

REVISIONS

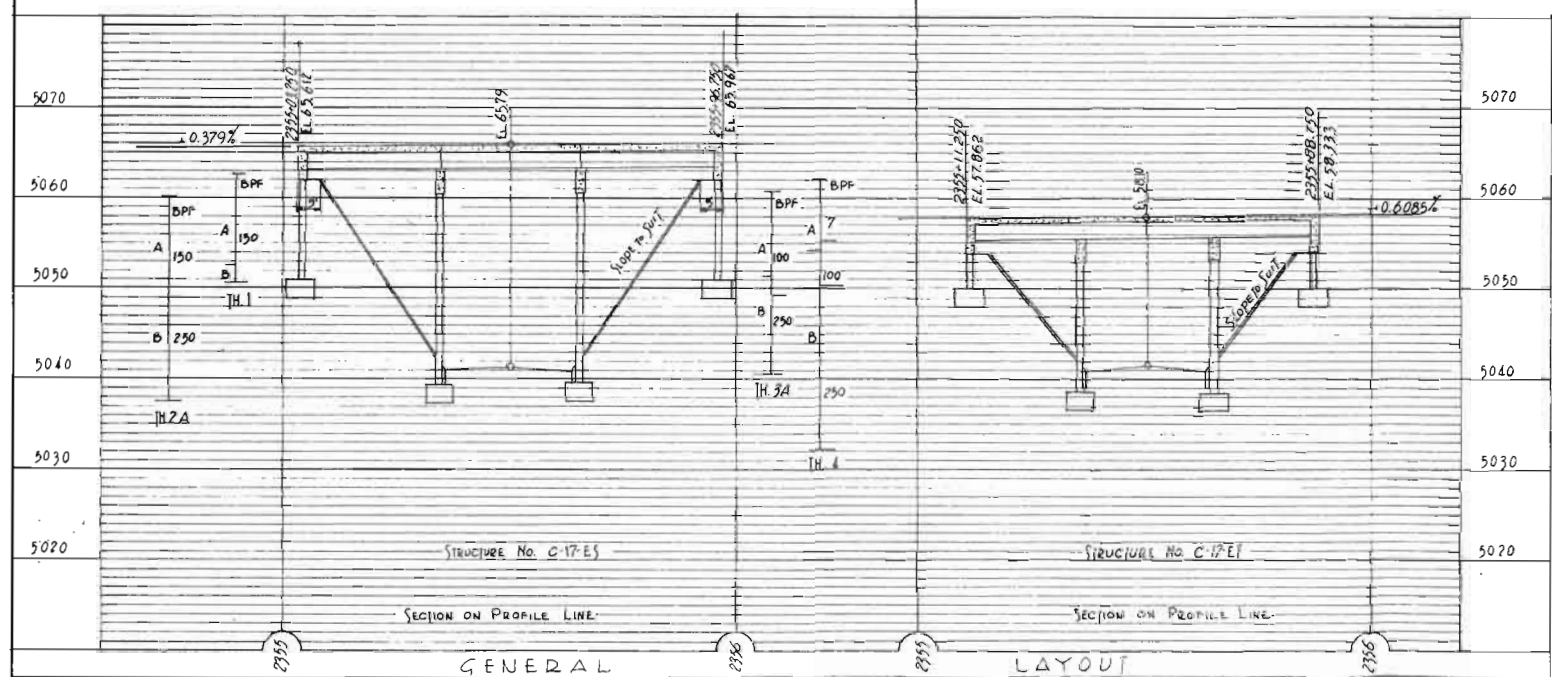
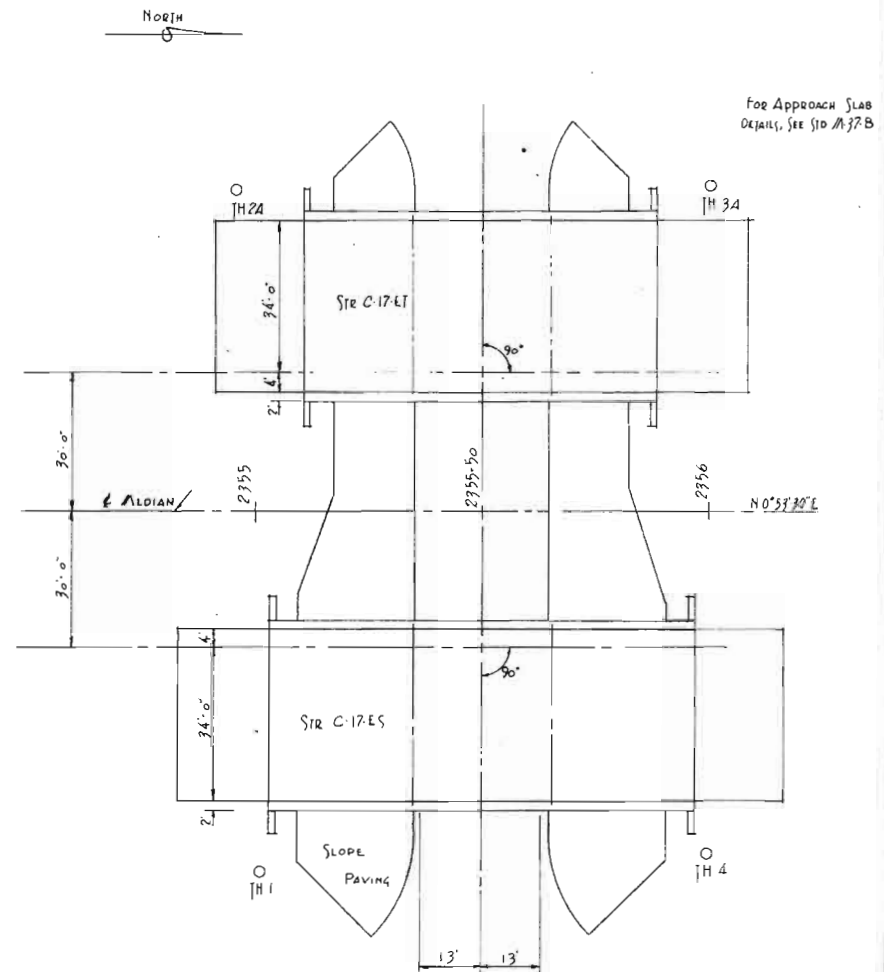
Revised: Changed Span No 2 C-17-ET from 22'-0" to 30'-0"; Plan, Profile & Quantities -- 3-19-64 RRA.

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	125-3(35)258	53	

SUMMARY OF QUANTITIES

ITEM	DESCRIPTION	UNIT	SUPERSTRUCTURE		ABUT. No. 1		PIER No. 2		PIER No. 3		ABUT. No. 4		TOTALS	
			C-17-ES	C-17-EI	C-17-ES	C-17-EI	C-17-ES	C-17-EI	C-17-ES	C-17-EI	C-17-ES	C-17-EI	C-17-ES	C-17-EI
14	UNCLASSIFIED STRUCTURAL EXCAVATION (BRIDGE)	Cu.Yd.			110	68	60	49	60	50	110	68	340	235
16	STRUCTURE BACKFILL (CLASS X)	Cu.Yd.			105	39	50	41	50	41	105	39	310	160
46	CLASS "A" CONCRETE	Cu.Yd.	1472	112.8	250	197	209	20.4	20.9	20.4	250	197	239	193
47	REINFORCING STEEL (INCLUDES 12" FOR OVERRUN)	Lbs.	45,070	36,575	2965	1,890	3,645	2,755	3,645	2,755	2,965	1,890	58,240	45,865
48	STRUCTURAL STEEL (GALVANIZED)	Lbs.	6,365	5,390									6,365	5,390
65	CONCRETE SLOPE AND DITCH PAVING (w/ WIDE AREA)	Cu.Yd.			45	30					45	30	90	60

① DO NOT INCLUDE GALVANIZING. NO PERCENTAGE SHALL BE ADDED TO WEIGHT OF BARE METAL FOR SPALLER COATING.



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".
 ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE TAGGED WITH THE BAR DESIGNATION AND STATION NUMBER OF THE PROJECT.
 IF BY PERMISSION OF THE ENGINEER PRIMARY BARS ARE SPICED, THEY SHALL LAP A MINIMUM OF 28 DIAMETERS FOR BARS NEAR TOPS OF BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS, AND 17 DIAMETERS FOR BARS NEAR BOTTOM OF MEMBERS. SECONDARY BARS WHEN SPICED SHALL LAP 17 DIAMETERS OF THE BAR.
 DIMENSIONS FOR REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE TO THE CENTERLINE OF THE BAR.
 SOUNDINGS AND DEPTH OF FOOTINGS 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.
 FOOTINGS IN ROCK SHALL BE POURED OUT TO ROCK AND NOT FORMED.
 WHEN EXCAVATING FOR FOOTINGS THE FINAL ONE FOOT IN DEPTH SHALL BE DONE BY HAND-LABOR METHOD.
 FOR DETAILS OF STRUCTURAL EXCAVATION AND STRUCTURE BACKFILL, SEE STANDARD M-16-A ALL CONCRETE SURFACES MARKED WITH THE SYMBOL 7 AS SHOWN ON SHEET NO. 28, SHALL RECEIVE CLASS "T" SURFACE FINISH.
 ALL STRUCTURAL STEEL SHALL BE PAINTED WITH ONE SHOP COAT OF ZINC CHROMATE AND TWO FIELD COATS OF ALUMINUM PAINT UNLESS OTHERWISE NOTED.
 ALL RIVETS SHALL BE 3/4 INCH DIAMETER UNLESS OTHERWISE NOTED.
 HIGH TENSILE BOLTS MAY BE SUBSTITUTED FOR FIELD RIVETS AT THE CONTRACTORS OPTION. BOLTS SHALL BE FURNISHED IN THE AMOUNT OF FIVE PERCENT IN EXCESS OF THE NOMINAL NUMBER REQUIRED FOR EACH SIZE AND LENGTH.
 WELDING SHALL CONFORM TO THE LATEST EDITION OF THE A.W.S. STANDARD SPECIFICATIONS FOR WELDING HIGHWAY BRIDGES.
 FOR WELDED GIRDERS ALL SHOP BUTT WELDS IN FLANGES AND WEBS SHALL BE MADE BEFORE WELDING INTO GIRDERS.
 WHEN CALLED FOR IN THE SPECIAL PROVISIONS, SHOP WELDS SHALL BE INSPECTED RADIOGRAPHICALLY AND BY THE PENETRANT DYE METHOD.
 WHEN TREATED TAPER FILING IS SHOWN ON THE PLANS, THE PRESERVATIVE FOR TREATMENT SHALL BE CRESOTE OIL.
 ALL STRUCT. STEEL NOT OTHERWISE NOTED SHALL BE ASTM A36-62T.

LOADING DATA, INTERSTATE ALTERNATE
 LIVE LOAD - A, A. S. H. O. H20-S16-44
 DEAD LOAD - ASSUMES 15 LBS. PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE 1/4 INCH CONCRETE MONOLITHIC WEARING SURFACE SHOWN.

DESIGNING DATA.
 f_c = 3,000 Lbs. per Sq. In.
 f_s = 20,000 Lbs. per Sq. In. (GEN'L. STEEL & A70 STRUCT. STEEL)
 n = 10
 f_w = 18,000 Psi (A7 STRUCT. STEEL)

COLORADO
 DEPARTMENT OF HIGHWAYS
 3 SPANS @ 28'-0" B.W.D., 3 SPANS @ 30' No. B.W.D.
 CONCRETE SLAB & GIRDERS, 38 Rows. 2 Cures
 GENERAL LAYOUT, SUMMARY of QUANTITIES and GENERAL NOTES
 Across County Road
 Sta. 2753+00
 Near KELVIN Sec. 34 T. 6N R. 68W
 Designed by *A. D. Newcomb*
 Made by *A. J. P.*
 Checked by *A. J. P.*
 Approved by *A. D. Newcomb*
 Bridge Engineer
 Date: Sept. 16, 1963

SOUNDINGS
 A = SILTY CLAY
 B = SILTY SANDSTONE

• Sta. 2755+02.250 to 2755+96.750 No. BOUND
 • Sta. 2755+11.250 to 2755+88.750 So. BOUND

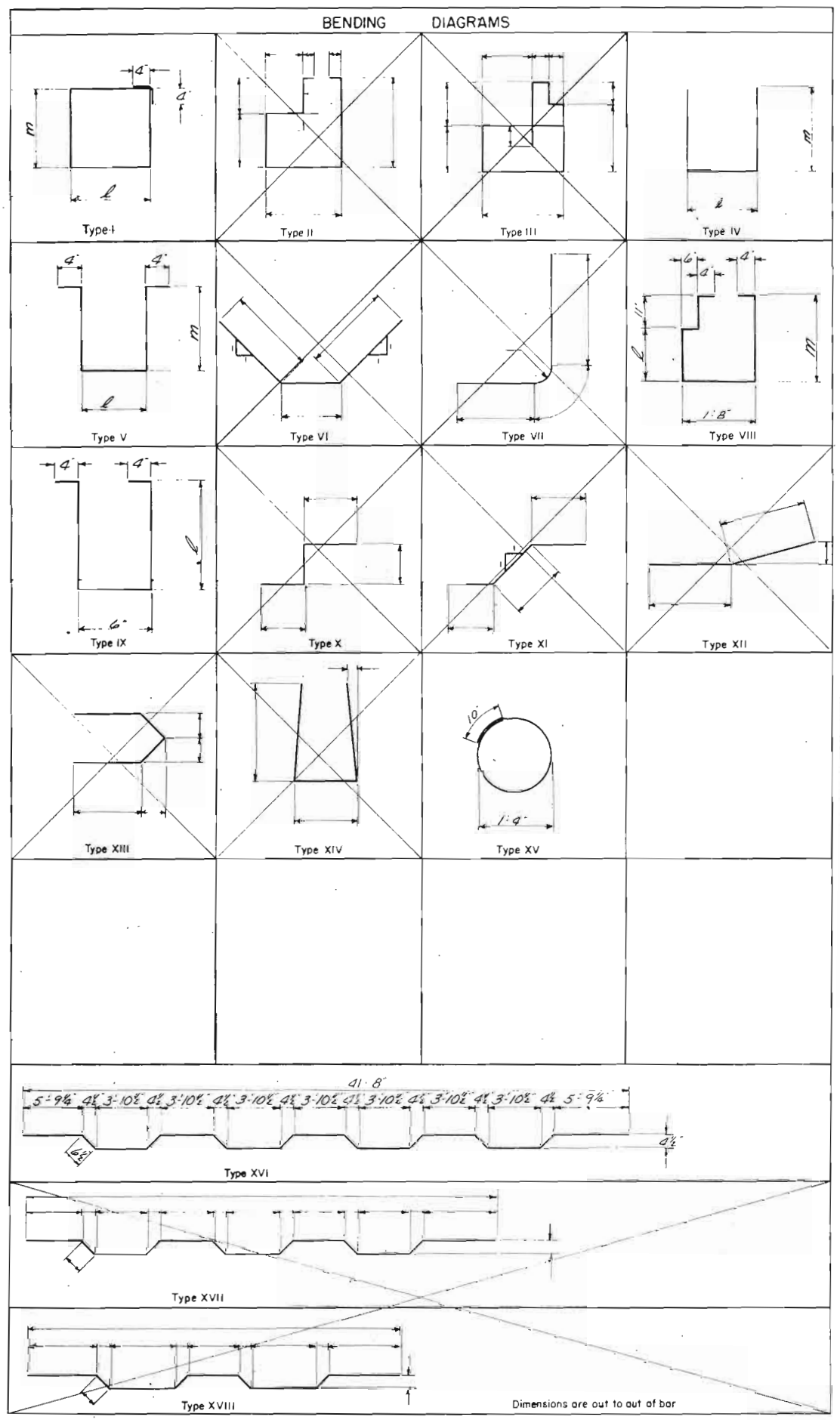
C-17-ES No. BOUND
 STRUCTURE NO. C-17-EI So. BOUND

OF HIGHWAY
137
TRACING
-PLAIN

REVISIONS

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I 25-3(35)258	54	

Revised: Superstructure & Pier Bar Lists for Str C-17-ET - March 19, 1964 R.R.A.
Revision: Corrected Structure N° & Pier #2 Bar List - March 31, 1964 R.R.A.



Str C-17-ET Superstructure

Mark	Size	No	Reqd	Length	Type	Dimension	
						L	M
401	1/2"	156	4'-2"	IV	1'-8"	1'-4"	
402	1/2"	48	5'-0"	I	1'-3"	0'-11"	
415	1/2"	320	4'-11"	V	1'-1"	1'-7"	
416	3/8"	88	4'-0"	IX	1'-5"		
404	1"	225	6'-5"	V	1'-1"	2'-4"	
405	1"	88	4'-10"	IX	1'-10"		
502	3/8"	174	41'-8"	Str			
501	3/8"	85	43'-0"	XVI			
504	3/8"	172	22'-5"	Str			
503	3/8"	86	30'-5"	Str			
801	1"	4	35'-0"	Str			
601	3/8"	12	41'-8"	Str			
602	3/8"	12	35'-0"	Str			
1102	1 1/8"	20	30'-5"	Str			
1103	1 1/8"	10	20'-0"	Str			
1101	1 3/8"	40	23'-0"	Str			
1106	1 3/8"	20	12'-0"	Str			
1107	1 3/8"	20	16'-8"	Str			
1108	1 3/8"	10	26'-0"	Str			
1105	1 3/8"	20	4'-0"	Str			

Summary

4710 Lin Ft 1/2" @ 0.668 PLF = 3146 Lb
17376 Lin Ft 3/8" @ 1.043 PLF = 18123 Lb
920 Lin Ft 3/4" @ 1.502 PLF = 1382 Lb
2482 Lin Ft 1 1/8" @ 5.313 PLF = 13187 Lb
140 Lin Ft 1" @ 2.670 PLF = 374 Lb
1% Overrun = 363 Lb
Total = 36,575 Lb

C-17-ET Pier No 2 (Pier No 3 Similar)

Mark	Size	No	Reqd	Length	Type	Dimension	
						L	M
406	1/2"	50	8'-8"	I	1'-8"	2'-0"	
407	1/2"	45	5'-0"	XV			
408	1/2"	4	37'-8"	Str			
417	1/2"	30	3'-8"	IV	8"	1'-6"	
505	3/8"	36	5'-4"	Str			
603	3/8"	24	2'-6"	Str			
604	3/8"	24	16'-3"	Str			
803	1"	20	2'-6"	Str			
802	1"	3	37'-8"	Str			
1109	1 1/8"	2	37'-8"	Str			
1002	1 1/8"	8	11'-0"	Str			

Summary

948 Lin Ft 1/2" @ 0.668 PLF = 633 Lb
198 Lin Ft 3/8" @ 1.043 PLF = 207 Lb
450 Lin Ft 3/4" @ 1.502 PLF = 676 Lb
163 Lin Ft 1" @ 2.670 PLF = 435 Lb
88 Lin Ft 1 1/8" @ 5.313 PLF = 379 Lb
75 Lin Ft 1 3/8" @ 5.313 PLF = 398 Lb
1% Overrun = 27 Lb
Total = 2755 Lb

Str C-17-ET Abut No 1 (Abut No 4 Sim)

Mark	Size	No	Reqd	Length	Type	Dimension	
						L	M
410	1/2"	34	8'-8"	VIII	2'-0"	2'-11"	
411	1/2"	24	3'-11"	Str			
412	1/2"	8	21'-2 1/2"	Str			
413	1/2"	20	4'-10"	Str			
414	1/2"	12	5'-0"	XV			
510	3/8"	36	5'-4"	Str			
610	3/8"	24	7'-0"	Str			
805	1"	6	41'-8"	Str			
901	1 1/8"	6	13'-0"	Str			

Summary

715 Lin Ft 1/2" @ 0.668 PLF = 478 Lb
198 Lin Ft 3/8" @ 1.043 PLF = 207 Lb
168 Lin Ft 3/4" @ 1.502 PLF = 252 Lb
250 Lin Ft 1" @ 2.670 PLF = 668 Lb
78 Lin Ft 1 1/8" @ 5.313 PLF = 265 Lb
1% Overrun = 20 Lb
Total = 1890 Lb

C-17-ES Superstructure

Mark	Size	No	Reqd	Length	Type	Dimension	
						L	M
401	1/2"	188	4'-4"	IV	1'-8"	1'-8"	
402	1/2"	36	5'-0"	I	1'-3"	0'-11"	
400	1/2"	675	6'-5"	V	1'-1"	2'-4"	
405	1/2"	96	4'-10"	IX	1'-10"		
501	3/8"	103	43'-0"	XVI			
502	3/8"	214	41'-8"	Str			
503	3/8"	258	30'-5"	Str			
801	1"	8	35'-0"	Str			
1101	1 1/8"	40	31'-0"	Str			
1102	1 1/8"	20	30'-5"	Str			
1103	1 1/8"	30	20'-0"	Str			
1104	1 1/8"	30	26'-0"	Str			
1105	1 1/8"	20	6'-0"	Str			

Summary

5890 Lin Ft 1/2" @ 0.668 PLF = 3935 Lb
21193 Lin Ft 3/8" @ 1.043 PLF = 22104 Lb
280 Lin Ft 1" @ 2.670 PLF = 748 Lb
3348 Lin Ft 1 1/8" @ 5.313 PLF = 17788 Lb
1% Overrun = 445 Lb
Total = 45020 Lb

C-17-ES Abut No 1 (Abut No 4 Similar)

Mark	Size	No	Reqd	Length	Type	Dimension	
						L	M
408	1/2"	30	5'-0"	XV			
409	1/2"	3	41'-8"	Str			
410	1/2"	36	10'-0"	VIII	2'-8"	3'-7"	
411	1/2"	16	4'-11"	Str			
412	1/2"	10	4'-8"	Str			
413	1/2"	10	4'-6"	Str			
702	3/8"	24	12'-3"	Str			
703	3/8"	24	2'-6"	Str			
704	3/8"	36	6'-8"	Str			
705	3/8"	21	5'-8"	Str			
901	1 1/8"	3	9'-0"	Str			
902	1 1/8"	6	41'-8"	Str			

Summary

805 Lin Ft 1/2" @ 0.668 PLF = 538 Lb
713 Lin Ft 3/8" @ 1.043 PLF = 1457 Lb
277 Lin Ft 1 1/8" @ 5.313 PLF = 942 Lb
1% Overrun = 28 Lb
Total = 2965 Lb

C-17-ES Pier No 2 (Pier No 3 Similar)

Mark	Size	No	Reqd	Length	Type	Dimension	
						L	M
406	1/2"	66	8'-8"	I	2'-4"	1'-8"	
407	1/2"	2	37'-8"	Str			
408	1/2"	66	5'-0"	XV			
601	3/8"	48	5'-6"	Str			
701	3/8"	24	22'-9"	Str			
706	3/8"	24	2'-6"	Str			
802	1"	20	2'-6"	Str			
1001	1 1/8"	5	41'-8"	Str			
1002	1 1/8"	8	11'-0"	Str			

Summary

977 Lin Ft 1/2" @ 0.668 PLF = 653 Lb
264 Lin Ft 3/8" @ 1.043 PLF = 397 Lb
606 Lin Ft 3/4" @ 1.502 PLF = 1239 Lb
50 Lin Ft 1" @ 2.670 PLF = 134 Lb
276 Lin Ft 1 1/8" @ 5.313 PLF = 1188 Lb
1% Overrun = 39 Lb
Total = 3645 Lb

Note:
Prefix all bars for Str C-17-ET with the Letter 'T'
and all bars for Str C-17-ES with the Letter 'S' ie. T401, S401 etc.

* Str C-17-ET. 2355+11.250 to 2355+88.750
* Str C-17-ES. 2355+03.250 to 2355+96.750

COLORADO
DEPARTMENT OF HIGHWAYS

BENDING DIAGRAMS & BAR LIST

Across County Road
Sta. *

Near Kalim Sec. 34 T. 4N R. 6W

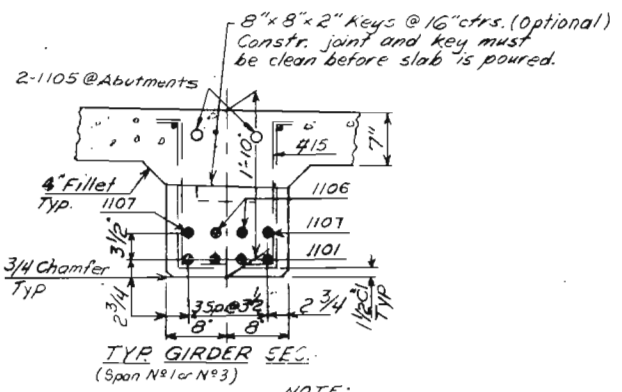
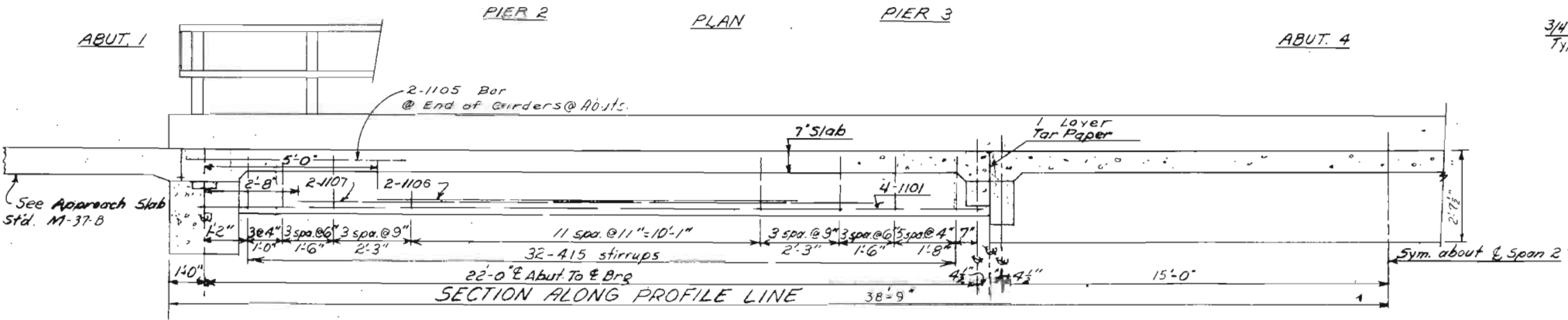
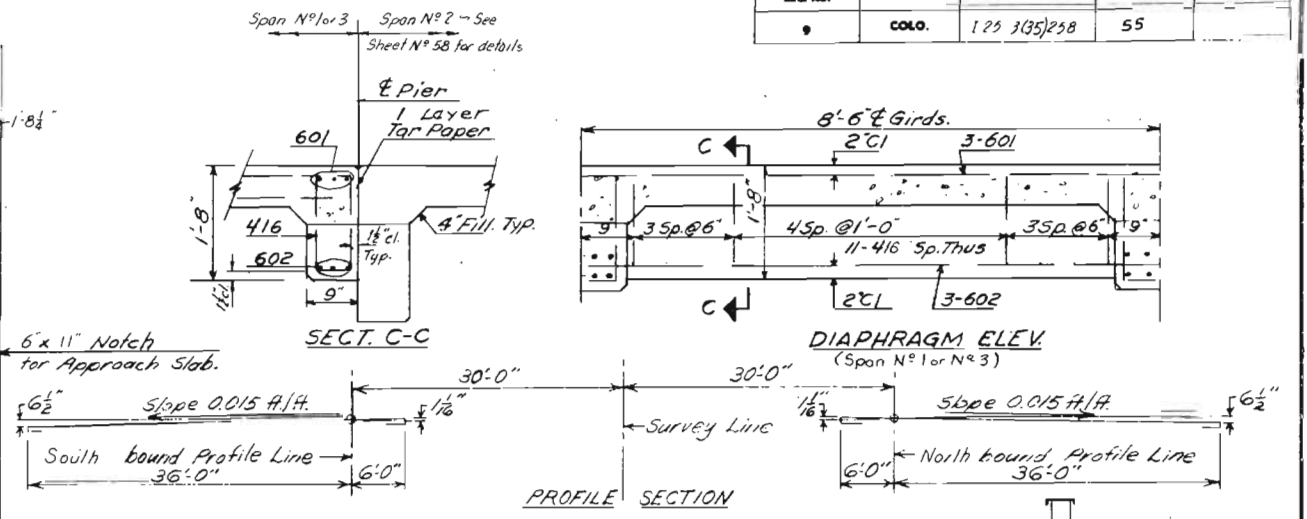
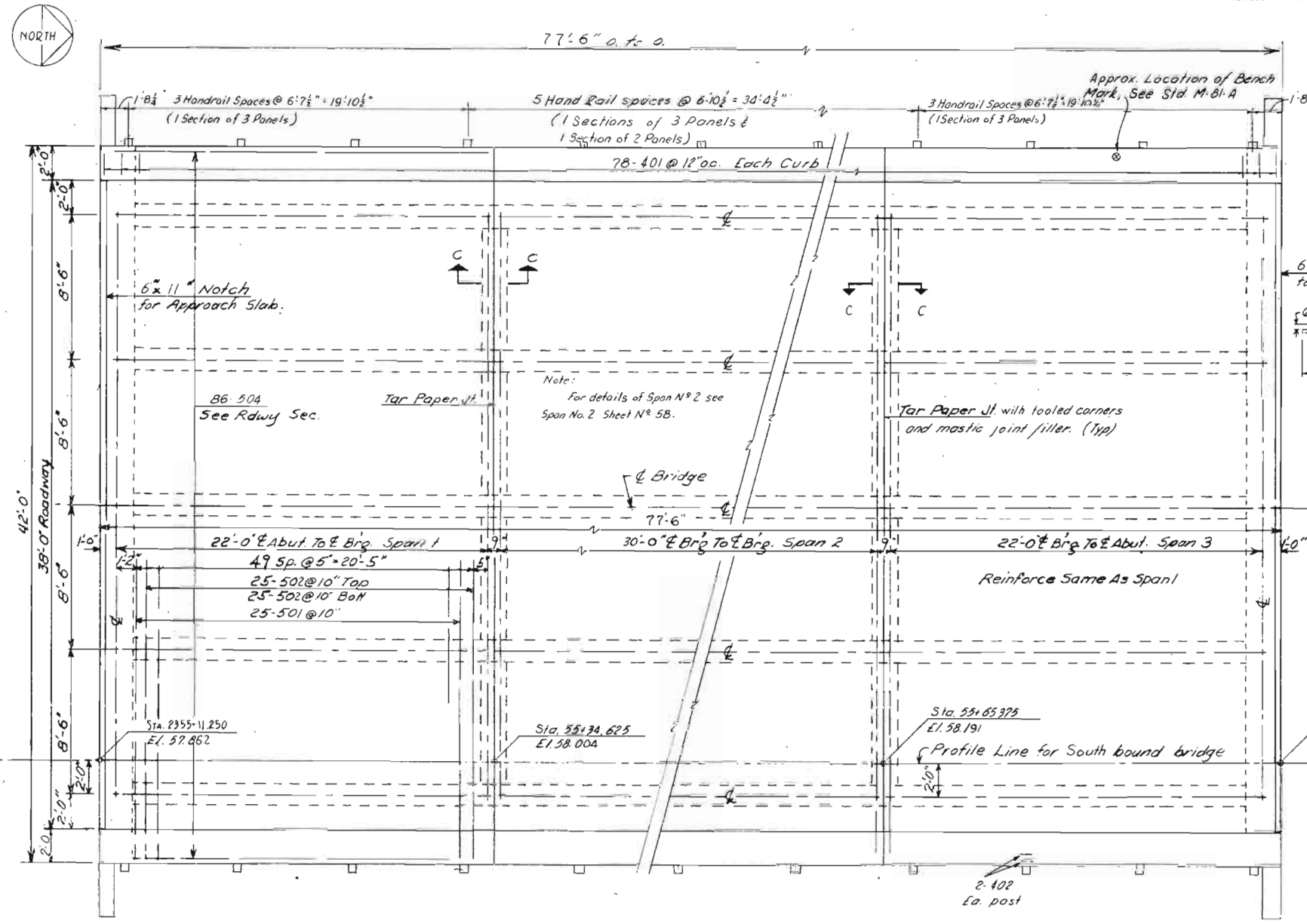
Designed by D. B. Taylor
Made by J.B. Bridge Engineer
Checked by Date: Sept. 16, 1963

DES. DEPT. OF HIGHWAYS
 DIV. 5 & 11
 L.S. 1968

Revised: Changed Span No. 2 from 22'-0" to 30'-0" - MARCH 19, 1968 R.R.A.

REVISIONS

RD. ROAD NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	125 3(35)258	55	



NOTE: Girder Shoring Shall Remain In Place Full Length In Any Span Until All Pours Have Reached A Min. Strength Of 2500 P.S.I. In That Span. The Slab Shall Not Be Poured Until The Girder Pours Have Reached A Min. Strength Of 2500 P.S.I. If Girder & Slab Are Poured Separately. Chamfer exposed corners 3/4" unless otherwise noted

Note: Stations and elevations are on Profile Line. Elevations are at finish grade.

COLORADO
 DEPARTMENT OF HIGHWAYS
 DETAILS OF SUPERSTRUCTURE

Across County Road
 Sta. 2355+11.250 to 2355+88.750
 Near Kelim Sec. 34 T. 01N R. 01W

Designed by WWD
 Checked by

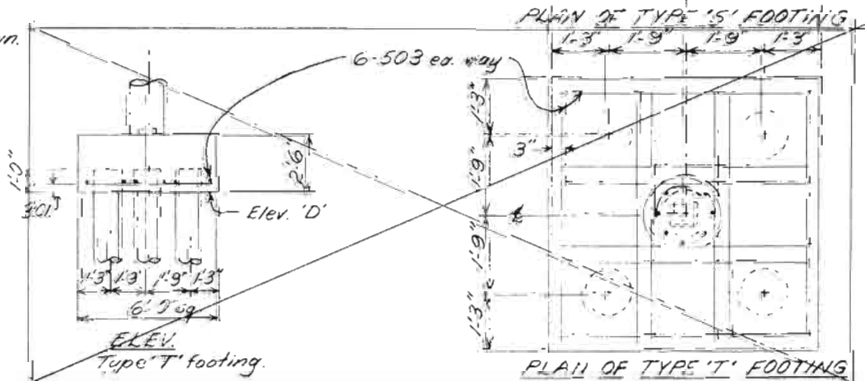
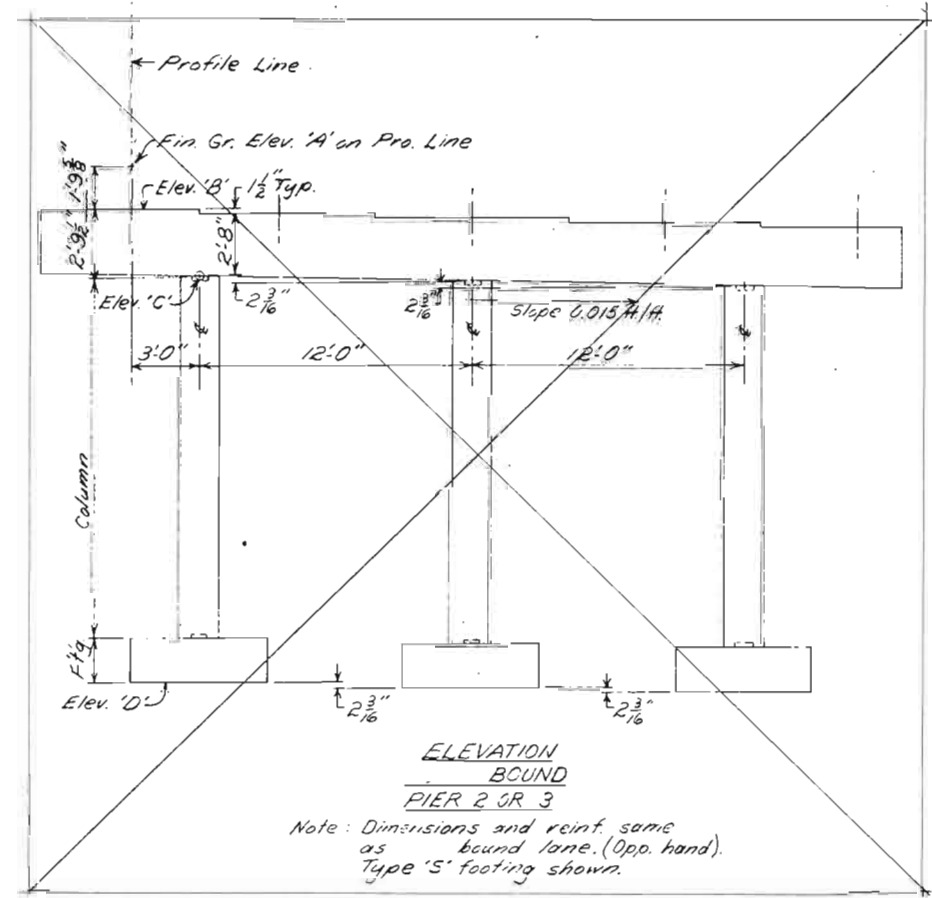
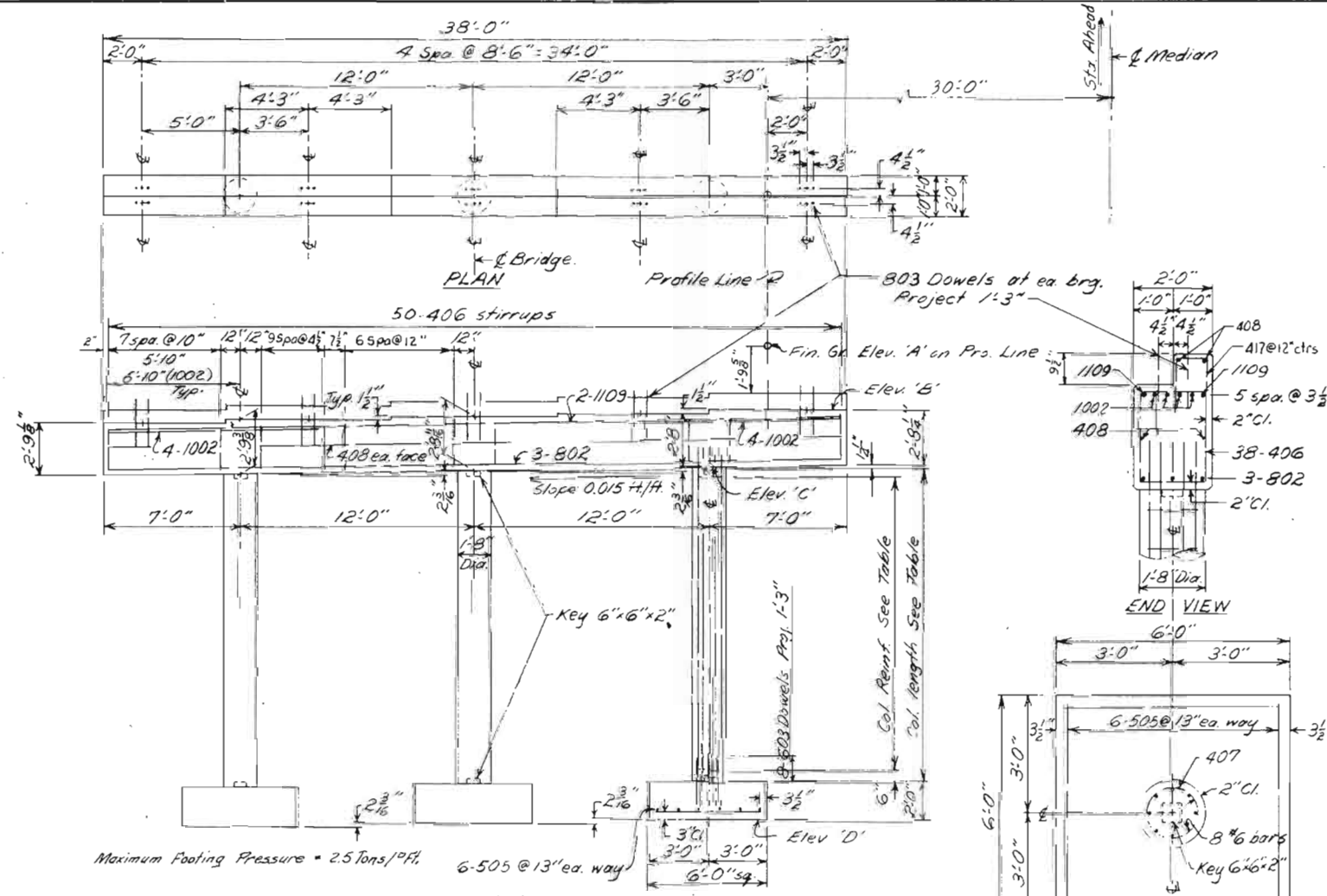
Approved by D. S. [Signature]
 Bridge Engineer
 Date: Sept. 16, 1968

STRUCTURE NO. G-17-E.T. So. Bound

REVISIONS

Revised: Stations, Elevs. & Added 9 1/2" Step - March 13, 1964 RRA

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	125-3(35)258	56	



STRUCTURE	PIER 2					PIER 3					Each Pier	
	Sta.	Elev. 'A'	Elev. 'B'	Elev. 'C'	Elev. 'D'	Sta.	Elev. 'A'	Elev. 'B'	Elev. 'C'	Elev. 'D'	Each Column	Each Footing
C-17-E1	2355+94.625	58.004	55.410	52.618	35.618	2355+65.375	58.191	55.597	52.805	35.805	15'-0"	8-604 15-407 6'-6" x 2'-0" 8-603 Type S

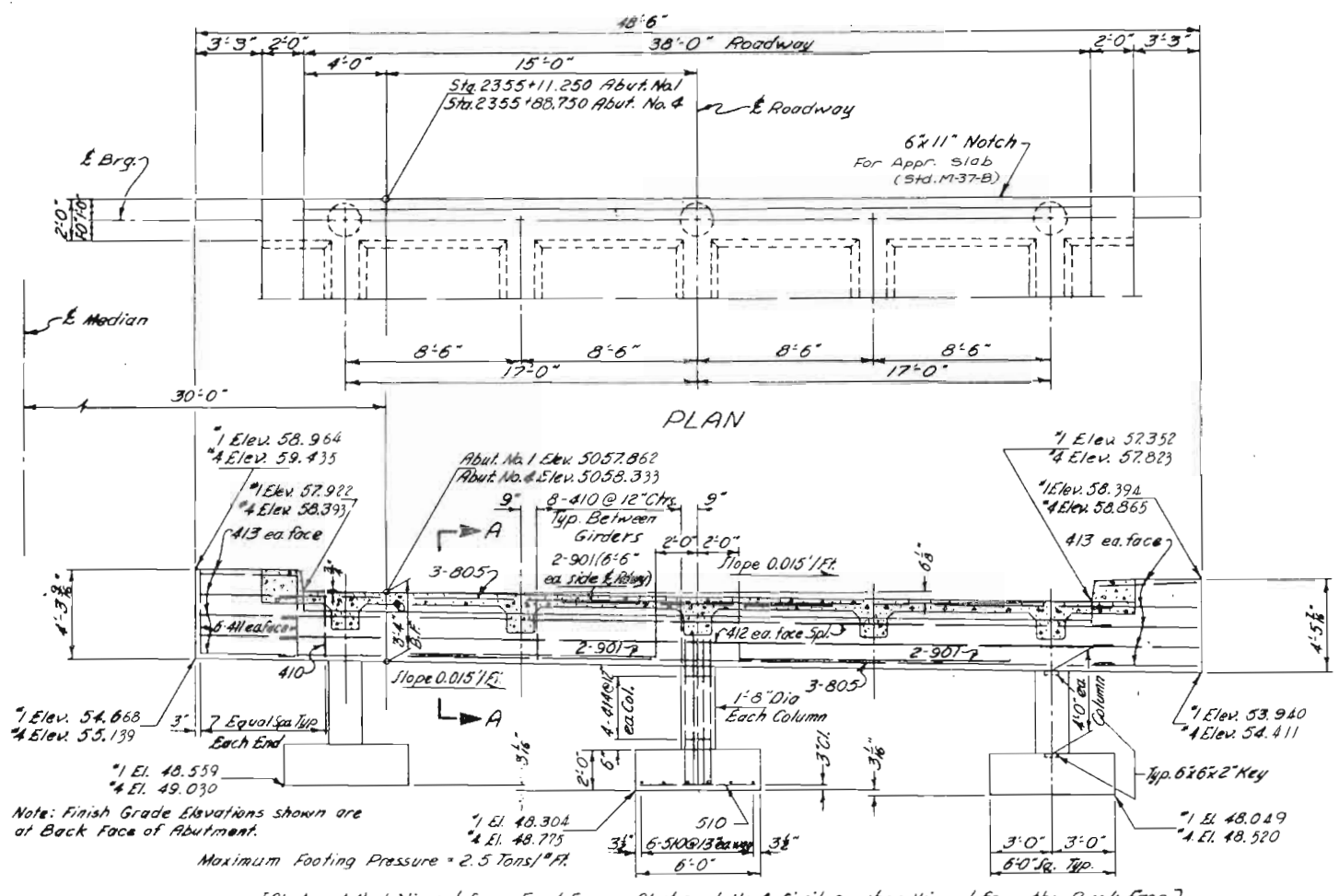
COLORADO
DEPARTMENT OF HIGHWAYS

PIER 2 AND 3

Across COUNTY ROAD
Sta. 2355+11.25 to 2355+08.25
Near KELLIP Sec. 24 T. 6N R. 6W

Designed by WWD Approved by [Signature]
Made by [Signature] Bridge Engineer
Checked by [Signature] Date: Sept. 16, 1963

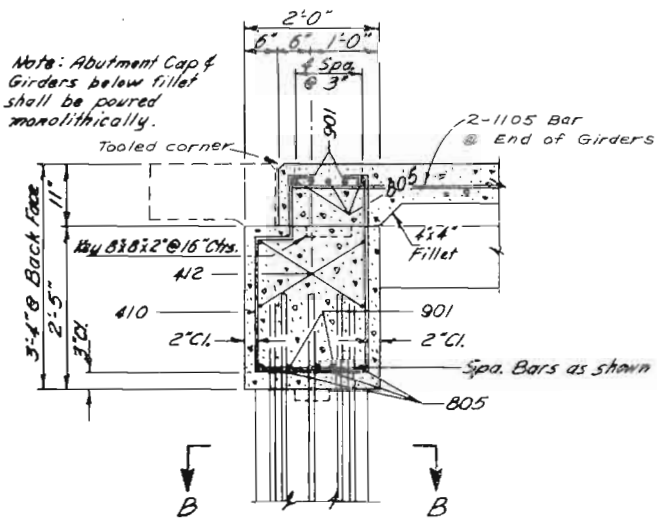
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9	COLO.	J25-3(35)25B	57	



Note: Finish Grade Elevations shown are at Back Face of Abutment.

Maximum Footing Pressure = 2.5 Tons/ft²

[Abutment No. 1 Viewed from Front Face - Abutment No. 4 Similar when Viewed from the Back Face.]



Note: Abutment Cap & Girders below fillet shall be poured monolithically.

COLORADO
DEPARTMENT OF HIGHWAYS

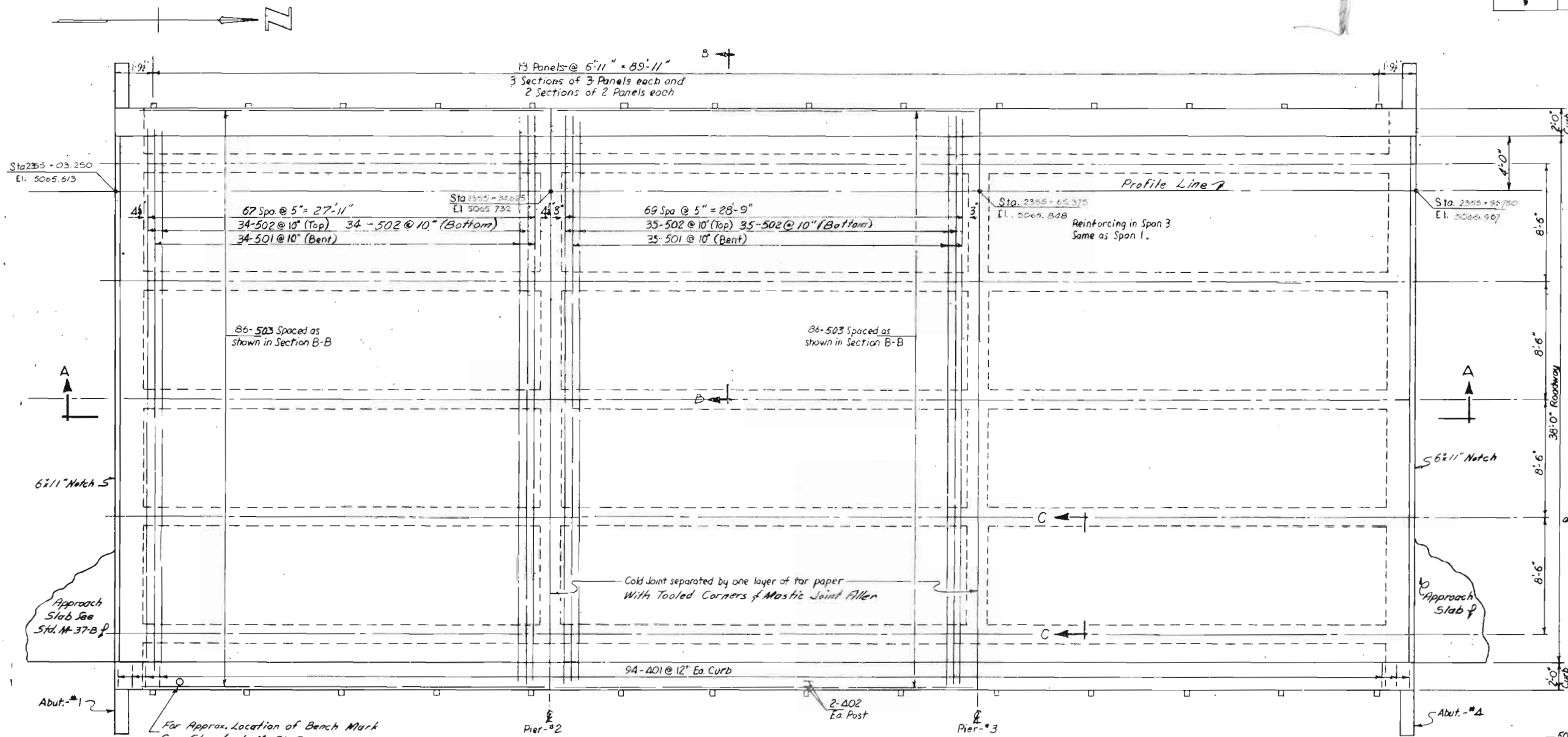
DETAILS OF ABUTMENTS
NO. 1 & NO. 4

Across County Road
Sta 2355+11.250 to 2355+88.750

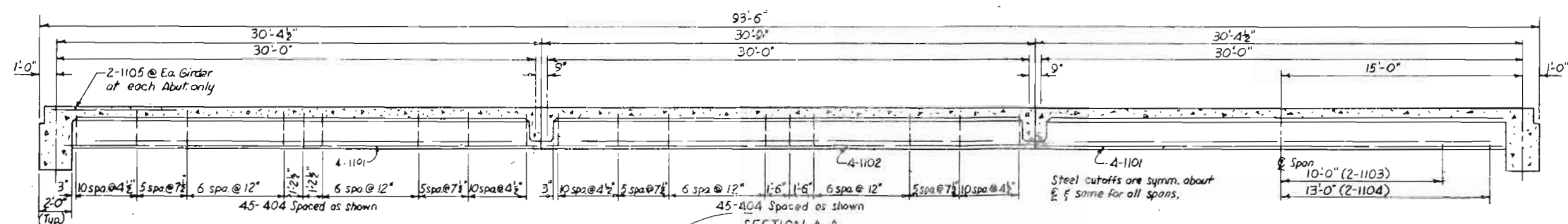
Near Kaliam Sec 36 T. 62 N. R. 60E

Designed by MWD Approved by _____
Made by MEP Bridge Engineer _____
Checked by _____ Date: Sept. 16, 1963

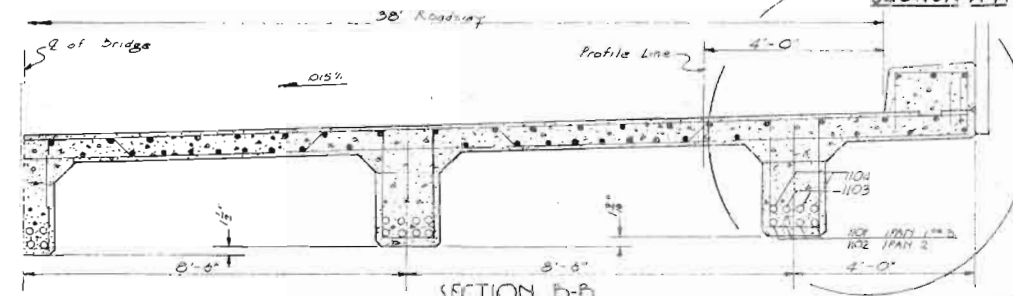
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1	As Shown			



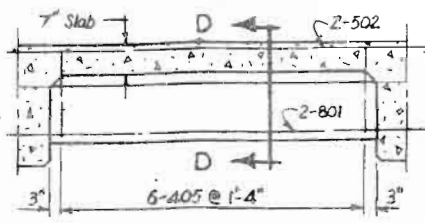
PLAN



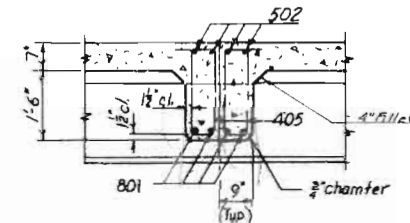
SECTION A-A



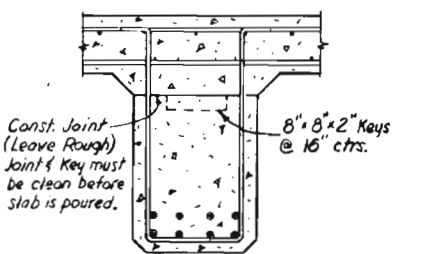
SECTION B-B



SECTION C-C
TYPICAL DIAPHRAGM



SECTION D-D

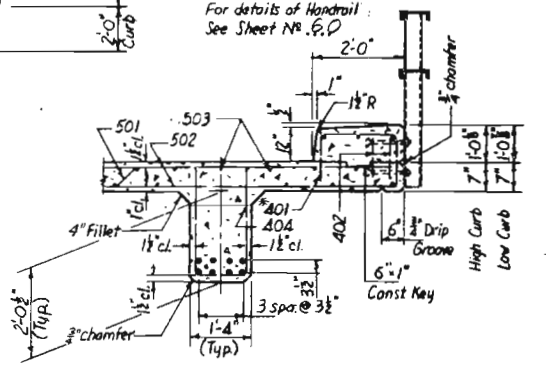


DETAIL FOR SLAB & GIRDER POUR

Note: Girder shoring shall remain in place full length in any span until all pours have reached a min. strength of 2500 psi in that span & the slab shall not be poured until the girder pours have reached a min. strength of 2500 psi.

*401 bars may be placed after the slab is poured, but before the initial set takes place.

For details of Handrail See Sheet No. 6-D

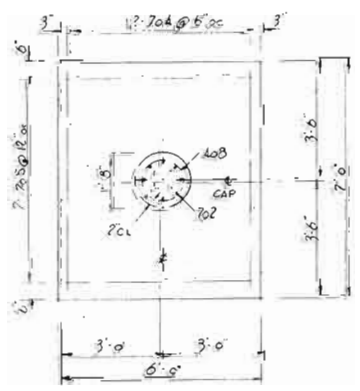
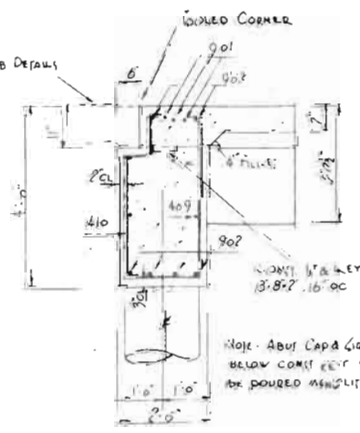
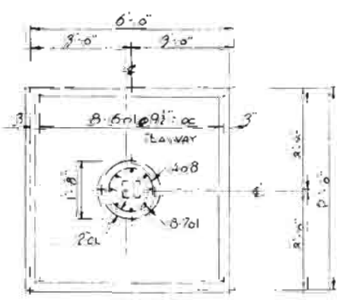
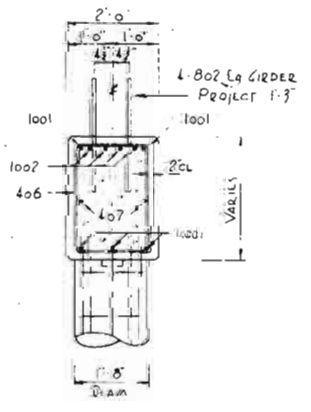
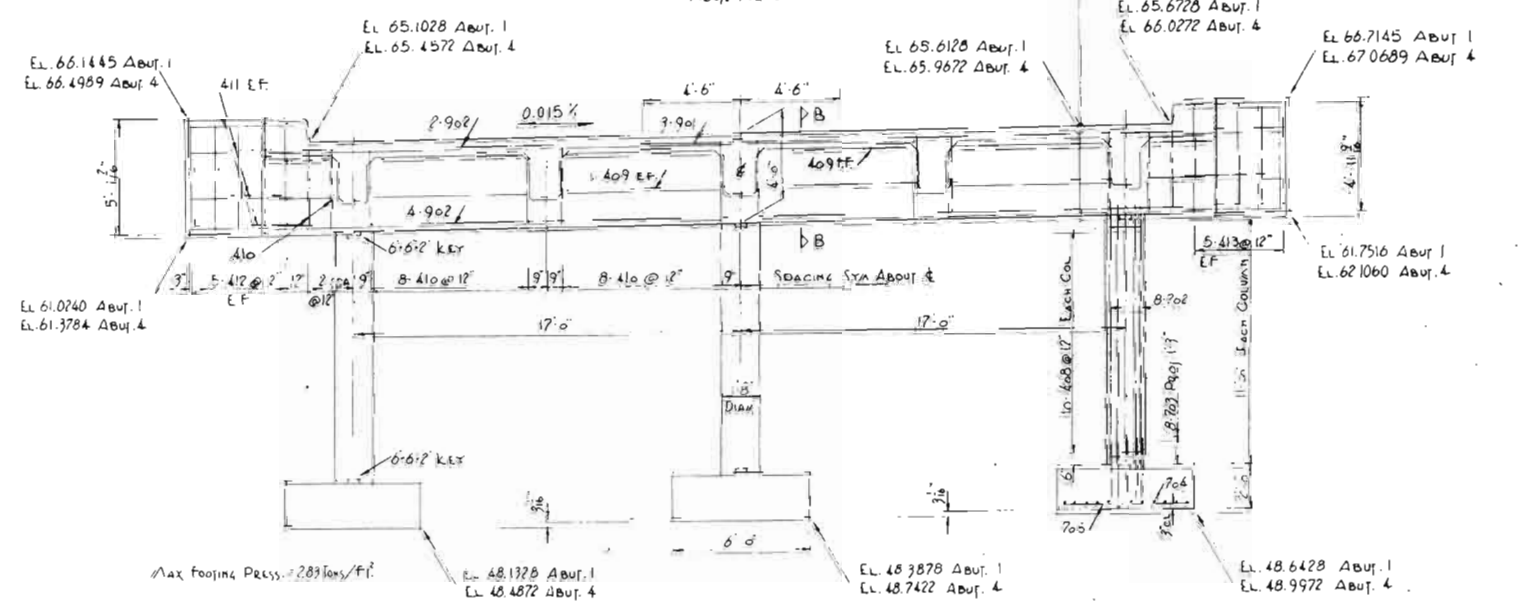
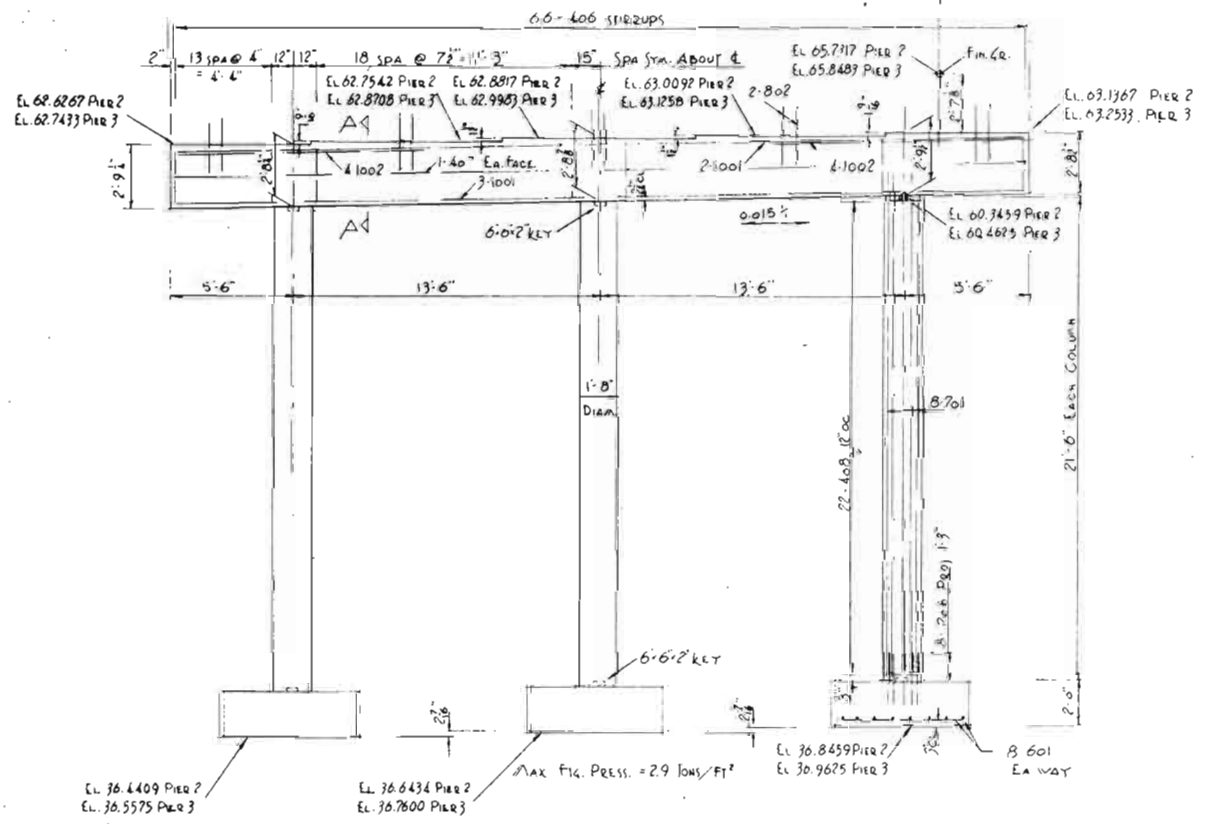
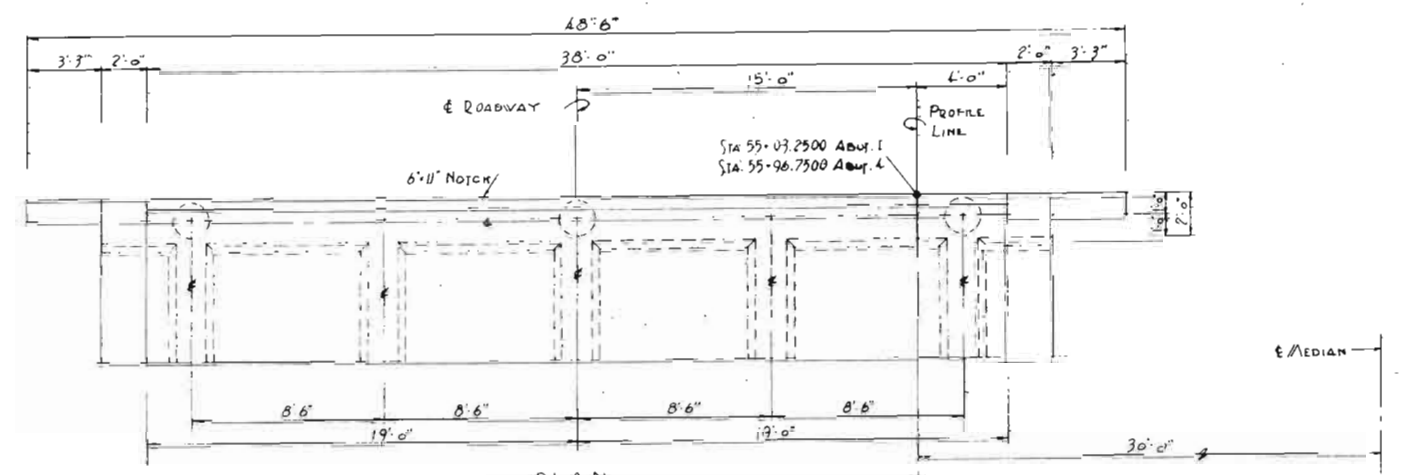
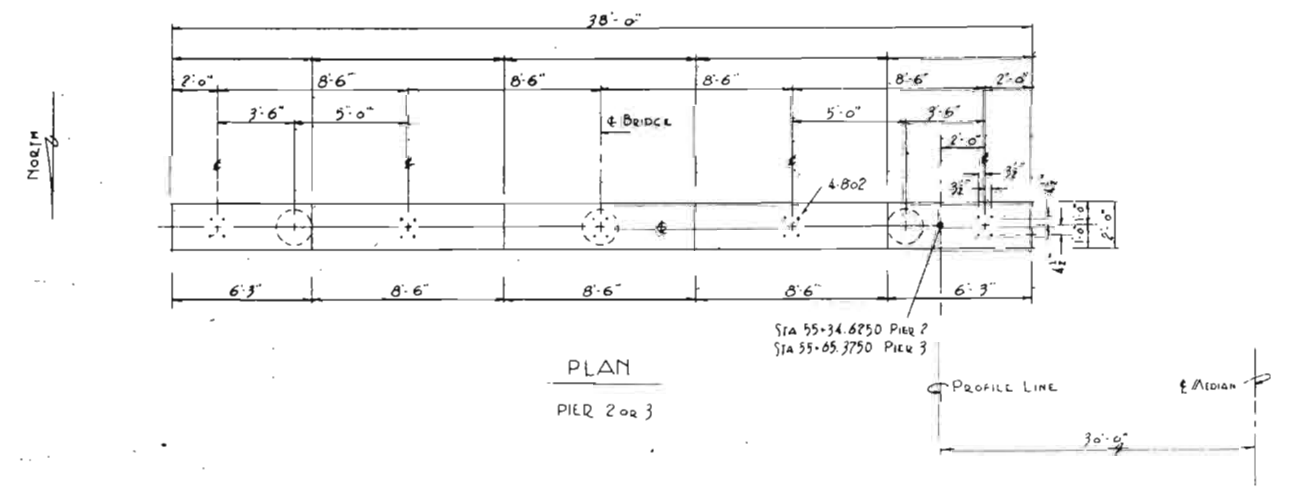


DETAIL E
TYPICAL

COLORADO DEPARTMENT OF HIGHWAYS
SUPERSTRUCTURE
PLAN & DETAILS
38 FT. ROADWAY
3 SPANS AT 30 FT.
 County Road
 Sta. 2355+03.250 to 2355+95.750
 Near KELTA Sec. 34 T. 8N R. 88W
 Designed by LHF Approved by A.M. [Signature]
 Made by LHF Checked by [Signature]
 Date: Sept. 16, 1963

REVISIONS

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	E 25-3(95) 250	59	



SECTION A-A

PLAN OF FOOTING

SECTION B-B

PLAN OF FOOTING

Note: Abut. 1 viewed from front face, Abut. 4 similar when viewed from back face.

COLORADO DEPARTMENT OF HIGHWAYS
ABUTMENTS
PIERS

Across COUNTY ROAD
 Sta. 2755+03.250 to 2755+96.750
 Near KELWA Sec. 34 T. 6N. R. 60W.

Designed by EFS
 Made by DCL
 Checked by

Approved by T. G. M. R. 60W.
 Bridge Engineer
 Date: Sept. 16, 1963

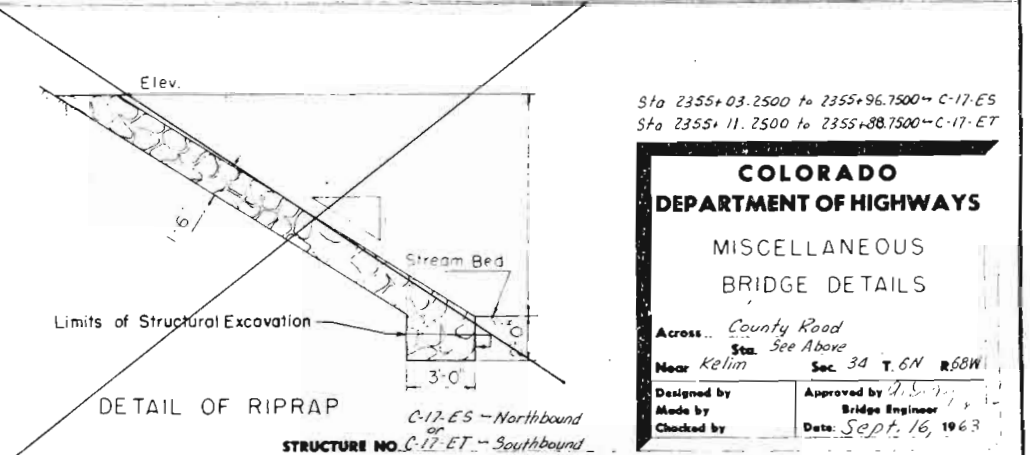
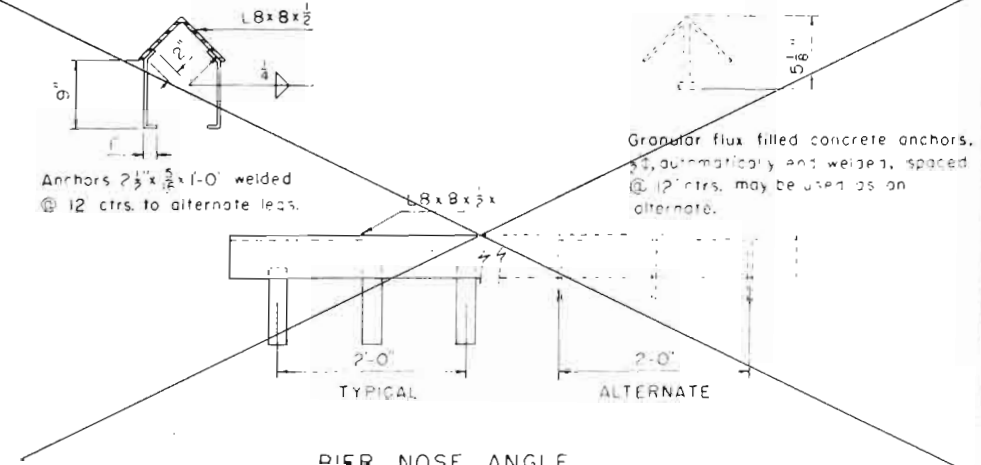
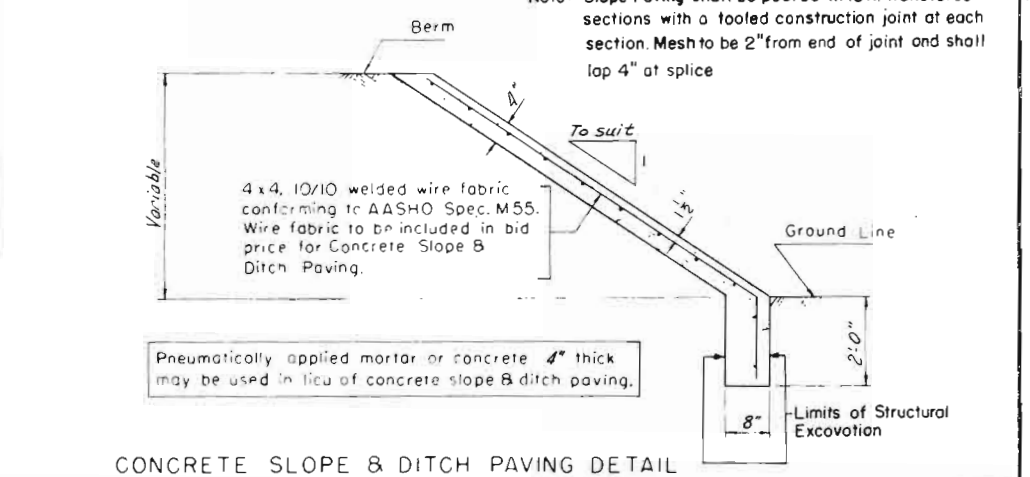
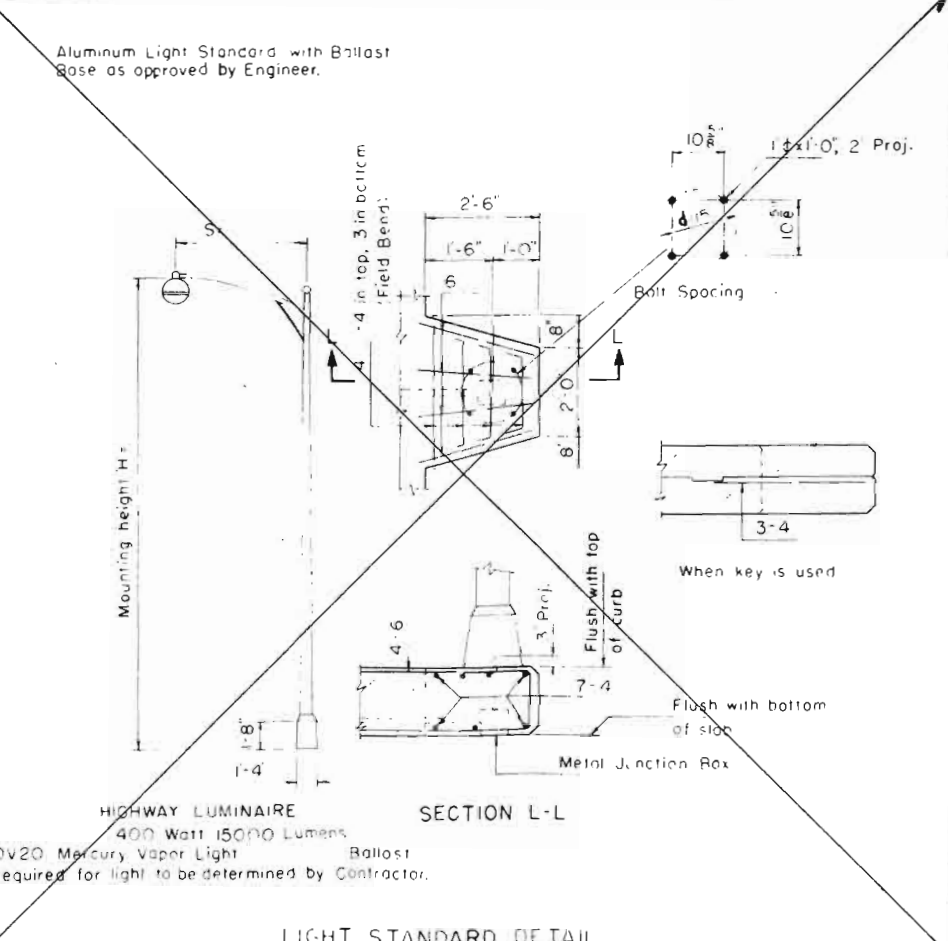
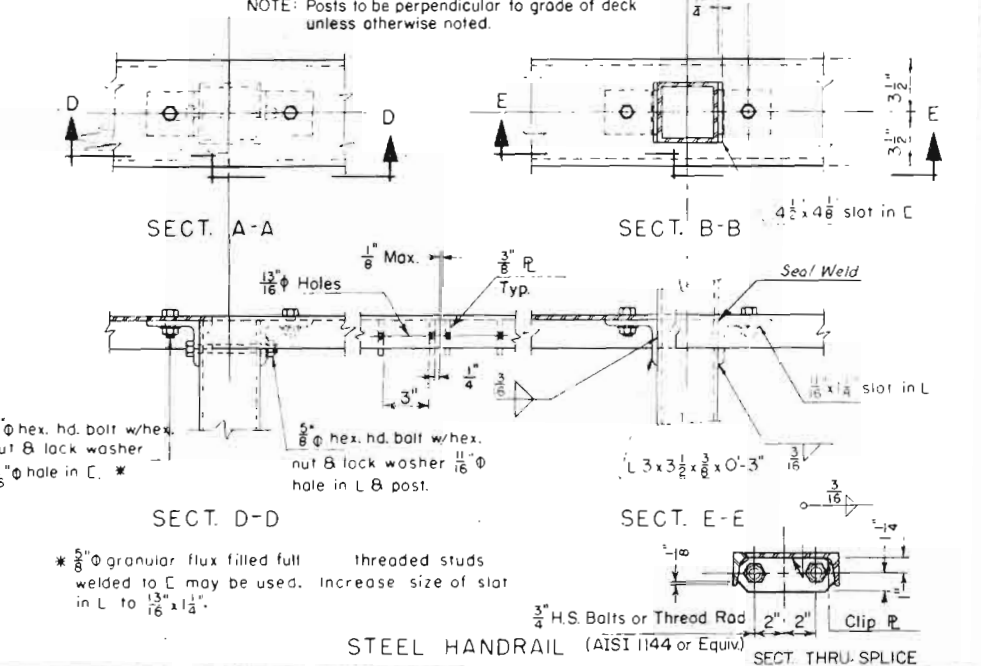
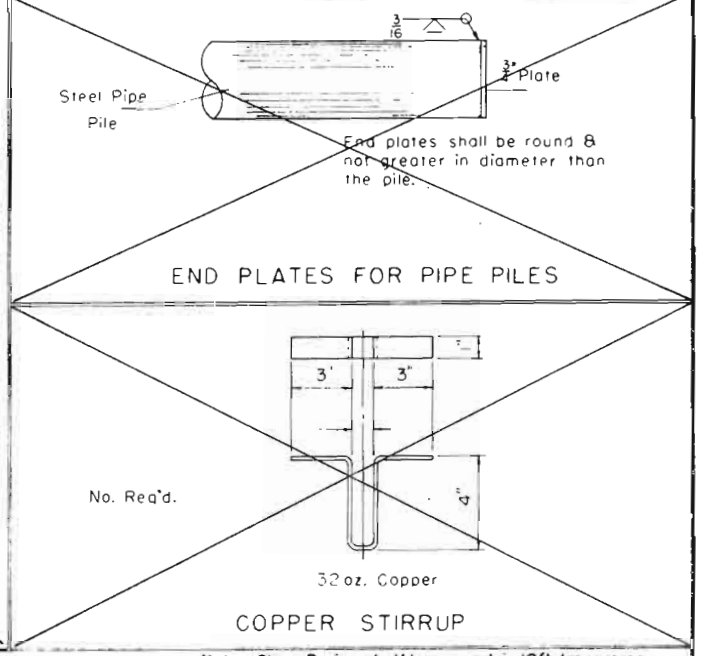
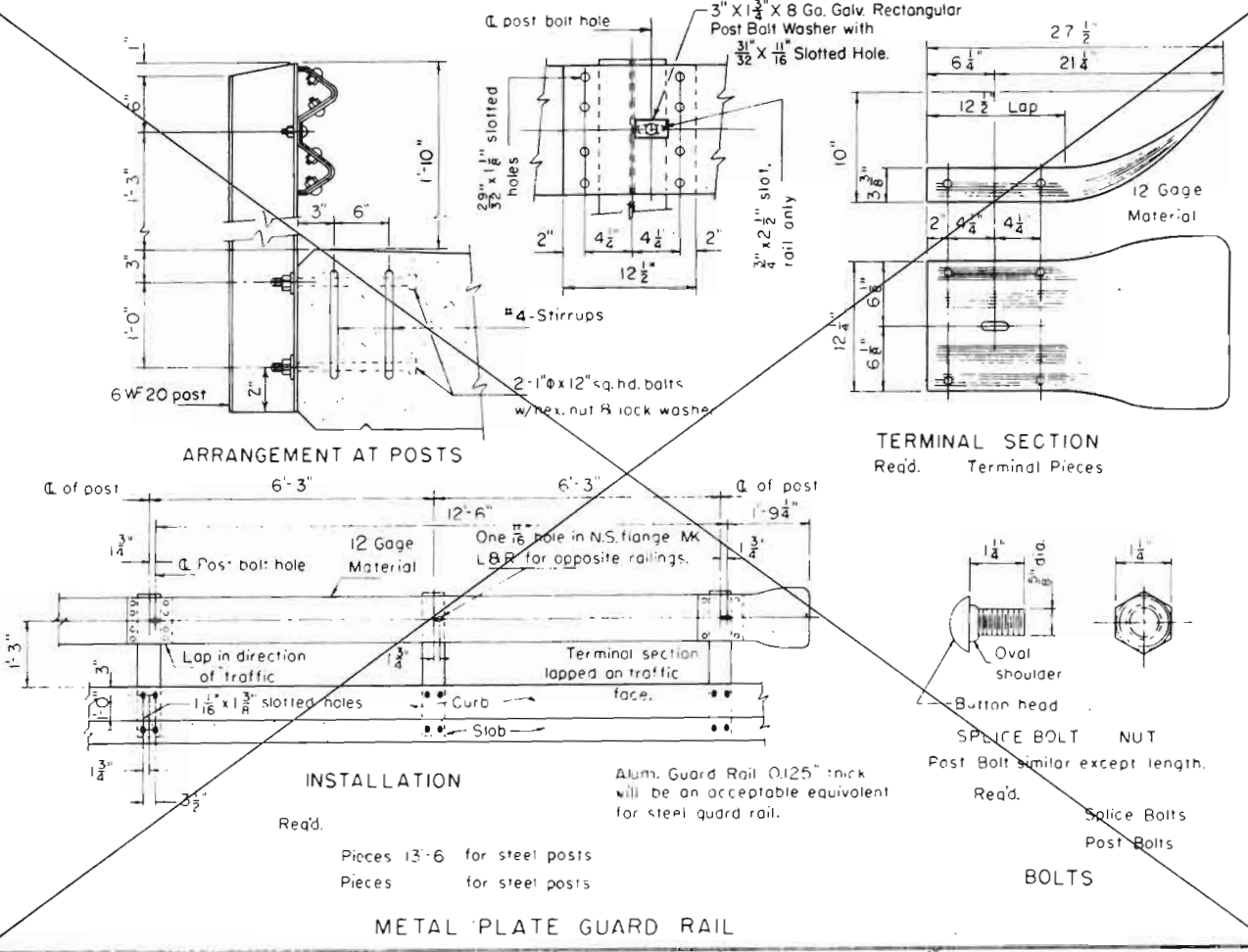
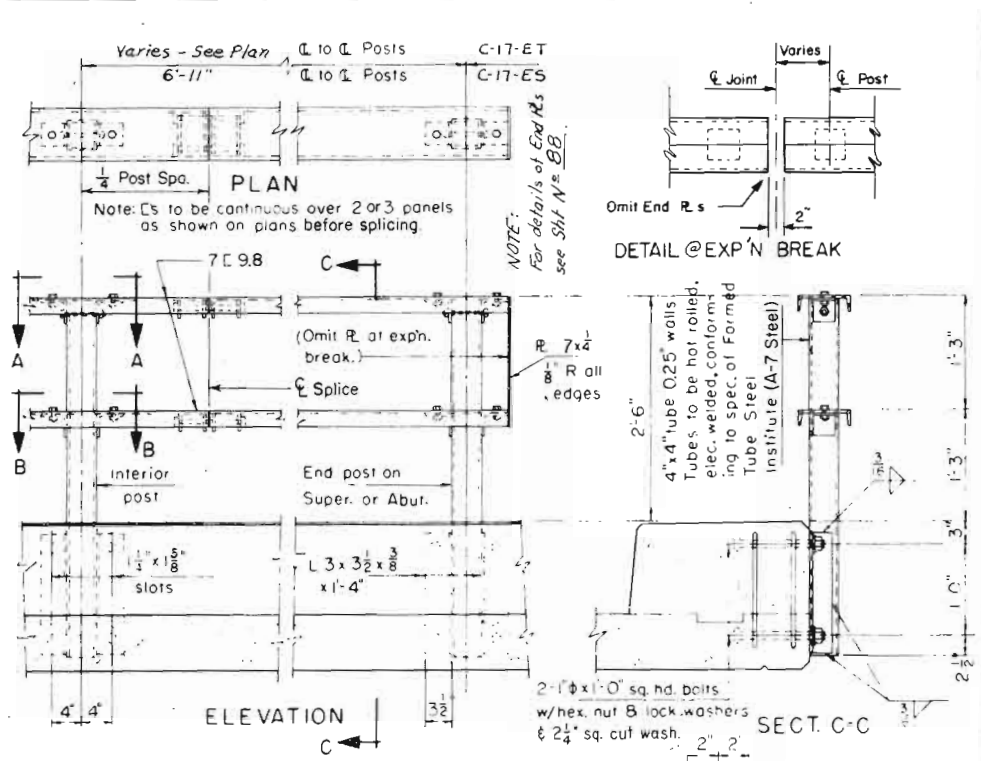
STRUCTURE NO. C-17-E.S

USE OF HIGHWAY
 1.2.2.2.2.2

REVISIONS

REV. ROAD REQ. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	125-3(35)258	60	

Rev. Handrail post spacing & Sta. for C-17-ET. 3-19-64 D.S.M.



Sta 2355+03.2500 to 2355+96.7500 - C-17-ES
 Sta 2355+11.2500 to 2355+88.7500 - C-17-ET

COLORADO DEPARTMENT OF HIGHWAYS
 MISCELLANEOUS BRIDGE DETAILS
 Across... County Road
 Sta. See Above
 Near Kelim Sec. 34 T. 6N R. 68W
 Designed by [Signature]
 Made by [Signature]
 Checked by [Signature]
 Approved by [Signature]
 Date: Sept. 16, 1963