

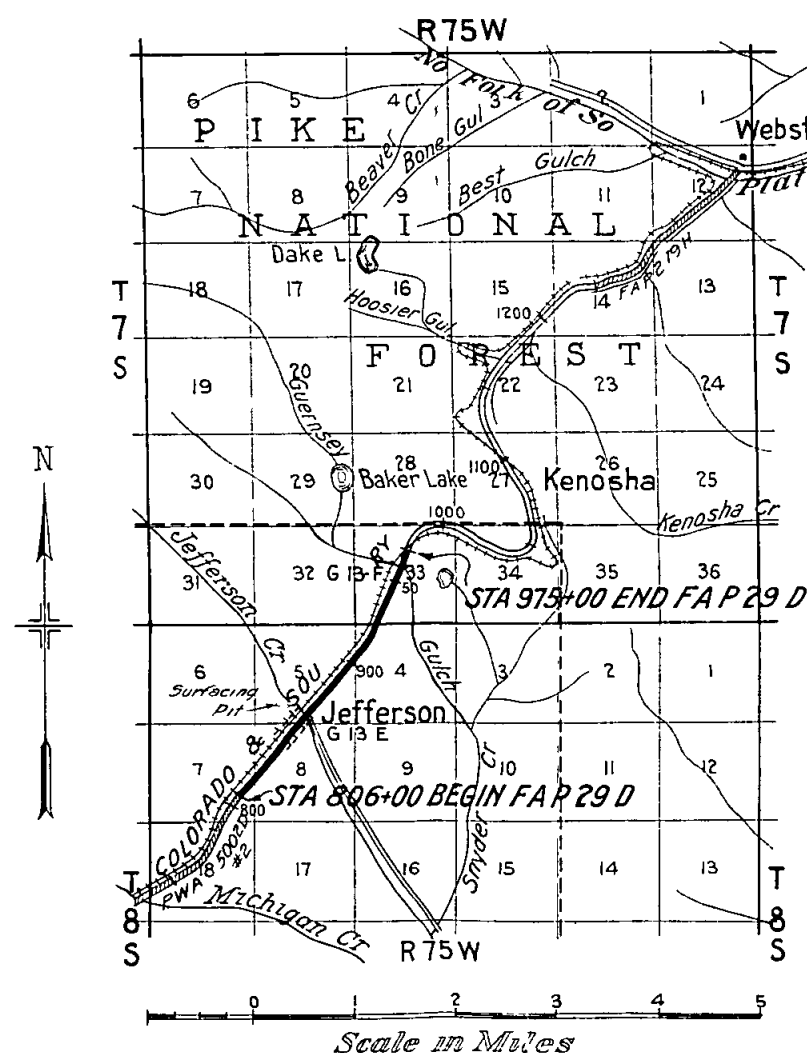
COLORADO
STATE HIGHWAY DEPARTMENT
PLAN AND PROFILE OF PROPOSED
FEDERAL AID PROJECT NO. 29-D
STATE HIGHWAY NO. 8
PARK COUNTY

SHEET No 1		TITLE SHEET	
2	TYPICAL SECTION & SUMMARY		
3	LIST OF STRUCTURES		
4	BRIDGE DETAILS STA 865+		
5		967+	
6	STD CONCRETE BOX CULVERTS	M 103 D	
7	HDWLS FOR C M P	M 102 E	
8-	SIPH C I PIPE WITH CONCRETE INLET & OUTLET BOXES	M 123 A	
9	STD CATT GD 16 ROADWAY	M 16 A	
10	TIMBER GUARD POSTS	M 19 A	
11	WIRE FENCES (STEEL POSTS)	M 27 A SPEC	
12	PICKET SNOW FENCE (STEEL POSTS)	M 25 B	
13	STRUCT NUMBER LETTERING	M 10 A	
14	SUPERELEV & WIDENING	M 1 B	
15	SIDE APPR ROADS TRAFFIC SIGNS	M 2 B	
16 22	PLAN & PROFILE SHEETS		
23 58	CROSS SECTIONS		

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 16 898 7 FT = 3 200 MI
 NET LENGTH OF PROJECT

CENTER LINE OF SURVEY _____
 RIGHT OF WAY LINE _____
 TOWNSHIP LINE _____
 SECTION LINE _____
 ONE QUARTER SECTION LINE _____
 BARBED WIRE FENCE _____
 RAILROAD TRACKS _____
 POLE LINES _____

*It is recommended that bidders on this Project
go over the plan details with one of the following
Field representatives of this Department
Ernest Montgomery District Engineer located at Colo Springs
Harry Littlefield Resident Engineer Fairplay*



RECOMMENDED FOR APPROVAL

J. E. McCaloney

ASSISTANT ENGINEER

APPROVED

Charles W. Hill

STATE HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL

--- D ST ENG BUREAU PUBLIC ROADS

RECOMMENDED FOR APPROVAL

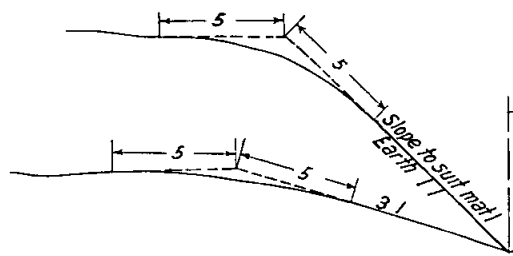
--- CHIEF ENG BUREAU PUBLIC ROADS

APPROVED

--- DIRECTOR BUREAU PUBLIC ROADS

CUT SLOPE TREATMENT

TYPICAL CROSS SECTION OF IMPROVEMENT AND SUMMARY OF QUANTITIES



The intersection of cut slopes with the existing ground shall be rounded in earth cuts beginning 5 ft outside the slope stake and extending 5 ft down the cut slope. Where the cut slope is less than 5 ft reduce each of the above widths of slope treatment to the actual slope distance. Quantities involved in cut slope treatment shall be included in Unclassified Excavation.

GENERAL NOTES

This Project is to be constructed in conformity with the Standard Specifications of the Colorado State Highway Department adopted June 1 1937.

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

All Roadway excavation required to construct this Project is to be obtained as indicated on the plans. Quantities involved beyond the limits of the ditch as shown on the Typical Section either noted on the Profile as Borrow or on the List of Structures as Embankment are to be classified and paid for as Unclassified Excavation. These quantities are to be staked as part of the original excavation at locations indicated on the plans. Slope stakes beyond the limits of the Typical Section are subject to changes by the Engineer to fit Embankment requirements actually met in Construction.

All curves are to be superelevated as provided for by the standard superelevation sheet included with the plans.

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

The entire Project is to be cleared the full width of the Right of Way and the cost thereof included in the lump sum price for Clearing & Grubbing the entire Project.

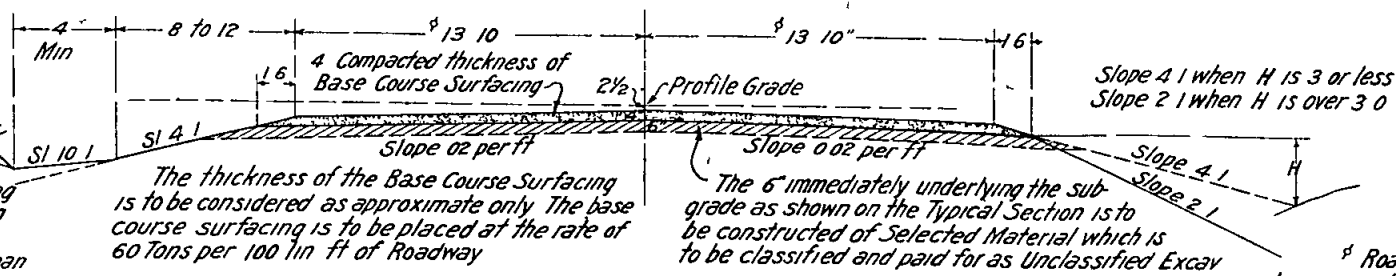
Except as otherwise noted on the plans overhaul will be paid for as measured along the center line of the Project.

All corrugated metal pipe cross culverts are to be provided with one headwall on the inlet end unless otherwise noted on the plans.

All side approach roads to the Project shall be gravel surfaced with a 4" thickness of Gravel or Crushed Rock surfacing extending approximately 30 ft from edge of Highway. Estimated Tonnage of Surfacing material required in this operation is shown in List of Structures.

The present travelled road will be used for traffic during construction of this Project. At Stations 865+ and 967+ the Contractor shall construct detours as noted on the plans. The Contractor will be paid for the several items involved in Detour construction at these locations. At all other places on the Project where new construction encroaches on the present travelled Roadway the Contractor shall adequately provide for traffic at his own expense. Also the Contractor shall at his own expense construct and maintain in safe condition all temporary approaches to and crossings of intersecting roads.

TYPICAL SECTION



The 6" thickness of Selected Material shown on Typical Section shall be placed on the Subgrade throughout the entire Project. The material shall be placed at the rate of 70 tons per 100 lin ft of Roadway.

Selected Material for the Project is estimated to be available on the Right of Way between Sta 896 and Sta 912. Estimated quantities are:

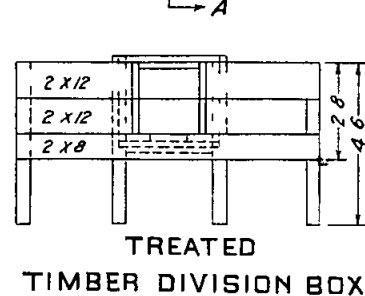
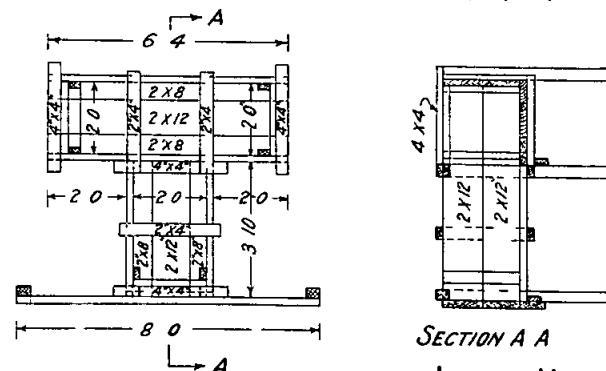
Selected Material - 11,800 cu yds
Sta-Yard Overhaul - 102,700 Sta Yd
Yard Mi Overhaul - 5,800 Yd Mi

SURFACING PLAN

Gravel or Crushed Rock Surfacing for the Project is available from the pit shown on the plans about 500 ft Left of Sta 862+50. Estimated quantities are:
10,600 Tons of Gravel or Crushed Rock Surfacing
2,600 Ton Mile Overhaul of Surfacing

NAILING DIRECTIONS

Posts to Baffle Bd - 4 20d nails per Baffle bd
Guides to Sides - 2 16d nails per Guide per plank
Ties to Posts - 4 16d nails per Tie per Post
Ties to Sides - 3 16d nails per Tie per plank
Floor to Sills - 4 16d nails per Plank per Sill
Sides to Posts - 3 16d nails per Plank per Post
2 x 4 Posts to Backing Plank - 3 16d nail per Post per Plank
4 x 4 Posts to Backing Plank - 3 20d nails per Post per Plank
Nailing Pcs to Sides - 2 16d nails per pc per plank



* Timber shall conform to the requirements of - Item No 44b Miscell Trtd Timber

LIST OF MATERIAL *

DESCRPT	Pcs	SIZE	LENGTH
Ties	4	4 X 4	3' 0"
	2	2 X 4	2' 10"
	1	2 X 4	2' 8"
Floor	2	2 X 8	6' 4"
	1	2 X 12	6' 4"
	2	2 X 8	3' 10"
	1	2 X 12	3' 10"
Sides	4	2 X 12	4' 0"
	4	2 X 12	3' 0"
	2	2 X 12	6' 4"
	1	2 X 8	8' 0"
Back	10	4 X 4	4' 6"
Posts	12	2 X 4	2' 0"
Guides	12	2 X 6	2' 0"
	2	2 X 4	2' 6"
Sills	2	2 X 4	2' 4"
	1	2 X 4	2' 8"
	1	2 X 4	3' 0"
Nailing Pcs	4	2 X 4	2' 2"

NOTE

Between STA 819 and STA 850 the top 6 inches of material in side borrow pits shall be excavated before any Roadway Embankment material is removed. This top material shall be placed along the Right of Way at locations staked by the Engineer.

Roadway Embank at Bridge approaches shall be so constructed that the finish point of gravel shoulder is 3' outside the curb line of the bridge. Where widening of the section is necessary to achieve this result it shall take place uniformly over a distance of 300'. This is done to accommodate guard fences at Bridge approaches.

FENCING REQUIREMENTS

STATIONS	SIDE	REMOVE FENCE	BUILD BW FENCE	GATES	
				BW	DRWAY
806+00-850+00	X & R	4,430			
806+00-851+70	R		4,555		
806+00-850+84	L		4,470		
831+20	R & L				2
868+15-925+20	L		5,690		
895+10-925+45	R	50	3,075		
909+00-925+45	R	18,440			
913+25	L			1	
925+90-967+55	L		4,180		
926+15-975+00	R	5,015			
926+15-967+55	R		4,155		
967+80-975+00	L		740		
967+80-975+00	R		740		
870+50	R			1	
883+00	L			1	
894+00	R & L			2	
952+50	R & L			2	
TOTALS		11,335	27,605	7	2

GUARD POSTS

STATION	KIND	SIDE	No
850+50-851+67	Hw/L	L & R	8
864+38.5-864+99.5	Bridge	R	5
864+53.5-865+14.5	"	L	5
865+71.7-866+32.7	"	R	5
865+86.7-866+47.7	"	L	5
966+91.7-967+52.7	R & L		10
967+83.3-968+44.3	"		10
TOTAL			48

ROW MARKERS

STATIONS	SIDE	No
824+60	L	1
825+40	R	1
826+05	R	1
827+30	L	1
850+85	L	1
851+68	R	1
867+45	R	1
868+60	L	1
893+80	L	1
894+65	R	1
895+00	R	1
896+00	R	1
907+90	R	1
910+50	L	1
913+00	R	1
914+00	R	1
925+20	L	1
926+20	R	1
954+40	L	1
954+85	R	1
975+00	R & L	2
TOTAL		22

SUMMARY OF APPROXIMATE QUANTITIES

ITEM	DESCRIPTION	UNIT	RDWAY	BRIDGE STA 865+	BRIDGE STA 967+	TOTALS
10 a	Clearing & Grubbing entire Proj	Lmp Sum	.			.
11 a	Removing & resetting Br 865+	"	.			.
11 b	Removing & resetting Br 967+	"	.			.
11 c	Removing 42 structures	"	.			.
12 a	Removing fence	Lin Ft	11,400			11,400
13 c	Unclassified Excavation	CU Yd	87,000	300	100	87,400
14 a	Dry Rock Excavation (Struct)	"	200			200
14 b	Dry Common	"	500	100	85	685
14 c	Wet Rock	"	60			60
14 d	Wet Common	"	190	10		200
18 a	Station Yard Overhaul	Sta Yd	574,000			574,000
18 b	Yard Mile Overhaul	Yd Mi	22,000			22,000
26 a	Gravel or Crushed Rock Surfacing	Ton	10,600			10,600
26 c	Overhaul on Surfacing	Ton Mi	2,600			2,600
42 a	Untreated Bridge Timber	M FT BM		15	0.8	23
42 b	Treated Bridge Timber	"		368	158	526
43	Asphalt Plank Wearing Surface	Sq Ft		2025	667	2692
44 b	Miscell Treated Timber	M FT BM	0.6			0.6
46 a	Class A Concrete	CU Yd	62			62
46 b	Class B Concrete	"	55			55
47	Reinforcing Steel	Lbs	4,500			4,500
53 a	15 Cor Metal Culvert Pipe	Lin Ft	72			72
53 b	18	"	302			302
53 c	24	"	1,328			1,328
53 d	30	"	152			152
53 e	36	"	102			102
53 g	48	"	54			54
55 c	24 Siphon	"	477			477
55 d	30	"	89			89
60 a	Treated timber piling	Lin Ft		1040	664	1704
60 e	Metal Pile shoes	Each		46	30	76
74 x	Timber Guard Posts	"	48			48
76 c	Barbed Wire Fence Metal Posts	Lin Ft	27,700			27,700
76 g	Barbed Wire gates	Each	7			7
76 h x	Driveway Gates	"	2			2
77	Picket snow fence	Lin Ft	1,200			1,200
81 a	Project Markers	Each	1			1
81 b	Right of Way Markers	"	22			22
85 c	Trash guards for 24" siphons	"	8			8
85 d	30	"	2			2
110 b	6 Valve & valve box	"	1			1
110 y	6 Galv Metal drain pipe	Lin Ft	100			100
89 b	Drain pipe (Timber floor) 3 x 2 4	Each		6	2	8
82	Cattle Guard (16 Rdway)	"	1			1
FORCE ACCOUNT ITEMS						
	Removing R R Track 857 to 861 & Sta 952+ to 955 (R R Forces)	Lmp Sum	.			.
	Moving Telep Lines Sta 806-812 & Sta 942 to 975 (Telep Co Forces)	Lmp Sum	.			.
	Moving Telep Lines Sta 816-857 & 862-909 & 970-975 (WUT Co Forces)	.	.			.
FORCE ACCOUNT NO FED AID						
	Remove Stock Yard Sta 853+ Warehouse 861+	Lmp Sum	.			.
	Remove & reset House 901+	.	.			.

LIST OF STRUCTURES

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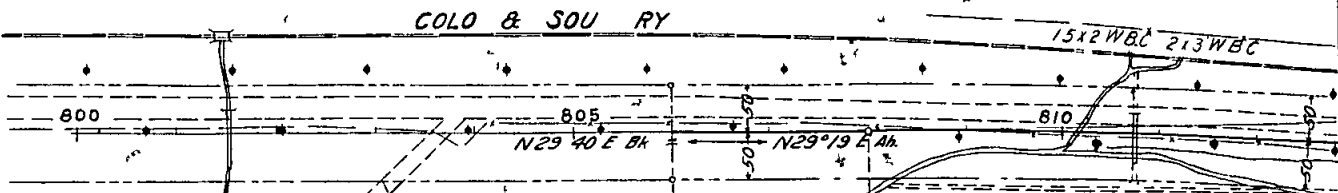
Structural Excavation is estimated to be 75 % Common & 25 % Rock each of which is estimated to be 75 % Dry and 25 % Wet

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	290	16	

SE 4 SEC 7 T 8 S, R 75 W

STA 810+75 Regd - 36 x 52 CMP Culv & 20 cu yds uncl excav for inlet and outlet

STA 806+00
Project Marker reqd



STA 810+15 - Remove WBC

STA 808+20 810+75 Regd - 70 cu yds uncl excav for ditch change RT

Δ 11 31 R
D 1° 00
T 577 8
L 11517
R 5730

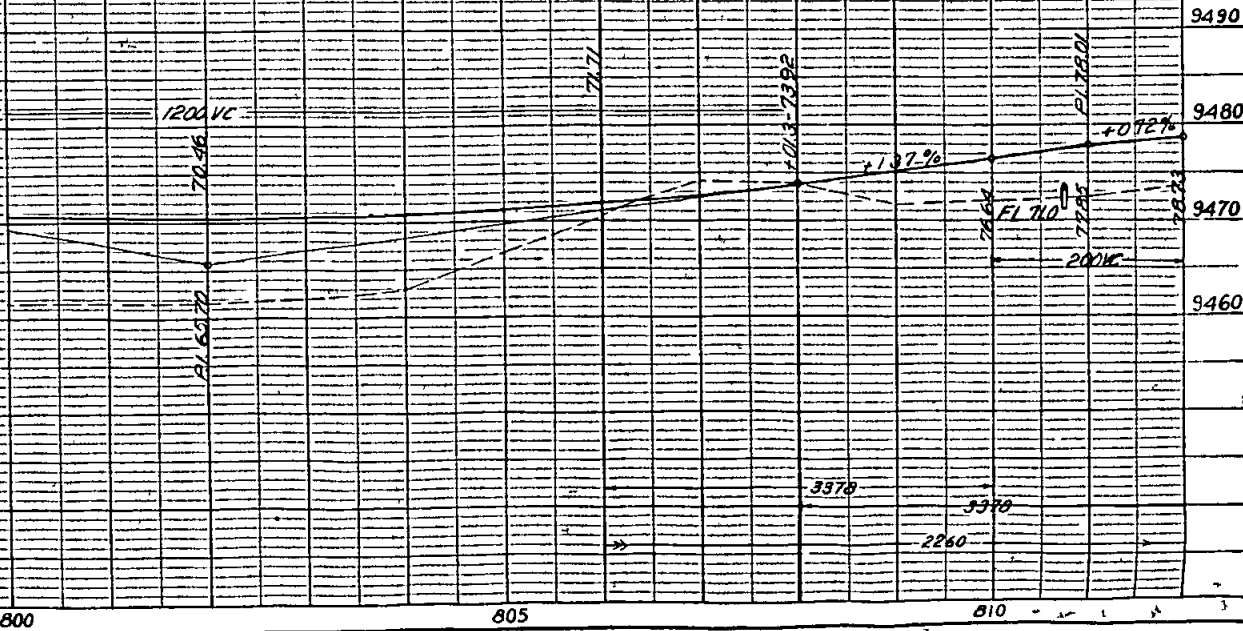
Sta 806 to 812 Regd Move Telephone Poles from Right of Way (Force Acc Work by Telephone Co Forces)

STA 806+00-END PWA 5002 D CONST DIV NO 2
STA 806+00-BEGIN FAP 29 D

807+98.3 B
PC 807+99.6 A

NOTES:
All pole lines encroaching on construction are to be moved by owners.
Fencing requirements, gates, and right of way markers are tabulated on sheet no 2

EQUATION

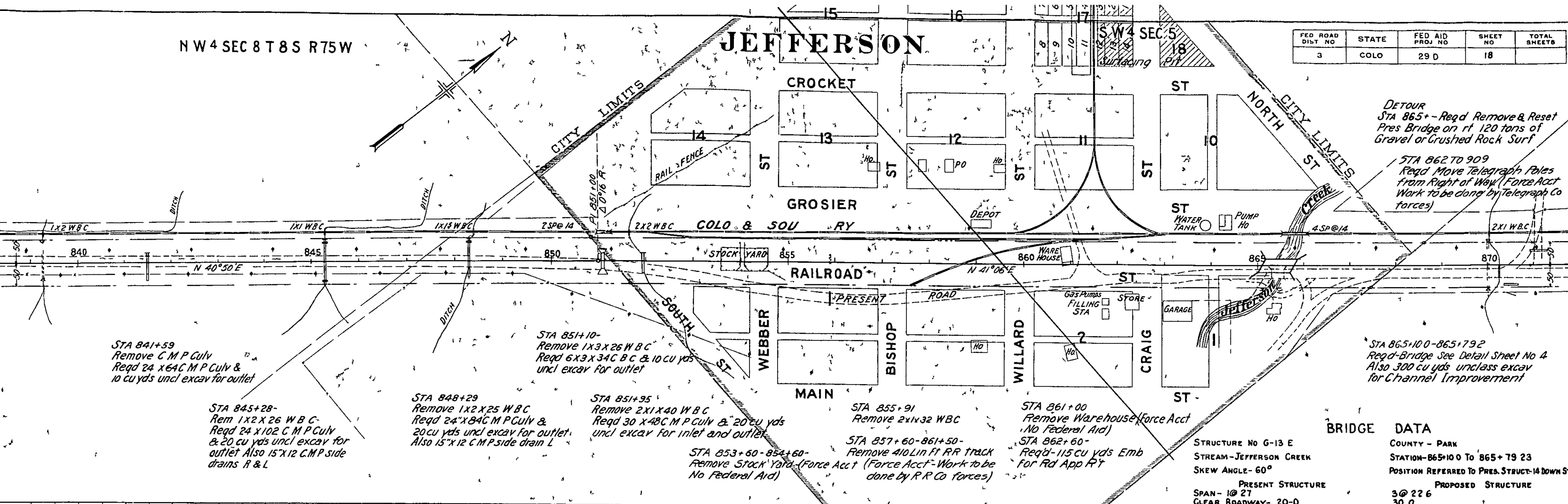


UNCL EXCAV
EMB + 3"
BORROW
STA YD CH
YD MI CH
BOR SOURCE

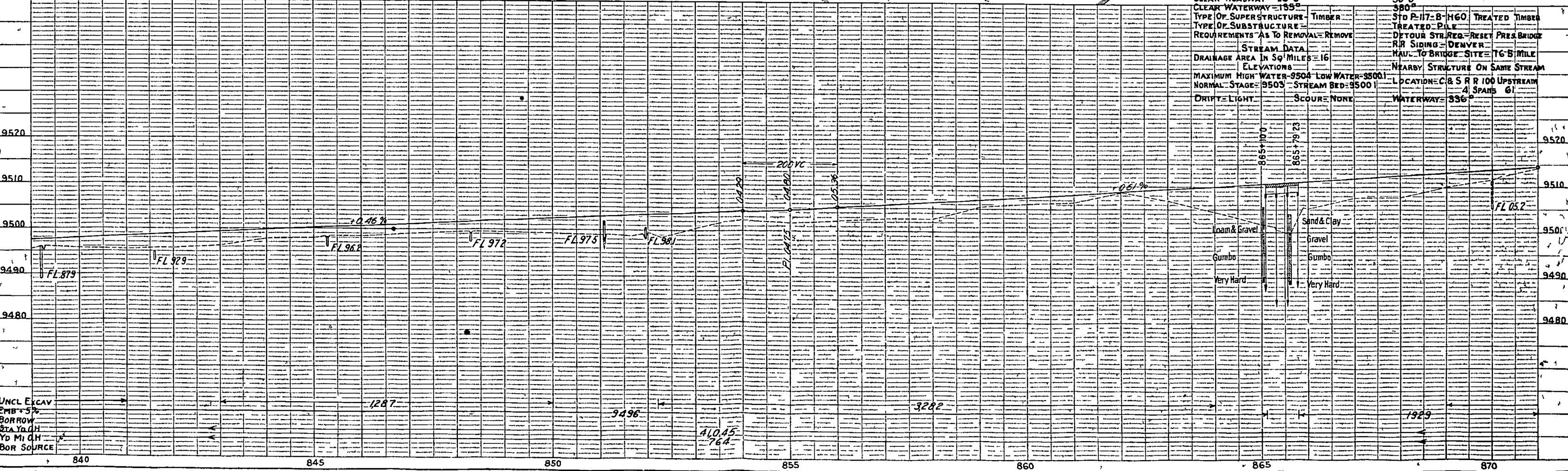
NW 4 SEC 8 T 8 S R 75 W

JEFFERSON

FED ROAD DIST NO	STATE	FED AID PROJ NO	SHEET NO	TOTAL SHEETS
3	COLO	29 D	18	



BRIDGE DATA	
STRUCTURE No G-13 E	COUNTY - PARK
STREAM - JEFFERSON CREEK	STATION - 865+10.0 To 865+79.23
SKW ANGLE - 60°	POSITION REFERRED TO PRES. STRUCT-14 DOWN ST
PRESENT STRUCTURE	PROPOSED STRUCTURE
SPAN - 10 @ 27'	3 @ 22.6'
CLEAR ROADWAY - 20'-0"	30'-0"
CLEAR WATERWAY - 135'	380'
TYPE OF SUPERSTRUCTURE - TIMBER	STD P-117-B-H60 TREATED TIMBER
TYPE OF SUBSTRUCTURE - REMOVE	TREATED PILE
REQUIREMENTS AS TO REMOVAL - REMOVE	DETOUR STR. REQ. - RESET PRES. BRIDGE
STRAIN DATA	R.R. SIDING - DENVER
DRAINAGE AREA IN SQ. MILES - 16	HAUL TO BRIDGE SITE - 16.5 MILE
ELEVATIONS	NEARBY STRUCTURE ON SAME STREAM
MAXIMUM HIGH WATER - 9504' LOW WATER - 9500'	LOCATION - C & S R.R. 100 UPSTREAM
NORMAL STAGE - 9503' STREAM BED - 9500'	4 SPANS 61'
DRIFT - LIGHT	WATERWAY - 356'
SECURE - NONE	

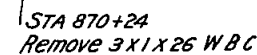


NE 4 SEC 5

STA 871+10-
Reqd 75 cu yds embank for Rd
approch Also 18 x 36 C.M.P side dr L

STA 883+00-
Reqd 110 cu yds embank
for rd apprch L

STA 875+00 - 893+00 - MEADOW BOG



STA 870+00
Reqd - 24' x 109' CMP siphon
H 40' 112' 11'

STA 870+50-
Reqd 70 cu yds embank for Rd
apprch Also 18x32 CMP side dr R

STA 875+50-
Remove 2X1X24 WBC
Reqd 24 X50 CMP Culv & 10 cu
yds uncl excav for outlet

STA 876+95
Remove 2 x 1 x 24 W B C
Reqd 24 x 50 C M P Culv

STA 879+60
Remove 3X1X26 WBC
Reqd 48"x54C M P Culv & 10 cu
yds uncl excav for outlet

STA 882+42-
Remove 2x1x38 WBC

STA 883+28
Remove 2x2x24 WBC
Reqd 30 x 48 CMP Culv &
5 cu yds uncl excav for outlet

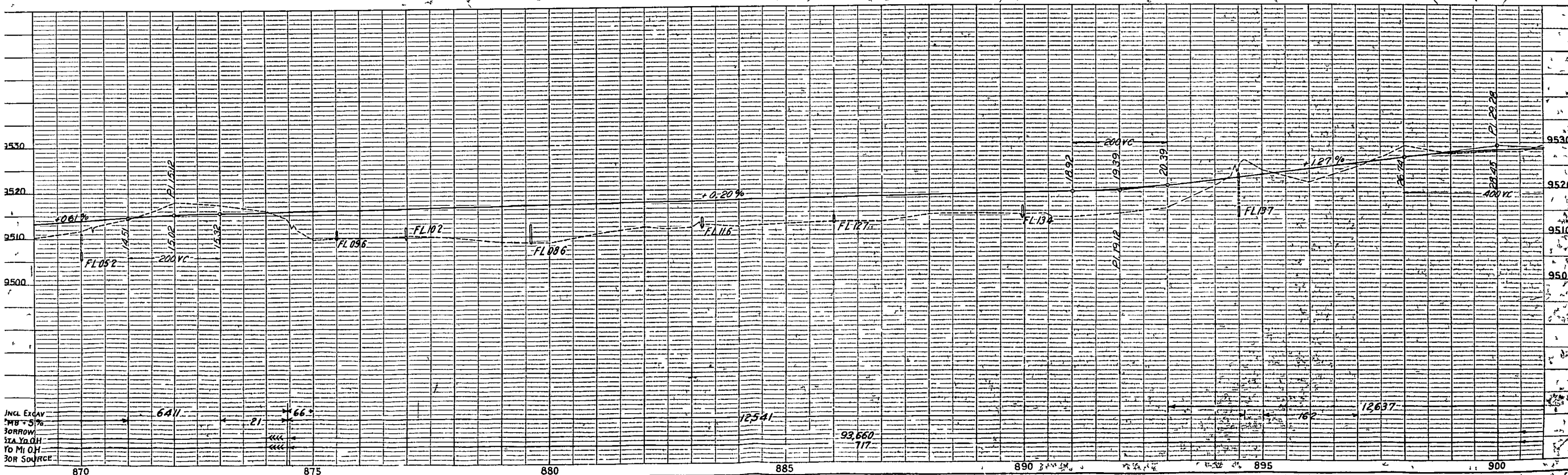
STA 886+03-
Remove 18 x 24 CM PCULV
Reqd 24" x 48' CM P CULV

STA 889+94
Remove 4x1x25 WBC
Reqd 30 x 56C M.P. Culv &
5cu yds uncl excav for outlet

STA 894+28
Remove 2' x 1' x 23" WBC

STA 894+00-
Reqd-200cu yds Emb for
Road App Rt & Lt Also
18 x 36 CMP side dr L &
18 x 30 R

STA 894+50 -
Regd. 24 x 118 CMP siphon
(70° skew) H 75



SW 4 SEC 33 T 7 S, R 75 W

FED ROAD DIST NO	STATE	FED AID PROJ NO	SHEET NO	TOTAL SHEETS
3	COLO	29 D	21	

N W 4 SEC 33

SNOW FENCE
IN PLACE

STA 916+00-962+00- MEADOW MARSH

STA 939+66 941+40
Reqd 35 cu yds uncl excav
for ditch change Lt

STA 933+00-936+80
Reqd-70 cu yds uncl excav
for ditch change Rt

STA 941+40 944+05
Reqd 40 cu yds uncl excav
for ditch change Lt

STA 952+00-
Reqd 350 cu yds embank
for rd apprch R & L

STA 952+30-955+00-
Remove 250 lin ft of
RR L (Force Acct-
Work to be done by
R R Co forces)

STA 936+80-
Reqd-24 x 54 C.M.P.Culv
(68° skew) & 20 cu yds uncl
excav for Inlet and outlet

STA 930+60
Remove 2x1 W.B.C
Reqd 24"x 50 C.M.P.Culv &
15 cu yds uncl excav for ditch
change Rt and Inlet

STA 936+58-
Remove 2x1 W.B.C

STA 939+66
Remove 2x1 W.B.C
Reqd 24 x 50 C.M.P.Culv &
5 cu yds uncl excav for inlet

STA 942+94-
Remove 2x1x25 W.B.C
Reqd 24 x 50 C.M.P.Culv &
5 cu yds uncl excav for inlet

STA 944+04
Remove 6x2 W.B.C
Reqd 36 x 50 C.M.P.Culv &
20 cu yds uncl excav for
inlet and outlet

STA 948+56
Remove 2x1x24 W.B.C
Reqd 24 x 52 C.M.P.Culv &
10 cu yds uncl excav for
inlet & outlet

STA 954+13
Remove 2x1x22 W.B.C
Reqd 24"x 50 C.M.P.Culv & 10 cu yds
Emb for dike Lt

STA 958+49-
Remove 2x1x22 W.B.C

STA 956+94
Remove 1x3x23 W.B.C
Reqd 24"x 50 C.M.P.Culv &
10 cu yds uncl excav for
inlet & outlet

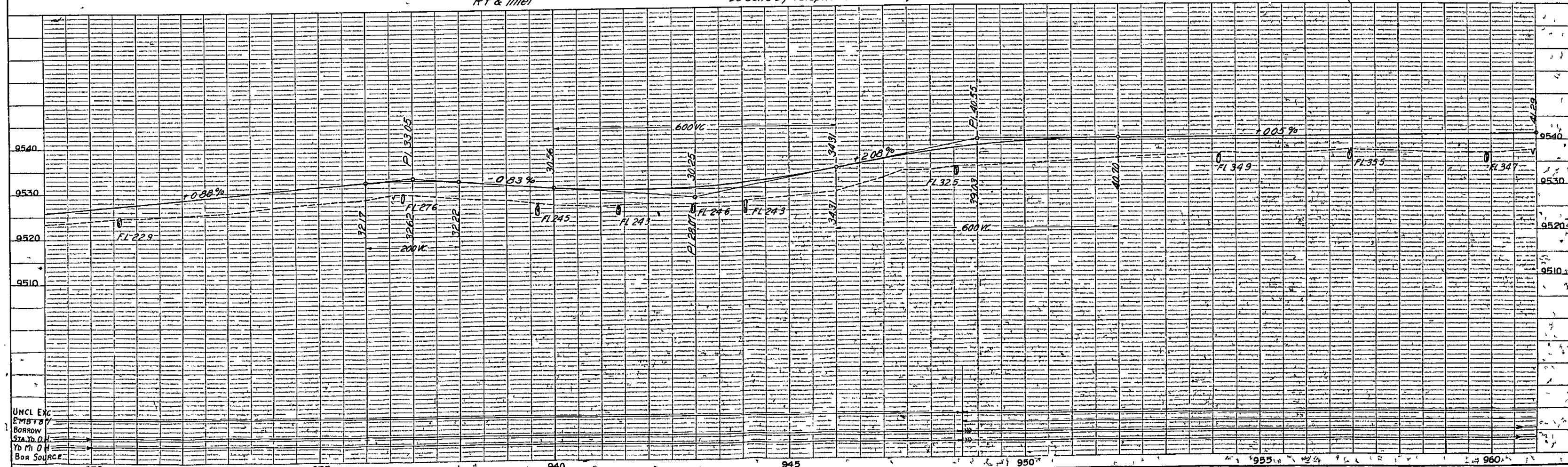
STA 959+90-
Reqd 24 x 52 C.M.P.Culv

STA 959+90
Remove 3x1 W.B.C

STA 956+22
Remove 1x1x22 W.B.C

STA 941+38-
Remove 18"x 26 C.M.P.
Reqd 24 x 48 C.M.P.Culv & 15 cu
yds uncl excav for ditch change
Rt & Inlet

STA 942 TO 975
Reqd Move Telephone Poles from
Right of Way (Force Acct Work to
be done by Telephone Co forces)



UNCL EXC
EMBANK
BORROW
STA TO CH
YD M O H
BOR SOURCE

NW 4 SEC. 33 T 7 S R 75 W

FED ROAD DIST NO	STATE	FED AID PROJ NO	SHEET NO	TOTAL SHEETS
3	COLO	29D	22	

STA 962+67-
Reqd 24 x 46 CMP Cross Culv
& Remove WBC

STA 970 TO 975-
• Regd Remove Telegraph Poles
from Right of Way (Force Acct
Work to be done by Telegraph Co
forces)

DETOUR
STA 367+ - Req'd Remove & Reset
present bridge on rt, 120 tons
of Gravel or Crushed Rock Surf

STA 960+94 - Reg'd 24x48 CMP
Cross Culvert and 10 cu yds Uncl
Excavation for outlet & inlet
Remove WBC

STA 967+55.75 to 967+80.25
Reqd Bridge See Sheet No 5
Also 100 cu yds unclass excav
for Channel Improvement

BRIDGE DATA

STRUCTURE NO. G 13-F STA. 967+55.75 TO 967+80.25
STREAM GUERNSEY GULCH PARK COUNTY

PRESENT STRUCTURE	PROPOSED STRUCTURE
SPAN @ 10	@ 23.0
CLEAR ROADWAY 22'	29.0
CLEAR WATERWAY 27'	276.5
TYPE OF SUPERSTRUCTURE - TIMBER	STD TRTD TMB P 117-BH
TYPE OF SUBSTRUCTURE - LOG CRIB	TRTD PILE
REQUIREMENTS AS TO REMOVAL - REMOVE	DETOUR STRUCTURE REQ R R SIDING DENVER HAUL TO BRIDGE SITE 75 MI POSITION REFERRED TO PRES STR ?? Down Stream
STREAM DATA	
DRAINAGE AREA IN SQ MI - 8 SQ MI	
ELEVATION OF	
MAXIMUM HIGH WATER	LOW WATER 9538.3
NORMAL STAGE 9542.1	STREAM BED 9535.3
DRIET LIGHT	SCOUR None
NEARBY STRUCTURES ON SAME STREAM	
LOCATION - 100 UPSTREAM	C & S RY
WATERWAY - 64 FT	

STA 975+00 END R A P NO 29-D

