

FED ROAD DIST. NO.	STATE	F A S PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	8-1(2)	1	

SHEET NO 1	SKETCH MAP AND TITLE PAGE	
2	TYPICAL SECTION AND SUMMARY OF APPROXIMATE QUANTITIES	
3	TABULATION OF LENGTH AND DESIGN DATA, R.O.W. MARKERS, TIMBER GUARD POSTS, FENCING REQUIREMENTS, SELECTED MATERIAL PLAN AND SURFACING PLAN	
4-5	LIST OF STRUCTURES	
6	DETAILS OF SPECIAL C.B.C. STA. 269+	
7-8	LAYOUT AND DETAILS OF 90" MULTIPLE PLATE PIPE. (SHEET 7 =	M-113-B)
9	STANDARD LETTERS AND FIGURES FOR YEAR AND STRUCTURE NUMBERS.	M-110-B
9-A	STANDARD METAL PLATE GUARD FENCE (BEAM TYPE)	M-21-B
10	STANDARD MARKER POSTS	M-7-B
11	STANDARD HEADWALLS AND APRONS FOR C.M.P. CULVERTS.	M-102-G
12	STANDARD TYPE "G" HEADWALLS FOR LARGE C.M.P. CULVERTS.	M-102-G-LP
13	STANDARD CORRUGATED METAL PIPE CULVERT HEADWALLS.	M-115-AX
14	STANDARD CONCRETE BOX CULVERTS.	M-104-E
15	STANDARD DOUBLE CONCRETE BOX CULVERT 6 FT. SPAN.	M-106-C
16	STANDARD DOUBLE CONCRETE BOX CULVERT 10 FT. SPAN	M-110-C
17	STANDARD TIMBER GUARD POSTS	M-19-B
18	STANDARD WIRE FENCES (TREATED WOODEN POSTS)	M-24-G
19	STANDARD METHODS FOR SUPERELEVATION & WIDENING OF CURVES	M-1-B
20	TYPICAL SIDE APPROACH ROADS, FLARING, CUT SLOPE TREATMENT AND WIDENING AT BRIDGES.	M-2-C
21	STANDARD ROADWAY CONSTRUCTION TRAFFIC SIGNS.	M-2-D
22	CONTOUR INTERCEPTING AND DRAINAGE DITCHES.	M-107-B
23-30	ALIGNMENT PLAN AND PROFILE	
31-110	CROSS SECTIONS.	
III	SUMMARY OF EARTHWORK QUANTITIES AND TABULATION OF INTERCEPTING DITCHES	

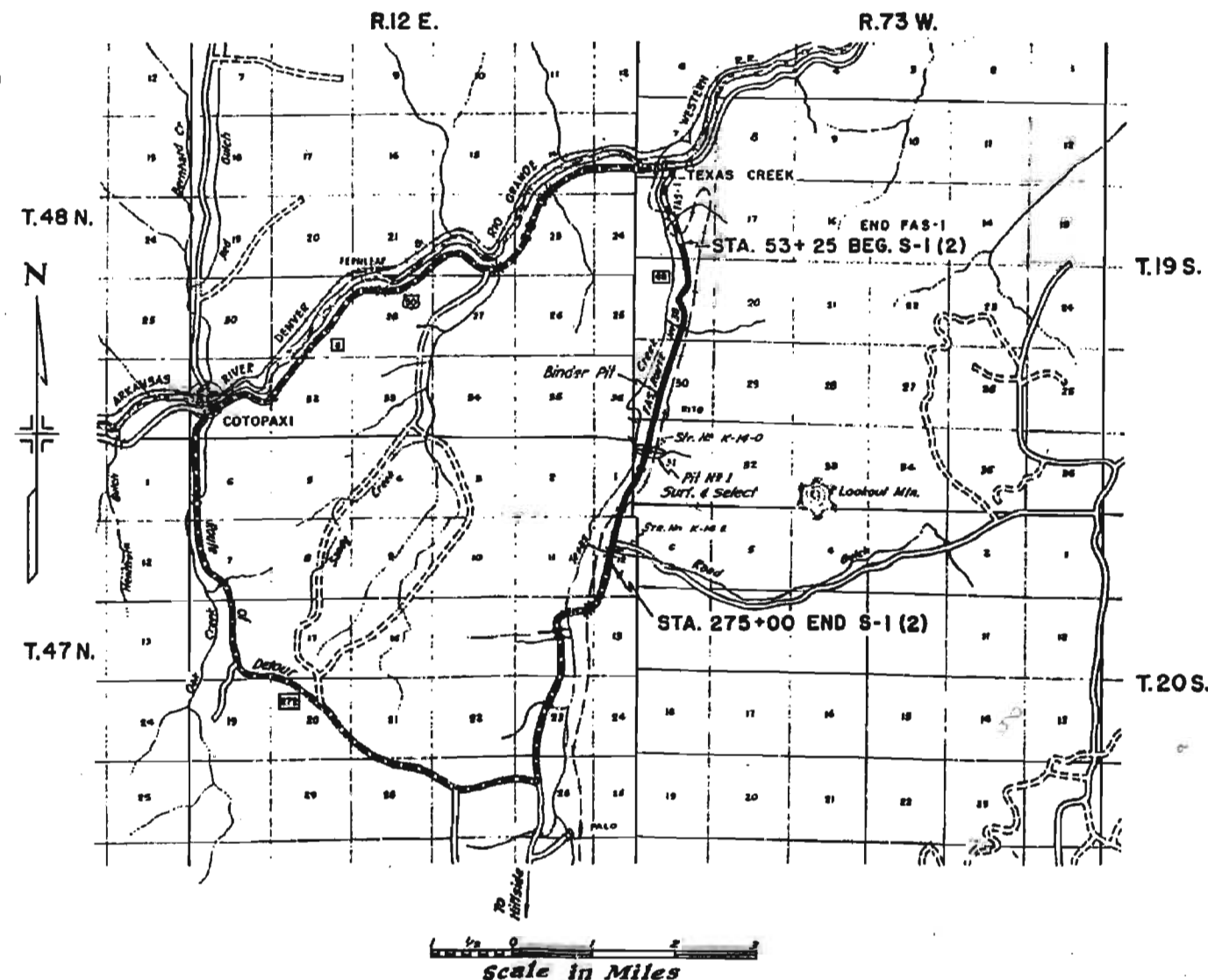
CENTER LINE OF SURVEY
RIGHT OF WAY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
RAILROAD
ABANDONED RAILROAD
BARBED WIRE FENCE
WOVEN WIRE - COMBINATION FENCE
QUARTER SECTION LINE
DETOUR

ON PLAN, 1 IN. = 100 FT.
ON PROFILE, 1 IN. = 100 FT. HORIZONTAL
1 IN. = 10 FT. VERTICAL

GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD

GROSS LENGTH OF PROJECT } 22105.8 FEET = 4.186 MILES
NET LENGTH OF PROJECT }

Drawer #45



It is recommended that bidders on this Project go over the plan details with the following field representative of this department.

Geo. N. Miles, Division Engineer, Pueblo, Colorado.
D. R. Mitchell, Resident Engineer, Pueblo, Colorado.

RECOMMENDED FOR APPROVAL


 ASSISTANT ENGINEER DATE
 11-12-46

APPROVED

Blank R. E. O'Brien
STATE HIGHWAY ENGINEER DATE
11-14-46

RECOMMENDED FOR APPROVAL

**DISTRICT ENGINEER
PUBLIC ROADS ADMINISTRATION**

APPROVED

DIVISION ENGINEER
PUBLIC ROADS ADMINISTRATION

SURFACING PLAN

It is estimated that material for Gravel Surfacing for the Project is available in the vicinity of the pit indicated in the following tabulation. Estimated quantities involved in this operation are shown below.

Alteration of the Surfacing Plan as here outlined will be allowed only on written permission from the Department.

MATERIAL TO BE PLACED	SOURCE	AVAILABLE	QUANTITY		OVERHAUL	
			TONS USED		TON MILES	
			TOP COURSE	BOTTOM COURSE	TOP COURSE	BOTTOM COURSE
Appr. to Proj. 53+25	NW 1/4 Sec 31, T.19 S. R.73 W. 100 ft. Rt. & Lt. of Sta 194+50. Rogers Gulch. (Pit No 1)	Ample	12	26	21	45
53+25 to 141+90.3			1953	4527	1643	3806
141+90.3 to 246+30.6			2280	5284	Free	Free
246+30.6 to 275+00			632	1464	172	398
Appr. to Proj. 275+00 Road Approaches	S.W. 1/4 Sec. 30, T.19 S. R.73 W. 100 ft. Rt. Sta 160+00 (Binder Pit)	Ample	90	210	49	115
* Binder Material to be hauled to Surf. Pit.			87		34	
					105	238
TOTALS			5054	11511	2024	4602
PROJECT TOTALS				18565		6626

* Approx. 10% binder material included in surfacing quantities.

SELECTED MATERIAL TABULATION

It is estimated that Selected Material for the Project is available in the vicinity of the pit indicated in the following tabulation. Estimated quantities involved in this operation are shown below. Selected Material shall be classified and paid for as "Unclassified Excavation."

Alteration of the Selected Material Plan as here outlined will be allowed only on written permission from the Department.

MATERIAL TO BE PLACED	SOURCE	AVAILABLE	QUANTITY		OVERHAUL	
			THICKNESS INCHES		CU. YDS. USED	
			T		STA. Y.D.	Y.D. MI.
Appr. to Proj. 53+25	N.W. 1/4 Sec 31, T.19 S. R.73 W. 100 ft. Rt. & Lt. of Sta. 194+50. Rogers Gulch. (Pit No 1)	Ample	6"		62	682
53+25 to 178+70.3			6"		7785	85635
178+70.3 to 190+50			6"		682	3751
190+50 to 198+50			6"		496	Free
198+50 to 209+50.6			6"		682	3751
209+50.6 to 275+00			6"		4061	44671
Appr. to Proj. 275+00			6"		217	2387
TOTALS					13985	140877

FENCING REQUIREMENTS

STATION	SIDE	REMOVE FENCE	REMOVE AND REBUILD FENCE	BUILD BARBED WIRE FENCE	LINE POSTS	GATES NO.	
						BARBED WIRE	
174+00 to 245+90	Rt.	7300		7190			
198+30	Rt.						
235+20	Rt.						
236+20	Rt.						
245+90 to 270+28	Rt.	2500		2340			
265+90	Rt.						
269+72 to 270+28	Lt.			100			
269+72 to 286+30	Rt.			1620			
282+20 to 286+30	Lt.			480			
TOTALS		9800		11730			

TIMBER GUARD POSTS

STATION	SIDE	SPACING	EACH
58+60	Rt. & Lt.	CU/Y.	2
61+36	Rt. & Lt.	CU/Y.	2
72+01	Rt. & Lt.	CU/Y.	2
81+37	Rt. & Lt.	CU/Y.	2
83+69	Rt. & Lt.	CU/Y.	2
88+10	Rt. & Lt.	CU/Y.	2
90+40	Rt. & Lt.	CU/Y.	2
94+37	Rt. & Lt.	CU/Y.	2
108+50	Rt. & Lt.	CU/Y.	2
110+75 to 111+25	Rt. & Lt.	50'	4
111+75	Rt. & Lt.	CU/Y.	2
112+25 to 113+25	Rt. & Lt.	50'	6
121+52	Rt. & Lt.	CU/Y.	2
138+00	Rt. & Lt.	CU/Y.	2
139+00 to 140+50	Rt.	50'	4
144+86	Rt. & Lt.	CU/Y.	2
155+50	Rt. & Lt.	CU/Y.	2
169+80	Rt. & Lt.	CU/Y.	2
171+50 to 180+00	Rt.	50'	18
181+00 to 181+50	Rt.	50'	2
182+00	Rt. & Lt.	CU/Y.	2
182+50 to 187+00	Rt.	50'	10
187+50	Rt. & Lt.	CU/Y.	2
188+00 to 192+00	Rt.	50'	9
194+58	Rt. & Lt.	CU/Y.	2
202+00 to 207+00	Rt.	50'	11
211+50 to 214+50	Rt.	50'	7
215+10	Rt. & Lt.	CU/Y.	2
218+27	Rt. & Lt.	CU/Y.	2
221+50 to 227+00	Rt.	50'	12
229+38	Rt. & Lt.	CU/Y.	2
230+00 to 234+00	Rt.	50'	9
234+50	Rt. & Lt.	CU/Y.	2
243+60	Rt. & Lt.	CU/Y.	2
249+00	Rt. & Lt.	CU/Y.	2
255+60	Rt. & Lt.	CU/Y.	2
268+25 to 268+75	Rt. & Lt.	50'	4
270+25 to 270+75	Rt. & Lt.	50'	4
TOTALS			150

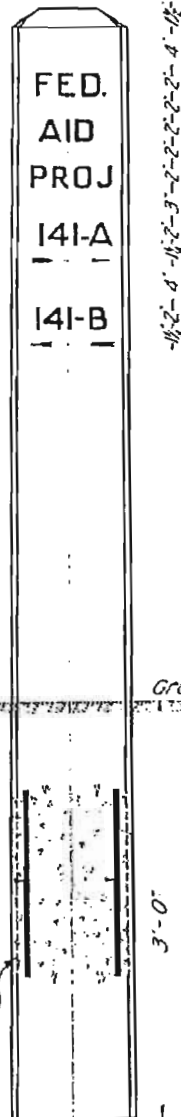
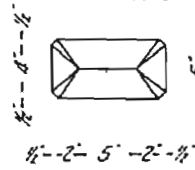
TABULATION OF LENGTH AND DESIGN DATA

STATION	ROADWAY		MAJOR STRUCTURES	
	LIN. FT.	LIN. FT.	LOADING	
53+25 Beg. S-1(2) (End FAS-1)	3256.5			
85+81.5 Bk. } Eq.				
85+82.3 Ah. } Eq.				
130+51.7 Bk. } Eq.	4469.4			
130+39.8 Ah. } Eq.	4950.7			
179+90.5 Bk. } Eq.				
180+70.2 Ah. } Eq.				
194+48 End C.B.C.	1375.8			
194+69 End C.B.C.	1243.8	23.0	H-20	
207+12.8 Bk. } Eq.				
207+13.4 Ah. } Eq.				
269+28 End Spec. C.B.C.	6214.6			
269+72.3 End Spec. C.B.C.	527.7	44.3	H-20	
275+00 End S-1(2)				
TOTALS	22038.5	67.3		
SUMMARY				
		LIN. FT.	MILES	
S-1(2) Roadway		22038.5	4.173	
S-1(2) Major Structures		67.3	.013	
TOTAL S-1(2)		22105.8	4.186	
DESIGN DATA				
Maximum Degree of Curve		8° 00'		
Maximum Grade		+5.50 %		
Minimum N.P.S.D. - horizontal		345'		
Minimum N.P.S.D. - vertical		372'		
Maximum Design Speed		40 M.P.H.		

R.O.W. MARKERS

STATION	SIDE	NO.
52+00	Rt.	1
53+00	Rt.	1
63+38	Rt. & Lt.	2
90+70	Rt. & Lt.	2
110+80	Rt. & Lt.	2
119+50	Rt. & Lt.	2
146+05	Rt. & Lt.	2
172+35	Rt. & Lt.	2
174+00	Rt.	1
198+80	Rt.	1
200+58	Rt. & Lt.	2
214+50	Rt. & Lt.	2
218+58	Rt. & Lt.	2
246+18	Rt. & Lt.	2
247+85	Rt.	1
257+25	Lt.	1
270+28	Lt.	1
273+18	Rt. & Lt.	2
282+20	Lt.	1
TOTALS		30

PROJECT MARKER POST ITEM N° 81a

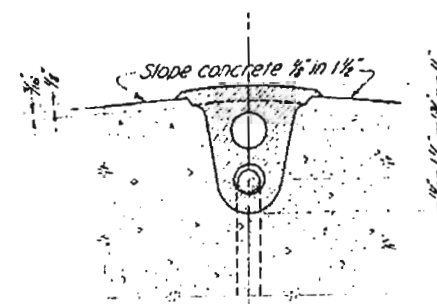


NOTES FOR PROJECT MARKER POSTS

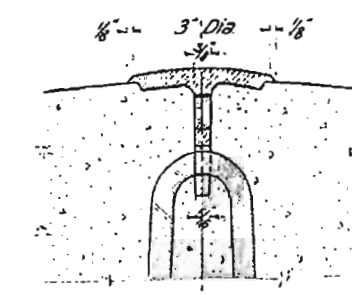
All work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department, adopted June 1, 1940.
Posts shall be made of Class "A" Concrete, except use white Portland Cement.
All exposed surfaces shall be rubbed free of form marks.
All letters, numbers and arrows shall be recessed a minimum of 1/8" into the concrete, and painted black with black paint conforming to Item No. 41, "Second Field Coat" of the specifications. Numbers and arrows shall show the proper numbers and directions of the projects each way from where the post is placed. Post to be set with sign facing the road at the end of the project, two feet inside the R.O.W. line or at a point amply protected from traffic in such a position that the sign will indicate properly the projects to which it refers.

NOTES FOR R.O.W. MARKER POSTS

All work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department, adopted June 1, 1940.
Posts shall be made of Class "A" Concrete.
The upper 12 inches of marker posts shall be rubbed free of form marks, and the top surface of the post must be constructed to drain thoroughly.
All exposed surfaces of the bronze tablet are to be ground to a smooth surface.
All letters are to be depressed a minimum of 1/8" inch. Information on the bronze tablet indicated by pin lines is to be stamped in the field by the engineering party after post is placed. 3/8" inch letters and figures to be used.
Project designations on tablets shall be properly shown. Thus: "F.A.P.N." for Federal Aid Projects, "S.P.N." for State Projects, "P.W.A.N." for P.W.A. Projects, etc.



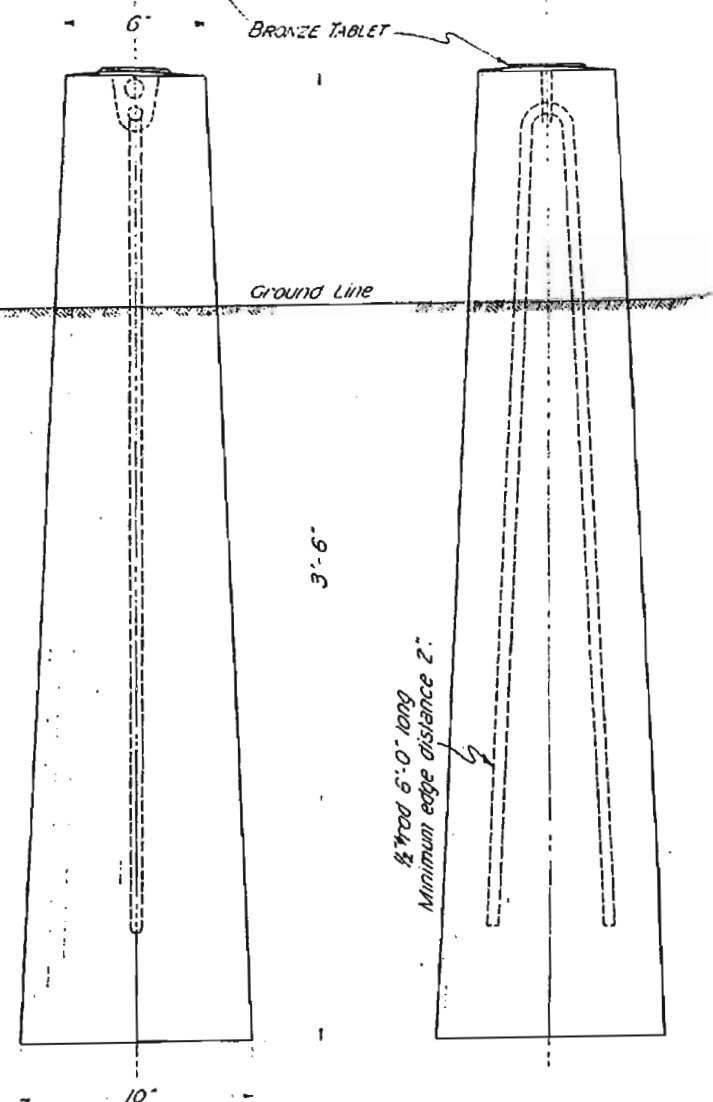
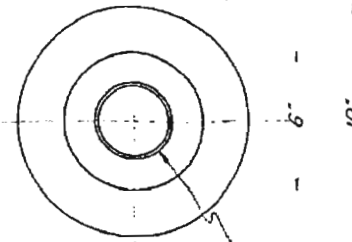
SECTION B-B



SECTION A-A

DETAIL OF BRONZE TABLET
FOR RIGHT OF WAY MARKER POST

RIGHT OF WAY MARKER POST ITEM N° 81b



STANDARD M-7-B
Rev. 6 Jun 46 P.S.B. 1/2" x 1/2"
Rev. June 10 46 H.E.M. Bronze Tablet

FED. ROAD DIST. NO.	STATE	SHEET NO.	TOTAL SHEETS
3	COLO.	10	

COLORADO
STATE HIGHWAY DEPARTMENT
STANDARD
MARKER POSTS

Designed by R.E.L. Approved by
Made by F.E.S. Date: Apr. 17 1939
Checked by R.E.L.

NOTE:

Alignment and Grades as shown are subject to modification during construction after approval by the Denver Office.

The soil data shown on the plans is obtained from best available testing laboratory information. This information is shown for the convenience of the Contractor and the Department does not guarantee the accuracy of these tests. If materials not conforming to the data on plans are encountered during construction necessary modifications of the grading plan shown on plans will be made to secure dense, stable embankments. Fencing, R.O.W. Markers and Timber Guard Posts are tabulated on sheet No. 3

53+35 - Reqd Project Marker and Approach to Project (Embank. included in profile quantities.)

$\Delta = 5^{\circ}00' L$
 $T_s = 150.1'$
 $\theta_s = 2^{\circ}30'$
 $L_s = 150.0'$
 $LT = 100.0'$
 $ST = 50.0'$
 $X_s = 150.0'$
 $Y_s = 2.2'$
 $P_s = 0.5'$
 $K_s = 75.0'$
 HOR. S.D. > 1300'

58+44 - Remove 18'x20' C.M.P. Lt.

60+37 - Remove 24'x20' C.M.P. Lt.

61+23 - Reqd 30'x166' Cross Culvert with inlet and outlet ditches (W=1')

P.I. 59+19.8

$\Delta = 10^{\circ}00' R$
 $T_s = 150.3'$
 $\theta_s = 5^{\circ}00'$
 $L_s = 150.0'$
 $LT = 100.0'$
 $ST = 50.0'$
 $X_s = 149.9'$
 $Y_s = 4.4'$
 $P_s = 1.1'$
 $K_s = 75.0'$
 HOR. S.D. 600'

65+53 to 66+53 - Reqd Drainage Ditch Lt. (W=1')

N.E. 1/4 Sec. 19
 T.19 S., R. 73 W.

72+01 - Reqd 24'x40' Cross Culvert with inlet and outlet ditches (W=1'), dike below inlet.

P.I. 73+39.2

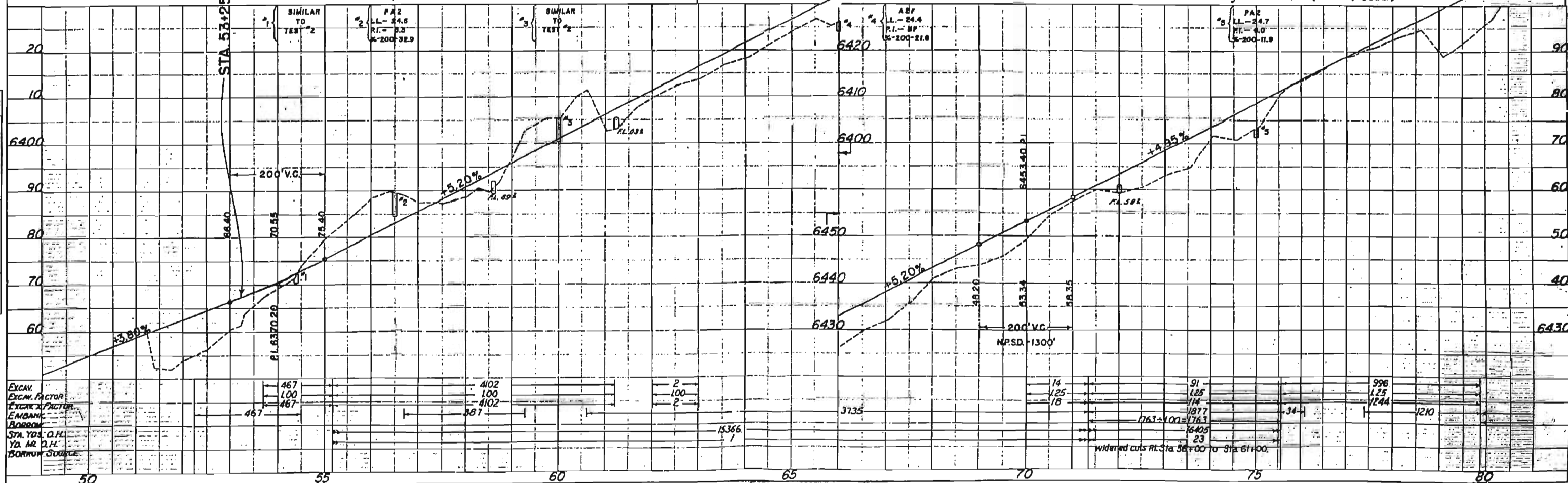
76+33 - Remove 18'x20' C.M.P. Lt.

$\Delta = 43^{\circ}29' R$
 $D = 5^{\circ}30'$
 $T = 415.4'$
 $L = 790.6'$
 $R = 1041.8'$
 HOR. S.D. 370'

CLEARING & GRUBBING
 Sta. 61+00 Heavy Clearing & Grubbing Begins on Rt. d Lt. (Pine & Cedar)

P.I. 82+80.8

FED. ROAD DIST. NO.	STATE	F.A.S. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	5-1121	23	



PLAN	APPROVED	BY	DATE
VOTE BOOK	NOTED		
	ALCOHOLIC DRINKING		
	AT DE NAT C-6110		
10			

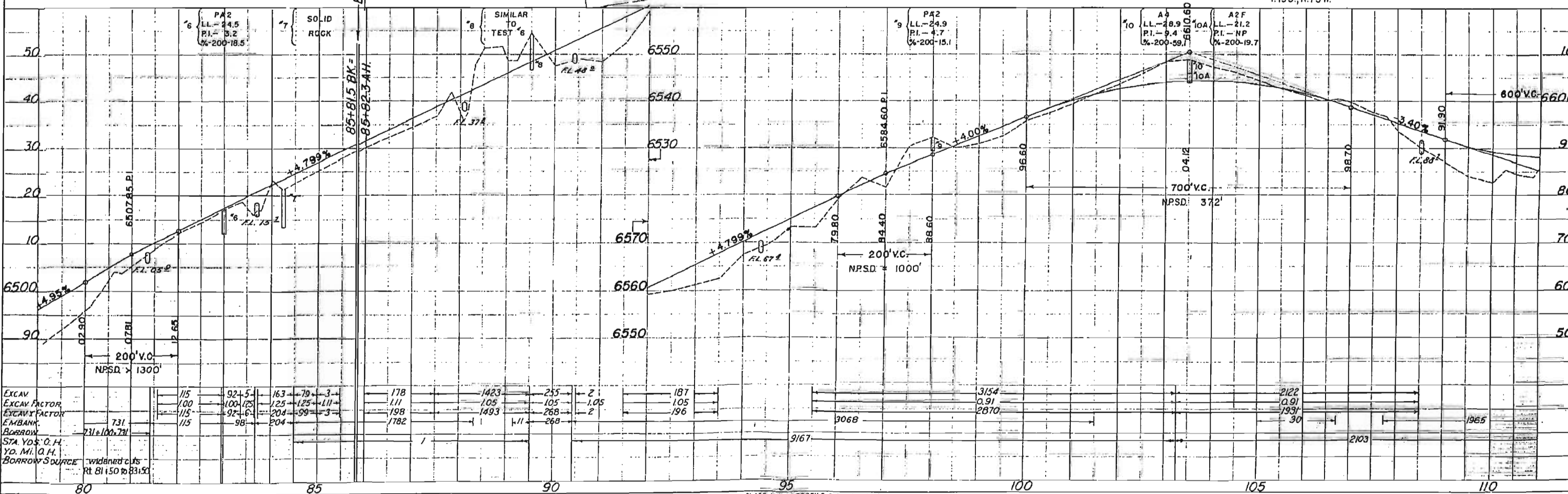


PLATE 1-PLAN-PROFILE * P * N STANDARD

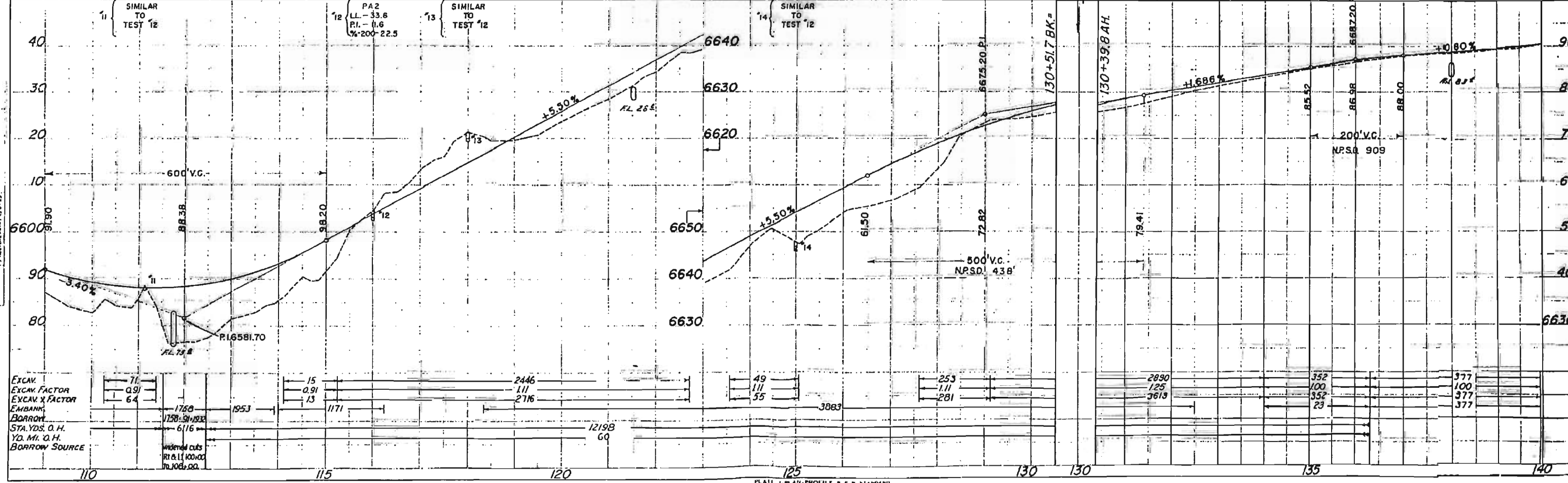
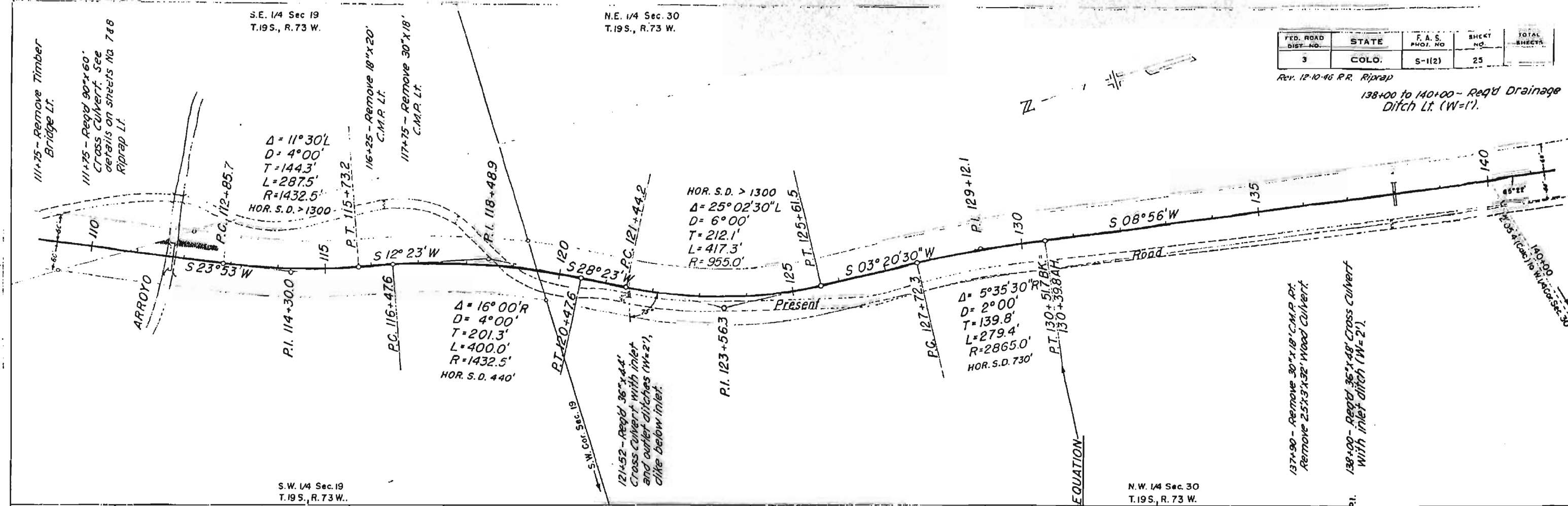
PLAN
 DATE
 BY
 CHECKED
 DATE

PROFILE
 DATE
 BY
 CHECKED
 DATE

EXCAV. FACTOR
 EXCAV. X FACTOR
 EMBANK.
 BORROW
 STA. YDS. O.H.
 YD. MI. O.H.
 BORROW SOURCE

FED. ROAD DIST. NO.	STATE	F. A. S. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S-11(2)	25	

Rev. 12-10-46 R.R. Riprap
 138+00 to 140+00 - Req'd Drainage Ditch Lt. (W=1')



N 1/4 Sec 26
T19S, R. 73 W.

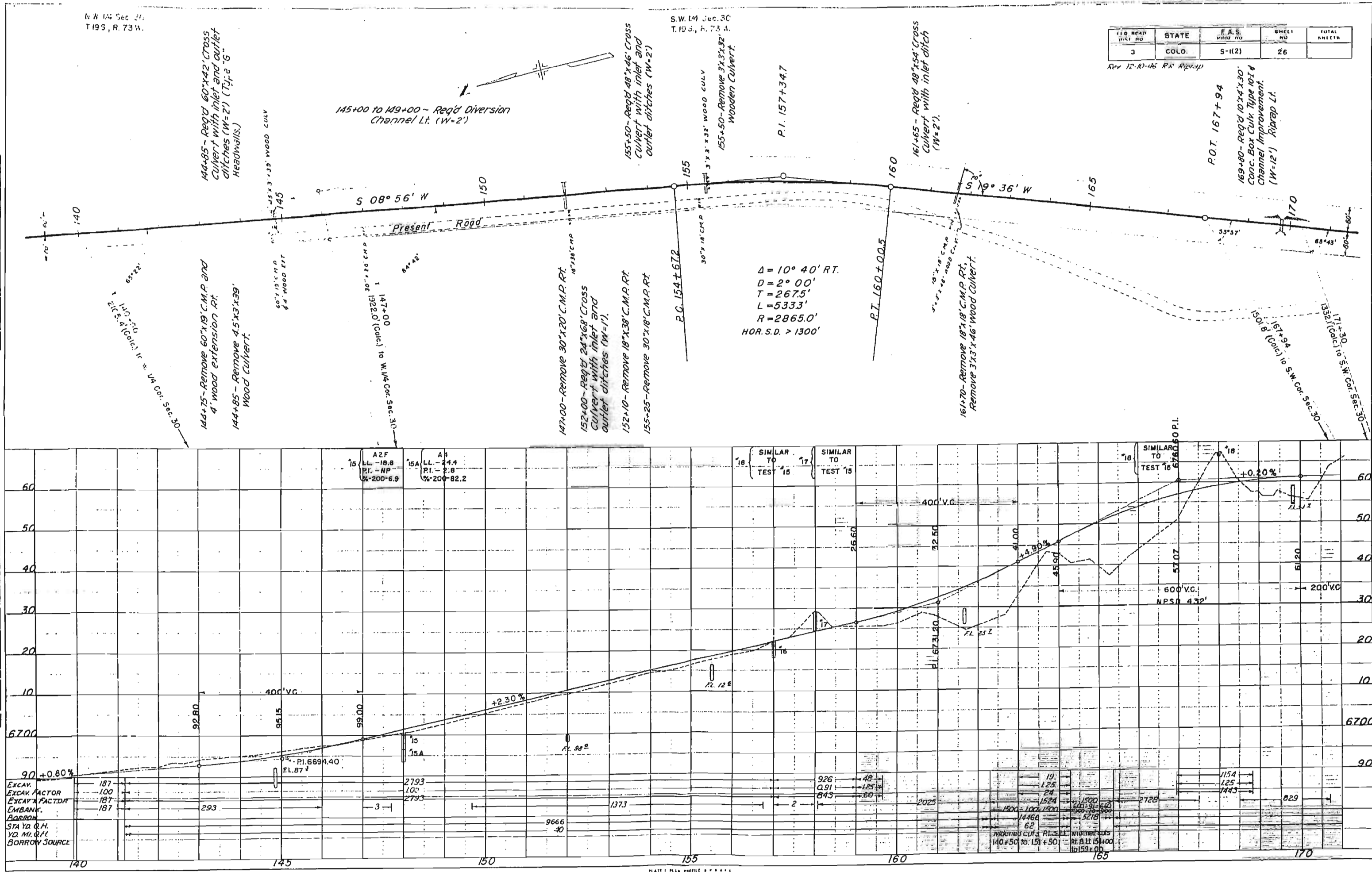
S.W. 1/4 Sec. 30
T. 19 S., R. 73 W.

FED. ROAD DIST. NO.	STATE	F.A.S. DIST. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S-11(2)	26	

Rev 12-10-46 R.R. Riprap

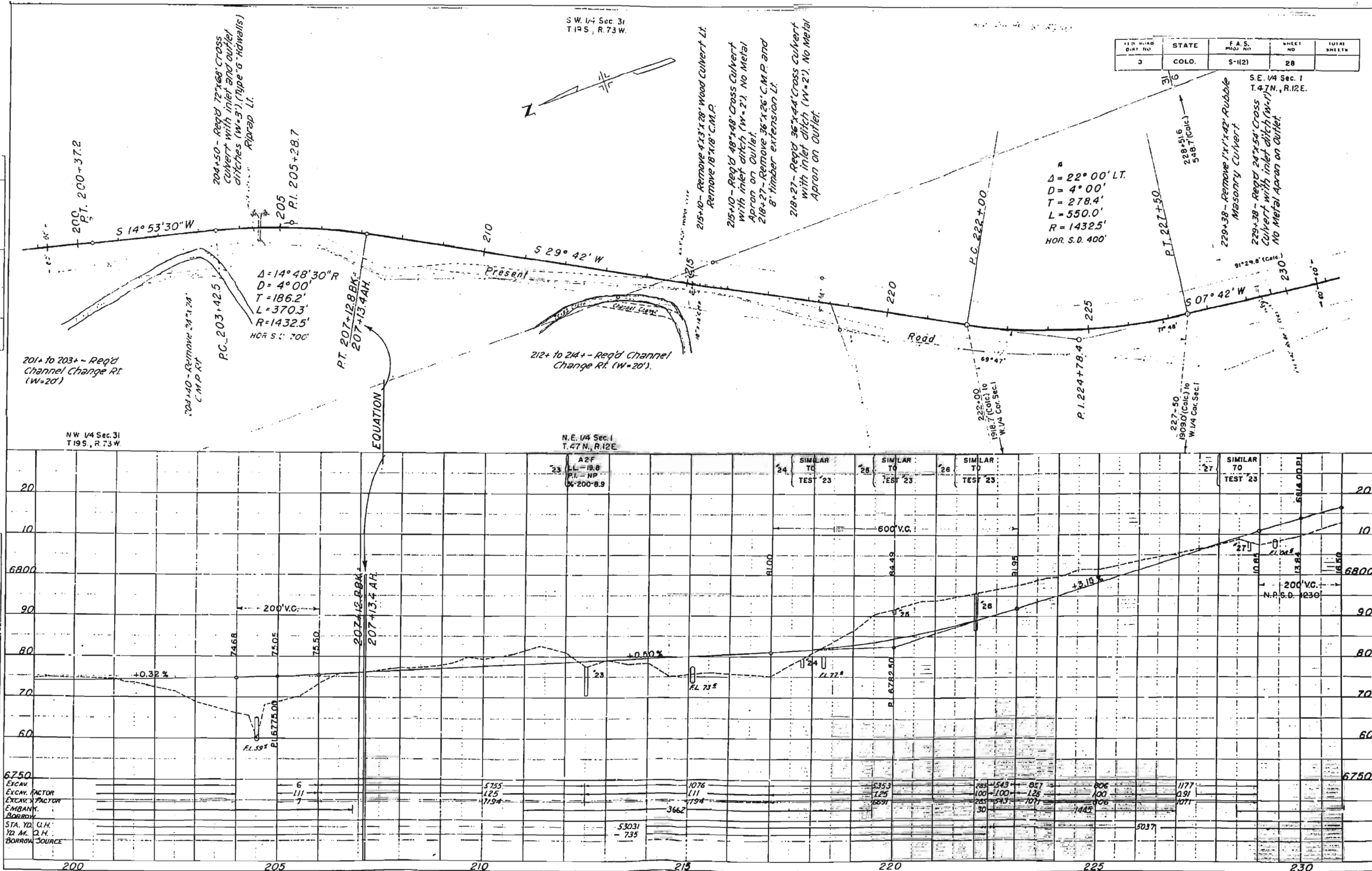
PUN	DATE	BY	CHKD

PROFILE	DATE	BY	CHKD



PLAN	DATE	BY	CHKD
URM/MSH			

PROFILE	DATE	BY	CHKD
URM/MSH			

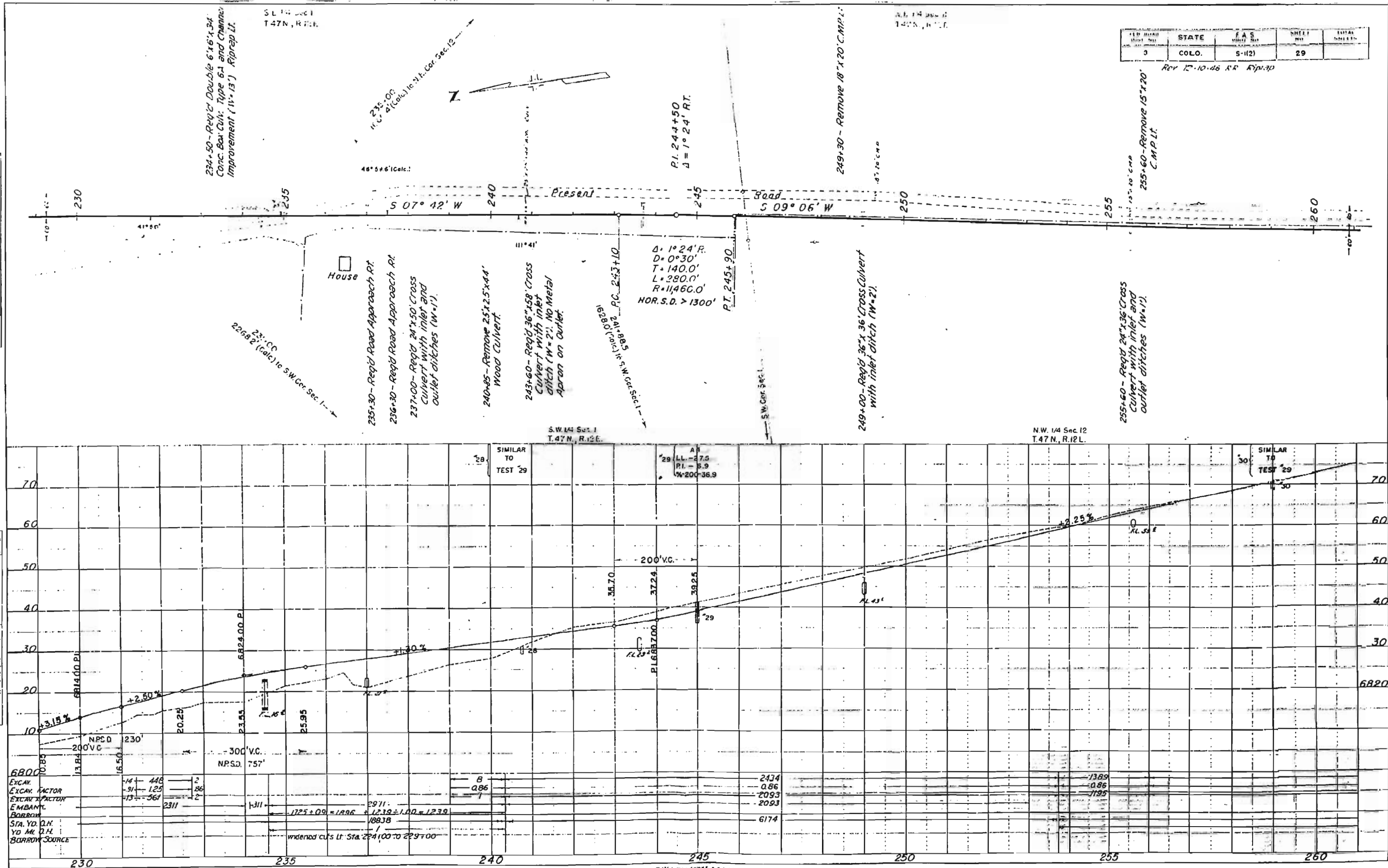


STATE	F.A.S. NO.	SHEET NO.	TOTAL SHEETS
COLO.	S-1121	28	

S.E. 1/4 Sec. 1
T.47N., R.12E.

PLAN	DATE	BY	CHKD

PROFILE	DATE	BY	CHKD



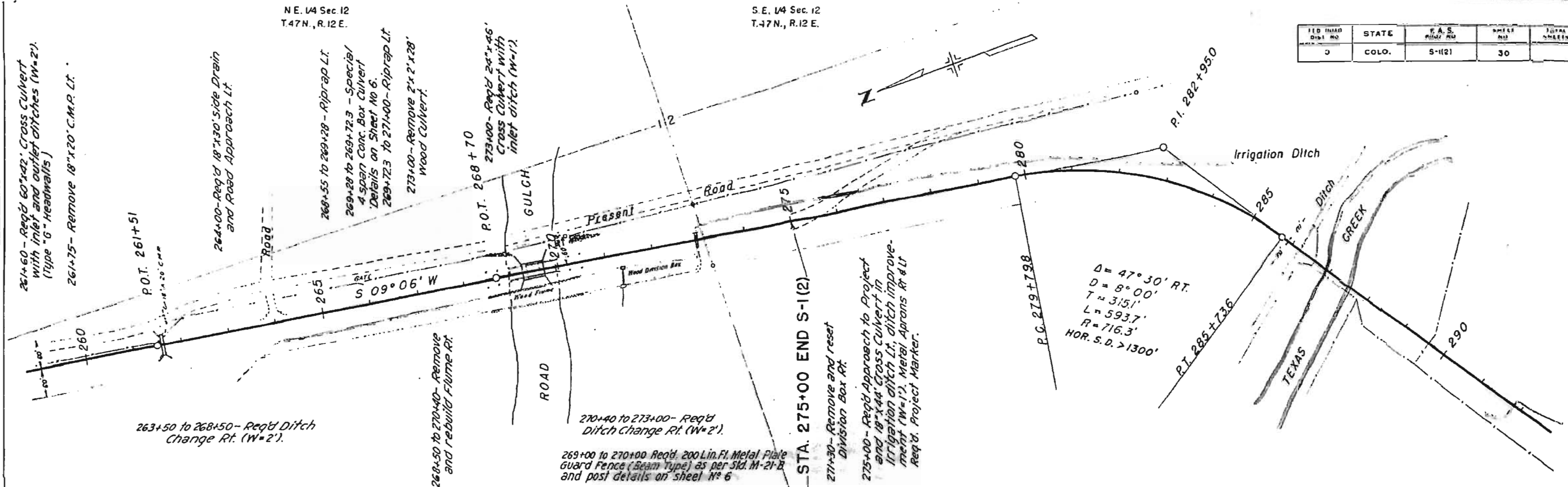
STATE	F.A.S.	SHEET	TOTAL
3	COLO.	S-11(2)	29

REV 12-10-46 R.R. Riprap

PLAN	DATE	BY	CHECKED	DATE	BY
DESIGNED					
PLANNED					
NOTED					
BY					

PROFILE	DATE	BY	CHECKED	DATE	BY
DESIGNED					
PLANNED					
NOTED					
BY					

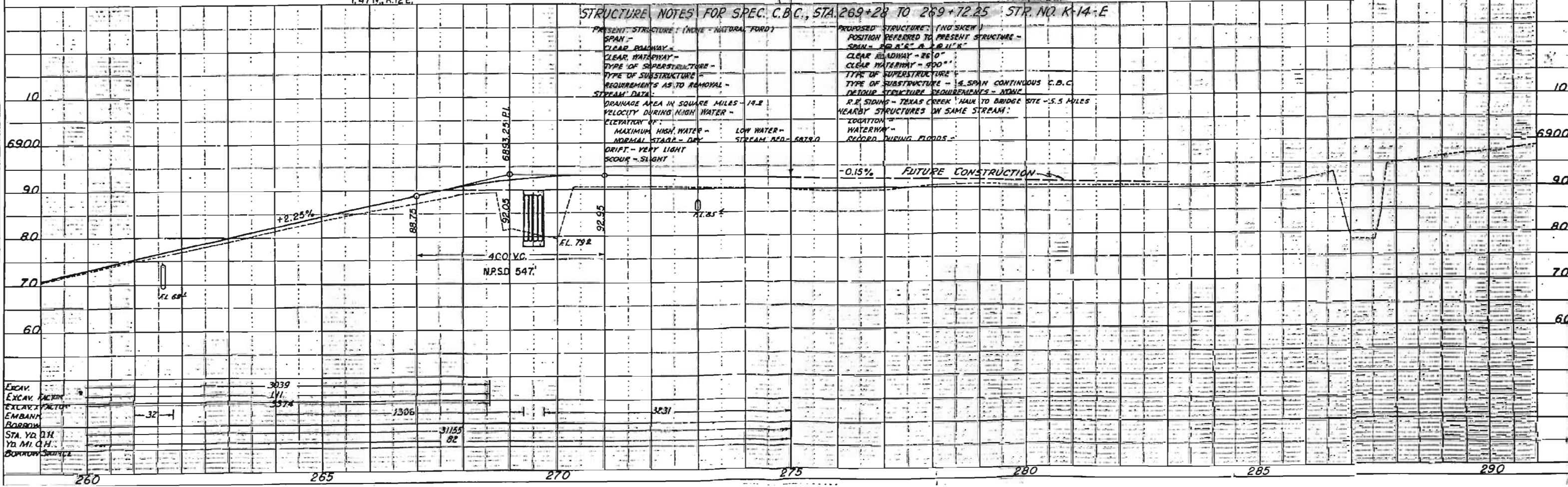
FILE NO.	STATE	P.A.S. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	5-1121	30	



STRUCTURE NOTES FOR SPEC. C.B.C., STA. 269+28 TO 269+72.25 STR. NO. K-14-E

PRESENT STRUCTURE (NONE - NATURAL FORD)
SPAN -
CLEAR ROADWAY -
CLEAR WATERWAY -
TYPE OF SUPERSTRUCTURE -
TYPE OF SUBSTRUCTURE -
REQUIREMENTS AS TO REMOVAL -
STREAM DATA:
DRAINAGE AREA IN SQUARE MILES - 14.2
VELOCITY DURING HIGH WATER -
ELEVATION OF:
MAXIMUM HIGH WATER -
NORMAL STAGE - DAY
DRIFT - VERY LIGHT
SCOUR - SLIGHT

PROPOSED STRUCTURE (TWO SKIN)
POSITION REFERRED TO PRESENT STRUCTURE -
SPAN - 20' R.C. R. 20' 11" K
CLEAR ROADWAY - 26' 0"
CLEAR WATERWAY - 40' 0"
TYPE OF SUPERSTRUCTURE -
TYPE OF SUBSTRUCTURE - 4 SPAN CONTINUOUS C.B.C.
DETAILS STRUCTURE REQUIREMENTS - NONE
R.R. SIDING - TEXAS CREEK HALL TO BRIDGE SITE - 5.5 MILES
NEARBY STRUCTURES ON SAME STREAM:
LOCATION -
WATERWAY -
RECORD DURING FLOODS -



EXCAV. FACTOR
EXCAV. FACTOR
EMBANK. FACTOR
STA. YD. D.H.
YD. M.I. C.H.
BORROW SOURCE