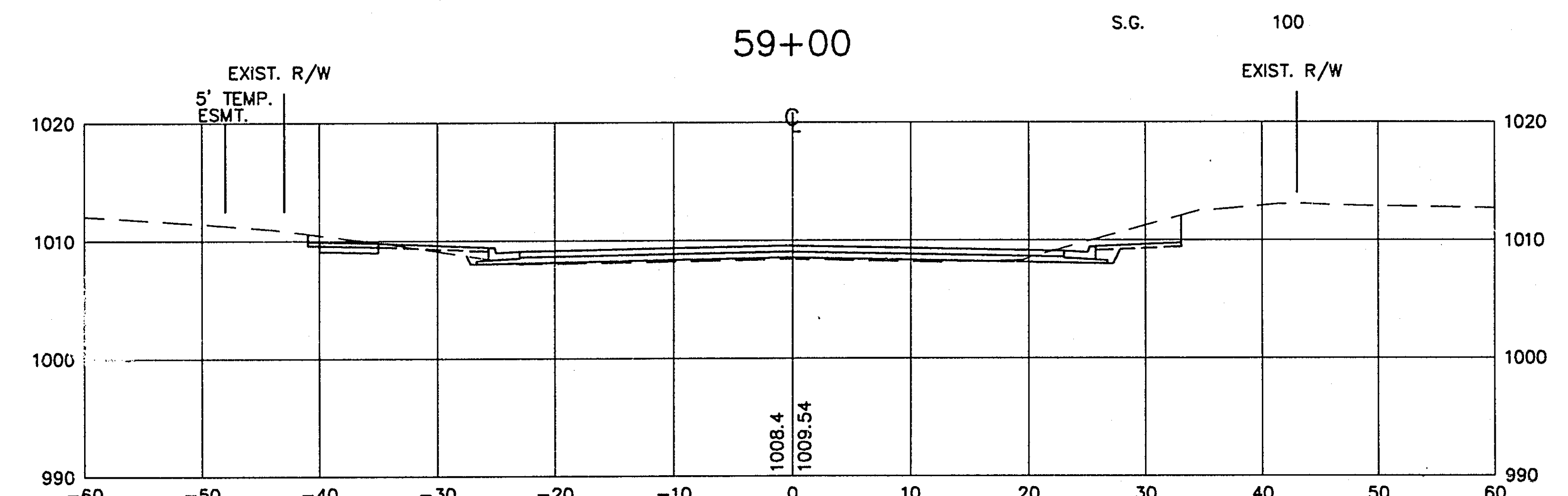
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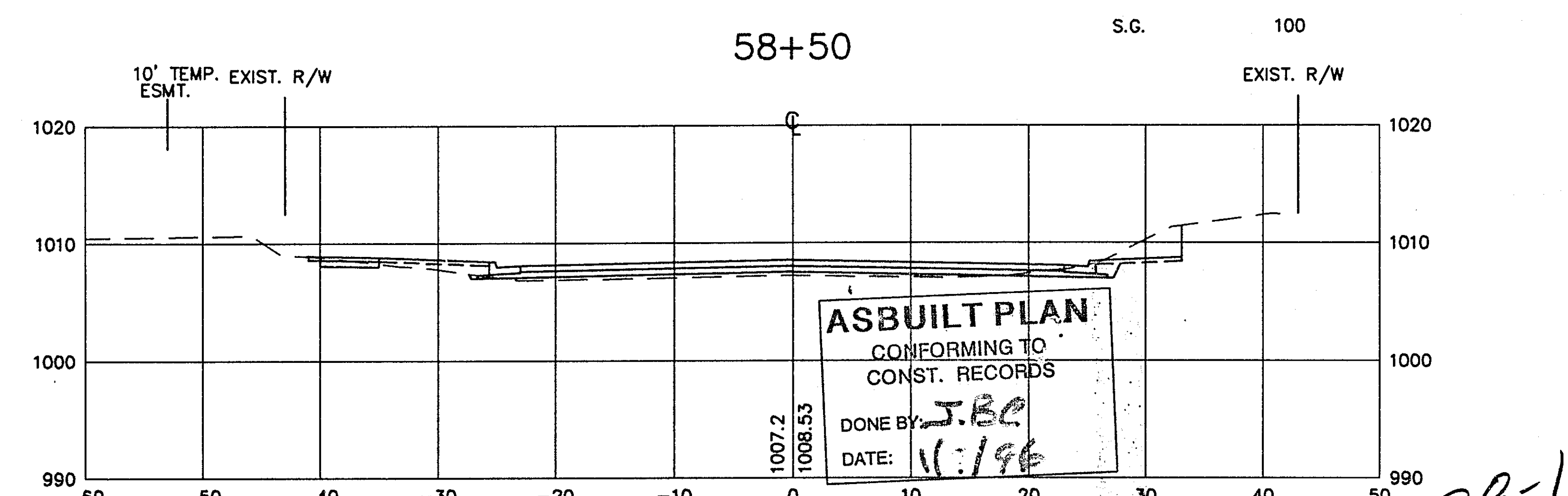
COMMON 179
S.G. 100



COMMON 75
S.G. 100



COMMON 50
S.G. 100



COMMON 40
S.G. 100

STA. 56+50 TO STA. 60+00

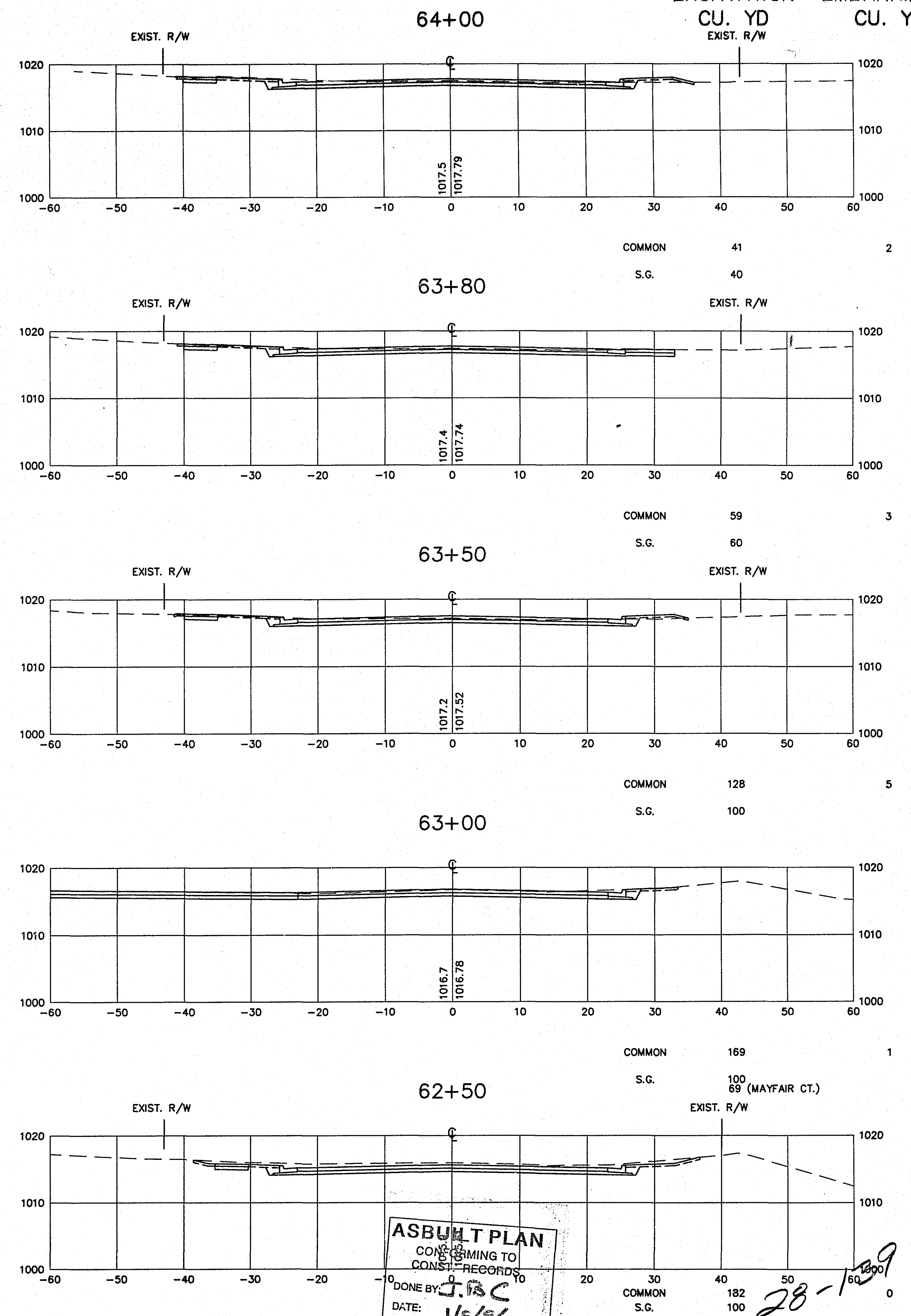
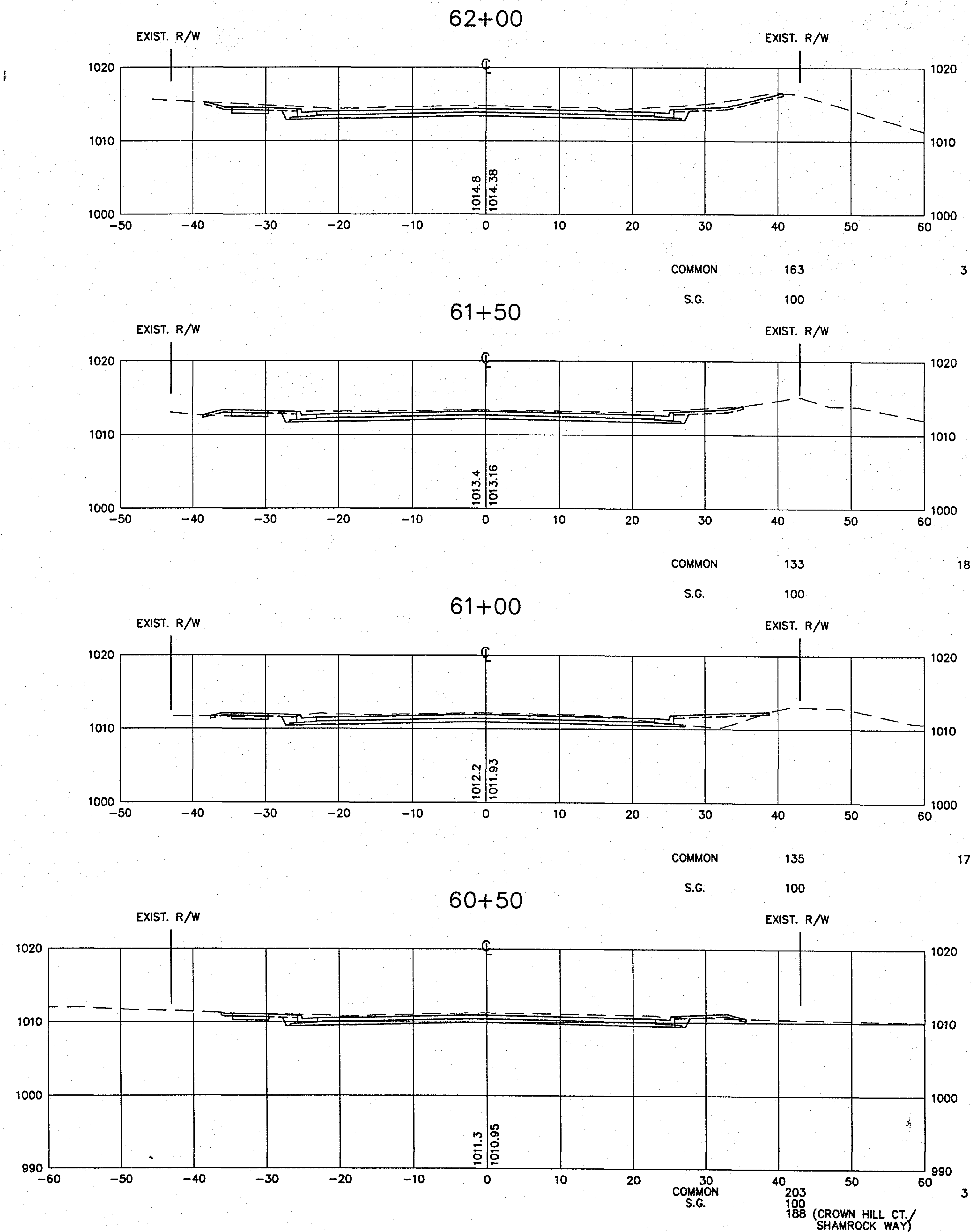
S.A.P. No. 62-672-03, 82-627-03
M.S.A.P. NO. 174-020-11

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EXCAVATION EMBANKMENT
CU. YD CU. YD

EXCAVATION EMBANKMENT
CU. YD CU. YD



ASBUILT PLAN
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DATE: 11/9/96

STA. 60+50 TO STA. 64+00

S.A.P. No. 62-672-03, 82-527-03
M.S.A.P. NO. 174-020-11

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EXCAVATION EMBANKMENT
CU. YD CU. YD

EXCAVATION EMBANKMENT
CU. YD CU. YD

65+33

66+50

65+08

65+00

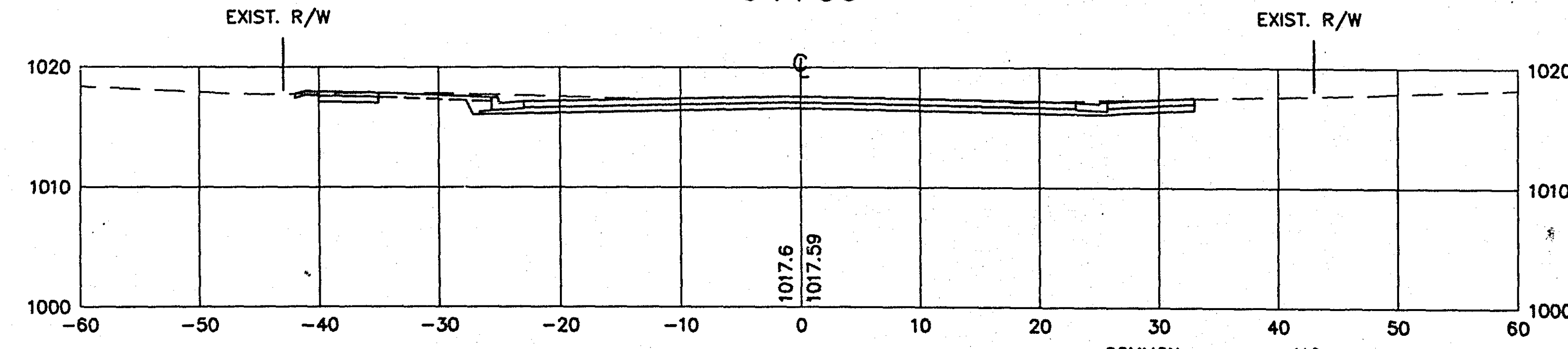
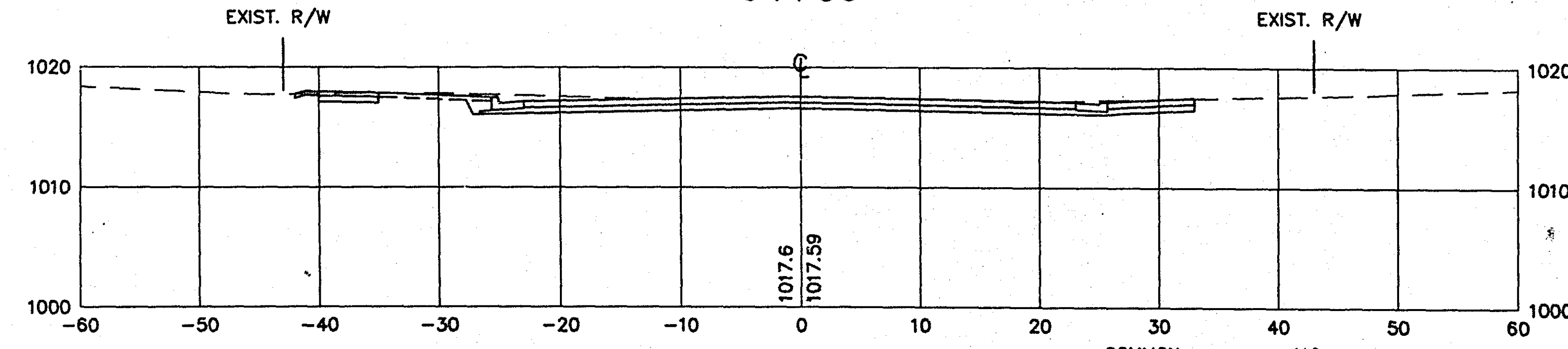
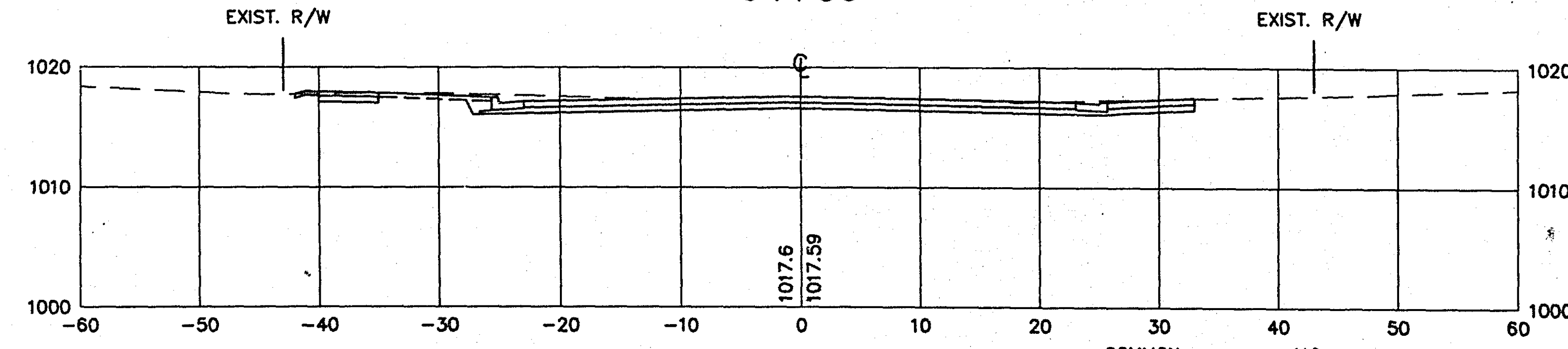
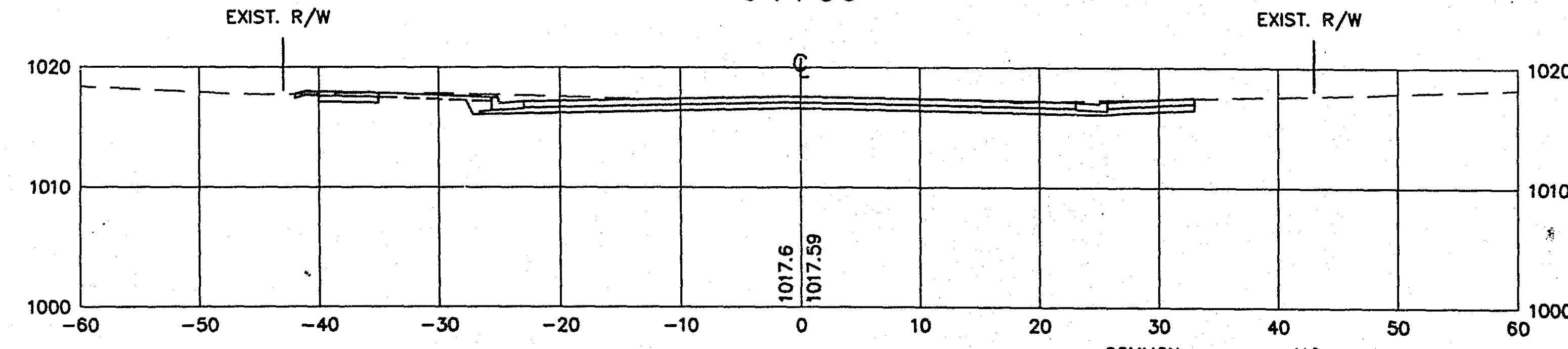
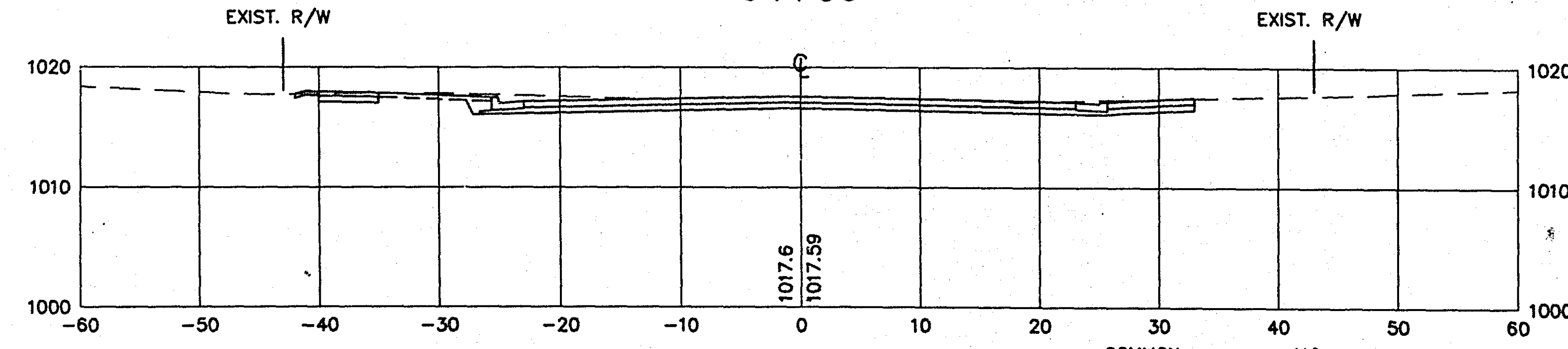
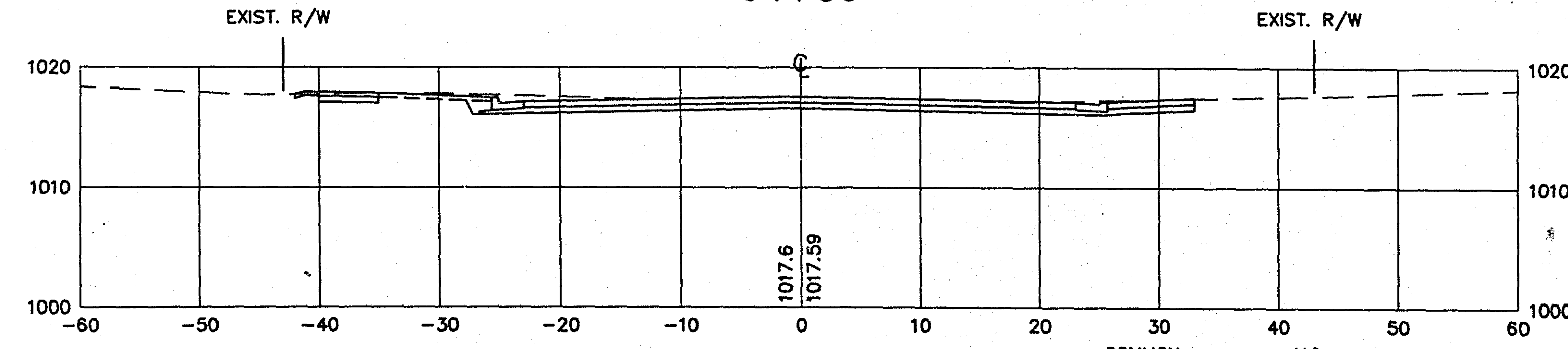
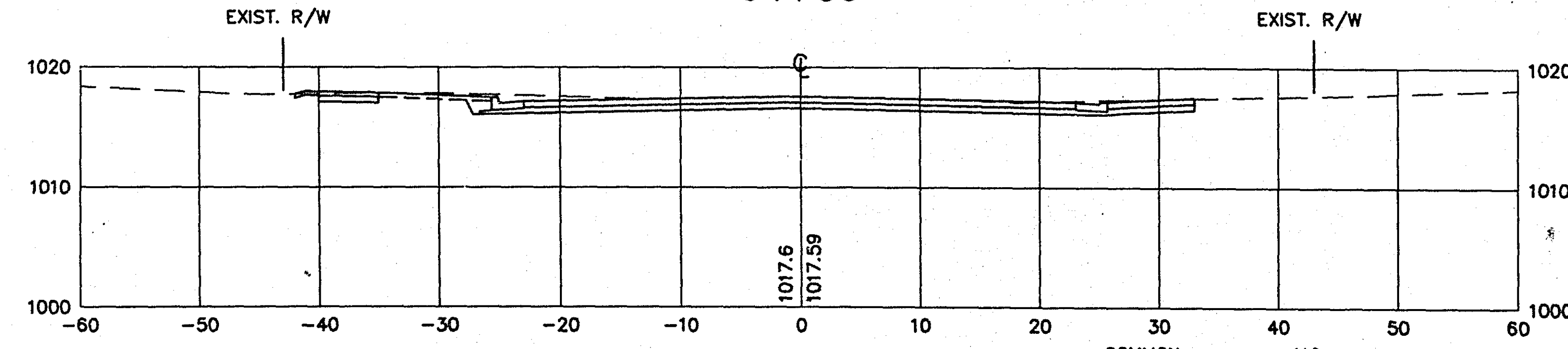
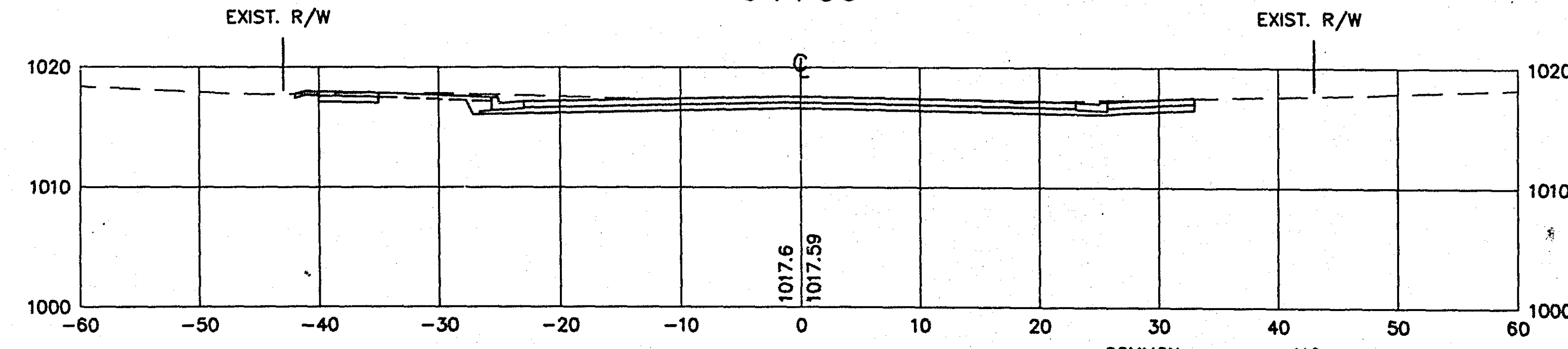
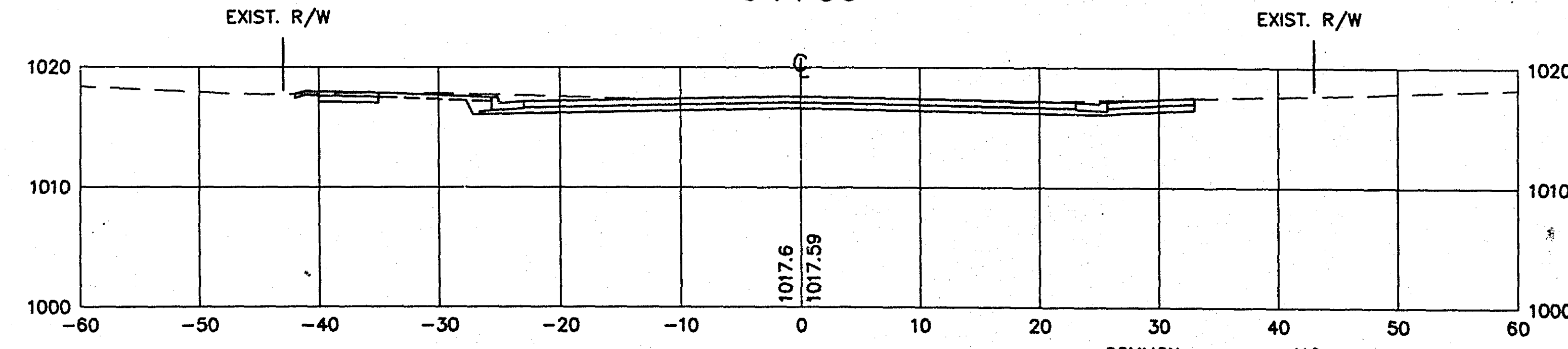
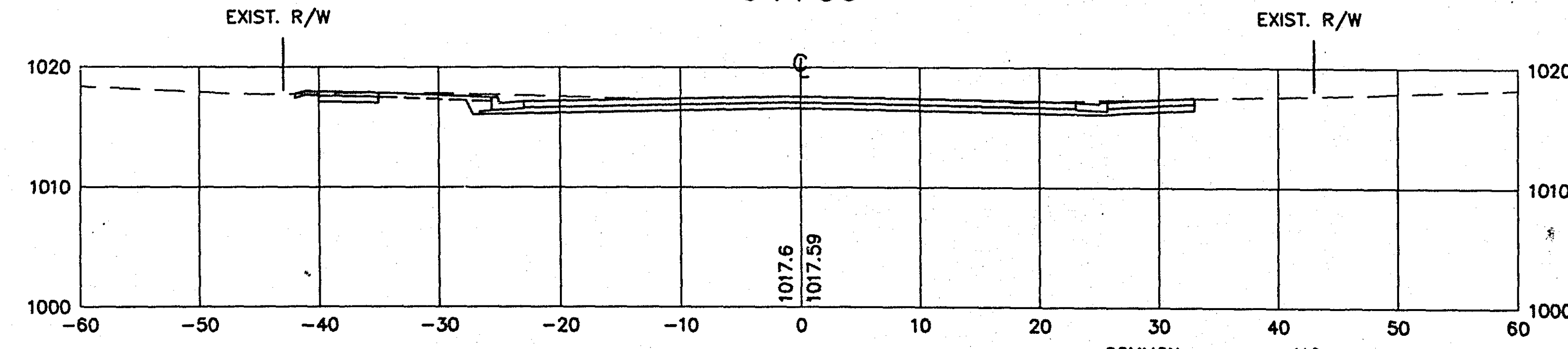
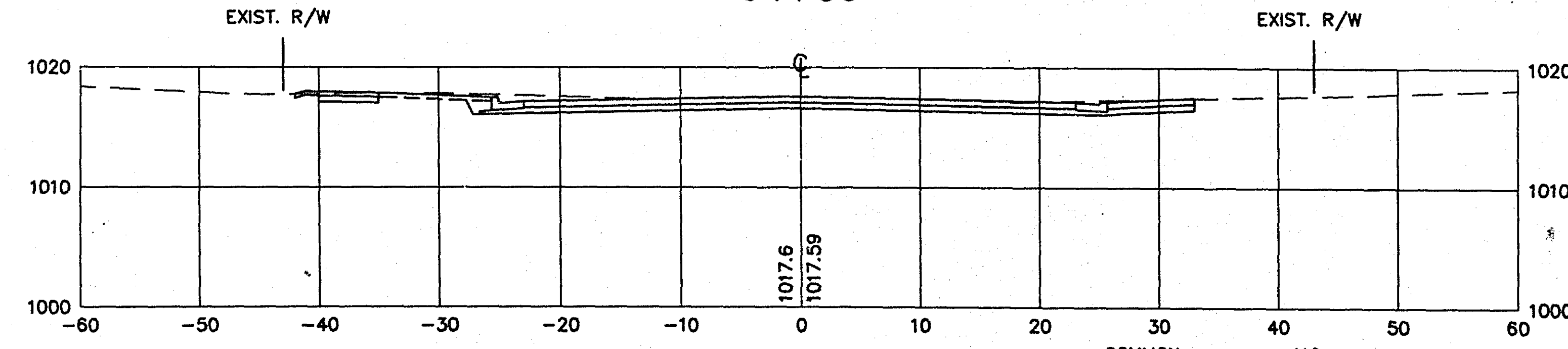
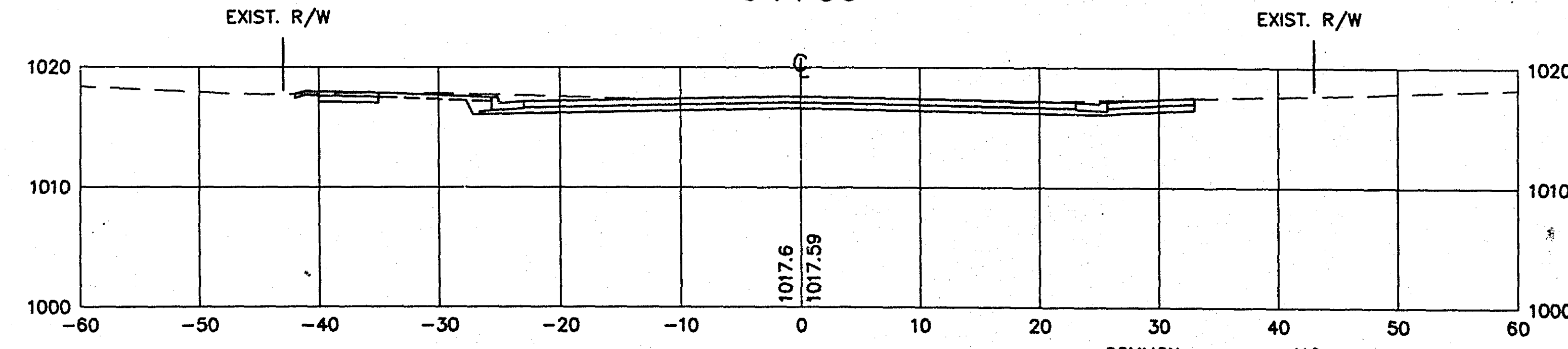
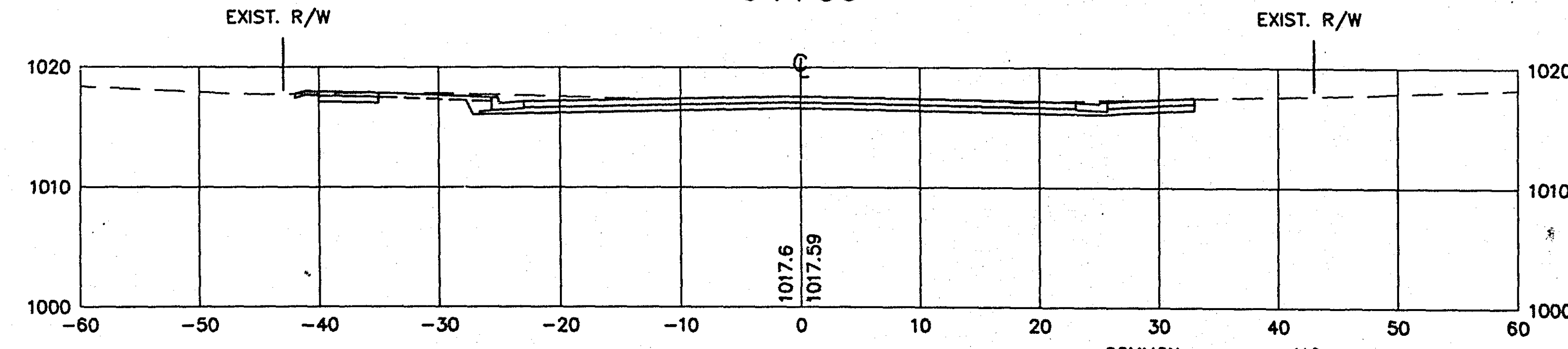
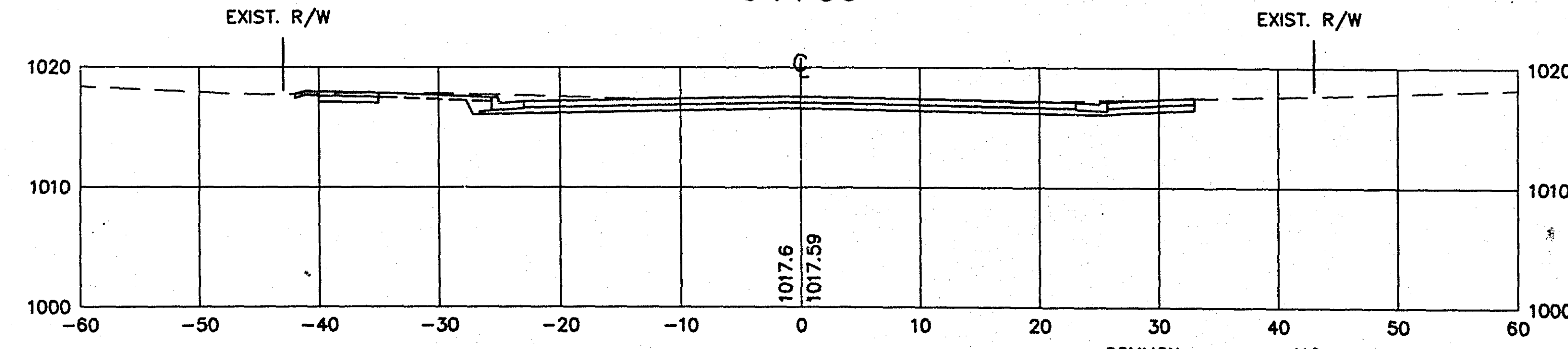
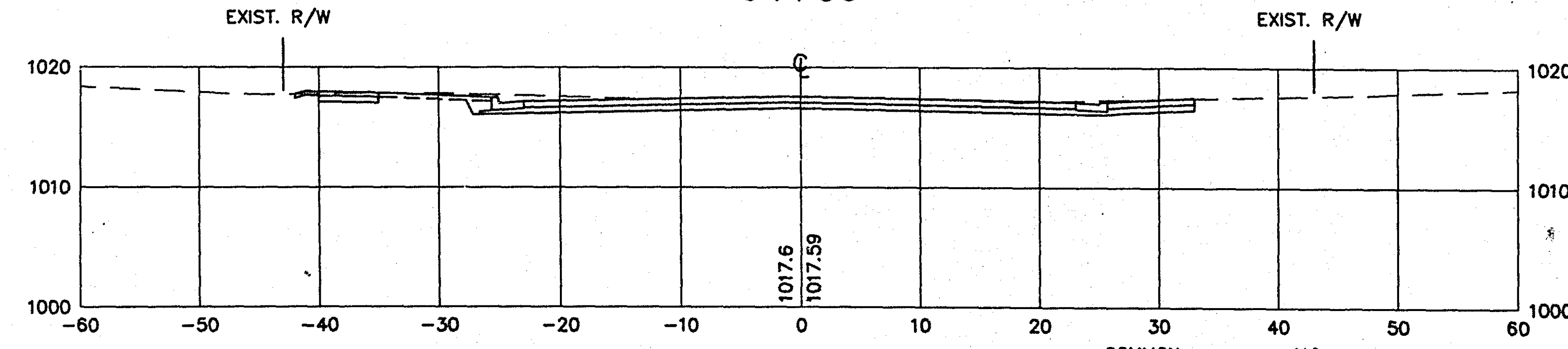
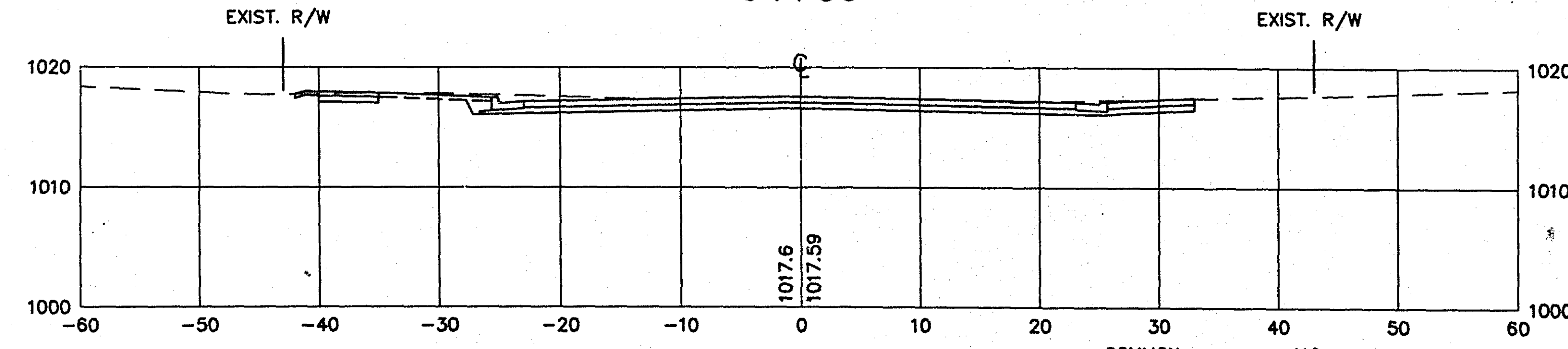
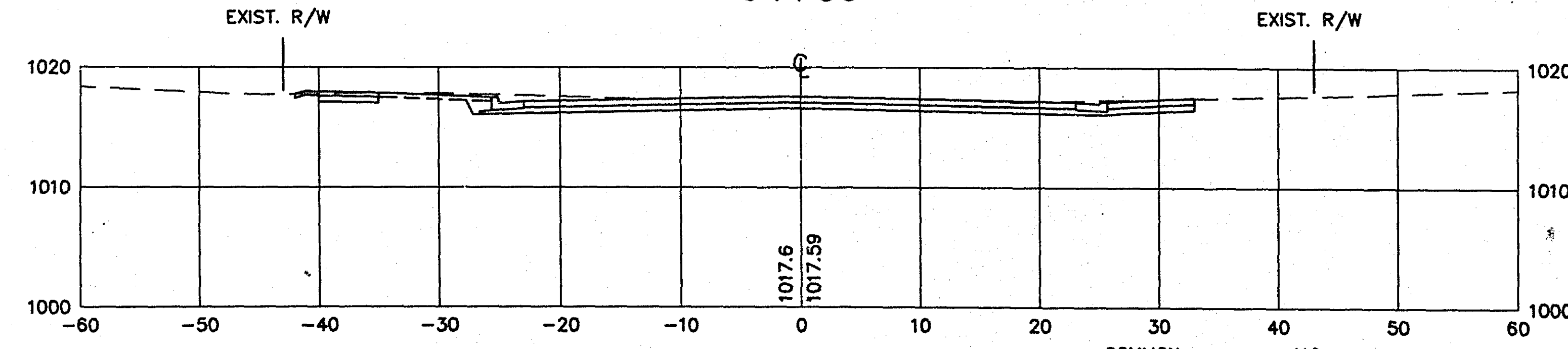
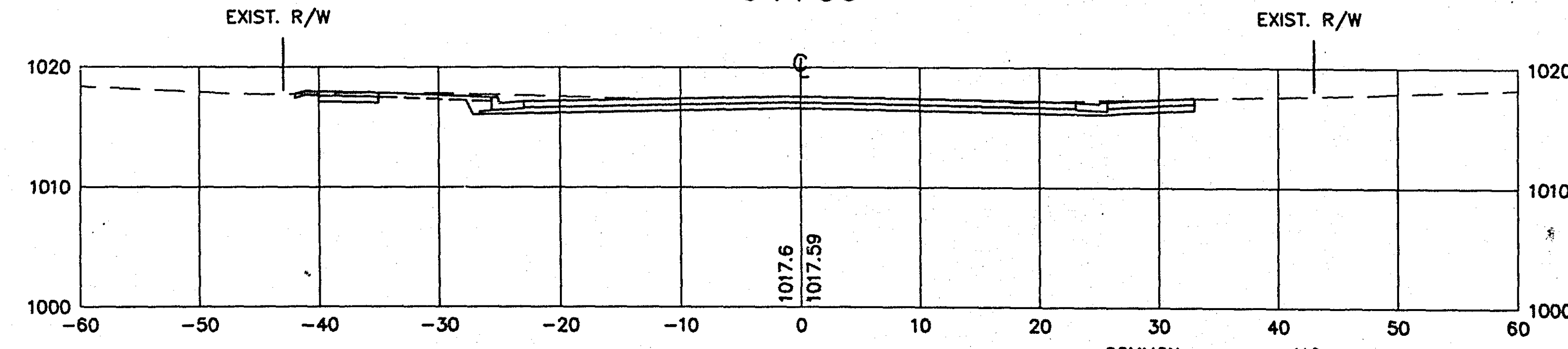
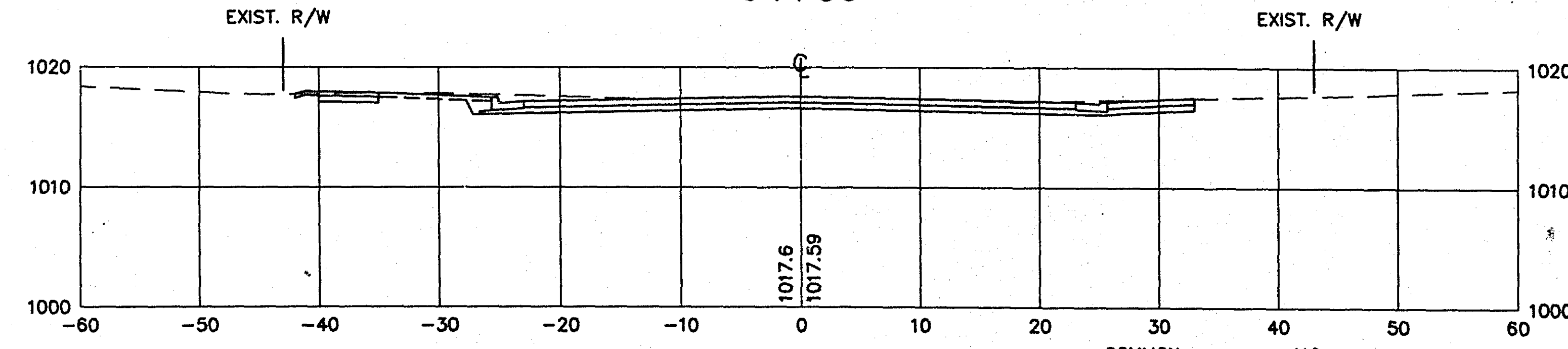
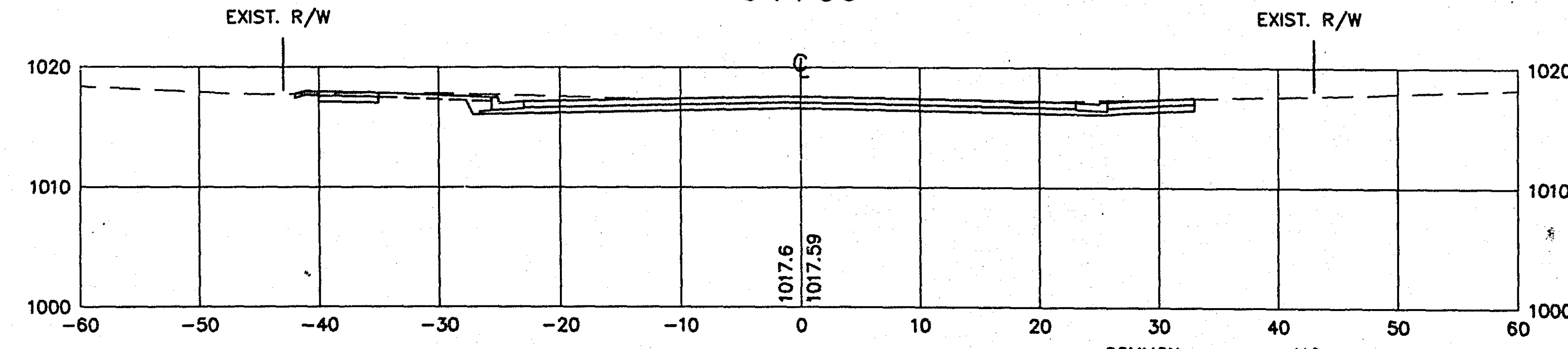
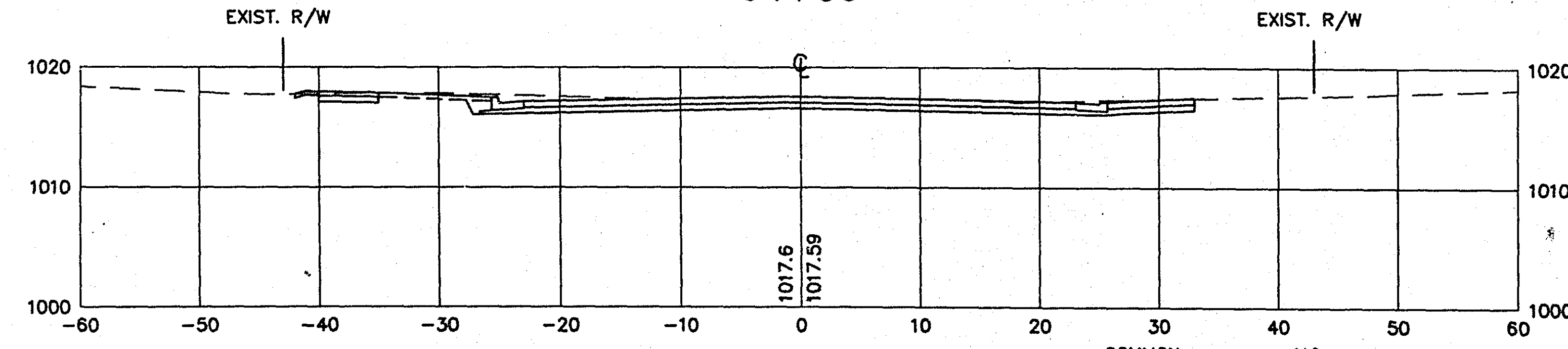
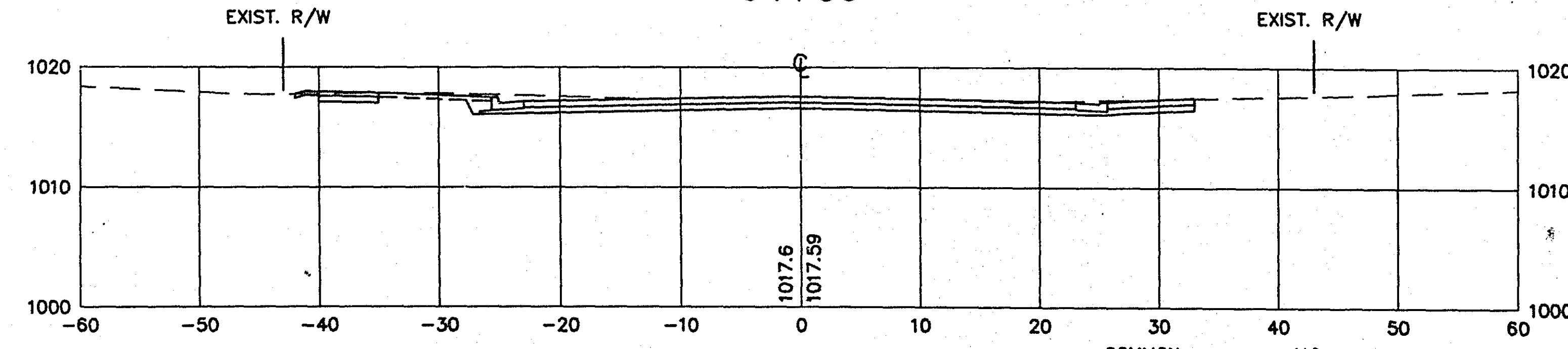
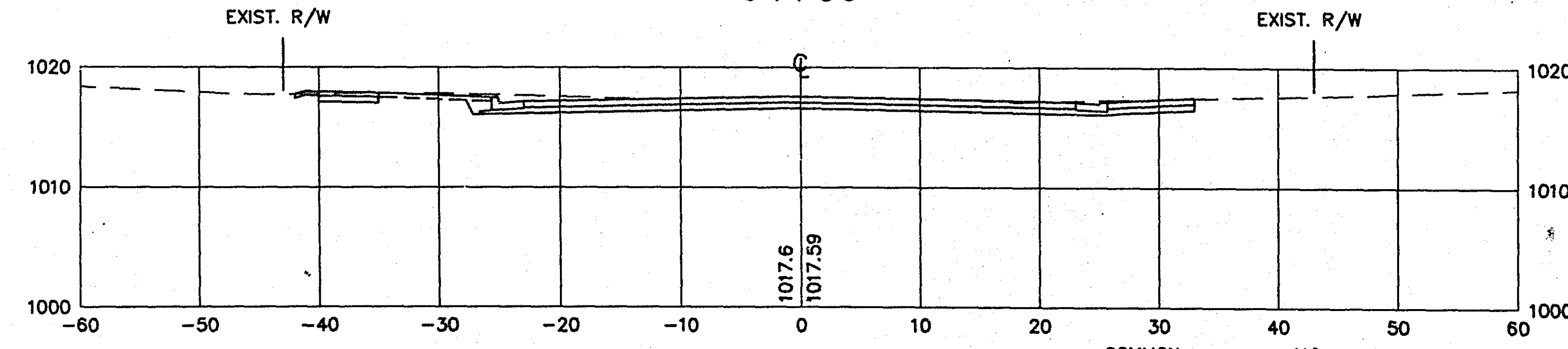
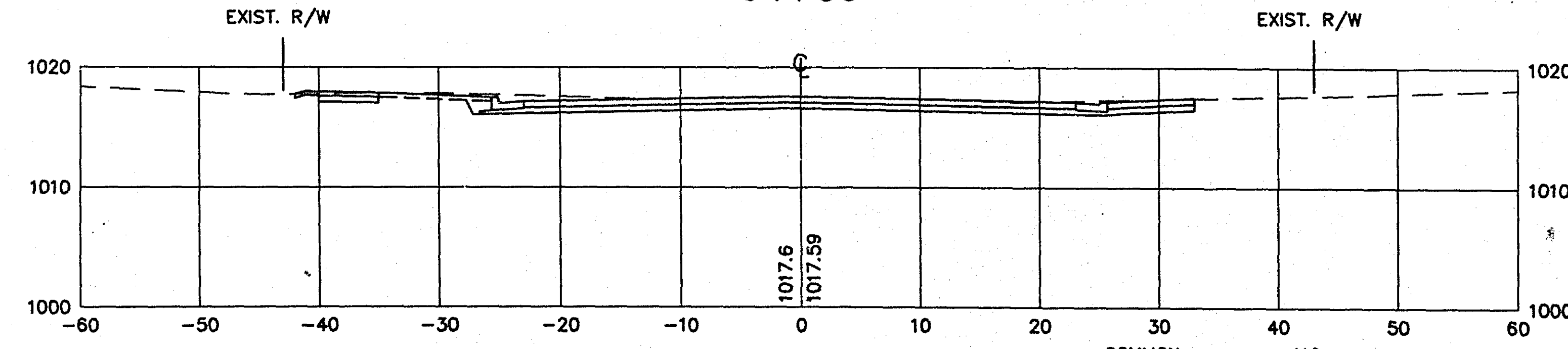
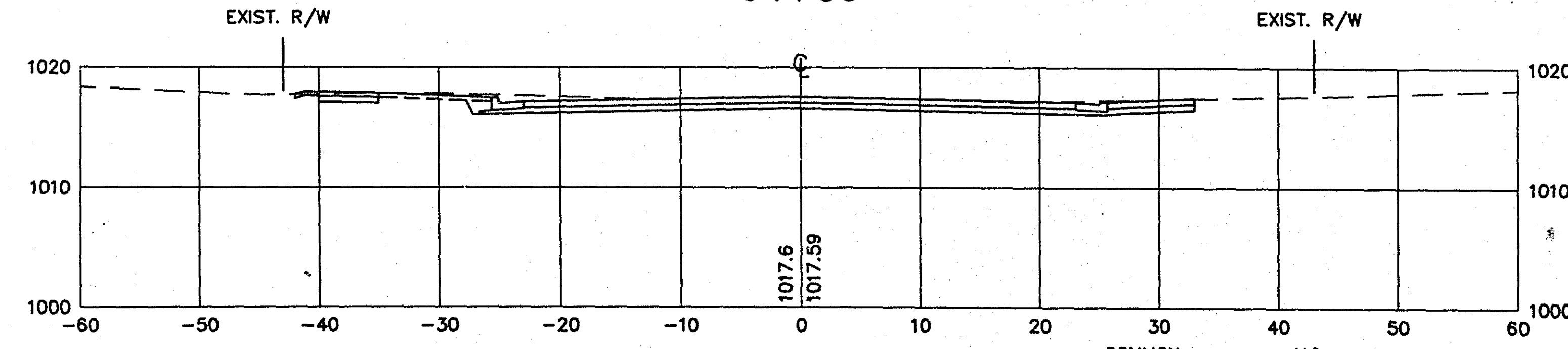
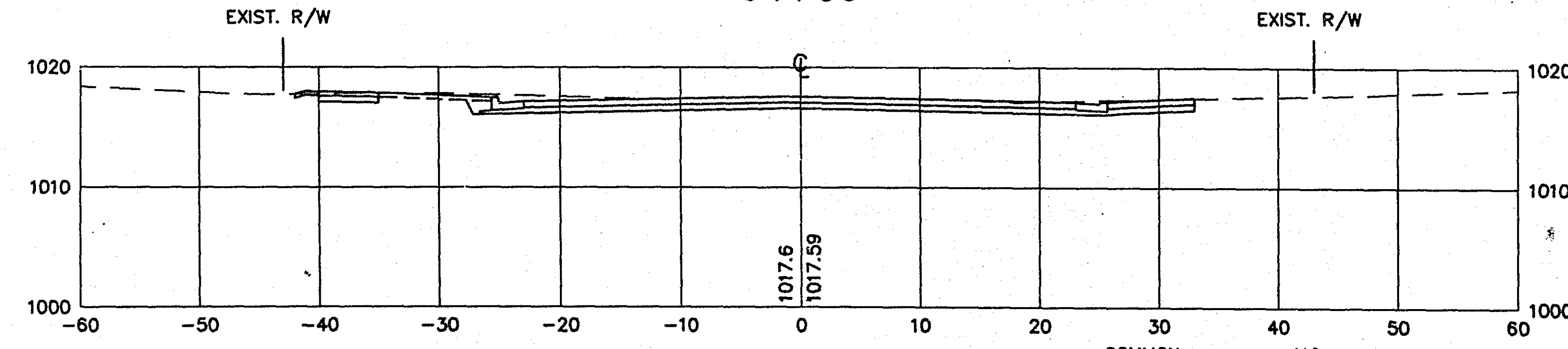
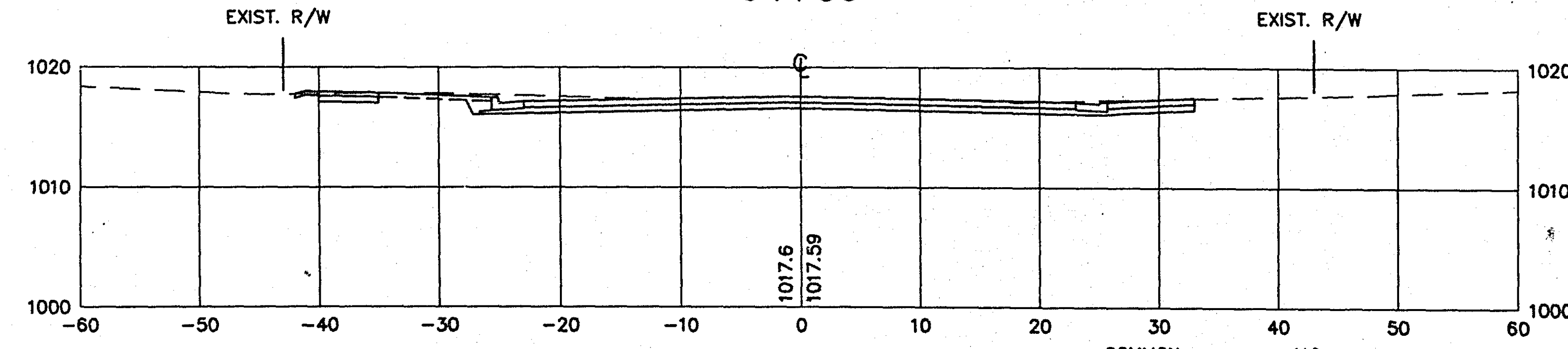
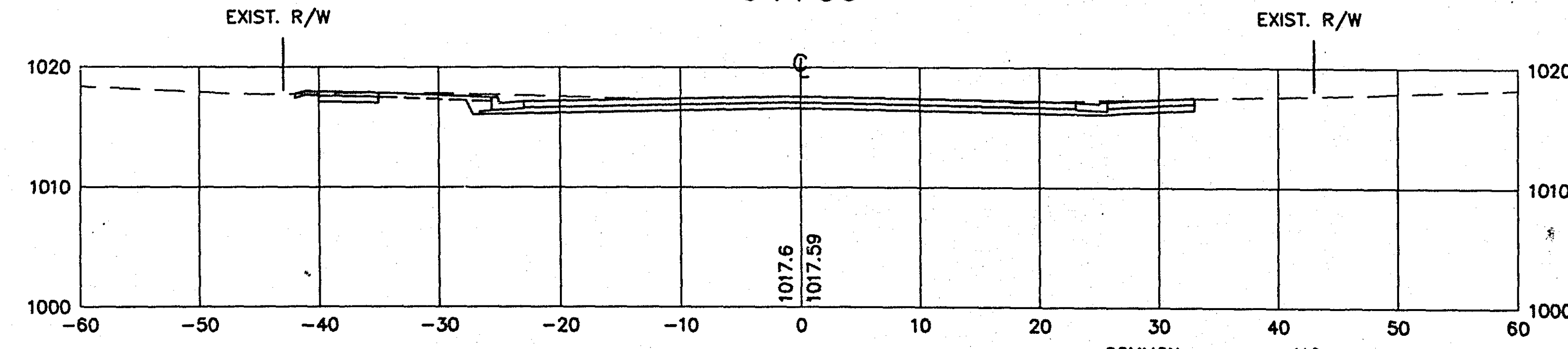
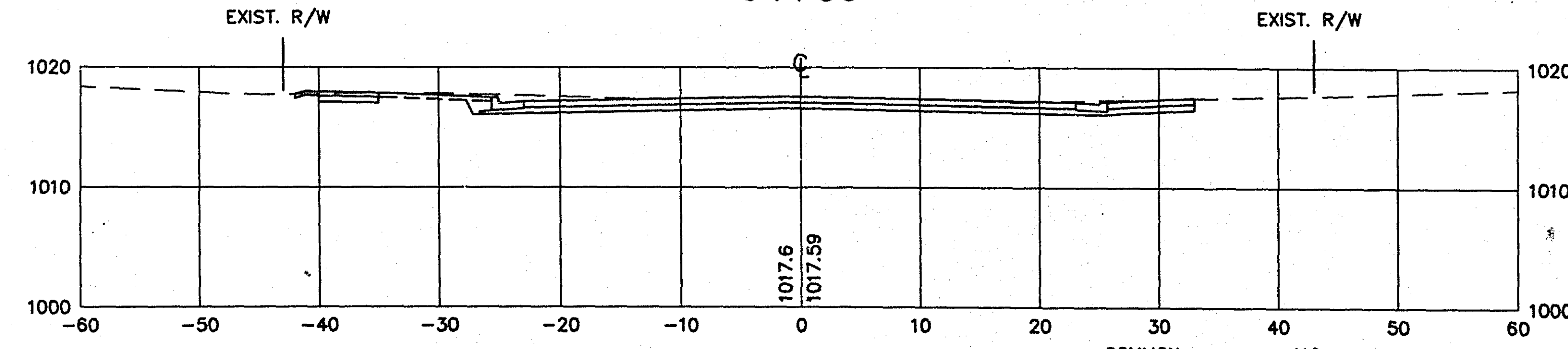
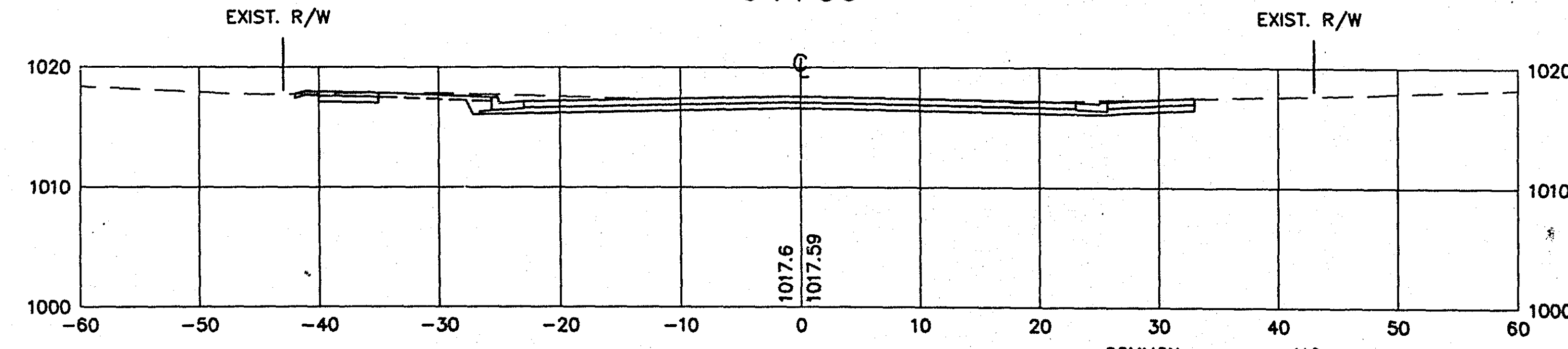
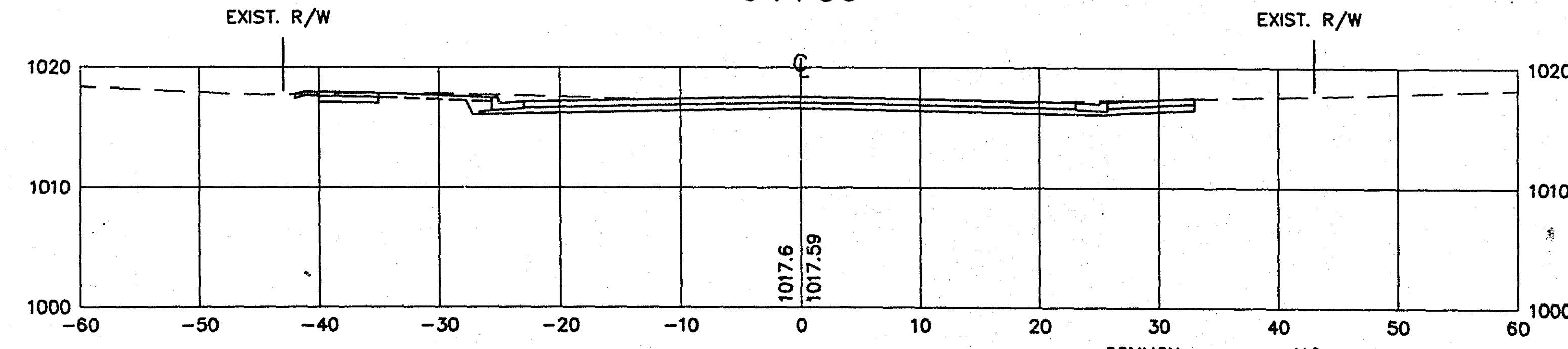
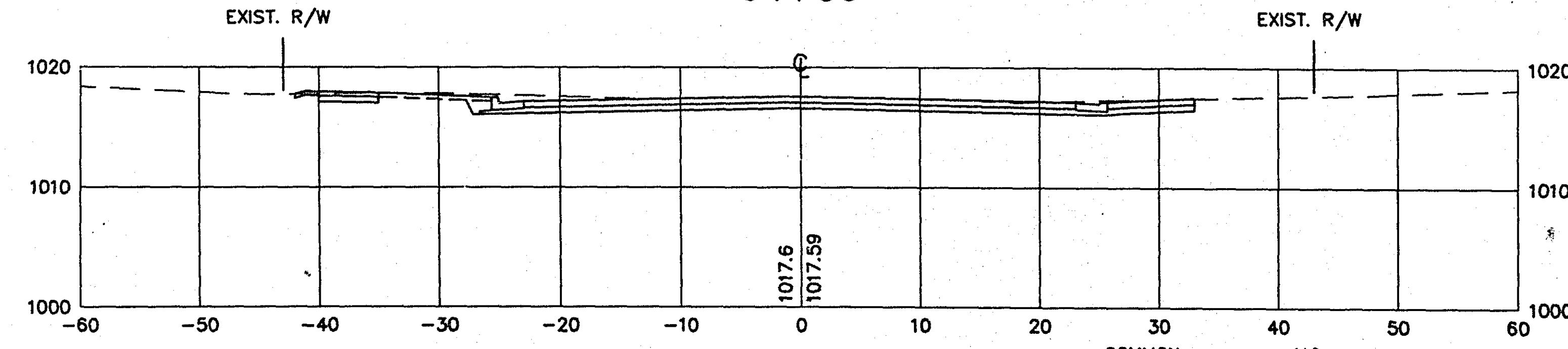
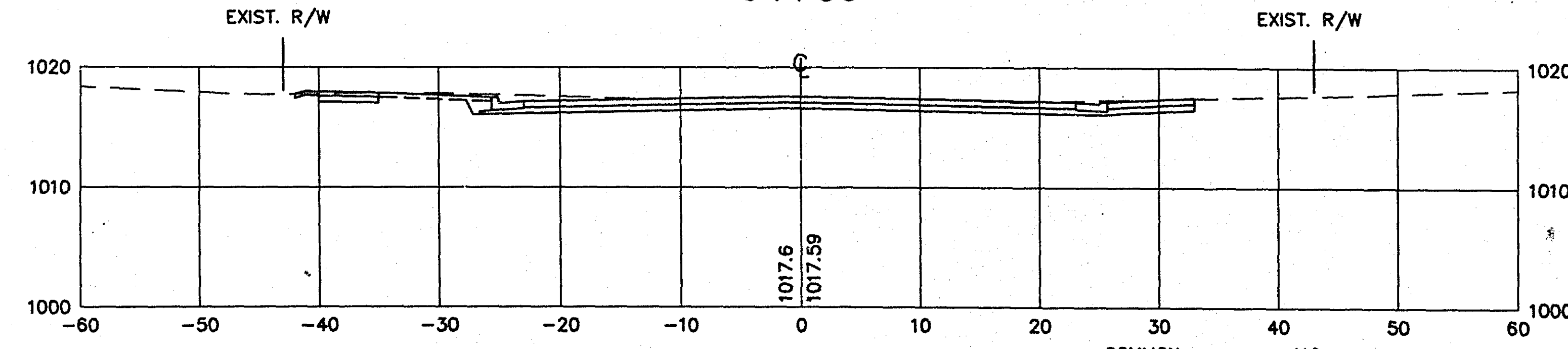
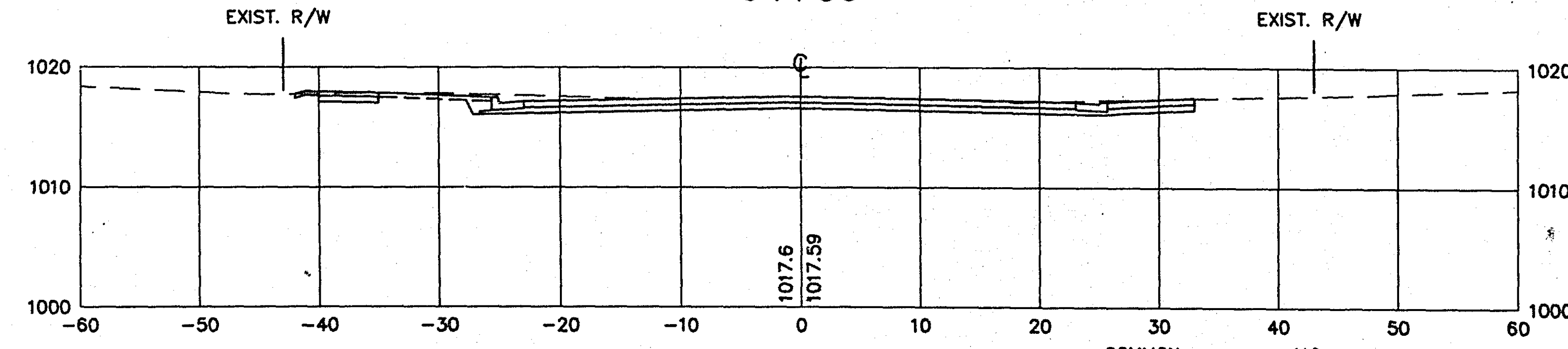
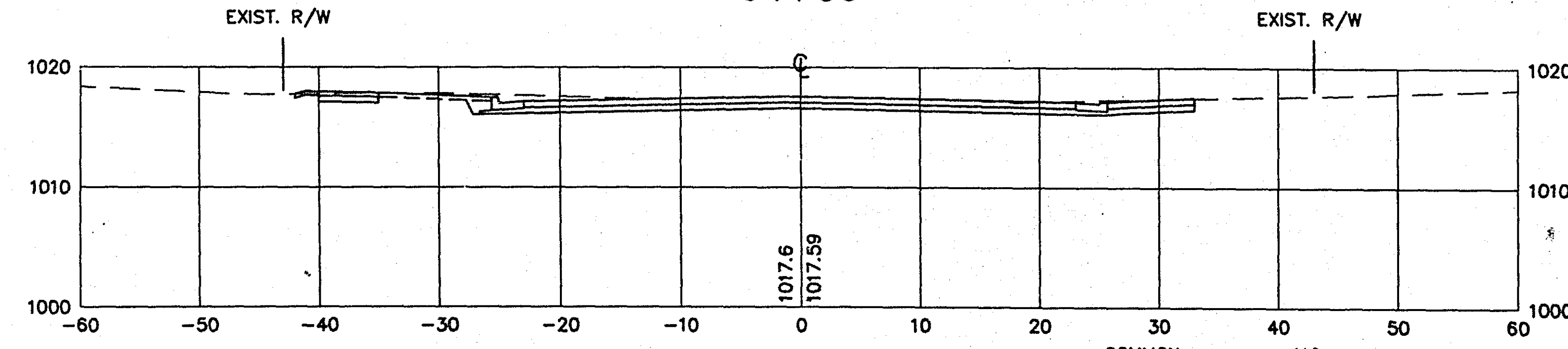
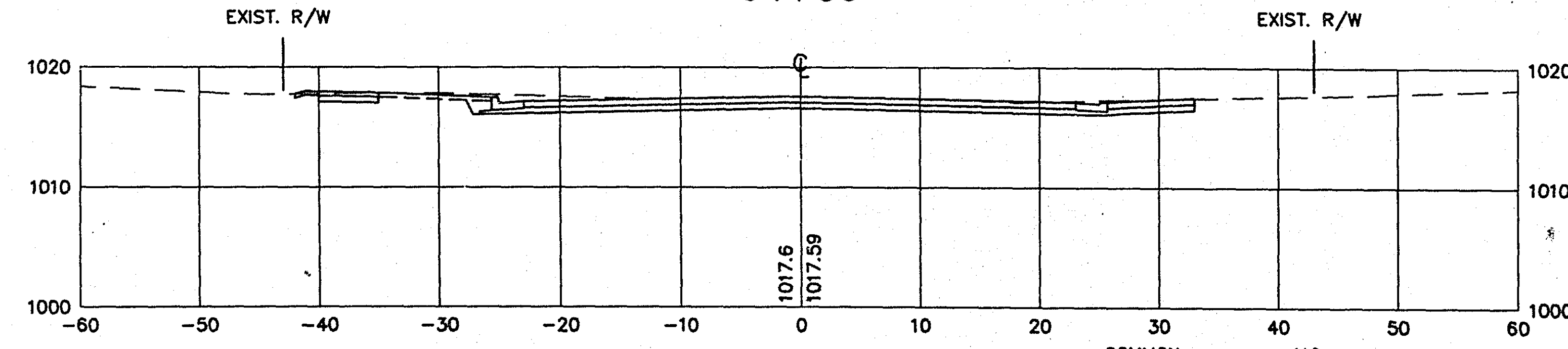
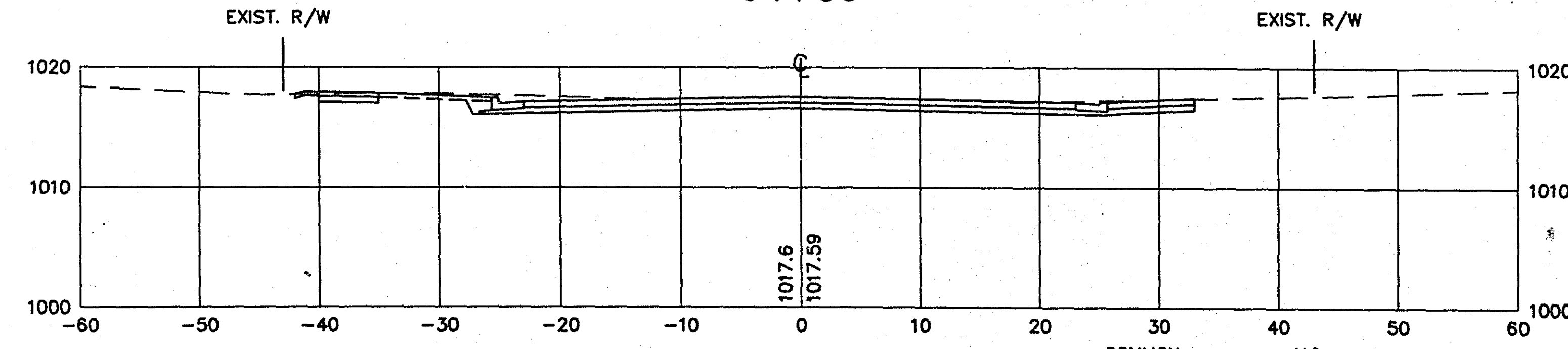
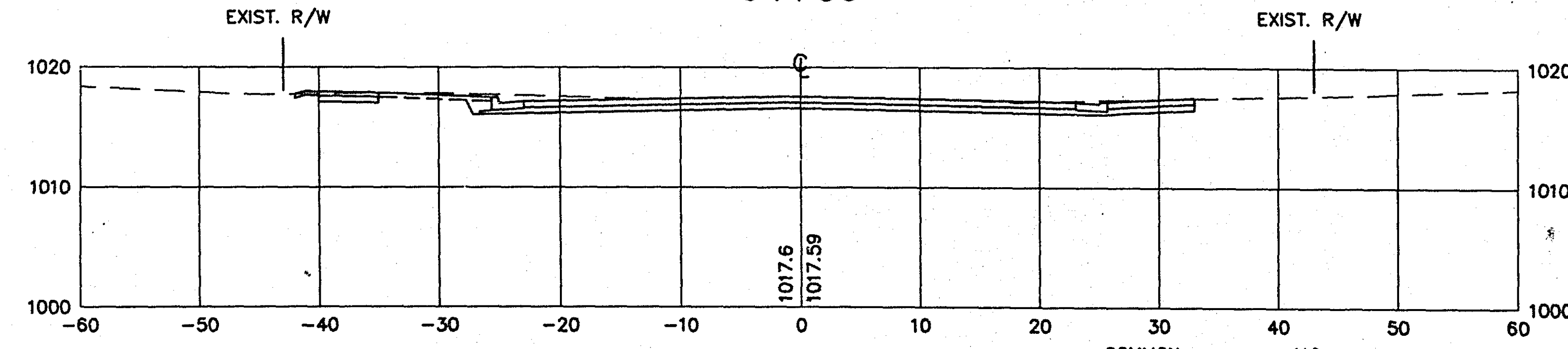
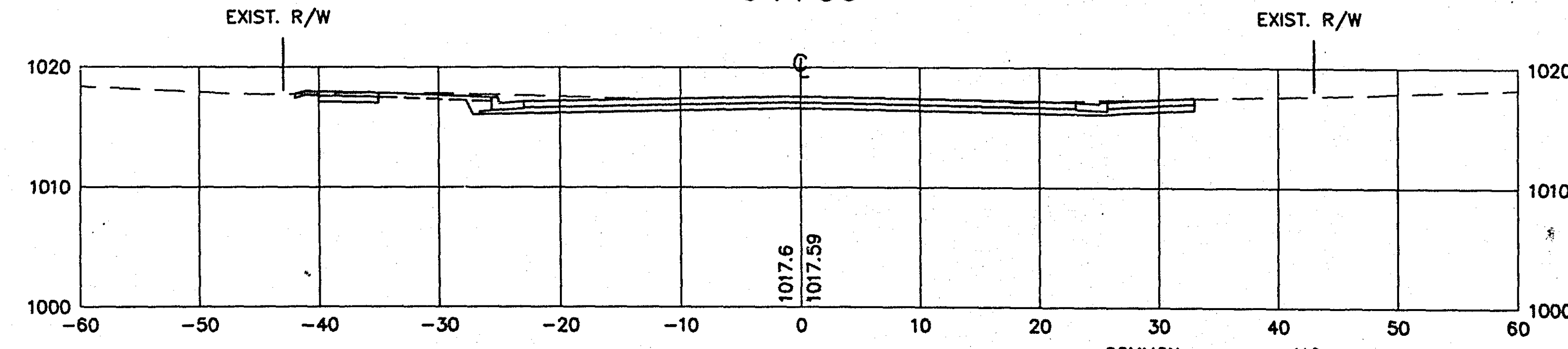
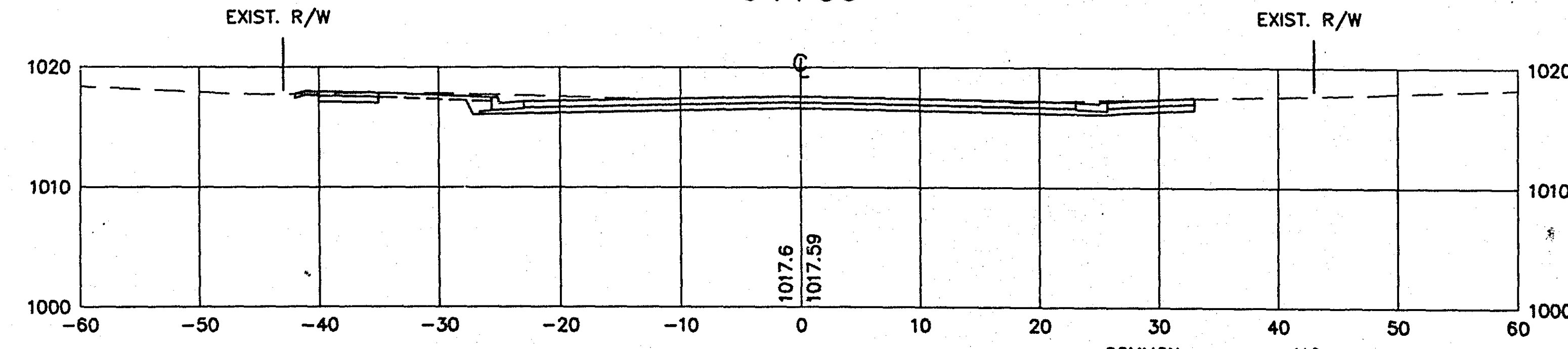
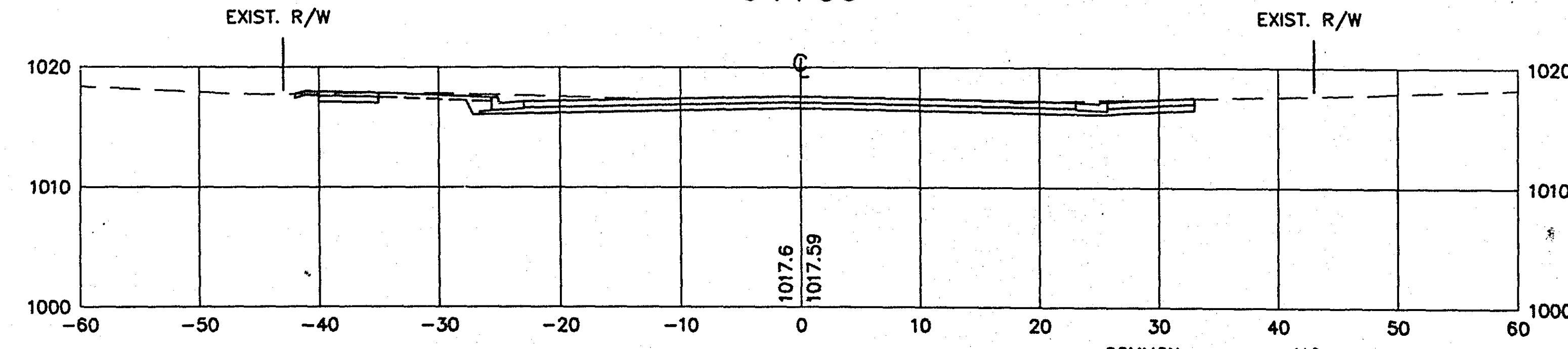
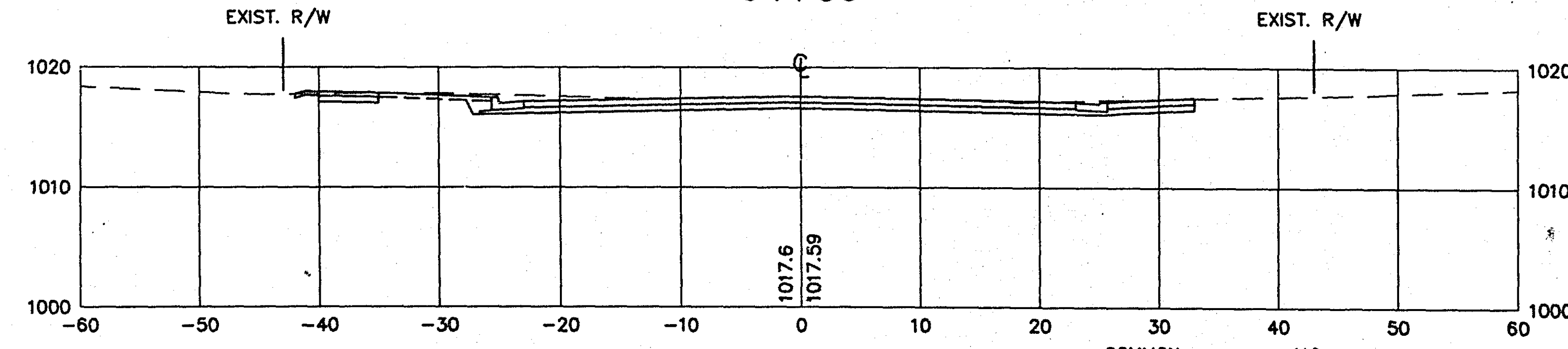
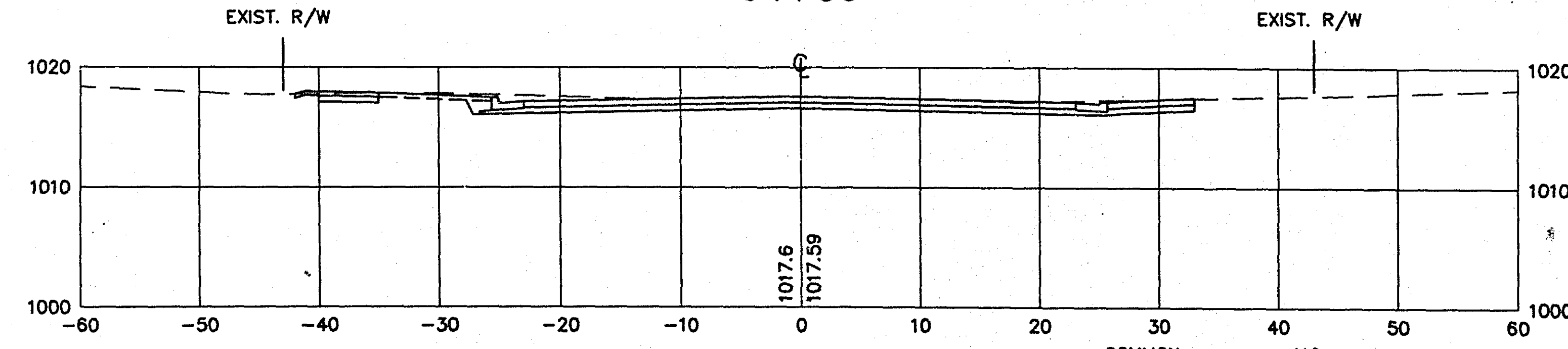
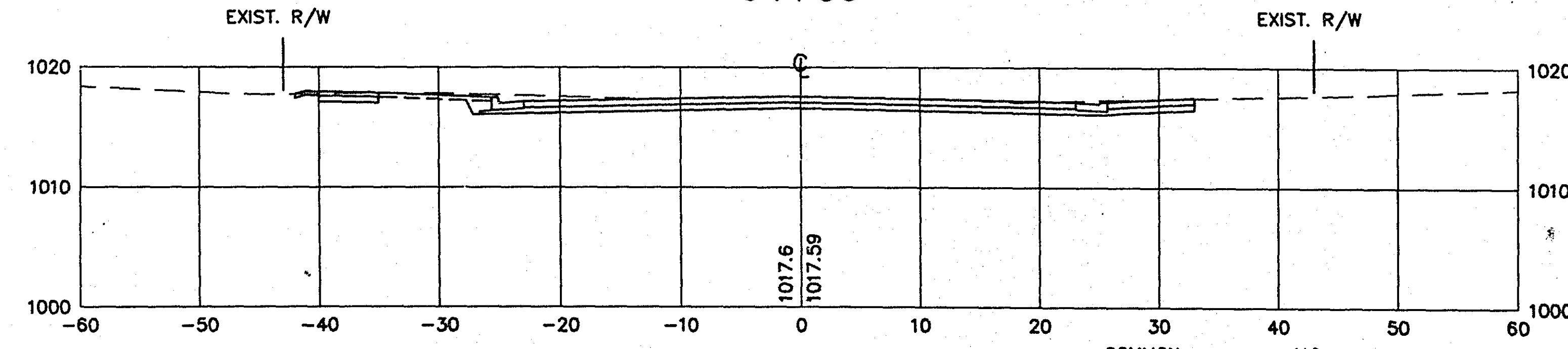
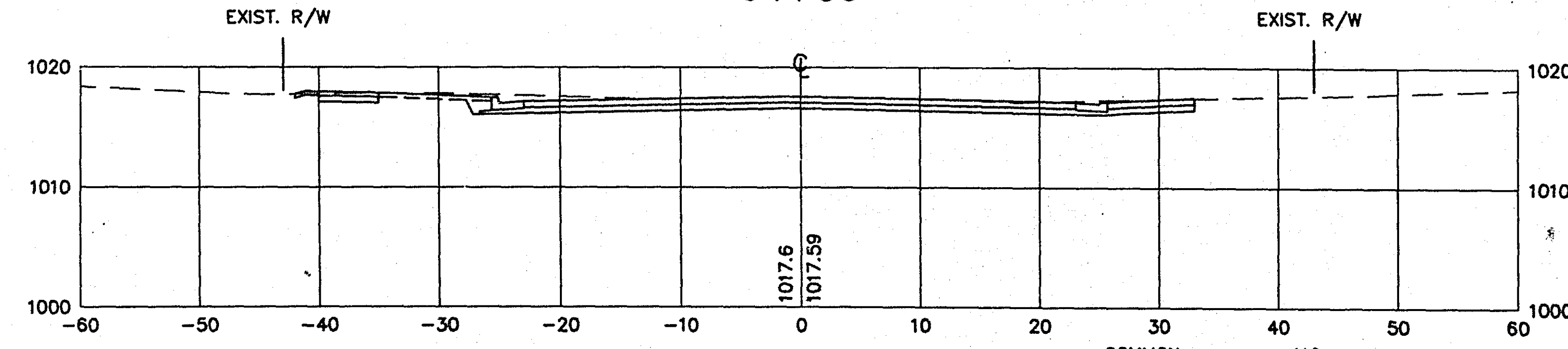
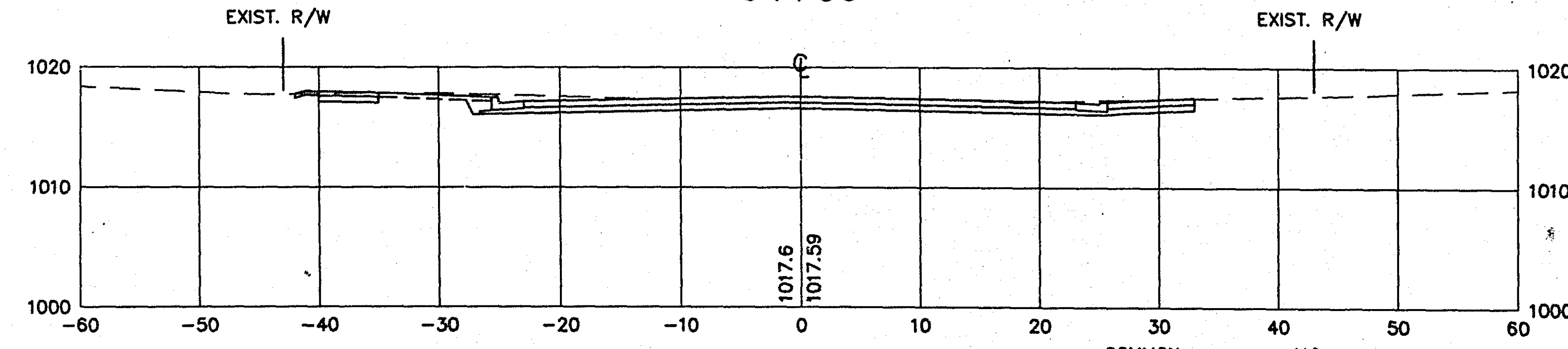
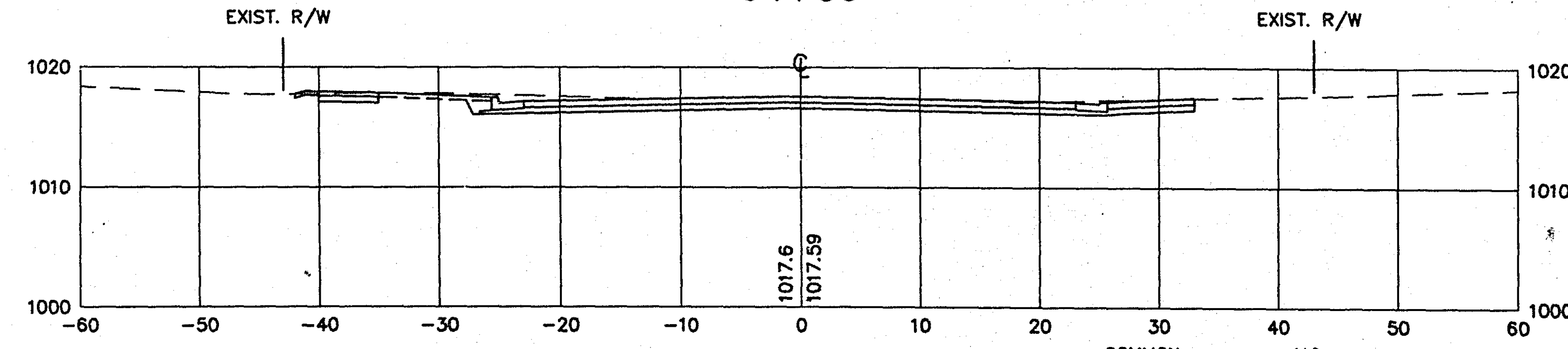
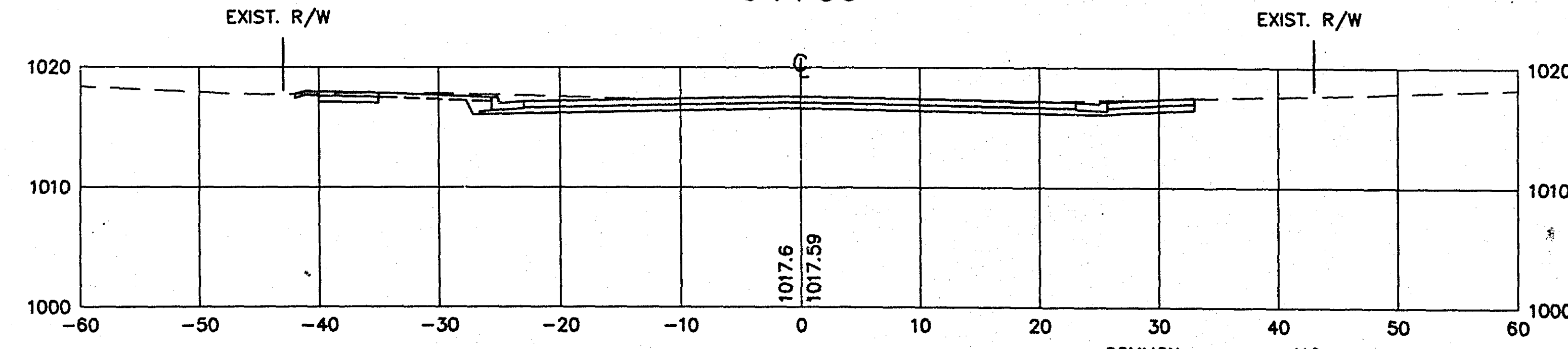
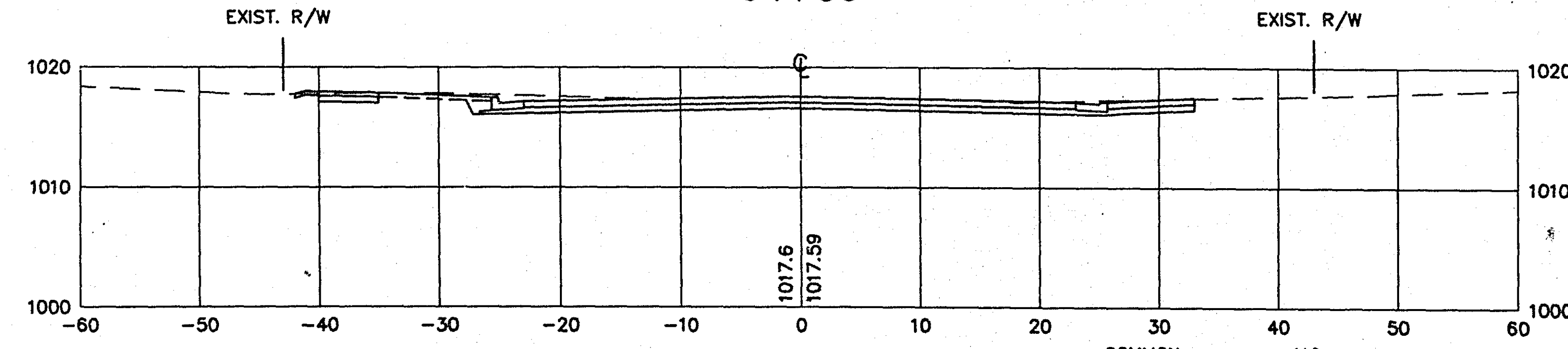
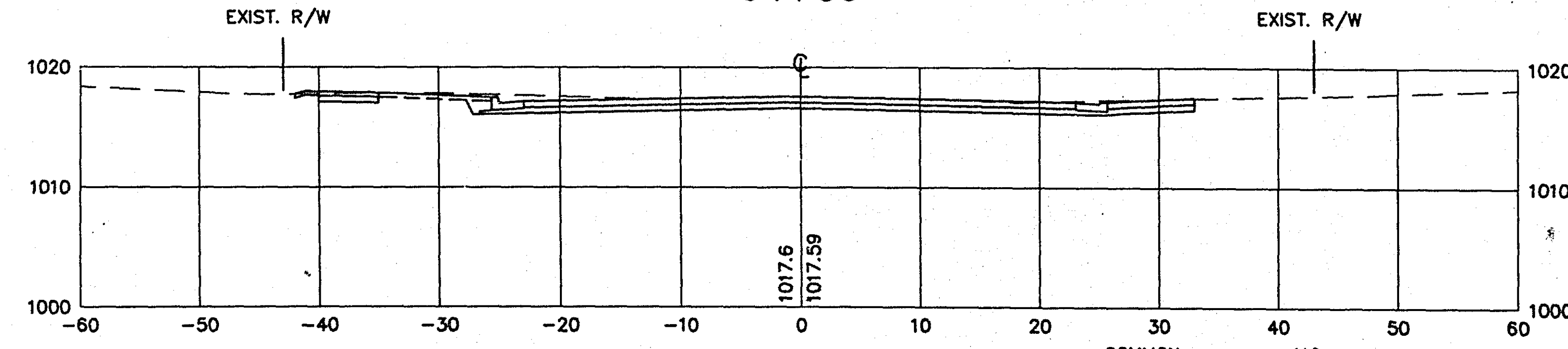
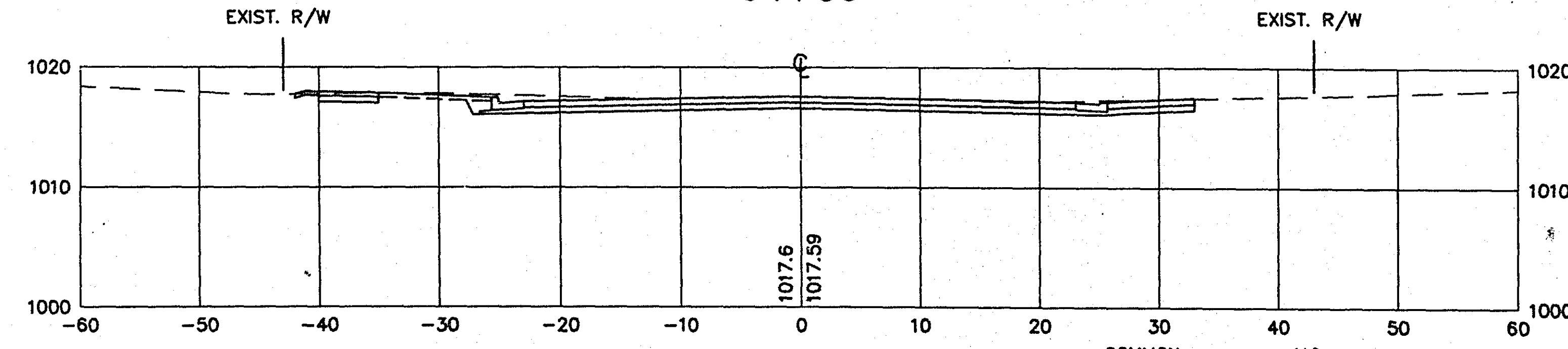
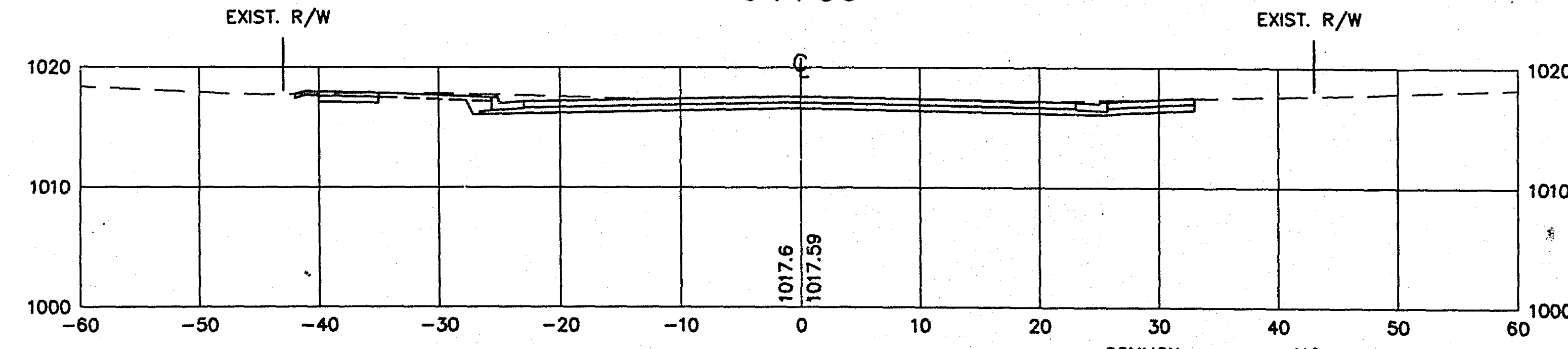
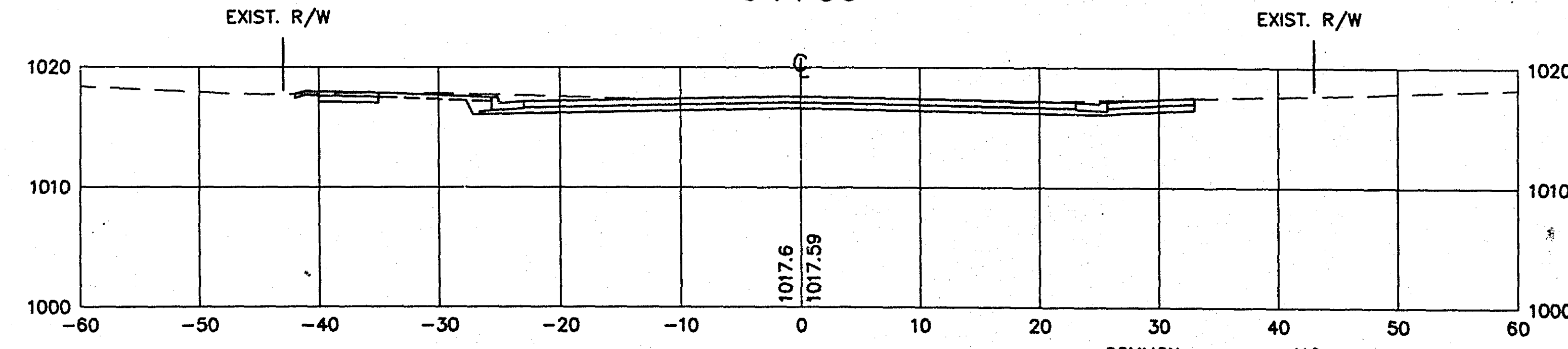
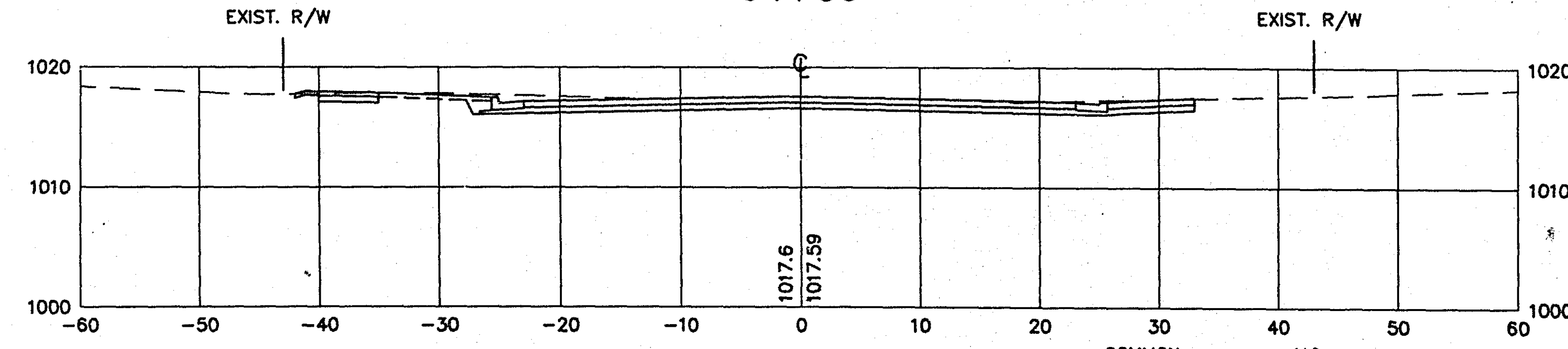
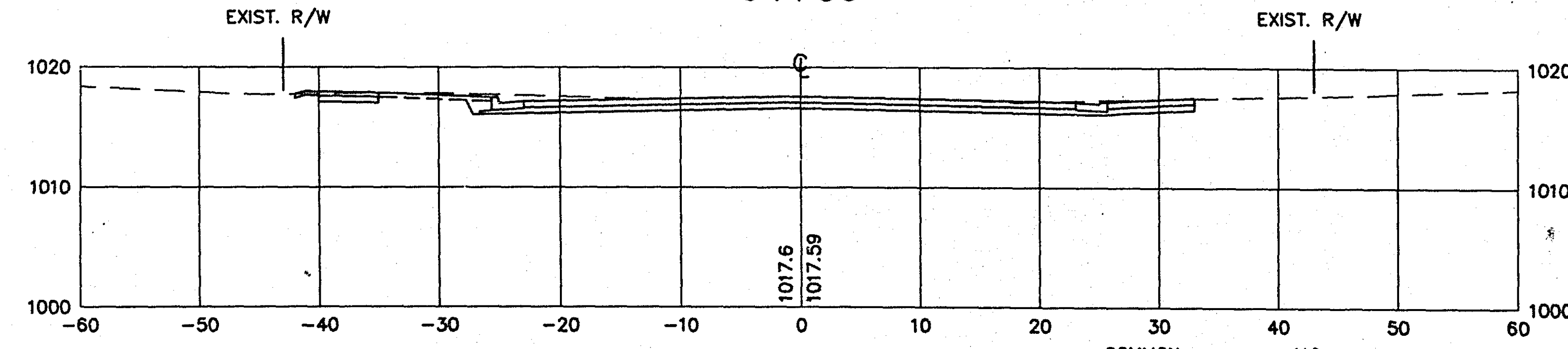
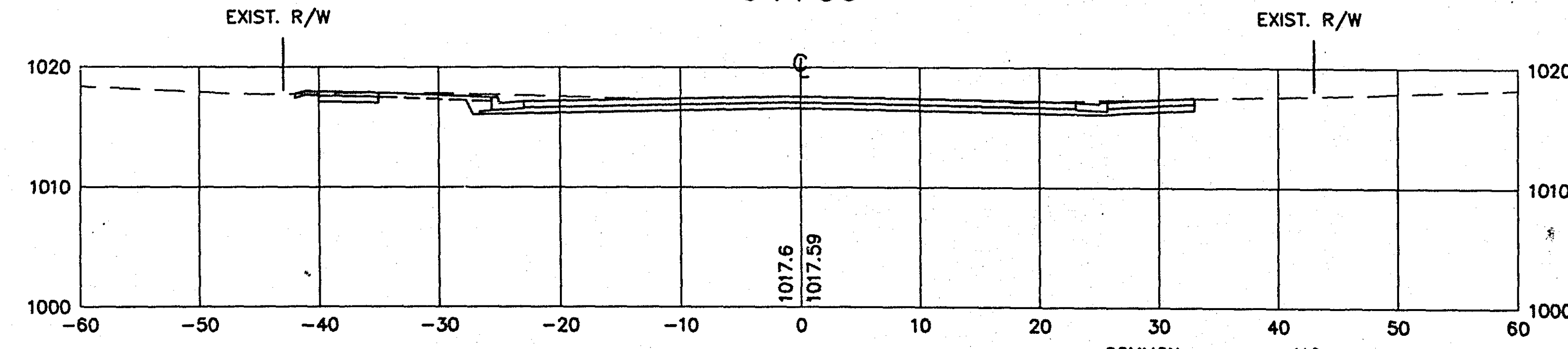
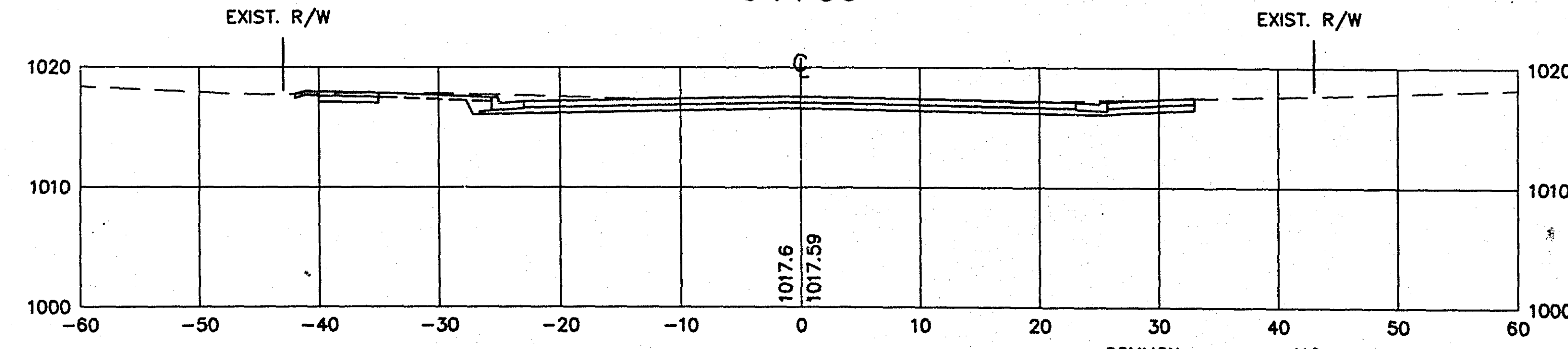
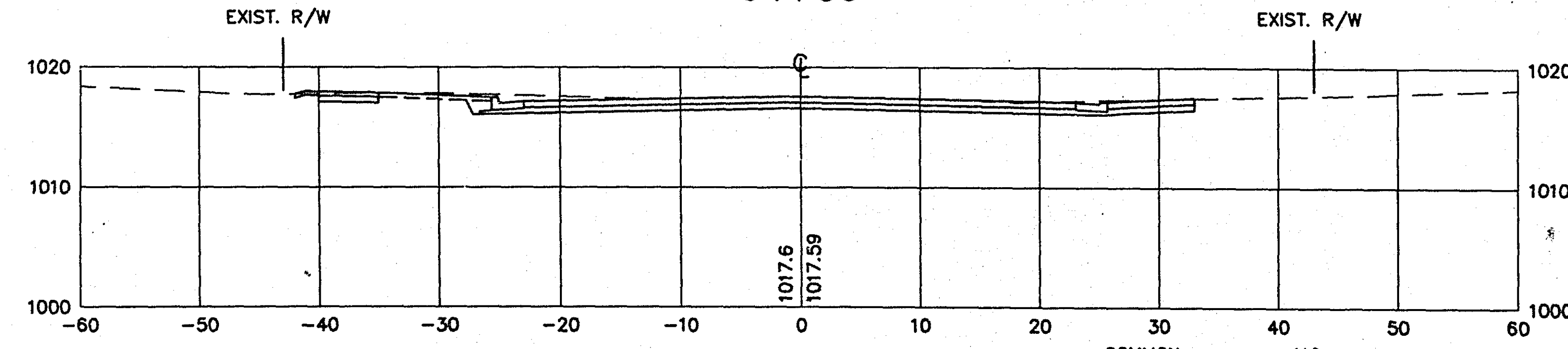
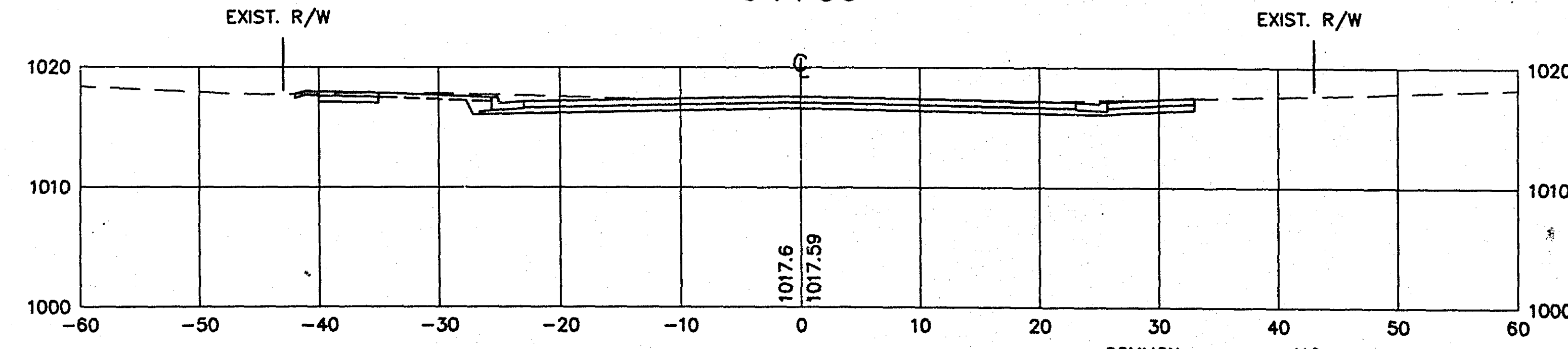
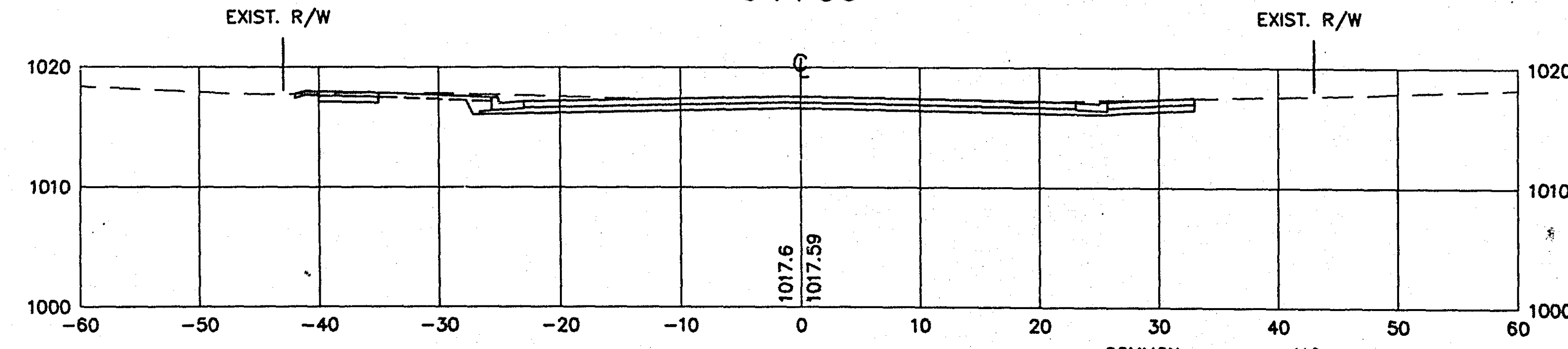
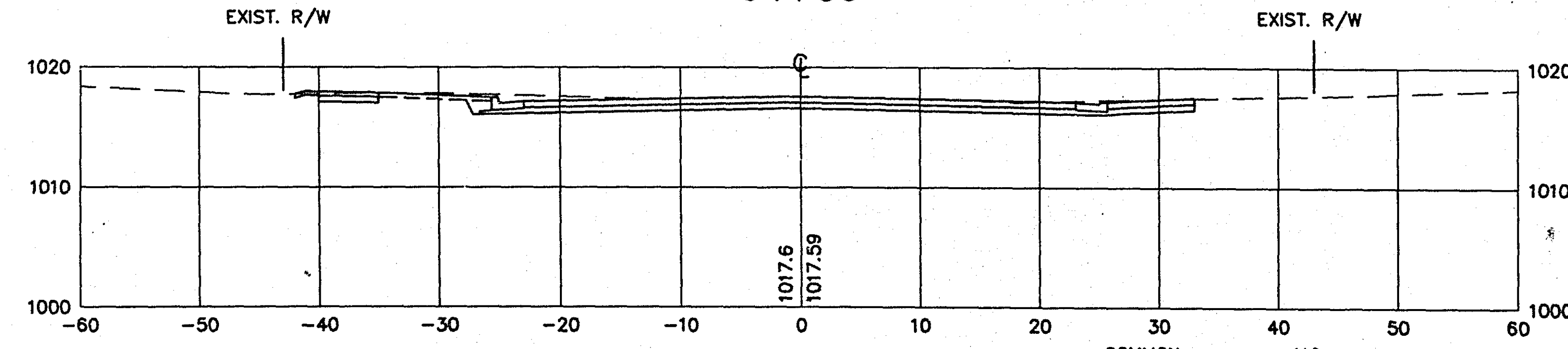
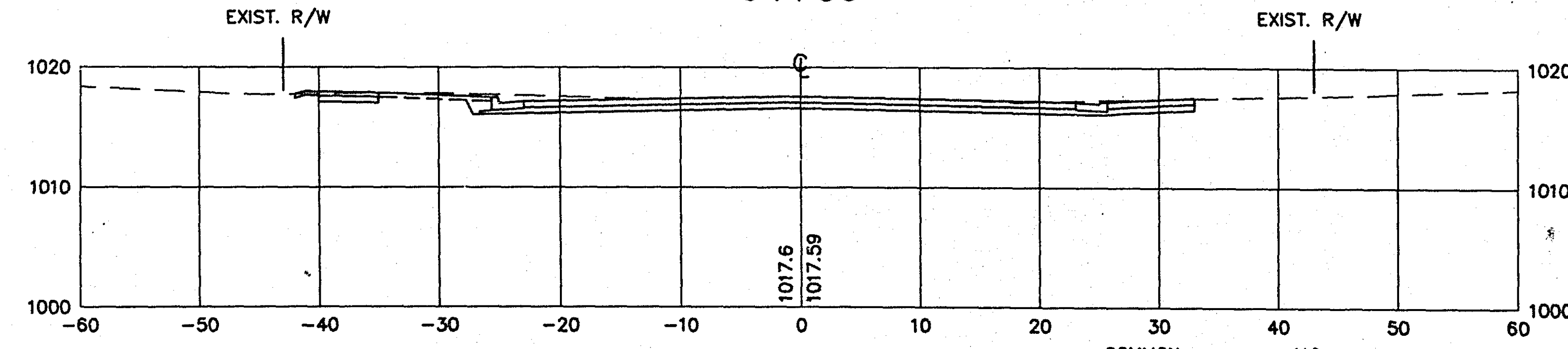
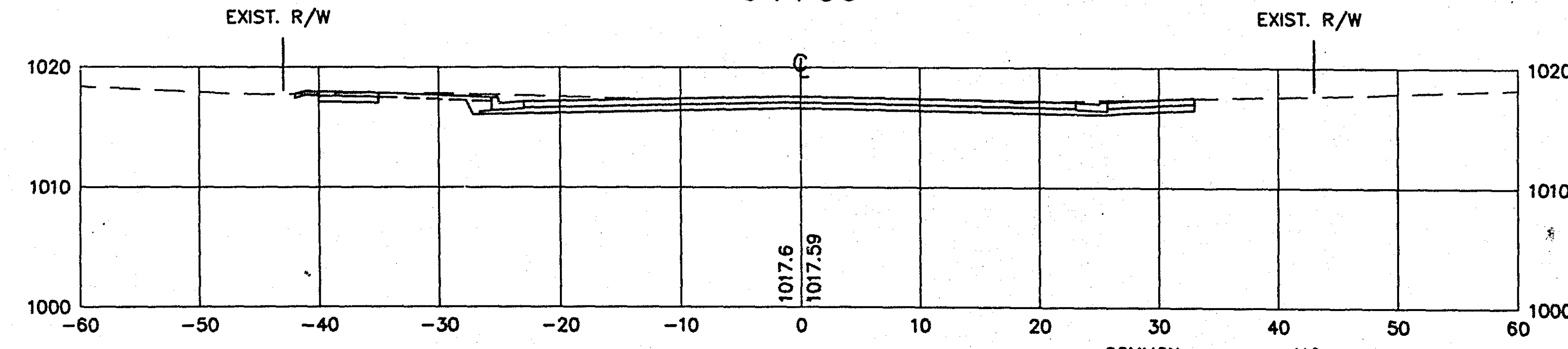
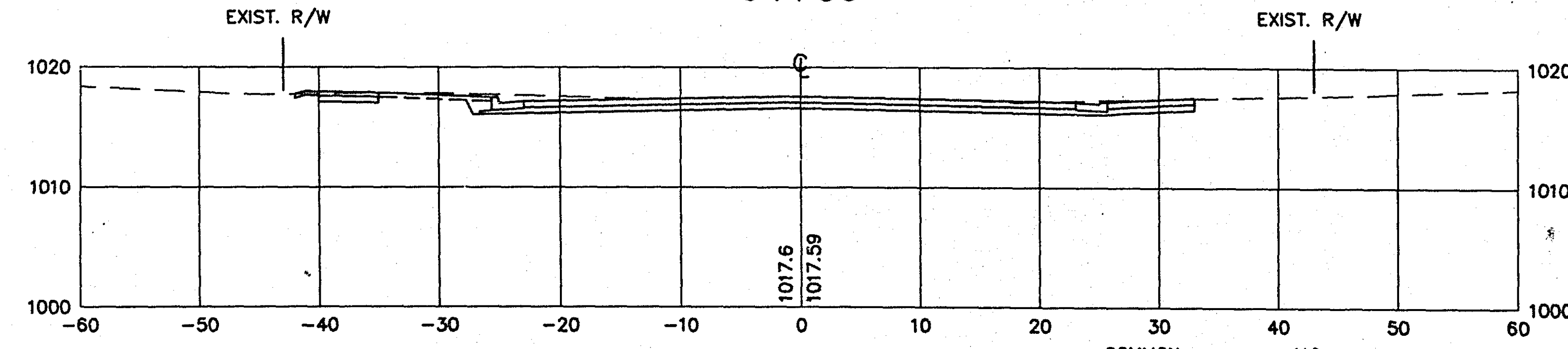
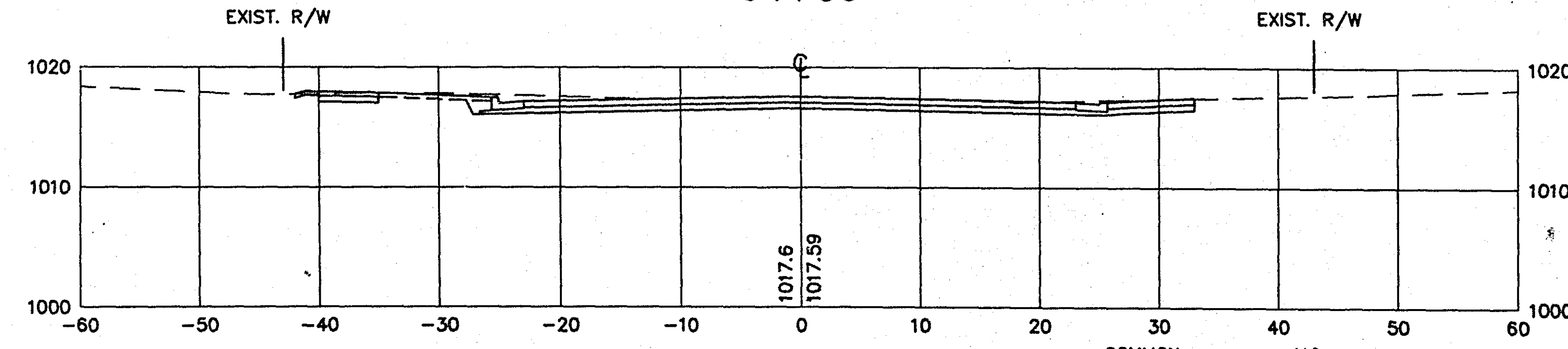
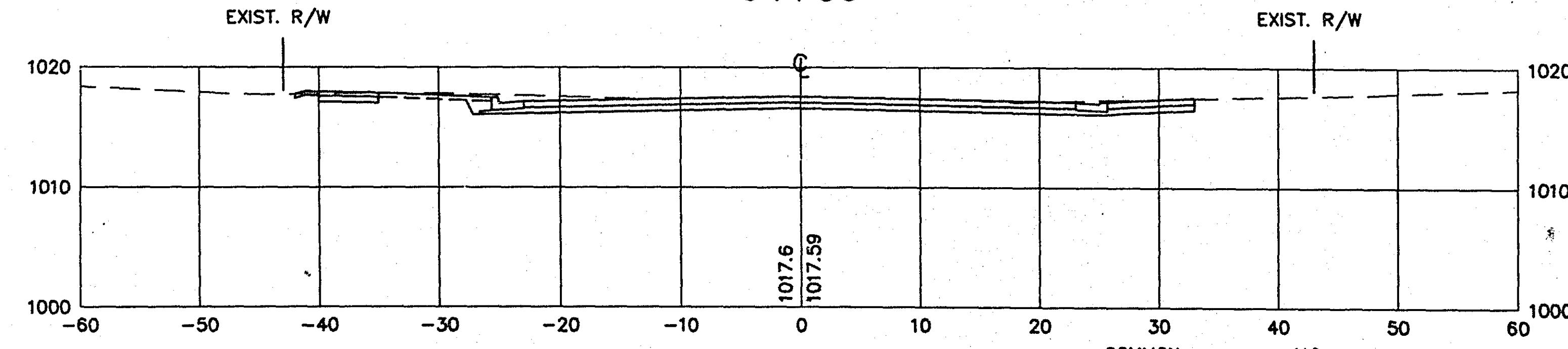
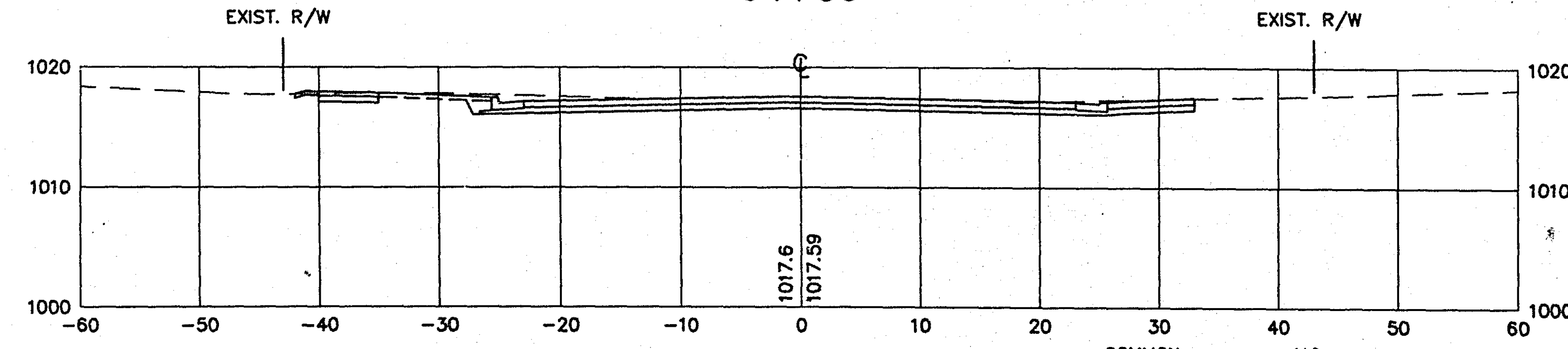
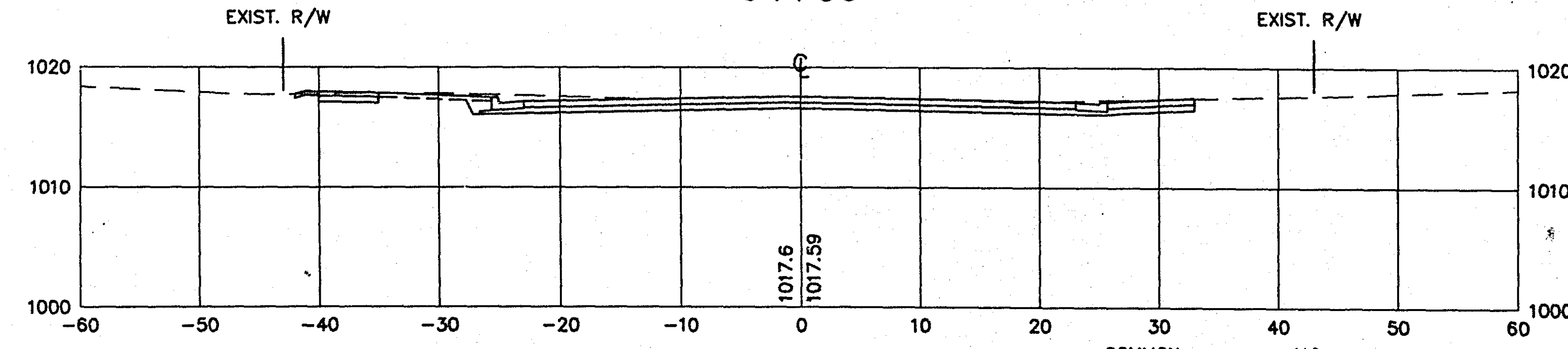
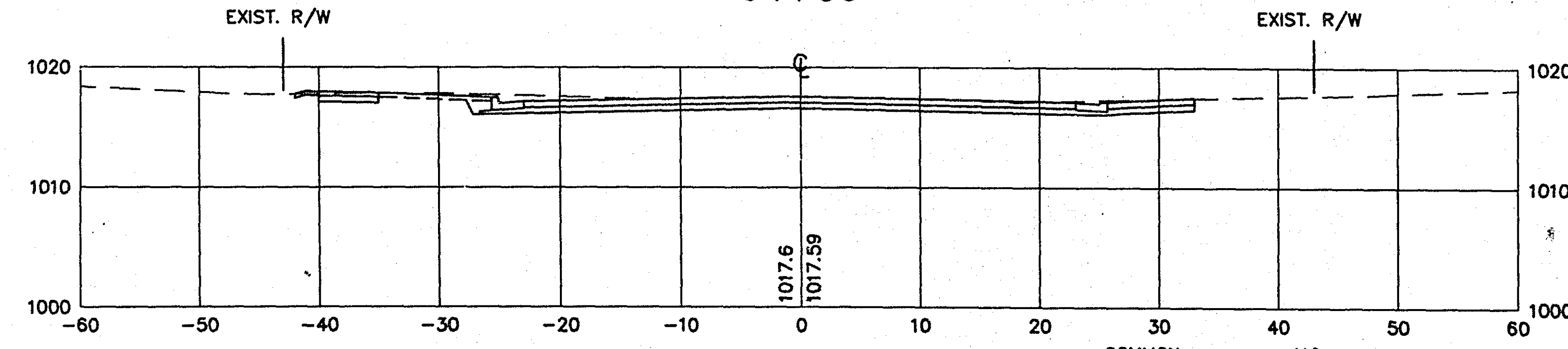
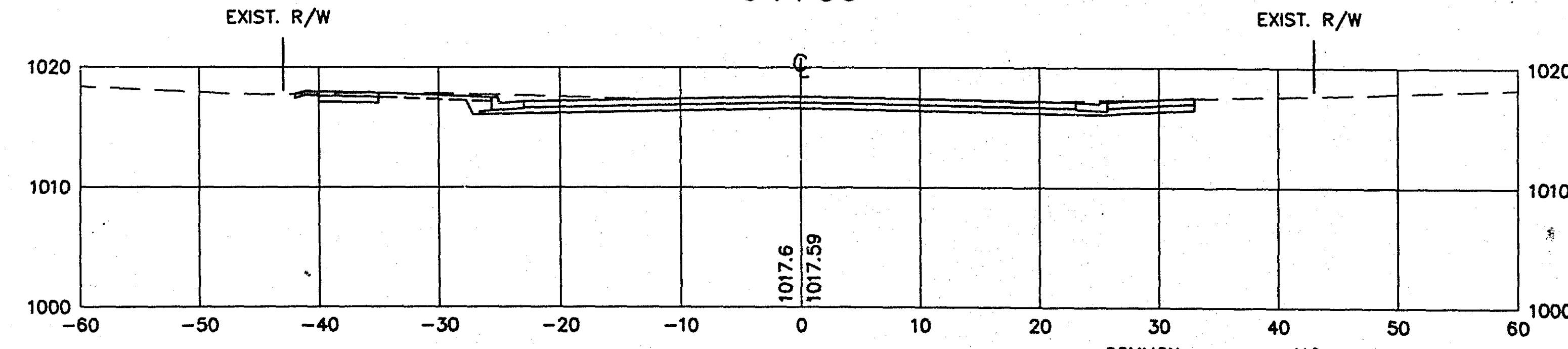
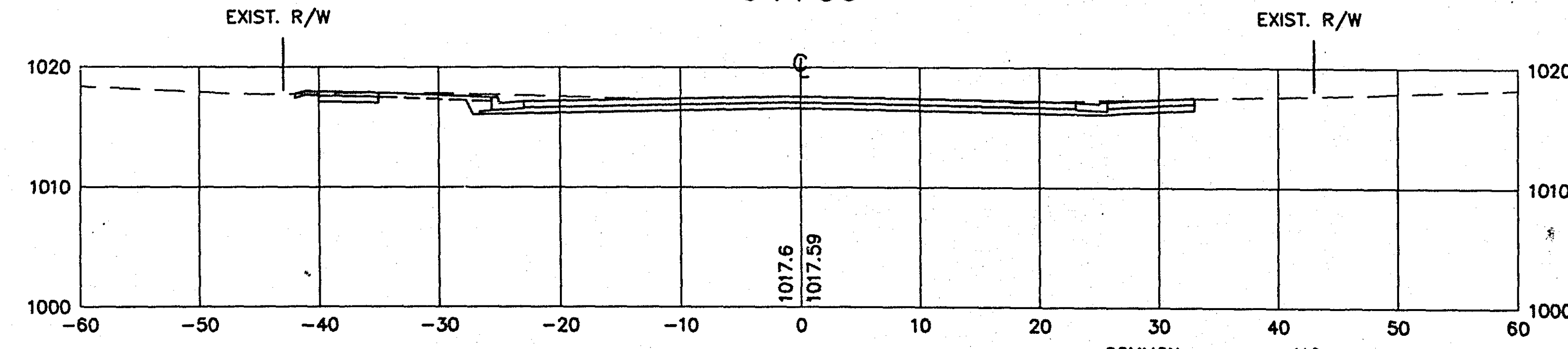
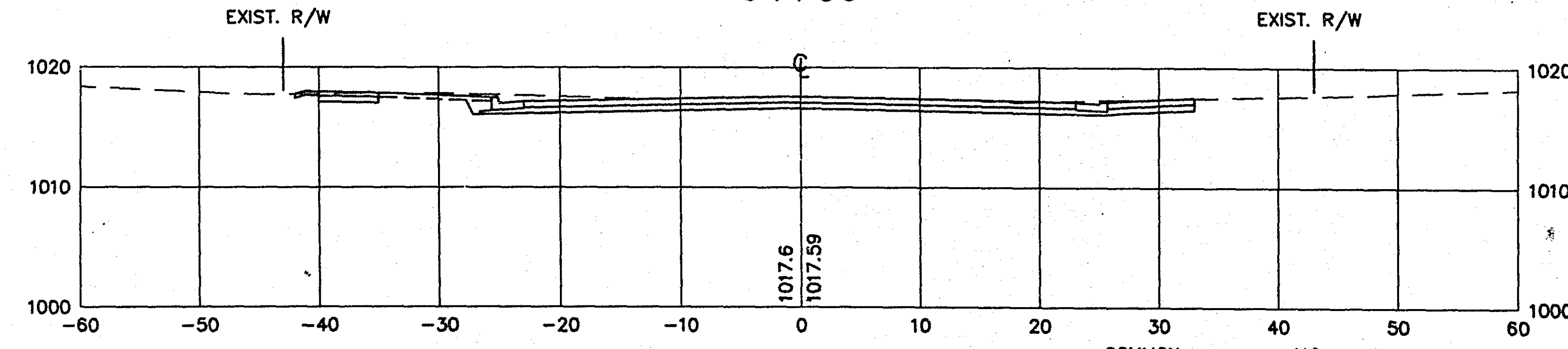
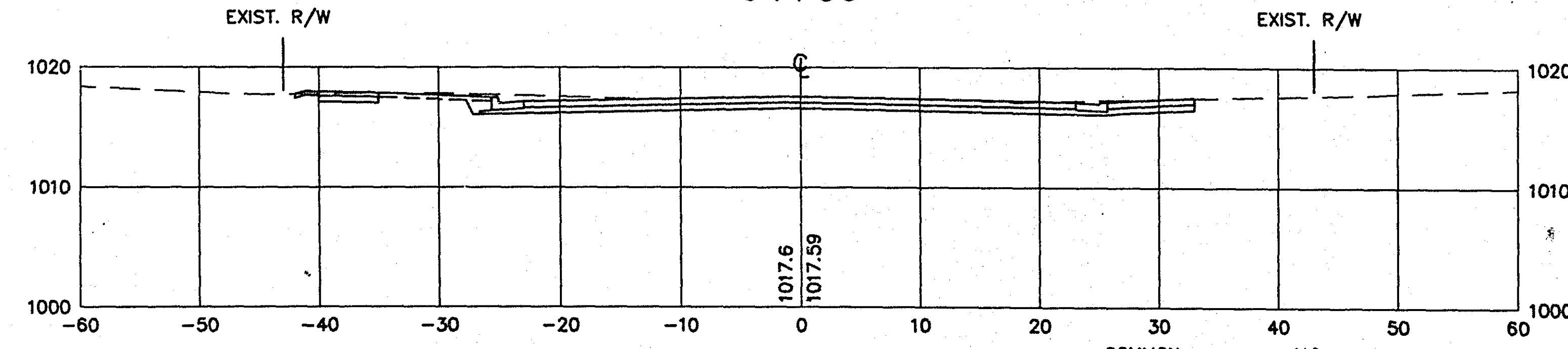
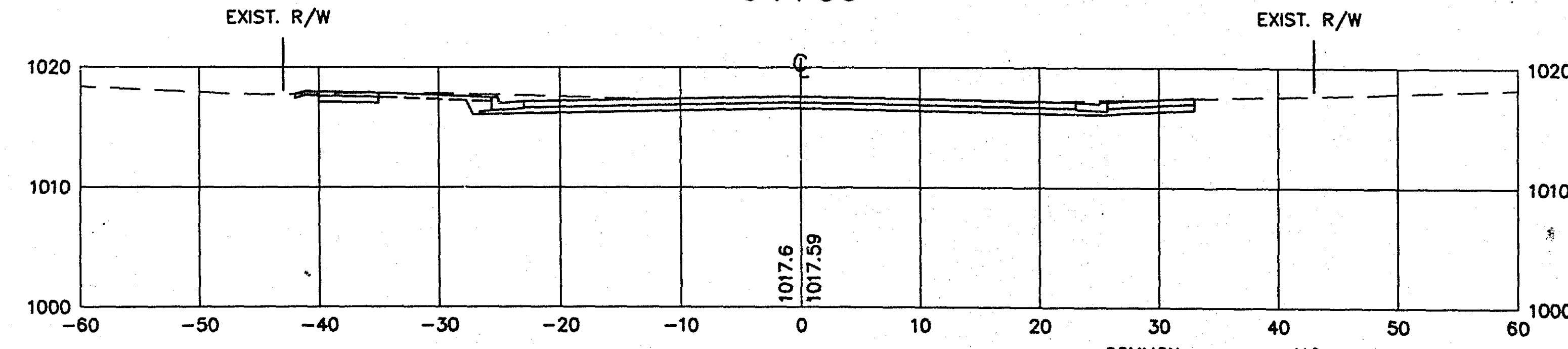
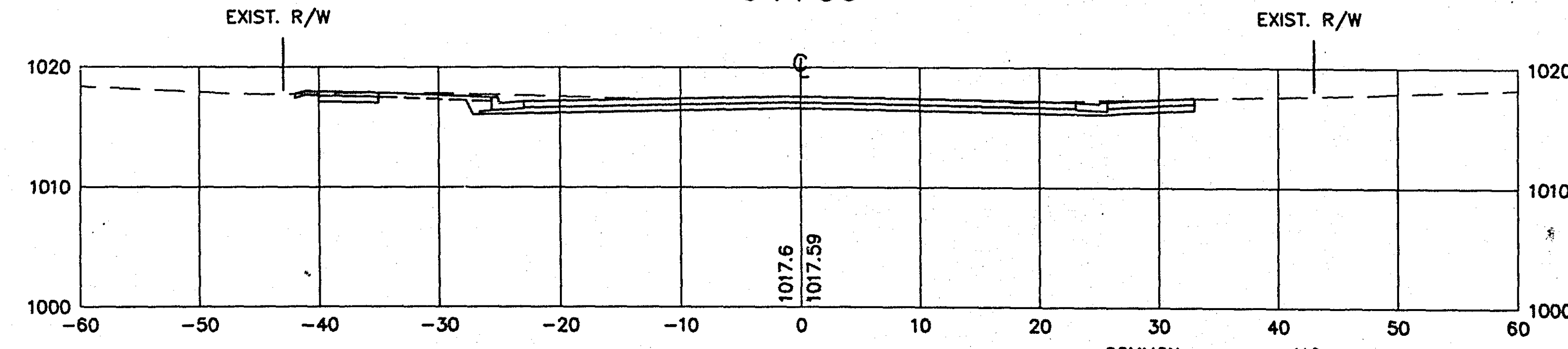
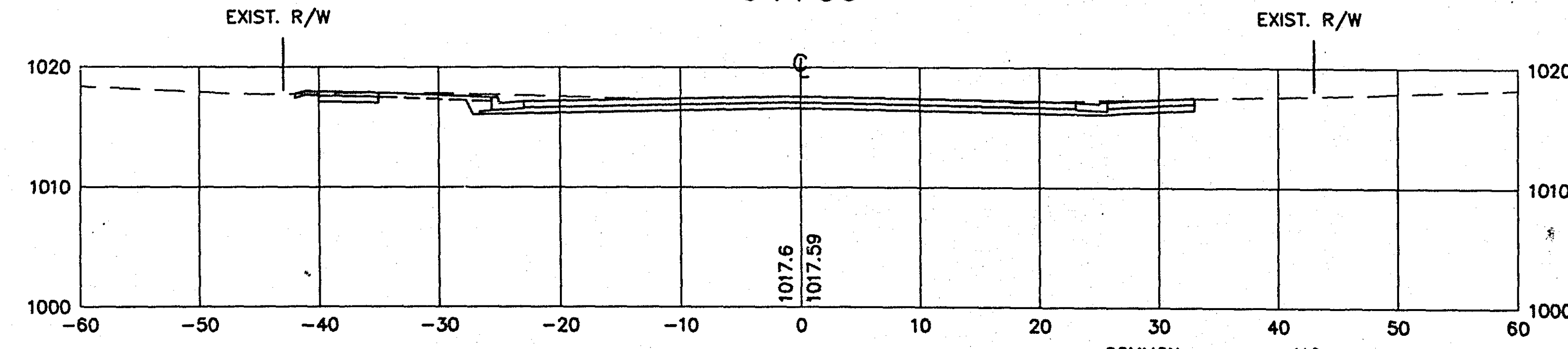
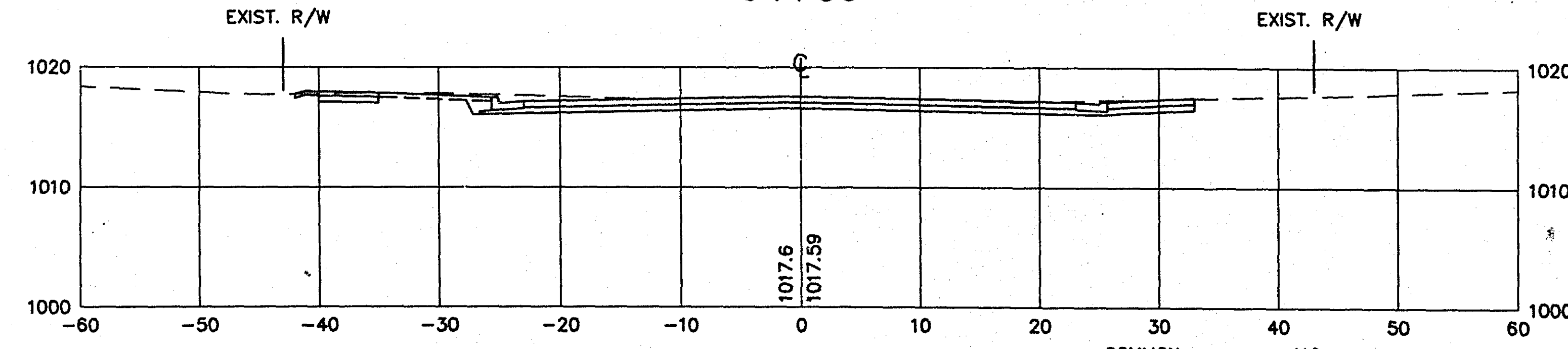
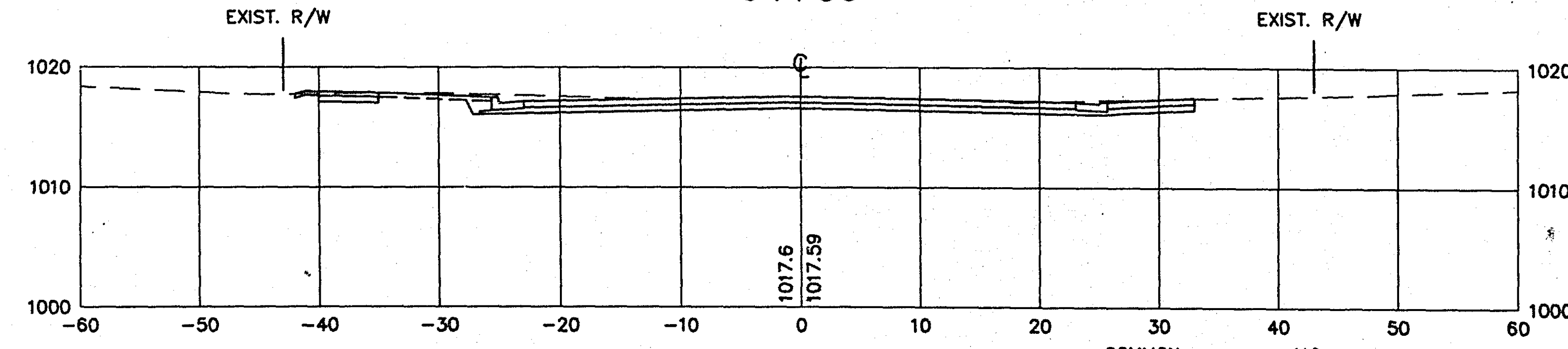
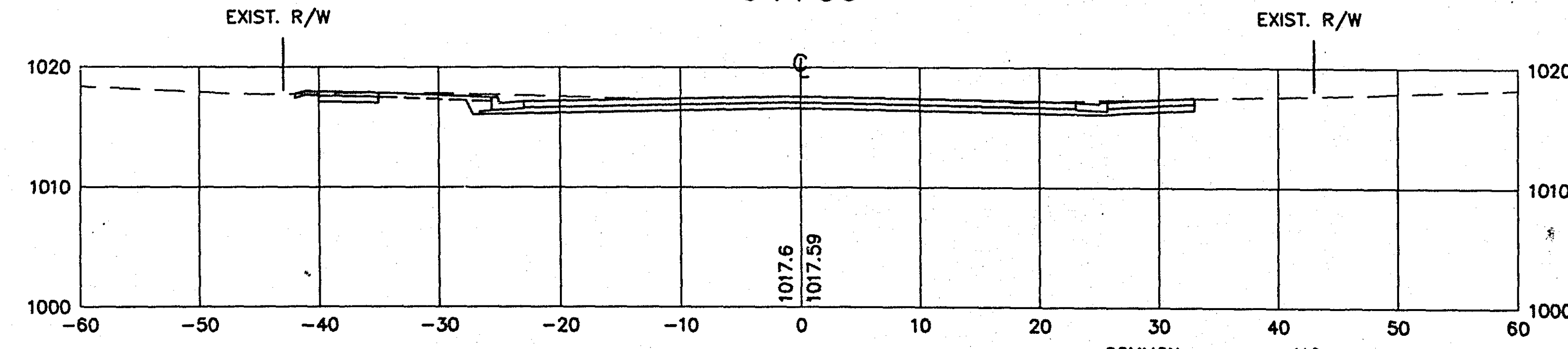
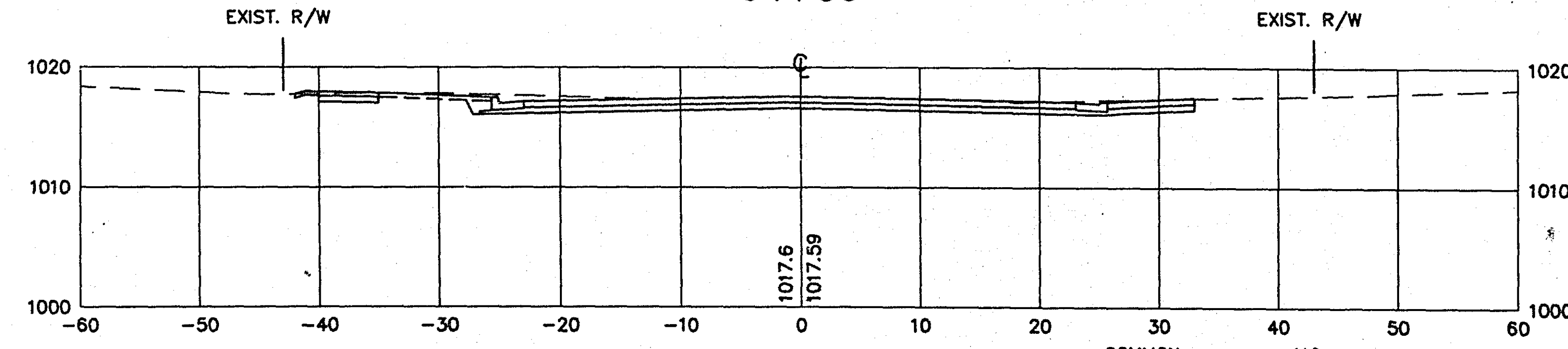
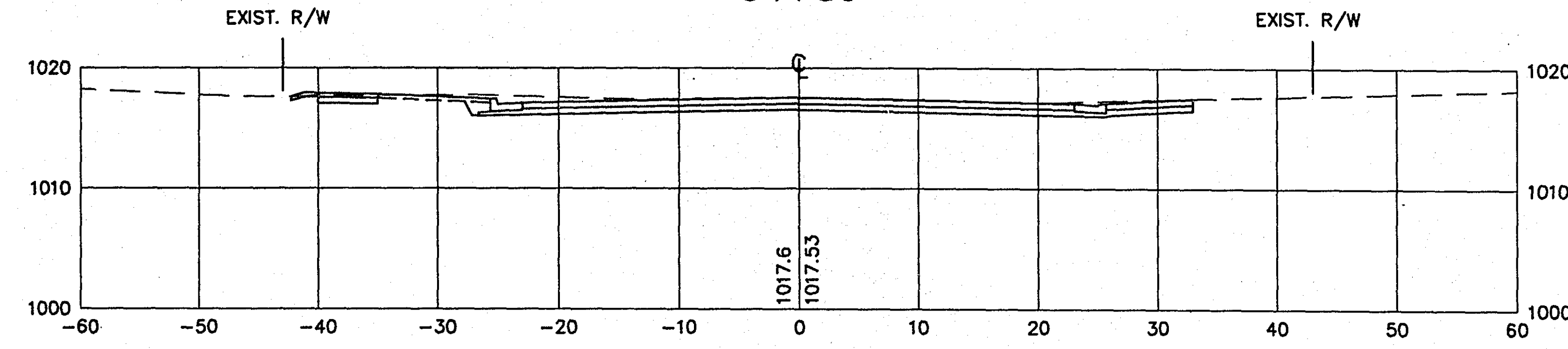
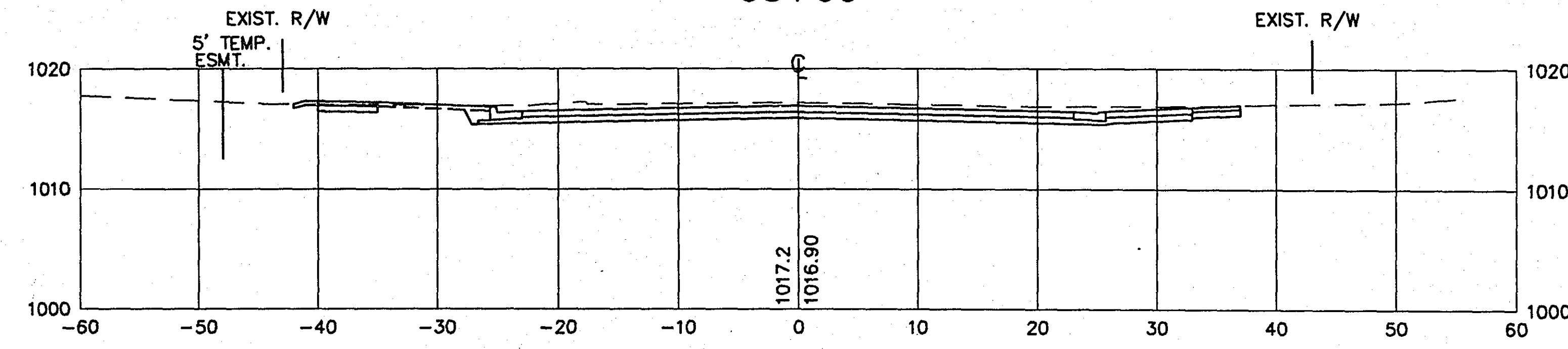
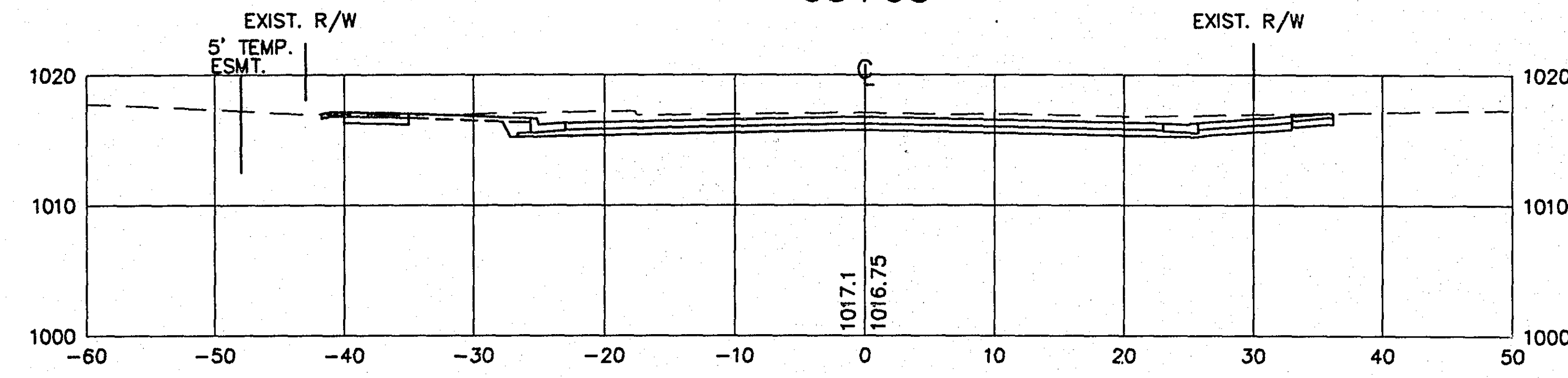
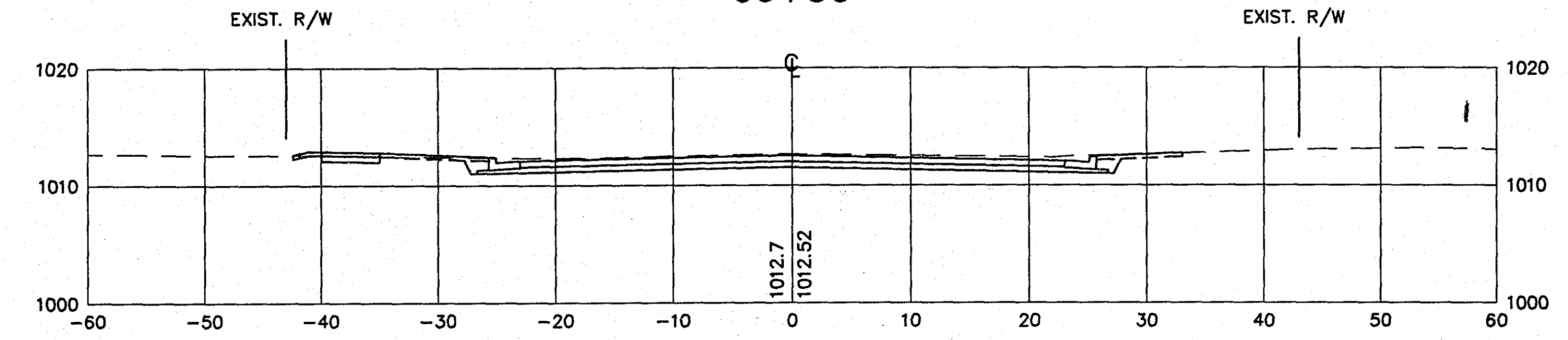
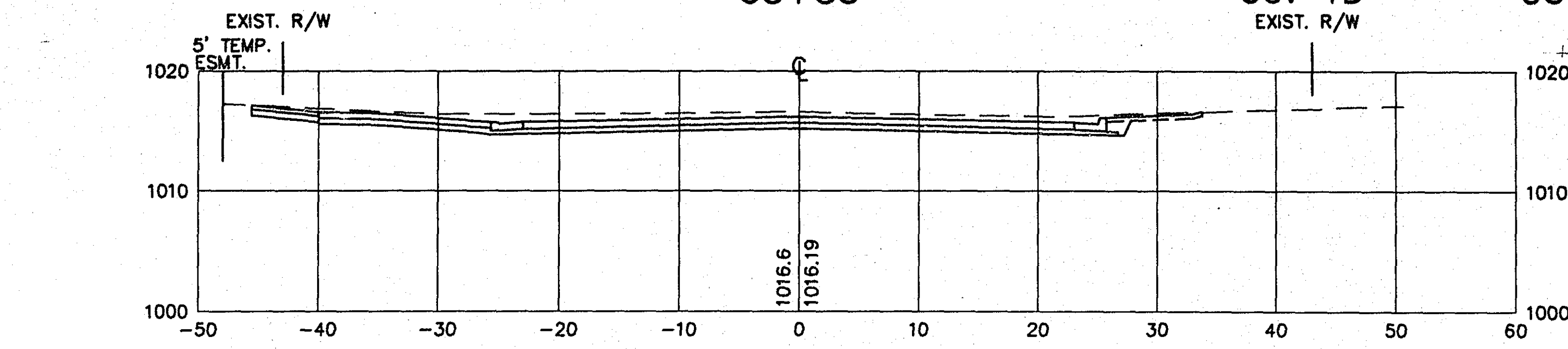
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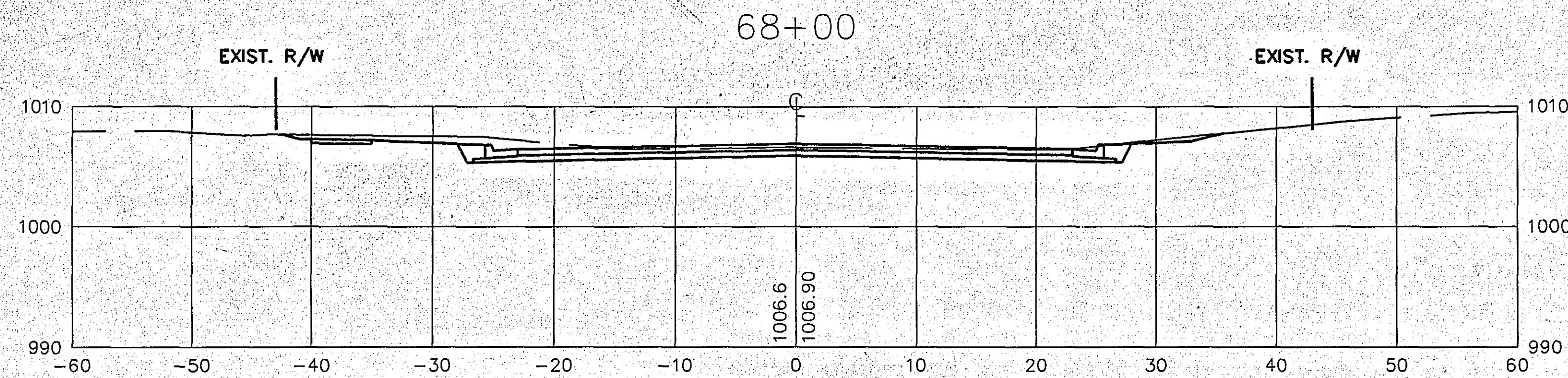


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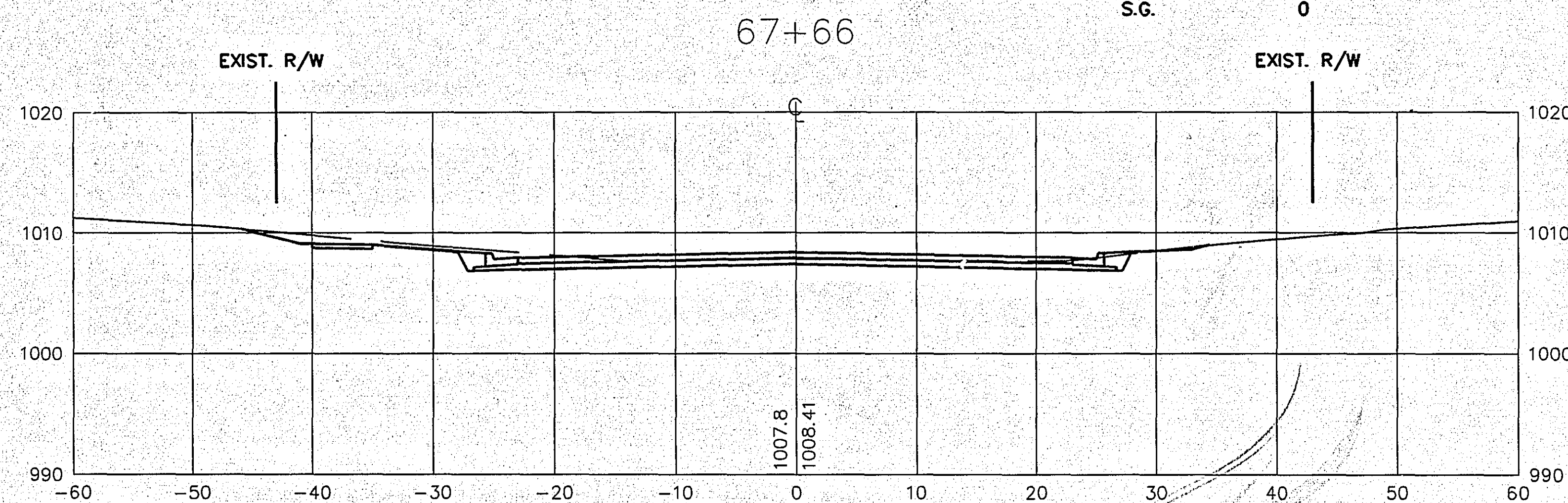
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CU. YD

EXCAVATION
CU. YD

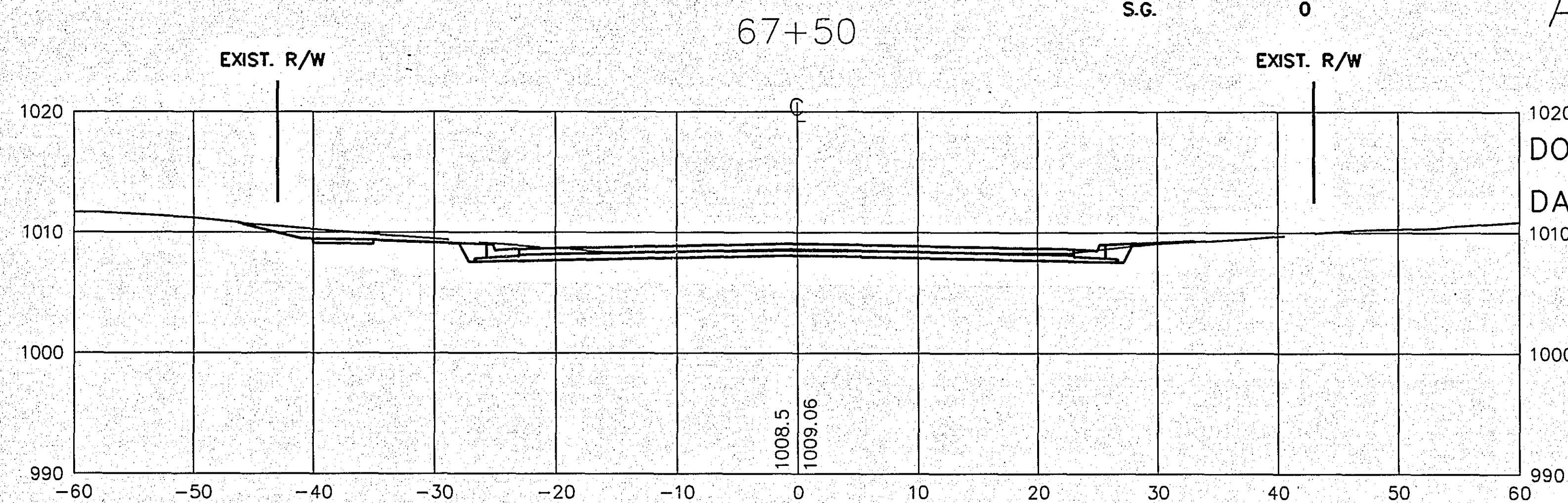
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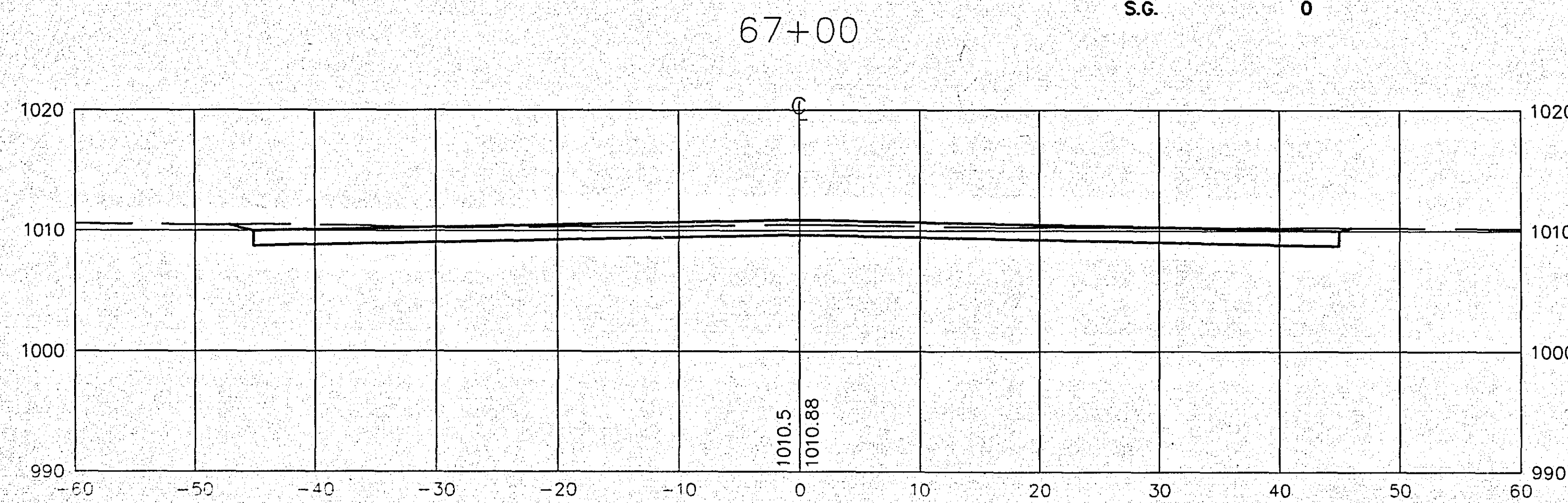
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S.G. 0



COMMON 29
S.G. 0



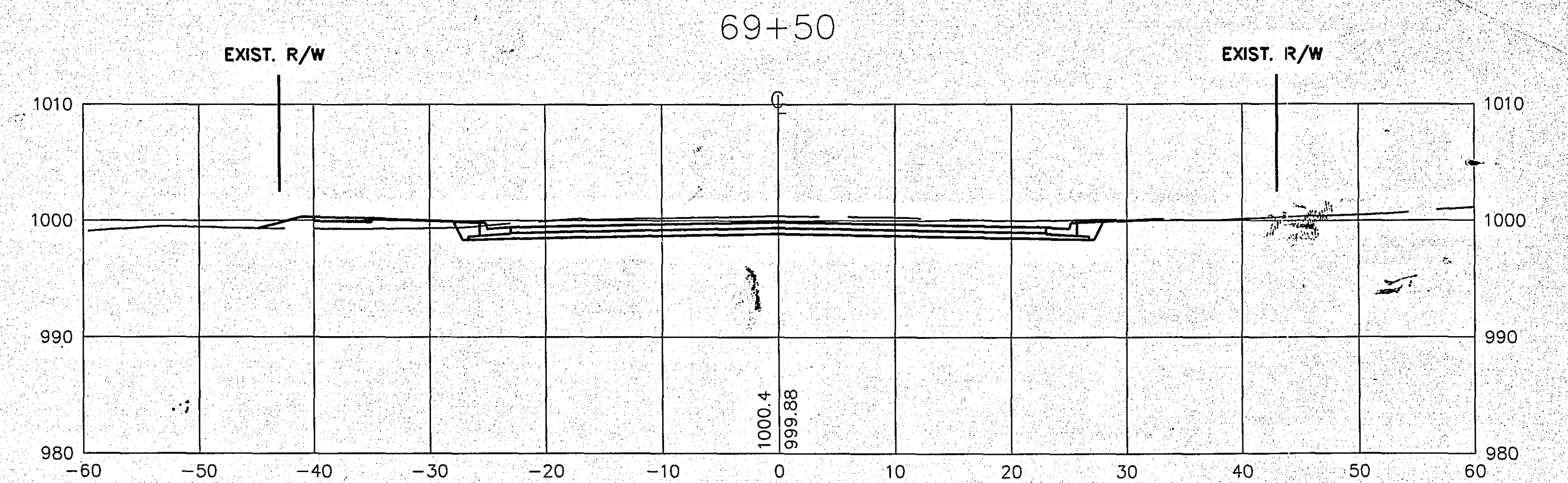
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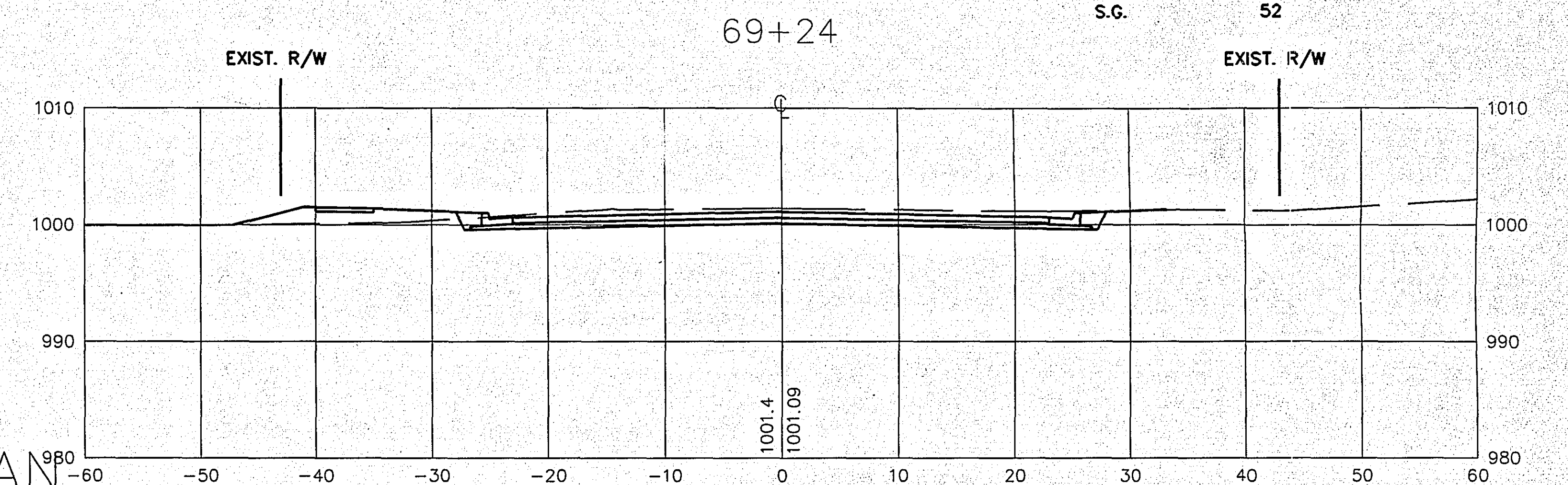
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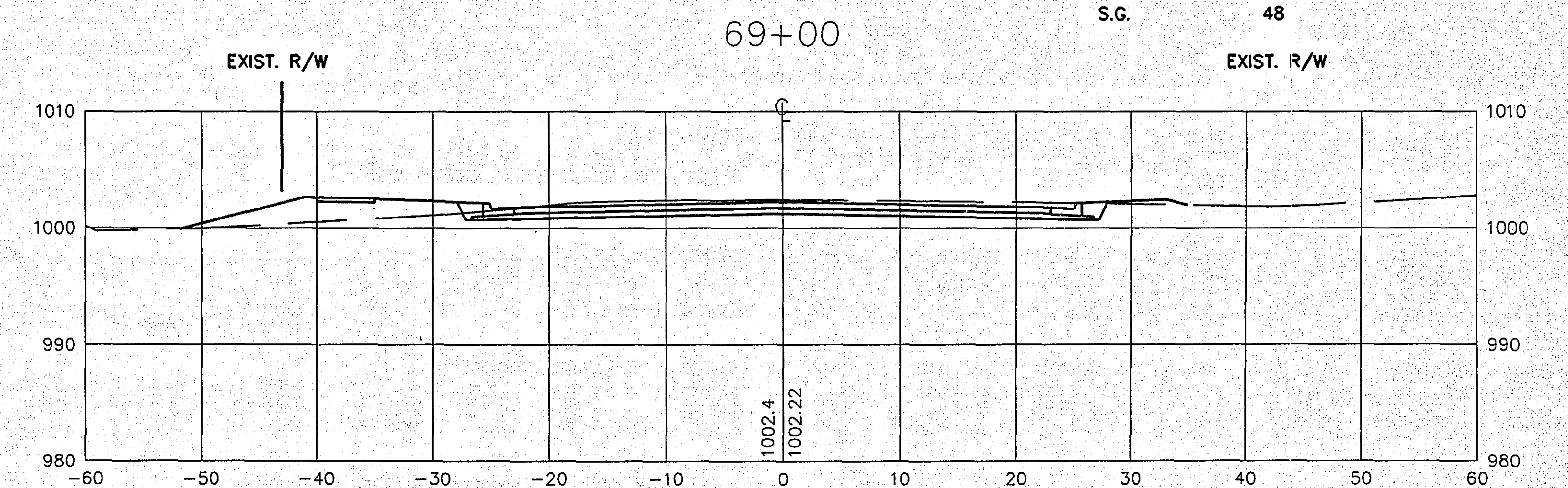
DONE BY: J.B.C.
DATE 1\9\96



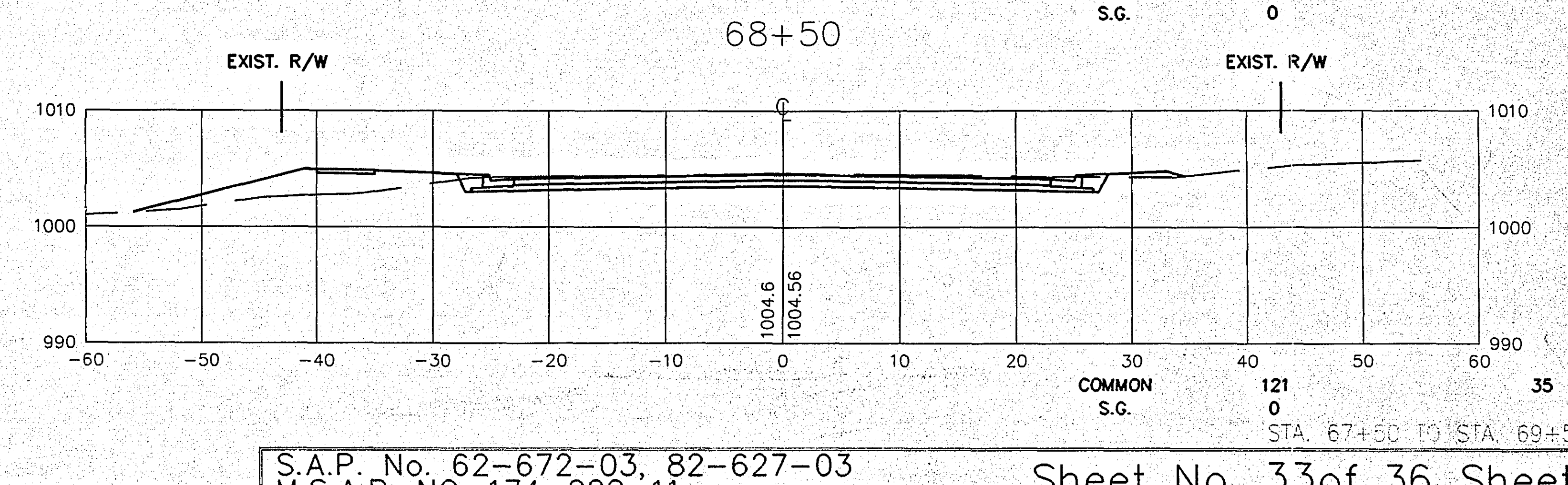
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S.G. 52



COMMON 64
S.G. 48



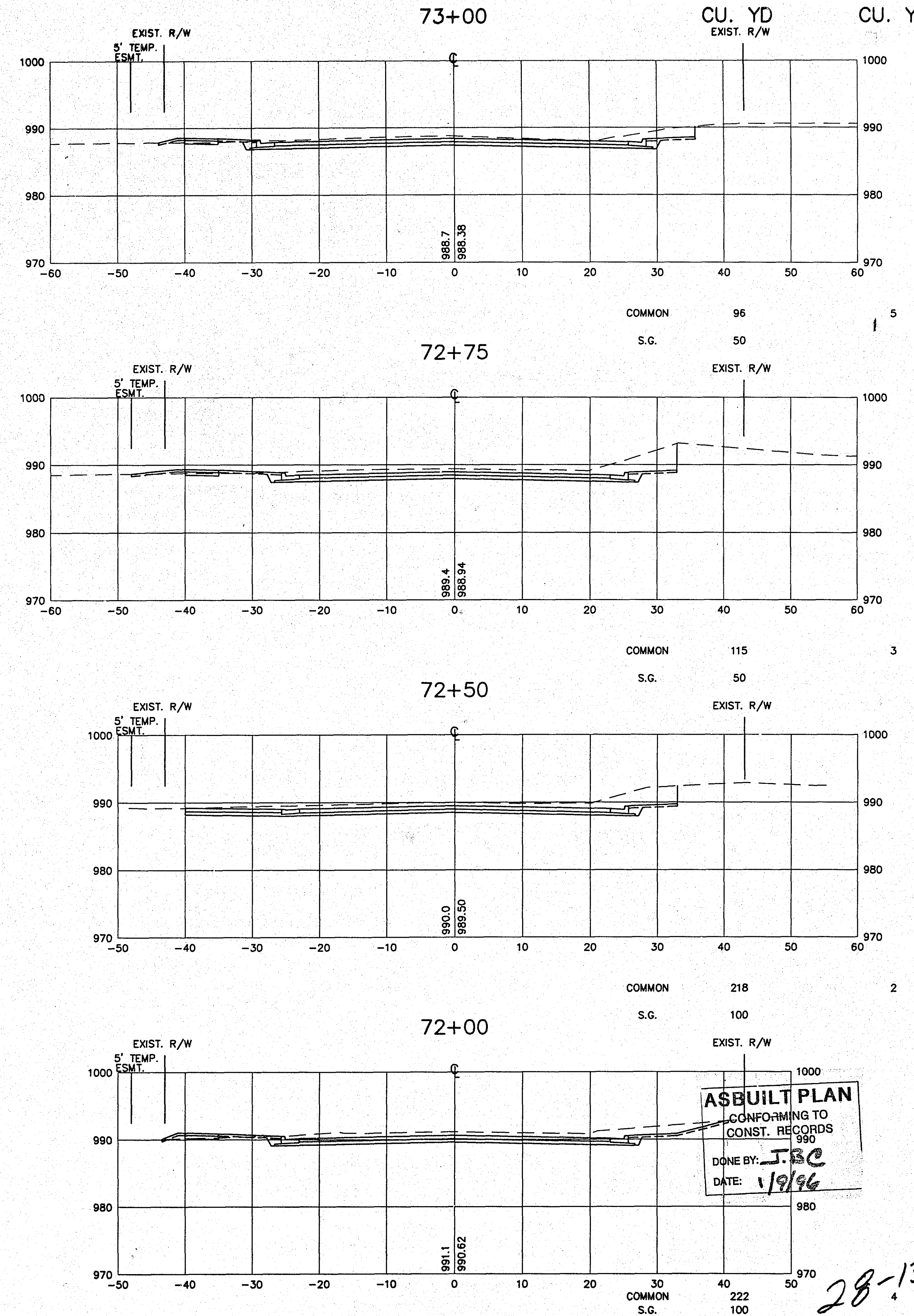
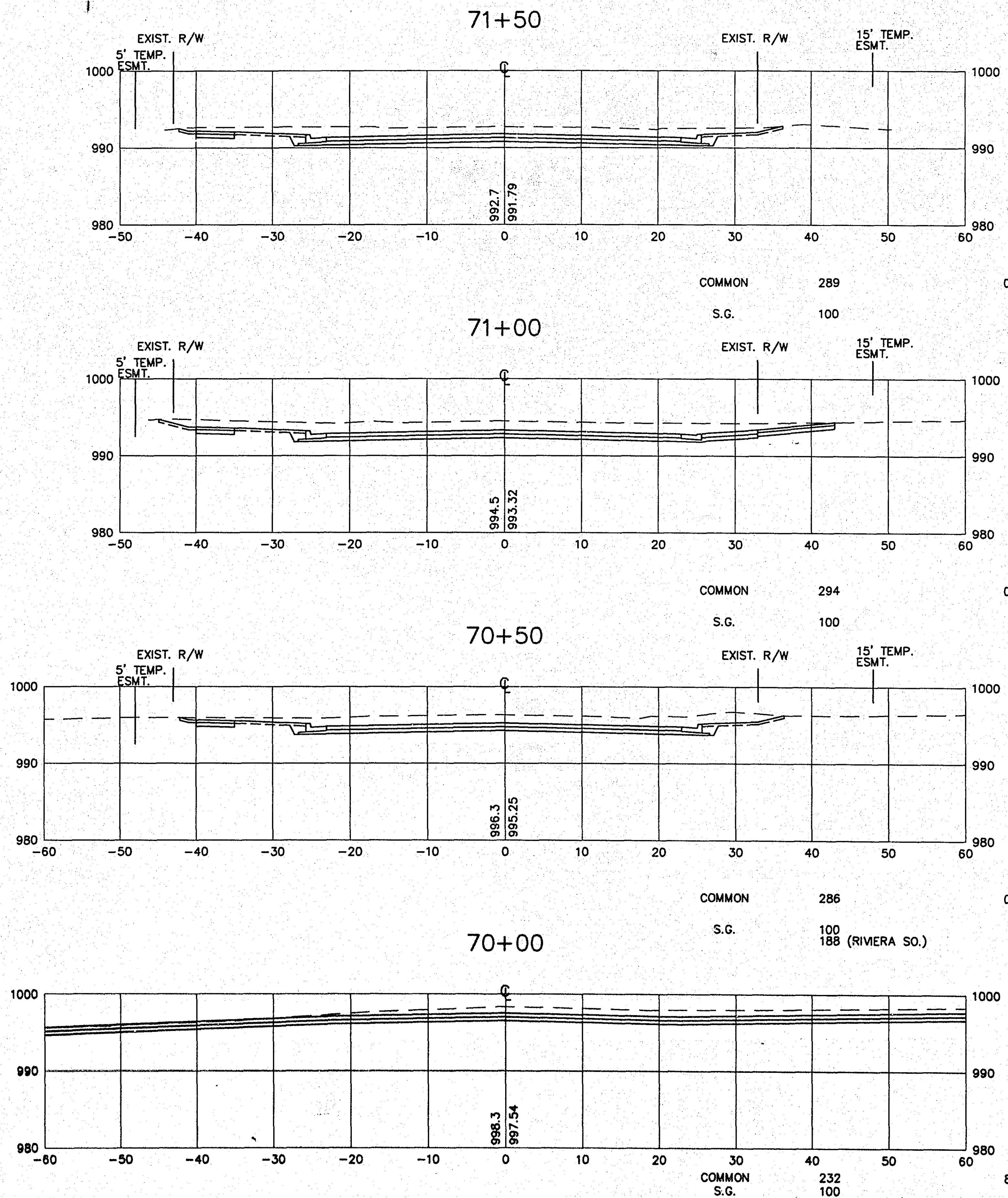
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COMMON 121
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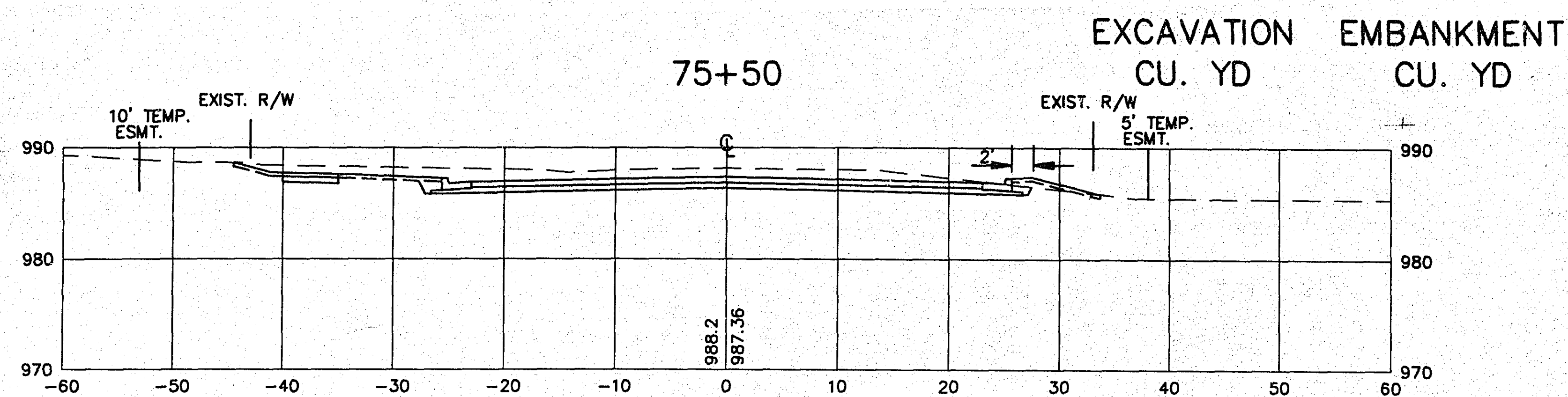
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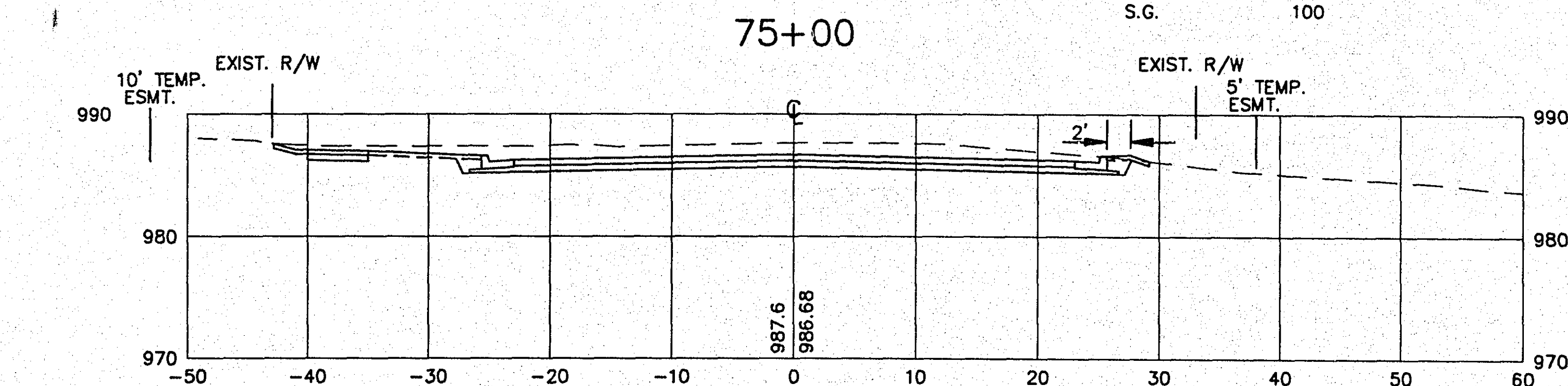


ASBUILT PLAN
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 990
 DONE BY: JBC
 DATE: 1/9/96

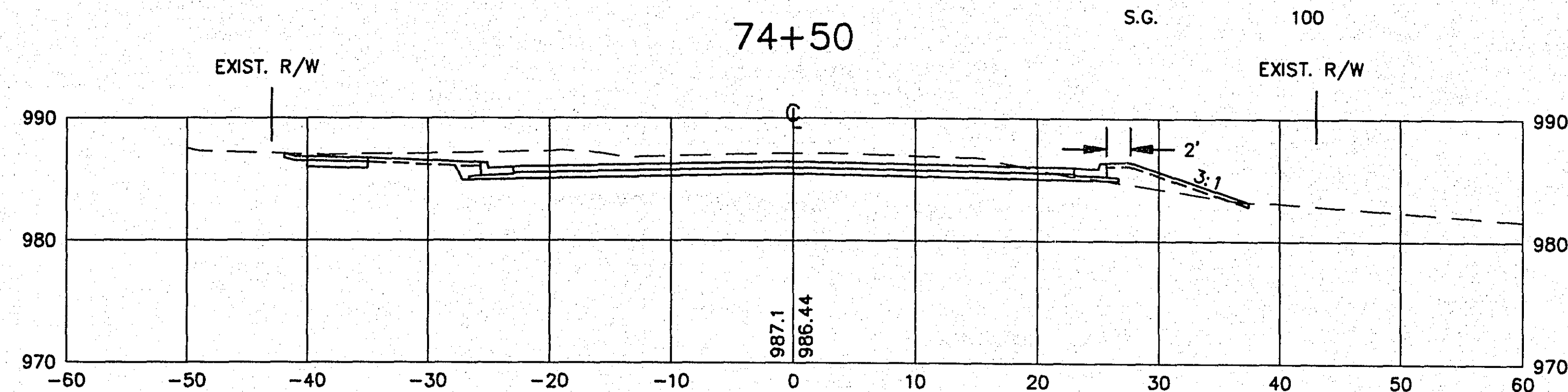
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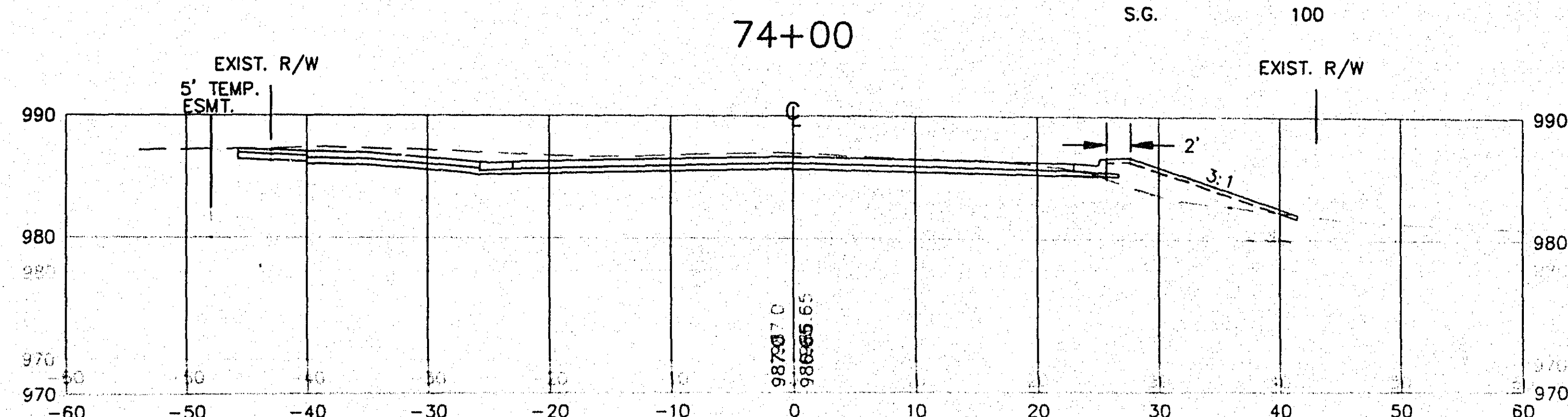
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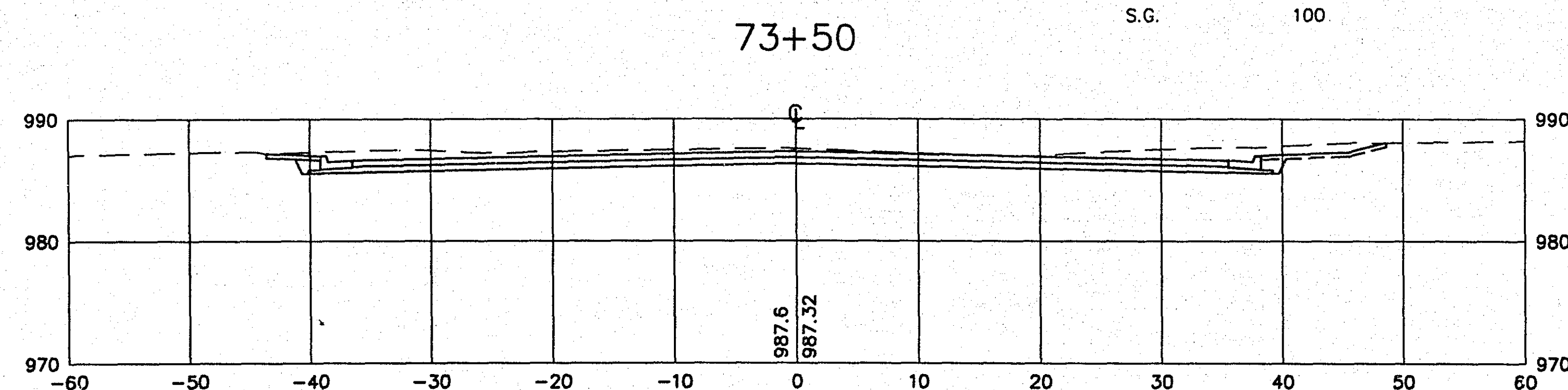
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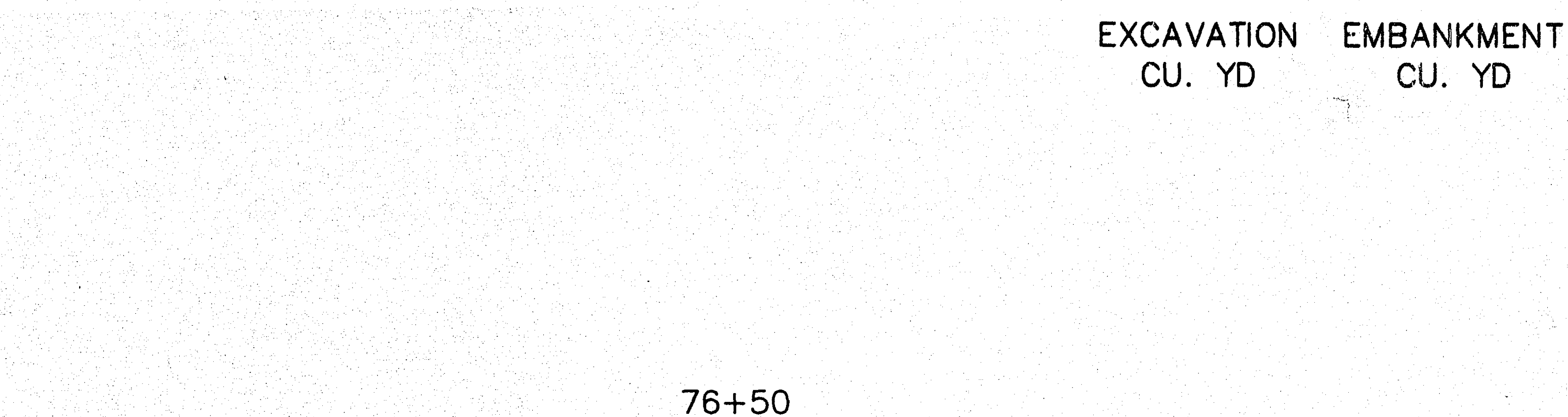
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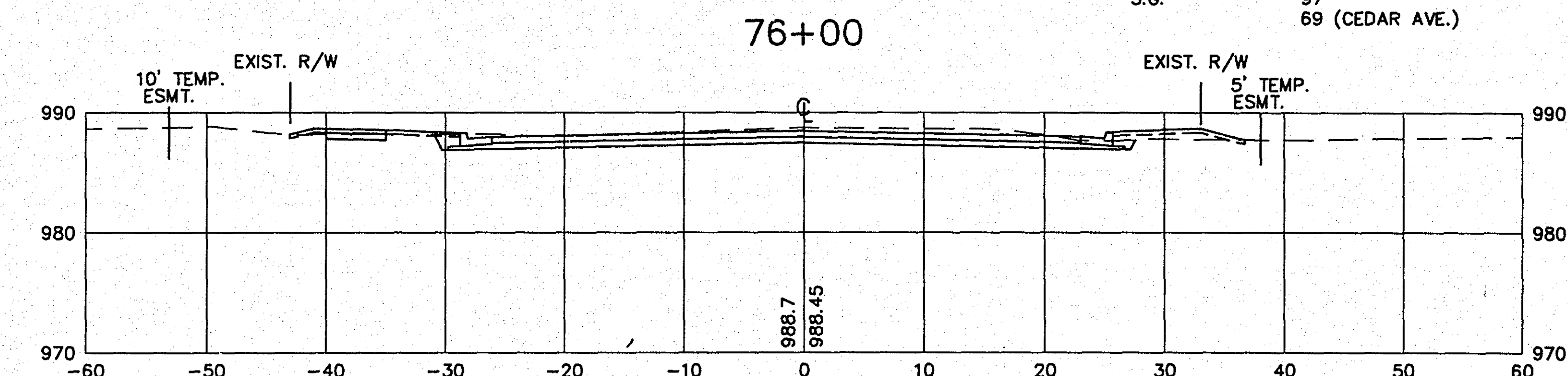
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S.G. 100



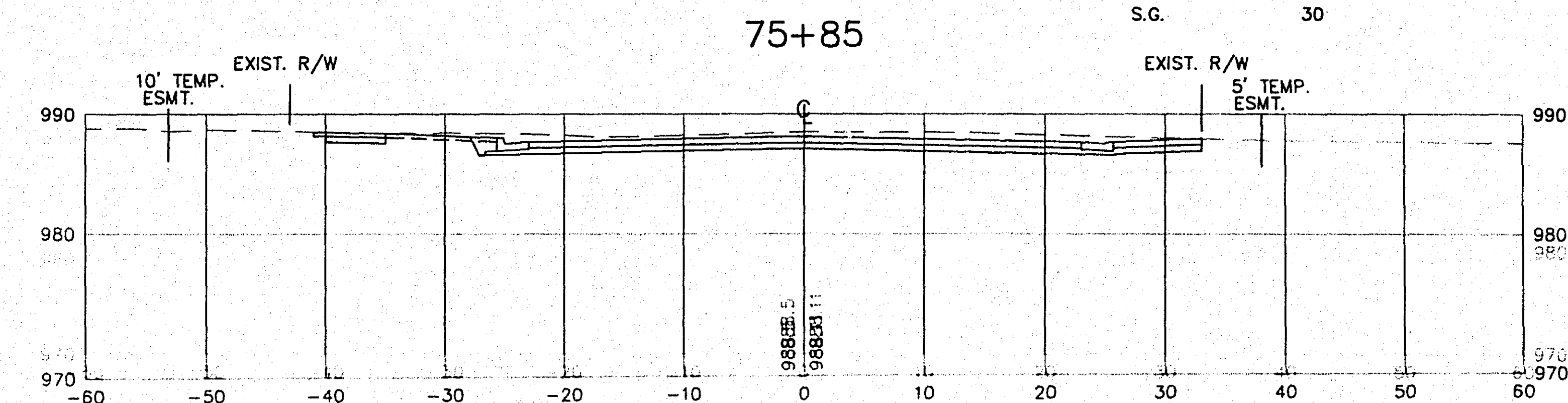
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S.G. 100
169 (RIVIERA NO.)



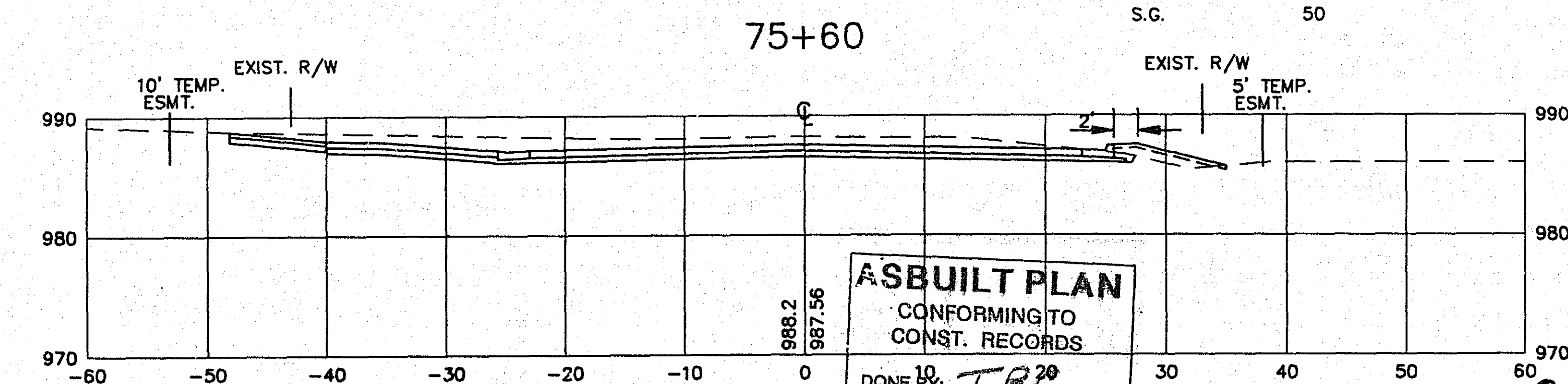
COMMON 155
S.G. 97
69 (CEDAR AVE.)



COMMON 47
S.G. 30



COMMON 102
S.G. 50



COMMON 44
S.G. 20

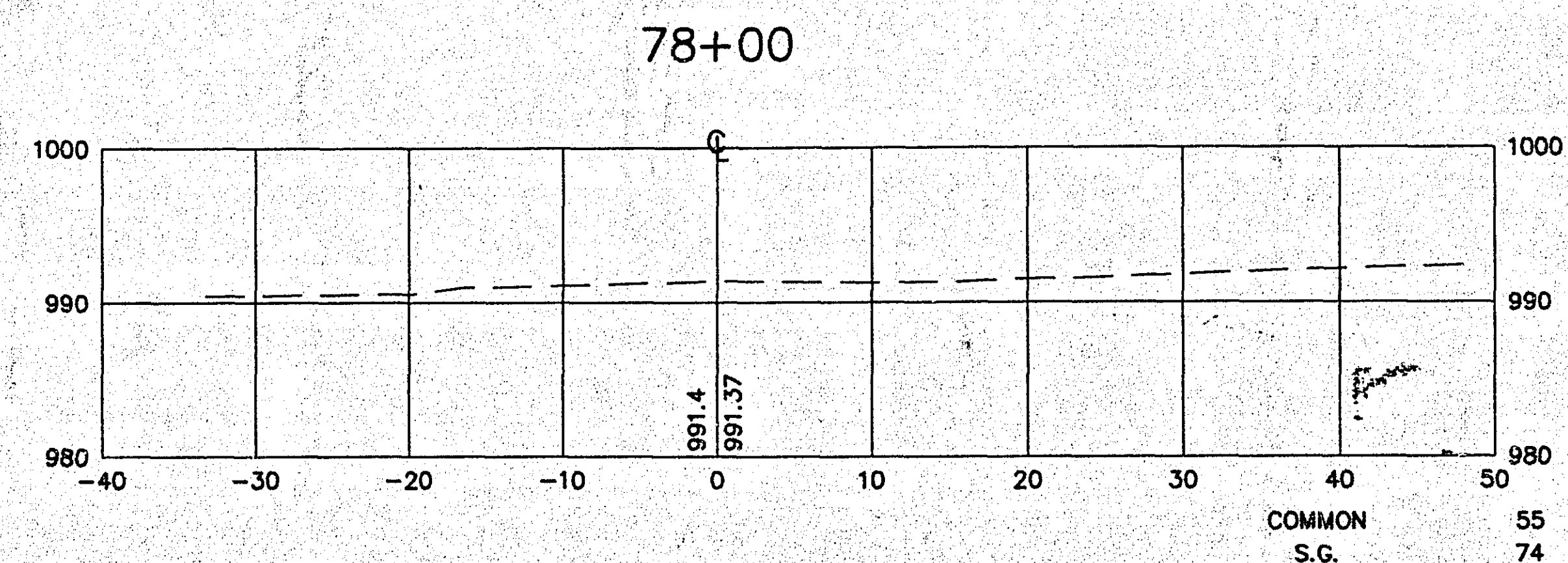
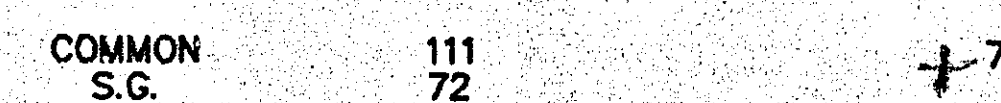
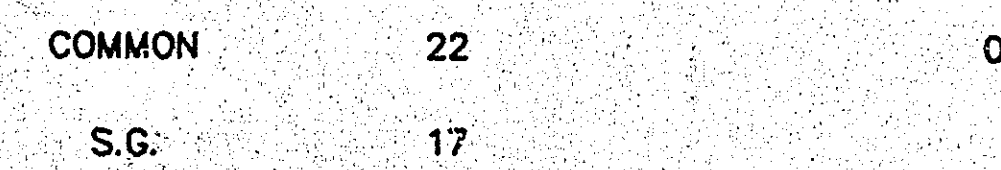
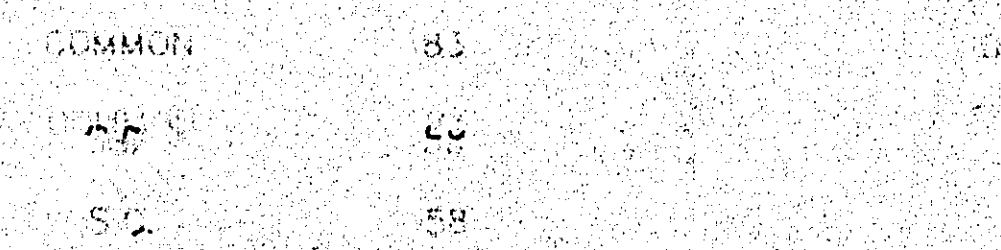
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DONE BY: J.B.C.
DATE: 1/9/96

STA. 73+50 TO STA. 76+50

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EXCAVATION	EMBANKMENT
CU. YD	CU. YD
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ASBUILT PLAN
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DONE BY: **J. BC**
DATE: **11/9/96**

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M.S.A.P. NO. 174-020-11

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