

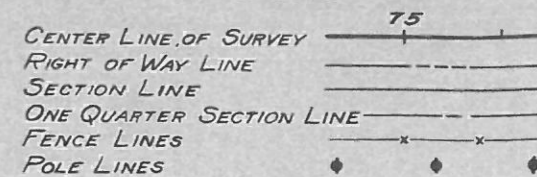
# COLORADO STATE HIGHWAY DEPARTMENT

## INDEX OF SHEETS

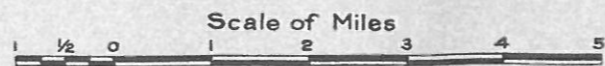
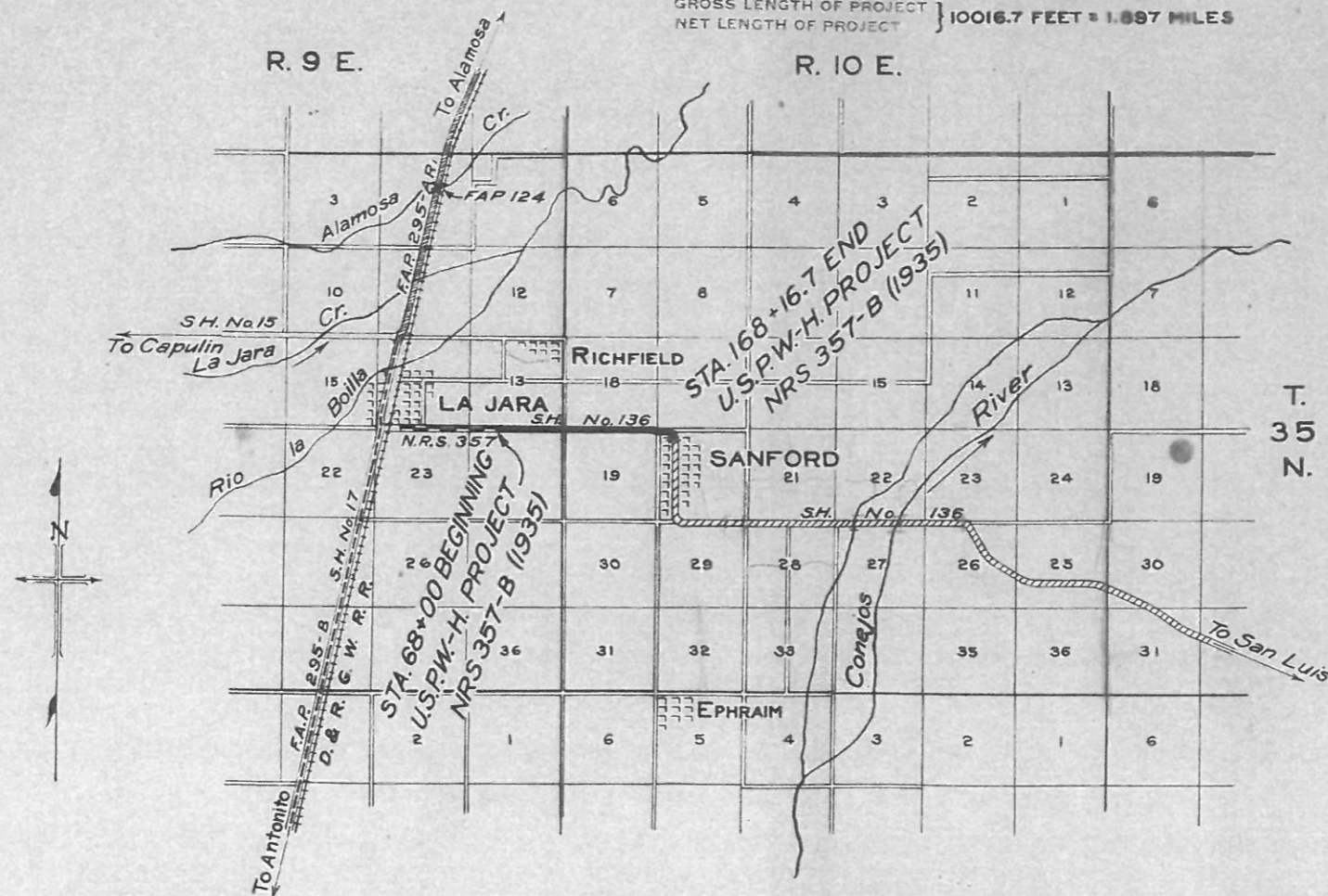
- Sheet No. 1. Sketch Map and Title Sheet.
- 2. Typical Cross Section and Summary of Quantities.
- 3. Tabulation of Structures.
- 4. Standard Methods for Superelevation and Widening of Curves. M-1-A
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## PLAN AND PROFILE OF PROPOSED U. S. P. W. HIGHWAY PROJECT N.R.S. 357-B (1935) STATE HIGHWAY NO. 136 CONEJOS COUNTY

### CONVENTIONAL SIGNS



**SCALE OF ORIGINAL TRACINGS**  
 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 } 10016.7 FEET = 1.897 MILES  
 NET LENGTH OF PROJECT }



RECOMMENDED FOR APPROVAL

*J. J. Malone*  
ASSISTANT ENGR.

APPROVED

*Chas. H. Vail*  
STATE ENGINEER

RECOMMENDED FOR APPROVAL

RECOMMENDED FOR APPROVAL

APPROVED

RECOMMENDED FOR APPROVAL

# TYPICAL CROSS SECTION OF IMPROVEMENT AND SUMMARY OF QUANTITIES

Rev. 1-24-35 H.S.K. (1935)

## GENERAL NOTES

This Project is to be constructed in conformity with the Standard Specifications of the Colorado State Highway Department, adopted January 1, 1930.

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

All roadway excavation required to construct the 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 Tabulation 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 as shown, are subject to change by the Engineer to fit Embankment requirements actually met in construction.

Except as limited by the Special Provisions, power equipment may be used on this project.

The entire project is to be cleared for the full width of the Right of Way and the cost thereof included in the "Lump Sum" price for Clearing and Grubbing the entire project.

All curves are to be superelevated and widened as provided by the Standard Superelevation sheet, except as indicated on the plans.

At all places on the project where the new work lies along the present travelled road, the Contractor shall at his own expense, prosecute construction in such a manner that traffic may readily pass over the road. Also, the Contractor shall maintain in safe condition and at his own expense, all temporary approaches.



**CUT SLOPE TREATMENT IN EARTH CUTS**

The intersection of cut slopes with the existing ground line shall be rounded in earth cuts, beginning 5 feet back of the slope stake and extending 5 feet down the cut slope.

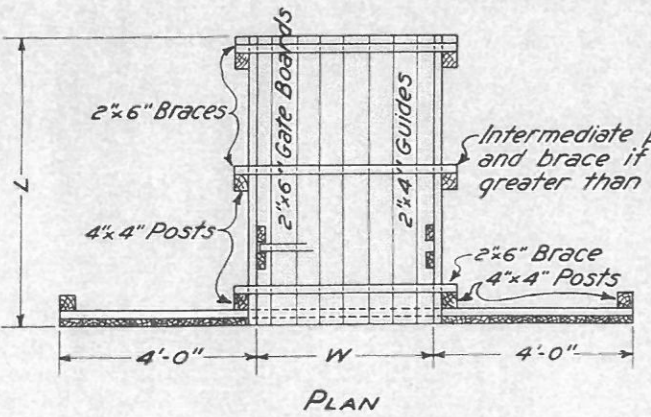
Where the cut slope length is less than 5 feet reduce both of the above lengths of slope treatment to the actual slope distance. Excavation quantities involved in rounded slope shall not be included in Unclassified Excavation.

NOTE:  
Use 4:1 slope when H is 3' or  
Use 2:1 slope when H is over

## SUMMARY OF APPROXIMATE QUANTITIES

No.	ITEM	UNIT	QUANTITIES	
			ROADWAY	
10a	Clearing & Grubbing entire Project	Lump Sum	•	
11a	Removing 15 Structures	" "	•	
11b	Piping Well off R.O.W., Sta. 84+	" "	•	
11c	Removing & Resetting Gate	Each	1	
12a	Removing Fence	Lin. Ft.	15200	
13c	Unclassified Excavation	Cu. Yd.	40000	
14a	Dry Rock Excavation (Structural)	" "	10	
14b	" Common "	" "	110	
14c	Wet Rock "	" "	10	
14d	" Common "	" "	110	
18a	Station Yard Overhaul	Sta. Yd.	52000	
18b	Yard Mile Overhaul	Yd. Mi.	600	
30x	Gravel or Crushed Rock Surfacing	Ton	5710	
44a	Miscellaneous Untreated Timber	M. ft. B.M.	1.3	
46a	Class "A" Concrete	Cu. Yd.	132	
47	Reinforcing Steel	Lb.	13700	
53a	15" Corrugated Metal Culvert Pipe	Lin. Ft.	292	
53b	18" " " " " "	" "	410	
53c	24" " " " " "	" "	50	
75a	Galvanized Barbed Wire Fence (Wood Posts)	Lin. Ft.	15000	
75b	Gates in Barbed Wire Fence	Each	12	
78	Project Marker	"	1	
85	Trash Guards for 24" Siphons	"	2	
95a	Combination Wire Fence with Wood Posts	Lin. Ft.	2600	
95b	Driveway Gates	Each	2	
96c	24" Siphon Pipe	Lin. Ft.	96	
13y	Cut Slope Treatment	Mile	3	
	Materials to be furnished and work to be done by State Forces: Resetting Local Telephone Line	Lump Sum	•	

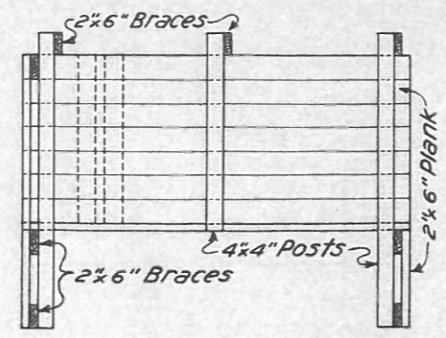
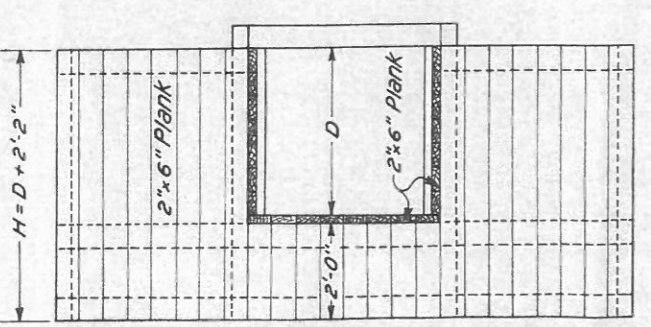
## DIVISION BOX



**DIMENSIONS AND QUANTITIES**

STATION	W	D	L	Ft. B.M. Each Box
79+88	2'	2'	3'	214
128+15	2'	2'	3'	214
127+45	2'	2'	3'	214
134+65	3'	3'	4'	297
134+65	3'	3'	4'	297
TOTAL				1236

NOTE: All material is to be sound, seasoned native red spruce. A minimum of 2-30 d nails are required at both ends of each 2x6" piece and at all posts and braces.



FRONT ELEVATION

SIDE ELEVATION

### TABULATION OF STRUCTURES

STATION	DESCRIPTION	REMOVE STRUCT.	EXCAVATION Cu. Yds.		STRUCTURAL EXCAV. Cu. Yds.			MISCL. UNTR. TIMBER	CONCRETE Cu. Yds.		REINF. STEEL	COR. METAL CULV. PIPE LIN. FT.			MISCELL.
		No.	EXCAV.	EMB.	*			M.F.B.M.	CL. A	LBS.	15"	18"	24"		
68+00 to 152+00 74+85 79+85	Ditch Change Left C.M.P. Side drain & Road Appr. R. C.M.P. Side drain & Road Appr. L. Wood Division Box 3'x2'x2'		1000	50	5							26			
81+00 to 100+30 84+60	Ditch Change Right C.M.P. Side drain & Road Appr. L. C.M.P. Side drain for irrig. ditch Remove Wood Box Pipe Artesian well off R.O.W.		215	50	5		0.214					26	20		
84+79 91+20 91+45 100+45	C.M.P. Side drain & Road Appr. L. C.M.P. Side drain & Road Appr. R. C.M.P. Side drain & Road Appr. R. Remove 18"x18" C.M.P.			50	5							26			(Pipe we. R.O.)
101+18	C.M.P. Side drain & Road Appr. L. C.M.P. Side drain for irrig. ditch Remove 2'x1'x15' Wood Box Remove 15"x18" C.M.P.			75	5							30			
114+85 117+25	C.M.P. Side drain & Road Appr. L. C.M.P. Side drain & Road Appr. L. C.M.P. Side drain Remove 1.5'x1'x12' Wood Box Remove 4" Iron pipe side drain C.M.P. Side drain & Road Appr. R. Remove Wood Box			50	5							26			
127+38	Remove 1.5'x1'x12' Wood Box Remove 4" Iron pipe side drain C.M.P. Side drain & Road Appr. R. Remove Wood Box			50	5							26			
127+45	24" Siphon H=2.0 91' long Wood Division Box 3'x2'x2' Remove 24"x32" C.M.P.				10		0.214	4.25	260						95.9 ft. of siphon p.
128+15	Remove and reset Gate Wood Division Box 3'x2'x2'				2		0.214								(Remove & reset ga)
134+65	C.M.P. Side drain & Road Appr. L. C.M.P. Side drain & Road Appr. L. C.M.P. Side drain 2 Wood Division Boxes 4'x3'x3' Remove Wood Box			50	5							26			
135+60	6'x4'x54' Concrete Box Culvert C.M.P. Side drain & Road Appr. R. C.M.P. Side drain L. 2 C.M.P. Side drains R 20' & L 20' Remove 4.5'x5'x24' Conc. Box Culv. Remove 2 C.M.P. Side drains			50	5			60.9	4509			30	20		
136+32 136+65	C.M.P. Side drain & Road Appr. L. C.M.P. Side drain & Road Appr. R. Remove 18"x24" C.M.P.			50	5							26			
146+25 to 151+00	Ditch Change		55												
154+45 155+10 160+60	C.M.P. Side drain & Road Appr. L. C.M.P. Side drain & Road Appr. R. D'ble 6'x4'x34' Conc. Box Culv. Type 6-A Remove 12'x2.5'x16' Wood Box Culv.			75	1							50			
161+00	C.M.P. Side drain & Road Appr. R.			75	2			66.5	8888			40			
165+75 166+70	C.M.P. Side drain & Road Appr. L. C.M.P. Side drain & Road Appr. L. Remove 15"x52" C.M.P.			100	5							40			
TOTALS		15	1270	1150	235		1.236	131.65	13657	292	410	50			

\* Structural Excavation is estimated to be 90% Common and 10% Rock, each of which is estimated to be 50% Wet and 50% Dry.

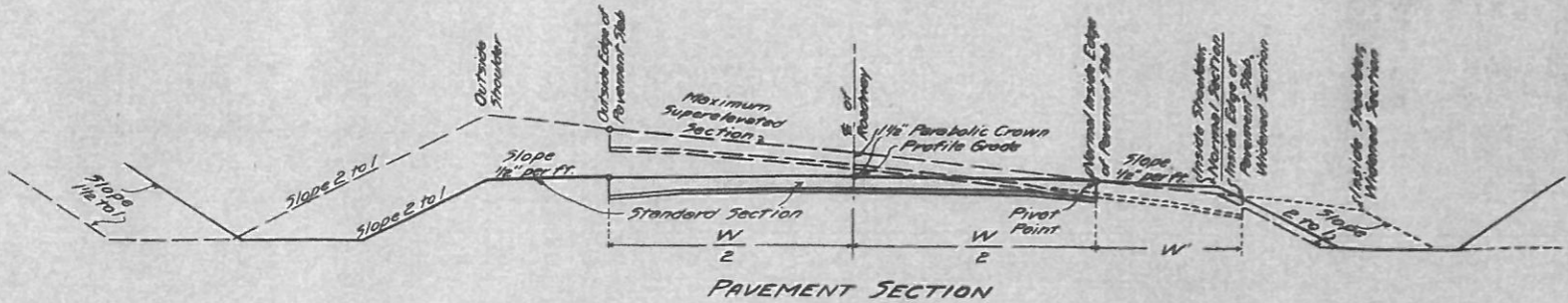
### FENCING REQUIREMENTS

STATION	SIDE	Remove LIN. FT.	BUILD FENCE LIN. FT.		GATES	
			BARBED WIRE	COMB.	BARB. W.	DRIVEWAY
74+85	R.					1
79+85	L.					1
84+60	L.					1
91+20	L.					1
91+45	R.					1
100+91	L.					1
101+38	L.					1
114+85	L.					1
114+95	L.					1
117+25	L.					1
134+65	L.					1
135+60	R.					1
136+32	L.					1
136+65	R.					1
68+00 to 100+91	L.	3291				
68+00 to 100+33	R.	3233				
68+00 to 74+75	R.		675			
74+75 to 100+33	R.			2530		
68+00 to 100+91	L.		3321			
101+38 to 128+31	L.	2815	2693			
100+63 to 127+26	R.		2663			
127+66 to 154+65	R.	2910	2699			
128+31 to 154+00	L.	2645	2570			
165+00 to 167+75	R.	280	200			
TOTALS		15,174	14,821	2,530	12	2

STANDARD M-1-A

FED. ROAD DIST. No.	STATE	U.S.P.W.-H. PROJ. No.	SHEET No.
3	COLO.	NRS 357-B (1935)	4

Revised 8-17-32 S.B.L. (200' Length)  
 Revised 8-31-32 S.B.L.  
 Revised 2-7-34 S.B.L.  
 Revised 8-24-34 S.B.L. (Special Cases)

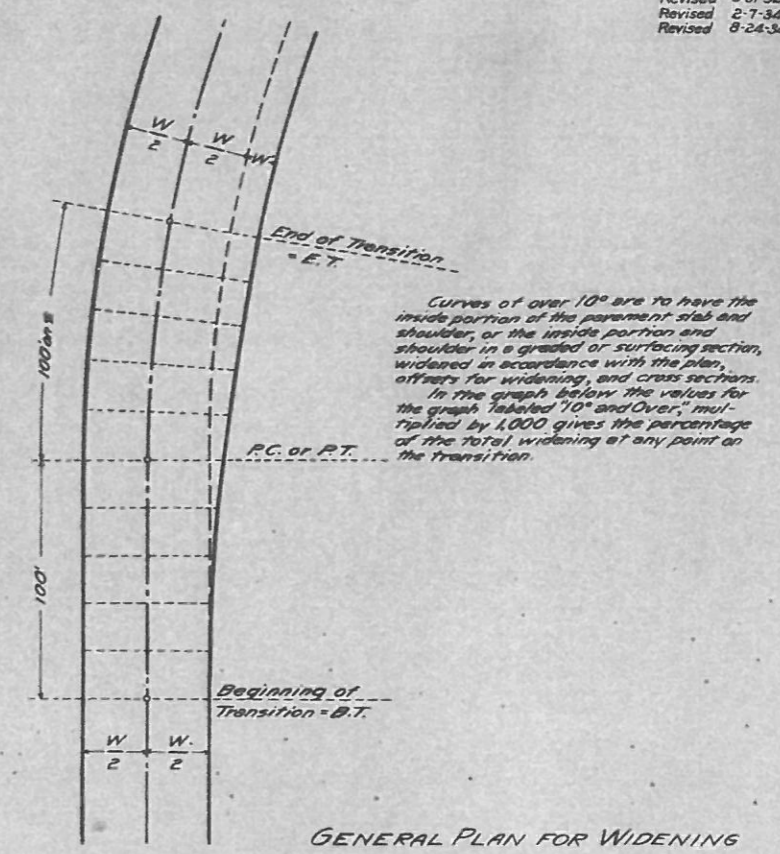


**SUPERELEVATION AND WIDENING NOTES FOR PAVEMENT SECTION**  
 Curves on projects using the pavement section are to be super-elevated and widened as indicated in the accompanying drawings and table.  
 The normal inside edge of the pavement slab is to remain at the standard elevation of 0.125 ft. below the profile grade, and the outside edge of the slab is to be super-elevated at the rate per foot width of roadway given in the table or graph. The section is to be rotated about the normal inside edge of the pavement.  
 When the degree of curvature exceeds 10, the inside portion of the pavement slab is to be widened from the normal inside edge as per the table below. Curves of 10° or less are not to be widened. The 1/2% parabolic crown is to be used for curves of 10° and under. The widened section is to have a flat crown.

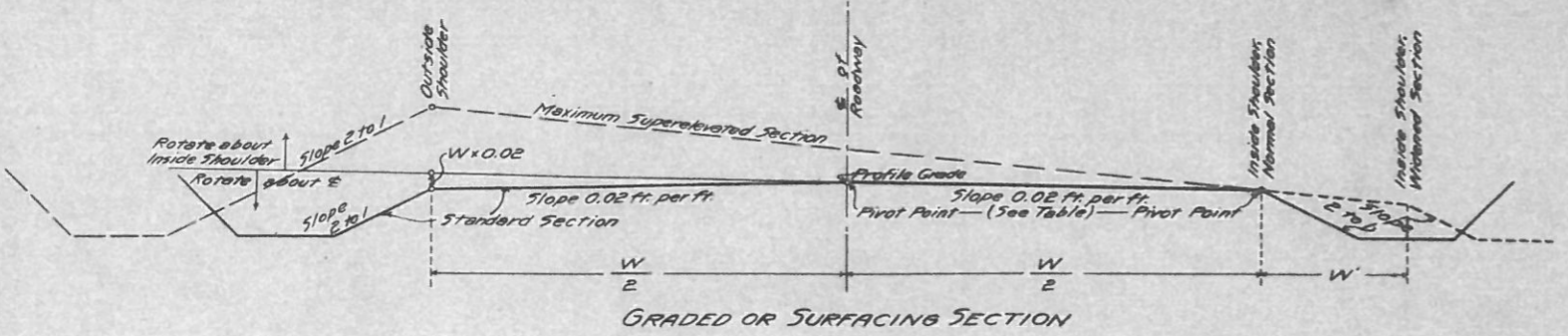
The slope of the shoulders shall conform to the rate per foot width of roadway required except that the inside shoulder shall maintain the standard slope of 0.0417 ft. per foot width until the super-elevation rate exceeds this standard slope.  
 The outside ditch along a super-elevated section is to be modified from the standard where a deeper ditch is required to provide drainage. Details of plans for super-elevating and widening are shown on the General Plan for Widening and the Graph of Super-elevation Factors.  
 The subgrade for future pavement is to be constructed to conform to the super-elevation and widening requirements for the pavement section.

**SUPERELEVATION FACTORS AND OFFSETS FOR WIDENING FOR PAVEMENT SECTION**

Distance from B.T.	20 Ft.	40 Ft.	60 Ft.	80 Ft.	100 Ft. P.C.	120 Ft.	140 Ft.	160 Ft.	180 Ft.	200 Ft. E.T.	On Curve
Factor	0.02	0.08	0.18	0.32	0.50	0.68	0.82	0.92	0.98	1.00	1.00
Degree of Curve	Rate of Super-elevation (in Feet) per Foot Width of Roadway										
2° and Under	0.0004	0.0017	0.0038	0.0067	0.0105	0.0143	0.0172	0.0193	0.0206	0.0210	0.0210
3°	0.0006	0.0025	0.0057	0.0101	0.0158	0.0214	0.0258	0.0290	0.0309	0.0315	0.0315
4°	0.0008	0.0034	0.0076	0.0134	0.0210	0.0286	0.0344	0.0386	0.0412	0.0420	0.0420
5°	0.0010	0.0042	0.0094	0.0168	0.0262	0.0357	0.0430	0.0483	0.0514	0.0525	0.0525
6°	0.0013	0.0050	0.0113	0.0202	0.0315	0.0428	0.0517	0.0580	0.0617	0.0630	0.0630
7°	0.0015	0.0059	0.0132	0.0235	0.0368	0.0500	0.0609	0.0676	0.0720	0.0735	0.0735
8°	0.0017	0.0067	0.0151	0.0269	0.0420	0.0571	0.0689	0.0773	0.0823	0.0840	0.0840
9°	0.0019	0.0076	0.0170	0.0302	0.0472	0.0643	0.0775	0.0869	0.0926	0.0945	0.0945
10° and Over	0.0020	0.0080	0.0180	0.0320	0.0500	0.0680	0.0820	0.0920	0.0980	0.1000	0.1000
Offsets for Widening - W' (in Feet)											
Over 10° - Under 12°	0.06	0.24	0.54	0.96	1.50	2.04	2.46	2.76	2.94	3.00	3.00
12° - " 15°	0.08	0.32	0.72	1.28	2.00	2.72	3.28	3.68	3.92	4.00	4.00
15° - " 20°	0.10	0.40	0.90	1.60	2.50	3.40	4.10	4.60	4.90	5.00	5.00
Over 20°	0.12	0.48	1.08	1.92	3.00	4.08	4.92	5.52	5.88	6.00	6.00



Curves of over 10° are to have the inside portion of the pavement slab and shoulder, or the inside portion of shoulder in a graded or surfacing section, widened in accordance with the plan, offsets for widening, and cross sections. In the graph below, the values for the graph labeled '10° and Over,' multiplied by 1,000 gives the percentage of the total widening at any point on the transition.

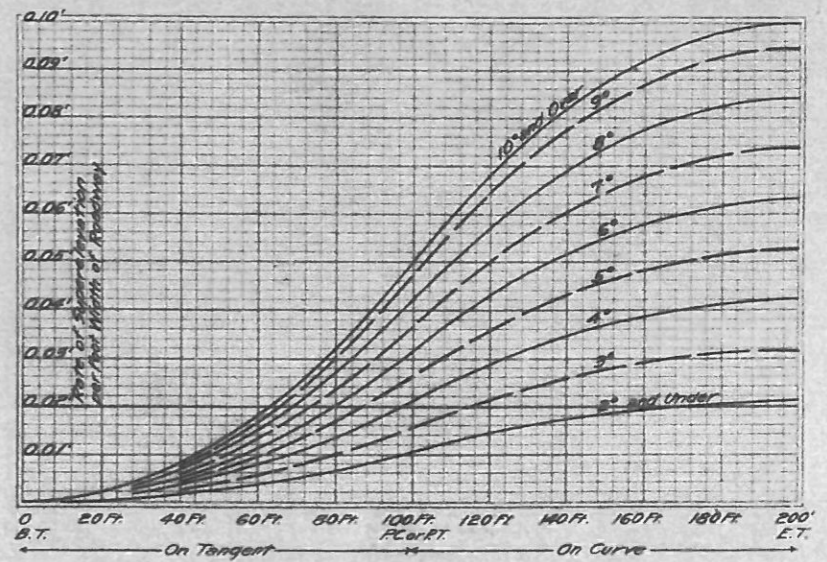


**SUPERELEVATION AND WIDENING NOTES FOR GRADED OR SURFACING SECTIONS**  
 Curves on projects using the graded or surfacing section are to be super-elevated and widened as indicated in the accompanying sketches and table.  
 The normal inside shoulder and ditch are to remain as shown in the typical section shown on sheet #2. The outside shoulder is to be the high point of the section.  
 The outside ditch along a super-elevated section is to be modified from the standard where a deeper ditch is required to provide drainage.

The center line pivot point is to be used as long as the super-elevation does not exceed 0.02 feet per foot width of roadway. The normal inside shoulder pivot point is to be used for a super-elevation rate in excess of 0.02 ft. per foot width of roadway.  
 When the degree of curvature exceeds 10° the inside shoulder is to be widened from the normal inside shoulder line as shown by the table and cross section. Curves of 10° and less are not to be widened.  
 Details of plans for super-elevating and widening are shown on the General Plan for Widening and the Graph of Super-elevation Factors.

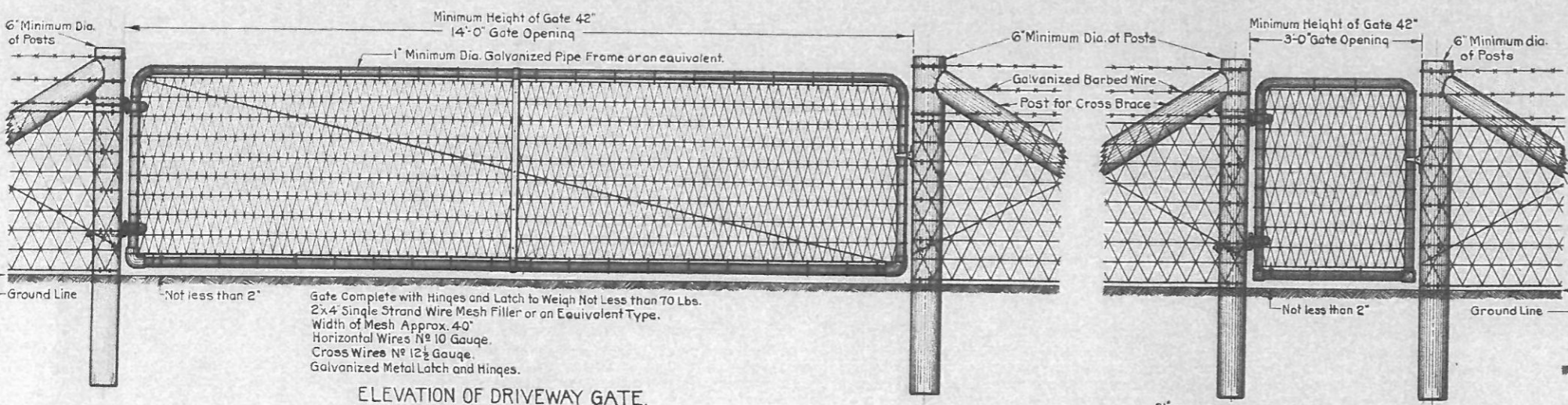
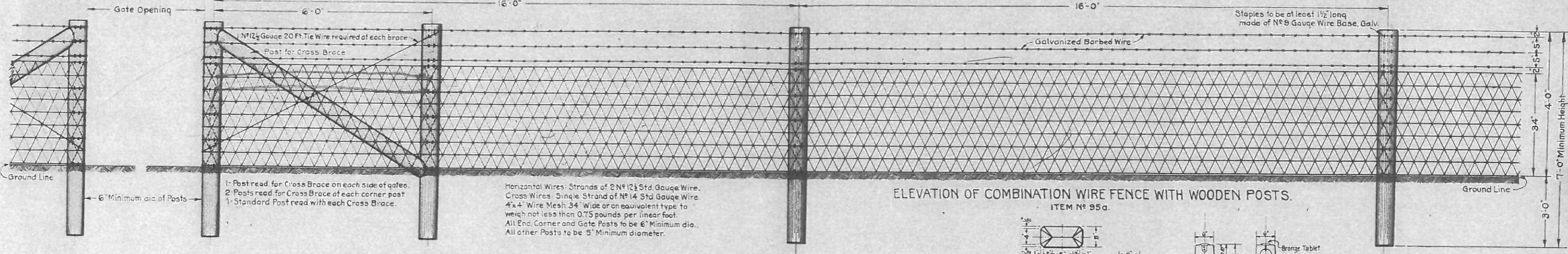
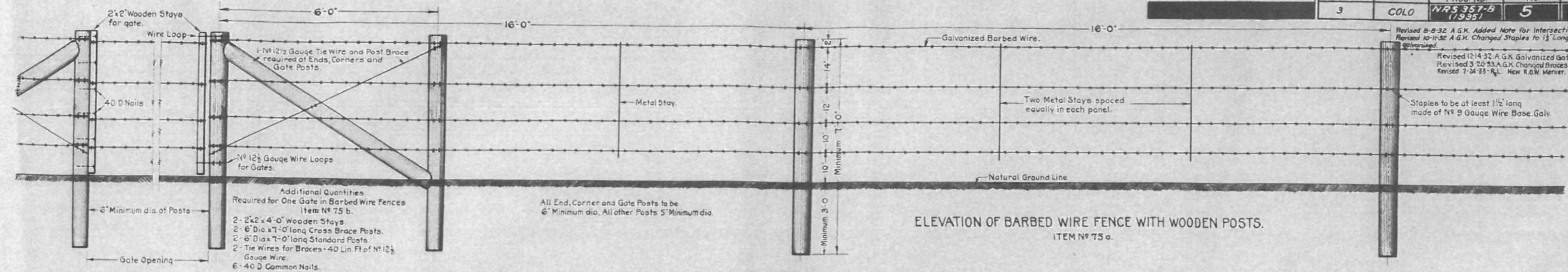
**SUPERELEVATION FACTORS AND OFFSETS FOR WIDENING FOR GRADED OR SURFACING SECTIONS**

Distance from B.T.	20 Ft.	40 Ft.	60 Ft.	80 Ft.	100 Ft. P.C.	120 Ft.	140 Ft.	160 Ft.	180 Ft.	200 Ft. E.T.	On Curve	Length of Transition Rotated about		
Factor	0.02	0.08	0.18	0.32	0.50	0.68	0.82	0.92	0.98	1.00	1.00	Center Line	Inside Shoulder	
Degree of Curve	Rate of Super-elevation (in Feet) per Foot Width of Roadway													
2° and Under	0.0004	0.0017	0.0038	0.0067	0.0105	0.0143	0.0172	0.0193	0.0206	0.0210	0.0210	169 ft.	91 ft.	
3°	0.0006	0.0025	0.0057	0.0101	0.0158	0.0214	0.0258	0.0290	0.0309	0.0315	0.0315	115 "	65 "	
4°	0.0008	0.0034	0.0076	0.0134	0.0210	0.0286	0.0344	0.0386	0.0412	0.0420	0.0420	90 "	102 "	
5°	0.0010	0.0042	0.0094	0.0168	0.0262	0.0357	0.0430	0.0483	0.0514	0.0525	0.0525	87 "	113 "	
6°	0.0013	0.0050	0.0113	0.0202	0.0315	0.0428	0.0517	0.0580	0.0617	0.0630	0.0630	80 ft.	160 ft.	
7°	0.0015	0.0059	0.0132	0.0235	0.0368	0.0500	0.0609	0.0676	0.0720	0.0735	0.0735	74 "	128 "	
8°	0.0017	0.0067	0.0151	0.0269	0.0420	0.0571	0.0689	0.0773	0.0823	0.0840	0.0840	69 "	131 "	
9°	0.0019	0.0076	0.0170	0.0302	0.0472	0.0643	0.0775	0.0869	0.0926	0.0945	0.0945	65 "	135 "	
10° and Over	0.0020	0.0080	0.0180	0.0320	0.0500	0.0680	0.0820	0.0920	0.0980	0.1000	0.1000	63 "	137 "	
Offsets for Widening - W' (in Feet)														
Over 10° - Under 12°	0.06	0.24	0.54	0.96	1.50	2.04	2.46	2.76	2.94	3.00	3.00			
12° - " 15°	0.08	0.32	0.72	1.28	2.00	2.72	3.28	3.68	3.92	4.00	4.00			
15° - " 20°	0.10	0.40	0.90	1.60	2.50	3.40	4.10	4.60	4.90	5.00	5.00			
Over 20°	0.12	0.48	1.08	1.92	3.00	4.08	4.92	5.52	5.88	6.00	6.00			

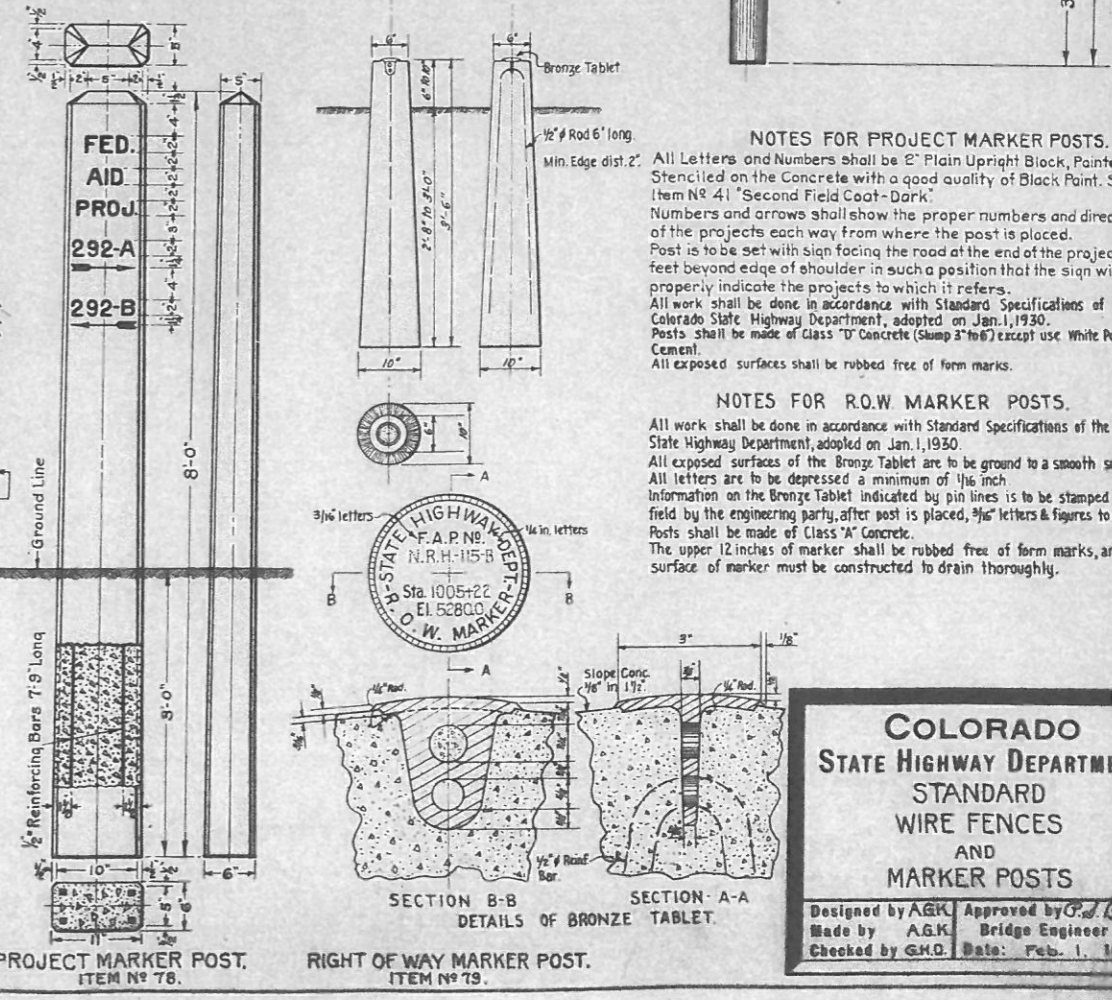


The rate of super-elevation per foot width of roadway to be applied at the outside edge of the pavement slab, and at the outside shoulder of the roadway, is computed as follows:  
 The full super-elevation per foot width of roadway rate for a given degree of curvature is  
 $0.0105 \text{ ft.} \times \text{Degree of Curvature}$   
 The maximum super-elevation of 0.10 ft. per foot width, applying to curves of 10° and over, is not to be exceeded.  
 The above graph has been prepared from the rates of super-elevation shown in the tabulations.  
**SPECIAL CASES:** When the roadway alignment does not permit the use of the 200 ft. transition lengths, the segment lengths may be proportionately shortened. A minimum distance of 200 ft. between the points of full super-elevation shall be used.

**COLORADO STATE HIGHWAY DEPARTMENT**  
**STANDARD METHOD FOR SUPERELEVATION, WIDENING OF CURVE**  
 Designed by S.B.L. Approved by S.B.L.  
 Made by S.B.L. Checked by S.B.L. Date: Aug. 17, 1935



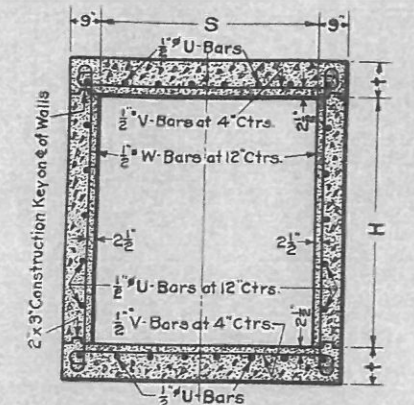
**GENERAL NOTES FOR WIRE FENCES.**  
 All work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department, Adopted January 1-1930.  
 Barbed Wire shall be of Standard Make, not lighter than No 12 1/2 Gauge, Galvanized and with Two Point Barbs spaced not more than 5' apart.  
 Wire Mesh must be galvanized and not lighter than shown and noted on this plan.  
 Wire Mesh used in Driveway Gates shall be painted with an approved waterproof asphalt or mineral paint.  
 Staples shall be at least 1 1/2" long, made of No 9 Gauge Wire Base Galv., 8 staples each post for barbed wire fence and 14 Staples per post for Combination Wire Fence.  
 All Wooden Posts shall be made from seasoned, straight, sound Lodge Pole Pine, Southern Yellow Pine or                       
 All Wooden Posts shall be entirely peeled and shaved, thoroughly seasoned and dry before treatment.  
 All Wooden Posts shall be pressure treated with Creosote Oil for the full length of posts as provided in the specifications.  
 Cross Braces, Brace Posts and Tie Wires are to be used at all places where intersecting fences are encountered.



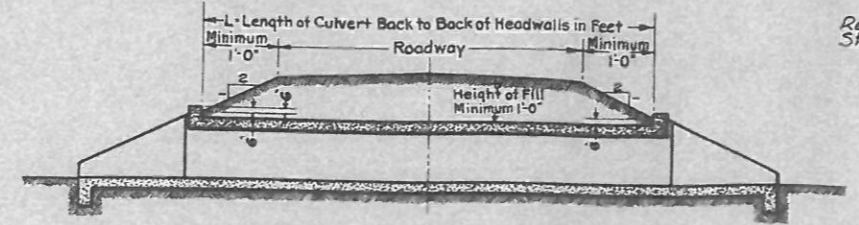
**COLORADO STATE HIGHWAY DEPARTMENT STANDARD WIRE FENCES AND MARKER POSTS**

Designed by A.G.K. Approved by G.H.D.  
 Made by A.G.K. Bridge Engineer  
 Checked by G.H.D. Date: Feb. 1, 1935

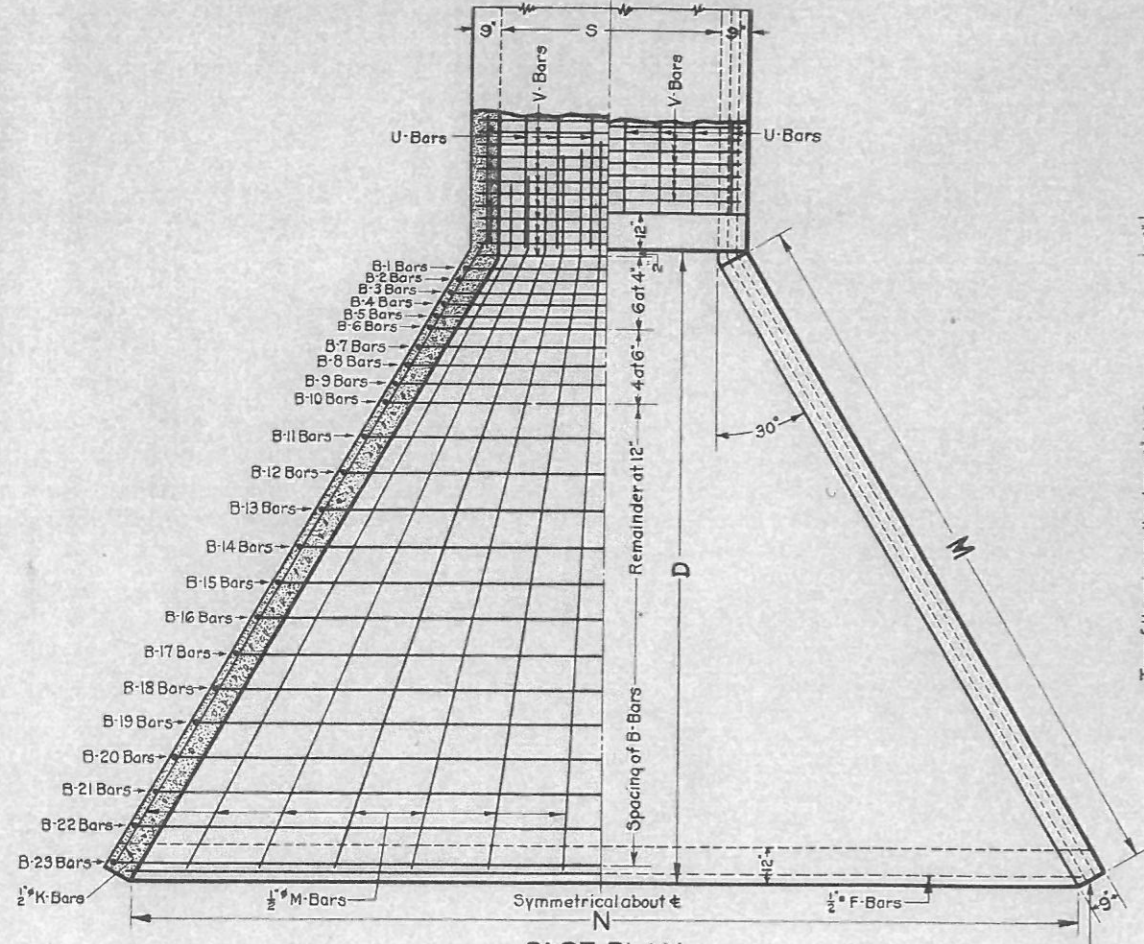
DESIGNED BY	INITIAL	DATE
CHECKED BY		
APPROVED BY		
DATE		



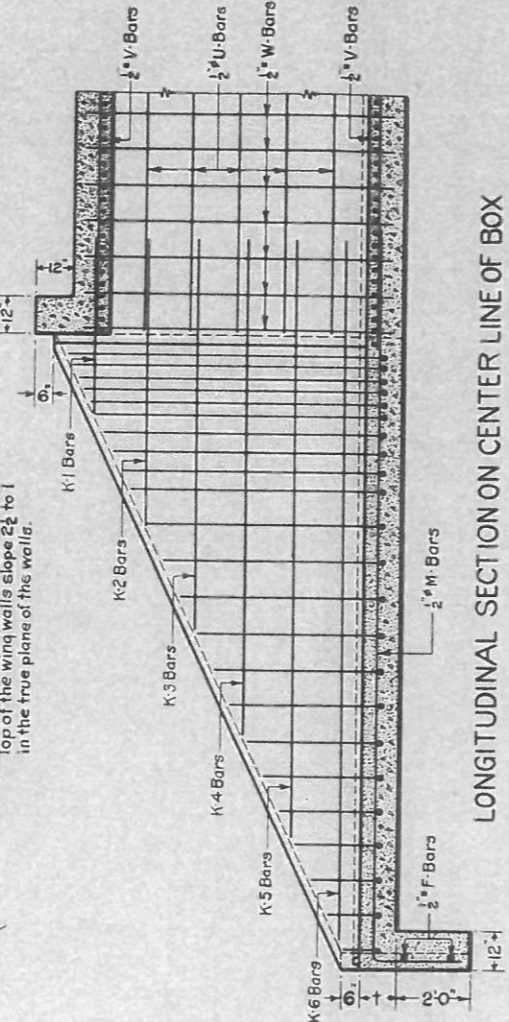
TYPICAL SECTION THRU BOX



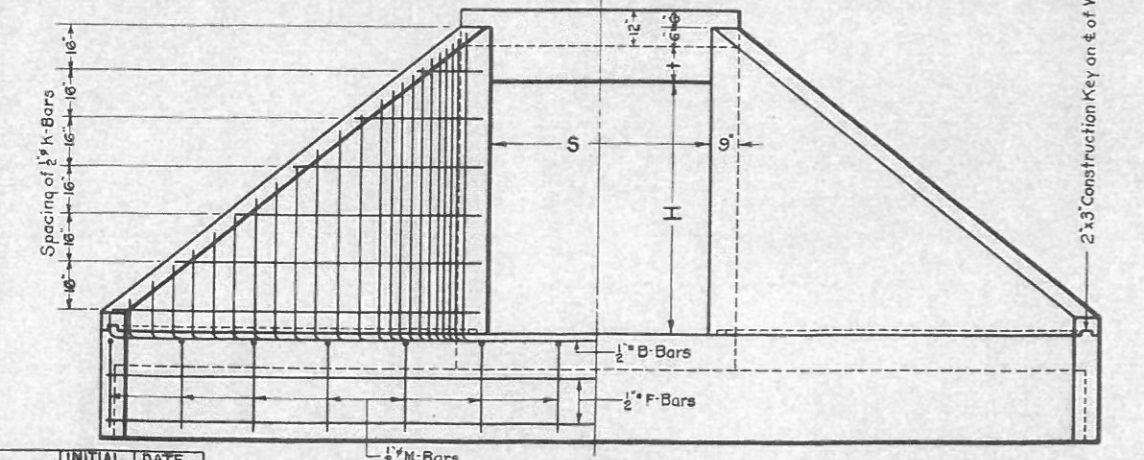
TYPICAL SECTION SHOWING RELATION OF CULVERT TO ROADWAY



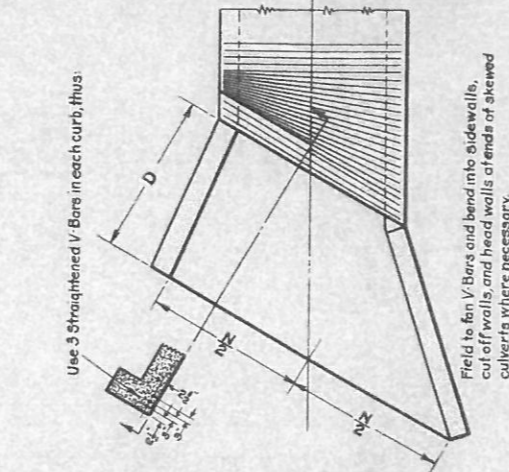
PART PLAN



LONGITUDINAL SECTION ON CENTER LINE OF BOX



END VIEW



PART PLAN FOR SKEWED HEADWALLS

REINFORCEMENT BAR LIST						BENDING DIAGRAM	
USE BARS FOR	MARK	SIZE	NUMBER	DIMENSION P	DIMENSION Q	TOTAL LENGTH	ALL DIMENSIONS ARE TO $\phi$ OF BARS
ALL SIZES	V	$\frac{1}{2}$ "	(6+L)+14	S+10'		S+2'-2"	
"	W	$\frac{1}{2}$ "	(2-L)+6	H+10'		H+2'-2"	
"	F	$\frac{1}{2}$ "	4			N+0'-3"	
"	U	$\frac{1}{2}$ "	SEE & BELOW			L+1'-8"	
"	K-1	$\frac{1}{2}$ "	4			5'-4"	
H-2'-0" OR MORE	K-2	$\frac{1}{2}$ "	4			6'-8"	
H-3'-0" "	K-3	$\frac{1}{2}$ "	4			10'-0"	
H-5'-0" "	K-4	$\frac{1}{2}$ "	4			13'-4"	
H-6'-0" "	K-5	$\frac{1}{2}$ "	4			16'-8"	
H-7'-0" "	K-6	$\frac{1}{2}$ "	4			20'-0"	
ALL SIZES	B-1	$\frac{1}{2}$ "	2	S+ 1'-6"	H+ 1'-3"		
"	B-2	$\frac{1}{2}$ "	2	S+ 1'-11"	H+ 1'-1"		
"	B-3	$\frac{1}{2}$ "	2	S+ 2'-3"	H+ 0'-11"		
"	B-4	$\frac{1}{2}$ "	2	S+ 2'-8"	H+ 0'-9"		
"	B-5	$\frac{1}{2}$ "	2	S+ 3'-0"	H+ 0'-8"		
"	B-6	$\frac{1}{2}$ "	2	S+ 3'-5"	H+ 0'-6"		
"	B-7	$\frac{1}{2}$ "	2	S+ 4'-0"	H+ 0'-3"		
"	B-8	$\frac{1}{2}$ "	2	S+ 4'-7"	H+ 0'-0"		
"	B-9	$\frac{1}{2}$ "	2	S+ 5'-2"	H- 0'-3"		
H-1'-6" OR MORE	B-10	$\frac{1}{2}$ "	2	S+ 5'-9"	H- 0'-5"		
H-2'-0" "	B-11	$\frac{1}{2}$ "	2	S+ 6'-11"	H- 0'-11"		
H-3'-0" "	B-12	$\frac{1}{2}$ "	2	S+ 8'-1"	H- 1'-4"		
H-3'-0" "	B-13	$\frac{1}{2}$ "	2	S+ 9'-3"	H- 1'-10"		
H-4'-0" "	B-14	$\frac{1}{2}$ "	2	S+ 10'-5"	H- 2'-3"		
H-4'-0" "	B-15	$\frac{1}{2}$ "	2	S+ 11'-7"	H- 2'-9"		
H-4'-0" "	B-16	$\frac{1}{2}$ "	2	S+ 12'-9"	H- 3'-3"		
H-5'-0" "	B-17	$\frac{1}{2}$ "	2	S+ 13'-11"	H- 3'-8"		
H-5'-0" "	B-18	$\frac{1}{2}$ "	2	S+ 15'-1"	H- 4'-2"		
H-6'-0" "	B-19	$\frac{1}{2}$ "	2	S+ 16'-3"	H- 4'-7"		
H-6'-0" "	B-20	$\frac{1}{2}$ "	2	S+ 17'-5"	H- 5'-1"		
H-6'-0" "	B-21	$\frac{1}{2}$ "	2	S+ 18'-7"	H- 5'-6"		
H-7'-0" "	B-22	$\frac{1}{2}$ "	2	S+ 19'-9"	H- 6'-0"		
H-7'-0" "	B-23	$\frac{1}{2}$ "	2	S+ 20'-11"	H- 6'-5"		
ALL SIZES	M	$\frac{1}{2}$ "	(S+1)x4	D+ 3'-0"		D+ 5'-3"	

\* See Table of Dimensions and Quantities

TABLE OF DIMENSIONS AND QUANTITIES													
STEEL QUANTITIES GIVEN BELOW INCLUDE ALLOWANCE FOR OVERRUN OF 1%													
TOTAL QUANTITIES FOR ONE BOX EQUALS THE QUANTITY FOR TWO HEADWALLS PLUS (L x QUANTITY FOR ONE LINEAL FT. OF BOX)													
SPAN S	HEIGHT H	HEIGHT OF FILL ALLOWED	DIMENSION M	DIMENSION N	DIMENSION D	THICKNESS OF SLAB T	NUMBER OF U-BARS PER BOX	QUANTITIES FOR ONE LINEAL FT. OF BOX CONCRETE CU. YDS.	QUANTITIES FOR ONE LINEAL FT. OF BOX STEEL LBS.	QUANTITIES FOR TWO HEADWALLS CONCRETE CU. YDS.	QUANTITIES FOR TWO HEADWALLS STEEL LBS.	STRUCTURAL EXCAVATION TWO HEADWALLS SQ. FT.	EXCESS TWO CU. YD.
1'-6"	1'-6"	29'-6"	5'-6 1/4"	7'-2 3/8"	5'-1 1/8"	8 1/2"	8	0.241	30.6	4.5	320	116.91	4
2'-0"	2'-0"	22'-6"	6'-9 3/4"	8'-11 1/8"	6'-2 7/8"	8 1/2"	8	0.295	34.0	6.1	430	153.44	5
3'-0"	1'-0"	19'-0"	4'-7"	7'-9 3/8"	4'-4 1/8"	10"	8	0.332	37.5	5.0	360	116.50	4
3'-0"	2'-0"	19'-0"	7'-1"	10'-3 3/8"	6'-6 1/8"	10"	10	0.388	40.5	7.7	495	178.11	5
4'-0"	2'-0"	15'-0"	9'-7"	12'-9 3/8"	8'-8 1/8"	10"	12	0.444	43.6	11.0	680	250.88	6
4'-0"	3'-0"	15'-0"	9'-7"	13'-9 3/8"	8'-8 1/8"	10"	14	0.506	50.0	12.0	755	272.24	7
4'-0"	4'-0"	15'-0"	12'-1"	16'-3 3/8"	10'-10 1/8"	10"	16	0.562	53.1	16.0	910	359.71	8
5'-0"	3'-0"	11'-6"	9'-7"	14'-9 3/8"	8'-8 1/8"	10"	16	0.567	56.6	12.8	835	293.60	7
5'-0"	4'-0"	11'-6"	12'-1"	17'-3 3/8"	10'-10 1/8"	10"	18	0.623	59.6	17.1	995	385.43	8
5'-0"	5'-0"	11'-6"	14'-7"	19'-9 3/8"	13'-0"	10"	20	0.679	62.7	21.9	1220	488.07	9
6'-0"	2'-0"	10'-0"	7'-4 3/8"	13'-7 1/8"	6'-9 3/8"	11 1/2"	16	0.645	60.0	11.3	705	239.30	7
6'-0"	3'-0"	10'-0"	9'-10 3/8"	16'-1 1/8"	8'-11 1/8"	11 1/2"	18	0.699	63.0	15.3	920	325.95	8
6'-0"	4'-0"	10'-0"	12'-4 3/8"	18'-7 1/8"	11'-1 1/8"	11 1/2"	20	0.755	66.2	20.1	1090	423.57	9
6'-0"	5'-0"	10'-0"	14'-10 3/8"	21'-1 1/8"	13'-3 3/8"	11 1/2"	22	0.810	69.2	25.6	1320	532.02	10
6'-0"	6'-0"	10'-0"	17'-4 3/8"	23'-7 1/8"	15'-5 1/8"	11 1/2"	24	0.866	72.3	31.7	1620	651.48	11
6'-0"	7'-0"	10'-0"	19'-10 3/8"	26'-1 1/8"	17'-7 1/8"	11 1/2"	26	0.923	75.3	38.5	1900	781.58	12

**GENERAL NOTES**

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO STATE HIGHWAY DEPARTMENT ADOPTED JANUARY 1, 1930.

ALL CONCRETE SHALL BE CLASS "A".

ALL EXPOSED SURFACES SHALL BE RUBBED FREE OF FORM MARKS.

ALL WALLS SHALL HAVE FORMS ON BOTH SIDES.

MINIMUM DISTANCE BETWEEN CENTER LINE OF BAR AND EDGE OF CONCRETE TO BE 2 1/2".

ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE FRESH CONCRETE IS POURED.

FOOTINGS IN ROCK SHALL BE POURED OUT TO THE ROCK AND NOT FORMED.

FOR CULVERTS REQUIRED AND GOVERNING DIMENSIONS SEE SHEET NO. 2.

ALL REINFORCING BARS SHALL BE ROUND OR SQUARE, PLAIN OR DEFORMED AS SHOWN AND NOTED.

ALL REINFORCING BARS SHALL BE TAGGED WITH THE STATION NUMBER AND LETTER DESIGNATION.

SECONDARY BARS WHEN SPLICED SHALL BE GIVEN A LAP OF 50 DIAMETERS.

MAIN BARS SHALL NOT BE SPLICED.

SOUNDINGS AND DEPTH OF FOOTINGS SHOWN ARE ACCORDING TO THE BEST AVAILABLE DATA IF ESSENTIALLY DIFFERENT CONDITIONS ARE ENCOUNTERED, THE ENGINEER WILL INSPECT AND DETERMINE IF REDESIGN IS NECESSARY.

FOUR WING FOOTINGS MONOLITHICALLY WITH FLOOR OF BOX.

THE USE OF ADDITIONAL CONSTRUCTION JOINTS UNDESIRABLE SHOULD FIELD CONDITIONS REQUIRE, CONSTRUCTION JOINTS MAY BE MADE ON A VERTICAL PLANE PERPENDICULAR TO CENTERLINE OF CULVERT AND SHALL HAVE A 2'x3' KEY.

THIS DESIGN NOT TO BE USED WHEN HEIGHT OF FILL EXCEEDS THE ALLOWABLE TABULATED.

SUPPORTING SOILS FOR ALL CULVERTS MUST BE COMPOSED OF FIRM AND UNIFORM MATERIAL THROUGHOUT.

ALL BACKFILLING IN APPROACHES TO AND OVER CULVERTS SHALL BE LAID IN LAYERS NOT EXCEEDING 6" IN DEPTH AND EACH LAYER SHALL BE ROLLED OR HAND TAMPED WHERE INACCESSIBLE TO ROLLER, ALSO MOISTENED WHEN NECESSARY.

LOADING DATA LL-A.A.S.H.O. H-15.

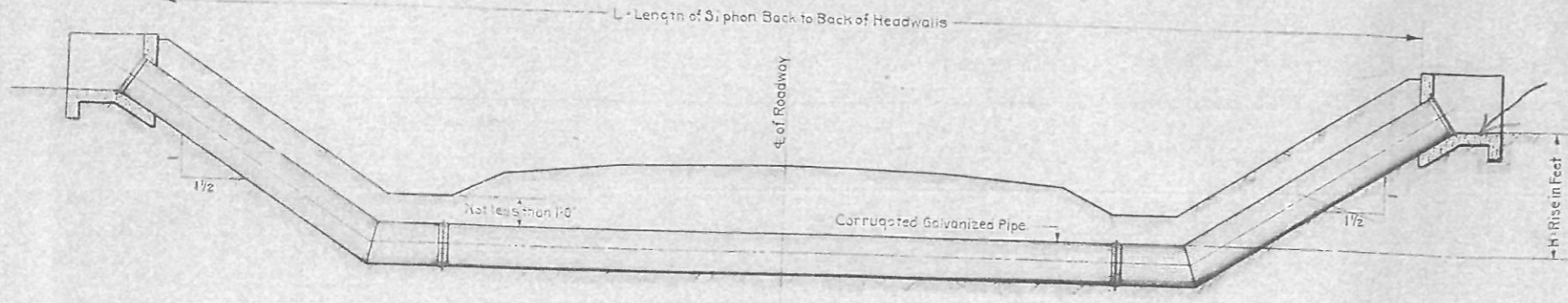
**COLORADO STATE HIGHWAY DEPARTMENT CONCRETE BOX CULVERT**

1 1/2 x 1 1/2'	4' x 2'	5' x 4'	6'
2' x 2'	4' x 3'	5' x 5'	6'
3' x 1'	4' x 4'	6' x 2'	6'
3' x 2'	5' x 3'	6' x 3'	6'
3' x 3'			

Designed by A.G.K. Approved by W.W.D.  
 Made by A.G.K. Bridge Engineer  
 Checked by W.W.D. Date: Nov. 6th

INITIAL DATE  
 CHECKED BY  
 CHECKED BY  
 CHECKED BY





SECTIONAL ELEVATION OF SIPHON

DIAMETER OF SIPHON	A	B	C	D	E
18"	6'-7 1/2"	9'-1 1/2"	0'-10"	2'-6"	1'-5"
24"	7'-6"	9'-0"	1'-1 1/2"	3'-0"	1'-11"
30"	8'-4 1/2"	9'-10 1/2"	1'-4 3/4"	3'-6"	2'-5"
36"	9'-3"	10'-9"	1'-8"	4'-0"	2'-11"

DIAMETER 18" AND 24"			BAR LIST FOR ONE SIPHON		DIAMETER 30" AND 36"		
MARK	NUMBER	LENGTH	BENDING DIAGRAM		LENGTH	NUMBER	MARK
18" Ri	2	4'-11"	[Bending Diagram]		5'-11"	2	30" Ri
24" Ri	2	5'-5"	[Bending Diagram]		6'-5"	2	36" Ri
18" Si	8	4'-2"	[Bending Diagram]		4'-9"	8	30" Si
24" Si	8	4'-5"	[Bending Diagram]		5'-0"	8	36" Si
18" Ti	4	4'-0"	[Bending Diagram]		5'-4"	4	30" Ti
24" Ti	4	4'-6"	[Bending Diagram]		5'-10"	4	36" Ti
18" & 24" U1 to U5	2 Each	8'-6" to 11'-0" Increase by 10"	[Bending Diagram]		12'-4" to 15'-6" Increase by 10"	2 Each	30" & 36" U1 to U5
18" Vi	6	12'-0"	[Bending Diagram]		14'-0"	6	30" Vi
24" Vi	6	13'-0"	[Bending Diagram]		15'-0"	6	36" Vi
18" & 24" W1	10	5'-6"	[Bending Diagram]		6'-0"	10	30" & 36" W1

TABLE OF PIPE LENGTHS IN FEET MEASURED ON  $\frac{1}{2}$  OF S

18" DIAMETER

H	L	22	25	28	31	34	37	40	43	46	49	52	55	58	61	64	67	70	73	76	79
0	25.2	28.2	31.2	34.2	37.2	40.2	43.2	46.2	49.2	52.2	55.2	58.2	61.2	64.2	67.2	70.2	73.2	76.2	79.2	82.2	
1	28.8	31.8	34.8	37.8	40.8	43.8	46.8	49.8	52.8	55.8	58.8	61.8	64.8	67.8	70.8	73.8	76.8	79.8	82.8		
2	32.4	35.4	38.4	41.4	44.4	47.4	50.4	53.4	56.4	59.4	62.4	65.4	68.4	71.4	74.4	77.4	80.4	83.4	86.4		
3	36.0	39.0	42.0	45.0	48.0	51.0	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0	78.0	81.0	84.0	87.0	90.0		
4	39.6	42.6	45.6	48.6	51.6	54.6	57.6	60.6	63.6	66.6	69.6	72.6	75.6	78.6	81.6	84.6	87.6	90.6	93.6		
5	43.2	46.2	49.2	52.2	55.2	58.2	61.2	64.2	67.2	70.2	73.2	76.2	79.2	82.2	85.2	88.2	91.2	94.2	97.2		
6	46.8	49.8	52.8	55.8	58.8	61.8	64.8	67.8	70.8	73.8	76.8	79.8	82.8	85.8	88.8	91.8	94.8	97.8	100.8		
7	50.4	53.4	56.4	59.4	62.4	65.4	68.4	71.4	74.4	77.4	80.4	83.4	86.4	89.4	92.4	95.4	98.4	101.4	104.4		
8	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0	78.0	81.0	84.0	87.0	90.0	93.0	96.0	99.0	102.0	105.0	108.0		
9	57.6	60.6	63.6	66.6	69.6	72.6	75.6	78.6	81.6	84.6	87.6	90.6	93.6	96.6	99.6	102.6	105.6	108.6	111.6		
10	61.2	64.2	67.2	70.2	73.2	76.2	79.2	82.2	85.2	88.2	91.2	94.2	97.2	100.2	103.2	106.2	109.2	112.2	115.2		

24" DIAMETER

H	L	22	25	28	31	34	37	40	43	46	49	52	55	58	61	64	67	70	73	76	79
0	25.7	28.7	31.7	34.7	37.7	40.7	43.7	46.7	49.7	52.7	55.7	58.7	61.7	64.7	67.7	70.7	73.7	76.7	79.7	82.7	
1	29.3	32.3	35.3	38.3	41.3	44.3	47.3	50.3	53.3	56.3	59.3	62.3	65.3	68.3	71.3	74.3	77.3	80.3	83.3		
2	32.9	35.9	38.9	41.9	44.9	47.9	50.9	53.9	56.9	59.9	62.9	65.9	68.9	71.9	74.9	77.9	80.9	83.9	86.9		
3	36.5	39.5	42.5	45.5	48.5	51.5	54.5	57.5	60.5	63.5	66.5	69.5	72.5	75.5	78.5	81.5	84.5	87.5	90.5		
4	40.1	43.1	46.1	49.1	52.1	55.1	58.1	61.1	64.1	67.1	70.1	73.1	76.1	79.1	82.1	85.1	88.1	91.1	94.1		
5	43.7	46.7	49.7	52.7	55.7	58.7	61.7	64.7	67.7	70.7	73.7	76.7	79.7	82.7	85.7	88.7	91.7	94.7	97.7		
6	47.3	50.3	53.3	56.3	59.3	62.3	65.3	68.3	71.3	74.3	77.3	80.3	83.3	86.3	89.3	92.3	95.3	98.3	101.3		
7	50.9	53.9	56.9	59.9	62.9	65.9	68.9	71.9	74.9	77.9	80.9	83.9	86.9	89.9	92.9	95.9	98.9	101.9	104.9		
8	54.5	57.5	60.5	63.5	66.5	69.5	72.5	75.5	78.5	81.5	84.5	87.5	90.5	93.5	96.5	99.5	102.5	105.5	108.5		
9	58.1	61.1	64.1	67.1	70.1	73.1	76.1	79.1	82.1	85.1	88.1	91.1	94.1	97.1	100.1	103.1	106.1	109.1	112.1		
10	61.7	64.7	67.7	70.7	73.7	76.7	79.7	82.7	85.7	88.7	91.7	94.7	97.7	100.7	103.7	106.7	109.7	112.7	115.7		

30" DIAMETER

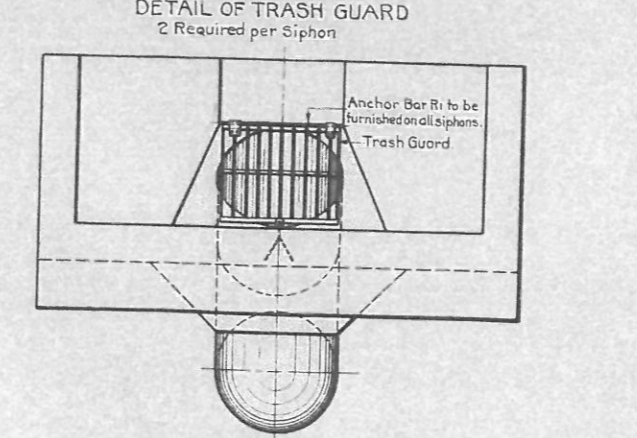
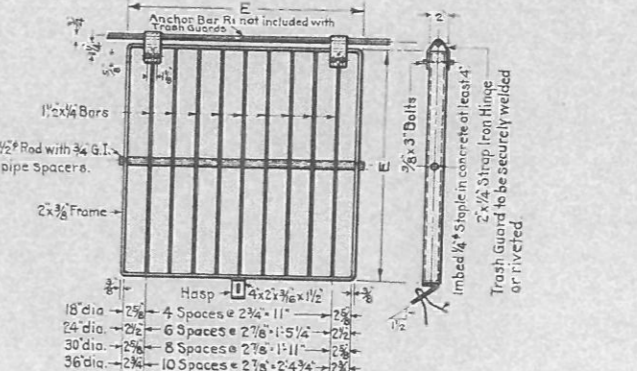
H	L	22	25	28	31	34	37	40	43	46	49	52	55	58	61	64	67	70	73	76	79
0	26.3	29.3	32.3	35.3	38.3	41.3	44.3	47.3	50.3	53.3	56.3	59.3	62.3	65.3	68.3	71.3	74.3	77.3	80.3	83.3	
1	29.9	32.9	35.9	38.9	41.9	44.9	47.9	50.9	53.9	56.9	59.9	62.9	65.9	68.9	71.9	74.9	77.9	80.9	83.9	86.9	
2	33.5	36.5	39.5	42.5	45.5	48.5	51.5	54.5	57.5	60.5	63.5	66.5	69.5	72.5	75.5	78.5	81.5	84.5	87.5	90.5	
3	37.1	40.1	43.1	46.1	49.1	52.1	55.1	58.1	61.1	64.1	67.1	70.1	73.1	76.1	79.1	82.1	85.1	88.1	91.1	94.1	
4	40.7	43.7	46.7	49.7	52.7	55.7	58.7	61.7	64.7	67.7	70.7	73.7	76.7	79.7	82.7	85.7	88.7	91.7	94.7	97.7	
5	44.3	47.3	50.3	53.3	56.3	59.3	62.3	65.3	68.3	71.3	74.3	77.3	80.3	83.3	86.3	89.3	92.3	95.3	98.3	101.3	
6	47.9	50.9	53.9	56.9	59.9	62.9	65.9	68.9	71.9	74.9	77.9	80.9	83.9	86.9	89.9	92.9	95.9	98.9	101.9	104.9	
7	51.5	54.5	57.5	60.5	63.5	66.5	69.5	72.5	75.5	78.5	81.5	84.5	87.5	90.5	93.5	96.5	99.5	102.5	105.5	108.5	
8	55.1	58.1	61.1	64.1	67.1	70.1	73.1	76.1	79.1	82.1	85.1	88.1	91.1	94.1	97.1	100.1	103.1	106.1	109.1	112.1	
9	58.7	61.7	64.7	67.7	70.7	73.7	76.7	79.7	82.7	85.7	88.7	91.7	94.7	97.7	100.7	103.7	106.7	109.7	112.7	115.7	
10	62.3	65.3	68.3	71.3	74.3	77.3	80.3	83.3	86.3	89.3	92.3	95.3	98.3	101.3	104.3	107.3	110.3	113.3	116.3	119.3	

36" DIAMETER

H	L	22	25	28	31	34	37	40	43	46	49	52	55	58	61	64	67	70	73	76	79
0	26.8	29.8	32.8	35.8	38.8	41.8	44.8	47.8	50.8	53.8	56.8	59.8	62.8	65.8	68.8	71.8	74.8	77.8	80.8	83.8	
1	30.4	33.4	36.4	39.4	42.4	45.4	48.4	51.4	54.4	57.4	60.4	63.4	66.4	69.4	72.4	75.4	78.4	81.4	84.4	87.4	
2	34.0	37.0	40.0	43.0	46.0	49.0	52.0	55.0	58.0	61.0	64.0	67.0	70.0	73.0	76.0	79.0	82.0	85.0	88.0	91.0	
3	37.6	40.6	43.6	46.6	49.6	52.6	55.6	58.6	61.6	64.6	67.6	70.6	73.6	76.6	79.6	82.6	85.6	88.6	91.6	94.6	
4	41.2	44.2	47.2	50.2	53.2	56.2	59.2	62.2	65.2	68.2	71.2	74.2	77.2	80.2	83.2	86.2	89.2	92.2	95.2	98.2	
5	44.8	47.8	50.8	53.8	56.8	59.8	62.8	65.8	68.8	71.8	74.8	77.8	80.8	83.8	86.8	89.8	92.8	95.8	98.8	101.8	
6	48.4	51.4	54.4	57.4	60.4	63.4	66.4	69.4	72.4	75.4	78.4	81.4	84.4	87.4	90.4	93.4	96.4	99.4	102.4	105.4	
7	52.0	55.0	58.0	61.0	64.0	67.0	70.0	73.0	76.0	79.0	82.0	85.0	88.0	91.0	94.0	97.0	100.0	103.0	106.0	109.0	
8	55.6	58.6	61.6	64.6	67.6	70.6	73.6	76.6	79.6	82.6	85.6	88.6	91.6	94.6	97.6	100.6	103.6	106.6	109.6	112.6	
9	59.2	62.2	65.2	68.2	71.2	74.2	77.2	80.2	83.2	86.2	89.2	92.2	95.2	98.2	101.2	104.2	107.2	110.2	113.2	116.2	
10	62.8	65.8	68.8	71.8	74.8	77.8	80.8	83.8	86.8	89.8	92.8	95.8	98.8	101.8	104.8	107.8	110.8	113.8	116.8	119.8	

QUANTITIES FOR ONE SIPHON

SIPHON SIZES	PIPE GAUGE U.S. STD.	CONCRETE CLASS 'A'	REINFORCING STEEL	TRASH GUARDS
18" Diameter	16	3.50 Cu. Yds.	255 Lbs.	2*30 Lbs. Each
24" Diameter	14	4.25 Cu. Yds.	260 Lbs.	2*40 Lbs. Each
30" Diameter	14	5.25 Cu. Yds.	310 Lbs.	2*60 Lbs. Each
36" Diameter	12	6.25 Cu. Yds.	320 Lbs.	2*80 Lbs. Each



GENERAL NOTES

All work shall be done according to the Standard Specifications of The Colorado State Highway Department, Adopted January 1-1930.

All concrete shall be Class 'A'.

All walls shall have forms on both sides.

All reinforcing bars shall be round or square, plain or deformed as shown and noted.

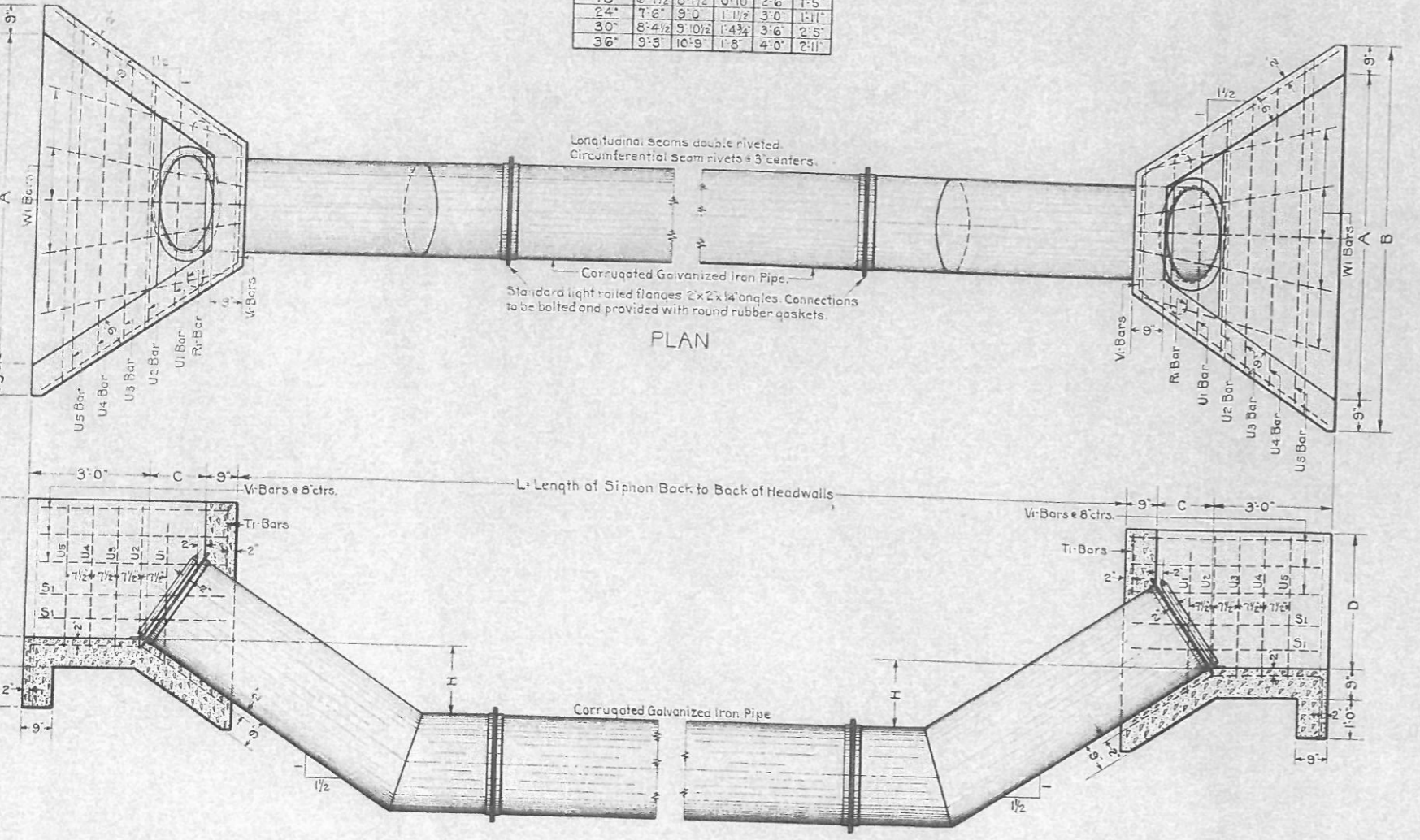
All exposed corners in concrete shall be beveled to a 2" face.

All corrugated pipe to conform to the Colorado State Highway Specifications.

Trash guards to be 2x2x1/4" Standard light rolled, securely riveted to corrugated pipe.

For siphons required and governing dimensions see sheet No. 2.

Trash guards to be painted as per specifications for structural steel.



SECTIONAL ELEVATION

FRONT ELEVATION

**COLORADO STATE HIGHWAY DEPARTMENT**

**STANDARD SIPHON**

**CORRUGATED GALVANIZED IRON PIPE WITH CONCRETE INLET & OUTLET BOX**

**SIZES 18"-24"-30"-36"**

Designed by A.G.K. Approved by C.D.B.  
 Made by W.M.M. Bridge Engineer  
 Checked by W.M.M. Date: Dec. 26, 1935

Noble E. Kreps

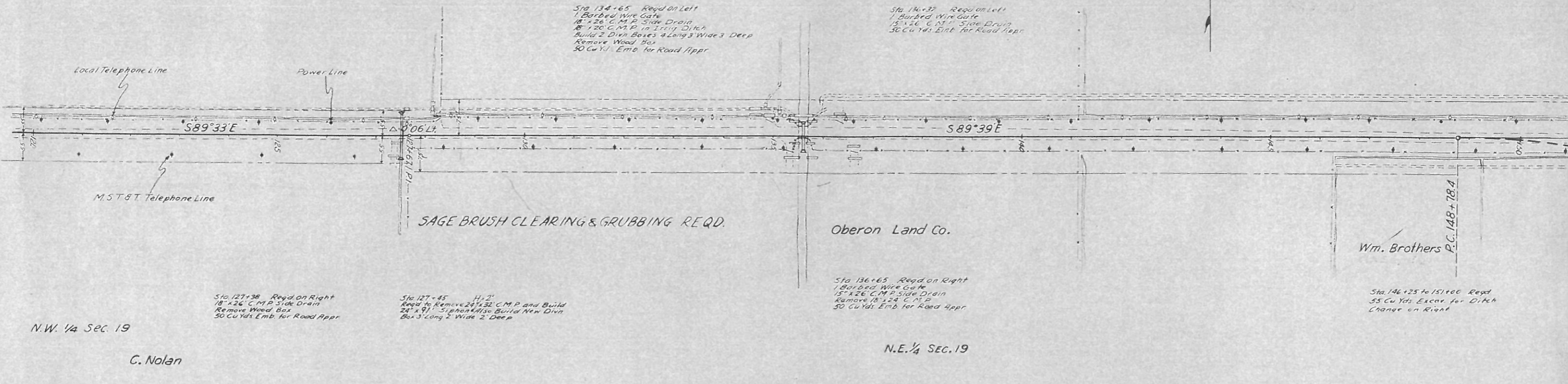
Sta. 128+15  
Reqd. to Reset Heavy Frame Gate in New Fence  
Build New Divn. Box 3 Long 2 Wide 2 Deep  
18" x 26" C.M.P. Side Drain  
50 Cu Yds. Emb. for Road Appr.

Sta. 135+60  
Remove 4.5' x 5' x 24" Conc. Cul. @ 2' C.M.P. Side Drain  
Build 6' x 2' x 54" Conc. Box Cul.  
1-18" x 26" C.M.P. Side Drain (On Rt. Under Appr.)  
1-18" x 26" C.M.P. Side Drain (On Lt. West Side of Canal)  
2-15" x 20" (On Lt. East Side)  
1 Barbed Wire Gate (On Rt. for Approach)  
50 Cu Yds. Emb. for Road Appr.  
18" Pipe Flume on Left to be Left in Place

Reynolds & Crowther

Sta. 134+65 Req'd on Left  
1 Barbed Wire Gate  
18" x 26" C.M.P. Side Drain  
18" x 26" C.M.P. in 12' in Ditch  
Build 2 Divn. Boxes 4 Long 3 Wide 3 Deep  
Remove Wood Box  
50 Cu Yds. Emb. for Road Appr.

Sta. 136+37 Req'd on Left  
1 Barbed Wire Gate  
15" x 26" C.M.P. Side Drain  
50 Cu Yds. Emb. for Road Appr.



Sta. 127+38 Req'd on Right  
18" x 26" C.M.P. Side Drain  
Remove Wood Box  
50 Cu Yds. Emb. for Road Appr.

Sta. 127+45 H=2'  
Req'd to Remove 24" x 32" C.M.P. and Build  
24" x 9" Siphon with Bored New Divn.  
Box 3 Long 2 Wide 2 Deep

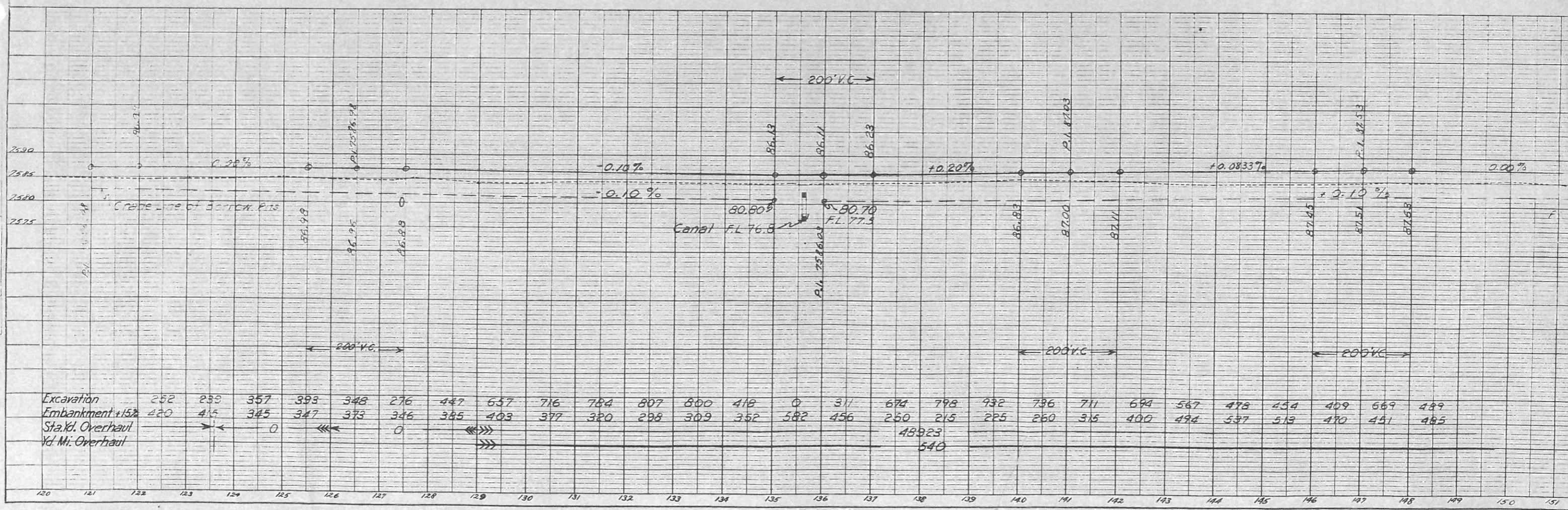
Sta. 136+65 Req'd on Right  
1 Barbed Wire Gate  
15" x 26" C.M.P. Side Drain  
Remove 18" x 24" C.M.P.  
50 Cu Yds. Emb. for Road Appr.

Sta. 146+25 to 151+00 Req'd  
55 Cu Yds. Excav. for Ditch  
Change on Right

N.W. 1/4 Sec. 19

C. Nolan

N.E. 1/4 SEC. 19



Excavation	252	233	357	393	348	276	447	657	716	784	807	800	418	0	311	674	798	932	736	711	694	567	478	454	409	669	489
Embankment +15%	420	415	345	347	373	346	385	403	377	320	298	309	352	582	456	250	215	225	250	315	400	494	537	513	470	451	485
Sta. Yd. Overhaul			0		0											48923											
Yd. Mi. Overhaul																											



Ernest Coombs

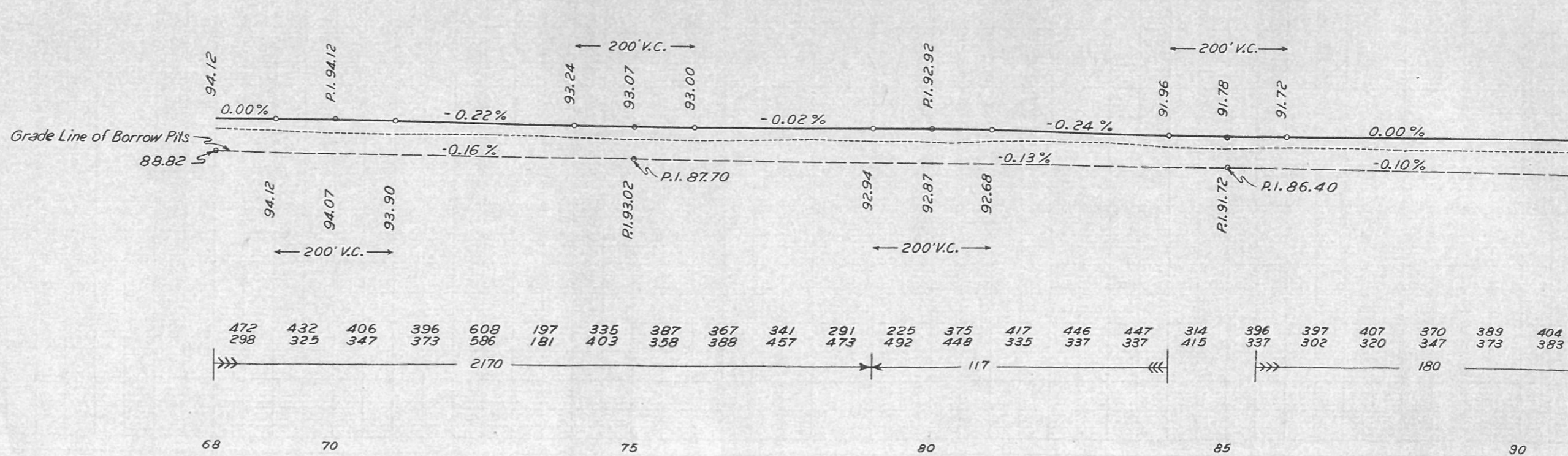
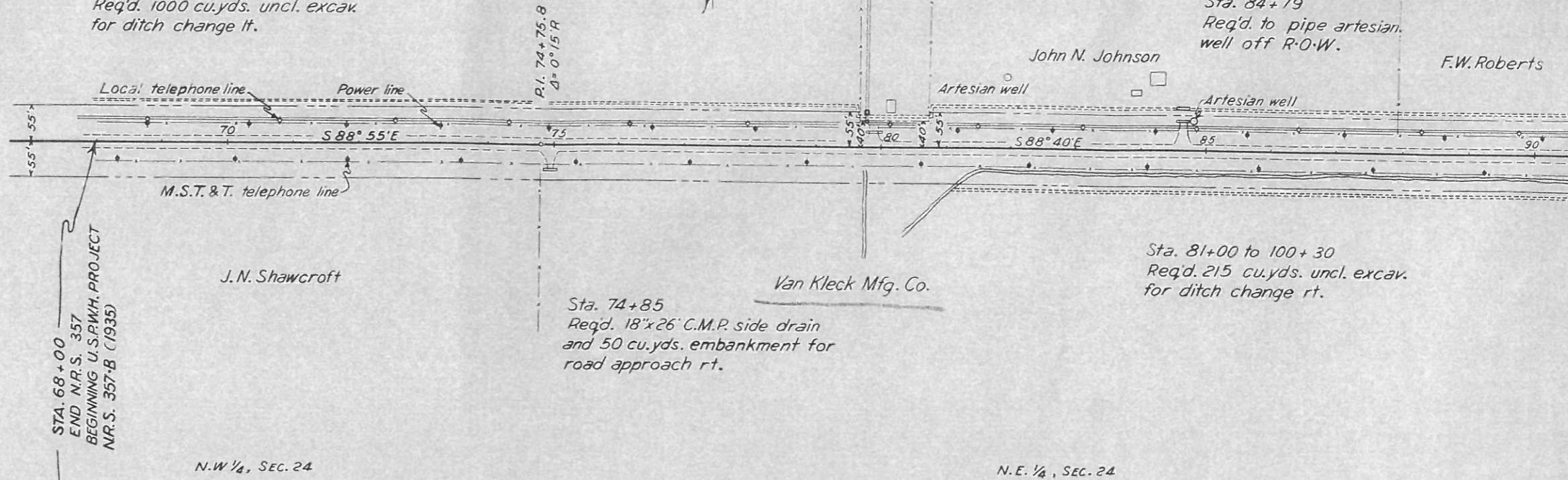
Sta. 68+00 to 154+00  
Req'd. to reset local telephone line on new fence.  
Work to be done and material to be furnished by State Forces, without Federal Aid.

Sta. 68+00 to 152+00  
Req'd. 1000 cu.yds. uncl. excav. for ditch change lt.

Sta. 79+85  
Req'd. 18"x26" C.M.P. side drain and 50 cu. yds. emb. for road app. lt.  
Req'd. wood division box 3' long, 2' wide and 2' deep, as per details shown on Sheet No. 2.

Sta. 84+60  
Req'd. 18"x26" C.M.P. side drain, 24"x20" C.M.P. in irrigation ditch and 50 cu. yds. emb. for road approach lt. Remove wood box  
Sta. 84+79  
Req'd. to pipe artesian well off R.O.W.

Sta. 81+00 to 100+30  
Req'd. 215 cu.yds. uncl. excav. for ditch change rt.



Excavation  
Embankment + 15 %  
Sta. Yd. Overhaul  
Yd. Mi. Overhaul

472	432	406	396	608	197	335	387	367	341	291	225	375	417	446	447	314	396	397	407	370	389	404
298	325	347	373	586	181	403	358	388	457	473	492	448	335	337	337	415	337	302	320	347	373	383
2170										117							180					

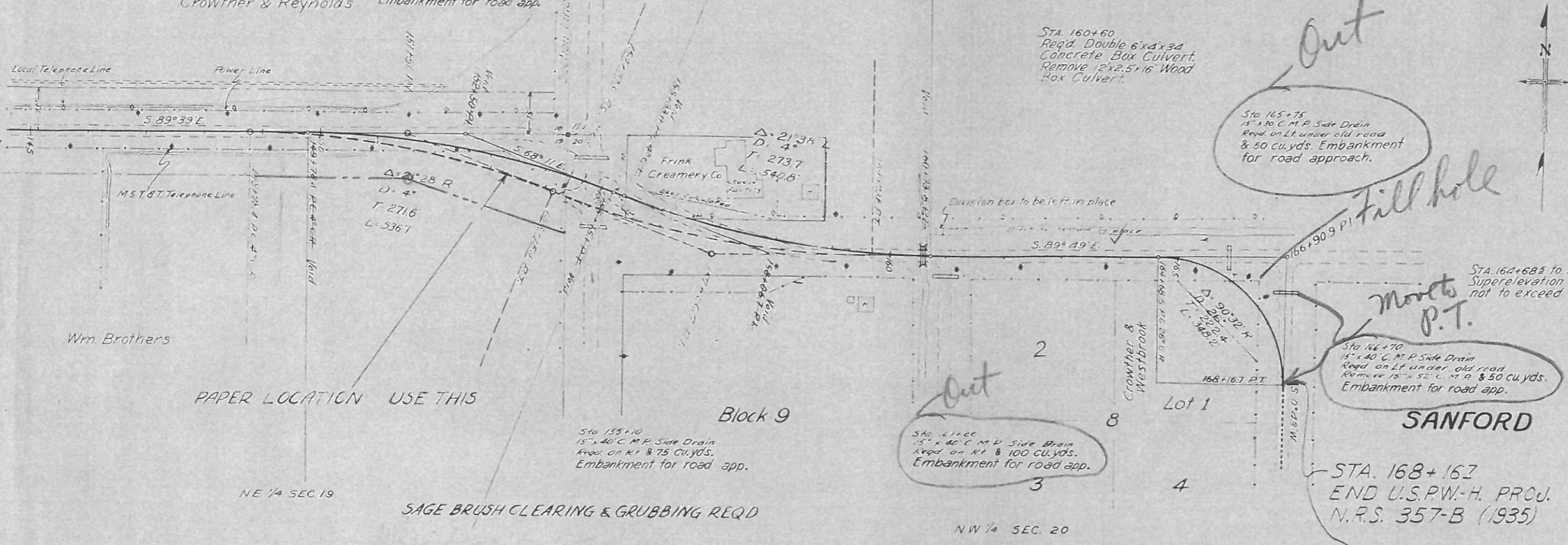
SE 1/4 SEC 18  
T 35N. R 10E

Crowther & Reynolds

Sta 154+25  
5" x 40" C.M.P. Side Drain  
Reqd on Lt & 75 cu. yds.  
Embankment for road app.

SW 1/4 SEC 17

FED. ROAD DIST. NO.	STATE	PROJ. NO.
3	COLO.	WFS 357



*Out*

Sta 165+75  
15" x 40" C.M.P. Side Drain  
Reqd on Lt under old road  
& 50 cu. yds. Embankment  
for road approach.

*Fill hole*

Sta 164+68.5 to 168+16.7  
Superelevation of curve  
not to exceed 2'-0".

*Month P.T.*

Sta 166+70  
15" x 40" C.M.P. Side Drain  
Reqd on Lt under old road  
Remove 15" x 52" L. M.P. & 50 cu. yds.  
Embankment for road app.

Sta 160+60  
Reqd. Double 6' x 4' x 34  
Concrete Box Culvert.  
Remove 12' x 2.5' x 16' Wood  
Box Culvert.

Sta 155+10  
15" x 40" C.M.P. Side Drain  
Reqd. on Rt & 75 cu. yds.  
Embankment for road app.

Sta 141+00  
15" x 40" C.M.P. Side Drain  
Reqd on Rt & 100 cu. yds.  
Embankment for road app.

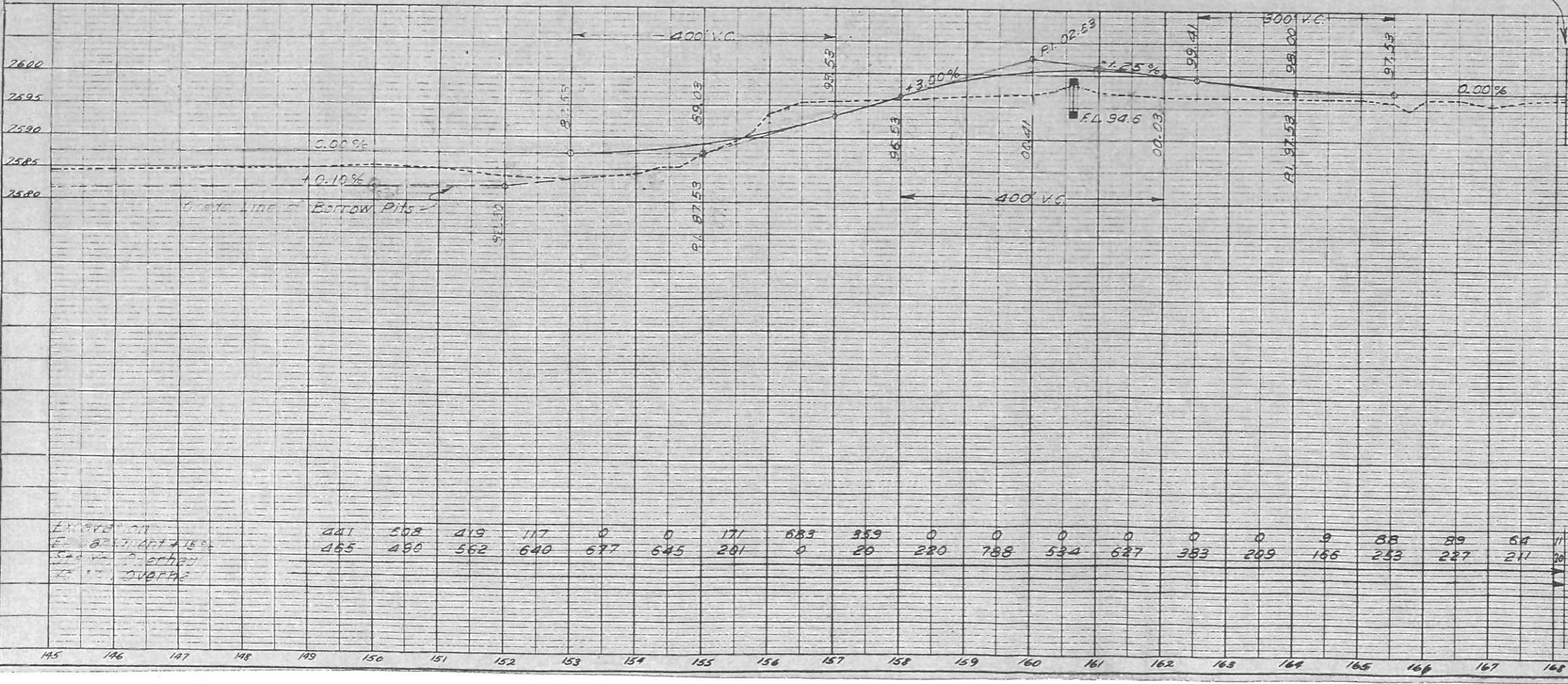


PAPER LOCATION USE THIS

Block 9

SANFORD

STA. 168+16.7  
END U.S.P.W.-H. PROJ.  
N.R.S. 357-B (1935)



PROJECT TOTALS

EXCAVATION:		
On Profile		86,854 cu
On Sheet No. 3 as Excav		1,271
" " 3 as Emb.		1,153
Total		89,278 cu
EMBANKMENT:		
Embankment (net)		32,045
Embankment plus 15%		36,854
OVERHAUL:		
Station Yard Overhaul		51,895
Yard Mile Overhaul		5,007

EX 945 577  
E 82 7 1/2 FT x 15 1/2  
S 1 1/2 x 2 Overhaul  
S 1 1/2 x 2 Overhaul

441	508	419	117	0	0	171	683	339	0	0	0	0	0	0	0	9	88	89	64	11
485	490	562	640	677	645	281	0	20	220	788	534	627	383	289	166	243	237	211	20	

145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168

