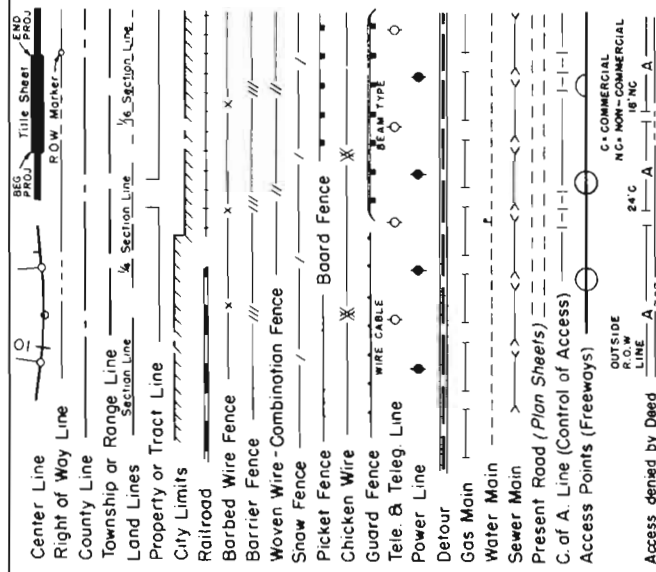


COLORADO DEPARTMENT OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. I 25-2(38)149 STATE HIGHWAY NO. 1 EL PASO COUNTY

CONVENTIONAL SIGNS



TABULATION OF LENGTH & DESIGN DATA

BASED ON SOUTH BOUND LANE

STATION	DESCRIPTION	ROADWAY		MAJOR STR.	NO WORK
		Lin. Ft.	Lin. Ft.		
187+28.7 Ah.	BEGIN PROJ. NO. I-25-2(38)149-0+00 Beg. I 25-2(28)145 UNIT 2	2,062.5			
207+91.2	BEGIN BRIDGE STR. NO. I-17-N COTTONWOOD CREEK		196.0		
209+87.2	END BRIDGE				
228+02.3	OPPOSITE BEG. I 002-2(27)	1,815.1			
228+41.9	BEGIN BRIDGE STR. NO. I-17-ES WOODMAN ROAD	39.6	176.0		
230+17.9	END BRIDGE				
245+47.9 Bk. #	EQUATION	1,530.0			
248+64.9 Ah.		422.8			
252+87.7	END WORK STR. NO. I-17-AA PINE CREEK				192.9
254+80.6	BEG. WORK	819.4			
263+00	END PROJ. NO. I-25-2(38)149-263+00 on I 002-2(27)				
TOTALS		6,689.4	372.0	372.0	192.9
SUMMARY					
ROADWAY MAJOR STRUCTURES		Lin. Ft.	MILES		
		6,689.4	1.267		
		372.0	0.070		
TOTAL NET LENGTH		7,061.4	1.337		
NO WORK SECTION		192.9	0.037		
TOTAL GROSS LENGTH		7,254.3	1.374		
DESIGN DATA					
MAXIMUM DEGREE CURVE		1°00'			
MAXIMUM GRADE		5.00%			
MINIMUM NPSD HORIZONTAL		>1300'			
MINIMUM NPSD VERTICAL		605'			
MAXIMUM SPEED DESIGN		70 MPH			

INDEX OF SHEETS

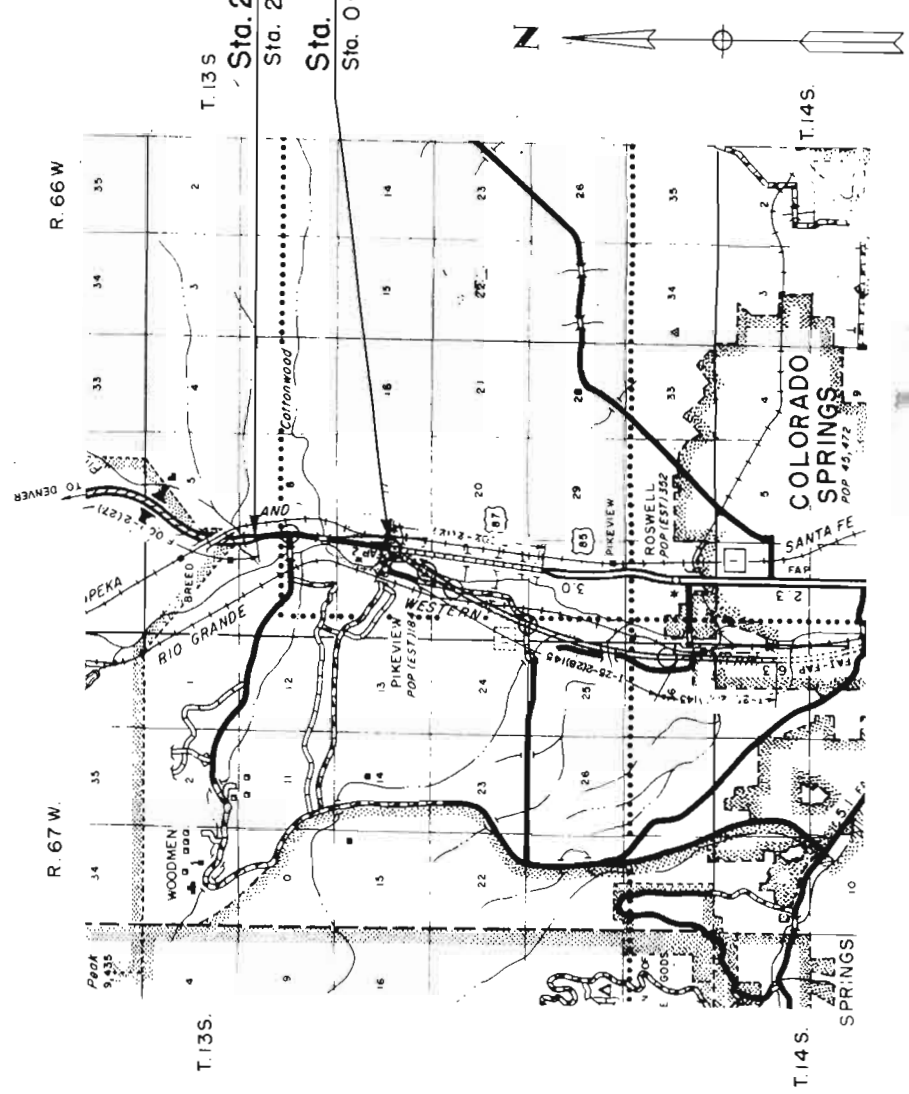
- SHEET NO. **1**
- 1 Sketch Map, Title Page, & Tabulation of Length & Design Data.
 - 2 Typical Cross Section of Improvement and General Notes.
 - 3 Summary of Approximate Quantities.
 - 4 Summary of Earthwork, Tabulation of Asphaltic Shoulder Roll, Details of Asphaltic Shoulder Roll & Embankment Protectors, and Details of Removing Headwalls.
 - 5 Sub-Base Material Plan, Surfacing Plan, Details of Concrete Slope & Ditch Paving, and Riprap.
 - 6 Fencing Requirements, R.O.W. Markers, Guard Posts, and Metal Plate Guard Fence. Tabulation of Lighting Standards & Typical Lighting Standards.
 - 7 List of Structure Quantities.
 - 8-14 Details of Bridges, Sta. 207+.
 - 15-24 Details of Bridges, Sta. 228+.
 - 25-30 Details of Bridge, Sta. 20+.
 - 31 Details Showing Portions of Structure to Receive Class I Surface Finish
 - 32-33 Extension of 12 x 10" C.B.C., Sta. 194+55.
 - 34 Standard Methods for Superlevation of Curves (Divided Highways)
 - 35 Standard Side Approach Roads, Flaring, Cut Slope Treatment, and Widening of Bridges & at Crest of Grades.
 - 36 Standard Marker Posts and Bench Marks
 - 37 Standard Letters & Figures for Year Numbers and Structure Numbers.
 - 38 Standard Markings for Concrete Inlets.
 - 39 Standard Timber Guard Posts
 - 40 Standard Metal Plate Guard Fence (Beam Type)
 - 41 Standard Wire Fence with Metal Posts
 - 42-43 Standard Roadway Construction Traffic Signs
 - 44 Standard Timber Barricades
 - 45 Standard Curbs & Gutters
 - 46 Standard Concrete Inlet for Median Ditch
 - 47 Standard Single & Double Concrete Box Culverts
 - 48 Standard Wingwalls for Various Types of Concrete Box Culverts
 - 49 Standard Methods of Backfill Around Structures
 - 50 Standard Types of Ditches & Construction Methods
 - 51 Reinforced Concrete Culvert Pipe and Concrete Sewer Pipe
 - 52 Standard End & Angle Sections, & Expansion Joints for Concrete Pipe
 - 53-54 Details of Interchange, Sta. 229+.
 - 55-59 Alignment Plan & Profile.
 - 60-101 Cross Sections.

Includes Sketch showing Access Control, Stos. 203+ to 217+

Sta. 263+00 End I 25-2(38)149 =
Sta. 263+00 on I 002-2(27)
Sta. 187+28.7 Beg I 25-2(38)149 =
Sta. 0+00 Beg. I 25-2(28)145 Unit 2

SCALES OF ORIGINAL DRAWINGS

ON PLAN 1" = 100 FT
ON PROFILE 1" = 100 FT HORIZONTAL
1" = 10 FT VERTICAL
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
GROSS LENGTH OF PROJECT = 7,254.3 FT. = 1.374 MILES
NET LENGTH OF PROJECT = 7,061.4 FT. = 1.337 MILES



SEE SPECIAL PROVISIONS FOR NOTICE TO BIDDERS

COLORADO
DEPARTMENT OF HIGHWAYS
APPROVED: *Marcus Tolman* 8-20
CHIEF ENGINEER

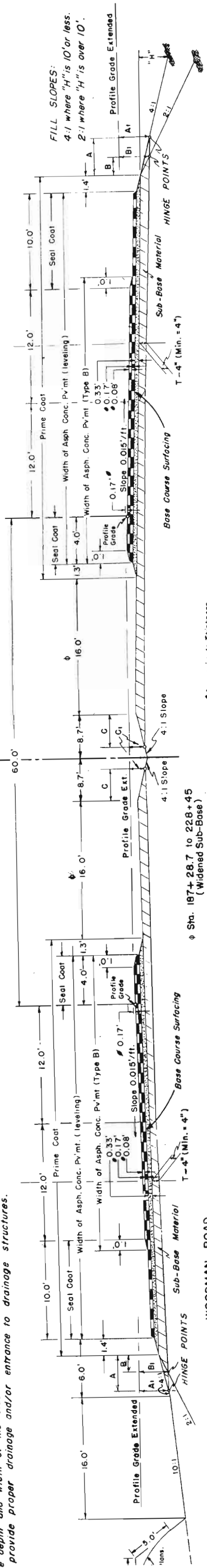
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED: _____
DIVISION ENGINEER

SCALE OF MILES

Rev. 9-16-59 Added Frontage Rd Typical Sta. 195+ to 229 6.S.

TYPICAL CROSS SECTION OF IMPROVEMENT SECTION A

E: See Standard M-2-EN for details of Cut Slope Treatment, Flaring & Widening. cavation and/or Borrow below 4:1 Slope and/or 10:1 Slope will not be permitted. e depth and width of the side ditch shall be varied when necessary in order provide proper drainage and/or entrance to drainage structures.



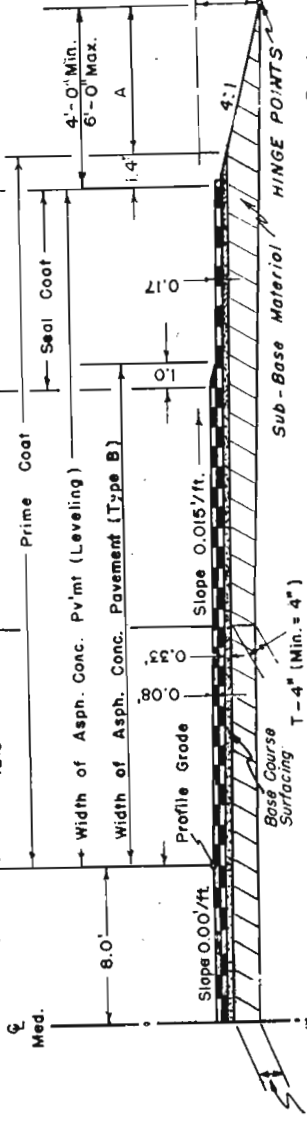
Approximate Thickness
#Future 0.17' Asphaltic Concrete Pavement

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	35 Tons
Leveling		94 Tons
Base Course Surfacing		174 Tons

Bottom layer of Asphaltic Concrete Pavement shall be completed in the full width before the top layer is placed. Paving joints in the top layer shall overlap a minimum of 1 ft. over paving joints in bottom layer.

SECTION B WOODMAN ROAD

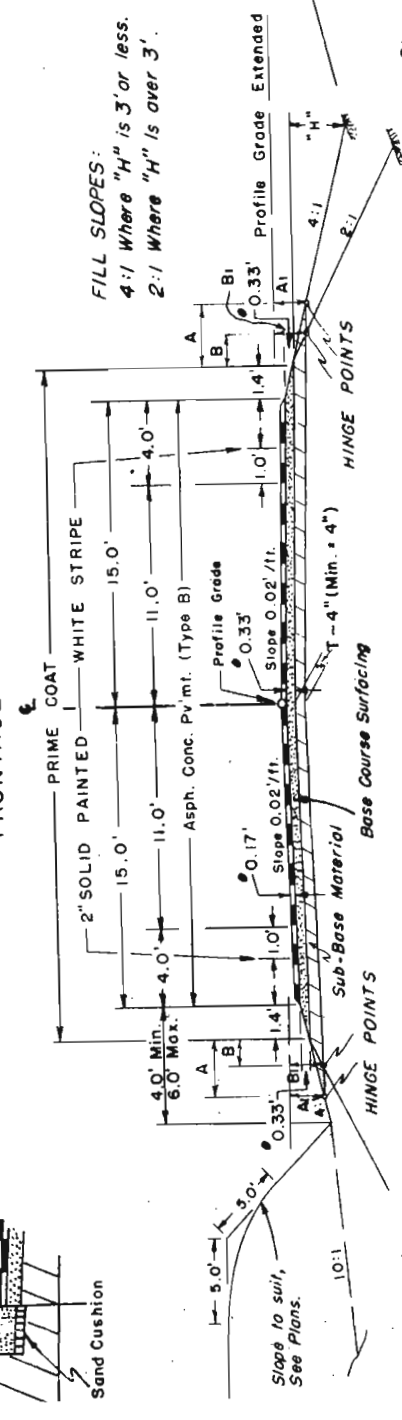


Approximately 0.58' compacted thickness of Gravel or Crushed Rock Surfacing shall be placed in separate courses at the following rates per 100 lin. ft. of roadway:

Asph. Conc. Pv'mt.	Type B	40 Tons
Leveling		104 Tons
Base Course Surfacing		188 Tons

See Details sheet No. 53 for location of rolled median.

SECTION C FRONTAGE ROAD



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

Approximate Thickness of Gravel or Crushed Rock Surfacing shall be placed in separate courses at following rates per 100 lin. ft. of roadway:

Asph. Conc. Pv'mt. (Type B)	37 Tons
Base Course Surfacing	69 Tons

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 super-elevated and widened as provided by the Standard Super-elevation 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,

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

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.
Stons Screenings (Limestone)	at 25.00 lbs. per. sq. yd.

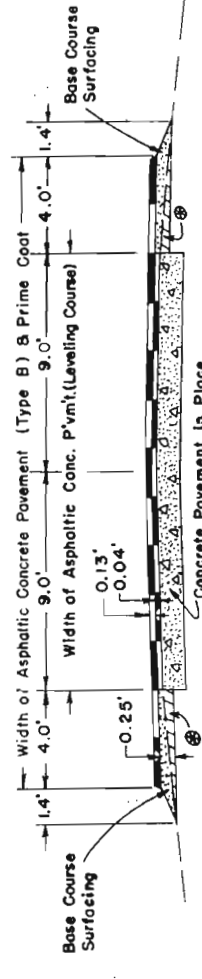
Rate of application and grade of oil shall be determined by the Engineer at the time of application.

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

When ordered by the Engineer, 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.

⊗ To be removed & Paid for as Unclassified Excavation

FRONTAGE ROAD STA. 195+ to 229+



ASPHALTIC CONCRETE PAVEMENT	TYPE B	24 Ton/Sto.
LEVELING COURSE		6 Ton/Sto.
BASE COURSE SURFACING		16 Ton/Sto.

Typical Section	Design Thickness	HINGE POINT DATA			
		4:1	2:1	4:1	2:1
A	1.58'	6.9'	2.9'	3.2'	-2.7'
B	1.58'	1.25'	2.9'	3.2'	-2.4'
C	1.58'	1.25'	2.9'	3.2'	-2.4'
D	1.58'	1.00'	2.6'	3.2'	-2.4'
		SUB-BASE		Tons/Sto.	
				1,177 (8,894)	
				859	
				335	
				349	

* 16' Lane Width

SUMMARY OF EARTHWORK QUANTITIES

EXCAVATION FROM CROSS SECTIONS	230,869 CU. YDS.
ESTIMATED FOR SUBSIDENCE LIST OF STRUCTURES AS EXCAVATION	23,087
LIST OF STRUCTURES AS EMBANKMENT	21,666
EST. OF CUT SLOPE TREATMENT	400
EST. OF COVERING ENDS OF CULVERTS	100
TOTALS	276,127 CU. YDS.
EXCAVATION FROM CROSS SECTIONS EXCESS	230,869 CU. YDS.
TOTALS	106,148
EMBANKMENT FROM CROSS SECTIONS	95,937 CU. YDS.
TOTALS	124,721 CU. YDS.
EMBANKMENT X FACTOR	124,721 CU. YDS.
STATION YARD OVERHAUL FROM MASS DIAGRAM EST. FOR SUBSIDENCE	1,089,982 STA. YDS.
TOTALS	108,999
TOTALS	1,198,981 STA. YDS.
YARD MILE OVERHAUL FROM MASS DIAGRAM EST. FOR SUBSIDENCE	2,365 YD. MILES
TOTALS	237
TOTALS	2,602 YD. MILES

UNCLASSIFIED DITCH EXCAVATION INTERCEPTING DITCHES

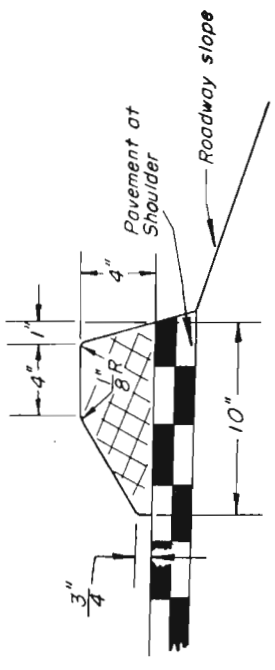
STATION	SIDE	CU.YDS.
SUB-TOTAL FROM LIST OF STRUCTURES 175		
TOTAL 175 CU. YDS.		

Approximate location, may be changed by the Engineer.

COMPACTION

TOTAL UNCLASSIFIED EXCAVATION	276,127 CU. YDS.
BASE OF CUTS & FILLS	43,753
TOTALS	329,880 CU. YDS.

DETAILS OF ASPHALTIC SHOULDER ROLL

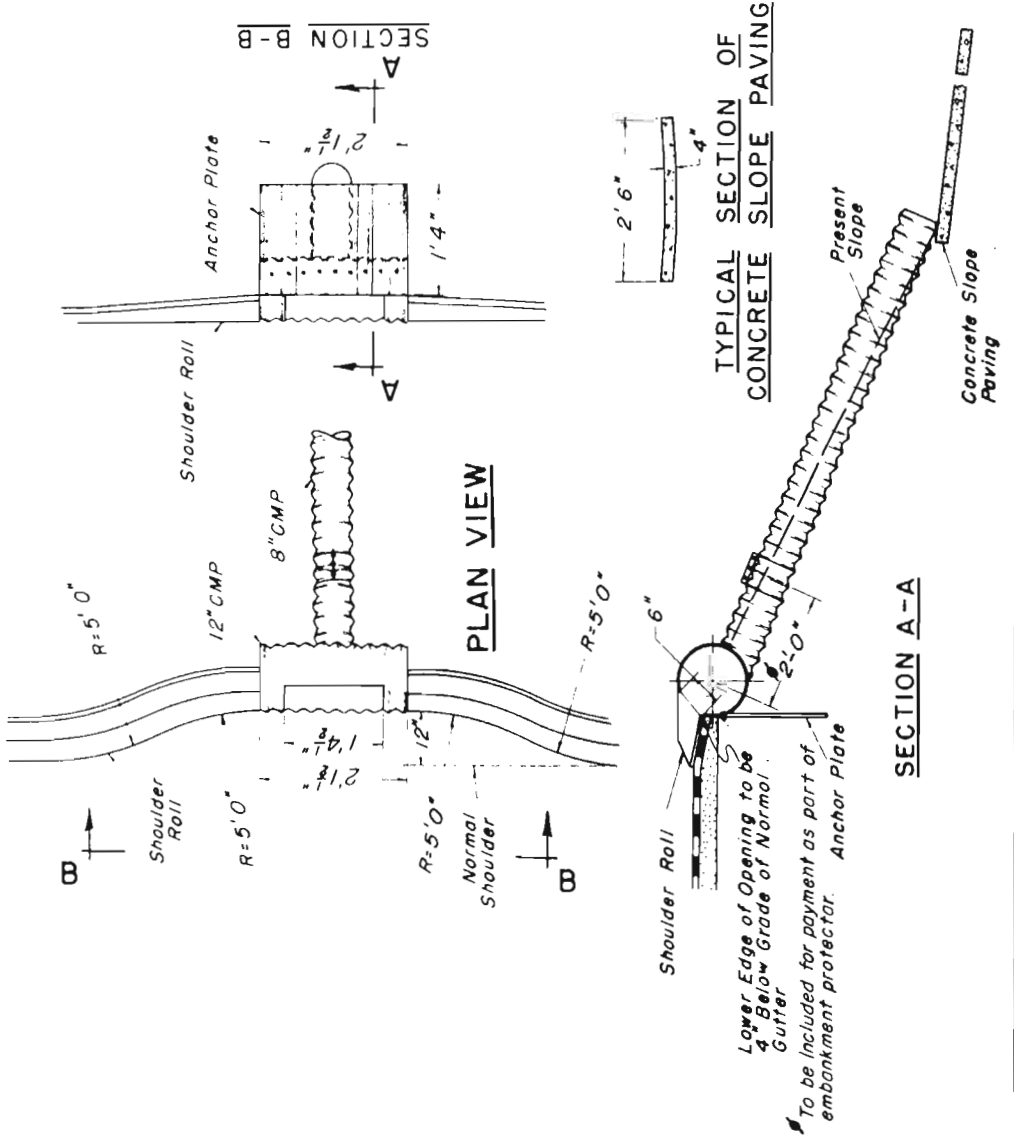


TABULATION OF ASPHALTIC SHOULDER ROLL

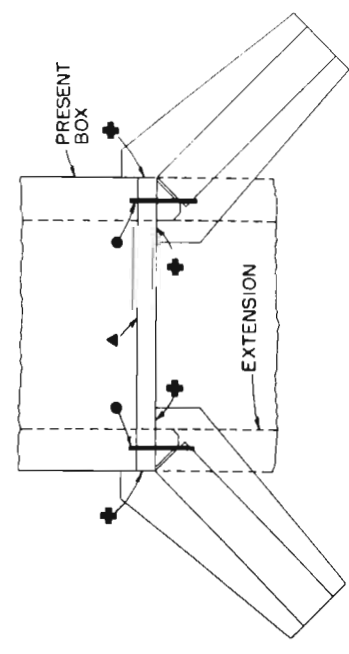
STATION	SIDE	LIN FT
187+50 to 194+69	LT	719
194+69 to 195+64	RT	95
210+00 to 218+00	RT<	1,600
225+00 to 228+42	RT<	684
230+18 to 236+00	LT	582
TOTAL		3,680

Shoulder Roll = 3,680 Lin Ft = 55 Tons

DETAILS OF EMBANKMENT PROTECTORS (TYPE I)



DETAIL FOR HEADWALL REMOVAL



- REMOVE ALONG THESE LINES
- THIS HEADWALL IS TO BE REMOVED WHEN FILL OVER HEADWALL IS LESS THAN 1 FT.
- 2 FT. REINFORCING BARS TO BE PLACED AT EVERY LONGITUDINAL BAR SHOWN ON THE STANDARD. SIZE TO BE SAME AS LONGITUDINAL BARS. TIE BARS ARE TO BE GROUTED IN PLACE BY A CEMENT GROUT COMPOSED OF ONE PART CEMENT AND TWO PARTS CLEAN WELL GRADED SAND. THE COST OF DRILLING HOLES AND PLACING TIE BARS IS TO BE INCLUDED IN PAYMENT FOR "REMOVAL OF HEADWALLS".

SUB-BASE MATERIAL PLAN

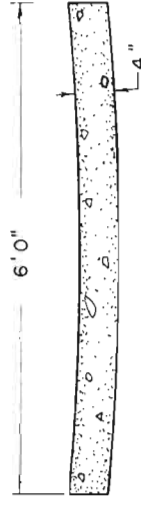
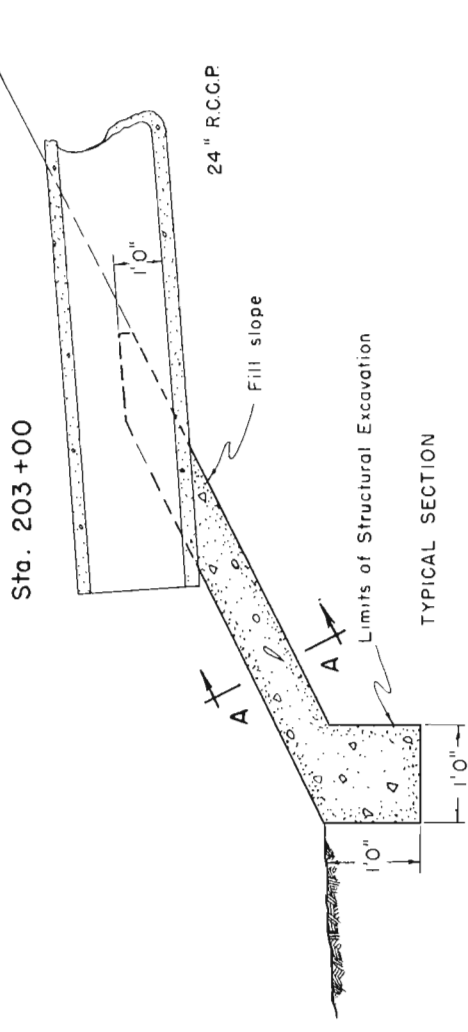
STATION	SOURCE	SUB-BASE (Class I)		TONS USED
		THICKNESS	* (Class I)	
MAINLINE Approach to Project 87 + 28.7 to 198 + 50		0"	---	---
98 + 50 to 208 + 68		19"	11,982	11,982
210 + 12.2 to 228 + 45.6		19"	21,935	21,935
230 + 18.7 to 245 + 53		19"	14,135	14,135
WOODMAN ROAD 0 + 00 to 2 + 48		19"	2,130	2,130
2 + 48 to 5 + 74		19"	3,061	3,061
5 + 74 to 11 + 00		19"	4,518	4,518
S.E. RAMP 4 + 20 to 10 + 15		19"	2,479	2,479
S.W. RAMP 7 + 25 to 0 + 44		19"	2,440	2,440
N.E. RAMP 0 + 42 to 9 + 25		19"	3,098	3,098
S.W. FRONTAGE ROAD 0 + 42 to 11 + 10.5		16"	3,719	3,719
N.W. RAMP 16 + 10 to 4 + 90		19"	3,932	3,932
N.W. FRONTAGE ROAD 0 + 00 to 20 + 70.0		16"	7,779	7,779
22 + 58.7 to 27 + 53.1		16"	1,705	1,705
TOTALS			7,919	90,832

*Based on Curve "E"

SURFACING PLAN

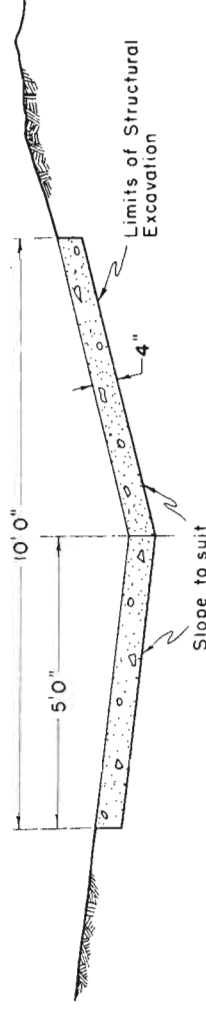
STATION	SOURCE	TONS USED		BASE COURSE
		ASPHALTIC LEVELING	CONCRETE TYPE B	
MAINLINE Approach to Project 187 + 28.7 to 208 + 53.0		484	320	1,134
209 + 95 to 228 + 45.6		1,997	744	3,697
230 + 18.7 to 245 + 53.0		1,739	648	3,219
248 + 64.9 to 252 + 87.7		1,449	540	2,680
254 + 80.6 to 263 + 00		398	148	736
WOODMAN ROAD 0 + 00 to 1 + 53		79	62	198
1 + 53 to 2 + 48		99	38	179
2 + 48 to 5 + 74		271	131	499
5 + 74 to 11 + 00		548	211	989
11 + 00 to Bridge		120	94	303
S.E. RAMP 10 + 34 to 5 + 20	P T UNDESIGNATED		191	355
S.W. RAMP 0 + 34 to 5 + 80			164	306
N.E. RAMP 0 + 32 to 7 + 75			223	416
S.W. FRONTAGE ROAD 0 + 32 to 11 + 10.5			411	766
N.W. RAMP 16 + 20 to 6 + 55			290	541
NE FRONTAGE ROAD 16 + 10 to 4 + 90			89	166
SE FRONTAGE ROAD 0 + 32 to 20 + 70.0			49	90
22 + 58.7 to 27 + 53.1			183	342
EST. FOR A. & D. LANES			414	599
DETOUR (TURNABOUT)			5	11
FROM LIST OF STRUCTURES		204	1,094	1,129
EST. FOR SPANDRELS			134	302
TOTALS		8,159	7,334	21,692

DETAILS OF CONCRETE SLOPE & DITCH PAVING



SECTION A - A

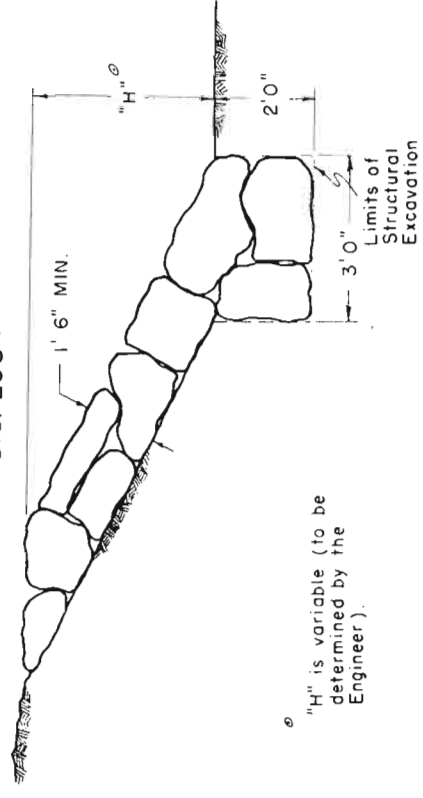
Sta. 207 + 50 to 208 + 85



TYPICAL SECTION

DETAILS OF RIPRAP

Sta. 208 +



TYPICAL SECTION

"H" is variable (to be determined by the Engineer).

Rev. 9-16-59 Surfacing Plan 6.5.

FENCING REQUIREMENTS

STATION	SIDE	REMOVE		BUILD BARBED WIRE	
		Lin. ft.	Lin. ft.		
191+52	Rt.	1,178			
204+10	Rt.	153			
223+90	Rt.	525			
229+70	Rt.	1,030			
187+28.7	Lt.	2,100			
210+00	Lt.	2,152			
231+00	Lt.	2,769			
195+00	Rt.			1,270	
223+90	Rt.			520	
231+50	Rt.			490	
187+28.7	Lt.			2,200	
209+00	Lt.			2,085	
229+80	Lt.			2,645	
TOTALS				9,907	9,210

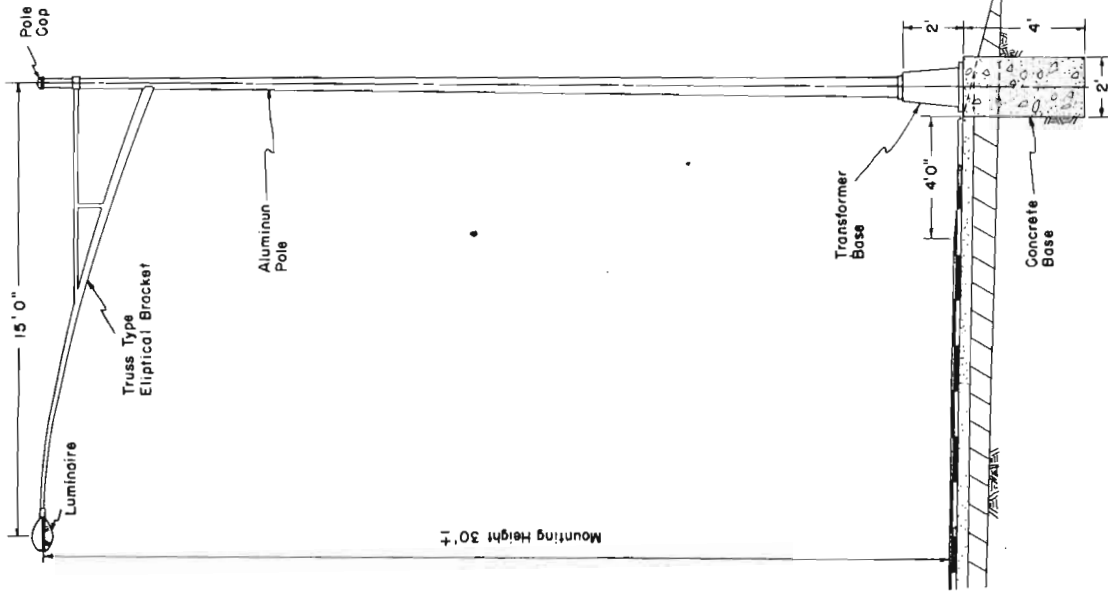
R.O.W. MARKERS

STATION	SIDE	NO		REMOVE	
		Each	Each		
195+00	Rt.				
210+00	Lt.				
236+00	Rt.				
250+00	Lt.				
203+05	Lt.				
203+18	Rt.				
205+00	Lt.				
206+00	Rt.				
207+00	Rt.				
208+00	Lt.				
208+02.3	Rt.				
248+00	Lt.				
TOTALS				4	8

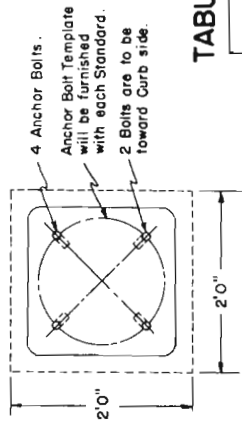
GUARD POSTS & METAL PLATE GUARD FENCE

STATION	SIDE	SPACING	REMOVE		METAL PLATE GUARD FENCE
			Each	Each	
188+00	Lt.	50'		14	
194+50	Rt.	50'		3	
203+00		Culvert		2	
203+60		CBC		4	
211+00	Lt.	Bridge		16	
214+50	Rt.	Bridge		16	
223+00		50'		14	
225+95	Lt.	50'		6	
228+32.5	Lt.	Culvert		2	500
228+45	Median				25
230+12.5	Lt. & Rt.				500
230+25	Median				25
233+00	Lt.	50'		9	
233+00	Rt.	50'		4	
233+00		Culvert		2	
5+75 (S. E. Ramp)		Culvert		2	
0+65 (S. W. Ramp)		Culvert		2	
13+75 (N. W. Ramp)		Culvert		3	
0+75 (N. E. Ramp)		Culvert		3	
Remove Guard Posts Entire Proj.		Bridge	50	10	
(Frontage Rd.)		Bridge		10	
TOTALS				50	1,050

TYPICAL LIGHTING STANDARD



FOUNDATION DETAIL



REQUIRED FOR 6 CONCRETE BASES
3.56 Cu. Yds. Class "A" Concrete
1.1 Cu. Yds. Uncl. Str. Excavation
8 Cu. Yds. Str. Backfill

TABULATION OF LIGHTING REQUIREMENTS

* LOCATION	INCANDESCENT	LUMENAIRES	STANDARDS
	4000 LUMEN	20,000 LUMEN TYPE III	
221 + to 240 +	NO.	NO.	I - ARM
	2	6	6

* See layout of intersection for location.
2,900 Lin. ft. 1/2" Electrical Conduit
with Junction Boxes required.

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	I-25-2(38)149	6	6

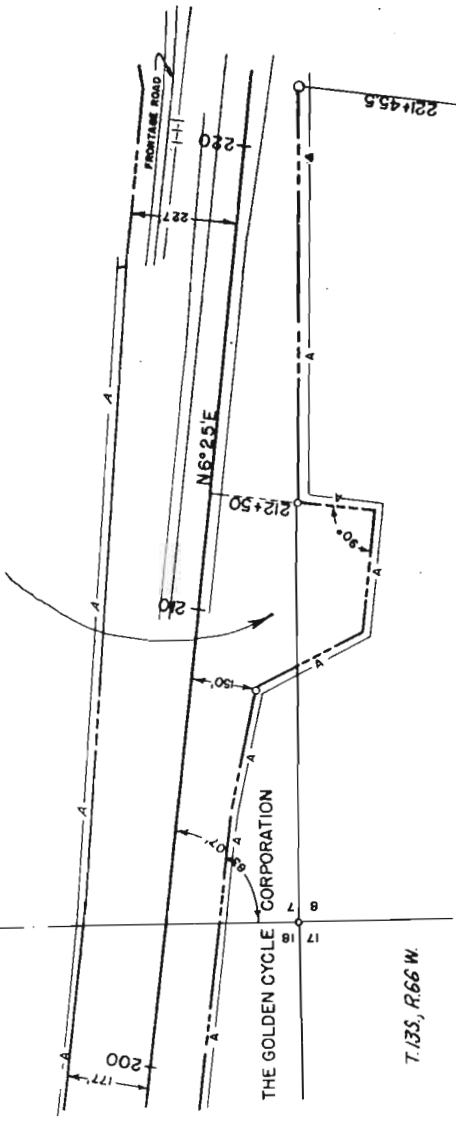
2-8-60 - Control of Access Sketch Added to C.I.S.
(R.1) Rev Access and ROW 8-M-67 H.G.J.



(4A) Access Parcel
Begin 177' Lt. 203+41.9
End 227' Lt. 217+22.35

(R.1)

Channel Change Parcel



SKETCH SHOWING CONTROL OF ACCESS

LIST OF STRUCTURE QUANTITIES

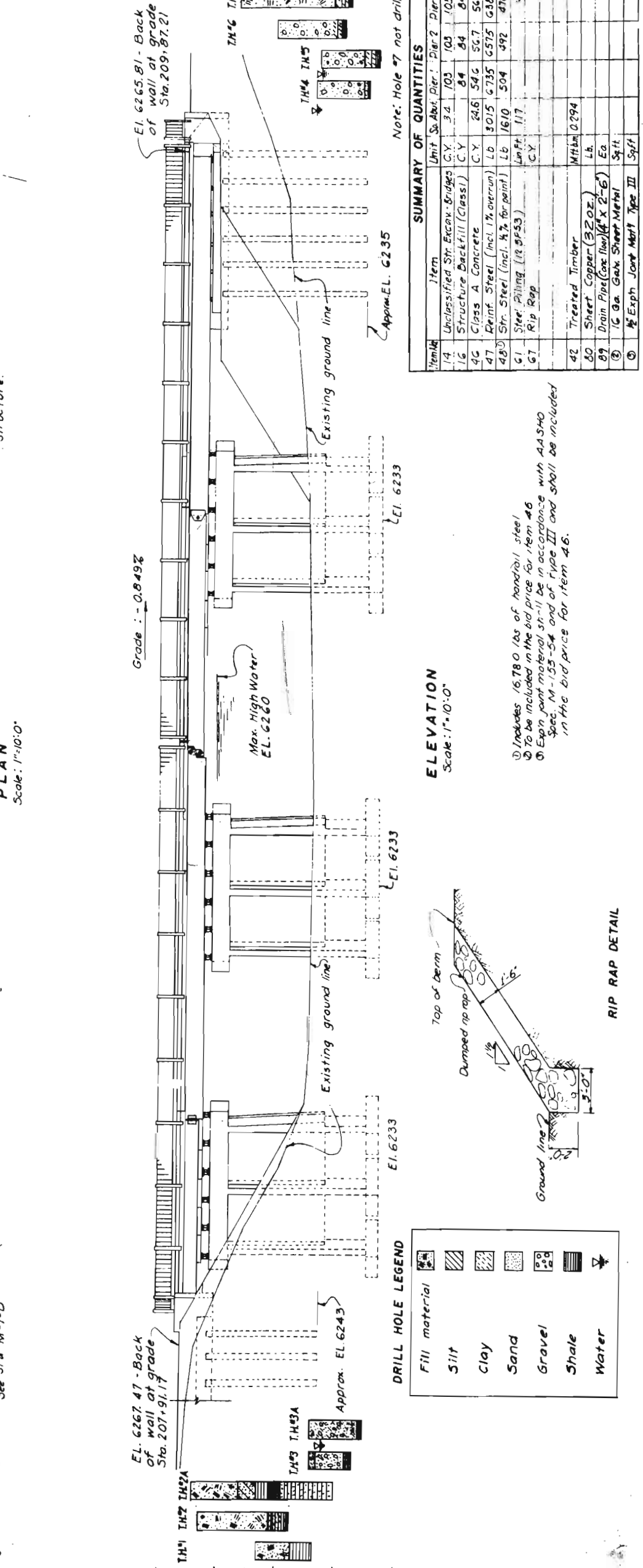
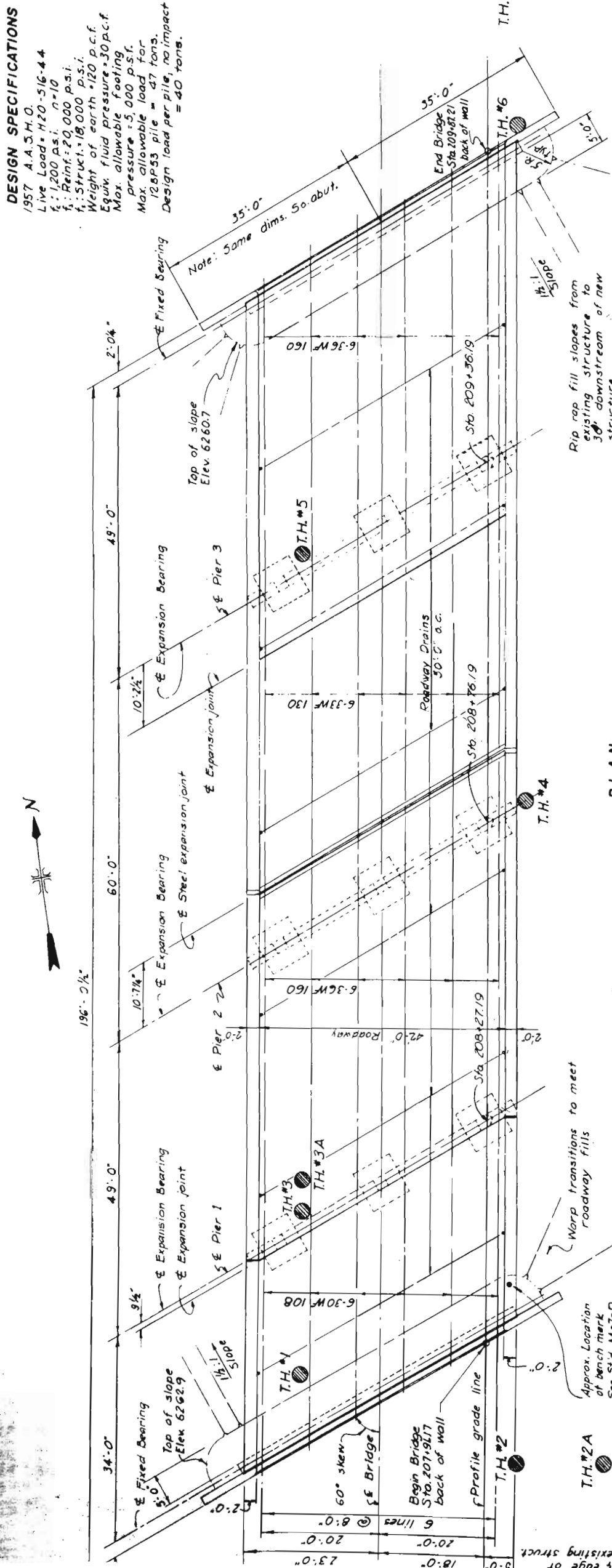
LOCATION	MISCELLANEOUS	REMOVE STRUCTURE NO.	EXCAVATION		UNCLASSIFIED STRUCTURAL EXCAVATION MISCELLANEOUS CUBIC YARDS	STRUCTURE BACKFILL CUBIC YARDS	GRAVEL OR CRUSHED ROCK SURFACING TONS	ASPHALTIC CONCRETE PAVEMENT (TYPE B) TONS	CONCRETE CUBIC YARDS	REINFORCING STEEL LBS.	CONCRETE SLOPE & DITCH PAVING CU. YDS.	REINFORCED CONCRETE CULVERT PIPE CLASS III		CORRUGATED METAL CULVERT PIPE		FLARED END SECTIONS FOR RCP EACH	
			UNCL.	EMB.								LINEAR FEET	LINEAR FEET	LINEAR FEET	LINEAR FEET		
187+28.7 187+ 187+ to 195+ 194+	Relocate Water Mains (Work by City of Colo. Springs Forces)		0				400	194									
194+69 194+55 195+ 195+64 203+00	1-8" Embankment Protector (Type I) Removal of Portions of Present Structure 1-8" Embankment Protector (Type I)		0		154	26	176	86	28000	30,910	0.2		26				
203+60 204+ 207+50 to 208+85 208+ to 209+ 210+00	1- Removal of Headwalls 240 Cu. Yds. Heavy Riprap 2-8" Embankment Protector (Type I)		310		60	25			55.98	4,631	0.2		28				
207+ to 209+ 219+ to 245+ 223+00 223+ 225+	1- Inlet Grating & Frame (Median) 2-8" Embankment Protector (Type I)		0		68	29			1.40	133	0.4		134				
222+ to 239+ 5+75 S.E. Ramp 225+ to 235+ 0+65 S.W. Ramp 228+ to 235+ 228+ to 230+ 229+ to 259+ 218+ to 229+	Relocate Water Mains (Work by City of Colo. Springs Forces) 1-No. 13 Inlet Grating & Frame 1,600 Sq. Yds. Removing Concrete Pavement		0		25	12			1.01	116	0.4		52				
15+75 N.W. Ramp 229+60 0+75 N.E. Ramp 239+00	2-No. 13 Inlet Grating & Frame 2-No. 13 Inlet Grating & Frame		20,900		108	37			1.95	252			186				
242+00 242+ to 248+ 243+00 251+ to 253+	1- Inlet Grating & Frame (Median)		35		131	30			1.97	232			46				
20+ to 22+ F.R. 256+ to 262+ 259+00	560 Lin. ft. Remove Conc. Curb & Gutter 650 Lin. ft. Conc. Comb. Curb & Gutter (Type I-M) 18 Cu. Yds. Sand Cushion		0		95	15			1.13	104			64				
263+ to 261+ 261+	1-Timber Barricade (Type I) 100 Lin. ft. Conc. Comb. Curb & Gutter (Type I-M) 2-Cu. Yds. Sand Cushion		0		35	75											
263+00	1-Project Marker (State Forces)																
Woodman Rd 2+48 to 5+74	700 Lin. ft. Conc. Comb. Curb & Gutter (Type I) 7 Cu. Yds. Sand Cushion																
2+ 5+	1-Flashing Amber Warning Light (State Forces) 1-Flashing Amber Warning Light (State Forces)																
S.W. FRONTAGE ROAD 0+70	Concrete Bases for Lighting Standards				32	8			3.56								
NTIRE PROJECT 8+ to 194+	1200 Sq. Yds. Removing Concrete Pavement		351				542	\$1018									
5+ to 229+																	
	TOTALS	4	21,666	5	175	753	1129	\$298	34700	36,378	31.2	360	310	164	7	3	

0 Included in Roadway Quantities.
 0 Included in Surfacing Plan.
 0 See Tabulation of Lighting Requirements for locations.
 \$ 204 Tons Leveling Course.

DESIGN SPECIFICATIONS
 1957 A.A.S.H.O.
 Live Load = H20-516-44
 f_c = 1200 p.s.i. n=10
 f_s = Reinf. = 20,000 p.s.i.
 f_s = Struct. = 18,000 p.s.i.
 Weight of earth = 120 p.c.f.
 Equiv. fluid pressure = 30 p.c.f.
 Max. allowable footing pressure = 5,000 p.s.f.
 Max. allowable load for 128P53 pile = 47 tons.
 Design load per pile, no impact = 40 tons.

PROJECT NO.	125-2(3)149
DATE	12-18-59 D.J.S.

GENERAL NOTES
 All work shall be done according to the Standard Specifications of the Colorado Department of Highways, adopted Jan. 1, 1958. Soundings and depth of footings shown according to the best available data. If field conditions differ, the Bridge Engineer will inspect and determine if redesign is necessary.
 All concrete shall be class 'A' and air entrained as specified.
 Chamfer all exposed corners 3/4" except as noted.
 All reinforcing bars shall be intermediate grade deformed bars conforming to AASHTO Specs. M31 & M137 (ASTM designations A5 and A305).
 All reinforcing shall be tagged with the structure number and mark.
 All dimensions on bar details are out to out.
 All hooks and bands in bars shall conform to A.C.I. Standard 315-57.
 Main bars shall not be spliced except where shown.
 Secondary bars shall lap 17 bar diameters except where shown otherwise.
 Clear distance of concrete protection to reinforcement: 3" in footings, 2" in walls, 1 1/2" in top of deck slab and 1" in bottom of deck slab and curbs.
 All dimensions from face of concrete to reinforcement indicate clear distance.
 All concrete surfaces marked with the symbol 'f' as shown on sheet No. 81 shall receive class 'I' surface finish.
 See Steel Fc Plan for notes about structural steel and paint.
 All steel railings shall receive one shop coat of zinc chromate and two field coats of aluminum paint.
 All scales refer to original scale.
 All references to sheet numbers on structure drawings are to structure sheet numbers shown in upper right-hand corner.
 For Structure Backfill see St. D. M. 60-B.



INDEX OF SHEETS

Sheet No. 8 - General Plan and Elevation
 13 - Abutments
 14 - Piers
 11 - Steel Framing Plan and Details
 9 - Concrete Deck Plan
 10 - Concrete Deck Details
 12 - Railing

F.S. CROCKER & I.F. JORGENSEN
 CONSULTING ENGINEERS
 DENVER, COLORADO

COLORADO
 DEPARTMENT OF HIGHWAYS
 BRIDGE

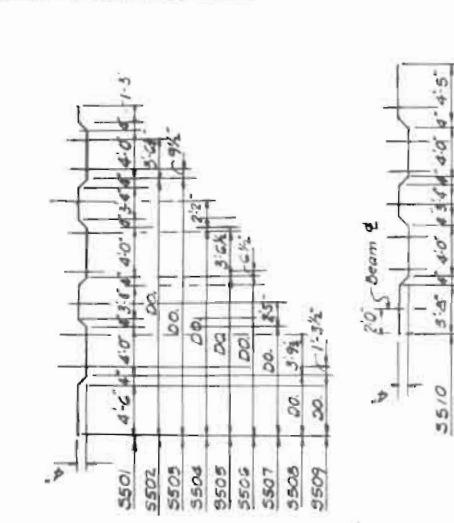
GENERAL PLAN

Address: COTTONWOOD CREEK
 Sta. 207+91.17 to 209+87.21
 Name: BREED
 Scale: 1"=10'-0"
 Designed by: J.H.N.
 Made by: J.H.N.
 Checked by: F.E.H.
 Date: 1959

Rev. 12-18-59 Handrail DC2

PROJECT NO.	125-238(149)
DIVISION	9
CONO.	9

MARK	SHAPE	a	b	LENGTH	QUAN.
S501	W			27'-6"	119
S502	W			26'-0"	8
S503	W			22'-3"	8
S504	W			19'-6"	8
S505	W			18'-9"	8
S506	W			17'-6"	8
S507	W			17'-9"	8
S508	W			16'-3"	8
S509	W			21'-9"	8
S510	W			18'-0"	8
S511	W			12'-6"	8
S512	W			10'-0"	8
S513	W			7'-5"	8
S514	W			4'-6"	8
S515	W			3'-6"	16
S516	W			2'-9"	16
S517	W			2'-0"	16
S518	W			29'-9"	16
S519	W			4'-9"	16
S520	W			25'-6"	of ea.
S521	W			5'-9"	4
S522	W			27'-3"	of ea.
S523	W			4'-0"	4
S524	W			23'-0"	of ea.
S525	W			9'-0"	4
S526	W			28'-9"	of ea.
S527	W			4'-0"	4
S528	W			19'-0"	of ea.
S529	W			5'-0"	4
S530	W			19'-9"	of ea.
S531	W			19'-6"	169
S532	W			27'-6"	177
S533	W			27'-6"	4
S534	W			10'-6"	4
S535	W			23'-6"	of ea.
S536	W			23'-9"	4
S537	W			6'-6"	4
S538	W			19'-6"	of ea.
S539	W			9'-9"	4
S540	W			25'-3"	of ea.
S541	W			4'-3"	170

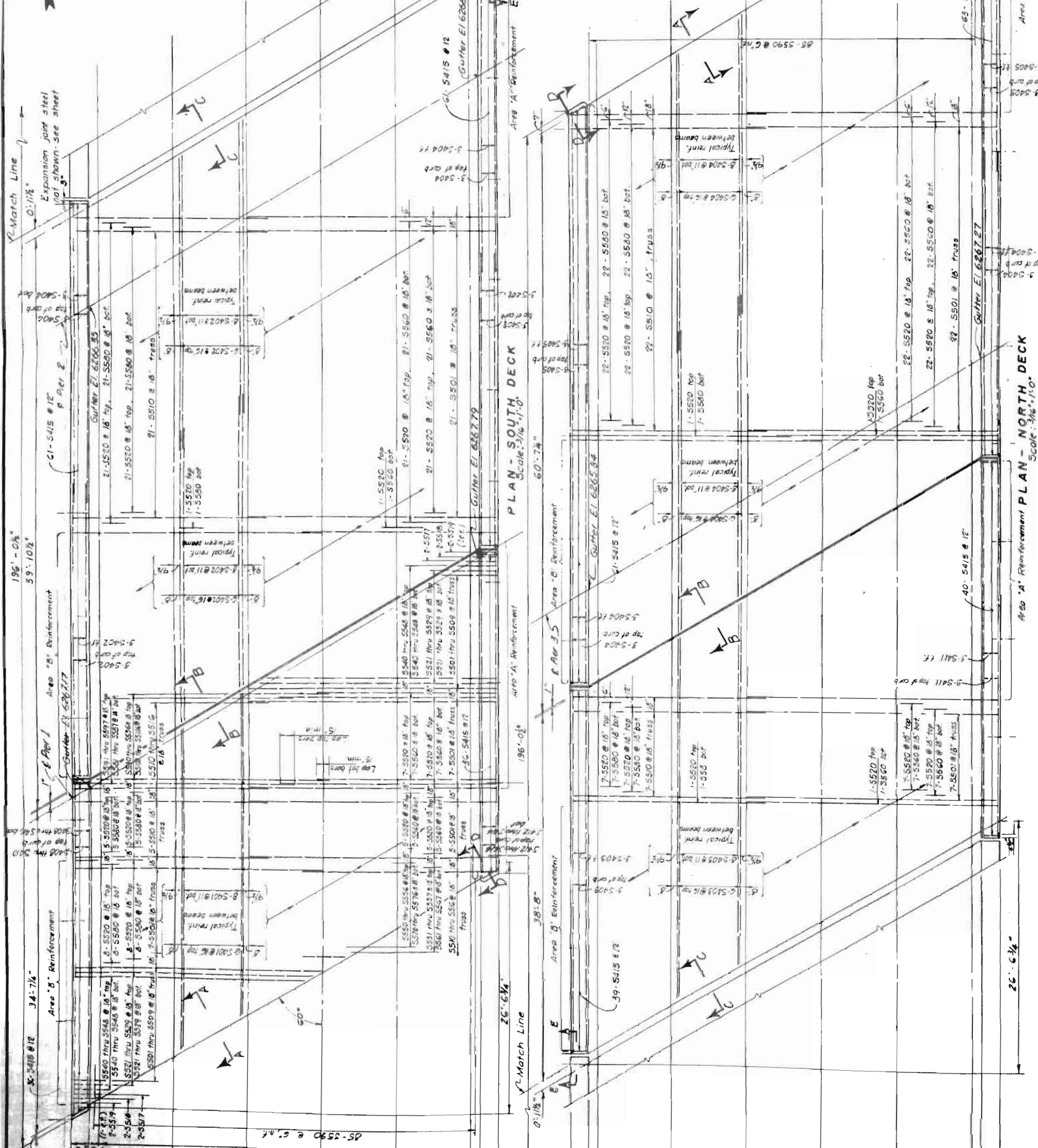


Note:
For Sections see Sheet 10
titled Concrete Deck Details.

MARK	SHAPE	a	b	LENGTH	QUAN.
S401	W			34'-3"	70
S402	W			30'-3"	152
S403	W			38'-3"	76
S404	W			30'-9"	164
S405	W			31'-9"	12
S406	W			34'-9"	2
S407	W			35'-6"	2
S408	W			36'-0"	2
S409	W			39'-0"	6
S410	W			33'-7"	2
S411	W			34'-2"	2
S412	W			34'-10"	2
S413	W			1'-0"	4-4
S414	W			1'-3"	0-6
S415	W			4'-2"	90

BAR SUMMARY - DECK	
31,471 Lin. Ft. #5 @ 1.043 lbs per ft = 32,824 lbs.	
12,995 " #4 @ 0.656 " = 12,021 "	
1% Overrun = 445	
Total = 45,290 lbs.	

QUANTITY SUMMARY - DECK	
Class A Concrete	218.6 Cu Yds.
Reinforcing Steel	45,290 Lbs.
Drain Pipe (4"x2'-0")	12 Ea.



F.S. CROCKER & I.F. JORGENSEN
CONSULTING ENGINEERS
DENVER, COLORADO

COLORADO
DEPARTMENT OF HIGHWAYS
BRIDGE

CONCRETE DECK PLAN

COTTONWOOD CREEK
Sta. 207 + 81.7 to 209 + 87.7
Near BREED Sec. 7 T. 13 S. R. 8 W.

Designed by J.H.N.
Checked by J.H.N.
Approved by J.H.N. Bridge Engineer
Checked by F.E.H. Designer

PROJECT NO.	12-18-59 D.J.S.
DISTRICT	COLO. I-25-2(38)49
REV. NO.	11
DATE	

NOTES FOR STRUCTURAL STEEL

All steel shall receive a shop coat of zinc chromate, a first field coat of aluminum, tinted; and second field coat of aluminum.

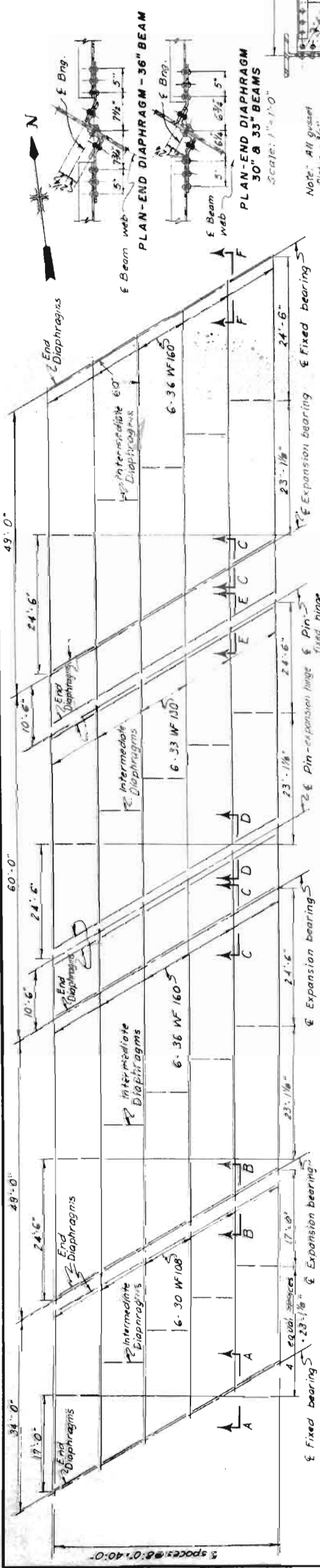
Shop rivets, $\frac{3}{4}$ " unless otherwise noted.

Field connections to be $\frac{3}{4}$ " rivets. High tensile strength bolts may be substituted for field rivets, at no additional expense to the Department.

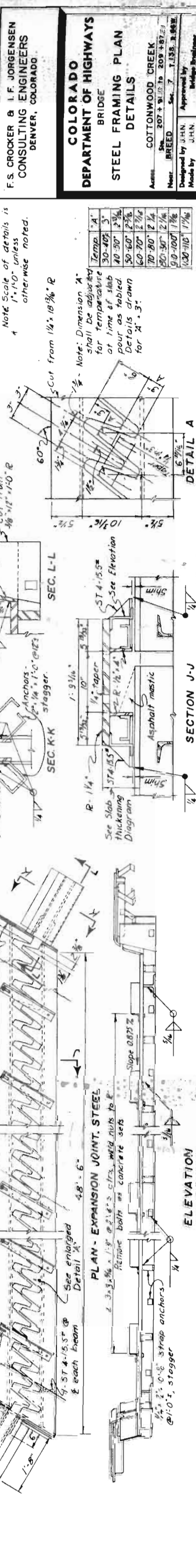
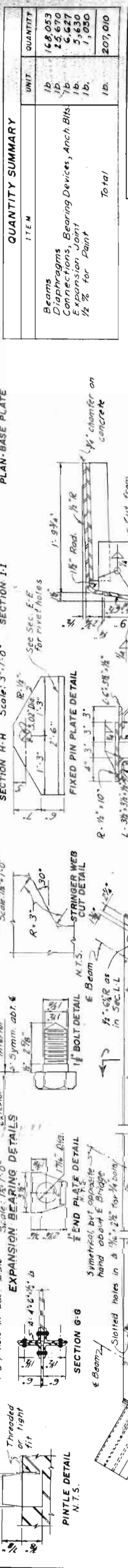
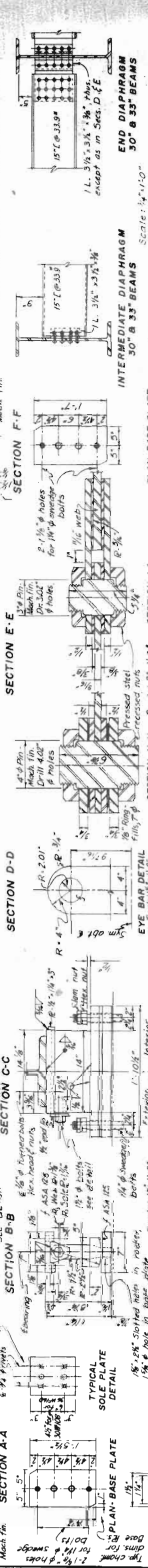
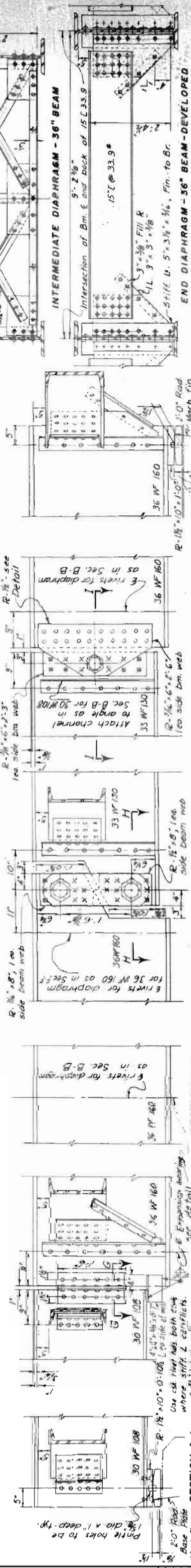
The bolts shall be assembled according to the specifications approved by the research council on riveted and bolted structural joints of the Engineering Foundation, dated Jan. 31, 1951.

Swedge bolts shall be embedded in concrete 1'-3".

Rev. Curb Dim. 12-18-59 D.J.S.
Rev. Added 4x4 Ls in Sect. B-B 6-21-60 RC



STEEL FRAMING PLAN
Scale: $\frac{1}{4}$ " = 1'-0"



ITEM	QUANTITY
Beams	168,053
Diaphragms	25,670
Connections, Bearing Devices, Anch. Bolts	6,627
Expansion Joint	5,630
	1,030
Total	207,010

QUANTITY SUMMARY

Scale: $\frac{1}{4}$ " = 1'-0"

Note: Scale of details is $\frac{1}{2}$ " = 1'-0" unless otherwise noted.

Note: Dimension 'A' shall be adjusted for temperature at time of slab pour as tabulated. Details drawn for 4'-3".

STRUCTURE NO. 1-17-N

Scale: $\frac{1}{2}$ " = 1'-0"

COLORADO DEPARTMENT OF HIGHWAYS BRIDGE STEEL FRAMING PLAN DETAILS

F.S. CROCKER & I.F. JORJENSEN CONSULTING ENGINEERS DENVER, COLORADO.

Approved by J.H.N. Bridge Engineer
Checked by F.E.H. Date

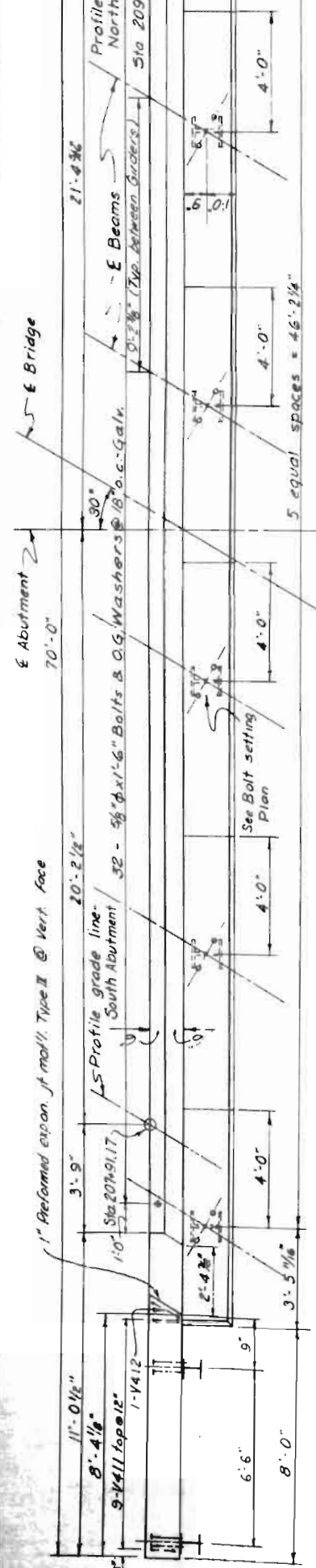
Account: COTTONWOOD CREEK
No. 207 + 210 + 209 + 212 + 211

Drawn by BREED Sec. 7 T.J.S. R.94W
Made by J.H.N. Bridge Engineer
Checked by F.E.H. Date

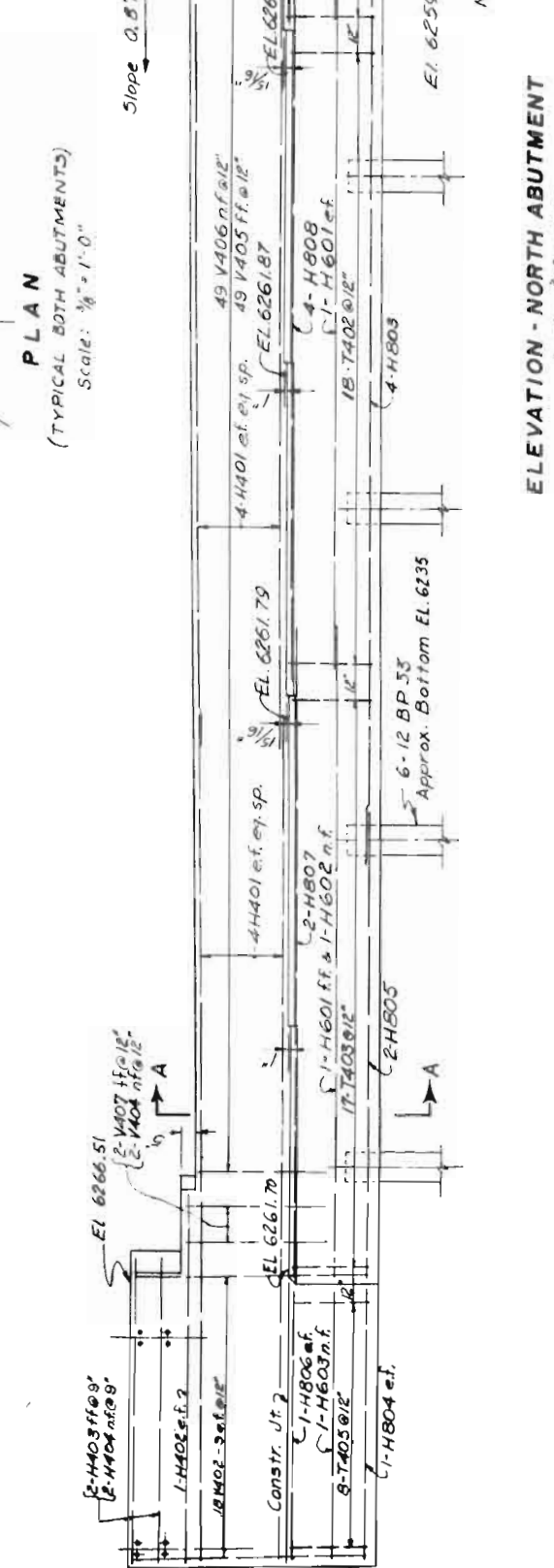
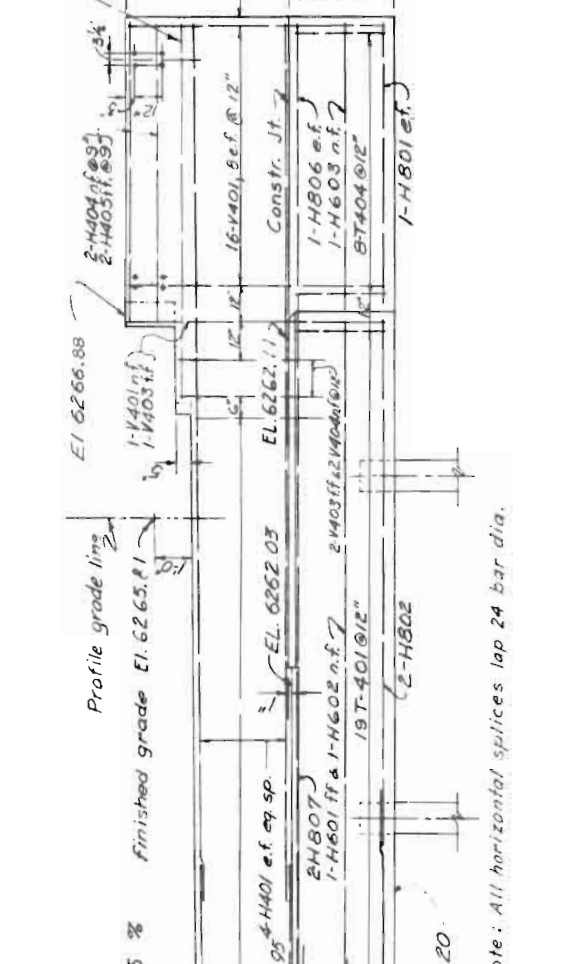
Temp. °A	3
30-40°	3%
40-50°	2%
50-60°	2%
60-70°	2%
70-80°	2%
80-90°	2%
90-100°	1%
100-110°	1%

PROJECT NO.	12-18-59 RRA
DISTRICT	COLO.
CONO.	125-2(38)49
DATE	13

Revision: Changed Handrail, Bar-List & Quantities 12-18-59 RRA.
 1" Reformed expan. jt. mod. Type II, Vert. face
 1" Reformed expan. jt. mod. Type II, Horiz. face



MARK	SHAPE	a	b	LENGTH QUANT.
H401				24-0 48
H402				10-7 4
H403				8-8 4
H404				8-0 8
H405				7-5 4
H406				10-2 4
H601				24-3 8
H602				16-3 4
H603				10-8 4
H801				22-5 4
H802				14-5 4
H803				29-5 8
H804				21-6 4
H805				13-6 4
H806				26-6 8
H807				18-6 8
H808				20-8 8
V 401				7-3 17
V 402				6-9 36
V 403				5-8 3
V 404				4-2 4
V 405				4-9 34
V 406				3-8 53
V 407				3-4 2
V 408				6-5 17
V 409				4-4 49
V 410				3-3 49



ITEM	QUANTITY	UNIT
Unclassified Struct. Excav	6.8	Cu. Yd.
Class A concrete	9.4	Cu. Yd.
Reinforcing steel	6080	Lbs.
Bearing piles steel	269	Lin. Ft.
1/2" Exp. Jt. Mod. Type II	65	Sq. Ft.
Treated bridge timber	0.5088	M. Board

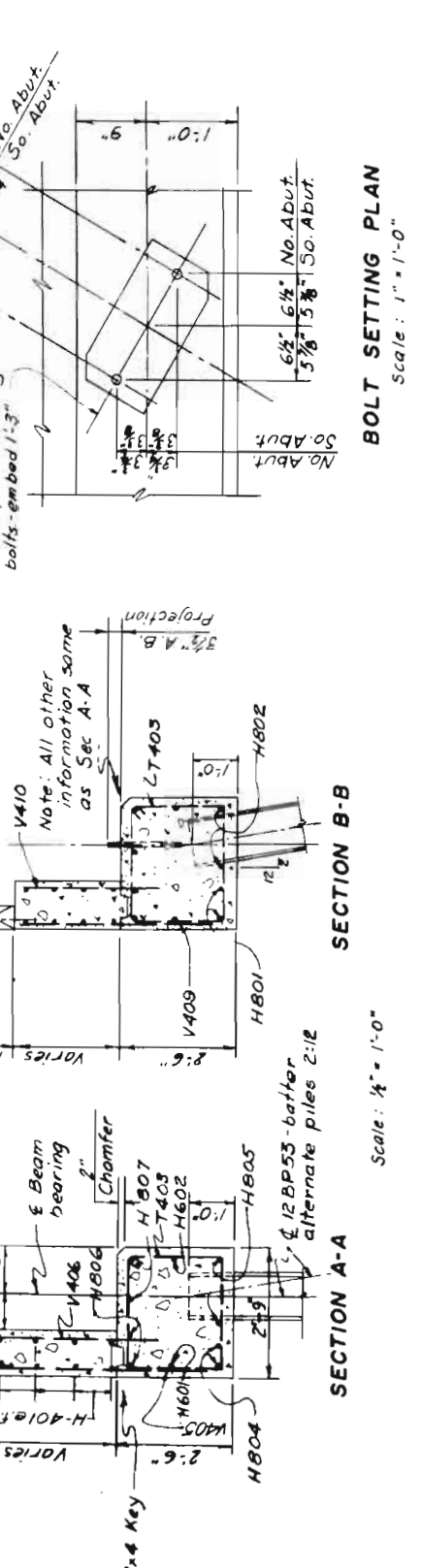
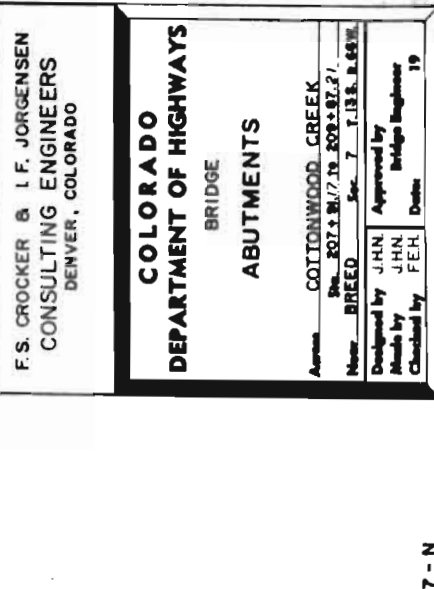
BAR SUMMARY - 2 ABUTMENTS
 1051 Lin. Ft. #8 @ 2.670 lbf/ft = 2806 lbs.
 302 Lin. Ft. #6 @ 1.502 lbf/ft = 454 lbs.
 4131 Lin. Ft. #4 @ 0.668 lbf/ft = 2759 lbs.
 1% Over run = 61 lbs.
 Total = 6080 lbs.

QUANTITY SUMMARY - 2 ABUTMENTS
 6.8 Cu. Yd. Unclassified Struct. Excav
 9.4 Cu. Yd. Class A concrete
 6080 Lbs. Reinforcing steel
 269 Lin. Ft. Bearing piles steel
 65 Sq. Ft. 1/2" Exp. Jt. Mod. Type II
 0.5088 M. Board Treated bridge timber

F.S. CROCKER & I.F. JORGENSEN
 CONSULTING ENGINEERS
 DENVER, COLORADO

COLORADO
 DEPARTMENT OF HIGHWAYS
 BRIDGE
 ABUTMENTS

COTTONWOOD CREEK
 Sta. 207+81.73 to 208+87.21
 Drawn by J.H.N.
 Checked by J.H.N.
 Approved by J.H.N.
 Bridge Engineer
 Date

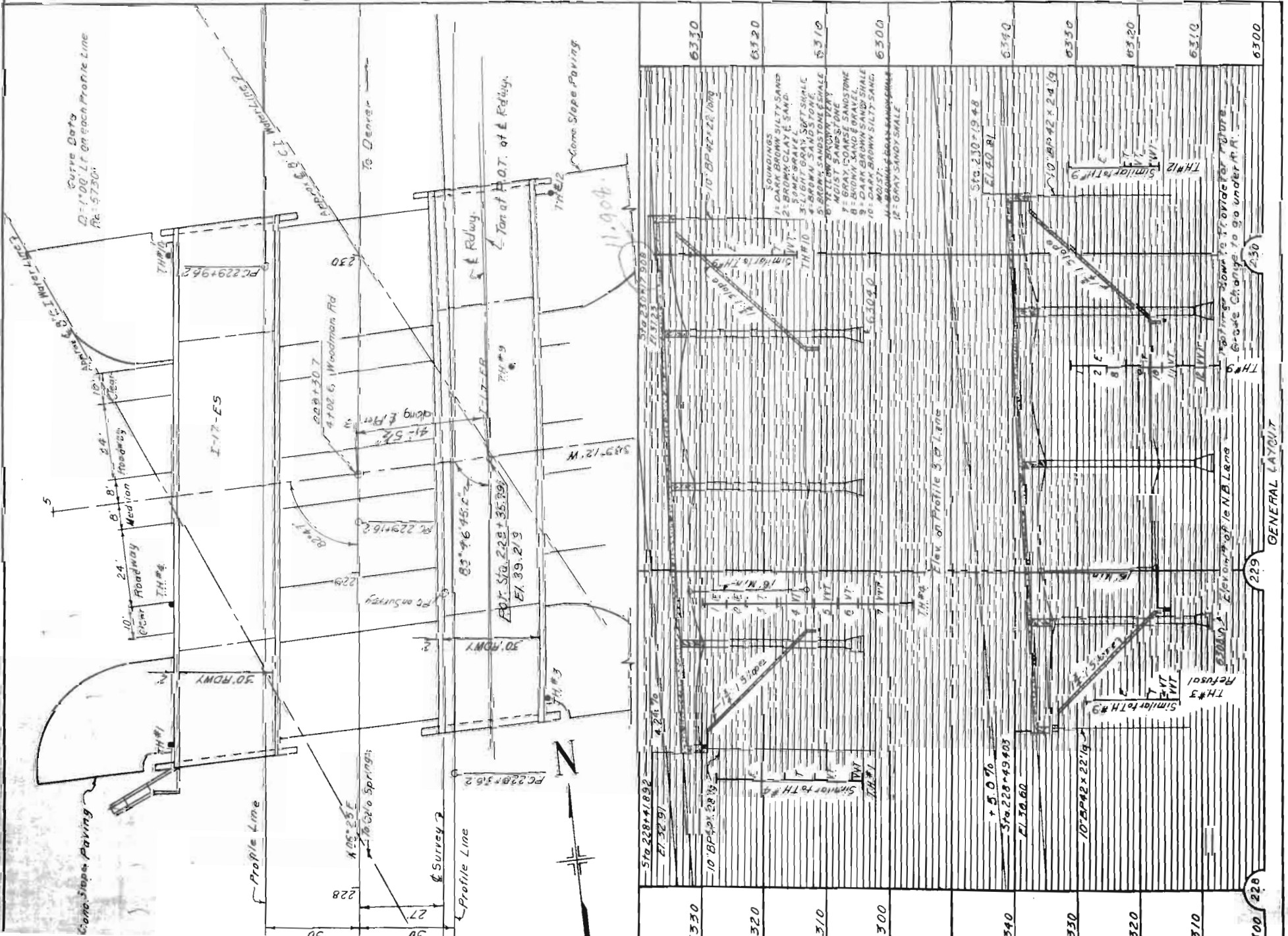


Rev. Items 46, 47, 48.
12-18-59 D.J.S.

FILE NO.	9
DIVISION	COLO.
PROJECT NO.	I 25-238(49)
SHEET NO.	15
TOTAL SHEETS	

SUMMARY OF QUANTITIES										STRUCTURE NO I-17-ES										STRUCTURE NO I-17-ER									
ITEM	DESCRIPTION	UNIT	SUPER STRUCTURE NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	PIER NO. 5	ABUT TOTALS	TOTALS	SUPER	PIER NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	PIER NO. 5	ABUT TOTALS	TOTALS	ABUT NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	PIER NO. 5	ABUT TOTALS	TOTALS					
14	Unclassified Structural Excavation (Bridges)	Cu. Yd.	9					9	18	9						9	18	9					9	18					
42	Treated Bridge Timber	Mft. bn.						0.121	0.242							0.121	0.242	0.121					0.121	0.242					
46	Class A Concrete	Cu. Yd.	271.4	11.7	7.3	7.9	8.4	9.3	31.6	271.4						9.3	31.6	9.3	8.6	8.0	9.3	9.3	31.4						
47	Reinforcing Steel (Includes 1/2" for overrun)	Lbs.	81,120	10,975	18,500	19,500	20,400	10,975	83,150	81,120						10,975	83,150	10,975	19,750	20,650	10,975	10,975	89,230						
48	Structural Steel (Includes 1/2" for Bent)	Lbs.	12,610	645				645	13,900	12,610						645	13,900	645					645	13,900					
61	Steel Piling (10 BP@42')	Lin. ft.		112				88	200							88	200						88	200					
65	Concrete Slope of Ditch Paving (With wire mesh)	Cu. Yd.		50				60	110							60	110						60	110					
90	1 1/2" Electrical Conduit with Junction Box	Lin. ft.	140						140	140							140						140	140					
160	Drilled Caissons (24" Diam)	Lin. ft.			39	39	39	60	117							60	117						60	117					

1. Includes 2.4 Cu. Yd. for Slope Drain @ Abut. No. 1 Str. I-17-ES
2. Includes Approx. 24 Cu. Yd. of Class "A" Concrete F 2720 Lb. of Reinforcing Steel for each str.



LOADING DATA INTERSTATE ALTERNATE
LIVE LOAD - 4.4 K.O. (A20-516-46)
DEAD LOAD ASSUMES 15 LBS PER SQ FT ADDITIONAL WEARING SURFACE WHICH INCLUDES THE 1/2 INCH CONCRETE MONOLITHIC WEARING SURFACE THICKNESS.

DESIGNING DATA
A.A.S.H.O. 193 UNIT STRESSES EXCEPT AS NOTED
Reinforcing Steel A - 20000 lbs. per sq. in.
Structural Steel A - 18000 lbs. per sq. in.
W - 1200 lbs. per sq. in.
S - 10

COLORADO
DEPARTMENT OF HIGHWAYS
2 BRIDGES # CONT 5 PANS (68-48-10-56)
GEN'L LAYOUT, NOTES &
SUMMARY OF QUANTITIES
Across Woodman Road
Near Greed
Sec. 7/8 T. 135 R. 66W
Designed by
Checked by
Approved by
Date: 12-18-59

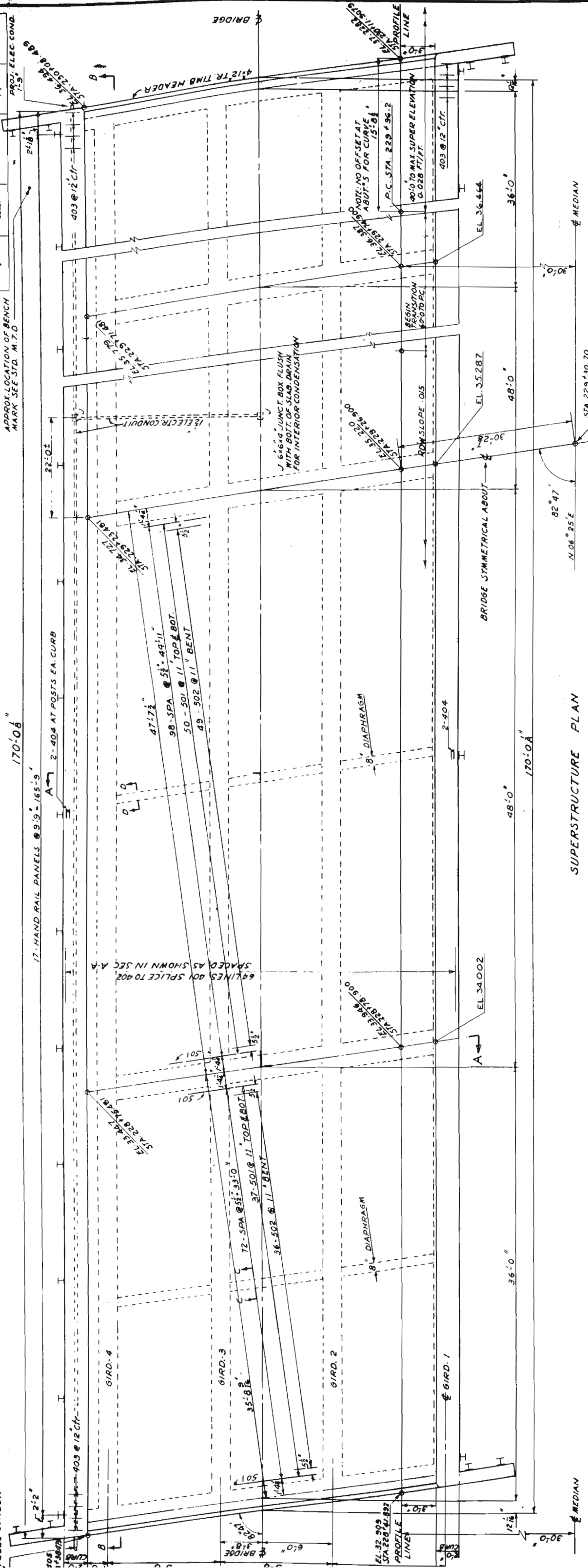
GENERAL NOTES
ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS AVAILABLE TO THE PROJECT.
ALL CONCRETE SHALL BE CLASS "A" AND AIR ENTRAINMENT AS SPECIFIED.
ALL CONCRETE SURFACES SHALL BE FINISHED WITH THE STRIPED FINISH AS SHOWN ON SHEET I-17-ER.
CONCRETE GROUTS AND FLOOR SLABS SHALL BE FLOORED MONOLITHICALLY.
FORMS FOR CONCRETE SURFACES EXPOSED IN THE FINISHED WORK SHALL BE CONSTRUCTED OF STEEL AND WHEN DIFFERENT CONSTRUCTION ARE ENCOUNTERED THE BRIDGE ENGINEER WILL IN ADVANCE IN WRITING AND BEFORE THE START OF WORK.
SOUNDINGS AND BORINGS OF SOILS SHOWN ARE IN ACCORDANCE WITH THE BEST AVAILABLE DATA AND WHEN DIFFERENT CONSTRUCTIONS ARE ENCOUNTERED THE BRIDGE ENGINEER WILL IN ADVANCE IN WRITING AND BEFORE THE START OF WORK.
ALL REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A 615 UNLESS OTHERWISE SPECIFIED AND SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR END AND ALL BENTS, EXCEPT AS NOTED ARE TO BE BENT AT 45 DEGREES.
REINFORCING STEEL SHALL BE PLACED WITH THE NUMBER DESIGNATION SECONDARY BARS AND SHALL BE TIED WITH THE NUMBER DESIGNATION PRIMARY BARS.
THE DIAMETERS OF THE BARS, DIMENSIONS FOR REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE AS SHOWN ON THE DRAWING.
ALL STRUCTURAL STEEL SHALL BE PAINTED ONE SHOP COAT OF ZINC CHROMATE AND TWO FIELD COATS OF ALUMINUM UNLESS OTHERWISE NOTED, EXCEPT THE EXPOSED PORTION OF STEEL BEING HELD NEXT TO PAINTED SURFACES.
RODS AND BOLTS UNLESS OTHERWISE SPECIFIED AND ALL BOLTS, EXCEPT AS NOTED ARE TO BE 1/2" DIA. AND SHALL BE POWER DRIVEN UNLESS OTHERWISE SPECIFIED.
WHEN "BLIND" THREATS OR PILING IS SHOWN ON THE DRAWING THE PRESERVATIVE FOR TREATMENT SHALL BE AS SHOWN ON THE DRAWING.
WHEN EXCAVATING FOR FOUNDATIONS THE MINIMUM DIAMETER SHALL BE AS SHOWN ON THE DRAWING.
WHEN EXCAVATING FOR FOUNDATIONS THE MINIMUM DIAMETER SHALL BE AS SHOWN ON THE DRAWING.
WHEN EXCAVATING FOR FOUNDATIONS THE MINIMUM DIAMETER SHALL BE AS SHOWN ON THE DRAWING.

I-17-ES Sta. 228+41.892 to 230+17.908
I-17-ER Sta. 228+49.403 to 230+19.488
STRUCTURE NO. I-17-ES & I-17-ER

REV. ROAD DISTRICT	PROJECT NO.	DATE
9	125-2(38)450	17
PROJ. ELEC. COND.		

Rev. Handrail 12-18-59 D.J.S.

APPROX. LOCATION OF BENCH MARK SEE STD. M. 7.0



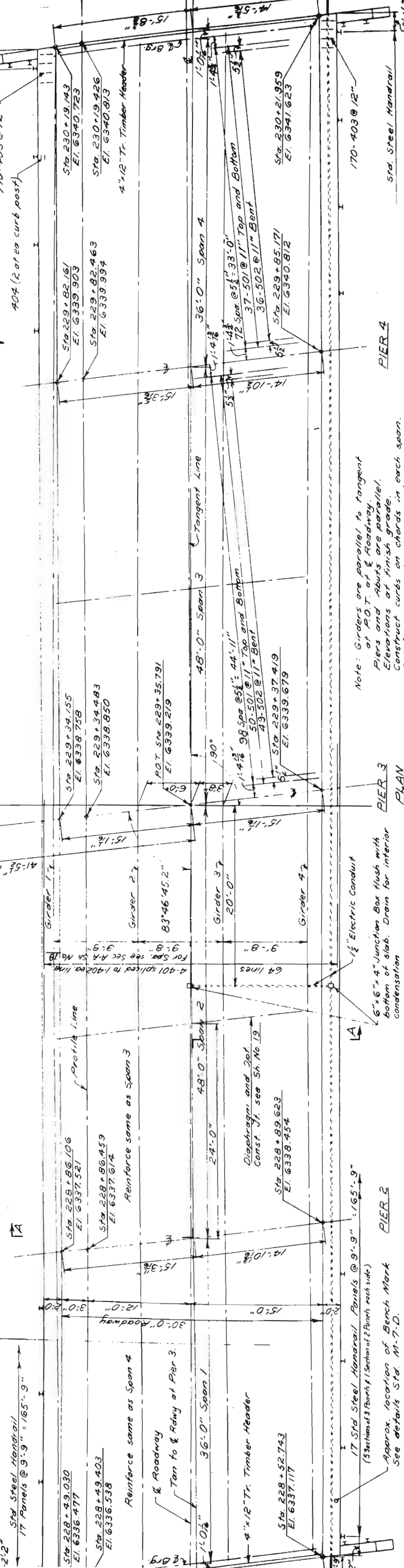
Revision: Changed Handrail 12-18-59 R.R.A.

N 06° 25' E 82° 47' 1/2 Median

PROJECT NO.	125-1(3)49
DIVISION	CONC.
DATE	18

End of transition
1/2 to P.C. Sta. 228+36.20 (40% of trans.)
26'-9 1/2"

Max. super-elevation 0.028 H/H



Note: Girders are parallel to tangent of R.O.T. at Roadway. Piers and Abuts are parallel. Elevations at finish grade. Construct curbs on chords in each span. Reinforce superstructure similar to West Bridge. See Sh. No. 19 for details of girder, diaphragms, and construction joint.

ABUT. 1

PIER 2

PIER 3

PIER 4

ABUT. 5

STATION	GIRDER ELEVATION																
	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1	SPAN 1
2+0	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+1	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+2	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+3	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+4	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+5	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+6	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+7	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+8	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+9	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+10	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+11	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+12	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+13	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+14	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+15	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+16	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+17	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+18	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+19	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573
2+20	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573	37.573

STRUCTURE NO. I-17-ER EAST BRIDGE

COLORADO DEPARTMENT OF HIGHWAYS

DETAILS OF SUPERSTRUCTURE

Project: WOODMAN ROAD

Location: Sta. 228+49.03 to 230+28.426

Drawn by: G.R.E. Date: 7/8 1959

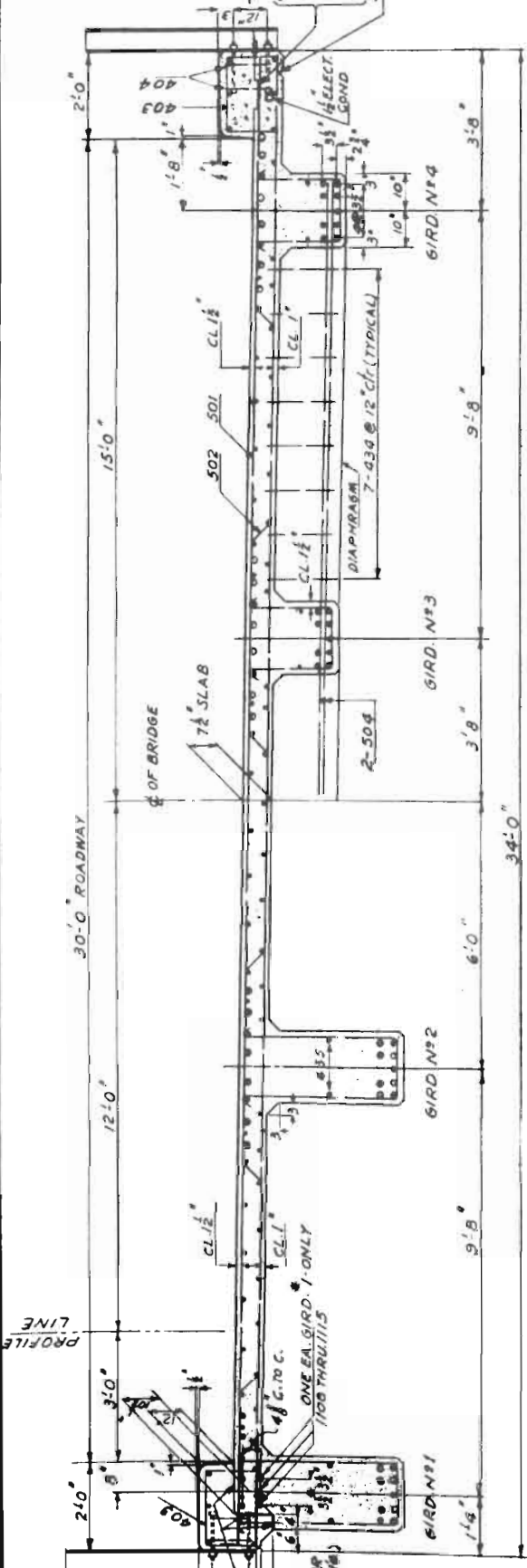
Designed by: G.E.T. Approved by: J.L.B.

Made by: J.L.B. Bridge Engineer

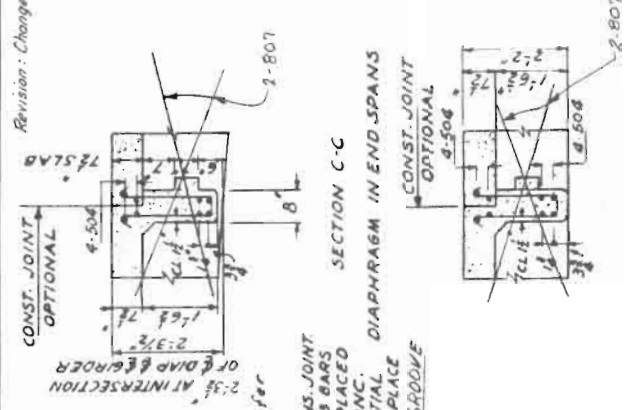
Checked by: J.L.B. Date: June 25, 1959

PROJECT NO.	129-2(38)140	19
DIVISION	COND.	
DATE		

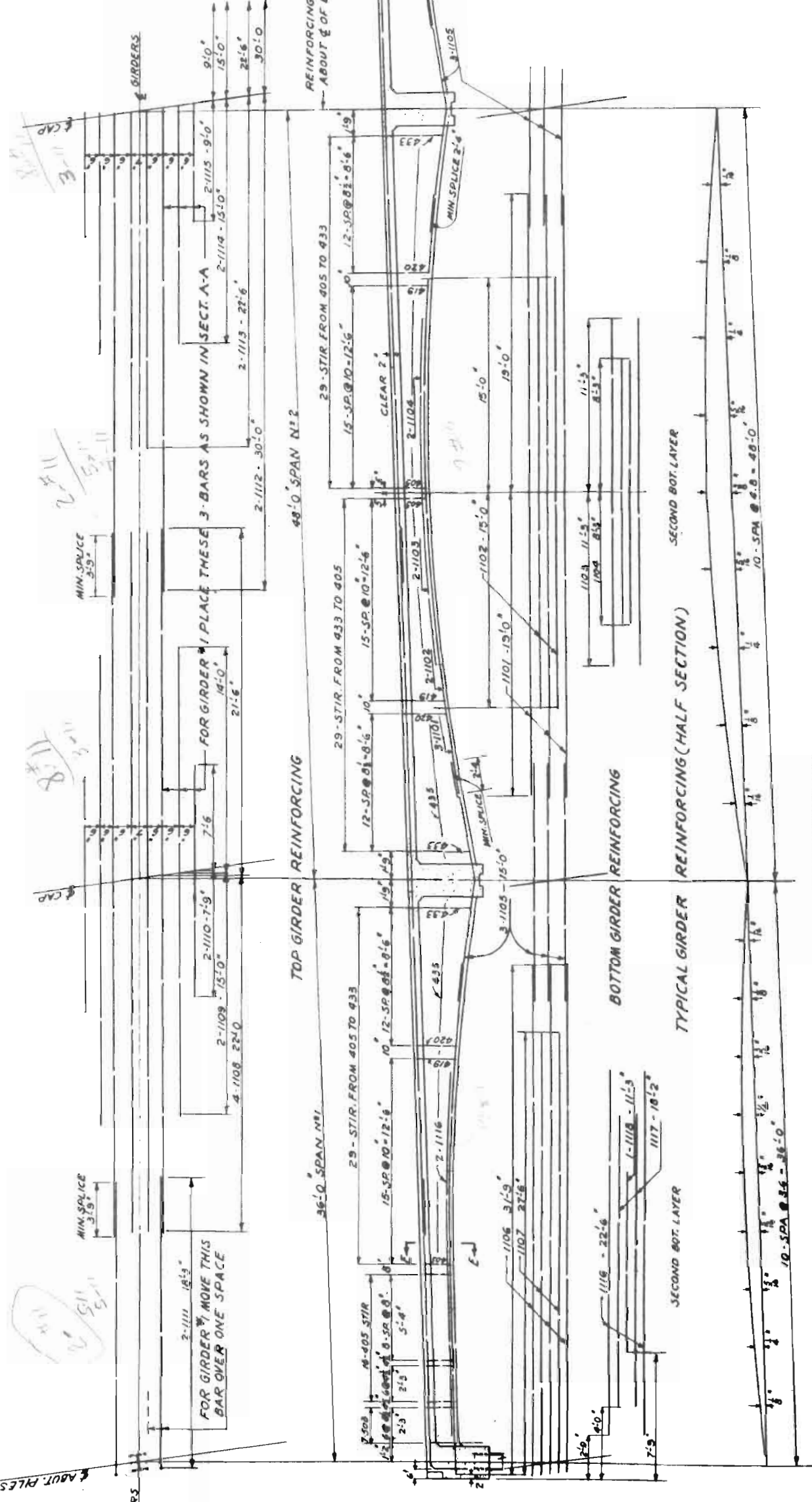
Revision: Changed Curb depth 12/18/59 RGA



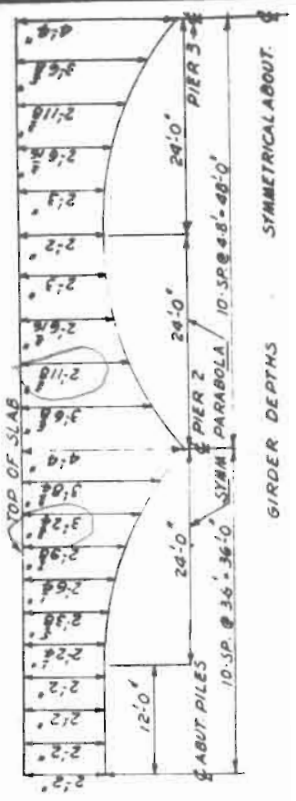
SECTION A-A (SEE SUPERSTRUCTURE PLAN)
DOWN STA. FOR WEST BRIDGE
UP STA. FOR EAST BRIDGE



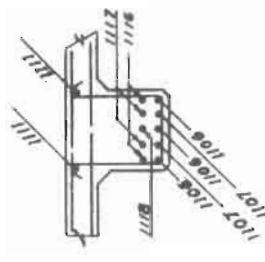
SECTION C-C
DIAPHRAGM IN END SPANS



SECTION D-D
DIAPHRAGM AT CENTER SPANS



GIRDER DEPTHS
SYMMETRICAL ABOUT.



SECTION E-E SPAN N#1

COLORADO
DEPARTMENT OF HIGHWAYS
9-SPANS 36', 48', 48', 36' CONT.
CONC. SLAB & GIRDER BRIDGE
30'-0" ROADWAY
SUPERSTRUCTURE

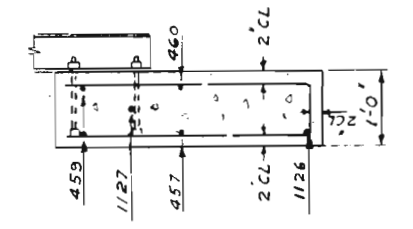
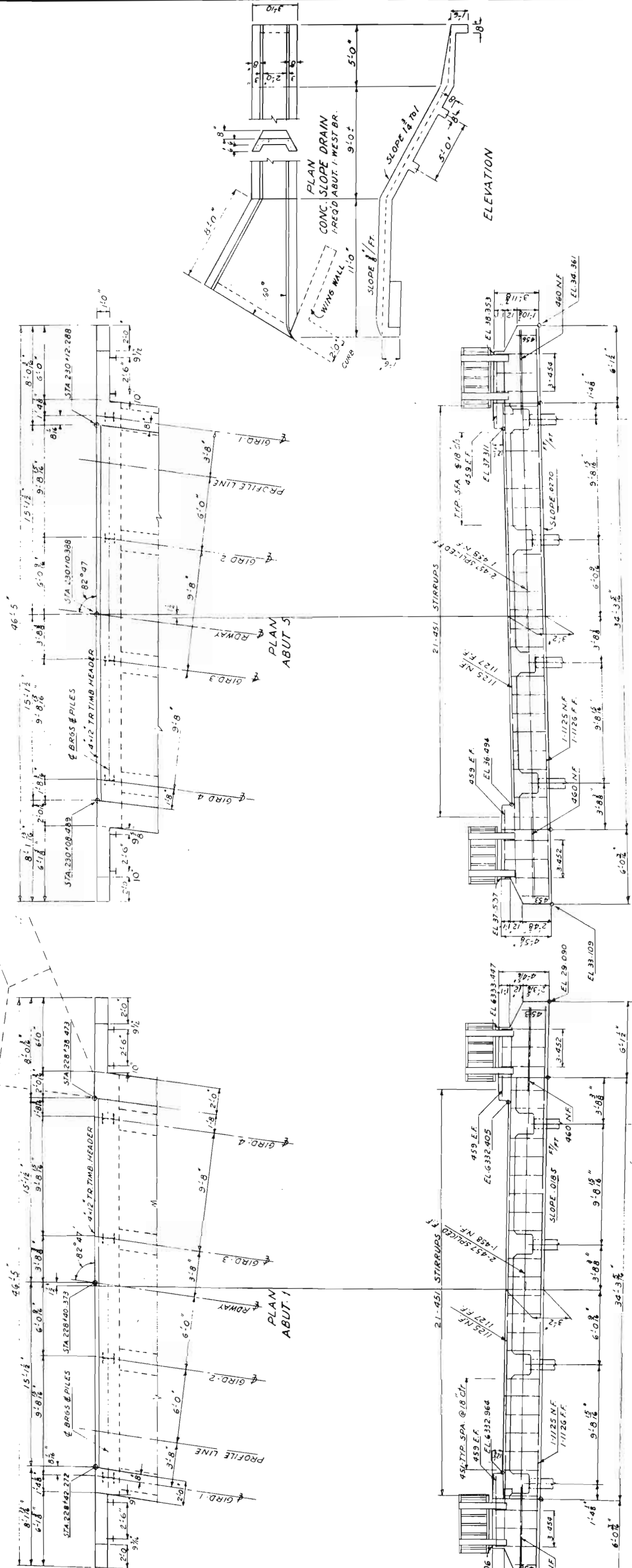
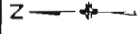
Address: WOODMAN ROAD
Name: BREED
Checked by: G.C.M.
Date: June 24, 1959

STRUCTURE NO. I-17-E (WEST-BRIDGE)
I-17-E (EAST-BRIDGE)

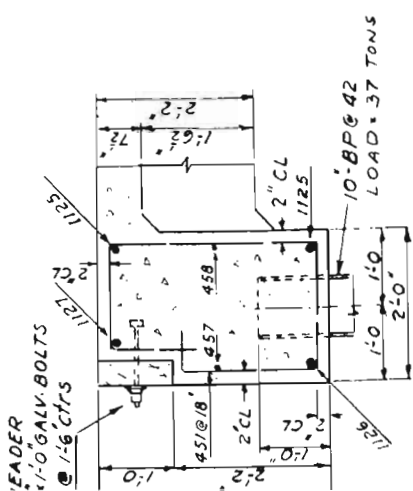
GIRDER BLOCKING FOR DEAD LOAD DEFLECTION

REV. ROAD DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	125-2(38)149	20	

Rev. handrail, 12-18-59 DBS



TYPICAL SECTION ABUT. WING WALL



TYPICAL SECTION ABUT. CAP

ELEVATION

ELEVATION

COLORADO DEPARTMENT OF HIGHWAYS

ABUTMENTS No 1 & 5

ALIGNED WOODMAN ROAD

Sta. 228+41.622 to 230+11.908

Near BREED Sta. 7+8 T. 13 S. R. 66 W

Designed by GET

Made by CCM

Approved by G. D. Kautzsch

Bridge Engineer

REV. ROAD FILE NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1252(38)149	21	

Rev. handrail, 12-18-59 DBS

**COLORADO
DEPARTMENT OF HIGHWAYS**

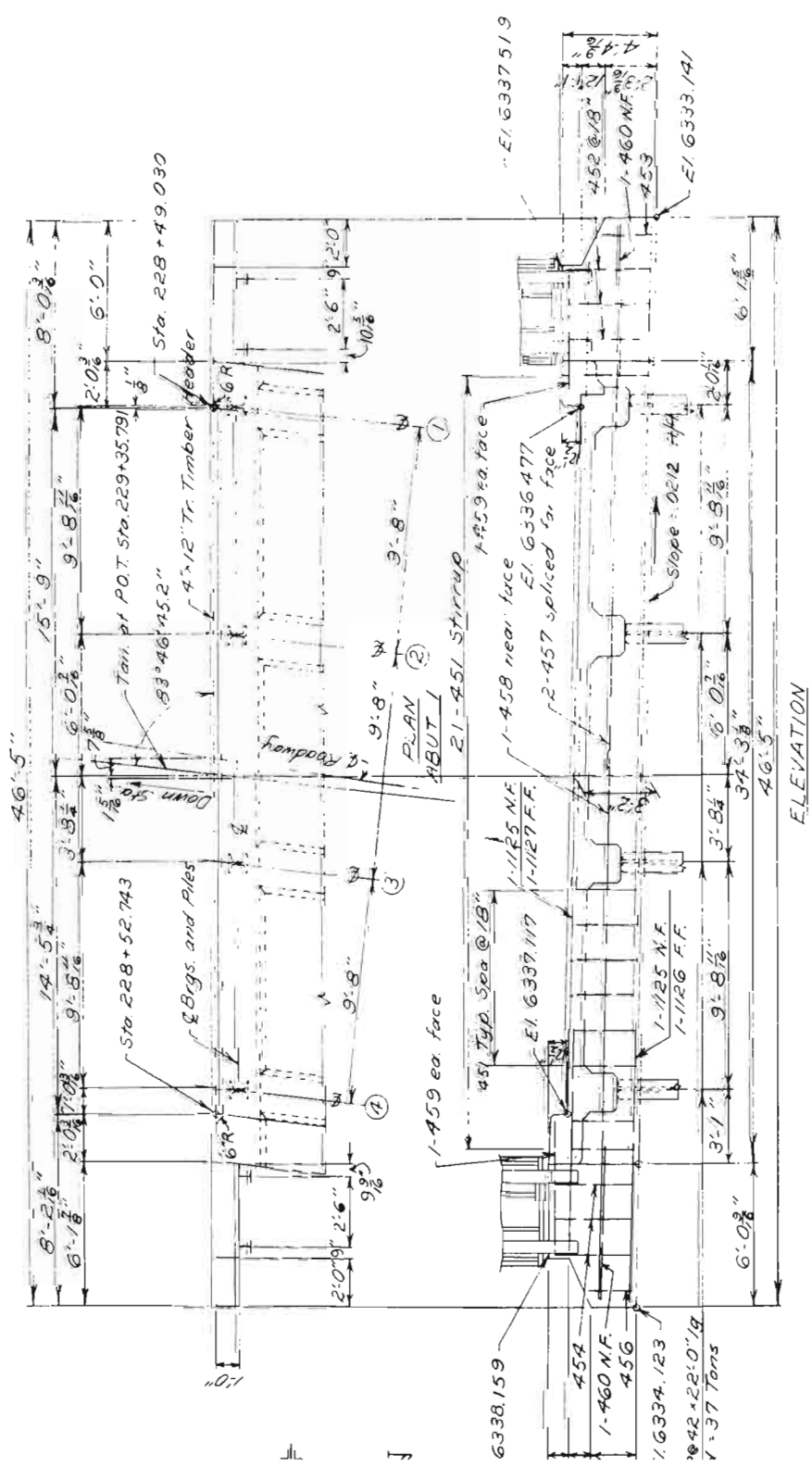
ABUTMENT NO. 145

Across: WOODMAN ROAD
Sta. 228+49.403 to 230+19.426
Near: BREED Sec. 7/8, T. 13S, R. 66W

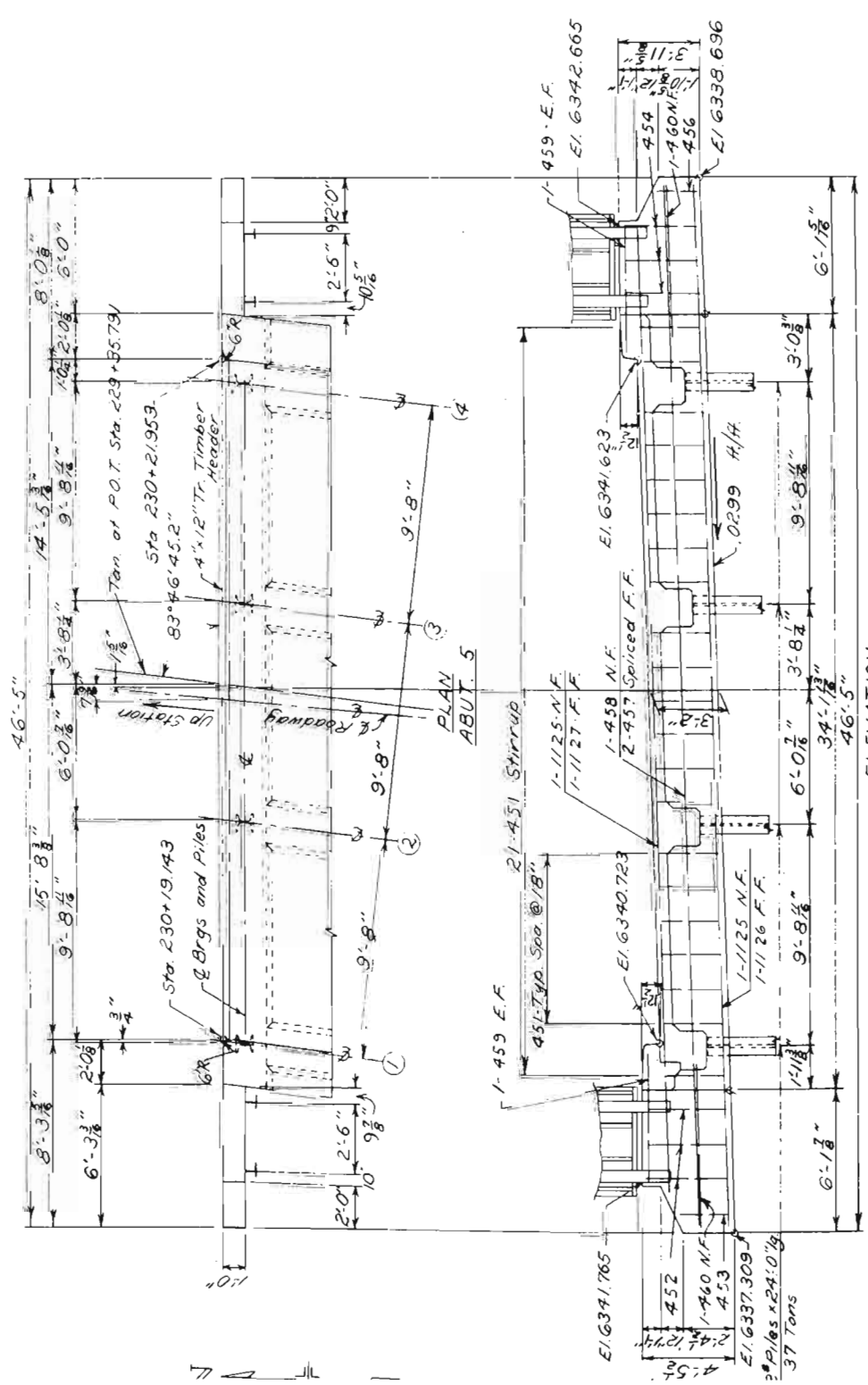
Designed by GET
Made by JLB
Checked by JLB

Approved by GET
Checked by JLB

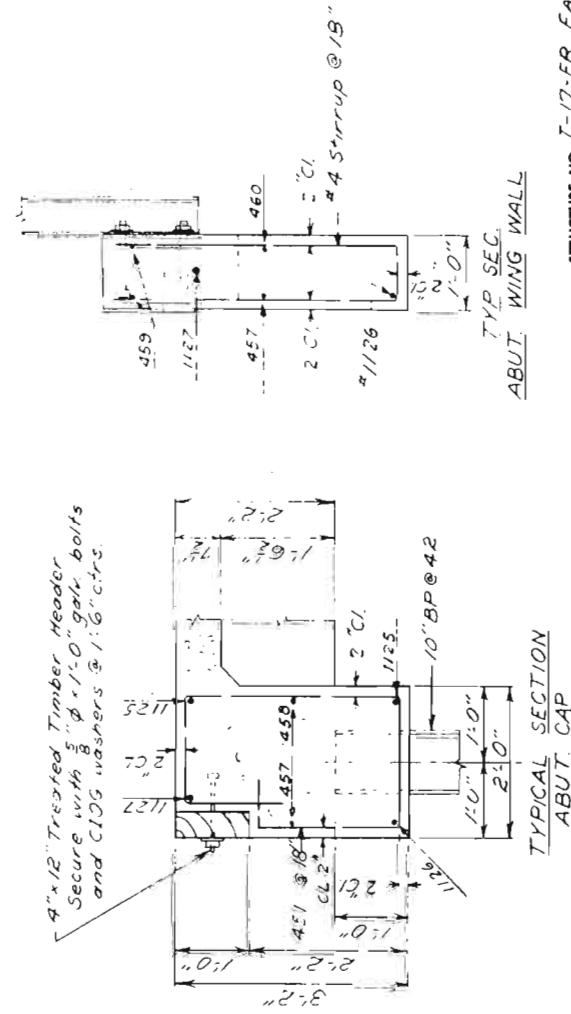
Date: June 24, 1957



ELEVATION



ELEVATION



STRUCTURE NO. I-17-ER EAST BRIDGE

RD. ROAD FILE NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
	COLO.	I 252(38)49	22	

**COLORADO
DEPARTMENT OF HIGHWAYS**

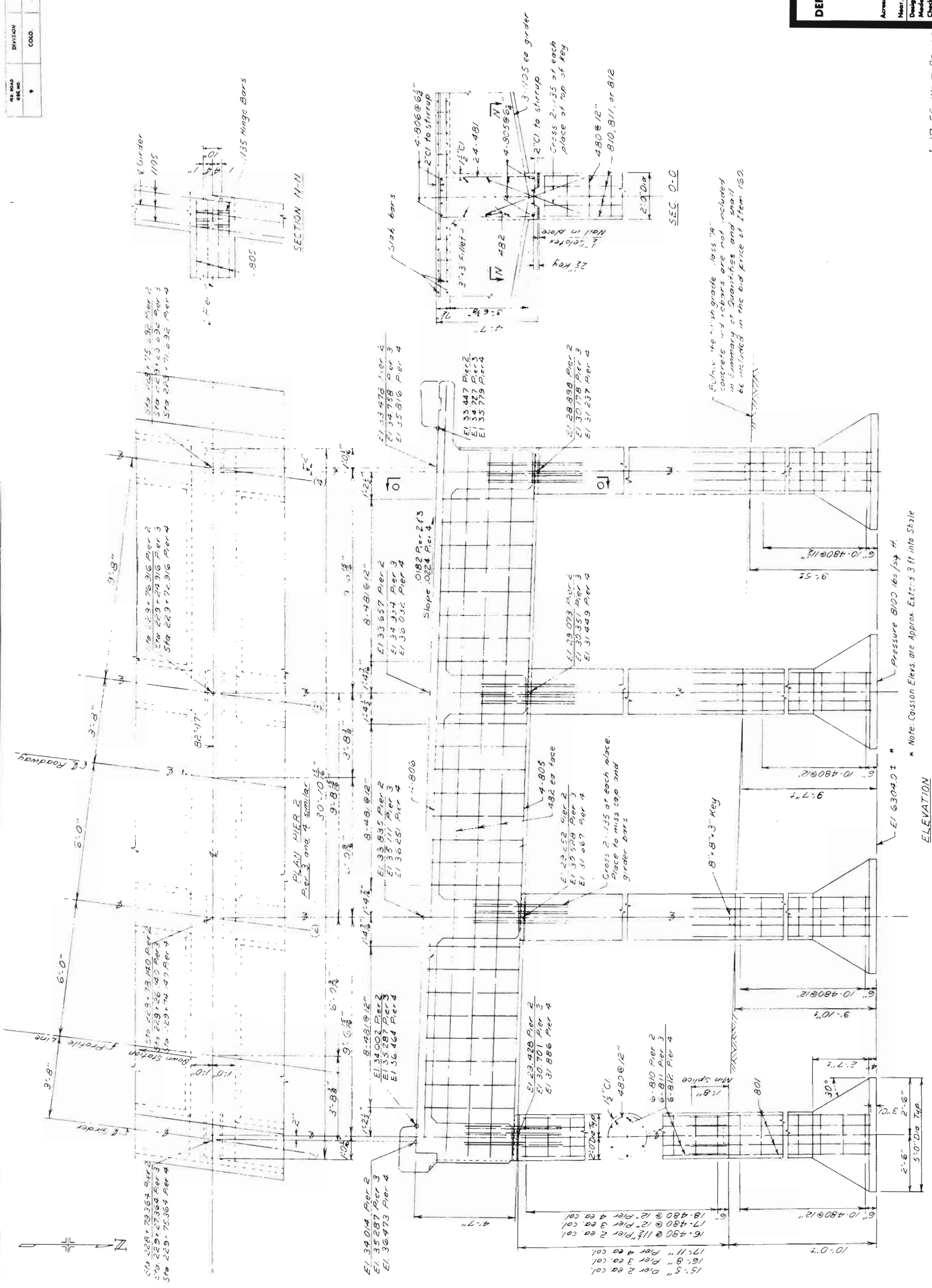
PIER 2, 3 & 4

Across WOODMAN ROAD
Sta. 228+41.892 to 230+11.506
Near BLEED Sta. 7/8 T. 135 R. 66 W.

Designed by GET
Made by JLB
Checked by JLB

Approved by E.P. Hartwick
Bridge Engineer

Date: June 24, 1959



STRUCTURE NO. I-17-ES WEST BRIDGE

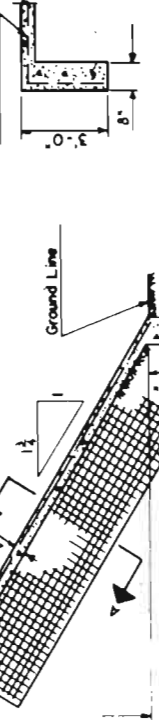
ELEVATION

* Note: Carsson Elevs. are Approx. Extra: 3 ft into Shale

FED. ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	125-2(3B)149	24	

Rev. Changed Handrail 12-18-59 D.U.S.

Wire Fabric

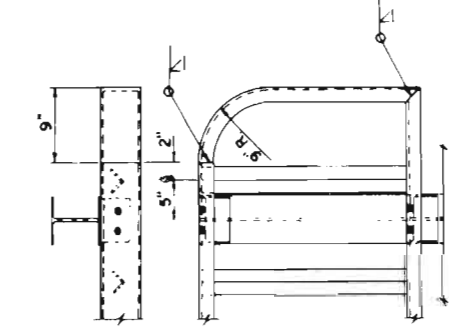
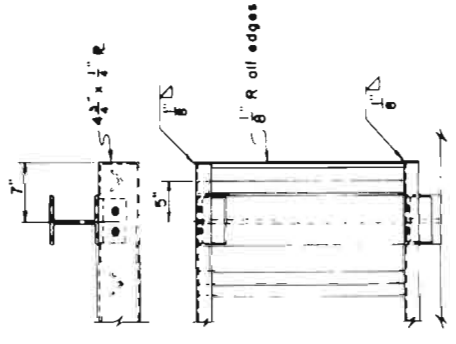


Sec. A-A at ends only

10 ga. welded wire fabric with 4" x 4" mesh (45" x 45" 10/10) conforming to A.S.H.O. Specification M55. The bid price for concrete slope & ditch paving shall include the 10 ga. welded wire fabric.

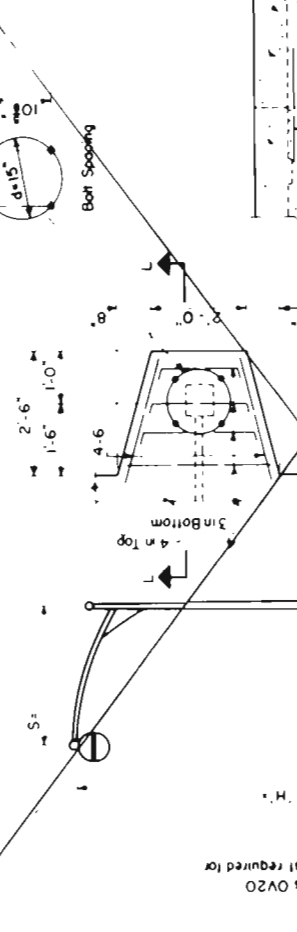
CONCRETE SLOPE & DITCH PAVING DETAIL

DETAIL OF END SECT. AT EXPN. BREAKS AND ON ABUTMENTS



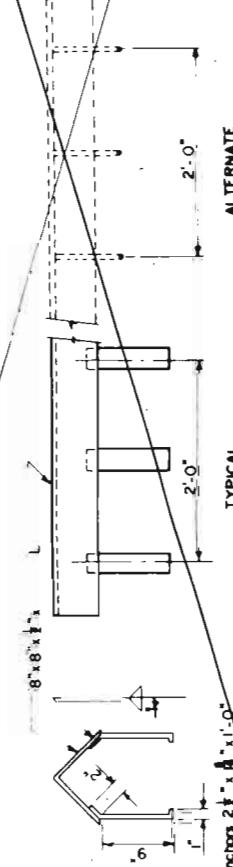
DETAIL OF END SECT. ON SUPERSTRUCTURE

Westinghouse Design 402-24286 C1
Aluminum Light Standard with Ballast Base or equal



HIGHWAY LUMINAIRE
Westinghouse 400 Watt 15000 Lumens O20
Mercury Vapor Light (or equal) Ballast required for light to be determined by Contractor

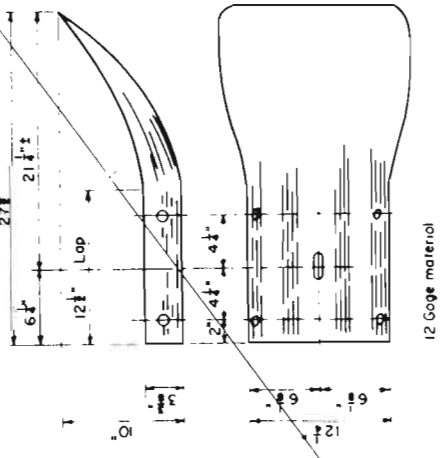
SECTION L-L LIGHT STANDARD DETAIL



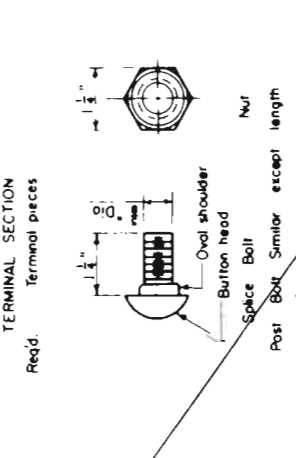
Granular flux filled concrete anchors 1/4" automatically end welded spaced @ 12" c/c's may be used as an alternate.

ANCHORS 2" x 1/4" x 11" O.D. WELDED @ 12" c/c's TO ALTERNATE LEGS

PIER NOSE ANGLE

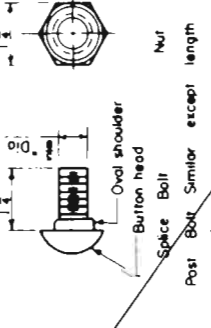


ARRANGEMENT AT POSTS



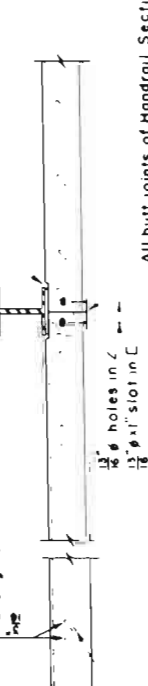
TERMINAL SECTION

Terminal pieces



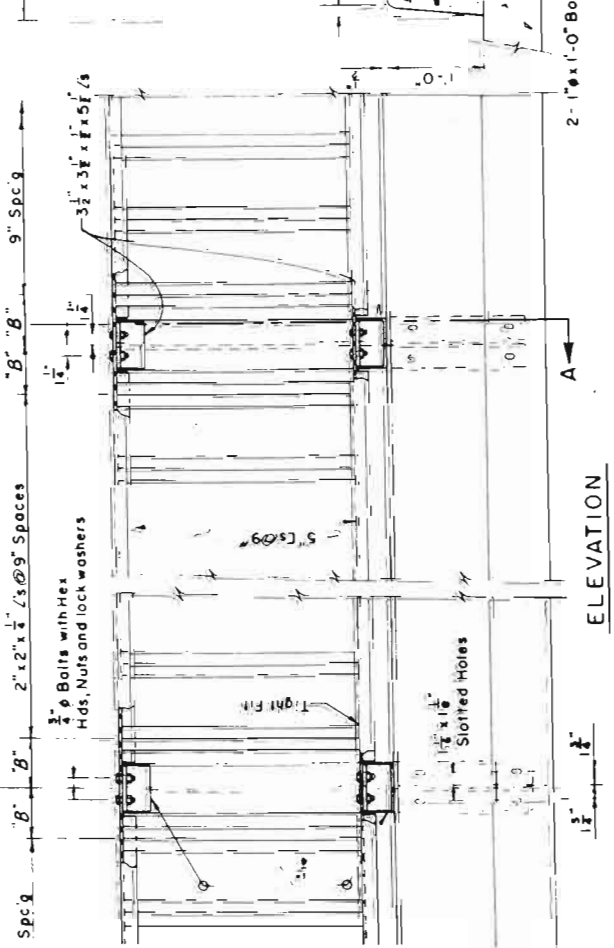
INSTALLATION METAL PLATE GUARD RAIL

Note: Panels are to be continuous for two or three panel lengths as shown on plans. Note: Cut outside flange of channel to clear clip angle, weld & W.



PLAN

All built joints of Handrail Sections to be welded in field.



ELEVATION

SECTION A-A

STEEL HANDRAIL

COLORADO DEPARTMENT OF HIGHWAYS

MISCELLANEOUS BRIDGE DETAILS
 STA. 228+41.892 TO 230+11.908 WEST BR.
 STA. 228+49.405 TO 230+19.426 EAST BR.
 Access Woodman Road

Designed by G.E.T.
 Made by J.B.
 Checked by J.B.

Sec. 716 T. 135 R. 66 W
 Approved by G.E.T.
 Date: June 24, 1957

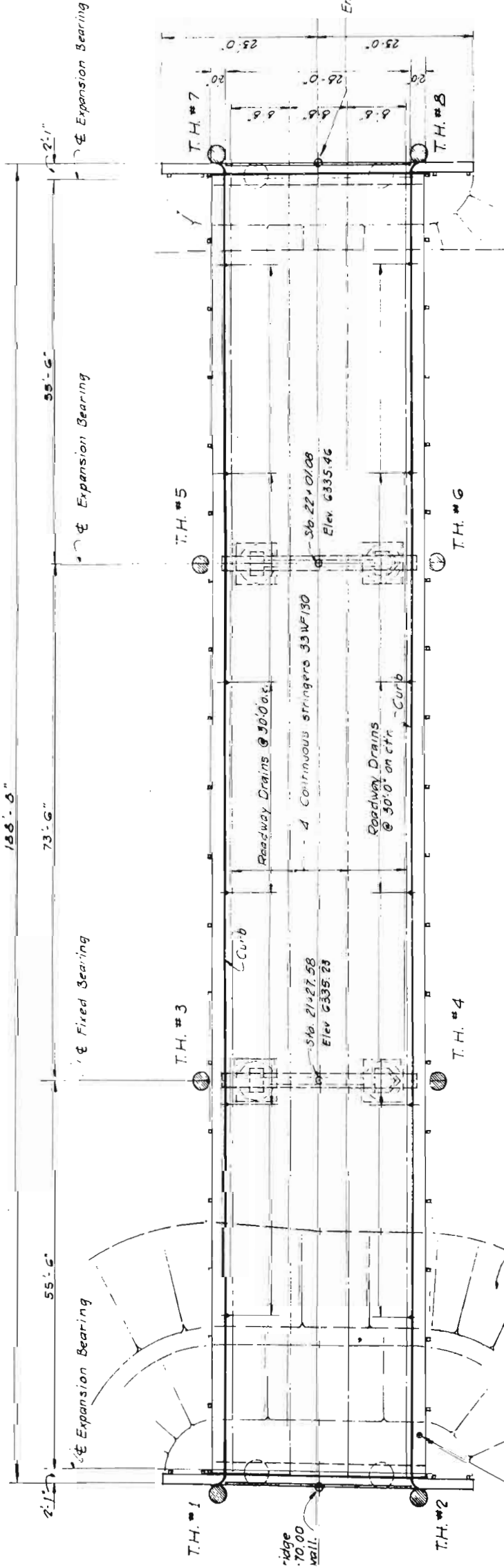
STRUCTURE NO. 1-17-ES West. Bases 1-17-ER East Bases

DESIGN SPECIFICATIONS

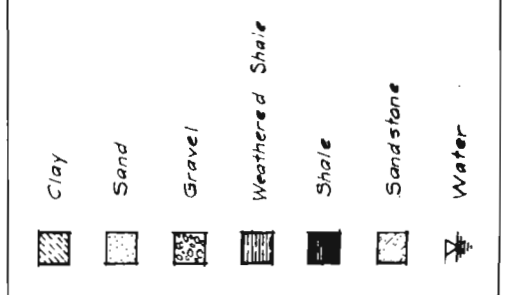
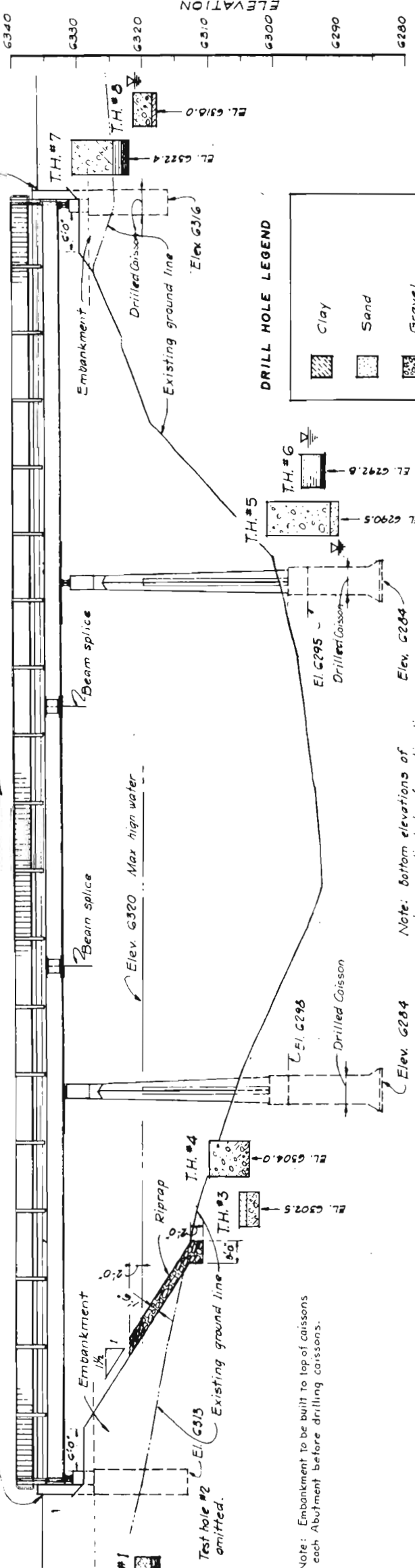
1957 AASHO H15 - 44
 Live Load = H15 - 44
 fc = 1200 ps.i. n = 10
 fs = Reinf. = 20,000 ps.i.
 fs = Struct. = 18,000 ps.i.
 Weight of Earth = 120 p.c.f.
 Equivalent Fluid Pressure = 30 p.c.f.
 Maximum Allowable Footing Pressure = 10,000 p.s.f.

GENERAL NOTES

All work shall be done according to the Standard Specifications of the Colorado Department of Highways, adopted January 1, 1956.
 Soundings and depth of drilled caissons shown to the best available data. If essentially different conditions are encountered, the Bridge Engineer will inspect and determine if redesign is necessary.
 All concrete shall be class "A" and air entrained as specified.
 Chamfer all exposed corners $\frac{1}{4}$ " except as noted.
 All reinforcing bars shall be intermediate grade deformed bars conforming to AASHO Specs. M31 & M137 (ASTM designations AIS & A305).
 All reinforcing shall be tagged with the structure number and mark.
 All dimensions on bar details are out to out.
 All hooks and bends in bars shall conform to A.C.I. Standard 315-57.
 Main bars shall not be spliced except where shown.
 Secondary bars shall lap 17 bar diameters except where shown otherwise.
 Clear distance of concrete protection to reinforcement 3" in footings, 2" in walls, $\frac{1}{4}$ " top of deck slab and 1" in bottom of deck slab and curbs.
 All dimensions from face of concrete to reinforcement indicate clear distance.
 All concrete surfaces marked with the symbol "f" as shown on Sheet No. (3) shall receive class I surface finish.
 See Steel Framing Plan for notes about structural steel and paint.
 All steel railings shall receive one shop coat of zinc chromate and two field coats of aluminum paint.
 All scales refer to original scale.
 All references to sheet numbers on structure drawings are to structure sheet numbers shown in upper right-hand corner.
 See sheet 25 for notes about drilled caissons foundations.
 For Structure Backfill see Standard M-60-B



Elev. back of wall at grade 6335.63



SUMMARY OF QUANTITIES

Item No.	Item	Unit	Qty	Unit Price	Amount	Separate	Total
14	Unclassified Str. Scav. Bridges	C.Y.	35	29.13	1019.55		77
16	Structure backfill (Class I)	C.Y.	19.0	9.0	171.00		28
46	Class "A" Concrete	C.Y.	25.2	36.39	919.03		278
47	Reinf. Steel (incl. 1% overrun)	Lb.	207.5	66.25	13750.63		46870
48	Str. Steel (incl. 4% for paint)	Lb.	78.5	55.5	4359.75		138863
67	Rip rap	C.Y.	77				77
160	Drilled Caissons (48" Diam)	Lin Ft.	29	22	638.00		103
89	Drain Pipe (Conc. Floor) (4x2x1/2) Ea						12
42	Treated Timber	WH/lin	0.115				0.23
80	Sheet Piling (32" x 3")	Lb					4.3
9	Expansion Joint Mat Type III	Sq Ft.					49

Includes 15,520 lbs. Mondrial Steel
 Exph joint material shall be in accordance with A.A.S.H.O. Spec M-23.54 and of type III and shall be included in the bid price for item 46

INDEX OF SHEETS

- Sheet No. 25 General Plan and Elevation
- 29 Abutments
- 30 Piers
- 27 Steel Framing Plan and Sections
- 26 Deck Plan and Sections
- 28 Railing
- 31 Details Showing Portions of Structure to Receive Class I Surface Finish.

F.S. CROCKER & I.F. JORGENSEN
 CONSULTING ENGINEERS
 DENVER, COLORADO

COLORADO
 DEPARTMENT OF HIGHWAYS
 BRIDGE
 GENERAL PLAN AND ELEVATION
 PINE CREEK
 Area: Sta. 20+70.00 to 22+88.87
 Near BREED Sec. 7 T. 133. R. 68E
 Designed by J.H.H. Approved by J.H.H. Bridge Engineer
 Made by F.E.H.
 Checked by J.H.H. Date:

ELEVATION
 Scale 1" = 10'-0"

BAR LIST			
MARK	SHAPE	LENGTH	QUANTITY
S501		32'-9"	123
S502		31'-9"	496
S401		28'-5"	248
S402		37'-3"	124
S403		2'-6"	64
S404		4'-4"	372
S405		4'-2"	80

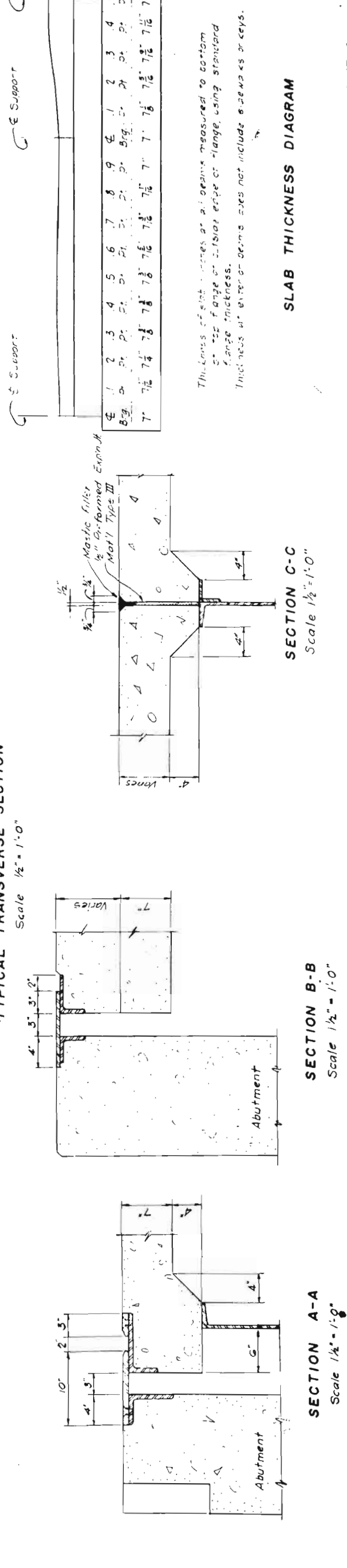
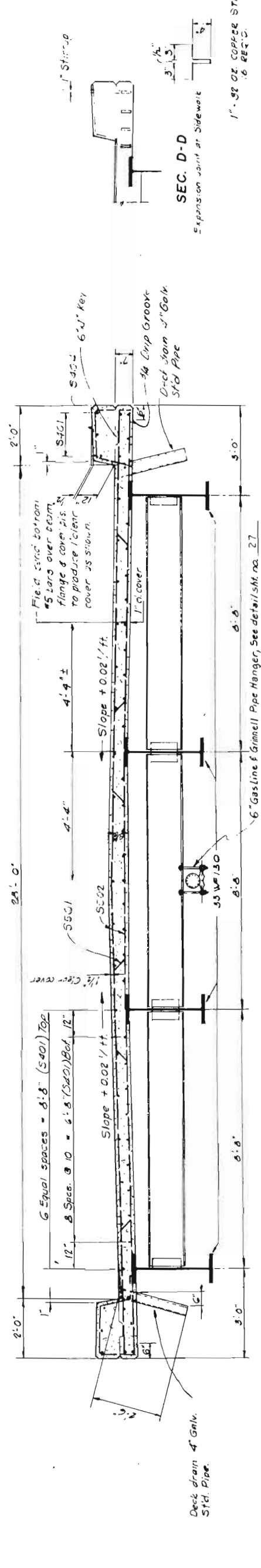
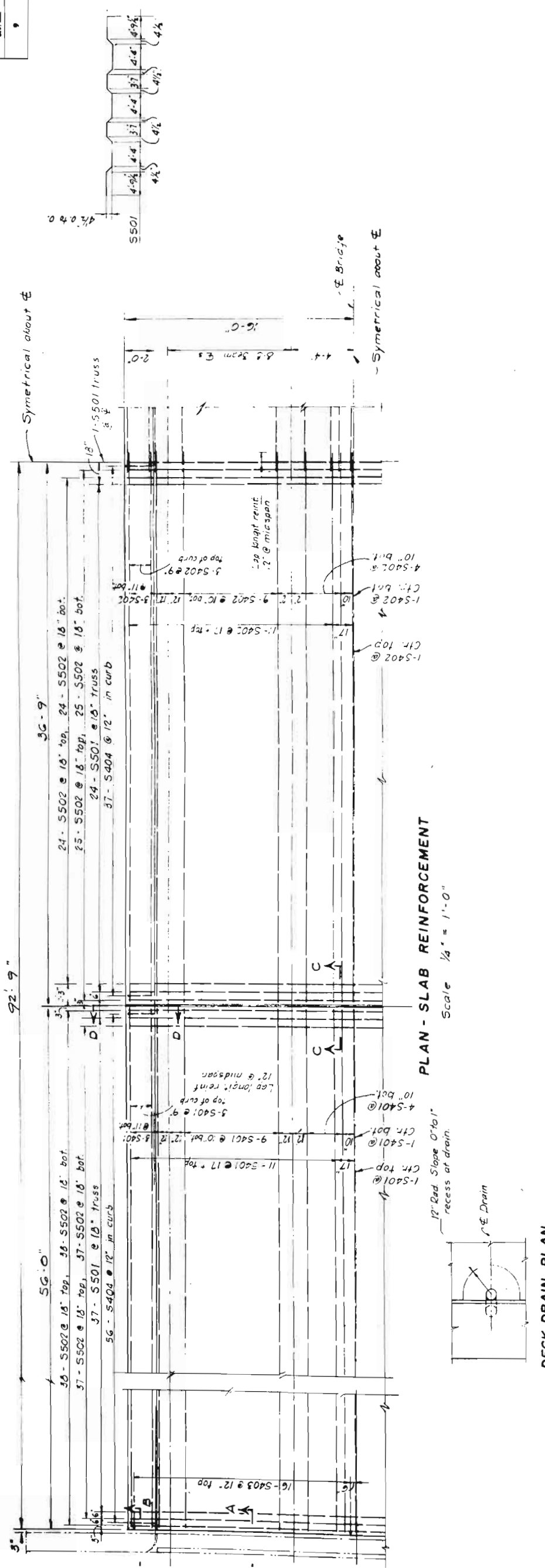
BAR SUMMARY - DECK	
19776 Lin ft	5 @ 1.043 Lbs per ft = 20,626 Lbs
12,792	4 @ 0.668 = 9,213
	1% Overrun = 301
	Total = 30,140 Lbs

QUANTITY SUMMARY - DECK		
ITEM	QUANT.	UNIT
Class A Concrete	147	Cu Yds.
Reinforcing steel	30,140	Lbs.
Deck Drains	12	Ea.
Expansion Jt. mat (1/2") Type III	48	Sq. Ft.

F.S. CROCKER & I.F. JORGENSEN
CONSULTING ENGINEERS
DENVER, COLORADO

COLORADO
DEPARTMENT OF HIGHWAYS
BRIDGE
DECK
PLAN AND SECTIONS

Project: PINE CREEK
Date: 20-70-00 to 22-59-67
Drawn: BREED Sec. 7 T.J.S.S. B. 68 W.
Designed by J.H.N. Approved by
Made by F.E.H. Checked by J.H.N. Bridge Engineer
Checked by J.H.N. Date: 19



The Lanes of this bridge are 21' beams measured to bottom of 25" flange at exterior edge of flange, using standard flange thickness.
Thickness of exterior beams does not include beams or keys.

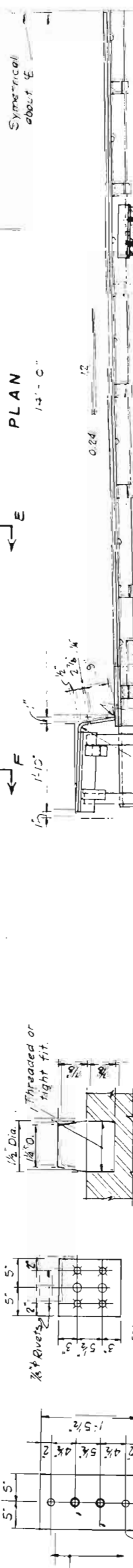
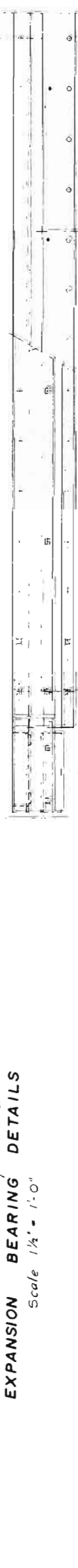
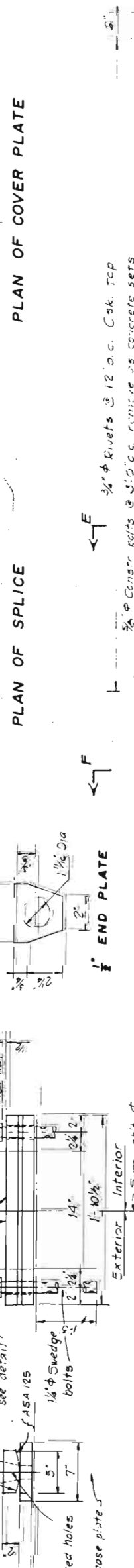
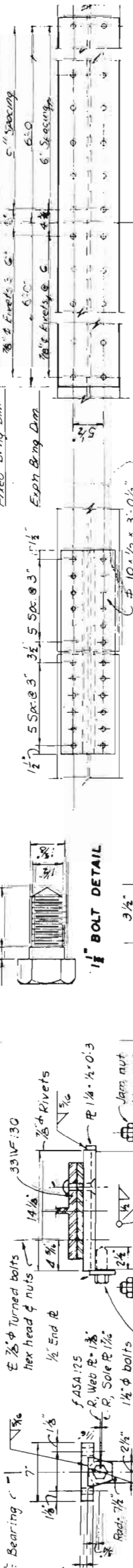
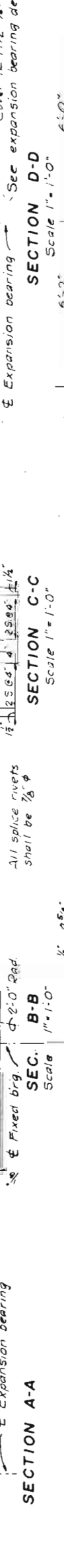
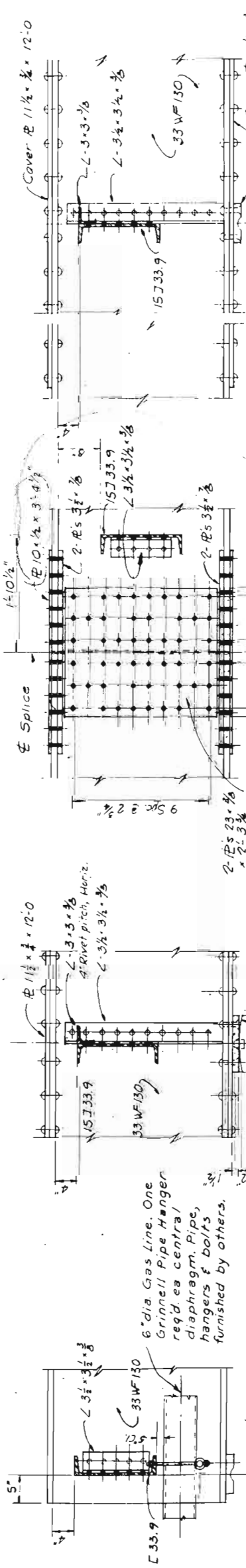
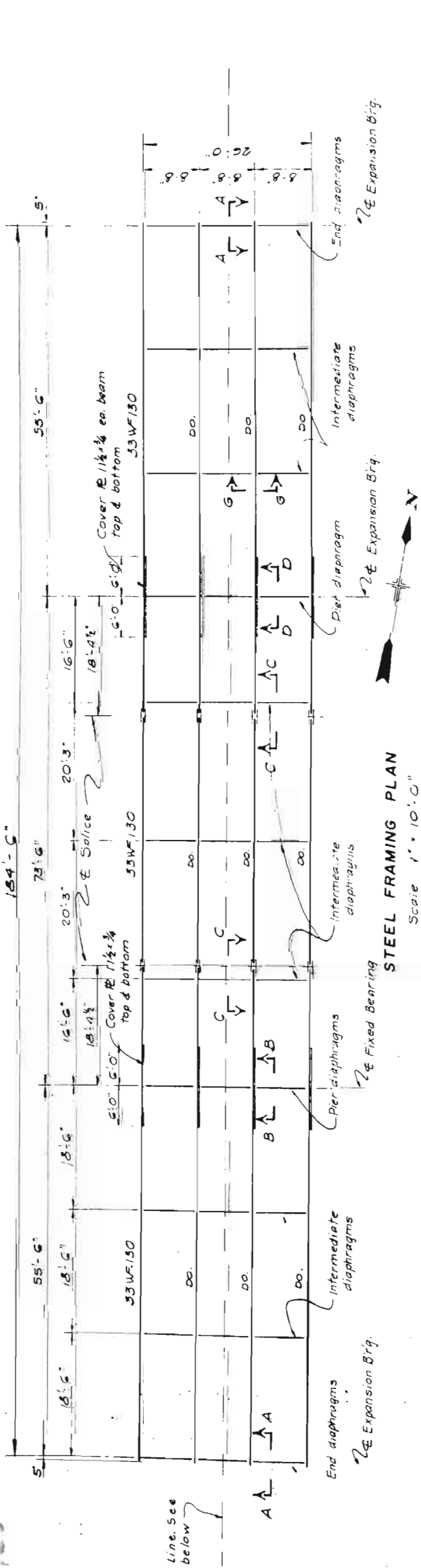
SLAB THICKNESS DIAGRAM
1 - 17 - 0

PROJECT NO.	125-238/49	SHEET NO.	27
DISTRICT	COLO.		

NOTES FOR STRUCTURAL STEEL

All steel shall receive a shop coat of zinc chromate, a first field coat of aluminum, and second field coat of aluminum. Snap rivets shall be $\frac{3}{8}$ " diameter unless noted. Field connections to be $\frac{3}{8}$ " rivets, unless otherwise noted. High tensile strength bolts may be substituted for field rivets at no additional expense to the Department. The joints shall be assembled according to the specifications approved by the research council on riveted and bolted structural joints of the Engineering Foundation, dated Jan 31, 1951.

ITEM	UNIT	QUANTITY
Beams, Cover Plates, Splice Plates	lb.	104,396
Diaphragms	lb.	9,923
Connections, Bearing Devices, Anch. Bts.	lb.	2,938
Expansion Joint	lb.	5,276
$\frac{1}{2}$ " for paint	lb.	612
Total	lb.	123,145



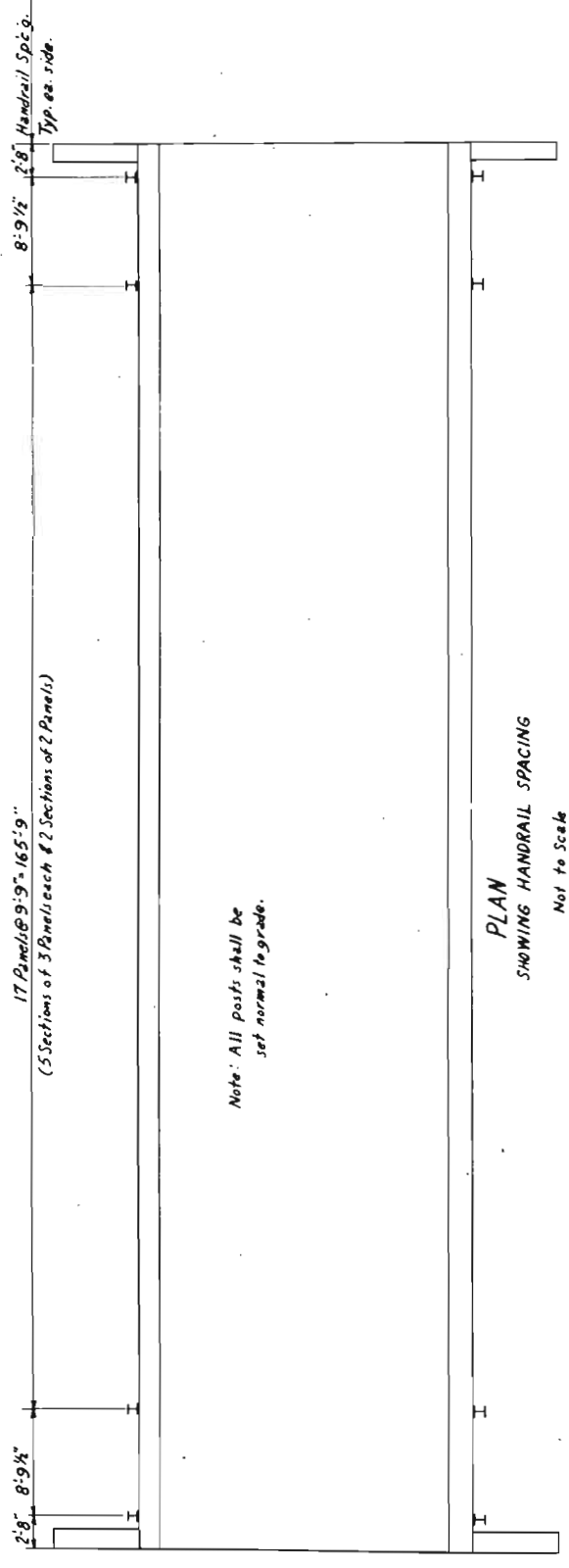
F.S. CROCKER & I.F. JORGENSEN
CONSULTING ENGINEERS
DENVER, COLORADO

COLORADO
DEPARTMENT OF HIGHWAYS
BRIDGE
STEEL FRAMING
PLAN AND SECTIONS

Project: PINE CREEK
Sta. 20+70.00 to 22+59.67
Near BREED Sec. 7 T.13.S. R.9E.W.
Designed by J.H.N. Approved by F.E.H.
Made by J.H.N. Checked by J.H.N. Date: _____
19 _____

REV. NO.	DIVISION	PROJECT NO.	DATE
9	COLO.	125-2(38)149	28

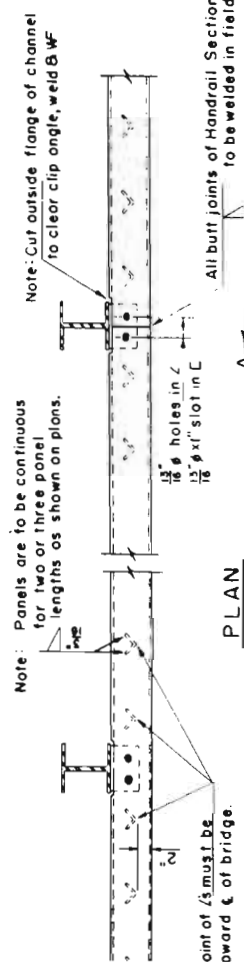
Rev.: Changed Handrail 12-18-59 D.U.S.



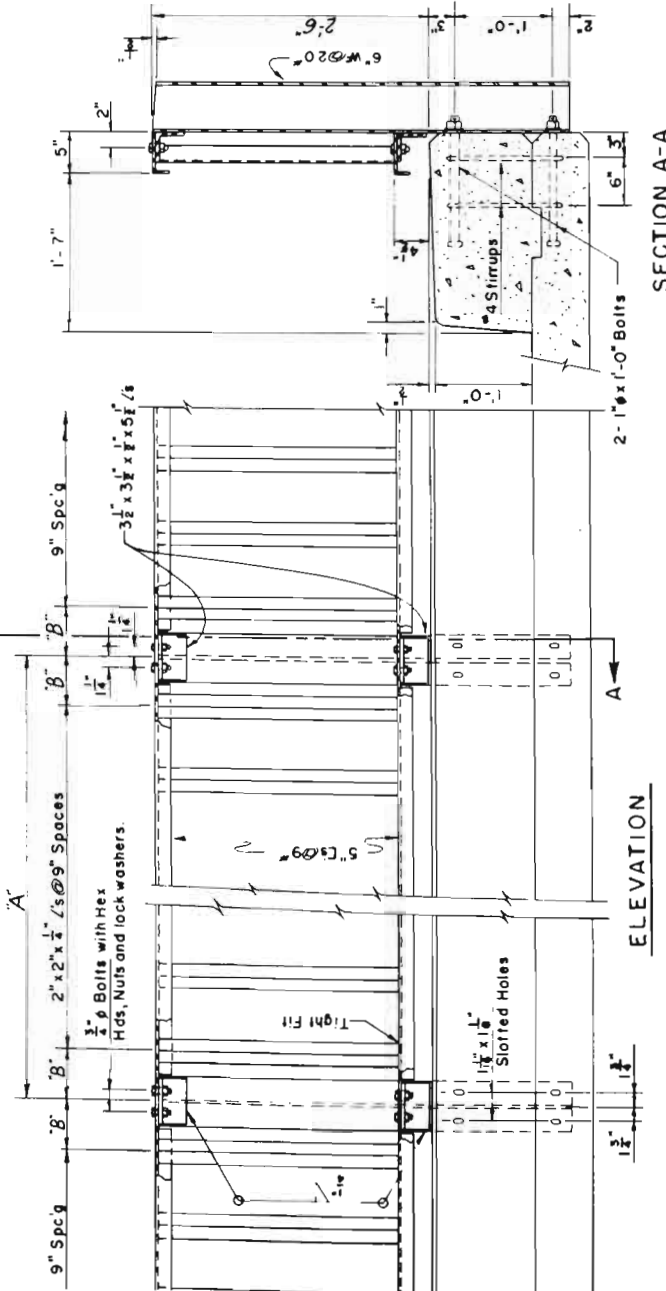
Note: All posts shall be set normal to grade.

PLAN
SHOWING HANDRAIL SPACINGS
Not to Scale

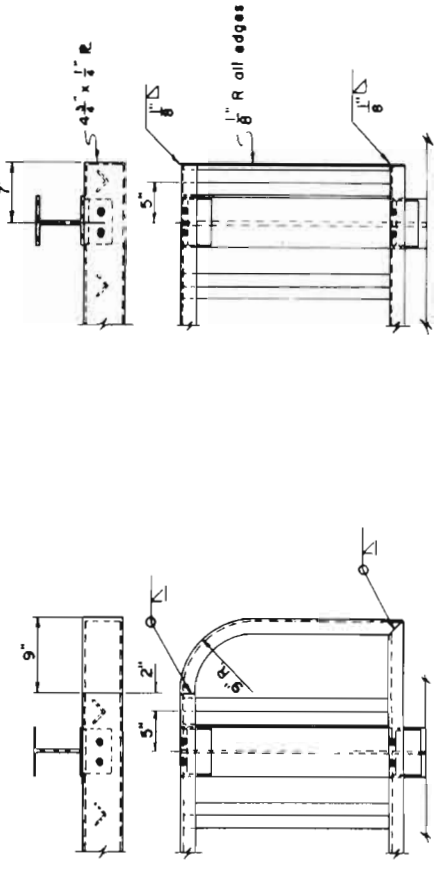
A' B'
Superstructure ~ 9'-9" 9"
Superstructure ~ 8'-9 1/2" 7 1/4"
Abutments ~ 5'-3" 9"



PLAN



ELEVATION



DETAIL OF END SECT. ON SUPERSTRUCTURE

DETAIL OF END SECT. AT EXPN. BREAKS AND ON ABUTMENTS

COLORADO
DEPARTMENT OF HIGHWAYS
RAILING

Across PINE CREEK
Sta. 20+70.00 to 22+58.67

Designed by BREED
Checked by _____
Approved by _____
Bridge Engineer

Date _____

Revision: Changed Conc & Str-Steel in Summary 12-18-59 R24

REV. NO.	DATE	BY	DESCRIPTION
1			

Revision: Changed Conc & Str-Steel in Summary 12-18-59 R24

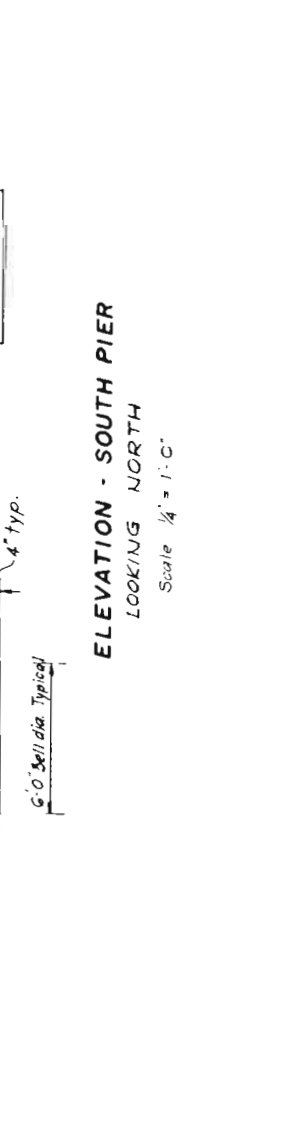
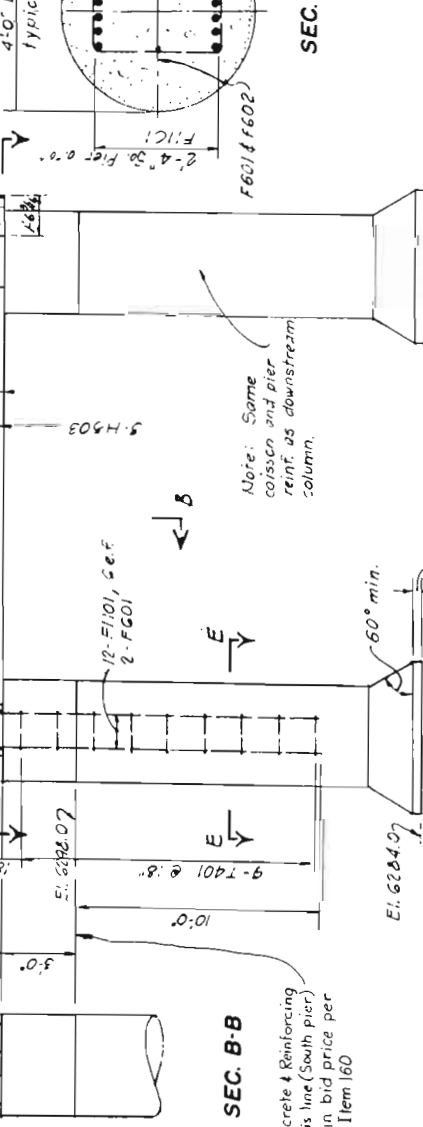
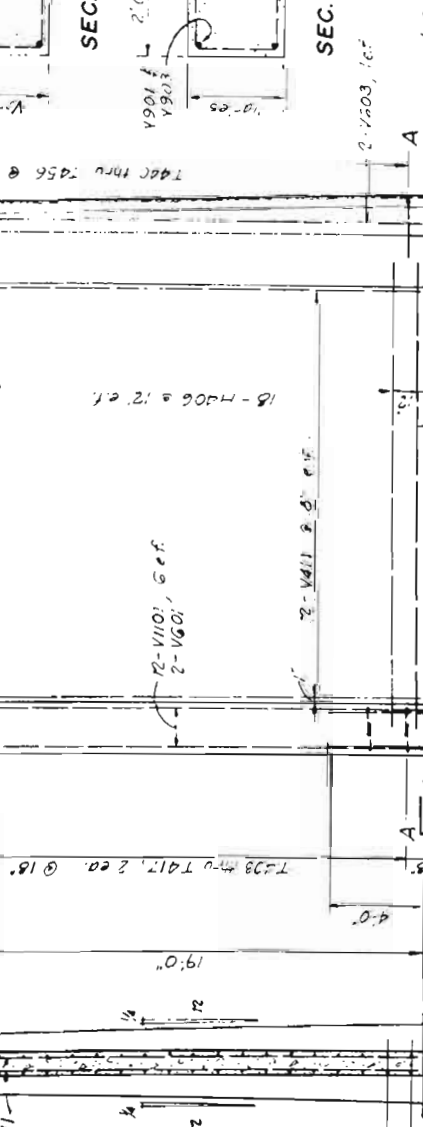
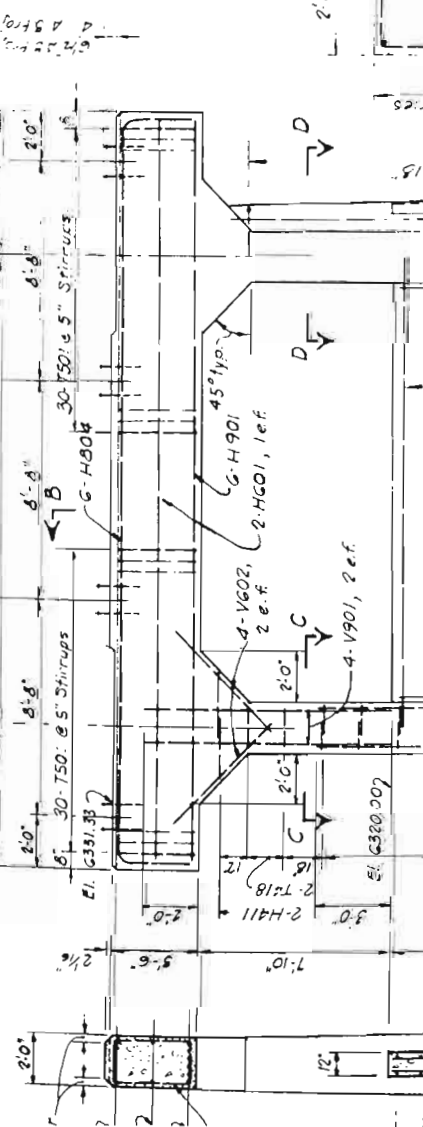
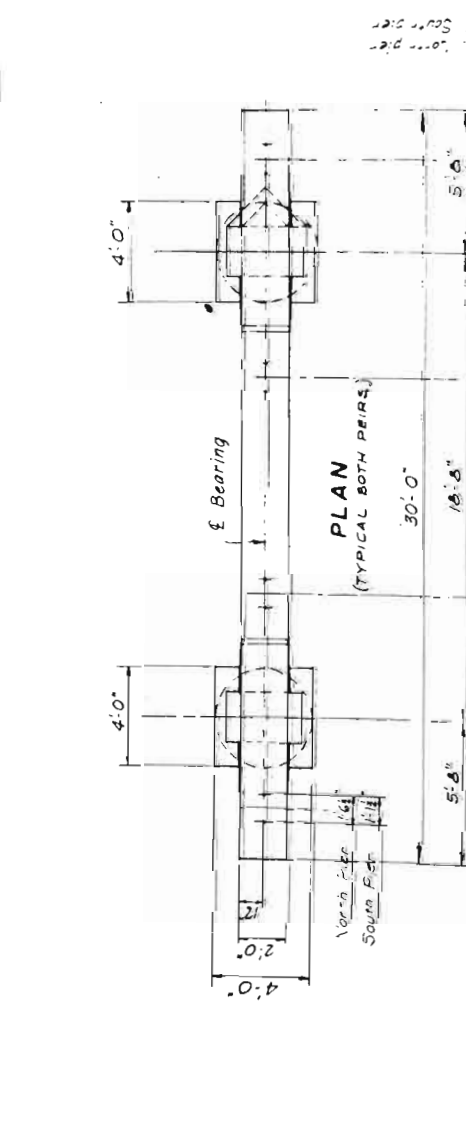
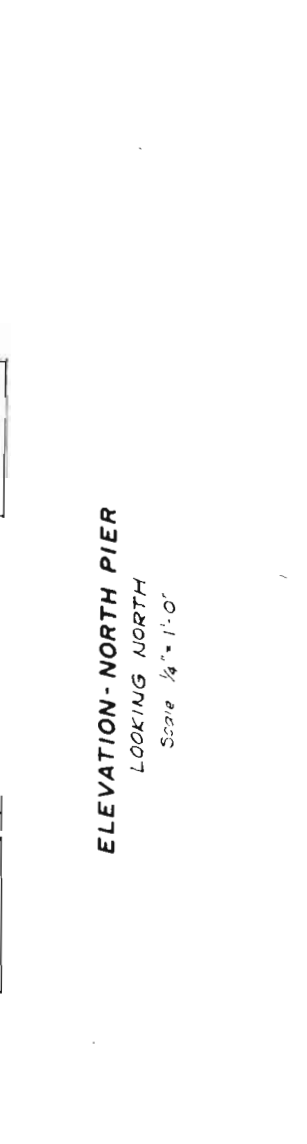
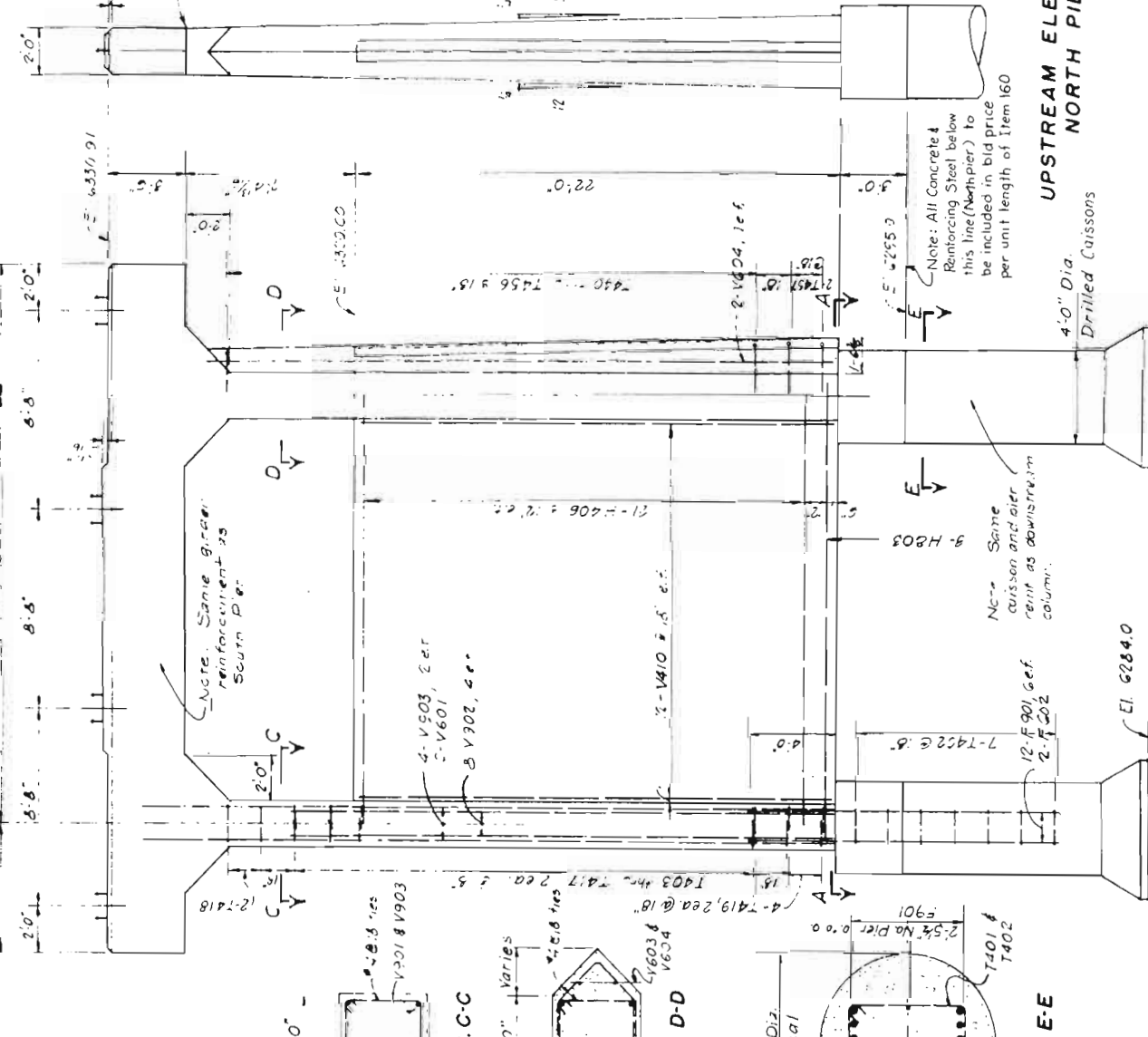
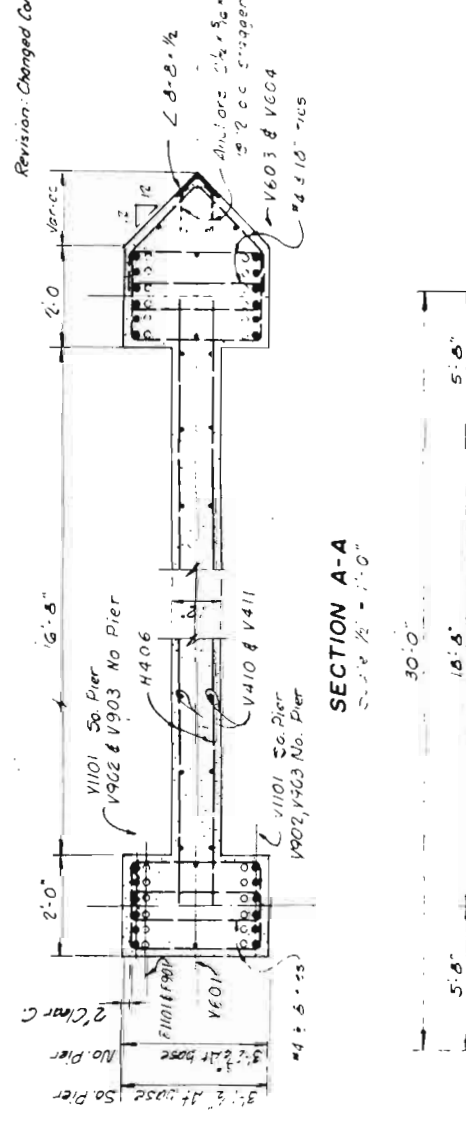
PROJECT NO.	125-2(38)149
DIVISION	COLO.
DATE	30

MARK	SHAPE	a	b	LENGTH	QUAN.
X F601				17'-0"	4
X F602				14'-0"	4
X F901				14'-0"	24
X F101				17'-0"	24
F405				18'-6"	70
H601				29'-4"	4
H623				18'-9"	6
H551				29'-4"	12
V410				21'-6"	24
V601				18'-6"	24
V602				22'-0"	8
V603				5'-6"	16
V604				27'-0"	2
V901				30'-0"	2
V902				9'-9"	8
V903				25'-0"	16
V101				31'-6"	8
V110				22'-0"	24
H411		1'-8"	2'-5"	6'-3"	8
H804		29'-8"	3'-1"	35'-3"	12
T401		1'-8"	2'-5"	8'-6"	16
T402		1'-8"	2'-5"	8'-9"	16
T403		1'-1"	2'-9 1/2"	8'-5"	8
T417		1'-1"	2'-11"	8'-6"	8
T415		1'-8"	2'-9"	7'-3"	8
T419		1'-1"	2'-11"	8'-6"	8
T501		1'-8"	3'-2"	10'-6"	120
T440		1'-4 1/2"	12"	5'-9"	2
T556		1'-0"	12"	4'-0"	2
T457		1'-5 1/2"	12"	5'-9"	2

BAR SUMMARY - 2 PIERS	
328	Lt. ft #1 @ 5.315 lbs per ft = 2665 lbs
1082	" #9 @ 3.400 " = 3679 "
536	" #8 @ 2.470 " = 1431 "
495	" #6 @ 1.502 " = 744 "
1200	" #5 @ 1.003 " = 1314 "
3710	" #4 @ 0.668 " = 2478 "
1% Overrun = 125	
Total = 12,575 lbs.	

QUANTITY SUMMARY - 2 PIERS	
Excavation	12,575 Lbs.
Backfill	1,200 Lbs.
Class A Concrete, Piers	1,200 Lbs.
Reinforcing steel (Pier Nose)	1,200 Lbs.
Struct. Steel (Pier Nose)	1,200 Lbs.
(Incl. 1/2% for paint)	

* These bars are not included in Bar Summary for Piers but shall be included in the bid price for Item 160.
 (1) Only #4-1201 bars are included in Bar Summary, the remainder shall be included in the bid price for Item 160.
 (2) Only #4-1202 bars are included in Bar Summary, the remainder shall be included in the bid price for Item 160.



F. S. CROCKER & I. F. JORGENSEN
 CONSULTING ENGINEERS
 DENVER, COLORADO.

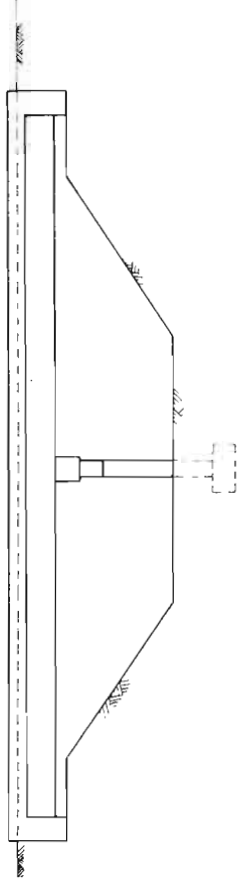
COLORADO
 DEPARTMENT OF HIGHWAYS
 BRIDGE
 PIERS

PINE CREEK
 Sta. 20+70.00 to 22+88.87
 BREED
 Sec. 7 T. 13 S. R. 88 W.

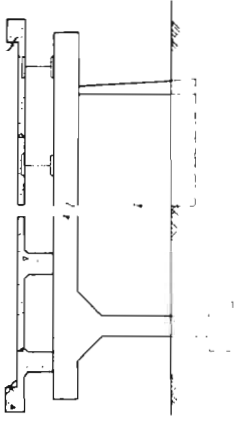
Designed by J.H.N.
 Approved by F.E.H.
 Made by J.H.N.
 Checked by J.H.N.
 Bridge Engineer

ELEVATION - NORTH PIER
 LOOKING NORTH
 Scale 1/4" = 1'-0"

ELEVATION - SOUTH PIER
 LOOKING NORTH
 Scale 1/4" = 1'-0"

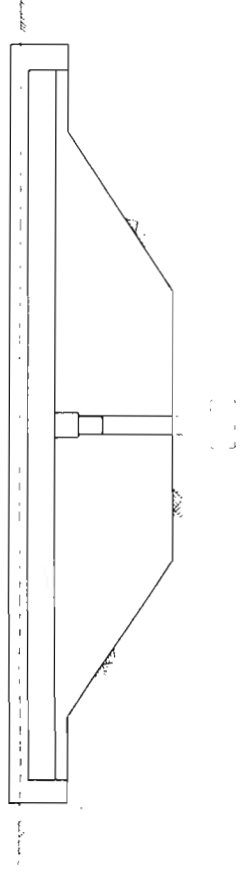


Pier or Superstructure symm. about \perp

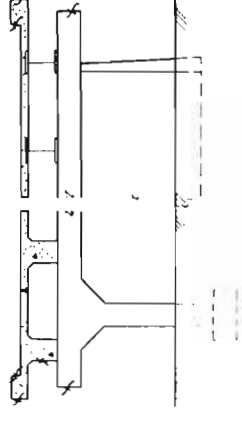


PIER AND SUPERSTRUCTURE

RURAL STREAM CROSSING

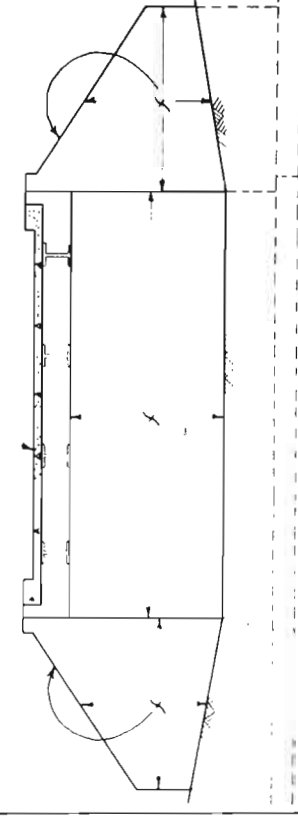
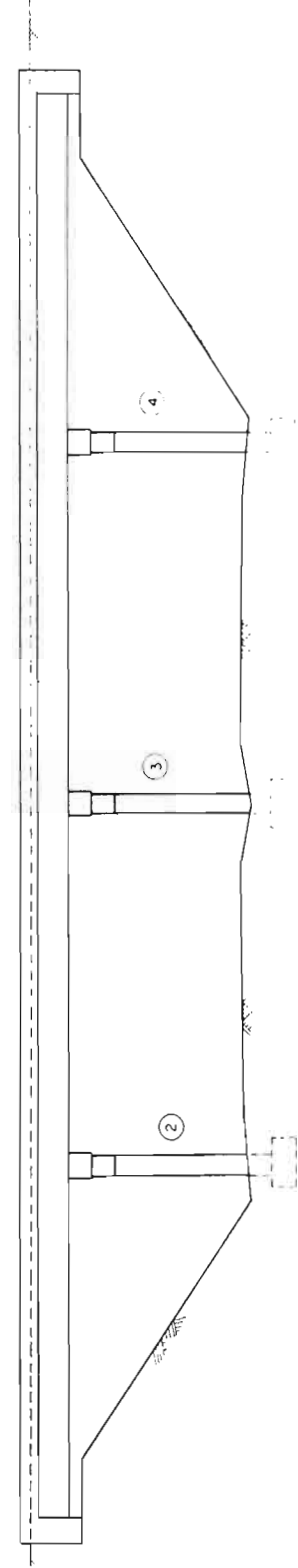


Pier or Superstructure symm. about \perp



PIER AND SUPERSTRUCTURE

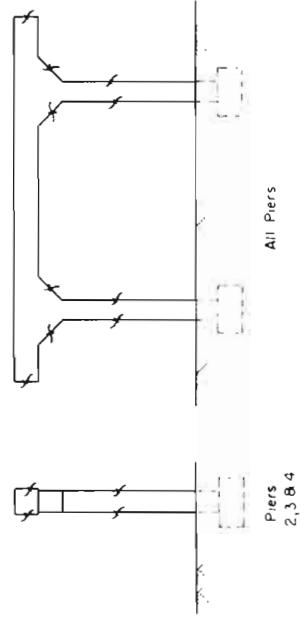
URBAN STREAM CROSSING OR NEAR URBAN AREA



Highway or R.R. Superstructure

STUB ABUTMENTS
(Underpass Only)

CANTILEVER ABUTMENTS
(Underpass Only)



All Piers
2, 3 B 4

Superstructure

Conc. Slab B. Girder or Conc. Slab on Prestressed Beams

Conc. on W. Beams

Symm. about \perp

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

UNDERPASS

COLORADO
DEPARTMENT OF HIGHWAYS
 DETAILS SHOWING PORTIONS OF
 STRUCTURE TO RECEIVE CLASS
 "I" SURFACE FINISH.

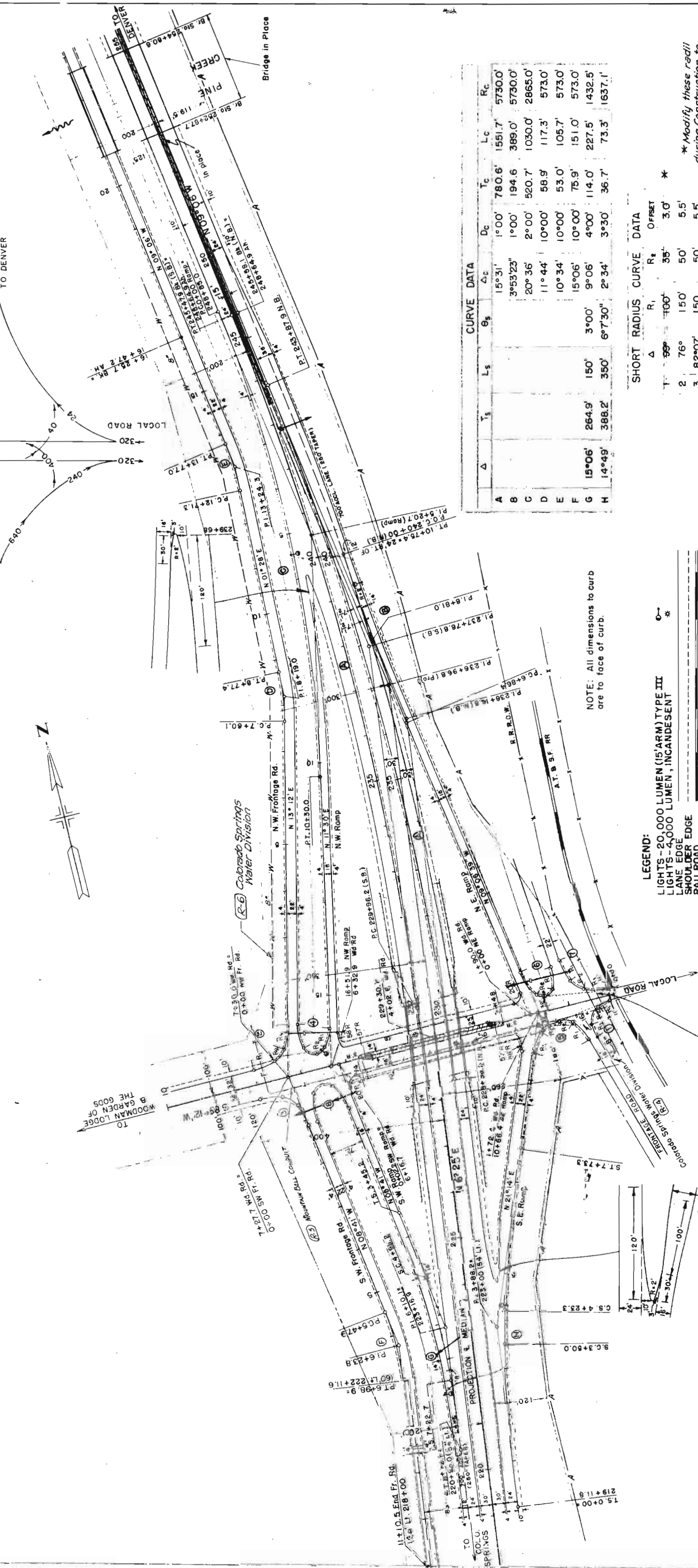
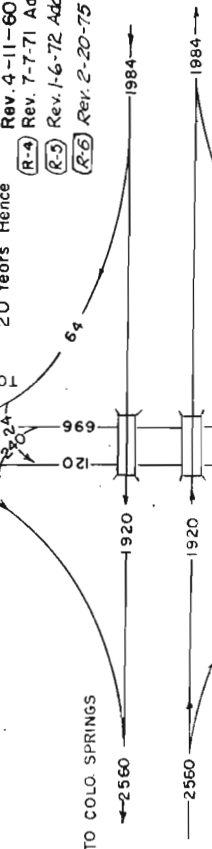
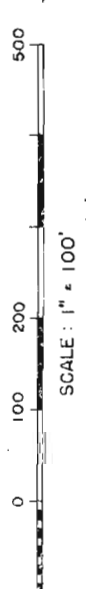
Across Various Locations
 Sta. _____
 Near Breed Sec. T. R.
 Designed by A.D.N. Approved by *W.D. Newcomb*
 Made by R.R.A.-J.B. Bridge Engineer
 Checked by _____ Date: *June 24, 1959*

DETAILS & LAYOUT OF INTERSECTION STA. 229+

FEDERAL ROAD DIVISION NO.	9	DISTRICT	COLORADO	PROJ. NO.	1-25-2(38)149	SHEET NO.	53	TOTAL SHEETS	
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Rev. 10-23-59, Access-G.S.
 Rev. 1-26-60, Fr. Rd. Radii 1 and 7 to J.C.R.
 Rev. 4-11-60 R.O.W. Rt. Sta. 220+ G.S.
 Rev. 7-7-71 Add 8" & 16" Water Line M.E.V.
 Rev. 1-6-72 Added Tel. Conduit, I.E.F.
 Rev. 2-20-75 Added Water Line, G.R.L.

D. H. V.
 20 Years Hence



CURVE DATA									
A	Δ	Ts	Ls	θs	Δc	Dc	Tc	Lc	Rc
A	15°06'	264.9'	150'	3°00'	3°00'	1000'	780.6'	1551.7'	5730.0'
B	14°49'	388.2'	350'	6°7'30"	2°34'	300'	194.6'	389.0'	5730.0'
C							2°00'	1030.0'	2865.0'
D							11°44'	58.9'	573.0'
E							10°34'	53.0'	573.0'
F							15°06'	75.9'	573.0'
G							9°06'	114.0'	1432.5'
H							2°34'	36.7'	1637.1'

SHORT RADIUS CURVE DATA			
Δ	Ri	Rc	OFFSET
1	76°	150'	3.0'
2	82°07'	150'	5.5'
3	181°42'	120'	10.0'
4	138°	120'	8.0'
5	177°	100'	10.0'
6	77°	150'	5.5'
7	180°	120'	11.0'

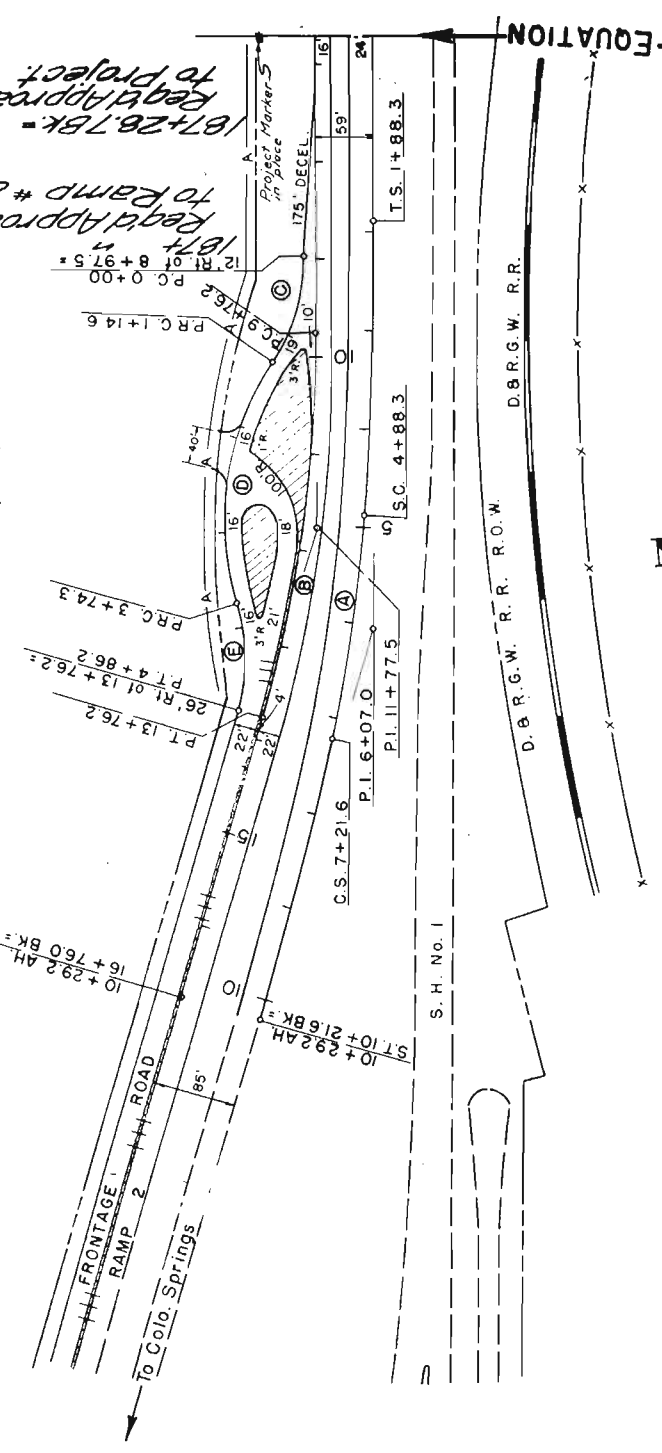
- NOTE: All dimensions to curb are to face of curb.
- LEGEND:
- LIGHTS - 20,000 LUMEN (5' ARM) TYPE III
 - LIGHTS - 4,000 LUMEN, INCANDESCENT
 - LANE EDGE
 - SHOULDER EDGE
 - RAILROAD
 - CURBED ISLAND
 - RIGHT OF WAY
 - ACCESS DENIED BY DEED
 - CONTROL OF ACCESS
 - METAL PLATE GUARD FENCE
 - ELECTRICAL CONDUIT WITH JUNCTION BOXES
 - FLASHING AMBER WARNING LIGHTS

*NO WORK BEYOND RAILWAY R.O.W.

NOTE: All dimensions to curb are to the lip of the curb.

FED. ROAD REC. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLD.	I-25-2(38)149	55	55

Rev. 9-16-59 Elim. App. In Frontage Rd. & Change App. to Ramp 2.



STA. 187+28.7 Ah., BEG. I-25-2(38)149
STA. 0+00, BEG. I-25-2(28)145 Unit 2

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 plans are encountered during construction the grading plan shown on plans will be modified where necessary to secure dense, stable embankments.

Δ	D _c	T _s	L _s	θ _s	Δ _c	T _c	L _c	R _c
A	16'00"	3'00'	418.7'	3000'	4°30'	7°00'	233.3'	1910.0'
B	4'00"	4'00'	201.3'	433.0'	16°00'	201.3'	433.0'	1432.5'
C	30'00"	30'00'	59.1'	114.6'	34°22'	59.1'	114.6'	1911.0'
D	40'00"	40'00'	139.5'	259.1'	51°56'	139.5'	259.1'	286.5'
E	30'00"	30'00'	57.6'	111.9'	33°34'	57.6'	111.9'	191.0'
F	3'00"	3'00'	129.6'	258.9'	7°46'	129.6'	258.9'	1910.0'

