FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	277 B	1	

Rev. 11-29-27 S.B.L.

COLORADO
STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED
FEDERAL AID PROJECT NO. 277 B
STATE HIGHWAY NO. ~~X~~ 85-87
EL PASO COUNTY.

INDEX OF SHEETS

CONVENTIONAL SIGNS

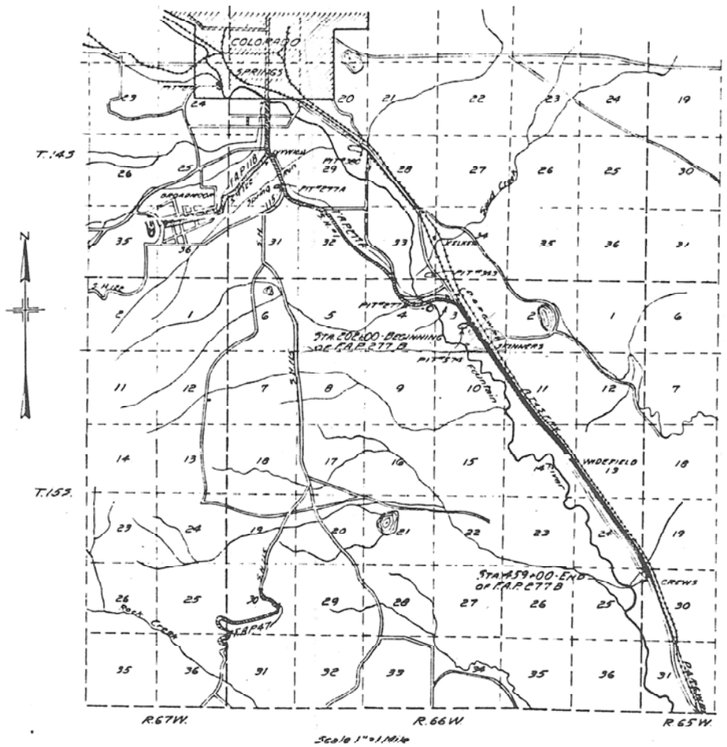
Survey Line — NOE —
Right of Way Line
Section Line
Half Section Line
Fence Line
Pole Line - Telegraph — Power —
Ditch Line
Railroad - Main — Siding —

SCALES

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 } 25693.9 FT. = 4.866 MILES
NET LENGTH OF PROJECT



RECOMMENDED FOR APPROVAL
ASSISTANT ENGINEER

APPROVED
STATE HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL
DIST. ENG. BUREAU PUBLIC ROADS

RECOMMENDED FOR APPROVAL
CHIEF ENG. BUREAU PUBLIC ROADS

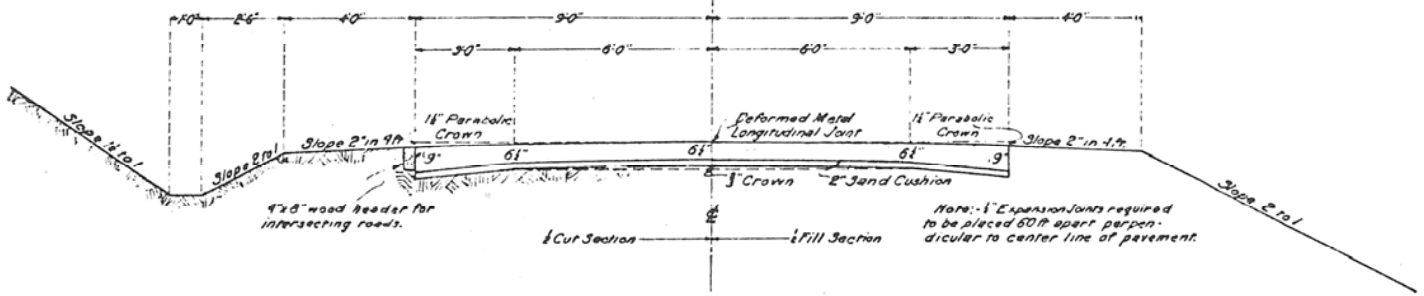
APPROVED
DIRECTOR BUREAU PUBLIC ROADS

S. B. Lamb

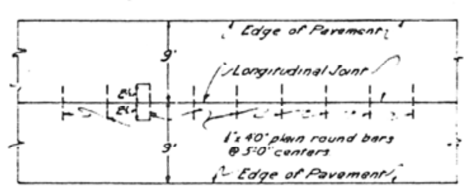
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	COLO	277-B	2	[illegible]

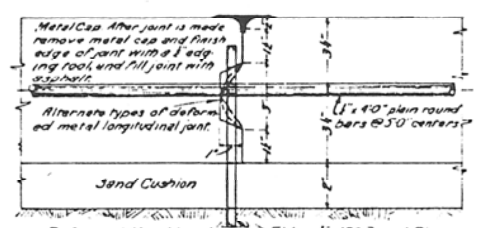
TYPICAL CROSS SECTION OF IMPROVEMENT AND SUMMARY OF QUANTITIES

CONCRETE PAVING SECTION



DEFORMED METAL LONGITUDINAL JOINT





Deformed Metal Longitudinal Joint consists of #18 gage deformed metal joint, ¾"x4'0" plain round bars @5'0" centers, and ⅜"x15" pins @ 3'4" centers.

Either ⅜"x15" Round Pins @3'4" centers (holes in joint for this type ⅜ in diameter); or Half-round #16 gage sheet metal Pins ½"x15" @3'4" centers. (holes in joint for this type ½ in diameter.)

GENERAL NOTES

All roadway excavation outside of ditch and cut slope shown by Standard Cross Section is to be classified and paid for as "Borrow Excavation" except slides, overbreak and special items of excavation as shown on plans.

All borrow required for Project is available on Right of Way, or immediately adjacent thereto within 300 ft of where needed.

Grading data as shown on plans is to be considered approximate only.

All side drains are to be provided with Standard Headwalls.

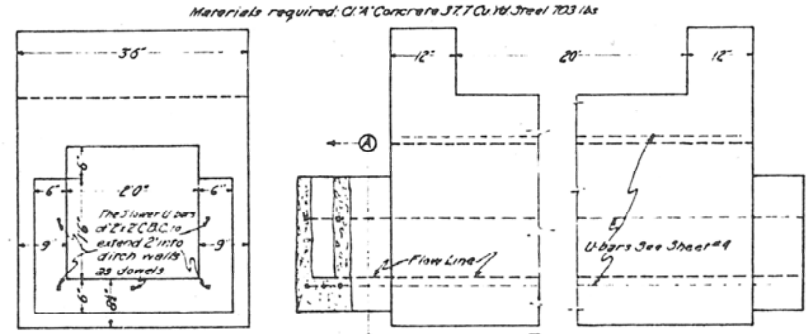
SUMMARY OF QUANTITIES

Item No.	Item	Unit	Quantities	
1	Clearing and Grubbing	Lump Sum		
2	Removing eight structures	" "		
3	Removing fences	Lin Ft.	16200	
5a	Common Excavation	Cu. Yds	3100	
5b	Rock Excavation	" "	100	
5a	Borrow Excavation	" "	56500	
6	Overhaul	Sta. "	100	
7a	Dry Common Structural Excavation	Cu. Yds.	200	
7b	Wet Common Structural Excavation	" "	200	
7c	Dry Rock Structural Excavation	" "	10	
7d	Wet Rock Structural Excavation	" "	10	
11a	15" Corr Metal Culvert Pipe	Lin Ft.	590	
11c	24" Corr. Metal Culvert Pipe	" "	50	
23	One Course Plain Cement Concr. Pavem't	Sq. Yds.	50300	
24	Deformed Metal Longitudinal Joint	Lin Ft	25150	
26	Sand Cushion	Cu. Yds.	3215	
33a	Class "A" Concrete	" "	181	
33b	Class "B" Concrete	" "	19	
35	Reinforcing Steel	Pounds	13500	
40a	Untreated timber	M. Bd. Ft.	4.4	
44	Barbed wire fence	Lin. Ft.	26200	
61	Project Marker	Lump Sum		
	Materials to be furnished and work to be done by State Forces:			
53	Grading, blading & draining detour	Lump Sum		
2x	Remove pump house, fill well, rebuild pump house, drill new well	Lump Sum		
	Bridges or over 20 ft Span			
	80 ft Bridge and Approaches			
	Sta. 421+00 to 426+30; 550 ft, 0.104 mi.			
5c	Borrow excavation	Cu. Yds.	5200	
7a	Dry Common Structural Excavation	" "	85	
7b	Wet Common Structural Excavation	" "	68	
7c	Dry Rock Structural Excavation	" "	10	
7d	Wet Rock Structural Excavation	" "	10	
23	One Course Plain Cement Conc. Pavem't	Sq. "	860	
24	Deformed Metal Longitudinal Joint	Lin. Ft.	430	
26	Sand Cushion	Cu. Yds.	55	
33a	Class "A" Concrete	" "	219	
35	Reinforcing Steel	Pounds	24600	
43c	Wire Link Mesh Guard Fence	Lin. Ft	400	
47b	Grouted Rock Slope Paving	Sq. Yds.	400	

A.L. Presho November 8, 1927

DETAIL OF CONCRETE DITCH AND CULVERT.

Materials required: Cl. "A" Concrete 37.7 Cu. Yd. Steel 703 lbs.



SECTION A-A

Concrete Ditch extends from Sta 298+00 to 299+59, and from Sta 299+81 to 301+00.

ELEVATION

Concrete Box Culvert is same as the Standard on Sheet #4 except it has no wingwalls nor aprons. Standard "U", "V" & "W" bars (as shown on Sheet #4) are used except as noted.

Concrete Box Culvert extends from Sta 299+59 to 299+81.

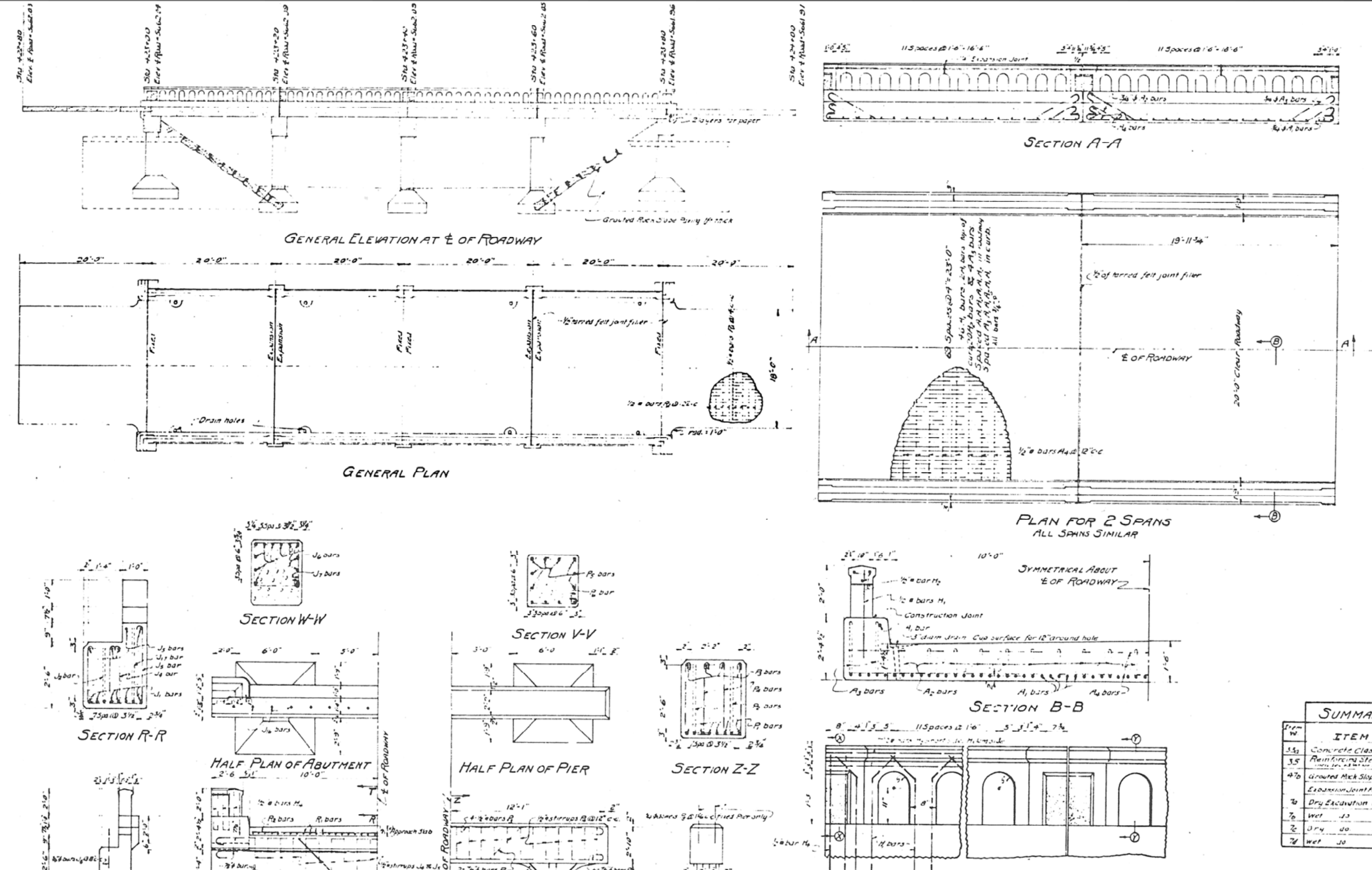
LIST OF STRUCTURES.

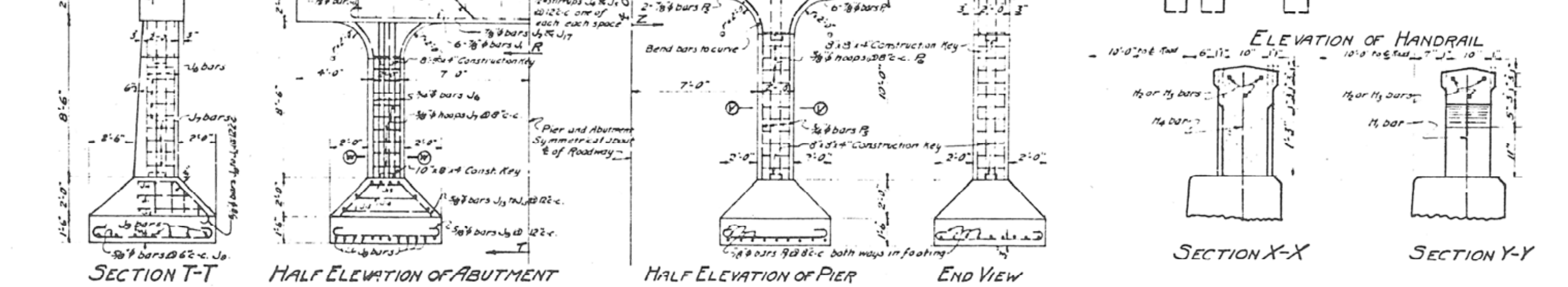
Station	Station	Description	Corrugated Metal Culvert Pipe Lineal Feet 15"	18"	24"		Concrete Cu. Yds Cl. "A"	Cl. "B"	Reinf. Steel Pounds	Struct. Excav. @ Cu. Yds	Remove Fence Lin. Ft.	Build Fence Lin. Ft.	Timber Header Lin. Ft.	Common Excav. Cu. Yds	Remove Struct's Number	Guard Fence Lin. Ft.	
202+00		Project Marker (1)															
202+00	220+65	Remove fence									1865						
202+00	220+90	Build fence										1890					
219+90		Side drain and Header	20					0.9		2			32				
220+70		2'x2'x30' Concrete Box Culvert					13.9		1328	16							
221+00	227+00	Timber header											600				
221+95		Side drain	50					0.9		2							
224+00	328+50	Remove fence									10945						
224+00	328+50	Build fence										10470					
224+35		Remove culvert													1		
225+05		Side drain	30					0.9		2							
225+85		5'x3'x28' Conc. Box Culv.					26.4		2203	55							
226+00		Side drain	30					0.9		2							
236+00		" " and Header	30					0.9		2			40				
236+50		" " " "	50					0.9		2			80				
239+80		" " " "	20					0.9		2			32				
260+70		" " " "	20					0.9		2			32				
271+60		2'x2'x28 Conc. Box Culv.					13.3		1262	29							
277+85		Side drain and Header	20					0.9		2			32				
281+55		" " " "	20					0.9		2			32				
284+40		2'x2'x28' Conc. Box Culv.					13.3		1262	32							
284+40		Remove culvert													1		
284+40		Channel change												200			
298+00	301+00	Remove concrete ditch													1		
298+00	301+00	Concrete ditch and box culvert					37.7		703	86			32				
301+35		Remove scales													1		
303+55		Side drains and Headers (2ea)	90					1.8		4			200				
323+35		" " " " (1ea)	20					0.9		2			32				
328+60		‡ Remove pump house, fill well,															
328+60		‡ Build new pump house, dig well															
328+70		Timber header											160				
329+40	329+90	Remove fence									60						
329+90	351+50	Build fence										2160					
332+50	334+40	Remove fence									280						
333+25		Remove three buildings													3		
334+92		2'x2'x28' Conc. Box Culv. Channel chge					13.3		1262	30				20			
335+10	351+50	Ditch change												400			
336+65	349+35	" "												100			
336+70		Remove fence									125						
337+25		" "									125						
340+65		" "									115						
349+45		" "									100						
349+55		3 Side drains; 2 Headers	80		20			3.2		6			112				
349+65		Remove fence									100						
350+15	370+15	Build fence										2000					
350+80		Remove fence									170						
369+40	402+15	Build "										3275					
369+50	412+50	Ditch change												1200			
369+80		Remove fence									125						
402+55		" "									125						
402+55	419+55	Build "										1700					
402+65		2 Side drains; 1 Header	30		30			2.3		4			64				
413+70		4'x4'x30 Conc. Box Culvert					30.1		2282	23							
418+55	419+55	Remove fence									210						
420+40	450+30	Build "										3040					
422+80	424+00	† Concrete slab Bridge															
432+00	450+00	Ditch change												300			
432+95		Remove fence									100						
438+65		2'x2'x28' Conc. Box Culvert					13.3		1262	18							
442+50	450+65	Remove fence									905						
442+50	450+65	Build "										815					
451+00		Side drain and Header.	80					0.9		2			120				
451+25	459+00	Remove fence									795						
451+25	459+00	Build "										775					
451+40	459+00	Ditch change												100			
451+60		Remove culvert													1		
451+60		2'x2'x48' Conc. Box Culvert					19.2		1917	58							
459+00		Timber header											18				
363+00	364+00	†† Remove five trees															
422+00	423+00	Wire Link Mesh Guard Fence														200	
423+80	424+80	" " " " "														200	
Totals			590		50		180.5	181	13481	385	16145	26125	1618	2320	8	400	

‡ Work done and materials furnished by State Forces.
† Quantities in Summary.
†† To be paid for as Clearing and Grubbing, Lump Sum.
@ Structural excavation is estimated to be 50% dry and 50% wet.

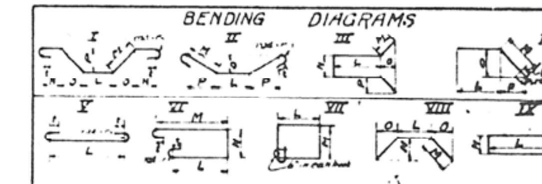
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	277-B	3	

Revised Quantities as Constructed 3-9-39 R.S.S.





BENDING DIAGRAMS



BAR LIST FOR FOUR SLAB SPANS

Mark	Size	Number	Length	Bending Diagram	L	M	N	O	P	r	t
A1	3/4"φ	122	21'-0"	V	19'-0"					3"	2½"
A2	3/4"φ	80	21'-6"	II	15'-6"	2'-0"		1'-0"	1'-9"	3"	2½"
A3	3/4"φ	16	22'-1"	II	12'-2"	3'-11½"		2'-0"	3'-5"	3"	2½"
A4	1/2"□	88	23'-0	Straight							
H1	1/2"□	135	6'-4"	III	2'-0"	1'-0"	0'-4"	0'-8½"	0'-8½"		
H2	1/2"□	24	9'-0"	Straight							
H3	1/2"□	24	10'-6"	Straight							
H4	1/2"□	16	6'-6"	IX	3'-0"	0'-6"					

BAR LIST FOR TWO APPROACH SLABS

Mark	Size	Number	Length	Bending Diagram	L	M	N	O	P	r	t
R1	1/2"□	108	20'-6	V	19'-2"					2"	2"
R2	1/2"□	40	17'-9"	Straight							

BAR LIST FOR THREE PIERS

Mark	Size	Number	Length	Bending Diagram	L	M	N	O	P	r	t
P1	7/8"φ	18	25'-7"	V	23'-3"					3½"	3"
P2	7/8"φ	6	27'-7"	I	6'-0"	3'-6½"	6'-1"	2'-6"	2'-6"	3½"	3"
P3	1/2"□	12	25'-0"	V	23'-8"					2"	2"
P4	1/2"□	138	7'-7"	VI	2'-3"	2'-5"	1'-5½"			2"	2"
P5	3/4"φ	72	16'-0"	Straight							
P6	5/8"φ	73	7'-4"	VII	1'-7"	1'-7"					
P7	5/8"φ	109	6'-9"	V	5'-1"					2½"	2"
P8	3/4"φ	33	3'-6"	Straight							

BAR LIST FOR TWO ABUTMENTS

Mark	Size	Number	Length	Bending Diagram	L	M	N	O	P	r	t
J1	7/8"φ	13	25'-4"	V	23'-0"					3½"	3"
J2	7/8"φ	2	28'-0"	I	6'-0"	2'-10	7'-0"	2'-0"	2'-0"	3½"	3"
J3	7/8"φ	10	26'-4"	V	24'-0"					3½"	3"
J4	1/2"□	40	6'-7"	VI	2'-0"	2'-0"	1'-3"			2"	2"
J5	1/2"□	40	7'-4"	VI	2'-0"	2'-9"	1'-3"			2"	2"
J6	3/4"φ	48	13'-6"	Straight							
J7	5/8"φ	40	7'-3"	VII	1'-7"	1'-6½"					
J8	5/8"φ	48	7'-10"	V	6'-2"					2½"	2"
J9	5/8"φ	28	6'-10"	V	5'-2"					2½"	2"
J10	5/8"φ	16	5'-8"	IX	2'-0"	2'-10"	2'-0"	2'-0"		2½"	2"
J11	5/8"φ	8	5'-3"	IV	2'-5"	1'-8"	1'-2"	1'-2"		2½"	2"
J12	5/8"φ	8	4'-10"	IX	3'-6"	0'-6"	0'-4"	0'-4"		2½"	2"
J13	5/8"φ	8	6'-5"	VIII	1'-9"	2'-4"	1'-8"	1'-8"			
J14	5/8"φ	4	6'-1"	VIII	3'-2"	1'-5½"	1'-0"	1'-0"			
J15	5/8"φ	4	3'-7"	VIII	4'-7"	0'-6"	0'-4"	0'-4"			
J16	3/4"φ	32	3'-6"	Straight							
J17	7/8"φ	2	28'-10	I	6'-0"	3'-10¾"	6'-3"	2'-9"	2'-9"	3½"	3"
H4	1/2"□	12	6'-6"	IX	3'-0"	0'-6					

1331 Lin. Ft. of 7/8"φ bars @ 2.044 Lbs. per ft. = 2719 Lbs.
8233 Lin. Ft. of 3/4"φ bars @ 1.502 Lbs. per ft. = 12226 Lbs.
1372 Lin. Ft. of 5/8"φ bars @ 1.043 Lbs. per ft. = 1640 Lbs.
8165 Lin. Ft. of 1/2"□ bars @ 0.850 Lbs. per ft. = 6945 Lbs.
825 Lin. Ft. of 3/8"φ bars @ 0.376 Lbs. per ft. = 310 Lbs.
+3% for overrun = 760 Lbs.
TOTAL = 24 600 Lbs.

SUMMARY OF QUANTITIES FOR ENTIRE BRIDGE

Item W.	ITEM	Unit	2 ABUTMENTS	3 PIERS	2 APPROACH SLABS	4 SPANS, Superstructure	TOTALS
33a	Concrete Class "A"	Cu. Yds.	38.2	50.0	18.6	112.2	219.0
35	Reinforcing Steel	Lbs.	4250	5450	2550	12 350	24 600
47b	Grouted Rock Slope Paving	Sq. Yds.	400				400
	Expansion Joint Felt (1/2"x12")	Lin. Ft.			40	100	140
7a	Dry Excavation Common	Cu. Yds.	60.2	108.2			168.4
7b	Wet do do	do					0
7c	Dry do Rock	do					0
7d	Wet do do	do					0

GENERAL NOTES

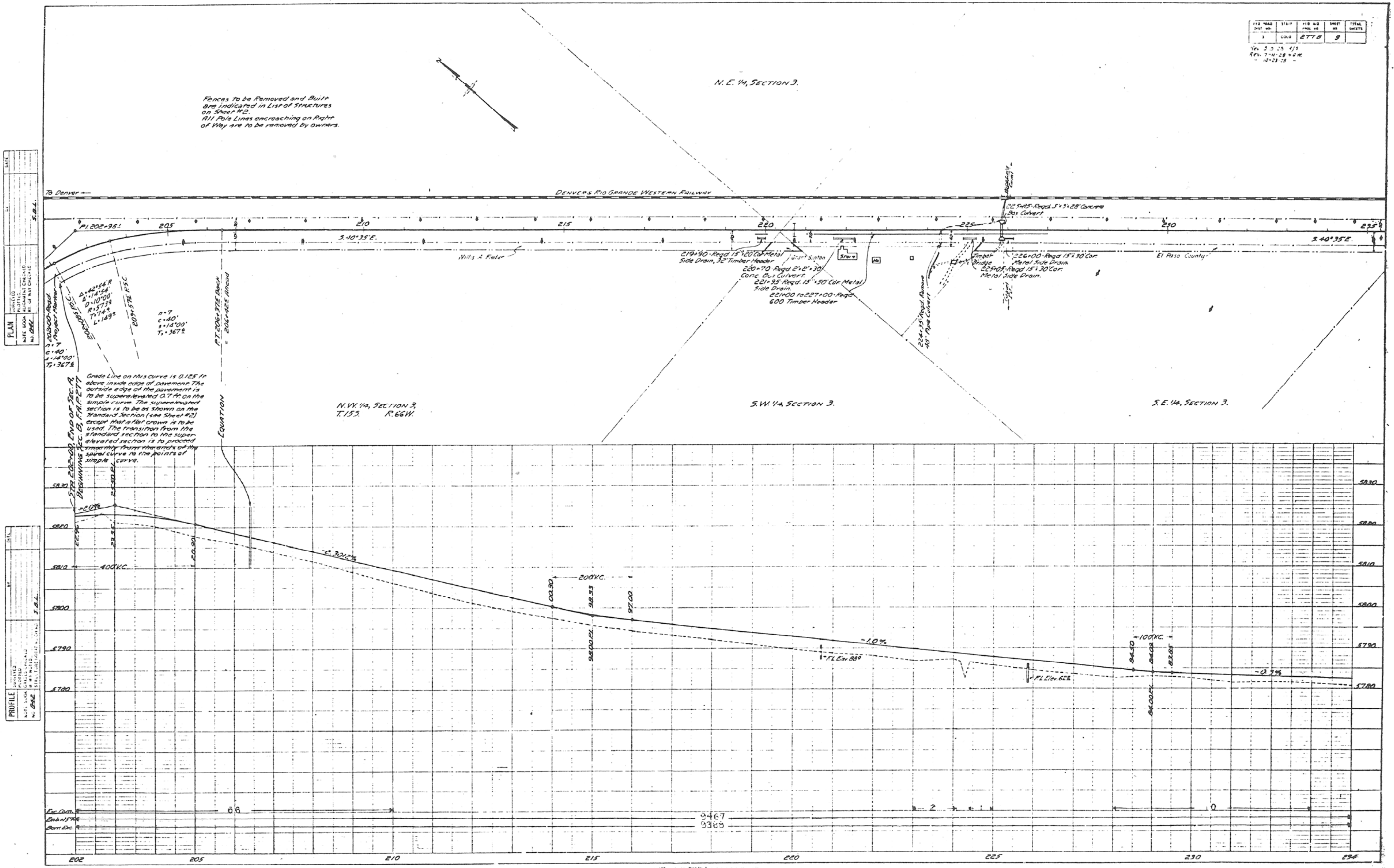
ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO STATE HIGHWAY DEPARTMENT.
ALL CONCRETE SHALL BE CLASS "A".
ALL EXPOSED SURFACES SHALL BE RUBBED FREE OF FORM MARKS.
ALL EXPOSED CORNERS EXCEPT ON HANDRAILS SHALL BE BEVELED TO A 2" FACE.
[illegible] FLOOR SLAB AND CURB SHALL BE POURED MONOLITHICALLY.
ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE FRESH CONCRETE IS POURED.
FOOTINGS IN ROCK SHALL BE [illegible] OUT TO THE ROCK AND NOT FORMED.
STRUCTURE IS DESIGNED FOR A [illegible] CONCRETE WEARING SURFACE.
ALL REINFORCING BARS SHALL BE ROUND OR SQUARE, PLAIN OR DEFORMED AS [illegible] AND NOTED.
ALL REINFORCING BARS SHALL BE TAGGED WITH THE STATION NUMBER AND LETTER [illegible].
SECONDARY BARS WHEN SPLICED SHALL BE GIVEN A LAP OF 40 DIAMETERS.
MAIN BARS SHALL NOT BE SPLICED.
[illegible] AND DEPTH OF FOOTINGS SHOWN ARE ACCORDING TO THE BEST AVAILABLE [illegible]. IF ESSENTIALLY DIFFERENT CONDITIONS ARE ENCOUNTERED, THE ENGINEER WILL [illegible] AND DETERMINE IF REDESIGN IS NECESSARY.

LOADING: A.A.S.H.O. Dec. 1926. Class A.

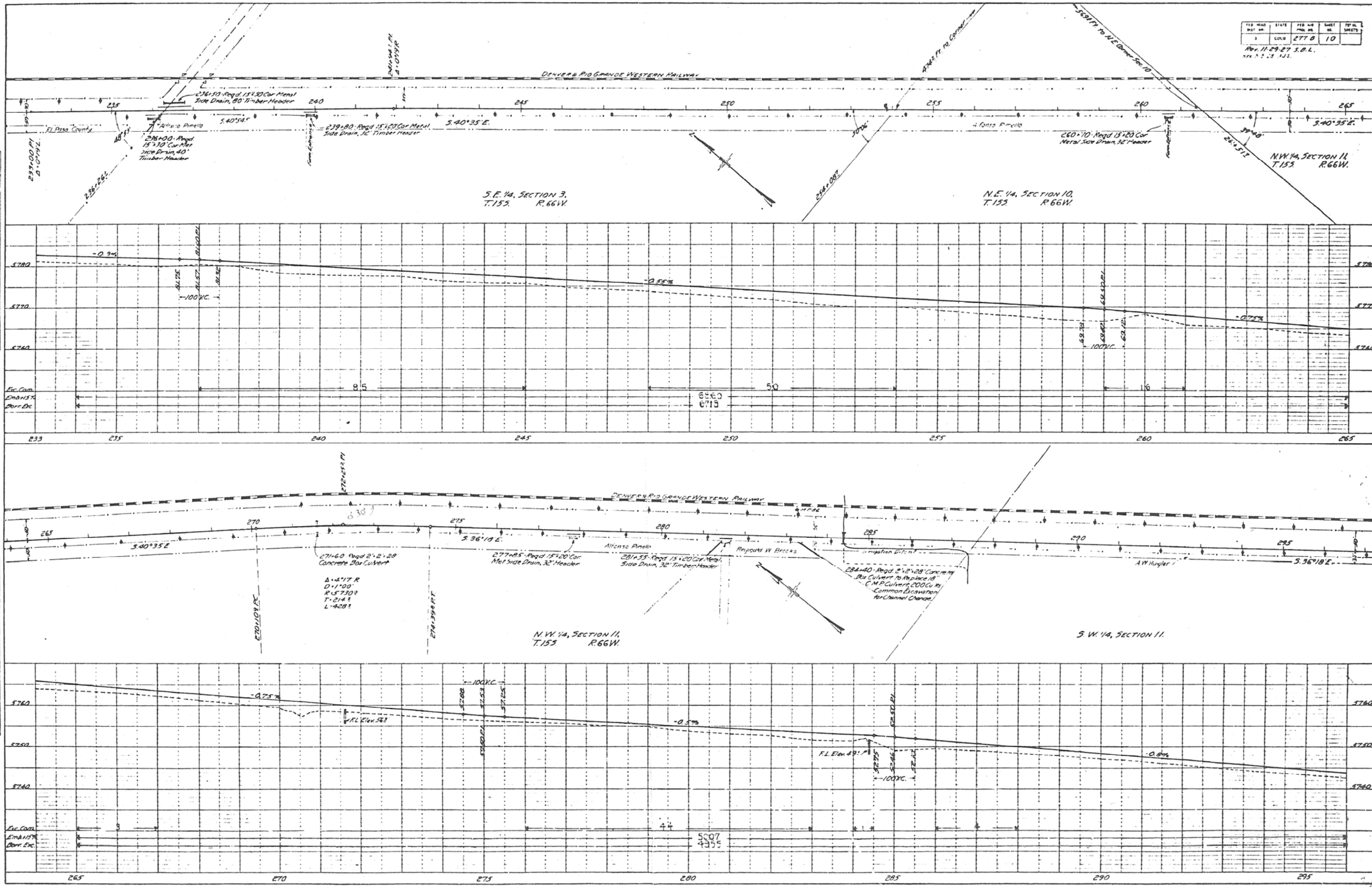
COLORADO
STATE HIGHWAY DEPARTMENT
DETAILS FOR CONCRETE SLAB BRIDGE
Across Crews Gulch
Sta. 422+80 to 424+00
Near Fountain Sec. 19 T. 15 S. R. 66 W.

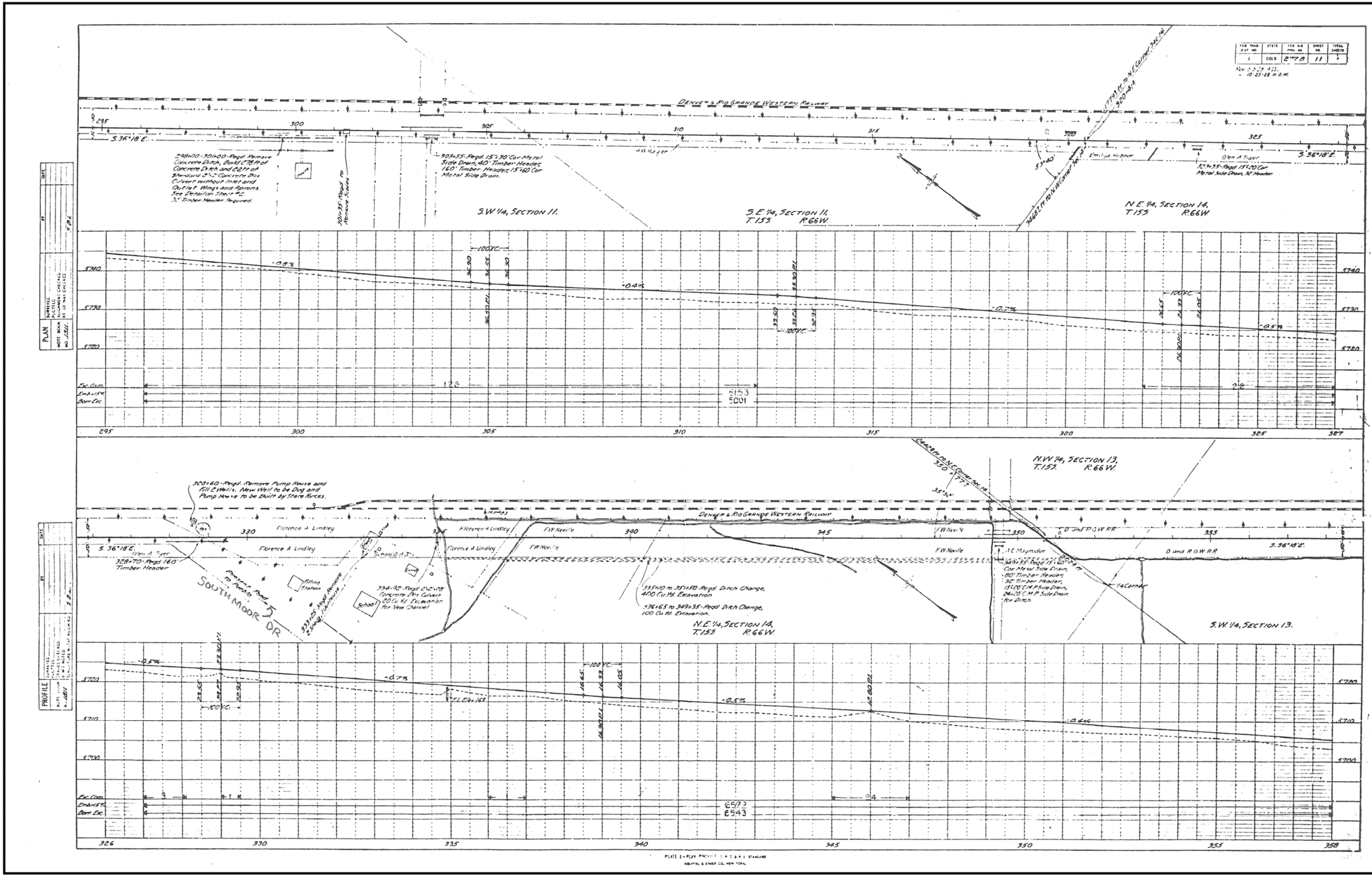
Designed by R.W.J.
Made by R.W.J.
Checked by P.S.B.
Approved by [signature] Bridge Engineer
Date: Nov. 10, 1927

STRUCTURE NO. J-18-A



COLO
277 B
9
Fences to be Removed and Built are indicated in List of Structures on Sheet #2.
All Pole Lines encroaching on Right of Way are to be removed by owners.
N. E. 1/4, Section 3.
To Denver
Denver & Rio Grande Western Railway
PI 202+96±
S.40°35'E.
Nills A. Fieler
219+90 Reqd. 15"x20' Cor. Metal Side Drain, 32' Timber Header
220+70 Reqd. 2'x2'x30' Conc. Box Culvert.
221+95 Reqd. 15"x30' Cor. Metal Side Drain.
221+00 to 227+00 Reqd. 600' Timber Header
225+85 Reqd. 5'x3'x28' Concrete Box Culvert
226+00 Reqd. 15"x30' Cor. Metal Side Drain.
226+05 Reqd. 15"x30' Cor. Metal Side Drain.
Timber Bridge
224+35 Reqd. Remove 43' Pipe Culvert
El Paso County
n=7
c=40'
s=14°00'
Ts=367±
n=7
c=40'
s=15°00'
Ts=367±
Δ=42°56'R
Δ=14°54'
D=10°00'
R=573.9
T=74±
L=149±
P.T. 206+37.8 Back = 206+42.5 Ahead
EQUATION
Sta. 202+00 End of Sec. A, Beginning Sec. B, F.A.P. 277
Grade Line on this curve is 0.125 ft. above inside edge of pavement. The outside edge of the pavement is to be superelevated 0.7 ft. on the simple curve. The superelevated section is to be as shown on the Standard Section (see Sheet #2) except that a flat crown is to be used. The transition from the standard section to the superelevated section is to proceed smoothly from the ends of the spiral curve to the points of simple curve.
N.W. 1/4, Section 3.
T.15S. R.66W.
S.W. 1/4, Section 3.
S.E. 1/4, Section 3.
PLAN
PROFILE
5830
5820
5810
5800
5790
5780
+2.0%
-2.3012%
400'V.C.
200'V.C.
-1.0%
100'V.C.
-0.3%
F.L. Elev. 88±
F.L. Elev. 62±
Exc. Com.
Emb.
Borr. Exc.
3467
3369
202
205
210
215
220
225
230
234


Rev. 11-29-27 S.D.L.
COLO
277 B
10
DENVER & RIO GRANDE WESTERN RAILWAY
El Paso County
Alfonso Pinello
S.40°35'E.
236+00 - Reqd. 15"x30" Cor. Met. Side Drain, 40' Timber Header
236+50 - Reqd. 15"x30" Cor. Metal Side Drain, 80' Timber Header
239+80 - Reqd. 15"x20" Cor. Metal Side Drain, 32' Timber Header
260+70 - Reqd. 15"x20" Cor. Metal Side Drain, 32' Header
N.W. 1/4, Section 11, T.15S. R.66W.
S.E. 1/4, Section 3, T.15S. R.66W.
N.E. 1/4, Section 10, T.15S. R.66W.
239+00 P.I.
-0.9%
-0.55%
-0.75%
100' V.C.
Exc. Com.
Emb. +15%
Borr. Exc.
6860
6719
PLAN
PROFILE
S.D.L.
S.36°18'E.
Alfonso Pinello
Reynold W. Brooks
A.W. Hugler
Irrigation Ditch
271+60 Reqd. 2'x2'x28' Concrete Box Culvert
277+85 - Reqd. 15"x20" Cor. Met. Side Drain, 32' Header
281+55 - Reqd. 15"x20" Cor. Metal Side Drain, 32' Timber Header
284+40 - Reqd. 2'x2'x28' Concrete Box Culvert to Replace 18" C.M.P. Culvert, 200 Cu. Yds. Common Excavation for Channel Change.
Δ = 4°17' R
D = 1°00'
R = 5730
T = 214
L = 428
270+10.9 P.C.
274+39.8 P.T.
N.W. 1/4, Section 11, T.15S R.66W.
S.W. 1/4, Section 11.
F.L. Elev. 49
-0.5%
-0.8%
5007
4955
PLATE 2 - PLAN-PROFILE



COLO 277B 11
DENVER & RIO GRANDE WESTERN RAILWAY
S. 36°18' E.
298+00 - 301+00 - Reqd. Remove Concrete Ditch, Build 278 ft of Concrete Ditch and 22 ft of Standard 2'x2' Concrete Box Culvert without Inlet and Outlet Wings and Aprons. See Detail on Sheet #2. 30' Timber Header Required.
301+35 - Reqd. to Remove Scales
303+55 - Reqd. 15"x30' Cor. Metal Side Drain, 40' Timber Header, 160' Timber Header, 15"x60' Cor. Metal Side Drain.
S.W. 1/4, SECTION 11.
S.E. 1/4, SECTION 11. T.15S. R.66W.
N.E. 1/4, SECTION 14. T.15S. R.66W.
Emilie Hibner
Glen A. Tiger
323+35 - Reqd. 15"x20' Cor. Metal Side Drain, 32' Header
-0.8%
-0.4%
-0.7%
-0.5%
100 V.C.
5740
5730
5720
Exc. Com.
Emb. +15%
Borr. Exc.
126
5153
5001
295
300
305
310
315
320
325
327
N.W. 1/4, SECTION 13. T.15S. R.66W.
328+60 - Reqd. Remove Pump House and Fill 2 Wells. New Well to be Dug and Pump House to be Built by State Forces.
DENVER & RIO GRANDE WESTERN RAILWAY
Florence A. Lindley
F.W. Neville
J.C. Magruder
D and R G W R.R.
S. 36°18' E.
Glen A. Tiger
328+70 - Reqd. 160' Timber Header
Filling Station
School
School Dist. 3
334+92 - Reqd. 2'x2'x28' Concrete Box Culvert, 20 Cu. Yd. Excavation for New Channel
335+10 to 351+50 - Reqd. Ditch Change, 400 Cu. Yd. Excavation
336+65 to 349+35 - Reqd. Ditch Change, 100 Cu. Yd. Excavation
349+35 - Reqd. 15"x60' Cor. Metal Side Drain, 80' Timber Header, 32' Timber Header, 15"x20' C.M.P. Side Drain, 24"x20' C.M.P. Side Drain for Ditch
1/4 Corner
N.E. 1/4, SECTION 14. T.15S. R.66W.
S.W. 1/4, SECTION 13.
SOUTH MOOR DR
-0.5%
-0.7%
-0.5%
-0.6%
100 V.C.
5720
5710
5700
Exc. Com.
Emb. +15%
Borr. Exc.
6572
6543
326
330
335
340
345
350
355
358
PLAN
PROFILE

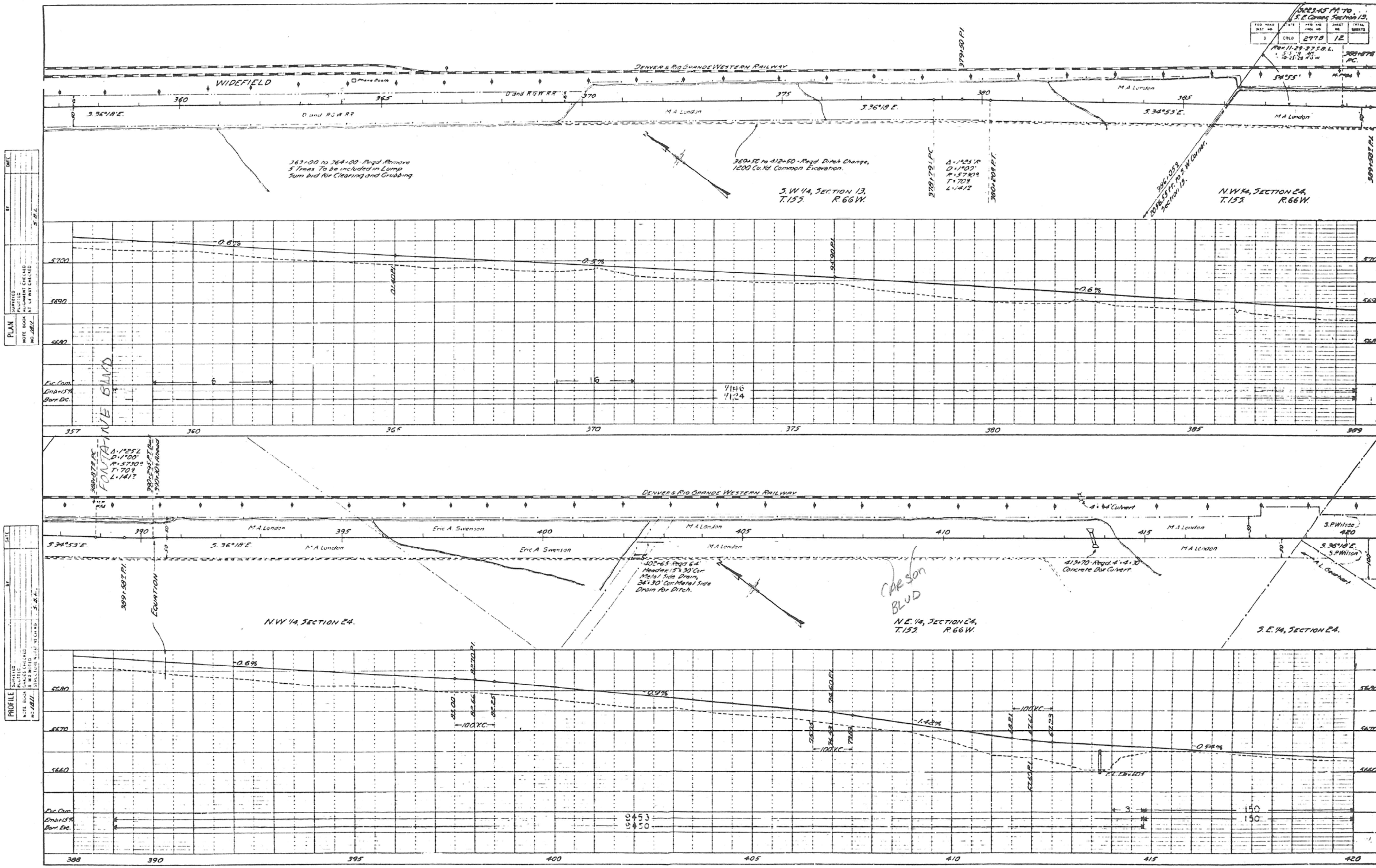
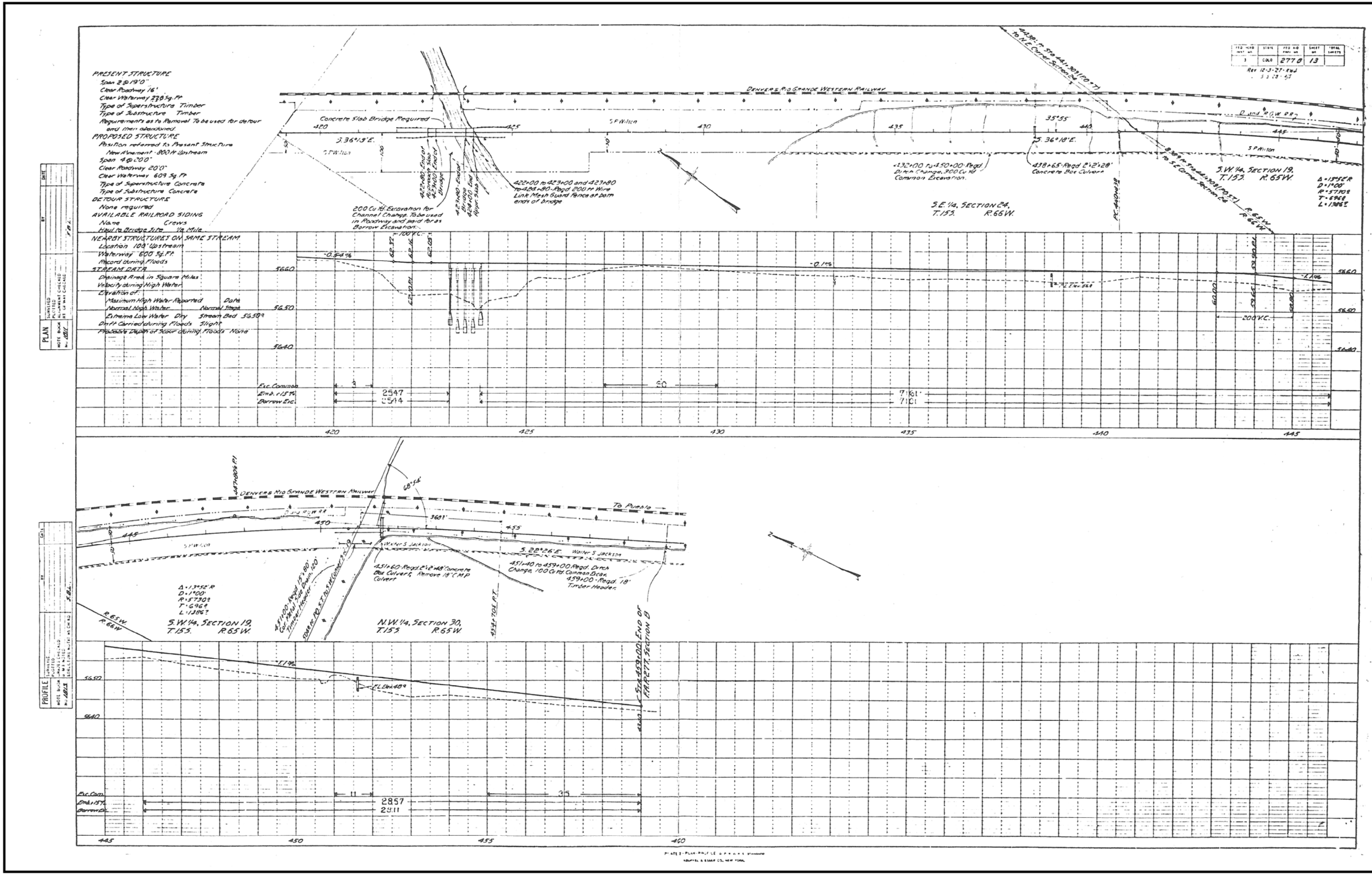


PLATE 7 - PLAN-PROFILE D.P.R. & H.E. STANDARD

KEUFFEL & ESSER CO., NEW YORK


PRESENT STRUCTURE
Span 2@19'0"
Clear Roadway 16'
Clear Waterway 278 Sq. Ft.
Type of Superstructure Timber
Type of Substructure Timber
Requirements as to Removal To be used for detour and then abandoned.
PROPOSED STRUCTURE
Position referred to Present Structure
New Alinement - 800 ft Upstream
Span 4@20'0"
Clear Roadway 20'0"
Clear Waterway 609 Sq. Ft.
Type of Superstructure Concrete
Type of Substructure Concrete
DETOUR STRUCTURE
None required
AVAILABLE RAILROAD SIDING
None Crews
Haul to Bridge Site 1/2 Mile
NEARBY STRUCTURES ON SAME STREAM
Location 100' Upstream
Waterway 600 Sq. Ft.
Record during Floods
STREAM DATA
Drainage Area in Square Miles
Velocity during High Water
Elevation of:
Maximum High Water Reported Date
Normal High Water Normal Stage
Extreme Low Water Dry Stream Bed 5650.0
Drift Carried during Floods Slight
Probable Depth of Scour during Floods None
DENVER & RIO GRANDE WESTERN RAILWAY
Concrete Slab Bridge Required
S.P. Wilson
S. 36°13' E.
S. 36°18' E.
35°55'
200 Cu Yd Excavation for Channel Change. To be used in Roadway and paid for as Borrow Excavation.
422+00 to 423+00 and 423+80 to 428+80 - Reqd 200 ft Wire Link Mesh Guard Fence at both ends of bridge
432+00 to 450+00 - Reqd. Ditch Change, 300 Cu Yd Common Excavation.
438+65 - Reqd 2'x2'x28' Concrete Box Culvert
S.E. 1/4, SECTION 24, T.155. R.66W.
S.W. 1/4, SECTION 19, T.155. R.65W.
Δ = 13°52' R
D = 1°00'
R = 5730.0
T = 696.8
L = 1386.7
FED. AID PROJ. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS
3 | COLO. | 277 B | 13
-0.54%
-0.1%
-1.1%
200' V.C.
100' V.C.
5660
5650
5640
Exc. Common
Emb. +15%
Borrow Exc.
2547
2544
7161
7101
30
420
425
430
435
440
445
To Pueblo
451+60 - Reqd 2'x2'x48' Concrete Box Culvert, Remove 18" C.M.P. Culvert
451+40 to 459+00 - Reqd. Ditch Change, 100 Cu Yd Common Excav.
459+00 - Reqd. 18" Timber Header.
S. 28°26' E.
Walter S. Jackson
68°54'
N.W. 1/4, SECTION 30, T.155. R.65W.
S.W. 1/4, SECTION 19, T.155. R.65W.
R.65W.
R.66W.
Sta. 459+00 End of F.A.P. 277, Section B
-1.1%
2857
2911
11
35
450
455
460
PLAN
PROFILE
NOTE BOOK
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
KEUFFEL & ESSER CO. NEW YORK