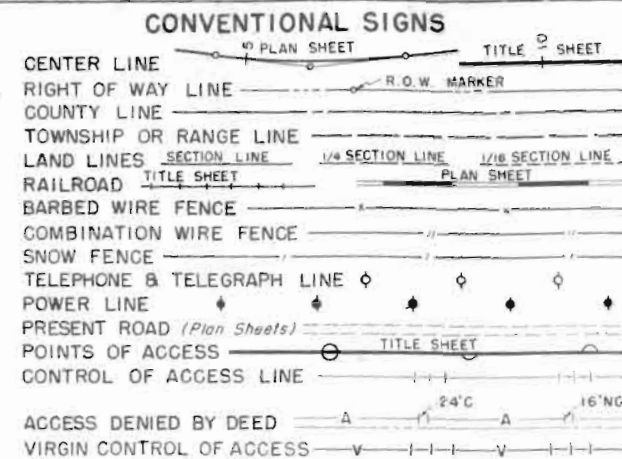




TABULATION OF LENGTH & DESIGN

STATION	DESCRIPTION	ROADWAY Lin. Ft.	MAJ. STR. Lin. Ft.	LOADING
0+00	BEGIN PROJECT NO. I-25-2(28)145 = STATION 187+28.7 F 002-2(12) SOUTH BOUND	2,617.0		
26+17.0	BEGIN BRIDGE MONUMENT CREEK STR. NO. I-17-DU		411.3	
30+28.3	END BRIDGE	643.0		
36+71.3 Bk. = 36+71.9 Ah.	EQUATION = END SOUTH BOUND			
0+00	BEGIN PROJECT NO. I-25-2(28)145 = STATION 187+28.7 FAP 116A(2) NORTH BOUND	2,120.9		
21+20.9	BEGIN BRIDGE STR. NO. I-17-DS		208.3	
23+29.2	END BRIDGE	516.8		
28+46.0	BEGIN BRIDGE MONUMENT CREEK STR. NO. I-17-DT		418.3	
32+62.3	END BRIDGE	525.7		
37+88.0 Bk. = 36+71.9 Ah.	EQUATION = END NORTH BOUND	6,423.4	1,035.9	
36+71.9 Ah	BEGIN PROJECT NO. I-25-2(28)145 UNIT NO. 1	3,211.7	318.0	
44+83.2	BEGIN BRIDGES D. & R.G.W. RR STR. NO. I-17-DW I-17-DX	811.3	427.0	
49+10.2	END BRIDGES	1,112.6		
60+22.8 Bk. = 46+92.6 Ah.	EQUATION	2,532.7		
72+25.3 Bk. = 0+00 Ah.	EQUATION	1,638.5		
16+38.5	BEGIN BRIDGES COUNTY ROAD STR. NO. I-17-DR I-17-DV		162.1	
18+00.6	END BRIDGES	4,667.4		
64+68.0	BEGIN BRIDGES LOCAL ROAD STR. NO. I-17-DP I-17-DZ		155.0	
66+23.0	END BRIDGES	2,206.7		
88+29.7 Bk. = 87+77.3 Ah.	EQUATION	2,486.8		
112+64.1	END PROJECT NO. I-25-2(28)145 BEGIN PROJECT NO. I-25-2(27)143			
TOTAL		15,456.0	744.1	
SUMMARY		LIN. FT.	MILES	
ROADWAY		15,456.0	2.927	
MAJOR STRUCTURES		744.1	0.141	
TOTAL (Gross & Net Length)		16,200.1	3.068	
DESIGN DATA				
Maximum Curve		3°30'		
Maximum		4.28%		

COLORADO DEPARTMENT OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. I-25-2(28)145 STATE HIGHWAY NO. 11 EL PASO COUNTY

THIS PROJECT
UNIT #1

SCALES OF ORIGINAL DRAWINGS

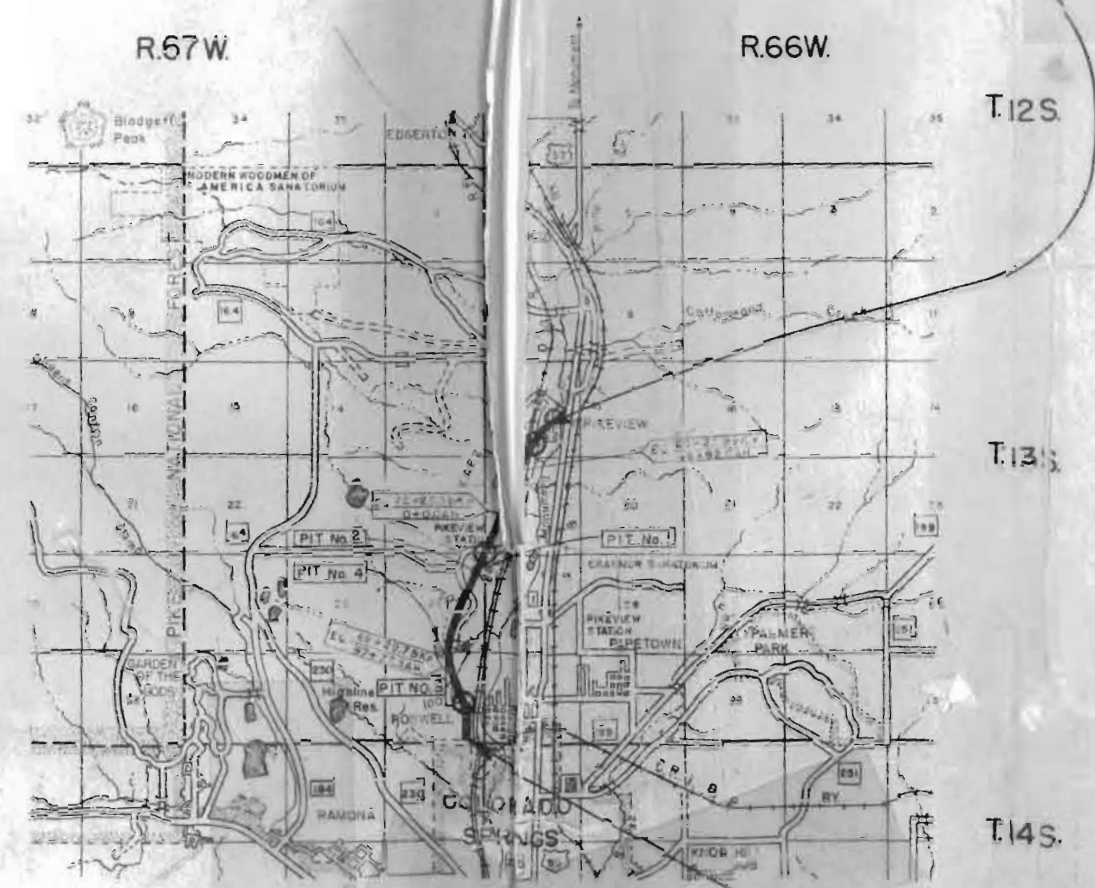
ON PLAN 1" = 100 FT.
ON PROFILE 1" = 10 FT. VERTICAL
100 FT. HORIZONTAL

GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD

GROSS LENGTH OF PROJECT 16,200.1 Ft. = 3.068 MI.

NET LENGTH OF PROJECT

36+71.9Ah. Begin Proj. No. I-25-2(28)145 UNIT NO. 1



Sta. 112+64.1 End Proj. No. I-25-2(28)145 =
Begin Proj. No. I-25-2(27)143

- Rev. 9-16-59 G.S. Deleted 236
- REGION DIVISION I-25-2(28)145
- Rev. 2-18-59 G.S. Added Pit No. 3
- Rev. 4-3-59 G.S. Added Length, Sketch Map & Index - G.S.
- Rev. 6-7-59, Sheets Deleted 237 to 246 & Added Sheet
- ### INDEX OF SHEETS
- SHEET NO. 1 SKETCH MAP, TITLE PAGE, TABULATION OF LENGTH AND DESIGN & INDEX
- 2 TYPICAL CROSS SECTION OF IMPROVE & GENERAL NOTES, TAB & DETAILS OF SHO
- 3 SUMMARY OF APPROXIMATE QUANTITIES
- 4 FENCING REQUIREMENTS, SURFACING PLAN, TABULATION OF TIMBER GUARD
- 5 SUMMARY OF EARTHWORK QUANTITIES, TABULATION OF LIGHTING REQUIRE
- 6 TYPICAL LIGHTING STANDARD; DETAILS OF DIKE, STA. 26+
- 7 CONCRETE SLOPE & DITCH PAVING, CONCRETE COMBINATION CURB & BUTTER
- 8 AUTOMATIC DRAINAGE GATE
- 9 SKETCH MAP OF PIT NO. 1 & 2
- 10 SKETCH MAP OF PIT NO. 4
- 11 LIST OF STRUCTURE QUANTITIES
- 12-20 DELETED
- 21-30 DELETED
- 31-39 DELETED
- 40-63 DETAILS OF BRIDGES, STA. 24+, I-17-DW & I-17-DX.
- 64-70 DETAILS OF BRIDGES, STA. 16+, I-17-DR & I-17-DV.
- 71-76 DETAILS OF BRIDGES, STA. 64+, I-17-DP & I-17-DZ.
- 77-82 DETAILS OF OVERPASS, STA. 84+, I-17-DY.
- 83 DETAILS SHOWING PORTIONS OF STRUCTURE TO RECEIVE CLASS "I" SURTAN
- 84-85 DELETED
- 86 DETAILS OF 10' x 10' C.B.C. STA. 39+
- 87 DETAILS OF 10' x 10' C.B.C. STA. 58+
- 88 DETAILS OF 6' x 7' C.B.C. STA. 56+
- 89-90 DETAILS OF 14' x 12' C.B.C. STA. 30+
- 91 DETAILS OF 14' x 12' C.B.C. STA. 69+
- 92 STANDARD METHODS FOR SUPERELEVATING CURVES ON DIVIDED HIGHWAYS
- 93 STANDARD SIDE APPROACH ROADS, FLARING, CUT SLOPE TREATMENT &
- 94 WIDENING AT BRIDGES AND AT CREST OF GRADES
- 95 STANDARD MARKER POSTS AND BENCH MARKS
- 96 STANDARD LETTERS & FIGURES FOR YEAR NUMBERS & STRUCTURE
- 97 NUMBERS
- 98 STANDARD TIMBER GUARD POSTS
- 99 STANDARD METAL PLATE GUARD FENCE (HEAM TYPE)
- 100 STANDARD WIRE FENCE WITH METAL POSTS
- 101 STANDARD ROADWAY CONSTRUCTION TRAFFIC SIGNS
- 102 STANDARD TIMBER BARRICADES
- 103 STANDARD CONCRETE INLET FOR MEDIAN DITCH
- 104 STANDARD SINGLE & DOUBLE CONCRETE BOX CULVERTS
- 105 STANDARD WINGWALLS FOR VARIOUS TYPES OF CONCRETE BOX
- 106 CULVERTS
- 107 STANDARD METHODS OF BACKFILL AROUND STRUCTURES
- 108 STANDARD TYPES OF DITCHES & CONSTRUCTION METHODS
- 109 REINFORCED CONCRETE CULVERT PIPE & CONCRETE SEWER PIPE
- 110 STANDARD END & ANGLE SECTIONS, & EXPANSION JOINTS FOR CONC. PIPE
- 111 DELETED
- 112 FRONTAGE ROAD GRADES, STA. 100+ to 170+ & STA. 5+ to 19+
- 113 FRONTAGE ROAD GRADES STA. 17+ to 40+
- 114 LAYOUT & DETAIL OF INTERSECTION, STA. 2+ to 30+ Ah.
- 115 LAYOUT & DETAIL OF INTERSECTION, STA. 83+ to 108+
- 116 GRADES FRONTAGE ROAD STA. 50+ to 126+
- 117 ALIGNMENT PLAN & PROFILE, MAIN LINE
- 118 DELETED
- 119 ALIGNMENT PLAN & PROFILE, COUNTY ROAD STA. 17+
- 120 CROSS SECTIONS
- 121-251 DELETED
- 252-253 DETAILS OF 17' x 26' BOX STA. 25+
- 254-255 SHEETS DELETED 254, 255, 128, 129, 132
- 256-257 SHEETS DELETED, 256 to 246
- 258 DETAIL OF INTERSECTION, STA. 31+ to 54+

See Special Provisions for
Notice to Bidders.

APPROVED

CHIEF ENGINEER

DATE

DEPARTMENT OF COMMERCIAL
BUREAU OF PUBLIC ROADS

APPROVED

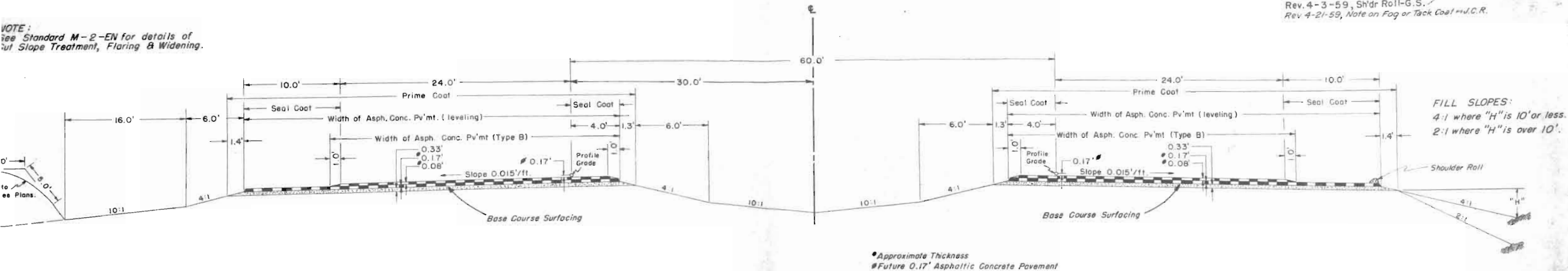
DATE

TYPICAL CROSS SECTION OF IMPROVEMENT

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	I-25-2(28)145	2	

Rev. 4-3-59, Sh'dr Roll-G.S.
Rev. 4-21-59, Note on Fog or Tack Coat H.C.R.

NOTE:
See Standard M-2-EN for details of
Cut Slope Treatment, Flaring & Widening.



Excavation and or Borrow below 4:1 slope and/or 10:1 slope will not be permitted.
The depth and width of the side ditch shall be varied where necessary in order to provide proper drainage and/or entrance to drainage structures.

Approximate 0.58' compacted thickness of Gravel or Crushed Rock Surfacing shall be placed in separate courses at the following rates per 100 lin. ft. of roadway:

Asph. Conc. Pv'mt.	Type B	36 Tons
	Leveling	94 Tons
Base Course Surfacing		173 Tons

NOTE:
When ordered by the Engineer, a Fog or Tack coat will be applied between pavement courses to improve bond. Asphalt will be placed at the approximate rate of 0.07 TO 0.10 gals. per sq. yd. if required.

GENERAL NOTES

This project is to be constructed in conformity with the Standard Specifications of the Colorado Department of Highways, adopted January 1, 1958.

All quantities on preliminary plans are to be considered approximate only.

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

Approximate location and quantities involved in construction of intercepting ditches are tabulated in Summary of Earthwork Quantities Tabulation.

All curves are to be superelevated and widened as provided by the Standard Superelevation sheet included with the plans.

The force account item, 'Clearing of Building Sites, including removal of Foundation and Appurtenances,' shall include removal of all foundations, wells, outhouses and other appurtenances not removed by the owner, and any necessary backfilling of cellars, cess pools, wells, etc., to provide neat road-side conditions. It is estimated that this item applies at the following locations, Sta. 34+ , Sta. 66+ Ah. Sta. 106+ to 109+ , 125+.

For preliminary plan quantities of asphaltic road materials, asphaltic concrete pavement, asphalt and stone screenings, the following rates of application were used:

Prime Coat (Bridges) R C	at	0.10 gal. per sq. yd.
Prime Coat M C	at	0.40 gal. per sq. yd.
Asphaltic Concrete Pavement	at	111.00 lbs. per sq. yd. per 1" thickness.
Asphalt (85 - 100) penetration	at	6.50 lbs. per sq. yds. per 1" thickness.
Seal Coat R C	at	0.25 gal. per sq. yd.
Stone Screenings (Limestone)	at	25.00 lbs. per sq. yd.

Rate of application and grade of Asphaltic Material shall be determined by the Engineer at the time of application.

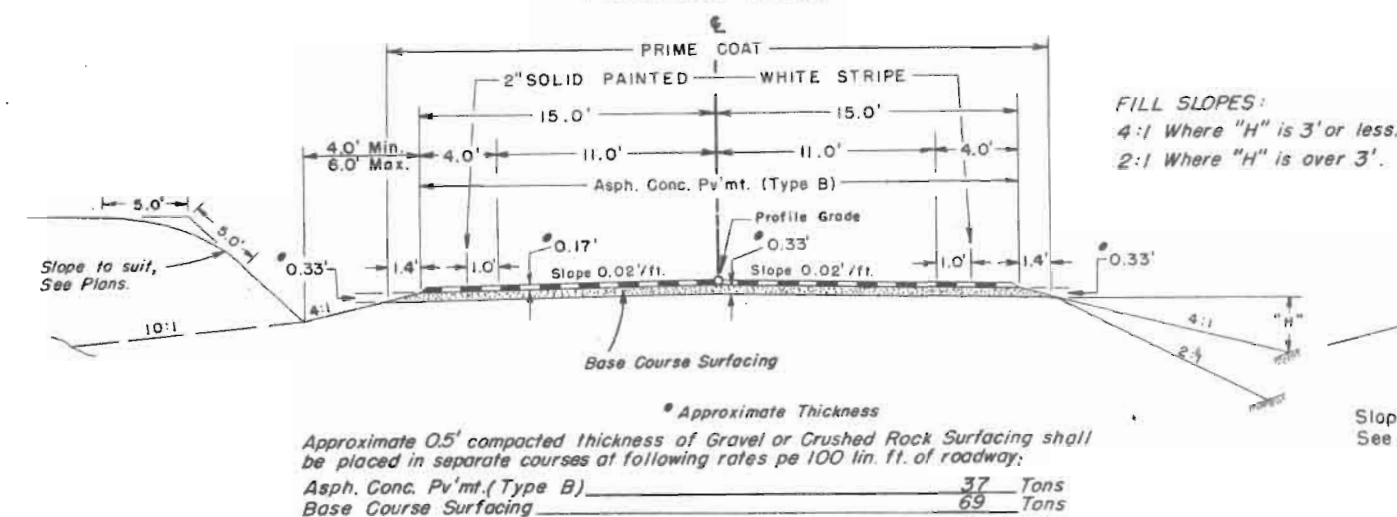
Application methods for liquid asphaltic road material which result in the discoloration of concrete pavement, curbs or gutters will not be permitted.

TABULATION OF SHOULDER ROLL & DITCH PAVING

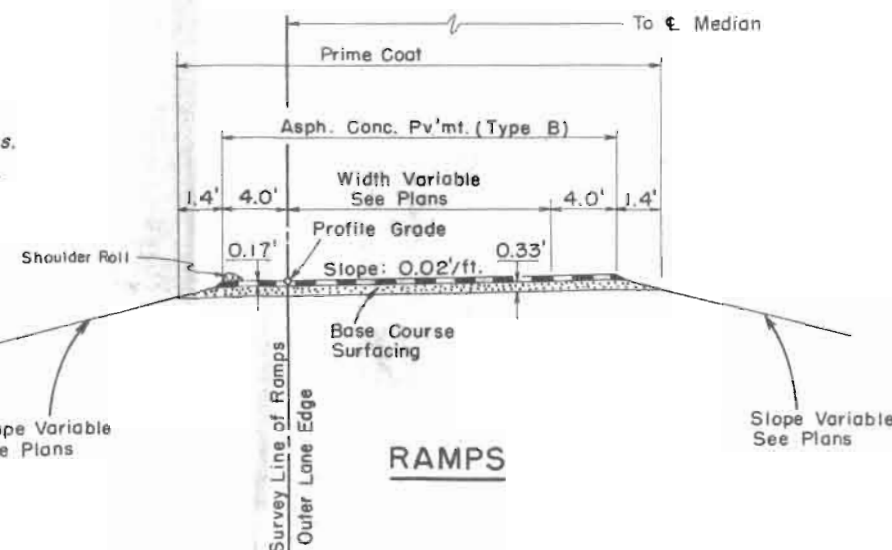
SHOULDER ROLL			DITCH PAVING	
LOCATION	SIDE	LIN. FT.	LOCATION	LIN. FT.
MAINLINE				
36+71.9 to 44+83.2	Lt. & Rt.	1,623	* Entire Project	1,560
49+10.2 to 60+22.8 Bk	Lt. & Rt.	2,226		
47+00 Ah to 50+00	Lt.	300		
54+00 to 59+00	Lt. & Rt.	1,000		
9+00 to 16+38.5	Lt. & Rt.	1,478		
18+00.6 to 36+00	Lt. & Rt.	3,600		
66+23.0 to 69+00	Lt. & Rt.	554		
87+77.3 Ah to 100+00	Lt. & Rt.	2,444		
104+00 to 112+00	Lt.	800		
Intersection 31+ to 54+		1,300		
Intersection 82+ to 108+		4,700		
TOTAL		20,025	TOTAL	1,560

* Location to be determined by the Engineer during Construction.
20,025 Lin. ft. = 320 Tons
1,560 Lin. ft. = 136 Tons

COUNTY ROAD Sta. 17+ 8 FRONTAGE ROADS

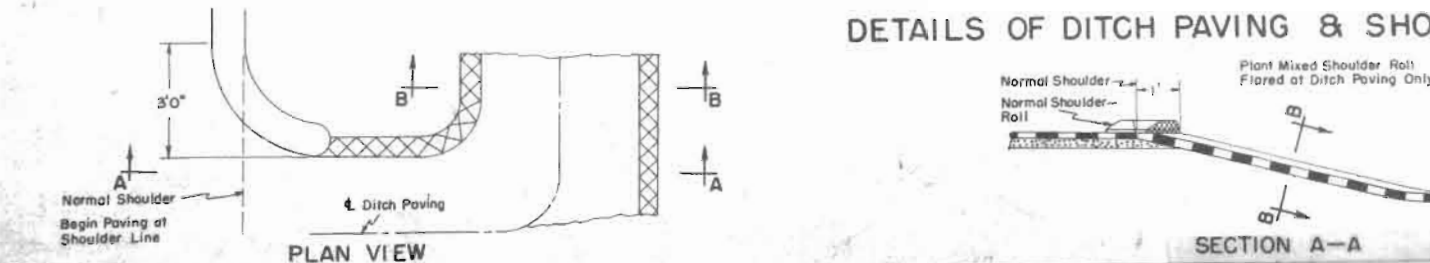


FILL SLOPES:
4:1 Where "H" is 3' or less.
2:1 Where "H" is over 3'.



RAMPS

DETAILS OF DITCH PAVING & SHOULDER ROLL



Normal Shoulder Roll
Plant Mixed Shoulder Roll
Flared at Ditch Paving Only

SECTION A-A

SECTION B-B

SHOULDER ROLL DETAIL

SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	ITEM	UNIT	ROADWAY	STR. NO.					STR. NO.	PROJECT TOTALS
				I-17-DW STA. 44+	I-17-DX STA. 44+	I-17-DV STA. 16+	I-17-DP STA. 64+	I-17-DY STA. 94+		
10	CLEARING & GRUBBING ENTIRE PROJECT	L.S.	•							•
11	REMOVAL OF 4 STRUCTURES	L.S.	•							•
11	ADJUST MANHOLE RING AND COVER	EACH	2							2
11	REMOVAL OF TIMBER GUARD POSTS	EACH	31							31
12	REMOVING FENCE	LIN.FT.	12,300							12,300
13	UNCLASSIFIED EXCAVATION	CU.YD.	1,662,000							1,662,000
13	UNCLASSIFIED DITCH EXCAVATION	CU.YD.	3,500							3,500
14	UNCLASSIFIED STRUCTURAL EXCAVATION - MISCELLANEOUS	CU.YD.	4,830							4,830
14	UNCLASSIFIED STRUCTURAL EXCAVATION - BRIDGES	CU.YD.								1,299
16	STRUCTURE BACKFILL (CLASS I)	CU.YD.	6,790							7,580
17	COMPACTION (STANDARD)	CU.YD.	1,774,000							1,774,000
17	WETTING	M GAL.	71,580							71,580
18	STATION YARD OVERHAUL	STA.YD.	14,349,000							14,357,700
18	YARD MILE OVERHAUL	YD.MI.	1,310,600							20
26	GRAVEL OR CRUSHED ROCK SURFACING (GRADING C)	TON	40,900							40,900
30	ASPHALTIC ROAD MATERIAL MC (PRIME)	GAL.	104,300							104,300
30	ASPHALTIC ROAD MATERIAL RC	GAL.	13,700							14,290
31	STONE SCREENINGS (LIMESTONE)	TON	700							700
32	PLANT MIXED ASPHALTIC SHOULDER ROLL	TON	320							320
32	PLANT MIXED ASPHALTIC DITCH PAVING	TON	136							136
34	ASPHALTIC CONCRETE PAVEMENT (LEVELING COURSE)	TON	14,850							14,850
34	ASPHALTIC CONCRETE PAVEMENT (TYPE B)	TON	13,160							13,770
42	TREATED BRIDGE TIMBER	M FT.BM.								2.6
46	CLASS "A" CONCRETE	CU.YD.	5,336							9,346
47	REINFORCING STEEL	LB.	700,600							1,700,730
48	STRUCTURAL STEEL	LB.								438,900
52	18" REINFORCED CONCRETE CULVERT PIPE (CLASS III)	LIN. FT.	82							82
52	24" REINFORCED CONCRETE CULVERT PIPE (CLASS III)	LIN. FT.	1,740							1,740
52	36" REINFORCED CONCRETE CULVERT PIPE (CLASS III)	LIN. FT.	1,094							1,094
52	48" REINFORCED CONCRETE CULVERT PIPE (CLASS III)	LIN. FT.	532							532
52	48" REINFORCED CONCRETE CULVERT PIPE (CLASS IV)	LIN. FT.	244							244
52	60" REINFORCED CONCRETE CULVERT PIPE (CLASS IV)	LIN. FT.	378							378
53	15" CORRUGATED METAL CULVERT PIPE (NESTABLE)	LIN. FT.	310							310
60	TREATED TIMBER PILING	LIN. FT.								1,200
61	STEEL PIPE PILING (12 1/4" O.D. x 0.179" THICK)	LIN. FT.								2,532
61	STEEL PIPE PILING (10 1/4" O.D. x 0.179" THICK)	LIN. FT.								5,403
65	CONCRETE SLOPE & DITCH PAVING	CU.YD.	70							70
75	METAL PLATE GUARD FENCE (BEAM TYPE)	LIN. FT.	100							100
76	BARBED WIRE FENCE WITH METAL POSTS	LIN. FT.	29,100							29,100
79	WATERPROOFING (TYPE II)	SQ.YD.	40							40
80	SHEET COPPER	LB	28							28
81	RIGHT OF WAY MARKERS	EACH	9							9
89	DRAIN PIPE (CONCRETE FLOOR) (4" x 1'-6")	EACH								2
90	1/2" ELECTRICAL CONDUIT WITH JUNCTION BOXES	LIN. FT.	130							130
90	1 1/2" ELECTRICAL CONDUIT WITH JUNCTION BOXES	LIN. FT.	2,380							2,380
90	1 1/2" ELECTRICAL CONDUIT WITH JUNCTION BOXES	LIN. FT.	150							150
90	1 1/2" ELECTRICAL CONDUIT (PLASTIC) WITH JUNCTION BOXES	LIN. FT.	10,950							10,950
90	1 1/2" ELECTRICAL CONDUIT (PLASTIC) WITH JUNCTION BOXES	LIN. FT.	382							382
92	TIMBER GUARD POSTS	EACH	34							34
98	LIGHT STANDARDS (1'-ARM)	EACH	38							38
98	LIGHT STANDARDS (2'-ARM)	EACH	4							4
98	HIGHWAY LUMINAIRES (20,000 LUMEN MERCURY VAPOR)	EACH								5
98	HIGHWAY LUMINAIRES (4,000 LUMEN INCANDESCENT)	EACH								1
132	INLET GRATING & FRAME (MEDIAN)	EACH								3
142	TIMBER BARRICADES (TYPE I)	EACH								19
152	18" FLARED END SECTIONS FOR REINFORCED CONCRETE CULVERT PIPE	EACH								7
152	24" FLARED END SECTIONS FOR REINFORCED CONCRETE CULVERT PIPE	EACH								13
152	36" FLARED END SECTIONS FOR REINFORCED CONCRETE CULVERT PIPE	EACH								
152	48" FLARED END SECTIONS FOR REINFORCED CONCRETE CULVERT PIPE	EACH								
81	STATE FORCES	EACH								
	PROJECT MARKERS	L.S.	•							•
	SIGNING & STRIPING ENTIRE PROJECT (NON - FEDERAL AID)	L.S.								
	FORCE ACCOUNT	L.S.								
	CLEARING OF BUILDING SITES, ETC.	L.S.	•							•
	REMOVE & REPLACE SPUR TRACK &	L.S.								
	INSTALL GUARD RAIL UNDER HIGHWAY OVERPASS (WORK BY DBRGW)	L.S.	•							•
	RELOCATE POWER POLES (Work by Owners)	L.S.	•							•
	RELOCATE TELEPHONE POLES (Work by M.S.T. & T-Co. Forces)	L.S.	•							•
	RELOCATE GAS LINES (Work by Owners)	L.S.	•							•
	ADJUST WATER LINES (Work by Owners)	L.S.	•							•

FENCING REQUIREMENTS

STATION	SIDE		REMOVE FENCE		BUILD BARBED WIRE
			LIN. FT.		LIN. FT.
45+60	X		700		
48+80 48+40 A.H. 62+15	X X X		500 560 410		
16+80 17+50 36+90	X X X		1,000 1,920 640		
37+70 65+70 69+10	X X X		470 310 550		
83+80 85+00 90+00 to 100+00	X X Rt.		700 1,100 1,000		
99+25 106+40 108+50	X X X		740 460 390		
106+40 to 107+80 163+00 to 170+30	Lt. Lt.		140 710		
46+50 to 18+00 19+00 to 64+68	Rt. Rt.				5,910 4,770
66+23 to 88+00 100+00 to 112+64	Rt. Rt.				2,380 1,370
36+71.9 Ah. to 49+00 47+00 to 15+50 18+00 to 41+00	Lt. Lt. Lt.				1,442 4,290 2,400
57+50 to 64+68 66+23 to 98+00 1+00† to 8+00†	Lt. Lt. Lt. & Rt.				820 3,330 1,400
16+00† to 20+00†	Lt. & Rt.				800
TOTALS			12,300		28,912

† County Road Sta. 17+19.5

SURFACING PLAN

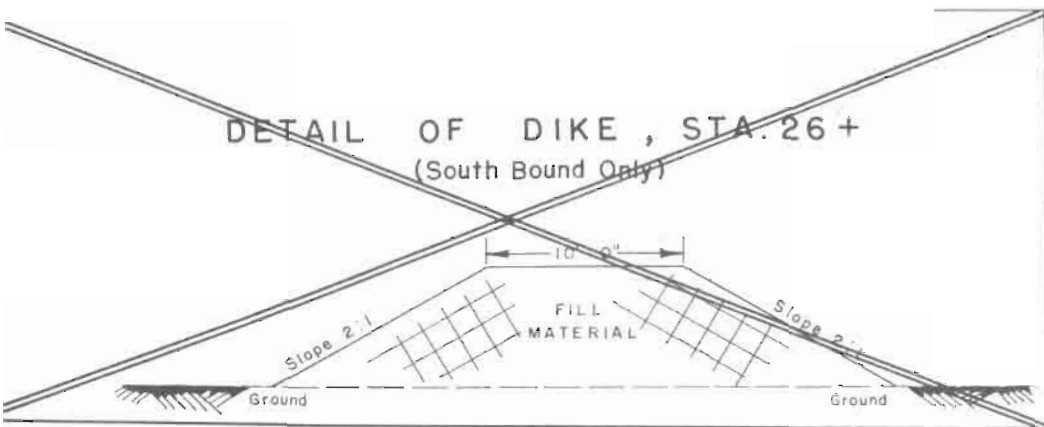
MATERIAL TO BE PLACED	SOURCE	TONS USED				
		ASPHALTIC CONCRETE PAVEMENT		BASE COURSE		
		TYPE "B"	LEVELING COURSE	GRADING "C"		
	UNDESIGNATED					
36+71.9 Ah. to 44+83.2 49+10.2 to 60+22.8 Bk. 46+92.6 Ah. to 72+25.3 Bk. 0+00 Ah. to 16+38.5		292 401 913 591	763 1,046 2,381 1,540	1,420 1,948 4,433 2,668		
18+00.6 to 64+68.0 66+23.0 to 88+29.7 Bk. 87+77.3 Ah. to 112+64.1		1,680 795 896	4,388 2,075 2,339	8,168 3,862 4,352		
Frontage Road (57+ to 17+)		1,309		2,336		
Ramps (2+ to 30+) Decel. & Accel. Lanes (1+ to 30+) County Road (17+) Frontage Road (17+ to 41+)		1,297 114 784 941		2,275 389 1,400 1,681		
Ramps (83+ to 108+) Decel. & Accel. Lanes (84+ to 112+) Frontage Road (80+ to 112+) List of Structures		1,552 50 1,506 30	96	2,721 171 2,690 126		
TOTALS		13,151	14,846	40,840		

TIMBER GUARD POSTS & METAL PLATE GUARD FENCE

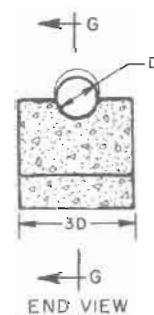
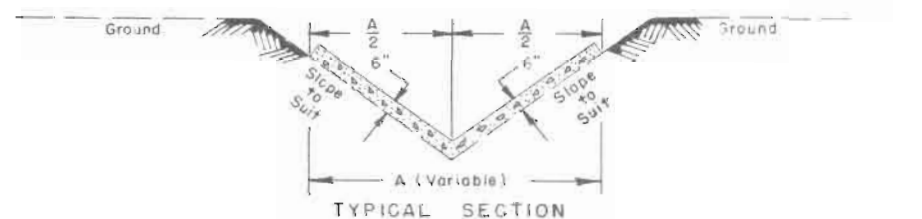
STATION	SIDE	SPACING	REMOVE	NO. POSTS	GUARD FENCE
			EACH		LIN. FT.
Entire Project			31		
43+30.1 to 50+63.3	Lt. & Rt.	Bridges		28	
49+25 to 50+25 50+75 to 60+22.8 Bk. 46+92.6 Ah. to 47+94.8	Rt. Lt. & Rt.	50' 50'		3 44	
54+00 to 59+00 67+00 71+00	Lt. & Rt. Lt. & Rt. Lt. & Rt.	100' Culvert Culvert		12 4 4	
1+ to 25+ 26+90 to 35+00 41+70	Lt. & Rt. Lt. & Rt. Lt. & Rt.	Intersection 90' Culvert		93 20 4	
50+00 64+04 to 66+87 64+04	Lt. & Rt. Lt. & Rt. Lt.	Culvert Bridges		3 28 1	
68+87 67+75 to 69+58 83+ to 108+	Rt. Lt. & Rt. Lt. & Rt.	90' Intersection		1 6 131	
98+	Lt. & Rt.	Overpass			25 25 25 25
TOTALS			31	382	100

RIGHT OF WAY MARKERS

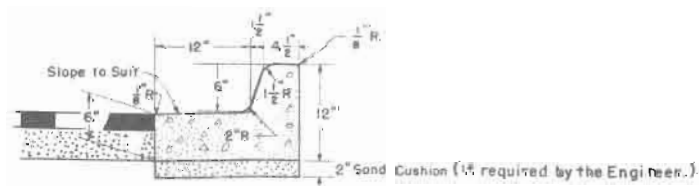
STATION	SIDE	NO. MARKERS	STATION	SIDE	NO. MARKERS
		EACH			EACH
			4+00 25+38.0 P.C. 34+61.3 P.T.	Rt. Rt. Rt.	1 1 1
36+71.9 50+00 Ah. P.O.T. 63+00	Rt. Lt. Lt.	1 1 1	60+50 84+10.9 P.T. 108+00	Lt. Lt. & Rt. Rt.	1 2 1
TOTAL		9			



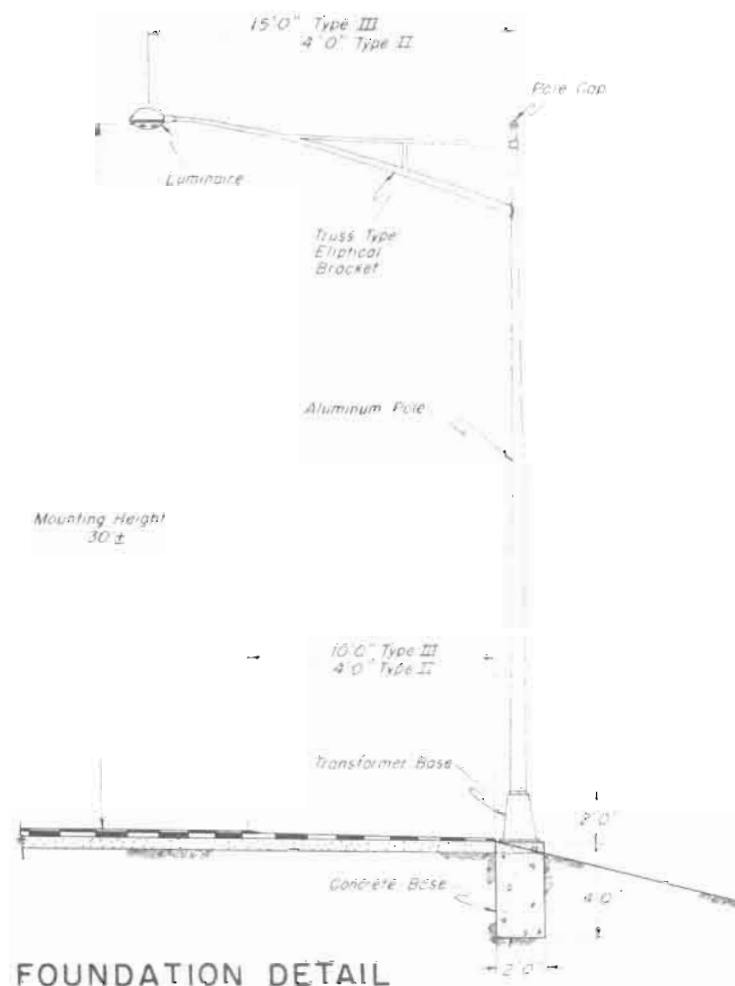
DETAILS OF CONCRETE SLOPE & DITCH PAVING



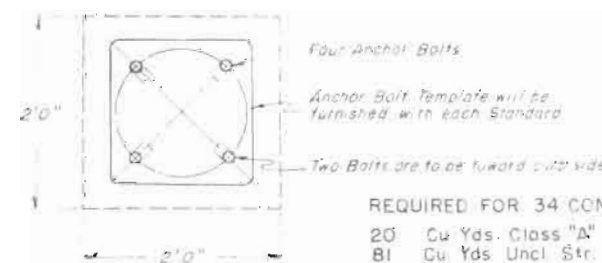
DETAIL OF CONCRETE COMBINATION CURB & GUTTER (6" Barrier - 1' Gutter)(Type I)



TYPICAL LIGHTING STANDARD



FOUNDATION DETAIL



REQUIRED FOR 34 CONCRETE BASES
20 Cu Yds. Class "A" Concrete
81 Cu Yds. Uncl. Str. Excavation
61 Cu Yds. Structure Backfill

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	COLORADO	I-25-2(28)145	5	

Rev. General - 4-3-59 - G.S.
Rev. 6-4-59, G.S. - Added Comb Curb & Gutter & Lights

SUMMARY OF EARTHWORK QUANTITIES

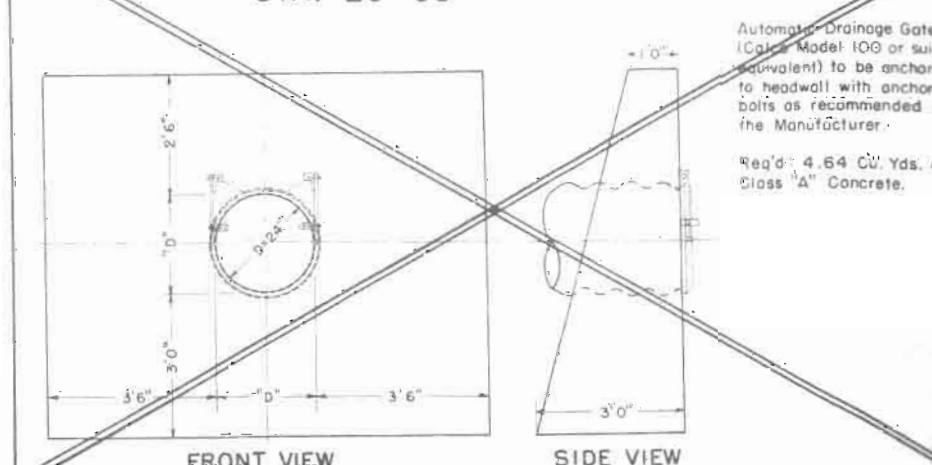
EXCAVATION	596,897
FROM CROSS SECTIONS	824,500
BORROW	83,893
BORROW (Top portion Sub-grade)	142,140
EST. FOR SUBSIDENCE	12,140
LIST OF STRUCTURES AS EXCAVATION	240
LIST OF STRUCTURES AS EMBANKMENT	800
EST. OF CUT SLOPE TREATMENT	455
EST. FOR COVERING ENDS OF CULVERTS	
TOTALS	1,661,065 Cu. Yds.
EXCAVATION	
FROM CROSS SECTIONS	596,897
BORROW	824,500
TOTALS	1,421,397 Cu. Yds.
EMBANKMENT	
FROM CROSS SECTIONS	1,093,382 Cu. Yds.
EMBANKMENT x FACTOR	1,421,397 Cu. Yds.
STATION YARD OVERHAUL	
FROM MASS DIAGRAM	12,137,746
EST. FOR SUBSIDENCE	1,213,775
EST. FOR STRUCTURE BACKFILL	74,256
EST. FOR GROSS HAUL	922,543
TOTALS	14,348,320 Sta. Yd.
YARD MILE OVERHAUL	
FROM MASS DIAGRAM	
EST. FOR SUBSIDENCE	
EST. FOR STRUCTURE BACKFILL	
EST. FOR GROSS HAUL	
TOTALS	
UNCLASSIFIED DITCH EXCAVATION	
INTERCEPTING DITCHES	
*STATION	SIDE
37+ 62+ 70+ 80+	Rt. Rt.
	450 175
SUB-TOTAL FROM LIST OF STRUCTURES	625 2,792
TOTAL	3,417 Cu. Yds.
*Approximate location, may be changed by the Engineer.	
COMPACTION	
TOTAL UNCLASSIFIED EXCAVATION	1,661,065
BASE OF CUTS & FILL	112,789
TOTALS	1,773,854 Cu. Yds.

TABULATION OF LIGHTING REQUIREMENTS

* LOCATION	INCANDESCENT 4,000 LUMEN	LUMINAIRES 20,000 LUMEN		STANDARDS	
		TYPE II	TYPE III	1- ARM	2- ARM
	NO.	NO.	NO.	NO.	NO.
INTERSECTION (31+ to 54+)			2	2	
INTERSECTION (2+ Ah. to 30+ Ah.)	2	2	4	6	
INTERSECTION (86+ to 112+)	2	16	16	28	2
TOTALS	4	18	22	36	2

* See Layouts of Intersections for locations
18 - 4'0" Arms & 20' - 15'0" Arms
130 lin. ft. 3/4" 2,380 lin. ft. 1/2" and 150 lin. ft. 1/2" Electrical Conduit (Metal) with Junction Boxes.
10,950 lin. ft. 1/4" and 940 lin. ft. 1/2" Electrical Conduit (Plastic) with Junction Boxes.

DETAIL AUTOMATIC DRAINAGE GATE STA. 26+38



FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	I-25-2(2B)145	6	

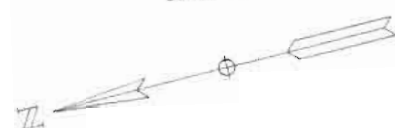
PIT NO. 1

LOCATION: NW 1/4 Sec 30 T.13S., R.66W.
OWNER: HOLLAND DAIRY FARM CO.
QUANTITY AVAILABLE: 135,203 CU. YDS.
PROPOSED USE: BORROW MATERIAL

LOG OF PIT

TEST NO.	DEPTH	CLASSIFICATION
1	0.0' - 5.0'	A-4(4)
1A	5.0' - 15.0'	A-4(7) R=41
2	0.0' - 7.0'	A-6(12)
2A	7.0' - 9.0'	A-2-4(0) R=53
2B	9.0' - 12.0'	A-4(7) R=41
3	0.0' - 6.0'	A-6(12) R=53
3A	6.0' - 9.0'	A-2-4(0) R=41
3B	9.0' - 12.0'	A-4(7) R=41
4	0.0' - 4.5'	A-4(2)
5	0.0' - 6.0'	A-1-a(0) R=81
5A	6.0' - 10.0'	A-4(6) R=68

ORIGINAL SCALE: 1"=100'



PIT NO. 2

LOCATION: W 1/2 Sec 30 T.13S. R.66W., E 1/2 Sec 25 T.13S. R.67W.
OWNER: HOLLAND DAIRY FARM CO.
QUANTITY AVAILABLE: 246,130 CU. YDS.
PROPOSED USE: BORROW MATERIAL & STRUCTURE BACKFILL

LOG OF PIT

TEST NO.	DEPTH	CLASSIFICATION
1	0.0' - 2.5'	A-4(2)
1A	2.5' - 15.0'	A-1-b(0) R=81
2	0.0' - 3.5'	A-1-b(0) R=77
2A	3.5' - 12.0'	A-1-a(0)
3	0.0' - 12.0'	A-4(5) R=57
3A	12.0' - 16.0'	A-1-a(0)



FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	I-25-2(28)145	7	

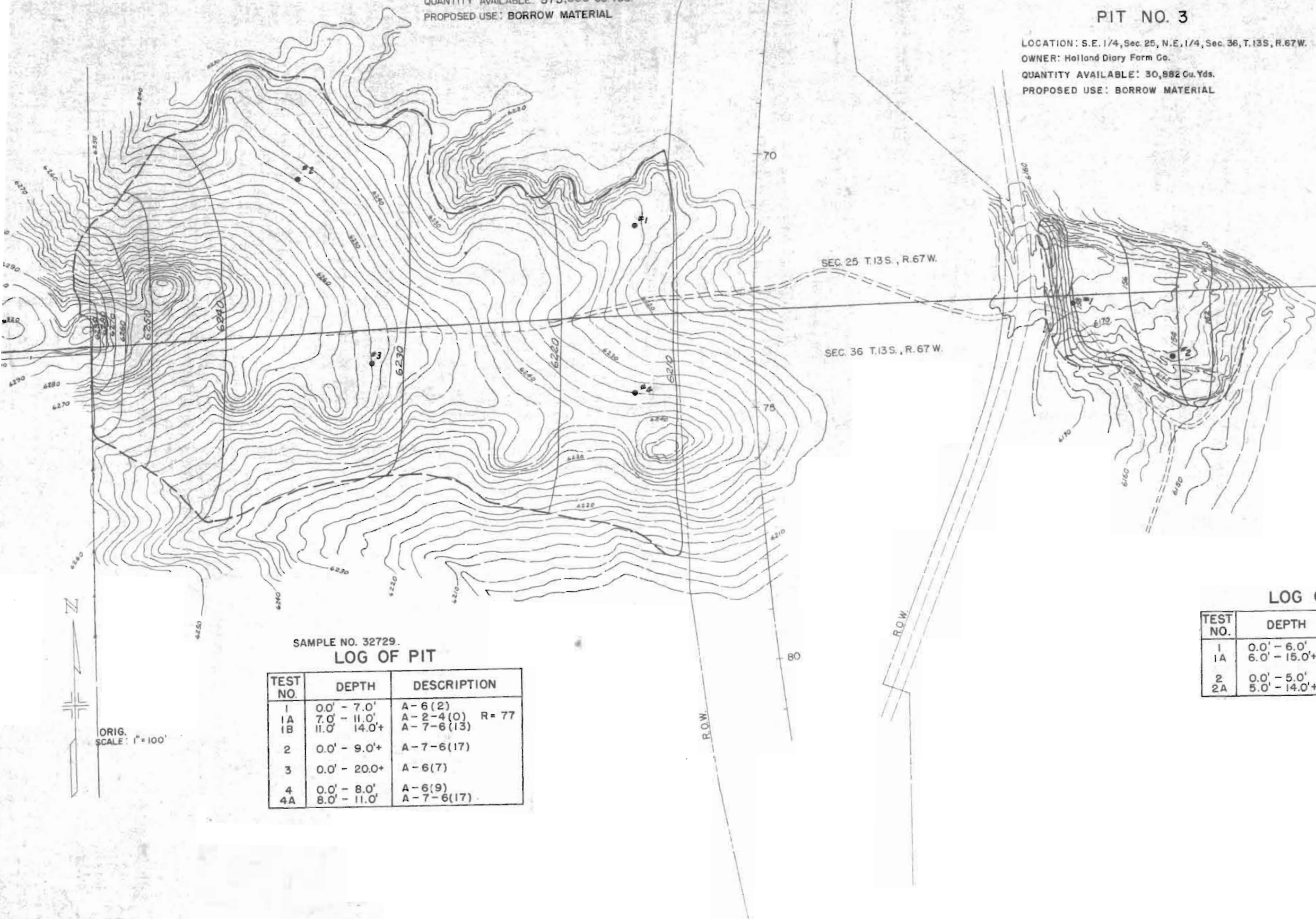
Rev. 2-18-59 G.S., Added Pit No. 3

PIT NO. 4

LOCATION: S 1/2 Sec. 25, NE 1/4 Sec. 36 T.13S., R.67W.
 OWNER: A.L. TROWBRIDGE Contract Purchaser from HOLLAND DAIRY FARM CO.
 QUANTITY AVAILABLE: 575,000 CU YDS.
 PROPOSED USE: BORROW MATERIAL

PIT NO. 3

LOCATION: S.E. 1/4, Sec. 25, N.E. 1/4, Sec. 36, T.13S., R.67W.
 OWNER: Holland Dairy Farm Co.
 QUANTITY AVAILABLE: 30,882 Cu. Yds.
 PROPOSED USE: BORROW MATERIAL



SAMPLE NO. 32729.
 LOG OF PIT

TEST NO.	DEPTH	DESCRIPTION
1	0.0' - 7.0'	A-6(2)
1A	7.0' - 11.0'	A-2-4(0) R=77
1B	11.0' - 14.0'+	A-7-6(13)
2	0.0' - 9.0'+	A-7-6(17)
3	0.0' - 20.0+	A-6(7)
4	0.0' - 8.0'	A-6(9)
4A	8.0' - 11.0'	A-7-6(17)

LOG OF PIT

TEST NO.	DEPTH	DESCRIPTION
1	0.0' - 6.0'	A-1-a(0)
1A	6.0' - 15.0'+	A-4(3)
2	0.0' - 5.0'	A-1-a(0)
2A	5.0' - 14.0'+	A-2-4(0) R=60

LIST OF STRUCTURE QUANTITIES

Rev. 4-3-59, G.S.

FEDERAL ROAD DIST. NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	COLORADO	I-25-2 (28) 145	9	

LOCATION	MISCELLANEOUS	REMOVE STRUCTURE NO.	EXCAVATION CUBIC YARDS			UNCLASSIFIED STRUCTURAL EXCAVATION MISCELLANEOUS CUBIC YARDS	STRUCTURE BACKFILL CU. Y.	GRAVEL OR CRUSHED ROCK SURFACING TONS	ASPHALTIC CONCRETE PAVEMENT (TYPE B) TON	CONCRETE CUBIC YARDS	REINFORCING STEEL LBS.	CONCRETE SLOPE & DITCH PAVING CU. YDS.	CLASS III REINFORCED CONCRETE CULVERT PIPE LINEAR FEET					FLARED END SECTIONS FOR R.C.P. CULVERTS NO.			
			UNCL.	EMB.	AREA DETAIL								18"	24"	36"	48"	60"	18"	24"	36"	48"
150+00 174+	<u>PRESENT ROAD (S.H. NO. 1)</u>		*					φ	φ												
150+00 176+			*					φ	φ												
152+00 169+																					
167+40	1-Plug Culverts.																				
0+00 6+85	<u>RAMP NO. 1</u>		*					φ	φ												
0+00 5+			*					φ	φ												
1+00 5+	990 Lin. Ft. Concrete Combination Curb & Gutter (1 Ft. Gutter)																				
4+80	10 Cu. Yds. Sand Cushion.					30	39			48					72				2		
0+00 12+	<u>RAMP NO. 4 & 5</u>		*					φ	φ												
1+00 14+	2,380 Lin. Ft. Concrete Combination Curb & Gutter (1 Ft. Gutter)																				
4+75	25 Cu. Yds. Sand Cushion.					15	57			81					142						
10+50						65	72			53					50				1		
36+71.9	1-Project Marker (State Forces)					257				170											
39+20										53,200	70,910										
44+83.2-49+10.2																					
58+80						2,180				343											
60+22.8 Bk=										1,035											
46+92.6 Aft.																					
48+50				10		19				34											
56+25						2,070				94					320,000	40,280					
57+00 18+			*					φ	φ												
59+50				10		14				30											
67+00	1-Inlet Grating & Frame (Median)					92	142			90					144	143					
71+00	2-Inlet Grating & Frame (Median)					10	127			137					296	348					
72+25.3 Bk=																					
0+00 Aft.																					
2+42	310 Lin. Ft. 15" Corrugated Metal Culvert Pipe.																				
						160				40											

CONTINUED ON SHEET NO. 10

LIST OF STRUCTURE QUANTITIES

FED. ROAD DIVISION NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
8.	COLO.	1-25-2(28)45	10	

LOCATION	MISCELLANEOUS	REMOVE STRUCTURE NO.	EXCAVATION			UNCLASSIFIED STRUCTURAL EXCAVATION MISCELLANEOUS CUBIC YARDS	STRUCTURE BACKFILL CUBIC YARDS	GRAVEL OR CRUSHED ROCK SURFACING TONS	ASPHALTIC CONCRETE PAVEMENT (TYPE B) TON	CONCRETE CUBIC YARDS	REINFORCING STEEL LBS.	CONCRETE SLOPE & DITCH PAVING CU. YDS.	CLASS III REINFORCED CONCRETE CULVERT PIPE LINEAR FEET					FLARED END SECTIONS FOR R.D. P. CULVERTS NO.			
			CUBIC YARDS																		
			UNCL.	EMB.	MISC. OTHER																
2+ ~ 30+ 7+50			*			26	47	φ	φ				112			1					
16+00 16+ ~ 40+			1,450 *			47	32	67 φ	φ				54								
16+38.5~18+00.6																					
	COUNTY ROAD																				
9+33						66	47						80								
9+56 10+35 10+93~13+56						65 108	48 68					22	82 116								
13+70 14+26 14+82						94 105 102	66 83 61						112 140 104								
14+95~18+00												26									
	MAINLINE																				
28+50				5		36	42					7	164				1				
29+60.15 30+65	28 Lbs. Sheet Copper Waterproofing (Type II) 34 Sq. Yds.					502 479	270 1080		1431.00 1259.00	192,560 162,860											
32+ ~ 34+ 35+50 41+70 43+ 50+00	Adjust & Encase Water. (Force Account)				240	6 10 95 5 41	8 92 69					2	46 70 68 94 64				1 4 3				
56+00 64+50					15 77 5 19		71 48						174 80				1 1				
64+68~66+23 69+00																					
72+00 80+ ~ 112+						5 96	92	φ	φ				76 64				4				
82+50						10 40 222	178						96 76 44				6				

CONTINUED ON SHEET NO. 11

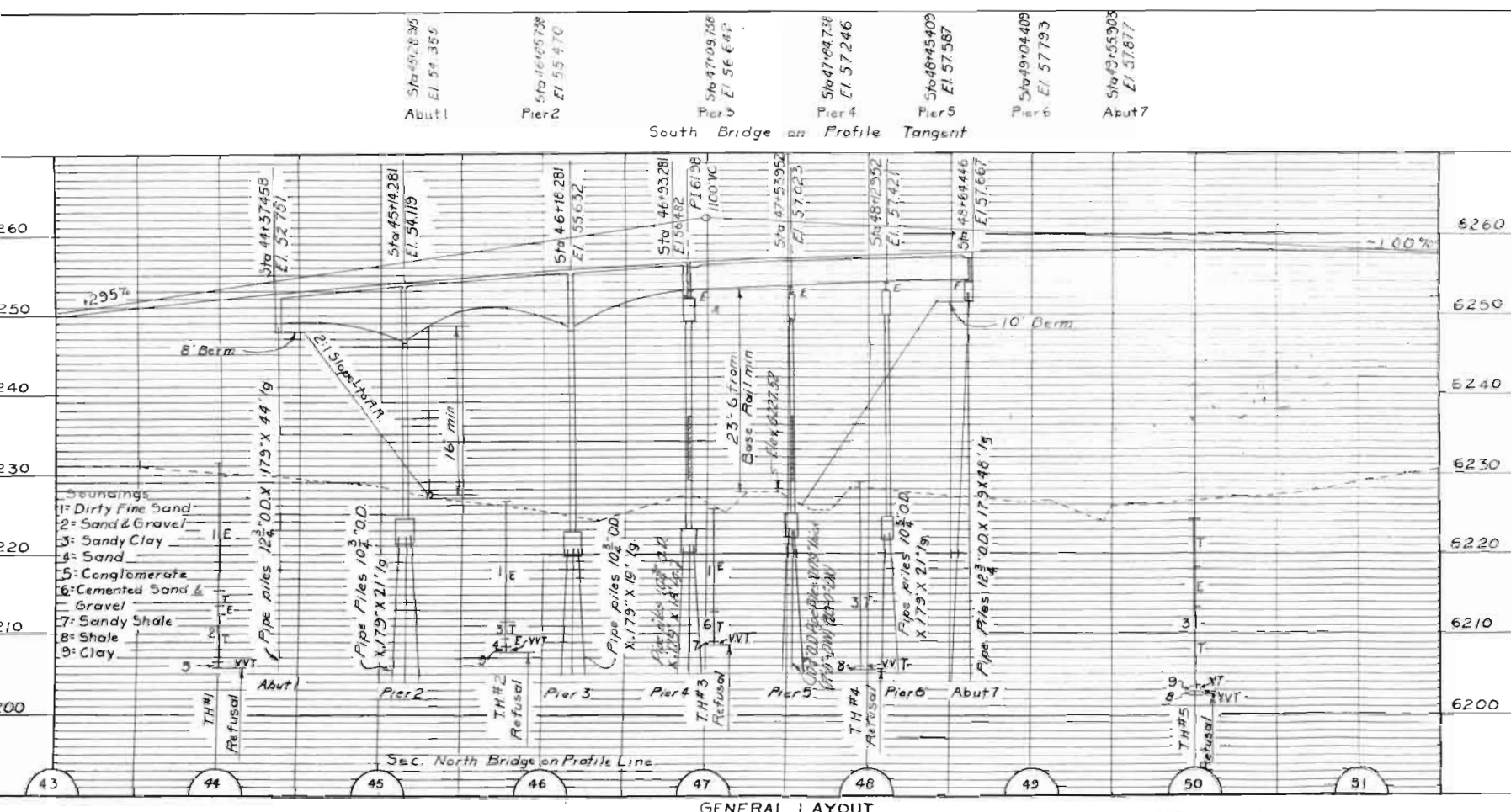
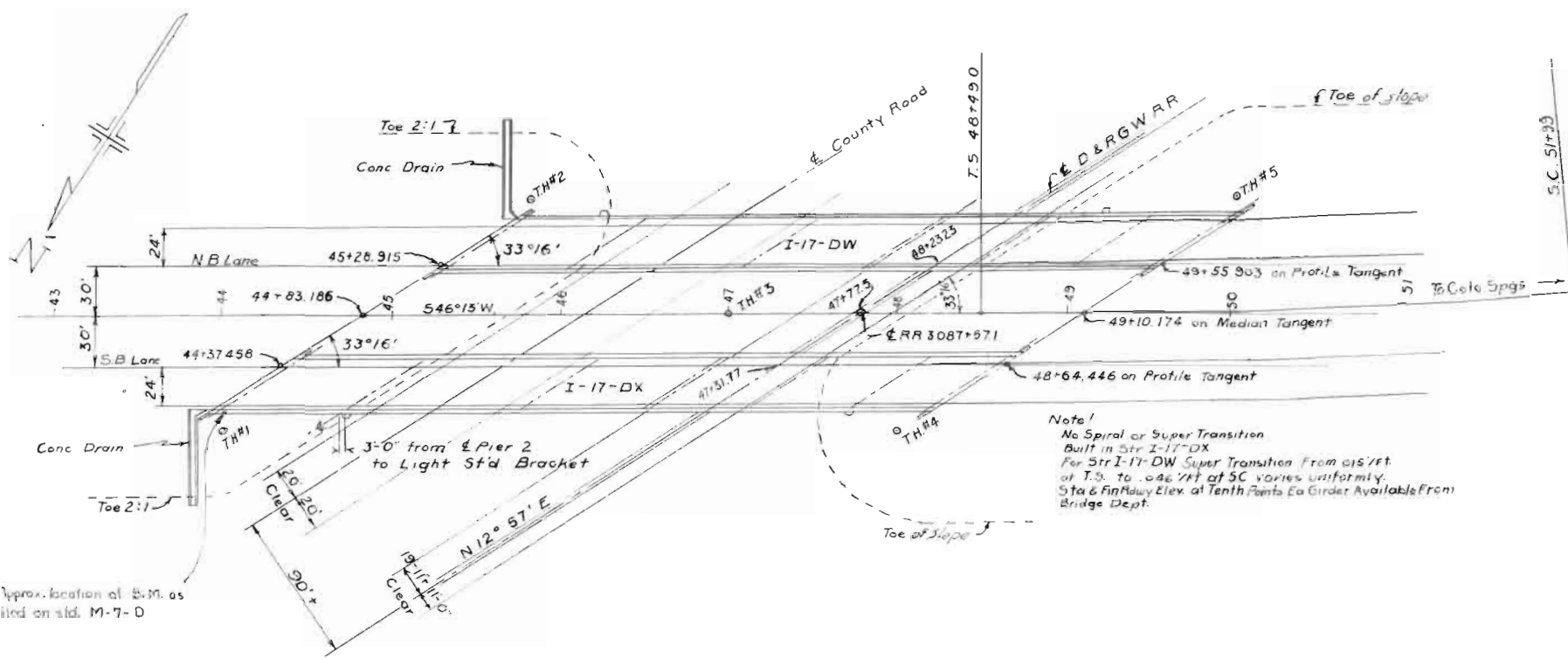
LIST OF STRUCTURE QUANTITIES

Rev 4-3-59, G.S.

TED. ROAD DISTRICT PROJECT NO. SHEET TOTAL
DIVISION NO. 9. COLD I-25-2(28)45 II
Rev 2-18-59, Conc. Steel & 24" R.C.P.-G.S.

LOCATION	MISCELLANEOUS	REMOVE STRUCTURE NO.	EXCAVATION CUBIC YARDS			UNCLASSIFIED STRUCTURAL EXCAVATION MISCELLANEOUS CUBIC YARDS	STRUCTURE BACKFILL CUBIC YARDS	GRAVEL OR CRUSHED ROCK SURFACING TONS	ASPHALTIC CONCRETE PAVEMENT (TYPE B) TON	CONCRETE CUBIC YARDS	REINFORCING STEEL LBS.	CONCRETE SLOPE & DITCH PAVING CU YDS.	CLASS III REINFORCED CONCRETE CULVERT PIPE LINEAR FEET				FLARED END SECTIONS FOR R.C.P. CULVERTS NO.		
			UNCL.	EMB.	OVER SLOPE								18"	24"	36"	48"	18" 24"	36"	48"
83+00		/																	
83+60		/																	
83+ " 108+				*				φ	φ										
86+20		/																	
87+00		/																	
90+00						40 210	153										138 132 60	5	
92+50						19	23								98				
93+68						80	36								152				
94+12.3						QUANTITIES IN SUMMARY													
94+88	1-Timber Barricade (Type I)																		
100+65	48" Reinforced Concrete 114 ft Culvert Pipe (Class IV) - 130 ft					25 365	262										64	8	
104+ " 108+						2,300											64 74		
109+	2-Adjust Manhole Ring & Cover.																		
105+00	60" Reinforced Concrete Culvert Pipe (Class IV) 378 ft		2,400			16	248												
105±				200															
108+40			15			20	21						36				2		
109+20				60				59	30										
ENTIRE PROJECT 112+50	Concrete Bases for Light Standards 2-Inlet Grating & Frame (Median)				10	81 166	61 98		20.00 3.36		332						104 48	1	
TOTALS		4	13,140	240	2,792	4829	6,786	126	30	5,335.76	700,597	66	82	1740	1,094	532	3 19	7	13

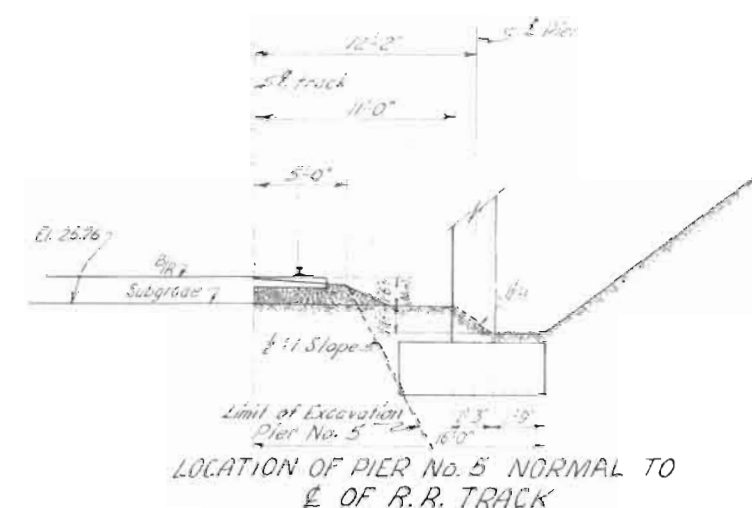
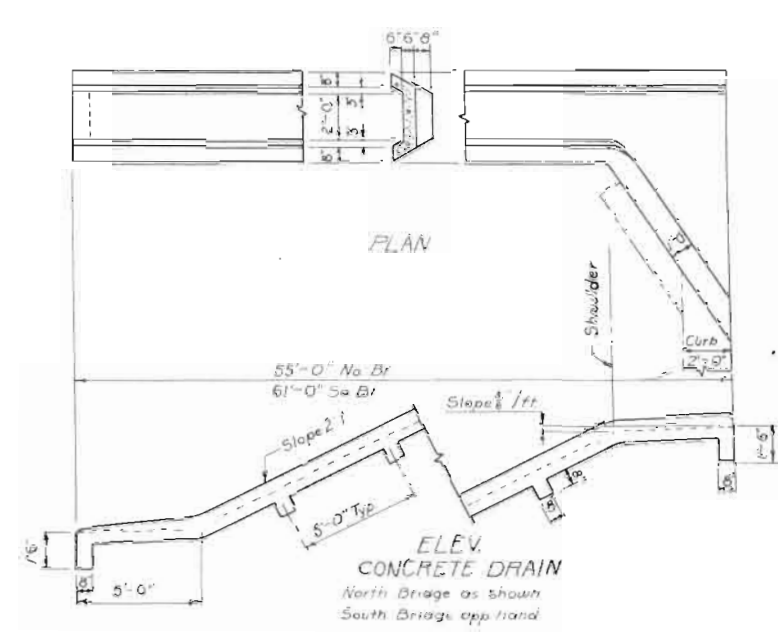
*Included in Roadway Quantities.
φ Included in Surfacing Plan. • Nestable.



GENERAL LAYOUT

Revised Plan Length 10-6-59 M.E.P.

PROJECT NO.	DIVISION	REGION NO.	SHEET NO.	TOTAL SHEETS
1-23-2(22)145	COLO.		39	



GENERAL NOTES

CONCRETE UNDER SHIELDING SHALL REMAIN IN PLACE FULL LENGTH UNTIL ALL GIRDER JOINTS HAVE REACHED A MIN. STRENGTH OF 2500 LBS. PER SQ. IN.

FOR DETAILS OF STRUCTURAL EROSION AND STRUCTURAL BACKFILL SEE STANDARD SPEC. 10-1.1.

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS APPLICABLE TO THIS PROJECT.

ALL CONCRETE SHALL BE CLASS "A" AND AIR ENTRAINING AS SPECIFIED.

SURFACES MARKED WITH THE SYMBOL "A" AS SHOWN ON SHEET NO. 83 SHALL RECEIVE CLASS I SURFACE FINISH.

REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A 305 SOT OR THE LATEST REVISION THEREOF, AND SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE TAGGED WITH THE NUMBER DESIGNATION AND THE STATION NUMBER OF THE PROJECT.

SECONDARY BARS WHEN SPICED SHALL LAP 17 DIAMETERS OF THE BAR. DIMENSIONS FOR REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE TO THE CENTER LINE OF THE BAR.

ALL STRUCTURAL STEEL SHALL BE PAINTED ONE SHOP COAT OF ZINC CHROMATE AND TWO FIELD COATS OF ALUMINUM, UNLESS OTHERWISE NOTED. EXCEPT THE UNEXPOSED PORTION OF STEEL PILING NEED NOT BE PAINTED.

HANDRAIL BOLTS SHALL HAVE HEX HEADS, NUTS AND LOCK WASHERS UNLESS OTHERWISE SPECIFIED AND ALL RIVETS EXCEPT AS NOTED ARE 1/2" DIA. AND SHALL BE POWER DRIVEN WHEN RELATED FIGURES ON PILING IS SHOWN ON THE DRAWING TWO PRESERVATION FOR TRAIL.

MENT SHALL BE CRUSHED OR WHEN EXCAVATING FOR FOOTINGS THE FINAL ONE FOOT IN DEPTH SHALL BE SOFT BY HAND LABOR.

IF BY PERMISSION OF THE ENGINEER PRIMARY BARS ARE SPICED THEY SHALL LAP 28 DIAMETERS FOR BARS NEAR TOP OF BEAMS AND 17 DIAMETERS FOR BARS NEAR BOTTOM OF MEMBERS. HIGH TENSILE STRENGTH BOLTS MAY BE SUBSTITUTED FOR FIELD JOINTS BUT AT NO ADDITIONAL EXPENSE TO THE STATE.

THE BOLTS SHALL BE ASSEMBLED IN ACCORDANCE WITH SPECIFICATIONS APPROVED BY THE RESEARCH COUNCIL ON RIVETS AND BOLTS STRUCTURAL JOINTS OF THE ENGINEERING FOUNDATION JAN 31 1955.

STRUCTURE NO. N.B. I-17-DX

COLORADO
DEPARTMENT OF HIGHWAYS

5 SPANS @ (79'-0" - 75') CONTINUOUS
CONCRETE SLAB GIRDER BRIDGE &
2 SPANS @ (50'-0" - 48') CONTINUOUS &
BEAM & CONCRETE SLAB BRIDGE
30'-0" ROADWAY GENERAL LAYOUT &
GENERAL NOTES, 8-3-16' SKEW

County Road & D&RGW RR
Sta 44+83.186 to 49+19.174
Near Colo 50+00 Sec 18-15 T.135 R.66W

Designed by _____
Checked by _____

Approved by _____
Date: May 17, 1958

Revised 5-7-59 Item 47 M.C.P.
Revised 10-6-59 Items 46, 47, 61 M.C.P.

FED. ROAD DISTRICT NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	COLO.	I-25-2(28)145	40	

SUMMARY OF QUANTITIES																					
			I-17-DW									I-17-DX									
Item	Description	Unit	Super Structure	Abut. No. 1	Pier No. 2	Pier No. 3	Pier No. 4	Pier No. 5	Pier No. 6	Abut. No. 7	Totals	Super Structure	Abut. No. 1	Pier No. 2	Pier No. 3	Pier No. 4	Pier No. 5	Pier No. 6	Abut. No. 7	Totals	
14	Unclassified Structural Exc. (Bridges)	Cu Yd			103	82	76	64	57		382			114	83	76	64	57		400	
16	Structure Backfill (Class I)	Cu Yd			60	43	48	40	35		226			71	48	48	40	35		242	
		Hrs																			
18	Station Yard Overhaul	Sta. Yd									2500									2700	
18	Yard Mile Overhaul	Yd. Mi.									20									30	
30	Asphaltic Road Material (RC)	Gal.	143								143	143								143	
34	Asphaltic Concrete Pavement (Type B)	TON	1430								143	1430								143	
42	Treated Bridge Timber	Mft. Lm.		0.213						0.335	0.554		0.213						0.328	0.547	
46	Class "A" Concrete	Cu. Yd.	7359	315	451	470	730	624	459	282	1069	7359	310	426	445	713	621	441	275	1059	
47	Reinforcing Steel (incl $\frac{1}{2}$ % for overrun)	Lbs	224,460	3380	7960	8405	10615	9200	6950	5880	276,850	224,370	3380	7360	7810	10250	9020	6680	5775	224,050	
48	Structural Steel (incl $\frac{1}{2}$ % for paint)	Lbs	181,800	580						580	182,360	181,800	580						580	182,360	
⑦	Drilling Holes to Facilitate Pile Driving	Lin. Ft.		90						122	212		90						122	212	
61	Steel Pipe Piling 10 $\frac{3}{4}$ " O.D. x 0.179"	Lin. Ft.			504	448	268	255	216		1711			588	532	384	300	252		1896	
61	Steel Pipe Piling 12 $\frac{3}{4}$ " O.D. x 0.179"	Lin. Ft.		264						240	504		264						240	504	
89	Drain Pipe (Conc Floor - 4" Φ x 1'-6")	Each	1								1		1							1	
90	1 $\frac{1}{2}$ " Electrical Conduit With Junction Boxes	Lin. Ft.	440								440	435								435	
⑤	16 Ga Galv Sheet Metal	Sq. Ft.								102	102								102	102	
⑨	$\frac{1}{2}$ " Expn Joint Mat'l (Type III)	Sq. Ft.								4	4								4	4	

- ① Includes 142 Cu Yd. for Slope Drain at Abut No 1
② Includes 34,130 lb of handrail steel (I-17-DW)
Includes 34,090 lb of handrail steel (I-17-DX)
③ 10" BP @ 42# may be used as an alternate
④ Includes 26 Cu Yd. of Class "A" Conc. to fill pipe piles (Not applicable if BP are used)
⑤ 12" BP @ 53# may be use as an alternate
⑥ Includes 312 Cu Yd. of Class "A" Conc. to fill pipe piles (Not applicable if BP are used)
⑦ To be included in the Bid Price for Item 61.
⑧ To be included in Bid Price for Item 46
⑨ Expn Joint Mat'l shall be in accordance with AASHTO specifications M-153-54
and of the type shown and shall be included in the Bid Price for Item 46

COLORADO
DEPARTMENT OF HIGHWAYS

SUMMARY OF QUANTITIES

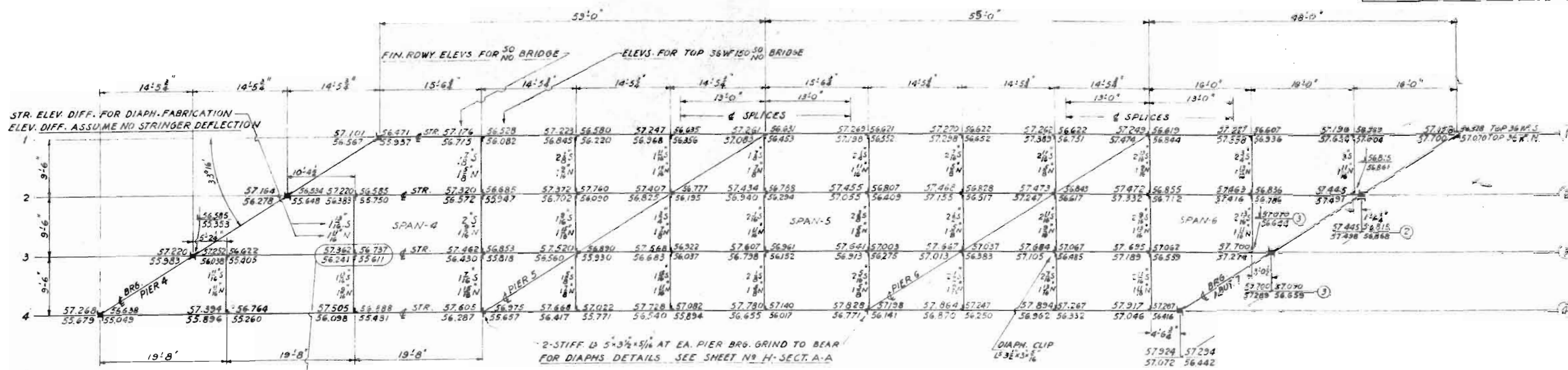
Across County Road 6 D.E.R.O.W. BR
Sta. 4+84.182 to 4+91.047
Near Colo Springs Sec. 18/19 T. 13S R. 66W

Designed by
Made by
Checked by
Approved by
Bridge Engineer
Date: May 19, 1958

I-17-DW
I-17-DX

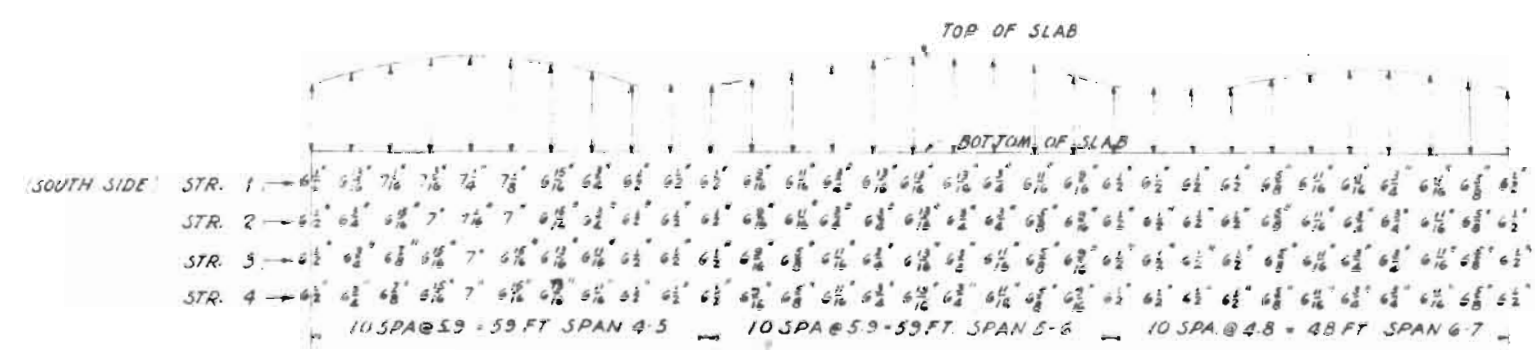
STRUCTURE NO.

NO. ROAD DIST. MILE	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	I-26-2(28)145	44	

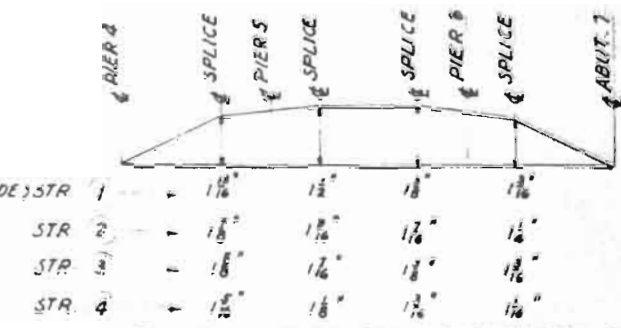


DIAPHRAGM LAYOUT

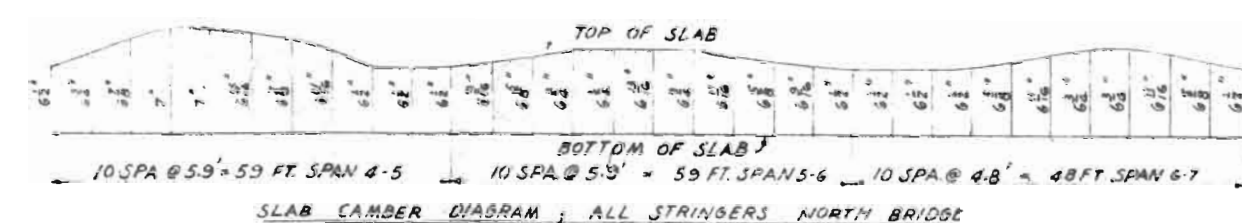
DIAPHS.
 EL. FIN. RDW. SO. BR. EL. TOP 36\"/>



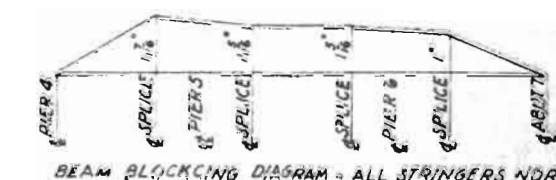
SLAB CAMBER DIAGRAM, ALL STRINGERS SOUTH BRIDGE



BEAM BLOCKING DIAGRAM, ALL STRINGERS SOUTH BR.



SLAB CAMBER DIAGRAM, ALL STRINGERS NORTH BRIDGE



BEAM BLOCKING DIAGRAM, ALL STRINGERS NORTH BR.

COLORADO
DEPARTMENT OF HIGHWAYS
 DIAPHRAGM LAYOUT
 ELEV. FIN. RDW. & TOP OF STRINGERS
 SLAB CAMBER DIAGRAM &
 BEAM BLOCKING DIAGRAM

Across County Road and D.R.G.W. & B.
 Sta. 44+85.186 to 51+43+0.174
 Near Cole Springs, Sec. 18, T. 19, S. 13, E. 66W

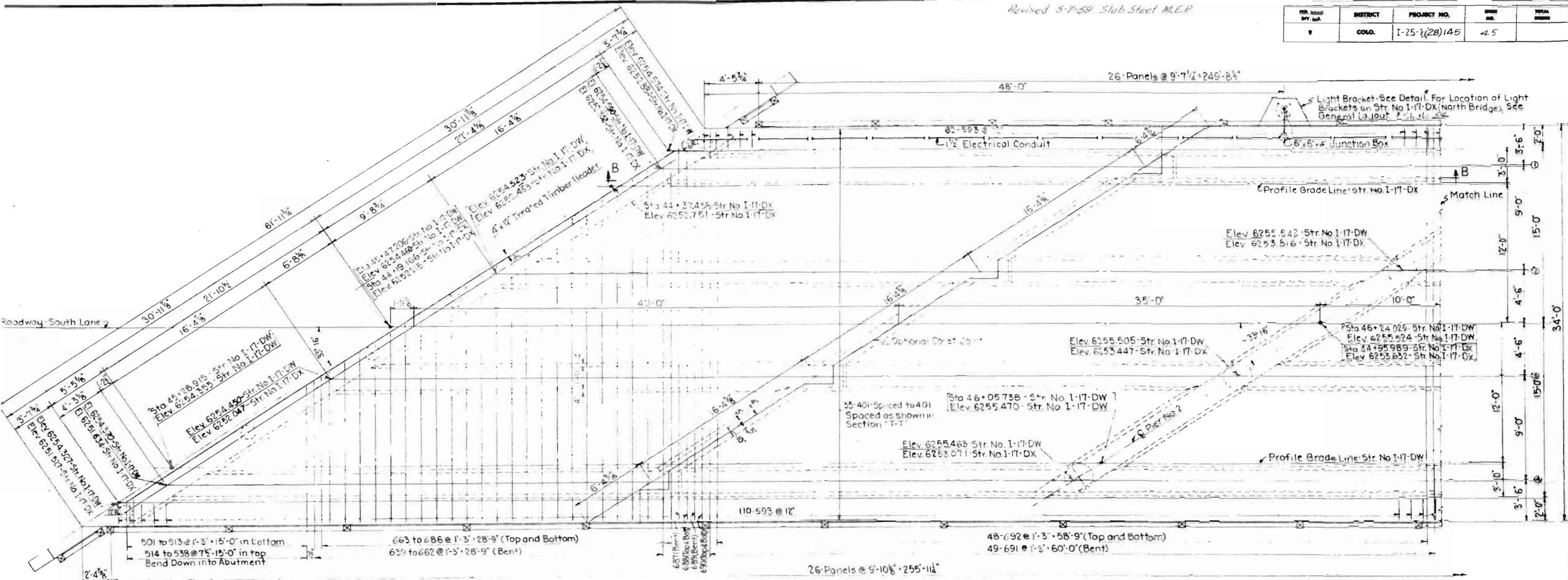
Designed by G.H.V.
 Made by CCM
 Checked by

Approved by [Signature]
 Bridge Engineer

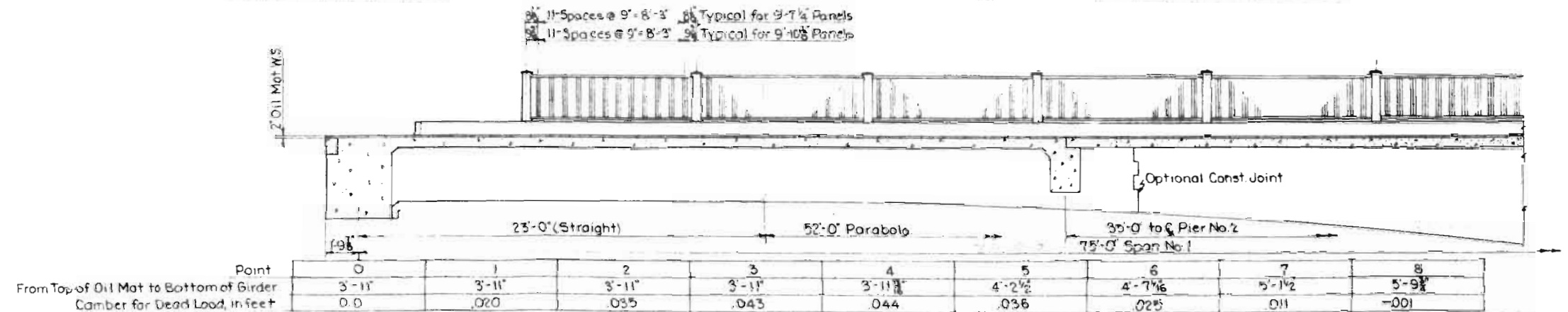
Date: May 17, 1958

STRUCTURE NO. 1-17-DW (SO. BR.)
 1-17-DX (NO. BR.)

NO. ROAD DIST. STA.	DISTRICT	PROJECT NO.	DATE	TOTAL SHEETS
9	COLO.	I-25-1(28)145	45	



PART PLAN OF SUPERSTRUCTURE - STR NO I-17-DW (SOUTH BRIDGE) OR STR NO I-17-DX (NORTH BRIDGE) SIMILAR EXCEPT AS NOTED



SECTION B-B

COLORADO
DEPARTMENT OF HIGHWAYS
 CONTINUOUS CONCRETE SLAB &
 GIRDER BRIDGE - 3 SPANS - 75'-10 1/4'
 30'-0" ROADWAY 33° 16' SKEW

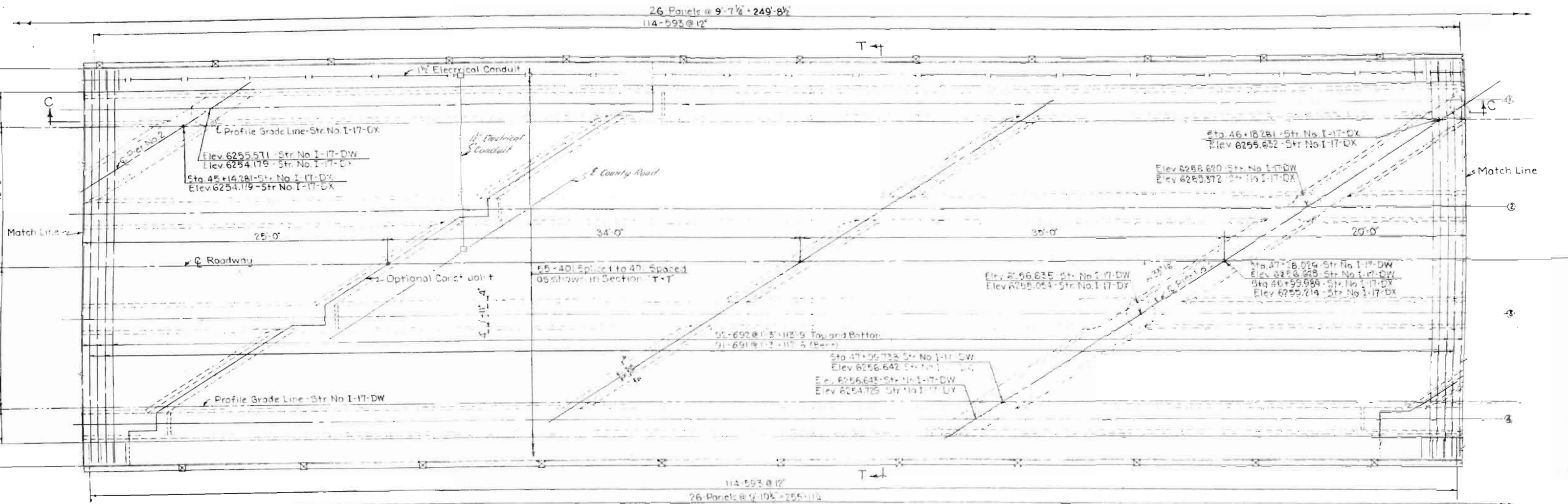
PART PLAN & ELEV-SUPERSTRUCTURE
 Arroyo County Road and D.R.G.W. R.R.
 Sta. 44+83.186 to Sta. 49+10.174
 Near Colo Springs, Sec. 18, T. 13S, R. 56W

Designed by G.H.W. Approved by A.D. Newcomb
 Made by B.D.E. Bridge Engineer
 Checked by Date May 19, 1958

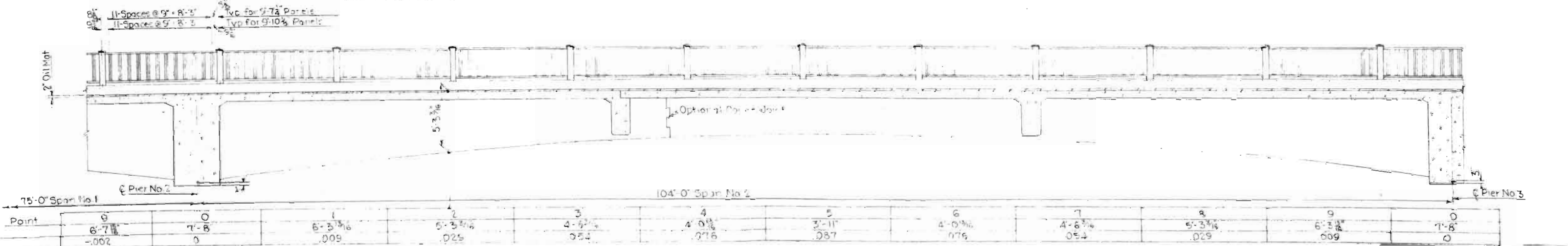
I-17-DW - South Bridge
 STRUCTURE NO I-17-DX - North Bridge

NO. ROAD BY. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COND.	I-25-2(28)145	46	

Rev. Right Details, 2-18-59 M.E.D.



PART PLAN OF SUPERSTRUCTURE - STR. NO. I-17-DW (SOUTH BRIDGE) - STR. NO. I-17-DX (NORTH BRIDGE) SIMILAR EXCEPT AS NOTED



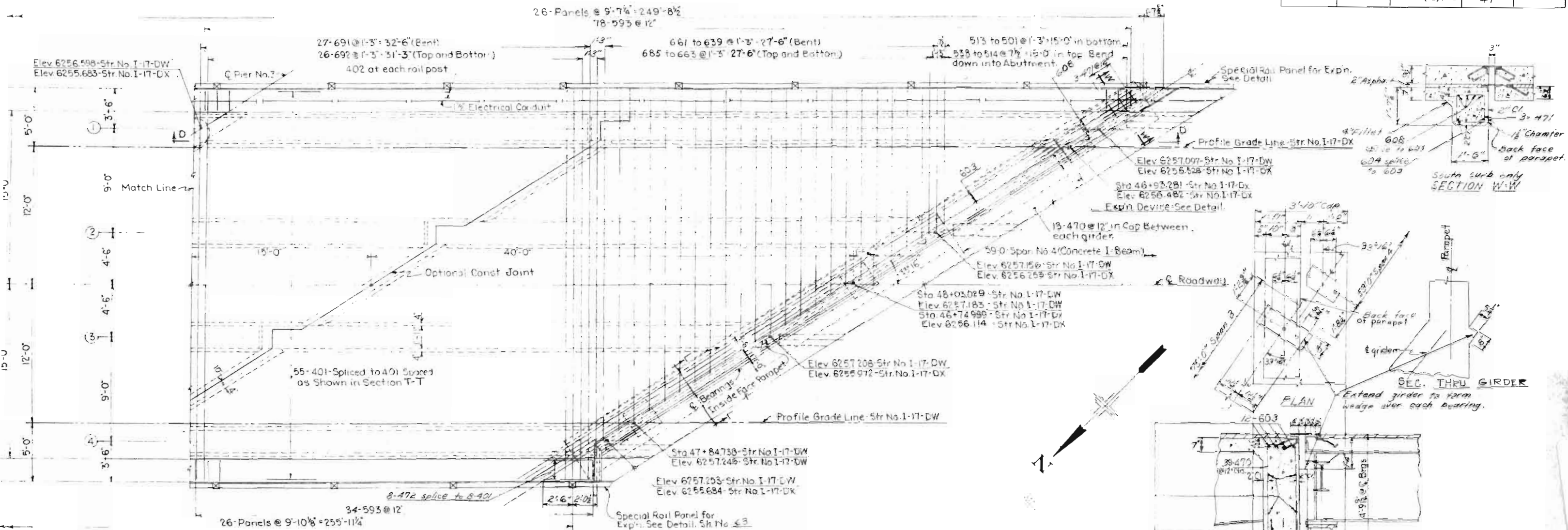
SECTION C-C

COLORADO
DEPARTMENT OF HIGHWAYS
 CONTINUOUS CONCRETE SLAB &
 GIRDER BRIDGE 3 SPANS 75, 104, 75
 39'-0" ROADWAY 33° 16' SKEW
 PART PLAN & ELEV. SUPERSTR.
 Across County Road and D & R G. W. RR
 Sta. 44+85.186 to Sta. 49+10.174
 Near Colo. Springs, Sec. 18, T. 35 S., R. 68 W.
 Designed by G.H.W.
 Made by R.D.E.
 Checked by
 1-17-DW: South Bridge
 1-17-DX: North Bridge
 Approved by D.D. Heston
 Bridge Engineer
 Date May 17, 1959

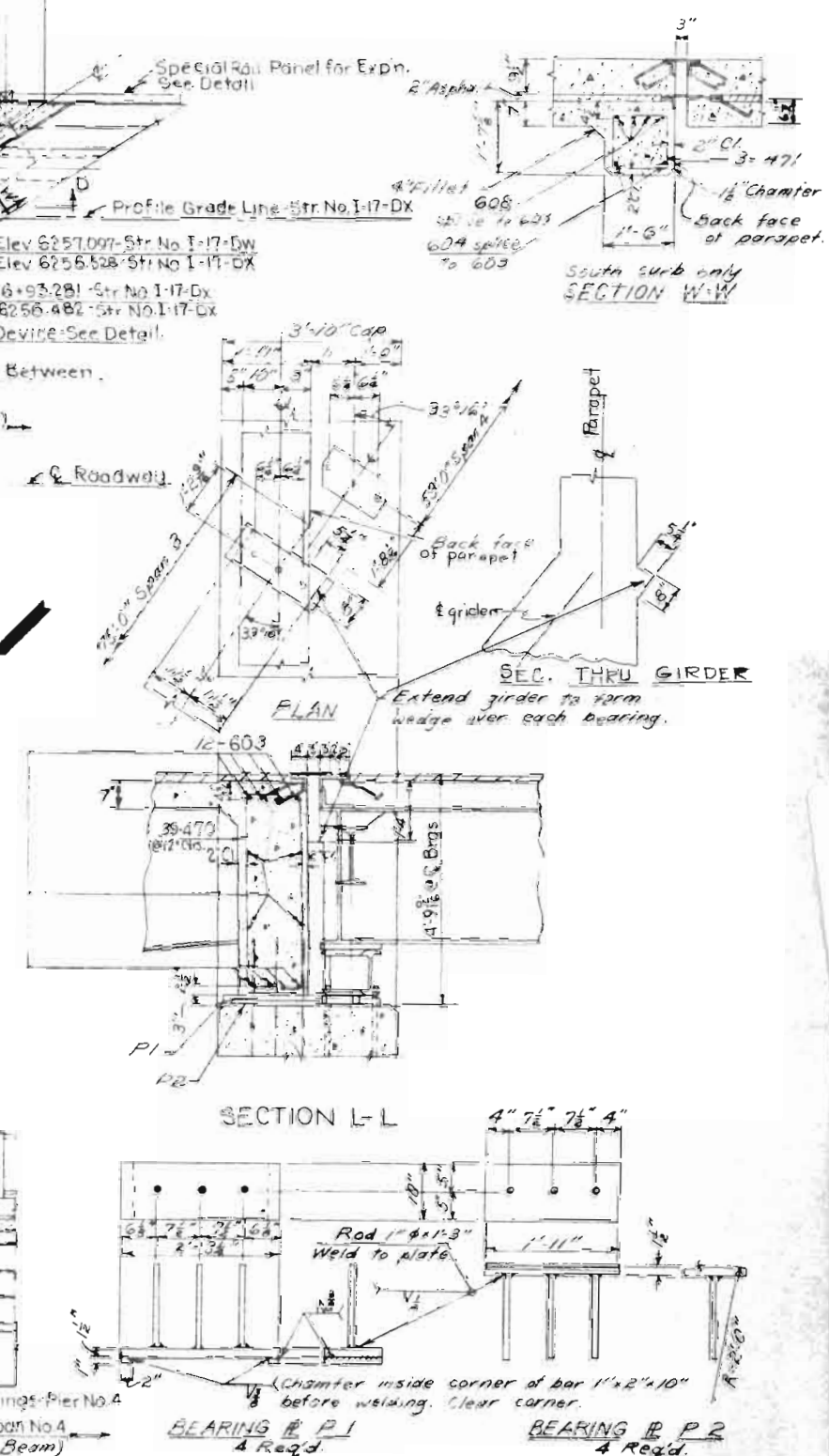
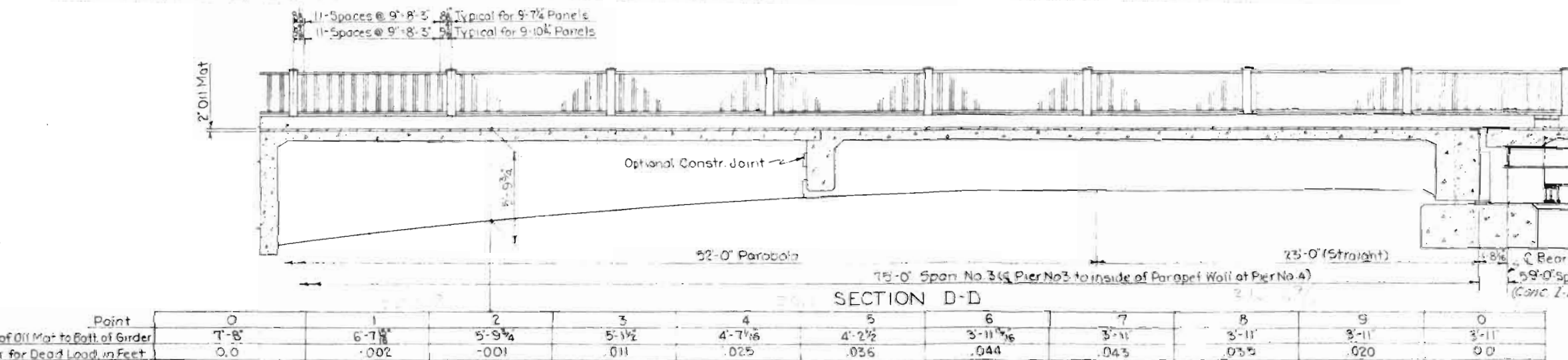
STRUCTURE NO.

Revised 5-7-59 Slab Steel M.E.R.

FILE NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1-25-2(28)145	47	



PART PLAN OF SUPERSTRUCTURE -STR NO. I-17-DW(SOUTH BRIDGE)-STR NO. I-17-DX(NORTH BRIDGE) SIMILAR EXCEPT AS NOTED



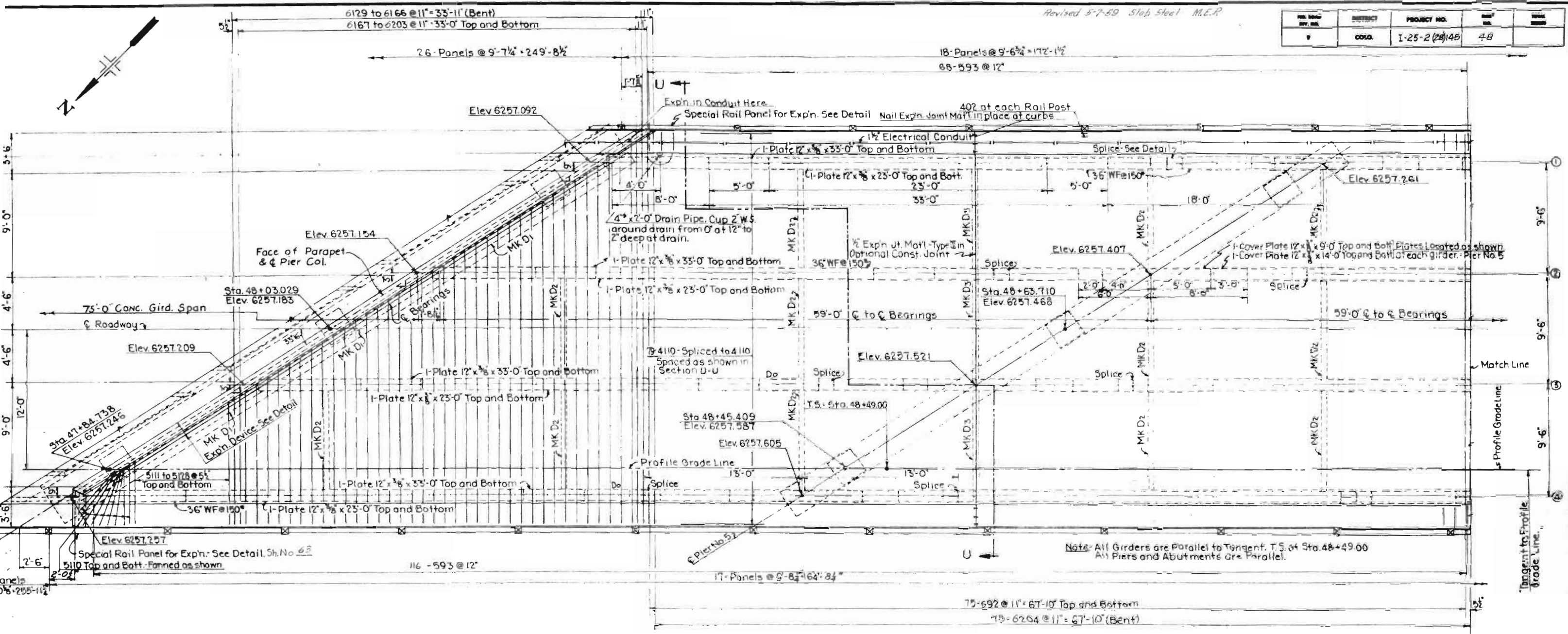
Point	0	1	2	3	4	5	6	7	8	9	0
of Off Mat to Bott of Girder	T-8'	6'-7 1/8"	5'-9 1/4"	5'-3 1/2"	4'-7 1/8"	4'-2 1/2"	3'-11 1/8"	3'-11"	3'-11"	3'-11"	3'-11"
for Dead Load in Feet	0.0	.002	.001	.011	.025	.036	.044	.043	.035	.020	0.0

COLORADO
DEPARTMENT OF HIGHWAYS
 CONTINUOUS CONCRETE SLAB &
 GIRDER BRIDGE - 3 SPANS 75.104, 75
 30'-0 ROADWAY 33°16' SKEW
 PART PLAN & ELEV. OF SUPERSTR.

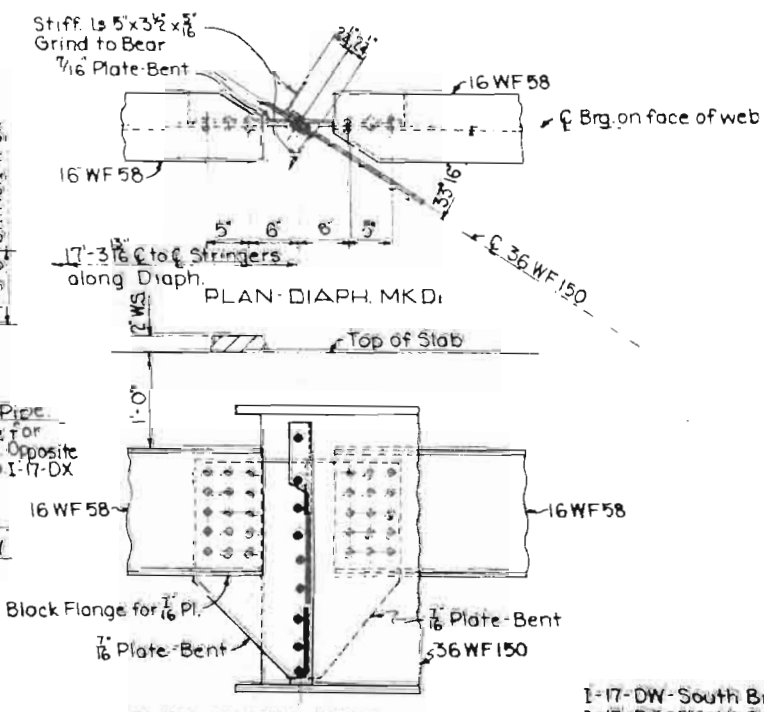
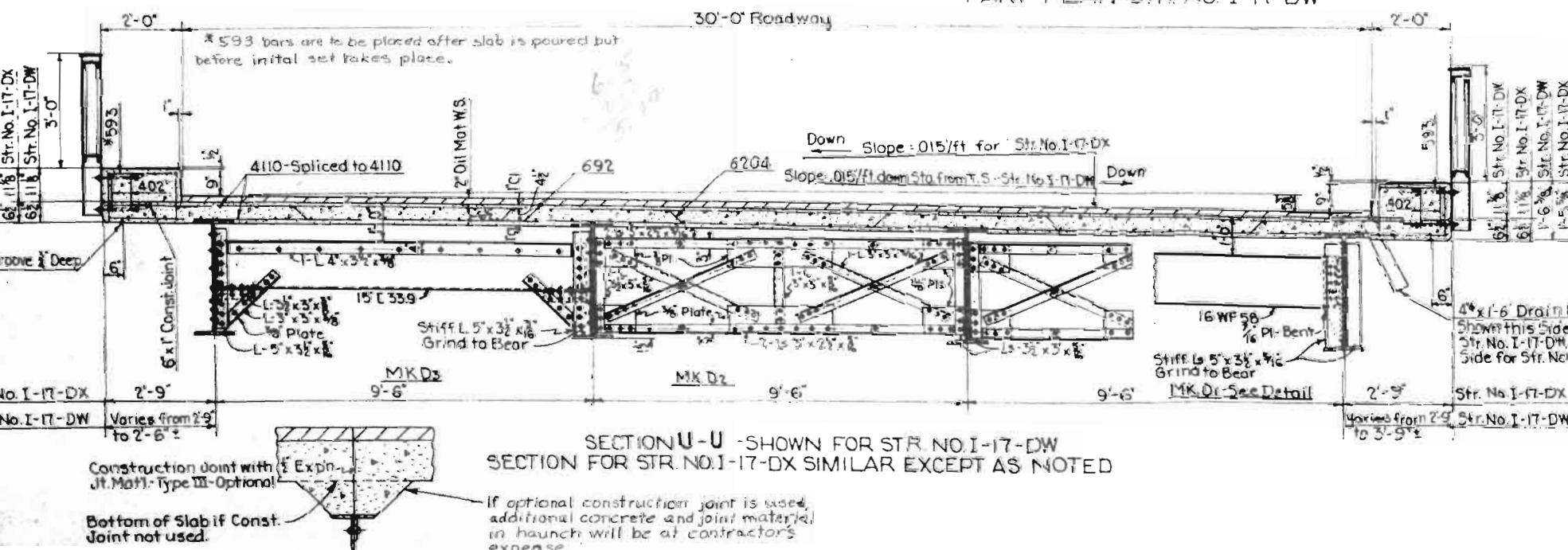
Across County Road and to R.G.W. RR.
 Sta. 44+83.186 to Sta. 49+10.174
 Near Colo. Springs, Sec. 18, T. 13S, R. 66W

Designed by G.H.W. Approved by B.D.E.
 Made by B.D.E. Bridge Engineer
 Checked by Date May 19, 1958

STRUCTURE NO. I-17-DW-South Bridge
 I-17-DX-North Bridge

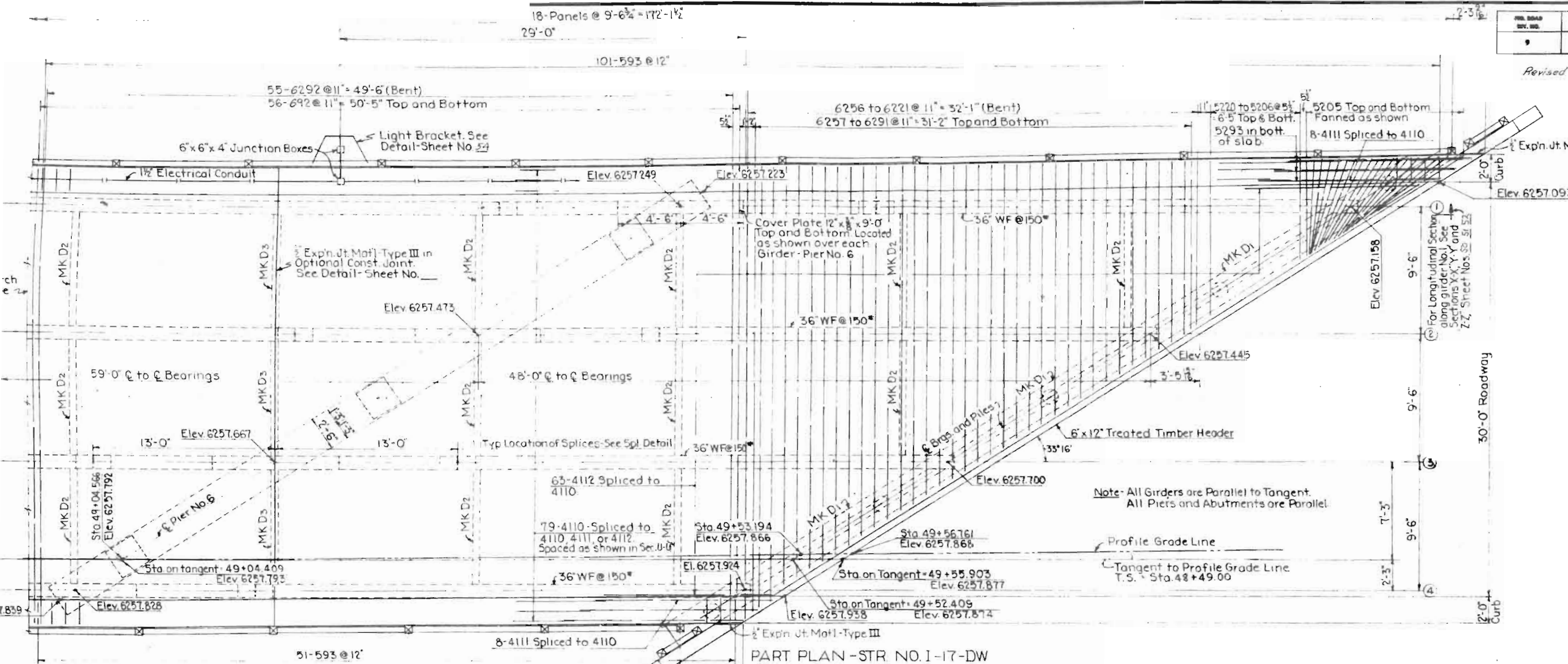


PART PLAN-STR. NO. I-17-DW

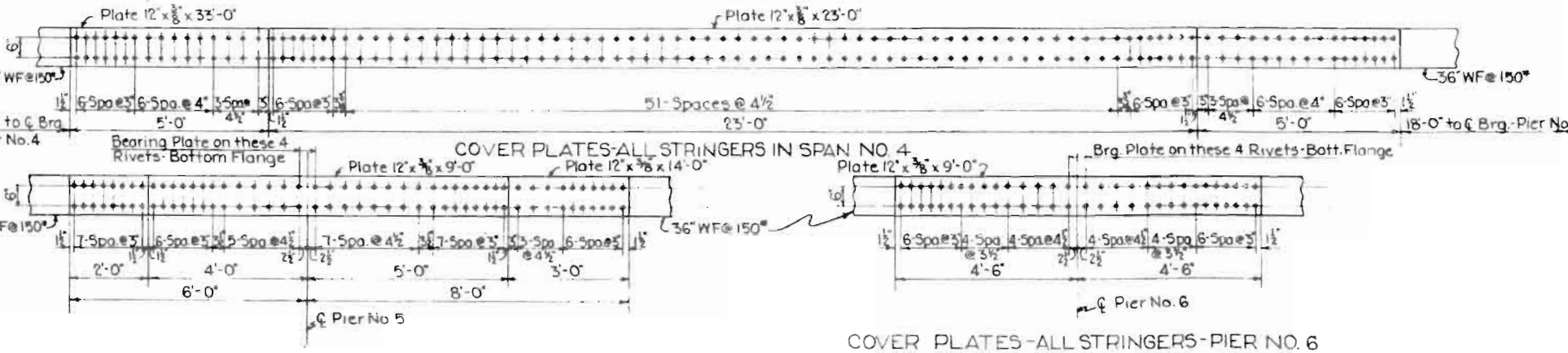


FILE NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	C.O.D.	I-25-2(28)145	49	

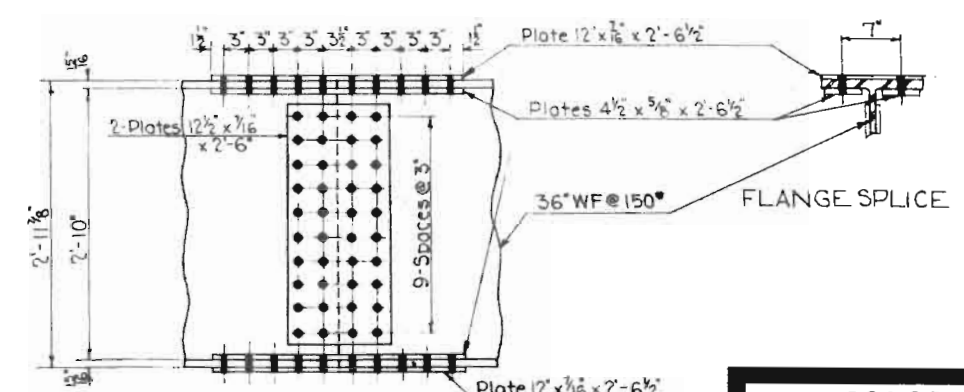
Revised 5-7-59 Slab Steel M.E.P.



Station on Tangent to Profile	48+50	48+60	48+70	48+80	48+90	49+00	49+10	49+20	49+30	49+40	49+50	49+60	49+70	49+80	49+90
1. Distance-Profile Tangent to South Curb	27.000	27.000	27.003	27.009	27.020	27.039	27.066	27.105	27.156	27.221	27.302	27.401	27.520	27.661	27.825
Finished Roadway Elevation-South Curb	6257.200	6257.218	6257.232	6257.243	6257.250	6257.254	6257.254	6257.250	6257.242	6257.231	6257.217	6257.198	6257.176	6257.150	6257.121
Finished Roadway Elevation-Girder No.1	6257.211	6257.230	6257.245	6257.256	6257.264	6257.269	6257.270	6257.268	6257.263	6257.254	6257.242	6257.227	6257.209	6257.188	6257.164
Finished Roadway Elevation-Girder No.2	6257.355	6257.382	6257.405	6257.425	6257.441	6257.455	6257.464	6257.470	6257.473	6257.475	6257.470	6257.464	6257.454	6257.442	
Finished Roadway Elevation-Girder No.3	6257.498	6257.533	6257.565	6257.594	6257.619	6257.640	6257.658	6257.673	6257.684	6257.693	6257.698	6257.700			
Finished Roadway Elevation-Girder No.4	6257.641	6257.685	6257.725	6257.762	6257.796	6257.825	6257.852	6257.875	6257.895	6257.912	6257.925				
1. Distance-Profile Tangent to North Curb	3.000	3.000	2.997	2.991	2.980	2.961	2.934	2.896	2.845	2.780	2.700				
Finished Roadway Elevation-North Curb	6257.653	6257.697	6257.738	6257.775	6257.809	6257.839	6257.866	6257.889	6257.908	6257.924	6257.936				



COVER PLATES-ALL STRINGERS PIER NO. 5



Note- Sub-punch Splice Holes 1/8" and Ream to 1/8" with Ports Assembled and Blocked.

36WF150-WEB SPLICE
All Rivets 1/8"

COVER PLATES-ALL STRINGERS PIER NO. 6

COLORADO DEPARTMENT OF HIGHWAYS

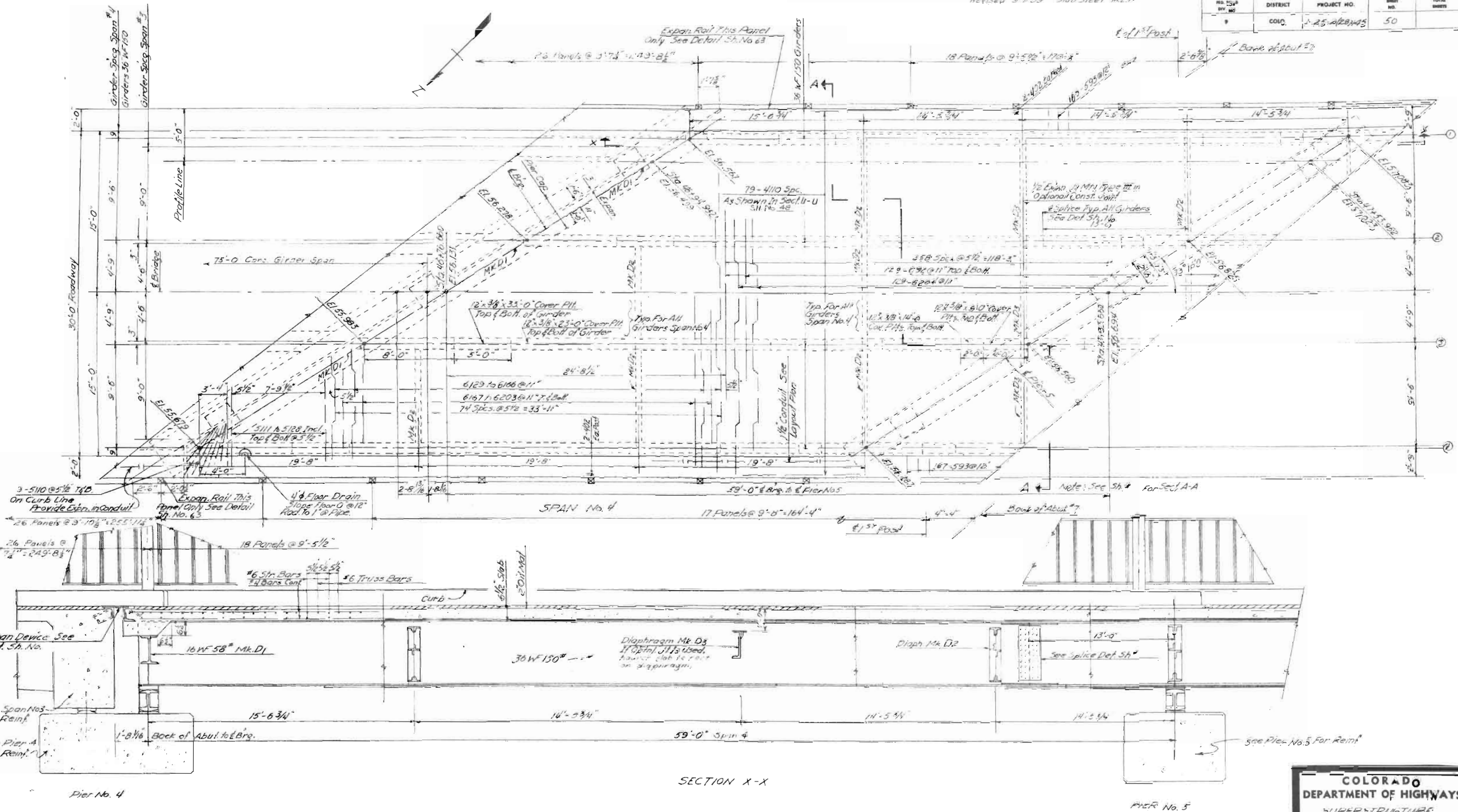
PART PLAN-SUPERSTRUCTURE
WEB SPLICE & COVER PL. DETAILS

Access: County Road and D.B.R.G.W. RR.
Sta. 44+85.186 to Sta. 49+10.174
Near Colo. Springs, Sec. 18/19, T.13S, R.66W

Designed by G.H.W. Approved by B.D.E. Bridge Engineer
Made by B.D.E. Checked by Date May 17, 1958

Revised 5-2-59 Sub Steel M.E.I.

NO. 154	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1-25-200445	50	



SECTION X-X

COLORADO
DEPARTMENT OF HIGHWAYS

SUPERSTRUCTURE
SPAN No. 4

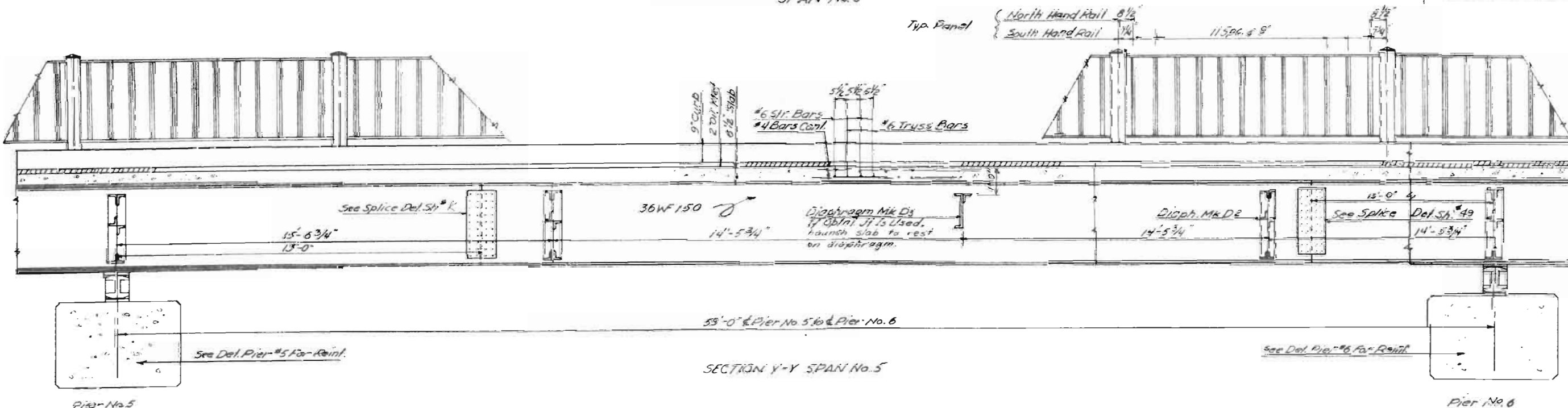
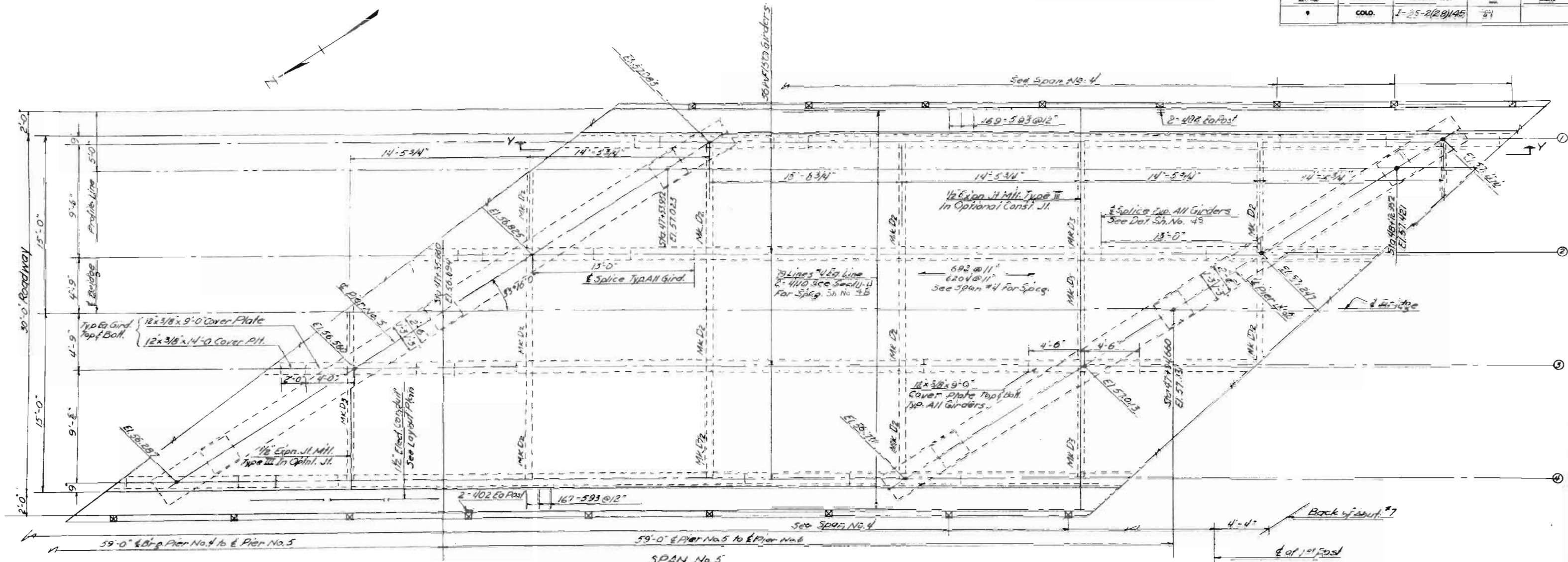
Across County Road 45, R.G.W. RR
Sta. 44+83.19 to 49+10.17
near Colo. Springs, 1919, 1955, 1964

Designed by B.W.
Made by L.R.
Checked by

Approved by B.W. Knepper
Bridge Engineer
Date: May 19, 1958

STRUCTURE NO. 1-17-BX

REV. NO.	DATE	PROJECT NO.	BY	CHKD.
1	COLO.	I-25-2(20)145	54	



59'-0" & Pier No. 5 to Pier No. 6

SECTION Y-Y SPAN No. 5

See Del. Pier #6 for Reinf.

Pier No. 6

COLORADO
DEPARTMENT OF HIGHWAYS

SUPERSTRUCTURE
SPAN No. 5

County Road 10, G.R.G. RR.
Sta. 1193.12 to 1240.12
Year Colo. Springs, Sec. 18, T. 13 S., R. 66 W.

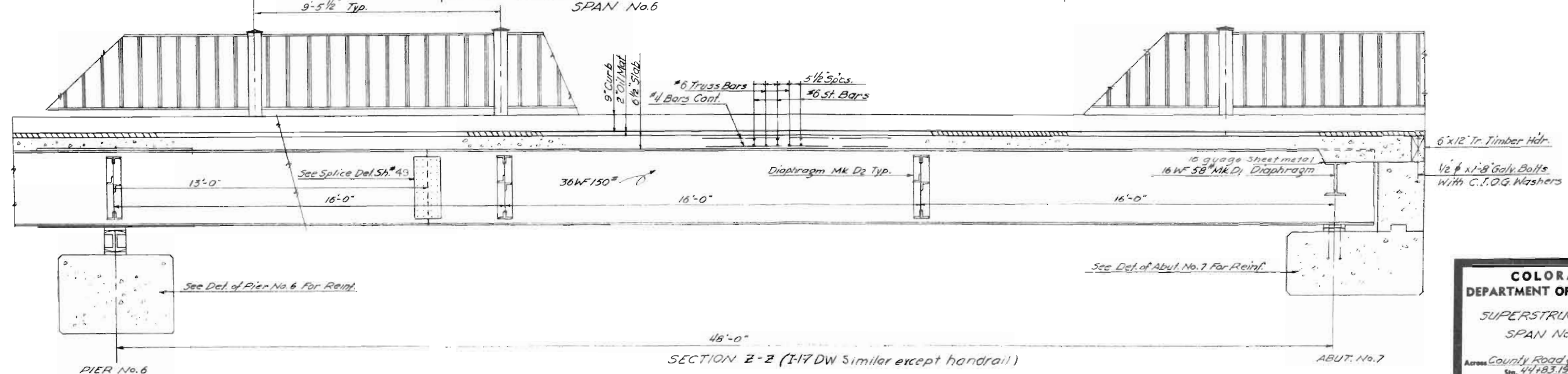
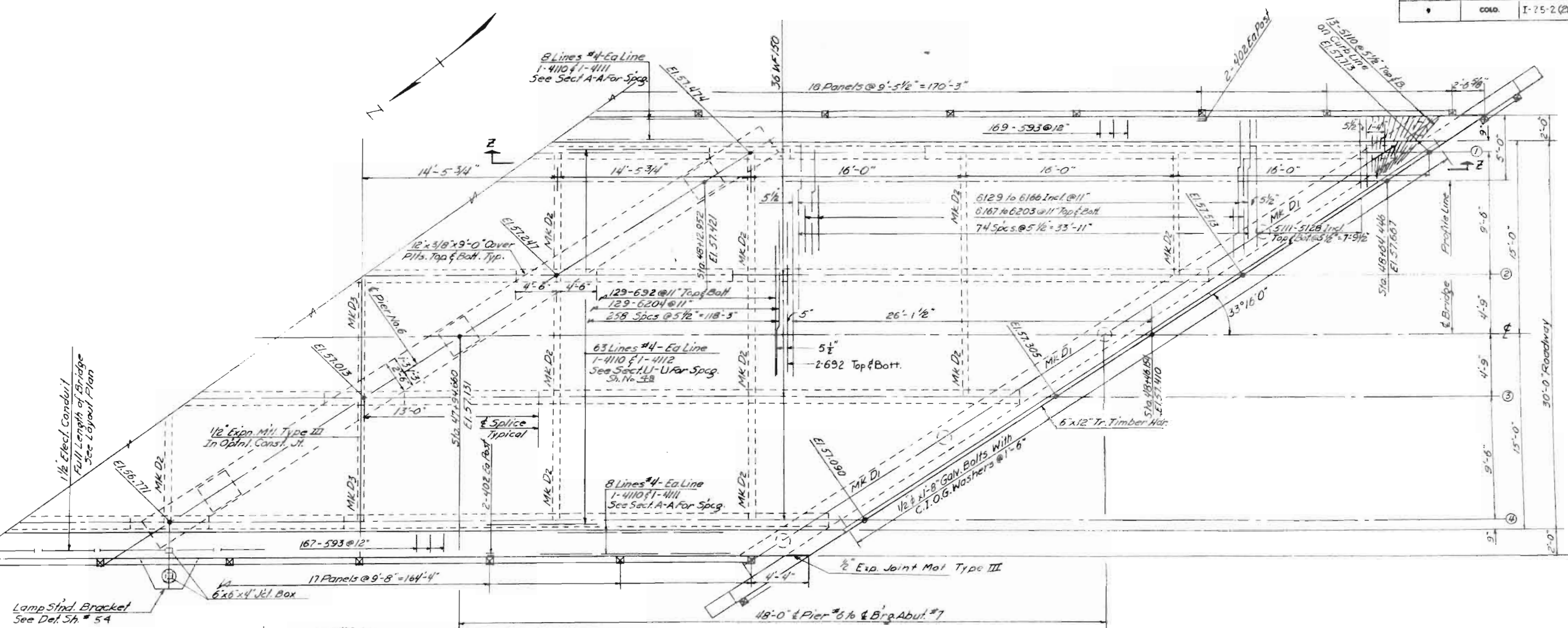
Designed by G.N.
Made by L.K.
Checked by

Approved by A.D. Knutson
Bridge Engineer
Date: May 19, 1958

STRUCTURE NO. 2-17-DX

Revised 5-7-59 Slab Steel M.E.P.

REV. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLD.	I-75-2 (28) 145	52	



COLORADO
DEPARTMENT OF HIGHWAYS

SUPERSTRUCTURE
SPAN No. 6

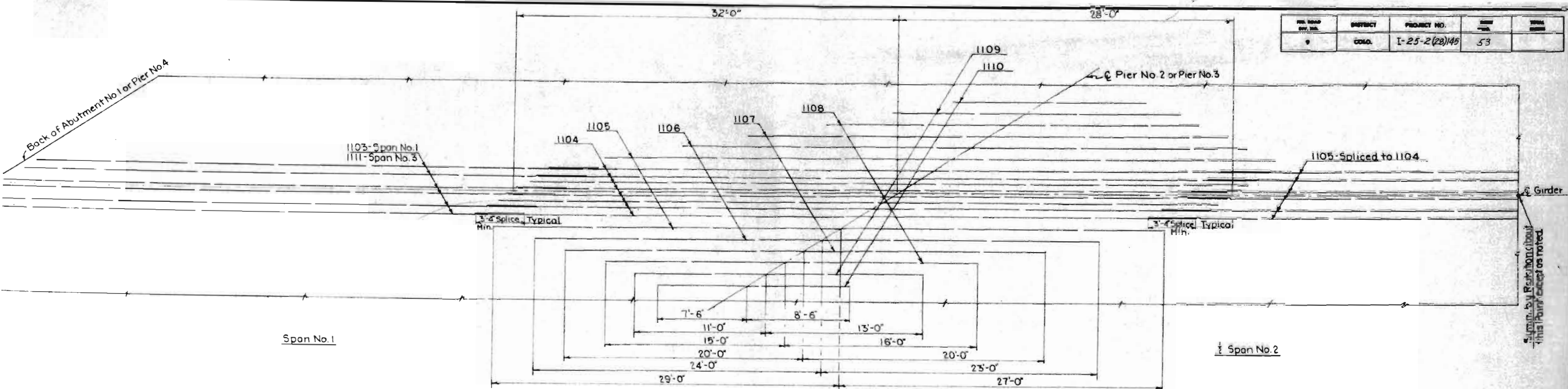
Across County Road & D.R.G.W. R.R.
Sta. 44+83.19 to 49+10.17
Near Colo. Springs Sec. 18, T. 13S, R. 66W

Designed by G.M.
Made by L.K.
Checked by

Approved by A.H. Newell
Bridge Engineer
Date: May 18, 1958

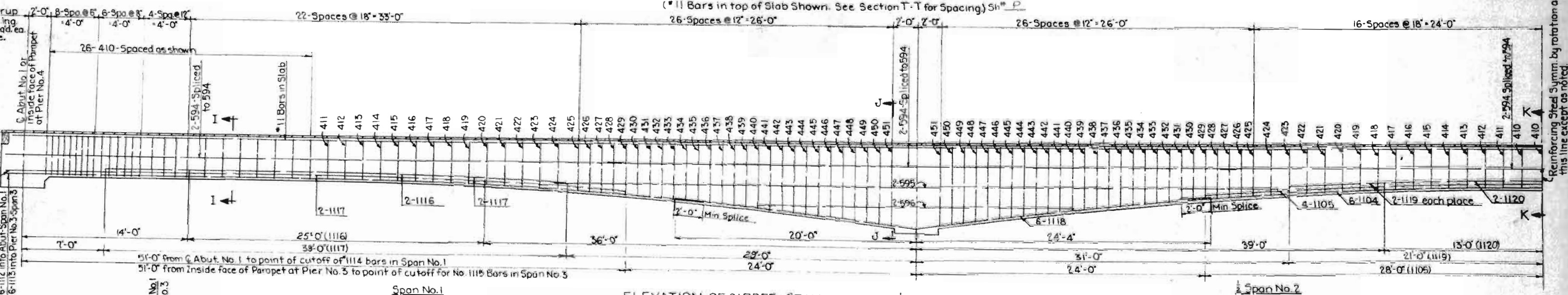
STRUCTURE NO. I-17-DX

FILE NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I-25-2(28)145	53	

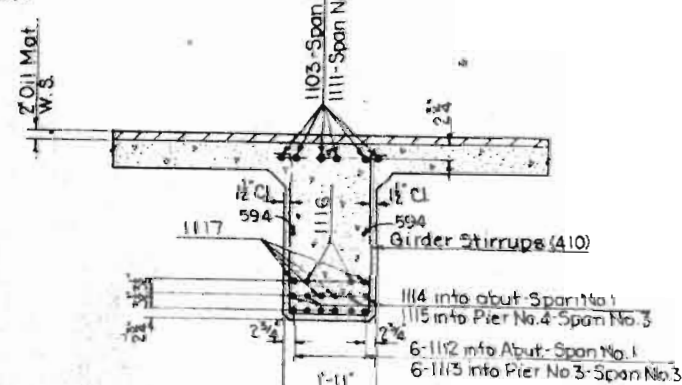


PLAN AT GIRDER

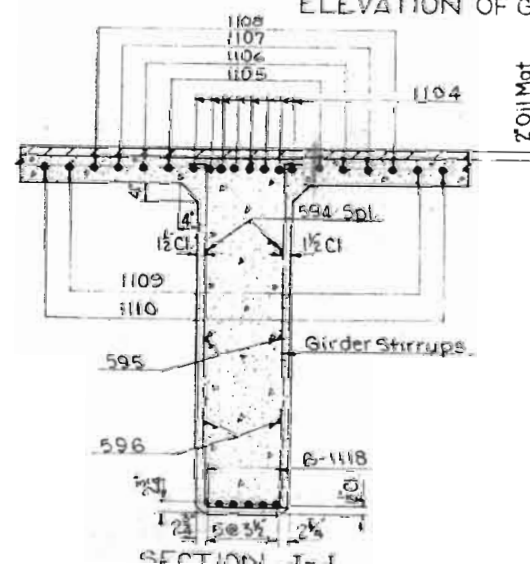
(* 11 Bars in top of Slab Shown. See Section T-T for Spacing) Sh^o P



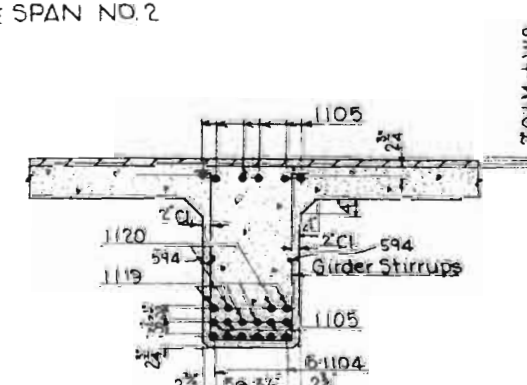
ELEVATION OF GIRDER - SPAN NO. 1 AND 1/2 SPAN NO. 2



SECTION I-I



SECTION T-T



SECTION K-K

COLORADO
DEPARTMENT OF HIGHWAYS
 CONTINUOUS CONCRETE SLAB
 GIRDER BRIDGE - 3 SPANS 75', 104', 75'
 30'-0" ROADWAY 33' 1/6" SKEW
 GIRDER REINFORCING DETAILS

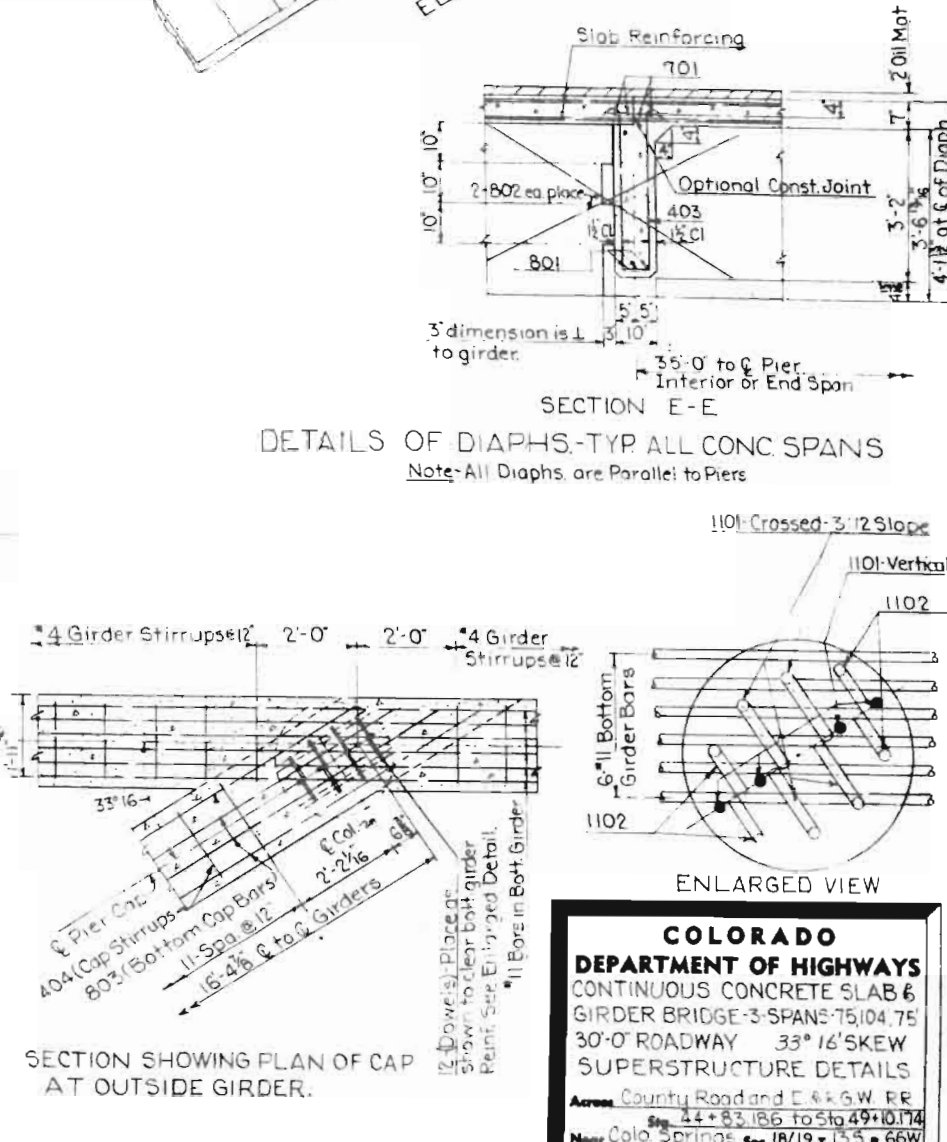
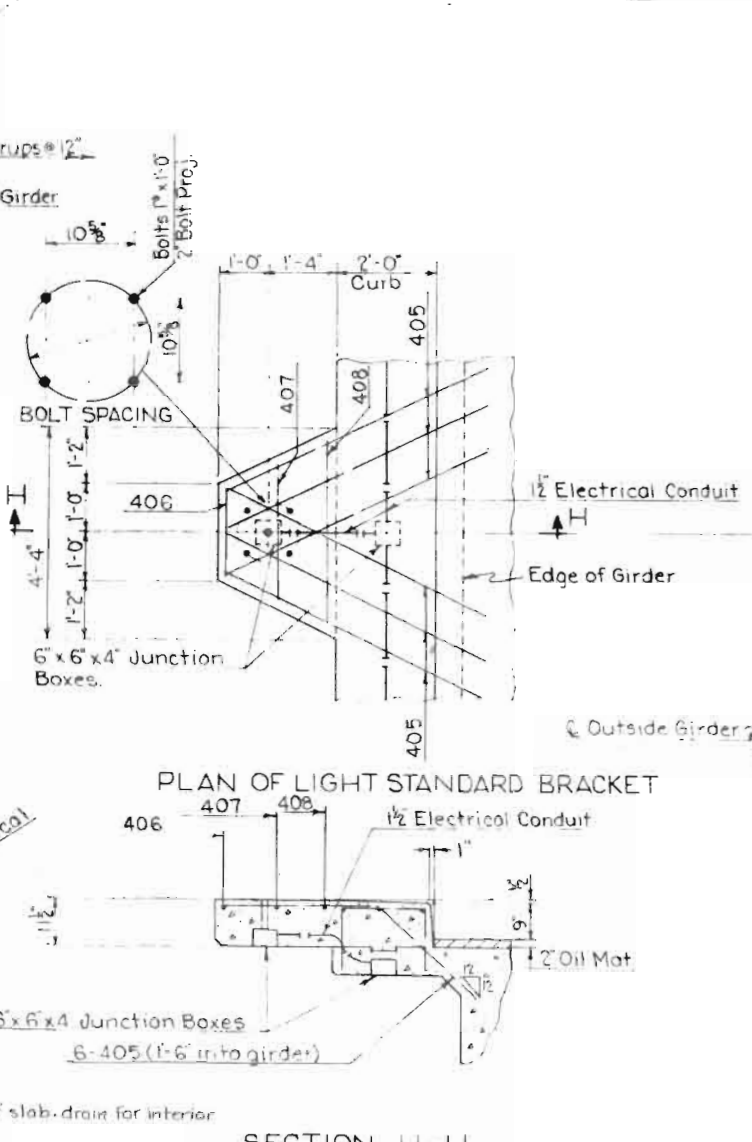
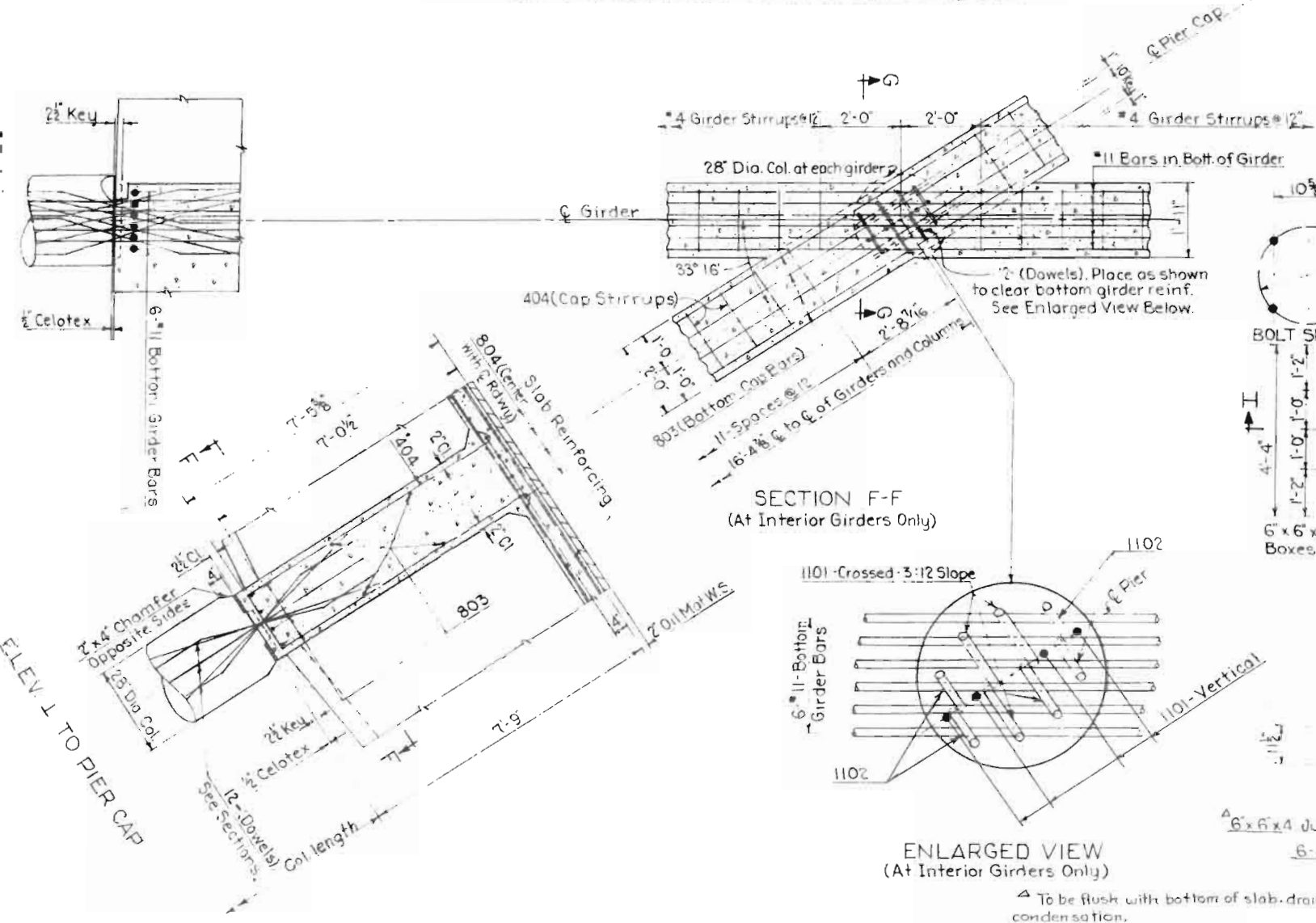
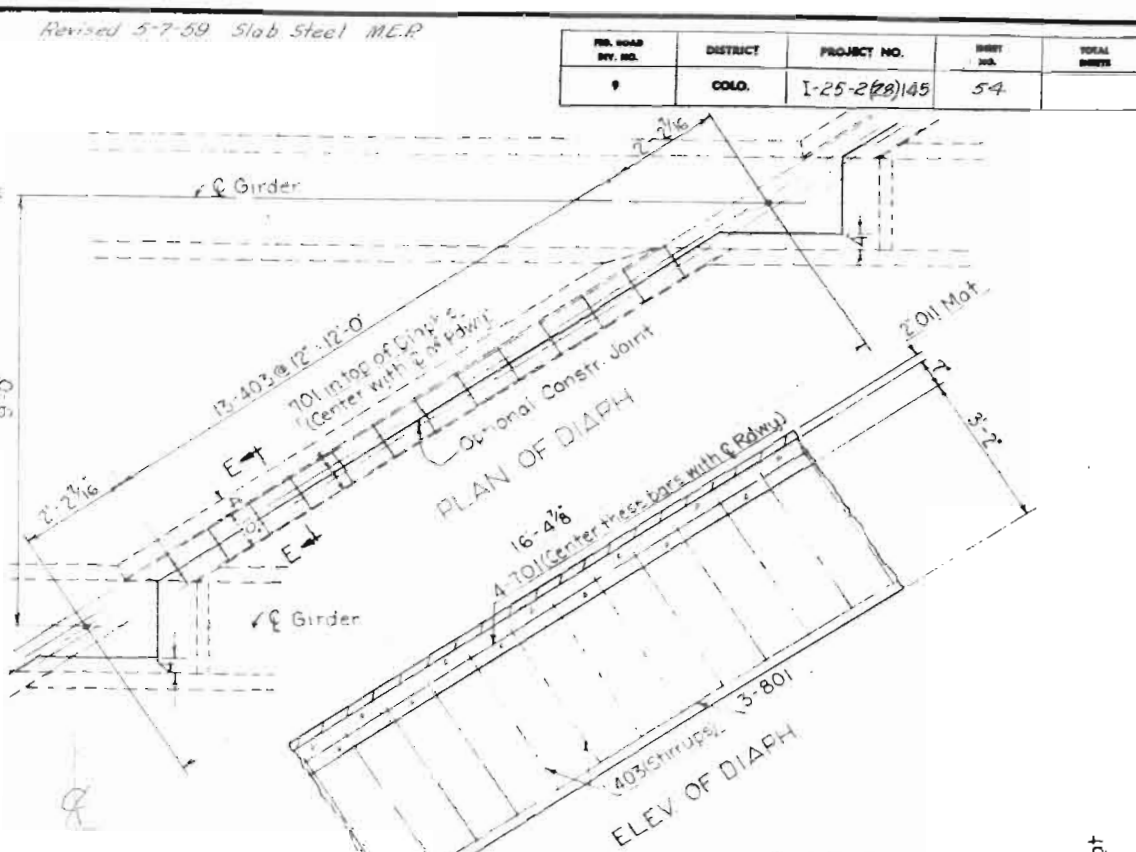
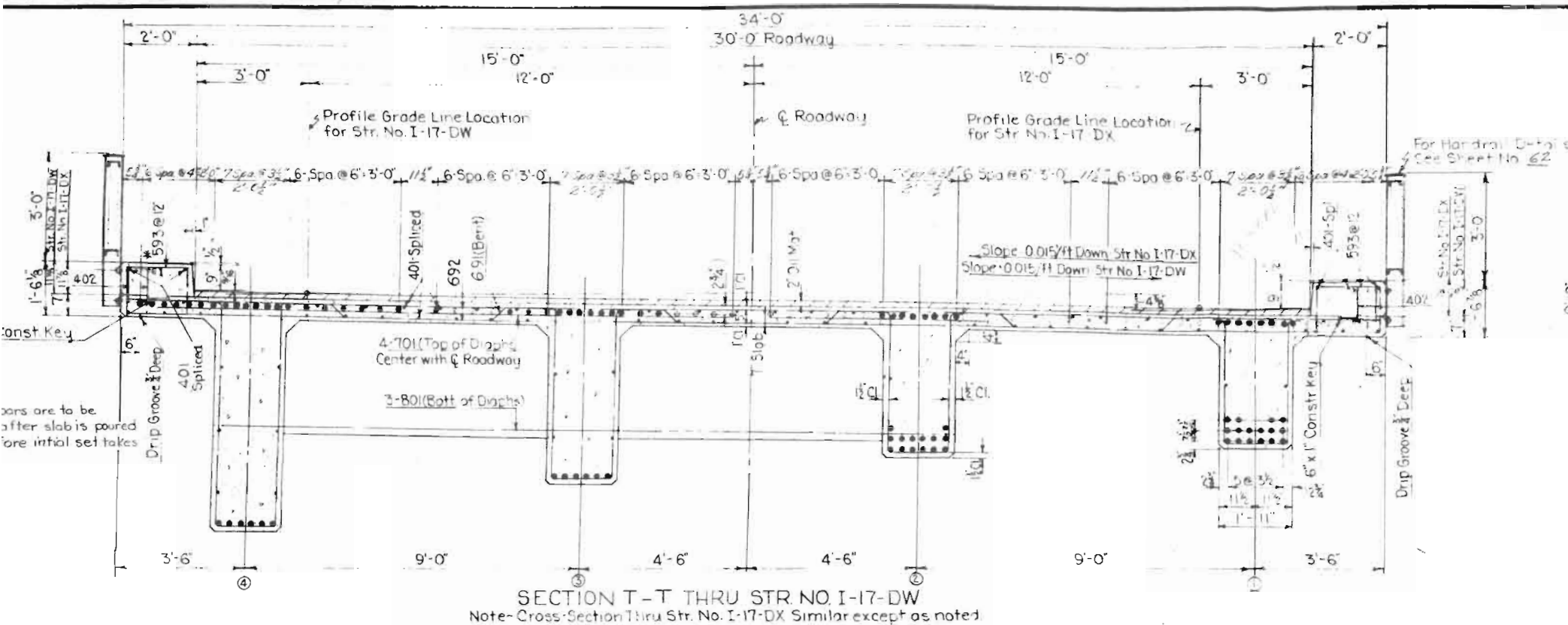
As per County Road and D & R.G.W.R.R.
 Sta. 44+00.186 to 50+49.187
 Near Colo. Springs Sta. 18/19 r. 135 r. 66W

Designed by G.H.W.
 Made by B.D.E.
 Checked by

Approved by *J. P. Newbold*
 Bridge Engineer
 Date: May 19, 1958

I-17-DW-South Bridge
 I-17-DX-North Bridge

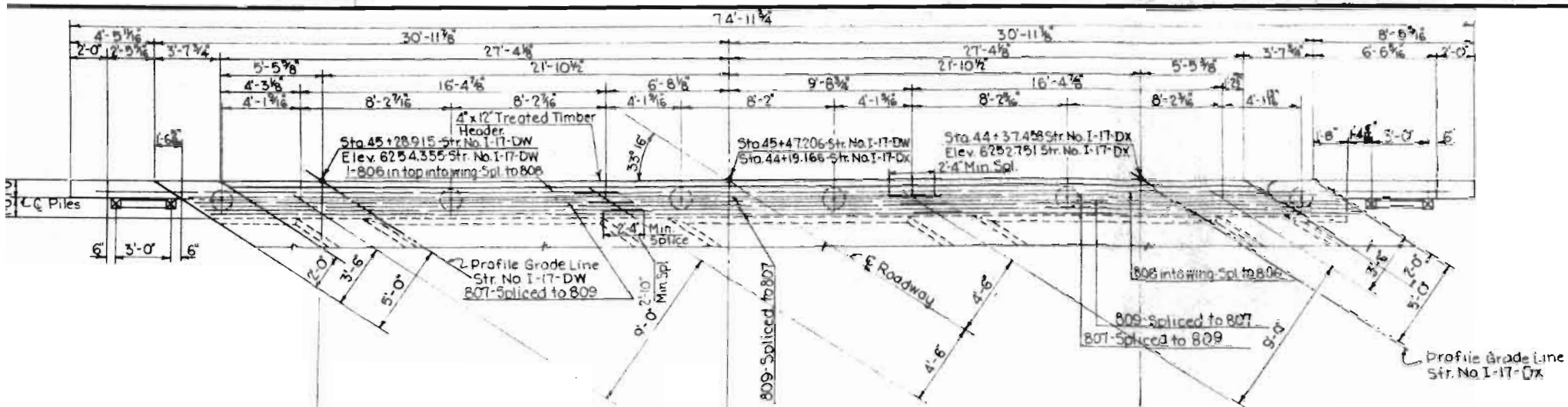
RD. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I-25-2(28)145	54	



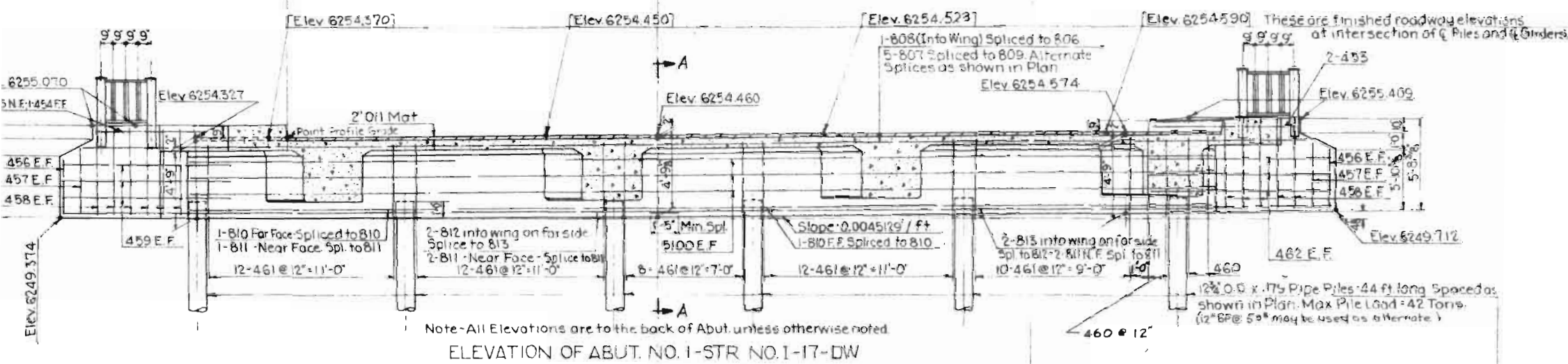
DETAILS OF DIAPHS.-TYP ALL CONC. SPANS
Note:- All Diaphs. are Parallel to Piers

COLORADO
DEPARTMENT OF HIGHWAYS
CONTINUOUS CONCRETE SLAB
ORDER BRIDGE-3 SPANS-75/04.75
10'0" ROADWAY 33° 16' SKEW
SUPERSTRUCTURE DETAILS
County Road and E 4th G.W. R.R.
Sta. 44+83.186 to Sta 49+10.174
near Colo Springs sec. 18/19 T.155 N. R.66W
Designed by G.H.W.
Checked by B.D.E.
Approved by *A. R. Kuebel*
Bridge Engineer
Date: May 19, 1958

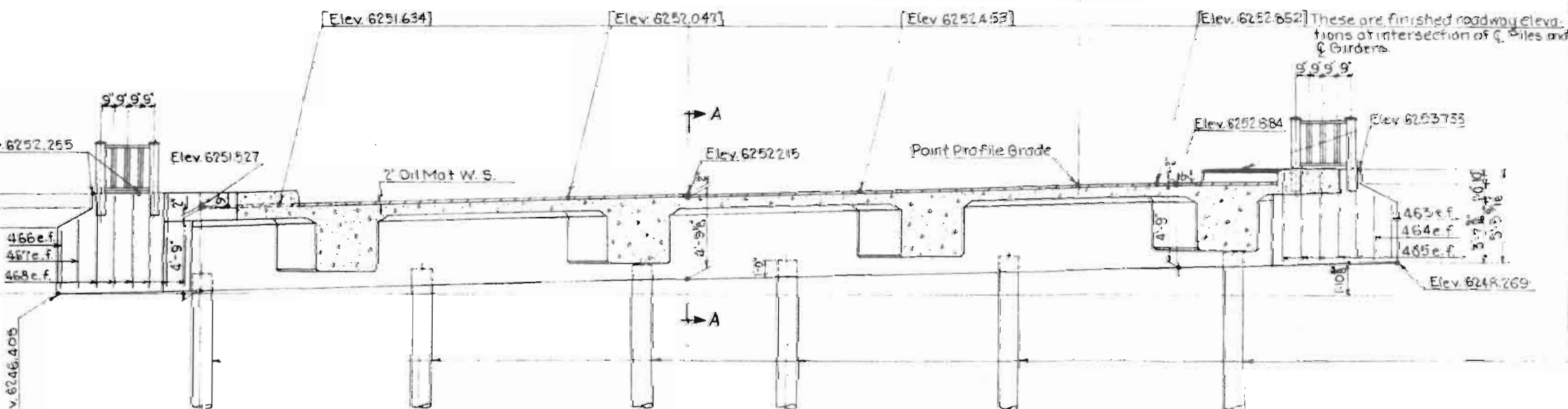
FILE NO.	DISTRICT	PROJECT NO.	DATE	REVISION
9	COLO.	I-25-2(24)145	55	



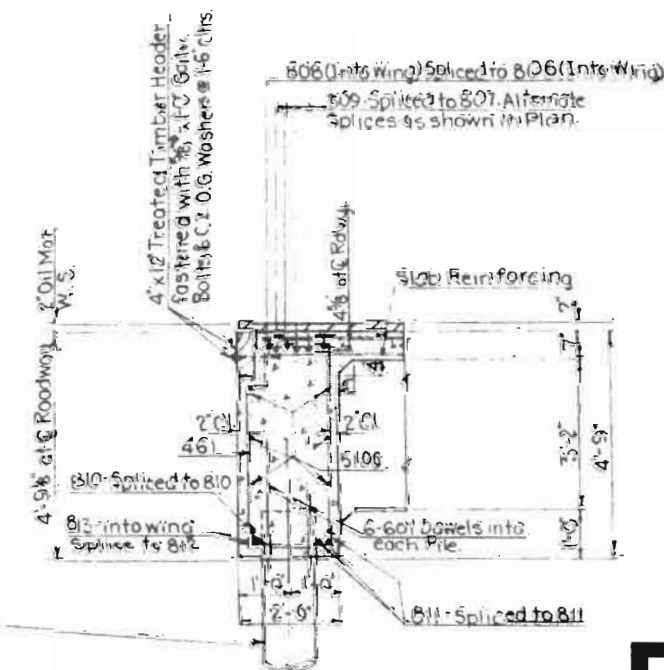
PLAN OF ABUTMENT NO. 1 - STR. NO. I-17-DW
PLAN OF ABUT. NO. I-17-DX SAME EXCEPT AS NOTED



Note - All Elevations are to the back of Abut. unless otherwise noted.
ELEVATION OF ABUT. NO. 1 - STR. NO. I-17-DW



Note - All Elevations are to the back of Abutment unless otherwise noted.
Reinforcing Steel Same as that for Abut. No. 1 - Str. No. I-17-DW except as noted.
ELEVATION OF ABUT. NO. 1 - STR. NO. I-17-DX



SECTION A-A

COLORADO
DEPARTMENT OF HIGHWAYS
CONTINUOUS CONCRETE SLAB &
GIRDER BRIDGE - 3 SPANS 75, 104, 75
30'-0" ROADWAY 33'-16" SKEW
DETAILS OF ABUTMENT NO. 1

Area: County Road and D. & R. W. R.
Sta. 44+783.186 to 44+784.101
Near Colo. Sp. 1505 Sec. 19, T. 155 N. R. 55 W.

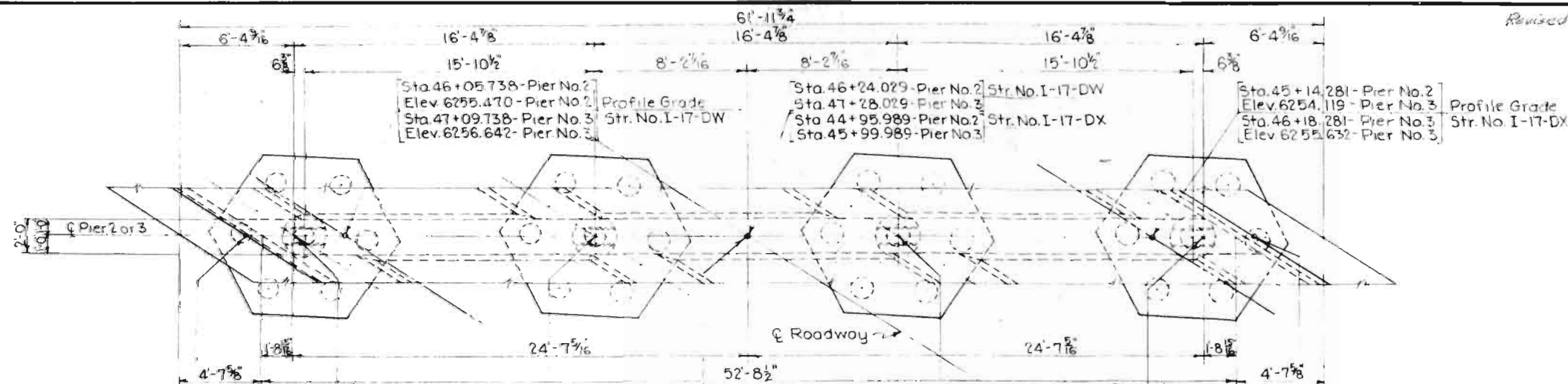
Designed by G.H.W.
Made by S.P.E.
Checked by

Approved by J.H. Rasmussen
Bridge Engineer
Date: May 19, 1957

I-17-DW (South Bridge)
I-17-DX (North Bridge)
CONTRACT NO.

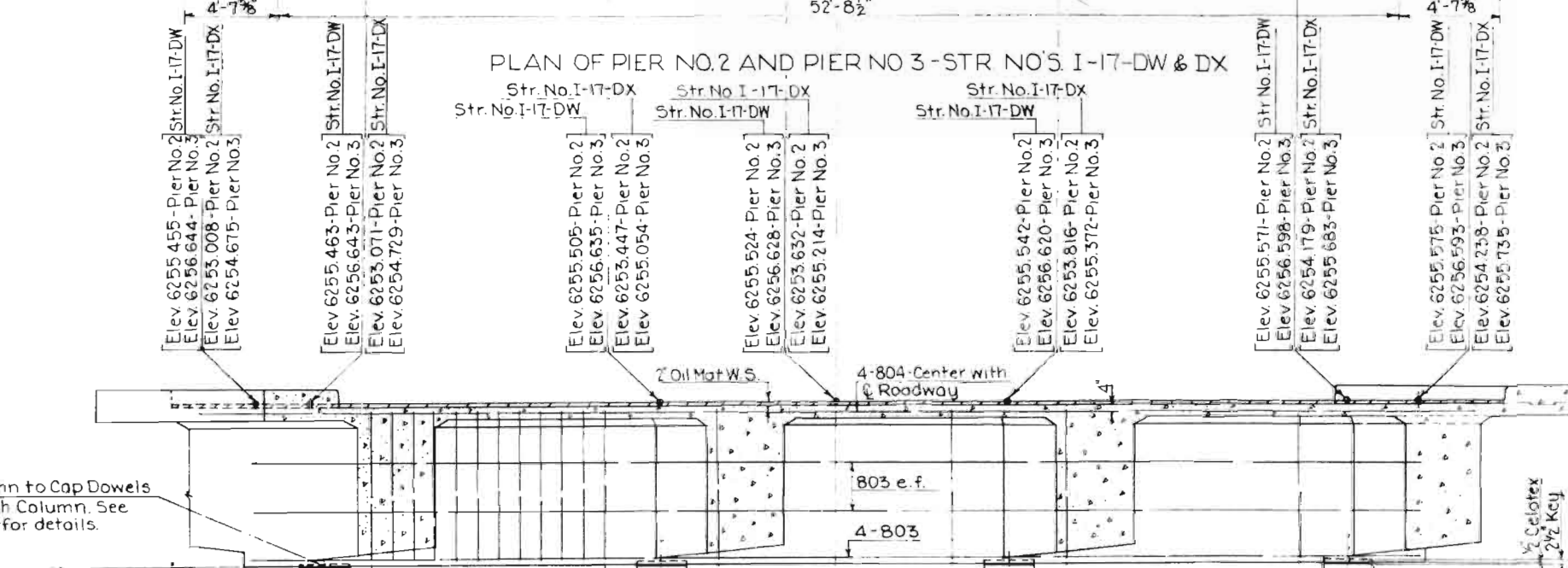
Revised Column length 10-6-50 M.E.P.

FILE NO.	DISTRICT	PROJECT NO.	DATE	BY
9	COLO.	I-25-2(28)145	56	

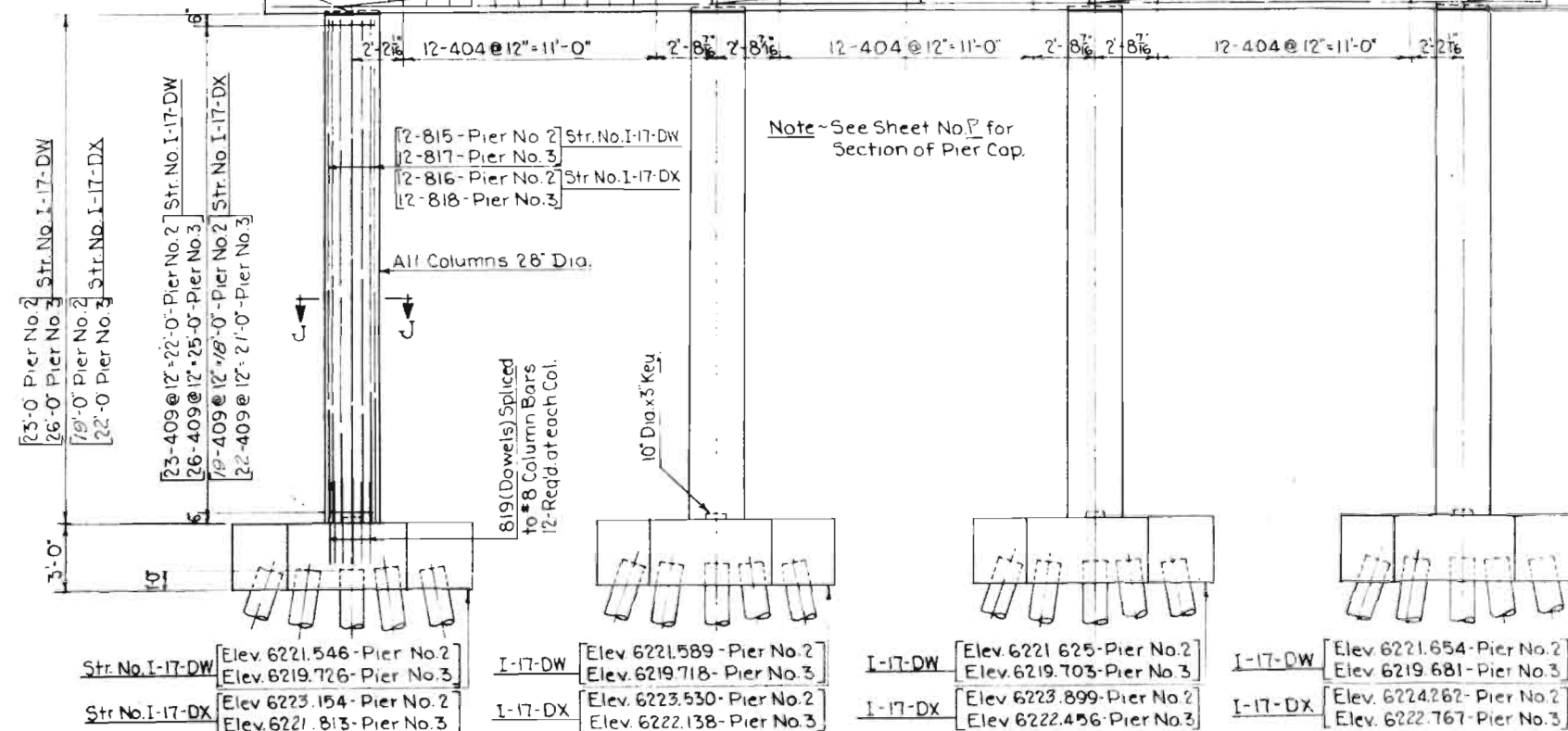


PLAN OF PIER NO. 2 AND PIER NO. 3 - STR. NO'S. I-17-DW & DX

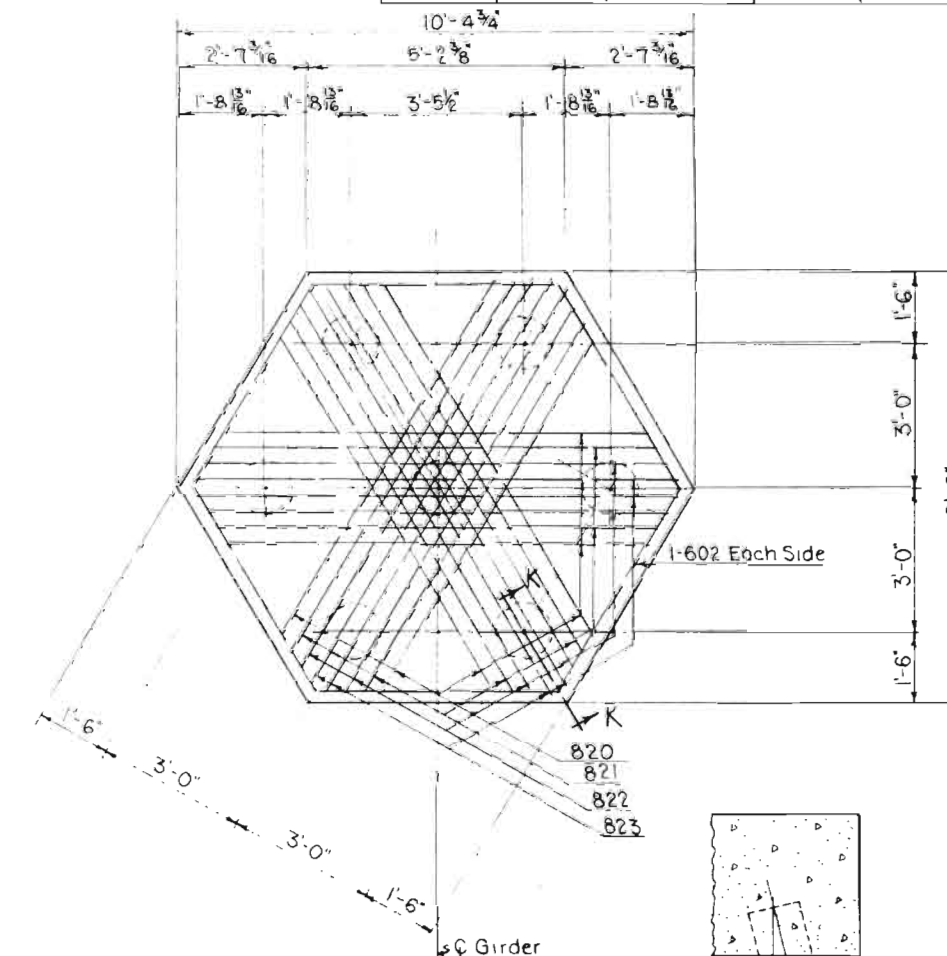
2-11 Column to Cap Dowels
Read at each Column. See
Sheet No. 57 for details.



Note - See Sheet No. 57 for
Section of Pier Cap.



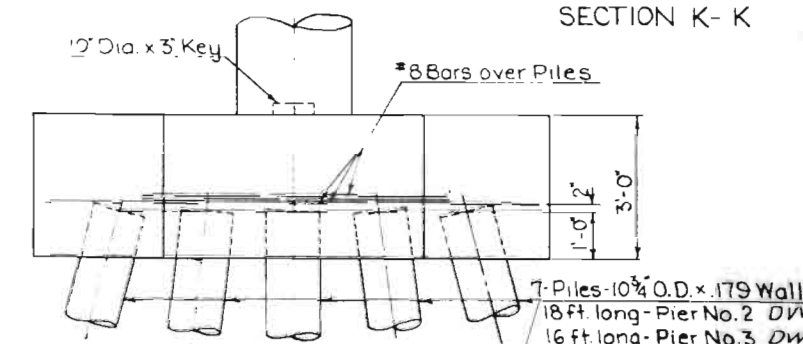
Maximum Pile Load 36 Tons with Wind and Temp.
ELEVATION - PIERS 2 & 3 - STR. NO'S. I-17-DW & I-17-DX



FOOTING PLAN - TYPICAL
PIERS 2 & 3

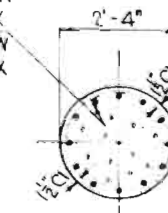
Batter 6 Piles 3:12
as shown.

SECTION K-K



FOOTING ELEV. - TYP
PIER 2 & 3

12-815 in each Column - Pier No. 2 - I-17-DW
12-816 in each Column - Pier No. 2 - I-17-DX
12-817 in each Column - Pier No. 3 - I-17-DW
12-818 in each Column - Pier No. 3 - I-17-DX



SECTION J-J

COLORADO
DEPARTMENT OF HIGHWAYS
CONTINUOUS CONCRETE SLAB &
GIRDER BRIDGE - 3 SPANS - 75'104'75'
30'-0" ROADWAY 33°16' SKEW
DETAILS OF PIER NO. 2 AND NO. 3

Across County Road and D & RGW RR
Sta. 44+83.186 to Sta. 49+10.74
Near Colo. Springs Sec. 16/19 T. 13S R. 66W

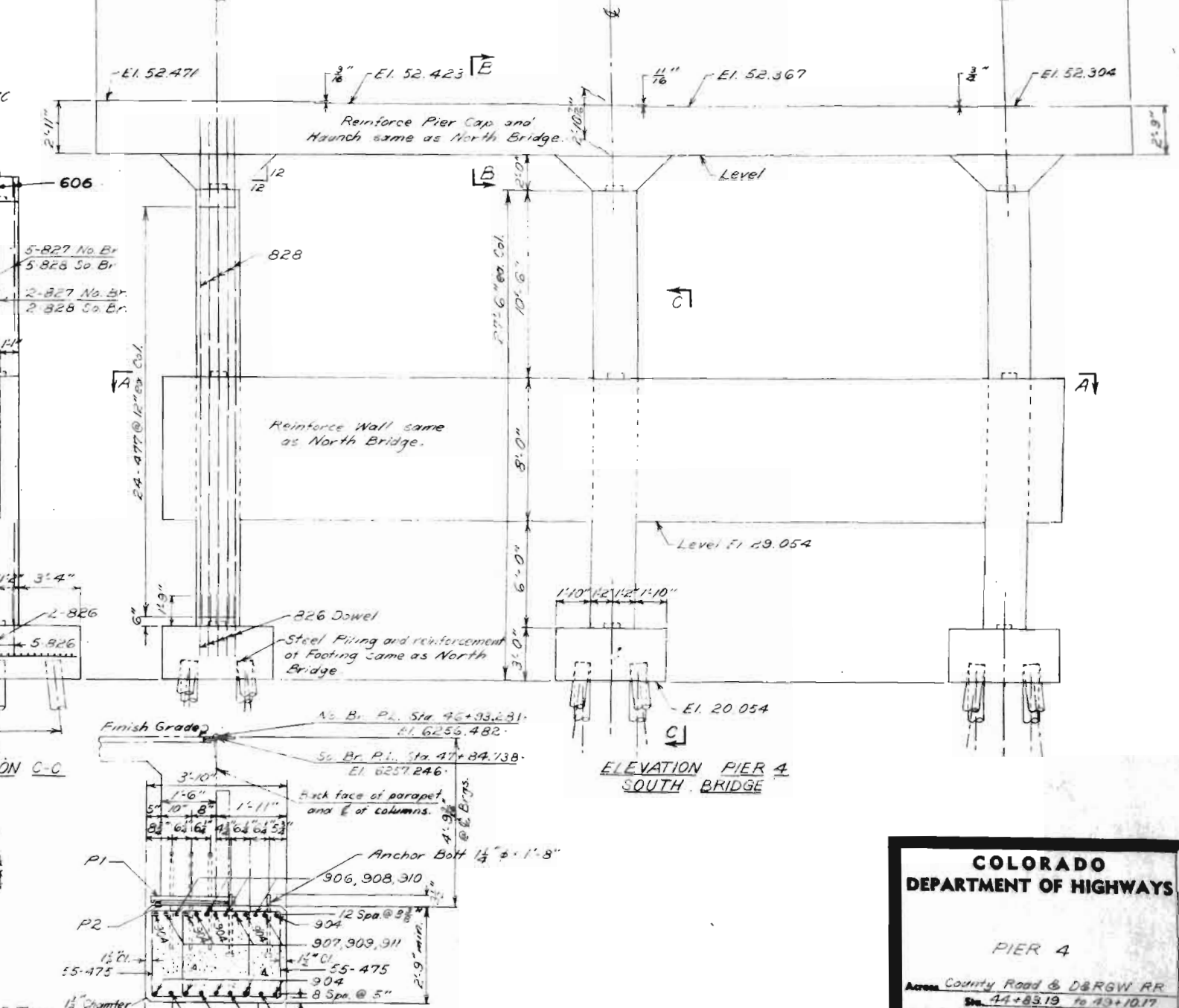
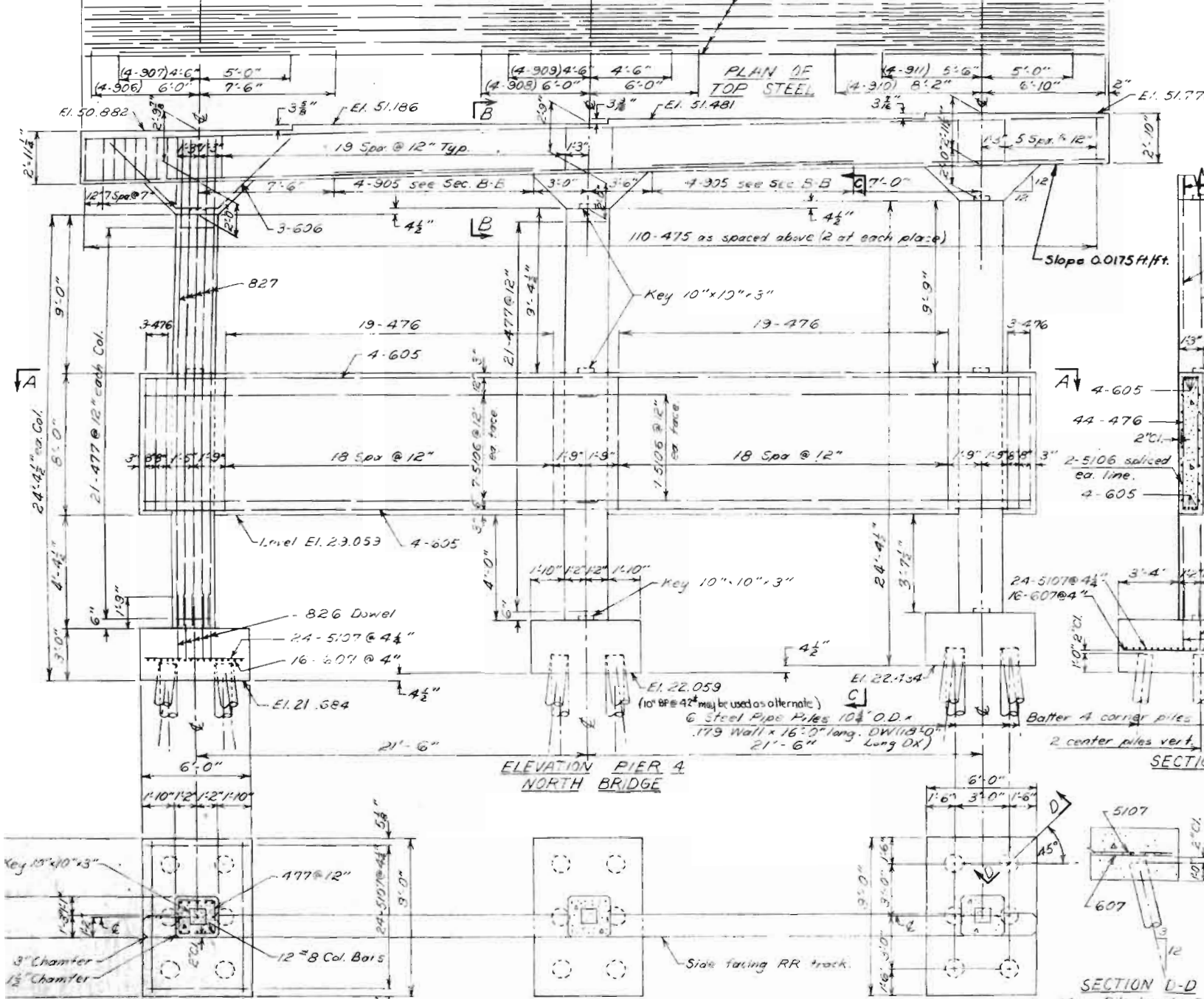
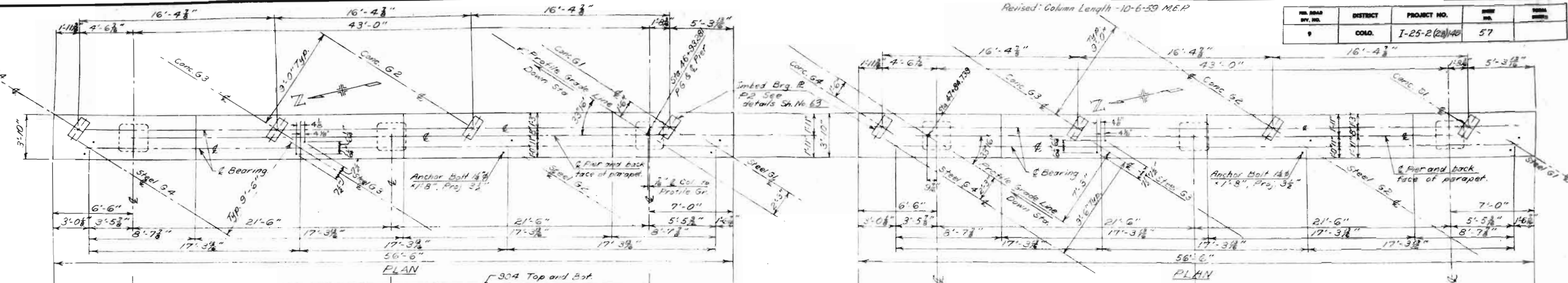
Designed by G.H.W.
Made by B.D.E.
Checked by

Approved by A.H. Kuehn
Bridge Engineer
Date May 19, 1958

STRUCTURE NO. I-17-DW (South Bridge)
I-17-DX (North Bridge)

Revised: Column Length - 10-6-59 M.E.P.

NO. ROAD DIST. NO.	DISTRICT	PROJECT NO.	DATE	BY
9	COLO.	I-25-2(28)40	57	



SECTION A-A AND PLAN OF FOOTING

SECTION D-D
Max. Pile Load - 35 Tons
with Wind and Temp.

SECTION B-B

1-17-DX NORTH BR.
STRUCTURE NO. 1-17-DW SOUTH BR.

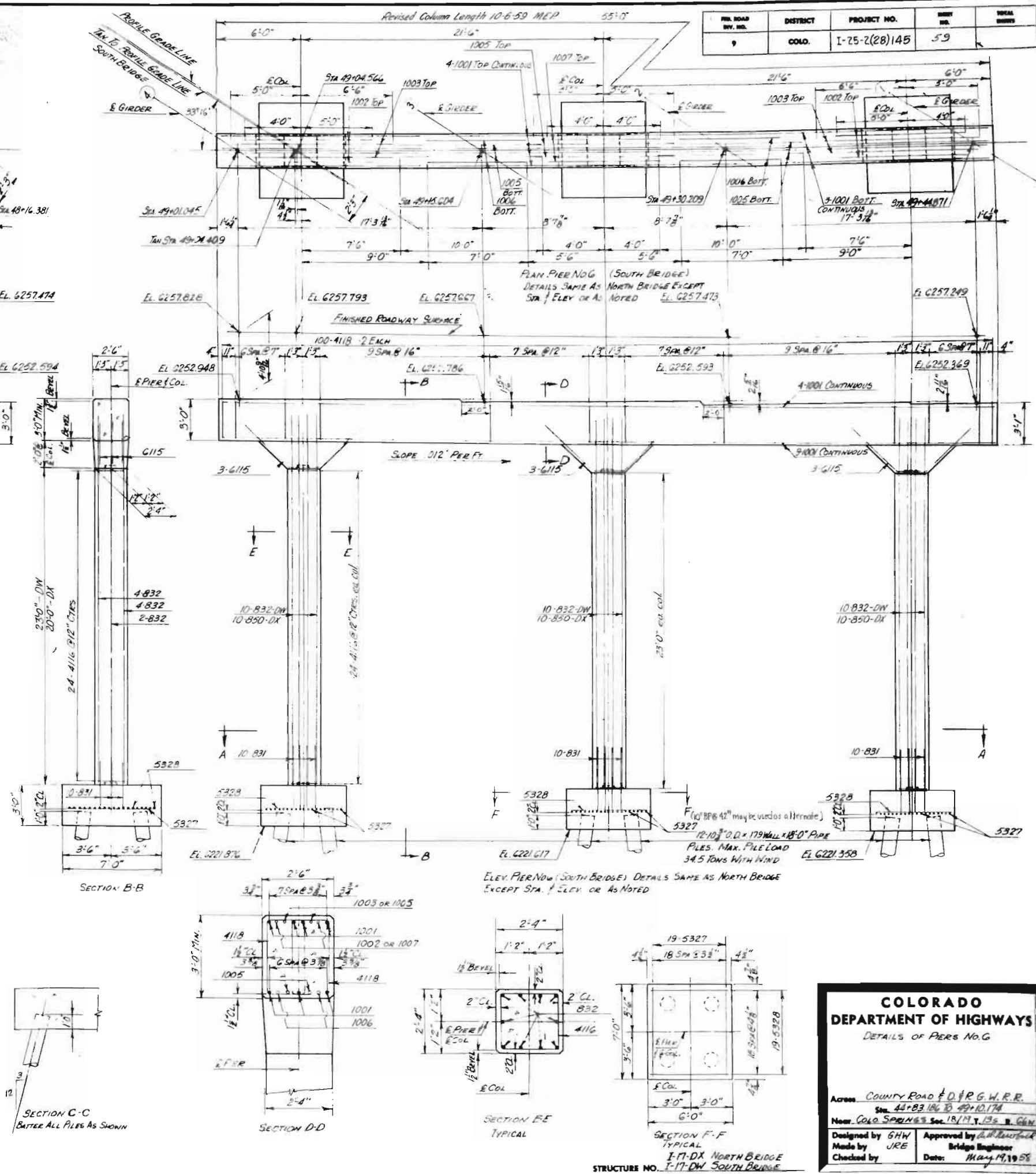
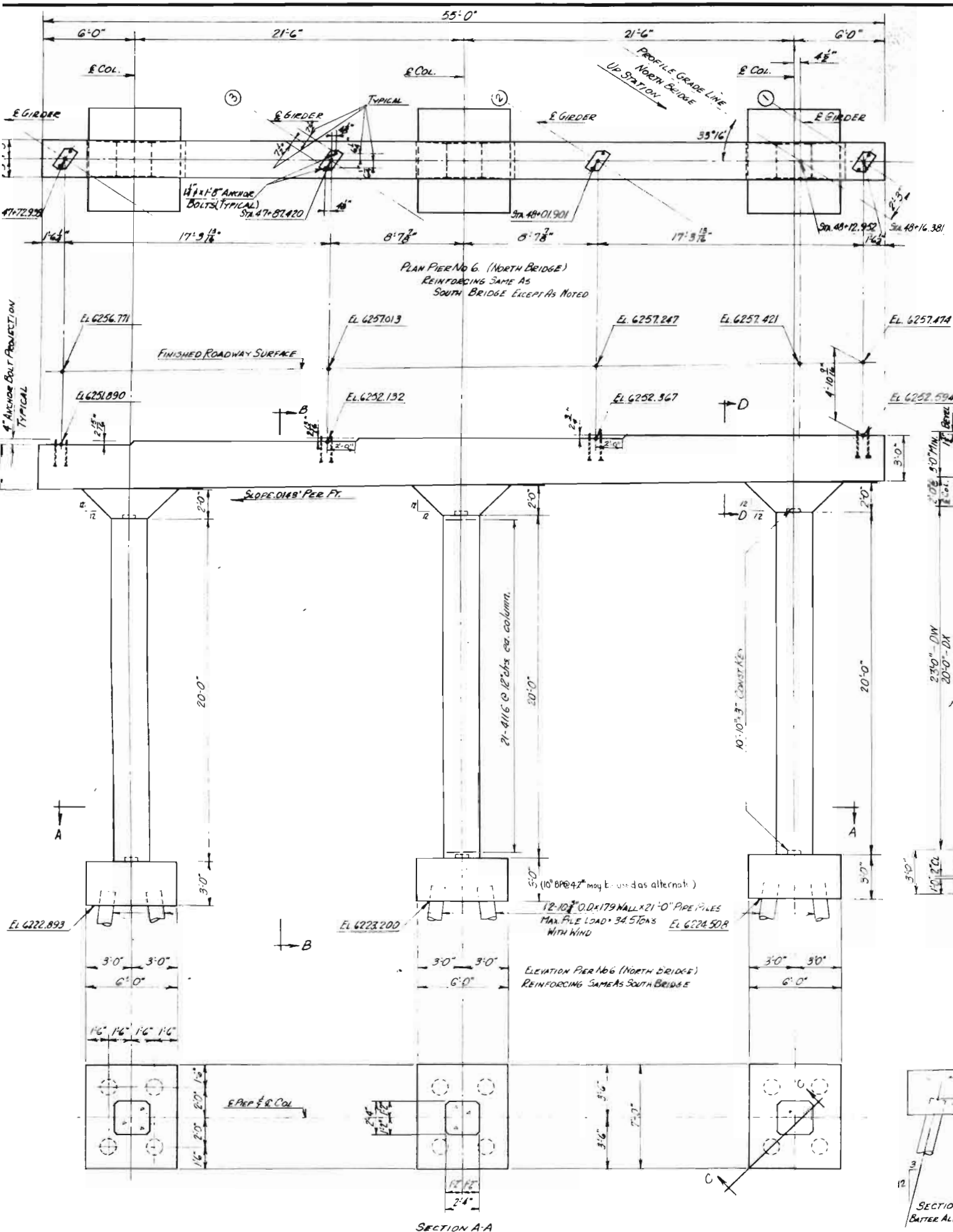
COLORADO DEPARTMENT OF HIGHWAYS

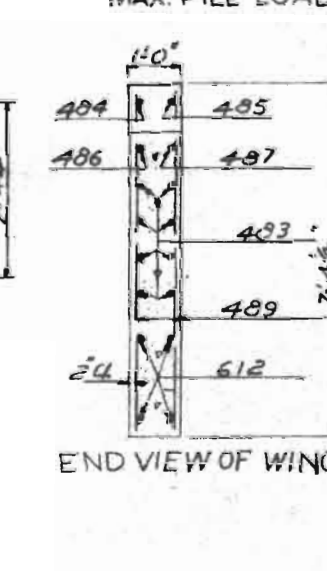
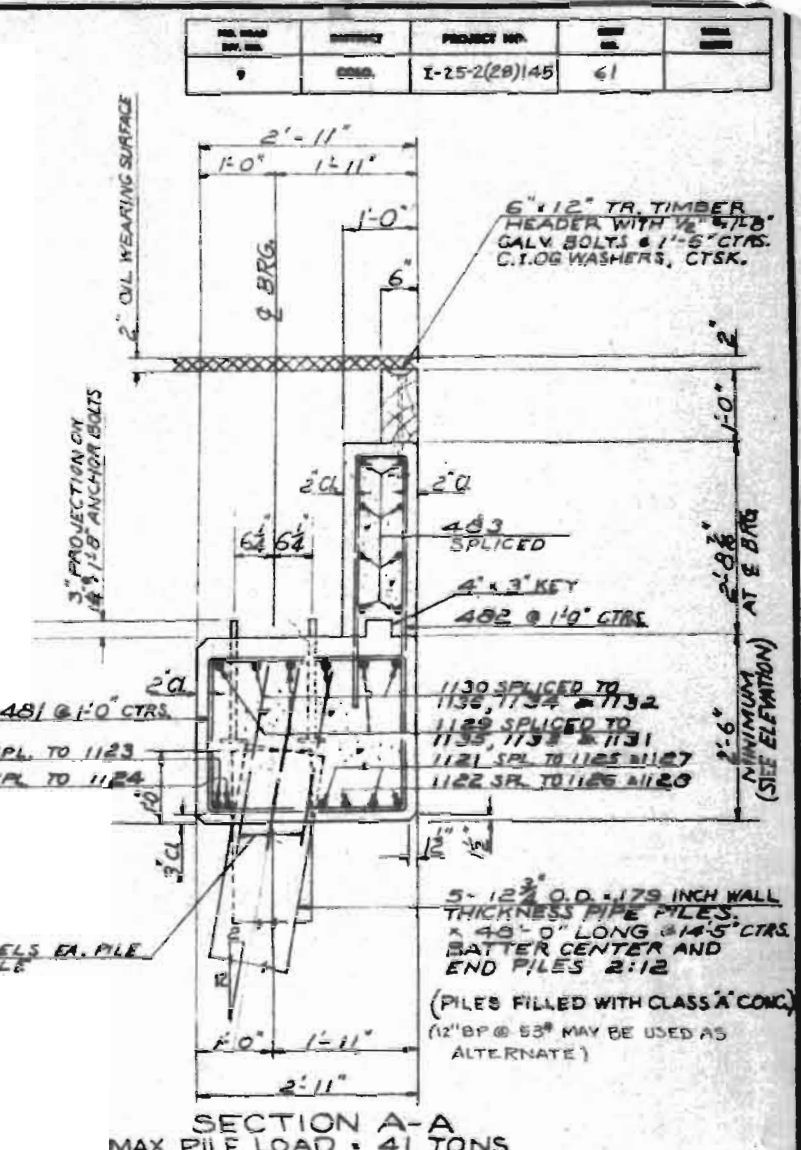
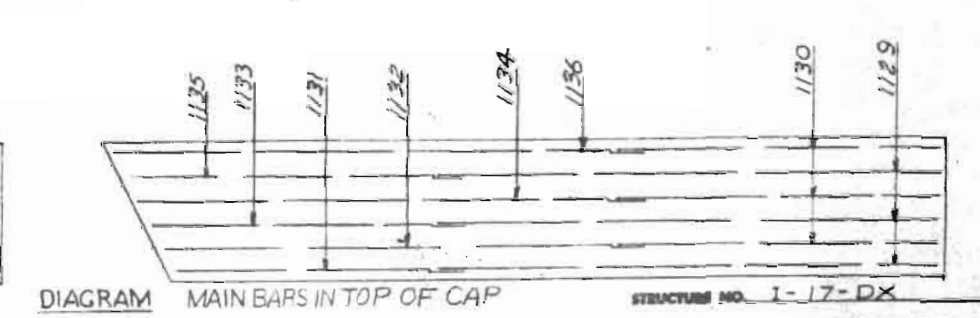
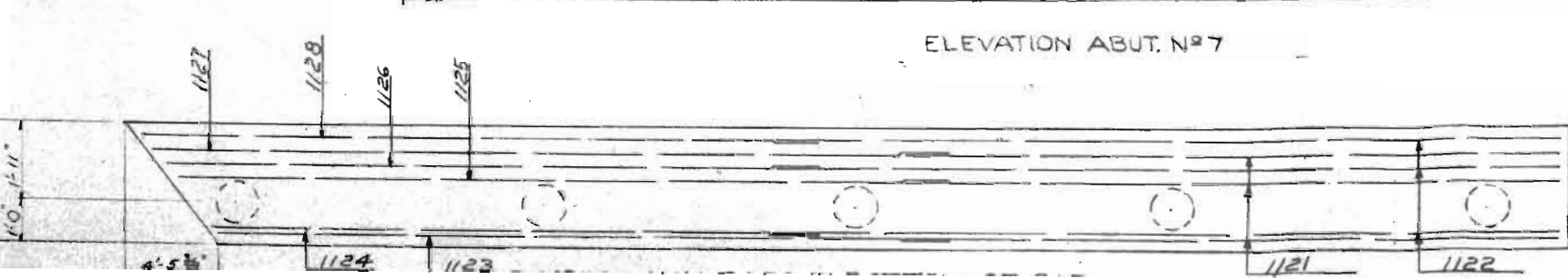
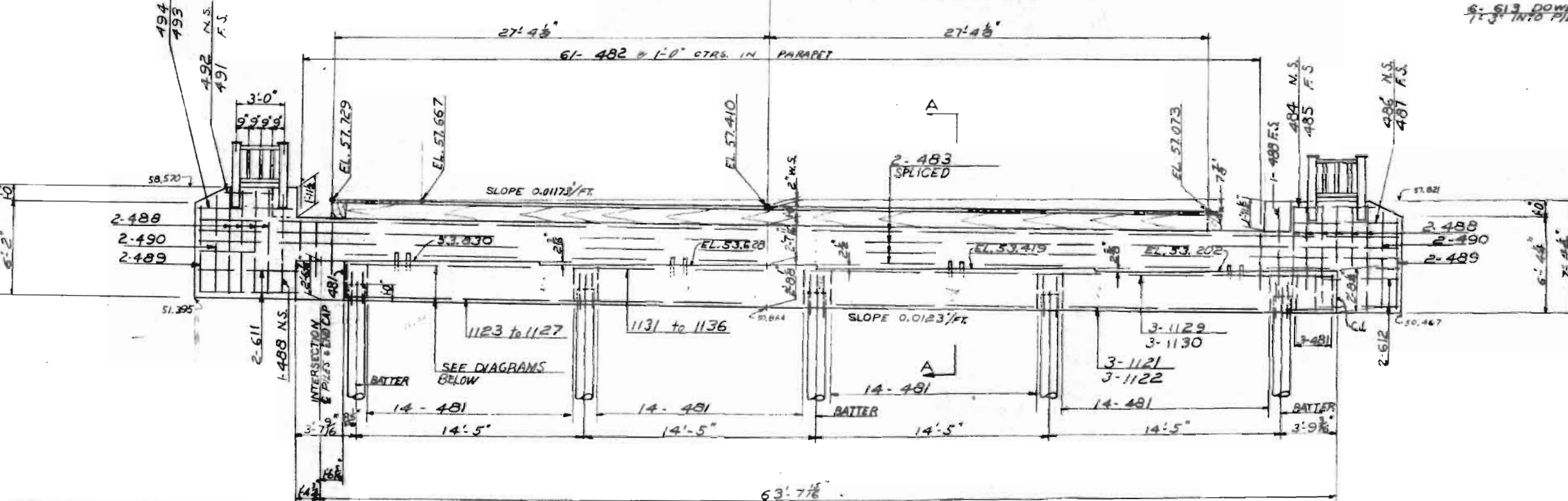
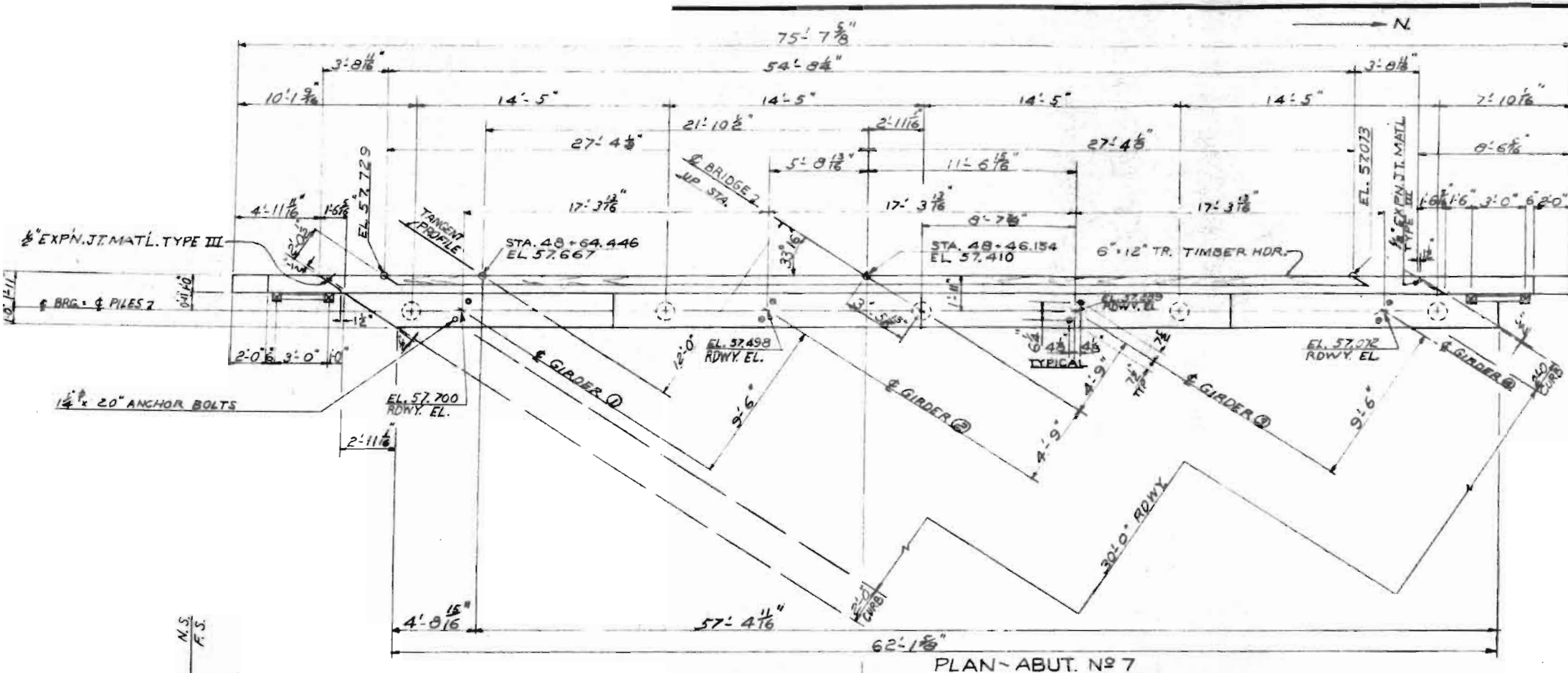
PIER 4

Across County Road & D&RGW RR
Sta. 44+83.19 to 49+10.17
Near Colo. Springs Sec. 18/18.7/35 R.66W

Designed by SHW
Made by JLB
Checked by

Approved by ASD
Bridge Engineer
Date May 19, 1959





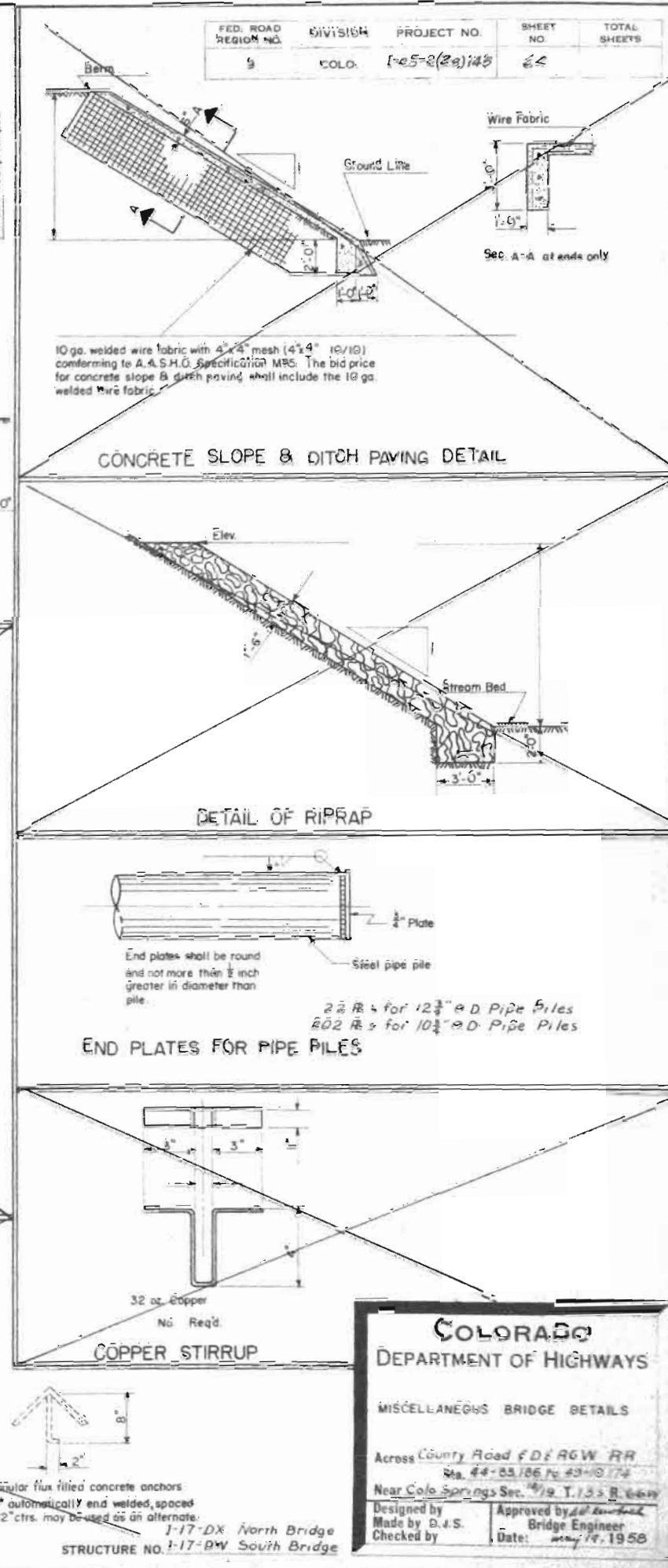
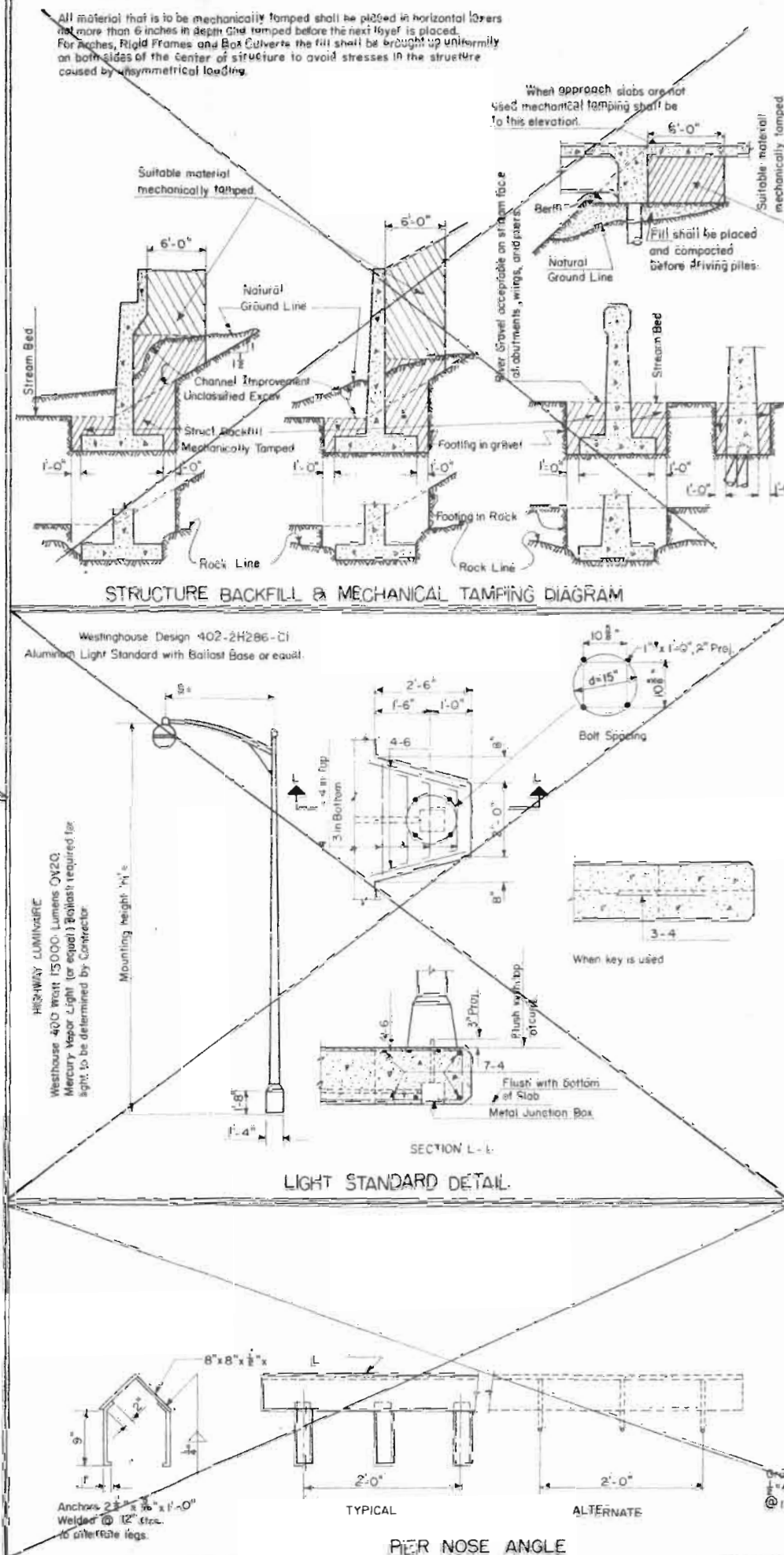
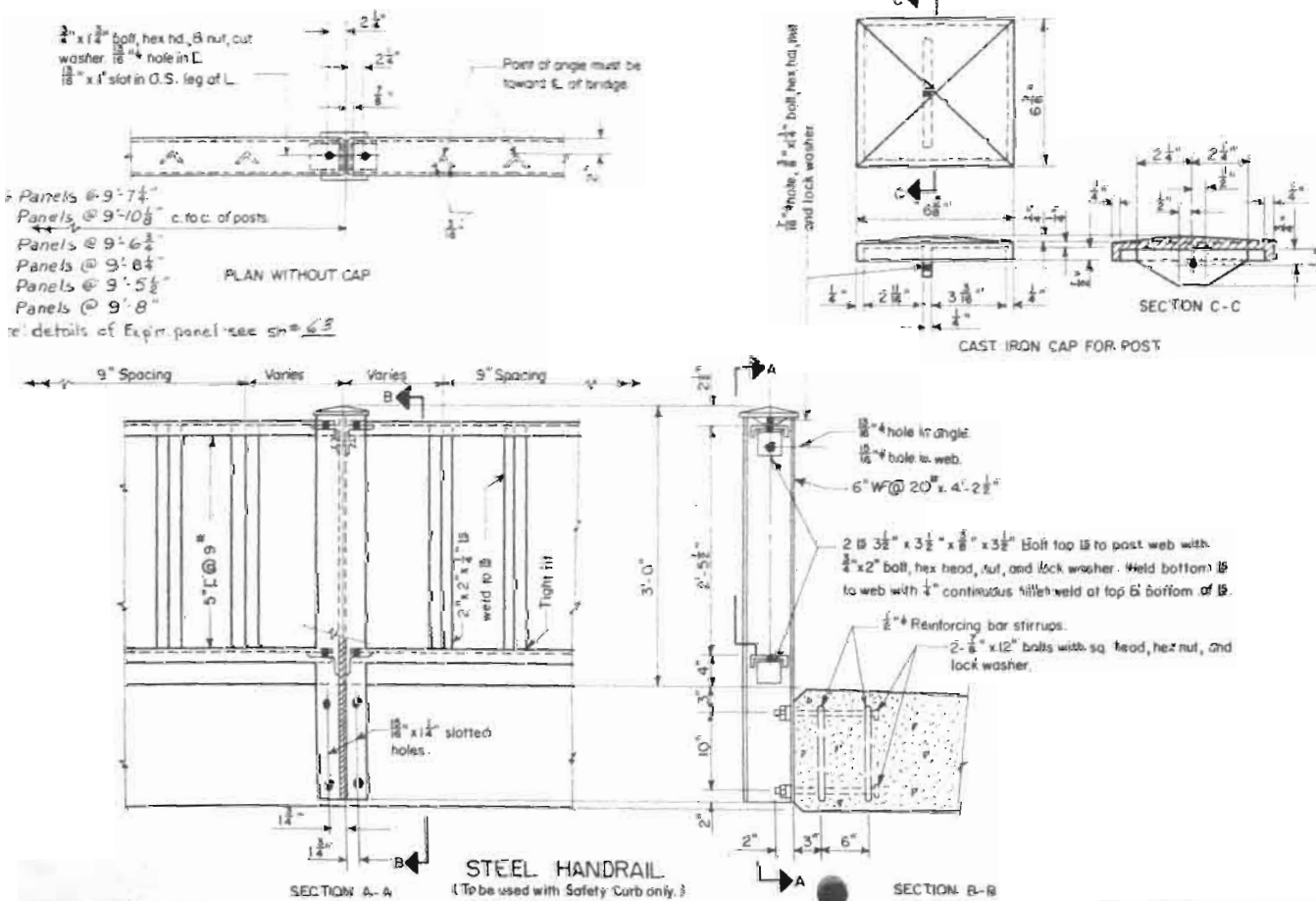
COLORADO
DEPARTMENT OF HIGHWAYS

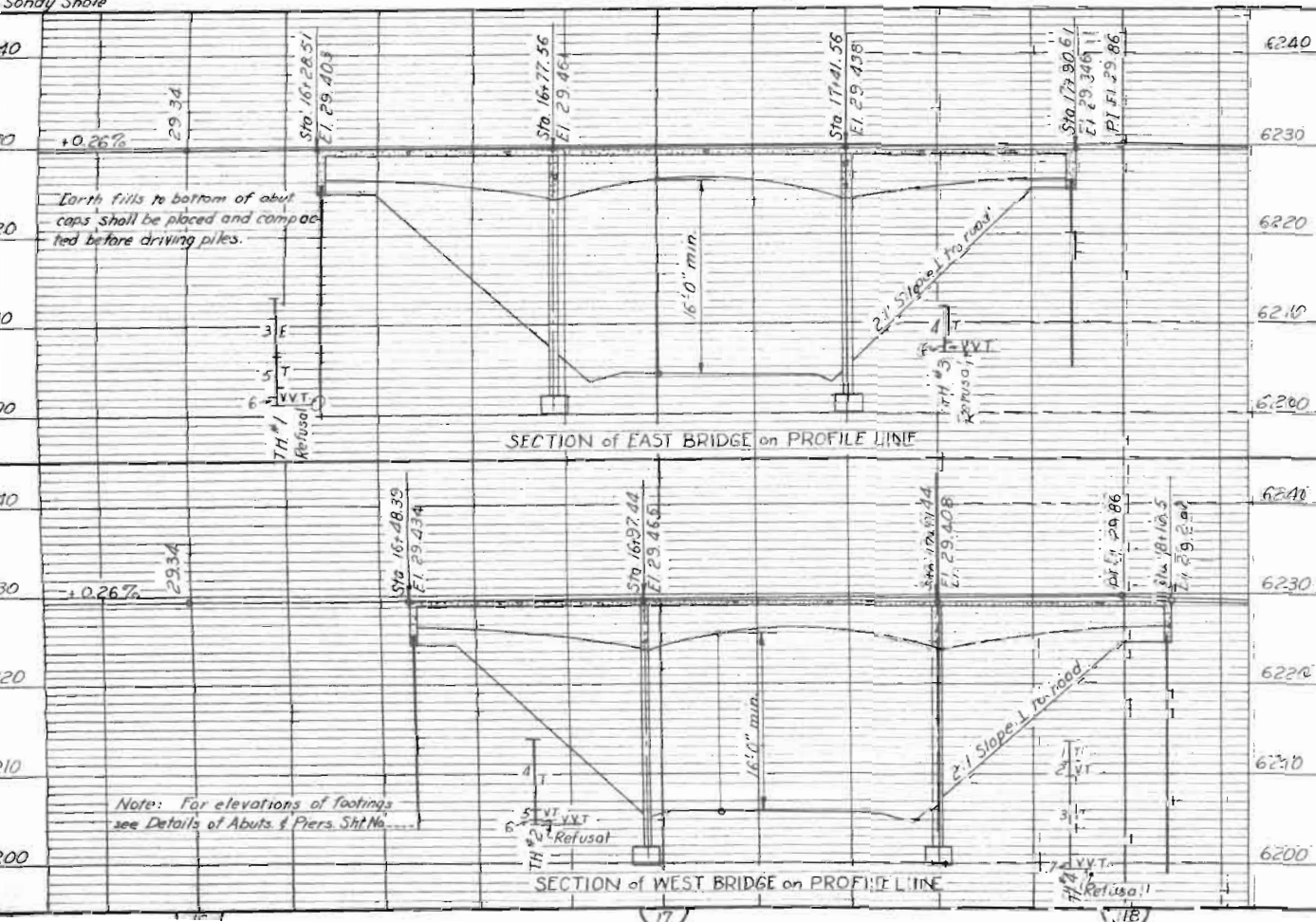
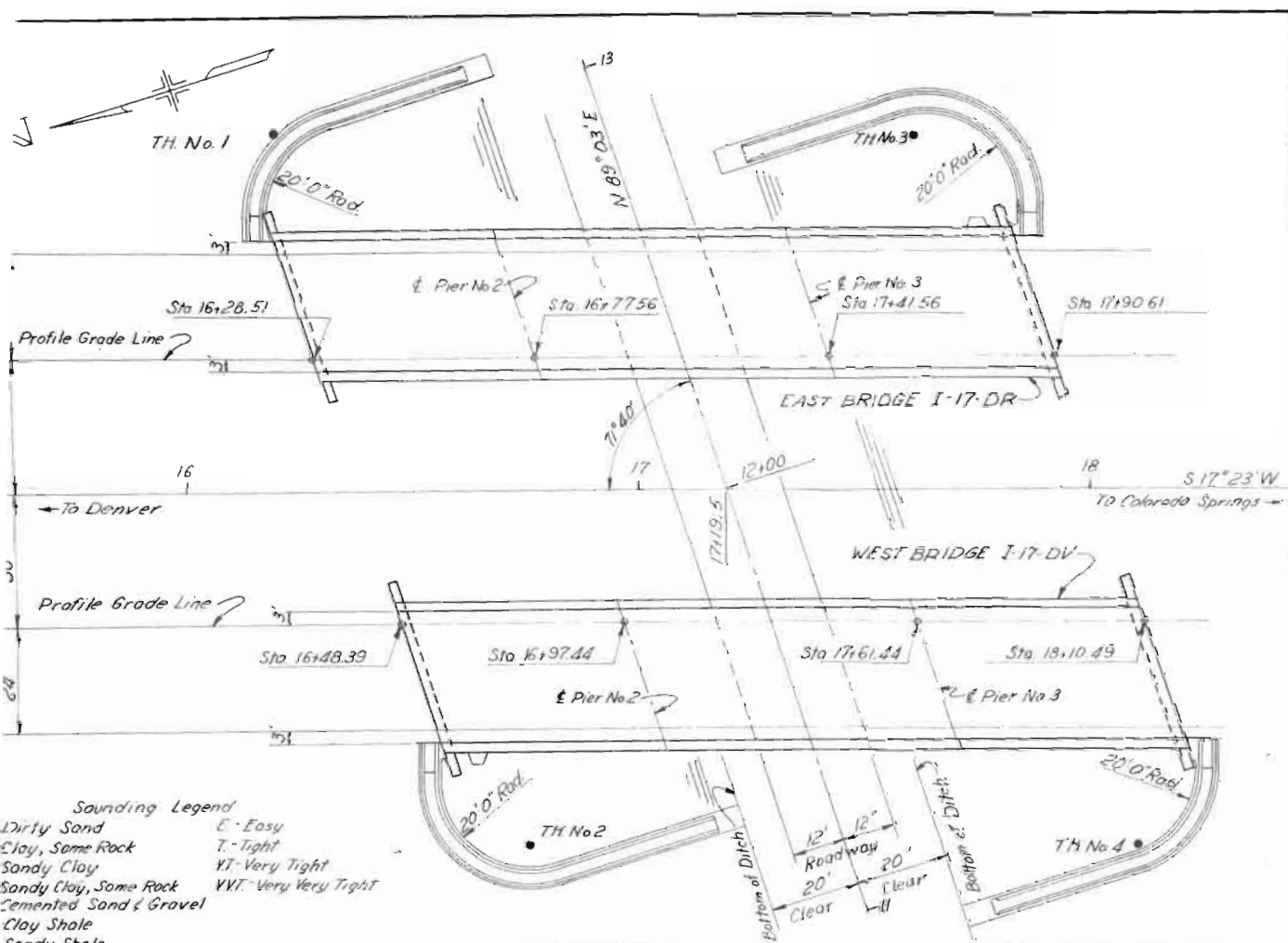
DETAILS OF ABUTMENT NO 7

OVER COUNTY ROAD & D.R.G.W. R.R.
Sta. 48+03.12 to 48+10.17
Near COLO. SPRINGS, CO. 817.973 S.B.S.E.W.

Designed by GHW
Made by FL
Checked by

Approved by
Bridge Engineer
Date: May 19, 1958





Revision: 5-7-59 Item 47 RRA

Item	Description	Unit	Super-structure	Abut No 1	Pier No 2	Pier No 3	Abut No 4	Totals
14	Unclassified Structural Excav-Bridges	Cu Yd			25	18		43
15	Structure Backfill (Class I)	Cu Yd			14	8		22
18	Station Yard Overhaul	Sta Yd						250
19	Yard Mile Overhaul	Yd Mi.						9
46	Class A Concrete	Cu Yd	267	18	16.7	16.7	18.6	337
47	Reinforcing Steel (incl 1% for overrun)	Lbs.	81760	970	4530	4530	974	92760
48	Structural Steel (incl 1% for paint)	Lbs.	12,580	580			580	13,740
49	Drilling Holes to Facilitate Pile Driving	Lin Ft		44			48	92
61	12" O.D. x 179" thick Steel Pipe Piling	Lin Ft		104			80	184
34	Asphaltic Concrete Pavement (Type B)	Tons	56.8					56.8
42	Treated Bridge Timber	Mt/bm		0.126			0.126	0.252
90	Electrical Conduit with Junction Boxes	Lin Ft	205					205
30	Asphaltic Road Material (RC)	Gal	64					64

Item	Description	Unit	Super-structure	Abut No 1	Pier No 2	Pier No 3	Abut No 4	Totals
14	Unclassified Structural Excav-Bridges	Cu Yd			21	31		52
15	Structure Backfill (Class I)	Cu Yd			11	37		48
18	Station Yard Overhaul	Sta Yd						550
19	Yard Mile Overhaul	Yd Mi.						5
46	Class A Concrete	Cu Yd	267	18.6	16.6	16.6	18	336
47	Reinforcing Steel (incl 1% for overrun)	Lbs.	81760	970	4,430	4,430	970	92560
48	Structural Steel (incl 1% for paint)	Lbs.	12,580	580			580	13,740
49	Drilling Holes to Facilitate Pile Driving	Lin Ft		44			52	96
61	12" O.D. x 179" thick Steel Pipe Piling	Lin Ft		88			108	196
34	Asphaltic Concrete Pavement (Type B)	Tons	56.8					56.8
42	Treated Bridge Timber	Mt/bm		0.126			0.126	0.252
90	Electrical Conduit with Junction Boxes	Lin Ft	205					205
30	Asphaltic Road Material (RC)	Gal	64					64

- Handrail Steel.
 - Includes 7.5 Cu Yds. for one slope drain.
 - Includes 6.8 Cu Yds. for one slope drain.
 - Includes 3.2 Cu Yds. Class A Conc. to fill pipe piles.
 - Includes 2.3 Cu Yds. Class A Conc. to fill pipe piles.
 - Includes 2.7 Cu Yds. Class A Conc. to fill pipe piles.
 - Includes 3.3 Cu Yds. Class A Conc. to fill pipe piles.
 - To be included in the Bid Price for Item 61.
- ⑫ "BP#53" may be used as an alternate at option of the Contractor.

GENERAL NOTES

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS APPLICABLE TO THE PROJECT.

ALL CONCRETE SHALL BE CLASS "A" AND AIR ENTRAINMENT AS SPECIFIED.

SURFACE FINISH SHALL BE "F" AS SHOWN ON SHEET NO. 53. SHALL RECEIVE CLASS 1 SURFACE FINISH.

CONCRETE GIRDERS AND FLOOR SLABS SHALL BE POURED MONOLITHICALLY.

FORMS FOR CONCRETE SURFACES EXPOSED IN THE FINISHED WORK SHALL BE CONSTRUCTED OF SHIP LUG OR TONGUE AND GROOVE LUMBER 1 1/2" UNLESS FACED WITH PANEL BOARD.

FOOTINGS IN ROCK SHALL BE POURED OUT TO ROCK AND NOT FORMED.

SOUNDINGS AND DEPTH OF FOOTING SHOWN ARE IN ACCORDANCE WITH THE BEST AVAILABLE DATA AND WHEN DIFFERENT CONDITIONS ARE ENCOUNTERED THE BRIDGE ENGINEER WILL INSPECT AND DETERMINE IF REVISION IS NECESSARY.

ALL REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A 305 OR THE LATEST REVISION THEREOF, AND SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE IDENTIFIED WITH THE NUMBER, DISBURMENT AND THE STATION NUMBER OF THE PROJECT.

SECONDARY BARS WHEN SPICED SHALL LAP 12" DIAMETERS OF THE BAR DIMENSIONS FOR REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE TO THE CENTER LINE OF THE BAR.

ALL STRUCTURAL STEEL SHALL BE PAINTED ONE SHOP COAT OF ZINC CHROMATE AND TWO FIELD COATS OF ALUMINUM, UNLESS OTHERWISE NOTED, EXCEPT THE UNEXPOSED PORTION OF STEEL PILING NEED NOT BE PAINTED.

HANDRAIL BOLTS SHALL HAVE HEX HEADS, NUTS AND LOCK WASHERS UNLESS OTHERWISE SPECIFIED AND ALL BOLTS, EXCEPT AS NOTED ARE 1/2" DIA. AND SHALL BE POWER DRIVEN.

WHEN TREATED TIMBER OR PILING IS SHOWN ON THE DRAWING THE PRESERVATIVE FOR TREATMENT SHALL BE CRICOTOL OIL.

WHEN EXCAVATING FOR FOOTINGS THE FINAL 5ft FOOT IN DEPTH SHALL BE DONE BY HAND LABOR METHODS.

IF BY PERMISSION OF THE ENGINEER PRIMARY BARS ARE SPICED, THEY SHALL LAP 20" DIAMETERS, FOR BARS NEAR TOP OF BEAMS & UNDER HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS & 17 DIAMETERS FOR BARS NEAR BOTTOM OF MEMBERS.

GIRDER SHORING SHALL REMAIN IN PLACE FULL LENGTH UNTIL ALL GIRDER JOINTS HAVE REACHED A MINIMUM STRENGTH OF 2500 PSI.

FOR DETAILS OF STRUCTURAL EXCAVATION AND STRUCTURE BACKFILL SEE STD. 4.6-10.

LOADING DATA - INTERSTATE ALTERNATE

LIVE LOAD - A.A.S.H.O. (H20-S16-44)

DEAD LOAD ASSUMED: 15 LBS. PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE 1/2 INCH CONCRETE MONOLITHIC WEARING SURFACE SHOWN.

DESIGNING DATA

A.A.S.H.O. 1953 UNIT STRESSES EXCEPT AS NOTED

Reinforcing Steel - 20000 lbs. per sq. in.

Structural Steel - 18000 lbs. per sq. in.

10

COLORADO DEPARTMENT OF HIGHWAYS

3 SPANS (48'-6" x 48'-1" CONTINUOUS CONCRETE SLAB GIRDER BRIDGE)

16'-20" SKEW, 30' ROW, 2' CURBS

General Layout, General Notes, Summary of Quantities.

Across County Road

Sta. East Bridge 16+28.51 to 17+90.61

Sta. West Bridge 16+48.39 to 18+10.49

Near Sola Springs Sec. 19 T. 13 S. R. 66 W.

Designed by H.W.V. Approved by J.H. Newbold

Made by L.K. Bridge Engineer

Checked by Date: Feb. 21, 1958.

East Bridge I-17-DR

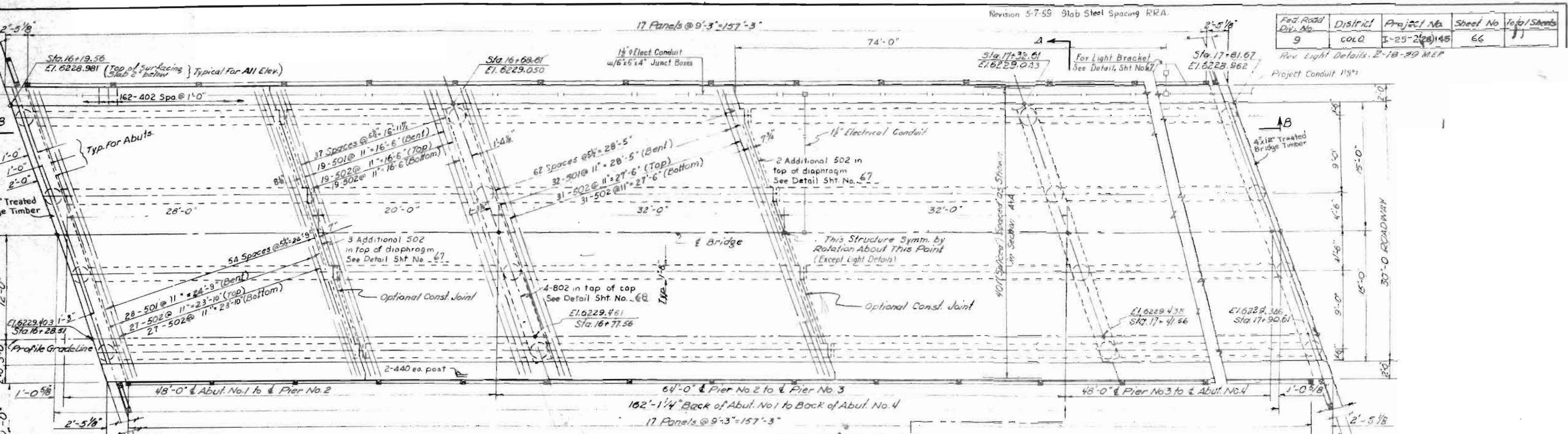
West Bridge I-17-DV

Revision 5-7-59 Slab Steel Spacing R.R.A.

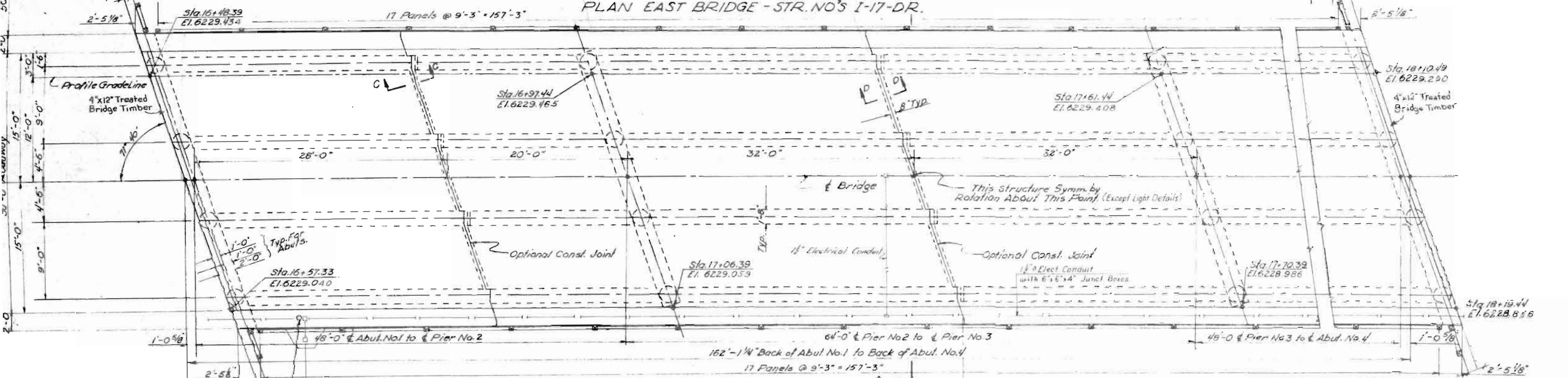
Fed. Road Div. No.	District	Project No.	Sheet No.	Total Sheets
9	COLD	I-25-2(20)145	66	1

Rev. Light Details, 2-10-29 M.E.P.

Project Conduit 11 3/8"



PLAN EAST BRIDGE - STR. NO'S I-17-DR.



PLAN WEST BRIDGE - STR. NO'S I-17-DV.

Note: Reinf. Steel in This Plan Same As That Shown in Plan of East Bridge.



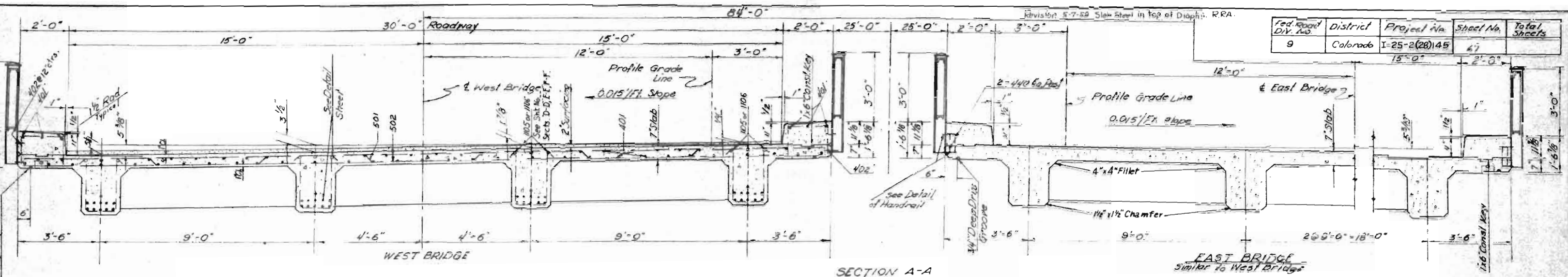
East Bridge Structure No. I-17-DR
West Bridge Structure No. I-17-DV

COLORADO
DEPARTMENT OF HIGHWAYS

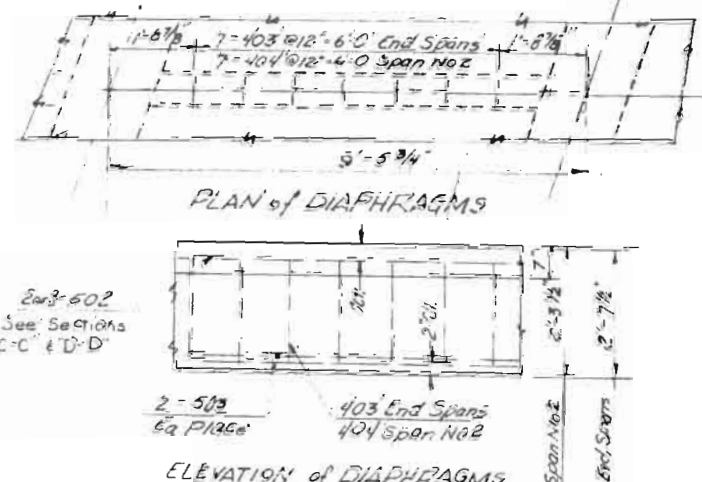
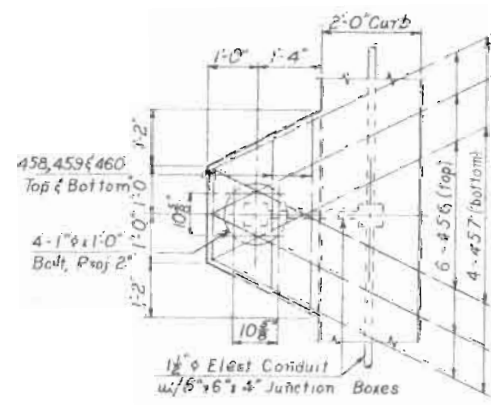
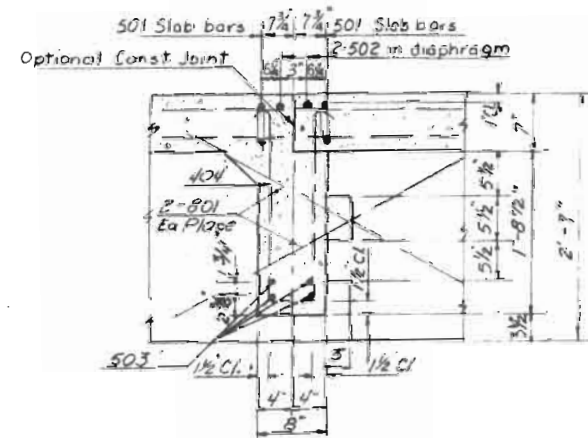
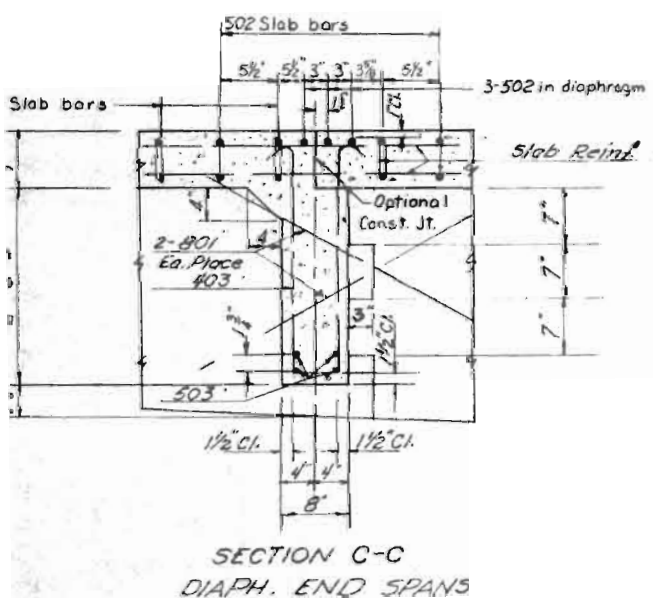
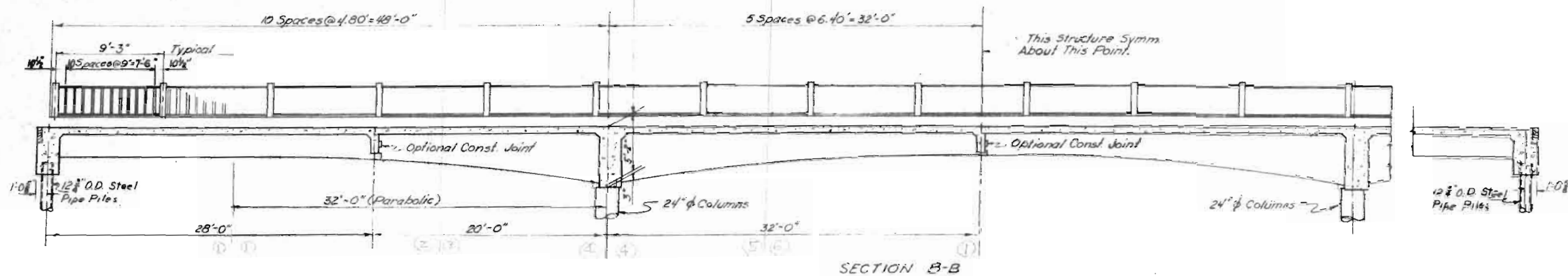
SUPERSTRUCTURE PLAN
STA. 16+28.51 to STA. 17+90.61
STA. 16+48.39 to STA. 18+10.49

Across County Road
Near Colo. Springs Sec. 16 T. 35 S. R. 66 W.

Designed By M.W. Approved By R.H. Powell
Made By L.K. Bridge Engineer
Checked By Date: 4-11-59



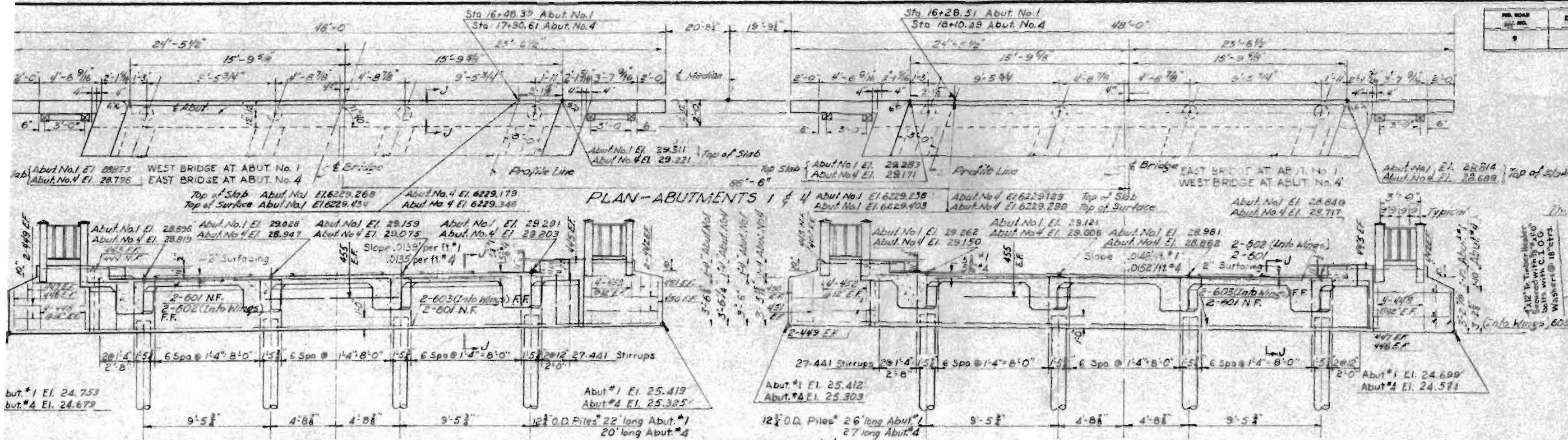
0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	Point
2'-7"	2'-7"	2'-7"	2'-7"	2'-7 1/16"	2'-8 1/16"	3'-0"	3'-4 3/16"	3'-10 3/16"	4'-5 3/16"	5'-2"	4'-2 13/16"	3'-6 3/16"	3'-0"	2'-8 1/4"	2'-7"	Distance from Top of Slab to Bottom of Girder
0	1/8"	1/4"	5/16"	3/8"	5/16"	1/4"	3/16"	1/8"	1/16"	0	1/16"	3/16"	1/4"	3/8"	1/16"	Camber for Dead Load Plus Vertical Curve in Inches



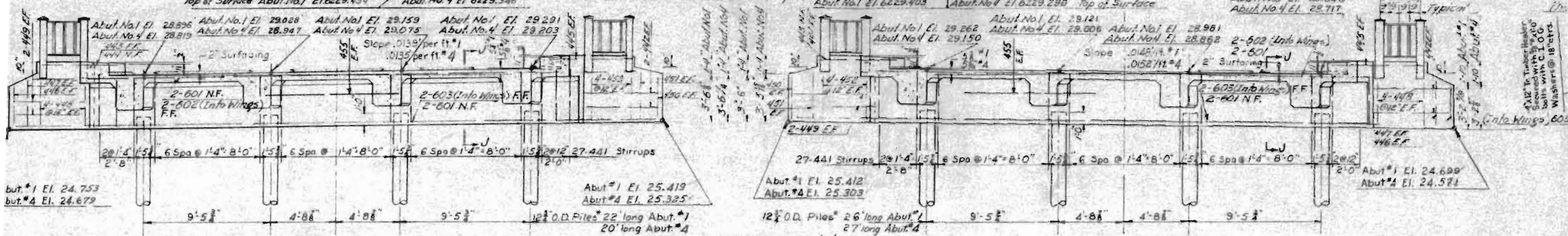
Structure Numbers
East Bridge Structure No. I-17-DJR
West Bridge Structure No. I-17-DV

COLORADO
DEPARTMENT OF HIGHWAYS
SECTION'S THRU SUPERSTRUCTURE
DIAPHRAGMS & OPTIONAL
CONSTRUCTION JOINT
WEST BRG. STA. 16+14.53 TO 16+49
EAST BRG. STA. 15+52.91 TO 15+50.51
Across County Road
Near Colo. Spgs. Sec. 13 T. 13S R. 66W
Designed By H.W. Approved By L.K.
Checked By D.H.F. 12.14.51 1959

STATE ROAD NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1-29-2(26)14E	69	



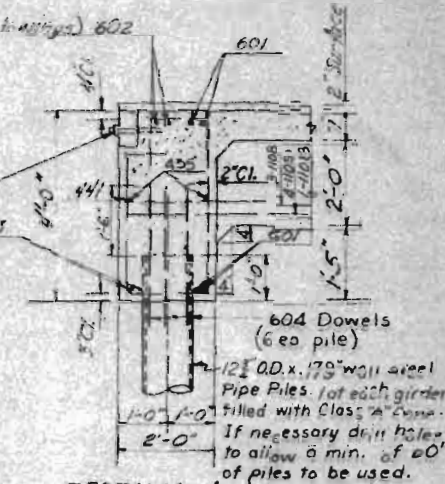
PLAN-ABUTMENTS 1 & 4



ELEVATION-ABUTMENTS 1 & 4

Note: Elev. shown at top of abuts. are slab elev. at 1' of piles.

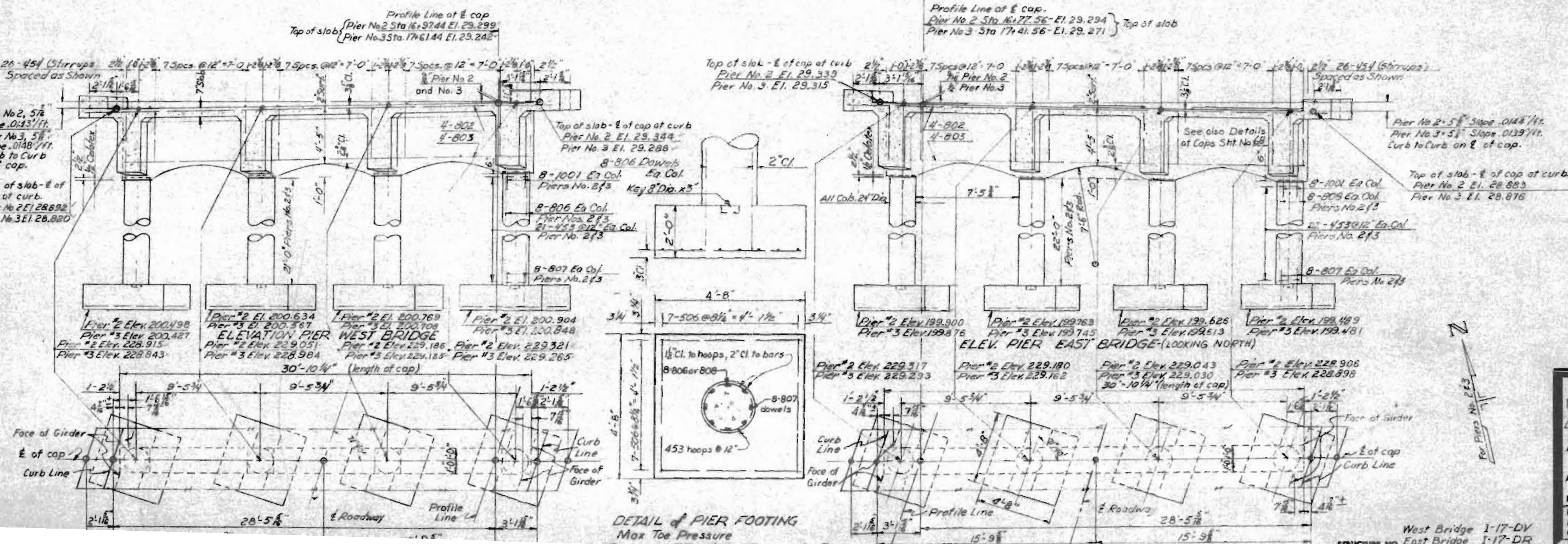
* 12" B.P. 53" may be used as an alternate to option of the Contractor.



SECTION J-J



PLAN AT TOP OF PILES



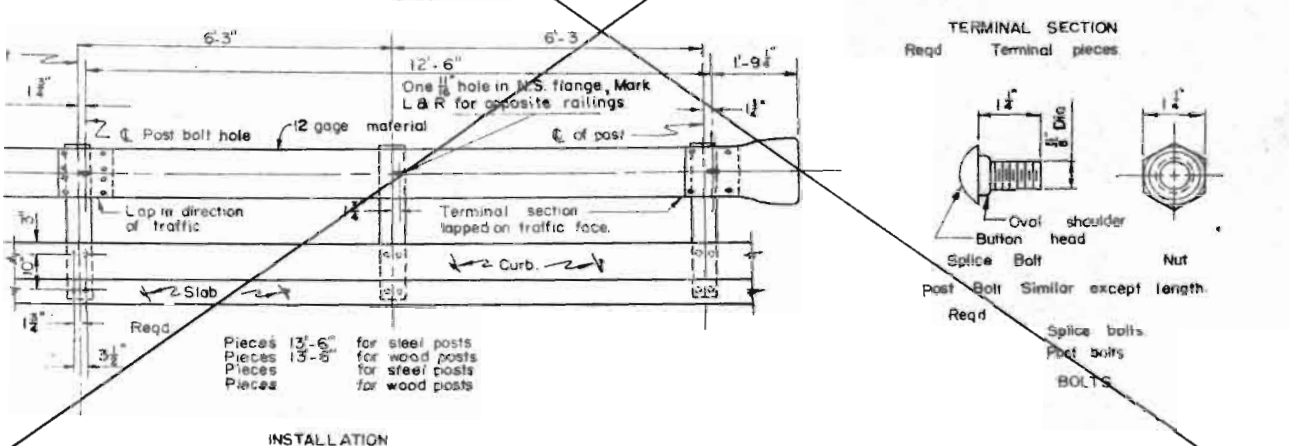
DETAIL OF PIER FOOTING

Max Toe Pressure

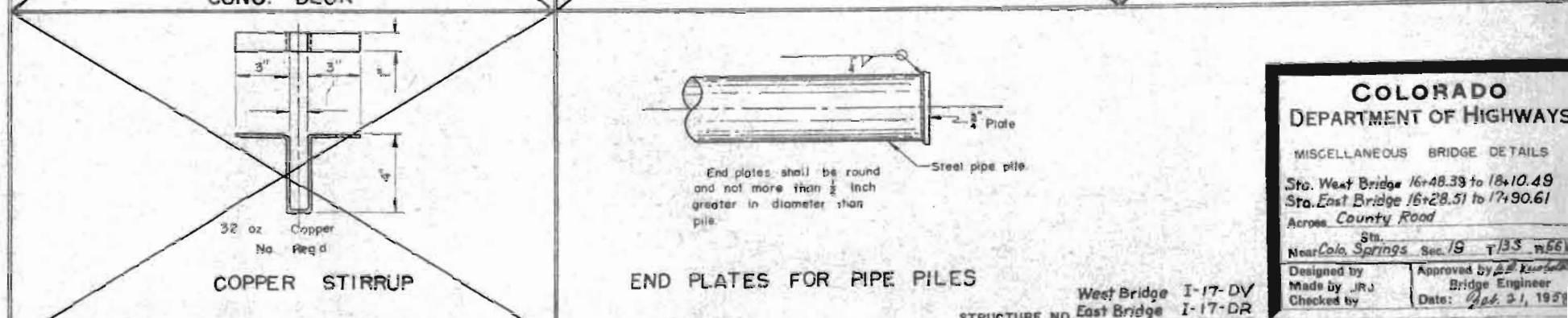
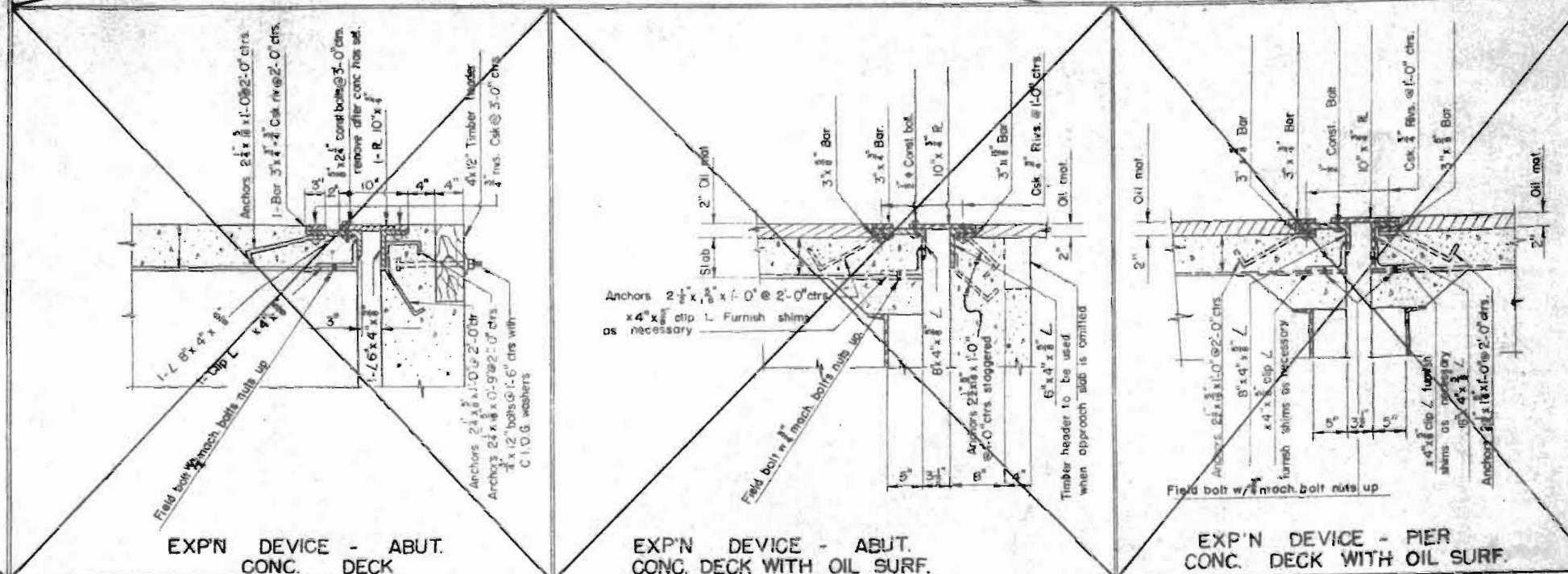
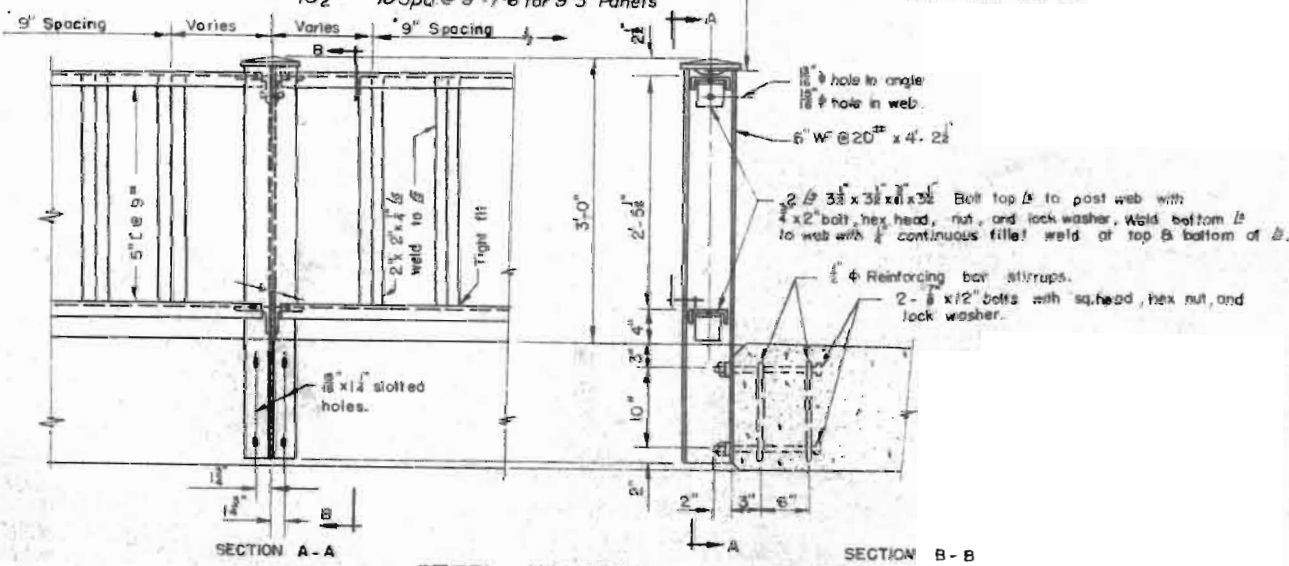
COLORADO
DEPARTMENT OF HIGHWAYS
DETAILS OF ABUTS. & PIERS
 WEST BRG. STA. 16+48.39 TO 17+90.61
 EAST BRG. STA. 16+28.51 TO 17+40.89

Across County Road
 Near Colo. Springs 19 135 N. 66 W.

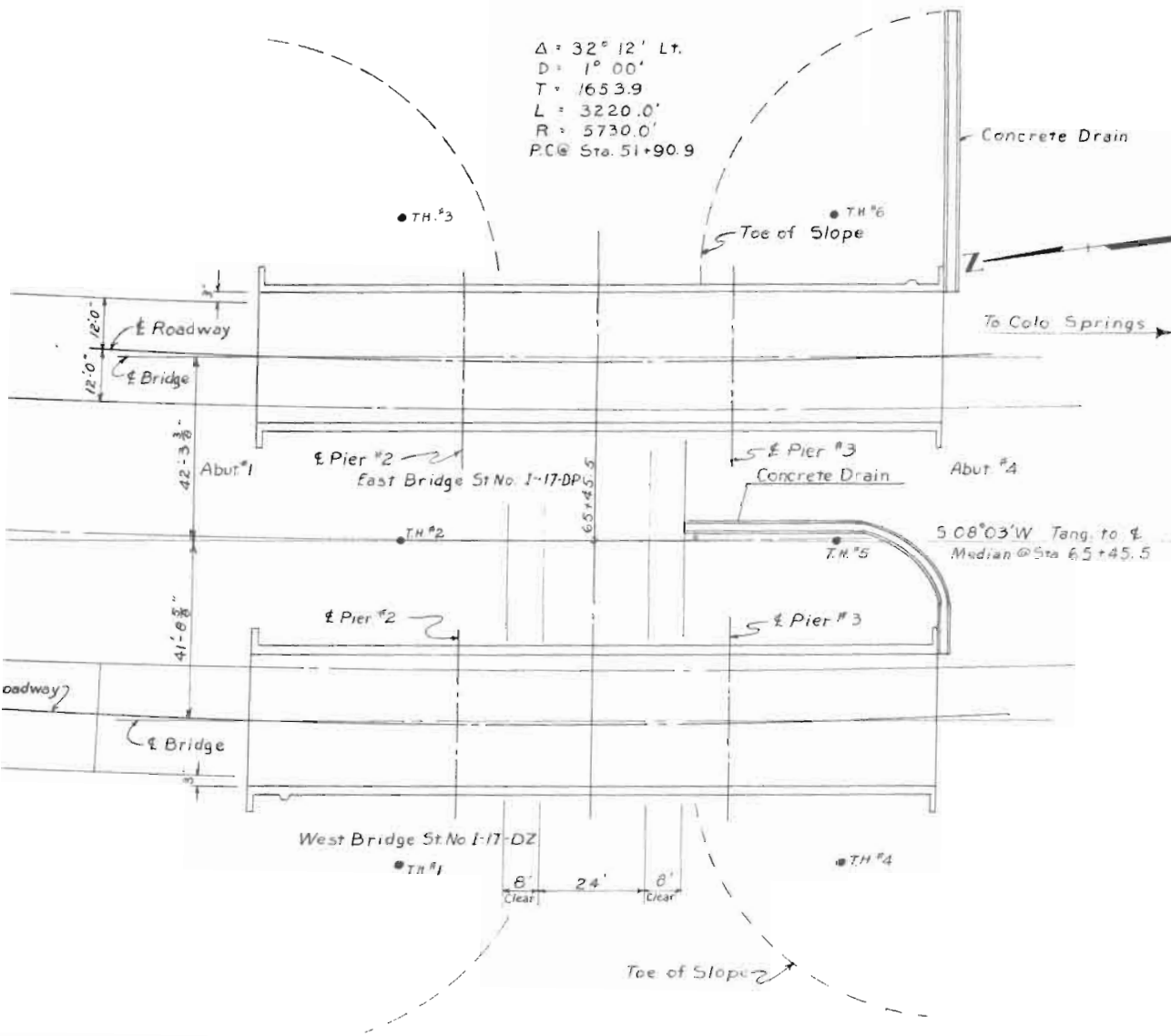
Designed by N.W.V. Approved by J. H. K. H. K.
 Made by L. K. Bridge Engineer
 Checked by J. H. K. Date Feb. 21, 1958



METAL PLATE GUARD RAIL



FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
	COLO.	I-25-2(8)145	71	

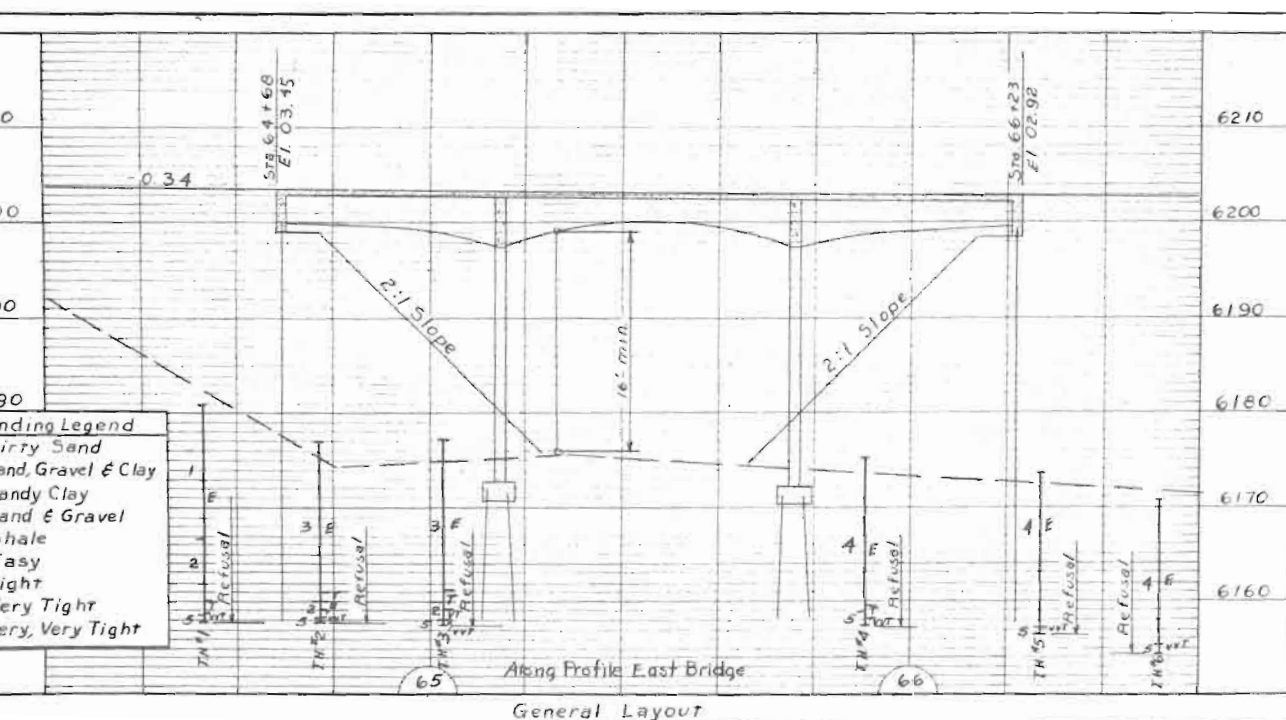


SUMMARY OF QUANTITIES - STRUCTURE NO. I-17-DP								
Item	Description	Unit	Super-Structure	Abut. No. 1	Pier No. 2	Pier No. 3	Abut. No. 4	Total
14	Unclassified Structural Excavation-Bridges	Cu Yd			59	47		106
16	Structure Backfill (Class I)	Cu Yd			34	24		58
30	Asphaltic Road Material (RC)	Gal.	52					52
18	Station Yard Overhaul	Sta Yd						640
16	Yard Mile Overhaul	Yd Mi						10
42	Treated Bridge Timber	Mfr Br		0.120			0.120	0.240
46	Class "A" Concrete	Cu Yd	254.6	11.4	30.3	30.3	19.4	346
47	Reinforcing Steel (Inc 1% Overrun)	Lb	73,820	940	4850	4850	940	85,400
48	Structural Steel (Inc 1/2% for Paint)	Lb	11,950	580			580	13,110
61	Steel Pipe Piling (12 1/2" O.D. x 0.179")	Lin Ft		176			176	352
34	Asphaltic Concrete Pavement (Type B)	Ton	54.3					54.3
4	Drilling Holes to Facilitate Pile Driving	Lin Ft		88			104	192
60	Treated Timber Piling	Lin Ft			300	300		600
90	1/2" Electric Conduit with Junction Boxes	Lin Ft	192					192

- ② Includes 10.4 cu yd concrete to fill pipe piles (5.4 cu yd ea Abut.)
 ③ 12" BP @ 53' may be used as an alternate at option of the Contractor
 ④ To be included in the Bid Price for item 61.

- ⑤ Includes conc. for slope drains, 8 Cu Yds for I-17-DP & 7.0 Cu Yds. for I-17-DZ
 ⑥ Handrail Steel

SUMMARY OF QUANTITIES - STRUCTURE NO. I-17-DZ								
Item	Description	Unit	Super-Structure	Abut. No. 1	Pier No. 2	Pier No. 3	Abut. No. 4	Total
14	Unclassified Structural Excavation-Bridges	Cu Yd			59	47		106
16	Structure Backfill (Class I)	Cu Yd			34	24		58
30	Asphaltic Road Material (RC)	Gal.	52					52
18	Station Yard Overhaul	Sta Yd						640
16	Yard Mile Overhaul	Yd Mi						10
42	Treated Bridge Timber	Mfr Br		0.120			0.120	0.240
46	Class "A" Concrete	Cu Yd	254.6	11.4	30.3	30.3	18.4	345
47	Reinforcing Steel (Inc 1% Overrun)	Lb	73,820	940	4850	4850	940	85,400
48	Structural Steel (Inc 1/2% for Paint)	Lb	11,950	580			580	13,110
61	Steel Pipe Piling (12 1/2" O.D. x 0.179")	Lin Ft		176			176	352
34	Asphaltic Concrete Pavement (Type B)	Ton	54.3					54.3
4	Drilling Holes to Facilitate Pile Driving	Lin Ft		88			104	192
60	Treated Timber Piling	Lin Ft			300	300		600
90	1/2" Electric Conduit with Junction Boxes	Lin Ft	192					192



GENERAL NOTES

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS APPLICABLE TO THE PROJECT.
 ALL CONCRETE SHALL BE PLACED IN PLACE AND CURED AS SPECIFIED.
 SURFACES MARKED WITH THE SYMBOL Δ AS SHOWN ON SHEET NO. 62 SHALL RECEIVE CLASS 1 SURFACE FINISH.
 CONCRETE GIRDERS AND FLOOR SLABS SHALL BE POURED MONOLITHICALLY.
 FORMS FOR CONCRETE SURFACES EXPOSED IN THE FINISHED WORK SHALL BE CONSTRUCTED OF SHEEP OR TONGUE AND GROOVE LUMBER 3" UNLESS FACED WITH PANEL BOARD.
 FOOTINGS IN ROCK SHALL BE POURED OUT TO ROCK AND NOT FORMED.
 SOUNDINGS AND DEPTH OF FOOTING SHOWN ARE IN ACCORDANCE WITH THE BEST AVAILABLE DATA AND WHEN DIFFERENT CONDITIONS ARE ENCOUNTERED THE BRIDGE ENGINEER WILL IN SPECIFY AND DETERMINE IF REDESIGN IS NECESSARY.
 ALL REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A 305-507 OR THE LATEST REVISION THEREOF AND SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE TAGGED WITH THE NUMBER DESIGNATION AND THE STATION NUMBER OF THE FOOTING.
 SECONDARY BARS WHEN SPLICED SHALL LAP 17 DIAMETERS OF THE BAR. DIMENSIONS FOR REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE TO THE CENTER LINE OF THE BAR.
 ALL STRUCTURAL STEEL SHALL BE PAINTED ONE SHOP COAT OF ZINC CHROMATE AND TWO FIELD COATS OF ALUMINUM. UNLESS OTHERWISE NOTED, EXCEPT THE UNEXPOSED PORTION OF STEEL PILING NEED NOT BE PAINTED.
 HANDRAIL BOLTS SHALL HAVE HEX HEADS, NUTS, AND LOCK WASHERS UNLESS OTHERWISE SPECIFIED AND ALL RIVETS EXCEPT AS NOTED ARE 1/2" DIA. AND SHALL BE POWER DRIVEN.
 WHEN TREATED TIMBER IS SHOWN ON THE DRAWING THE PRESERVATIVE FOR TREATMENT SHALL BE CREOSOTE OIL.
 WHEN EXCAVATING FOR FOOTINGS THE FINAL ONE FOOT IN DEPTH SHALL BE DONE BY HAND LABOR METHODS.
 IF BY PERMISSION OF THE ENGINEER PRIMARY BARS ARE SPLICED THEY SHALL LAP 28 DIAMETERS FOR BARS NEAR TOP OF BEAMS AND GIRDERS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS AND 17 DIAMETERS FOR BARS NEAR BOTTOM OF MEMBERS.
 GIRDER SHORING SHALL REMAIN IN PLACE FULL LENGTH UNTILL ALL GIRDER JOINTS HAVE REACHED A MINIMUM STRENGTH OF 2500 PSI.
 FOR DETAILS OF STRUCTURAL EXCAVATION AND STRUCTURE BACKFILL SEE STD. D-60-B.

LOADING DATA - INTERSTATE ALTERNATE LOADING
 LIVE LOAD - A.A.S.H.O. (1920-54) 44
 DEAD LOAD ASSUMES 15 LBS. PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE 1/2" INCH CONCRETE MONOLITHIC WEARING SURFACE SHOWN.

DESIGNING DATA
 A.A.S.H.O. 1933 UNIT STRESSES EXCEPT AS NOTED.
 Reinforcing Steel fs = 20000 lbs. per sq. in.
 Structural Steel fs = 18000 lbs. per sq. in.
 fc = 12000 lbs. per sq. in.
 6-10

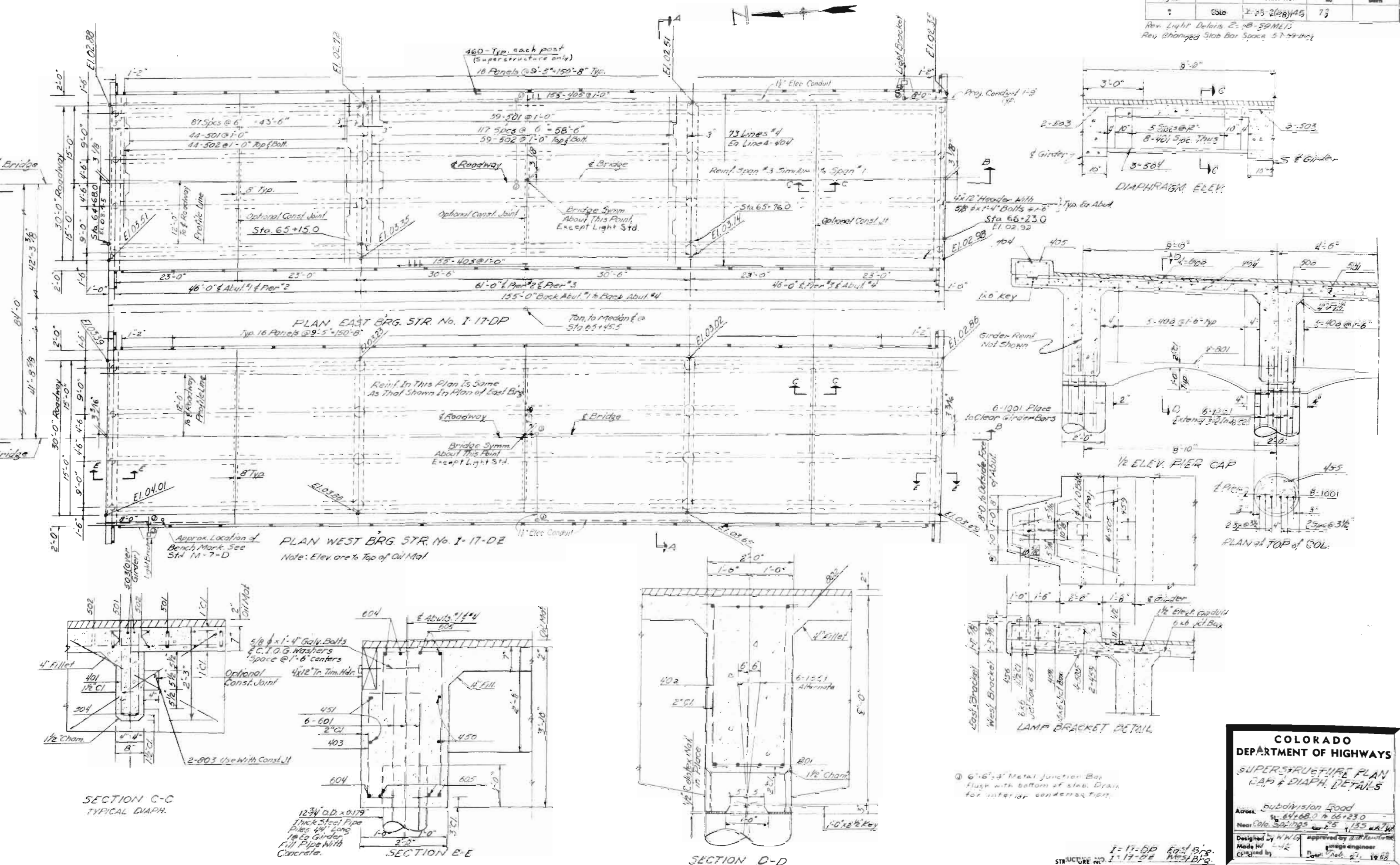
COLORADO
 DEPARTMENT OF HIGHWAYS
 3 Spans (46'-61'-46') Continuous
 Concrete Slab & Girder Bridge,
 30' Roadway. General Layout.

Across Subdivision Road
 Sta. 64+68 to 66+23
 Near Colo. Springs Sec. 25 T. 13S R. 67W
 Designed by
 Made by
 Checked by
 Approved by
 Bridge Engineer
 Date: Feb. 21, 1958

I-17-DP East
 I-17-DZ West
 STRUCTURE NO.

REV. NO.	DATE	DESCRIPTION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	10-25-58	2(28)45	73		

Rev. Light Details 2-18-59 MEI
Rev. changed Slab Bar Space 5-7-59 DCL



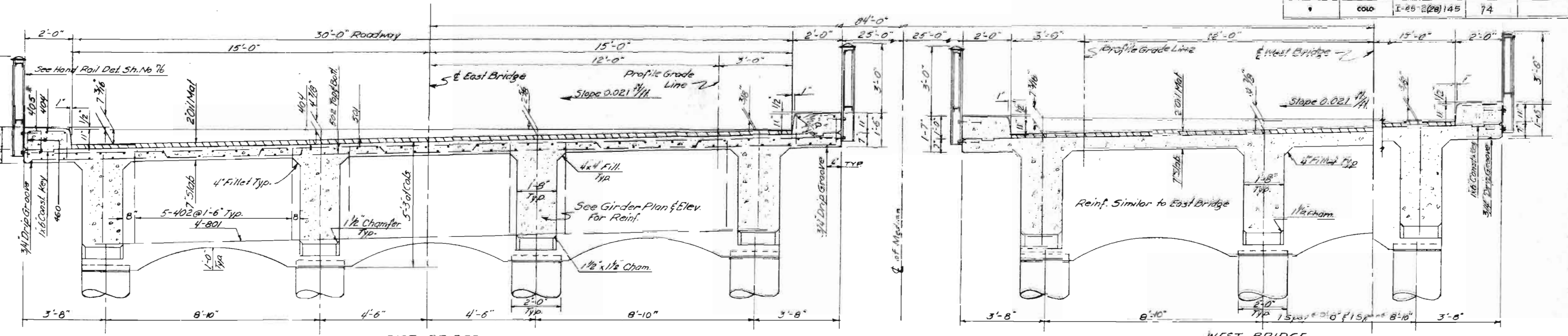
COLORADO
DEPARTMENT OF HIGHWAYS

SUPERSTRUCTURE PLAN
PLAN & DIAPH. DETAILS

Across Subdivision Road
Sta. 64+68.0 to 66+23.0
Near Cole Springs 25 135 W.A.W.

Designed by W.W.G. approved by J.H. Hamilton
Made by J.H.K. checked by J.H.K.
Checked by J.H.K. Date: Feb. 27, 1958

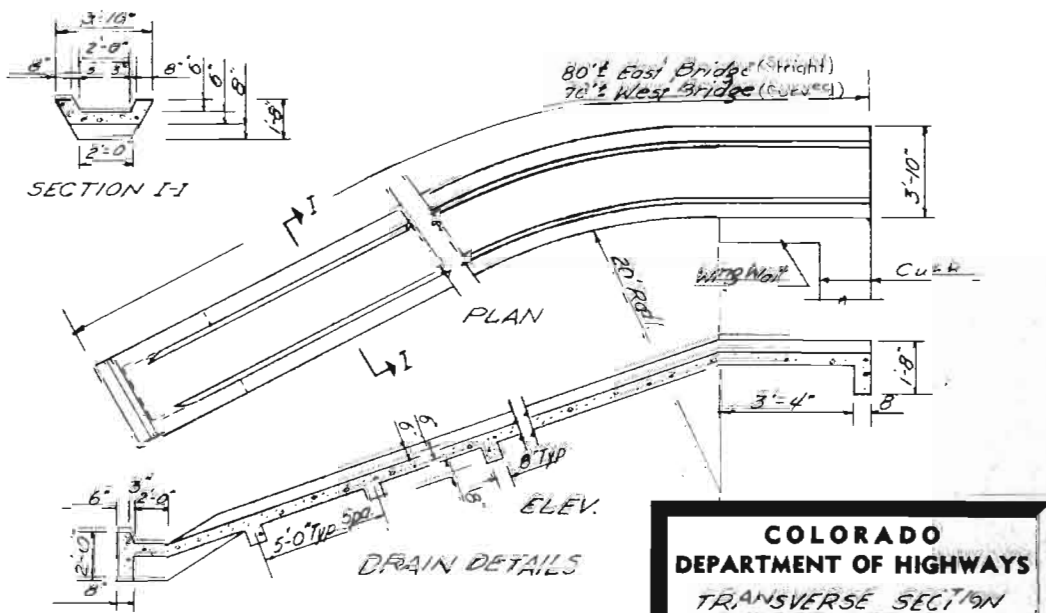
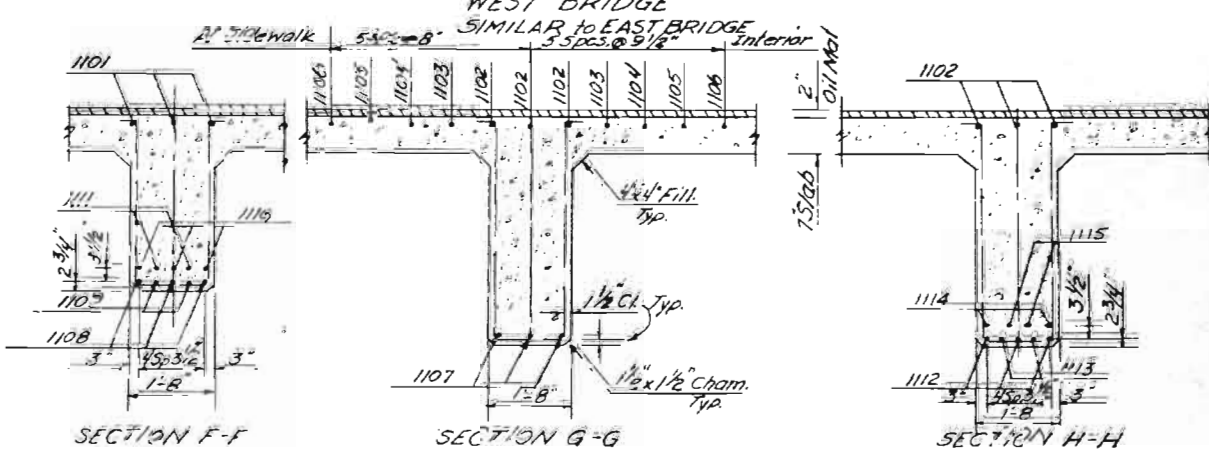
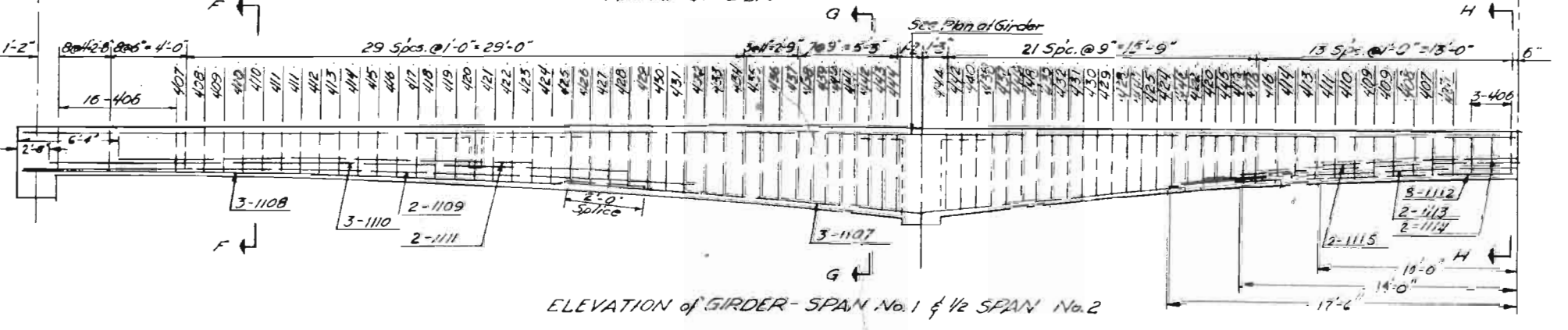
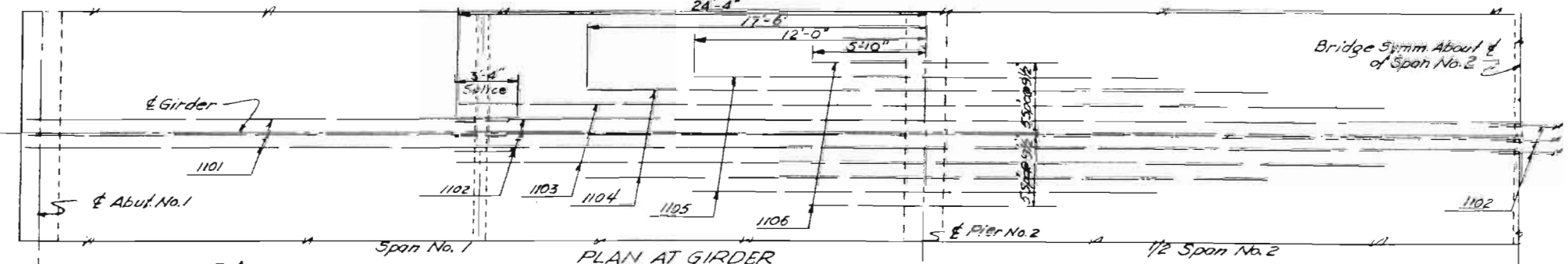
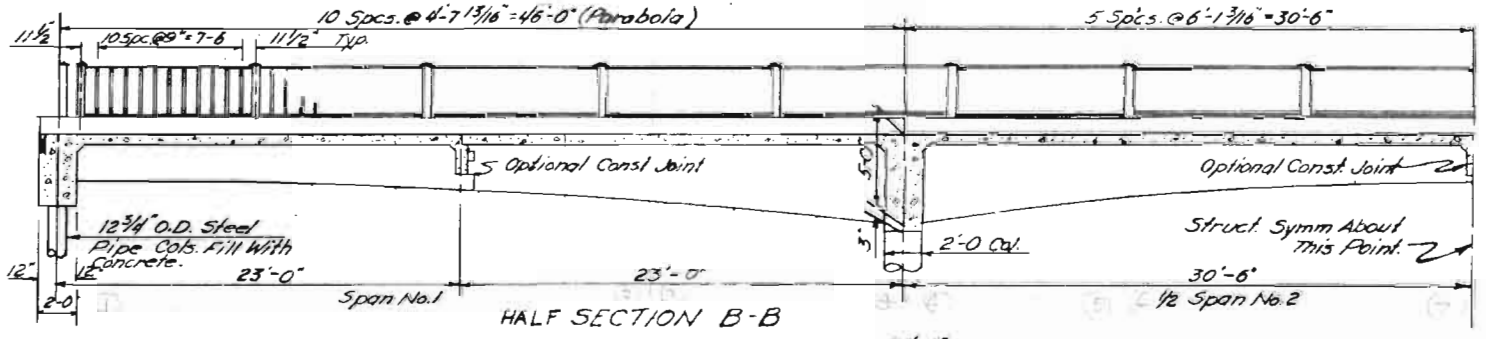
STRUCTURE NO. 1-17-DP East Brg.
1-17-DP West Brg.



SECTION A-A

Point Dist. Top of Slab to Bolt of Girder. Camber for Dead Load in Inches.

0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
2'-6"	2'-6 3/16"	2'-7 3/16"	2'-8 1/16"	2'-10 1/16"	3'-1 1/2"	3'-4 1/16"	3'-8 1/16"	4'-1 3/16"	4'-6 1/4"	5'-0"	4'-1 3/16"	3'-4 1/16"	2'-10 1/16"	2'-8 1/16"	2'-6"
0	1/8"	3/16"	7/32"	7/32"	3/16"	1/8"	1/16"	1/32"	0	0	-1/32"	0	1/16"	3/32"	1/8"



COLORADO DEPARTMENT OF HIGHWAYS

TRANSVERSE SECTION
GIRDER DETAILS
DRAIN DETAIL

Subdivision Road

Acres 64.68 to 66.23

Sta. 64+00 to 66+23

Designed by L. J. L.

Made by L. J. L.

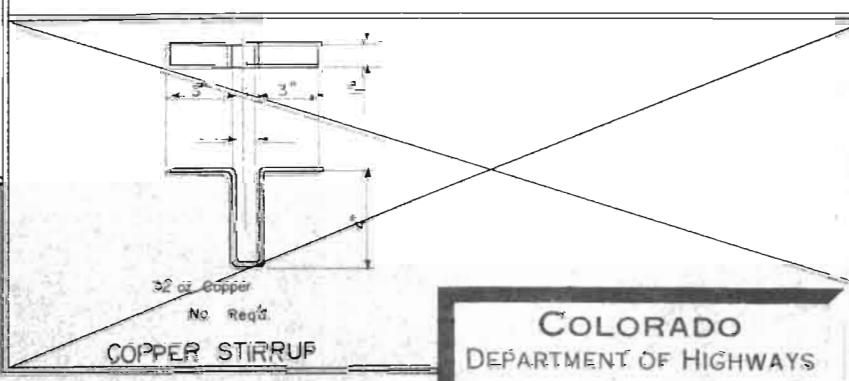
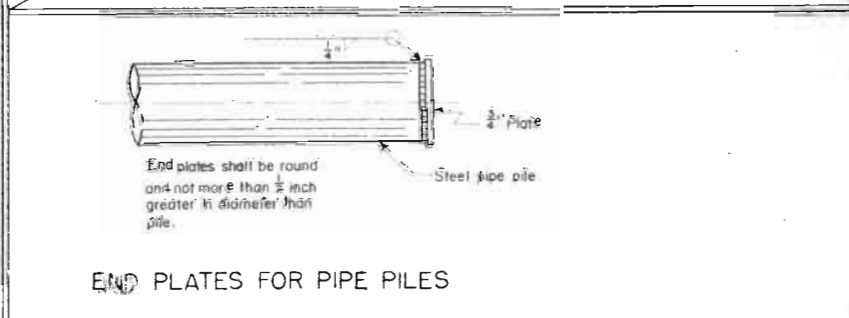
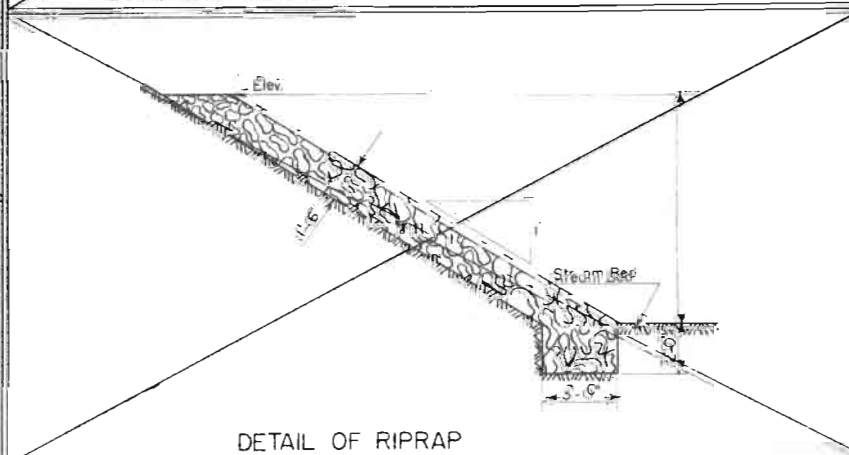
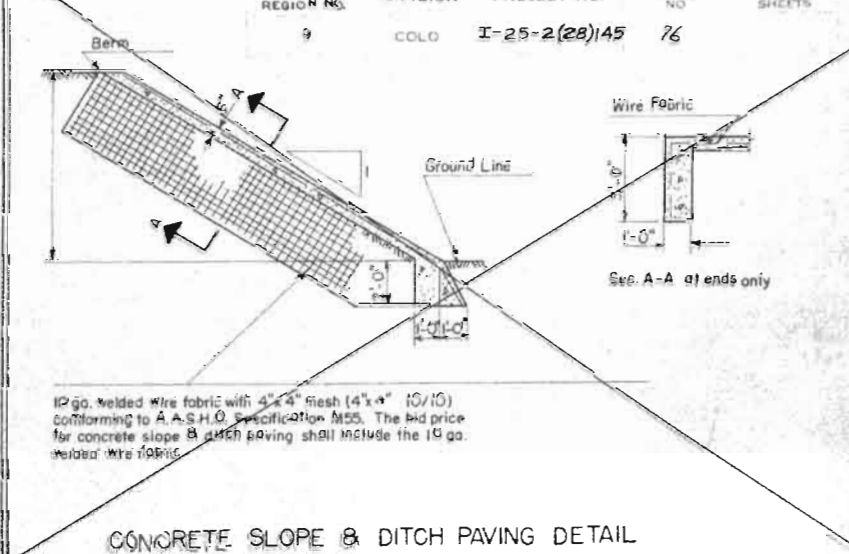
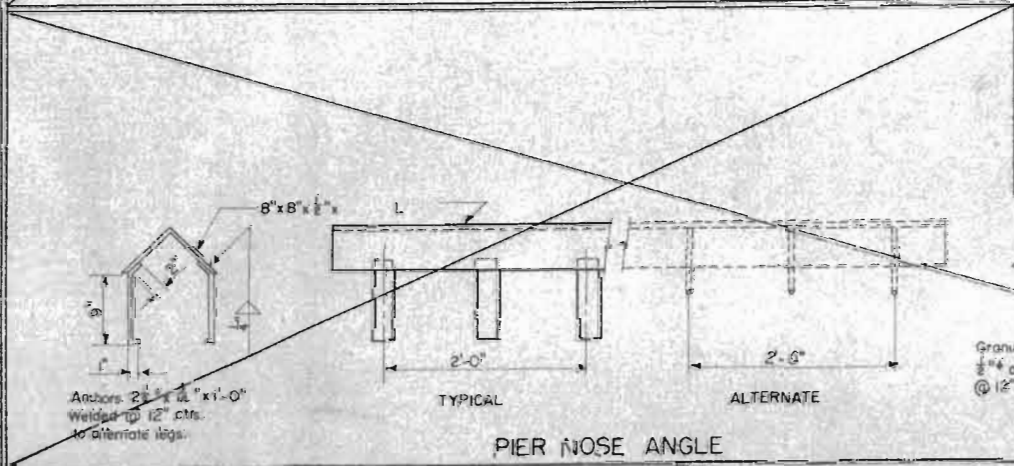
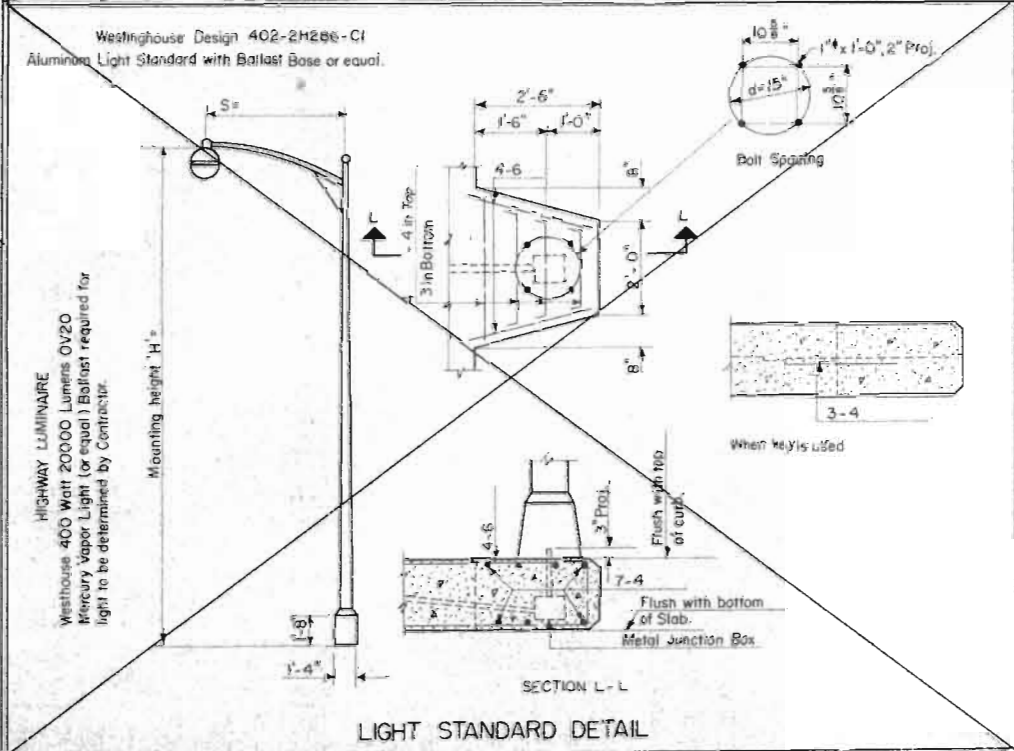
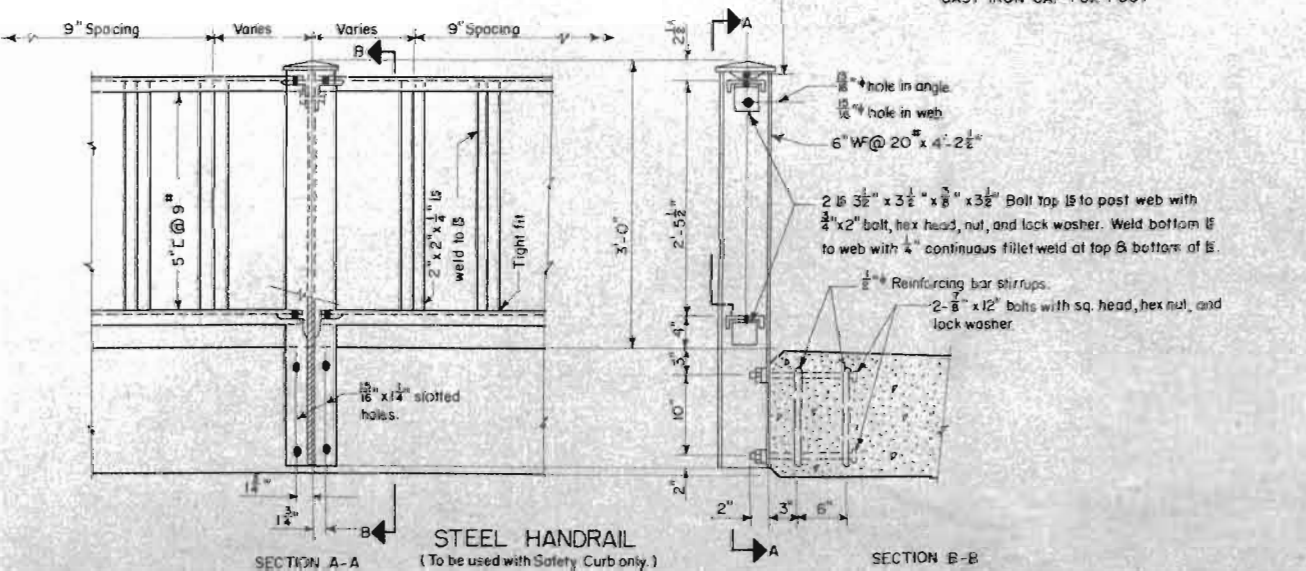
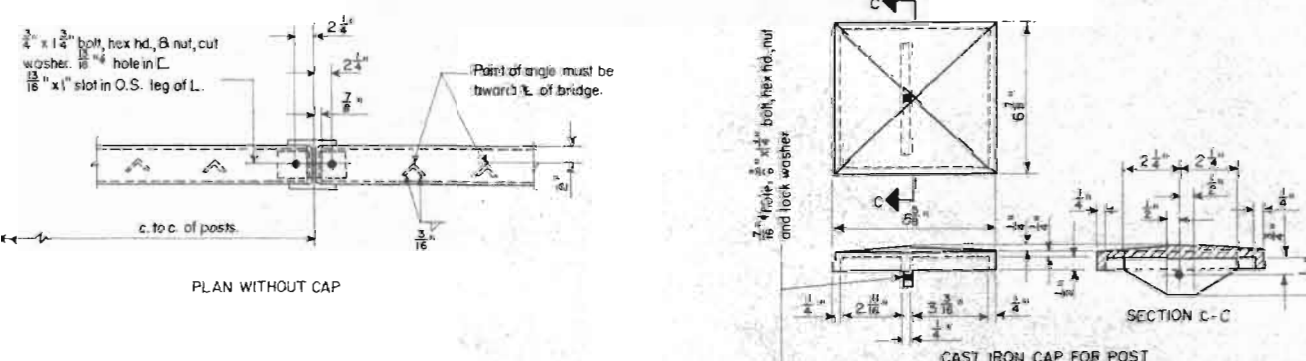
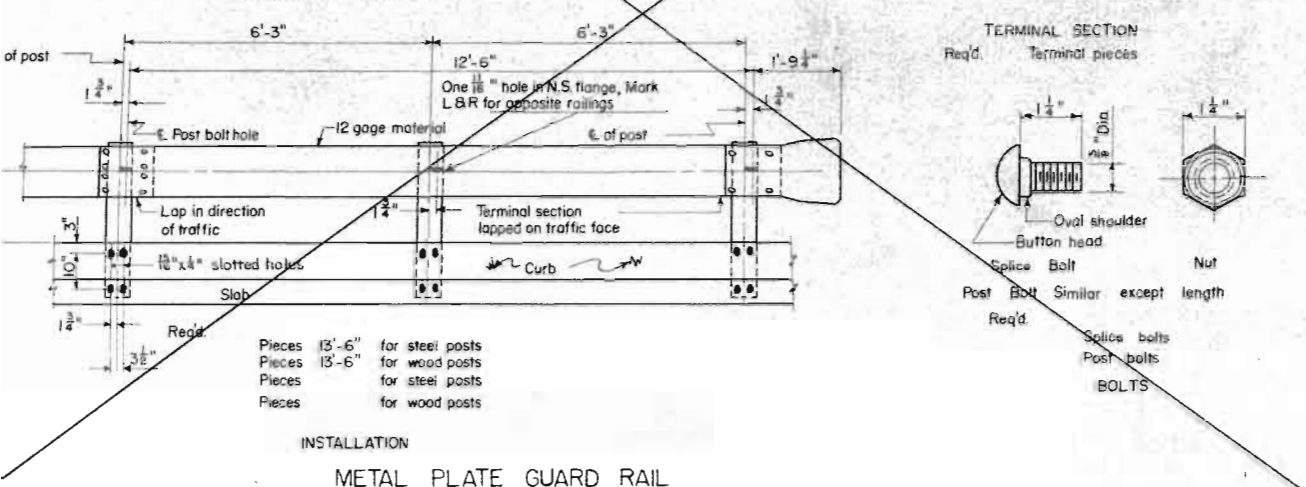
Checked by L. J. L.

Date: 4-11-1958

Approved by R. D. Keweenaw

Bridge Engineer

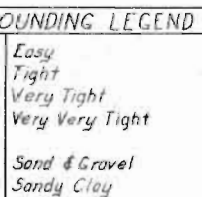
STRUCTURE NO. 1-17-DB East Brg. 1-17-DB West Brg.



Granular flux filled concrete anchors
② 1/2" automatically arc welded, spaced
@ 12" ctrs. may be used as an alternate

1-17-DP East
1-17-DZ West

STRUCTURE NO.



Item	Description	Unit	Super-Structure	Abut. No. 1	Pier No. 2	Pier No. 3	Pier No. 4	Abut. No. 5	Total
14	Unclassified Structural Excavation-Bridges	Cu Yd			75	42	73		190
16	Structure Backfill (Class 1)	Cu Yd			52	21	50		123
30	Asphaltic Road Material (RC)	Gal.	78						78
10	Station Yard Overhaul	Sq Yd							1498
18	Yard Mile Overhaul	Sq Mi.							20
42	Treated Bridge Timber	Mfcs		0.122				0.102	0.244
① 46	Class 'A' Concrete	Cu Yd	392.8	11.0	30.5	30.5	30.5	22.7	518.8
47	Reinforcing Steel (Inc 1% Overrun)	Lbs	121,800	945	6445	6445	6445	945	143,025
③ 48	Structural Steel (Inc 2% for Paint)	Lbs	17,930	580				580	19,090
⑤ ② 61	Steel Pipe Piling, 12 3/4 O.D. x 0.179	Lin. Ft.		184				256	440
34	Asphaltic Concrete Pavement (Type 1)	Ton	82						82
90	1 1/2" Electrical Conduit with Junction Boxes	Lin. Ft.	488						488
⑥ ① 61	Steel Pipe Piling, 10 3/4 O.D. x 0.179				384	656	656		1696
④	Drilling Holes to Facilitate Pile Driving	Lin. Ft.		50				88	138

- GENERAL NOTES

[illegible]

LOADING DATA
LIVE LOAD - A.A.S.H.O. (19-44) An Site Loading
DEAD LOAD ASSUMES IS .85 PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE 7.5 INCH CONCRETE AND ALLOTHIC WEARING SURFACE SHOWN

DESIGN No. DATA
A-4 S.F.O. 1931 INC. STEEL, EXCEPT AS NOTED.

Reinforcing	Steel	f = 20,000	lbs. per sq. in.
Structure	Steel	es = 18,000	lbs. per sq. in.
		c = 1,200	lbs. per sq. in.
		n = 10	

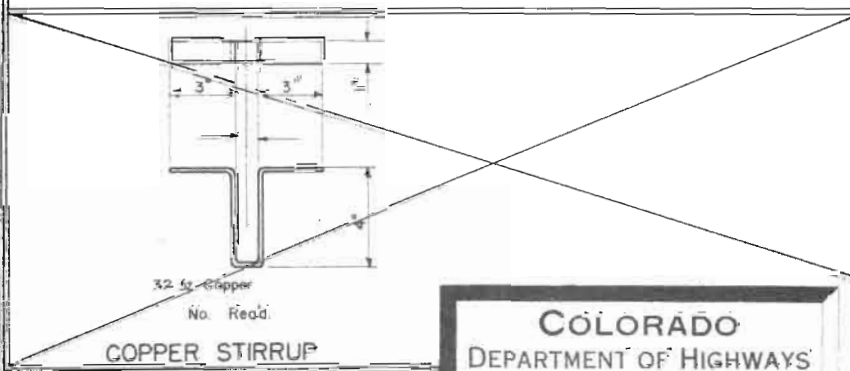
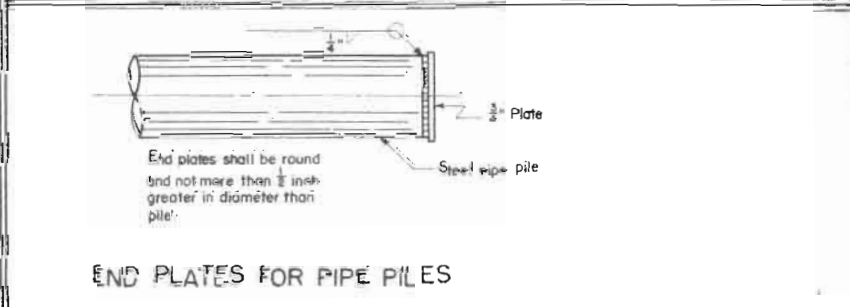
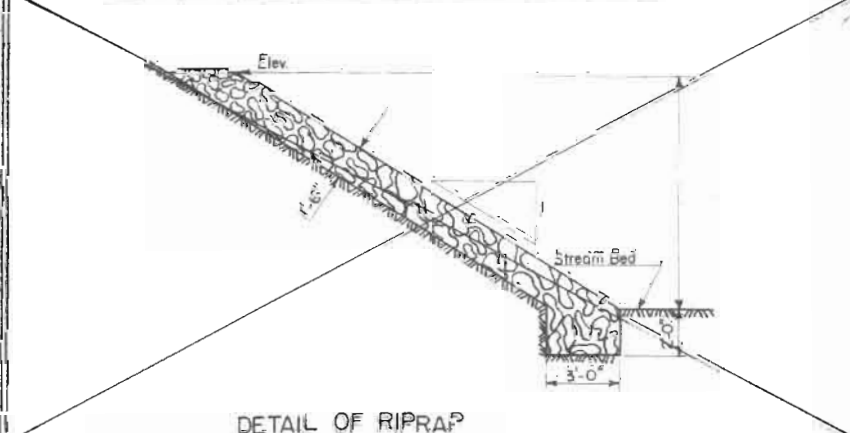
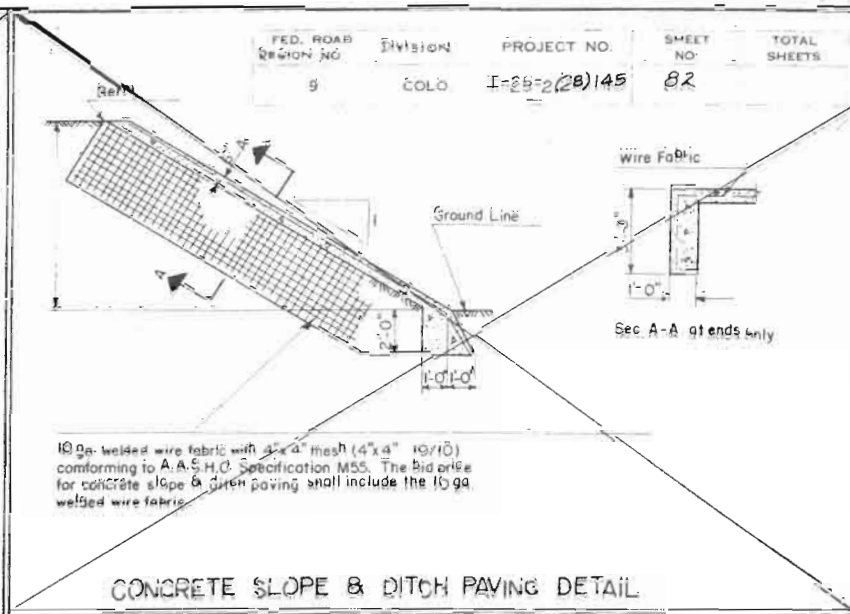
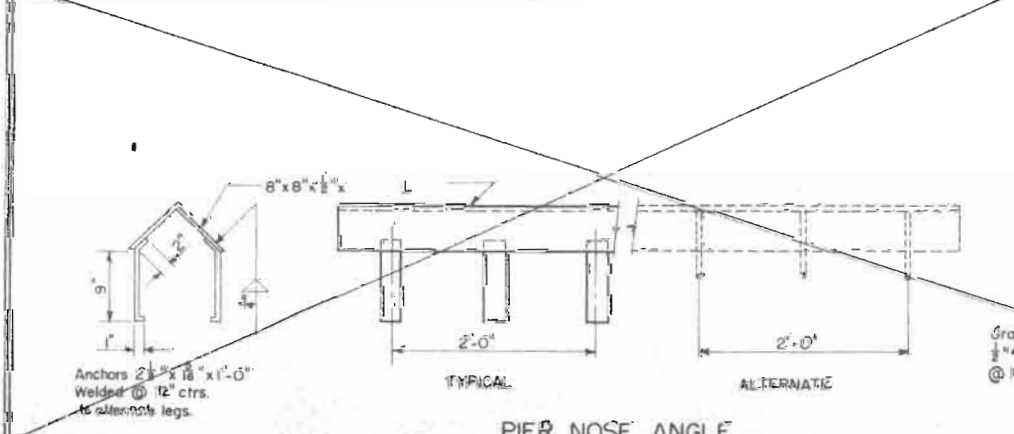
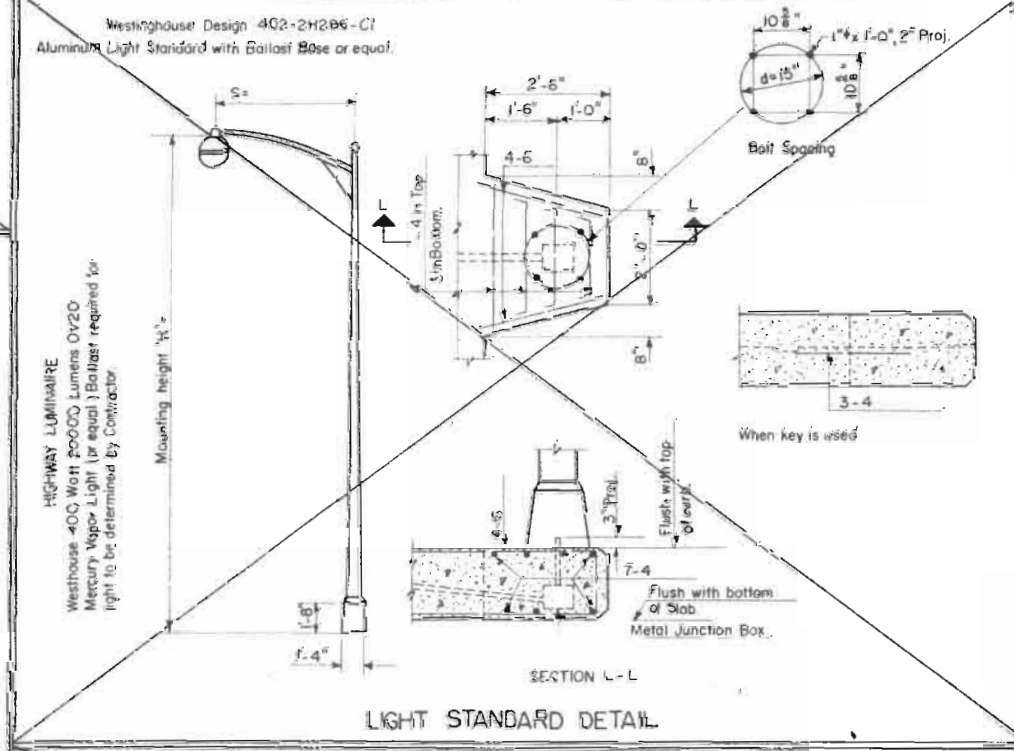
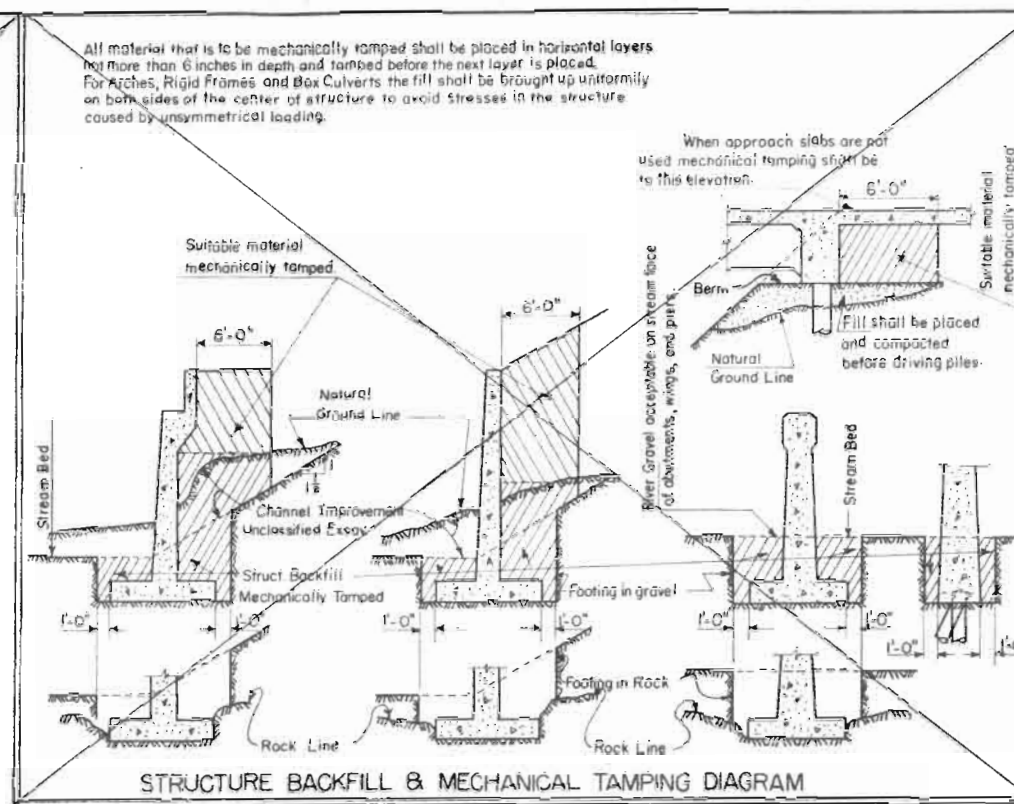
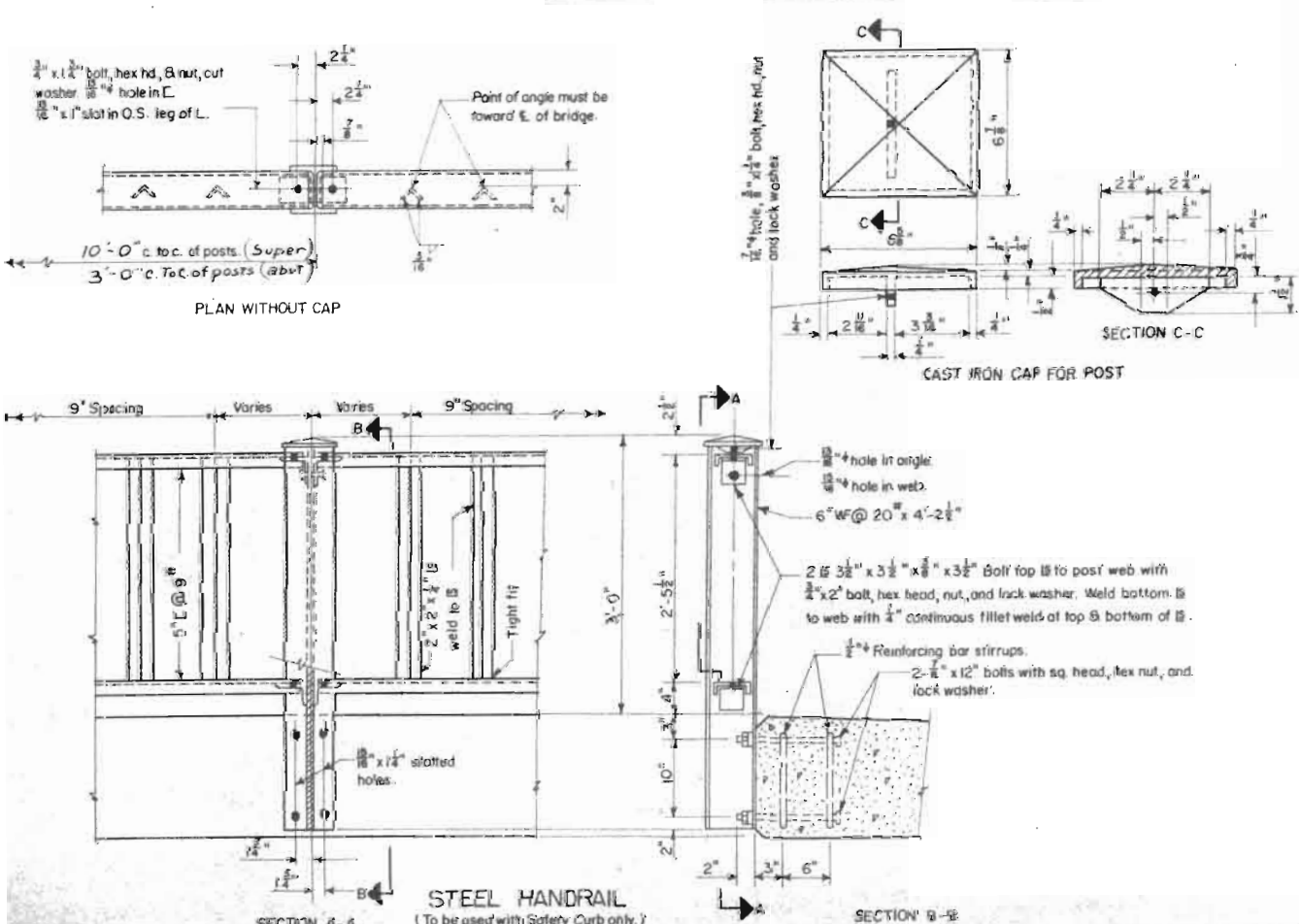
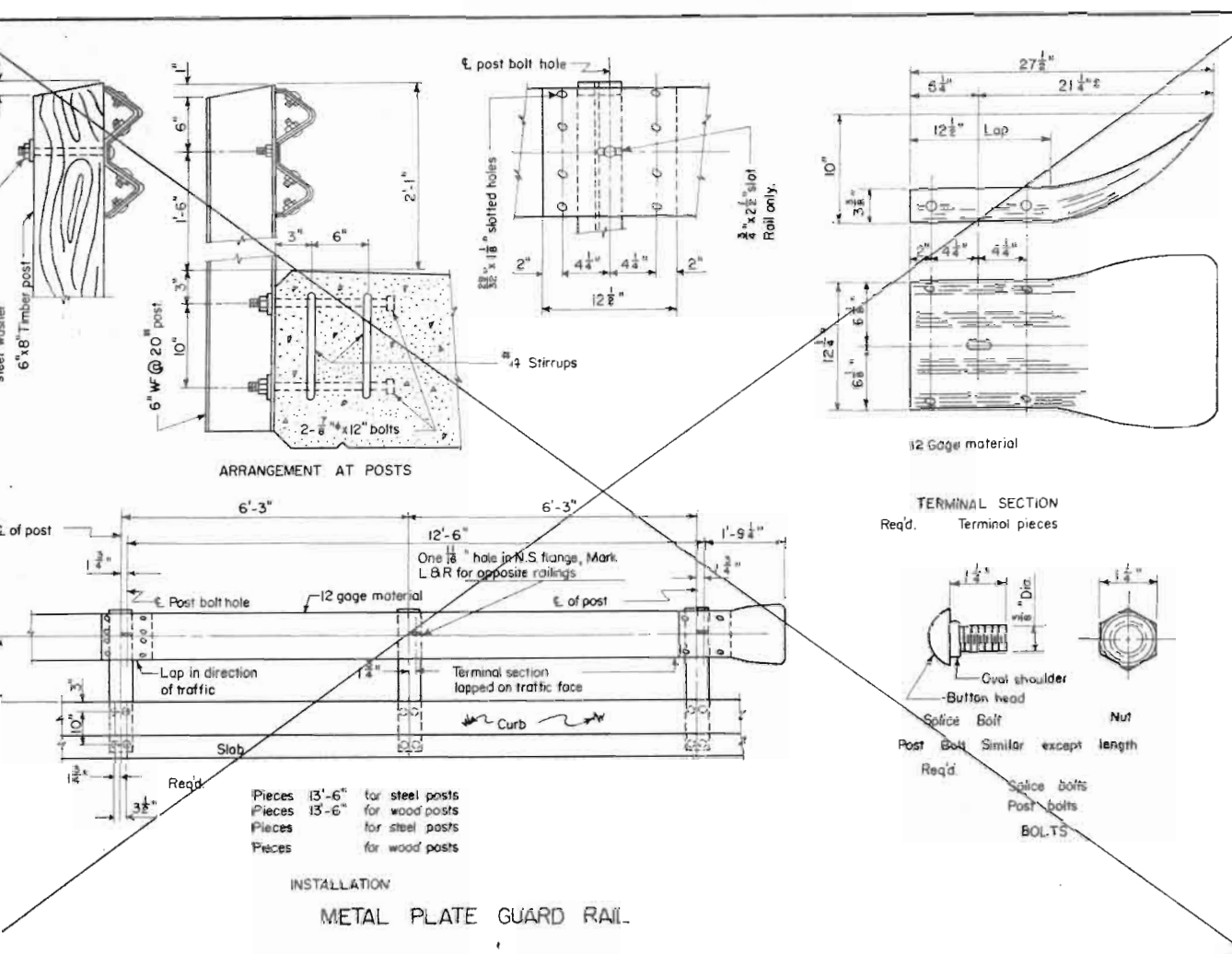
COLORADO
DEPARTMENT OF HIGHWAYS
4 Spans (49'-67'-67'-49') Continuous
Concrete Slab Girder Bridge.
30' Roadway, 9'23" Skew.

Fillmore St. Over Freeway
Sta. 94+12.3

Near Cole Springs 36 T. 15 S. R. 62 W.

Designed by	Approved by <u>A. H. K. 20</u>
Made by	Bridge Engineer
Checked by	Date: <u>July 21, 1958</u>

STRUCTURE NO. I-17-DY



COLORADO DEPARTMENT OF HIGHWAYS

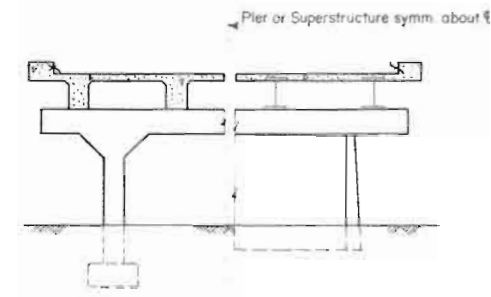
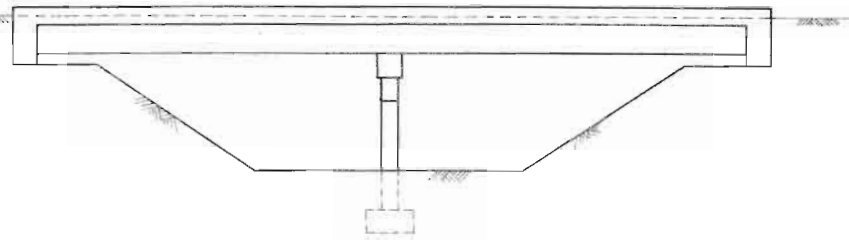
MISCELLANEOUS BRIDGE DETAILS

Access Fillmore St. Over Freeway
Sta. 98+74.3
Near Colo. Springs Sec. 36 T. 13S R. 67W

Designed by
Made by G.J.S.
Checked by

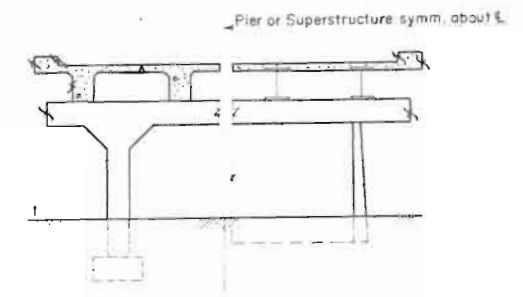
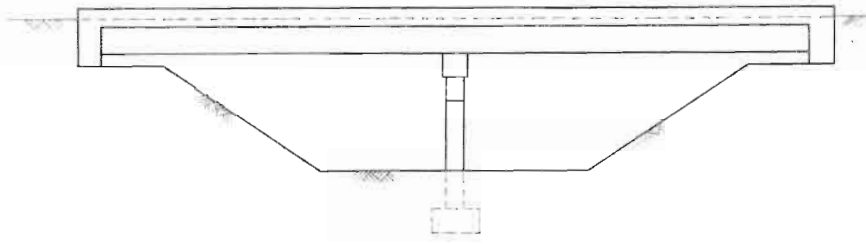
Approved by
Bridge Engineer
Date: Feb. 21, 1958

STRUCTURE NO. 1-17-DY



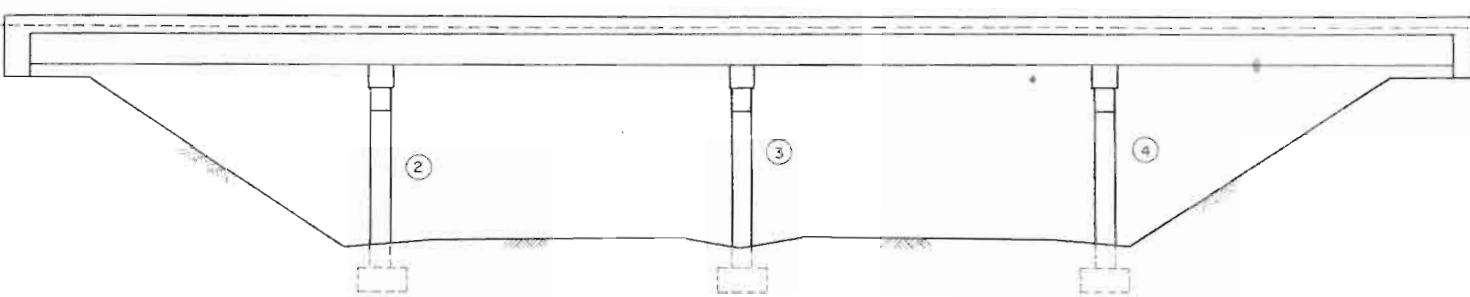
PIER AND SUPERSTRUCTURE

RURAL STREAM CROSSING

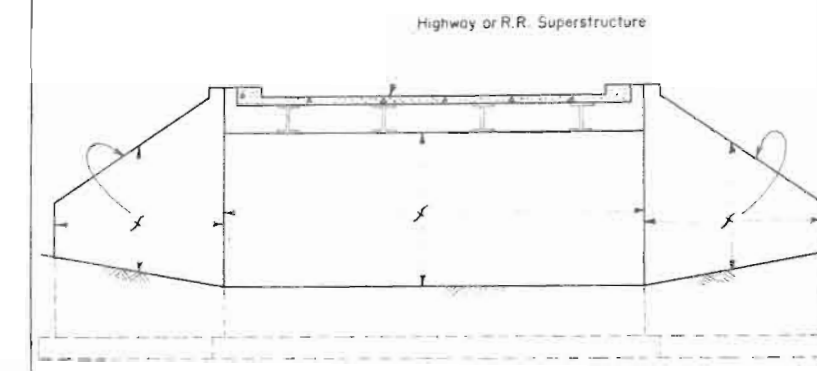


PIER AND SUPERSTRUCTURE

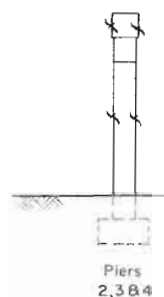
URBAN STREAM CROSSING OR NEAR URBAN AREA



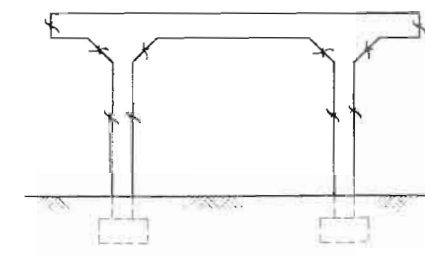
STUB ABUTMENTS
(Underpass Only)



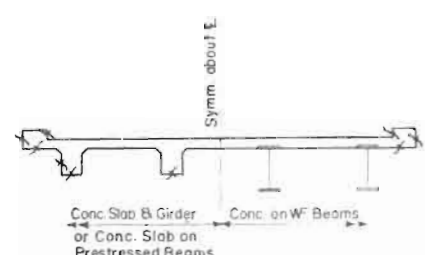
CANTILEVER ABUTMENTS
(Underpass Only)



Piers
2, 3 & 4



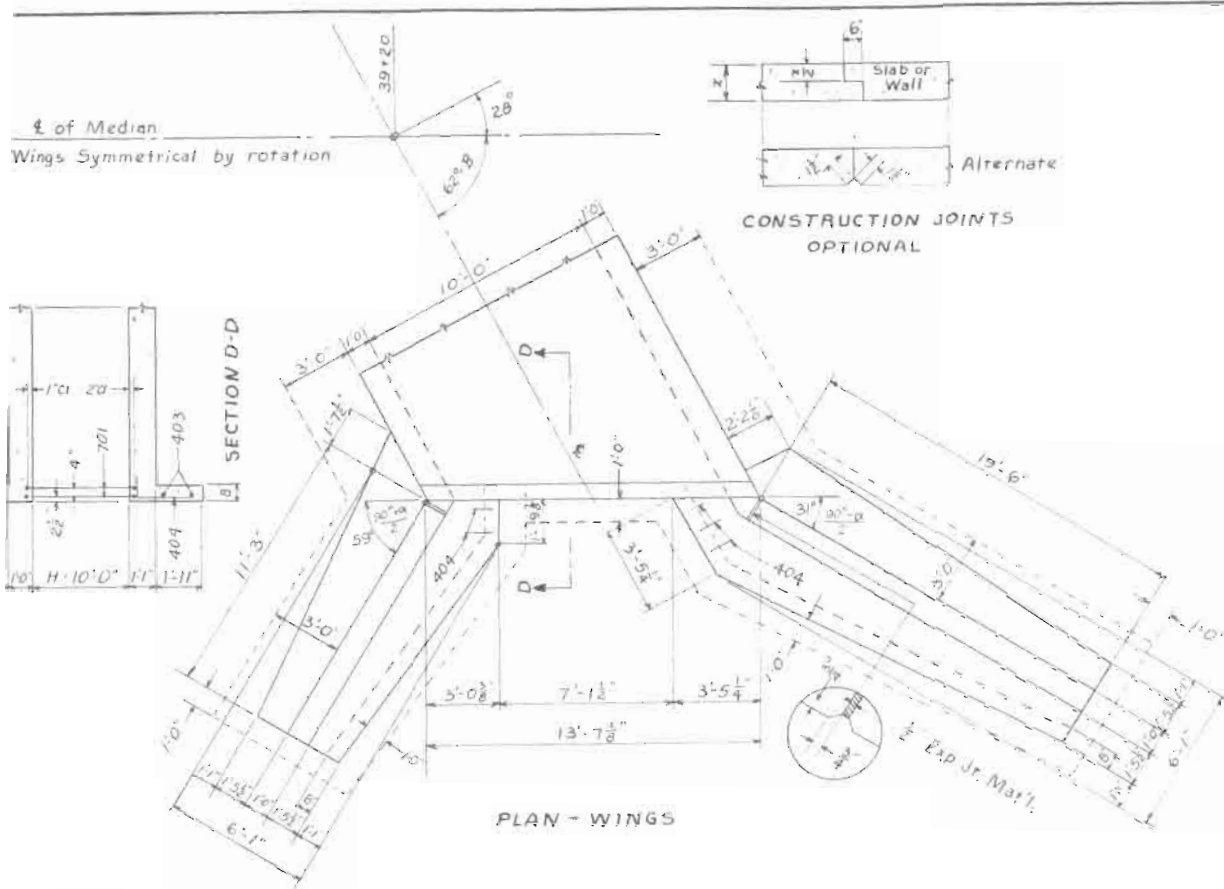
All Piers



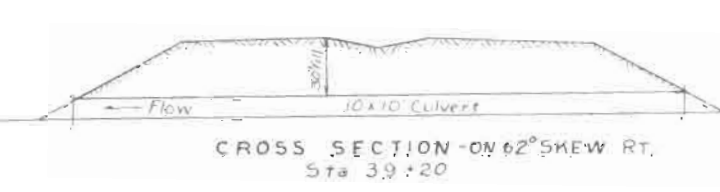
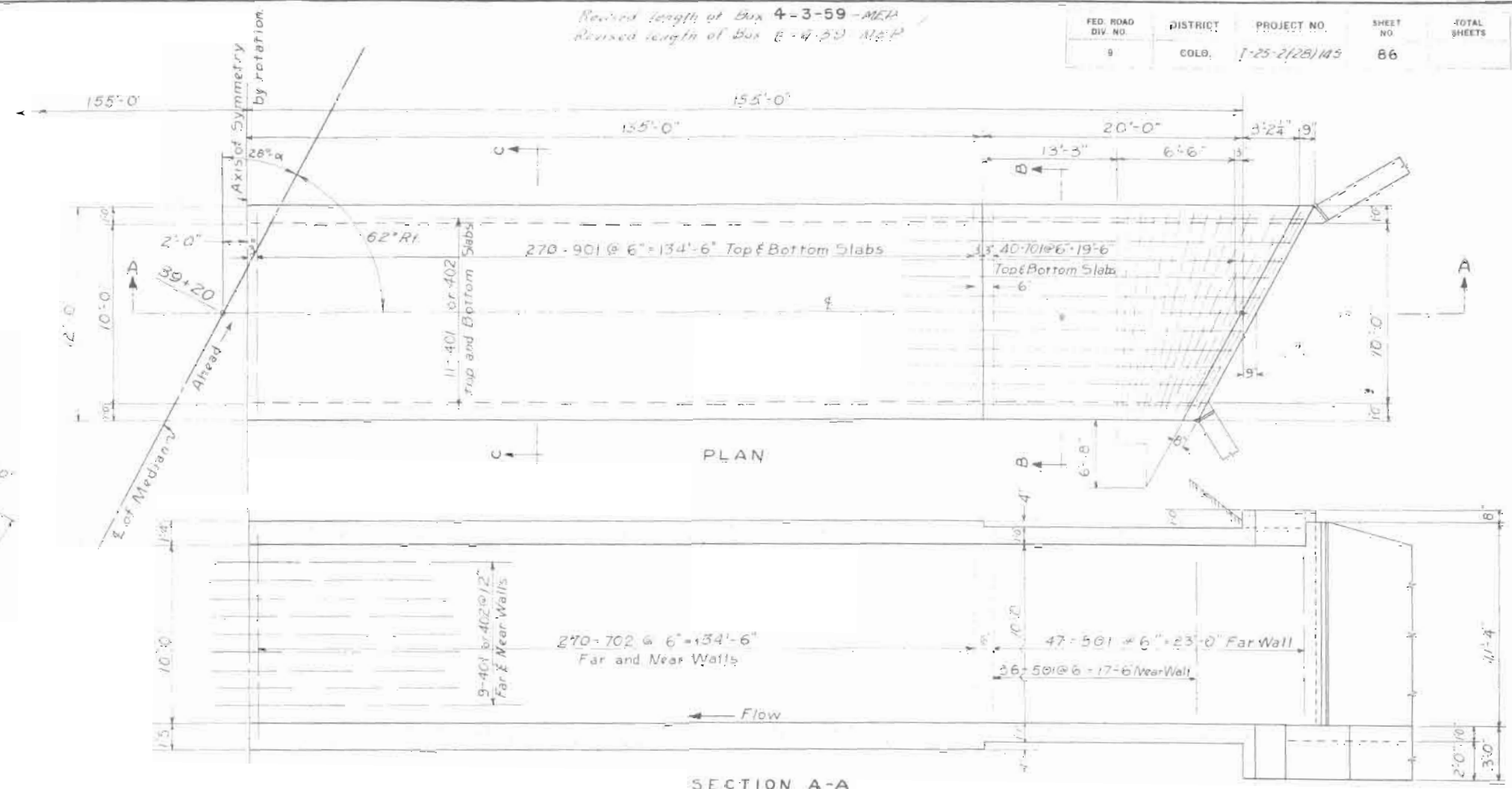
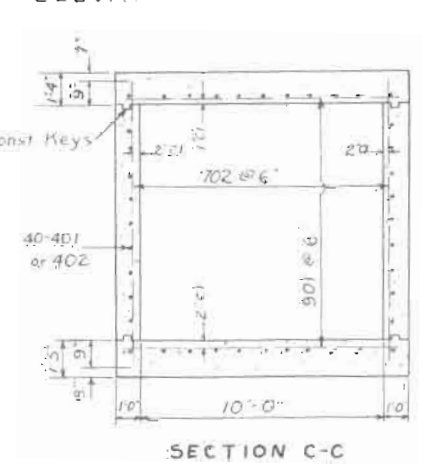
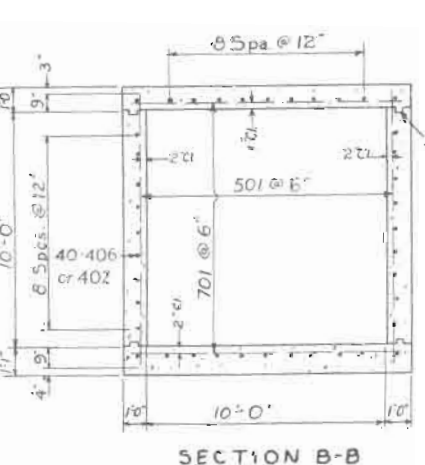
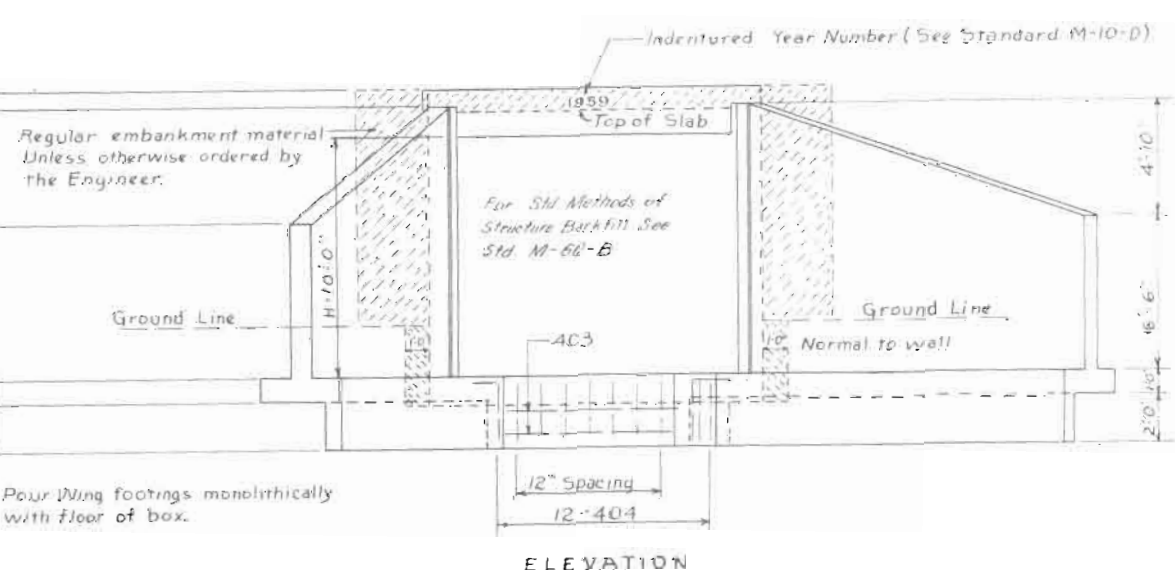
Superstructure

In case of round columns the whole column shall receive Class "I" finish on all Piers.

UNDERPASS



See Standard M-50-BW for wing bar sizes, marks, bending and arrangement.



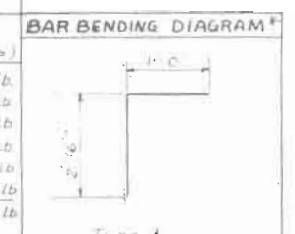
SUMMARY OF QUANTITIES			
Item	Description	Unit	Total
46	Class A Concrete	Cu yd	637
47	Reinforcing Steel (includes 12% for waste)	Lb	84,960

1. Includes 6 l.b.yds for 2 headwalls & 54.7 cu yd for 4 wings.
2. Includes 1998 lbs for 4 wings.

BAR LIST				
Mark	Size	Length	Type	
401	3/8"	280'-40"	Str	
402	3/8"	40'-36"	Str	
403	3/8"	4'-10"	Str	
404	3/8"	24'-3"	I	

BAR LIST (Continued)				
501	3/8"	166'-11"	Str	
701	3/8"	168'-11"	Str	
702	3/8"	1080'-11"	Str	
901	3/8"	1080'-11"	Str	

BAR SUMMARY		BAR BENDING DIAGRAM	
Includes Box & 2 Headwalls & 4 Wings			
1284 lbf 2 1/2" x 4" x 8" (10.8)	8586 lb		
909 lbf 2 1/2" x 4" x 8" (10.8)	991 lb		
14352 lbf 2 1/2" x 4" x 8" (10.8)	29335 lb		
12420 lbf 2 1/2" x 4" x 8" (10.8)	42228 lb		
Plus 12% Overrun	822 lb		
4 Wings from Standard M-50BW (1998 lb)			
Total	84960 lb		



LOADING DATA:
Live Load AASHTO Interstate Alternate (H20-S16.44)
Dead Load, Concrete 150' lb/cu ft, Earth 84' lb/cu ft

DESIGNING DATA:
AASHTO, 1953 Unit Stresses
Reinforcing Steel f_y = 20,000 psi
f_c = 1,200 psi
n = 10

COLORADO
DEPARTMENT OF HIGHWAYS

10' x 10' CONCRETE BOX CULVERT
62° SKEW-MAXIMUM FILL 30 FEET

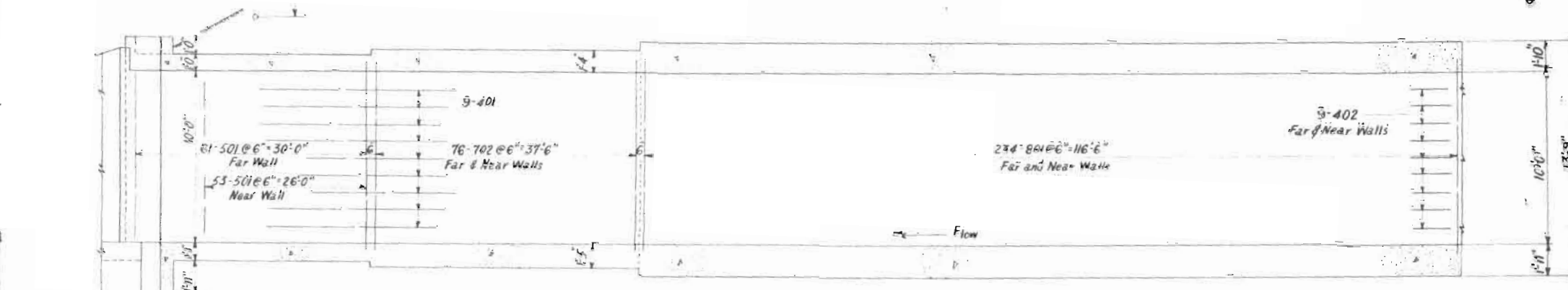
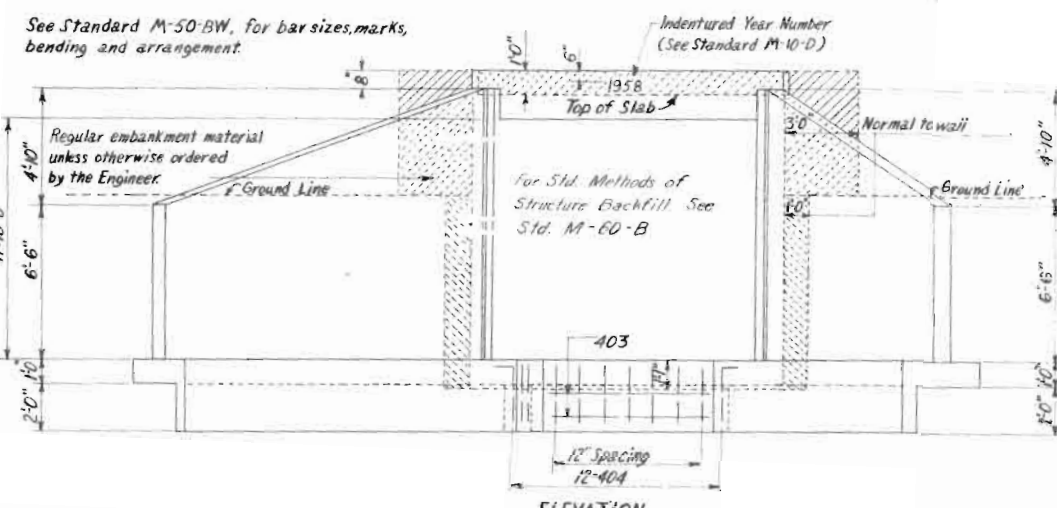
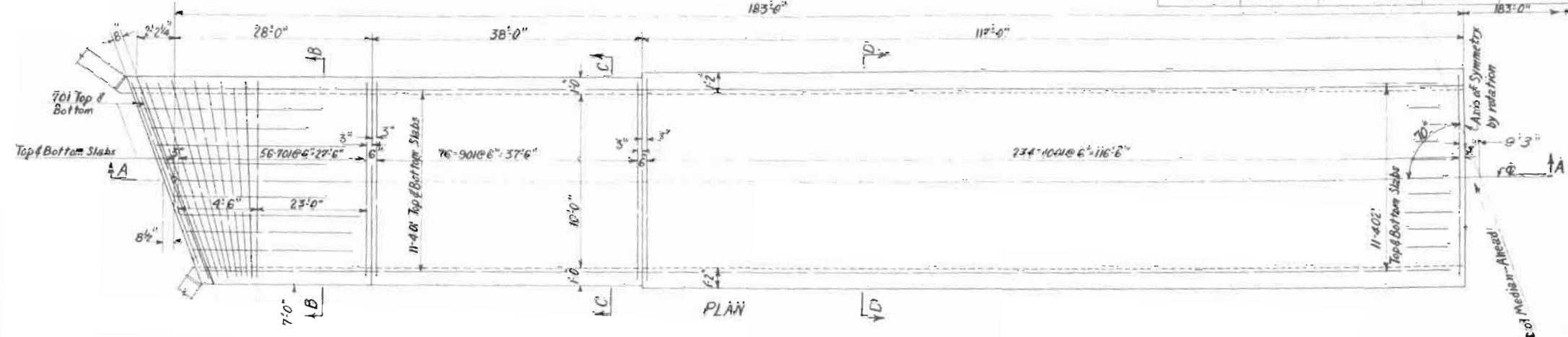
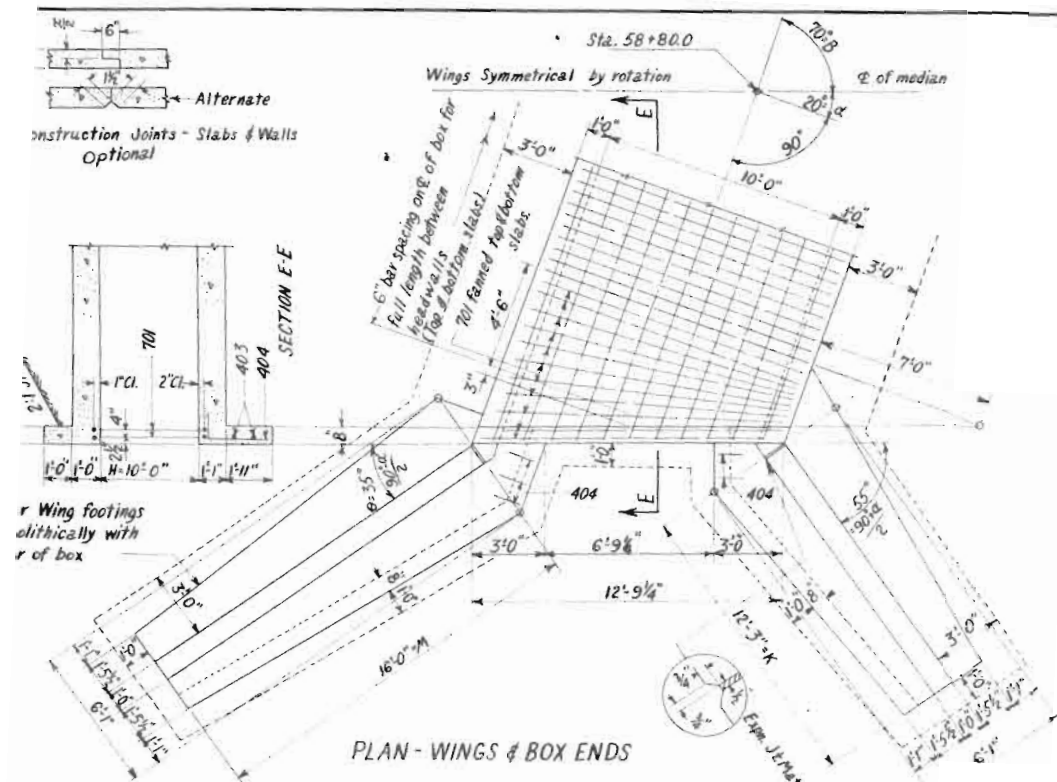
Across
Sta. 39+20

Near Colo. Springs, Sec. 18, T. 135, R. 66W

Designed by MGD Approved by *[Signature]*
Made by MGD Bridge Engineer
Checked by *[Signature]* Date: Feb. 14, 1952

SEE STANDARD M-50-BW FOR GENERAL NOTES
STRUCTURE NO.

FED. ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	CO-9	1-55-21281-145	87	

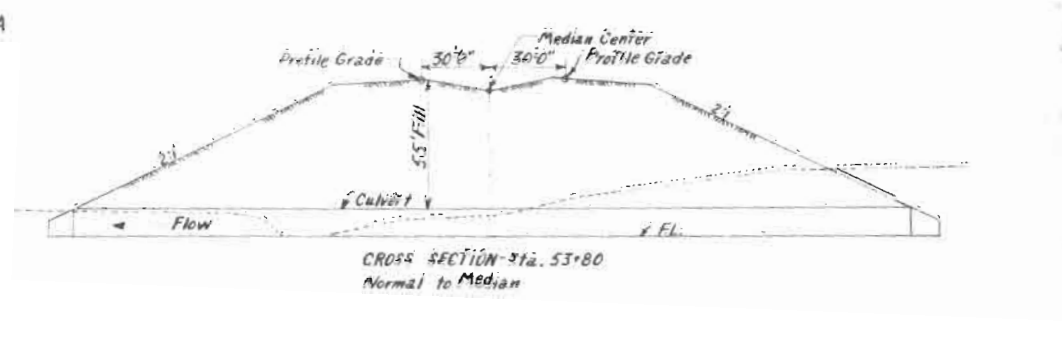
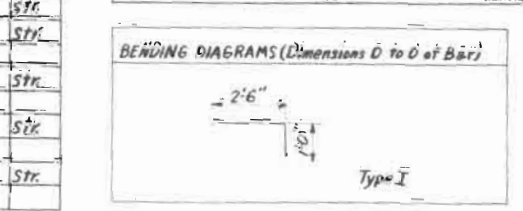


SUMMARY OF QUANTITIES			
Item	Description	Unit	Total
A 46a	Class "A" Concrete	Cu. Yd.	883
* 47	Reinforcing Steel (Inc. 12% Overrun)	Lb.	118664

Δ Includes 37.5 Cu. Yds. for 2 Headwalls and 4 Wings.
* Includes 2184 Lbs. for 2 Headwalls and 4 Wings.

BAR LIST (out to out of headwalls)				
Mark	Size	No.	Length	Type
401	1/2"	360	40'-0"	Str.
402	1/2"	40	16'-0"	Str.
403	1/2"	4	10'-0"	Str.
404	1/2"	24	3'-6"	I
501	9/8"	228	11'-6"	Str.
701	3/8"	232	11'-6"	Str.
702	3/8"	304	11'-6"	Str.
801	1"	936	12'-0"	Str.
901	1 1/8"	304	11'-6"	Str.
1001	1 1/4"	936	12'-0"	Str.

BAR SUMMARY	
15164 Lin. Ft. 1/2" @ 0.668 Lb./lin. Ft. =	10130 Lb.
2622 Lin. Ft. 3/8" @ 1.043 Lb./lin. Ft. =	2735 Lb.
6164 Lin. Ft. 1/2" @ 2.044 Lb./lin. Ft. =	12660 Lb.
11232 Lin. Ft. 1 1/8" @ 2.670 Lb./lin. Ft. =	29990 Lb.
3496 Lin. Ft. 1 1/4" @ 3.40 Lb./lin. Ft. =	11887 Lb.
11232 Lin. Ft. 1 1/2" @ 4.303 Lb./lin. Ft. =	48331 Lb.
Plus 12% Overrun =	1157 Lb.
Includes 350 Lb. for 2 Headwalls =	116830 Lb.
4 Wings (From Standard M-50-BW) =	1834 Lb.
Total =	118664 Lb.



GENERAL NOTES

1. WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS APPLICABLE TO THE PROJECT.

2. ALL CONCRETE SHALL BE CLASS "A" AND AIR ENTRAINMENT AS SPECIFIED.

3. ALL WING SURFACES TO RECEIVE ORDINARY SURFACE FINISH.

4. SUPPORTING SOILS FOR ALL CULVERTS MUST BE COMPOSED OF FIRM AND UNIFORM MATERIAL THROUGHOUT.

5. FORMS FOR CONCRETE SURFACES EXPOSED IN THE FINISHED WORK SHALL BE CONSTRUCTED OF SHIP LAP OR TONGUE AND GROOVE LUMBER 2" x 4" UNLESS FACED WITH PANEL BOARD.

6. FOOTINGS IN ROCK SHALL BE POURED OUT TO ROCK AND NOT FORMED.

7. SOUNDINGS AND DEPTH OF FOOTING SHOWN ARE IN ACCORDANCE WITH THE BEST AVAILABLE DATA AND WHEN DIFFERENT CONDITIONS ARE ENCOUNTERED THE BRIDGE ENGINEER WILL INSPECT AND DETERMINE IF REDSIGN IS NECESSARY.

8. ALL REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A-305-50T OR THE LATEST REVISION THEREOF AND SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE TAGGED WITH THE NUMBER DESIGNATION AND THE STATION NUMBER OF THE PROJECT. PRIMARY BARS SHALL NOT BE SPLICED AND SECONDARY BARS WHEN SPLICED SHALL LAP 20 DIAMETERS OF THE BAR. DIMENSIONS FOR REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE TO THE CENTER LINE OF THE BAR.

9. ALL BACKFILLING IN APPROACHES TO AND OVER CULVERTS SHALL BE LAID IN LAYERS NOT EXCEEDING SIX (6) INCHES IN DEPTH. EACH LAYER SHALL BE COMPACTED IN ACCORDANCE WITH THE ILLUSTRATION OF MECHANICAL TAMPING BACKFILL SHOWN.

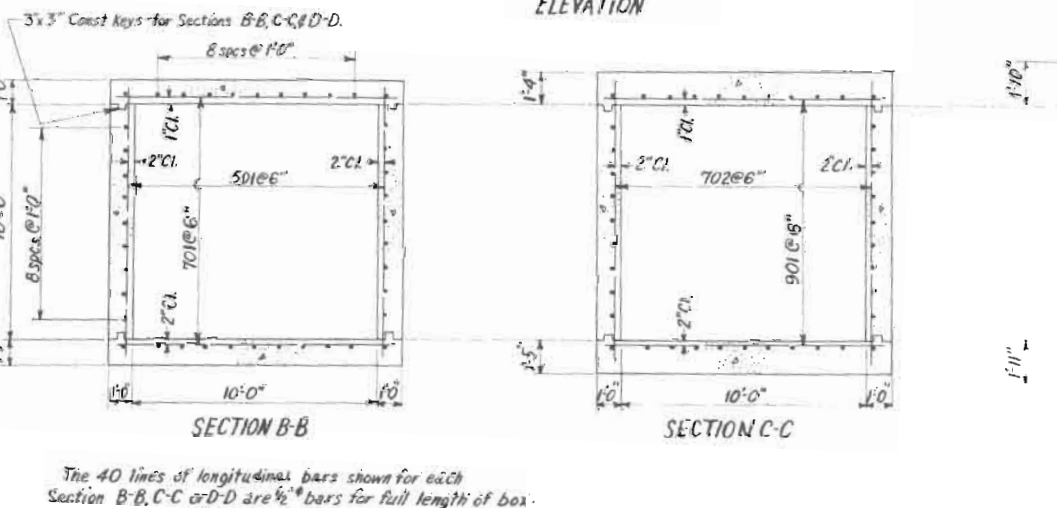
10. THE CONTRACTOR'S ATTENTION IS CALLED TO SPECIFICATIONS COVERING MECHANICAL TAMPING. SPECIAL CARE SHALL BE TAKEN TO PREVENT DEFLECTION OF WING WALLS BY WEDGING ACTION.

11. STEEL WEIGHTS INCLUDE 1% FOR OVERRUN.

12. WHEN EXCAVATING FOR FOOTINGS THE FINAL ONE FOOT IN DEPTH SHALL BE DONE BY HAND TAMPING METHODS.

13. HORIZONTAL CONSTRUCTION KEYS ARE NOT REQUIRED WHEN FOOTING AND WALL ARE POURED MONOLITHICALLY.

14. EXPANSION JOINT MATERIAL IS TO BE INCLUDED IN THE PRICE OF CLASS "A" CONCRETE AND SHALL CONFORM TO A.A.S.H.O. SPECIFICATION M-153-56 TYPE III.



The 40 lines of longitudinal bars shown for each Section B-B, C-C or D-D are 1/2" bars for full length of box.

COLORADO DEPARTMENT OF HIGHWAYS

10'-0"x10'-0" CONCRETE BOX CULVERT
70° SKEW - MAXIMUM FILL 55'-0"

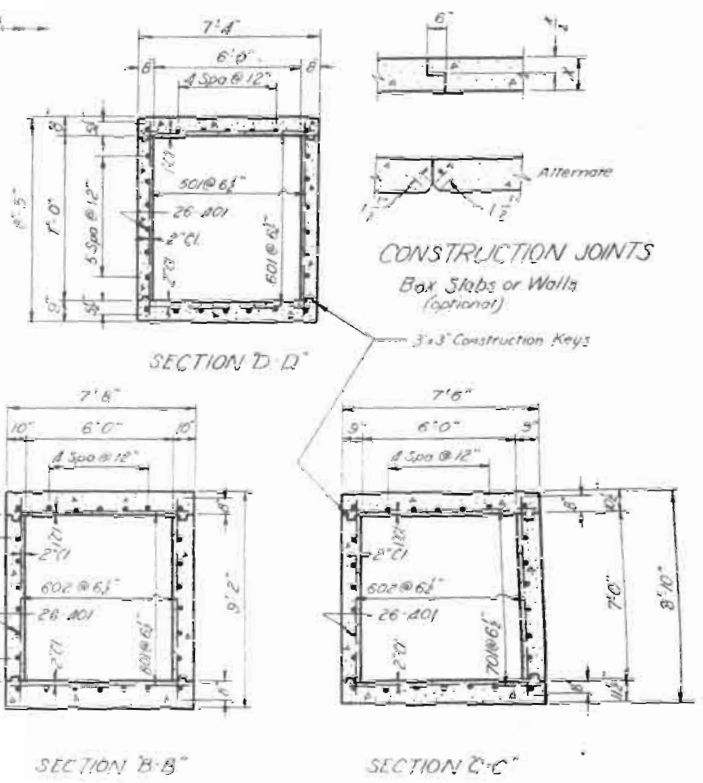
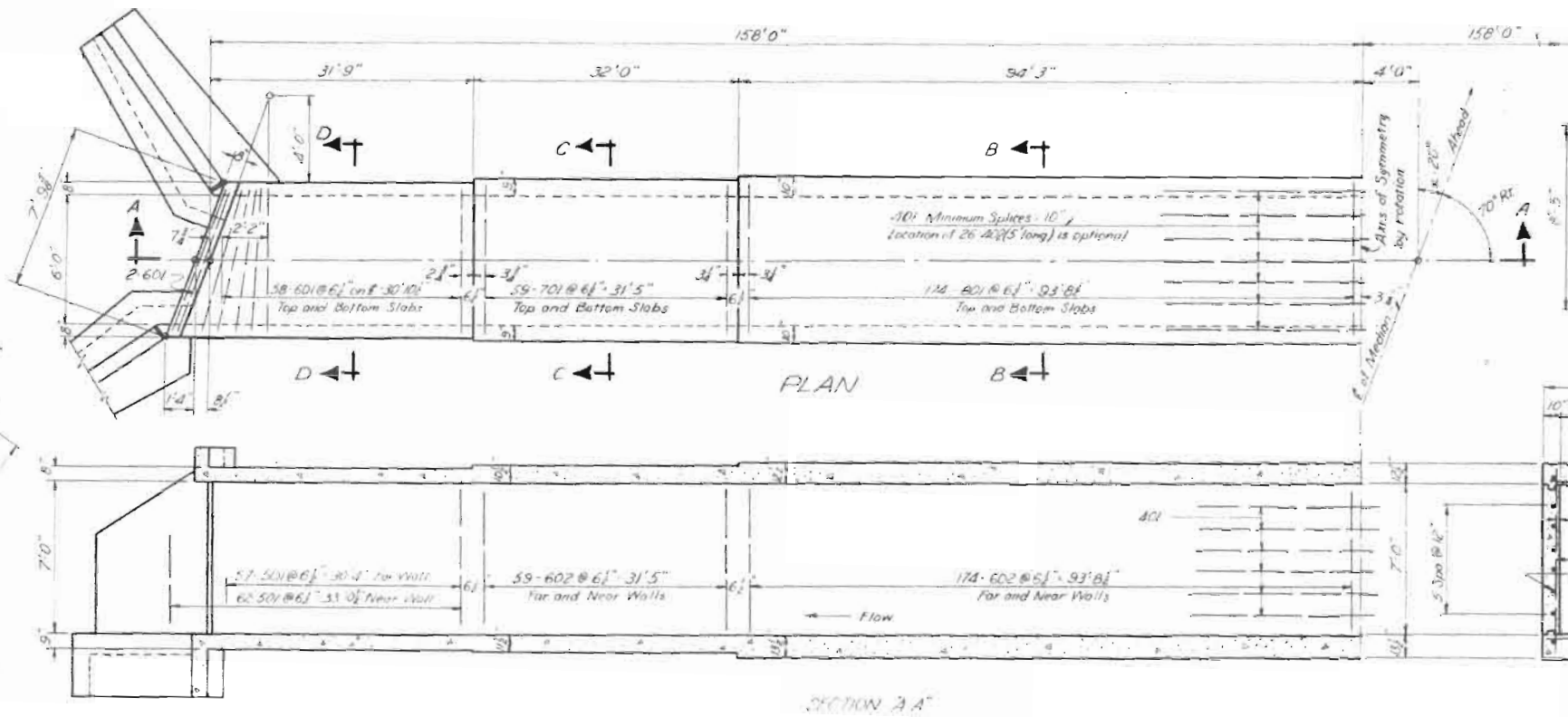
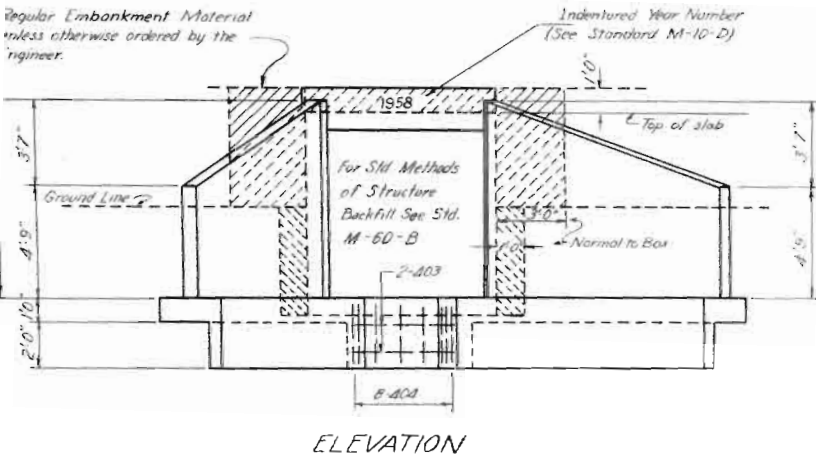
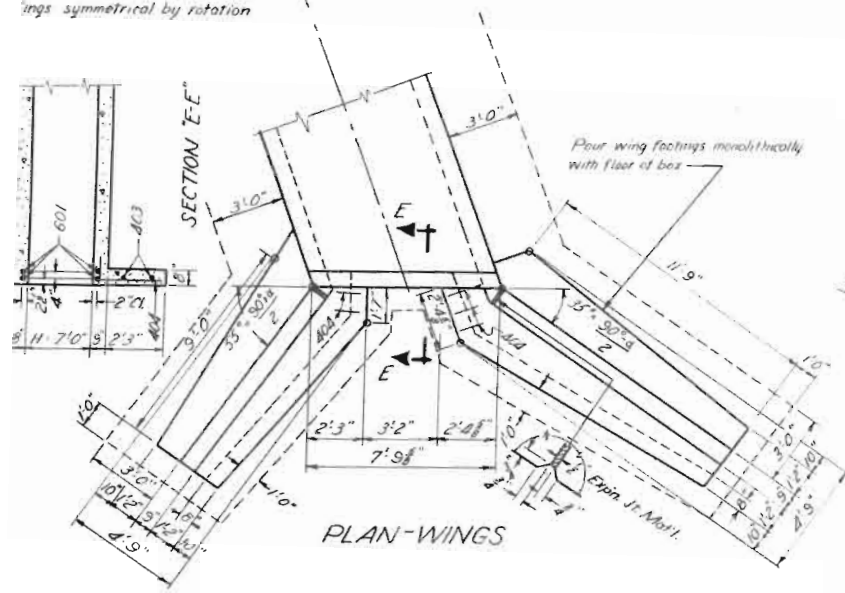
Across Sta. 58+80
Near Colo. Springs Sec. 19 T. 13S R. 66W

Designed by MGD
Made by MGD
Checked by

Approved by R. J. Rasmussen
Bridge Engineer
Date: Feb. 14, 1958

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1-25-2(28)/195	88	

Wing bar sizes, marks, bending and arrangement shown on Standard M-50-BW
ings symmetrical by rotation



CONSTRUCTION JOINTS
Box Slabs or Walls
(optional)

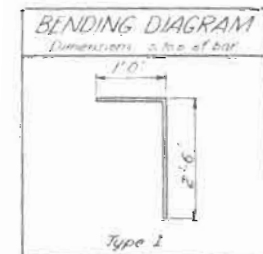
3"x3" Construction Keys

BAR LIST (Includes Box & 2 Headwalls)					
Mark	Size	No.	Length	Type	Dimensions
401	1/2"	208	40'-0"	Str	8' 0"
402	1/2"	26	5'-0"	Str	
403	1/2"	4	5'-0"	Str	
404	1/2"	16	2'-6"	I	
501	1/2"	238	7'-11"	Str	
601	1/2"	240	7'-0"	Str	
602	1/2"	332	8'-4"	Str	
701	1/2"	236	7'-2"	Str	
801	1/2"	636	7'-4"	Str	

BAR SUMMARY (Includes Box, 2 Headwalls & 4 Wings)		
4577 Lin Ft 1/2" @ 6.68 lbs/lin ft	56.96	Lbs
1884 Lin Ft 1/2" @ 10.43 lbs/lin ft	1965	Lbs
3447 Lin Ft 1/2" @ 15.02 lbs/lin ft	14189	Lbs
1691 Lin Ft 1/2" @ 20.84 lbs/lin ft	3436	Lbs
5104 Lin Ft 1/2" @ 24.70 lbs/lin ft	12628	Lbs
Plus 1/2" for overrun	388	Lbs
Plus 4 Wings from Standard M-50-BW	958	Lbs
Total (including 1500 lbs for 2 Headwalls)	40280	Lbs

SUMMARY OF QUANTITIES			
Item	Description	Unit	Totals
46	Class A Concrete	Cu Yds	320
47	Reinforcing Steel (Includes 1% for overrun)	Lbs	40,280

Includes 15.0 Cu Yds for 4 Wings, and 3.2 Cu Yds for 2 Headwalls
Includes 558 Lbs for 4 Wings



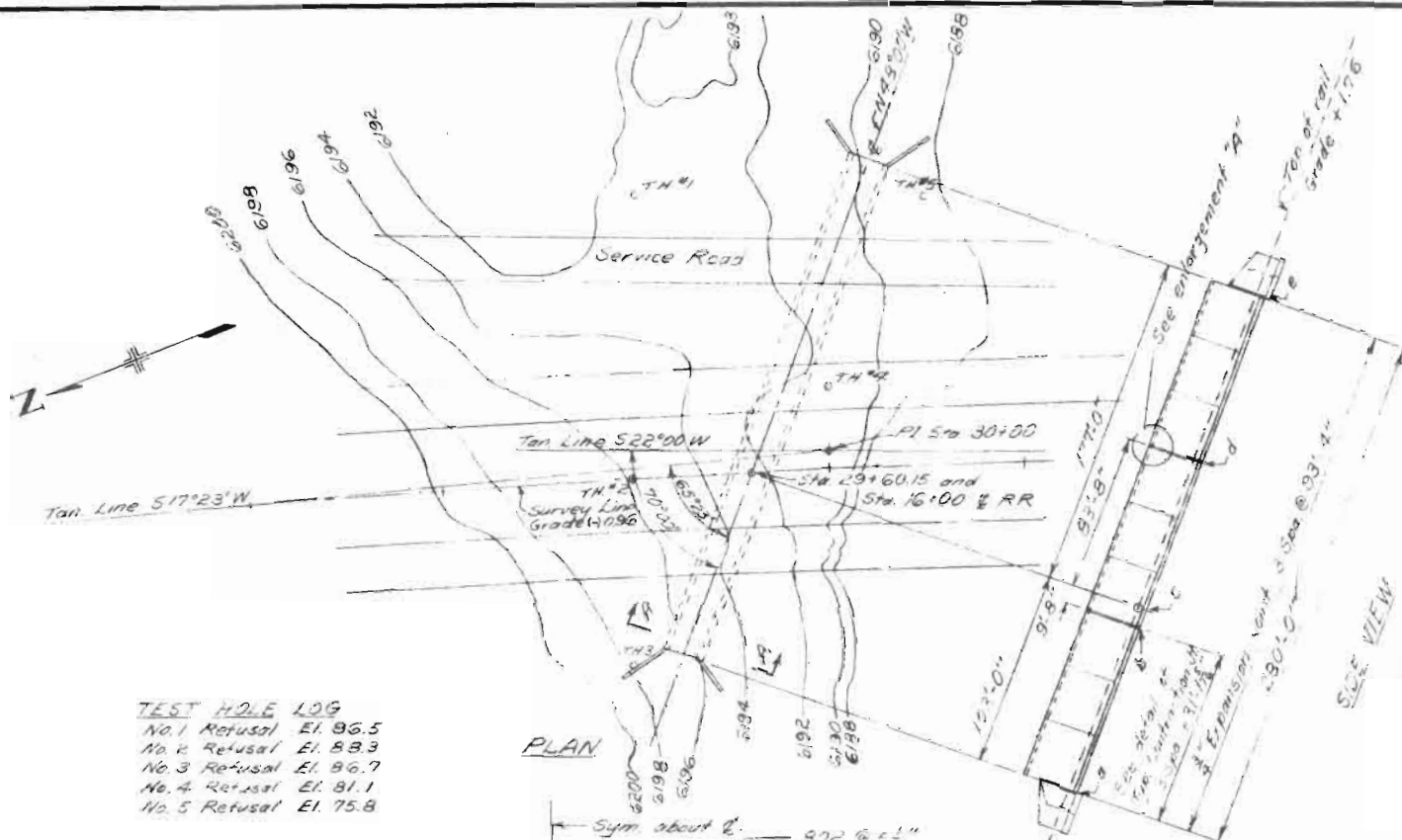
LOADING DATA
Live Load: AASHO Interstate Alternate (H20-S16-44)
Dead Load: Concrete 150 pcf, Earth 84 pcf
DESIGNING DATA
AASHO 1953 Unit Stresses
Reinforcing Steel fy = 20000 psi
Concrete fc = 1200 psi

COLORADO
DEPARTMENT OF HIGHWAYS
6'x7' CONCRETE BOX CULVERT
70° SKEW
MAXIMUM FILL 43'-0"
Across Sta. 56+25
Near Colo. Springs Sec. 19 T.13S R.66W
Designed by M.G.D. Approved by J.D. Marshall
Made by M.G.D. Bridge Engineer
Checked by Date: Feb 14, 1958

SEE STANDARD M-50-BW FOR GENERAL NOTES

STRUCTURE NO.

FILE NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	9	1-55-2(28) 145	82 6	

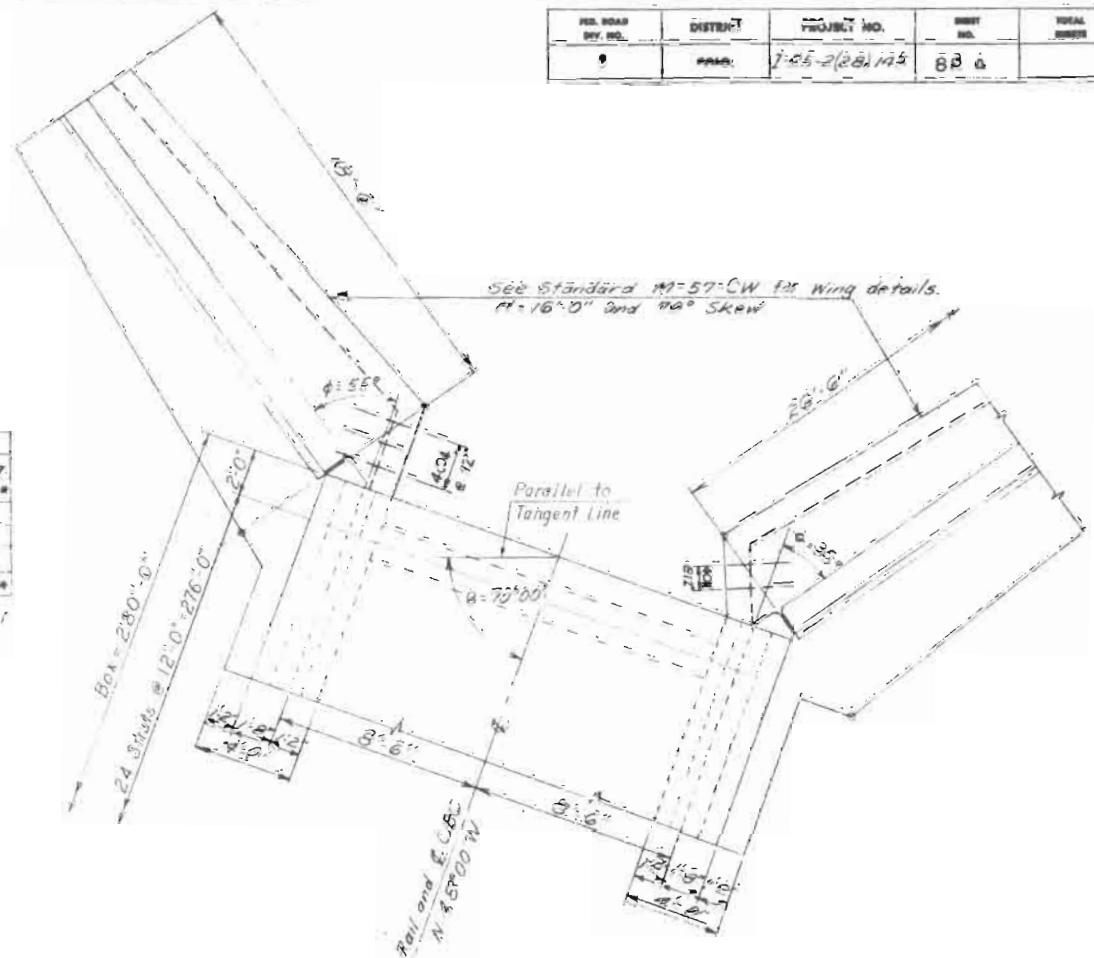


TEST HOLE LOG
 No. 1 Refusal El. 96.5
 No. 2 Refusal El. 88.3
 No. 3 Refusal El. 86.7
 No. 4 Refusal El. 81.1
 No. 5 Refusal El. 75.8

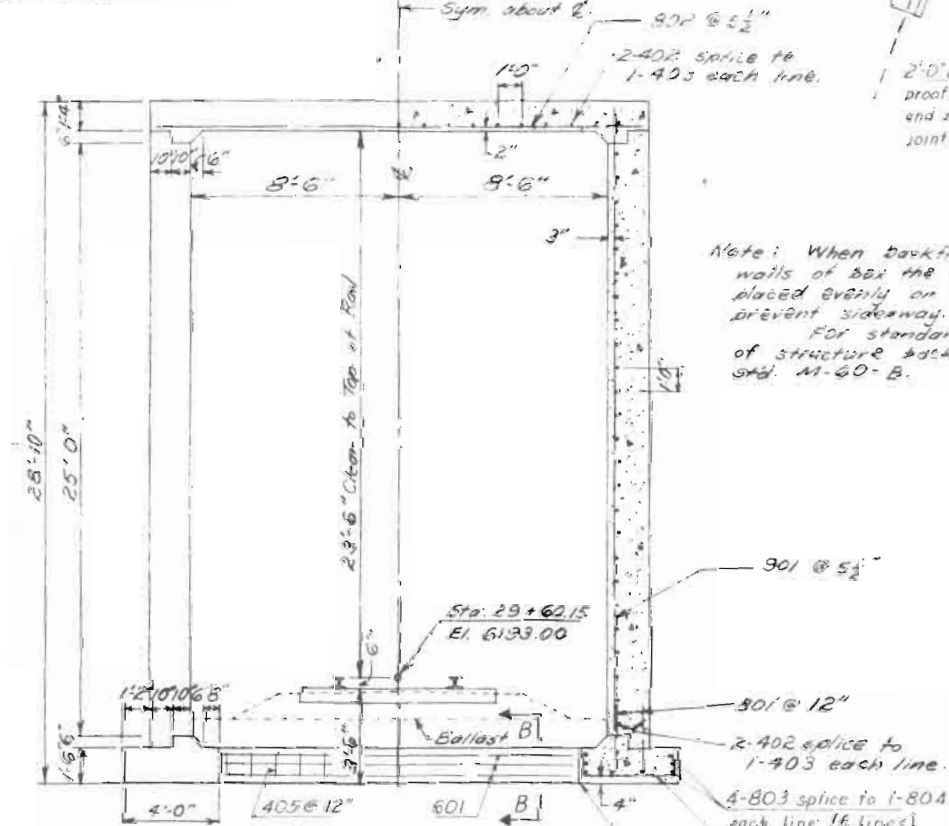
Note: Min. fill 1'-0" on roadway.
 See Sheet No. 88 B for General Notes.

Sta.	Elevation
a 17+15.5	6194.813
c 16+03	93.00
b 14+09.57	93.170
d 15+16.33	91.527
e 14+23.0	89.888

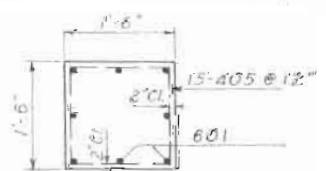
* Elevations at bottom of footing are for CBC and wing walls.



PLAN OF SOUTH END
 WINGS AND CBC.
 NORTH END SIMILAR BY ROTATION

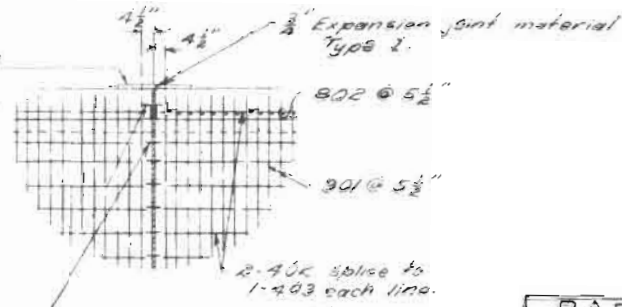


SECTION A-A
 Max Soil Pressure = 2.12 Tons/Sq Ft



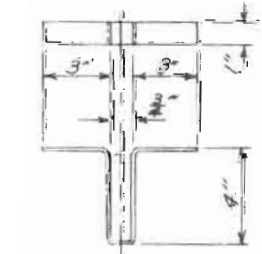
SECTION B-B
 TYP. STRUCT - 24' Span

Note: When backfilling behind walls of box the fill shall be placed evenly on each side to prevent sideways.
 For standard methods of structure backfill see Spd. M-60-B.



ENLARGEMENT "A"
 Note: Omit Exp. Joint in footings.

TYP. CONTRACTION JOINT
 Note: Joint in walls and top slab.



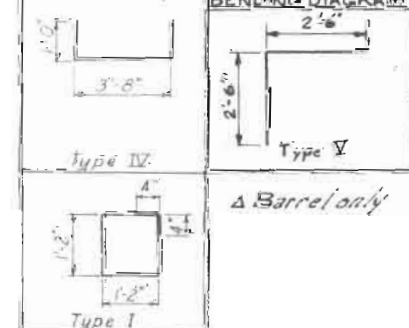
32 oz Copper
 COPPER STIRRUP
 134 Req'd.

MARK	SIZE	REQ'D	LENGTH	TYPE
401	1/2"	560	5'-8"	IV
402	1/2"	450	40'-0"	Str.
403	1/2"	225	14'-7"	Str.
404	1/2"	10	5'-0"	V
405	1/2"	360	5'-4"	I
801	1"	112	3'-6"	Str.
802	1"	409	20'-0"	Str.
803	1"	48	60'-0"	Str.
804	1"	12	49'-4"	Str.
801	1 1/8"	1210	26'-7"	Str.
601	3/4"	192	14'-4"	Str.

WEIGHT SUMMARY

26,425 Lin Ft $\times$ 0.668/Lin Ft = 17,652 Lb.
 2,752 Lin Ft $\times$ 0.502/Lin Ft = 1,383 Lb.
 9,012 Lin Ft $\times$ 0.267/Lin Ft = 2,406 Lb.
 32,378 Lin Ft $\times$ 0.340/Lin Ft = 11,009 Lb.
 Plus 1% for Overrun = 1,827 Lb.
 Total = 184,460 Lb.

BENDING DIAGRAM



MARK	DESCRIPTION	UNIT	TOTAL
14	UNCL. STR. EXCAV. - MISC.	Cu Yd	502
16	STR. BACKFILL (CL. I)	Cu Yd	270
46	CLASS "A" CONCRETE	Cu Yd	1,431
47	REINF. STEEL (UNCL. 1% OVERRUN)	Lb	182,560
80	SHEET COPPER	Lb	28
79	Hotdip Galv. (Type II)	Sq Yd	34
1/2	EXP. JT. MATL. TYPE III	Sq Ft	70
1/4	EXP. JT. MATL. TYPE I	Sq Ft	230

- Includes concrete for 4 wing walls & footings
- Includes Reinforcing Steel for 4 wing walls & footings
- Exp. Joint Matl. shall be in accordance with AASHTO Spec M-153-54 and of the type shown, and shall be included in the bid price for Item #6.

COLORADO
 DEPARTMENT OF HIGHWAYS
 CONCRETE BOX CULVERT
 17'-0" x 26'-0"

Across D.R.G.W. RR. UNDERPASS
 Sta. 29+60.15
 Near Colo. Springs
 Designed by WWD
 Made by JLB
 Checked by
 Approved by
 Date: 1-17-55

STRUCTURE NO. I-17-K

Excavation
Cu. Yds. Area

Embankment
Cu. Yds. Area

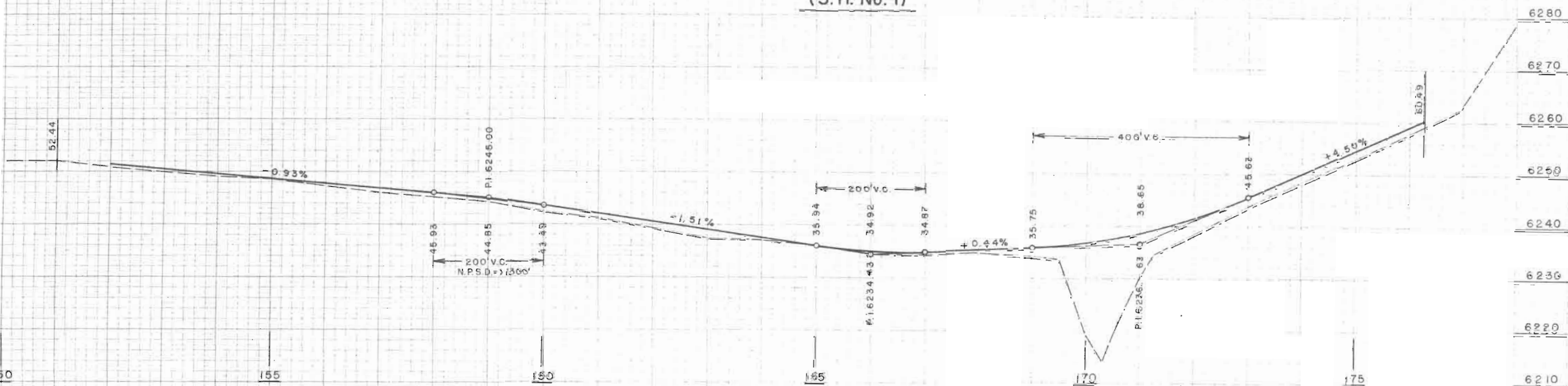
Excavation
Cu. Yds. Area

Embankment
Cu. Yds. Area

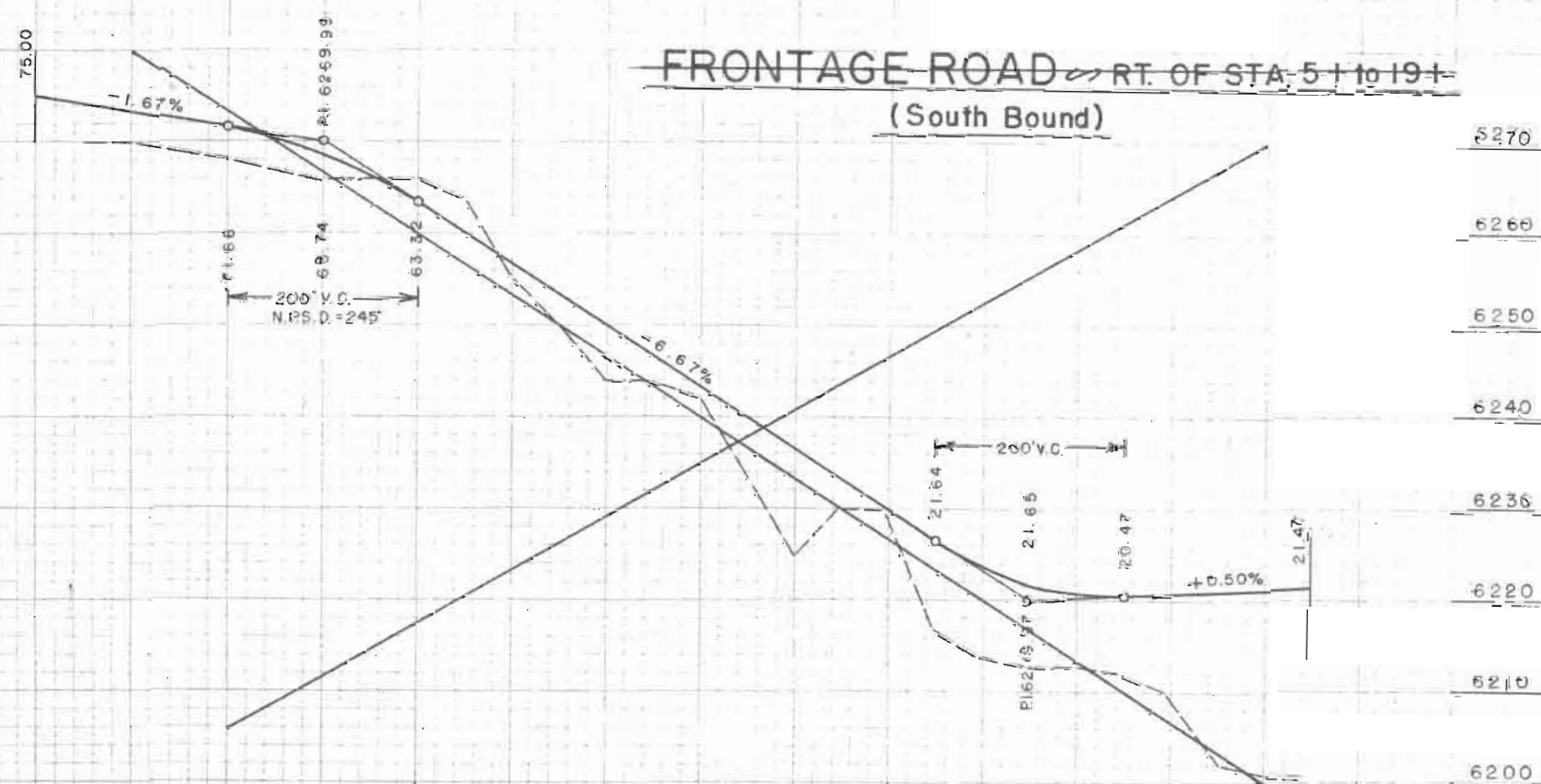
FED. ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	F-25-2(28)145	110	

Rev. 2-18-59 Eliminate Frontage Road G.S.

FRONTAGE ROAD RT. OF STA. 150+ to 176+
(S. H. No. 1)



FRONTAGE ROAD RT. OF STA. 5+ to 19+
(South Bound)



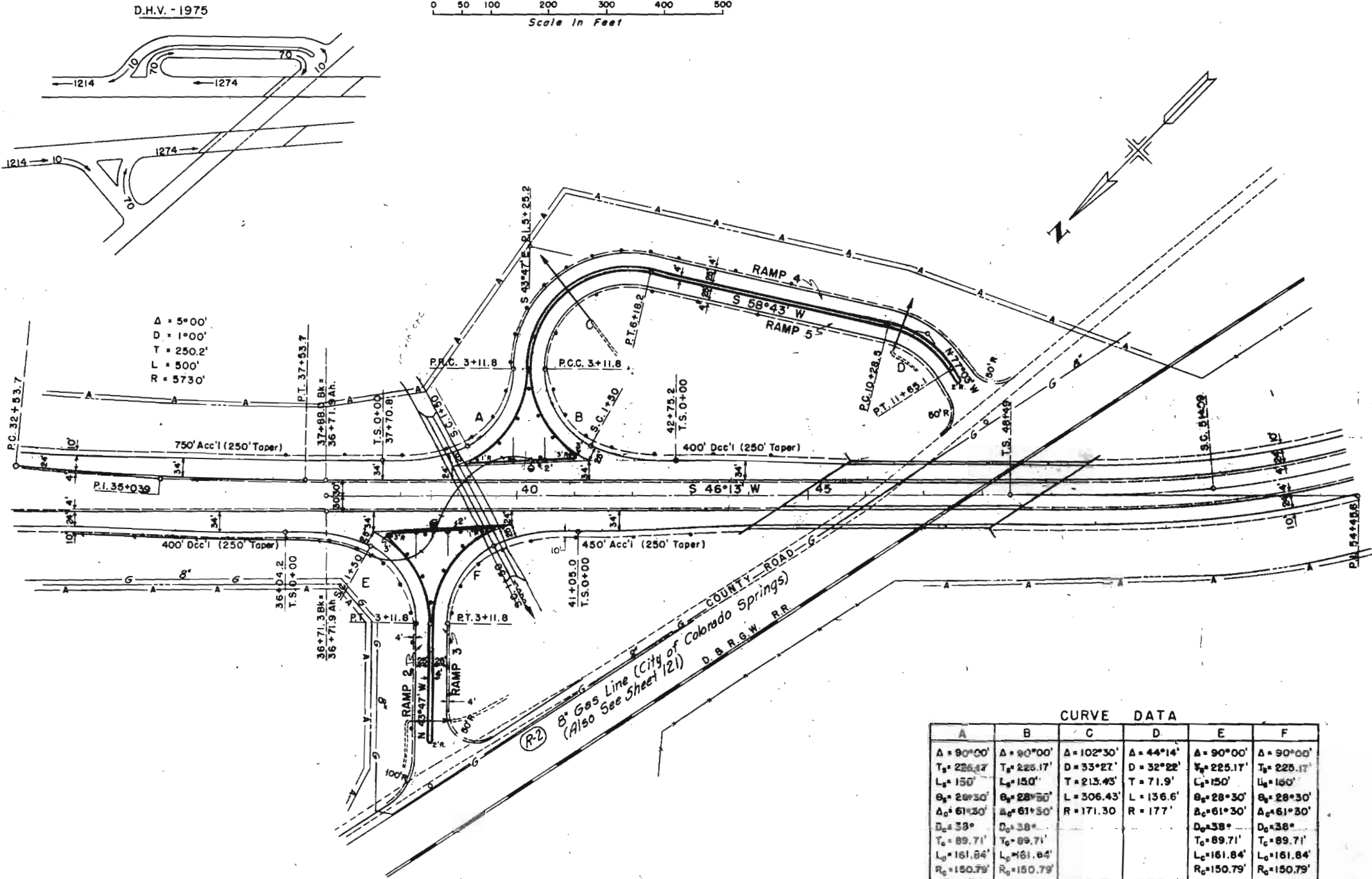
SHEET
TOTALS

EXCAVATION	CU
EXCAVATION	CU

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	1-25-2(28)145	III	

Revised 6-4-59, New Sheet - G.S.
R-2 12-2-70 R.L.M.

LAYOUT & DETAIL OF INTERSECTION STA. 31+ TO 54+



LEGEND

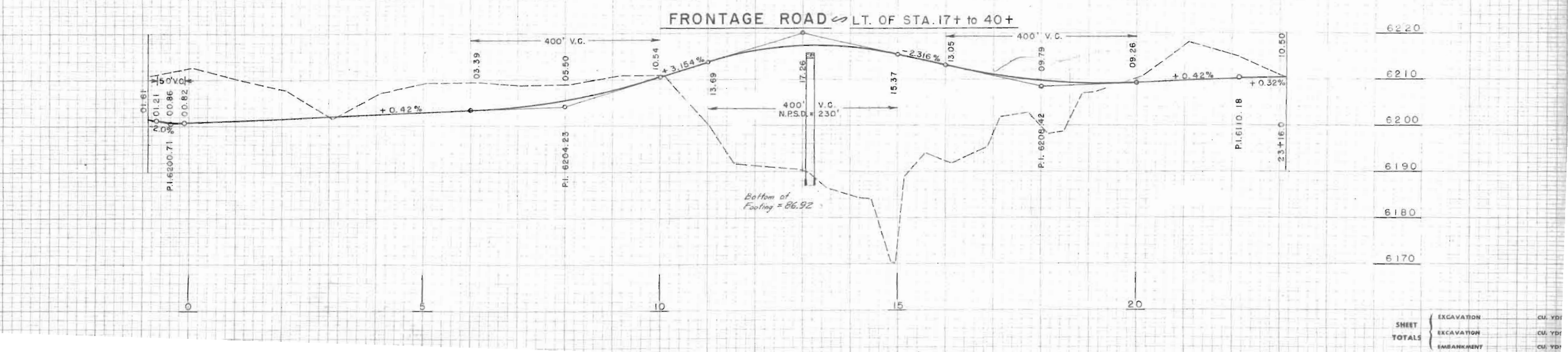
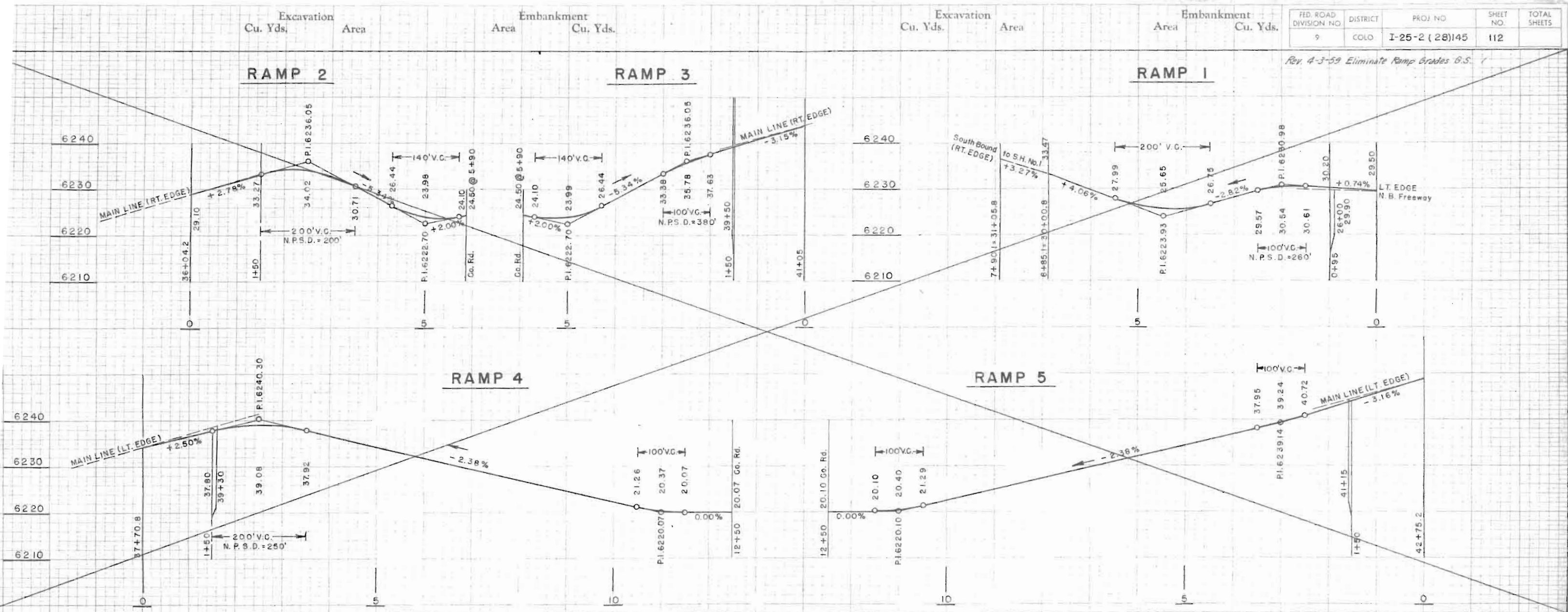
- Median
- Comb. Curb & Gutter
- Lane Edge
- Shoulder
- Lane Edge in Place
- Right of Way
- Access Denied by Deed
- Railroad
- Barbed Wire Fence in Place
- Timber Guard Posts
- 1 1/4" Electrical Conduit with Junction Boxes
- Type III Lights (15' Arm)

CURVE DATA

A	B	C	D	E	F
$\Delta = 90^{\circ}00'$	$\Delta = 90^{\circ}00'$	$\Delta = 102^{\circ}30'$	$\Delta = 44^{\circ}14'$	$\Delta = 90^{\circ}00'$	$\Delta = 90^{\circ}00'$
$T_s = 226.17'$	$T_s = 226.17'$	$D = 33^{\circ}27'$	$D = 32^{\circ}22'$	$T_s = 225.17'$	$T_s = 225.17'$
$L_s = 150'$	$L_s = 150'$	$T = 213.43'$	$T = 71.9'$	$L_s = 150'$	$L_s = 150'$
$\theta_s = 28^{\circ}30'$	$\theta_s = 28^{\circ}30'$	$L = 306.43'$	$L = 136.6'$	$\theta_s = 28^{\circ}30'$	$\theta_s = 28^{\circ}30'$
$A_s = 61^{\circ}30'$	$A_s = 61^{\circ}30'$	$R = 171.30'$	$R = 177'$	$A_s = 61^{\circ}30'$	$A_s = 61^{\circ}30'$
$D_s = 33^{\circ}$	$D_s = 33^{\circ}$			$D_s = 33^{\circ}$	$D_s = 33^{\circ}$
$T_c = 89.71'$	$T_c = 89.71'$			$T_c = 89.71'$	$T_c = 89.71'$
$L_c = 161.84'$	$L_c = 161.84'$			$L_c = 161.84'$	$L_c = 161.84'$
$R_c = 150.79'$	$R_c = 150.79'$			$R_c = 150.79'$	$R_c = 150.79'$

FED. ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I-25-2 (28)145	112	

Rev. 4-3-59 Eliminate Ramp Grades B.S.

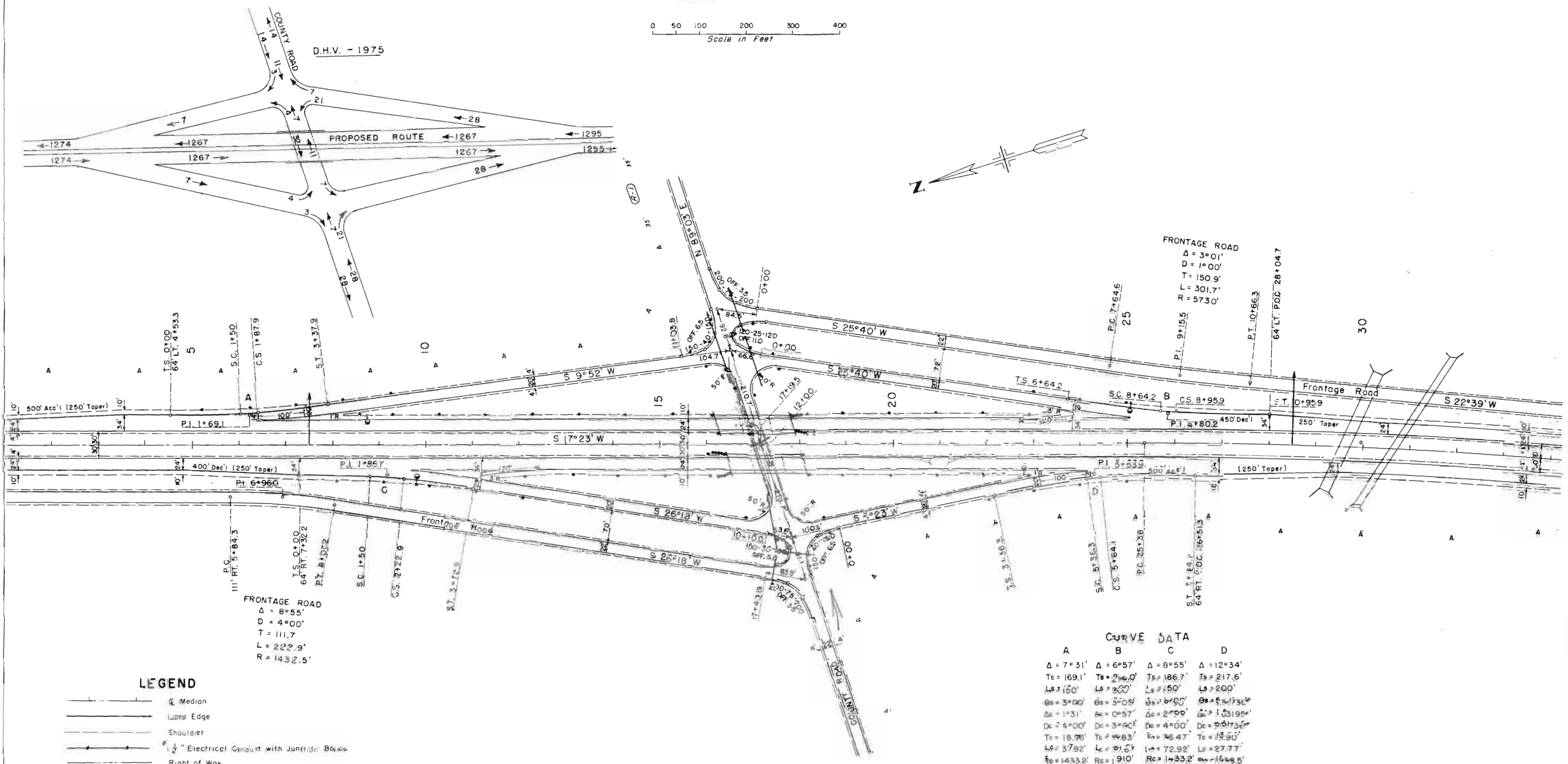
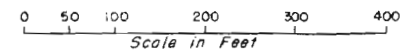


SHEET TOTALS	EXCAVATION	EMBANKMENT	CU. YDS.

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	I-25-2(28)145	113	

Rev. 2-18-59 G.S., Entrance Width
 (R-1) 5-2-67 h.g.j. - Added Access Openings

LAYOUT & DETAIL OF INTERSECTION STA. 2+00 AH. TO 30+00 AH.



LEGEND

- Q — Median
- Lane Edge
- Shoulder
- 1/2" Electrical Conduit with Junction Boxes
- Right of Way
- Access Denied by Deed
- Control of Access
- • • • • Timber Guard Posts
- Incandescent Lights
- Type II Lights (4' Arm)
- Type III Lights (15' Arm)

CURVE DATA

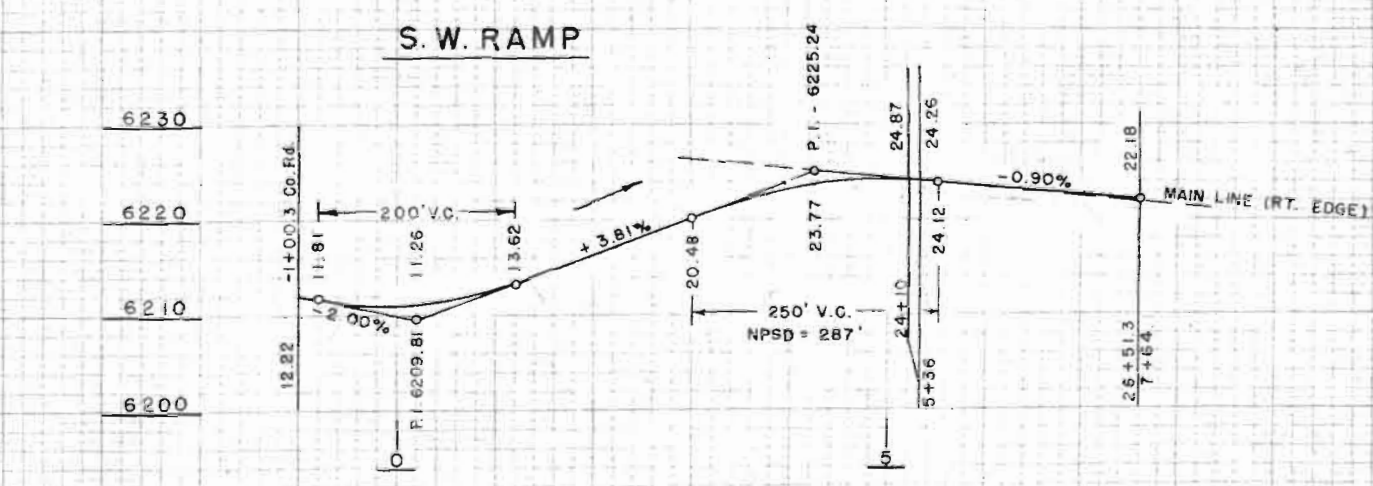
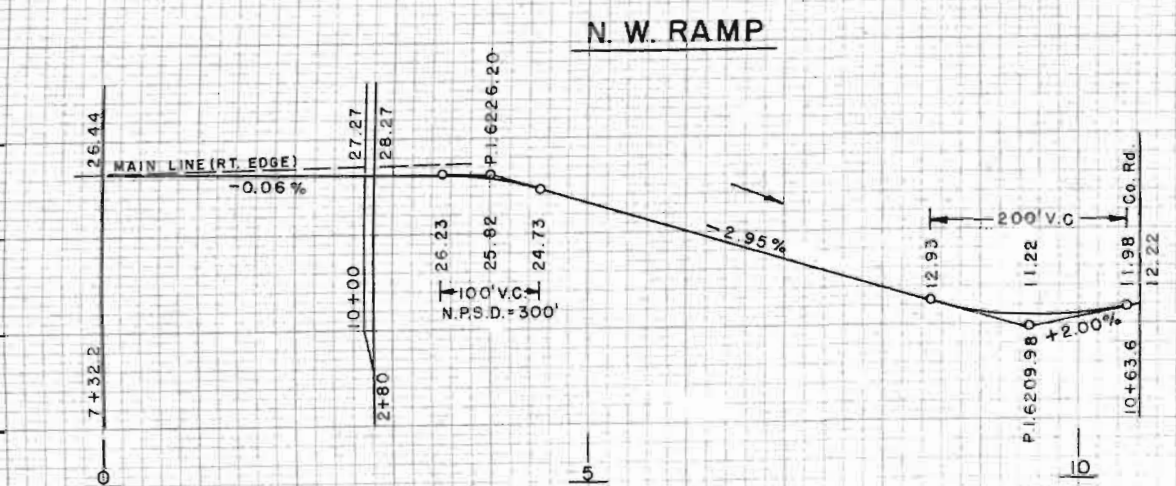
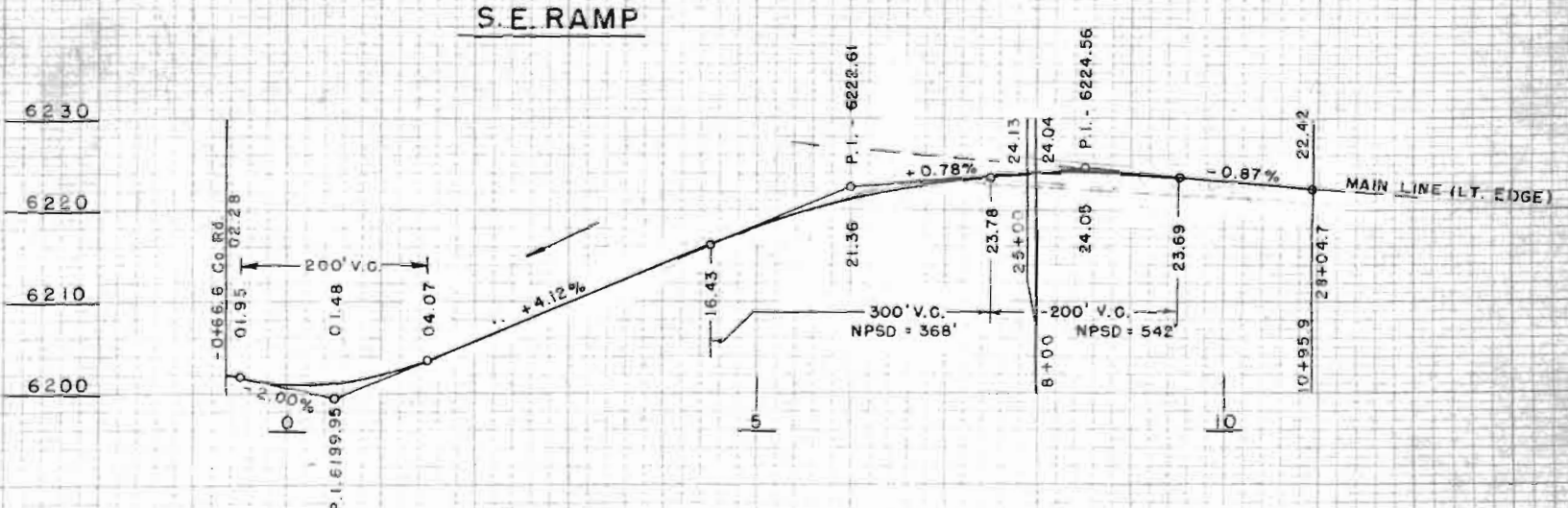
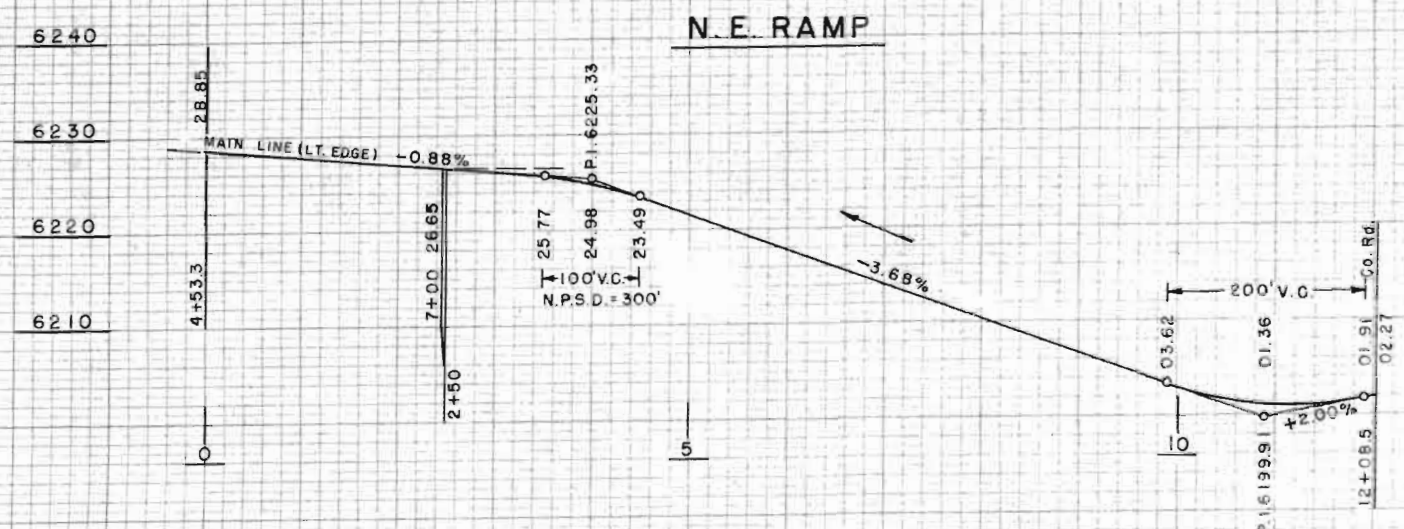
A	B	C	D
$\Delta = 7^\circ 31'$	$\Delta = 6^\circ 57'$	$\Delta = 8^\circ 55'$	$\Delta = 12^\circ 34'$
$T_s = 169.1'$	$T_s = 206.0'$	$T_s = 186.7'$	$T_s = 217.6'$
$L_s = 150'$	$L_s = 200'$	$L_s = 150'$	$L_s = 200'$
$E_s = 3^\circ 00'$	$E_s = 3^\circ 00'$	$E_s = 5^\circ 00'$	$E_s = 5^\circ 00'$
$D_s = 1^\circ 31'$	$D_s = 0^\circ 57'$	$D_s = 2^\circ 00'$	$D_s = 1^\circ 53'$
$D_c = 4^\circ 00'$	$D_c = 3^\circ 00'$	$D_c = 4^\circ 00'$	$D_c = 3^\circ 00'$
$T_c = 18.36'$	$T_c = 14.83'$	$T_c = 16.47'$	$T_c = 13.90'$
$L_c = 37.92'$	$L_c = 21.67'$	$L_c = 72.92'$	$L_c = 27.77'$
$R_c = 1433.2'$	$R_c = 1910'$	$R_c = 1133.2'$	$R_c = 1648.5'$

Electrical Conduit (Metal) under Roadway

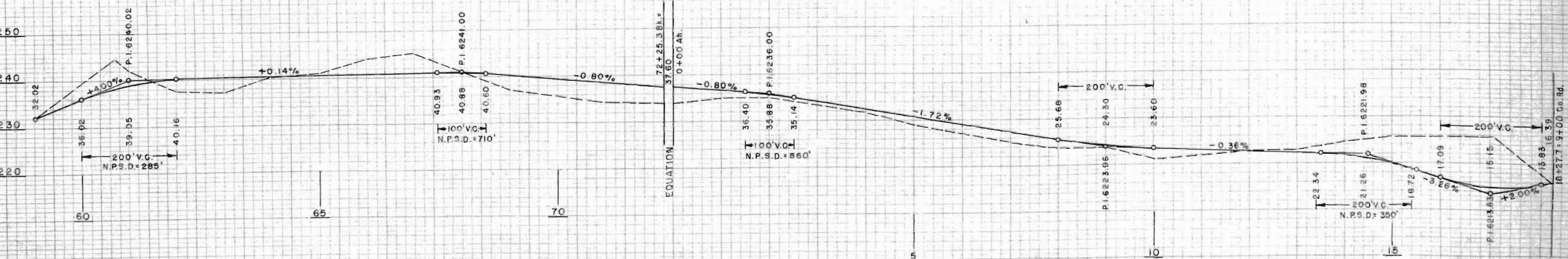
Excavation Area Cu. Yds. Embankment Area Cu. Yds. Excavation Area Cu. Yds. Embankment Area Cu. Yds.

FED. ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO	I - 25-2 (28)145	114	

INTERCHANGE RAMPS STA. 2+00 Ah. to 30+00 Ah.



FRONTAGE ROAD - RT. OF STA. 59+Bk. to 18+Ah.



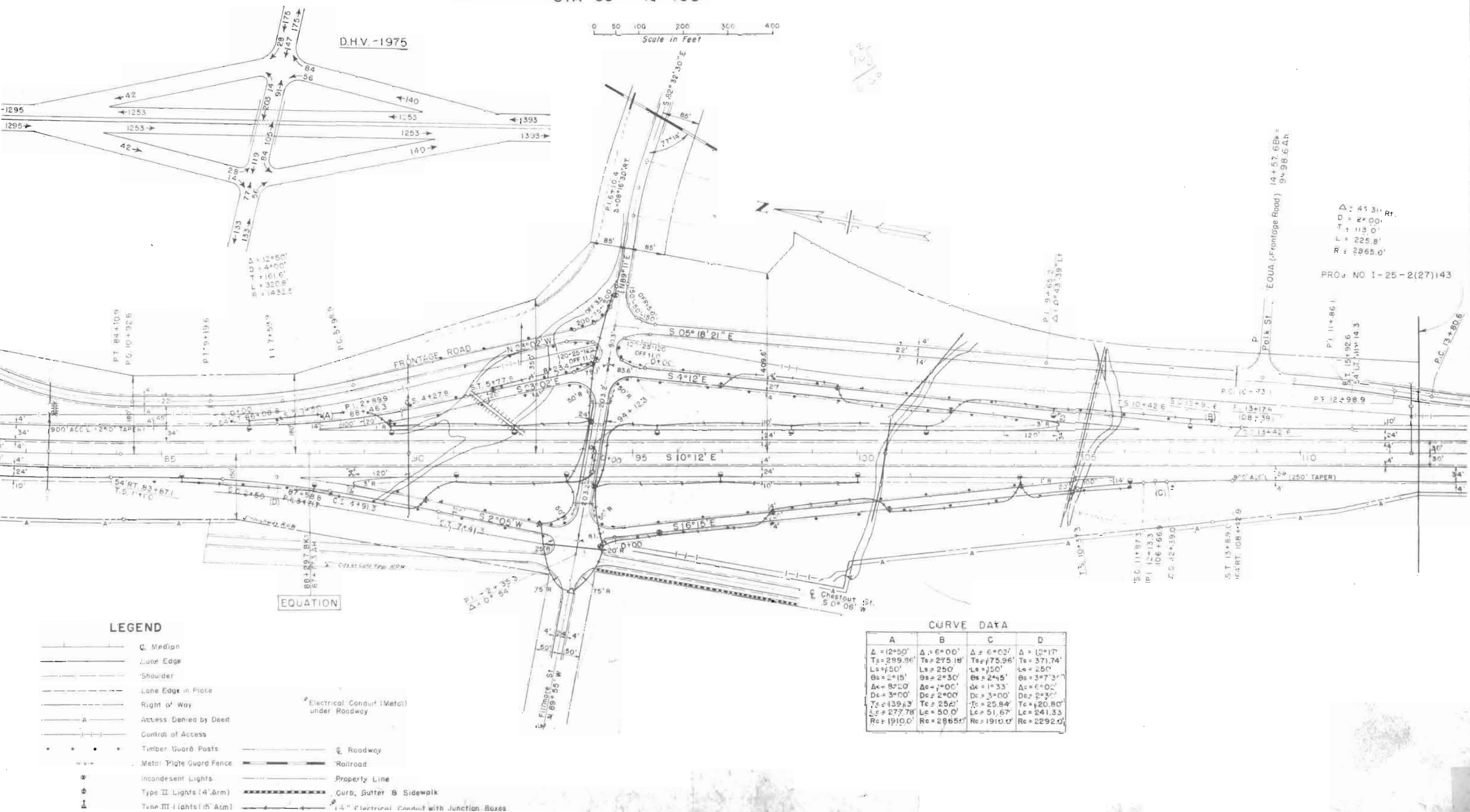
SHEET TOTALS	EXCAVATION	EMBANKMENT	CU. YDS.	CU. YDS.	CU. YDS.

FEDERAL ROAD DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	1-25-2(28)145	115

Rev. 2-18-59 G.S. Entrance Width, R.I. Station & R.R. tie fillmore st.
 Rev. 9-2-59 E.J.J. Frontage Road, R.I. Sta. 86+ to Sta. 94+
 Rev. 9-16-59 G.S. Access Dr. on, J. & K. Frying B. Pipe under RR.

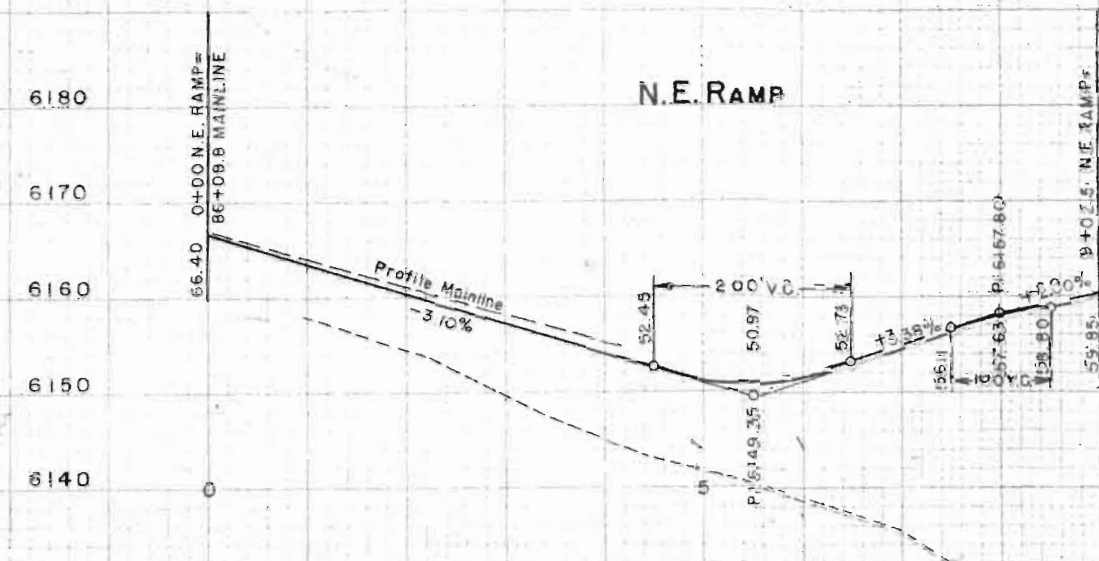
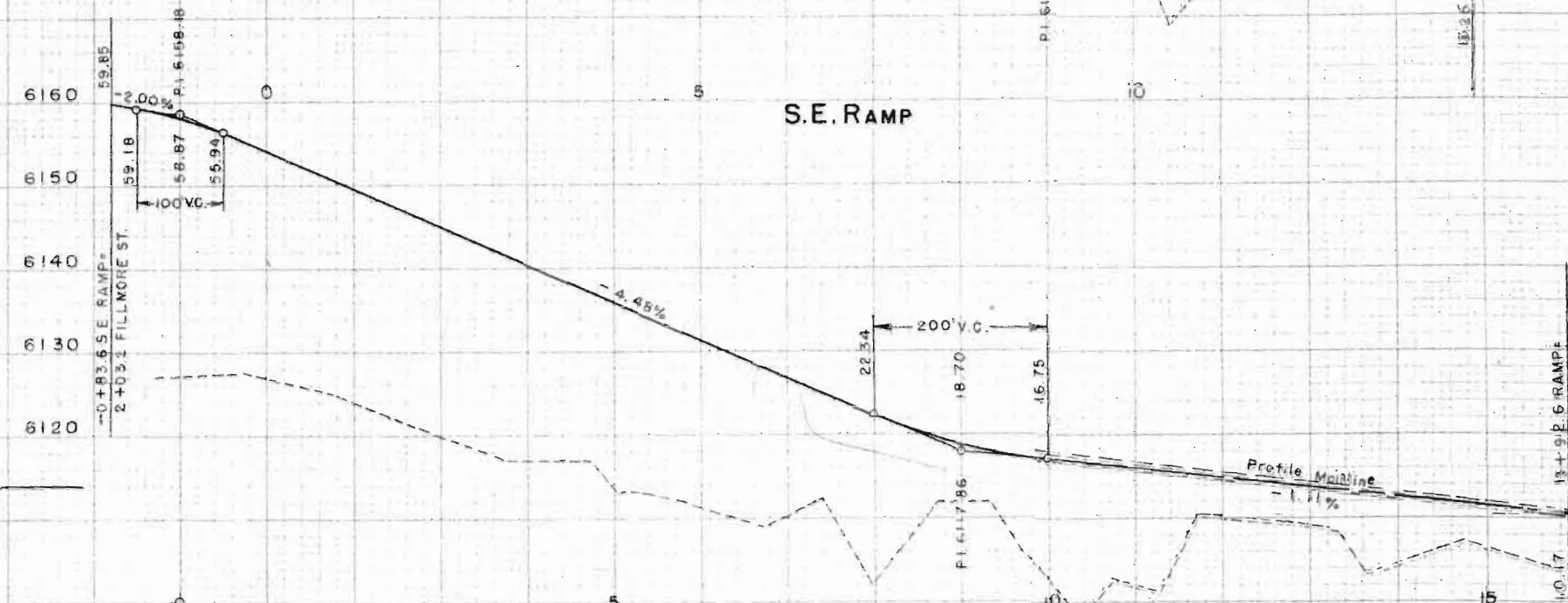
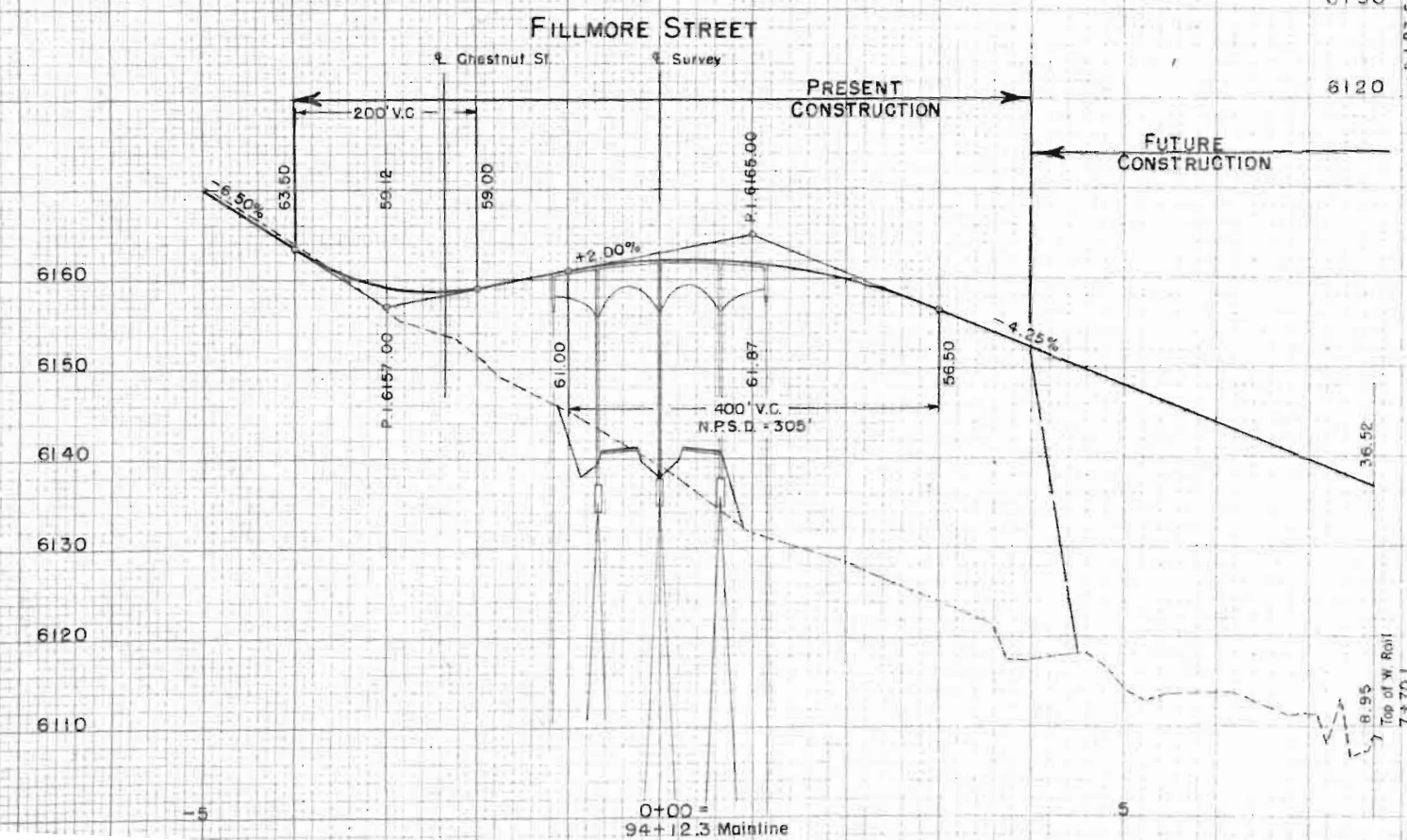
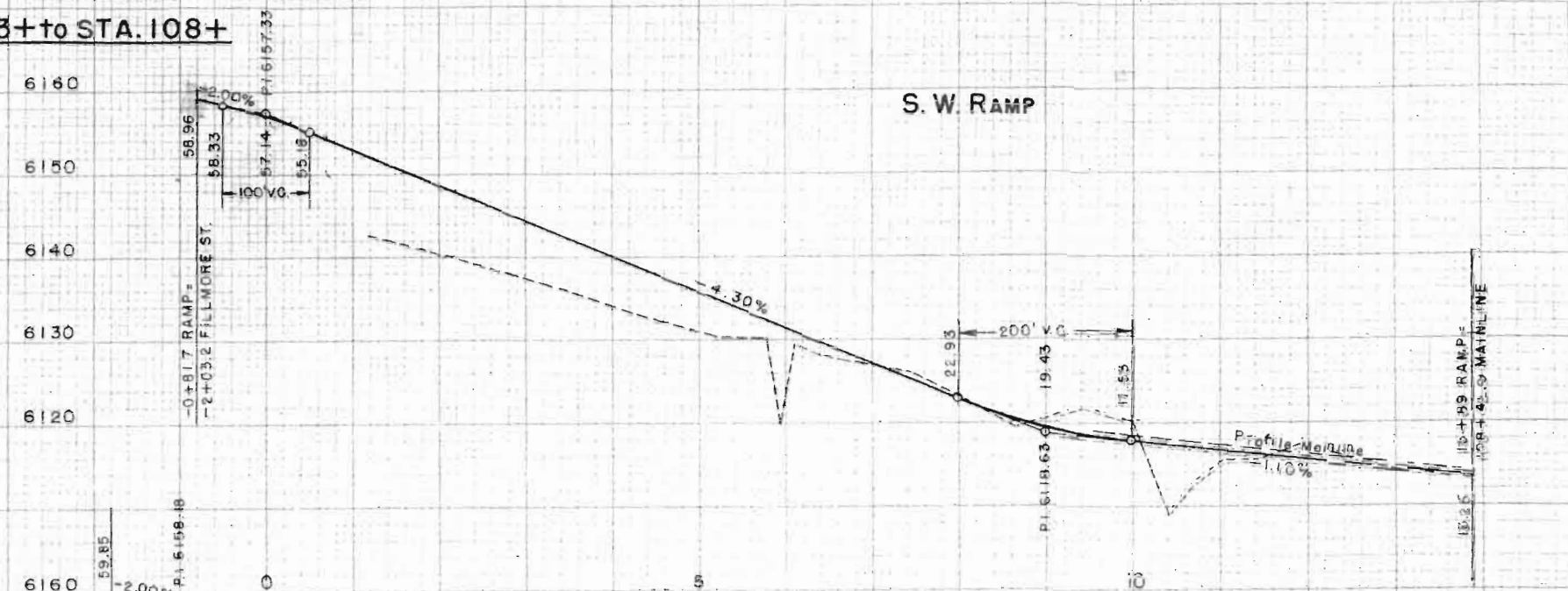
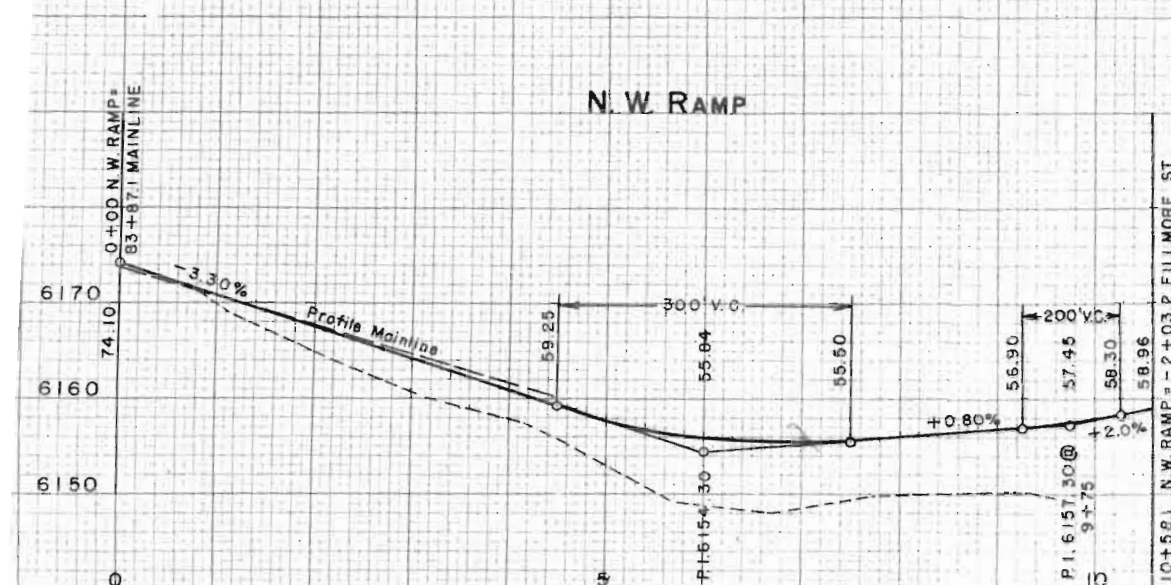
LAYOUT & DETAIL OF INTERSECTION

STA 83+ To 108+



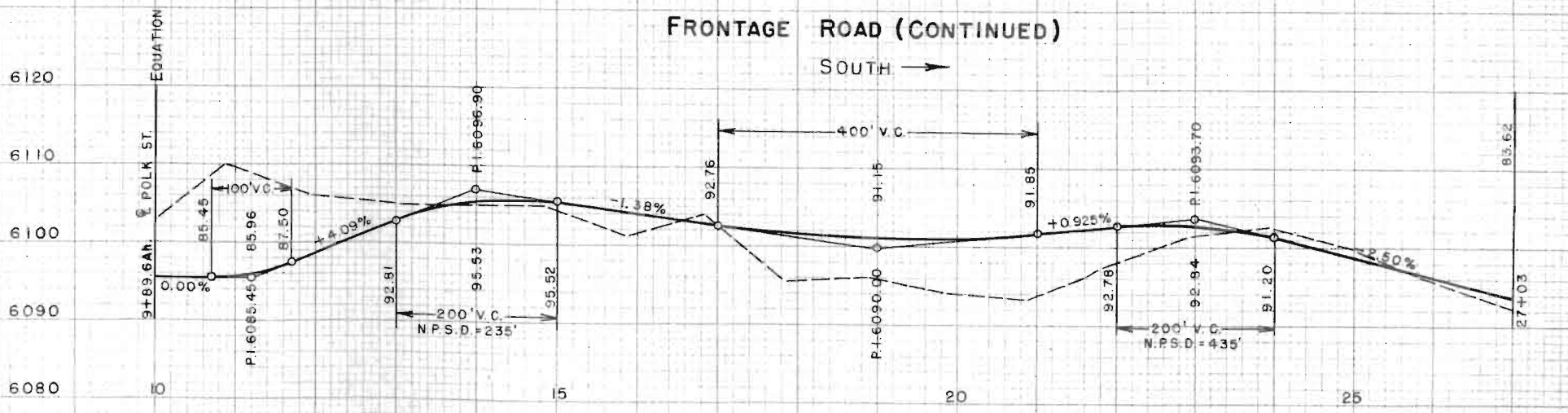
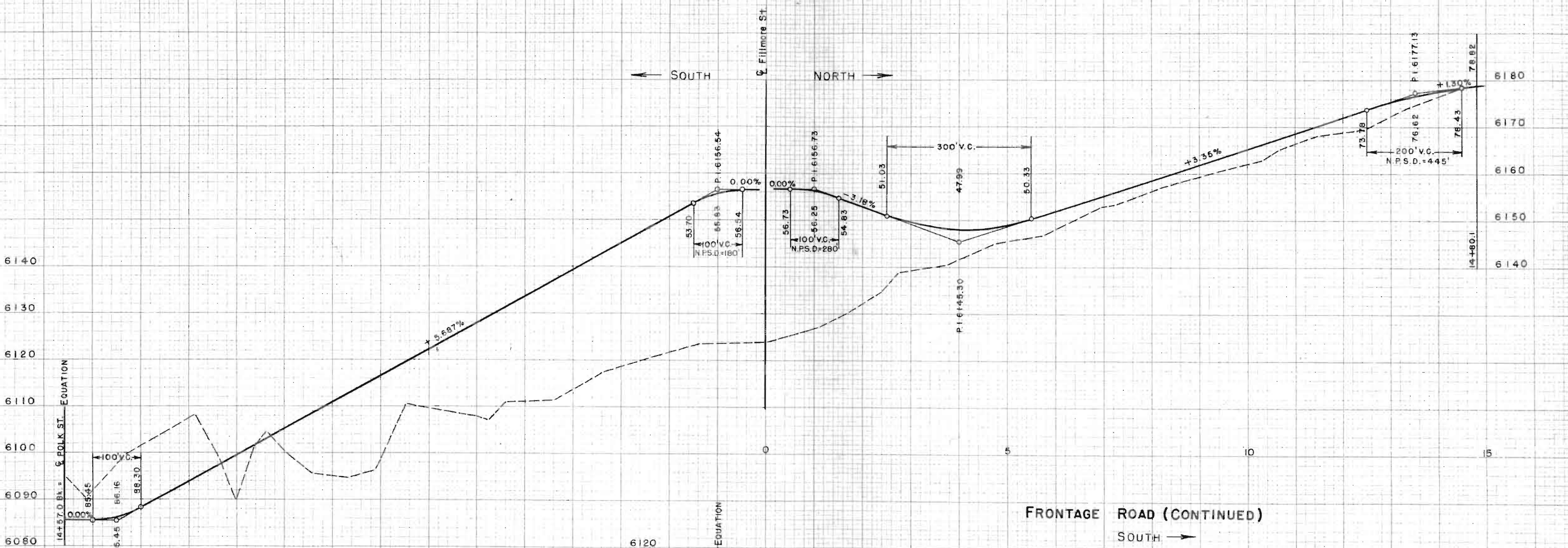
INTERSECTION RAMPS

STA. 83+ to STA. 108+



FED. ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I-25-2 (28) 145	117	

FRONTAGE ROAD ← LT. OF STA. 80+ to 126+



NOTE:
ALIGNMENT AND GRADES SHOWN ARE SUBJECT TO
MODIFICATION DURING CONSTRUCTION AFTER APPROVAL
BY THE DENVER OFFICE.

SOIL DATA SHOWN ON THE PLANS IS OBTAINED FROM
BEST TESTING LABORATORY INFORMATION. THIS
INFORMATION IS SHOWN FOR CONVENIENCE OF THE
CONTRACTOR AND THE DEPARTMENT DOES NOT
GUARANTEE THE ACCURACY OF THESE TESTS. IF
MATERIALS NOT CONFORMING TO THE DATA ON THE
PLANS ARE ENCOUNTERED DURING CONSTRUCTION
THE GRADING PLAN SHOWN ON PLANS WILL BE
MODIFIED WHERE NECESSARY TO SECURE DENSE,
STABLE EMBANKMENTS.

Sta. 36+71.9 Beg. I-25-2(28)145 UNIT NO. 1



36+71.9
New Project Marker Rt.
(State Forces)

39+77
Right 11' x 16' x 20' V.C.
(See Detail Sheet No. 85)

Manway
Opening Wall

No. 24 A-6(2)
LL = 31.8
PI = 13.3
% 200 = 42
CBR = 4.9

County Road

10' x 10' Arch Culvert

12' x 10' Masonry Culvert

D.B.R.G.W. RR

Wires Under
Track

BM 200' R.I.
Sta. 40+75
Elev 6233.21

SW 1/4 Sec. 18

FLY LINE
S46°13'W

1/4 Corner Stone

NE 1/4 Sec. 19

Av. 4:1-59 Elimination Back from
Sta. 36+71.9 6.5

N89°27'E

S46°13'W

251'3" 45°30'(calc.)
N89°25'E

NOTE:

STA. 36+71.9 TO STA. 112+64.1 BORROW
MATERIAL FROM PIT #2 IS TO BE PLACED
IN THE UPPER PORTION OF SUBGRADE A
MINIMUM OF 1.5 FT. THICK, EXCEPT
BETWEEN STA. 56+00 OR STA. 63+00 AND

FRONTAGE ROADS TO HAVE A MINIMUM OF
1 FT. THICK

ESTIMATED CROSS HAUL { 922,543 Sta. Yd.
112,317 Yd. M.

ESTIMATED BORROW IN LIEU OF SUB-BASE = 83,893 Cu Yds.

NE 1/4 SEC. 19
T. 13 S., R. 66 W.

44+83.21+49+10.2
Reg'd 2 Overpasses
(See Detail Sheet
Nos. 39-43)

48+50.41+
Reg'd 24' x 22' R.C.P.
Cross Culvert L.T.
Flared End Section
at Inlet, Grout
Rubble Slope
Paving Outlet Dike
(See Detail
Sheet No. 5)

58+80.81+
Reg'd Channel
Change (W=15)
10x10 x 366'
Concrete
Box Culvert
(See Details
Sheet No. 87)

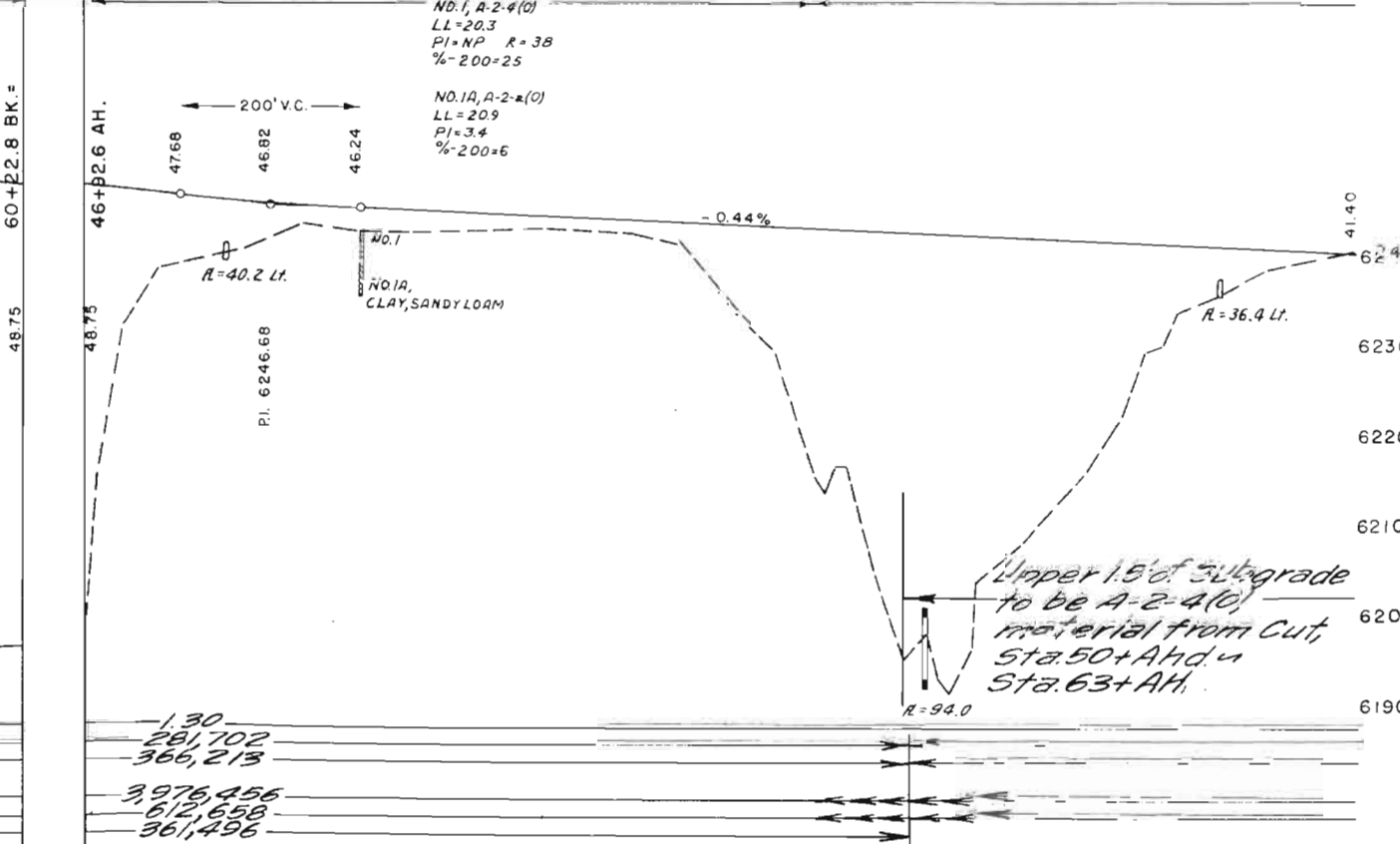
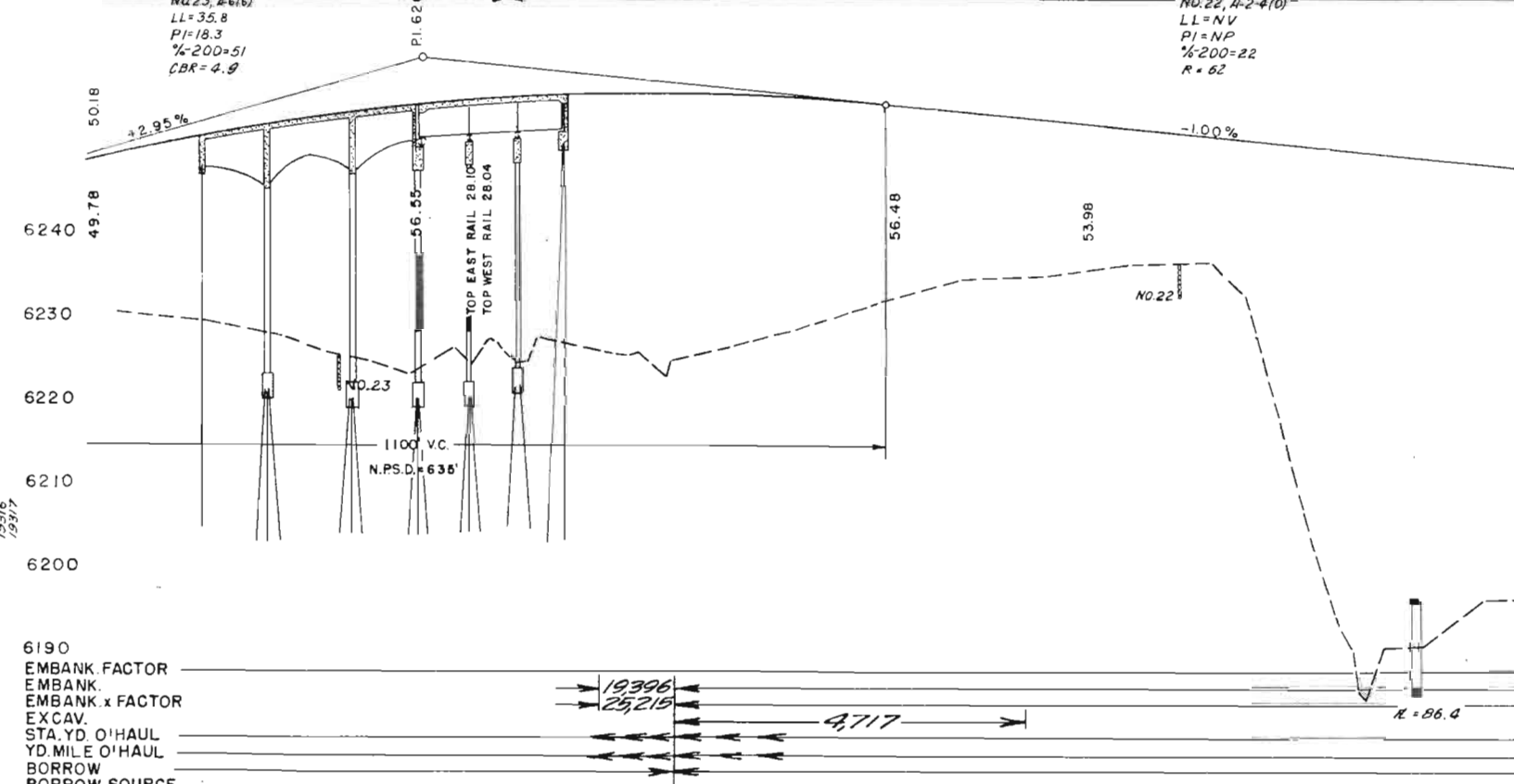
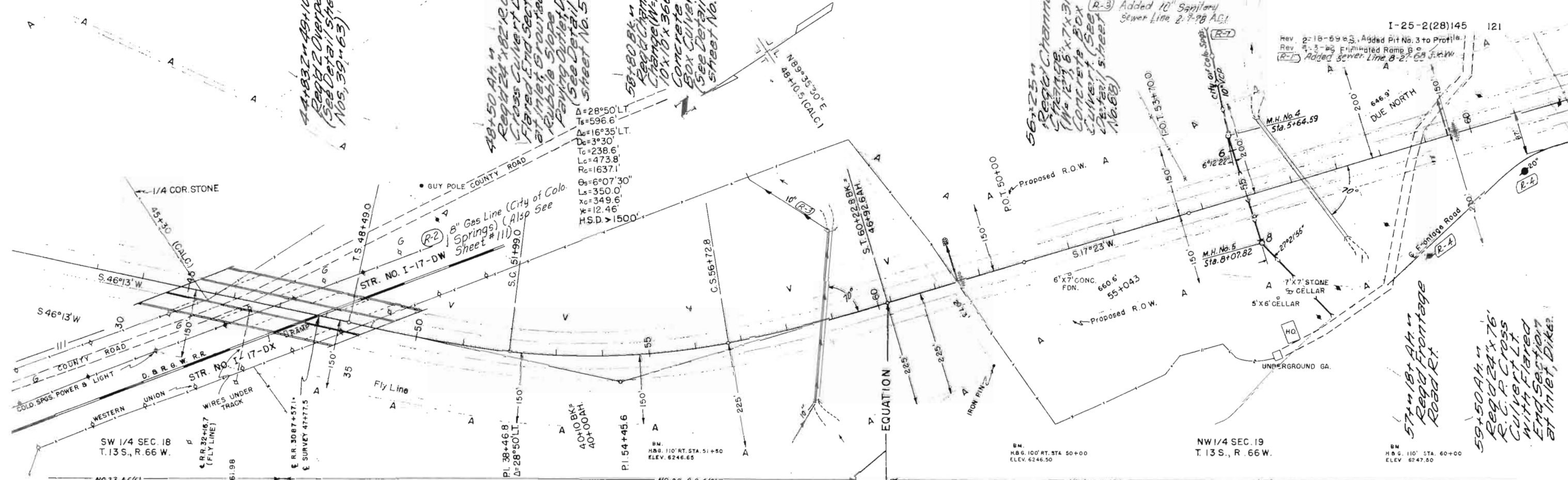
NW 1/4 SEC. 19

12-2-70 R.L.M.
Added 10" Sanitary
Sewer Line 2-7-98 A.C.I.

Added Electric Power Poles 4-18-75 A.C.I.

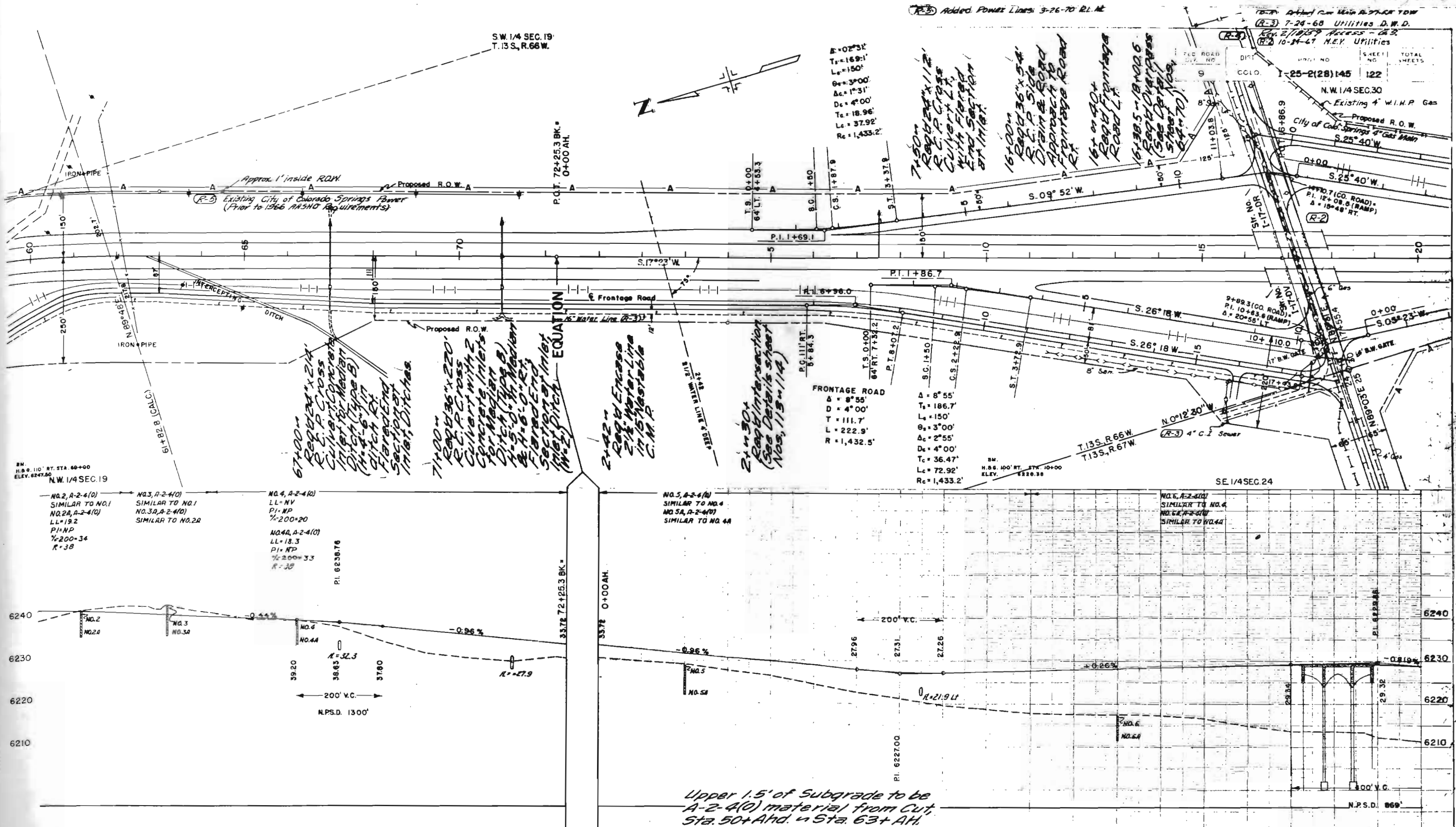
I-25-2(28)145 121

Rev. 2-18-59 S.S. Added Pit No. 3 to Profile.
Rev. 2-3-66 Eliminated Ramp B.
Added Sewer Line 8-27-68 J.K.W.



6190
EMBANK. FACTOR
EMBANK.
EMBANK. x FACTOR
EXCAV.
STA. YD. O'HAUL
YD. MILE O'HAUL
BORROW
BORROW SOURCE

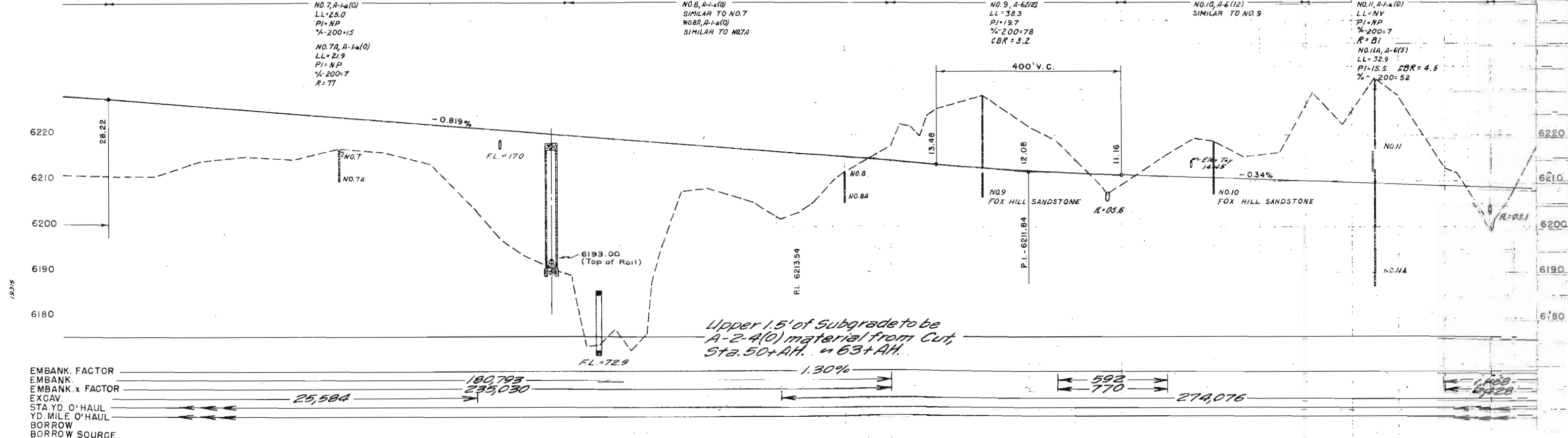
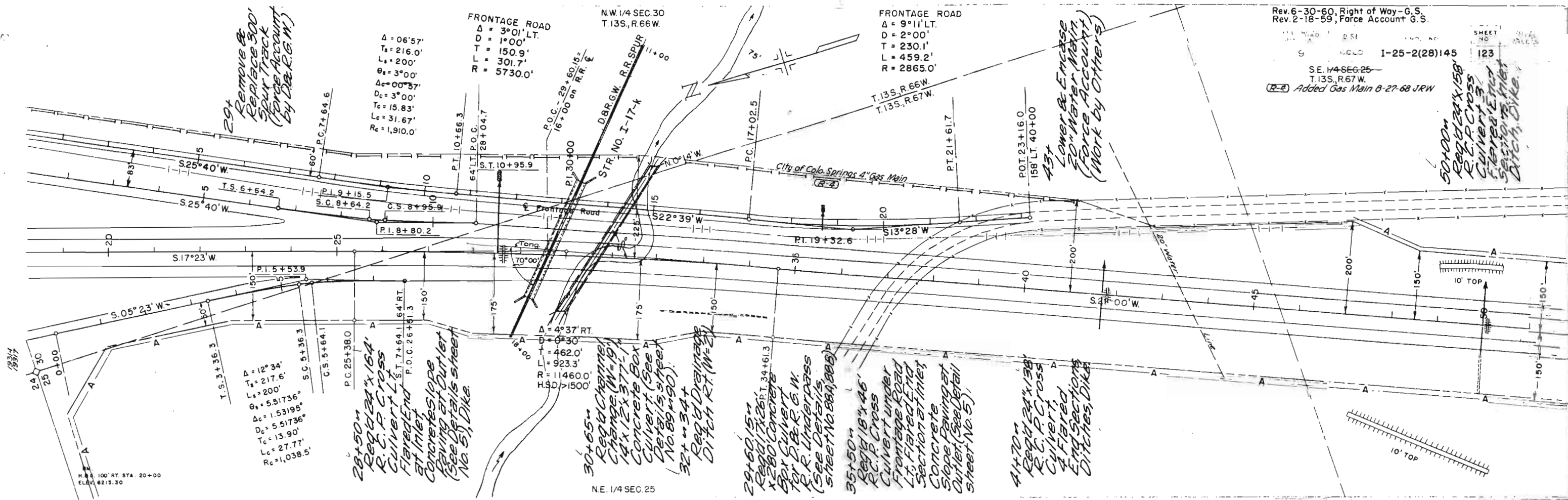
To be obtained from Pit
No. 3 & 4 (600' to Sta 72+00)



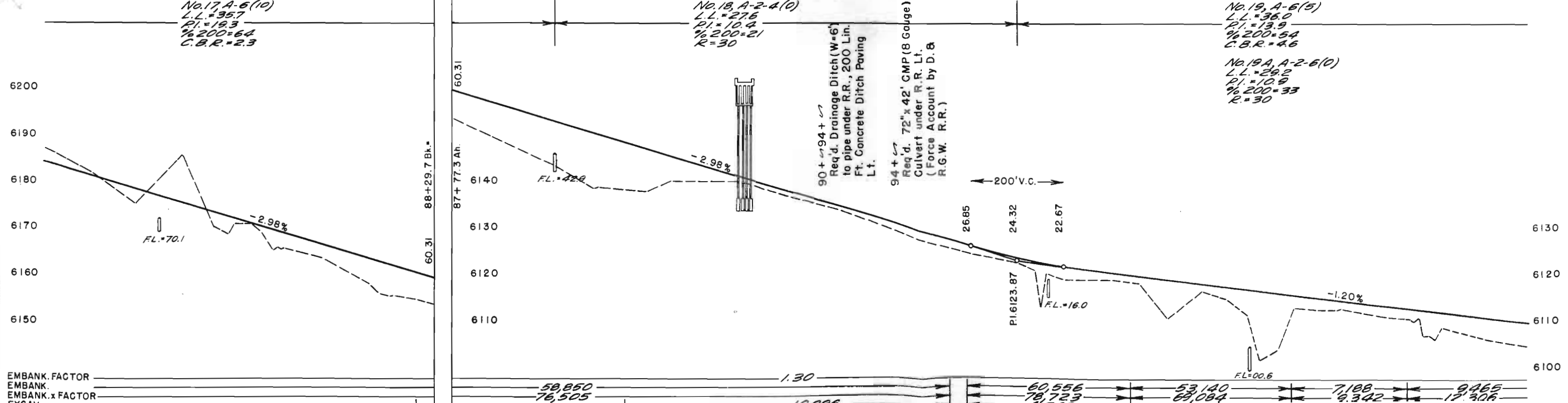
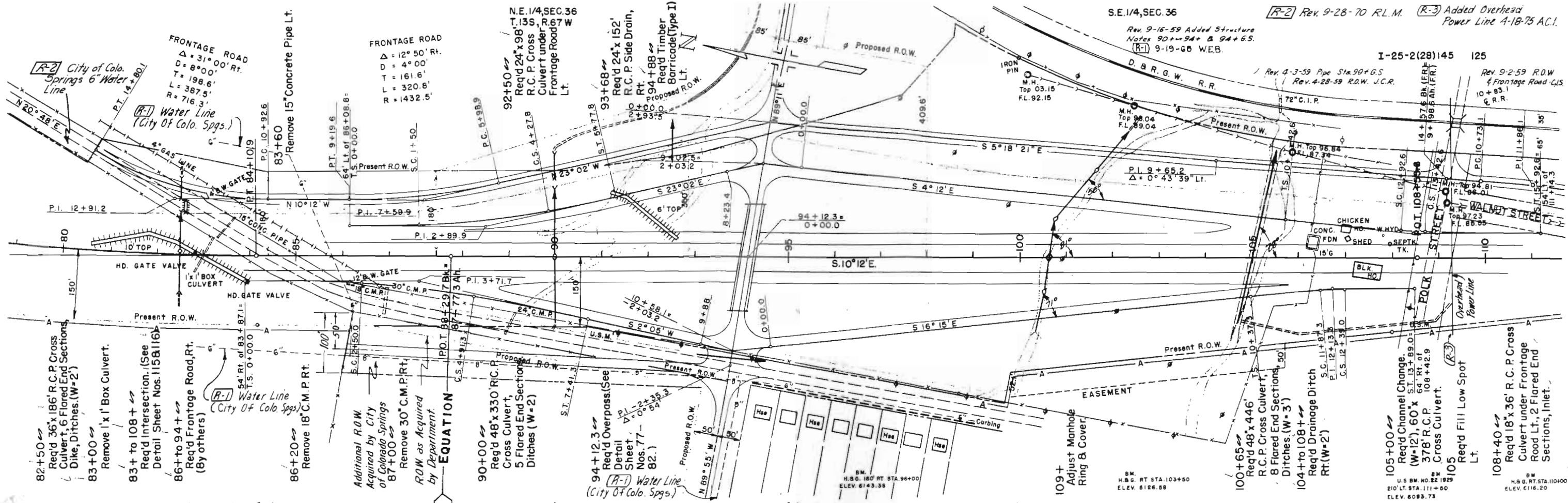
EMBANK. FACTOR
 EMBANK. x FACTOR
 EXCAV.
 STA. 50+00 TO 63+00

Upper 1.5' of Subgrade to be
 A-2-4(0) material from Cut.
 Sta. 50+00 to Sta. 63+00.

130
 124,468
 101,808
 2,460,554
 101,964



EMBANK. FACTOR
EMBANK. x FACTOR
EXCAV.
STA. YD. O'HAUL
YD. MILE O'HAUL
BORROW
BORROW SOURCE



EMBANK. FACTOR
EMBANK.
EMBANK. x FACTOR
EXCAV.

