

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	116-A(3)	1	

116.0103

CONVENTIONAL SIGNS

CENTER LINE OF SURVEY 50
 RIGHT OF WAY LINES
 TOWNSHIP OR RANGE LINES
 SECTION LINES
 ONE-QUARTER SECTION LINES
 RAILROAD TRACKS
 BARBED WIRE FENCE
 SNOW FENCE
 POLE LINES

INDEX OF SHEETS

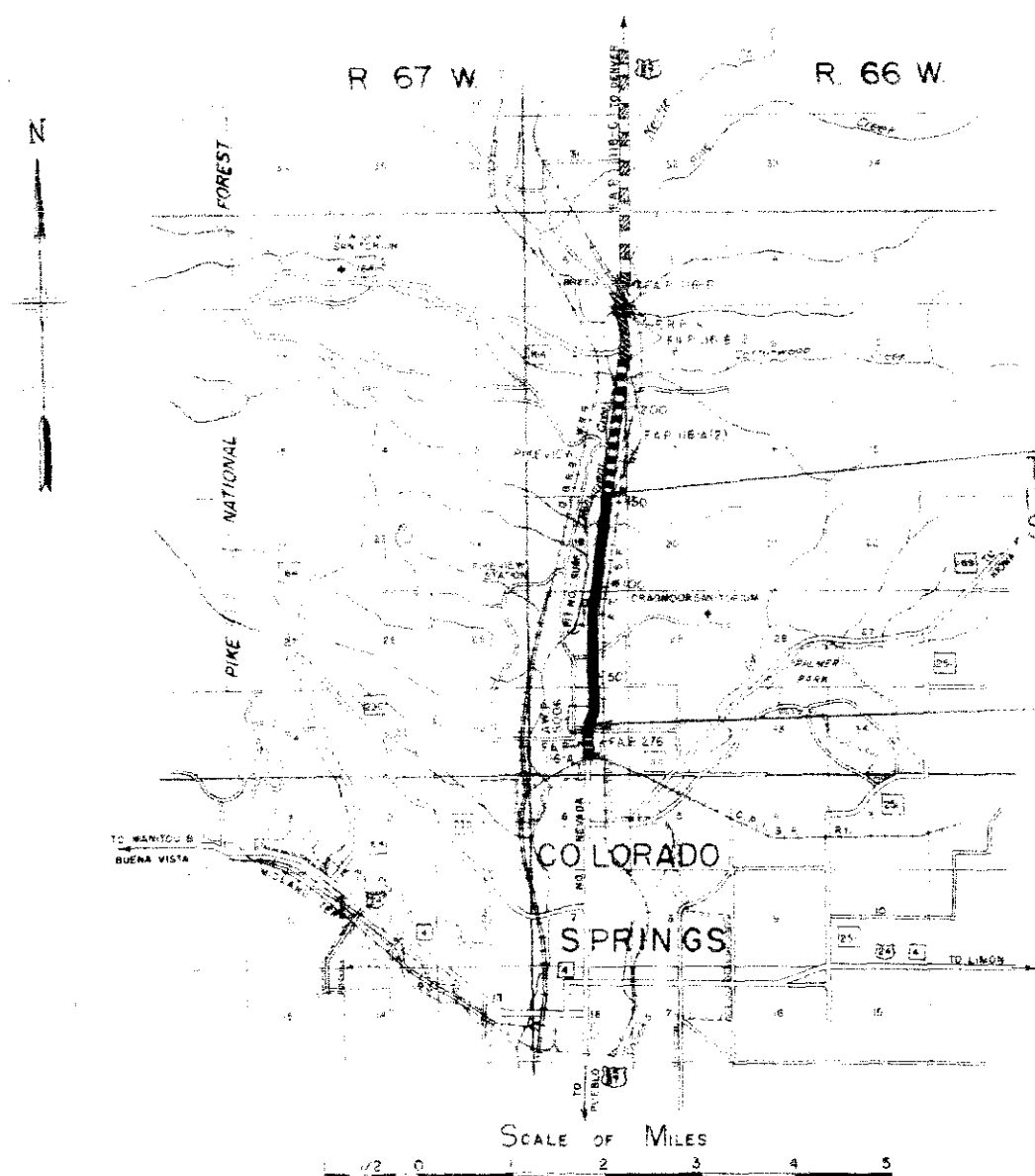
SHEET NO. 1	TITLE SHEET AND SKETCH MAP
2	TYPICAL SECTION AND SUMMARY OF QUANTITIES
3 & 4	TABULATION OF STRUCTURES
5	DETAILS OF STORM SEWER AND DRAIN DITCHES, STA. 33+46+58+
6	DETAILS OF SPECIAL 10'x8' CONCRETE BOX CULVERT, STA. 85+
7 & 8	DETAILS OF SPECIAL 6'x4' CONCRETE BOX CULVERT, STA. 104+
9	DETAILS OF SPECIAL 6'x4' CONCRETE BOX CULVERT, STA. 112+
10	DETAILS OF SPECIAL 12'x10' CONCRETE BOX CULVERT, STA. 133+
11	STANDARD HEADWALLS FOR C.M.P. CULVERTS
12	STANDARD CONCRETE BOX CULVERTS
13	STANDARD REINFORCED CONCRETE CULVERT PIPE
14	STANDARD MANHOLES, INLETS & PIPE JOINTS ON SEWERS
15	STANDARD TIMBER GUARD POSTS
16	STANDARD WIRE FENCES WITH METAL POSTS
17	STANDARD STRUCTURE YEAR NUMBER MARKING
18	STANDARD METHODS FOR SUPERELEVATION AND WIDENING OF CURVES
19	TYPICAL SIDE APPROACH ROADS - ROADWAY CONSTRUCTION
20	STANDARD MARKER POST
21	STANDARD EMBANKMENT PROTECTORS
22-26	ALIGNMENT PLAN AND PROFILE
27-29	SOIL PROFILE AND EARTHWORK DATA
30-52	ROADWAY CROSS SECTIONS

M 102 F
 M 103 D
 M 112 D REV.
 M 12 B
 M 19 B REV.
 M 27 B
 M 14 A
 M 1 B
 M 2 B
 M 7 B
 M 13 B REV.

COLORADO STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. 116-A(3) STATE HIGHWAY NO. 1 EL PASO COUNTY

SCALES OF ORIGINAL TRACINGS
 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 } 12,998.2 FEET = 2.461 MI.
 NET LENGTH OF PROJECT }



STA. 152 + 50
 END OF F.A.P. 116-A (3)
 BEGINNING OF F.A.P. 115-A (2)
 EQUALS SAME STATION OF F.A.P. 116-A (ORIGINAL PROJECT)

STA. 22 + 23.6
 BEGINNING OF F.A.P. 116-A (3)
 EQUALS SAME STATION OF A.W.P. 5006
 OPPOSITE STA. 22 + 48.3 OF F.A.P. 116-A (ORIGINAL PROJECT)

NOTE

IT IS RECOMMENDED THAT THE BIDDERS ON THIS PROJECT
 GO OVER THE PLAN DETAILS WITH ONE OF THE FOLLOWING
 FIELD REPRESENTATIVES OF THIS DEPARTMENT.

ERNEST MONTGOMERY, DIV. ENGINEER COLORADO SPRINGS
 HARRY LITTLEFIELD, RES. ENGINEER COLORADO SPRINGS

RECOMMENDED FOR APPROVAL

Chas. V. Vail
 ASSISTANT ENGINEER
 DATE 7-6-40

APPROVED

Chas. V. Vail
 STATE HIGHWAY ENGINEER
 DATE

RECOMMENDED FOR APPROVAL

DISTRICT ENGINEER
 PUBLIC ROADS ADMINISTRATION
 FEDERAL WORKS AGENCY

RECOMMENDED FOR APPROVAL

CHIEF, WESTERN REGION
 PUBLIC ROADS ADMINISTRATION
 FEDERAL WORKS AGENCY

APPROVED

COMMISSIONER
 PUBLIC ROADS ADMINISTRATION
 FEDERAL WORKS AGENCY

[illegible][illegible]

PLAN & PROFILE FOR 27" SEWER PIPE LINE STATION 33+13.7

6 SP TMB BR
20 ROWAY 80°
UL WATERWAY

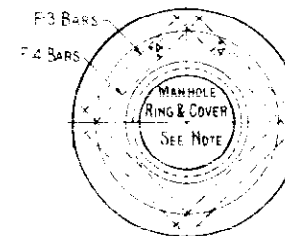
LIST OF MATERIAL

ITEM	DESCRIPTION	UNIT	QUANT
14b	Dry Comm. Excav (Struct)	Cu Yd	1800
14e	Mechan. Tamping	Hrs	12
46a	Class A Concrete	Cu Yd	6.7
46b	Class B Concrete	Cu Yd	7.0
47	Reinforcing Steel	Lbs	870
52a	27" Reinf Conc Culv Pipe	Lin Ft	1236
52b	48" Reinf Conc Culv Pipe	Lin Ft	20-65
110c	Spec #13 Inlet Grt & Frame	Each	3
111x	C.I. Manhole Ring & Cover	Each	2

*SEE STD SHEET No 13

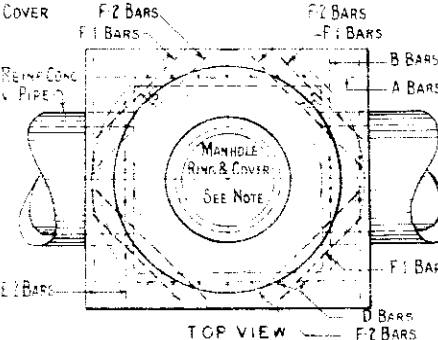
NOTE: An iron ladder similar to the one shown in the sketch shall be installed in each Manhole. The cost of the ladder in place shall be included in the unit price bid per linear foot of 48" Reinf Conc Pipe

TOP VIEW OF COVER

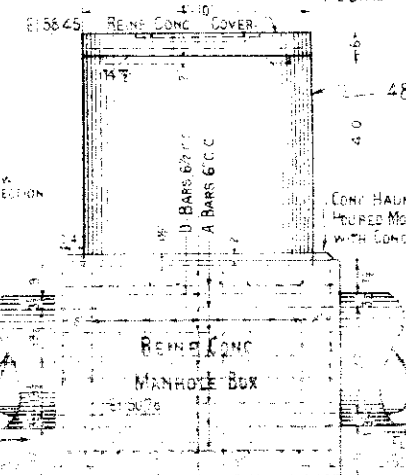


NOTE: MANHOLE RING & COVER TO BE OF CAST IRON AS PER H & B CAT #150, PAGE 371, FIG 371-C OR EQUIVALENT. TO BE SET IN 6" REINFORCED CONCRETE MANHOLE COVER

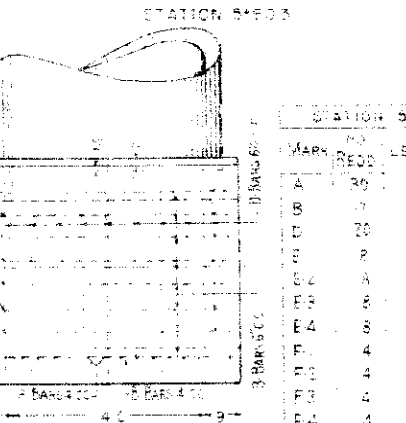
FED. ROAD DIST. NO. 3
STATE COLO.
FED. AID PROJ. NO. 116-A(3)
SHEET NO. 5
TOTAL SHEETS 5
REV. 7-15-40 ROW LINES ADDED H.W.M.



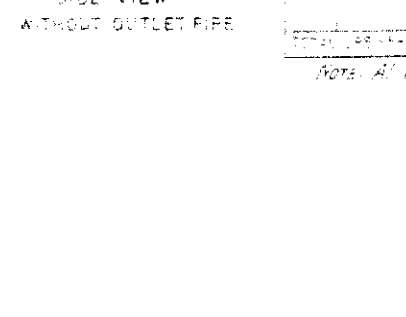
TOP VIEW



MANHOLE ELEVATION



MANHOLE ELEVATION



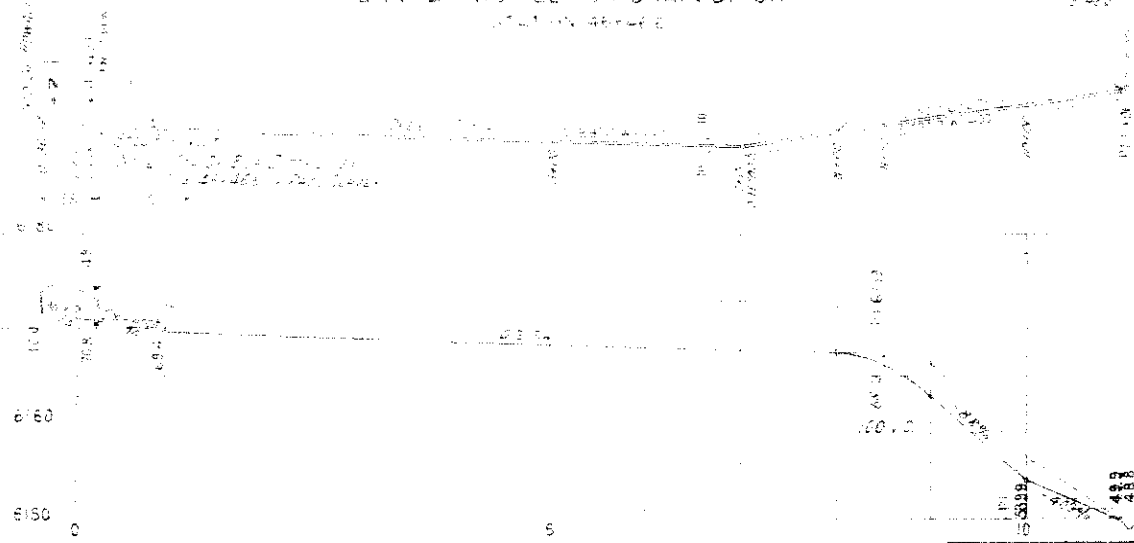
BAR LIST

MARK	RECD	LENGTH	STATION	MARK	RECD	LENGTH	STATION
A	20	5' 0"	STATION 5+003	A	30	5' 0"	STATION 10+003
B	17	5' 0"		B	25	5' 0"	
C	20	4' 0"		C	25	4' 0"	
D	8	7' 6"		D	4	7' 6"	
E	8	3' 0"		E	4	3' 0"	
F	8	3' 0"		F	4	3' 0"	
G	8	3' 0"		G	4	3' 0"	
H	8	3' 0"		H	4	3' 0"	
I	8	3' 0"		I	4	3' 0"	
J	8	3' 0"		J	4	3' 0"	
K	8	3' 0"		K	4	3' 0"	
L	8	3' 0"		L	4	3' 0"	
M	8	3' 0"		M	4	3' 0"	
N	8	3' 0"		N	4	3' 0"	
O	8	3' 0"		O	4	3' 0"	
P	8	3' 0"		P	4	3' 0"	
Q	8	3' 0"		Q	4	3' 0"	
R	8	3' 0"		R	4	3' 0"	
S	8	3' 0"		S	4	3' 0"	
T	8	3' 0"		T	4	3' 0"	
U	8	3' 0"		U	4	3' 0"	
V	8	3' 0"		V	4	3' 0"	
W	8	3' 0"		W	4	3' 0"	
X	8	3' 0"		X	4	3' 0"	
Y	8	3' 0"		Y	4	3' 0"	
Z	8	3' 0"		Z	4	3' 0"	
TOTAL LBS. REBAR			442	TOTAL LBS. REBAR			664

NOTE: All Reinforcing Bars to be 1/2"

*NOTE: The two pipe lengths may be modified by the Engineer to meet field requirements. Pipe shall not be ordered until lengths are approved by the Engineer in the field. Headwall and three #13 inlets at Sta 33+ and the #13 inlet at Sta 46+ shall be Class B Concrete. Bases of two Manholes at Sta 33+ and collar for #13 inlet grating at Sta 46+ shall be Class A Concrete.

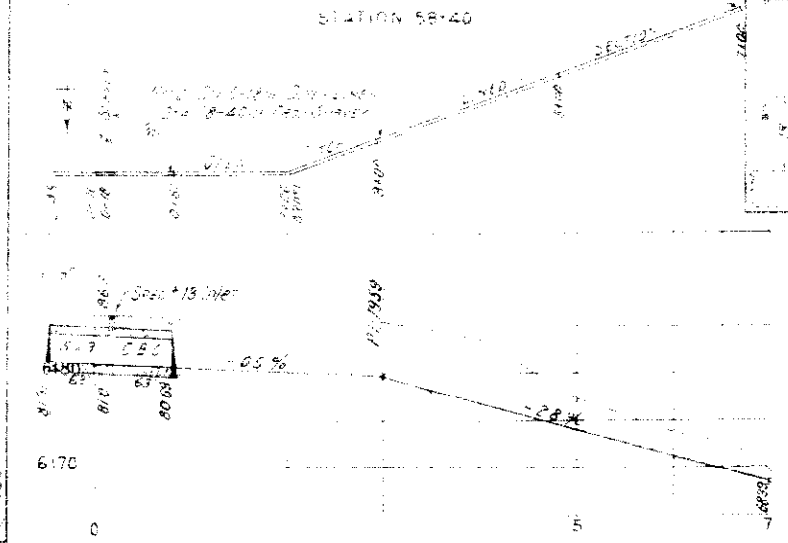
PLAN & PROFILE FOR DRAIN DITCH



LIST OF MATERIAL

ITEM	DESCRIPTION	UNIT	QUANT
13a	Undr. Ditch Excav	Cu Yd	1100
14b	Dry Comm. Excav (Struct)	Cu Yd	80
14e	Mechan. Tamping	Hrs	20
46b	Class B Concrete	Cu Yd	4.3
64b	Dry Rubble Sl. Paving (12")	Sq Yd	350
110c	Spec #13 Inlet Grt & Frame	Each	1
135c	30"x17" C.M.P. Arch Culv	Lin Ft	128

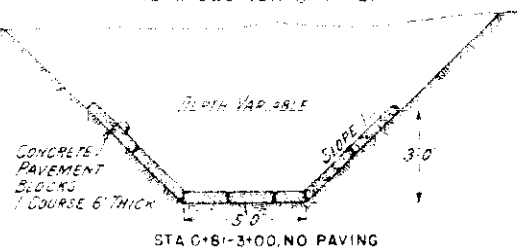
PLAN & PROFILE FOR DRAIN DITCH



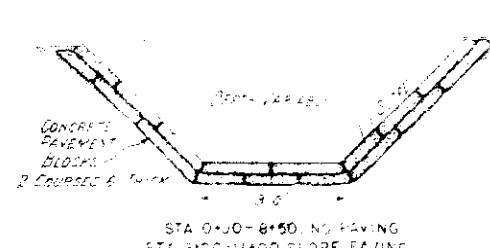
LIST OF MATERIAL

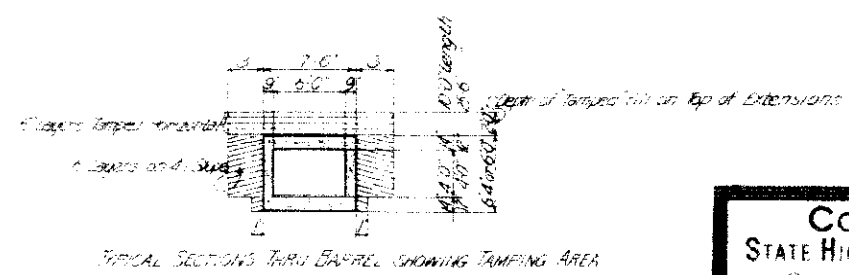
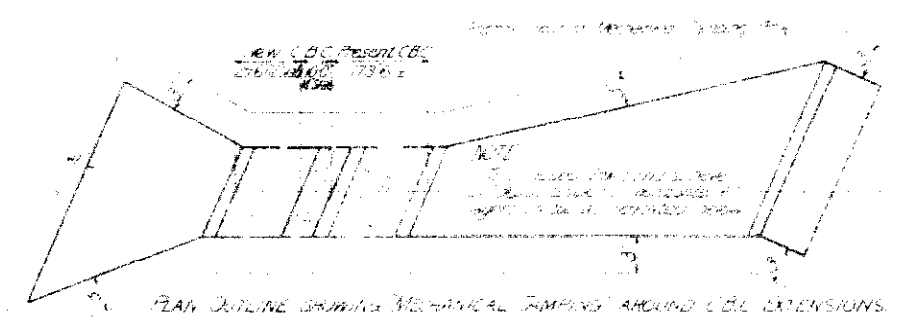
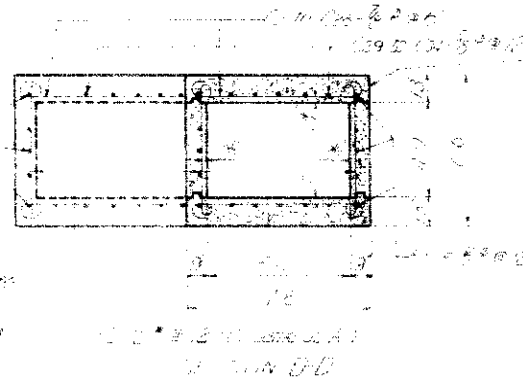
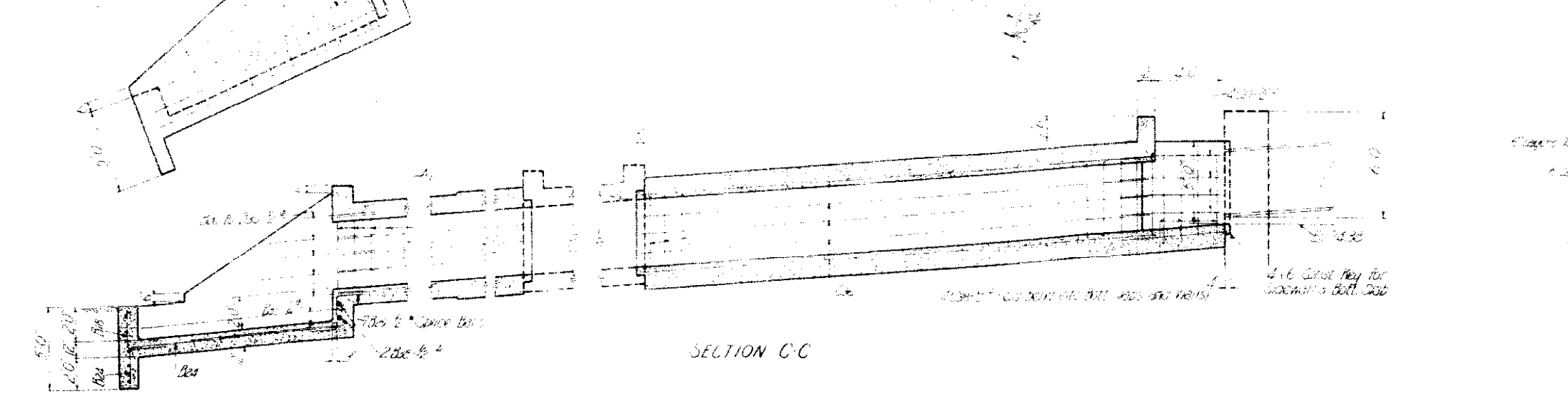
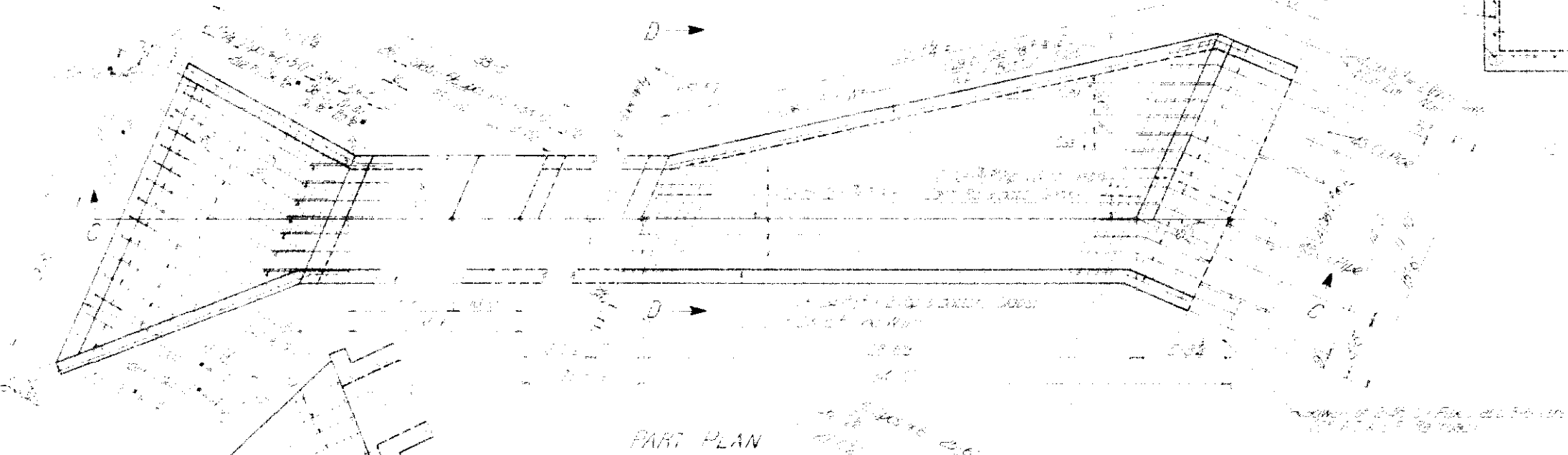
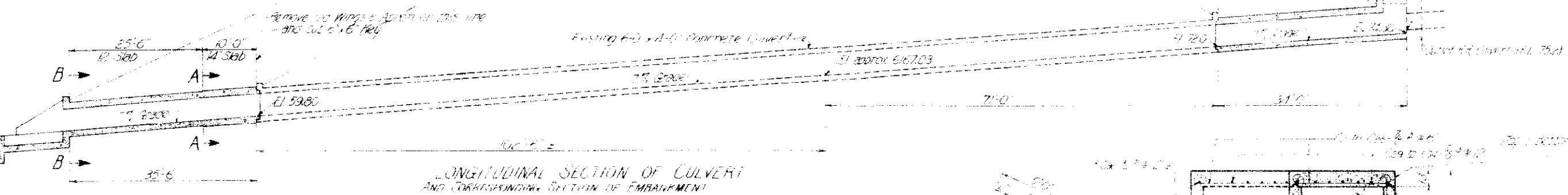
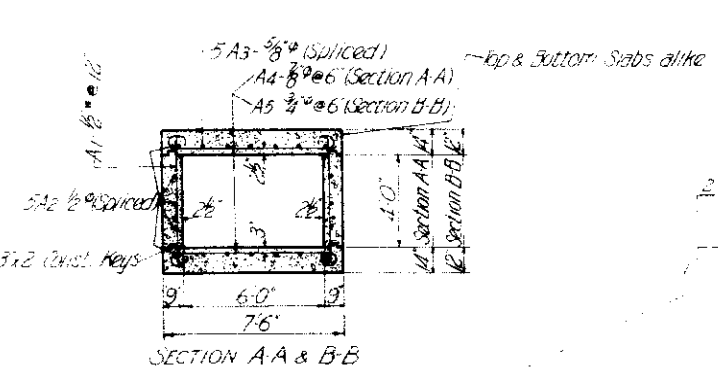
ITEM	DESCRIPTION	UNIT	QUANT
13a	Undr. Ditch Excav	Cu Yd	2000
14b	Dry Comm. Excav (Struct)	Cu Yd	315
14e	Mechan. Tamping	Hrs	15
46a	Class A Concrete	Cu Yd	850
47	Reinf Steel	Lbs	8425
64a	Dry Rubble Sl. Paving (6")	Sq Yd	600
110c	Spec #13 Inlet Grt & Frame	Each	1

TYPICAL SECTION OF DITCH



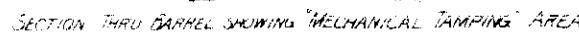
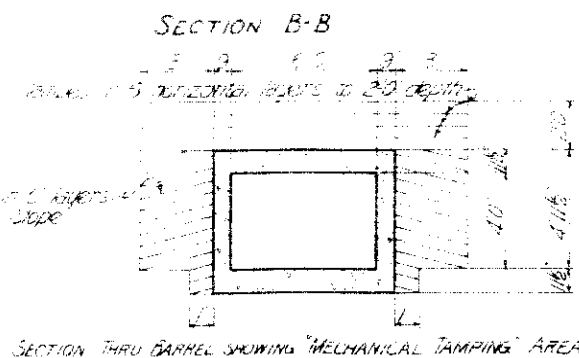
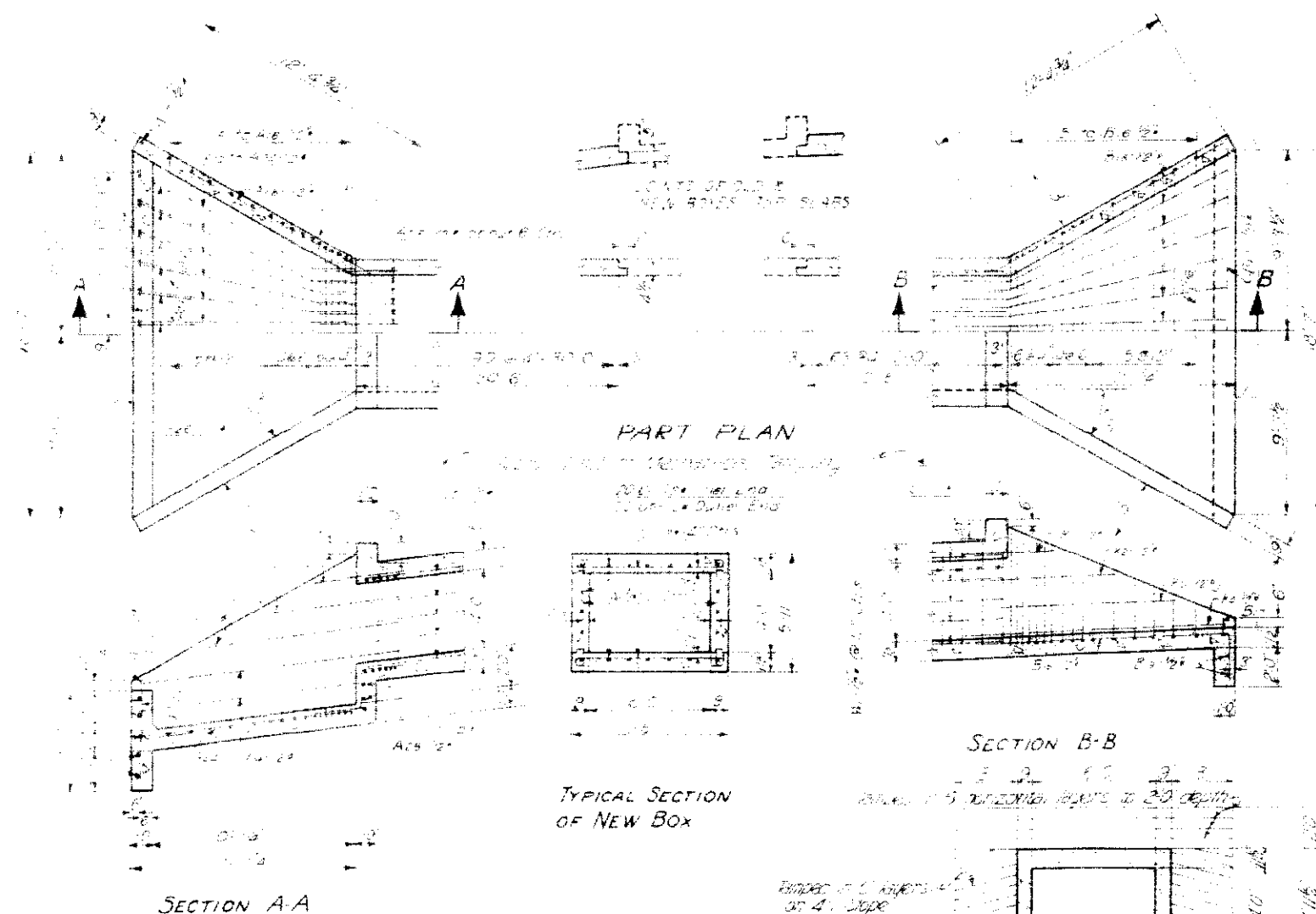
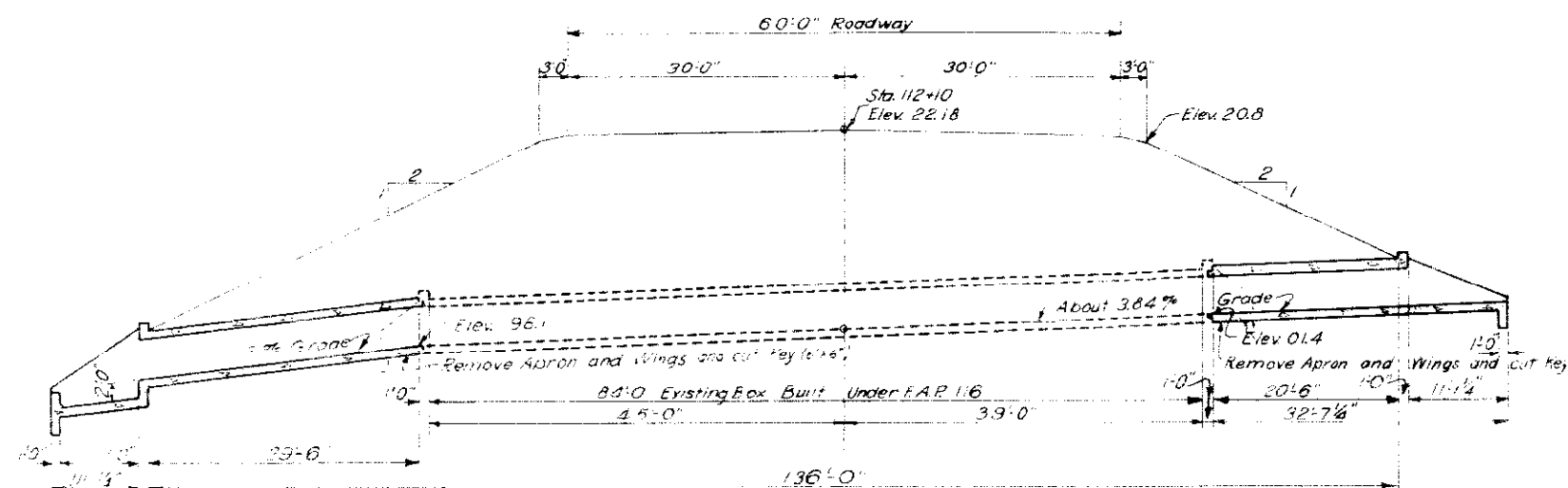
TYPICAL SECTION OF DITCH





COLORADO
STATE HIGHWAY DEPARTMENT
SPECIAL 60'x40'
CONCRETE BOX EXTENSION

Across Sta. 104+92.2
Near COLO. SP. 19 T. 13 S. R. 66 W.
Designed by W.M. Approved by J.B. 1940
Made by C.B.M. Bridge Engineer
Checked by Date March 15, 1940



BAR LIST FOR 6'x4' C.B.C. EXTENSION														1940.
Mark	Size	No Req'd	Length	Type	P	Q	Mark	Size	No Req'd	Length	Type	P	Q	
V1	1/2"	310	7'-10"	I	5'-6"		A1			220		7'-2"	7'-6"	
							A2	1/2"	15a	by 3"	III	by 1 1/2"	by 2"	
							A7			1022-3		109'-5"	106'-0"	
W1	1/2"	108	6'-2"	I	4'-10"		A8			22-4		109'-0"	6'-3"	
							A9	1/2"	15a	by 7"	III	by 7"	by 3"	
							A10			1022-1		1011'-9"	105'-6"	
U1	1/2"	20	2'-0"	Str.			A12			22-11"		2'-11"	5'-1"	
U8	1/2"	20	3'-0"	Str.			A13	1/2"	1a	by 3"	III	by 1'-2"	by 5/8"	
							A6			1023-1		1017'-	103'-3"	
							A17	1/2"	1		III	18'-9"	2'-9"	
K1	1/2"	4	5'-4"	II		3'-4"	A2	1/2"	2	16'-8"	IV	13'-1"	2'-4"	
K2	1/2"	4	8'-8"	II		6'-8"	A9			13-1"		11-0"		
K3	1/2"	4	12'-0"	II		10'-0"	A10	1/2"	250	by 3"	IV	by 3"	2'-4"	
K4	1/2"	6	4'-8"	II		12'-8"	A20			1012-10		1010-7		
							A25	1/2"	5	8'-0"	Str.			
							A26	1/2"	12	4'-3"	Str.	2'-2"	2'-2"	
							A27	1/2"	2	7'-0"	IV			
B1			8'-0"		7'-2"	5'-0"								
T0	1/2"	150	4'-4"	III	4'-10"	by 1 1/2"	A28	1/2"	13	6'-2"	V			
B7			1016-3		109-5	104-6								
B8			8'-4"		10-0	4-3								
B9	1/2"	50	6'-1"	II	4-7"	by 3"								
B10			10-8		10-9	103-6								
B11			A-11"											
T0	1/2"	50	2'-3"	II	6'-0"	10-5"								
B16			1019-		10-0	10-5								
B17	1/2"	1	10-0	II	8-0	2-9								
B18	1/2"	1	10-0	II	10-0	2-9								
B19	1/2"	1	10-0	II	10-0	2-9								

* Approx 10 Cu Yds Concrete to be removed.

GENERAL NOTES

GENERAL NOTES

All work shall be done according to the standard specifications of the
Tennessee State Highway Department, adopted June 1, 1940.

4" concrete shall be "tagged".

4" walls shall have forms on both sides.

4" construction joints shall be thoroughly cleaned before fresh concrete is
poured.

All bars shall be deformed.

Minimum distance from centerline of box to edge of concrete to be 2 1/2'.
Longitudinal bars when spaced shall be spaced 30 diameters.

All reinforcing bars shall be tagged with the station number and
bar designation.

Four wing footings monolithically with floor of box.

The use of additional construction joints is undesirable. Should field
conditions require, construction joints may be made on a vertical plane
perpendicular to the center line of alignment, and shall have keys as shown.

Supporting soil must be composed of firm and uniform material throughout.

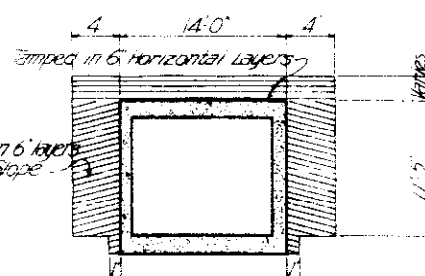
All backfilling behind and over culvert shall be laid in layers, not exceeding
six inches in depth and each layer shall be rolled or mechanically
tamped where impracticable to roller. Also moisten where necessary.

Plans from existing walls and bottom slab to project at least 2' foot
into new extension.

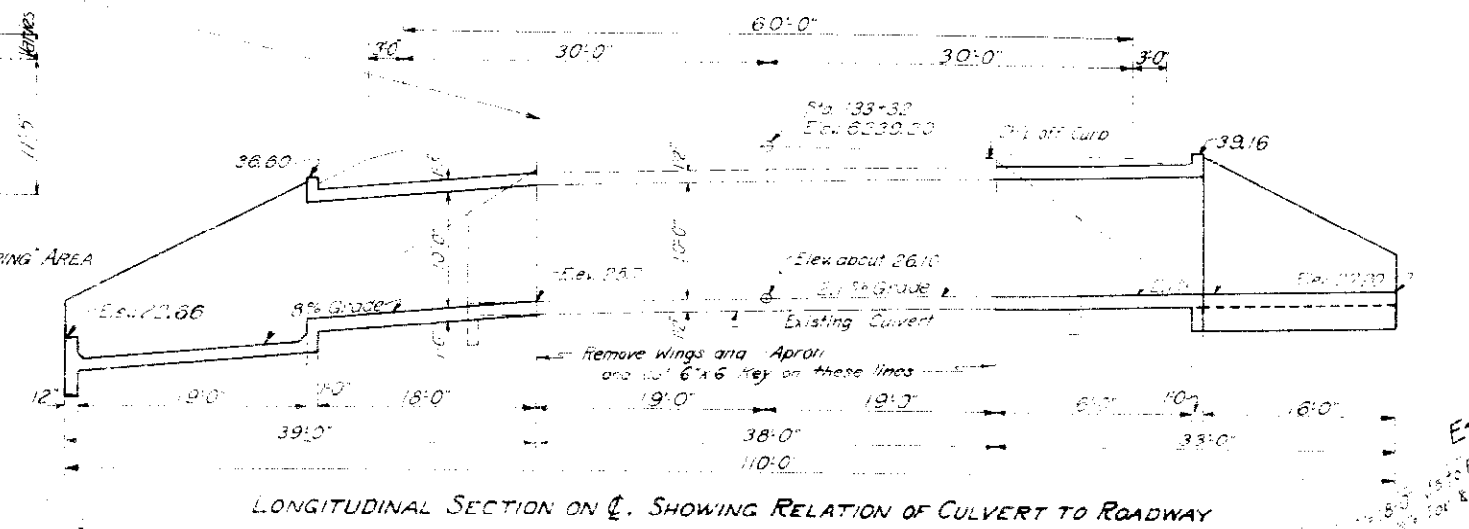
COLORADO
STATE HIGHWAY DEPARTMENT

SPECIAL 6'x4'
CONCRETE BOX EXTENSION

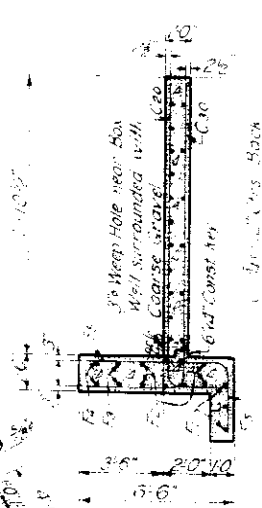
Across <i>Wash</i>	Sta. <i>112.10</i>
Next <i>Coa Springs</i>	<i>130 R 66</i>
Designed by <i>W&A</i>	Approved by <i>P. J. Bunt</i>
Made by <i>A. C. C.</i>	By <i>Engineer</i>
Checked by	Date <i>March 27, 1940</i>



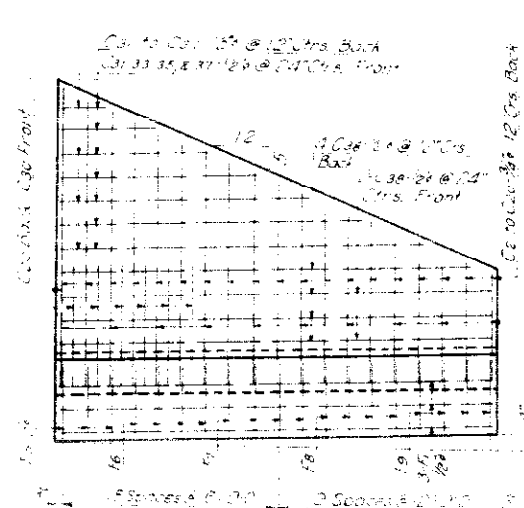
SECTION THRU BARREL SHOWING MECHANICAL TAMPING AREA



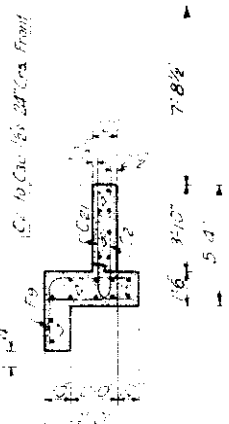
LONGITUDINAL SECTION ON C. SHOWING RELATION OF CULVERT TO ROADWAY



SECTION D-D



TRUE ELEVATION OF INLET WINGS



SECTION E-E

BAR LIST FOR 12'x10' C.B.C. EXTENSION									
Bar	Size	No.	Length	Type	Bar	Size	No.	Length	Type
1	1/2"	4	8.0	Str.	11	1/2"	4	8.0	Str.
2	1/2"	4	10.6	Str.	12	1/2"	4	10.6	Str.
3	1/2"	4	8.0	Str.	13	1/2"	4	8.0	Str.
4	1/2"	4	10.6	Str.	14	1/2"	4	10.6	Str.
5	1/2"	4	8.0	Str.	15	1/2"	4	8.0	Str.
6	1/2"	4	10.6	Str.	16	1/2"	4	10.6	Str.
7	1/2"	4	8.0	Str.	17	1/2"	4	8.0	Str.
8	1/2"	4	10.6	Str.	18	1/2"	4	10.6	Str.
9	1/2"	4	8.0	Str.	19	1/2"	4	8.0	Str.
10	1/2"	4	10.6	Str.	20	1/2"	4	10.6	Str.
21	1/2"	4	8.0	Str.	22	1/2"	4	8.0	Str.
23	1/2"	4	10.6	Str.	24	1/2"	4	10.6	Str.
25	1/2"	4	8.0	Str.	26	1/2"	4	8.0	Str.
27	1/2"	4	10.6	Str.	28	1/2"	4	10.6	Str.
29	1/2"	4	8.0	Str.	30	1/2"	4	8.0	Str.
31	1/2"	4	10.6	Str.	32	1/2"	4	10.6	Str.
33	1/2"	4	8.0	Str.	34	1/2"	4	8.0	Str.
35	1/2"	4	10.6	Str.	36	1/2"	4	10.6	Str.
37	1/2"	4	8.0	Str.	38	1/2"	4	8.0	Str.
39	1/2"	4	10.6	Str.	40	1/2"	4	10.6	Str.
41	1/2"	4	8.0	Str.	42	1/2"	4	8.0	Str.
43	1/2"	4	10.6	Str.	44	1/2"	4	10.6	Str.
45	1/2"	4	8.0	Str.	46	1/2"	4	8.0	Str.
47	1/2"	4	10.6	Str.	48	1/2"	4	10.6	Str.
49	1/2"	4	8.0	Str.	50	1/2"	4	8.0	Str.
51	1/2"	4	10.6	Str.	52	1/2"	4	10.6	Str.
53	1/2"	4	8.0	Str.	54	1/2"	4	8.0	Str.
55	1/2"	4	10.6	Str.	56	1/2"	4	10.6	Str.
57	1/2"	4	8.0	Str.	58	1/2"	4	8.0	Str.
59	1/2"	4	10.6	Str.	60	1/2"	4	10.6	Str.
61	1/2"	4	8.0	Str.	62	1/2"	4	8.0	Str.
63	1/2"	4	10.6	Str.	64	1/2"	4	10.6	Str.
65	1/2"	4	8.0	Str.	66	1/2"	4	8.0	Str.
67	1/2"	4	10.6	Str.	68	1/2"	4	10.6	Str.
69	1/2"	4	8.0	Str.	70	1/2"	4	8.0	Str.
71	1/2"	4	10.6	Str.	72	1/2"	4	10.6	Str.
73	1/2"	4	8.0	Str.	74	1/2"	4	8.0	Str.
75	1/2"	4	10.6	Str.	76	1/2"	4	10.6	Str.
77	1/2"	4	8.0	Str.	78	1/2"	4	8.0	Str.
79	1/2"	4	10.6	Str.	80	1/2"	4	10.6	Str.
81	1/2"	4	8.0	Str.	82	1/2"	4	8.0	Str.
83	1/2"	4	10.6	Str.	84	1/2"	4	10.6	Str.
85	1/2"	4	8.0	Str.	86	1/2"	4	8.0	Str.
87	1/2"	4	10.6	Str.	88	1/2"	4	10.6	Str.
89	1/2"	4	8.0	Str.	90	1/2"	4	8.0	Str.
91	1/2"	4	10.6	Str.	92	1/2"	4	10.6	Str.
93	1/2"	4	8.0	Str.	94	1/2"	4	8.0	Str.
95	1/2"	4	10.6	Str.	96	1/2"	4	10.6	Str.
97	1/2"	4	8.0	Str.	98	1/2"	4	8.0	Str.
99	1/2"	4	10.6	Str.	100	1/2"	4	10.6	Str.

GENERAL NOTES

All work shall be done according to the standard specifications of the Colorado State Highway Department, adopted June 1, 1940.

All concrete shall be Class A.

All walls shall have forms on both sides.

All construction joints shall be thoroughly cleaned before fresh concrete is poured.

All bars shall be deformed.

Minimum distance from centerline of bars to edge of concrete to be 5/8" long. Ends when spliced shall be lapped 50 diameters.

All reinforcing bars shall be tagged with the station number and letter designation.

Four wing tiebacks shall be provided with each end of box.

Four wings independent of sides of box.

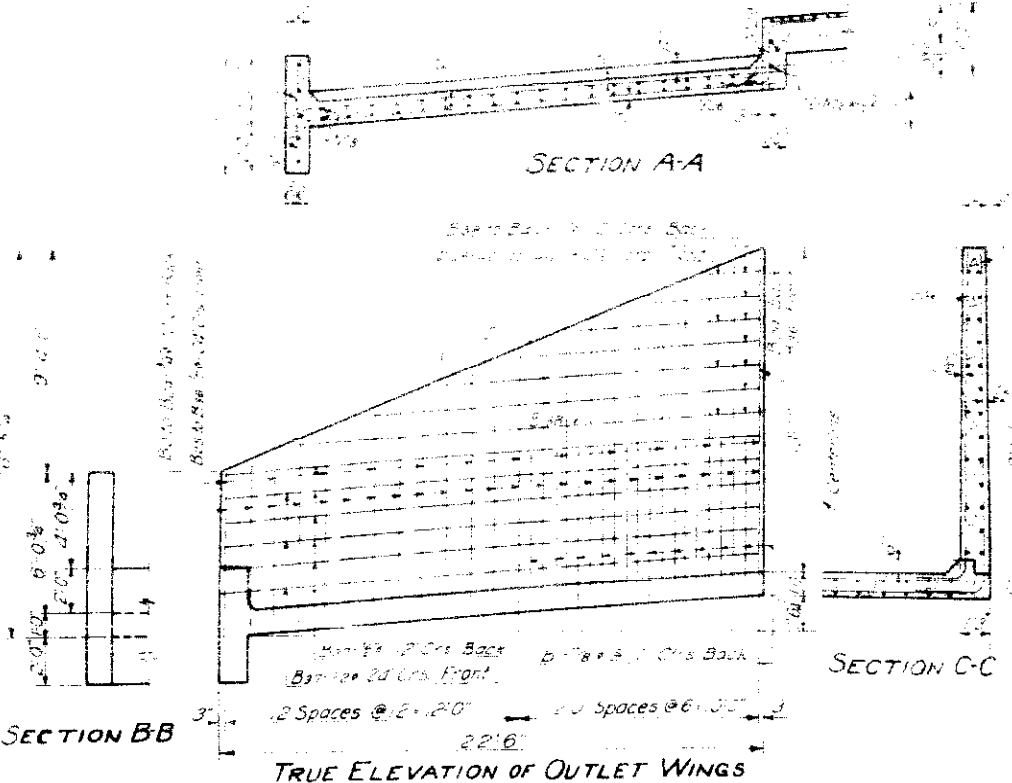
The use of additional construction joints is undesirable. Should field conditions require, construction joints may be made on a vertical plane perpendicular to centerline of culvert, and shall have keys as shown.

Supporting soil must be composed of firm and uniform material throughout.

Backfilling to and over culvert shall be laid in layers not exceeding six inches in depth and each layer shall be tamped or mechanically tamped where inaccessible to roller. Also moisten where necessary.

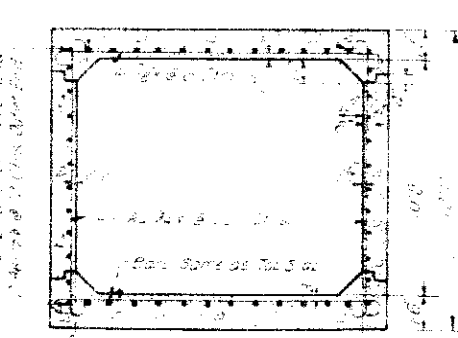
Bars from existing walls and bottom slab to project at least 2 feet into new extension.

SUMMARY OF BARS 12'x10' C.B.C. EXT.			
2375 Lin Ft. Bars @ 2.045 Lbs./Lin Ft.			
2166	1/2"	1.502	3283
1116	3/8"	1.043	1164
4860	1/4"	0.666	3246
		Plus 1% Overrun	133
		TOTAL	12680 Lbs.



PART SECTIONAL PLAN

SECTION F-F



TYPICAL SECTION-NEW BOX

DETAILS OF HEADS & CONSTRUCTION JOINTS OF WINGS & BOX

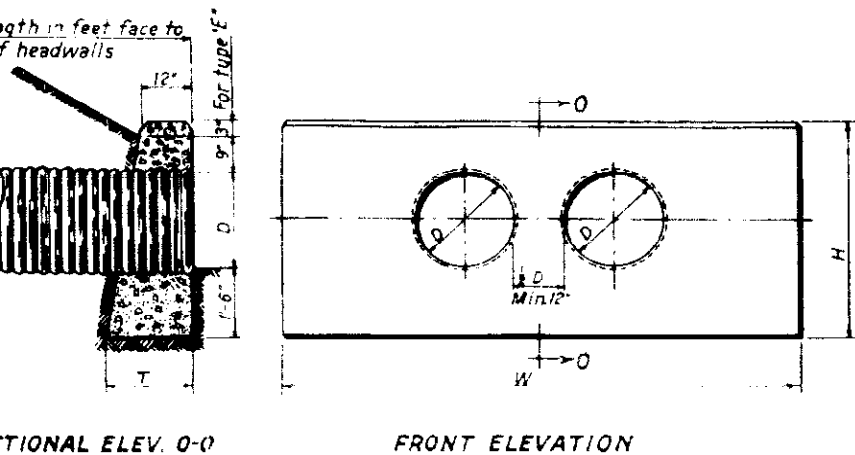
SUMMARY OF QUANTITIES FOR 12'x10' C.B.C. EXTENSION				
Item	Description	Unit	Barrel	Total
1	Removal of Portions of Present Culvert Sta. 133+32 to 133+00	Sq. Yds.		180
2	Structural Excavation	Sq. Yds.		154
3	Class A Concrete	Cu. Yd.	84	70
4	Reinforcing Steel (Includes 1% Overrun)	Lb.	1470	5210
5	Mechanical Tamping	Hrs.	40	24
6	Approx. 49 cu yds concrete to be removed			

COLORADO
STATE HIGHWAY DEPARTMENT
SPECIAL 12'x10'
CONCRETE BOX CULVERT
EXTENSION

Across Wash.
Sta. 133+32
Near Cole Springs Sec. 19 T. 35 S. R. 66 W.

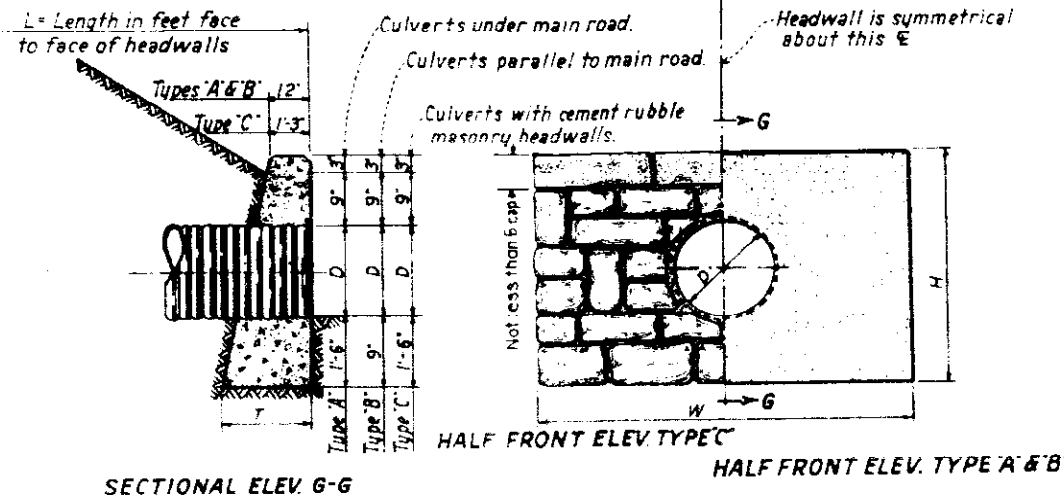
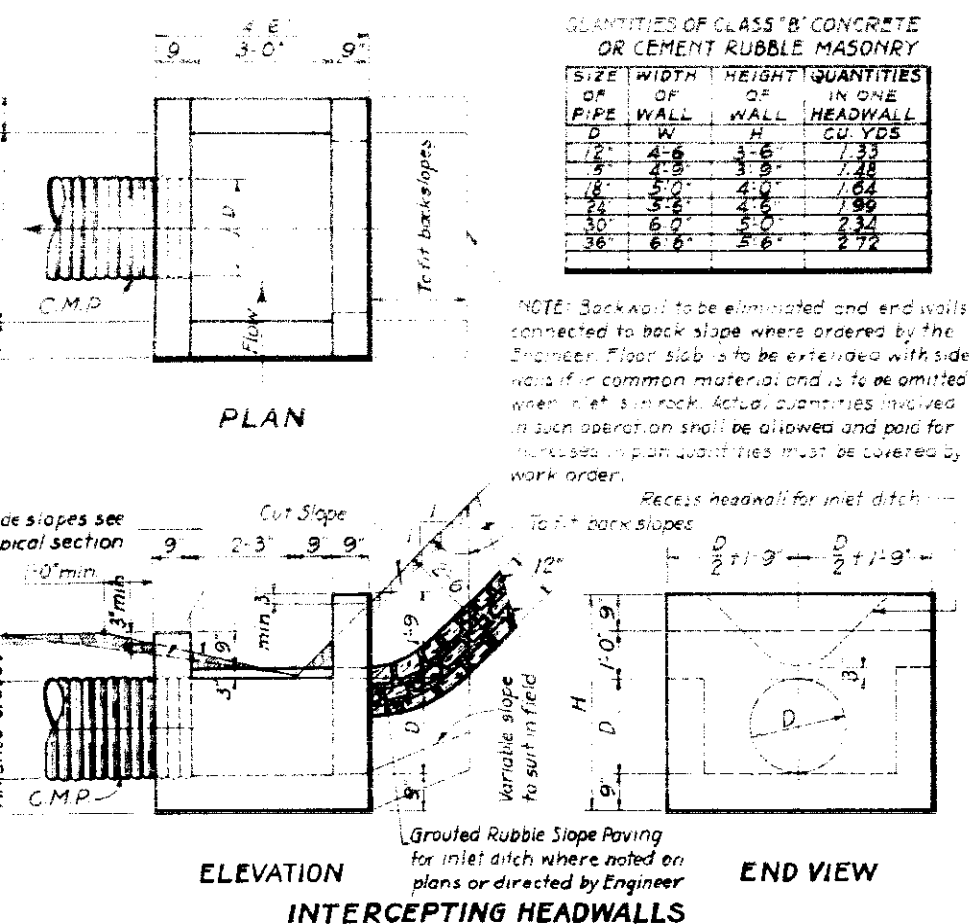
Designed by W. M. [Signature]
Made by A.C.C.
Checked by [Signature]

Approved by [Signature]
Bridge Engineer
Date: March 25, 1940

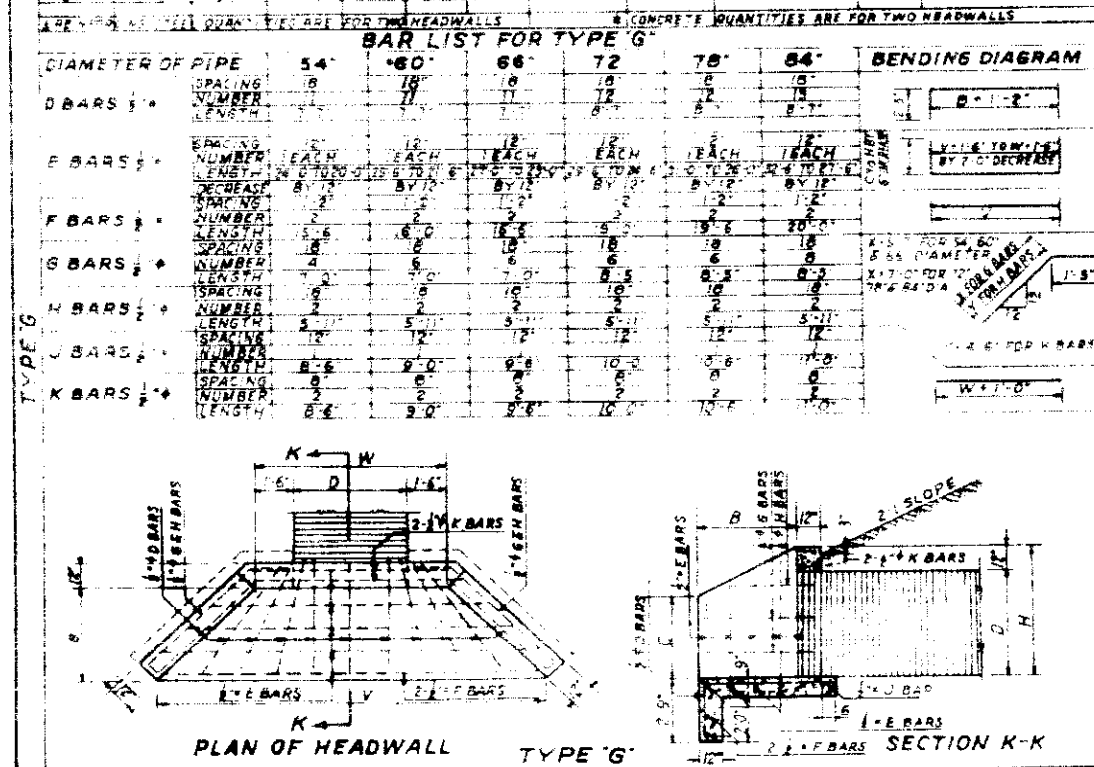


D	W	H	T	CL. B CONCRETE FOR 2 HEADWALLS	CORRUGATED METAL PIPE	CEMENT RUBBLE MASONRY
5'	4'-6"	3'-9"	1'-6"	2.4 CU YDS	16 GAGE 2 X L-LIN. FT.	2.4 CU YDS
6'	6'-6"	4'-0"	1'-6"	3.0 DO	16 DO	3.0 DO
8'	8'-6"	4'-6"	1'-6"	4.4 DO	16 DO	4.4 DO
10'	10'-6"	5'-0"	1'-6"	6.1 DO	16 DO	6.1 DO
12'	12'-6"	5'-6"	1'-6"	8.1 DO	16 DO	8.1 DO
14'	14'-6"	6'-0"	1'-6"	10.2 DO	16 DO	10.2 DO
16'	16'-6"	6'-6"	1'-6"	12.6 DO	16 DO	12.6 DO

STD. HEADWALLS FOR DOUBLE CORR. METAL PIPE CULV'S



D	W	H	T	CL. B CONCRETE FOR 2 HEADWALLS	CORRUGATED METAL PIPE	CEMENT RUBBLE MASONRY
5'	4'-6"	3'-9"	1'-6"	2.4 CU YDS	16 GAGE 2 X L-LIN. FT.	2.4 CU YDS
6'	6'-6"	4'-0"	1'-6"	3.0 DO	16 DO	3.0 DO
8'	8'-6"	4'-6"	1'-6"	4.4 DO	16 DO	4.4 DO
10'	10'-6"	5'-0"	1'-6"	6.1 DO	16 DO	6.1 DO
12'	12'-6"	5'-6"	1'-6"	8.1 DO	16 DO	8.1 DO
14'	14'-6"	6'-0"	1'-6"	10.2 DO	16 DO	10.2 DO
16'	16'-6"	6'-6"	1'-6"	12.6 DO	16 DO	12.6 DO

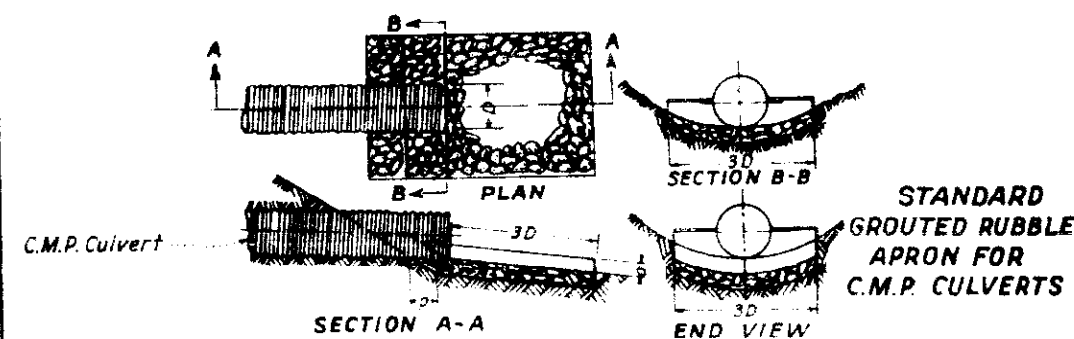


STD. HEADWALLS FOR CORRUGATED METAL PIPE CULVERTS

REVISIONS

STANDARD M-102-F

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



FILL SLOPE	D	15'	18'	24'	30'	36'	42'	48'	54'	60'	66'	72'	78'	84'
1/2:1	12"	3	4	6	9	12	15	18	21	24	27	30	33	36
2:1	12"	3	4	6	9	12	15	18	21	24	27	30	33	36
3:1	12"	3	4	6	9	12	15	18	21	24	27	30	33	36
4:1	12"	3	4	6	9	12	15	18	21	24	27	30	33	36

NOTE: Mechanical Tamping as provided under item 14 of the specifications shall be applied over such areas as shown on the plans or as ordered by the Engineer.

GENERAL NOTES FOR ALL STRUCTURES

All work shall be done according to the standard specifications of the Colorado State Highway Department, adopted June 1, 1940.

All concrete shall be class 'A' except types 4 & 8 which shall be class 'B'.

All exposed surfaces shall be rubbed free of form marks.

All exposed corners shall be beveled to a 2" face.

All construction joints shall be thoroughly cleaned before fresh concrete is poured.

All walls shall have forms on both sides.

All reinforcing bars shall be deformed.

All reinforcing bars shall be tagged with the steel number & letter on first.

Secondary bars when spliced shall be lapped a minimum of 50 diameters.

Main bars shall not be spliced.

Minimum fill over top of culverts shall be 12" 0".

When culvert is skewed, headwalls shall be placed parallel to E of roadway.

Minimum grade of pipe shall be 1%.

For size and location of culverts see sheet No. 2.

Footings in rock shall be poured out to the rock and not formed.

COLORADO

STATE HIGHWAY DEPARTMENT

STANDARD HEADWALLS

INTERCEPTING HEADWALLS

GROUTED RUBBLE APRONS

FOR C.M.P. CULVERTS

Designed by J. H. P. 1940

Approved by J. H. P. 1940

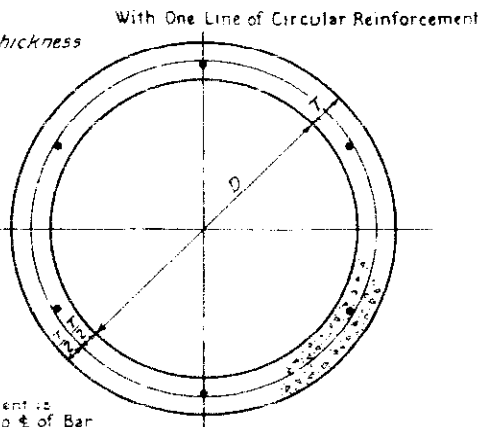
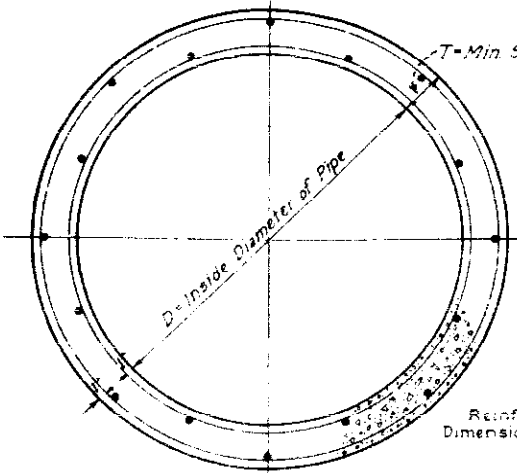
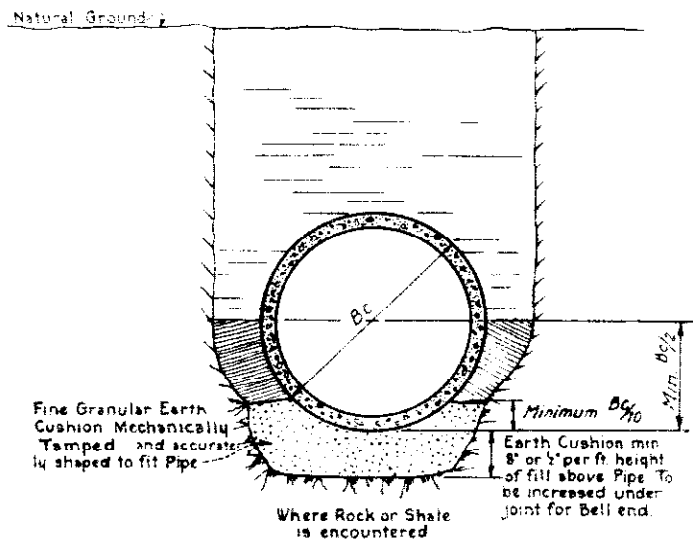
Checked by J. H. P. 1940

Date April 27, 1937

PIPE CROSS SECTIONS
With Two Lines of Circular Reinforcement

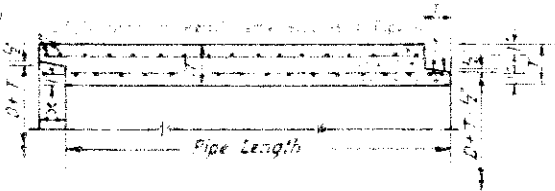
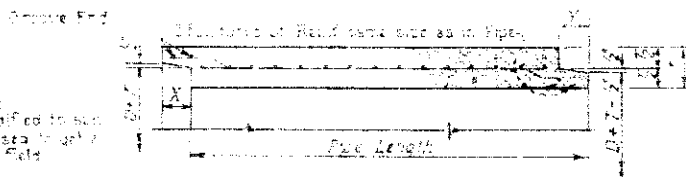
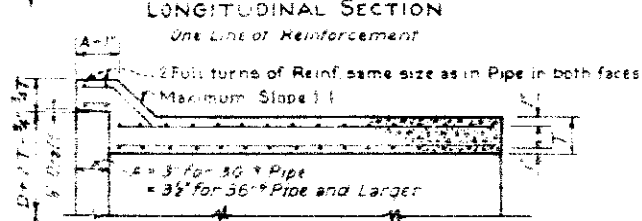
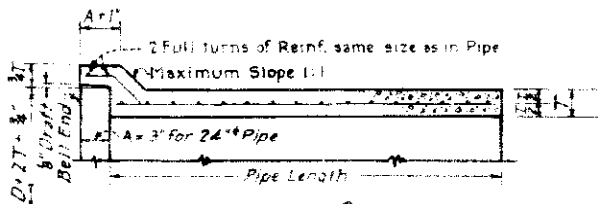
STANDARD M-112-D
Revised for 27 in. Dia. Pipe

FED. ROAD DIST. NO.	STATE	F.A.P.	SHEET NO.	TOTAL SHEETS
3	COLO.	116-A(3)	13	



STANDARD STRENGTH REINFORCED CONCRETE CULVERT PIPE
Based on Concrete with an Ultimate Compressive Strength of 3500 psi and the Three-Edged Bearing Tests in Table 1, A.A.S.H.O. Specification M-41-38

D Inches	T Inches	Circular Reinforcement Sq. Ins. per Lin. Ft. of Pipe	Longitudinal Reinforcement, Min Total Area Req'd
24	3	1 Line 0.17	0.38 SQ. IN.
30	3 1/2	2 Lines each 0.17	0.55
36	4	2 Lines 0.18	0.75
42	4 1/2	2 Lines 0.21	0.98
48	5	2 Lines 0.25	1.25
54	5 1/2	2 Lines 0.30	1.57
60	6	2 Lines 0.33	1.92
72	7	2 Lines 0.40	2.67
84	8	2 Lines 0.48	3.64
27	3 1/2	1 Line 0.25	0.45



FIRST CLASS BEDDING

Where rock is encountered a trench shall be excavated so that a minimum of 8 in. 5 per foot height of fill over Pipe, of fine granular earth cushion may be placed below the Pipe at all points. This cushion to be thoroughly compacted by Mechanical Tamping and accurately shaped to fit Pipe.

LONGITUDINAL SECTION
TONGUE AND GROOVE TYPE OF JOINT
One Line of Reinforcement

LONGITUDINAL SECTION
TONGUE AND GROOVE TYPE OF JOINT
Two Lines of Reinforcement

GENERAL NOTES

All work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department adopted June 1, 1940.
Circular Reinforcement shall be Cold Drawn Steel Wire. If Billet Steel of Hard or Intermediate Grade is used the steel area shall be increased by 5 to 15 per cent. Longitudinal Reinforcement shall be Billet Steel of Intermediate Grade.
The type of Pipe Joint used and the field construction, there of to make the Joint reasonably water-tight shall be submitted to the Department for approval.
Type of bedding to be First Class Bedding as detailed Headwall on the Outlet end and as per the Department's Standard Drawing No. M-101-C.

Special attention is directed to the Using Requirements noted where rock or rock projections are encountered in the Pipe bed.
The Pipe shall be laid with the Bell or Groove end placed upstream.
All excavation and backfill required for bedding and shoring, except for the hours of Mechanical Tamping shall be included in Contract Unit Price for Reinforced Conc. Pipe.

Supporting soils shall be composed of firm and uniform material throughout the entire length of Culvert. The soil shall be accurately shaped to fit the Pipe in accordance with the bedding conditions shown here on.

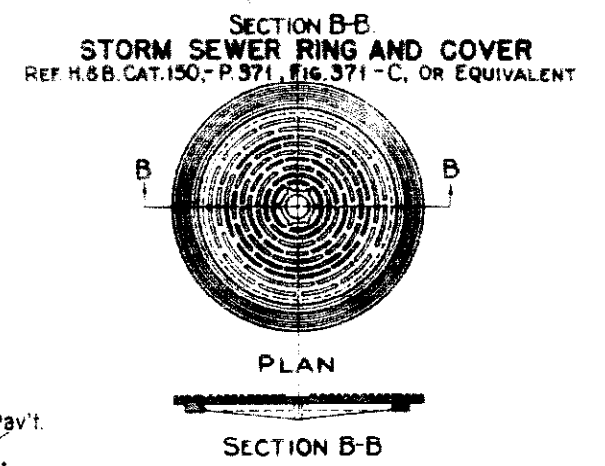
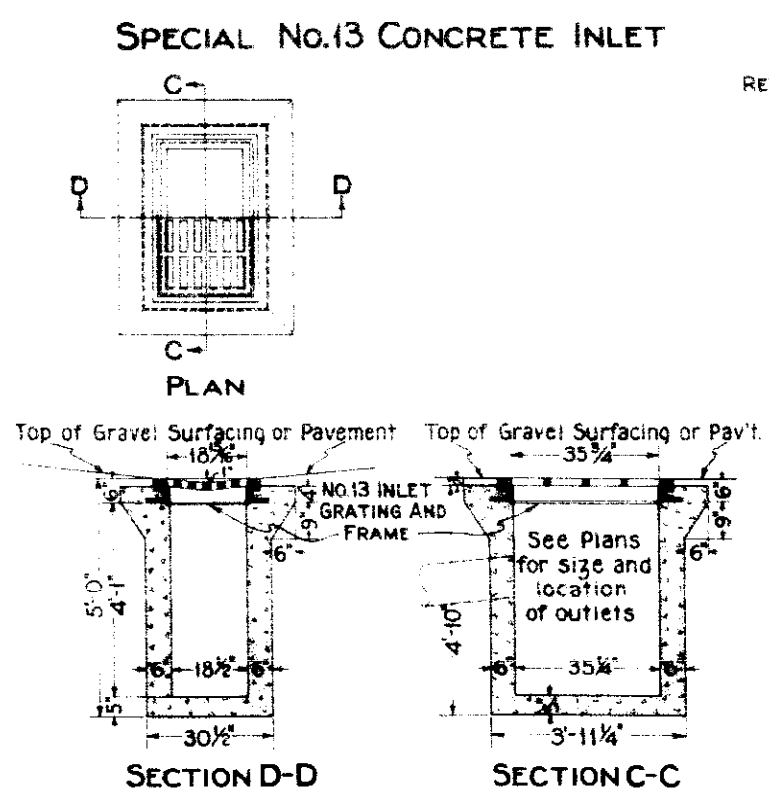
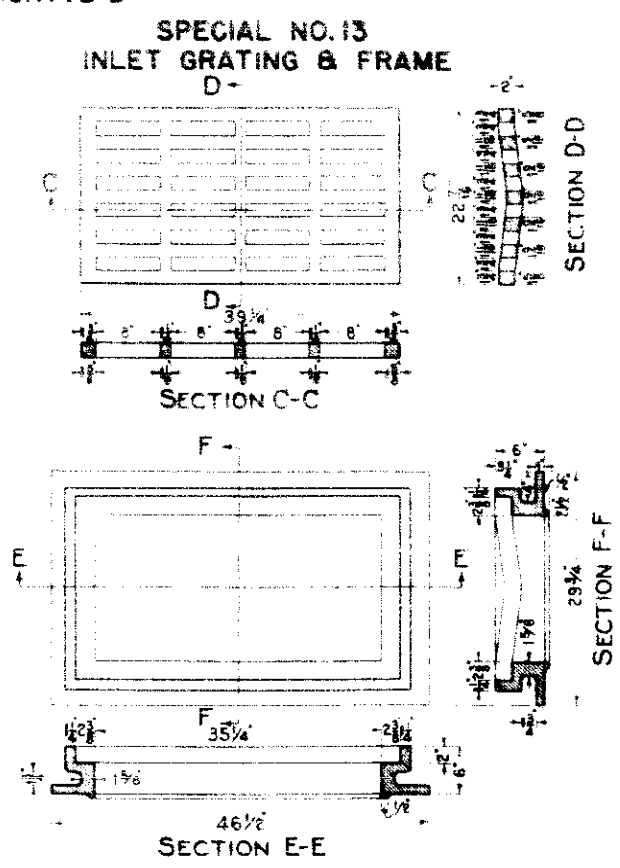
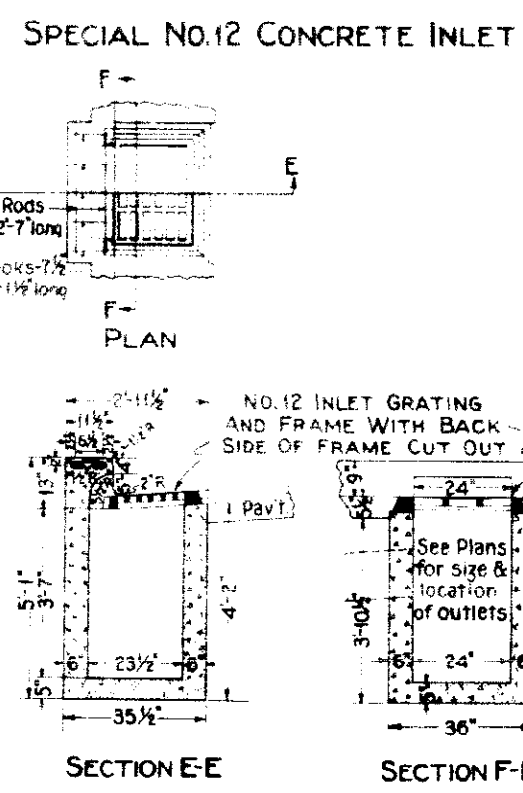
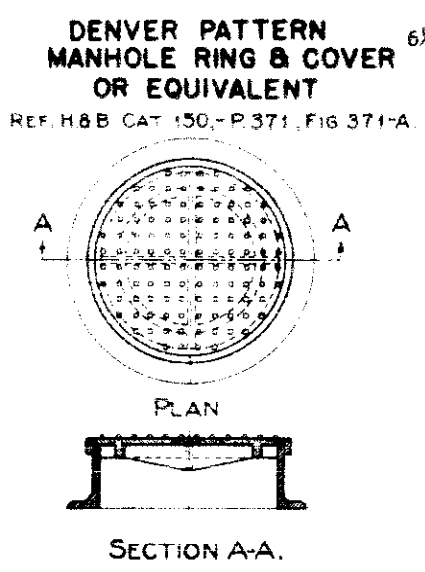
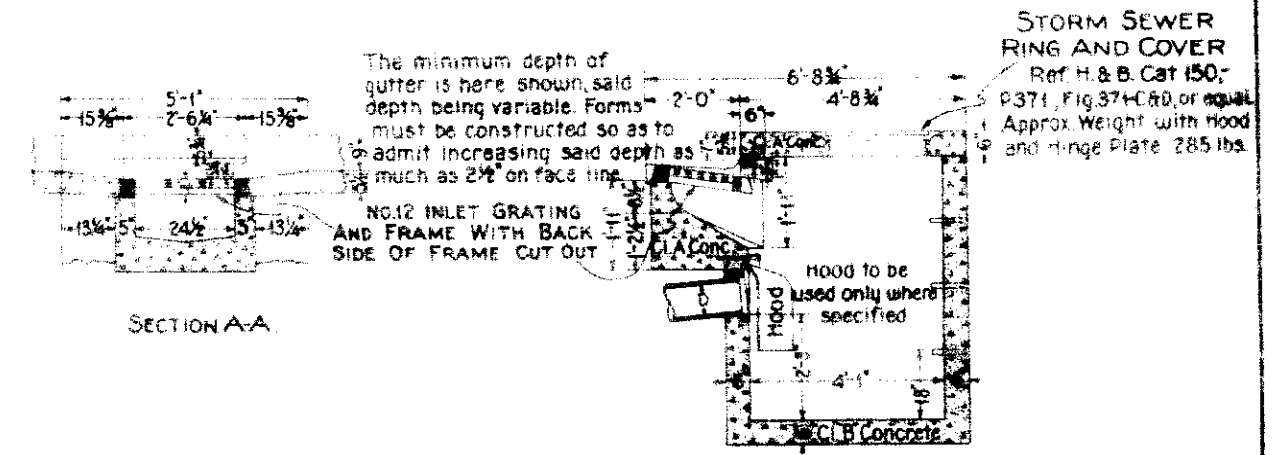
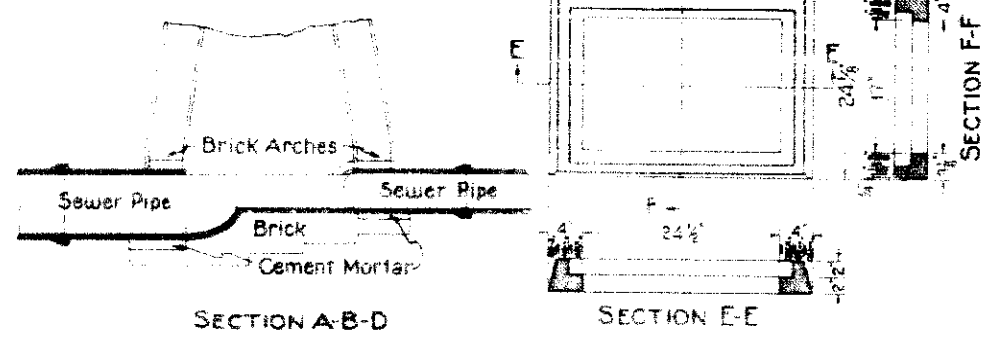
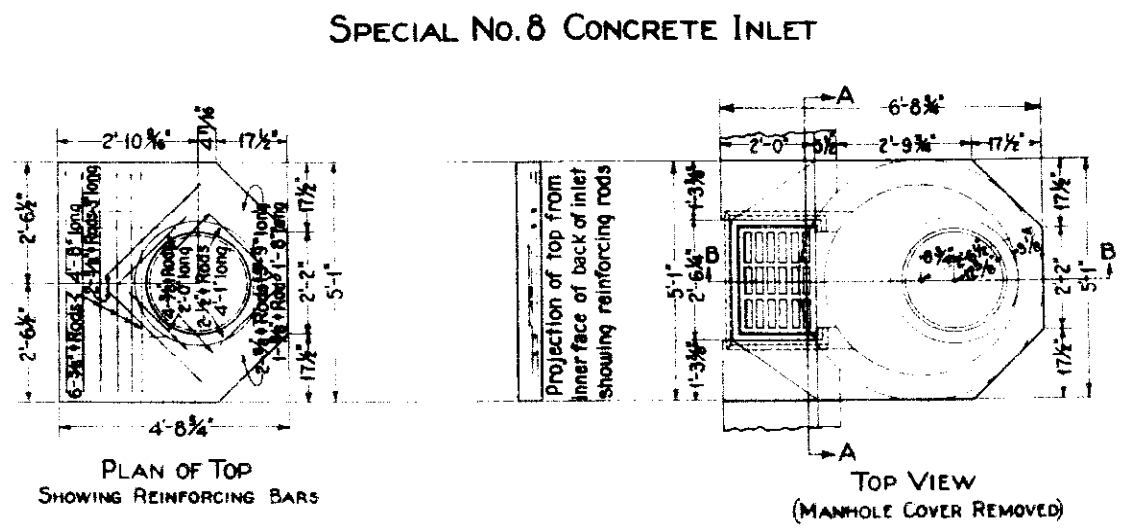
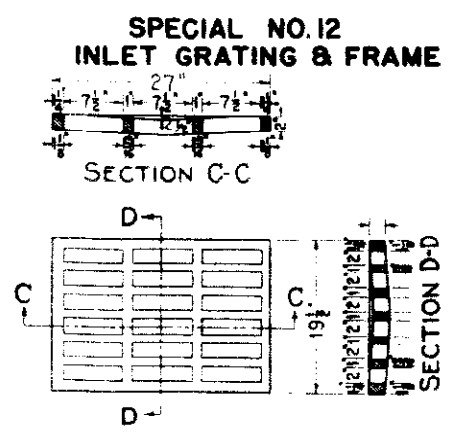
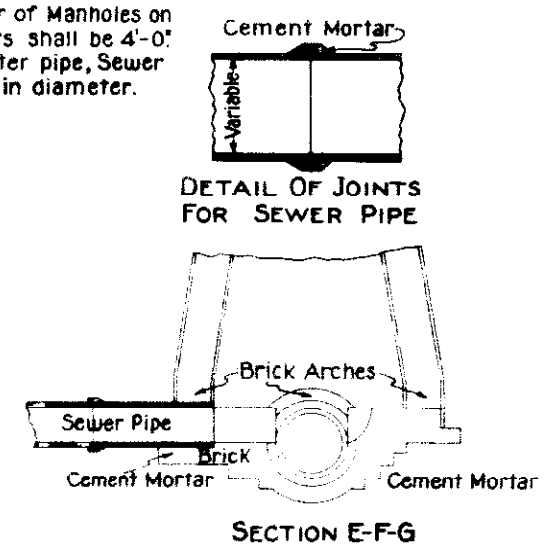
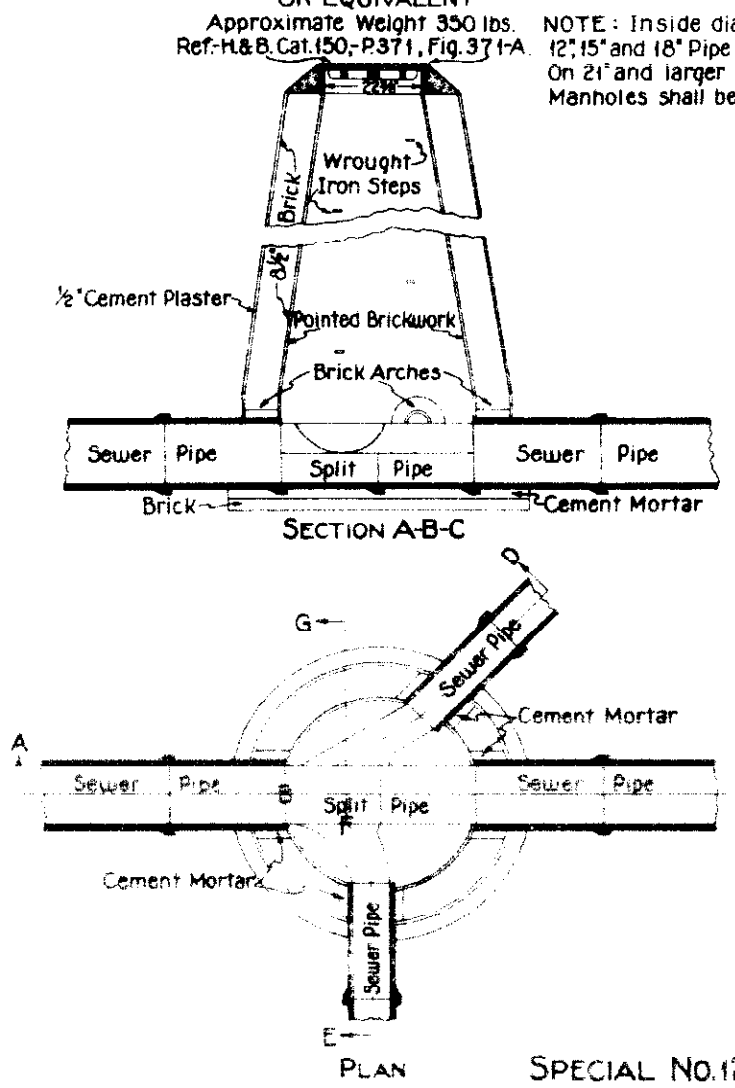
COLORADO
STATE HIGHWAY DEPARTMENT
REINFORCED CONCRETE
CULVERT PIPE
STANDARD & EXTRA STRENGTH
SIZES: 27"
24", 30", 36", 42", 48", 54"
60", 72" & 84"
Designed by W.G.S. Bridge Engineer
Checked by A.L.C. Date: June 8, 1940.
Approved by G.D. Bailey
Date: June 8, 1940.

STANDARD M-12-B

FED. ROAD DIST. NO.	STATE	F.A.D.	SHEET NO.	TOTAL SHEETS
3	COLO.	116-A	14	

Revised 11/14/39 for Catalogue Reference by H.R.H.

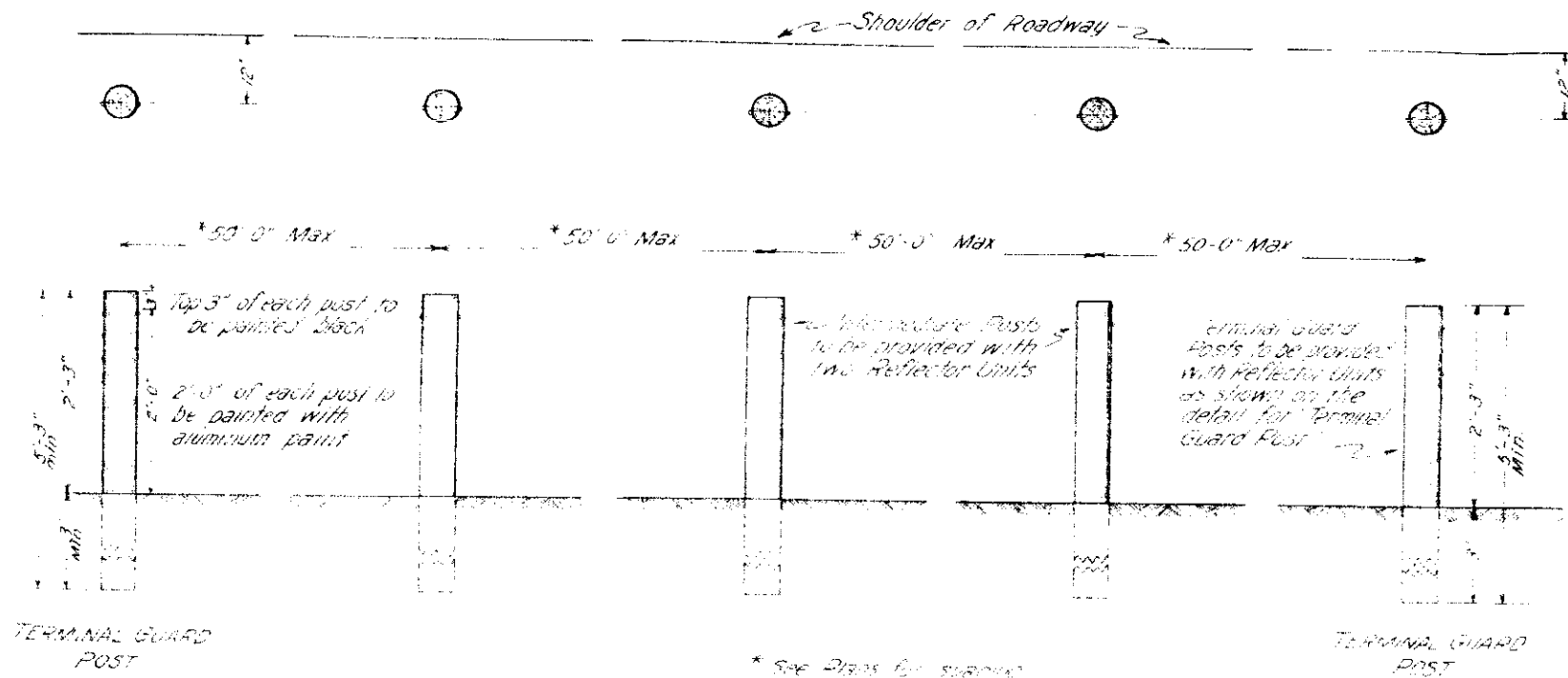
DENVER A GENERAL PLAN FOR MANHOLES ON PIPE SEWERS



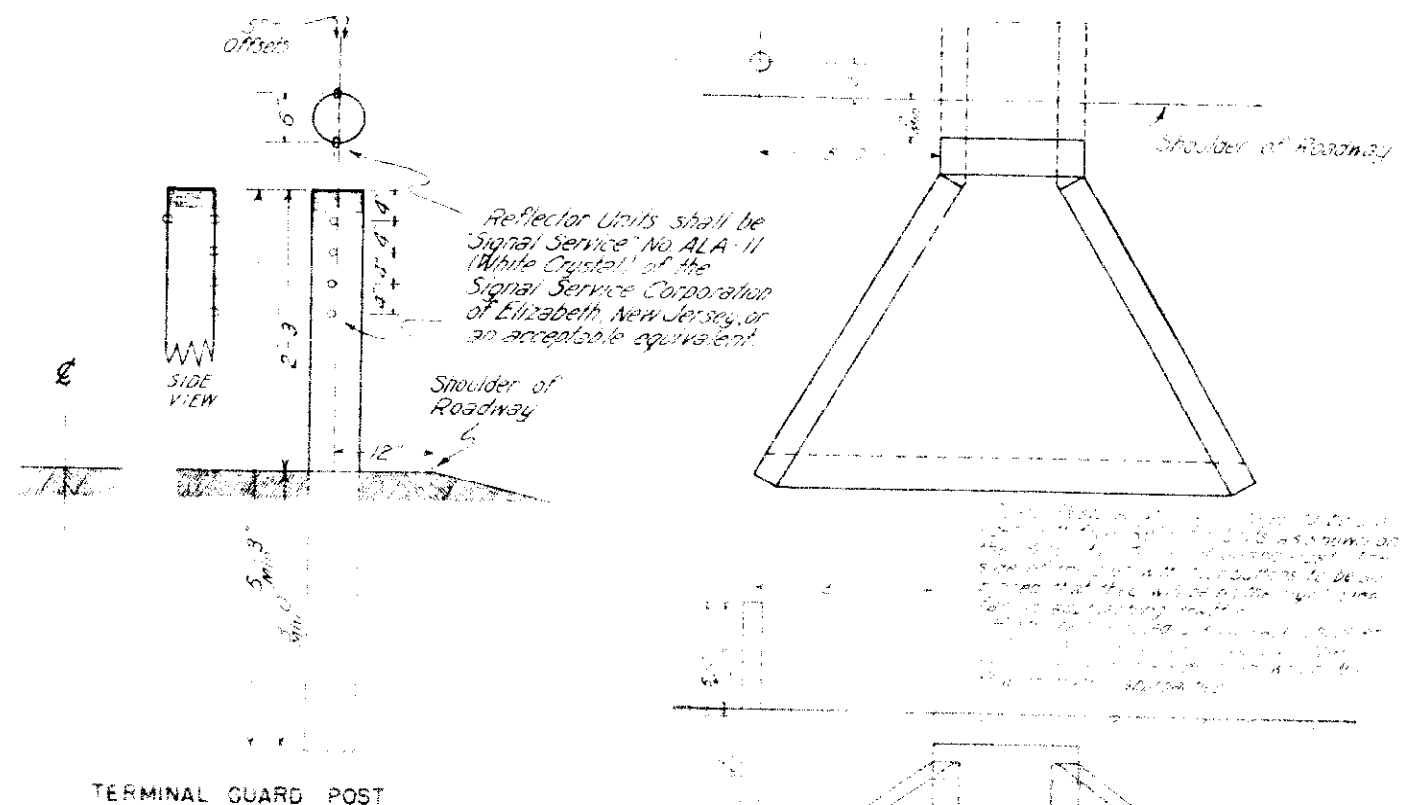
COLORADO STATE HIGHWAY DEPARTMENT

STANDARD MANHOLES, INLETS & PIPE JOINTS ON SEWERS

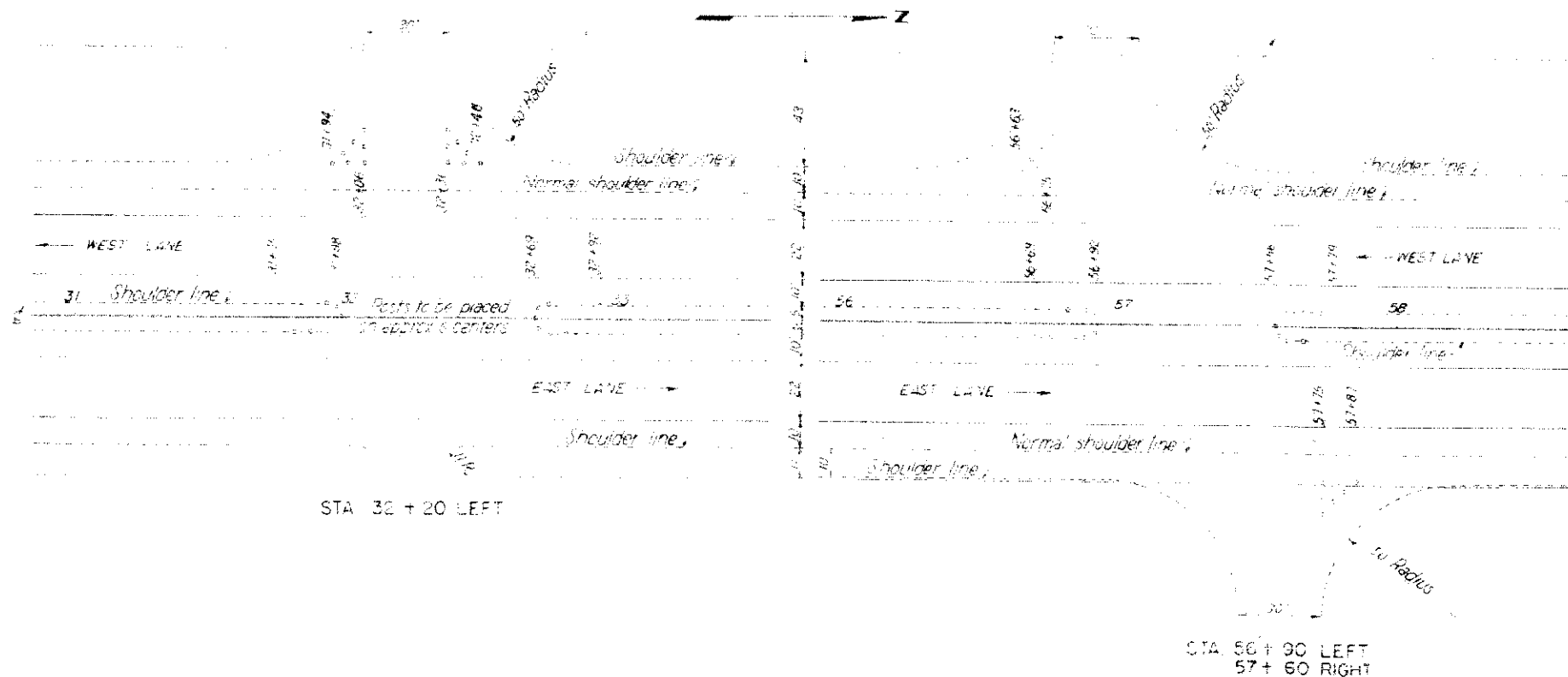
Designed by: Made by: H.R.H. Check Design: Check Detail: Approved by: Bridge Engineer: Date: 193



SHOWING PLACEMENT ON NORMAL ROADWAY FILLS



SHOWING PLACEMENT AT MAJOR ROAD APPROACHES



SHOWING PLACEMENT AT
MINOR STRUCTURES

GENERAL NOTES

As you may be aware in accordance with the Standard
Operating Procedure of the U.S. Air Force, personnel
detached on duty 1-340.

4) more easy to be more from seasoned straight
wood. Lodgepole Pine, Western White Pine or Western
Larch. Etc.

All your parts shall be cut off, joined and shared thereby
inside and dry, with square lips

4. to do all other work and labor in and about the line and grades as directed by the Engineer.

Selection of all parts shall be placed in such position that the center line of the tower at a distance of 500 feet

On targets the Reflector Unit shall be placed at an angle of approximately five degrees to the carrier to the center of the target.

In all instances a test shall be made to assure the position of the structure.

The distance of travel by bus to the posts must be minimal.

the aging path have all the same shall be made to move to look the other way.

...to increase fuel for the winter which never gets the post
...to have a car come with the post and to securely
...locked in a room that is

Fasten shall be given a standard pressure Creosote treat-
ment and then be thoroughly steamed in order to remove

and then be thoroughly steam-cleaned in accordance with requirements of specifications.

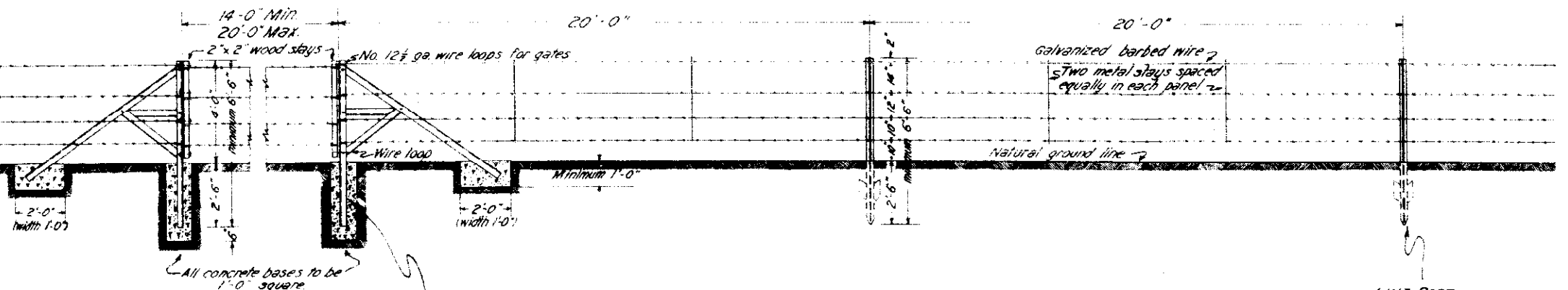
COLORADO
STATE HIGHWAY DEPARTMENT
STANDARD
TIMBER GUARD
POSTS

Designed by	GE L	Approved by	
Made by	285	Date	10/1/57
Checked by			

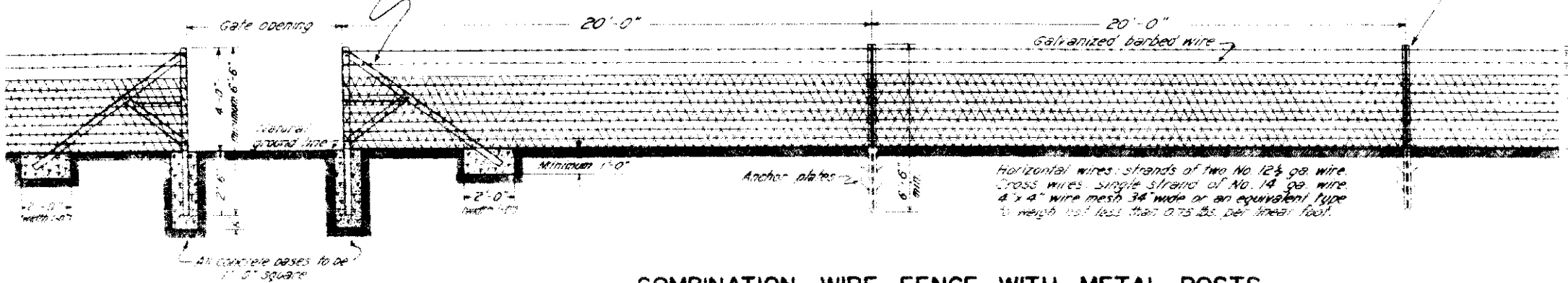
STANDARD M-27-B

FED. ROAD DIST. NO.	STATE	F.A.P.	SHEET NO.	TOTAL SHEETS
3	COLO.	116-R(1)	16	

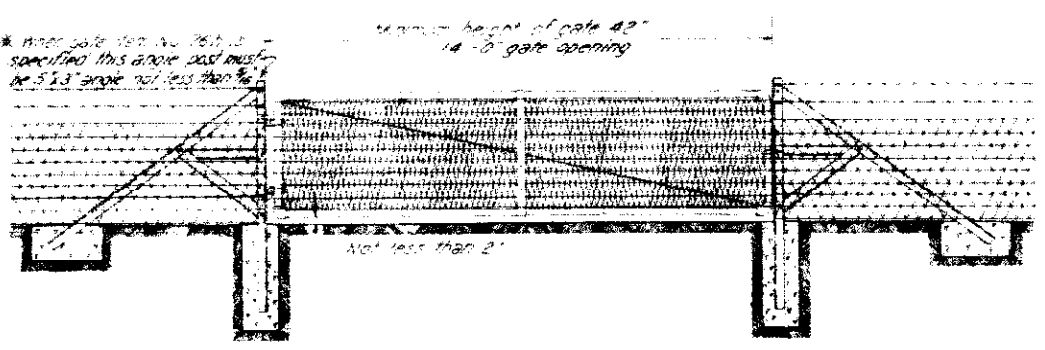
Rev. 4-16-40 P.B.B. Alternate for End and Corner Posts.
Rev. 6-28-40-A 2-1940 Specs.



BARBED WIRE FENCE WITH METAL POSTS
Item No. 76 c

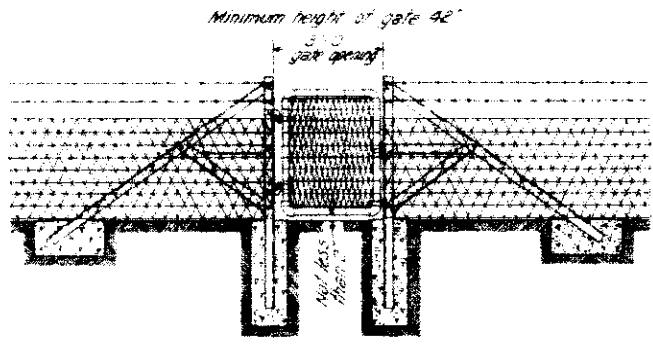


COMBINATION WIRE FENCE WITH METAL POSTS
Item No. 76 f



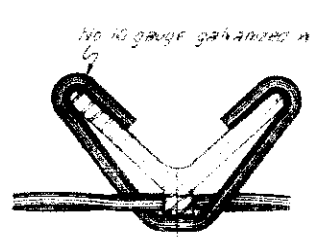
DRIVEWAY GATE
Item No. 76 h

Gate complete with hinges and latch to weigh not less than 70 lbs.
2"x4" single strand wire mesh filler or an equivalent type.
Width of mesh approximately 40 inches.
Horizontal wires No. 10 gauge.
Cross wires No. 12 1/2 gauge.
Galvanized metal latch and hinges.
Minimum 1" diameter galvanized pipe frame or an equivalent.



WALK GATE
Item No. 76 i

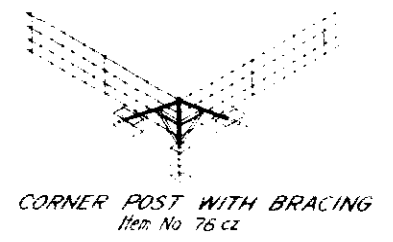
Gate complete with hinges and latch to weigh not less than 15 lbs.
2"x4" single strand wire mesh filler or an equivalent type.
Width of mesh approximately 40 inches.
Horizontal wires No. 10 gauge.
Cross wires No. 12 1/2 gauge.
Galvanized metal latch and hinges.
Minimum 3/4" diameter galvanized pipe frame or an equivalent.



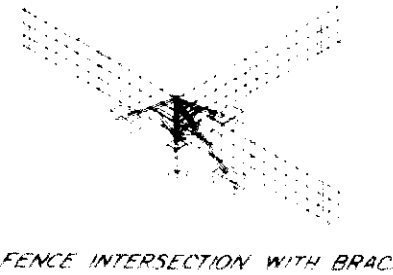
TYPICAL SECTION THROUGH FENCE POST

GENERAL NOTES

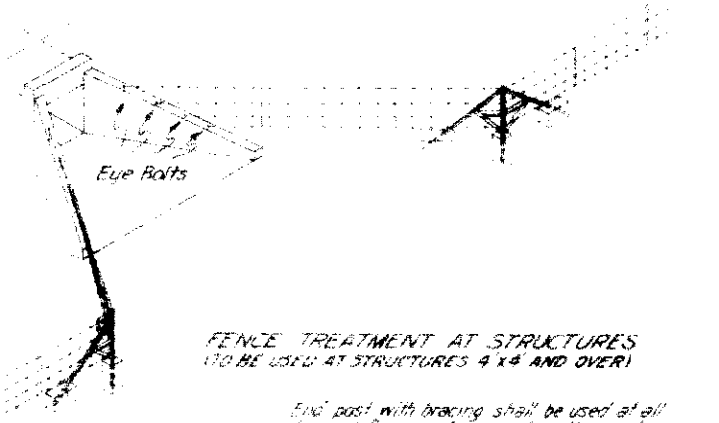
- All work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department adopted June 1, 1940.
- Barbed wire shall be of standard make, not lighter than No. 12 1/2 gauge, galvanized, with two point barb spaced not more than five inches apart.
- Wire mesh must be galvanized and not lighter than shown and noted on this plan.
- All line posts to be structural steel to weigh not less than 2.00 pounds per lineal foot.
- Suitable anchor plates shall be securely riveted or welded to each line post.
- All posts to be painted with an approved waterproof asphalt or mineral paint or hot dip galvanized.
- All corner, end, and gate posts including braces are to be structural steel 2"x2"x 1/4" angles to weigh not less than 3.15 lbs per lineal foot, except post supporting driveway gate. Item No. 76 h.
- All footings or bases shall be of class A concrete with crowned tops and shall be included in the price bid per lineal foot of fence with metal posts.
- If knee braces are omitted from end, corner, and gate posts the vertical post must be at least 2 1/2"x 2 1/2"x 1/4".
- Corner posts are to be of the same detail for bracing as End Posts and shall be provided with bracing on both legs of the corner angle.
- * In lieu of the end and corner posts shown hereon, A.S. & W. Co. Expanding Anchor End and Corner Posts (Extra Heavy Duty, 7'-0") or an acceptable equivalent of similar type may be used, concrete omitted.



CORNER POST WITH BRACING
Item No. 76 cz



FENCE INTERSECTION WITH BRACING



FENCE TREATMENT AT STRUCTURES
TO BE USED AT STRUCTURES 4"x4" AND OVER

End post with bracing shall be used at all gates and fence ends, except endings at structures of 4"x4" or over.
Corner post with bracing shall be used at all corners and angles in fences.
Fence intersection with bracing shall consist of one corner post with bracing and one end post with bracing and shall be used at all fence intersections.
At all structures of 4"x4" or over, the fence shall be ended at eye bolts in the wings of the structure. Where the type of construction prohibits the use of eye bolts, an end post with bracing shall be used.
Eye bolts are to be made from 1/2" round iron bars with a minimum of 6" of body length embedded in the concrete and a minimum 1" of inside eye diameter.

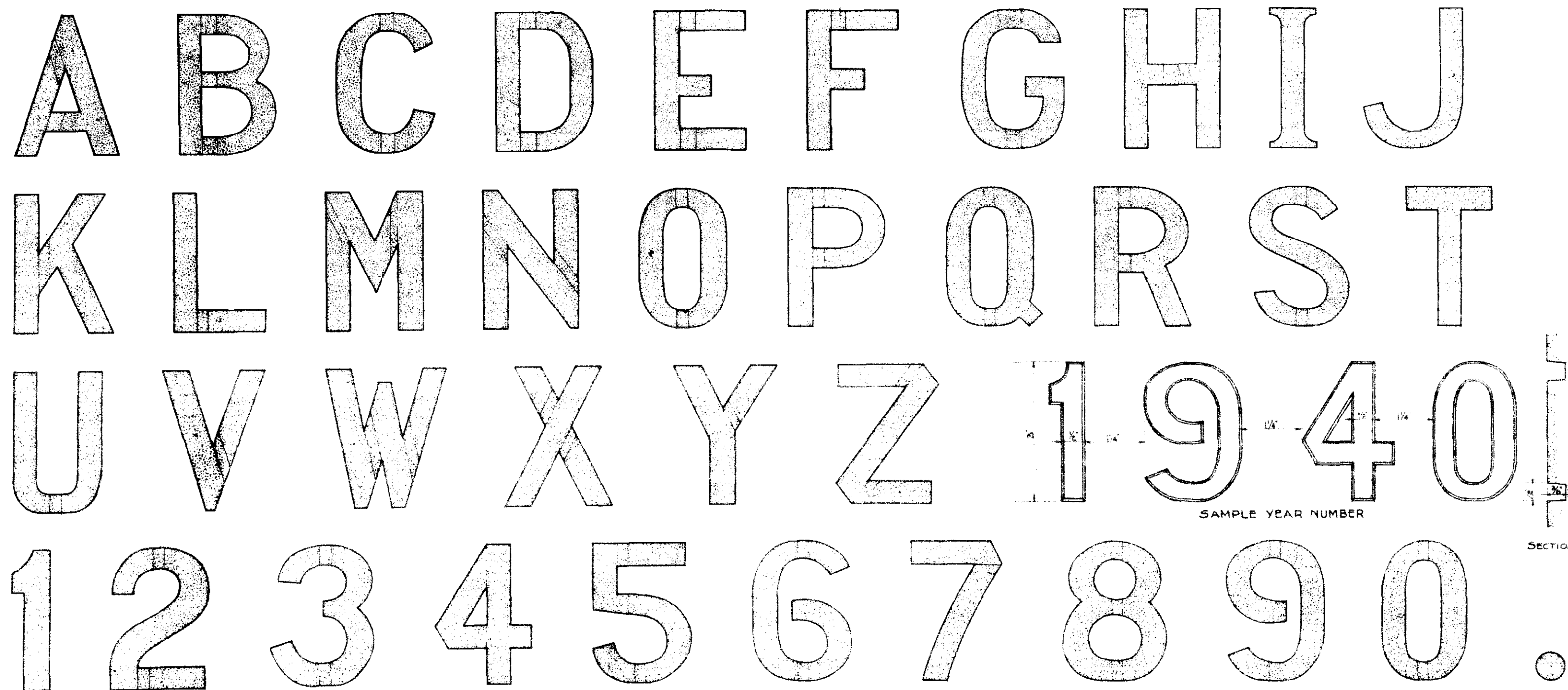
COLORADO STATE HIGHWAY DEPARTMENT STANDARD WIRE FENCE WITH METAL POSTS

Designed by R.E.L. Approved by R.B.B.
Made by R.B.B. Checked by R.E.L. Date: Apr 27 1939



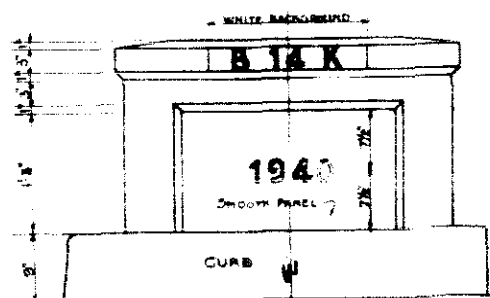
STANDARD M-14-A

FED. ROAD DIST. NO.	STATE	F.A.P. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	116-A(3)	17	

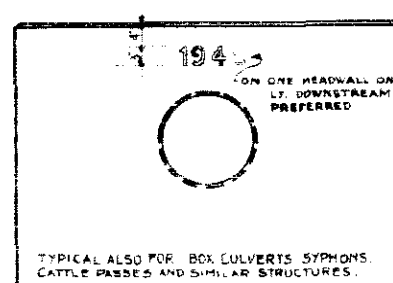


SAMPLE YEAR NUMBER

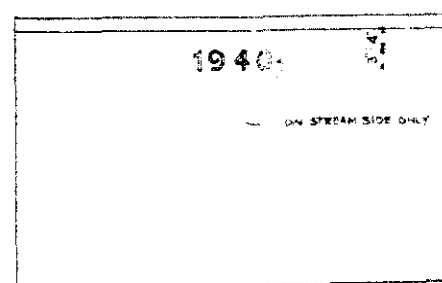
SECTION



TYPICAL CONCRETE ENDPOST



TYPICAL CULVERT HEADWALL



TYPICAL RETAINING WALL

GENERAL NOTES

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE COLORADO STATE HIGHWAY DEPARTMENT, ADOPTED JUNE 1, 1940.

THE SIZE, SHAPE AND SPACING OF THE NUMBERS SHALL BE IDENTICAL WITH THE FULL SIZE SHOWN ON THIS SHEET. ADDITIONAL COPIES OF THIS FULL SIZE SHEET CAN BE OBTAINED FROM THE DEPARTMENT WITHOUT CHARGE.

THIS WORK WILL NOT BE PAID FOR AS A SEPARATE ITEM. COMPENSATION SHALL BE INCLUDED IN THE ORIGINAL CONTRACT ITEMS.

THE YEAR NUMBER SHALL BE RECESSED INTO THE PANEL OF THE ENDPOST AT THE RIGHT HAND SIDE OF EACH BRIDGE-END AND INTO THE FACE OF THE DOWNSTREAM HEADWALL OF CULVERTS, SYPHONS, RETAINING WALLS ETC. A MINIMUM OF 3/8" AS SHOWN.

THE YEAR NUMBER FOR EACH STRUCTURE SHALL CORRESPOND WITH THE PARTICULAR YEAR IN WHICH THE CONCRETE IS POURED.

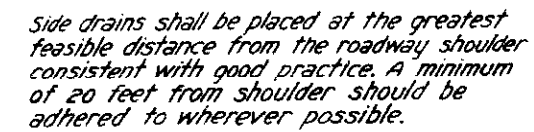
NUMBERS TO BE MADE OF WOOD, METAL OR ANY OTHER SUITABLE MATERIAL AND ATTACHED TO THE FORMS BEFORE CONCRETE IS POURED.

COLORADO STATE HIGHWAY DEPARTMENT	
STANDARD STRUCTURE YEAR NUMBER MARKING	
Designed by GHD Made by GHD Check Design Check Detail	Approved by <i>Red Bailey</i> Bridge Engineer Date: June 1 st , 1940.

STRUCTURE NO.

STANDARD
M-2-B

Revised 6-1-37 A.D.M. changed to 1937 Specifications
Revised 8-18-39 A.Z. changed side drain " "
Revised 12-1-39 A.Z. changed typical p/c. for side approach roads.
Revised 2-19-40 A.Z. changed takeoff grades for side approach roads.
Rev. 5-28-40-A.Z.-1940 Specs.



Side drains shall be placed at the greatest feasible distance from the roadway shoulder consistent with good practice. A minimum of 20 feet from shoulder should be adhered to wherever possible.

The diagram illustrates the cross-section and approaches for a road. The main road cross-section shows a 10' lane for acceleration, a normal shoulder line, a 10' lane for deceleration, and a 50' shoulder. The total width is 400'. The side drains are placed at a minimum of 20 feet from the shoulder. The approaches are shown for both major and minor roads, with slopes of 2:1 and 1/2 to 1, and a minimum width of 16 feet. The diagram also shows the R.O.W. line and the 50' shoulder.

* Major Road Approaches shall be used only where indicated in structure notes on plans.

⊕ Minor Road Approaches shall be used at all places which are not indicated as "Major Road Approaches." The width of crowned section shall not be less than the existing crowned width of the approaching road, but in no case shall it be less than 16 feet.

This is a chance to be governed by the maximum dev and night visibility which is influenced by grade, curvature, interference of lateral signs, shrubbery, fences, etc.

Exact location is to be placed by the Engineer, but in no case shall it be more than 6 feet from the travelled zone.

[illegible]

SLOW
ROAD UNDER
CONSTRUCTION

CONTRACTOR'S NAME

Sign to be made of material with at least three
feet of one face designated to be white, 5 ft.
and 6 ft. in height, and other lettering in
black. Sign to be 5 ft. in C-F-E post 9 ft. in the
ground.

The maximum grades shown are to be the limiting grades for all, except extreme cases.

When the length of the approach is determined by the intersection of these grades with the natural ground, as is such to damage the property served, or cause unreasonable conditions, the grades may be modified.

In such cases, methods used, and maximum grades, shall be as indicated on the plans, or provided by work and

All Work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department adopted June, 1930.

Whenever traffic is permitted on a road while under construction, the Contractor shall at all times adequately and appropriately mark any and all barriers on the Project with well painted, well maintained barricades and standard caution and warning signs. The Contractor shall also mark with standard circular signs any places where the direction of the flow of traffic is not plain.

Whenever traffic is prohibited from a Project under construction, the Detour will be marked by the Department and the barricades at either end of the Project shall be erected and maintained by the Contractor.

All signs and barricades shall be immediately moved, added to, removed, or changed to appropriately mark hazards, or conditions altered, corrected, or changed by construction progress.

The Contractor shall furnish:

- (1) All barricade material; it shall always be well painted, as per sketch, and well maintained.
- (2) A reflectorized arrow of an approved type for each barricade at the ends of the Project, and at other barricades required where traffic is permitted on road under construction.
- (3) "SLOW-ROAD UNDER CONSTRUCTION" signs as required.
- (4) Any special signs the Department may deem necessary for the protection of traffic over the Project.
- (5) At least three (3) flares or torches for each barricade, and other flares to illuminate such signs as are called for on these plans, or as the Department may direct.

Flares or torches shall be placed between 3 and 5 feet ahead of the sign or object to be illuminated, and shall be kept burning from sunset to sunrise.

Costs of all of the foregoing materials and work by the Contractor shall be included in the original contract prices for the Project.

The Highway Department will furnish all standard signs not required to be furnished by the Contractor.

COLORADO
STATE HIGHWAY DEPARTMENT
TYPICAL
SIDE APPROACH ROADS
ROADWAY CONSTRUCTION
TRAFFIC SIGNS

Designed by J.S.M. Made by S.E.K. Checked J.S.M. Check K.A.K.	Approved by <i>G. Marshall</i> Date Aug 20 1935
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COLORADO
STATE HIGHWAY DEPARTMENT
TYPICAL
SIDE APPROACH ROADS
ROADWAY CONSTRUCTION
TRAFFIC SIGNS

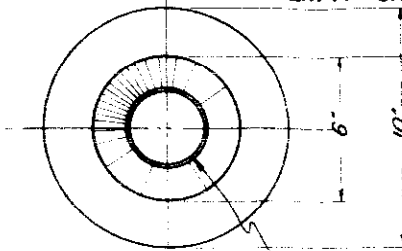
Designed by <i>JSM</i> Made by <i>SBL</i> Check <i>JSM</i> Check <i>KAK</i>	Approved by <i>J Marshall</i> Date <i>Aug 20 1935</i>
--	--

STANDARD M-7-B

FED. ROAD DIST. NO.	STATE	SHEET NO.	TOTAL SHEETS
3	COLO.	116	120

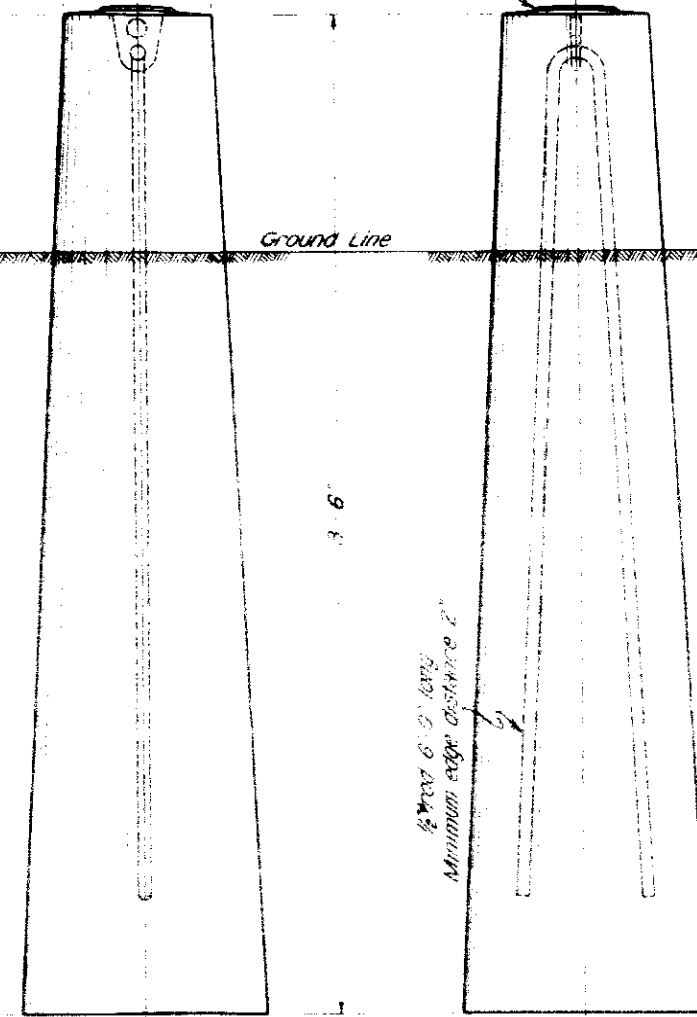
RIGHT OF WAY MARKER POST

ITEM N° 816



BRONZE TABLET

Ground Line

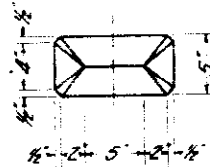


Minimum edge distance 2"

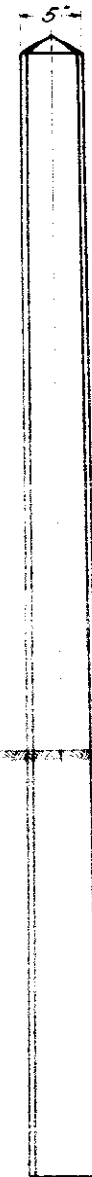
10"

PROJECT MARKER POST

ITEM N° 81a



FED.
AID
PROJ
141-A
141-B



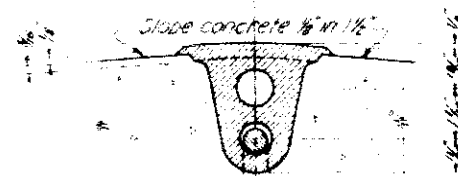
Ground Line

NOTES FOR PROJECT MARKER POSTS

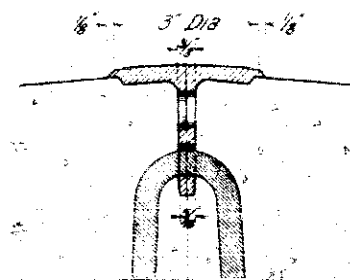
All work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department, adopted June 1, 1940.
Posts shall be made of Class "A" Concrete, except use White Portland Cement.
All exposed surfaces shall be rubbed free of form marks.
All letters and numbers shall be 2" plain upright black, painted or stenciled on the concrete with a good quality of black paint. See item N° 41, "Second Field Coat - Dark".
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 ROW 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 stamped 8" minimum of the post.
Information on the bronze tablet indicated by pin lines is to be stamped in the field by the engineering party after post is placed.
Six 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

COLORADO
STATE HIGHWAY DEPARTMENT
STANDARD
MARKER POSTS

Designed by REL
Made by FES
Checked by REL
Approved by [Signature]
Date: Apr 27 1939

STANDARD M-13-B

REV. FOR F.A.P. 116-A(3)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	116-A(3)	21	

TYPE NO. 1

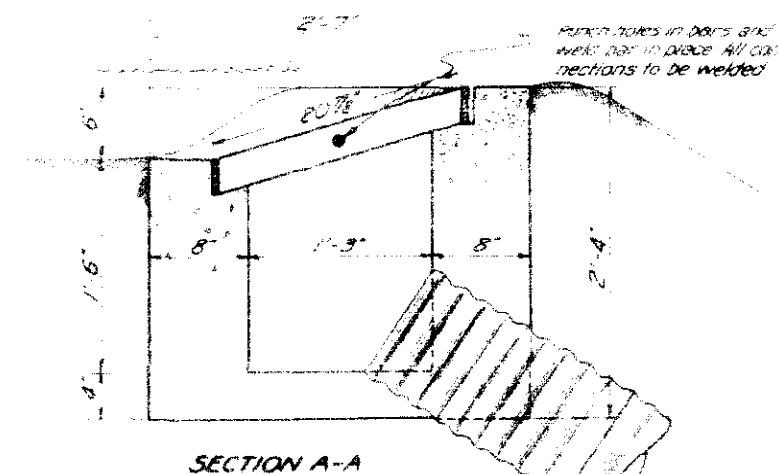
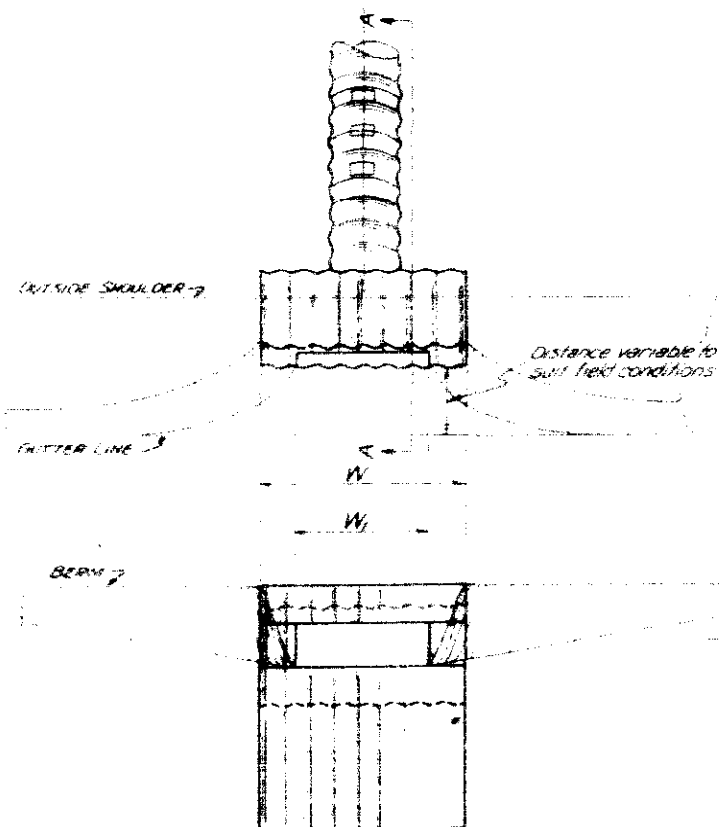
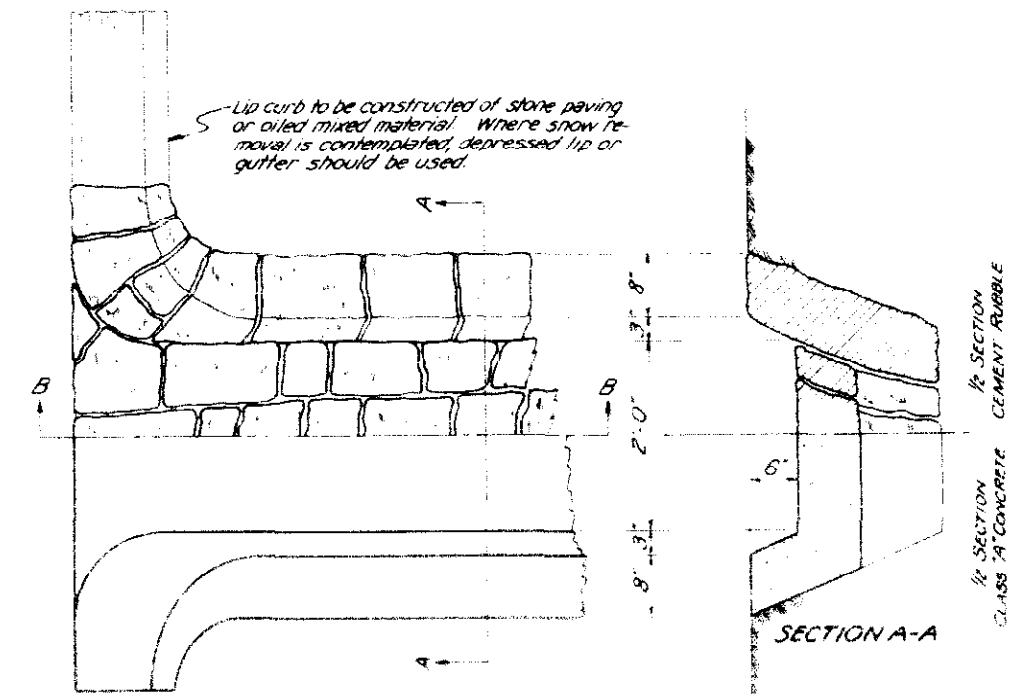
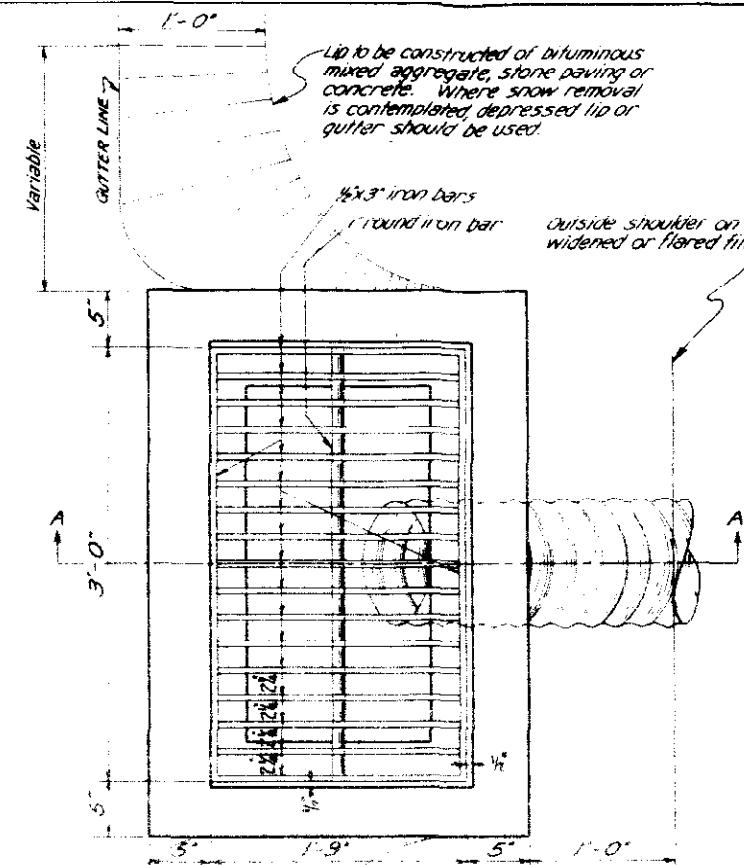
Embankment Protector to be used at all places where this type of inlet orifice is suitable and as noted on plans.

TYPE NO. 2

Embankment Inlet to be constructed of Class "A" Concrete. Size of C.M.P. outlet culvert to be varied from 12" to 18" depending upon runoff and area served. See List of Structures for size of outlet pipe.

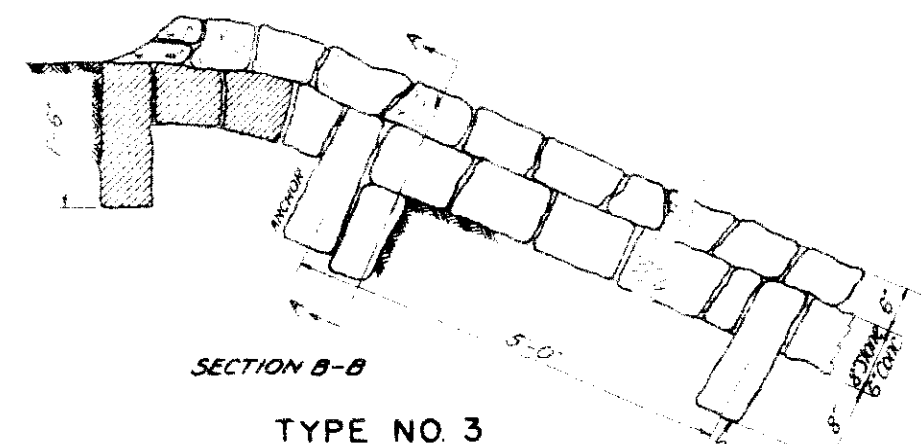
TYPE NO. 3

Embankment Drains (Open Type) to be constructed of Class "A" Concrete or "Cement Rubble Masonry". See List of Structures for kind of masonry to be used and quantity.



TYPE NO. 2

Quantities for 1 Basin - Class "A" Concrete -- 0.54 Cu. Yds.
Inlet Grating -- 1



TYPE NO. 3

Where the slopes are flatter than 2:1 the anchors may be omitted.

GENERAL NOTES

- All work shall be done according to the Standard Specifications of the Colorado State Highway Department, adopted June 1, 1940.
- All concrete for inlets and drains shall be Class "A".
- All exposed surfaces shall be rubbed free of form marks.
- All exposed corners shall be beveled to a 2" face.
- All construction joints shall be thoroughly cleaned before fresh concrete is poured.
- All walls shall have forms on both sides.
- Minimum grade of pipe shall be 1%.
- For size and location of protectors, see List of Structures.
- Footings in rock shall be poured out to the rock and not formed.

Note: Type No. 1 is to be constructed of 16 ga. galvanized metal which shall conform to Item 5.3 of the Specifications.

TYPE NO. 1

TABULATION OF DIMENSIONS

D	O	W	H	*D	H	H _i
12"	6"	25 1/2"	16 1/2"	10"	3"	16"
18"	9"	49 1/2"	37 1/2"	10"	3"	18"
24"	12"	49 1/2"	37 1/2"	12"	4"	20"

*Size to be designated by diameter of outlet.

COLORADO
STATE HIGHWAY DEPARTMENT
STANDARD
EMBANKMENT
PROTECTORS

Designed by R.E.L.
Made by F.F.S.
Checked by R.E.L.
Approved by [Signature]
Date: Apr 27, 1939

Notes:

Alignment and grade shown on these plans are subject to adjustment during construction, after approval by the Denver office of the Department

All poles encroaching on construction are to be moved by the owners

All signs encroaching on construction are to be moved by the owners

All suitable material excavated from culverts and ditches, and not used for ditch embankment is to be used in the roadway embankment

Right of Way Markers are tabulated on Sheet No. 3
Fencing is 3
Timber Guard Posts are 4

The placement of timber guard posts at road approaches at Sta 32+, 36+ and 37+ is shown on Sheet No. 15

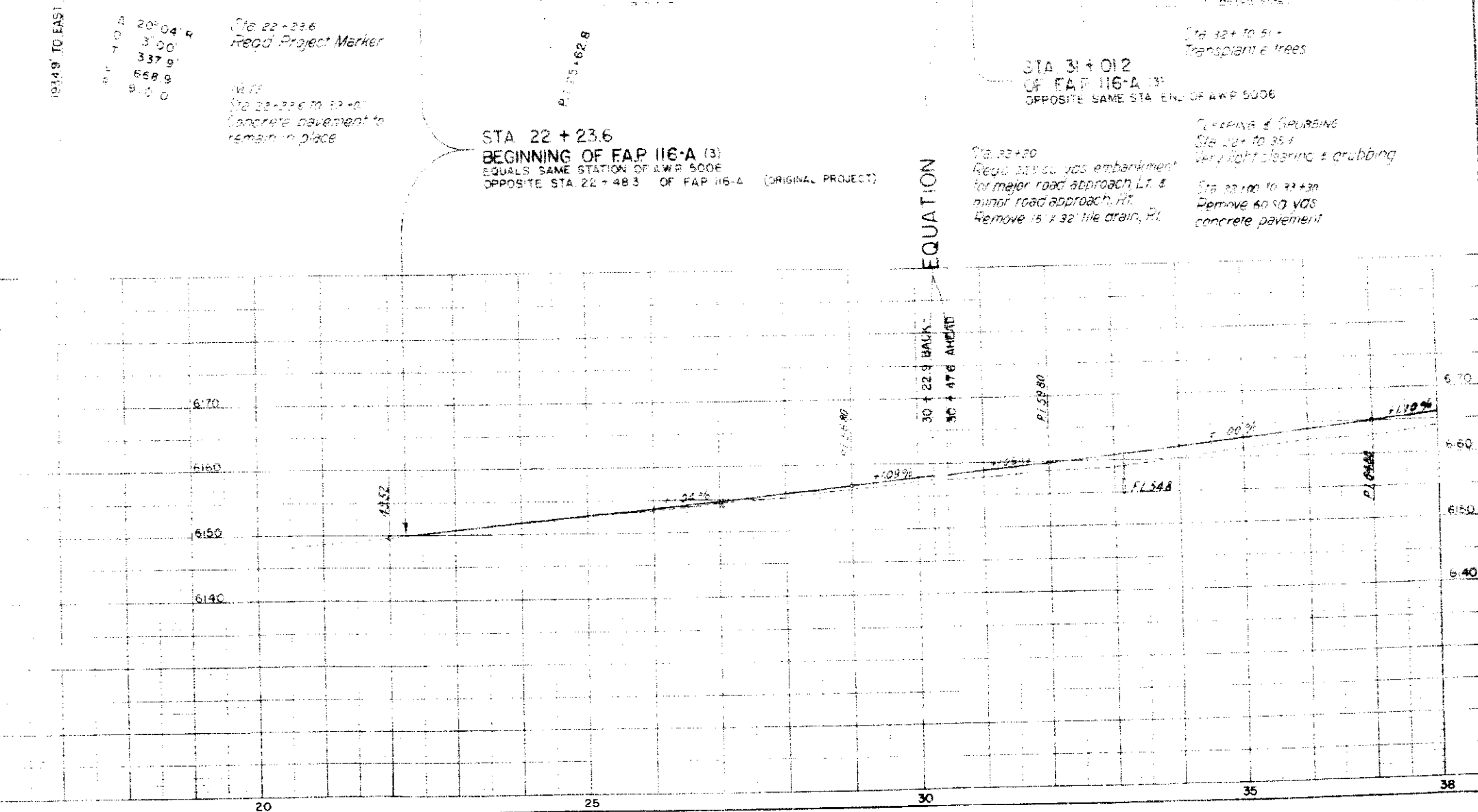
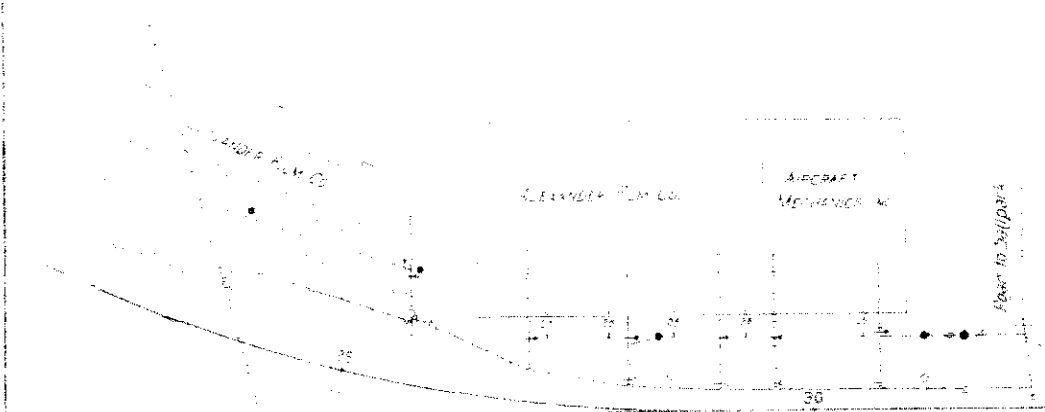
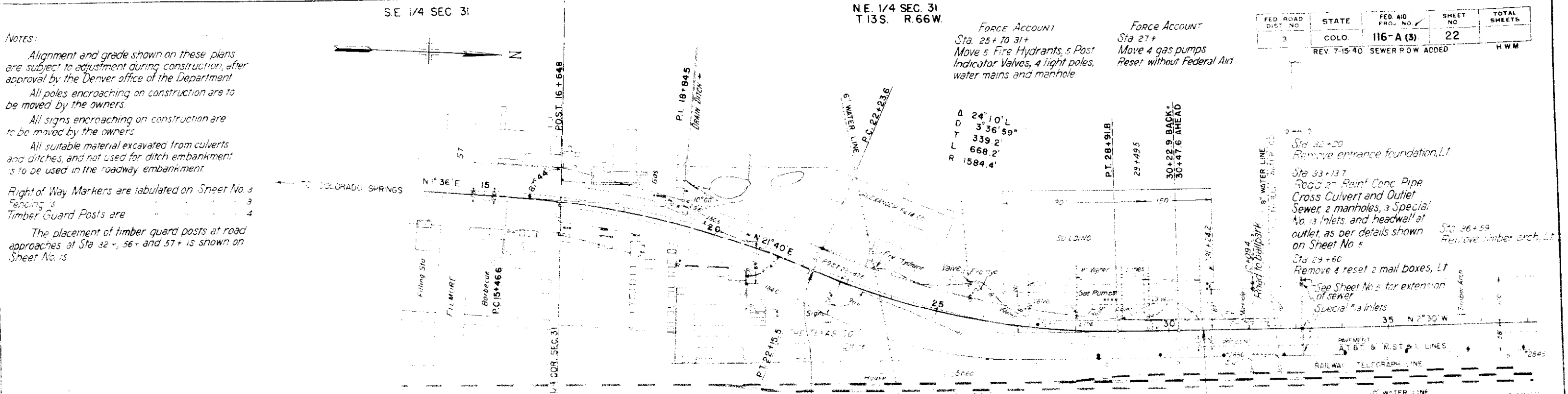
SE 1/4 SEC 31

N.E. 1/4 SEC. 31
T.13S. R.66W.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	116-A (3)	22	
REV. 7-15-40 SEWER P.O.W. ADDED				H.W.M.

FORCE ACCOUNT
Sta. 25+70 31+
Move 5 Fire Hydrants, 5 Post Indicator Valves, 4 light poles, water mains and manhole

FORCE ACCOUNT
Sta 27+
Move 4 gas pumps
Reset without Federal Aid



N.E. 1/4 SEC. 31

S.E. 1/4 SEC. 30
T.13S. R.66W.

FED. AID

116-A (3)

23

REV. 7-15-40 DRAIN DITCH R.O.W. ADDED

H.W.M.

Sta 44+10 to 46+
Note:

Junik yard steel post and light
post to be moved off right of way
by agreement between County of
El Paso and the Big 4 Auto Co.
Not a contract item

Sta 44+78

Req'd 200 cu yds embank-
ment for road approach, Lt

Force Account
(Work by Northfield
Water Co. forces)

Sta 56+30

Relocate pipelines &
water meter, Lt.

Sta 58+70

Req'd 50 cu yds embank-
ment for road approach,
Lt.

Sta 56+90

Req'd 200 cu yds embankment
for major road approach, Lt.

STA 43+64.6

91' 47'

N 2° 30' W

RAILWAY

TELEGRAPH

LINE

AMERICAN

MOUNTAIN

STATES

TELEPHONE

TELEGRAPH

LINE

A T & S F R Y

WATER LINE

NORTHFIELD WATER CO.

Special No. 13 Inlet

PRESENT CONCRETE PAVEMENT

EASEMENT LINE

RAILWAY

TELEGRAPH

LINE

AMERICAN

MOUNTAIN

STATES

TELEPHONE

TELEGRAPH

LINE

NOTE

Concrete pavement (12") remain
in place between the following
stations:

Sta 44+30 to 46+30

46+60 to 58+25

58+55 to 72+50

Sta 44+65.6

Req'd 30' x 17' x 74' and 30' x 11' x 54' Corr. Metal
Pipe Arch Culvert; 24' headwall & Special No. 13
Concrete Inlet with Special No. 13 Inlet
Grating & Frame (Details on sheet No. 4).
Req'd 100 cu yds undr ditch excavation
for inlet & outlet ditch; 350 sq yds dry rubble
slope & 10 sq yds for ditch lining
(Details on sheet No. 4).
Remove 60 sq yds concrete pavement

Sta 46+87

Remove & reset mail box Rt

Sta 56+75

Remove & reset
3 mail boxes Rt

NOTE

Sta 54+10 to 56+50 & Sta 57
Telephone line to be relocated
by American Tel. & Tel. Co. at
their expense

Sta 58+50

Remove 4' x 2' x 44'
Concrete Box Culvert
and install rubble
inlet 3' x 32'

Sta 58+40

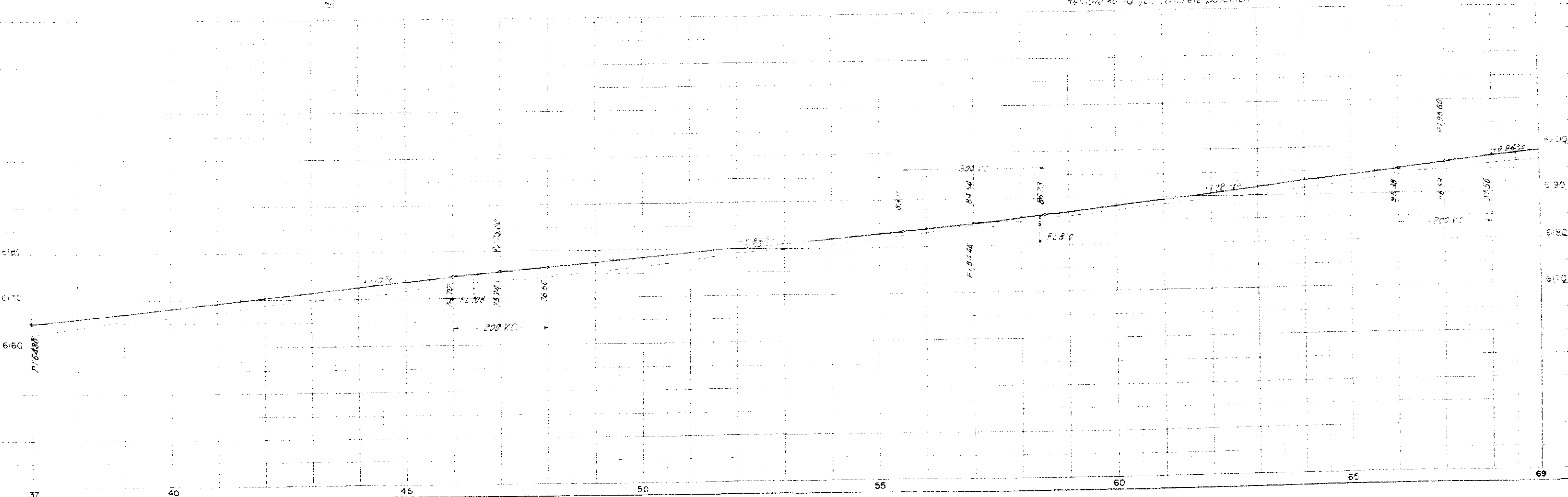
Req'd 4' x 2' x 26' Concrete Box
Culvert

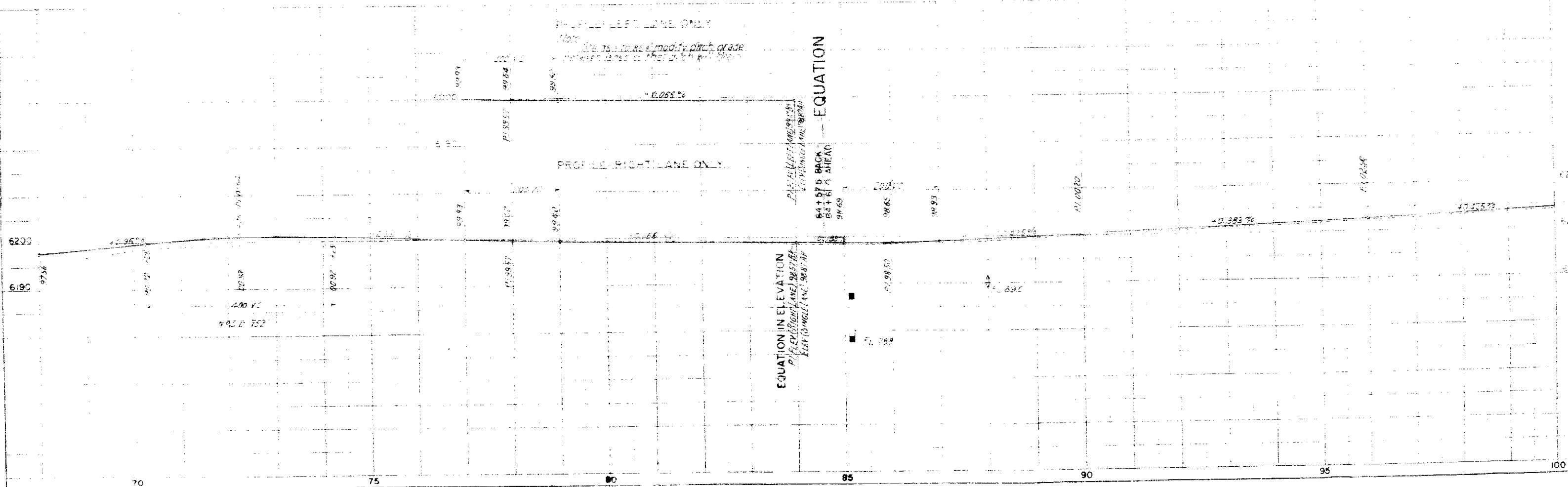
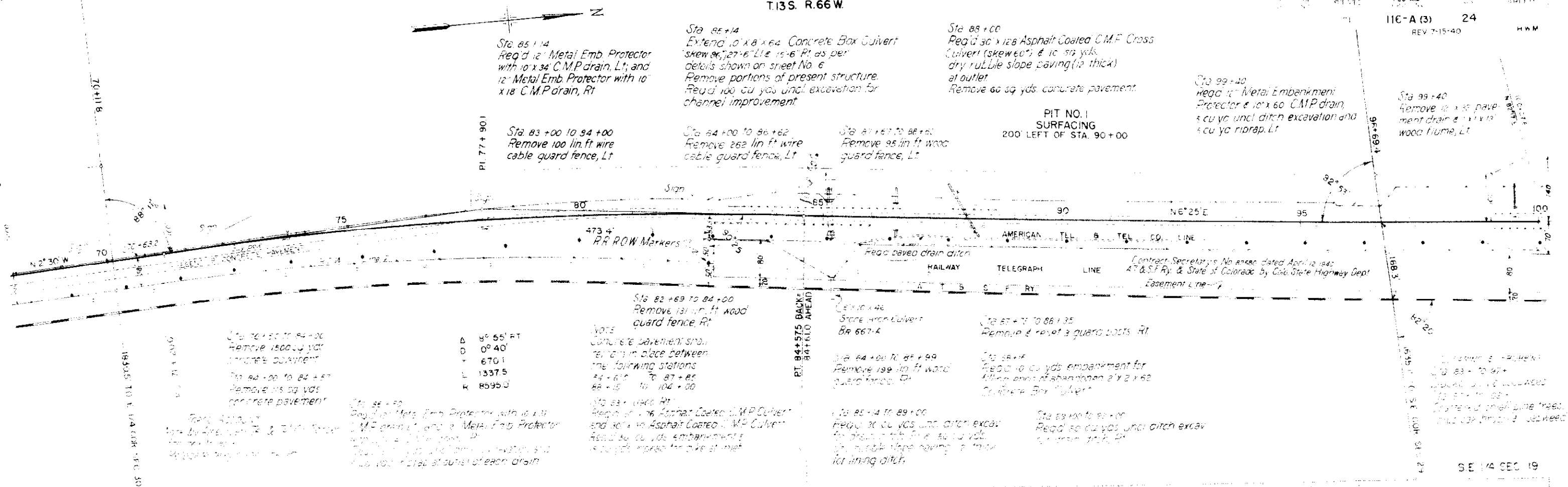
Req'd Special No. 13 Inlet Grating
and Frame (Details on sheets No. 4, 5, 2 & 4).
Req'd 200 cu yds undr ditch excavation
for inlet & outlet ditch and 400 sq yds
dry rubble slope & 10 sq yds for
ditch lining (Details on sheet No. 4).
Remove 60 sq yds concrete pavement

NOTE

Drainage structure meeting
flow line of 5' x 3' Concrete Box Culvert
under highway at Sta 58+40 to be
installed by A.T. & S.F.Ry. at their
expense

Remove & replace
Sta 57+50 to 58+
10' concrete mail tree





52 98 - 75 to 100 - 25
Remove 125 in ft wire cable
guard fence. Lt

Sta 100 +
Reel'd 100 cu yds
rip-rap for embank-
ment protection, Lt.

5/8" 104-92
Extend 6' x 4' + 1/2" Concrete Box Culvert
(screw 66 #5-6 LT & 34 Rt. 3/8" per detail)
shown on sheets No. 7 & 8
Remove portions of present structure
Req'd. 100 cu yds. und. excavation for
channel improvement.

Sto 103 + 43 to 106 + 86
Remove 343 lin. ft. wood
guard fence, Lt

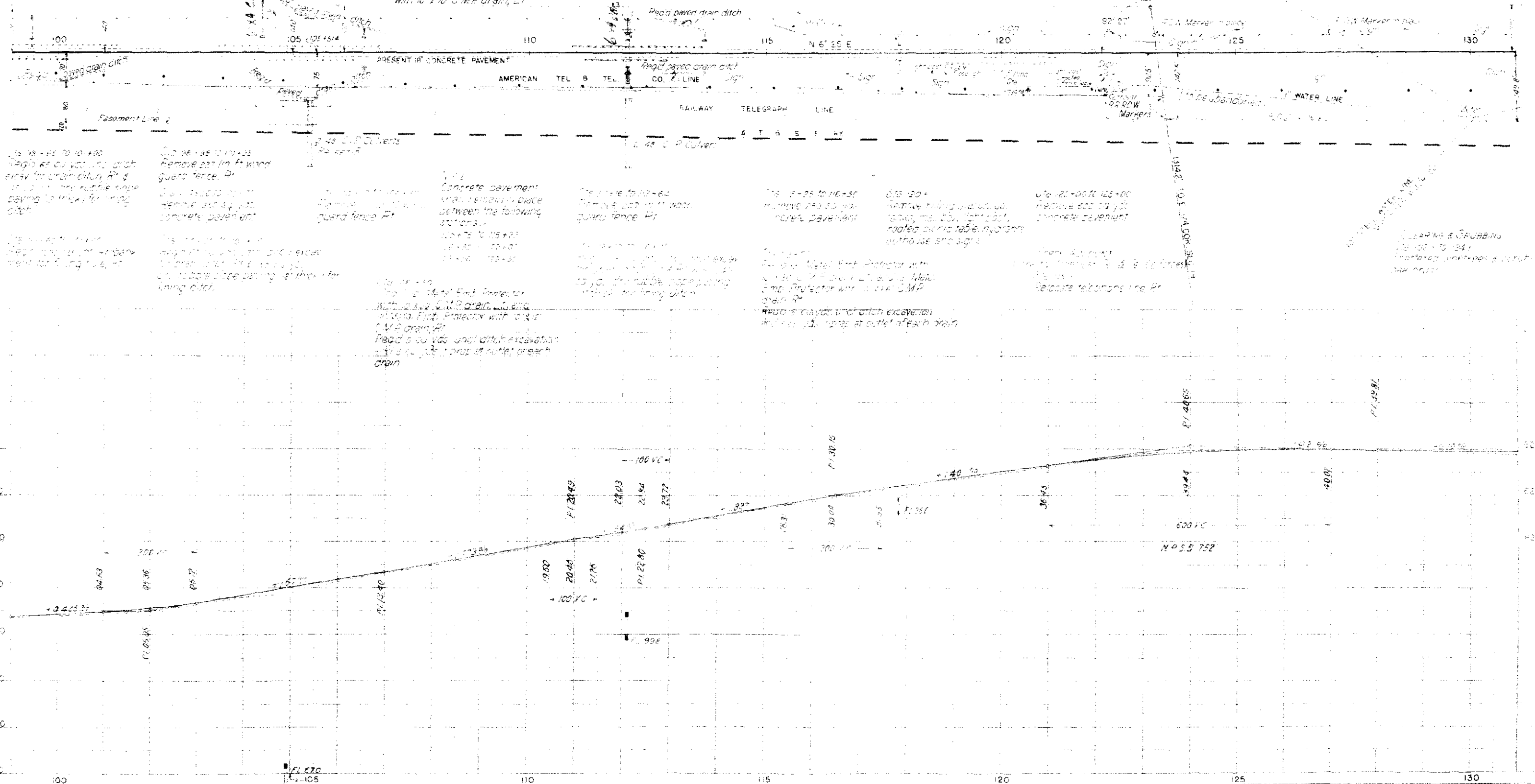
Sta 110+92 to 113+64
Remove 272 lin. wood
guard fence, Lt

Std 104 + 35
Rego 12" Metal Emb Protector
with 10 x 70 CMP drain, Lt.

Sta 112 + 10
Extend 6' x 4' x 64" Concrete Box
Culvert, 29'-6" Lt & 20'-6" Rt, as per
details shown on sheet No. 3.
Remove portions of present structure.
Req'd 100 cu yds unrel excavation
for channel improvement.
Req'd 12" Metal Emb. Protector with
10' x 50" C.M.P. drain Lt. and 12" Metal
Emb. Protector with 10' x 32" C.M.P.
drain Rt.

Sigs 117 + B3
 Extend 3 x 2 x 36" Concrete Box
 Current 22" & 22" RI, as per details
 shown on sheets No 4 & 12
 Reel 20 cu yds and ditch excav
 for inlet & outlet

Sta 116+
Note -
Power line to be moved by L.A. Springs Light
& Power Co. forces, at their expense



N.E. 1/4 SEC. 19
T.13S. R.66W.

S.E. 1/4 SEC. 18

116-A (3)

26

TOTAL SHEETS

Sta 132+55 to 136+05
Remove 350 lin. ft wood
guard fence. Lt

Sta 133+37
Extend 12 x 10 x 36 Concrete Box
Culvert 18' Lt. & 16' Rt. as per details
shown on sheet No. 10.
Remove portions of present structure
Req'd 100 cu yds uncl. excavation
for channel improvement

NOTE:
Concrete pavement shall
remain in place between
the following stations.
137+50 to 144+00
146+00 to 152+50

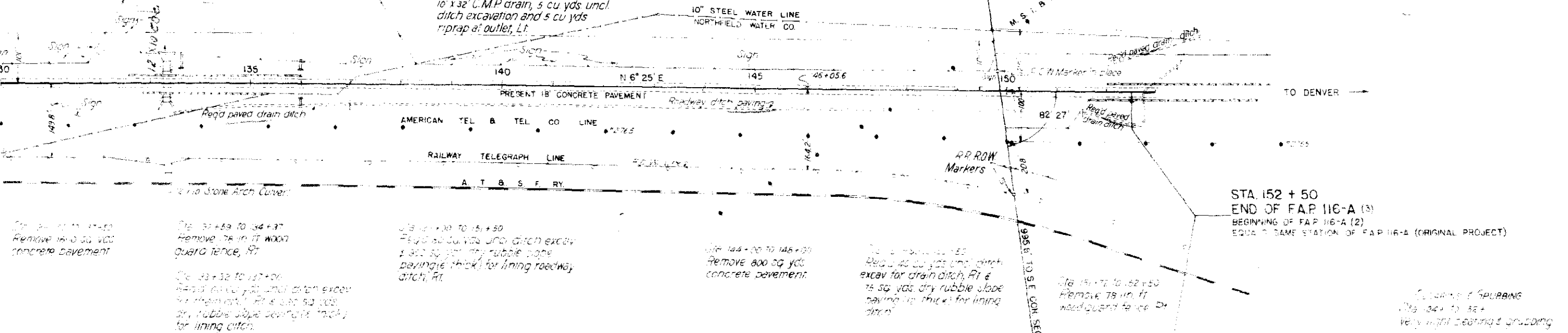
Sta 133+65
Req'd 12" Metal Emb. Protector with
10' x 32' C.M.P. drain, 5 cu yds. uncl.
ditch excavation and 5 cu yds
riprap at outlet, Lt.

Sta 136+00
Req'd 12" Metal Emb. Protector
with 10' x 20' C.M.P. drain Lt. and
12" Metal Emb. Protector with
10' x 10' C.M.P. drain, Rt.
Req'd 5 cu yds. uncl. ditch excav-
ation and 5 cu yds. riprap at outlet
of each drain

Sta 148+
Note:
Tel. line to be raised by
Mountain States Tel. & Tel. Co.
forces at their expense.

Sta 152+00 to 152+50
Req'd 65 cu yds. uncl. ditch excav-
ation for drain ditch, Lt. & 125 sq. yds.
dry rubble slope paving, 12" thick
for lining ditch.

Sta 152+05 to 152+50
Remove 45 lin. ft wood
guard fence, Lt



STA. 152 + 50
END OF F.A.P. 116-A (3)
BEGINNING OF F.A.P. 116-A (2)
EQUA. TO SAME STATION OF F.A.P. 116-A (ORIGINAL PROJECT)

Grading & SPURRING
Sta 144+ to 152+
Very light clearing & grading

Sta 132+55 to 136+05
Remove 350 lin. ft wood
guard fence, Lt

Sta 133+37 to 134+37
Remove 175 lin. ft wood
guard fence, Rt

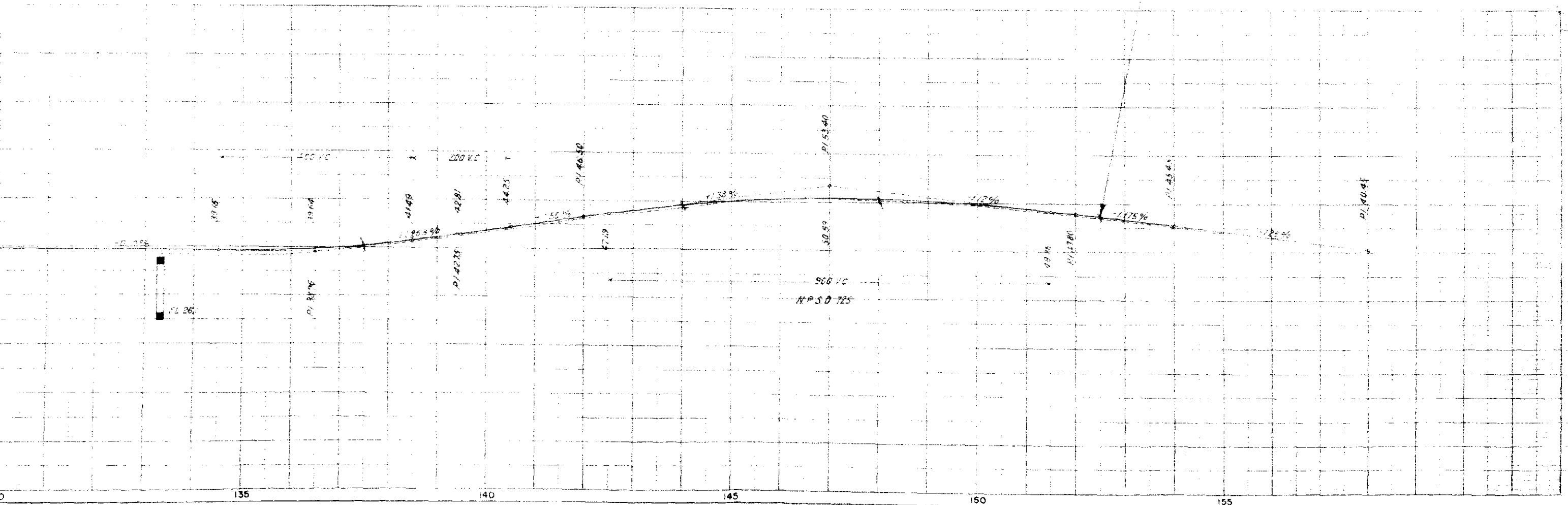
Sta 133+32 to 137+00
Req'd 65 cu yds. uncl. ditch excav-
ation for drain ditch, Lt. & 125 sq. yds.
dry rubble slope paving, 12" thick
for lining ditch.

Sta 136+00 to 146+00
Req'd 65 cu yds. uncl. ditch excav-
ation for drain ditch, Lt. & 125 sq. yds.
dry rubble slope paving, 12" thick
for lining roadway
ditch, Rt.

Sta 144+00 to 146+00
Remove 600 sq. yds.
concrete pavement.

Sta 146+00 to 152+50
Req'd 40 cu yds. uncl. ditch
excav. for drain ditch, Rt. &
75 sq. yds. dry rubble slope
paving, 12" thick for lining
ditch.

Sta 152+00 to 152+50
Remove 75 lin. ft
wood guard fence, Lt

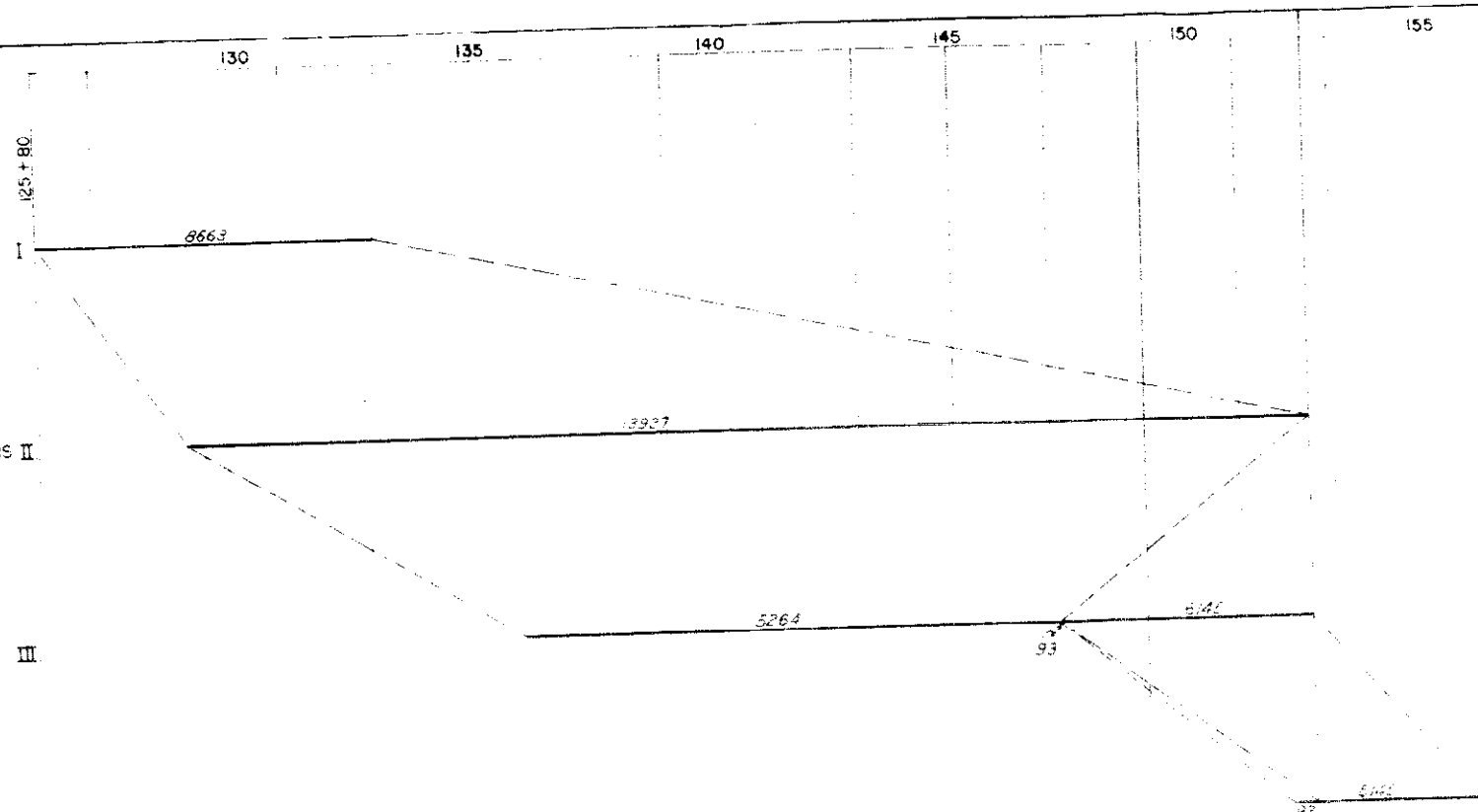


EXCAVATION A-2, A-3, A-4

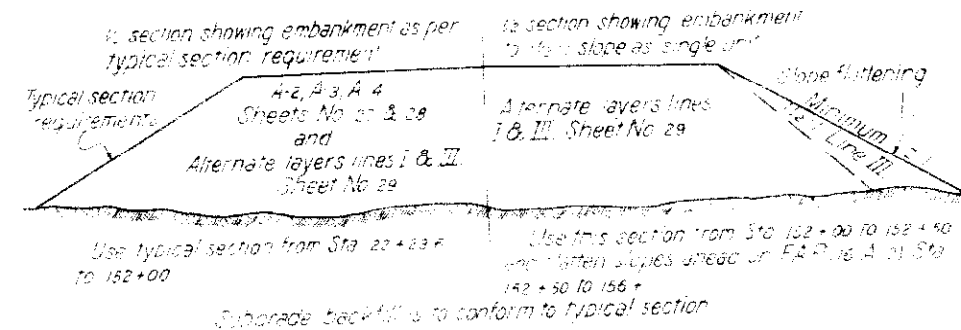
EMBANKMENT TIMES BALANCE FACTORS II

EXCAVATION A-6

EMBANKMENT MATERIAL TO BE PLACED OUTSIDE OF 1/2 TO 1 SLOPE LINE AT LOCATIONS INDICATED



COMPOSITION OF EMBANKMENTS



EXPLANATION

The soil profiles have been carefully tested and classified as specified under Classification No. 4, 5, 6 and the PR4 classification.

The soil profiles and soil data indicated on the sheets are computed from the best available test information. If material not conforming to the limits on these sheets are encountered during construction, the necessary modification of the existing plan shown herein will be made to make suitable embankments. A check should also be made only as indicated on the sheets.

The subgrade will be measured and paid for on grading operations in conformity with the Department's plan together with any authorized modifications as described above.

The estimated embankment factor (estimated shrinkage) values for the several materials are indicated at the bottom of diagram.

The average optimum moisture content of the several materials to be obtained in the field by the addition of water (wetness test) in the required amount is shown at the bottom of diagram.

EXPLANATION OF DIAGRAM FROM STA. 125 + 80 TO 152 + 50

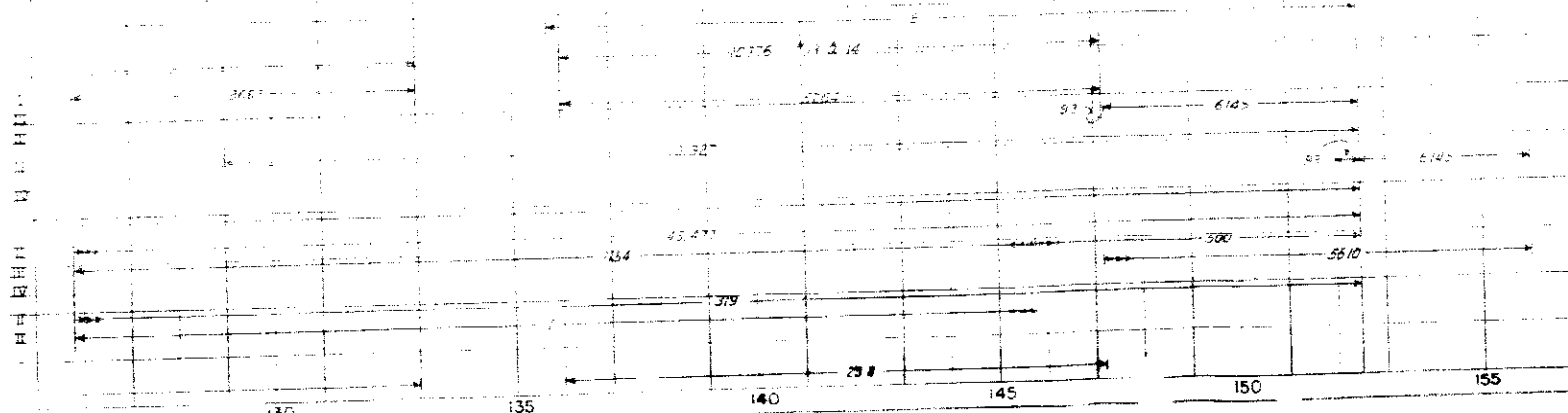
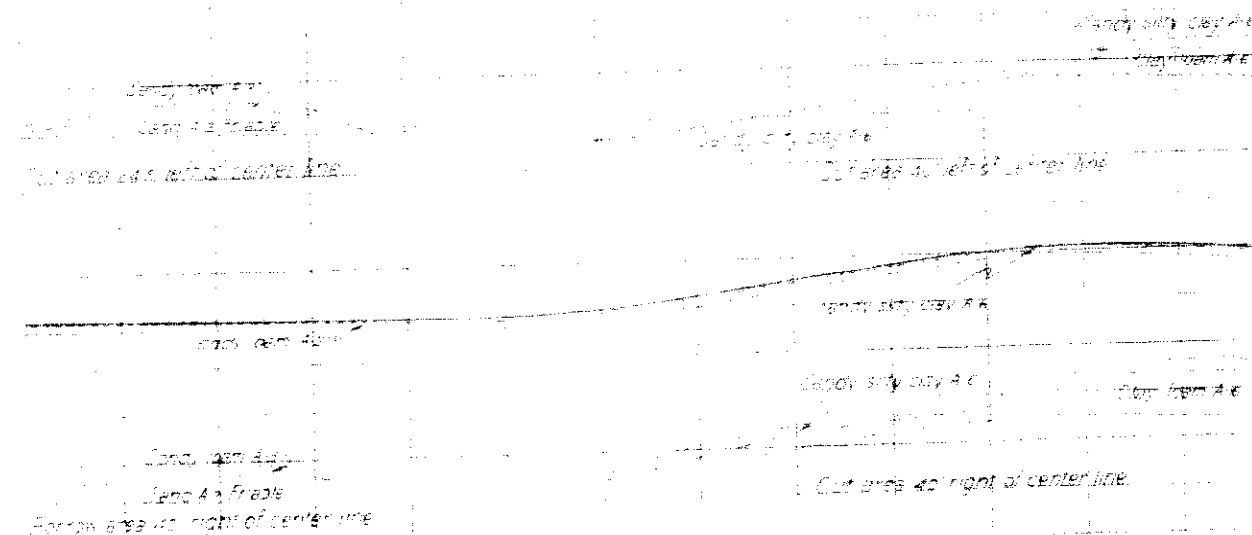
The distance between the horizontal lines has no significance and does not represent hauling distance or amounts.

The quantities shown on the horizontal lines indicated by Roman numerals represent the estimated yardage of excavation or embankment between stations shown at top and bottom of sheets.

LINE I & II indicate the more stable embankment materials from roadway excavation. Materials from lines I & II shall be placed in alternate layers to form embankments.

LINE III indicates embankments beyond the 1/2 to 1 slopes as indicated in the above typical section.

LINE IV indicates embankment requirements (net embankment times factor, between points indicated) based on cross section quantities in cuts where material is unsuitable for roadway foundation. Subgrade excavation is required to depth specified and backfilling with stable material is required in some cuts. Quantities shown on line IV are for constructing the embankment to 1/2 to 1 slope lines except between stations noted on line IV. Between sections noted on line IV, the fills on line IV are to be made on 1/2 to 1 slopes from materials shown in lines I & III and flattened as indicated in line III from 1/2 to 1 with material available as indicated in line III.



PREVIOUS EMBANKMENT

EMBEDDED TESTING

EXCAVATION A-2, A-3, A-4
A-5
A-6

EMBANKMENT TIMES BALANCE FACTOR

EMBANKMENT FLATTENING

EMBANKMENT FACTORS

STA. YARD OVERHAUL A-2, A-3, A-4
A-5
A-6

YARD MILE OVERHAUL A-2, A-3, A-4
A-5

OPTIMUM MOISTURE %