

A 5

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COLORADO STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED U.S.P.W. PROJECT NO. N.R.H. 113-C AND FEDERAL LANDS HIGHWAY PROJECT NO. 2-A STATE HIGHWAY NO. 6 FREMONT COUNTY

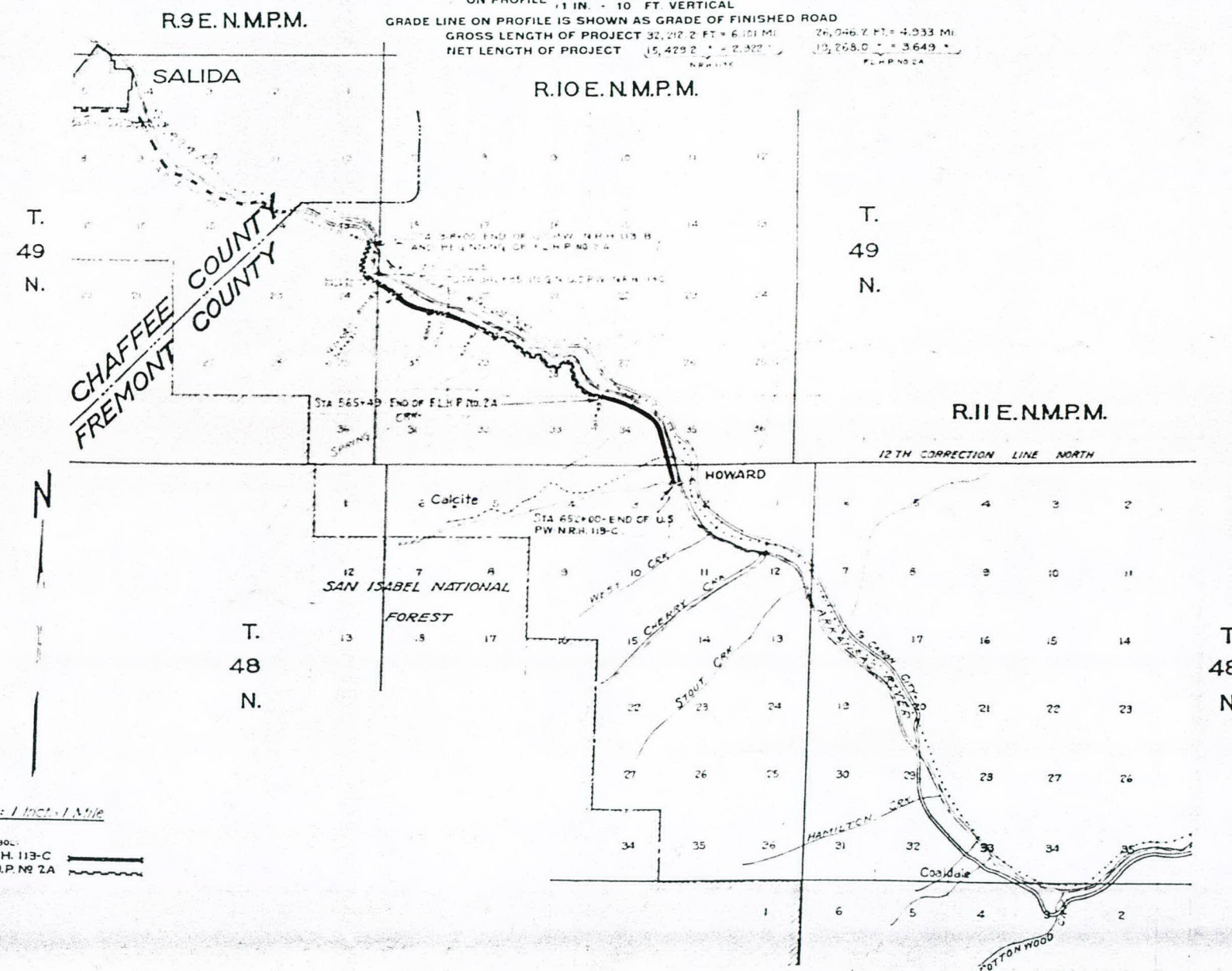
CONVENTIONAL SIGNS

CENTER LINE OF PROJECT
R.O.W. LINES
SECTION LINES
1/4 SECTION
PRESENT ROAD
STEAM RAILROADS
FENCING
POLE LINES

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 32,212.2 FT. = 6.101 MI.
NET LENGTH OF PROJECT 15,429.2 FT. = 2.927 MI.



Scale: 1 inch = 1 mile

SYMBOL:
N.R.H. 113-C
F.L.H.P. NO. 2A

RECOMMENDED FOR APPROVAL 5/3/34

William
ASSISTANT ENGINEER

APPROVED
Charles
STATE HIGHWAY ENGINEER

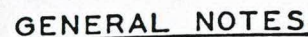
RECOMMENDED FOR APPROVAL
W. H. H. H.
DIST. ENG. BUREAU PUBLIC ROADS

RECEIVED
AUG 30 1934
CHIEF ENG. BUREAU PUBLIC ROADS

APPROVED
W. H. H. H.
DIST. ENG. BUREAU PUBLIC ROADS

Drawer #3

DATE	TIME	LOCATION	REMARKS	SIGNATURE
10-10-68	17:00	STATION 1	1st observation of bird in nest box.	



6.1330. All quantities on preliminary plans are 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 ditch as shown on the typical sections, either noted as borrow on the Plans or as embankment in the Structure List, are to be classified and paid for as "Unclassified Excavation". These quantities are to be stated as part of the original excavation at locations indicated on the Plans.

Any slope stakes beyond the limits of the typical ditches are subject to change by the Engineer to fit embankment requirements actually encountered during construction.

Curves are to be superelevated in accordance with the Standard Methods

FENCING

GATE

shipment may be used

travelled roadway. The

from all temporary

FENCING			GATE		
ID#	BRAND #	COM-MAT#	LEN	IN	DELIVERY
	LINE #	LINE #	FEET	WIDE	DATE /
●	●	●	●	●	●

shipment may be used

travelled roadway. The
'tion all temporary

R.O.W. MARKERS

[illegible]

SELECTED MATERIAL- IT IS ESTIMATED THAT SELECTED MATERIAL WILL BE REQUIRED AS TABULATED IN THE FOLLOWING LIST. APPROXIMATE LOCATIONS, SOURCES, AND ESTIMATED QUANTITIES ARE TABULATED BELOW

MATERIAL REQO	SOURCE	QUANTITY CUB	OVERPHASE	2ND VCS
340+00-342+85	1ST SIDE OF ROW	• 150	•	150
342+85-345+50	OR	125	•	400
345+50-347+00	DO.	• 65	•	500
347+00-353+35 E	1ST SIDE OF ROW	• 70	•	140
353+35 E-362+50 E	350+00-354+00	350	•	2450
362+50 E-370+50	DO.	• 408	•	1200
370+50-374+50	1ST SIDE OF ROW	400	•	1200
374+50-379+00	375+00-379+00	• 1000	•	4500
379+00-387+00	1ST SIDE OF ROW	• 300	•	5100
387+00-400+00	405+00 E-409+00 E	• 1700	•	13600
400+00-460+00	1ST SIDE OF ROW	• 1100	•	5500
460+00-468+50	465+00 E-468+50 E	• 400	•	400
468+50-519+00	1ST SIDE OF ROW	• 1700	•	13600
519+00-533+00	520+50 E-533+50 E	• 1100	•	5500
TOTALS - N.R.N. 113-C		875		
FLNP R.R. EA		• 5410		• 30630

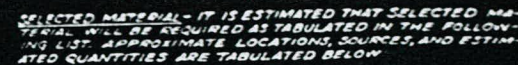
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LIST OF STRUCTURES

LOCATION OF STRUCTURE	DESCRIPTION	REMOVE	EXCAVATION	STRUCTURAL	CONCRETE	REINFORCING	CORRUGATED METAL CULVERT PIPE					GUARD	MISCELLANEOUS			
		STREET	CU YD	CU YD	CU YD	STIRR. LB	18"	24"	30"	36"	FENCE					
		EA	UNCLAS	EA							LINEAL FT.	EA				
318+00	Project Marker												Proj. marker			
322+00	Cross-Culvert			10		3.0										
328+62	Cross-Culvert & Outlet Ditch		10	5	1.65			40								
334+70	Cross-Culvert & Outlet Ditch		10	8	1.65			58								
342+85	Project Marker												Proj. marker			
345+32	Project Marker												Proj. marker			
345+50	Cross-Culvert & Inlet Ditch		35	43	1.65			56								
349+45	Cross-Culvert & Inlet Ditch		10	20	3.0				74							
350+00	Channel Dam			100												
355+35.4	Project Marker												Proj. marker			
357+03	Cross-Culvert & Inlet Ditch		10	16	1.65			82								
362+50.8	Project Marker												Proj. marker			
363+62	Cross-Culvert & Inlet Ditch		10	5	1.65			66								
366+50	Cross-Culvert & Inlet Ditch		50	33	1.65			76								
368+82.2	Project Marker												Proj. marker			
370+00-372+00	Road approach, Approach Span to Bridge, Ram Bridge			275									264			
371+04-372+16	Bridge, Guard Fence, Culvert Change															
372+50	Road approach		300													
373+74	Cross-Culvert and Inlet ditch		10	12		2.25			60							
384+50	8'x8'x34' Concrete Box Culv (Type 8-I); Inlet Ditch		36	315		83.9		8079								
394+12	10'x10'x34' " (Type 10-I)					122.3		10834								
399+25	Cross-Culvert & Ditches		10	8		2.25			53							
400+97.3	Project Marker												Proj. marker			
404+20	Cross-Culvert and ditches		10	10		3.0			94							
405+25	Cross-Culvert and ditch		10	12		3.0			70							
411+67.2	Project Marker												Proj. marker			
416+00	Cross-Culvert			5		1.65			58							
416+35	Cross-Culvert			3		2.25			50							
427+50	Cross-Culvert and Ditches		10	14		1.65			40							
437+50	Project Marker												Proj. marker			
439+00	Cross-Culvert and Ditches		10	10		1.65			72							
443+00	Cross-Culvert and Inlet Ditch		10	7		2.25			108							
452+18-452+53.2	Bridge, Guard Fence												264			
457+20	Cross-Culvert and Inlet Ditch		10	10		1.65			60							
464+25	Cross-Culvert & Ditches		10	9		1.65			52							
478+15-479+34	Bridge, Guard Fence												264			
474+80	Cross-Culvert and Inlet Ditch		10	25		6.3		229			124					
484+60	Cross-Culvert and Inlet Ditch		10	3		3.0			70							
488+00	Cross-Culvert and Inlet Ditch		15	30		1.65			100							
491+60	Cross-Culvert and Ditches		10	12		3.0			70							
496+78	Cross-Culvert		10	23		1.65			86							
500+00	Cross-Culvert and Inlet Ditch		15	18		1.65			43							
504+00	Cross-Culvert and Inlet Ditch		10	19		1.65			72							
518+00	Cross-Culvert and Inlet Ditch		10	18		1.65			48							
520+00	Cross-Culvert			4		1.65			52							
523+25	Cross-Culvert and Inlet Ditch		10	6		1.65			64							
523+50	Cross-Culvert and Inlet Ditch		10	20		1.65			56							
526+85	Cross-Culvert			10		1.65			52							
541+25	10'x10'x36' Concrete Box Culvert (Type 10-I)			90		125.8		11146								
546+70	Cross-Culvert and Inlet Ditch		10	15		3.0			76							
549+10	Cross-Culvert and Inlet Ditch		10	15		1.65			66							
549+10 TO 557+00	Remodel Siphon, Extend Present Siphon			95		12.5										
557+00	Moss ditch, Grout, Rubble Ditch Paving (2" thick)		1000													
557+50	Cross-Culvert and Inlet Ditch		10	15		1.65			56							
563+50	Cross-Culvert			5		1.65			54							
565+48	Project Marker												Proj. marker			
565+50	Cross-Culvert			15		1.65			84							
570+50	Cross-Culvert			5		1.65			52							
574+50	Cross-Culvert and Ditches		25	20		1.65			42							
579+00	Cross-Culvert and Ditches		25	20		1.65			42							
583+50	Remove old Concrete Foundation															
587+30	Remove Building		1													
587+50	Remove Stone Wall															
588+23 TO 588+81.2	Bridge, Guard Fence												264			
597+85	Cross-Culvert and Ditches		20	20		1.65			42							
603+50	Cross-Culvert and Ditches		20	20		1.65			42							
607+50	4'x5'x66' Concrete Box Culvert			29		44.8		3860								
610+75	Cross-Culvert			12		3.0			70							
612+50	Cross-Culvert & Ditches		10	12		1.65			50							
616+00	Cross-Culvert & Ditches		10	8		1.65			44							
619+25	10'x10'x50' Concrete Box Culvert (Type 10-III) and ditch		20	120		164.5		15195								
622+70	Cross-Culvert and ditches		10	6		1.65			44							
623+50	"		10	6		1.65			50							
631+25	10'x8'x40' Concrete Box Culvert (Type 8-II)			85		116.6		10330								
633+00	Cross-Culvert & Ditches		50	20		1.65			46							
636+00	5'x7'x52' Concrete Box Culvert			60		85.5		7268								
644+00	Cross-Culvert and Ditches		90	25		1.65			46							
645+60	5'x7'x32' Concrete Box Culvert and outlet ditch		100	40		66.3		5780								
648+00	Cross-Culvert and Ditches		90	23		2.25			50							
651+43	Side Drain and Approaches			200					30							
652+00	Cross-Culvert			3		1.65			52							
652+00	Project Marker												Proj. marker			
F.L.H.P. 2-A		0	1375	100	592		132.1	68.45	11369	0	1228	108	500	124	528	0-F.L.H.P. NB 2-A
N.R.H. 113-C		3	866	200	213		689.5	98.40	61544	30	846	218	70	0	828	0-N.R.H. NB 2-A
TOTALS		3	2241	300	1405		821.6	106.85	72083	30	2044	326	570	124	1056	0-N.R.H. NB 2-A

*NOTE: Structural Excavation is estimated to be 50 percent Common and 50 percent Rock, each of which is estimated to be 25 percent Wet and 75 percent Dry.

1988-1989 Budget: 100	1989-1990 Budget: 100	1990-1991 Budget: 100	1991-1992 Budget: 100	1992-1993 Budget: 100
0	0.10	0.20	0.30	0.40



LIST OF STRUCTURES

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 considered approximate only. All roadway excavation required to construct the Project is to be obtained as indicated on the Plans. Quantities involved below the limits of ditch as shown on the typical sections, either noted as borrow on the Plans or as embankment in the Structure List, are to be classified and paid for as "Unclassified Excavation." These quantities are to be stocked as part of the original excavation at locations indicated on the Plans.

Any slope stakes beyond the limits of the typical ditches are subject to change by the Engineer to fit embankment requirements actually encountered during construction.

Curves are to be superelevated in accordance with the Standard Methods

FENCING **GATES** *shipment may be used*
 100' 200' 300' 400' 500' 600' 700' 800' 900' 1000'
 10' 20' 30' 40' 50' 60' 70' 80' 90' 100'
 110' 120' 130' 140' 150' 160' 170' 180' 190' 200'

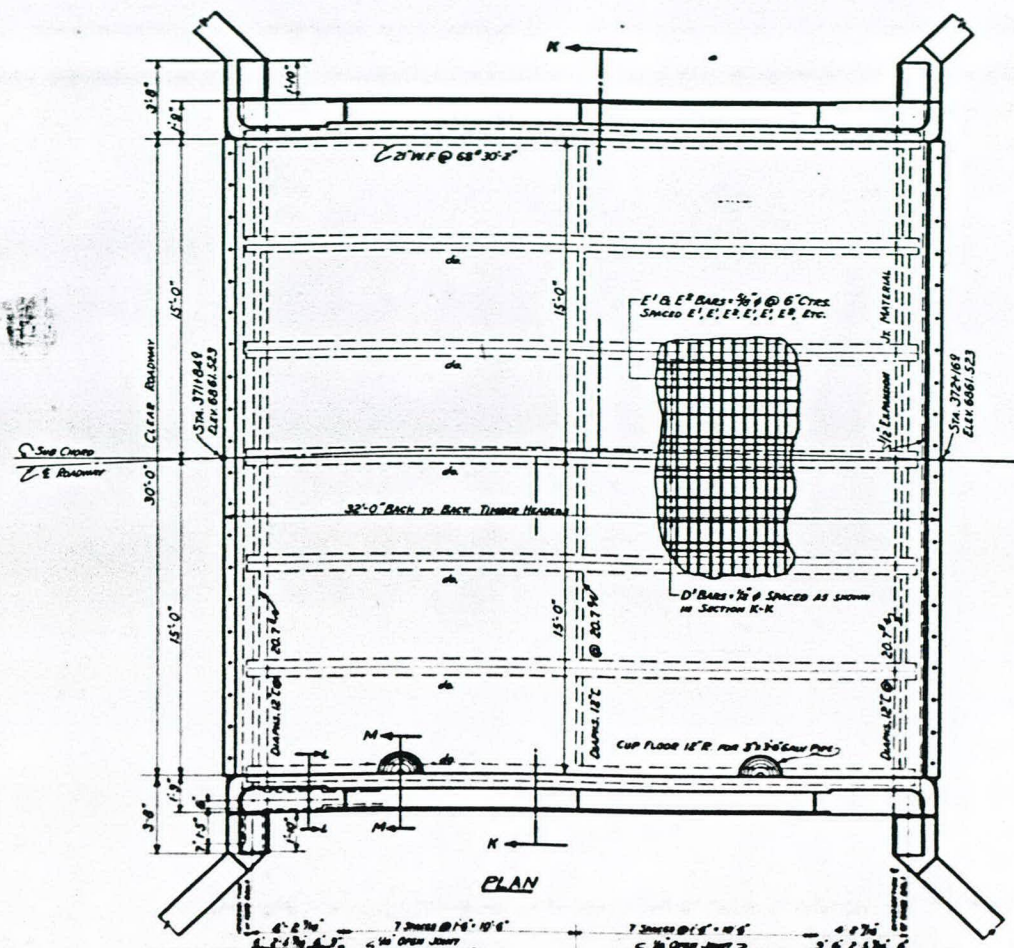
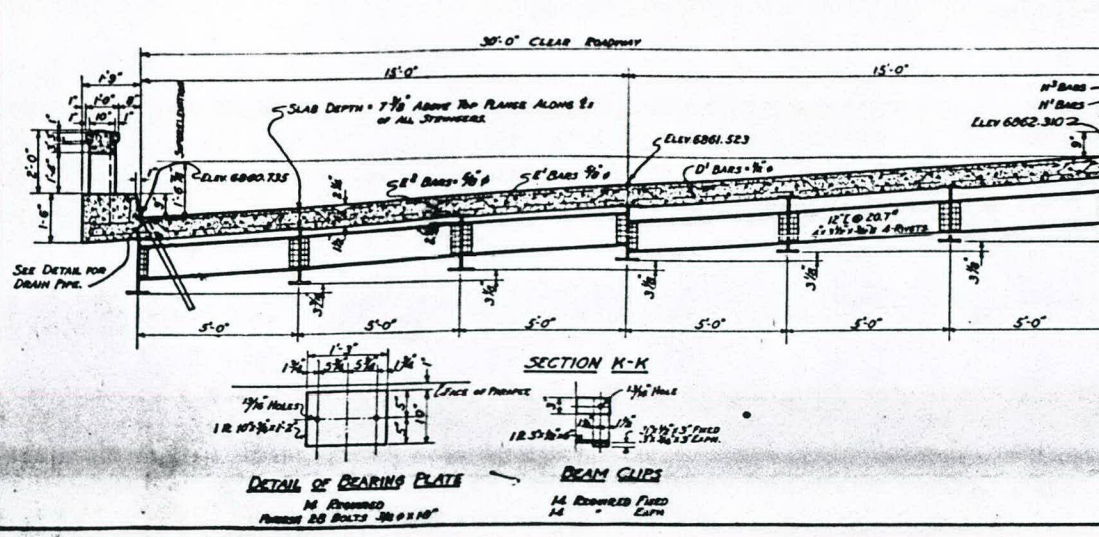
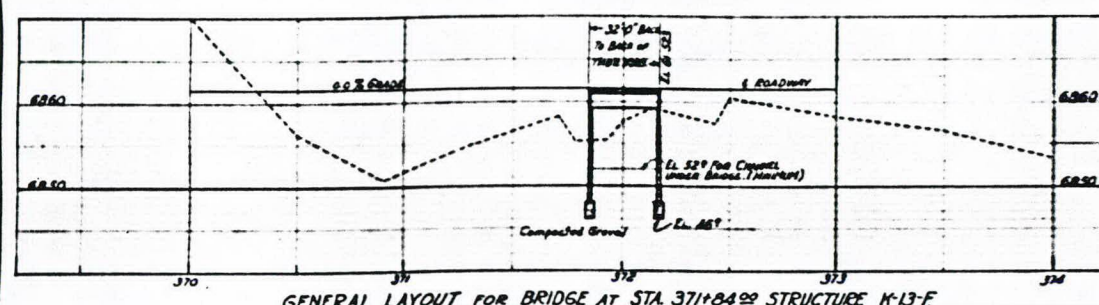
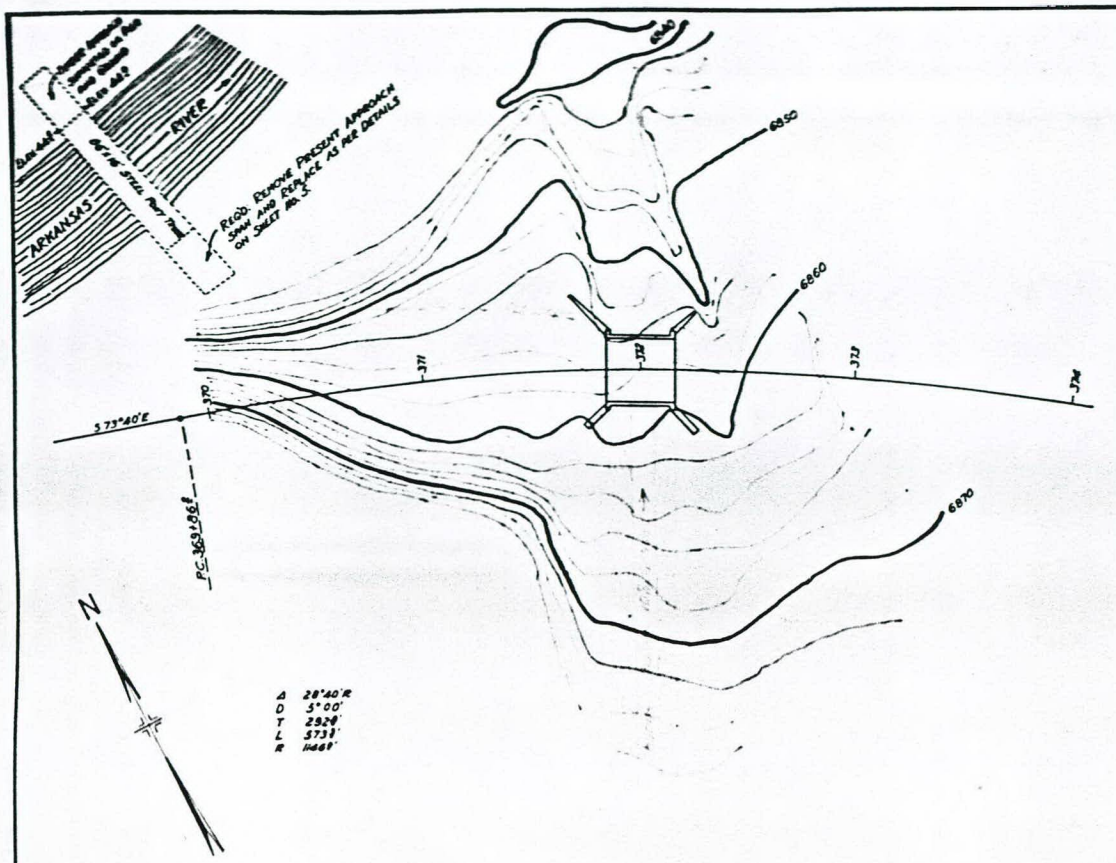
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*NOTE: Structural Excavation is estimated to be 50 per cent Common and 50 per cent Rock, each of which is estimated to be 75 per cent Wet and 25 per cent Dry

Equipment may be used

GATES				R.O.W. MARKERS					
PI BARB. WIRE FENCE		DRIVEWAY GATES		STATIONS	SIDE	NO.	STATIONS	SIDE	NO.
●		●	▼	310+00	R&L	2	510+74	R.	1
				320+70	L.	1	510+82	L.	1
				329+07	R.	1	544+70	R.	1
				350+25	L.	1	553+00	L.	2
				354+18	R.	1	555+00	L.	2
				365+63	R.	1	561+36	R.	1
				375+00	R.	2	564+00	L.	2
				380+00	R.	2	567+00	L.	2
				384+45	R&L	2	567+54	L.	1
				390+25	L.	2	570+53	L.	1
				395+00	L.	2	570+79	R.	1
				411+53	L.	1	586+00	L.	2
				411+78	R.	1	590+00	L.	2
				438+37	R.	1	604+66	L.	1
				438+89	L.	1	603+39	R.	1
				439+87	L.	1	610+83	R.	1
2				440+00	L.	2	611+18	L.	1
				440+50	R.	1	630+04	R.	1
				450+00	L.	2	630+60	L.	1
1		1/2		470+50	L.	1	650+00	R.	2
				471+04	R.	1			
				480+00	L.	2			
				490+00	L.	2			
				490+00	R.	1			
				490+79	L.	1			
2				490+80	L.	2			
2				491+00	L.	2			
				493+00	R.	1			
2				494+00	L.	1			
				494+79	L.	1			
				494+99	R.	1			
				494+00	L.	2			
				494+00	L.	2			

		YD
18.0	YARD MILE OVERHAUL	
30x	GRAVEL OR CRUSHED ROCK SURFACING	TON
420	UNTREATED BRIDGE TIMBER	MFEBM.
420	TREATED BRIDGE TIMBER	" "
460	CLASS "A" CONCRETE	CU YD.
460	CLASS "B" CONCRETE	" "
47	REINFORCING STEEL	LB
48	STRUCTURAL STEEL	LB
46x	WATER GAS TAR WATERPROOFING	SQ YD
530	18" CORR. METAL CULY PIPE	LIN FT
530	24" " " " "	" "
530	30" " " " "	" "
530	36" " " " "	" "
530	54" CORR. METAL CULY PIPE	LIN FT
64	GROUT. RUBBLE SLOPE & DITCH PAVING (12" THICK)	SQ YD
72	WIRE CABLE GUARD FENCE	LIN. FT.
750	GALV. B W FENCE	" "
750	GATES IN B W FENCE	
78	PROJECT MARKERS	EACH
79	R.O.W MARKERS	"
84	REMOVE DISUSED BRIDGE, STA 970+	LP SUM
890	DRAIN PIPES (WITH FLANGE)	EACH
950	COMBINATION WIRE FENCE	LIN FT
950	DRIVEWAY GATES	EACH
96x	12" CORRUGATED METAL SIPHON PIPE	LIN. FT.
120	ROCKFILL	CU. YD
121	LOG CRIBBING	LIN. FT.
110	REMOVING 3 STRUCTURES	



BAR LIST FOR SUPERSTRUCTURE

MARK	SIZE	NO.	LENGTH	BENDING
D'	1/2"	48	30'-8"	378
H'	1/2"	20	3'-0"	
H'	1/2"	16	10'-2"	
E'	3/8"	88	34'-4"	25'-8" - 32'-8"
E'	3/8"	20	34'-5"	25'-8" - 32'-8"
H'	1/2"	40	6'-6"	

3570 FT. 3/8" BARS @ 1043 LBS. PER L.M. FT. = 3724 LBS.
 496 FT. 1/2" @ 0.850 = 422 LBS.
 1472 FT. 1/2" @ 0.668 = 983 LBS.
 17 1/2 OVERLAP = 51 LBS.
 TOTAL = 5180 LBS.

SUMMARY OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	ITEM	UNIT	SUPER-STR.	ABUT. NO. 1	ABUT. NO. 2	TOTAL
14B	DRY ROCK EXCAVATION (STRUCT)	Cu Yd		178	232	410
14C	DRY COMMON EXCAVATION (STRUCT)	Cu Yd		60	55	115
14D	WET ROCK EXCAVATION (STRUCT)	Cu Yd		5	5	10
14E	WET COMMON EXCAVATION (STRUCT)	Cu Yd		5	5	10
42B	UNTREATED BRIDGE TIMBER	MBM	0.300			0.300
46B	CLASS "A" CONCRETE	Cu Yd	33	110	97	240
47	REINFORCING STEEL	LB	5180	3350	2990	11,520
48	STRUCTURAL STEEL	LB	17,500			17,500
89 b	DRAIN PIPES (WITH FLANGE)	EACH	2			2
	1/2" x 10" EXPANSION JOINT MATERIAL	Lm Ft.	30			30

GENERAL NOTES

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

ALL CONCRETE SHALL BE CLASS "A".

FORMS FOR CONCRETE SURFACES EXPOSED TO THE FINISHED WORK SHALL BE CONSTRUCTED OF SHEET PILE OR THOMAS AND SHOWN LUMBER AND SHALL BE RIGIDLY BRACED TO PREVENT DEFLECTION.

ALL EXPOSED SURFACES SHALL BE FINISHED FREE OF FORM MARKS.

ALL EXPOSED CORNERS, EXCEPT ON HANDRAILS, SHALL BE DEVELOPED TO A 5" FACE.

SHOULDER, FLOOR SLABS AND CURBS SHALL BE FINISHED MONOTONICALLY.

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.

THICKNESS OF FLOOR SLAB SHOWN INCLUDING 1" CONCRETE WEARING SURFACE.

ALL REINFORCING BARS SHALL BE ROUNDS OR SQUARES, PLAIN OR DEFORMED AS SHOWN AND NOTED.

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

REINFORCING BARS WHEN SPLICED SHALL BE GIVEN A LAP OF 36 DIAMETERS.

MAIN BARS SHALL NOT BE SPLICED.

SPACING AND DEPTH OF FOOTINGS SHOWN ARE ACCORDING TO THE BEST AVAILABLE DATA.

IF ESSENTIALLY DIFFERENT CONDITIONS ARE ENCOUNTERED, THE BRIDGE ENGINEER SHALL REVISIT AND DETERMINE IF REVISION IS NECESSARY.

ALL PILES TO BE 36" DIAMETER.

ALL PILE JOINTS TO BE POWER DRIVEN.

REFERENCE DRAWINGS

SHEET No. 4, DETAILS OF ABUTMENTS NOS. 1 AND 2

SHEET No. 5, DETAILS OF APPROACH SPAN ON QUARRY BRIDGE.

LOADING DATA.

LIVE LOAD - H. A. S. M. G. AUG. 1908 CLASS A, 10-10

DEAD LOAD - H. A. S. M. G. AUG. 1908 CLASS A, 10-10

WIND LOAD - H. A. S. M. G. AUG. 1908 CLASS A, 10-10

SEISMIC LOAD - H. A. S. M. G. AUG. 1908 CLASS A, 10-10

STRUCTURE NO. K-13-F

COLORADO STATE HIGHWAY DEPARTMENT

29'-4" SPAN CONCRETE T-BEAM BRIDGE WITH 30'-0" ROADWAY

ACROSS GULCH

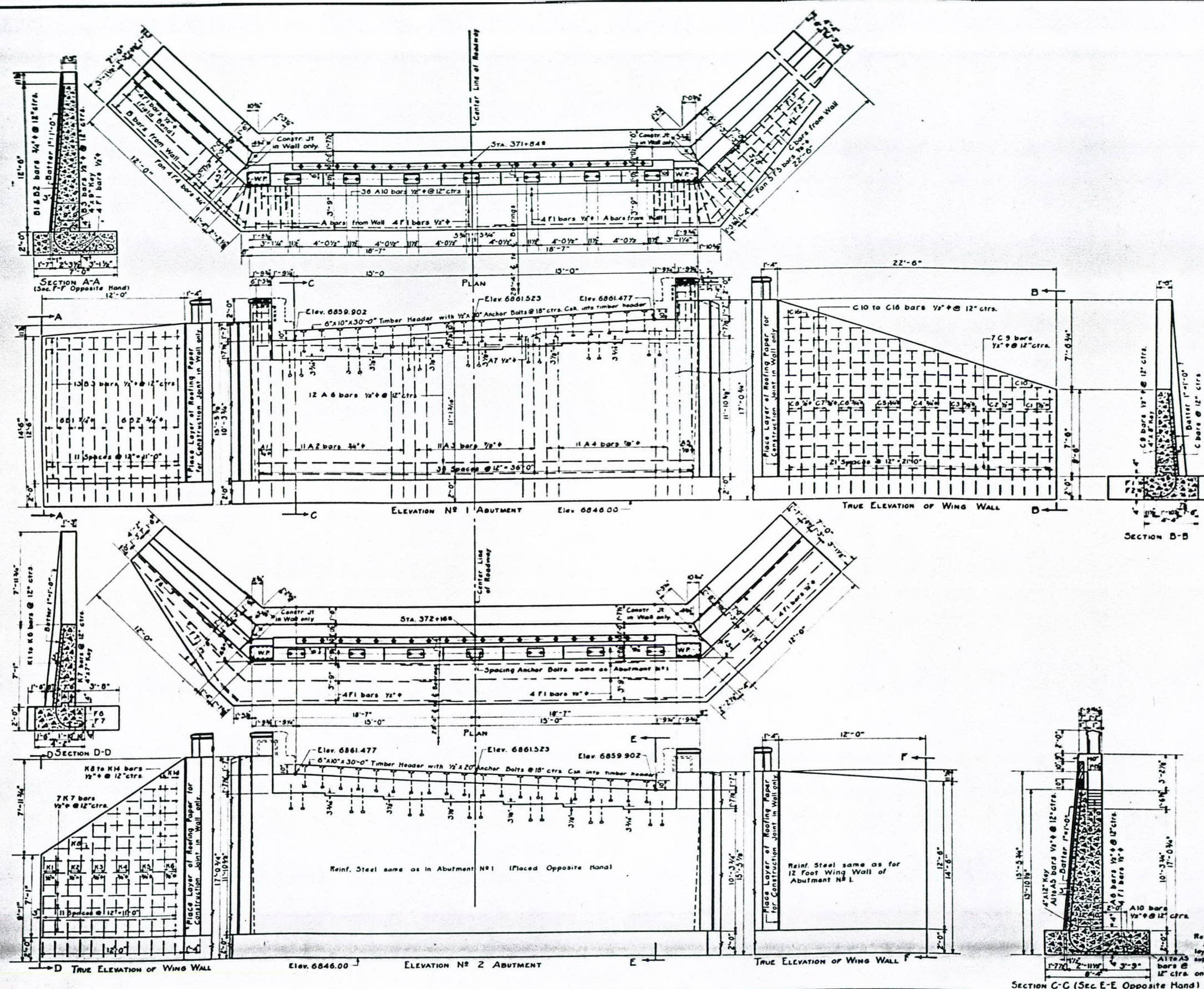
Sta. 371+84.99 TO 372+16.88

NEAR WELLSVILLE Sec. 19 T. 49N R. 10E

Designed by A.L.C. Approved by H.E.S. (Seal)

Made by W.M.L. Bridge Engineer

Checked by Date: May 16, 1934.

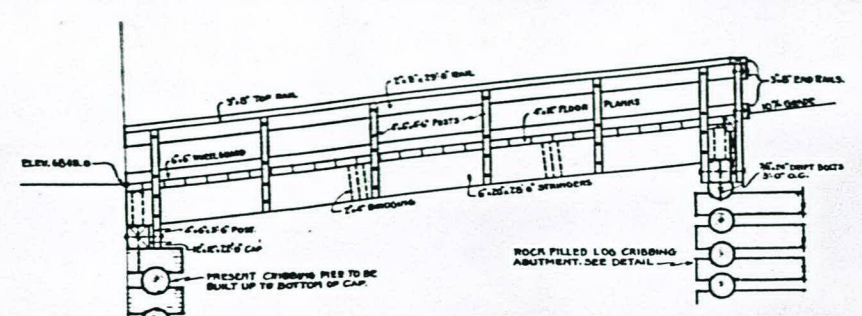


LOADING DATA.
Live Load = A. A. S. M. C. No. 1000 CLASS A. 20-102
Dead Load = 1000 LBS. PER SQ. FT. APPROXIMATE, INCLUDING
CURBS. SPACED 12 FEET ON 24 IN. CONCRETE SPACINGS, INCLUDING
CURBS.

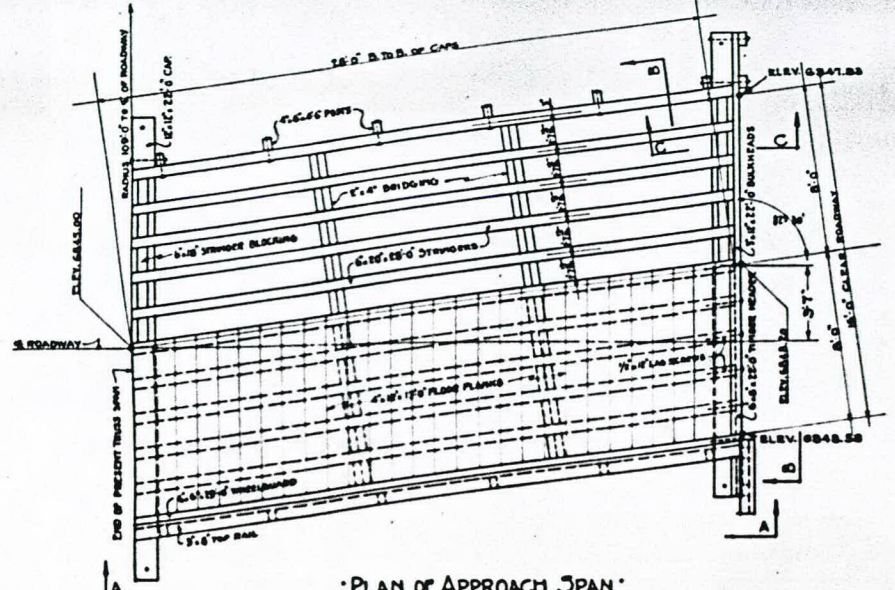
COLORADO
STATE HIGHWAY DEPARTMENT
DETAILS OF
ABUTMENTS NO. 1 & NO. 2

Approach Gulch
Sta. 371+84* To 372+16*
Near WELLSVILLE Sec. 19 T. 49 N. R. 10 E.

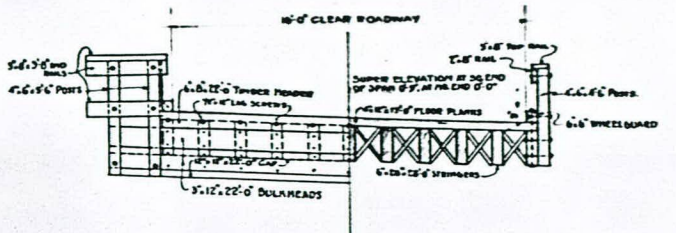
Designed by A.L.C. Made by H.L.L. Check Detail ML 1	Approved by <i>P. D. Bailey</i> Bridge Engineer Date: <i>May 1st. 1934.</i>
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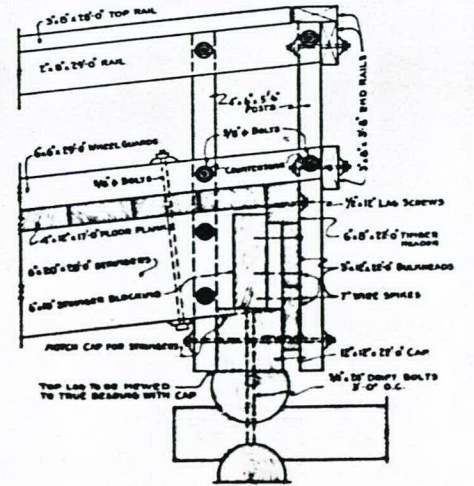
ELEVATION A-A



PLAN OF APPROACH SPAN



SECTION B-B
ON LINE B-B



SECTION C-C

GENERAL NOTES

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO STATE HIGHWAY DEPARTMENT, ADOPTED JAN. 1, 1930. ALL TIMBER TO BE TREATED OR UNTREATED AS SHOWN IN BILL OF MATERIAL. ALL TIMBER, EXCEPT LOGS, SHALL BE DENSE SOUTHERN YELLOW PINE OR WEST COAST DOUGLAS FIR.

ALL CAPS SHALL BE EDED TO AN EVEN DEPTH BEFORE TREATMENT. ALL CUT SURFACES OR BORED HOLES IN TREATED TIMBER SHALL BE THOROUGHLY SATURATED WITH HOT CREOSOTE OIL. THE ENDS OF ALL STRINGERS SHALL BE DAMPED ON ONE EDGE BEFORE TREATMENT, TO OBTAIN AN EVEN DEPTH OVER CAPS.

LOGS SHALL BE ANY LOCAL TIMBER, EXCEPT BALSAM, ASPEN OR COTTONWOOD. LOGS SHALL BE STRAIGHT, SOUND, OUT OF WIND AND FREE FROM DEFECTS OF ALL KINDS, AND SHALL BE CUT FROM LIVE TREES NOT LESS THAN 30 DAYS IN ADVANCE OF USE, BUT NOT EXCEEDING ONE YEAR AND ALLOWED TO DECAY WITH THE DARK ON. IMMEDIATELY BEFORE USE IN THE WORK, ALL BARK SHALL BE PEELLED AND THE LOGS TRIMMED SMOOTH OF ALL KNOTS AND PROJECTIONS.

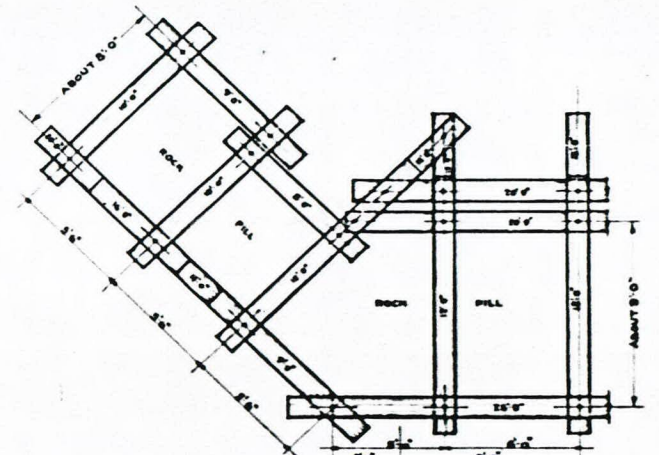
LOGS TO BE DRIFT-BOLTED AT ALL BEARINGS ETC. WITH 1/2" DRIFT BOLTS EXTENDING ENTIRELY THRU FIRST LOWER LOG AND AT LEAST 6" INTO SECOND LOWER LOG. SEE DETAIL.

HOLES FOR BOLTS IN SAWED TIMBER SHALL BE BORED 1/8" SMALLER THAN DIAMETER OF BOLT. HOLES FOR DRIFT BOLTS SHALL BE BORED 1/8" SMALLER THAN DIAMETER OF DRIFT BOLTS.

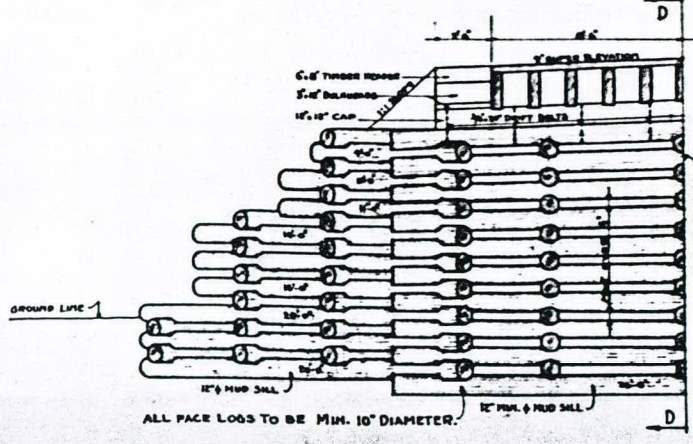
STANDARD CAST IRON WASHERS, O.G. TYPE SHALL BE USED UNDER EACH BOLT AND LAGSCREW HEAD AND NUTS. WASHERS AND BOLT HEADS IN FACE OF WHEELGUARDS TO BE COUNTERSUNK. PAINT. ALL HANDRAILING AND POSTS ABOVE THE WHEELGUARDS SHALL BE PAINTED WHITE AND ALL HANDRAIL POSTS BELOW THE TOP OF WHEELGUARDS SHALL BE PAINTED BLACK AS SPECIFIED.

EXCAVATION SHALL BE INSPECTED AND APPROVED BY THE BRIDGE ENGINEER BEFORE THE MUD SILLS ARE PLACED. PLANS SHALL BE ALTERED IF NECESSARY TO ASSURE SATISFACTORY FOUNDATIONS.

ROCKFILL, PLACED ACCORDING TO SPECIFICATIONS WILL BE USED BEHIND LOG ABUTMENT. ROCKS OF NOT LESS THAN 6" DIMENSION IN ANY DIRECTION ARE TO BE USED FOR FILL. CONTRACTOR TO MAINTAIN TRAFFIC OVER THIS QUARRY BRIDGE BY MEANS OF APPROACH FILL WHILE BUILDING ABUTMENT AND MUST CONSTRUCT SUPERSTRUCTURE IN LEAST POSSIBLE TIME. NO TRAFFIC OVER THIS BRIDGE WILL BE ALLOWED A MINIMUM AMOUNT.



HALF PLAN OF ABUTMENT



HALF ELEVATION OF ABUTMENT

BILL OF MATERIAL

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	BO. FT.
42	UNTREATED BRIDGE TIMBER			
	HANDRAILS	2	2" x 6" x 28'-0"	73
	TOP RAILS	2	3" x 6" x 28'-0"	172
	END RAILS	6	3" x 6" x 4'-0"	48
	HAND RAIL POSTS	0	4" x 6" x 3'-6"	88
	HAND RAIL POSTS	0	4" x 6" x 4'-6"	72
	TOTAL UNTREATED BRIDGE TIMBER		BO. FT.	395
42	TREATED BRIDGE TIMBER			
	FLOOR PLANKS	28	4" x 12" x 17'-0"	1904
	WHEELGUARDS	2	6" x 6" x 29'-0"	174
	STRINGERS	11	6" x 10" x 28'-0"	3050
	BRIDGING	6	2" x 4" x 14'-0"	56
	BLOCKING	20	6" x 18" x 1'-1 1/2"	208
	TIMBER HEADER	1	6" x 8" x 22'-0"	60
	CAPS	2	12" x 12" x 22'-0"	528
	BULKHEAD PLANKS	2	3" x 12" x 22'-0"	132
	TOTAL TREATED BRIDGE TIMBER		BO. FT.	6170
	CRIBBING LOGS		LENGTH	LN. FT.
	FACE LOGS FOR ABUTMENT	10	24'-0"	240
	FACE LOGS FOR WINGS	6	20'-0"	120
	" " " "	6	18'-0"	96
	" " " "	4	11'-0"	44
	" " " "	2	9'-0"	18
	HEADER LOGS	25	15'-0"	375
	" " " "	20	12'-0"	240
	" " " "	16	10'-0"	160
	TIE LOGS	10	20'-0"	200
	" " " "	14	8'-0"	112
	LOGS FOR PIER	6	9'-0"	54
	TOTAL CRIBBING LOGS		LN. FT.	1760

LIST OF BOLTS, WASHERS ETC.

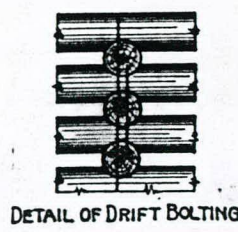
LOCATION	ITEM	SIZE	NO.	WASHER	TOTAL
POSTS TO RAILS	BOLTS	1/2"	12	10"	12.7
POSTS TO RAILS	"	1/2"	0	9"	0.4
POSTS TO WHEELGUARDS	"	1/2"	14	12"	18.8
POSTS TO STRINGERS	"	1/2"	84	15"	127.7
POSTS TO CAPS	"	1/2"	8	19"	9.9
POSTS TO BULKHEAD TO CAP	"	1/2"	2	20"	4.0
POSTS TO BULKHEAD TO CAP TO POST	"	1/2"	2	24"	4.7
WHEELGUARDS TO STRINGERS	"	1/2"	12	32"	39.7
TIMBER HEADER TO STRINGERS	"	1/2"	11	15"	6.9
CAPS TO CRIBBING	"	1/2"	19	11"	3.9
CRIBBING TO CRIBBING	"	1/2"	200	32"	750.0
WASHERS STD. C.I.O.G.	"	1/2"	156	8 1/2"	117.0
WASHERS STD. C.I.O.G.	"	1/2"	11	8 1/2"	5.5
	TOTAL				1058.0

NAILED AND NAILING DIRECTIONS.

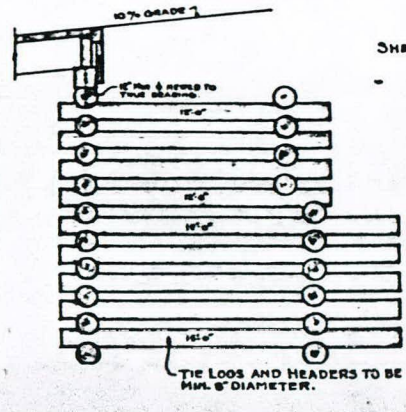
LOCATION	ITEM	SIZE	NO.	TOTAL
RAILS TO POSTS	4" x 4" NAILS	PER RAIL PER POST		8.9
FLOOR PLANKS TO STRINGERS	1" x 7" WIRE SPIKES	PER PLANK PER STRINGER		68
STRINGER BRIDGING	4" x 4" NAILS	PER BRIDGE		4.8
STRINGERS TO CAPS	4" x 4" NAILS	PER STRINGER		6
BULKHEADS TO STRINGERS AND CAP	1" x 7" WIRE SPIKES	PER BULKHEAD PER STRINGER		7
	TOTAL			95

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	SUPER STRUCT.	ABUT.	TOTAL
14	Structural Excavation	Cu.Yds.			275
42a	Untreated Bridge Timber	M.B.M.	0.395		0.395
42b	Treated Bridge Timber	M.B.M.	6.170		6.170
84	Removal of Disused Bridge	Lump Sum			0
120	Rock Fill	Cu.Yds.		130	130
121	Log Cribbing	Ln.Ft.		1760	1760



DETAIL OF DRIFT BOLTING



SECTION D-D

COLORADO STATE HIGHWAY DEPARTMENT

APPROACH SPAN DETAILS FOR BRIDGE TO ACCOMMODATE CROSS ROAD 16 FT. CLEAR ROADWAY

Across ARKANSAS RIVER

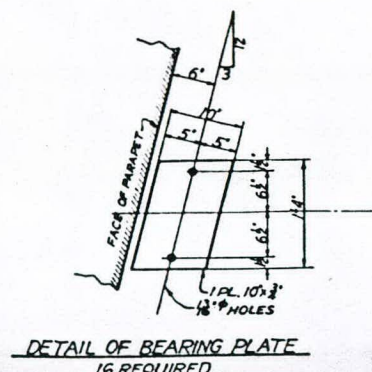
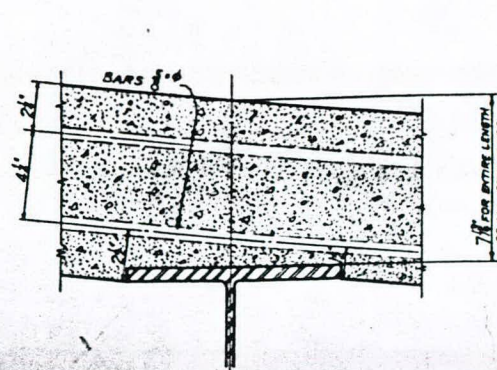
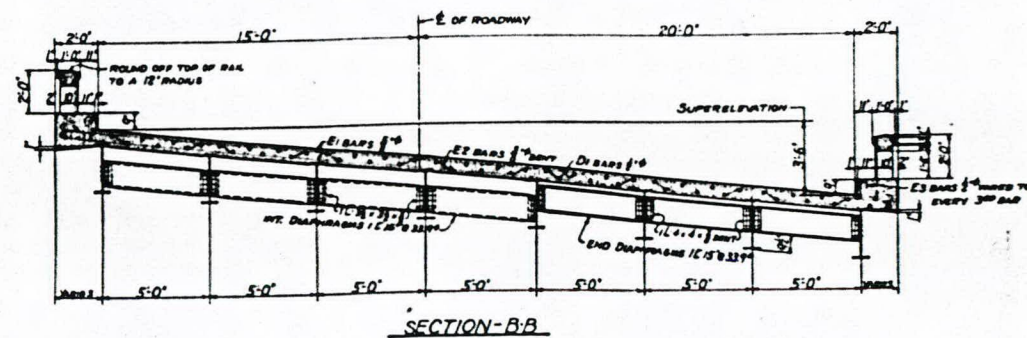
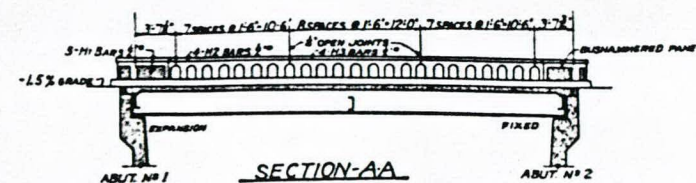
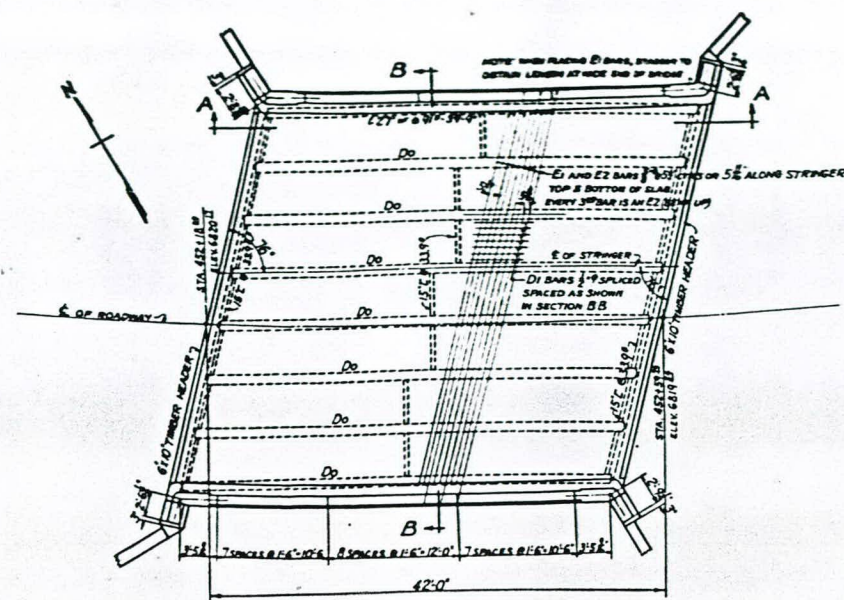
Opp. Sta. 370

Near WELLSVILLE Sec. 19 T. 49N R. 10E

Designed by G.A.D. Approved by *Ed. Bailey*

Made by G.A.D. Bridge Engineer

Checked by A.B.N. Date: May 1st, 1934.

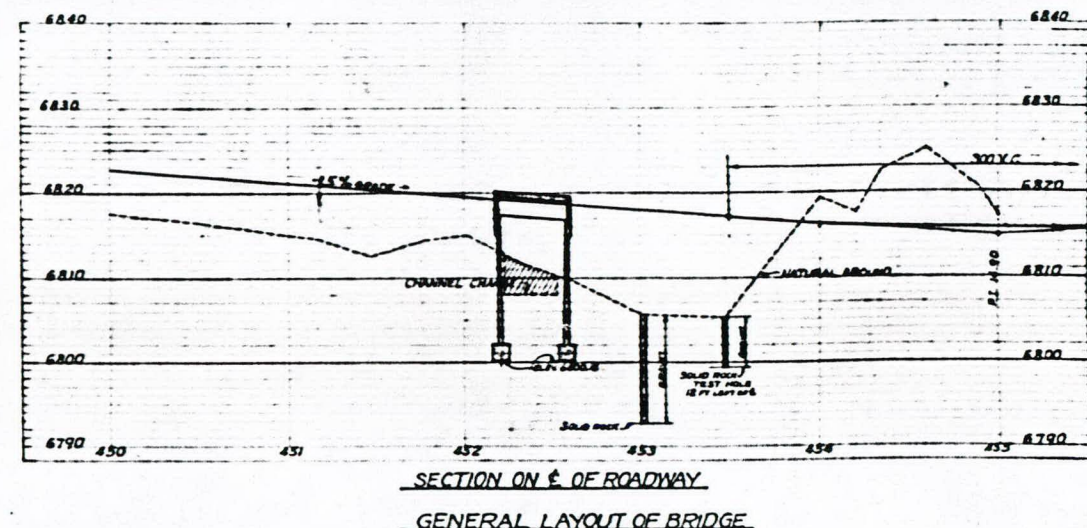
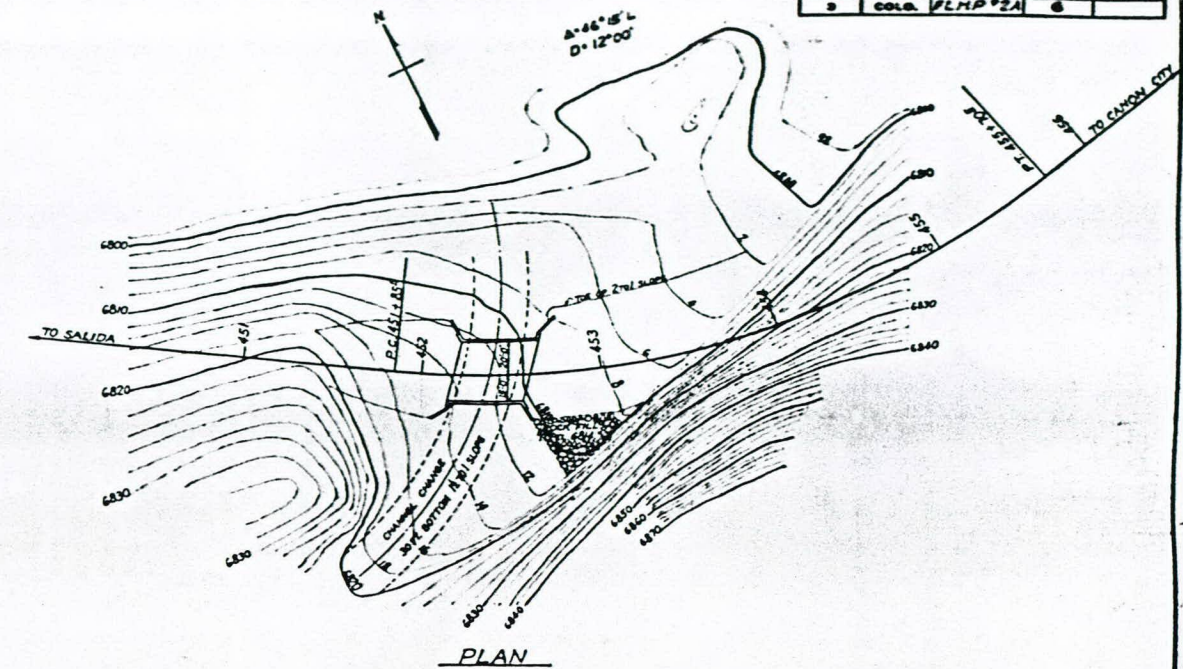
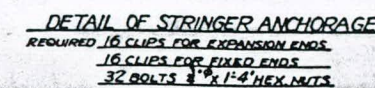
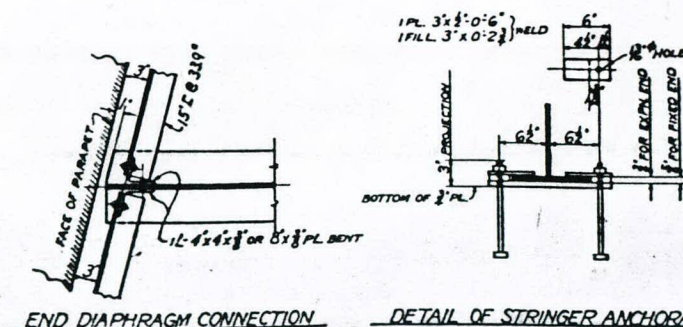
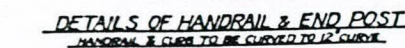
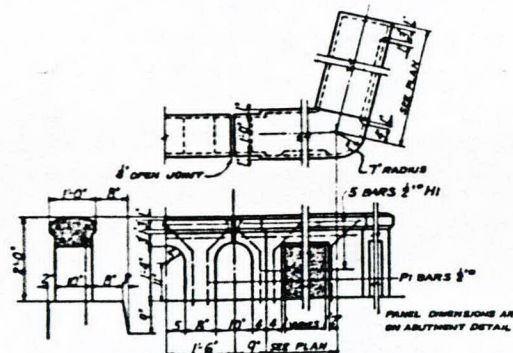


BAR LIST FOR SUPERSTRUCTURE

MARK	SIZE	REQD	LENGTH	BENDING DIAGRAM
E1	5 [#]	116	40'-0"	
E2	5 [#]	29	40'-0"	
E3	2 [#]	58	3'-6"	
P1	1 [#]	56	6'-6"	
D1	1 [#]	120	21'-6"	
H1	1 [#]	20	3'-0"	
H2	3 [#]	16	10'-0"	
H3	2 [#]	8	11'-8"	

2783 LIN. FT. OF 1[#] BARS @ 0.668 LBS. PER LIN. FT. = 1859 LBS.
 677 LIN. FT. OF 2[#] BARS @ 0.850 LBS. PER LIN. FT. = 575 LBS.
 5800 LIN. FT. OF 3[#] BARS @ 1.043 LBS. PER LIN. FT. = 6050 LBS.
 PLUS 1% FOR OVERRUN = 116 LBS.
 TOTAL = 8600 LBS.

SUMMARY OF QUANTITIES FOR ENTIRE BRIDGE						
ITEM NO	DESCRIPTION	UNIT	SUPERSTR.	ABUT. NO.1	ABUT. NO.2	TOTAL
14a	DRY ROCK STRUCTURAL EXCAVATION	CU.YD.				5
14b	DRY COMMON STRUCTURAL EXCAVATION	CU.YD.		272	153	425
14c	WET ROCK STRUCTURAL EXCAVATION	CU.YD.				5
14d	WET COMMON STRUCTURAL EXCAVATION	CU.YD.		150	150	300
42a	UNTREATED BRIDGE TIMBER	MBT.B.M.		0.180	0.190	0.370
46a	CLASS 'A' CONCRETE	CU.YD.	49	115	111	275
47	REINFORCING STEEL (INCLUDES 1% FOR OVERLAP)	LBS.	8600	10,300	9600	28,500
48	STRUCTURAL STEEL (INCLUDES 1% FOR OVERLAP)	LBS.	34,120	40	40	34,200



GENERAL NOTES

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO STATE HIGHWAY DEPARTMENT, ADOPTED JAN. 1, 1960.

ALL CONCRETE SHALL BE CLASSIFIED AS F-1.

FOR CONCRETE SURFACES EXPOSED IN THE FINISHED WORK SHALL BE CONSTRUCTED OF SHALLOP OR TONGUE AND GROOVE LINGERER SDO.

FOR CONCRETE SURFACES SHOWN TO BE REMOVED OR REPAIRED, REPAIRS SHALL BE EXPLODED CORNERS, EXCEPT ON HORIZONTAL, SHALL BE DEVELOPED TO A 9" FACE.

ALL FLOOR SLAB FLOORS SHALL BE REINFORCED WITH 1" BARS.

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

REINFORCING BARS IN ROOF SHALL BE POWERED OUT TO THE ROOF AND NOT FORMED. THEREAFTER OF FLOOR SLAB SHOWN INCLUDING 3" CONCRETE WEARING SURFACE.

REINFORCING BARS SHALL BE BOUND ON SQUARE, PLAIN, OR DEFORMED AS SHOWN AND NOTED.

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

SECONDARY BARS WHEN SPICED SHALL BE GIVEN A LAP OF 30 BARMENTS.

ALL REINFORCING BARS SHALL BE SPICED AT THE SPICES.

BOUNDINGS AND DEPTH OF FOOTINGS SHOWN ARE ACCORDING TO THE BEST AVAILABLE DATA.

DATA OF EXISTING FOUNDATIONS SHALL BE SHOWN TO THE RIGHT OF THE PROPOSED ENGINEER WILL INSPECT AND DETERMINE IF REDESIGN IS NECESSARY.

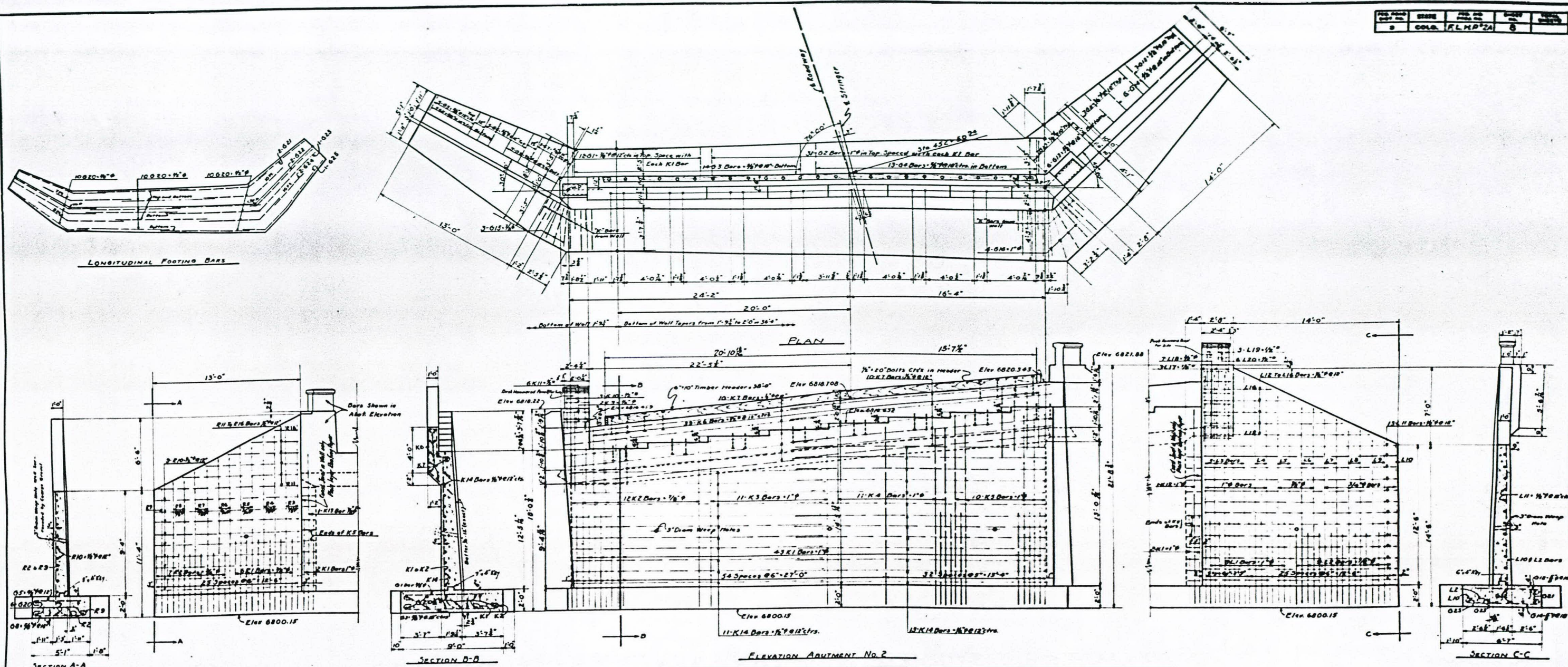
ALL SIZES TO BE 1/2" DIA. UNLESS OTHERWISE NOTED.

REFERENCE DRAWINGS
FOR DETAIL OF ABUTMENT NO 1 SEE SHEET NO 7.
FOR DETAIL OF ABUTMENT NO 2 SEE SHEET NO 8

LOADING DATA.
LIVE LOAD = A. A. S. M. C. AND 1900 CLASS A. 60-100
DEAD LOAD = ASSUMED TO BE, PER SQ. FT. ADDITIONAL UNIFORM
SURFACE WHICH INCLUDES THE 5 IN. CONCRETE FINISHING (BRIDGE)
SURFACE.

COLORADO
STATE HIGHWAY DEPARTMENT
39FT SPAN X 35 FT CLEAR ROADWAY
CONCRETE & STEEL I-BEAM BRIDGE
SUPERSTRUCTURE-GEN'L LAYOUT-QUANTITIES
Across Dry Gulch
Sta. 452+118 TO 452+50.86
Near Salida Soc. 29 T. 49 N. R. 10 E. NPM.
Designed by K.B.
Made by NPM
Checked by ALG
Approved by *C. E. Bailey*
Bridge Engineer
Date: May 1st, 1934

STRUCTURE NO. K-13-E



BAR LIST FOR ABUTMENT N^o 2

MARK	SIZE	REQD.	LENGTH	1	M	r	0	BENDING DIAGRAM	MARK	SIZE	REQD.	LENGTH	1	M	r	0	BENDING DIAGRAM	MARK	SIZE	REQD.	LENGTH	BENDING DIAGRAM	MARK	SIZE	REQD.	LENGTH	BENDING DIAGRAM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
K1	1 ^o	47	12'-7"	7'-0"	2'-2"	4'	3 ^o		R6	1 ^o	2	17'-1"	12'-3"	1'-9"	3'	2 ^o		K10	1 ^o	3	8'-2"		L12	1 ^o	70	14'-0"		L17	1 ^o	3	8'-2"		L18	1 ^o	7	2'-4"		L19	1 ^o	3	7'-7"		L20	1 ^o	6	1'-8"		L21	1 ^o	9	12'-8"		L22	1 ^o	5	26'-0"		L23	1 ^o	2	24'-10"		L24	1 ^o	2	23'-6"		L25	1 ^o	2	22'-3"		L26	1 ^o	2	20'-4"		L27	1 ^o	2	19'-7"		L28	1 ^o	2	18'-6"		L29	1 ^o	2	18'-8"		L30	1 ^o	1	17'-8"		L31	1 ^o	6	9'-9"		L32	1 ^o	7	7'-40"		L33	1 ^o	2	20'-11"		L34	1 ^o	2	19'-8"		L35	1 ^o	2	18'-4"		L36	1 ^o	2	15'-3"		L37	1 ^o	2	14'-3"		L38	1 ^o	2	14'-3"		L39	1 ^o	2	14'-3"		L40	1 ^o	2	14'-3"		L41	1 ^o	2	14'-3"		L42	1 ^o	2	14'-3"		L43	1 ^o	2	14'-3"		L44	1 ^o	2	14'-3"		L45	1 ^o	2	14'-3"		L46	1 ^o	2	14'-3"		L47	1 ^o	2	14'-3"		L48	1 ^o	2	14'-3"		L49	1 ^o	2	14'-3"		L50	1 ^o	2	14'-3"		L51	1 ^o	2	14'-3"		L52	1 ^o	2	14'-3"		L53	1 ^o	2	14'-3"		L54	1 ^o	2	14'-3"		L55	1 ^o	2	14'-3"		L56	1 ^o	2	14'-3"		L57	1 ^o	2	14'-3"		L58	1 ^o	2	14'-3"		L59	1 ^o	2	14'-3"		L60	1 ^o	2	14'-3"		L61	1 ^o	2	14'-3"		L62	1 ^o	2	14'-3"		L63	1 ^o	2	14'-3"		L64	1 ^o	2	14'-3"		L65	1 ^o	2	14'-3"		L66	1 ^o	2	14'-3"		L67	1 ^o	2	14'-3"		L68	1 ^o	2	14'-3"		L69	1 ^o	2	14'-3"		L70	1 ^o	2	14'-3"		L71	1 ^o	2	14'-3"		L72	1 ^o	2	14'-3"		L73	1 ^o	2	14'-3"		L74	1 ^o	2	14'-3"		L75	1 ^o	2	14'-3"		L76	1 ^o	2	14'-3"		L77	1 ^o	2	14'-3"		L78	1 ^o	2	14'-3"		L79	1 ^o	2	14'-3"		L80	1 ^o	2	14'-3"		L81	1 ^o	2	14'-3"		L82	1 ^o	2	14'-3"		L83	1 ^o	2	14'-3"		L84	1 ^o	2	14'-3"		L85	1 ^o	2	14'-3"		L86	1 ^o	2	14'-3"		L87	1 ^o	2	14'-3"		L88	1 ^o	2	14'-3"		L89	1 ^o	2	14'-3"		L90	1 ^o	2	14'-3"		L91	1 ^o	2	14'-3"		L92	1 ^o	2	14'-3"		L93	1 ^o	2	14'-3"		L94	1 ^o	2	14'-3"		L95	1 ^o	2	14'-3"		L96	1 ^o	2	14'-3"		L97	1 ^o	2	14'-3"		L98	1 ^o	2	14'-3"		L99	1 ^o	2	14'-3"		L100	1 ^o	2	14'-3"		L101	1 ^o	2	14'-3"		L102	1 ^o	2	14'-3"		L103	1 ^o	2	14'-3"		L104	1 ^o	2	14'-3"		L105	1 ^o	2	14'-3"		L106	1 ^o	2	14'-3"		L107	1 ^o	2	14'-3"		L108	1 ^o	2	14'-3"		L109	1 ^o	2	14'-3"		L110	1 ^o	2	14'-3"		L111	1 ^o	2	14'-3"		L112	1 ^o	2	14'-3"		L113	1 ^o	2	14'-3"		L114	1 ^o	2	14'-3"		L115	1 ^o	2	14'-3"		L116	1 ^o	2	14'-3"		L117	1 ^o	2	14'-3"		L118	1 ^o	2	14'-3"		L119	1 ^o	2	14'-3"		L120	1 ^o	2	14'-3"		L121	1 ^o	2	14'-3"		L122	1 ^o	2	14'-3"		L123	1 ^o	2	14'-3"		L124	1 ^o	2	14'-3"		L125	1 ^o	2	14'-3"		L126	1 ^o	2	14'-3"		L127	1 ^o	2	14'-3"		L128	1 ^o	2	14'-3"		L129	1 ^o	2	14'-3"		L130	1 ^o	2	14'-3"		L131	1 ^o	2	14'-3"		L132	1 ^o	2	14'-3"		L133	1 ^o	2	14'-3"		L134	1 ^o	2	14'-3"		L135	1 ^o	2	14'-3"		L136	1 ^o	2	14'-3"		L137	1 ^o	2	14'-3"		L138	1 ^o	2	14'-3"		L139	1 ^o	2	14'-3"		L140	1 ^o	2	14'-3"		L141	1 ^o	2	14'-3"		L142	1 ^o	2	14'-3"		L143	1 ^o	2	14'-3"	

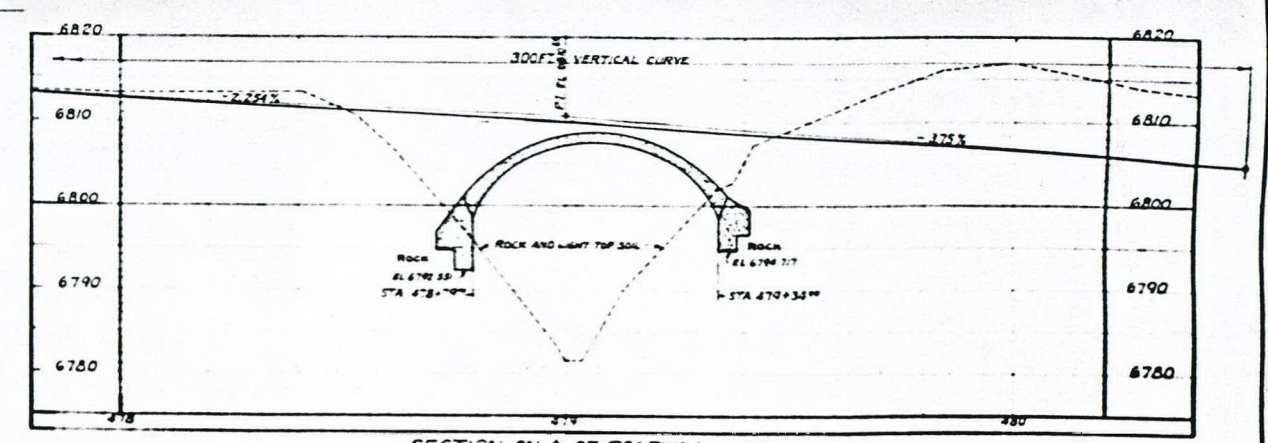
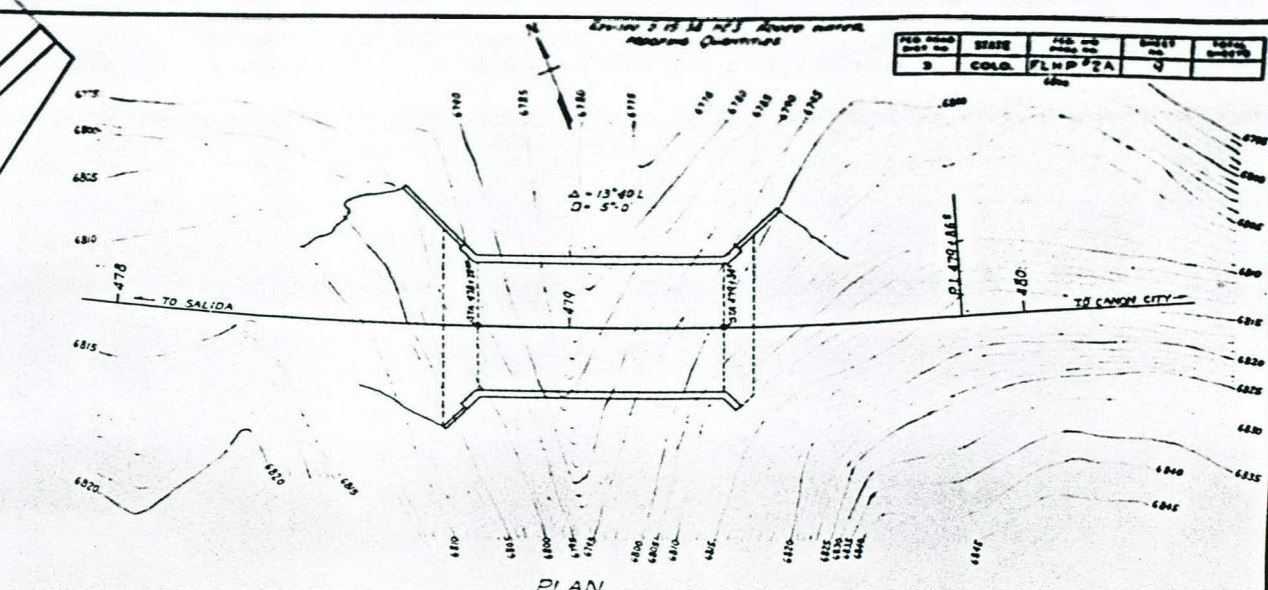
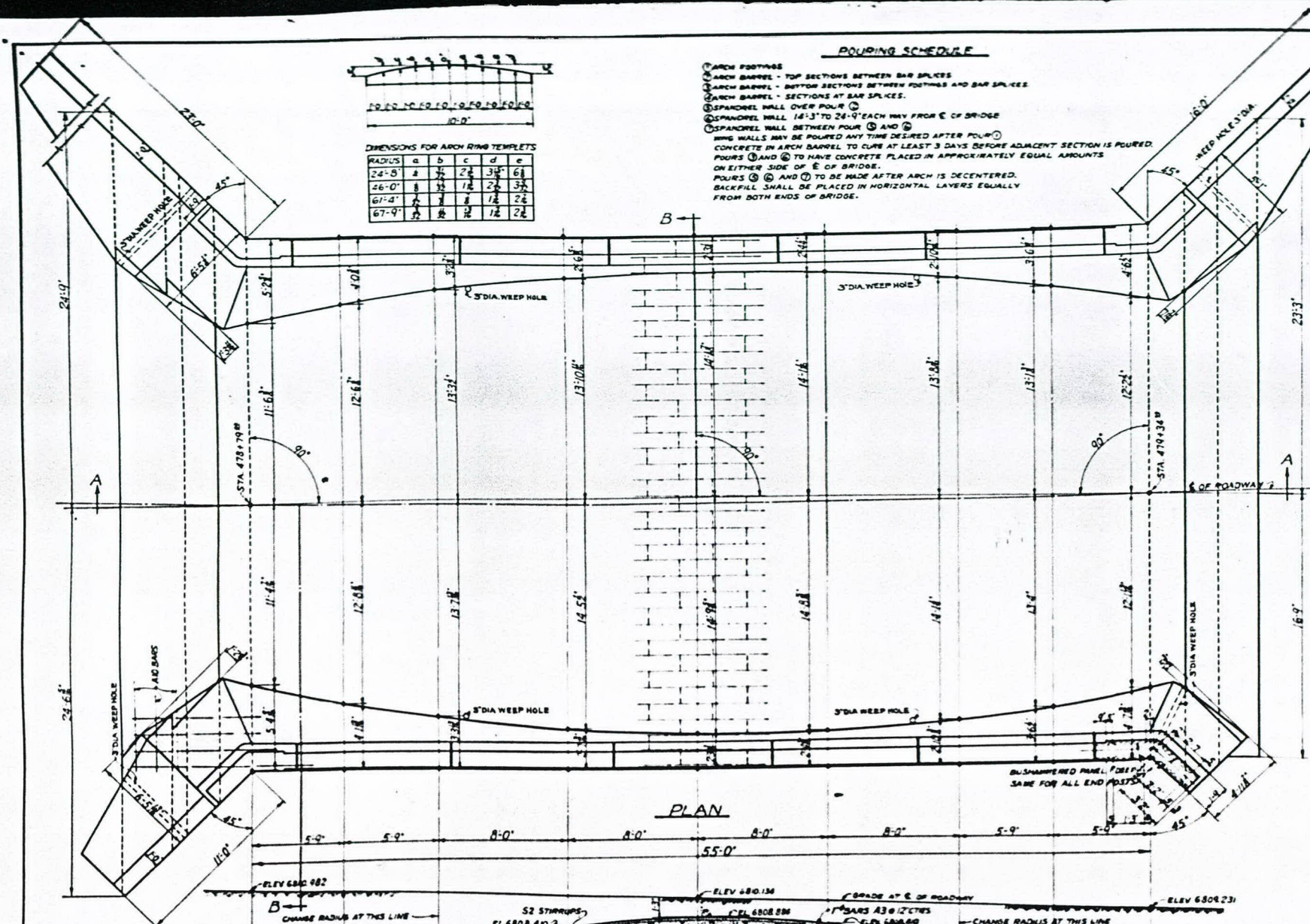
REFERENCE DRAWINGS
GENERAL LAYOUT, SUPERSTRUCTURE DETAILS AND
SUMMARY OF QUANTITIES SEE SHEET NO. 8
DETAIL OF ABUTMENT NO. 1 SEE SHEET NO. 7

LOADING DATA.
LIVE LOAD = A. A. S. M. C. AUG. 1955 CLASS A. 20-105
DEAD LOAD = ASSUMED 10 LBS. PER SQ. FT. ADDITIONAL SLABING
SURFACE, WHICH INCLUDES THE 5% IN CONCRETE FINISHING SLABING
SURFACE.

COLORADO
STATE HIGHWAY DEPARTMENT
39FT SPAN • 35FT CLEAR ROADWAY
CONCRETE & STEEL T-BEAM BRIDGE
DETAIL ABUTMENT NO. 2
Across DRY GULCH
Sta. 452+10 To 452+33.85
Near SALIDA Soc. 29 T. 49 N. R. 24 E. N. 24 E.

Designed by K.B. Made by G.A.M. Check Design ALC Check Detail ALC	Approved by <i>R.D. Bailey</i> Bridge Engineer Date: <i>May 1st, 1984</i>
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STRUCTURE NO. K-13-E



SUMMARY OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	DESCRIPTION	UNIT	ARCH BARREL	TWO FOOTINGS	SPANDREL WALL	TOTAL
14a	DRY ROCK STRUCTURAL EXCAVATION	CYD	14	167	19	200
14b	DRY COMMON STRUCTURAL EXCAVATION	CYD	3	53	3	60
14c	WET ROCK STRUCTURAL EXCAVATION	CYD		5		5
14d	WET COMMON STRUCTURAL EXCAVATION	CYD		5		5
46a	CLASS 'A' CONCRETE	CYD	127		6	133
46b	CLASS 'B' CONCRETE	CYD		140	99	239
47	REINFORCING STEEL (INCLUDES 12" FOR OVERLAP)	LBS	18,710	7,665	845	27,220
46A	WATER GAS TAP WATERPROOFING	30 YDS	225		50	275

INCLUDES CLASS 'B' CONCRETE UNDER FOOTINGS 25 CYD TO INSURE FOOTINGS IN ROCK. EXACT AMOUNT TO BE DETERMINED AFTER EXCAVATION IS MADE.

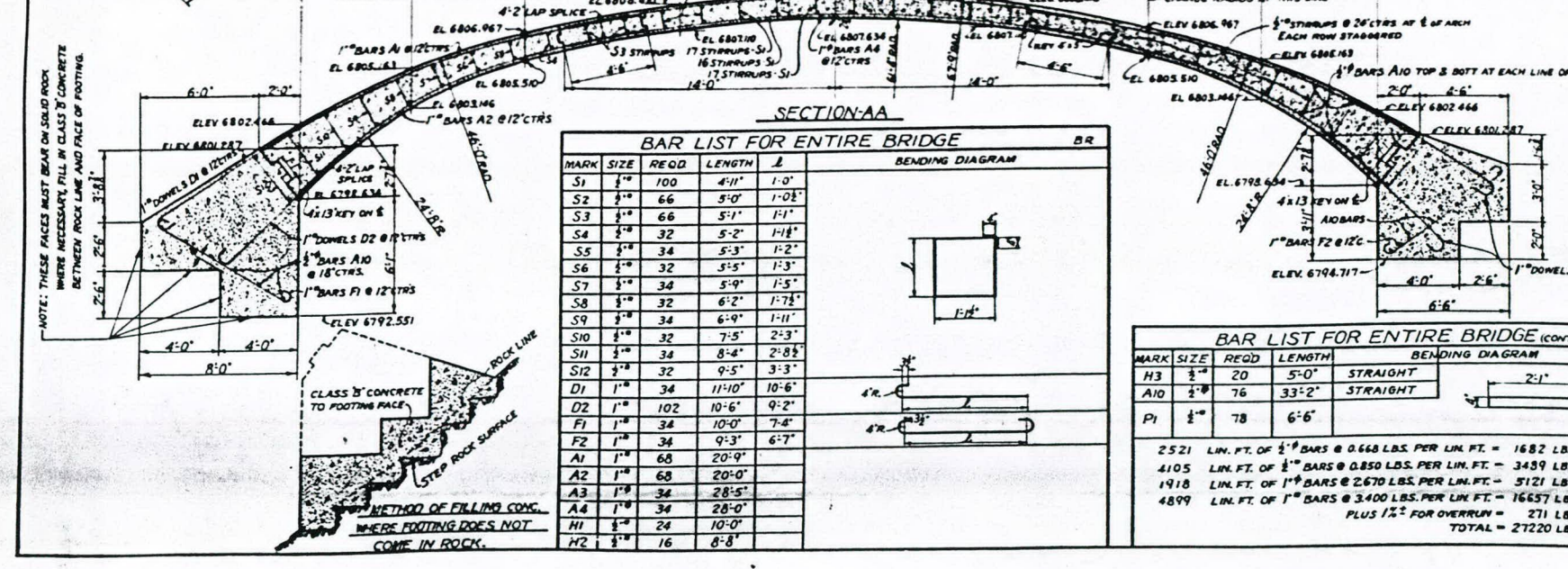
GENERAL NOTES

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO STATE HIGHWAY DEPARTMENT ADOPTED JAN. 1, 1938.
 ALL CONCRETE SHALL BE CLASS 'A' EXCEPT AS NOTED ON SHEET WHO FORMS FOR CONCRETE SURFACES EXPOSED IN THE FINISHED WORK SHALL BE CONSTRUCTED OF SHUTPL ON TONGUE AND GROOVE LUMBER 2"X6".
 ALL EXPOSED SURFACES SHALL BE SMOOTH FREE OF FORM MARKS.
 ALL EXPOSED CORNERS, EXCEPT ON HANDMADE, SHALL BE BEVELLED TO A 3" FACE, EXCEPT AS NOTED.
 GROUND FLOOR SLABS AND CURBS SHALL BE POURED MONOLITHICALLY.
 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.
 ALL REINFORCING BARS SHALL BE ROUNDED OR SQUARE, PLAIN OR DEFORMED AS SHOWN AND NOTED.
 ALL REINFORCING BARS SHALL BE TIED WITH THE STATION NUMBER AND LETTER DESIGNATION.
 SECONDARY BARS WHEN SPLICED SHALL BE GIVEN A LAP OF 50 DIAMETERS.
 SOUNDINGS AND DEPTH OF FOOTINGS SHOWN ARE ACCORDING TO THE BEST AVAILABLE DATA. IF ESSENTIALLY SUFFICIENT CONDITIONS ARE ENCOUNTERED, THE BRIDGE ENGINEER WILL INSPECT AND DETERMINE IF REINFORCE IS NECESSARY.

LOADING DATA:
 LIVE LOAD - A.A.S.H.O. AUG. 1928 CLASS A (H-15)

COLORADO
STATE HIGHWAY DEPARTMENT
55 FT. SPAN CONCRETE ARCH
30 FT. CLEAR ROADWAY
ARCH BARREL - GENERAL LAYOUT - SUMMARY
 Across Spring Creek
 Sta. 478+79.4 to 479+34.4
 Near Howard Sec. 29 T. 49 N. R. 10 E. N. 1/4
 Designed by K.B. Approved by R. J. O'Neil
 Made by W.M.M. Bridge Engineer
 Checked by B.R. Date: May 1st, 1934

STRUCTURE NO. K-13-G



BAR LIST FOR ENTIRE BRIDGE

MARK	SIZE	REQD	LENGTH	L	BENDING DIAGRAM
S1	1"	100	4'-11"	1'-0"	
S2	1"	66	5'-0"	1'-0"	
S3	1"	66	5'-1"	1'-1"	
S4	1"	32	5'-2"	1'-1"	
S5	1"	34	5'-3"	1'-2"	
S6	1"	32	5'-5"	1'-3"	
S7	1"	34	5'-9"	1'-5"	
S8	1"	32	6'-2"	1'-7"	
S9	1"	34	6'-9"	1'-11"	
S10	1"	32	7'-5"	2'-3"	
S11	1"	34	8'-4"	2'-8"	
S12	1"	32	9'-5"	3'-3"	
D1	1"	34	11'-0"	10'-6"	
D2	1"	102	10'-6"	9'-2"	
F1	1"	34	10'-0"	7'-4"	
F2	1"	34	9'-3"	6'-7"	
A1	1"	68	20'-9"		
A2	1"	68	20'-0"		
A3	1"	34	28'-5"		
A4	1"	34	28'-0"		
H1	1"	24	10'-0"		
H2	1"	16	8'-8"		

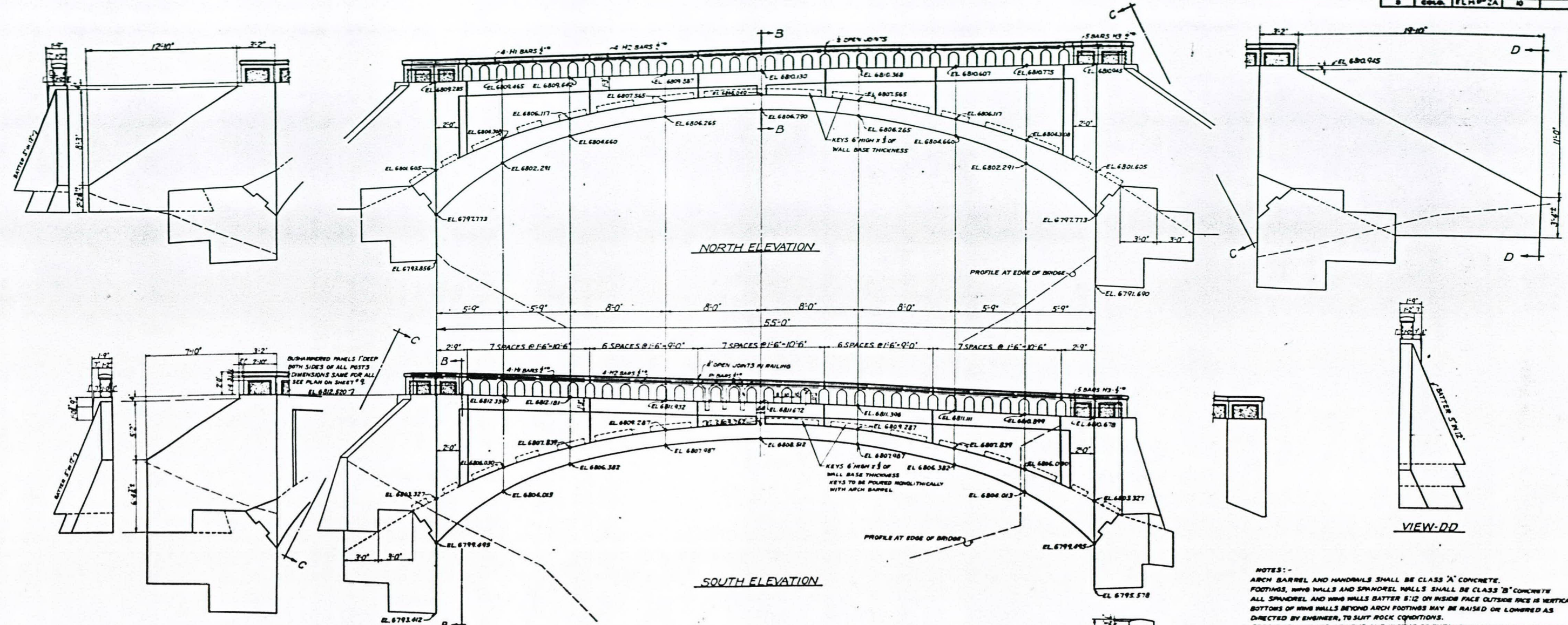
BAR LIST FOR ENTIRE BRIDGE (CONT)

MARK	SIZE	REQD	LENGTH	BENDING DIAGRAM
H3	1"	20	5'-0"	STRAIGHT
A10	1"	76	33'-2"	STRAIGHT
P1	1"	78	6'-6"	

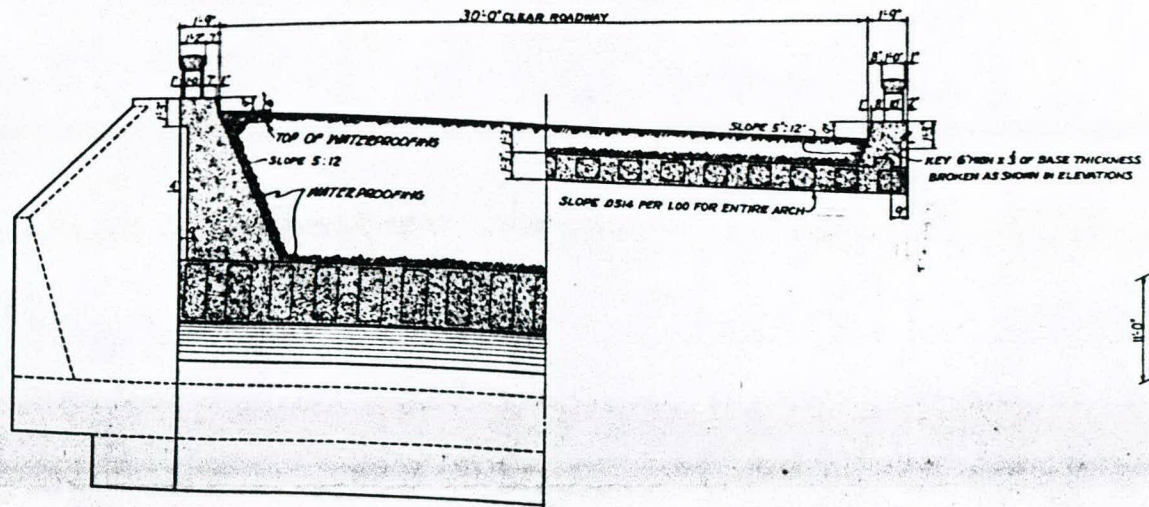
2521 LIN. FT. OF 1/2" BARS @ 0.668 LBS. PER LIN. FT. = 1682 LBS.
 4105 LIN. FT. OF 1/2" BARS @ 0.850 LBS. PER LIN. FT. = 3489 LBS.
 1918 LIN. FT. OF 1/2" BARS @ 2.670 LBS. PER LIN. FT. = 5121 LBS.
 4899 LIN. FT. OF 1/2" BARS @ 3.400 LBS. PER LIN. FT. = 16637 LBS.
 PLUS 1% FOR OVERLAP = 271 LBS.
 TOTAL = 27220 LBS.

STANDARD DRAWING NO. 1000
 BRIDGE NO. 1000

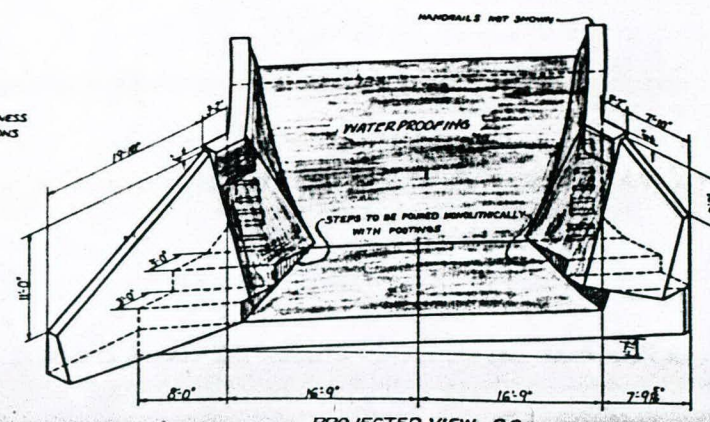
DATE	BY	CHKD	APP'D
10/1/54	K.B.	K.B.	K.B.
10/1/54	K.B.	K.B.	K.B.



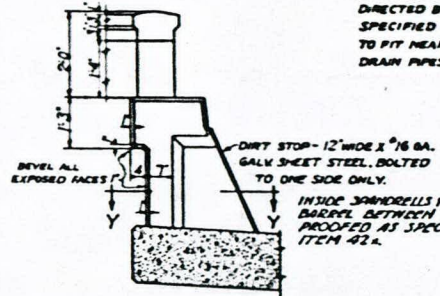
NOTES:-
 ARCH BARREL AND HANDRAILS SHALL BE CLASS "A" CONCRETE.
 FOOTINGS, WING WALLS AND SPANDREL WALLS SHALL BE CLASS "B" CONCRETE.
 ALL SPANDREL AND WING WALLS BATTER 5:12 ON INSIDE FACE OUTSIDE FACE IS VERTICAL.
 BOTTOMS OF WING WALLS BEYOND ARCH FOOTINGS MAY BE RAISED OR LOWERED AS
 DIRECTED BY ENGINEER, TO SUIT ROCK CONDITIONS.
 SPECIFIED HEIGHTS OF KEYS AND WIDTHS OF EXPANSION JOINTS MAY BE VARIED
 TO FIT NEAREST COMMERCIAL SIZE OF FORM LUMBER.
 DRAIN PIPES 3" DIA. TO BE LOCATED IN FIELD TO SUIT LOCAL DRAINAGE CONDITIONS.



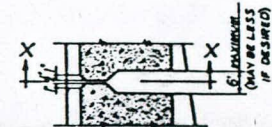
SECTION-B-B



PROJECTED VIEW-C-C



SECTION-X-X



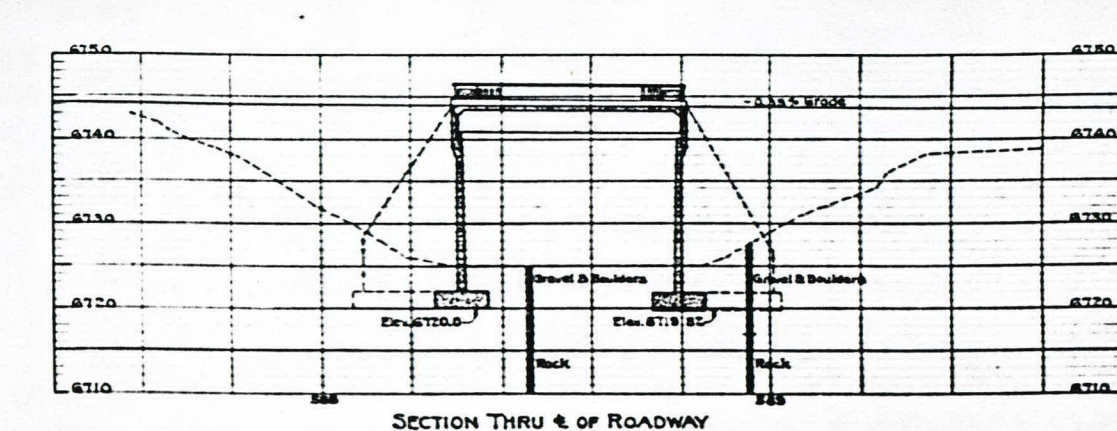
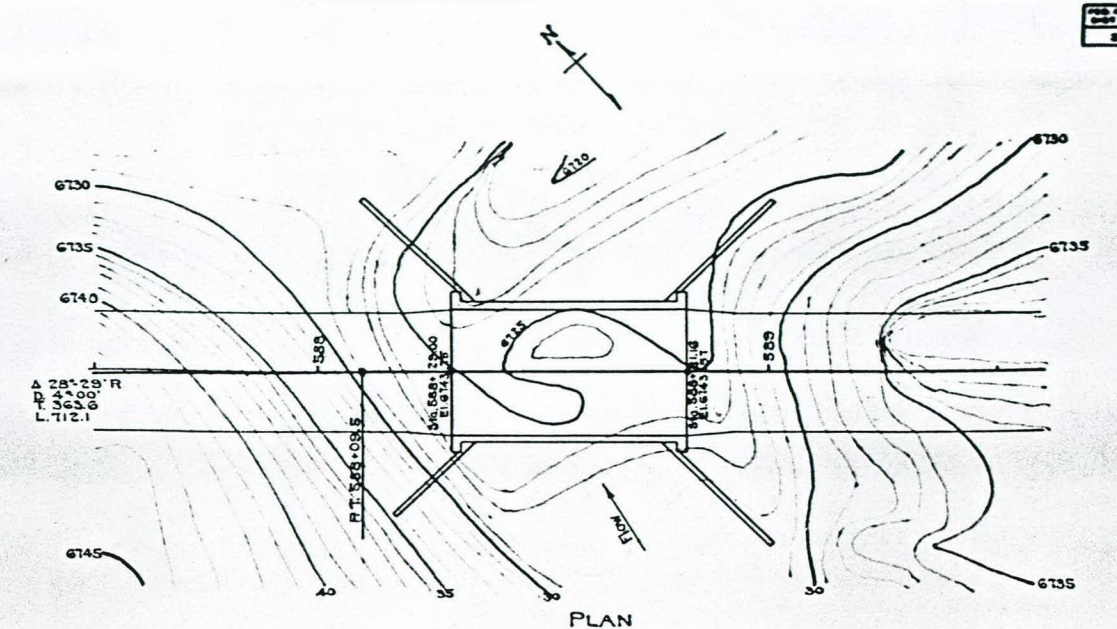
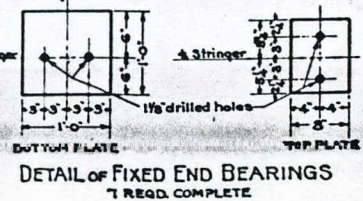
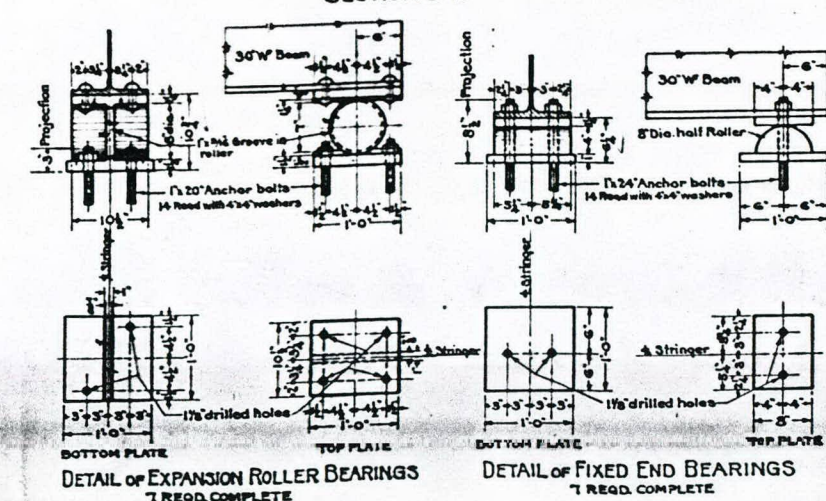
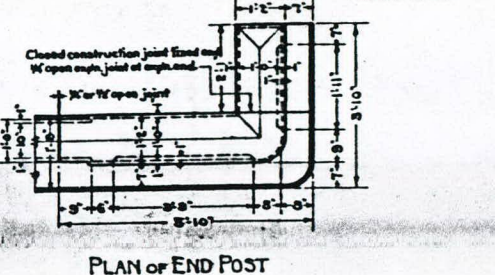
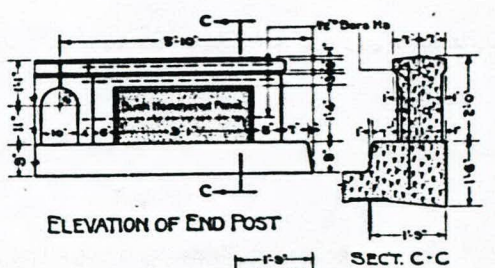
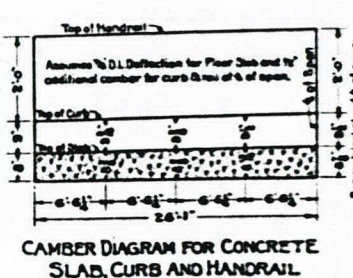
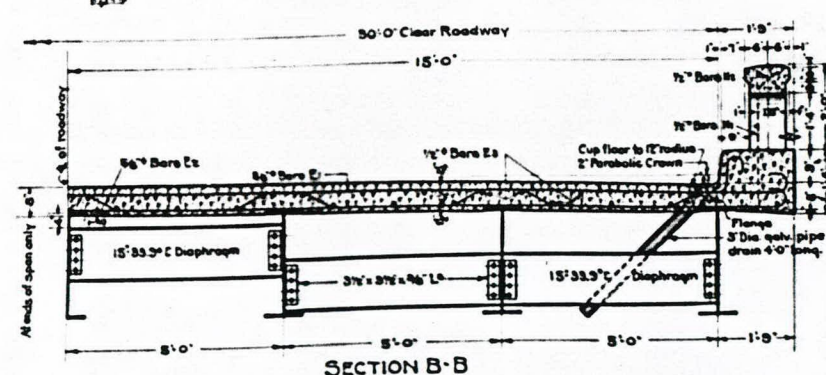
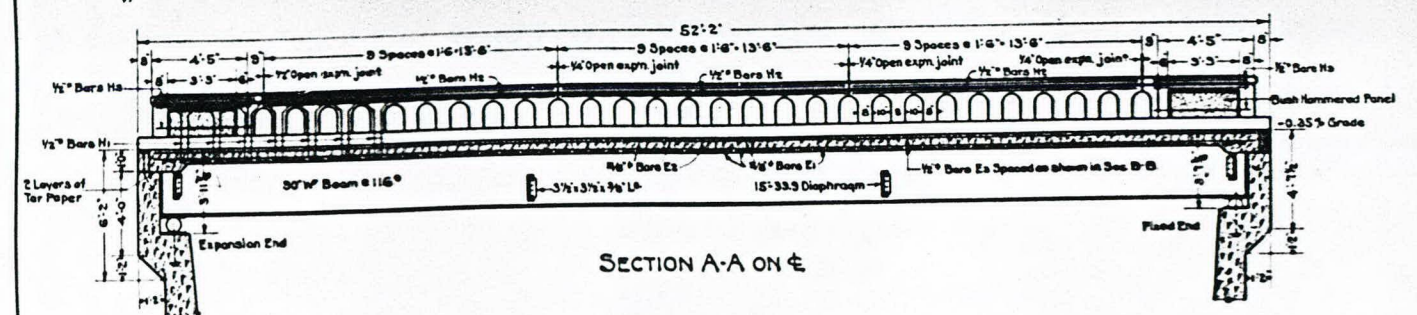
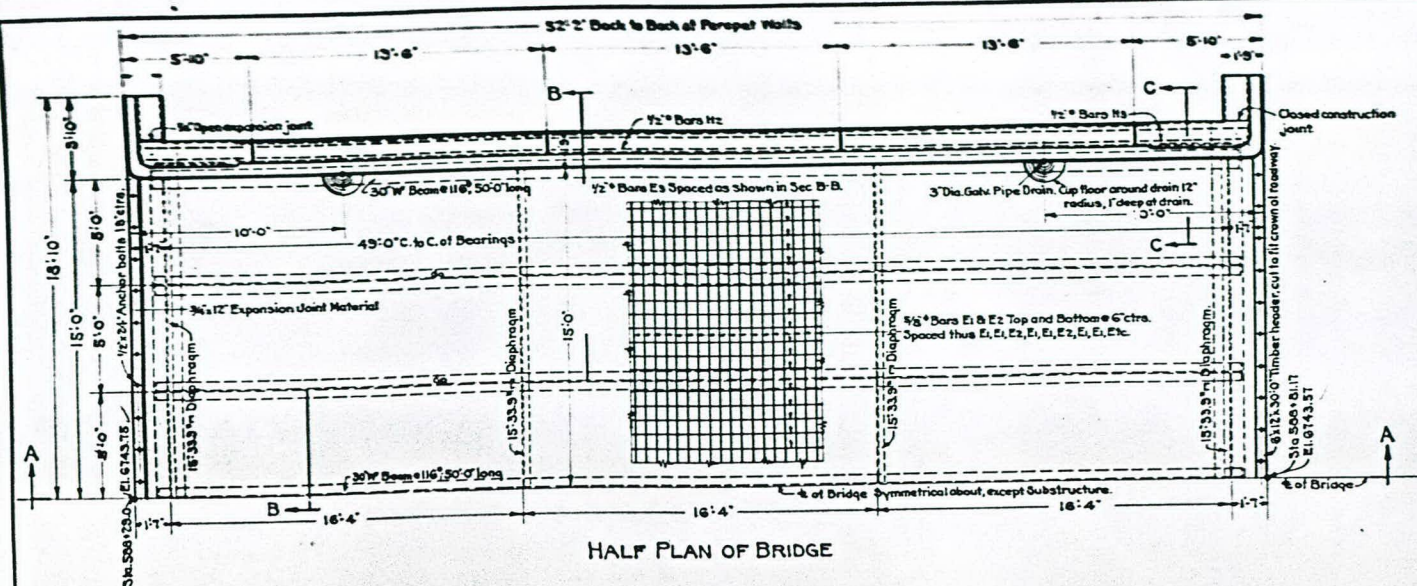
SECTION-Y-Y

LOADING DATA.
 LIVE LOAD-A. A. R. H. & C. 1000 CLASS A, 10-10

COLORADO
STATE HIGHWAY DEPARTMENT
 55 FT. SPAN CONCRETE ARCH
 30 FT. CLEAR ROADWAY
 NORTH & SOUTH ELEVATIONS
 Across Spring Creek
 Sta. 478+79 to 479+34
 Near HOWARD Sec. 29 T. 49N R. 10E N.P.M.

Designed by K.B.
 Made by W.M.M.
 Check Design
 Check Detail D.R.

Approved by R.D. Bailey
 Bridge Engineer
 Date: May 1st, 1954



SUMMARY OF QUANTITIES FOR ENTIRE STRUCTURE						A&K
ITEM NO.	DESCRIPTION	UNIT	SUPPLY PRICE	WEST ABUT.	EAST ABUT.	TOTAL
14a	Dry Rock Structural Excavation	Cu.Yds.		10		10
14b	Dry Common Structural Excavation	Cu.Yds.		250	270	520
14c	Wet Rock Structural Excavation	* Cu.Yds.		10		10
14d	Wet Common Structural Excavation	* Cu.Yds.		10		10
42a	Untreated Bridge Timber	N.F.B.M.		0.180	0.180	0.360
46a	Class 'A' Concrete	Cu.Yds.	56.0	164	170	338
47	Reinforcing Steel (Overrun Included)	Lbs.	8650	14720	15040	35410
48	Structural Steel (Overrun Included)	Lbs.	48150	91	104	48348
85b	5" Dia. Galv. Pipe Drains - 4'0" Long (b/c Mangled)	Pieces		4		4
	3/4" x 12" Expansion Joint Material	Lin.Ft.			82	32
	* Wet Line assumed at elevation 8120.0					

GENERAL NOTES

[illegible]

LOADING DATA.
LIVE LOAD = A. A. S. H. C. No. 1000. CLASS A, HS-12
DEAD LOAD = ASSUMED 10 LBS. PER SQ. FT. ADDITIONAL WEARING
SURFACE, WHICH INCLUDES THE 1/2 IN. CONCRETE MODULUS WEARING
SURFACE.

COLORADO
STATE HIGHWAY DEPARTMENT
SFO SPAN CONCRETE I-BEAM BRIDGE
DETAILS OF SUPERSTRUCTURE

Across Draw
Sta. 588+23.0 to 588+31.7
Near HOWARD
Sec. 34 T49N R10E

Designed by **A.H.K.**
Made by **A.G.K.**
Checked by **A.G.K.**

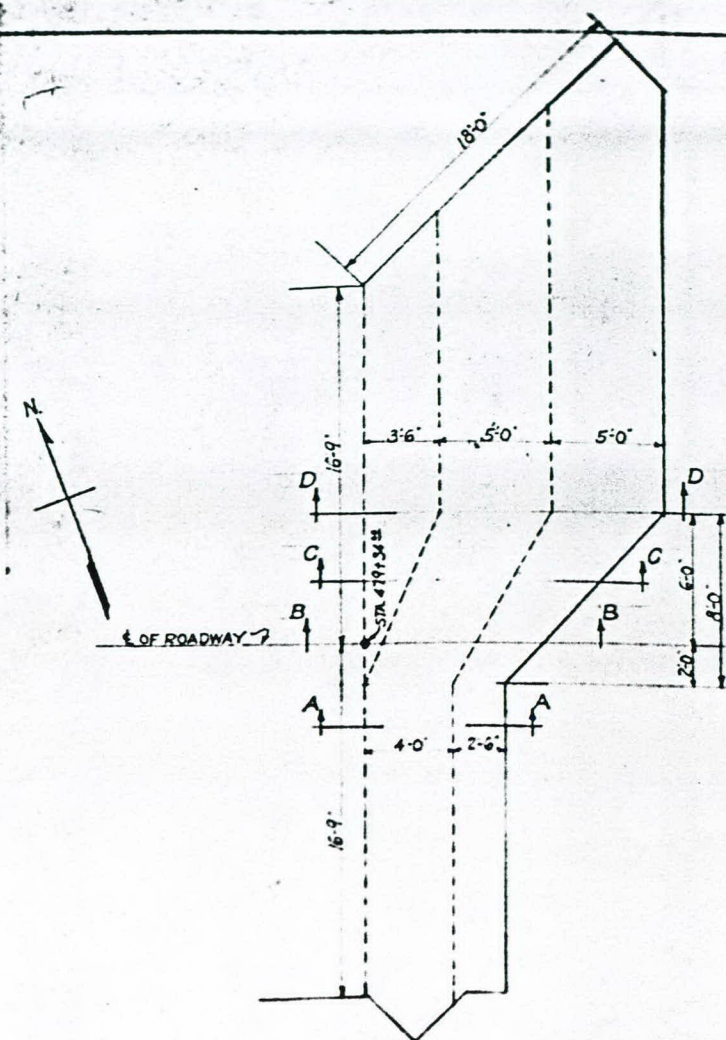
Approved by **P. J. Banby**
Bridge Engineer
Date: *Nov 14, 1954*

- REFERENCE DRAWINGS

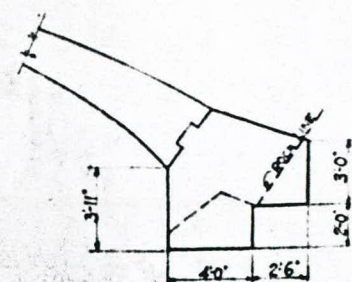
Sheet N° 12 Details of West Abutment.
Sheet N° 13 Details of East Abutment.

STRUCTURE NO. K-13-D

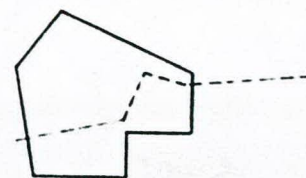
PROJECT NO.	STATE	NO. OF SHEETS	DATE	BY
5	COLORADO	SLMP-2A	10X	



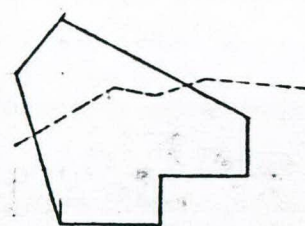
PLAN OF EAST FOOTING
(REVISED)



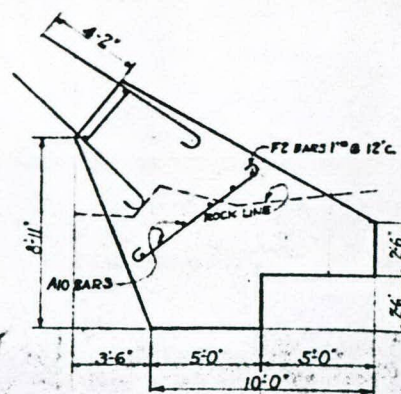
FOOTING 2 FT. RIGHT OF $\frac{1}{2}$ OF RDWY. NO CHANGE FROM ORIGINAL DESIGN
SECTION-A-A



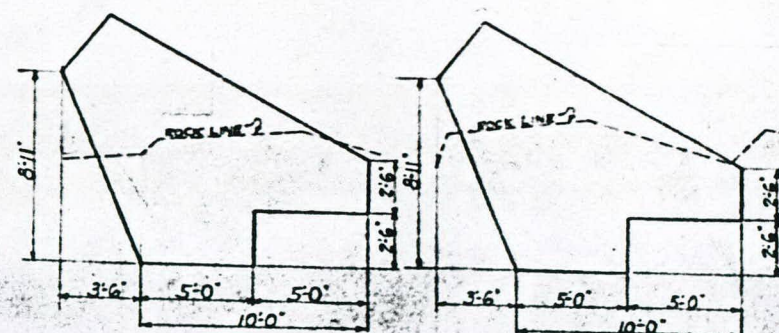
FOOTING AT $\frac{1}{2}$ OF ROADWAY
SECTION-B-B



FOOTING 3 FT. LEFT OF $\frac{1}{2}$ OF RDWY.
SECTION-C-C



FOOTING 6 FT. LEFT OF $\frac{1}{2}$ OF RDWY.
SECTION-D-D



FOOTING 7 FT. LEFT OF $\frac{1}{2}$ OF RDWY. FOOTING 15 FT. LEFT OF $\frac{1}{2}$ OF RDWY.

COLORADO STATE HIGHWAY DEPARTMENT 55 FT. SPAN CONCRETE ARCH 30 FT. CLEAR ROADWAY REVISED DESIGN - EAST FOOTING ACCOBS: SPRING CREEK STA. 475+71 TO 475+86 NEAR: HOWARD - SEC. 29 T. 69N. R. 20E DESIGNED BY: H.E. APPROVED BY: H.E. DRAWN BY: H.E. CHECKED BY: H.E. DATE: MAY 2, 1934	
---	--

Technical drawing of the West Abutment of the New York State Thruway Bridge. The drawing includes a plan view (top) and an elevation view (bottom). The plan view shows the layout of the abutment with dimensions in feet and inches, including a total width of 17'-0" and a depth of 10'-0". The elevation view shows the side profile of the abutment with dimensions in feet and inches, including a total height of 10'-0" and a base width of 17'-0". The drawing also includes a section line A-A and a section line B-B. The title is "HALF PLAN OF WEST ABUTMENT" and the note is "EAST ABUTMENT SHOULD BE EXCEPT AS NOTED".

[illegible][illegible]

Figure 1 is an elevation view of the test specimen. It shows a vertical column with a total height of 131'-6" and a base width of 4'-0". The column is composed of several layers: 1/2" Bare Br, 1/2" Bare Ts, 1/2" Concrete core, and 1/2" Bare Pt. The base is supported by a foundation with dimensions 4'-0" and 10'-0". The column is labeled "131'-6"" and "4'-0"". The top of the column is labeled "10'-0"". The column is also labeled "1/2" Bare Br", "1/2" Bare Ts", "1/2" Concrete core", and "1/2" Bare Pt". The column is also labeled "1/2" Bare Br", "1/2" Bare Ts", "1/2" Concrete core", and "1/2" Bare Pt".

BAR LIST FOR WEST ABUTMENT													A.A.M.					
MARK	SIZE	NO	LENGTH	TYPE	2	W	F	F	MARK	SIZE	NO	LENGTH	TYPE	2	W	F	F	
A1	Γ	32	14'-6"	I	5'-0"	4'-9"	4'	3/8"	F16	3/8"	1	32'-6"	---	---	---	---	---	
A2	Γ	32	10'-0"	I	11'-0"	3'-0"	4'	3/8"	F16	3/8"	2	34'-4"	---	---	---	---	---	
A3	Γ	31	20'-1"	II	10'-9"	---	4'	3/8"	F17	3/8"	1	34'-4"	---	---	---	---	---	
A4	3/8"	6	0'-0"	V	5'-4"	2'-10"	---	---	F18	3/8"	2	17'-4"	---	---	---	---	---	
M4	3/8"	12	1'-0"	---	---	---	---	---	F19	3/8"	2	19'-0"	---	---	---	---	---	
H4	3/8"	4	0'-0"	IV	---	---	---	---	F20	3/8"	2	20'-4"	---	---	---	---	---	
M4	3/8"	2	2'-1"	---	---	---	---	---	F21	3/8"	1	22'-6"	---	---	---	---	---	
T1	3/8"	16	29'-4"	---	BARR IN FIELD			---	F22	3/8"	2	24'-4"	---	---	---	---	---	
T2	3/8"	4	37'-0"	---	---	---	---	---	F23	3/8"	1	26'-4"	---	---	---	---	---	
T3	3/8"	7	33'-6"	---	---	---	---	---	F24	Γ	12	9'-10"	I	0'-6"	---	4'	3/8"	
T4	3/8"	33	11'-11"	III	3'-9"	3'-2"	2"	2"	B25	3/8"	12A	10'-11"	I	0'-6"	---	---	---	
T5	3/8"	6	20'-10"	---	---	---	---	---	B26	3/8"	12A	10'-11"	I	0'-6"	---	3"	2/8"	2"
T6	3/8"	12A	10'-11"	---	---	---	---	---	B27	3/8"	12A	10'-11"	I	0'-6"	---	10"	2/8"	2"
T7	3/8"	12A	10'-11"	---	---	---	---	---	B28	3/8"	12A	10'-11"	I	0'-6"	---	---	---	---
T8	3/8"	13	10'-10"	---	---	---	---	---	B29	3/8"	12A	10'-11"	I	0'-6"	---	2'-2"	3"	2/8"
T9	3/8"	12A	10'-11"	---	---	---	---	---	B30	3/8"	12A	10'-11"	I	0'-6"	---	---	---	---
F1	Γ	53	9'-10"	I	0'-6"	---	4'	3/8"	B31	Γ	12A	10'-11"	I	0'-6"	---	---	---	---
F2	3/8"	12	4'-0"	I	4'-0"	---	2"	2"	B32	3/8"	12A	10'-11"	I	0'-6"	---	---	---	---
F3	3/8"	10	3'-6"	I	4'-0"	---	2/8"	2"	B33	3/8"	12A	10'-11"	I	0'-6"	---	---	---	---
F4	3/8"	6	6'-10"	I	3'-10"	---	3"	2/8"	B34	3/8"	12A	10'-11"	I	0'-6"	---	---	---	---
F5	3/8"	6	0'-11"	I	6'-11"	3/8"	3"	---	B35	Γ	7	10'-0"	I	11'-0"	3'-9"	4'	3/8"	
F6	Γ	7	9'-4"	I	0'-0"	---	4'	3/8"	B36	Γ	12A	10'-11"	I	0'-6"	---	---	---	---
F7	3/8"	5	6'-3"	I	3'-3"	---	3"	2/8"	B37	Γ	12A	10'-11"	I	0'-6"	---	4'	3/8"	
F8	3/8"	5	7'-1"	I	5'-5"	---	3/8"	3"	G1	3/8"	7	12'-2"	I	6'-0"	2'-0"	3"	2/8"	
F9	Γ	5	0'-9"	I	7'-5"	---	4'	3/8"	G2	3/8"	4	13'-5"	I	14'-3"	---	3"	2/8"	
F10	Γ	7	9'-5"	I	7'-11"	---	4'	3/8"	G3	3/8"	4	13'-5"	I	13'-5"	---	---	---	---
F11	3/8"	27	0'-0"	I	7'-5"	2/8"	2"	---	G4	3/8"	4	14'-4"	I	7'-0"	2'-10"	3/8"	3"	
F12	3/8"	4	6'-3"	I	5'-3"	2/8"	2"	---	G5	3/8"	4	10'-7"	I	15'-11"	---	3/8"	3"	
F13	3/8"	4	6'-3"	I	6'-1"	2/8"	2"	---	G6	3/8"	4	20'-1"	I	10'-11"	---	3/8"	3"	
F14	3/8"	4	7'-6"	I	5'-5"	2/8"	2"	---	G7	Γ	4	16'-4"	I	0'-0"	3'-9"	4'	3/8"	
F15	3/8"	4	6'-6"															

The diagram shows a horizontal beam of total length 10 ft. A central point load of 10 k is applied downwards at the midpoint (5 ft from each end). At each end of the beam, there is a clockwise point moment of 20 k-ft. The beam is supported by vertical reaction forces at both ends, indicated by upward arrows.

LOADING DATA.
LIVE LOAD = A. A. S. M. C. AND 1958 CLASS A. 40-125
DEAD LOAD = ASSUMED TO BE 125. PER SQ. FT. ADDITIONAL SLAB
SURFACE, WHICH INCLUDES THE 5 IN. CONCRETE INCLUDING SLAB
SURFACE.

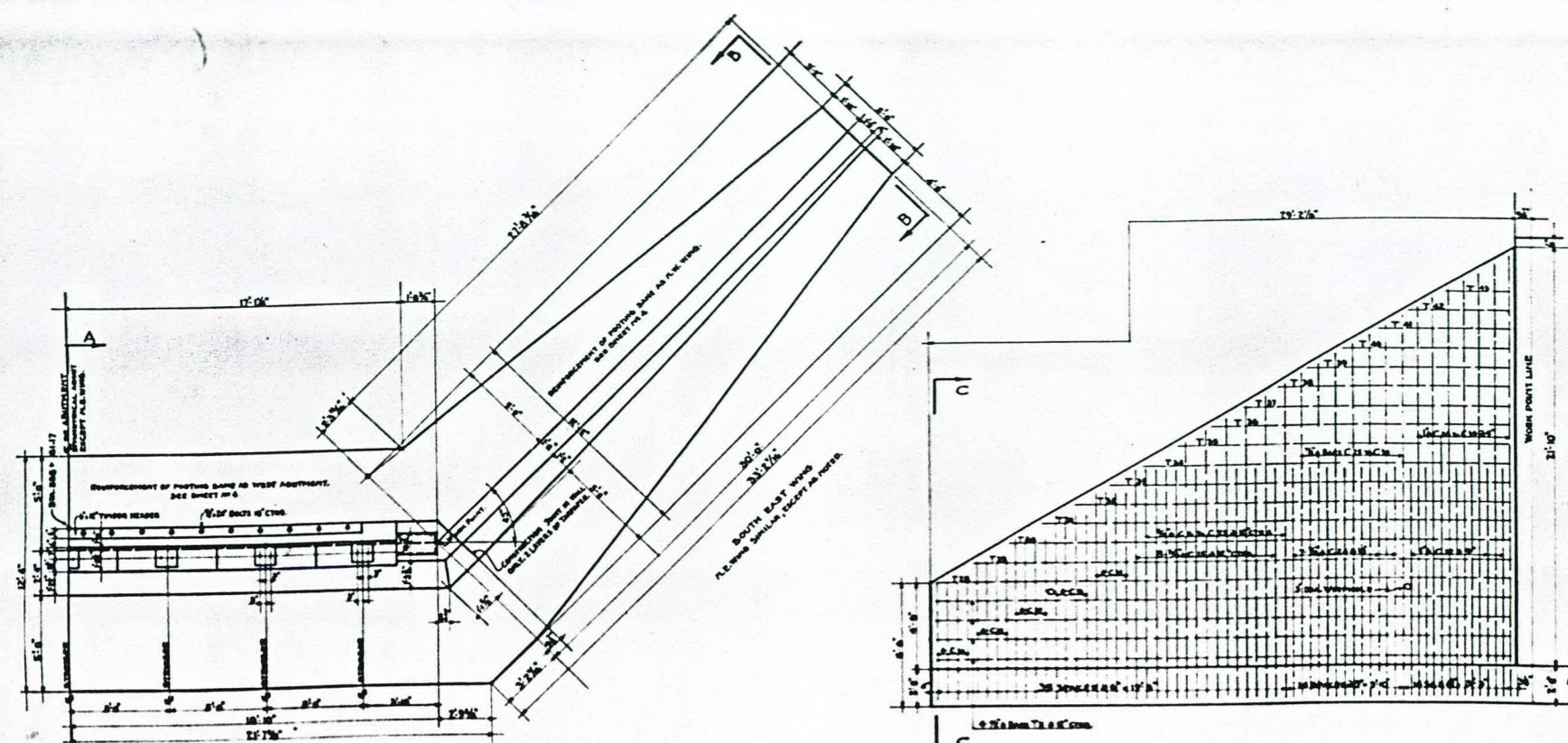
COLORADO
STATE HIGHWAY DEPARTMENT
50'-0" SPAN CONCRETE I BEAM BRIDGE
DETAILS OF WEST ABUTMENT.

Access **DRAW**
Sta. 508 + 23.66 TO 508 + 01.17
Near **HOWARD** S&S-34 T.49 N.R.10E

Designed by C.S.A.	Approved by C.D. Hardy
Checked by C.N.D.	Bridge Engineer
Checked by A.A.K.	Date: May 1st, 1934

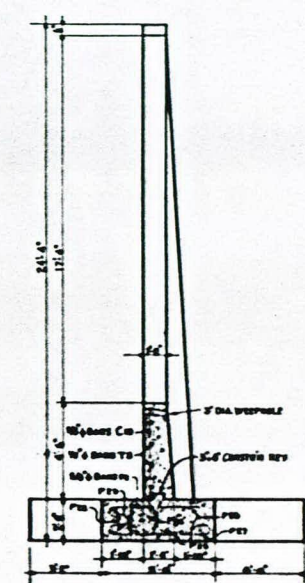
STRUCTURE NO. K-13-D.

DESIGN NO.	DATE	DESIGNER	CHECKED	APPROVED
3	COLO.	REK H.C.	15	

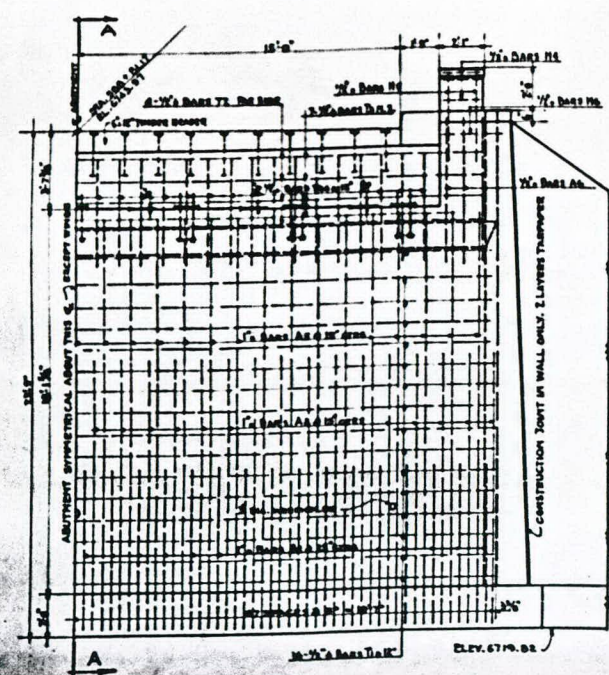


HALF PLAN OF EAST ABUTMENT

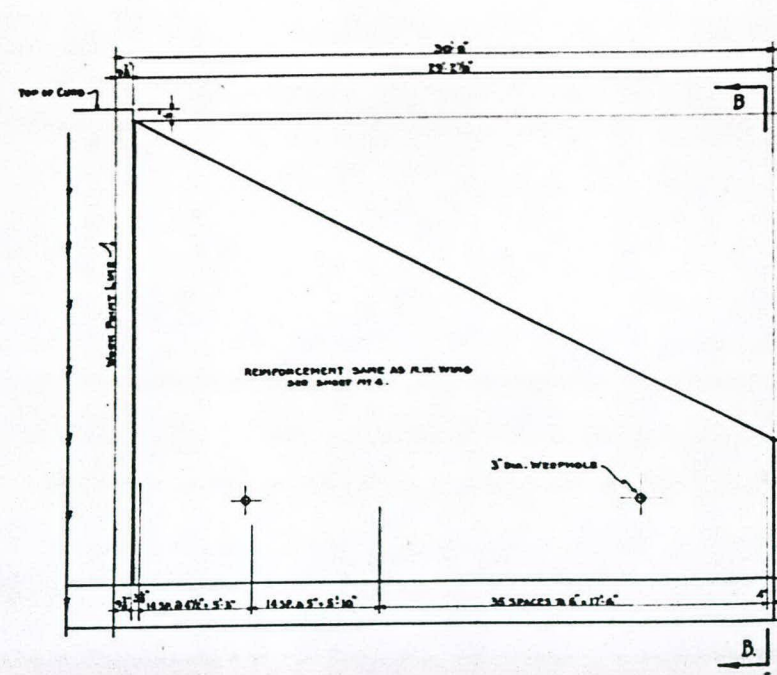
ELEVATION OF N.E. WING



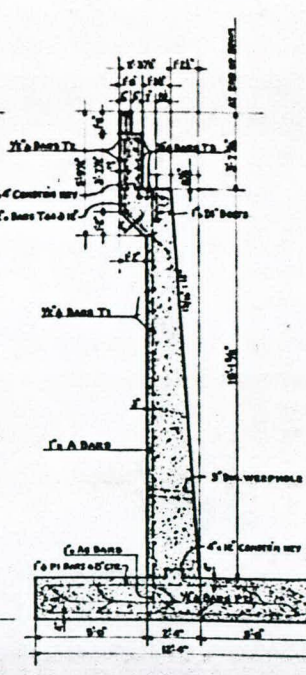
SECTION C-C



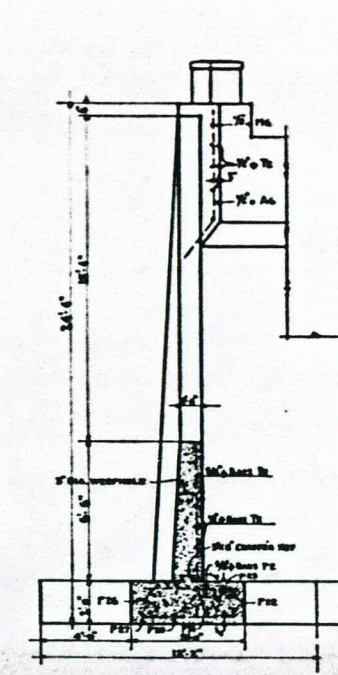
HALF ELEVATION OF EAST ABUTMENT



ELEVATION OF S.E. WING



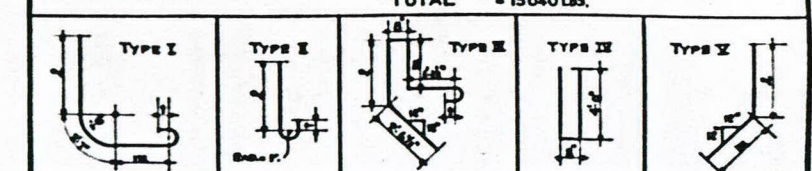
SECTION A-A



SECTION B-B

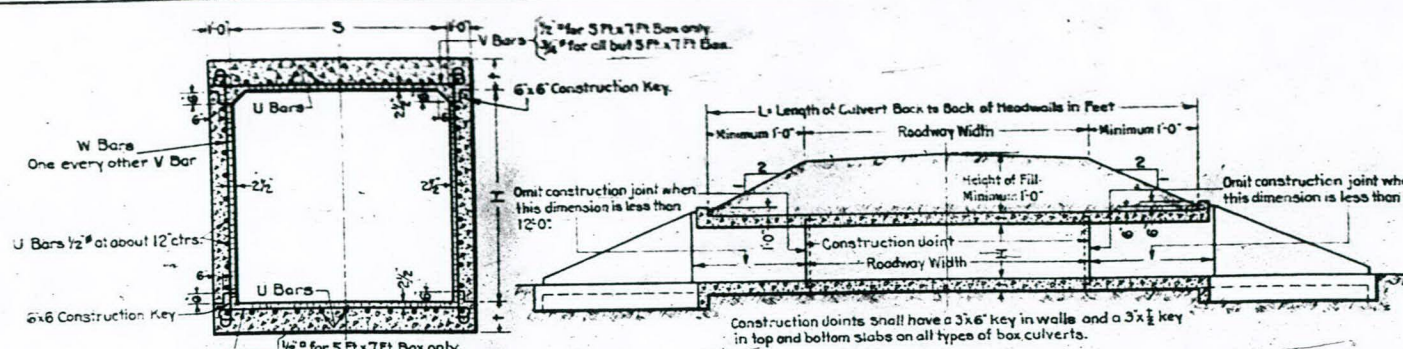
BAR LIST FOR EAST ABUTMENT											
BAR	SIZE	NO.	LENGTH	TYPE	L	M	F	T	BAR	SIZE	NO.
A1	7	32	14'-4"	I	3'-0"	4'-9"	4'	30'	B1	7	12
A2	7	32	10'-5"	I	11'-0"	3'-3"	4'	30'	B2	7	12
A3	7	31	20'-5"	I	19'-1"	3'-3"	4'	30'	B3	7	12
A4	7	12	7'-10"	I	5'-0"	2'-10"	4'	30'	B4	7	12
A5	7	12	1'-5"	I					B5	7	12
A6	7	4	8'-5"	I					B6	7	12
A7	7	2	2'-1"	I					B7	7	12
A8	7	16	20'-0"	I					B8	7	12
A9	7	4	57'-5"	I					B9	7	12
A10	7	7	33'-5"	I					B10	7	12
A11	7	10	28'-10"	I					B11	7	12
A12	7	12	1'-5"	I					B12	7	12
A13	7	12	1'-5"	I					B13	7	12
A14	7	12	1'-5"	I					B14	7	12
A15	7	12	1'-5"	I					B15	7	12
A16	7	12	1'-5"	I					B16	7	12
A17	7	12	1'-5"	I					B17	7	12
A18	7	12	1'-5"	I					B18	7	12
A19	7	12	1'-5"	I					B19	7	12
A20	7	12	1'-5"	I					B20	7	12
A21	7	12	1'-5"	I					B21	7	12
A22	7	12	1'-5"	I					B22	7	12
A23	7	12	1'-5"	I					B23	7	12
A24	7	12	1'-5"	I					B24	7	12
A25	7	12	1'-5"	I					B25	7	12
A26	7	12	1'-5"	I					B26	7	12
A27	7	12	1'-5"	I					B27	7	12
A28	7	12	1'-5"	I					B28	7	12
A29	7	12	1'-5"	I					B29	7	12
A30	7	12	1'-5"	I					B30	7	12
A31	7	12	1'-5"	I					B31	7	12
A32	7	12	1'-5"	I					B32	7	12
A33	7	12	1'-5"	I					B33	7	12
A34	7	12	1'-5"	I					B34	7	12
A35	7	12	1'-5"	I					B35	7	12
A36	7	12	1'-5"	I					B36	7	12
A37	7	12	1'-5"	I					B37	7	12
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A47	7	12	1'-5"	I					B47	7	12
A48	7	12	1'-5"	I					B48	7	12
A49	7	12	1'-5"	I					B49	7	12
A50	7	12	1'-5"	I					B50	7	12
A51	7	12	1'-5"	I					B51	7	12
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A53	7	12	1'-5"	I					B53	7	12
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A55	7	12	1'-5"	I					B55	7	12
A56	7	12	1'-5"	I					B56	7	12
A57	7	12	1'-5"	I					B57	7	12
A58	7	12	1'-5"	I					B58	7	12
A59	7	12	1'-5"	I					B59	7	12
A60	7	12	1'-5"	I					B60	7	12
A61	7	12	1'-5"	I					B61	7	12
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A63	7	12	1'-5"	I					B63	7	12
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A66	7	12	1'-5"	I					B66	7	12
A67	7	12	1'-5"	I					B67	7	12
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A69	7	12	1'-5"	I					B69	7	12
A70	7	12	1'-5"	I					B70	7	12
A71	7	12	1'-5"	I					B71	7	12
A72	7	12	1'-5"	I					B72	7	12
A73	7	12	1'-5"	I					B73	7	12
A74	7	12	1'-5"	I					B74	7	12
A75	7	12	1'-5"	I					B75	7	12
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A77	7	12	1'-5"	I					B77	7	12
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A81	7	12	1'-5"	I					B81	7	12
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A93	7	12	1'-5"	I					B93	7	12
A94	7	12	1'-5"	I					B94	7	12
A95	7	12	1'-5"	I					B95	7	12
A96	7	12	1'-5"	I					B96	7	12
A97	7	12	1'-5"	I					B97	7	12
A98	7	12	1'-5"	I					B98	7	12
A99	7	12	1'-5"	I					B99	7	12
A100	7	12	1'-5"	I					B100	7	12

2000 LBS. PER SQ. YD. OF CONCRETE	1875 LBS.
474	403
1131	1180
608	908
614	1858
1344	2408
1673	2408
1% FOR OVERLAP	148
TOTAL	15040 LBS.



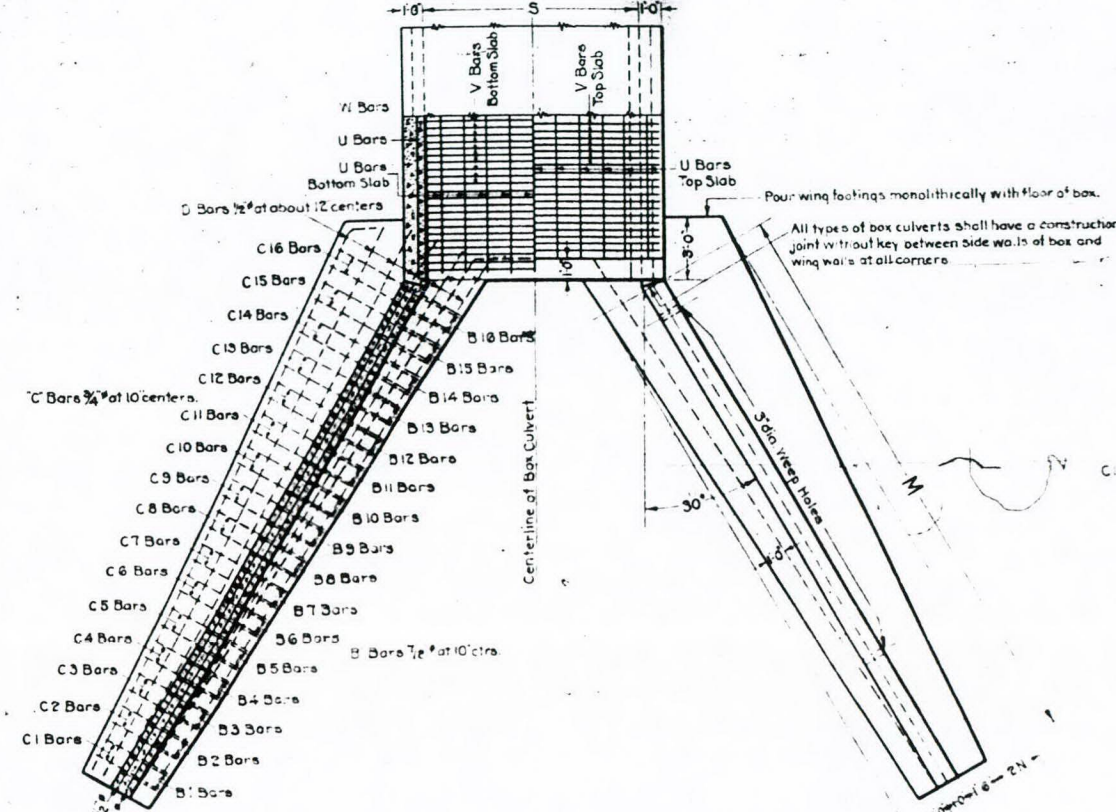
REFERENCE DRAWINGS
SHEET #11 GENERAL LAYOUT, GENERAL NOTES, SUMMARY OF QUANTITIES AND DETAILS OF SUPER
SHEET #12 DETAILS OF WEST ABUTMENT.

COLORADO
STATE HIGHWAY DEPARTMENT
50'-0" SPAN CONCRETE I-BEAM BRIDGE
DETAILS OF EAST ABUTMENT.
Across Drawn
Near Monarch, Sec. 34 T. 49 N. R. 10 E.
Designed by G.S. Bridge Engineer
Made by G.S. Bridge Engineer
Checked by A.S. Date: May 16, 1934.

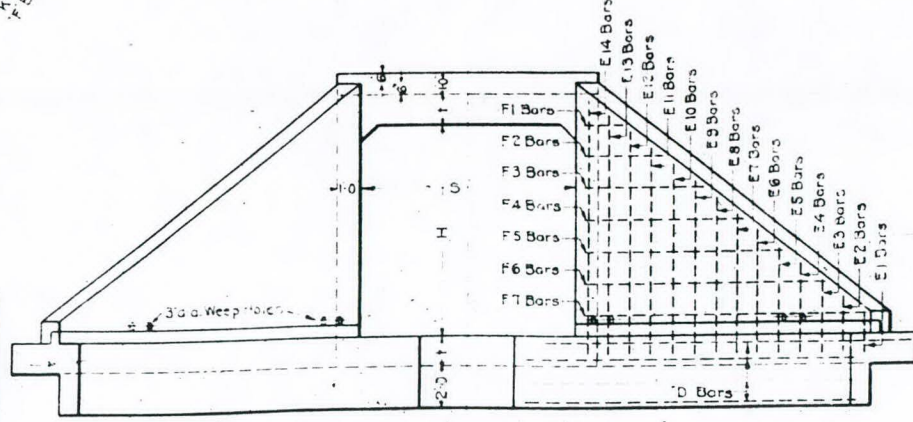


TYPICAL SECTION SHOWING RELATION OF CULVERT TO ROADWAY

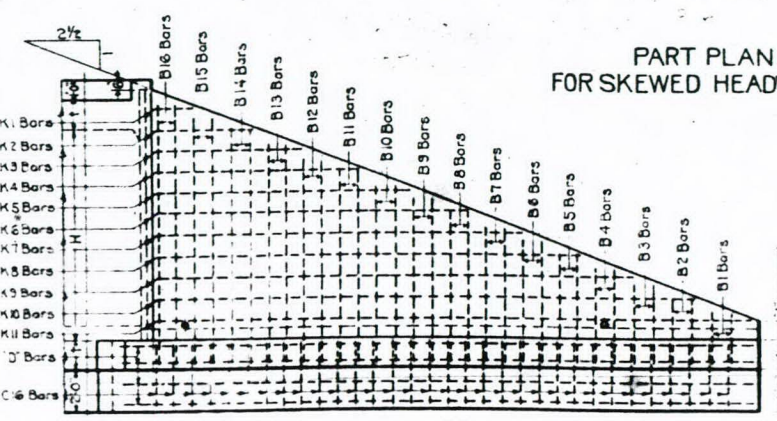
TYPICAL SECTION THRU BOX



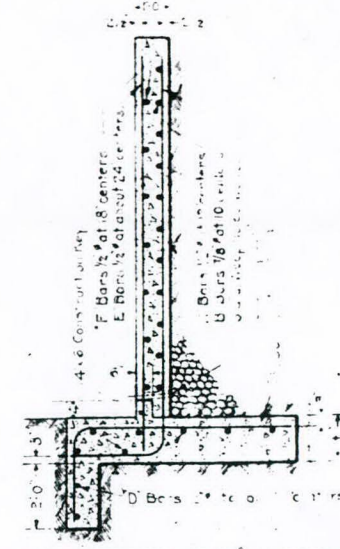
PART PLAN



END VIEW

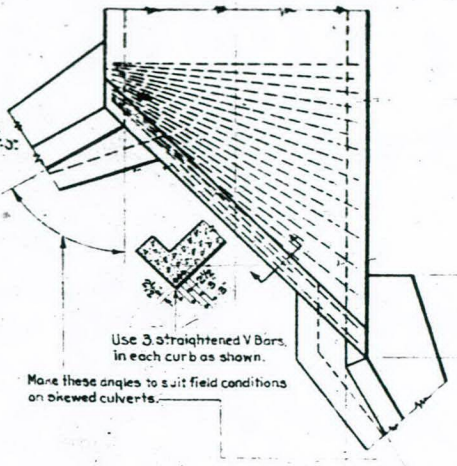


TRUE SIDE ELEVATION OF WINGWALL



TYPICAL SECTION THRU WINGWALL

Field to Bar V Bars as shown placing alternate Bars to bearing on outside wall of ends of skewed boxes.



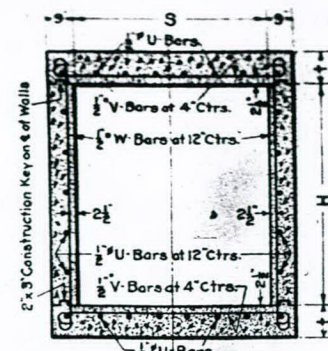
PART PLAN FOR SKEWED HEADWALLS

STANDARD M-104-D

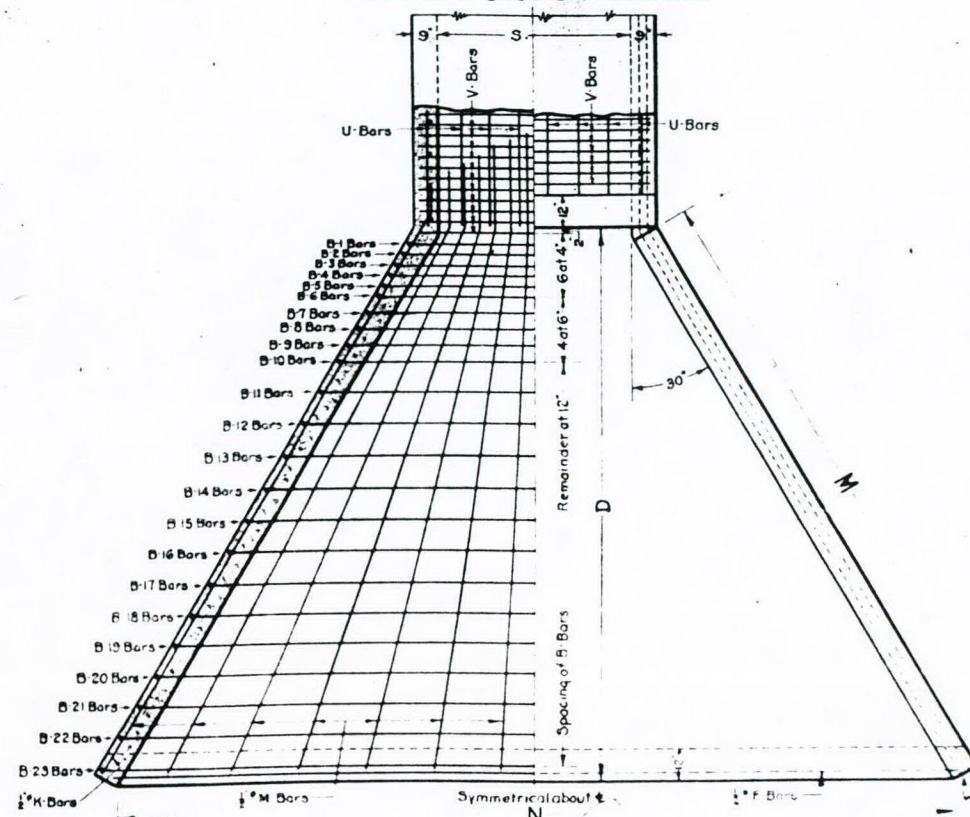
STATE COLORADO
CONC. BOX CULVERT
Revised 7-23-33 & 3-24-34 changed ends of B & C Bars
FINAL CONSTRUCTION

REINFORCEMENT BAR LIST

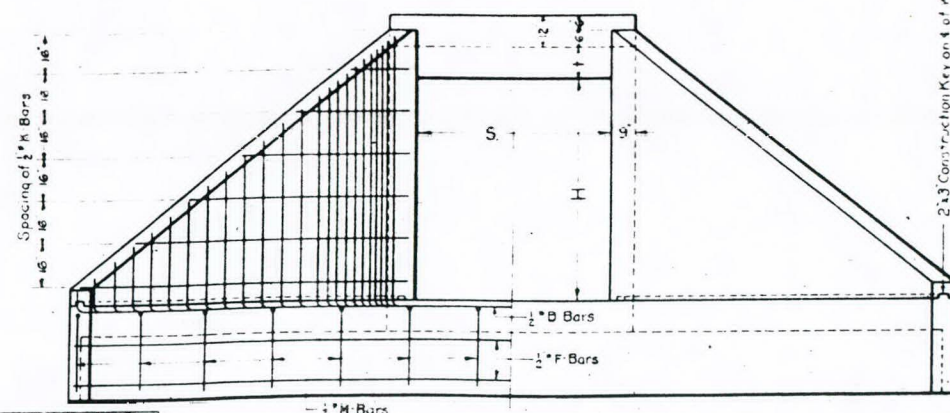
USE BARS FOR	MARK	SIZE	NUMBER	DIMENSION	TOTAL LENGTH	BENDING DIAGRAM
						ALL DIMENSIONS ARE TO 1/4 OF BARS
At skewed ends of 5' x 7' box only	V	1/2"	24 (L+2) divided by 3	3'-11"	24	
All Slabs	N	3/8"	16 N	4'-10"	16	
All Slabs	U	1/2"	8	3'-0"	8	
All Slabs	W	1/2"	8	3'-0"	8	
All Slabs	U	1/2"	8	3'-0"	8	
All Slabs	W	1/2"	8	3'-0"	8	
All Slabs	U	1/2"	8	3'-0"	8	
All Slabs	W	1/2"	8	3'-0"	8	
All Slabs	U	1/2"	8	3'-0"	8	
All Slabs	W	1/2"	8	3'-0"	8	
All Slabs	U	1/2"	8	3'-0"	8	
All Slabs	W	1/2"	8	3'-0"	8	
All Slabs	U	1/2"	8	3'-0"	8	
All Slabs	W	1/2"	8	3'-0"	8	
All Slabs	U	1/2"	8	3'-0"	8	
All Slabs	W	1/2"	8	3'-0"	8	
All Slabs	U	1/2"	8	3'-0"	8	
All Slabs	W	1/2"	8	3'-0"	8	
All Slabs	U	1/2"	8	3'-0"	8	
All Slabs	W	1/2"	8	3'-0"	8	
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All Slabs	W	1/2"	8	3'-0"	8	
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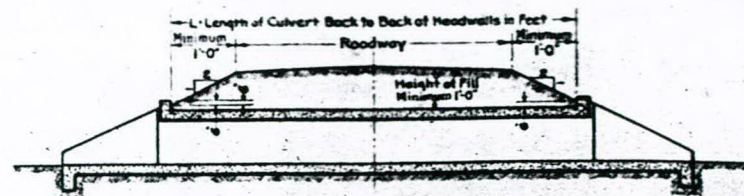
TYPICAL SECTION THRU BOX



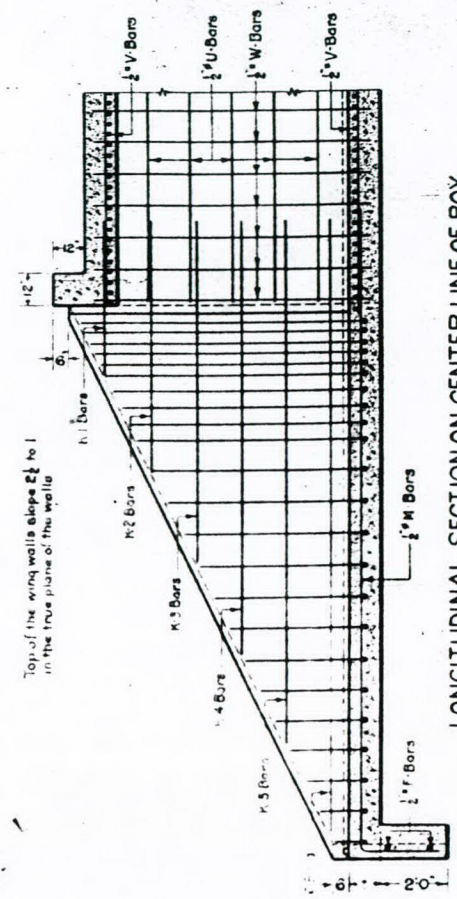
PART PLAN



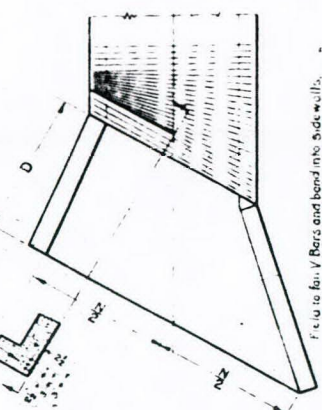
END VIEW



TYPICAL SECTION SHOWING RELATION OF CULVERT TO ROADWAY



LONGITUDINAL SECTION ON CENTER LINE OF BOX



PART PLAN FOR SKEWED HEADWALLS

STANDARD M-103-D

FINAL CONSTRUCTION SHEET

REINFORCEMENT BAR LIST										BENDING DIAGRAM	
USE BARS FOR	MARK	SIZE	NUMBER	DIMENSION P	DIMENSION Q	TOTAL LENGTH	ALL DIMENSIONS ARE TO 1/4 OF BARS			W.D.	
ALL SIZES	V	1/2"	(64)-14	5'-10"		5'-2'-2"					
	W	1/2"	(24)-6	H+10"		H+2'-2"					
	F	1/2"	4			N+0'-3"					
	U	1/2"	4			L+1'-8"					
	K-1	1/2"	4			3'-4"					
H-2'-0" OR MORE	K-2	1/2"	4			6'-8"					
H-3'-0"	K-3	1/2"	4			10'-0"					
H-5'-0"	K-4	1/2"	4			13'-4"					
H-6'-0"	K-5	1/2"	4			16'-8"					
H-7'-0"	K-6	1/2"	4			20'-0"					
ALL SIZES	B-1	1/2"	2	S+1'-6"	H+1'-3"						
	B-2	1/2"	2	S+1'-11"	H+1'-1"						
	B-3	1/2"	2	S+2'-3"	H+0'-11"						
	B-4	1/2"	2	S+2'-8"	H+0'-9"						
	B-5	1/2"	2	S+3'-0"	H+0'-8"						
	B-6	1/2"	2	S+3'-5"	H+0'-6"						
	B-7	1/2"	2	S+4'-0"	H+0'-5"						
	B-8	1/2"	2	S+4'-7"	H+0'-0"						
	B-9	1/2"	2	S+5'-2"	H+0'-3"						
H-1'-6" OR MORE	B-10	1/2"	2	S+5'-9"	H+0'-5"						
H-2'-0"	B-11	1/2"	2	S+6'-11"	H+0'-11"						
H-3'-0"	B-12	1/2"	2	S+8'-1"	H+1'-4"						
H-3'-0"	B-13	1/2"	2	S+9'-3"	H+1'-10"						
H-3'-0"	B-14	1/2"	2	S+10'-5"	H+2'-3"						
H-4'-0"	B-15	1/2"	2	S+11'-7"	H+2'-9"						
H-4'-0"	B-16	1/2"	2	S+12'-9"	H+3'-3"						
H-5'-0"	B-17	1/2"	2	S+13'-11"	H+3'-8"						
H-5'-0"	B-18	1/2"	2	S+15'-1"	H+4'-2"						
H-6'-0"	B-19	1/2"	2	S+16'-3"	H+4'-7"						
H-6'-0"	B-20	1/2"	2	S+17'-5"	H+5'-1"						
H-6'-0"	B-21	1/2"	2	S+18'-7"	H+5'-6"						
H-7'-0"	B-22	1/2"	2	S+19'-9"	H+6'-0"						
H-7'-0"	B-23	1/2"	2	S+20'-11"	H+6'-5"						
ALL SIZES	M	1/2"	(34)-2	D+3'-0"		D+5'-5"					

* See Table of Dimensions and Quantities

TABLE OF DIMENSIONS AND QUANTITIES												W.D.		
STEEL QUANTITIES GIVEN BELOW INCLUDE ALLOWANCE FOR OVERRUN OF 1% TOTAL QUANTITIES FOR ONE BOX EQUALS THE QUANTITY FOR TWO HEADWALLS PLUS (L-QUANTITY FOR ONE LINEAL FT. OF BOX)														
SPACING S	HEIGHT H	THICKNESS OF SLAB ALLOWED	DIMENSION M	DIMENSION N	DIMENSION D	THICKNESS OF SLAB T	NUMBER OF BARS PER BOX	QUANTITIES FOR ONE LINEAL FT. OF BOX		QUANTITIES FOR TWO HEADWALLS		STRUCTURAL TWO HEADWALLS	EXCAVATION THE CUT-OFF	
								CONCRETE CU YDS	STEEL LBS.	CONCRETE CU YDS	STEEL LBS.	SQ FT.	CU YDS.	
1'-6"	1'-0"	8"	5'-6"	7'-2"	5'-1"	8"	8	0.241	30.6	4.5	285	116.91	4.40	
2'-0"	2'-0"	8"	6'-3"	8'-11"	6'-0"	8"	8	0.295	34.0	6.1	380	153.44	5.18	
3'-0"	3'-0"	8"	7'-5"	9'-5"	7'-4"	10"	8	0.332	37.5	5.0	310	116.50	4.65	
3'-0"	2'-0"	10"	7'-1"	10'-3"	6'-6"	10"	10	0.388	40.5	7.7	450	178.11	5.76	
3'-0"	3'-0"	10"	9'-0"	9'-7"	12'-9"	8'-8"	10"	12	0.444	43.6	11.0	605	250.88	6.87
4'-0"	2'-0"	15"	7'-1"	11'-3"	6'-6"	10"	12	0.450	47.0	8.5	488	195.13	6.19	
4'-0"	3'-0"	15"	9'-7"	13'-9"	8'-8"	10"	14	0.506	50.0	12.0	660	272.24	7.31	
4'-0"	4'-0"	15"	12'-1"	16'-3"	10'-10"	10"	16	0.562	53.1	16.0	800	359.71	8.42	
5'-0"	3'-0"	15"	9'-7"	14'-9"	8'-8"	10"	16	0.567	56.6	12.8	720	293.60	7.76	
5'-0"	4'-0"	15"	12'-1"	17'-3"	10'-10"	10"	18	0.673	59.6	17.1	865	385.43	8.87	
5'-0"	5'-0"	15"	14'-7"	19'-9"	13'-0"	10"	20	0.679	62.7	21.9	1079	488.07	9.98	
6'-0"	2'-0"	10"	7'-4"	13'-7"	6'-9"	11"	16	0.645	60.0	11.3	590	239.30	7.23	
6'-0"	3'-0"	10"	9'-10"	16'-1"	8'-11"	11"	18	0.699	63.0	15.3	785	325.95	8.34	
6'-0"	4'-0"	10"	12'-4"	18'-7"	11'-1"	11"	20	0.755	66.2	20.1	935	423.57	9.45	
6'-0"	5'-0"	10"	14'-10"	21'-1"	13'-3"	11"	22	0.810	69.2	25.6	1145	532.02	10.56	
6'-0"	6'-0"	10"	17'-4"	23'-7"	15'-5"	11"	24	0.866	72.3	31.7	1420	651.48	11.67	
6'-0"	7'-0"	10"	19'-10"	26'-1"	17'-7"	11"	26	0.923	75.3	38.5	1685	781.58	12.79	

GENERAL NOTES

1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
4. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
5. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
6. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
7. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
8. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
9. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
10. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.

LOADING DATA

COLORADO					
STATE HIGHWAY DEPARTMENT					
CONCRETE BOX CULVERTS					
12'x12'	4'x2'	5'x4'	6'x4'		
2'x2'	4'x5'	5'x5'	6'x5'		
3'x1'	4'x4'	6'x2'	6'x6'		
3'x2'	5'x3'	6'x3'	6'x7'		
3'x3'					
APPROVED BY	AGK	APPROVED BY	AGK	APPROVED BY	AGK
DATE	10/1/54	DATE	10/1/54	DATE	10/1/54

ORIGINAL BY
CHECKED BY
VAN DYKE
CHECKED BY
M-103-D

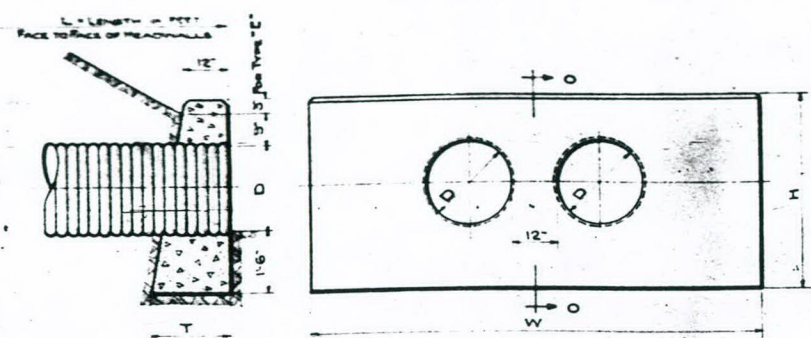
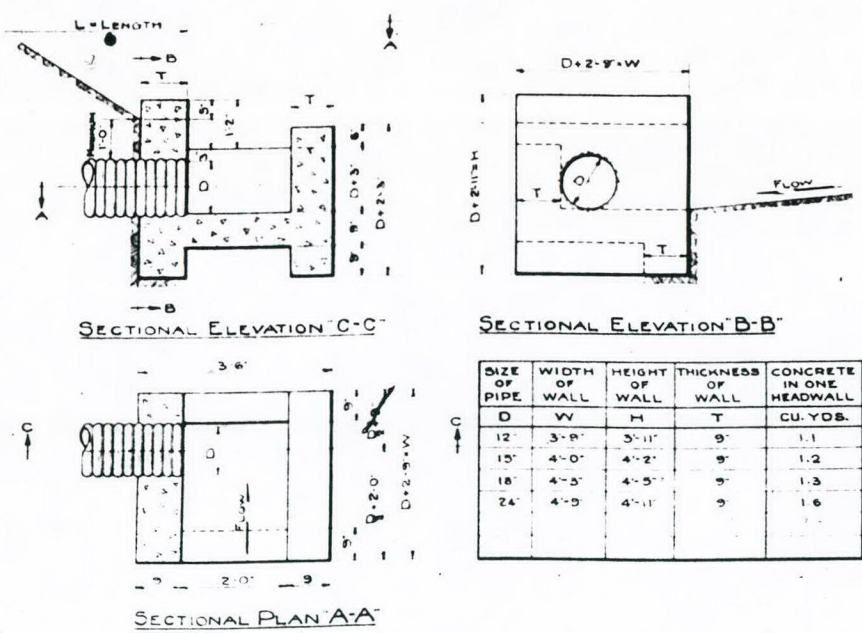


TABLE OF DIMENSIONS & QUANTITIES FOR DOUBLE CORRUGATED METAL PIPE CULVERT & HEADWALLS									
	D	W	H	T	CL. CONCRETE FOR 2 HEADWALLS	CORRUGATED METAL PIPE	CEMENT RUBBLE MASONRY		
TYPE E	15	7-6	3-0	1-6	22 Cu. Yds	16 GAGE 2xL = LIN. FT.			
	18	8-6	4-0	1-7	21 do	2xL = do			
	24	10-6	4-6	1-10	45 do	2xL = do			
	30	12-6	5-0	2-0	83 do	2xL = do			
	36	14-6	5-6	2-2	118 do	2xL = do			
TYPE F									

STD. HEADWALLS FOR DOUBLE CORRUGATED METAL PIPE CULVERTS.



INTERCEPTING HEADWALLS.

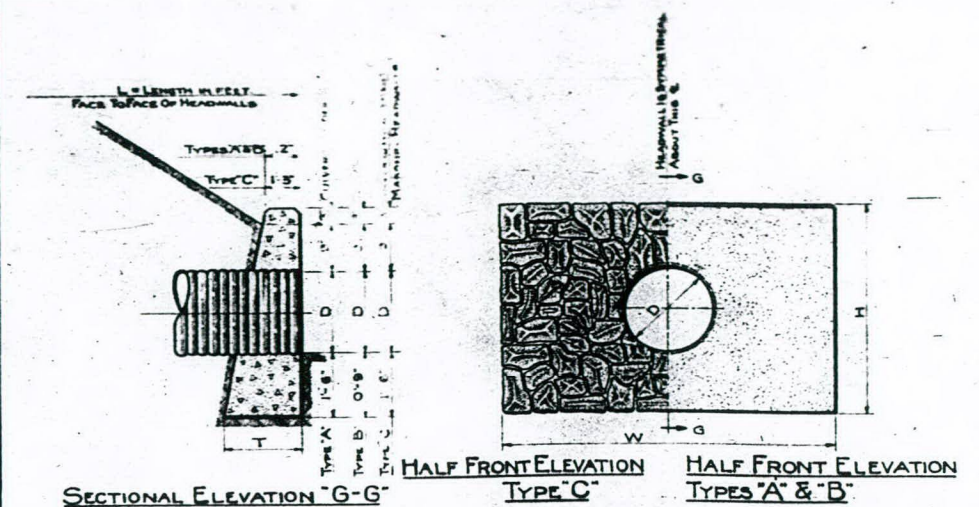
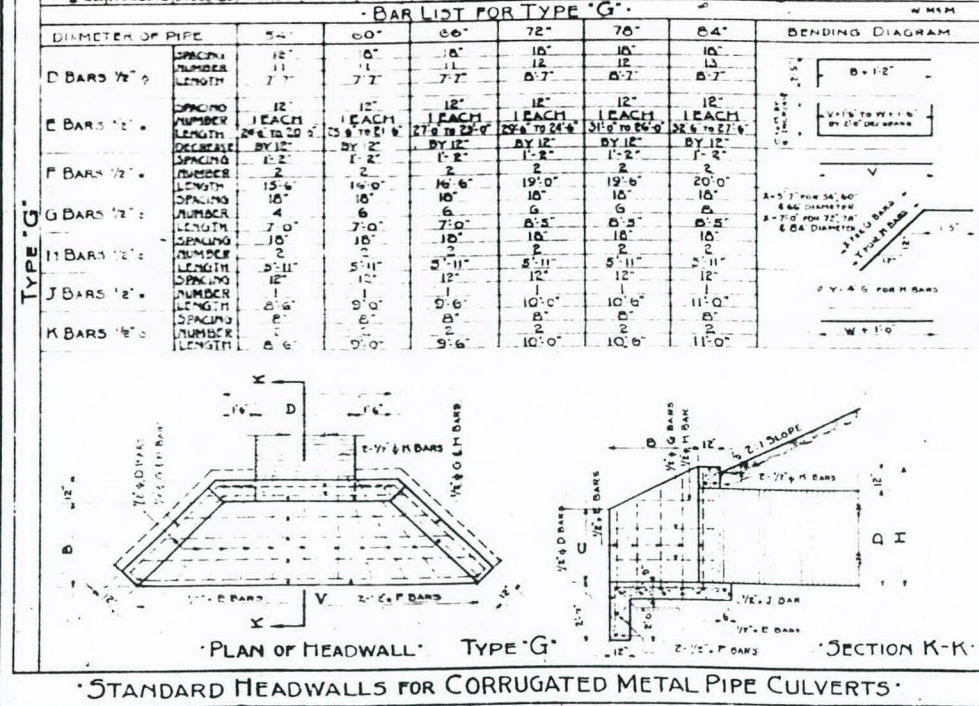


TABLE OF DIMENSIONS & QUANTITIES FOR CORRUGATED METAL PIPE CULVERTS & HEADWALLS									
	D	W	H	T	CL. CONCRETE FOR 2 HEADWALLS	CORRUGATED METAL PIPE	CEMENT RUBBLE MASONRY		
TYPE A	12	4-6	3-6	1-5	1.4 Cu. Yds	16 GAGE L = LIN. FT.			
	15	5-6	3-9	1-6	1.8 do	L = do			
	18	6-0	4-0	1-7	2.2 do	L = do			
	24	8-0	4-6	1-10	4.5 do	L = do			
	30	10-0	5-0	2-0	8.0 do	L = do			
	36	12-0	5-6	2-2	11.0 do	L = do			
	42	14-0	6-0	2-5	14.0 do	L = do			
	48	16-0	6-6	2-7	17.0 do	L = do			
TYPE B	12	4-0	2-9	1-0	0.8 Cu. Yds	16 GAGE L = LIN. FT.			
	15	4-3	3-0	1-2	0.9 do	L = do			
	18	4-6	3-3	1-3	1.1 do	L = do			
	24	5-0	3-9	1-5	1.2 do	L = do			
	30	5-6	4-3	1-7	1.5 do	L = do			
TYPE C	12	4-6	3-6	1-0	0.8 Cu. Yds	16 GAGE L = LIN. FT.			
	15	5-0	3-9	1-2	0.9 do	L = do			
	18	5-3	4-0	1-3	1.1 do	L = do			
	24	6-0	4-6	1-5	1.2 do	L = do			
	30	7-0	5-0	1-7	1.5 do	L = do			
	36	8-0	5-6	2-0	1.8 do	L = do			
	42	9-0	6-0	2-2	2.2 do	L = do			
	48	10-0	6-6	2-5	2.5 do	L = do			



STANDARD HEADWALLS FOR CORRUGATED METAL PIPE CULVERTS.

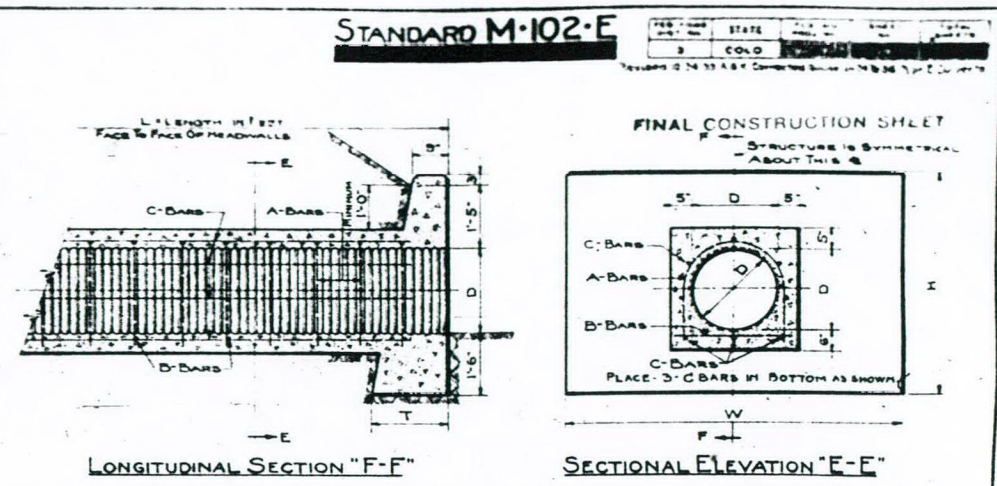


TABLE OF DIMENSIONS & QUANTITIES FOR INCASED PIPE CULVERT									
	D	W	H	T	CL. CONCRETE FOR 2 HEADWALLS	CORRUGATED METAL PIPE	CEMENT RUBBLE MASONRY		
TYPE A	12	4-6	3-6	1-5	1.4 Cu. Yds	16 GAGE L = LIN. FT.			
	15	5-6	3-9	1-6	1.8 do	L = do			
	18	6-0	4-0	1-7	2.2 do	L = do			
	24	8-0	4-6	1-10	4.5 do	L = do			
	30	10-0	5-0	2-0	8.0 do	L = do			
	36	12-0	5-6	2-2	11.0 do	L = do			
	42	14-0	6-0	2-5	14.0 do	L = do			
	48	16-0	6-6	2-7	17.0 do	L = do			
TYPE B	12	4-0	2-9	1-0	0.8 Cu. Yds	16 GAGE L = LIN. FT.			
	15	4-3	3-0	1-2	0.9 do	L = do			
	18	4-6	3-3	1-3	1.1 do	L = do			
	24	5-0	3-9	1-5	1.2 do	L = do			
	30	5-6	4-3	1-7	1.5 do	L = do			
TYPE C	12	4-6	3-6	1-0	0.8 Cu. Yds	16 GAGE L = LIN. FT.			
	15	5-0	3-9	1-2	0.9 do	L = do			
	18	5-3	4-0	1-3	1.1 do	L = do			
	24	6-0	4-6	1-5	1.2 do	L = do			
	30	7-0	5-0	1-7	1.5 do	L = do			
	36	8-0	5-6	2-0	1.8 do	L = do			
	42	9-0	6-0	2-2	2.2 do	L = do			
	48	10-0	6-6	2-5	2.5 do	L = do			

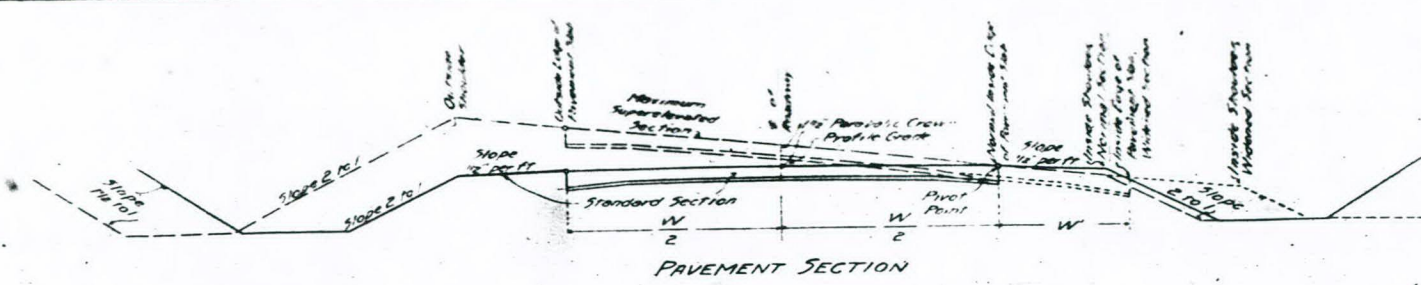
SPECIAL NOTES
ALL REINFORCING BARS SHALL BE #4.
MINIMUM DISTANCE 4" OF BAR TO SURFACE OF CONCRETE SHALL BE 2".
PIPE SHALL BE THOROUGHLY CLEANED BEFORE INCASING WITH CONCRETE.

GENERAL NOTES FOR ALL STRUCTURES
ALL STRUCTURES SHALL BE CONSTRUCTED ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO STATE HIGHWAY DEPARTMENT, ADOPTED JAN. 1930.
ALL CONCRETE SHALL BE CLASS A EXCEPT TYPES A & B WHICH SHALL BE CLASS B.
ALL EXPOSED CORNERS SHALL BE RUBBED FREE OF FORM MARKS.
ALL EXPOSED CORNERS SHALL BE REVEALED TO A 2" FACE.
ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE FRESH CONCRETE IS PLACED.
ALL WALLS SHALL HAVE FORMS ON BOTH SIDES.
ALL REINFORCING BARS SHALL BE BENT OR SQUARE AS SHOWN AND NOTED.
ALL REINFORCING BARS SHALL BE TIED WITH THE STATION NUMBER.
ALL BARS SHALL BE PLACED AT 12" ON CENTER.
CIRCULAR BARS WITH SPACING SHALL BE GIVEN A LAP OF 36 DIAMETERS.
ALL BARS SHALL NOT BE SPLICED.
REINFORCING BARS IN CULVERTS SHALL BE 12" ON CENTER.
REINFORCING BARS IN HEADWALLS SHALL BE 12" ON CENTER.
MINIMUM SPACING OF BARS SHALL BE 1 1/2".
FOR 12" AND 14" DIAMETER CULVERTS SEE SHEET NO. 2.
FOR 18" AND 24" DIAMETER CULVERTS SEE SHEET NO. 3.
FOR 30" AND 36" DIAMETER CULVERTS SEE SHEET NO. 4.

COLORADO
STATE HIGHWAY DEPARTMENT
STANDARD HEADWALLS
INTERCEPTING HEADWALLS
INCASED METAL PIPE CULVERT
WITH HEADWALLS
FOR
CORRUGATED METAL PIPE CULVERTS

Designed by: *P. B. B.*
Made by: *G. D. W.*
Checked by: *L. M. M.*

Approved by: *R. B. B.*
Bridge Engineer
Date: *Apr. 30, 1932*



SUPERELEVATION AND WIDENING NOTES FOR PAVEMENT SECTION

Curves on projects using the pavement section are to be superelevated 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 superelevated at the rate per foot width of roadway given in the table or graph. The section is to be related 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 superlevation rate exceeds this standard slope.

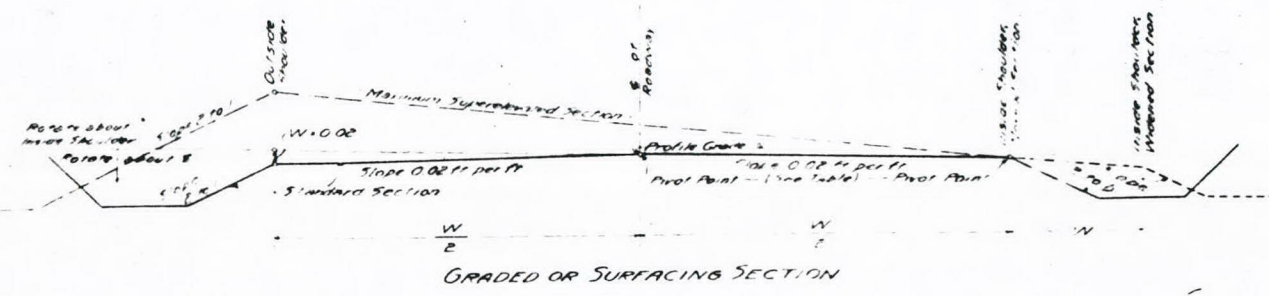
The outside ditch along a superelevated section is to be modified from the standard where a deeper ditch is required to provide drainage.

Details of plans for superelevating and widening are shown on the General Plan for Widening and the Graph of Superlevation Factors.

The subgrade for future pavement is to be constructed to conform to the superlevation 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	120 FT	140 FT	160 FT	180 FT	200 FT	On Curve
Factor	0.0	0.08	0.16	0.24	0.32	0.40	0.48	0.56	0.64	0.72	1.00
Degree of Curve	Rate of Superlevation (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	0.0313	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	0.0694	0.0720	0.0735	0.0735
8°	0.0017	0.0067	0.0151	0.0269	0.0420	0.0571	0.0689	0.0775	0.0800	0.0815	0.0815
9°	0.0019	0.0076	0.0170	0.0302	0.0472	0.0643	0.0773	0.0869	0.0900	0.0915	0.0915
10° and Over	0.0020	0.0080	0.0180	0.0320	0.0500	0.0680	0.0800	0.0880	0.0900	0.0900	0.0900
Offsets for Widening-W (in Feet)											
Over 10° Under 12°	0.06	0.54	0.94	0.96	1.50	2.04	2.46	2.76	2.94	3.01	3.00
12°	0.00	0.32	0.72	1.20	2.00	2.72	3.28	3.68	3.92	4.00	4.00
15°	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



SUPERELEVATION AND WIDENING NOTES FOR GRADED OR SURFACING SECTIONS

Curves on projects using the graded or surfacing section are to be superelevated 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 superelevated at the rate per foot width of roadway given in the table or graph. The section is to be related 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 superlevation rate exceeds this standard slope.

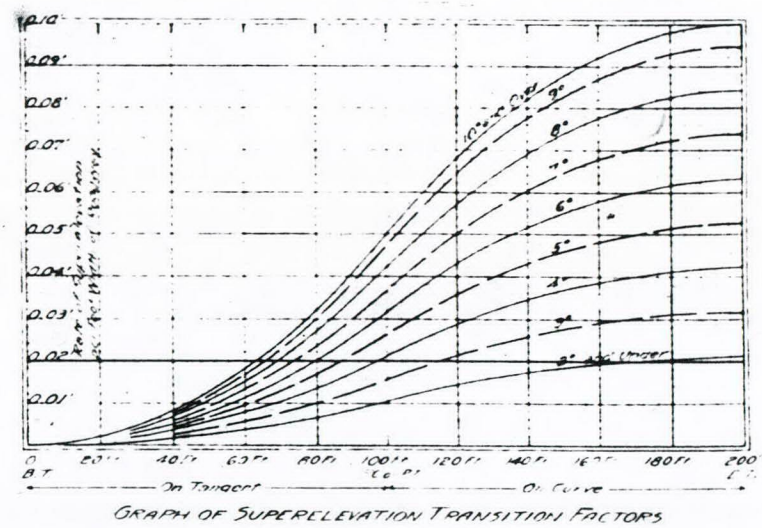
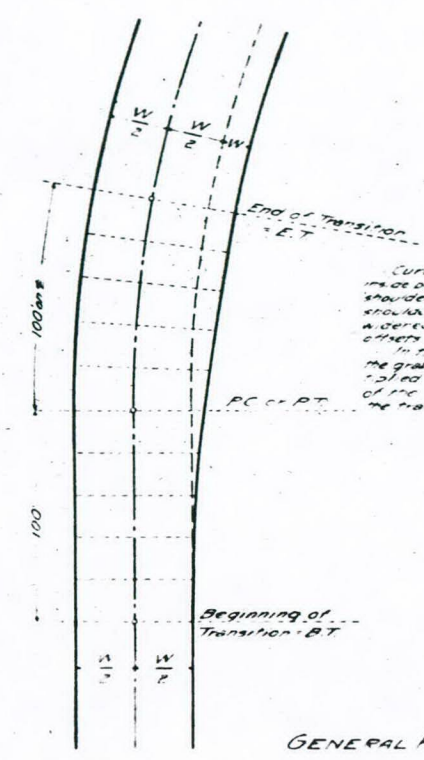
The outside ditch along a superelevated section is to be modified from the standard where a deeper ditch is required to provide drainage.

Details of plans for superelevating and widening are shown on the General Plan for Widening and the Graph of Superlevation Factors.

The subgrade for future pavement is to be constructed to conform to the superlevation and widening requirements for the pavement section.

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	120 FT	140 FT	160 FT	180 FT	200 FT	On Curve
Factor	0.0	0.08	0.16	0.24	0.32	0.40	0.48	0.56	0.64	0.72	1.00
Degree of Curve	Rate of Superlevation (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	0.0313	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	0.0694	0.0720	0.0735	0.0735
8°	0.0017	0.0067	0.0151	0.0269	0.0420	0.0571	0.0689	0.0775	0.0800	0.0815	0.0815
9°	0.0019	0.0076	0.0170	0.0302	0.0472	0.0643	0.0773	0.0869	0.0900	0.0915	0.0915
10° and Over	0.0020	0.0080	0.0180	0.0320	0.0500	0.0680	0.0800	0.0880	0.0900	0.0900	0.0900
Offsets for Widening-W (in Feet)											
Over 10° Under 12°	0.06	0.54	0.94	0.96	1.50	2.04	2.46	2.76	2.94	3.01	3.00
12°	0.00	0.32	0.72	1.20	2.00	2.72	3.28	3.68	3.92	4.00	4.00
15°	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



GRAPH OF SUPERELEVATION TRANSITION FACTORS

The rate of superlevation on the foot width of roadway to be applied at the outside edge of the pavement slab is to be computed as follows:

The full superlevation on the foot width of roadway is to be applied at the outside edge of the pavement slab.

The maximum superlevation 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 superlevation shown in the tabulations.

COLORADO
STATE HIGHWAY DEPARTMENT

STANDARD METHODS
FOR SUPERELEVATION AND
WIDENING OF CURVES

Designed by J. H. ...
Made by J. H. ...
Checked by J. H. ...
Date, Aug 17, 1932

PROFILE	INVENTED	BY	DATE
PLOTTED			
GAUGES CHECKED			
NOTE BOOK			
NO.			
	RECORDED		
	RECORDED		

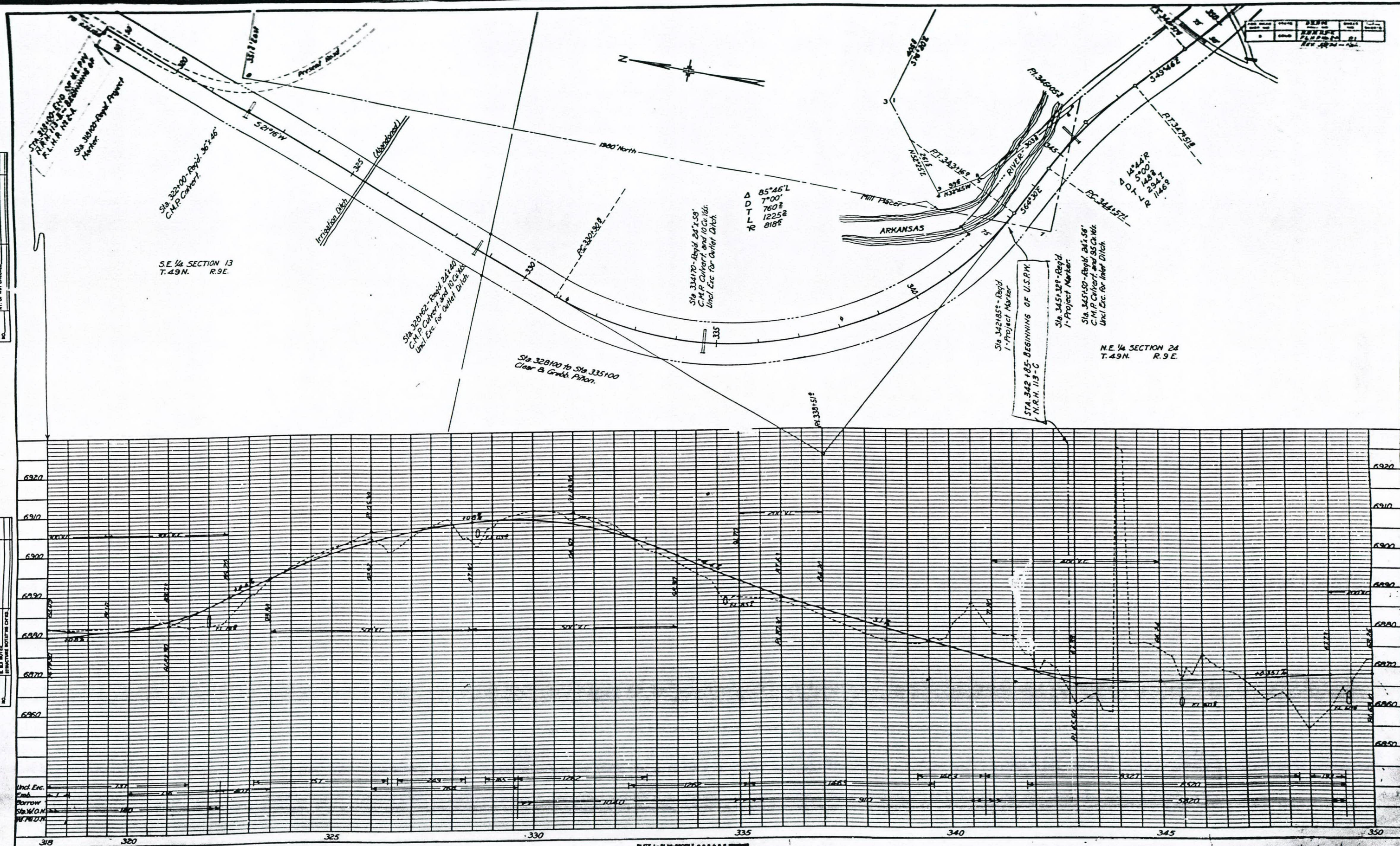
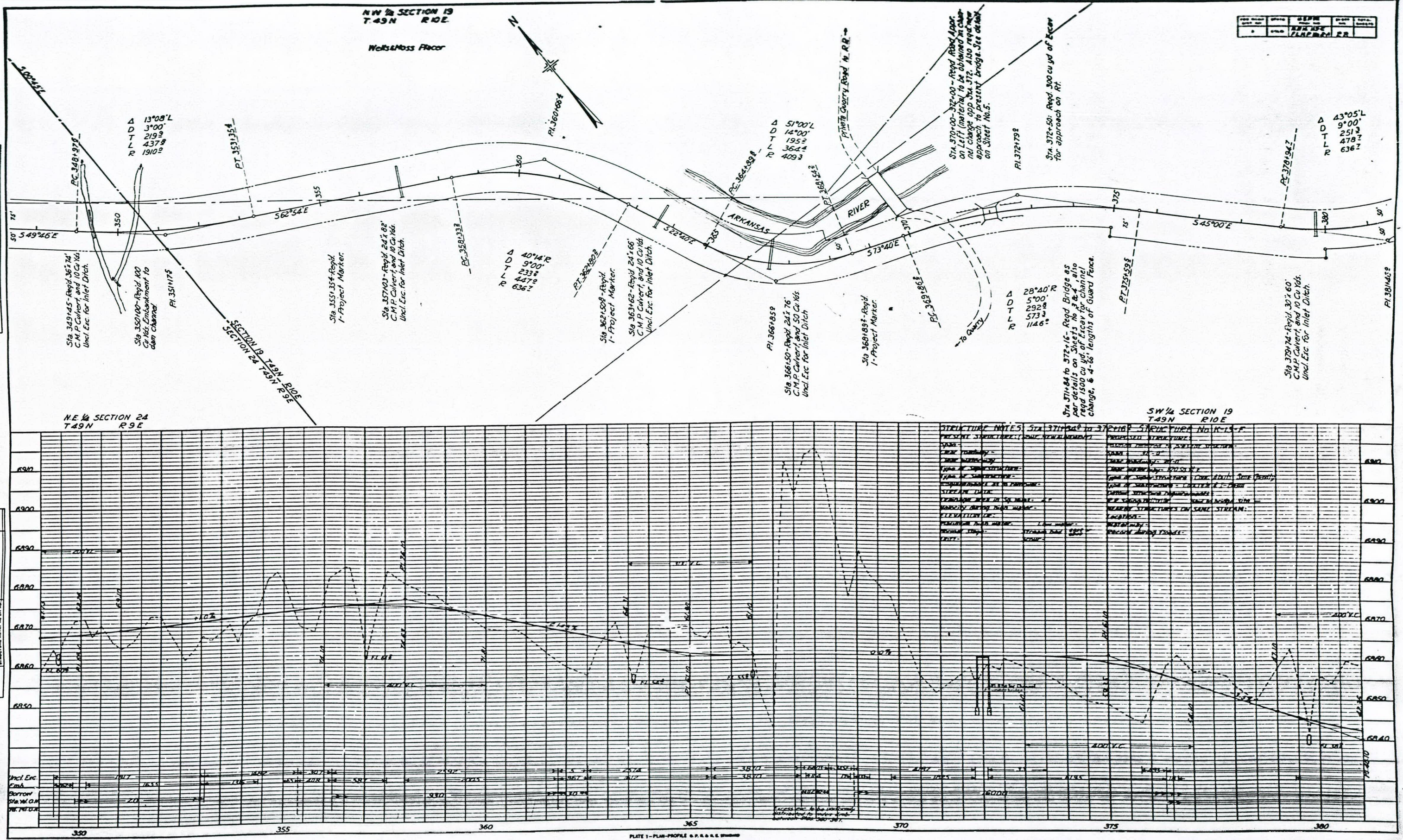


PLATE 1:—PLAN-PROFILE OF P. R. & R. E. SHAW
SHAW & SHAW CO., NEW YORK

PLAN	DATE	BY	CHKD
SURVEYED			
PLOTTED			
CHECKED			
NOTE BOOK			
NO.			

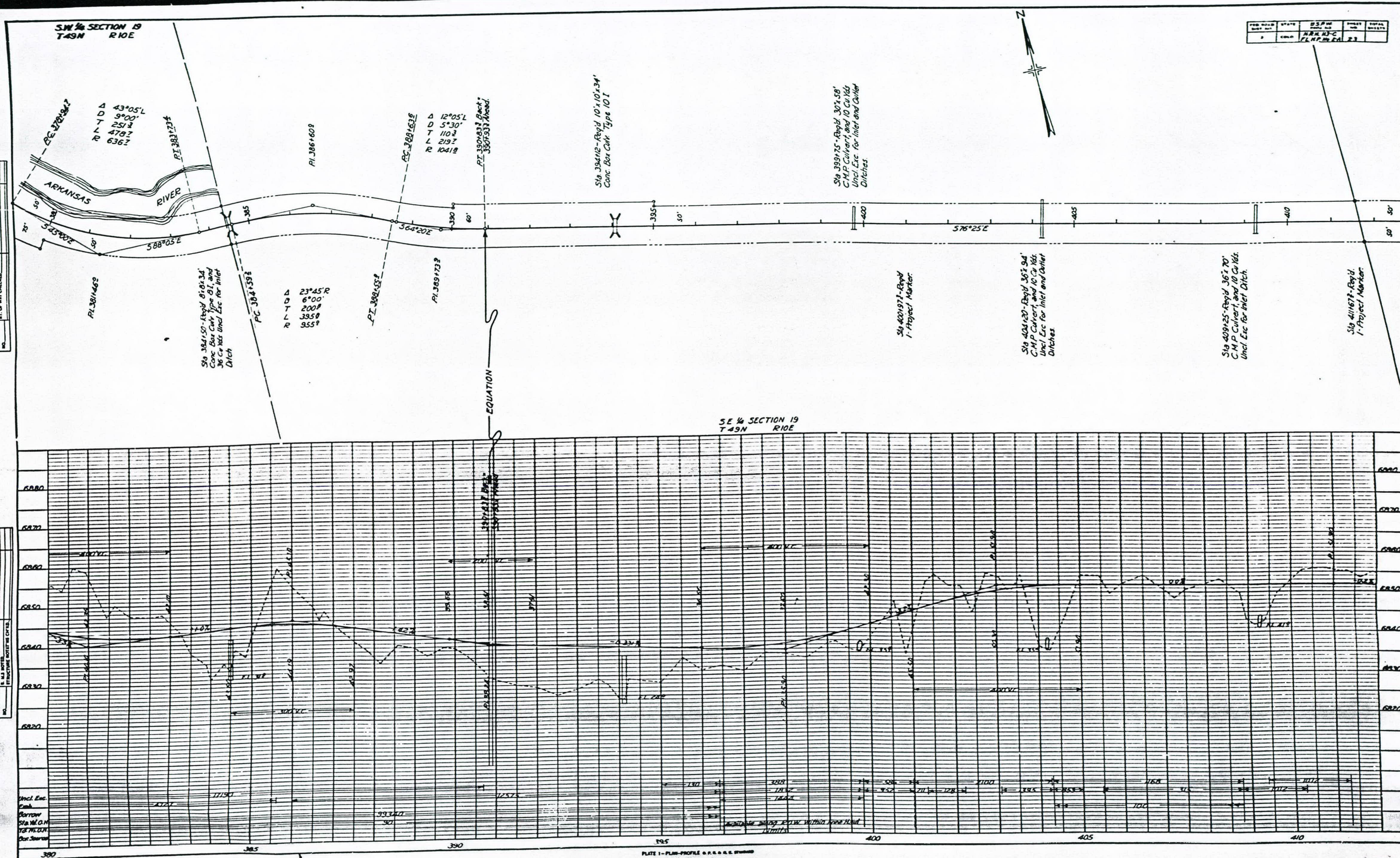
PROFILE	DATE	BY	CHKD
SURVEYED			
PLOTTED			
CHECKED			
NOTE BOOK			
NO.			



STRUCTURE NOTES	STA 371+00 TO 371+100	STRUCTURE No. K-15-F
PROPOSED STRUCTURE: (ONE NEW ELEMENT)		PROPOSED STRUCTURE
NAME: TURNPIKE		NAME: TURNPIKE
TYPE: TURNPIKE		TYPE: TURNPIKE
LENGTH: 100.00		LENGTH: 100.00
WIDTH: 10.00		WIDTH: 10.00
HEIGHT: 10.00		HEIGHT: 10.00
LOCATION: TURNPIKE		LOCATION: TURNPIKE
DATE: 10/1/50		DATE: 10/1/50
BY: J. H. HARRIS		BY: J. H. HARRIS
CHECKED: J. H. HARRIS		CHECKED: J. H. HARRIS
APPROVED: J. H. HARRIS		APPROVED: J. H. HARRIS
REMARKS: TURNPIKE		REMARKS: TURNPIKE

PLATE 1 - PLAN-PROFILE & P.R.S.E. SHEET
 DRAWN BY J. H. HARRIS
 CHECKED BY J. H. HARRIS
 APPROVED BY J. H. HARRIS

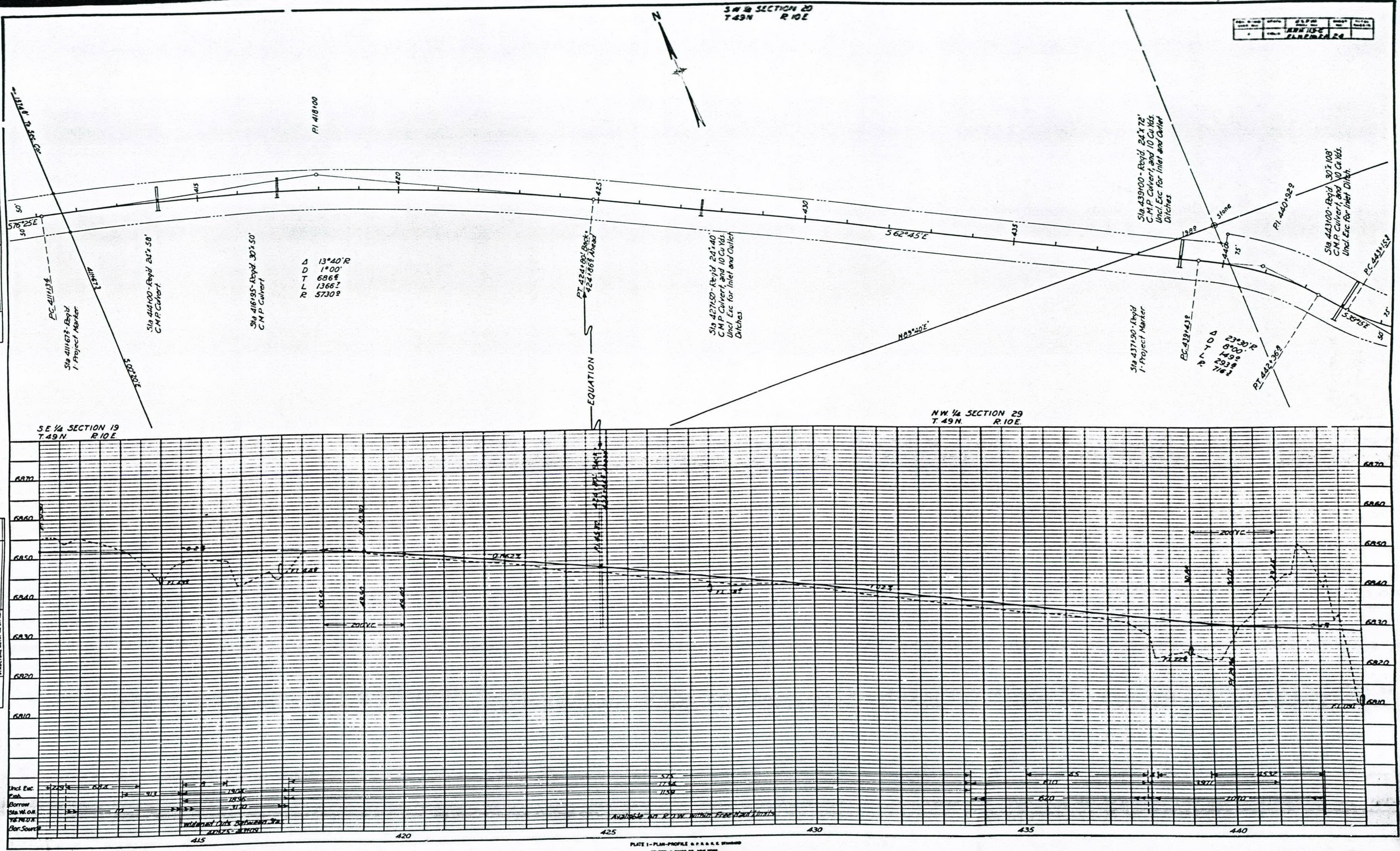
PROFILE		BY	DATE
	SURVEYED		
	PLOTTED		
	GAUGES CHECKED		
	S. M.J. NOTED		



FILE NO. 100-441171	DATE 10/1/68	BY SP-5 J. H. B.	REASON FOR REF. 100-441171	DATE 10/1/68
1	CONFIDENTIAL	NARMS-C ELM 100-441171	23	

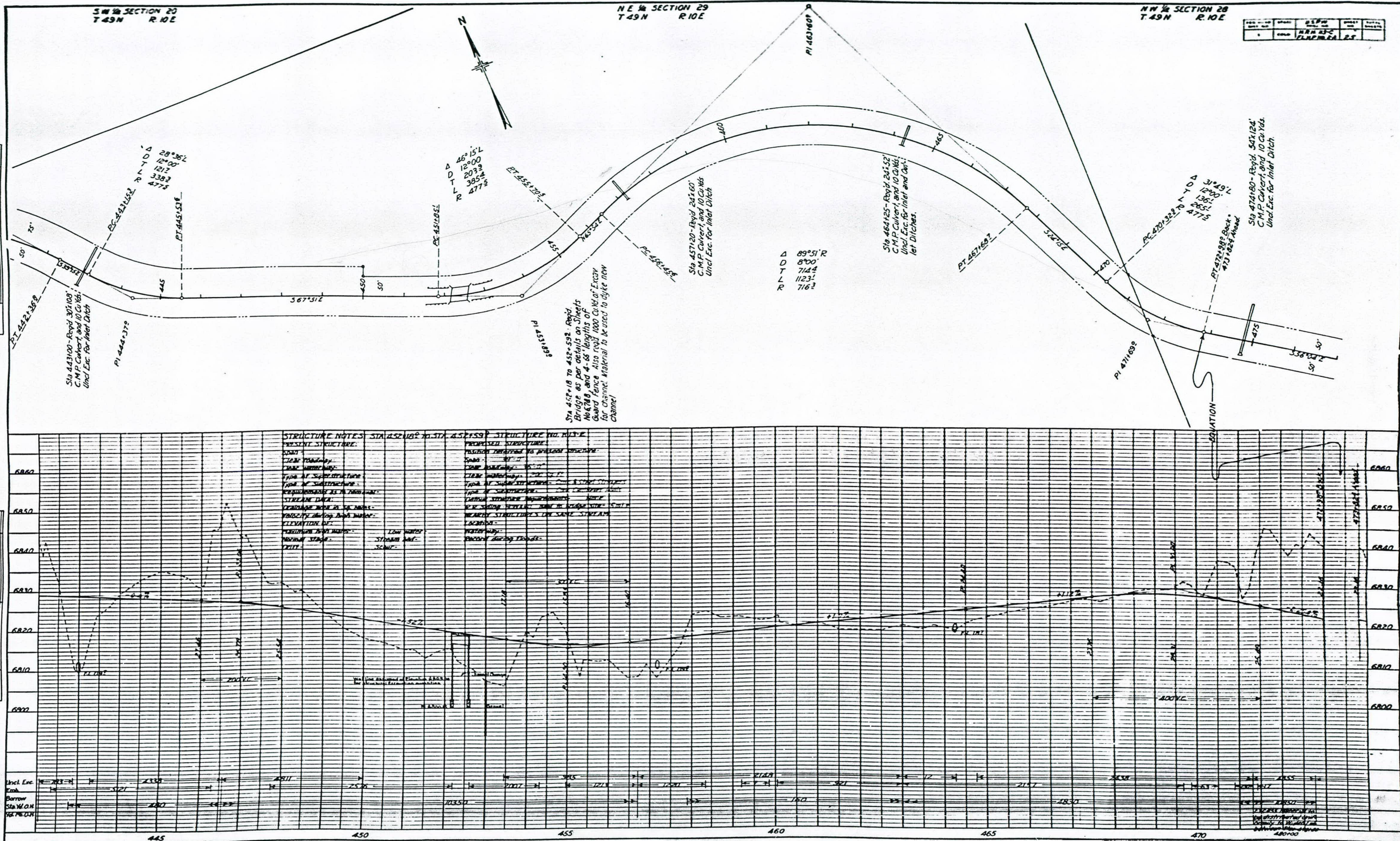
PLAN	DATE
APPROVED	
NOTED	
NOTE BOOK	
NO.	

PROFILE	DATE
APPROVED	
NOTED	
NOTE BOOK	
NO.	



PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
BY	

PROFILE	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
BY	



PLAN	DATE	BY
DESIGNED		
PLANNED		
NOTED		
BY		

PROFILE	DATE	BY
DESIGNED		
PLANNED		
NOTED		
BY		

NO.	DATE	BY
1	1948	J.H. RICE
2	1948	J.H. RICE
3	1948	J.H. RICE
4	1948	J.H. RICE
5	1948	J.H. RICE

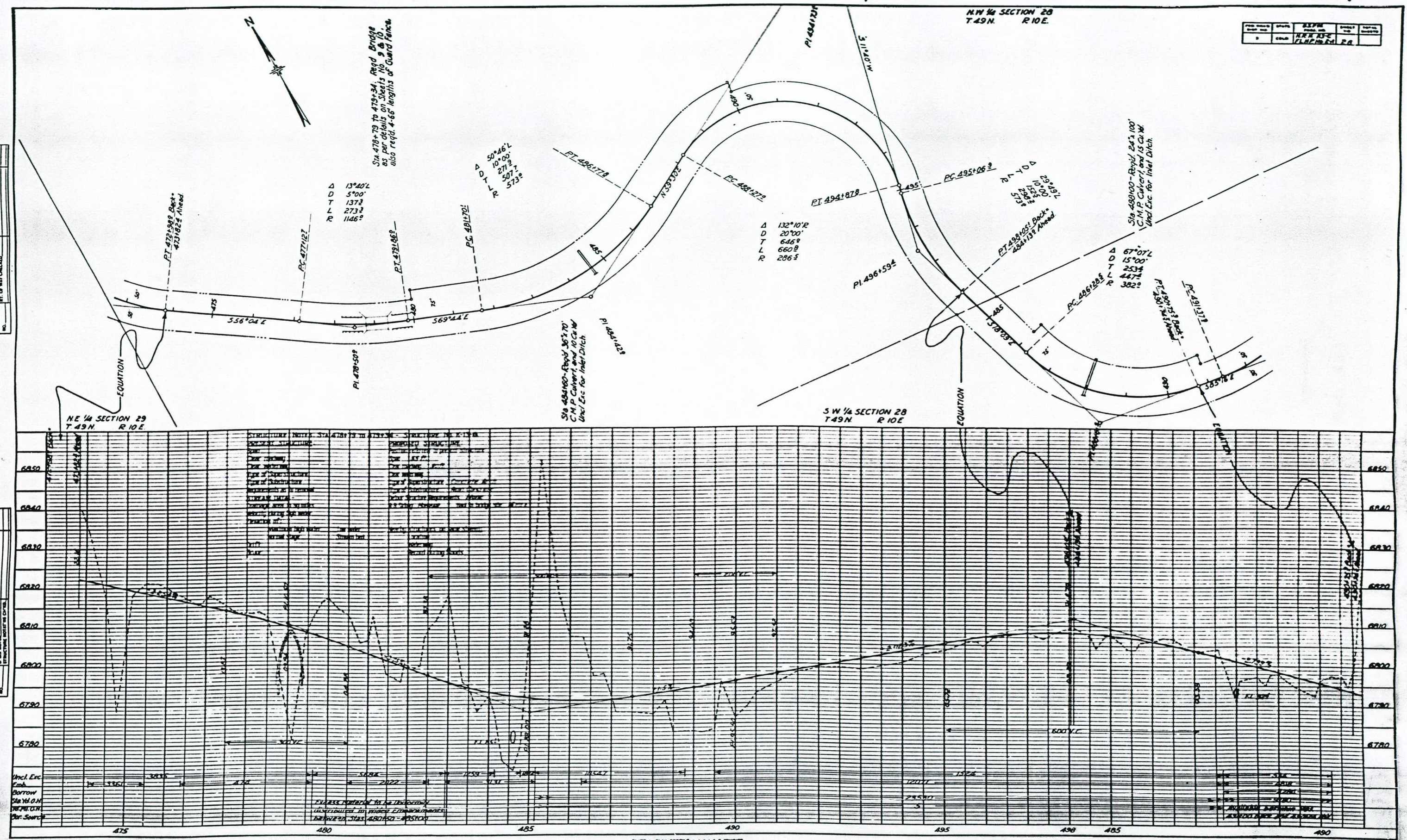


PLATE 1 - PLAN PROFILE & P.E. & S.E. SHEETS
 HUNTER & BROS. CO., NEW YORK

PLAN	DATE	BY
DESIGNED		
PLOTTED		
CHECKED		
NOTE BOOK		
NO.		

PROFILE	DATE	BY
DESIGNED		
PLOTTED		
CHECKED		
NOTE BOOK		
NO.		

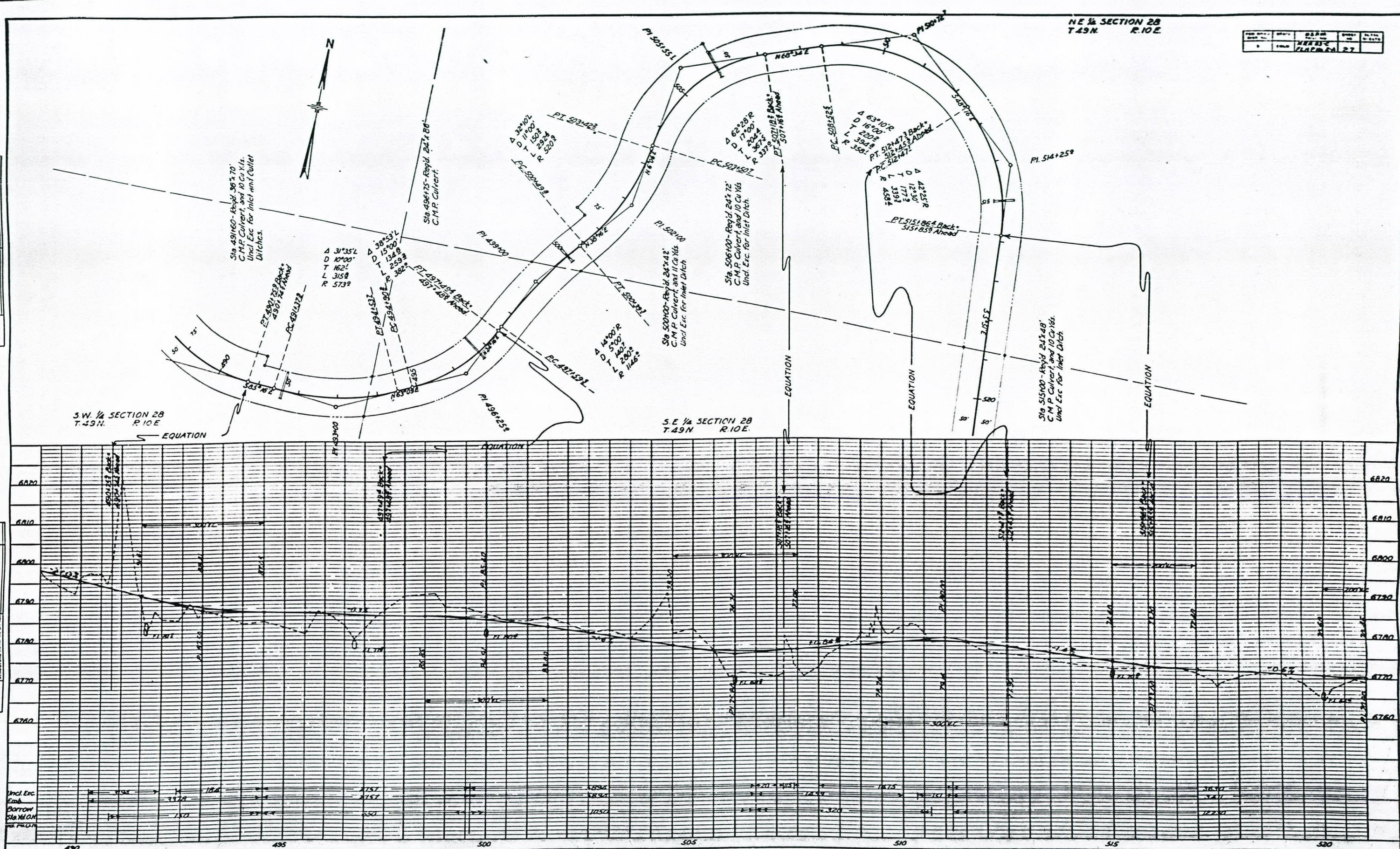


PLATE 1 - PLAN-PROFILE OF ROAD
 RAUP & SONS CO. NEW YORK

PLAN	DATE
DESIGNED	
PLOTTED	
CHECKED	
BY	
DATE	

PROFILE	DATE
DESIGNED	
PLOTTED	
CHECKED	
BY	
DATE	

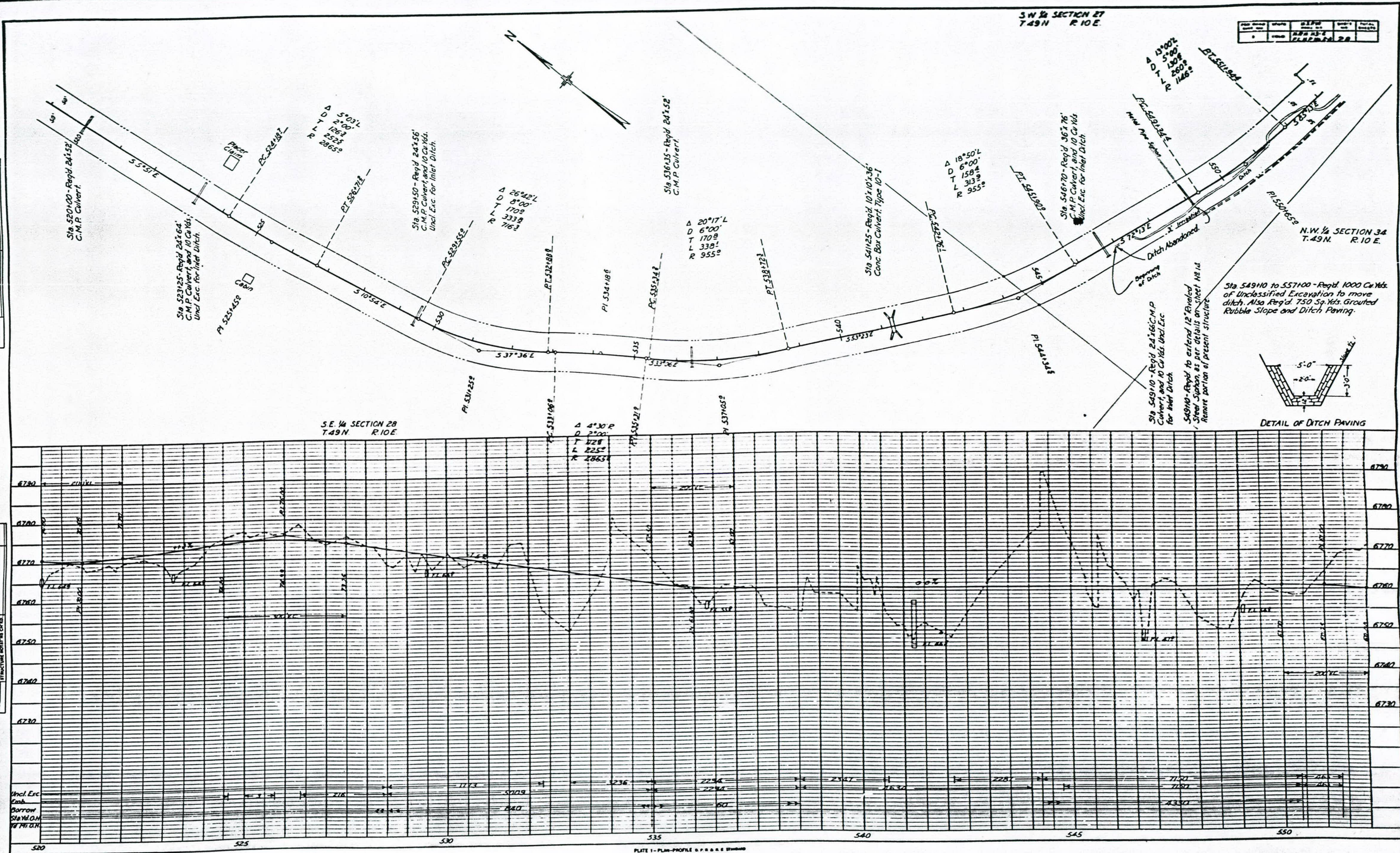


PLATE 1 - PLAN-PROFILE OF ROAD

PLAN	BY		DATE
SURVEYED			
PLOTTED			
ALIGNMENT CHECKED			
ET. OF WAY CHECKED			

PROFILE		WT	DATE
SURVEYED			
PLOTTED			
CHECKED			
BY			
DATE			
NOTED			
NO			
BY			
DATE			

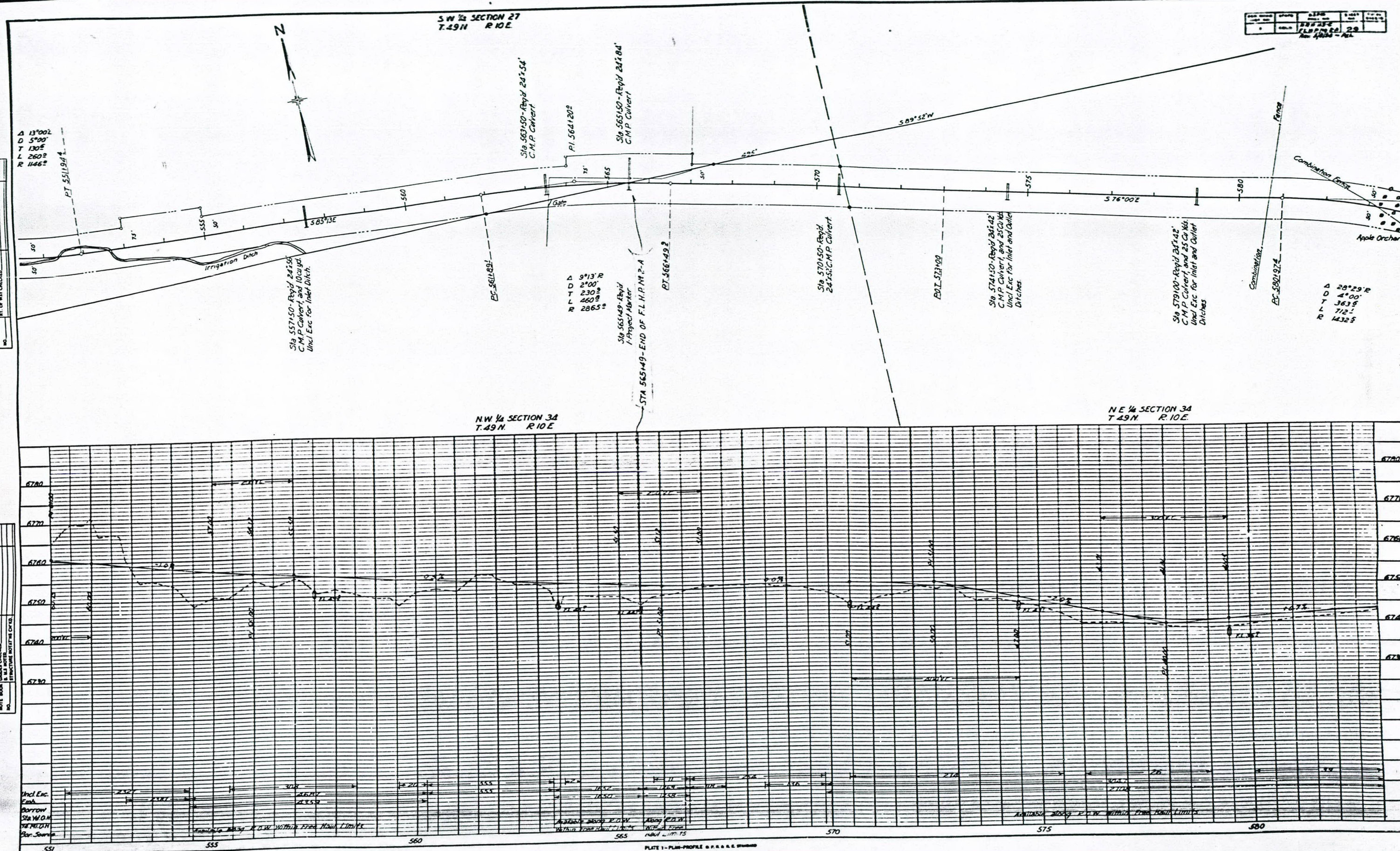
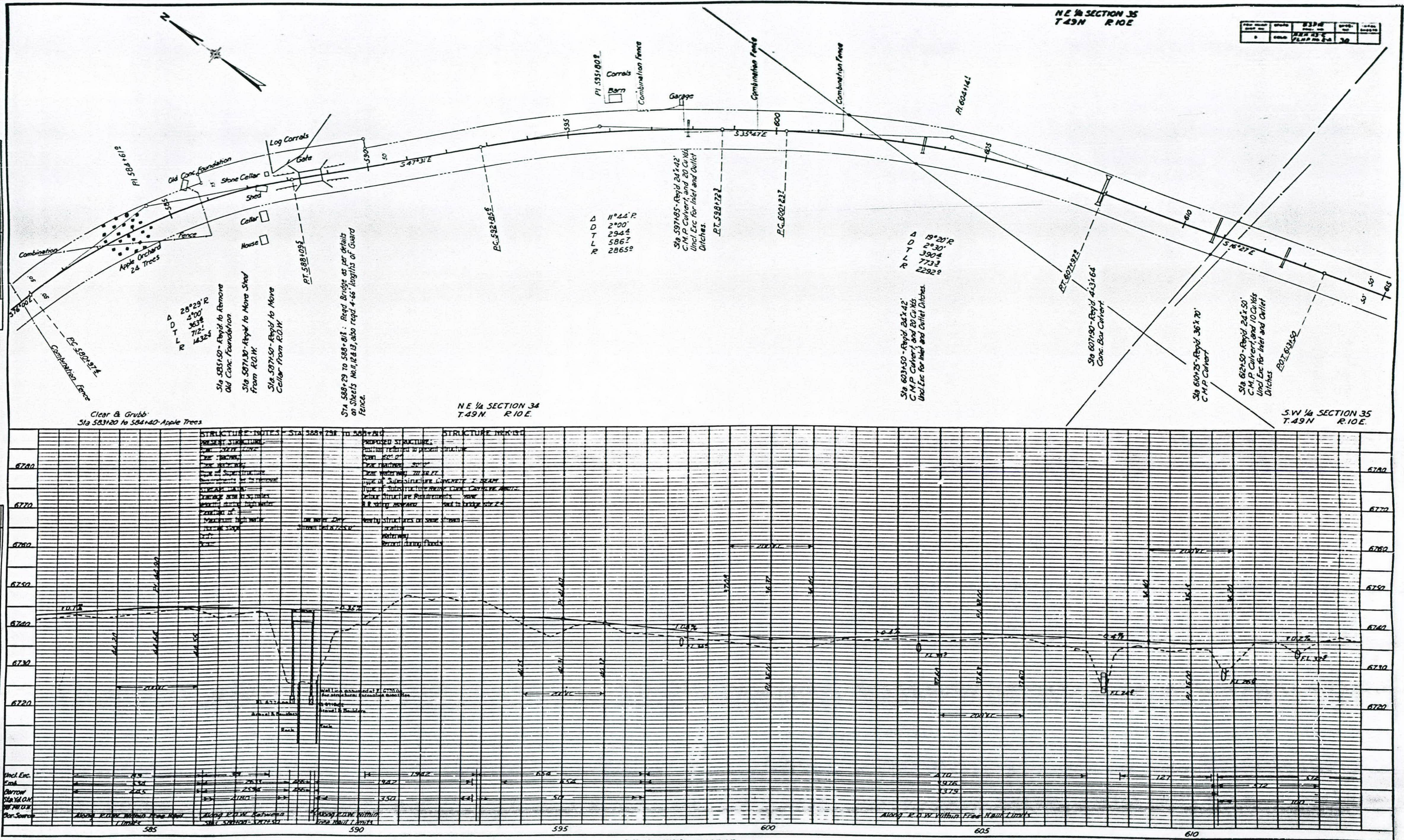


PLATE 1-PLAN-PROFILE OF P.R.R.E. STATION
EDUITE, A. STINE CO. ME & VOM.

PLAN	REVISIONS
NO.	DATE
1	10/1/50
2	10/1/50
3	10/1/50
4	10/1/50
5	10/1/50
6	10/1/50
7	10/1/50
8	10/1/50
9	10/1/50
10	10/1/50

PROFILE	REVISIONS
NO.	DATE
1	10/1/50
2	10/1/50
3	10/1/50
4	10/1/50
5	10/1/50
6	10/1/50
7	10/1/50
8	10/1/50
9	10/1/50
10	10/1/50



PROFILE	BY	DATE
SURVEYED		
PLOTTED		
Gauges checked		
NOTE BOOK		
NO.		
STRUCTURE NOTATION CHECKED		

