



COLORADO
Department of
Transportation

DOCUMENT SEPARATOR SHEET

REGION 5 – JUNE 2017 CONVERSION

To be placed at the beginning of each separator sheet.



r500001657

Description:

ROW Plans 11X17

Route # and Mile Points:

SH 140

Originating Office:

ROW/Survey

File Name:

S 0097(3)_ROW(.PDF)

Box Location:

26 of 38

COLORADO DEPARTMENT OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. S 0097(3) STATE HIGHWAY NO. 140 LA PLATA COUNTY

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	S 0097(3)	1	

INDEX OF SHEETS

- SHEET NO. 1. TITLE PAGE, SKETCH MAP AND TABULATION OF LENGTH & DESIGN.
2. TYPICAL SECTION, GENERAL NOTES AND SUMMARY OF APPROXIMATE QUANTITIES.
3. SURFACING PLAN, SUB-BASE PLAN, FENCING REQUIREMENTS, R.O.W. MARKERS, TIMBER GUARD POST AND SKETCH MAP OF PIT LOCATION.
4. LIST OF STRUCTURE QUANTITIES.
5-11. DETAILS OF BRIDGE, STA. 265+ M-1-C
12. STANDARD METHODS FOR SUPERELEVATION & WIDENING OF CURVES M-2-EM
13. STANDARD SIDE APPROACH ROADS, FLARING, CUT SLOPE TREATMENT & WIDENING AT BRIDGES & AT CREST OF GRADES M-7-C
14. STANDARD MARKER POSTS AND BENCH MARKS M-10-B
15. STANDARD LETTER & FIGURES FOR YEAR NUMBERS & STRUCTURE NUMBERS M-19-D
16. STANDARD TIMBER GUARD POSTS M-21-C
17. STANDARD METAL PLATE GUARD FENCE (BEAM TYPE) M-27-C
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21. STANDARD HEADWALLS AND APRONS FOR C.M.P. CULVERTS M-107-C
22. STANDARD TYPES OF DITCHES AND CONSTRUCTION METHODS
23-25. ALIGNMENT PLAN AND PROFILE
26. SUMMARY OF EARTHWORK QUANTITIES
27-49. CROSS SECTIONS

SCALES OF ORIGINAL DRAWINGS

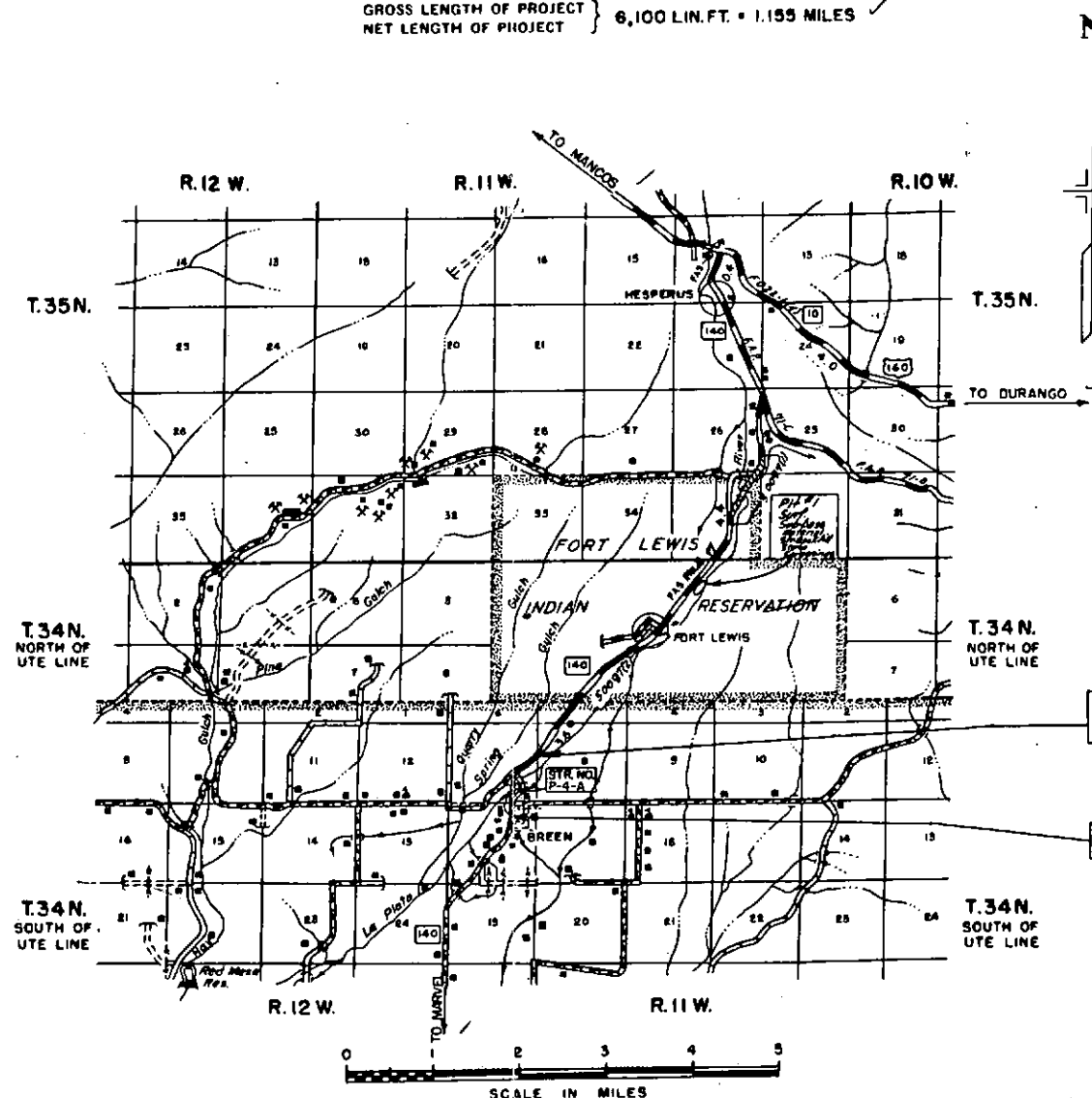
ON PLAN, 1 IN. = 100 FT.
ON PROFILE, 1 IN. = 100 FT. HORIZONTAL
1 IN. = 10 FT. VERTICAL
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
GROSS LENGTH OF PROJECT } 6,100 LIN. FT. = 1.155 MILES
NET LENGTH OF PROJECT }

CONVENTIONAL SIGNS

CENTER LINE
RIGHT OF WAY LINE
TOWNSHIP OR RANGE LINE
LAND LINES
BARBED WIRE FENCE
COMBINATION WIRE FENCE
TELEPHONE & TELEGRAPH LINES
POWER LINE
PRESENT ROAD (Plan Sheets)

TABULATION OF LENGTH AND DESIGN

STATION	ROADWAY LIN. FT.	BRIDGE LIN. FT.	LOADING
229+00 Begin S0097(3) End S0097(2)	3,628.0		
265+28.0 Bridge		107.7	H20-44
266+35.7	2,364.3		
290+00 End S0097(3)			
TOTALS	5,992.3	107.7	
SUMMARY			
	LIN. FT.	MILES	
ROADWAY	5992.3	1.135	
BRIDGE	107.7	0.020	
TOTAL (Net & Gross Length)	6,100.0	1.155	
DESIGN DATA			
Maximum Degree of Curve	4°00'		
Maximum Grade	2.75%		
Minimum N.P.S.D. Horizontal	535'		
Minimum N.P.S.D. Vertical	625'		
Maximum Design Speed	50 M.P.H.		



STA. 229+00 BEGIN S 0097(3)
END S 0097(2)

STA. 290+00 END S 0097(3)

NOTICE TO BIDDERS

IT IS RECOMMENDED THAT BIDDERS ON THIS PROJECT GO OVER THE PLAN DETAILS WITH ONE OF THE FOLLOWING FIELD REPRESENTATIVES OF THIS DEPARTMENT:
G.F. MCNICHOLAS, CONST. ENGINEER, DURANGO, COLORADO.
J.L. HUTCHINSON, RESIDENT ENGINEER
HOME PHONE CHARTER 7-3792
DURANGO, COLORADO

COLORADO
DEPARTMENT OF HIGHWAYS

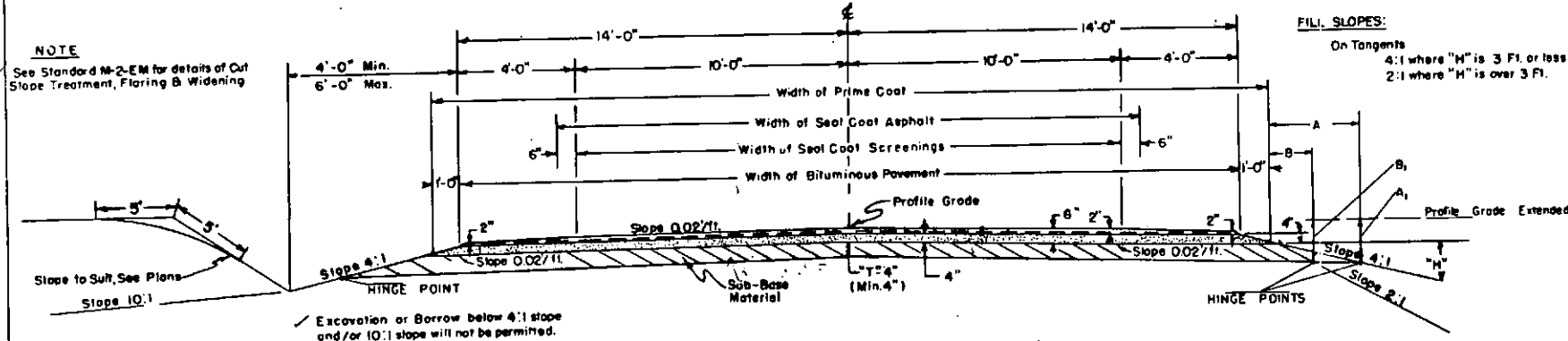
APPROVED: *Mark C. Watkins* 8-20-57
CHIEF ENGINEER DATE

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED: _____ DATE _____
DIVISION ENGINEER

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	\$ 0097(3)	2	

TYPICAL CROSS SECTION OF IMPROVEMENT



The depth and width of the side ditch shall be varied where necessary to provide proper drainage and/or entrance to drainage structures.

Material above the subgrade is to be constructed of Sub-base Material of locations designated in Sub-base material tabulation. Estimated quantities involved in this operation and thickness of material required are tabulated in the Sub-base Material plan.

Approximate 6" compacted thickness of Gravel or Crushed Rock Surfacing shall be placed in separate courses at the following rates per 100 lin. ft. of roadway.

Top Course 31 tons
Base Course 65 tons

TABULATION OF HINGE POINTS

Sub-base Thickness	Design Thickness	Y-A (Min. 4")	Slope 4:1	Slope 2:1
Inches	Feet	A	B	C
6"	.33	3.9'	1.8'	1.7'
10"	.50			

GENERAL NOTES

This project is to be constructed in conformity with Standard Specifications of the Colorado Department of Highways, adopted June 1, 1952.

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 intersecting ditches are tabulated in Summary of Earthwork Quantities Tabulation.

It is estimated that old road is to be obliterated at the following locations:

- Sta. 234+00 to Sta. 242+00
- Sta. 247+00 to Sta. 249+00
- Sta. 261+00 to Sta. 271+50

For preliminary plan quantities of Asphaltic Road Materials and Stone Screenings, the following rates were used:

PRIME COAT - MC @ 0.40 Gals. per Sq. Yd.
PROCESS (Fortified) - MC @ 0.63 Gals. per Sq. Yd. per inch
SEAL COAT - RC @ 0.20 Gals. per Sq. Yd.
STONE SCREENINGS - Type 2 @ 21 Lbs. per Sq. Yd.

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

All side approach roads to the project designated by the Engineer shall be primed and Asphaltic Processed to approximately 50 feet out from edge of the Asphaltic Surfacing or to the Right of Way Line, whichever is less.

It is estimated that rolling of the Asphaltic Surfacing with Flat Wheeled Roller (Tandem) will be necessary after any rolling with Rubber Tired Rollers in order to provide a firm smooth surface.

At Bridge Approaches, the Asphaltic Surfacing shall be widened to meet the curved width of the bridge and shall take place gradually over a distance of 300 ft. each way from the bridge ends. The Prime Coat and Seal Coat shall be widened beyond that as indicated on Typical Section.

SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	ITEM	UNIT	ROADWAY	BRIDGE	TOTAL
10a	Clearing and Grubbing Entire Project	Lump Sum	.	.	.
11a	Removal of 5 Structures	Lump Sum	.	.	.
11c	Removal of Bridge, Sta. 263+	Lump Sum	.	.	.
12a	Removing Fence	Lin. Ft.	5900		5900
13c	Unclassified Excavation	Cu. Yd.	55,300	2700	58,000
13d	Unclassified Ditch Excavation	Cu. Yd.	700		700
13s	Stripping	Cu. Yd.	1500		1500
14e	Unclassified Structural Excavation	Cu. Yd.	250		250
14f	Rock Excavation (Str.)	Cu. Yd.		47	47
14g	Common Excavation (Str.)	Cu. Yd.	375	101	476
16a	Structure Backfill (Class I)	Cu. Yd.	55	35	90
16c	Mechanical Tamping	Hour			
17c	Rolling with Flat Wheeled Roller (Tandem)	Hour	10		10
17d	Rolling with Flat Wheeled Roller (Three (3) Wheel)	Hour	10		10
17e	Rolling with Rubber Tired Roller (One (1) Unit)	Hour	60		60
17f	Rolling with Rubber Tired Roller (Two (2) Unit)	Hour	10		10
17h	Furnishing Flat Wheeled Roller (Tandem)	Each	1		1
17i	Furnishing Flat Wheeled Roller (Three (3) Wheel)	Each	1		1
17j	Furnishing Rubber Tired Roller (One (1) Unit)	Each	1		1
17k	Furnishing Rubber Tired Roller (Two (2) Unit)	Each	1		1
17l	Wetting	M. Gal.	1840		1840
17m	Compaction	Cu. Yd.	63,000		63,000
18a	Station Yard Overhaul	Sta. Yd.	191,000	1,000	192,000
18b	Yard Mile Overhaul	Yd. Mi.	1710	290	2,000
18c	Ton Mile Overhaul	Ton Mile	75,300		75,300
23b	Sub-Base Material (Class 2)	Ton	11,500		11,500
26c	Gravel or Crushed Rock Surfacing (Grading C)	Ton	6600		6600
30x	Asphaltic Road Material MC (Prime)	Gal.	9000		9000
30yf	Asphaltic Road Material RC (Seal) (Fortified)	Gal.	3200		3200
30zf	Asphaltic Road Material MC (Process) (Fortified)	Gal.	24,000		24,000
31a	Road Mix Asphaltic Processing	Sq. Yd.	20,170		20,170
34d	Stone Screenings (Type 2)	Ton	160		160
42b	Treated Bridge Timber	M. ft. bm.		0.30	0.30
46a	Class "A" Concrete	Cu. Yd.		137	137
47	Reinforcing Steel	Lb.		20,700	20,700
48	Structural Steel	Lb.		46,600	46,600
53b	18" Corrugated Metal Culvert Pipe	Lin. Ft.	200		200
53c	24" Corrugated Metal Culvert Pipe	Lin. Ft.	130		130
67b	Heavy Riprap	Cu. Yd.	370		370
75c	Metal Plate Guard Fence (Beam Type)	Lin. Ft.		50	50
75cx	Metal Plate Guard Rail (Beam Type)	Lin. Ft.		210	210
76f	Combination Wire Fence with Metal Posts	Lin. Ft.	12,000		12,000
76h	Driveway Gates	Each	5		5
76i	Walk Gates	Each	1		1
80c	Sheet Copper (32oz.)	Lb.		7	7
81b	Right of Way Markers	Each	12		12
89a	Drain Pipe (Concrete Floor) (4" x 1'-6")	Each		6	6
92	Timber Guard Posts	Each	28		28
95xc	Metal Aprons for 29" x 18" Corrugated Metal Pipe Arch Culverts	Each	6		6
95xg	Metal Aprons for 36" x 36" Corrugated Metal Pipe Arch Culverts	Each	6		6
95xi	Metal Aprons for 72" x 44" Corrugated Metal Pipe Arch Culverts	Each	2		2
134c	29" x 18" Corrugated Metal Pipe Arch Culverts	Lin. Ft.	210		210
134g	36" x 36" Corrugated Metal Pipe Arch Culverts	Lin. Ft.	194		194
134i	72" x 44" Corrugated Metal Pipe Arch Culverts	Lin. Ft.	96		96
20a	Obliterating Old Road	Lump Sum	.	.	.
81a	Project Markers	Each	1		1

SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	ITEM	UNIT	ROADWAY	BRIDGE	TOTAL
	NON FEDERAL AID				
	WORK BY STATE FORCES				
	Signing and Striping Entire Project	Lump Sum	.	.	.
	FORCE ACCOUNT				
	Relocate Power Line (Work by Western Colo. Power Co.)	Lump Sum	.	.	.
	RIGHT OF WAY				
	Right of Way Entire Project	Lump Sum	.	.	.

JUL 27 1962

FENCING REQUIREMENTS

STATION	SIDE	REMOVE FENCE LIN. FT.	BUILD FENCE		GATES	
			LIN. FT.	COMB WIRE	EACH DRIVE WAY	WALK
241+70 to 247+40 261+50 262+35	Lt. X X	565 165 210				
270+50 to 272+83 275+50 to 279+45 281+50 to 294+30	Lt. Lt. Lt.	240 425 1300				
234+65 to 241+70 242+15 to 245+50 247+40 to 250+50	Rt. Rt. Rt.	710 335 310				
273+00 to 275+00 276+95 to 289+79 294+10 to 295+40	Rt. Rt. Rt.	200 1290 145				
234+15 to 265+20	Lt.			3050		
265+75 to 279+45 281+50 to 294+30 293+20 to 265+20	Lt. Lt. Rt.			1375 1280 3280		
265+70 to 295+40 262+10	Rt. Lt.			3000		/
262+30 286+00	Lt. Lt.					/
274+00 282+60 285+25	Rt. Rt. Rt.					/
TOTALS		5895		11,985	5	1

R.O.W. MARKERS

STATION	SIDE	NO.
230+61 TS	Lt. & Rt.	2
240+28 ST	Lt. & Rt.	2
243+74 TS	Lt. & Rt.	2
261+05 ST	Lt. & Rt.	2
276+23 TS	Lt. & Rt.	2
286+73 ST	Lt. & Rt.	2
TOTAL		12

It is estimated that material for sub-base and surfacing for the project is available in the vicinity of the pit indicated in the following tabulations. Estimated quantities involved in these operations are shown below.

Alteration of the Sub-base material and Surfacing plans as have outlined will be allowed only on written permission from the Department.

SUB-BASE PLAN

MATERIAL TO BE PLACED	SOURCE	QUANTITY & THICKNESS			OVERHAUL TON MILES
		AVAILABLE	INCHES	CLASS I TONS	
229+00 to 265+28 Bridge			10	6277	24,531
266+35.7 to 267+00			10	112	480
267+00 to 281+00	Pit No. 1	13,000	8	1834	8,101
281+00 to 290+00	R-80	Cu. Yds	10	1557	7,217
Estimated for: Appr. to Project Correcting Irregularities			10	720 978	3,428 4,033
TOTAL				11,478	47,790

/ Based on Curve "X"

SURFACING PLAN

MATERIAL TO BE PLACED	SOURCE AVAILABLE	QUANTITY		OVERHAUL	
		TONS USED GRADING C		TON MILES	
		BOTTOM COURSE	TOP COURSE	BOTTOM COURSE	TOP COURSE
229+00 to 265+28.0 Bridge	Pit No. 1	2395	1052	9360	4112
266+35.7 to 290+00	R-80 13,000 Cu. Yds	1561	686	7019	3085
Estimated for: Road Approaches Appr. to Project		398 330	145	1649 1573	692
TOTAL		4,684	1,883	19,601	7,889

Rev. 10-25-57, M.R.H. - Stripping

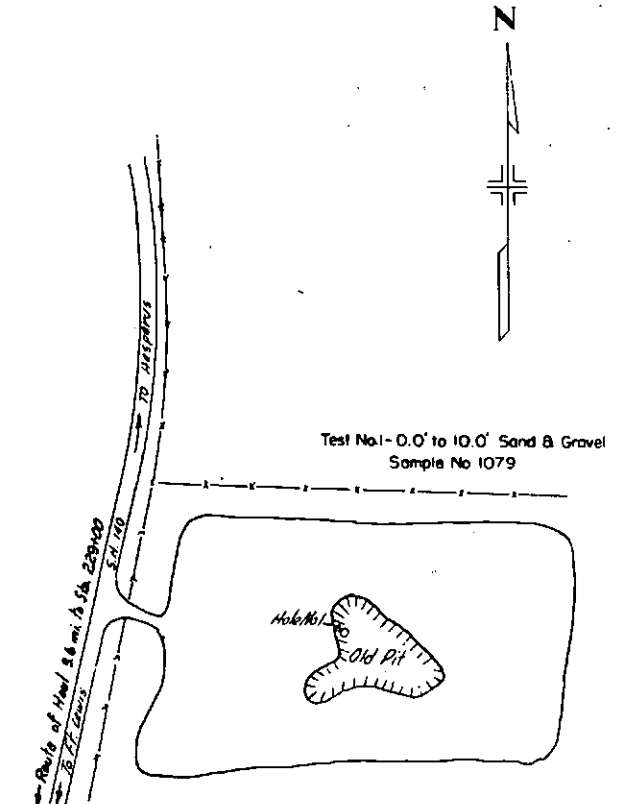
FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	S 0097(3)	3	

TIMBER GUARD POSTS

STATION	SIDE	SPACING	NO
238+00	Lt. & Rt.	Culvert	2
251+00	Lt. & Rt.	Culvert	2
261+00	Lt. & Rt.	Culvert	2
265+	Lt. & Rt.	Bridge	20
275+00	Lt. & Rt.	Culvert	2
TOTAL			28

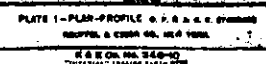
PIT NO. 1

SURFACING, STRUCTURE BACKFILL & SUB-BASE MAT'L
LOCATION: Ft. Lewis Indian Reservation, T.34N., N.14W.
OWNER: Ft. Lewis A.B.M. College
AVAILABLE: 13,000 Cu. Yds.
HAUL: 3.6 miles to Sta. 229+00
ESTIMATED STRIPPING 1500 Cu. Yds.



Soil data shown on the plans is obtained from best available testing laboratory information. This information is shown for convenience of the Contractor and 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.

PLAN	BLURRED	BY	DATE
NOTE BOOK	PLOTTED	JA. HIRSH:	2-17-72
no. 1000	ALIGNMENT CHECKED		
	PT. OF WAY CHECKED		

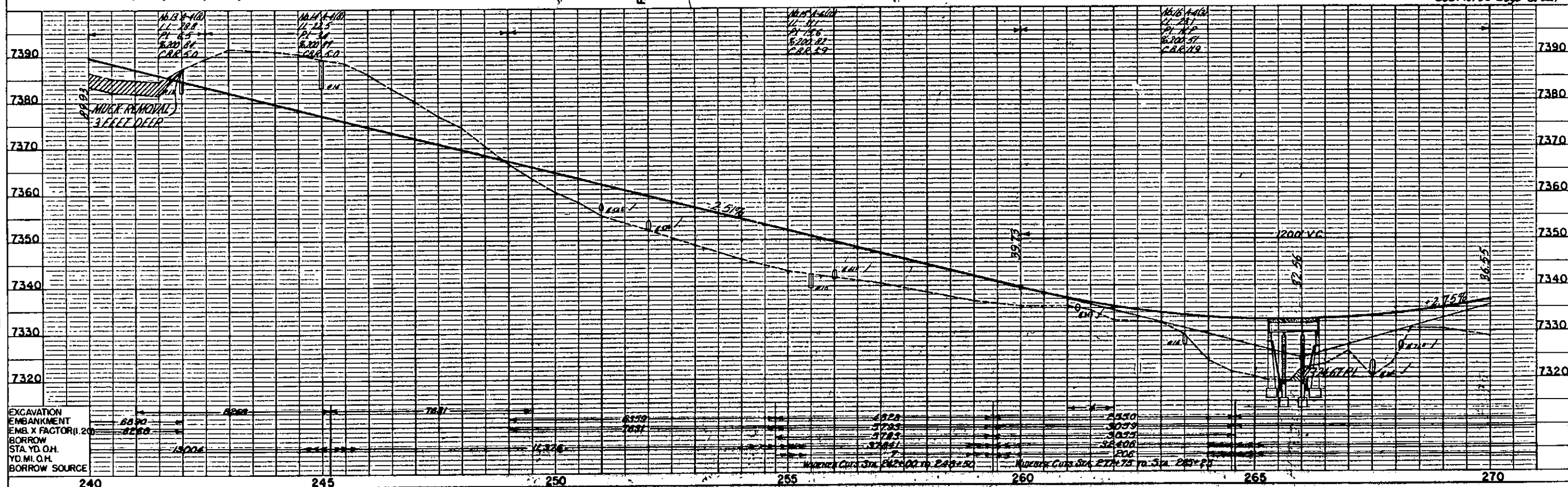


JUL 27 1957
 COLORADO DEPARTMENT OF HIGHWAYS
 DIST. NO. 9
 PROJ. NO. S 0097(3)
 SHEET NO. 24
 TOTAL SHEETS

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NE 1/4 Sec. 7, T34N, R11W, S14.

PROFILES	PLAN	NOTES
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FED. ROAD DIST. NO.	DIST.	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	S 0097(3)	24	

Rev. 10-22-57, M.R.N. - Rip Rep

Clearing & Grubbing
 Sta. 242+00 to 250+00
 Heavy Oak Brush
 Sta. 263+00 to 268+00
 Heavy Cottonwood Trees
 Sta. 268+00 to 274+00
 Scatter Sage Brush

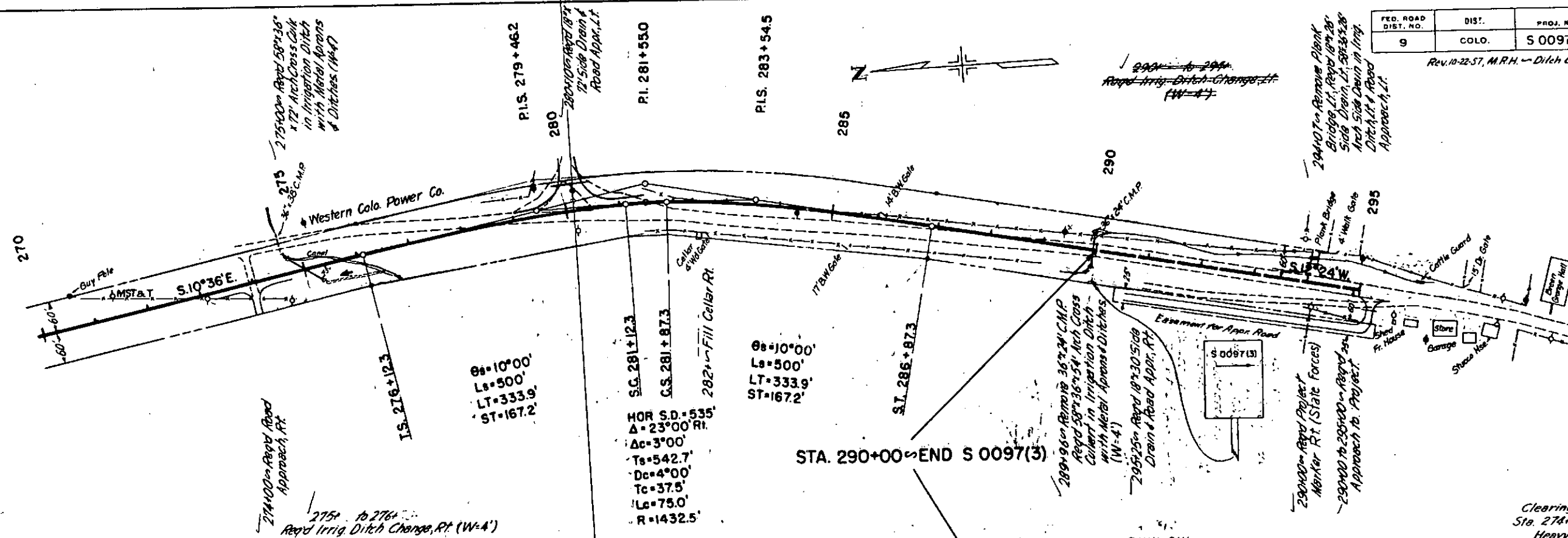
MICROFILMED

PLAN	DATE	BY	CHKD
DESIGNED	12/2/54	J. L. H. JONES	J. L. H. JONES
NOTED			
NOTED			
NOTED			

PROFILE	DATE	BY	CHKD
DESIGNED	12/2/54	J. L. H. JONES	J. L. H. JONES
NOTED			
NOTED			
NOTED			

FED. ROAD DIST. NO.	DIST.	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	S 0097(3)	25	

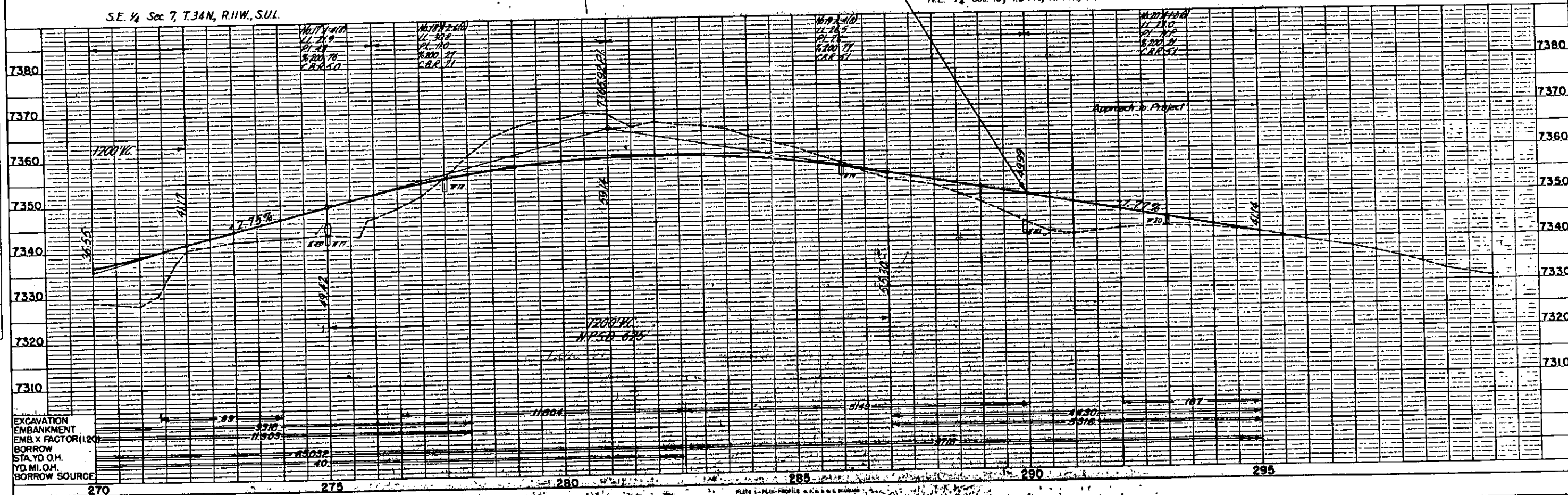
Rev. 10-22-57, M.R.H. - Ditch Change



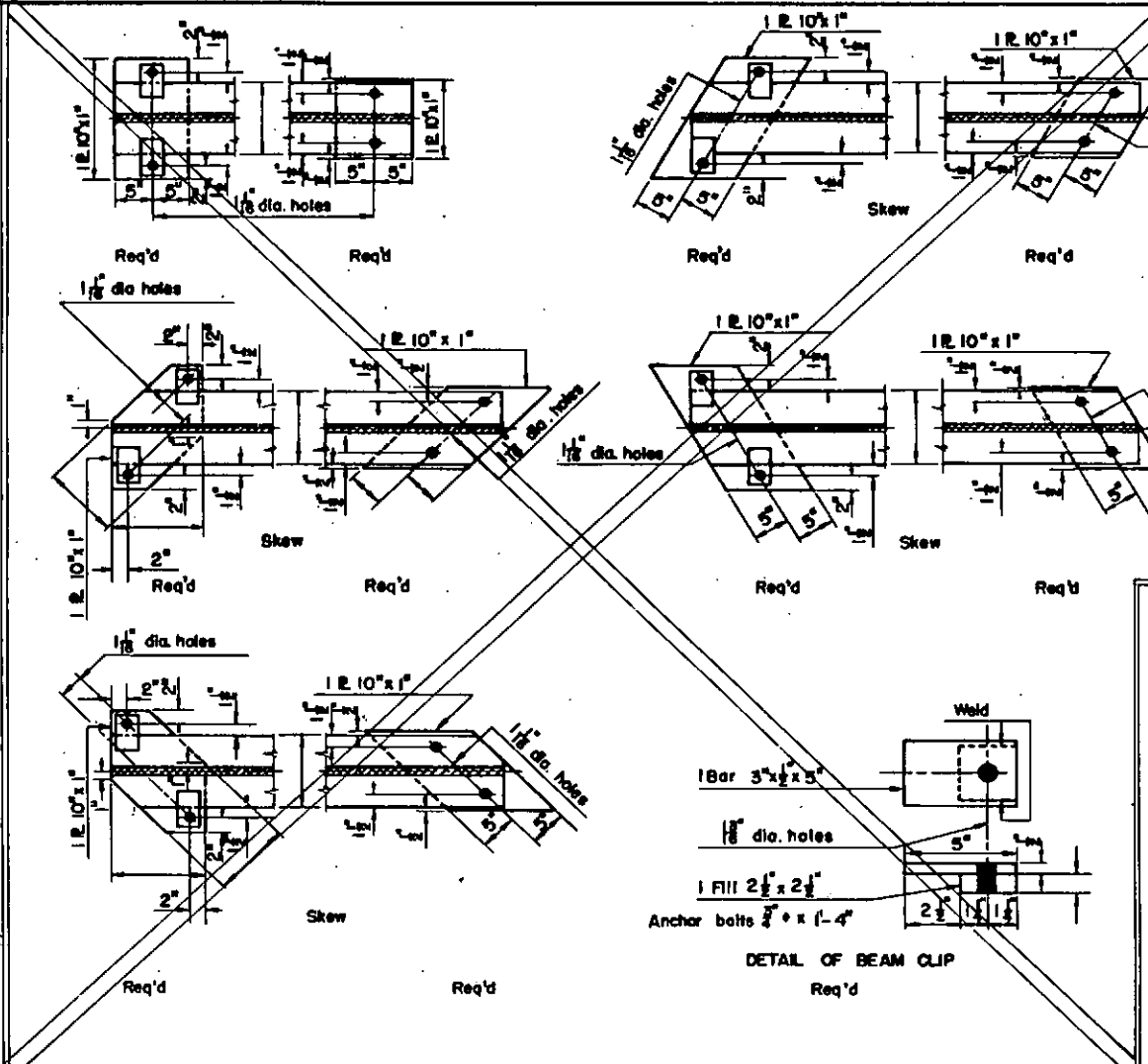
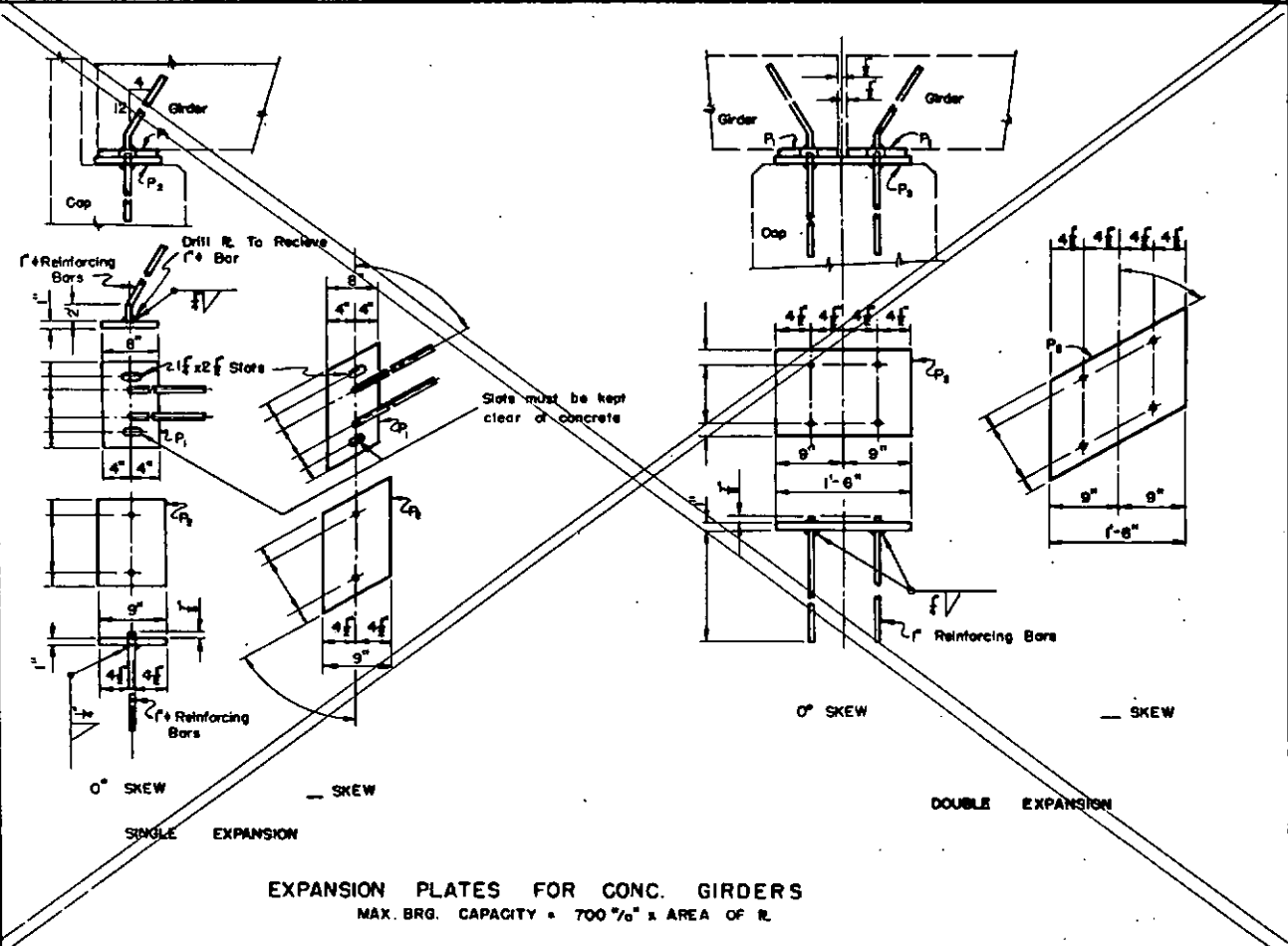
S.E. 1/4 Sec. 7, T.34N, R.11W, S.U.L.

N.E. 1/4 Sec. 18, T.34N, R.11W, S.U.L.

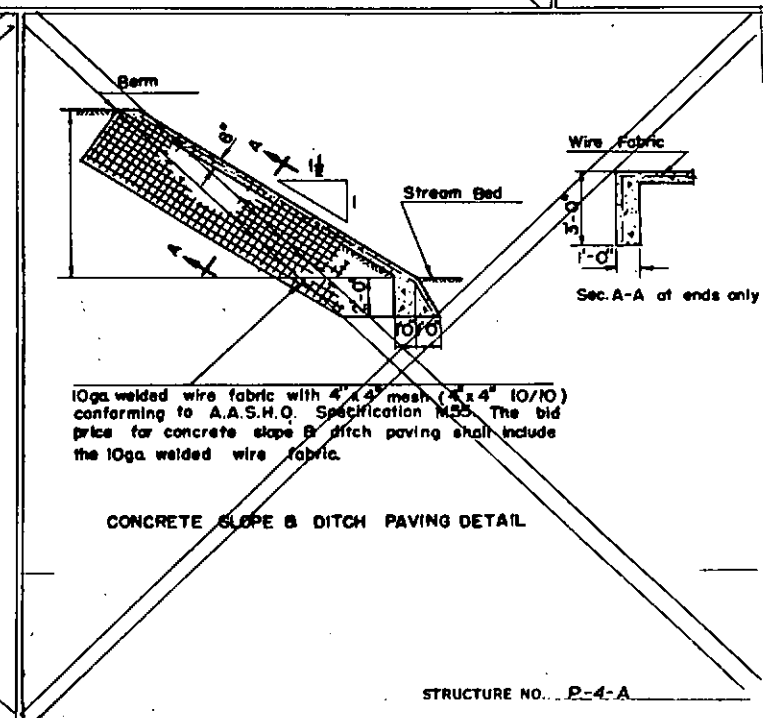
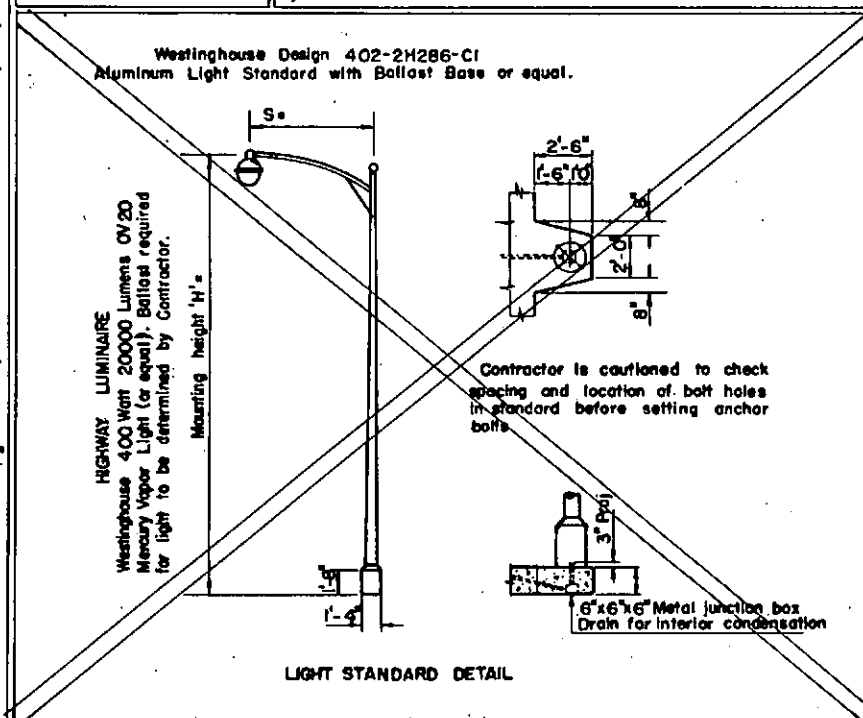
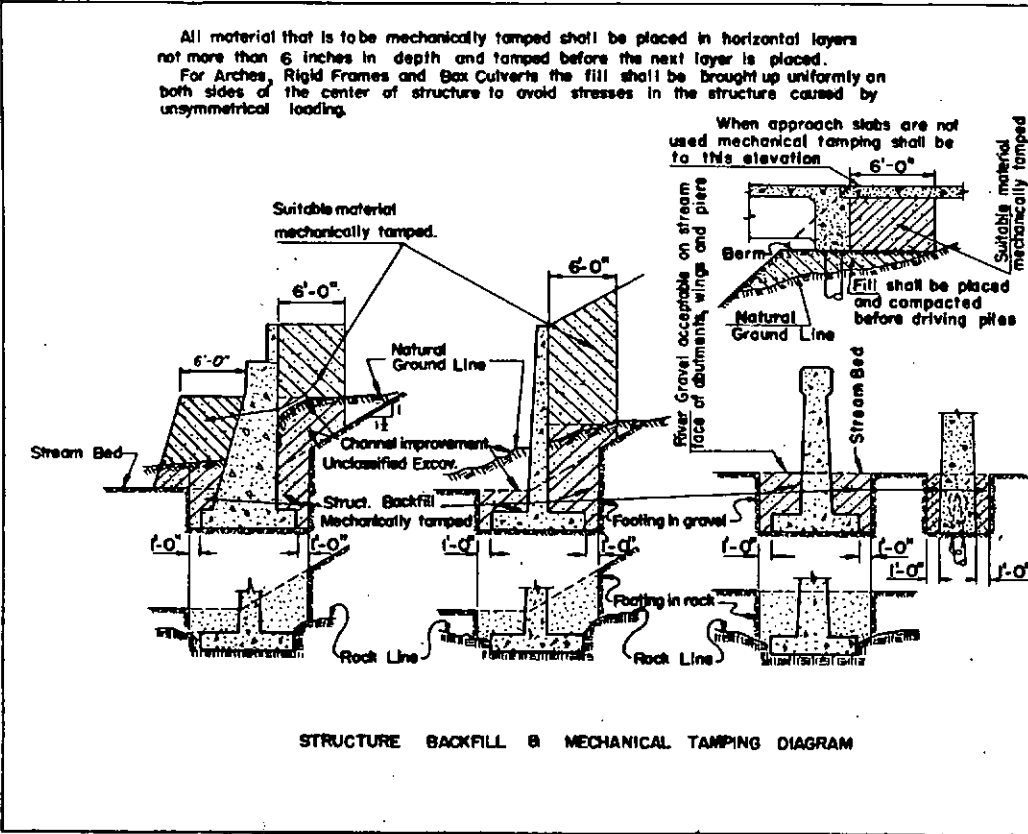
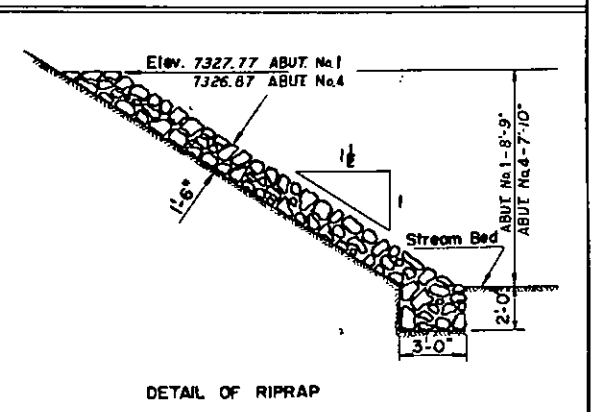
Clearing & Grubbing
Sta. 274+00 to 279+00
Heavy Oak Brush



5-24-47
5-27-47
5-17-50
5-6-50



FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	S 0097(3)	9	



COLORADO
DEPARTMENT OF HIGHWAYS

DETAILS OF: BEARINGS, SLOPE PAVING, RIPRAP, LIGHT STANDARD TAMPING DIAGRAMS.

Across LA PLATA RIVER
Sta. 265+28.00 to 266+35.67
Near FT. LEWIS Sec. 7 T.34 N. R. 11 W.

Designed by F.L. Approved by [Signature]
Made by EAB Bridge Engineer
Checked by [Signature] Date: July 7, 1947

STRUCTURE NO. P-4-A

HIGHWAYS

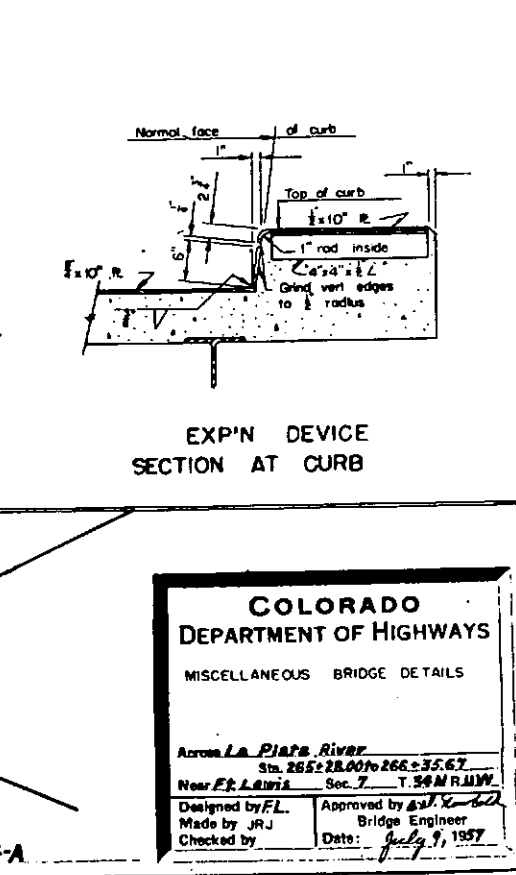
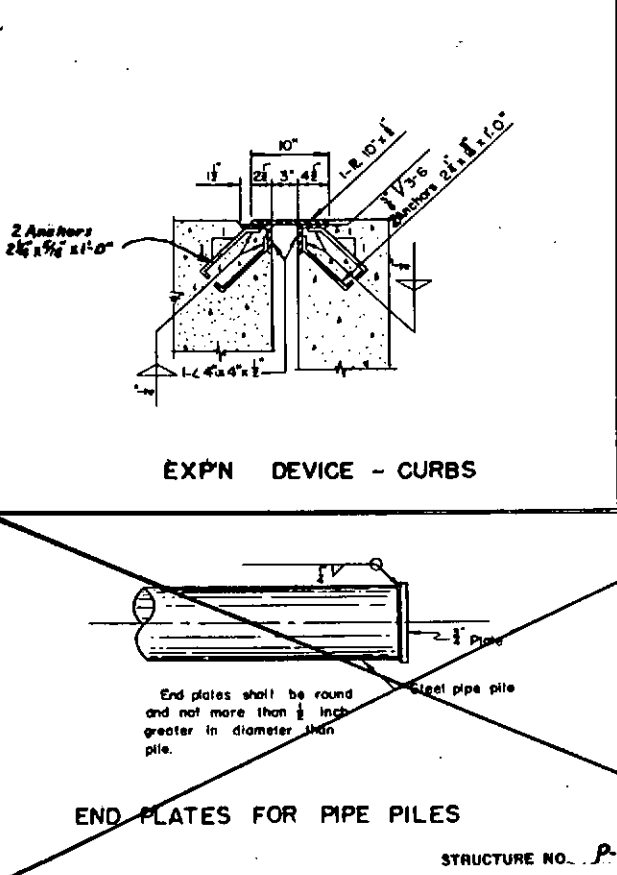
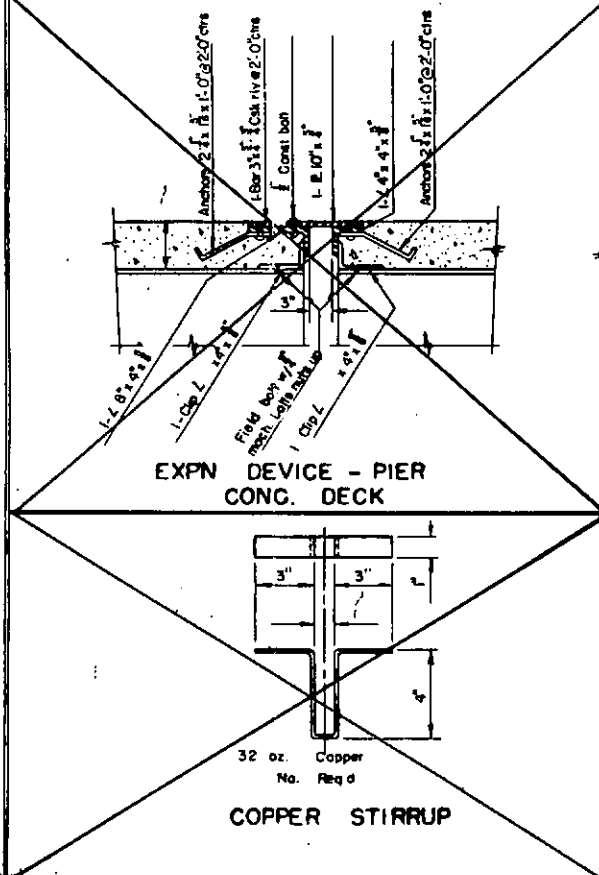
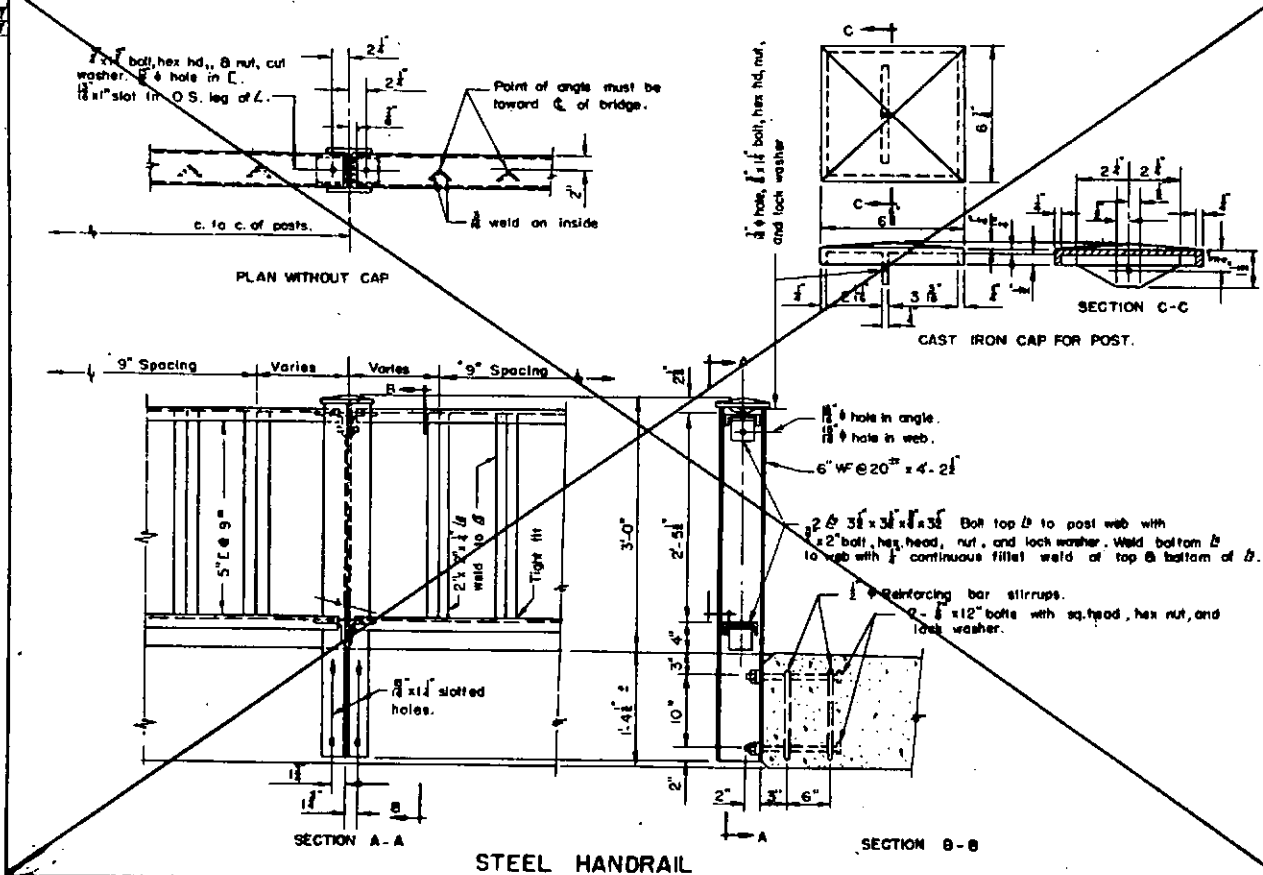
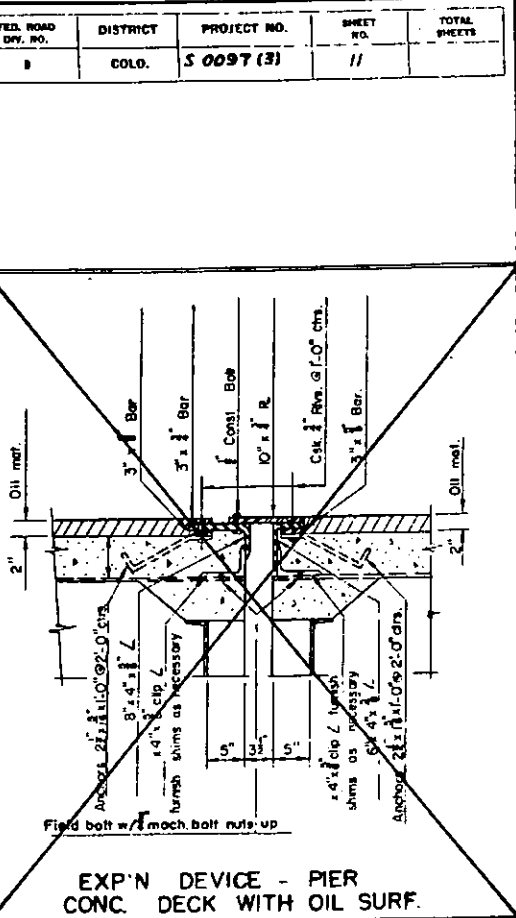
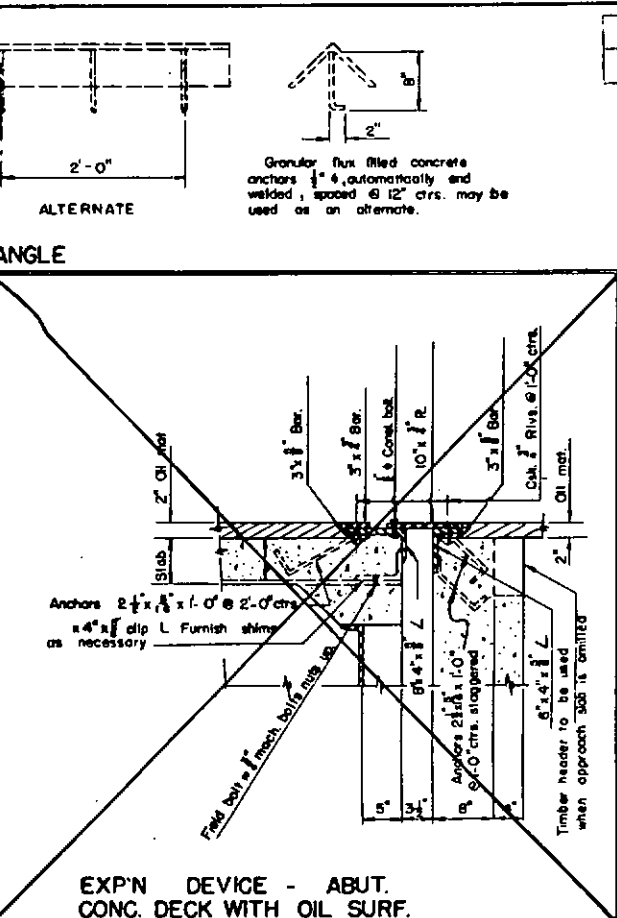
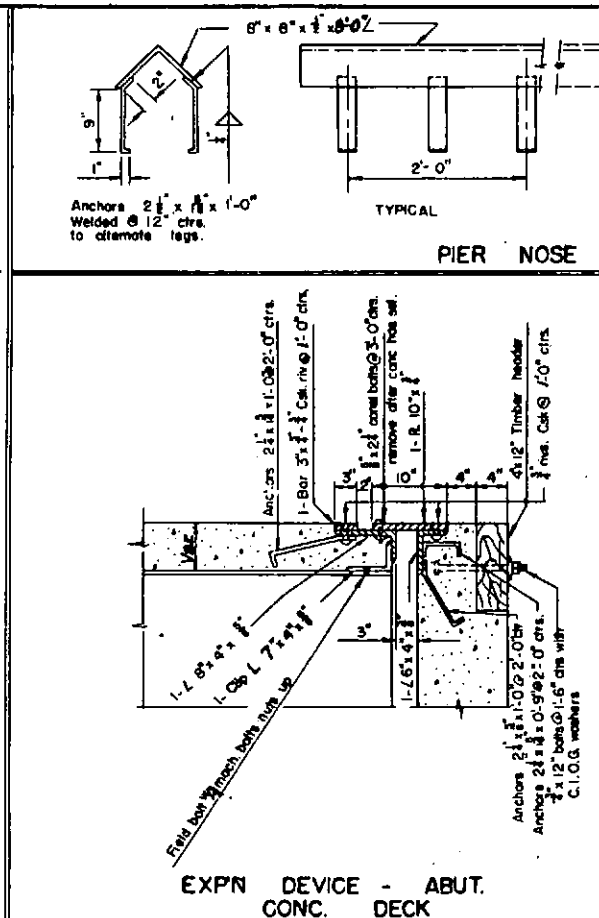
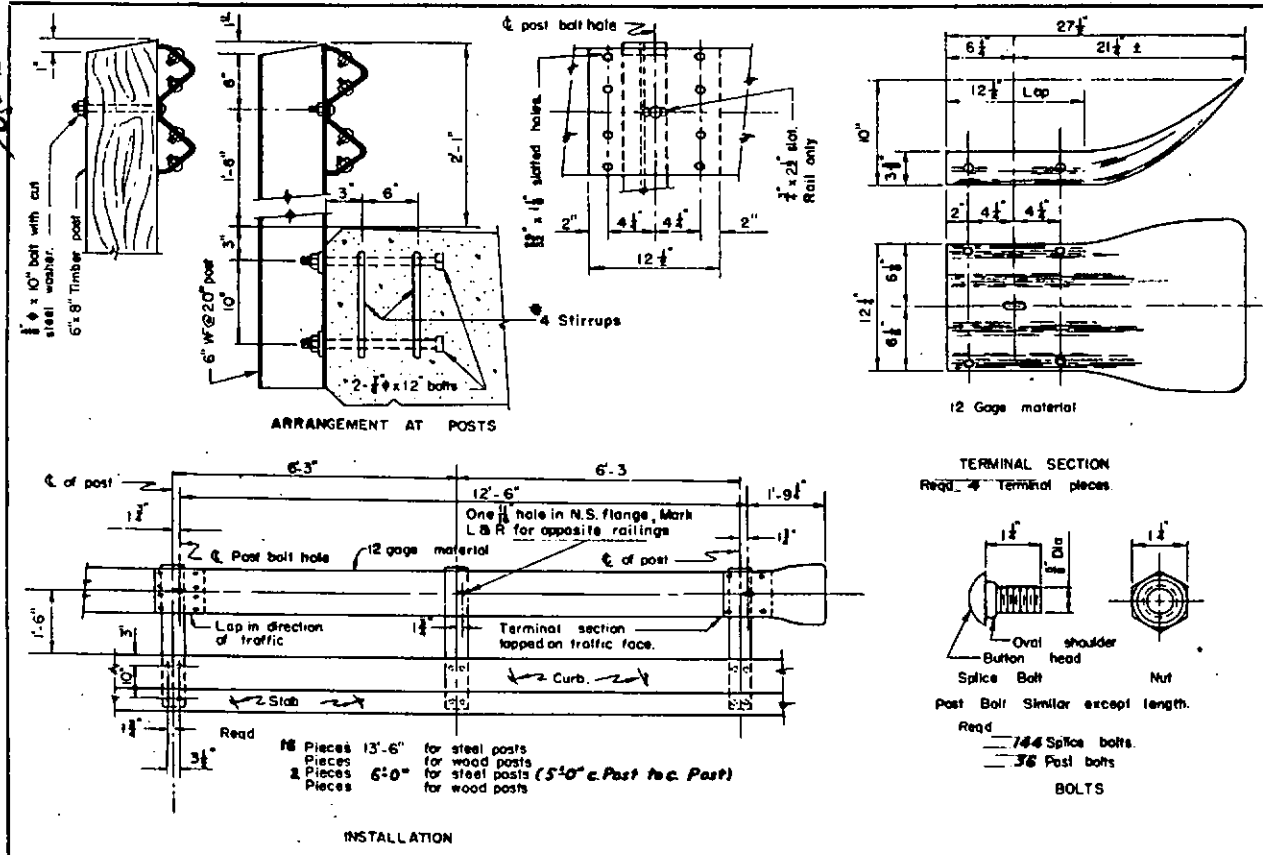
REVISED
11/1/57

REVISIONS
11/1/57

11/1/57

REVISIONS

FED. ROAD DIST. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	C.O.D.	5 0097 (3)	11	



COLORADO DEPARTMENT OF HIGHWAYS

MISCELLANEOUS BRIDGE DETAILS

Across La Plata River
Sta. 285+28.00 to 286+35.67
Near Ft. Lewis Sec. 7 T. 34 N. R. 11 W.

Designed by F.L.
Made by J.R.J.
Checked by

Approved by J.R.J.
Bridge Engineer
Date: July 1, 1957

STRUCTURE NO. P-4-A

COLORADO STATE HIGHWAY DEPARTMENT
S.H.D. Form 125
JANUARY 1952

LIST OF STRUCTURE QUANTITIES

Rev. 10/22/57 M.R.H. - Und. Ditch

FED. ROAD DIVISION NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	COLO.	S 0097(3)	4	

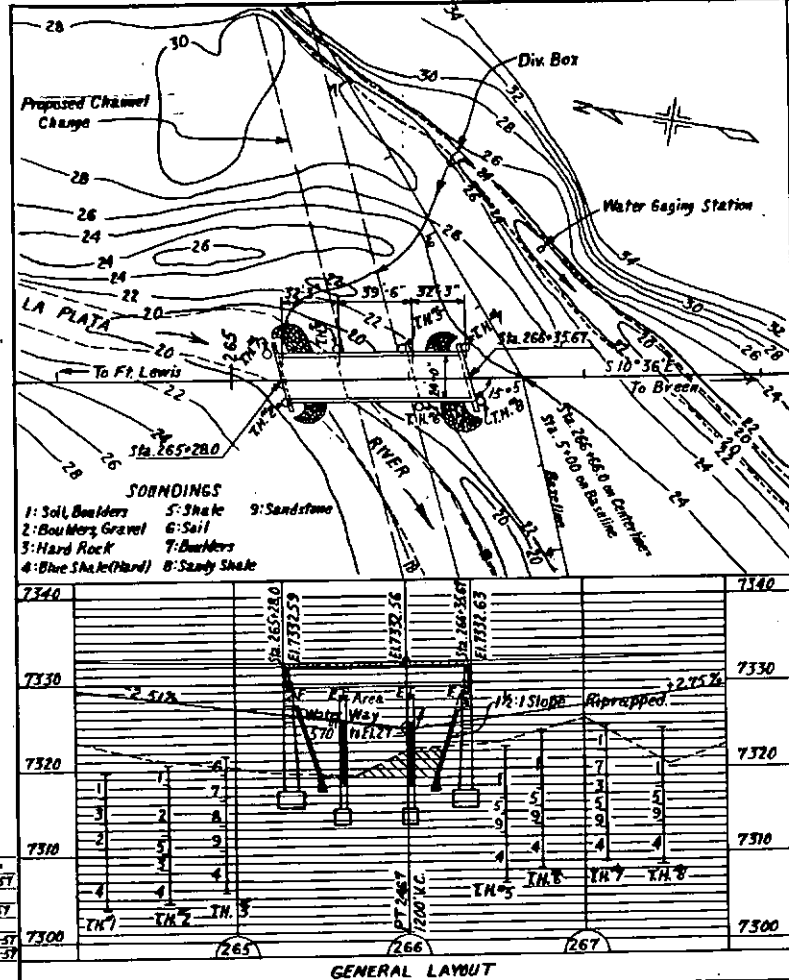
LOCATION	MISCELLANEOUS	REMOVE STRUCTURE NO.	PREMOVE 3" OF MUCK CU. YD.	EXCAVATION			STRUCTURAL EXCAVATION			STRUCTURE BACKFILL		MECH. TAMPING HOURS	GRAVEL OR CRUSHED ROCK SURFACING BASE COURSE TONS	ROAD MIX ASPHALTIC SURFACING TOP COURSE TONS	CORRUGATED METAL CULVERT PIPE				CORRUGATED METAL PIPE ARCH CULVERTS		METAL APRONS FOR C.M.P. ARCH CULVERTS						
				CUBIC YARDS			CUBIC YARDS			CUBIC YARDS					LINEAR FEET				LIN. FT.		EACH						
				UNDG.	EMB.	REL. DITCH				CL. 1						18"	24"	30"	36"	24"	30"	24"		30"			
234+65 to 242+00 235+07 236+58		1	3632																								
238+00 241+31 248+ to 250+ 249+50		1			10	5	17			31											42	2					
249+ to 251+ 250+50 252+00				10	12	5	13			26											78	2					
256+00 261+20 265+28.0 to 266+35.7					5	10	12			22											64						
										22											65						
										12											42	2					
267+50 268+10	96 Lin. Ft. 72"x44" CMP Arch Culverts; 2 Metal Aprons for 72"x44" CMP Arch Culverts			10	25	65				78																	
					5	25				29											90	2					
274+00 275+00 275+ to 276+ 280+10				215	10	21				48			22														
				550	100	14				19			122								72			72	2		
282+ 289+96 294+07		1		30	10	28				38																	
		1		10	10					22			22								26			54	2		
295+25				750	3					7			140								30						
290+00 290+00 to 295+00 Entire Project	1-Project Marker (State Forces) ✓ Mechanical Tamping for all Structure Backfill		*								54	330	145														
Project Totals		5	3632	1500	1810	187	243			373	54										200	130		210	194	6	6

* In Roadway Quantities * In Surfacing Plan

* Muck to be disposed of at the direction of the Engineer.

FED. ROAD DIST. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	5 0097 (3)	5	

Rev. 10-22-57, MRH—Rip Rap



Designed By	Checked By	Date
E.F.S.	E.F.S.	5-6-57
E.L.	E.L.	5-8-57
B.J.S.	B.J.S.	6-20-57
U.B.	U.B.	6-24-57

MICROFILMED

BAR LIST SUPERSTRUCTURE

Mark	Size	Req'd	Length	Type	ft	m
401	1/2"	27	6'-2"	IV	2'-9"	
402	1/2"	27	8'-7 1/2"	III	2'-3 3/4"	1'-8"
403	1/2"	27	33'-3"	Str		
404	1/2"	2	33'-0"	Str		
405	1/2"	69	39'-0"	Str		
406	1/2"	2	33'-10"	Str		
501	1/2"	72	3'-8"	III	1'-0"	0'-6"
502	1/2"	103	26'-7"	Str		
503	1/2"	103	28'-10"	I		
504	1/2"	101	27'-4"	II		

BAR SUMMARY SUPERSTRUCTURE

7489 Lbs. $\pm$ 0.668 Lbs./lin. ft. = 500% Lbs.
8469 Lbs. $\pm$ 1.043 Lbs./lin. ft. = 8833 Lbs.
Plus 1% Overrun = 135 Lbs.
Total = 13970 Lbs.

BAR LIST ABUTMENT No. 1

Mark	Size	Req'd	Length	Type	ft	m
401	1/2"	27	6'-2"	IV	2'-9"	
402	1/2"	27	8'-7 1/2"	III	2'-3 3/4"	1'-8"
403	1/2"	27	33'-3"	Str		
404	1/2"	2	33'-0"	Str		
405	1/2"	69	39'-0"	Str		
406	1/2"	2	33'-10"	Str		
501	1/2"	72	3'-8"	III	1'-0"	0'-6"
502	1/2"	103	26'-7"	Str		
503	1/2"	103	28'-10"	I		
504	1/2"	101	27'-4"	II		

BAR SUMMARY ABUTMENT No. 1

800 Lbs. $\pm$ 0.668 Lbs./lin. ft. = 534 Lbs.
587 Lbs. $\pm$ 1.043 Lbs./lin. ft. = 404 Lbs.
91 Lbs. $\pm$ 1.502 Lbs./lin. ft. = 137 Lbs.
86 Lbs. $\pm$ 2.044 Lbs./lin. ft. = 176 Lbs.
107 Lbs. $\pm$ 2.670 Lbs./lin. ft. = 286 Lbs.
109 Lbs. $\pm$ 3.40 Lbs./lin. ft. = 371 Lbs.
Plus 1% Overrun = 17 Lbs.
Total = 1325 Lbs.

BAR LIST PIER No. 2 (Pier No. 3 Same)

Mark	Size	Req'd	Length	Type	ft	m
421	1/2"	33	7'-4"	III	1'-8"	1'-8"
422	1/2"	12	8'-0 1/2"	III		
423	1/2"	10	14'-8"	Str		
424	1/2"	18	9'-0"	Str		
513	1/2"	2	24'-5"	Str		
514	1/2"	20	4'-6"	Str		
515	1/2"	1	14'-0"	Str		
603	1/2"	2	15'-0"	Str		
815	1"	6	8'-6"	Str		
816	1"	4	6'-6"	Str		
817	1"	2	24'-5"	Str		
903	1 1/2"	8	14'-5"	Str		

BAR SUMMARY PIER No. 2 (Pier No. 3 Same)

647 Lbs. $\pm$ 0.668 Lbs./lin. ft. = 432 Lbs.
153 Lbs. $\pm$ 1.043 Lbs./lin. ft. = 160 Lbs.
50 Lbs. $\pm$ 1.502 Lbs./lin. ft. = 45 Lbs.
126 Lbs. $\pm$ 2.670 Lbs./lin. ft. = 336 Lbs.
115 Lbs. $\pm$ 3.40 Lbs./lin. ft. = 391 Lbs.
Plus 1% Overrun = 16 Lbs.
Total = 1380 Lbs.

BAR LIST ABUTMENT No. 4

Mark	Size	Req'd	Length	Type	ft	m
408	1/2"	27	8'-7 1/2"	III	2'-3 3/4"	1'-8"
414	1/2"	25	9'-0"	Str		
415	1/2"	4	2'-0"	Str		
416	1/2"	8	6'-0"	Str		
417	1/2"	4	5'-4"	Str		
418	1/2"	4	4'-4"	Str		
419	1/2"	6	32'-10"	Str		
420	1/2"	1	31'-0"	Str		
425	1/2"	8	8'-7 1/2"	III	2'-3 3/4"	1'-8"
426	1/2"	4	10'-8"	III	3'-4"	1'-8"
427	1/2"	6	12'-8"	III	4'-4"	1'-8"
504	1/2"	12	8'-6"	Str		
505	1/2"	12	3'-0"	Str		
506	1/2"	26	3'-6"	Str		
507	1/2"	8	13'-8"	Str		
508	1/2"	4	7'-9"	Str		
509	1/2"	4	4'-6"	Str		

BAR SUMMARY ABUTMENT No. 4

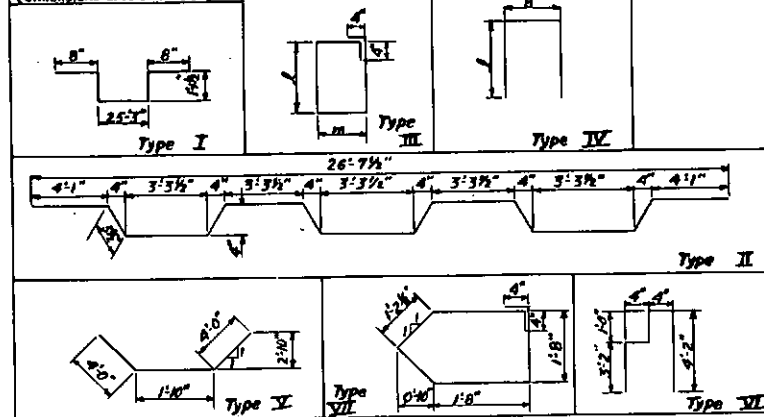
960 Lbs. $\pm$ 0.668 Lbs./lin. ft. = 647 Lbs.
375 Lbs. $\pm$ 1.043 Lbs./lin. ft. = 391 Lbs.
91 Lbs. $\pm$ 1.502 Lbs./lin. ft. = 137 Lbs.
86 Lbs. $\pm$ 2.044 Lbs./lin. ft. = 176 Lbs.
107 Lbs. $\pm$ 2.670 Lbs./lin. ft. = 286 Lbs.
101 Lbs. $\pm$ 3.40 Lbs./lin. ft. = 343 Lbs.
Plus 1% Overrun = 18 Lbs.
Total = 1995 Lbs.

SUMMARY OF QUANTITIES

Item	Description	Unit	Superstructure	Abutment No. 1	Pier No. 2	Pier No. 3	Abutment No. 4	Total
11c	Removal of Bridge (Sta. 263+10)	Lump Sum						
11f	Rock Excavation (Str)	Cu. Yd.		4	11	17	15	47
14g	Common Excavation (Str)	Cu. Yd.		39	11	5	46	101
16a	Structure Backfill (Class I)	Cu. Yd.		13	15	15	28	71
16c	Mechanical Tamping	Mrs.		18	2	2	12	34
18a	Station Yard Overhaul	Sta. Yd.						781
18b	Yard Mile Overhaul	Yd. Mi.						281
42b	Treated Bridge Timber	Mt. lbm.		0.149			0.099	0.248
46a	Class A Concrete	Cu. Yd.	64.6	20.1	15.3	15.3	21.7	137.0
47	Reinforcing Steel (Inc. 1% Overrun)	Lbs.	13970	1925	1380	1380	1995	20650
48	Structural Steel (Inc. 1% Paint)	Lbs.	45940	45	275	275	45	46580
67b	Heavy Riprap	Cu. Yd.		80			71	151
75c	Metal Plate Guard Fence (Beam Type)	Lin. Ft.		25			25	50
75cx	Metal Plate Guard Rail (Beam Type)	Lin. Ft.	210					210
80c	Sheet Copper (32 oz.)	Lbs.	7					7
89a	Drain Pipe (Concrete Floor 4" x 6")	Each	6					6
8	1/2" Expansion Joint Material Type III	Sq. Ft.	57					57
16Ga	Galvanized Sheet Metal	Sq. Ft.	38					38
13c	Unclassified Excavation	Cu. Yd.						2550

* Expansion Joint Material shall be according to A.A.S.H.O. specification M-153-54 and of the type shown and shall be included in the bid price of Class A Concrete.
 † 38 Sq. Ft. Galv. Sheet Metal to be included in the bid price of Class A Concrete.
 ‡ Includes 217 Cu. Yds. in Channel Change

BENDING DIAGRAMS (dimensions in ft. or in.)



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 ALL REINFORCING SHALL BE CLASS "A".
 ALL CONCRETE SURFACES EXPOSED TO WEAR SHALL BE FINISHED WITH A WEAR SURFACE.
 CLASS "A" SURFACE FINISH.
 CONCRETE GIRDERS, FLOOR SLABS, AND CURBS SHALL BE POURED MONOLITHICALLY.
 FORMS FOR CONCRETE SURFACES EXPOSED IN THE FINISHED WORK SHALL BE CONSTRUCTED OF SHIP-LAP 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.
 DIMENSIONS AND DEPTH OF FOOTINGS SHOWN ARE IN ACCORDANCE WITH THE BEST AVAILABLE DATA AND WHEN DIFFERENT CONDITIONS ARE ENCOUNTERED THE BRIDGE ENGINEER WILL INSPECT AND DETERMINE IF REDIGIT IS NECESSARY.
 ALL REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A-615-57 OR THE LATEST REVISION THEREOF, AND SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE FACED WITH THE NUMBER DESIGNATION AND THE STATION NUMBER OF THE PROJECT.
 PRIMARY BARS SHALL NOT BE SPLICED AND SECONDARY BARS WHEN SPLICED SHALL LAP 30 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.
 HANGERS, 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 OR PILING 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 REQUISITION OF THE ENGINEER PRIMARY BARS ARE SPLICED, THEY SHALL LAP 30 DIAMETERS FOR BARS NEAR TOP OF BEAMS AND GIRDERS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS AND 10 DIAMETERS FOR BARS NEAR BOTTOM OF MEMBERS.
 HIGH TENSILE STRENGTH BOLTS MAY BE SUBSTITUTED FOR FIELD RIVETS 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 BOLTED STRUCTURAL JOINTS OF THE ENGINEERING FOUNDATION, JAN. 31, 1952.

LOADING DATA

LIVE LOAD — A.A.S.H.O. WF-20-44
 DEAD LOAD ASSUMES 15 LBS. PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE 1/4 INCH CONCRETE MONOLITHIC WEARING SURFACE SHOWN.
 DESIGNING DATA
 A.A.S.H.O. 1951 LIMIT STRESSES, EXCEPT AS NOTED.
 Reinforcing Steel f_s = 20000 lbs. per sq. in.
 Structural Steel f_t = 18000 lbs. per sq. in.
 f_c = 1200 lbs. per sq. in.
 n = 10

COLORADO
DEPARTMENT OF HIGHWAYS
CONTINUOUS I BEAM CONCRETE SLAB BRIDGE
3 SPANS (32'3", 39'6", 32'3") 15° SKEW
24'-0" ROADWAY 1'-0" CURBS
GENERAL LAYOUT BAR LIST
SUMMARY DIAGRAMS

Across La Plata River
 Sta. 265+28.0 to 266+35.67
 Near Ft. Lewis — Sec. 7 T. 34 N. R. 11 W

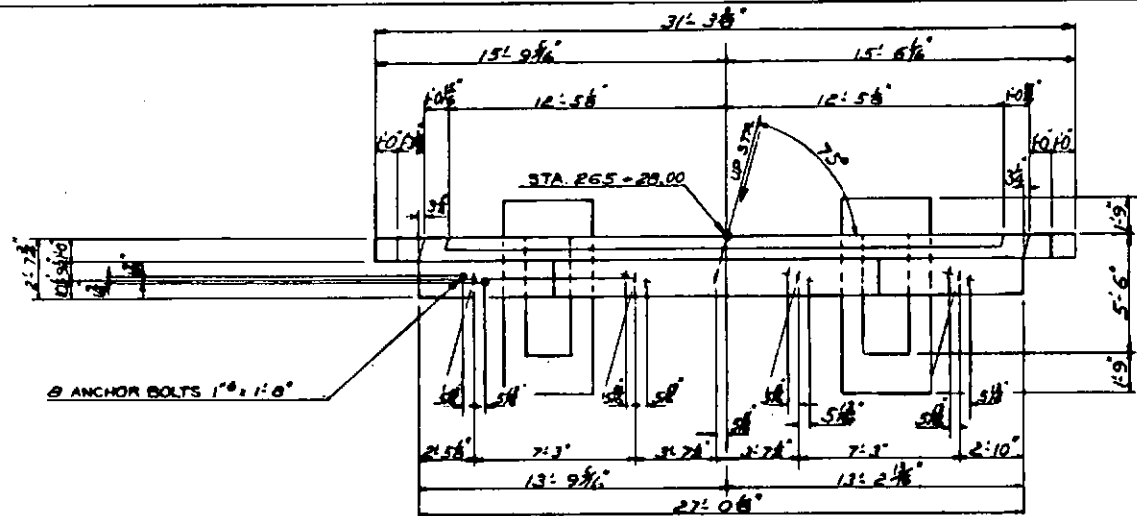
Designed by E.F.S. Approved by R.H. R.H.W.
 Made by F.L. Bridge Engineer
 Checked by Date: July 1, 1957

STRUCTURE NO. P-4-A

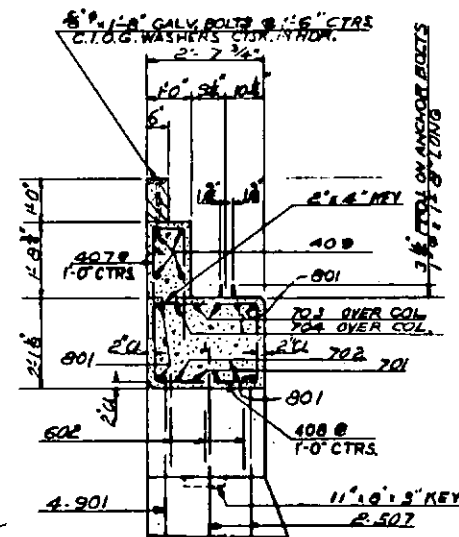
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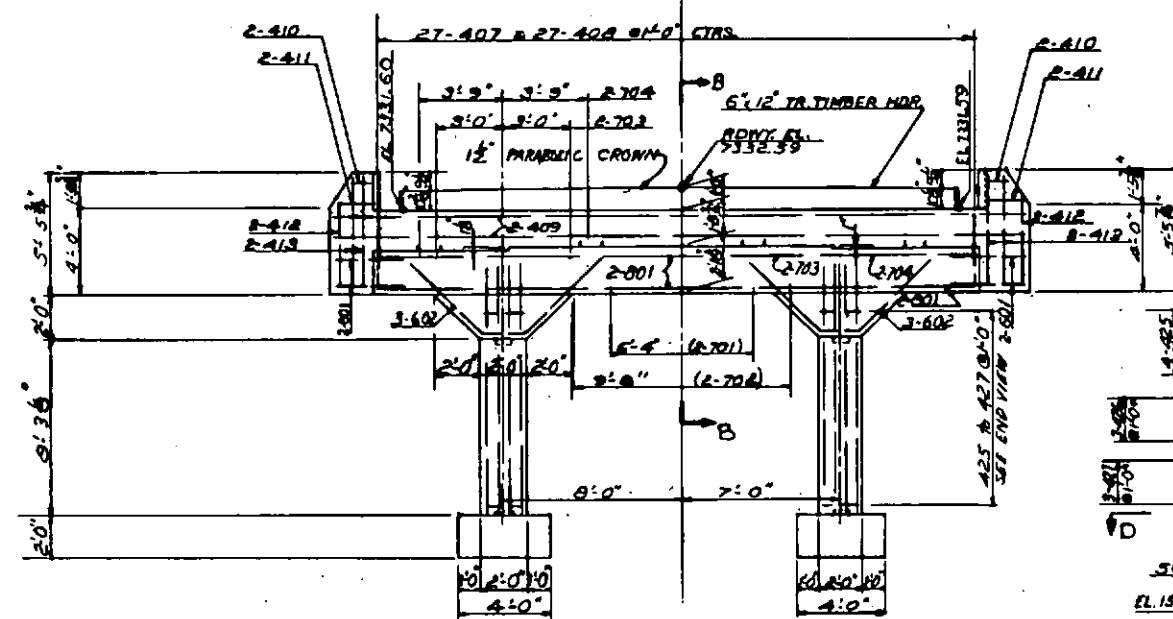
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9	COLO	50097(3)	7	



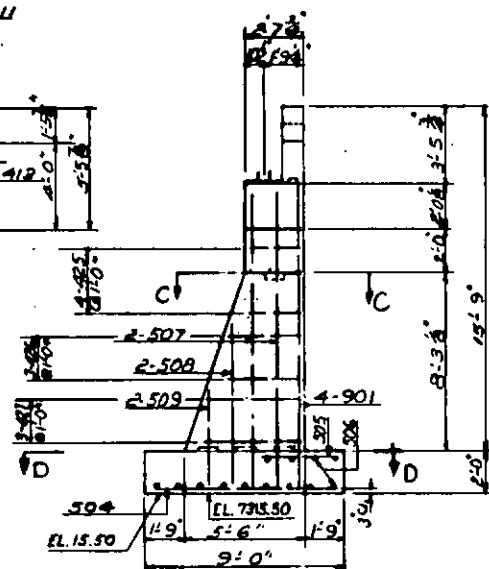
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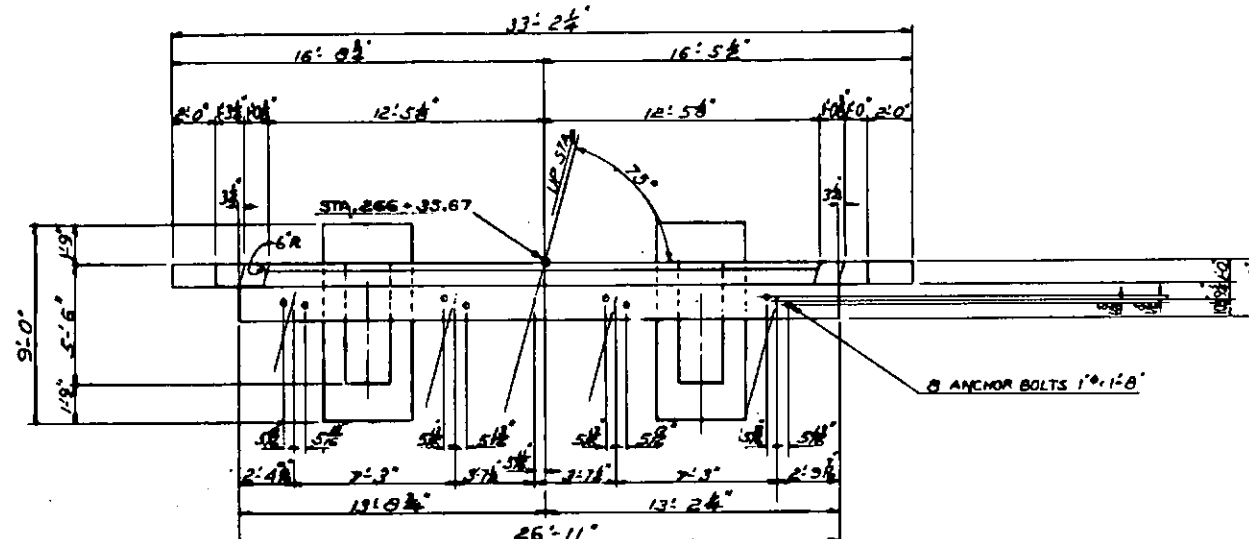
SECTION B-B



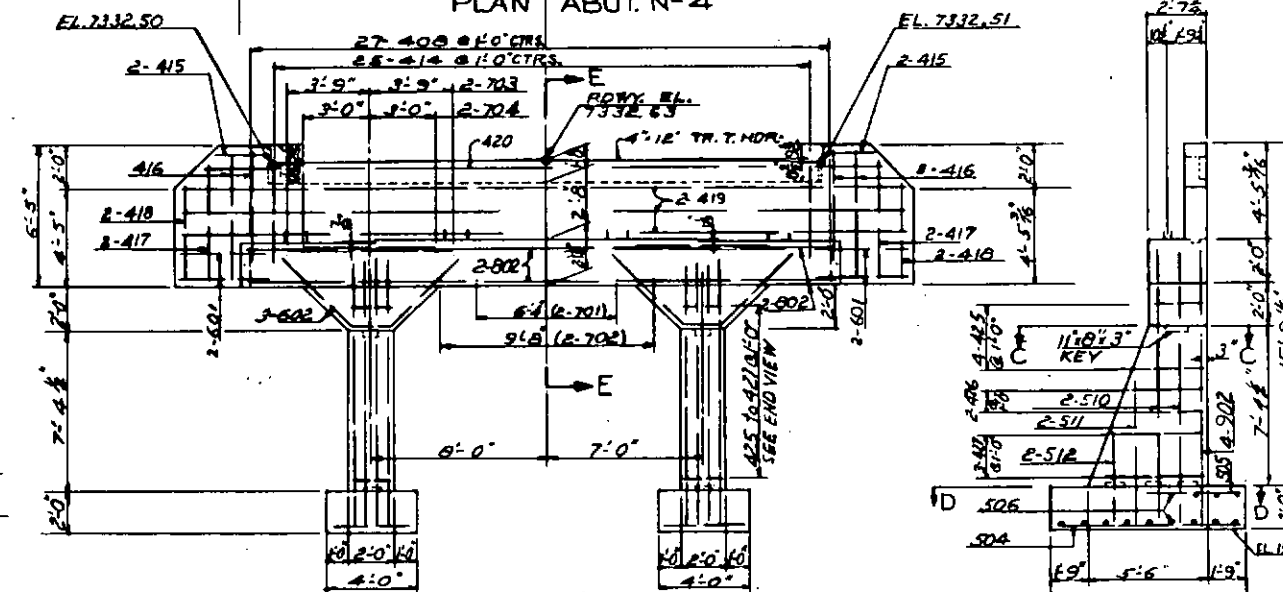
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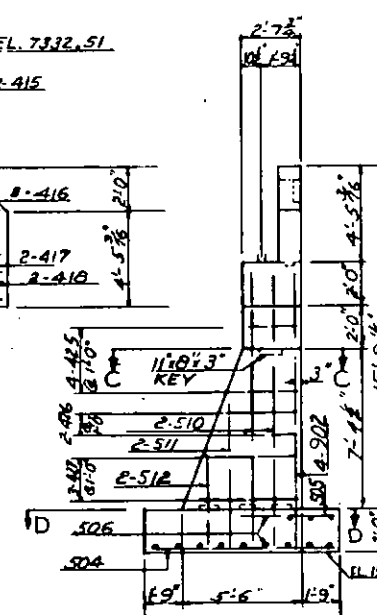
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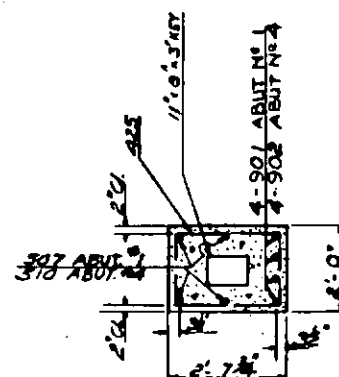
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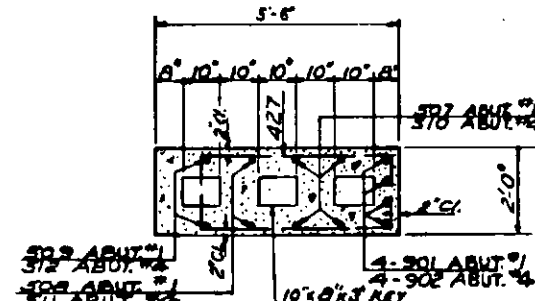
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MAX. FOOTING PRESSURE = 2.4 T/S



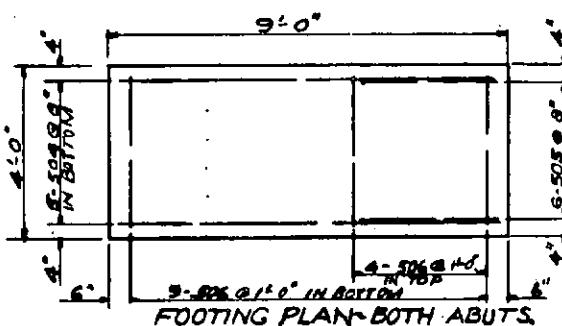
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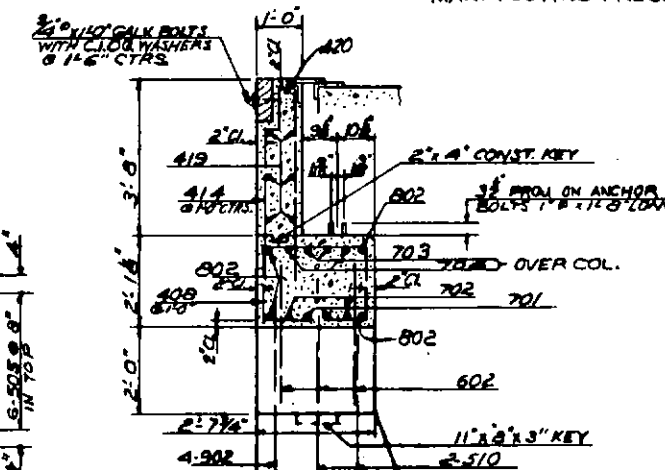
SECTION C-C



SECTION D-D



FOOTING PLAN BOTH ABUTS



SECTION E-E

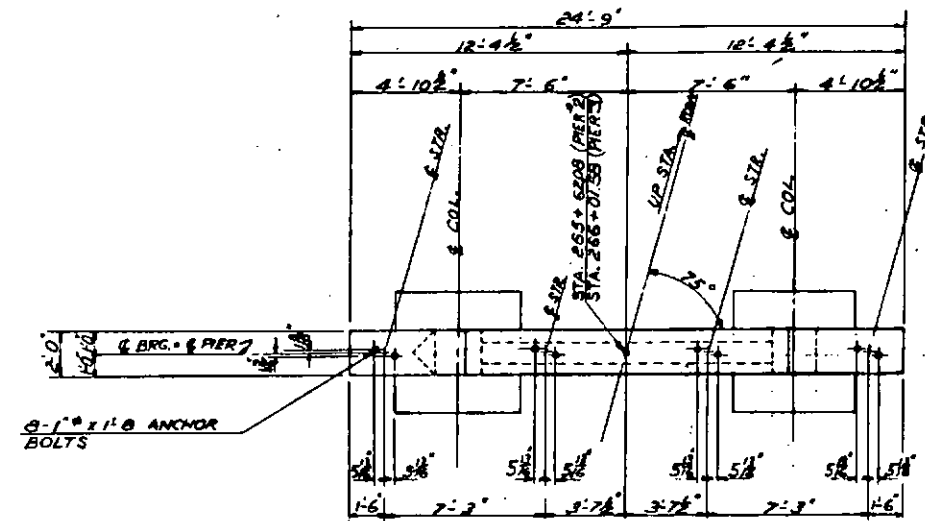
STRUCTURE NO. 4-A

COLORADO
DEPARTMENT OF HIGHWAYS
3 SPANS CONT. (32'-3", 39'-6", 32'-3")
CONCRETE & I-BEAM BRIDGE
24'-0" RDWY. - 15° SKEW
DETAILS OF ABUTMENTS
ACROSS LA PLATA RIVER
STA. 265+28.00 TO 266+35.67
NEAR FLEWIS SEC. 7 T. 34 N. R. 11 W.
DESIGNED BY: APPROVED BY: BRIDGE ENGINEER
MADE BY: DATE: July 1, 1957

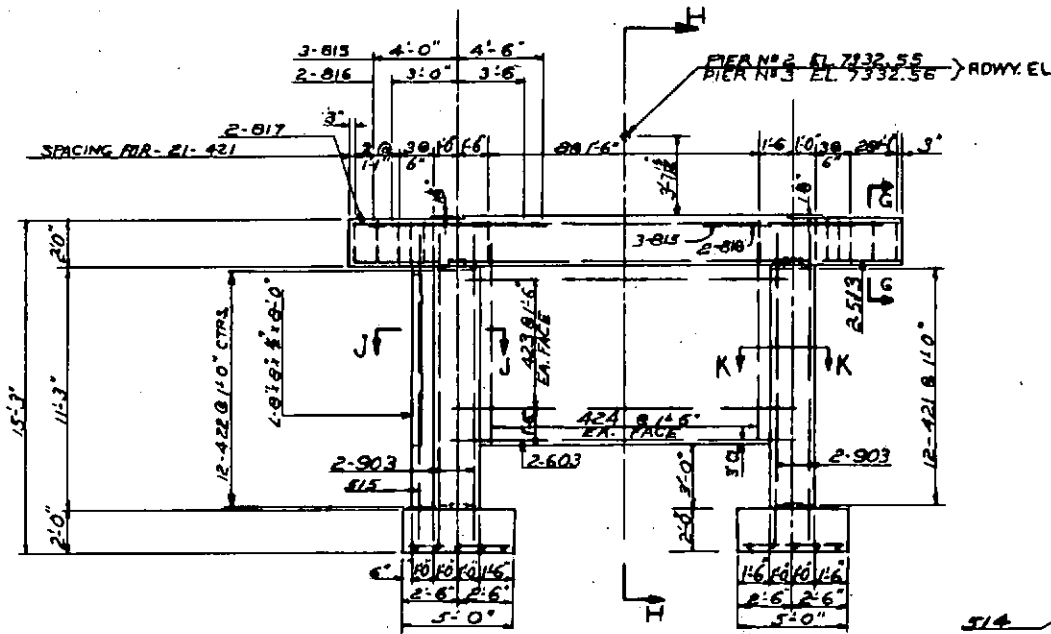
JUL 27 1957

MICROFILMED

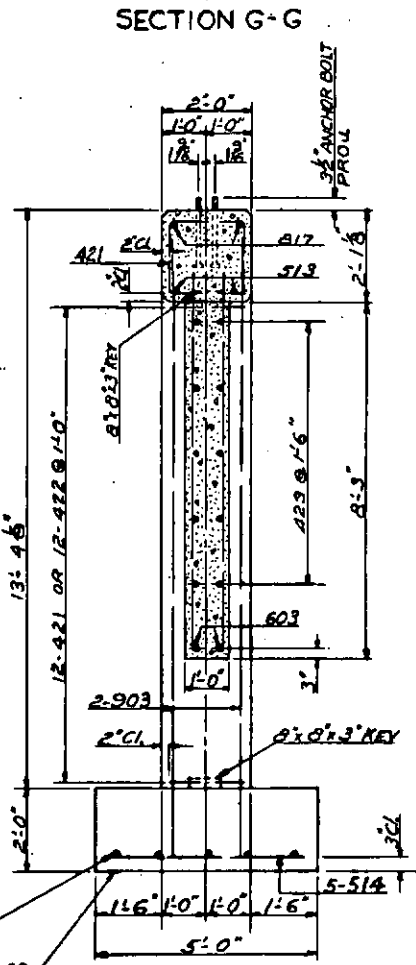
FED. ROAD DIV. NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	30097 (3)	8	



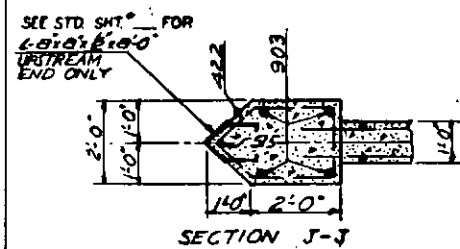
PLAN



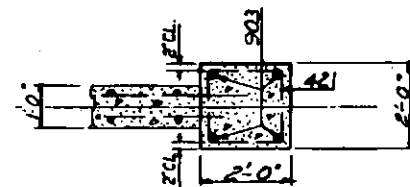
ELEVATION



SECTION H-H



SECTION J-J



SECTION K-K

COLORADO
DEPARTMENT OF HIGHWAYS
3 SPANS CONT (32'3" 39'6" 32'3")
CONCRETE & I-BEAM BRIDGE
24'-0" RDWY. 15° SKEW
DETAILS OF PIERS
ACROSS LA PLATA RIVER
STA. 265+28.00 to 268+35.57
NEAR FLEWIS SEC. 7 T. 34 N. R. 11 W.
DESIGNED BY: APPROVED BY: *[Signature]*
MADE BY: *[Signature]* BRIDGE ENGINEER.
DATE July 9, 1957

STRUCTURE NO. P-4-A

1000# TR

FENCING REQUIREMENTS

STATION	SIDE	REMOVE FENCE LIN. FT.	BUILD FENCE		GATES EACH		
			LIN. FT.	COMB WIRE	DRIVE WAY	WALK	
241+70 to 247+40 261+50 262+35	Lt. X X	565 165 210					
270+50 to 272+83 275+50 to 279+45 281+50 to 294+30	Lt. Lt. Lt.	240 425 1300					
234+65 to 241+70 242+15 to 245+50 247+40 to 250+50	Rt. Rt. Rt.	710 335 310					
273+00 to 275+00 276+95 to 289+79 294+10 to 295+40	Rt. Rt. Rt.	200 1290 145					
234+15 to 265+20	Lt.			3050			
265+75 to 279+45 281+50 to 294+30 233+20 to 265+20	Lt. Lt. Rt.			1375 1280 3280			
265+70 to 295+40 262+10	Rt. Lt.			3000		/	
262+30 286+00	Lt. Lt.					/	
274+00 282+60 285+25	Rt. Rt. Rt.					/	/
TOTALS		5895		11,985	5	1	

R.O.W. MARKERS

STATION	SIDE	NO.
230+61 TS	Lt. & Rt.	2
240+82.8 ST	Lt. & Rt.	2
243+474 TS	Lt. & Rt.	2
264+057 ST	Lt. & Rt.	2
276+123 TS	Lt. & Rt.	2
286+873 ST	Lt. & Rt.	2
TOTAL		12

It is estimated that material for sub-base and surfacing for the project is available in the vicinity of the pit indicated in the following tabulations. Estimated quantities involved in these operations are shown below.

Alteration of the Sub-base material and Surfacing plans as here outlined will be allowed only on written permission from the Department.

SUB-BASE PLAN

MATERIAL TO BE PLACED	SOURCE	QUANTITY & THICKNESS				OVERHAUL
		AVAILABLE	INCHES	CLASS I	CLASS II	TON MILES
				TONS		
229+00 to 265+28 Bridge			10		6277	24,531
266+35.7 to 267+00			10		112	480
267+00 to 281+00	Pit No. 1	13,000	8		1834	8,101
281+00 to 290+00	R=80 ✓	Cu. Yds.	10		1557	7,217
Estimated for : Appr. to Project Correcting Irregularities			10		720 978	3,428 4,033
TOTAL					11,478	47,790

1 Based on Curve "E"

SURFACING PLAN

MATERIAL TO BE PLACED	SOURCE AVAILABLE	QUANTITY TONS USED GRADING C		OVERHAUL TON MILES	
		BOTTOM COURSE	TOP COURSE	BOTTOM COURSE	TOP COURSE
229+00 to 265+28.0 Bridge		2395	1052	9360	4112
266+357 to 290+00	Pit No. 1 R-80 13,000 Cu. Yds	1561	686	7019	3085
Estimated for: Road Approaches Appr. to Project		398	145	1649	692
		330		1573	
TOTAL		4,684	1,883	19,601	7,889

Rev. 10-25-57, M.R.H.- Stripping

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	3
9	COLORADO	S 0097(3)	3

TIMBER GUARD POSTS

STATION	SIDE	SPACING	NO.
238+00	Lt. & Rt.	Culvert	2
251+00	Lt. & Rt.	Culvert	2
261+00	Lt. & Rt.	Culvert	2
265+	Lt. & Rt.	Bridge	20
275+00	Lt. & Rt.	Culvert	2
TOTAL			28

PIT NO. 1

SURFACING, STRUCTURE BACKFILL & SUB-BASE MAT'L
LOCATION: Ft. Lewis Indian Reservation, T.34N., N.14W.
OWNER: Ft. Lewis A.B.M. College
AVAILABLE: 13,000 Cu. Yds.
HAUL: 3.6 miles to Sta. 229+00
ESTIMATED STRIPPING 1500 Cu. Yds.

