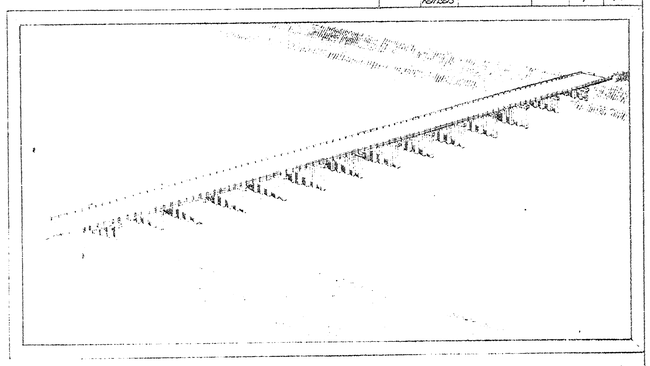
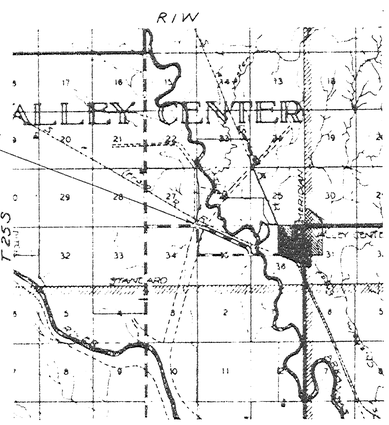
Pub. Rd. Div. No.	State	Project No.	Fiscal Year	Sheet No.	Total Sheets
	Kansas			1	10

STATE OF KANSAS
STATE HIGHWAY COMMISSION
SEDGWICK COUNTY

PLAN AND PROFILE



INDEX OF SHEETS



CONVENTIONAL SIGNS

COUNTY LINE --------
SECTION LINE----------
WIRE FENCE --------
HEDGE ROW -------
RAILROAD ----------
SURVEY LINE--------
RIGHT OF WAY-------
TELEPHONE --------
POWER POLE--------
TRAVELED WAY------
CITY LIMITS ----------
TOWNSHIP BOUNDRY--

GROSS LENGTH OF PROJECT	532.75 FT
EXCEPTIONS	NONE
ADDITIONS	NONE
NET LENGTH OF PROJECT	532.75 FT
NET LENGTH OF BRIDGES	532.75 FT.

PLANS PREPARED BY.

Rupert S. Kirk
COUNTY ENGINEER
DATE.

APPROVED.

COUNTY COMMISSIONER
DATE.

RECOMMENDED FOR APPROVAL DATE

ENGINEER OF SECONDARY ROADS
STATE HIGHWAY COMMISSION OF KANSAS

RECOMMENDED FOR APPROVAL DATE

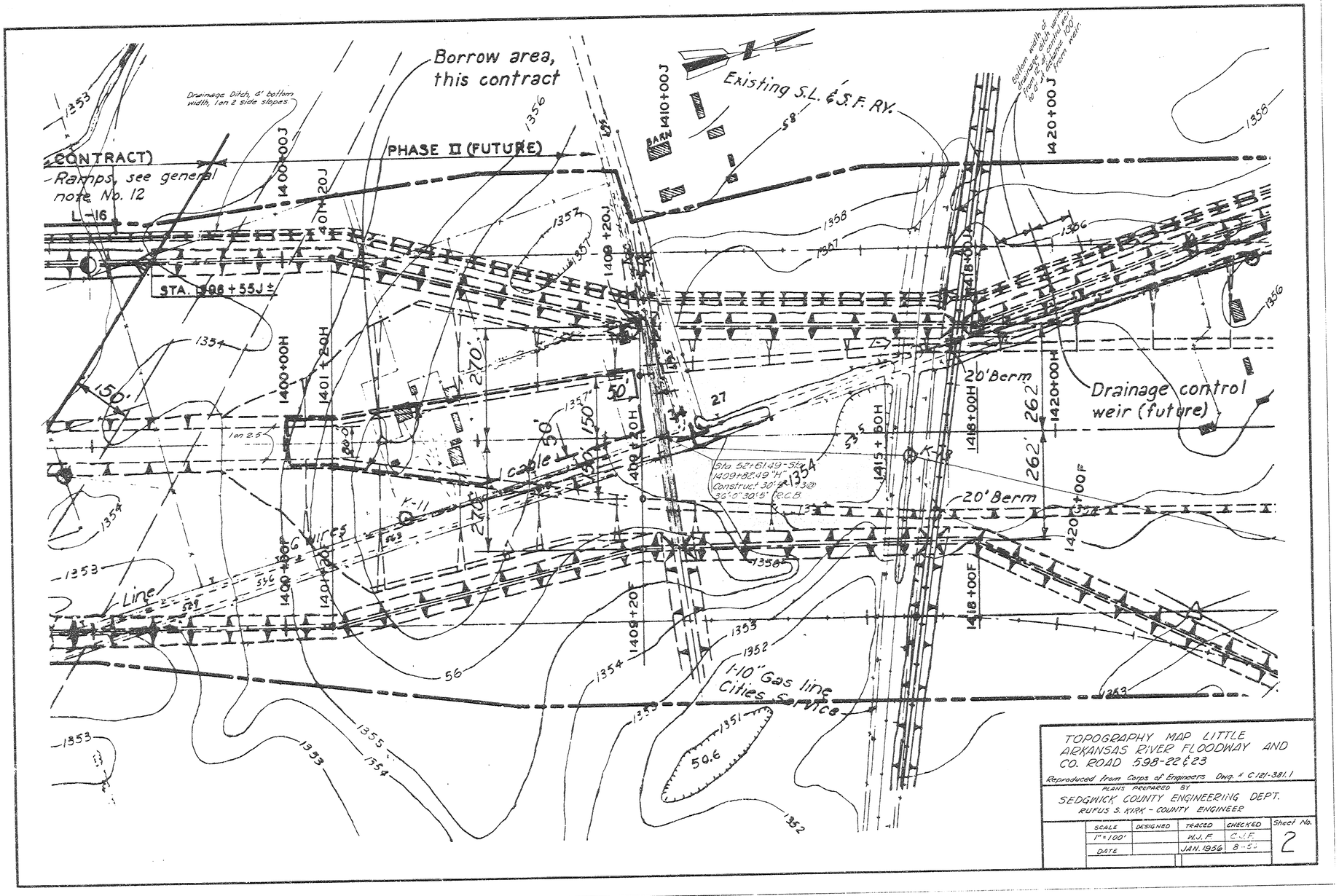
DISTRICT ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

APPROVED DATE

STATE HIGHWAY ENGINEER
STATE HIGHWAY COMMISSION OF KANSAS

APPROVED DATE

DIVISION ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

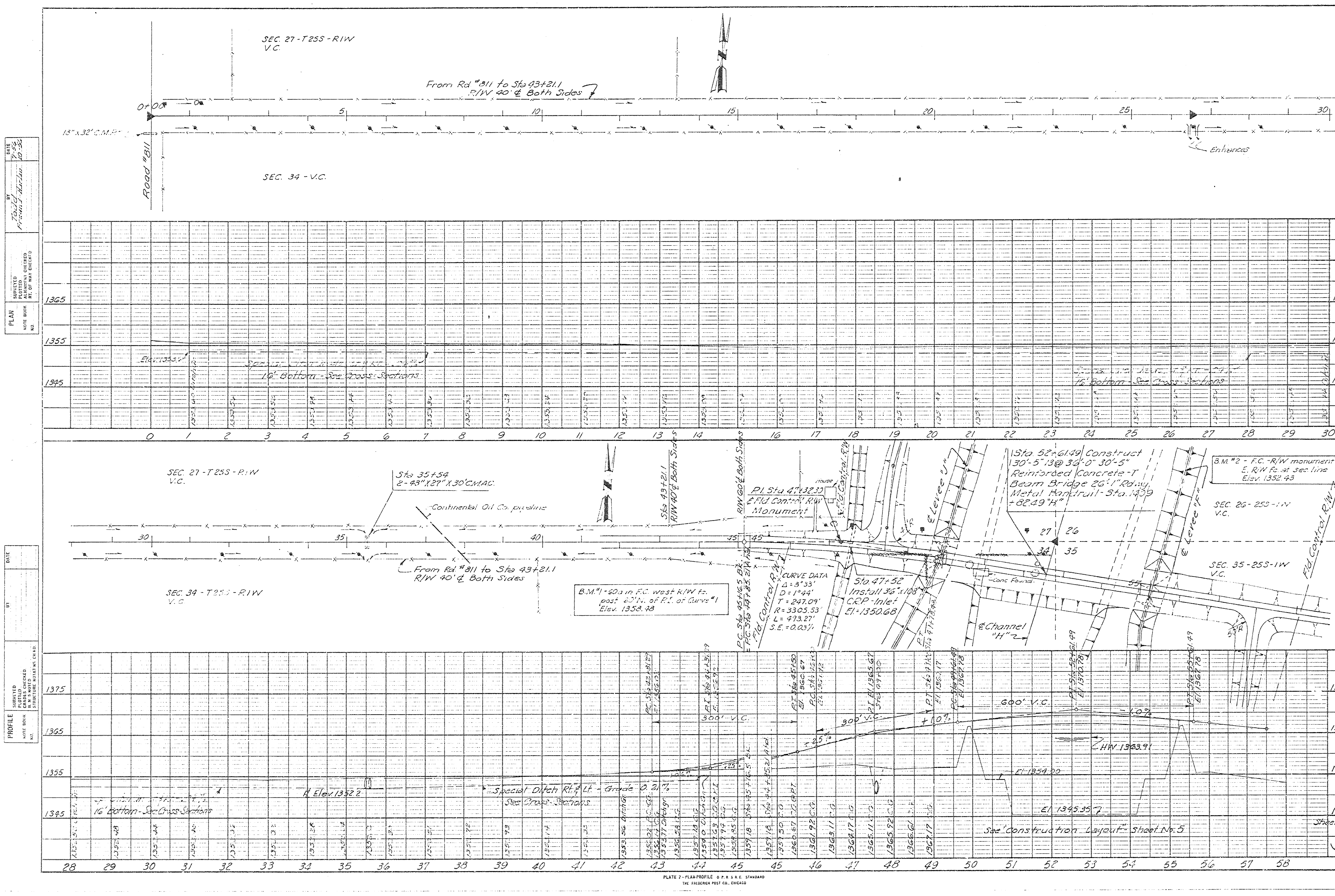


TOPOGRAPHY MAP LITTLE ARKANSAS RIVER FLOODWAY AND CO. ROAD 598-22 & 23

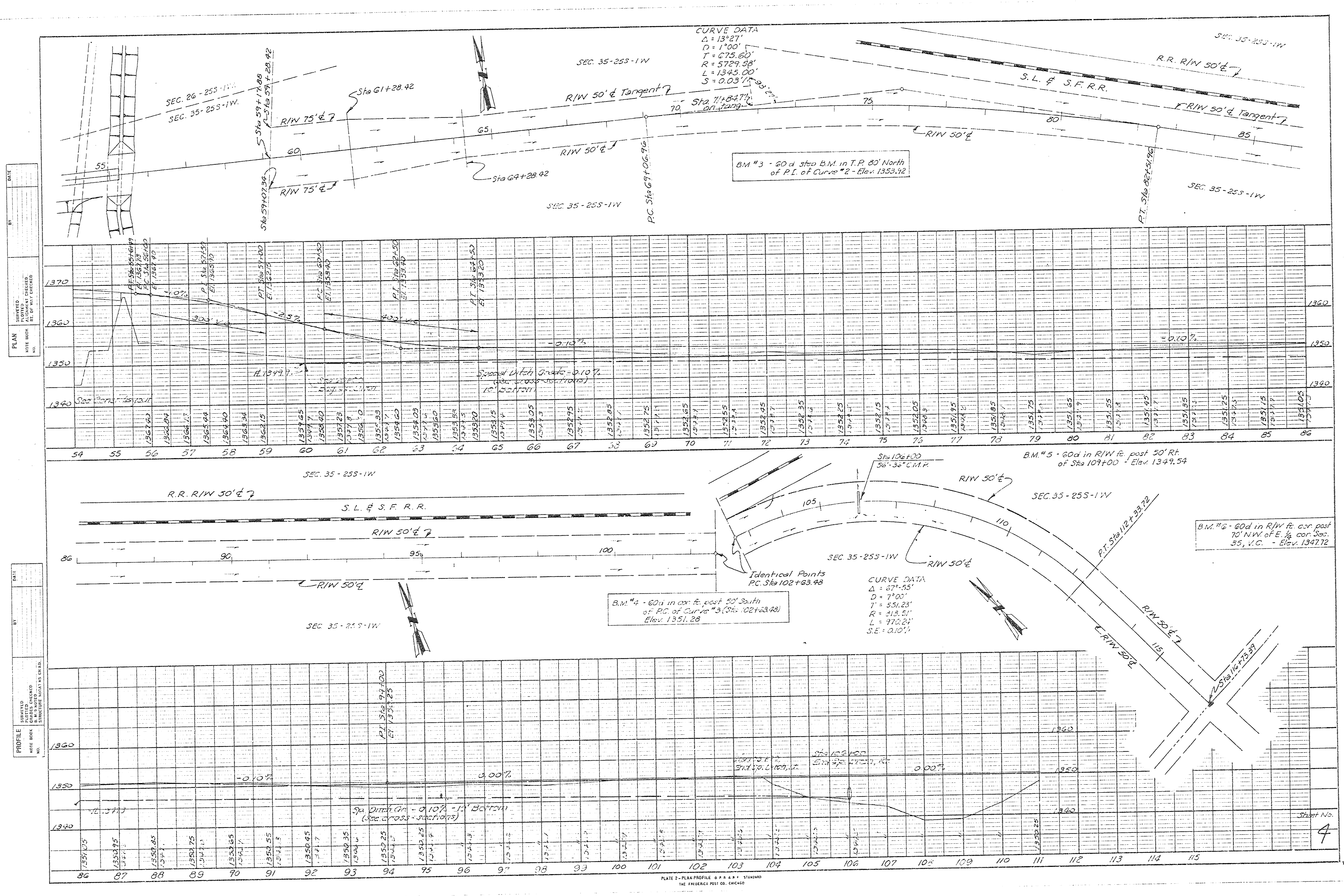
Reproduced from Corps of Engineers Dwg. # C 121-381.1

PLANS PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK - COUNTY ENGINEER

SCALE	DESIGNED	TRACED	CHECKED	Sheet No.
1"=100'		W.J.F.	C.M.F.	2
DATE		JAN. 1956	8-5-56	



SEC. 27 - T25S - R1W
V.C.
From Rd #811 to Sta 43+21.1
R/W 40' ℄ Both Sides
SEC. 34 - V.C.
Road #811
Enhances
PLAN
PROFILE
1365
1355
1345
16' Bottom - See Cross Sections
SEC. 27 - T25S - R1W
V.C.
Sta 35+54
Continental Oil Co. pipeline
From Rd #811 to Sta 43+21.1
R/W 40' ℄ Both Sides
SEC. 34 - T25S - R1W
V.C.
B.M. #1 - 60d in F.C. west R/W fence post
Elev. 1358.48
CURVE DATA
Δ = 3°33'
D = 1°44'
T = 247.09'
R = 3305.53'
L = 473.27'
S.E. = 0.03'/'
Sta 47+52
Install 36" x 108' CRP - Inlet
El 1350.68
℄ Channel "H-2"
℄ Levee "J"
℄ Levee "F"
Sta 52+61.49 Construct
30'-5" 13 @ 32'-0" 30'-5"
Reinforced Concrete - T
Beam Bridge 26'-1" Rdwy
Metal Handrail - Sta. 1339
+82.49 "H"
B.M. #2 - F.C. R/W monument in E. R/W Fc at sec line
Elev. 1352.43
SEC. 26 - 25S - 1W
V.C.
SEC. 35 - 25S - 1W
V.C.
Fld Control R/W
1375
1365
1355
1345
300' V.C.
300' V.C.
600' V.C.
HW 1363.91
El 1354.00
El 1345.35
H Elev 1352.2
Special Ditch Rt & Lt - Grade 0.31%
See Cross Sections
16' Bottom - See Cross Sections
See Construction Layout - Sheet No. 5
Sheet No.
3
PLATE 2 - PLAN-PROFILE
THE FREDERICK POST CO. CHICAGO


CURVE DATA
Δ = 13°27'
D = 1°00'
T = 675.60'
R = 5729.58'
L = 1345.00'
S = 0.03'/Ft.
SEC. 26 - 25S - 1W.
SEC. 35 - 25S - 1W.
R/W 50' ℄ Tangent
R.R. R/W 50' ℄
S.L. & S.F. R.R.
R/W 50' ℄ Tangent
R/W 75' ℄
R/W 50' ℄
Sta 61+28.42
Sta 64+28.42
P.C. Sta 69+06.46
P.T. Sta 82+51.46
BM #3 - 60d spk B.M. in T.P. 60' North of P.I. of Curve #2 - Elev. 1353.42
Special Ditch Grade - 0.10%
-0.10%
PLAN
PROFILE
B.M. #5 - 60d in R/W fc. post 50' Rt. of Sta 109+00 - Elev. 1349.54
B.M. #6 - 60d in R/W fc. cor. post 70' N.W. of E. ¼ cor. Sec. 35, V.C. - Elev. 1347.72
B.M. #4 - 60d in cor. fc. post 50' South of P.C. of Curve #3 (Sta. 102+63.48) Elev. 1351.28
Identical Points P.C. Sta 102+63.48
CURVE DATA
Δ = 67°-55'
D = 7°00'
T = 551.23'
R = 818.51'
L = 970.24'
S.E. = 0.10'/Ft.
SEC. 35 - 25S - 1W
P.T. Sta 112+33.72
Sta 116+15.39
0.00%
Sp. Ditch Gr. - 0.10% - 12' Bottom (See cross-sections)
Sheet No. 4
PLATE 2 - PLAN-PROFILE
THE FREDERICK POST CO. CHICAGO

Kansas	598-22-5261	1957	5	

Sta. 52+61.49 Construct
30'-5" 13 @ 36'-0" 30'-5"
Reinforced Concrete Bridge
26'-1" Rdwy. Metal Hdrl.

8'-00'-00" Clear

℄ Brg.

Sand & gravel backing
Heavy rip-rap to be
furnished & installed by Sedg.
County on channel & channel slope.

Sand & gravel backing
Heavy Rip-Rap to be furnished
& installed by Sedgwick County
on river bank and levee slope.

℄ LEVEE "F"

℄ LEVEE "J"

50 51 52 53 57 55

30'-0"

30'-0"

℄ CHANNEL "H"

℄ Bridge & Road Relocation

End to end wearing surface 532'-9"

1'-11½" 30'-5" 36'-0" 36'-0" 36'-0" 36'-0" 36'-0" 36'-0" 36'-0" 36'-0" 36'-0" 36'-0" 36'-0" 36'-0" 36'-0" 36'-0" 36'-0" 30'-5" 1'-11½"

Abut #1 Sta. 49+63.17 C.G. El. 1368.12

Pier #1 Sta. 50+23.49 C.G. El. 1368.37

Pier #2 Sta. 50+63.49 C.G. El. 1368.63

Pier #3 Sta. 51+03.49 C.G. El. 1368.84

Pier #4 Sta. 51+43.46 C.G. El. 1368.02

Pier #5 Sta. 51+83.49 C.G. El. 1369.15

Pier #6 Sta. 52+23.49 C.G. El. 1369.23

Pier #7 Sta. 52+63.49 C.G. El. 1369.28

Sta. 52+68.68 ℄ Bridge

Pier #8 Sta. 53+03.49 C.G. El. 1369.28

Pier #9 Sta. 53+43.49 C.G. El. 1369.23

Pier #10 Sta. 53+83.49 C.G. El. 1369.15

Pier #11 Sta. 54+23.49 C.G. El. 1369.02

Pier #12 Sta. 54+63.49 C.G. El. 1368.84

Pier #13 Sta. 54+79.49 C.G. El. 1368.63

Pier #14 Sta. 54+95.49 C.G. El. 1368.37

Abut #2 Sta. 55+12.91 C.G. El. 1368.12

1370 1360 1350 1340 1330 1320

2:1 Rock Ker 3:1 Type C Type C Fixed Fixed Fixed Fixed Fixed Fixed Fixed Type C Type C Rocker 2:1 3:1

El. 1363.91

135400 2.5:1 El. 1345.35 2.5:1 135400

16"x16" Reinf. Conc. or 12"x12"x36 Pre-Str. Pile

14"x14" Reinf. Conc. or 12"x12"x49 Pre-Str. Pile

14"x14" Reinf. Conc. or 12"x12"x36 Pre-Str. Pile

14"x14"x90 R.C. Pile or 12" x 12" x 90 Pre-Str. Conc. Pile

1370 1360 1350 1340 1330 1320

ELEVATION
Scale 1"=20'

P.I. Sta 52+61.49
Elev 1370.38

+1.0% -1.0%

600' V.C.

FLOODWAY DATA

Top of Levee "F" El. 1366.32
Top of Levee "J" El. 1366.90
Bottom of channel El. 1345.35
Highwater El. 1363.91
Width of channel @ bottom
Side slopes of channel 1 on 2.5
Side slopes of Levees 1 on 3
Width of floodway, ctr. to ctr. of levees 524'
Estimated flow
Estimated Velocity

GENERAL NOTES

Design: According to A.A.S.H.O. Specifications, Edition of 1953 M 120-44 Loading; f_s = 20,000 psi; f'_c = 1,200 psi.

Soundings: Taken by SEDGWICK COUNTY with ¾" jet.

Piling: Concrete piling to be driven to a computed resistance of 24 tons per pile.

Concrete: Use class A(AE) concrete throuout. Bevel all exposed edges with a ¾" triangular molding.

Forms: Contractor shall use prefabricated metal forms owned by SEDGWICK COUNTY.

Embankment: To be Constructed by SEDGWICK COUNTY or others.

GENERAL CONSTRUCTION NOTES

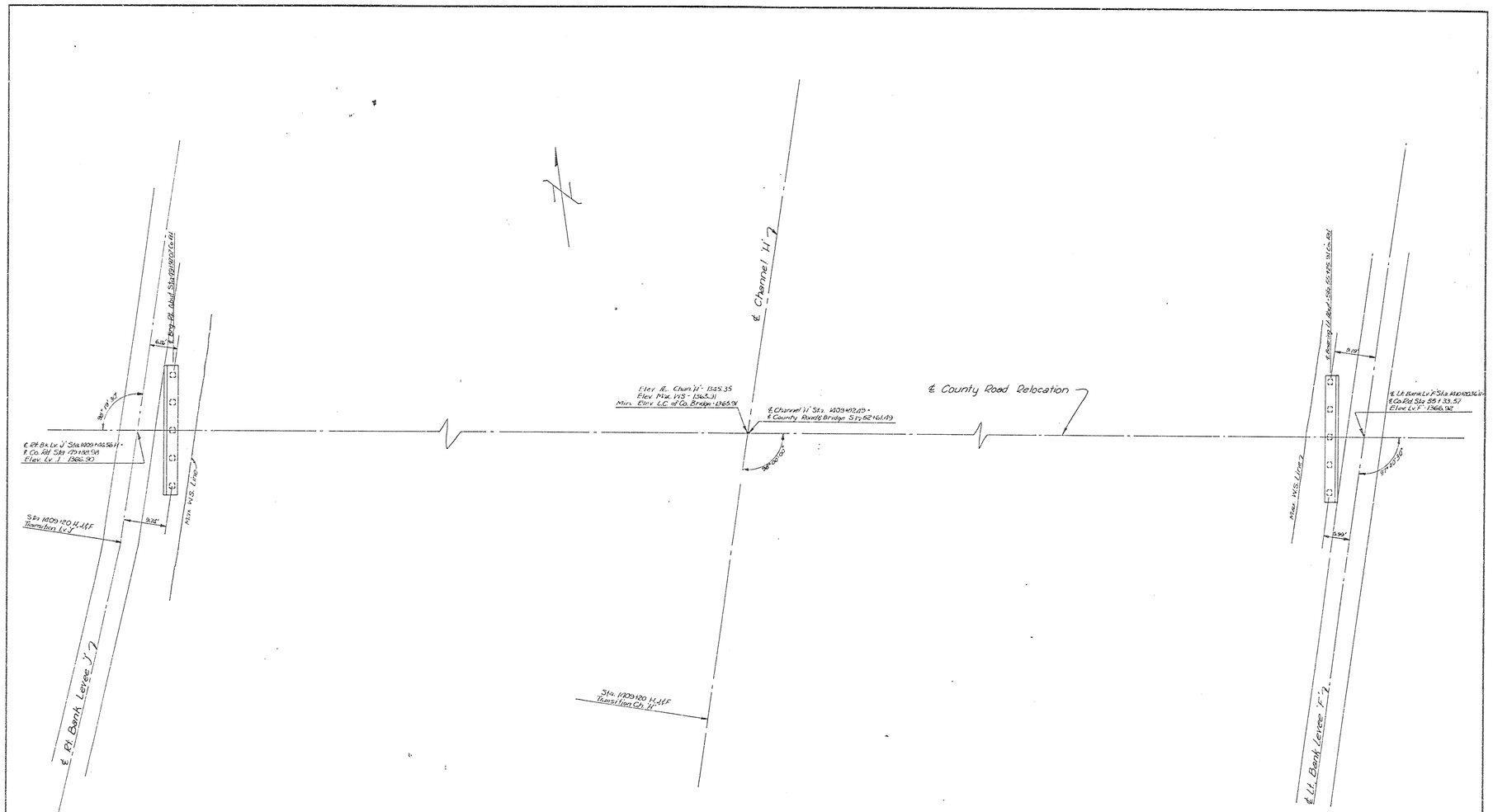
Timber cribbing at centerline of each span on this project will be required.
Two sets of short forms and five sets of long forms are available for these projects. Since the concrete in a full span ahead of any forms to be removed must have attained its design strength before removal of these forms, it is suggested that high early strength cement be used.
Forms for these projects shall be picked up by Contractor at the SEDGWICK COUNTY YARDS, 10.5 Shillovell, Wichita, and returned to this location unless otherwise instructed by the Engineer. (See "Special Provisions" in Specifications & Proposal Section).
The wearing surface and all other exposed surfaces of wings, caps, abutments and piling shall be cured and protected in accordance with Section 5043 of the Standard Specifications for State Road & Bridge Construction, Edition of 1955. As an alternate, a curing type curing compound applied immediately after finishing of concrete, and covered with dry burlap, or any suitable material satisfactory to the Engineer in charge, for a minimum of 72 hours may be used.

Since the speed and simplicity of these projects will be greatly increased if construction is well underway before the waterway and levees are constructed, work on framing of piling must start within two weeks and pile driving must start within three weeks after the contract is let. A trench 9'-32' x10' to be excavated before setting piling and backfilled before any form work for caps proceeds at each pier location in channel way. Excavation and back filling not to be paid for directly, but shall be included in the unit price bid for concrete piling.

CONSTRUCTION LAYOUT
BRIDGE NO. 598-22-5261

PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	1"=20'	CJF	JRG	CJF	5
	DATE	8-15-56	8-20-56	10-22-1956	
	PLANFILE		TOTAL SHEETS 10		



LOCATION OF ABUTMENTS IN LEVEES
SECTIONS 34 & 35-25S-1W

PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER

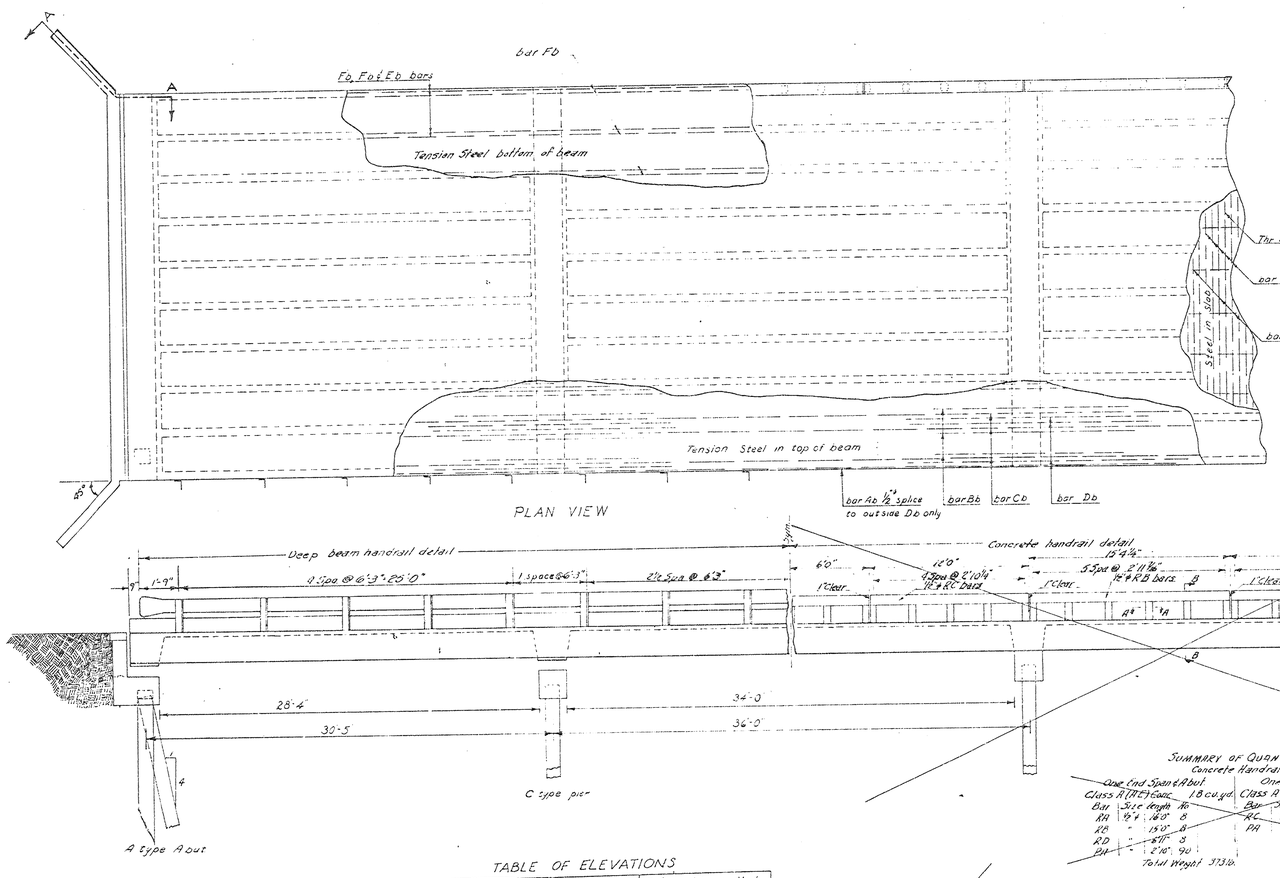
REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	1" = 10'	M.S.M.	W.J.F.	W.J.F.	6
	DATE	3-56	9-56	9-56	
	PLANFILE		TOTAL SHEETS 10		

598-22&23

Sht. # 6 of 10

GENERAL NOTES

Design: Designed for H-20-44 loading AASHO specifications f_s=20,000psi, f_c=1,000psi.
Soundings: To be taken by Sedgwick County.
Piling: Concrete piling to be driven to a Calculated resistance of 28 ton.
Old Struct: To be removed by Sedgwick County.
Concrete: Class A(AE) concrete used throughout Barel all exposed edges with a ¾" - 45° molding unless otherwise noted. Forms shall be preformed steel "pans" used as directed by the Engineer in charge.
Guardrail: To be of standard deep beam as shown on Construction Layout.



SUMMARY OF QUANTITIES
Concrete Handrail

One End Span & Abut.
Class A(AE) Conc. 1.8 cu.yd.

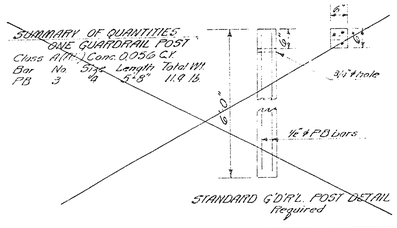
Bar	Size	Length	No.
RA	½"	16'0"	8
RB	"	15'0"	8
RD	"	5'11"	8
RA	"	5'10"	90

Total Weight 3130.

One Int. Span
Class A(AE) Conc. 1.8 cu.yd.

Bar	Size	Length	No.
RC	½"	11'8"	29
RA	"	2'10"	90

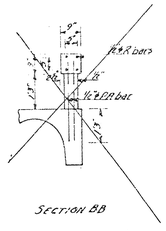
Total Weight 3571b.



STANDARD G'DRL. POST DETAIL
Required

TABLE OF ELEVATIONS

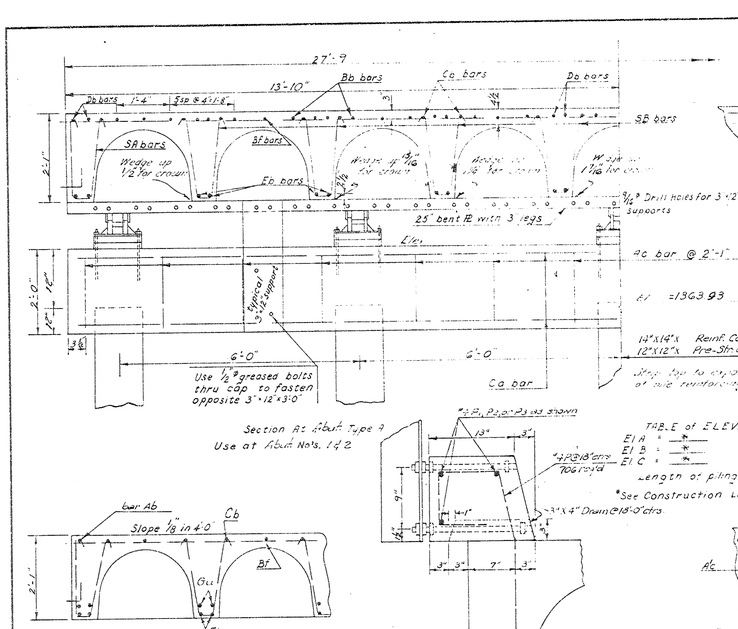
No.	Crown Grade	Bottom of Cap at Abut.
Abutment "1" & 2	El. 1368.12	El. 1362.93
Piers "1" & 4	El. 1368.37	El. 1364.16
Piers "2" & 3	El. 1368.63	El. 1364.42
Piers "3" & 2	El. 1368.84	El. 1364.63
Piers "4" & 1	El. 1369.02	El. 1364.81
Piers "5" & 0	El. 1369.15	El. 1364.94
Piers "6" & 9	El. 1369.23	El. 1365.02
Piers "7" & 8	El. 1369.28	El. 1365.07

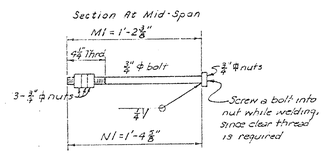


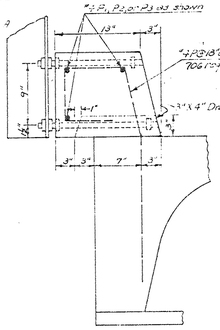
RE. CONC. MODIFIED T-BEAM BRIDGE
GENERAL DETAILS
BRIDGE NO. 598-22-5261

PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER

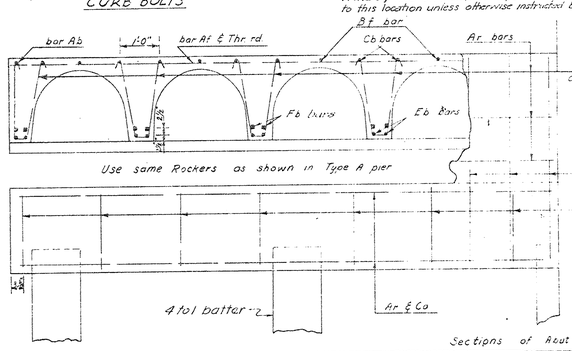
REVISED per A.A.S.	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	1/4" = 1'	R.R.J.	C.D.H.	C.J.F.	7
	DATE	9-50	9-18-50	10-22-50	
	PLANFILE		TOTAL SHEETS	10	







Note:
72' of curb forms are available for this project. Said forms shall be picked up by Contractor at the SEDGWICK COUNTY YARDS, 1015 Shillwell, Wichita, and returned to this location unless otherwise instructed by the Engr.



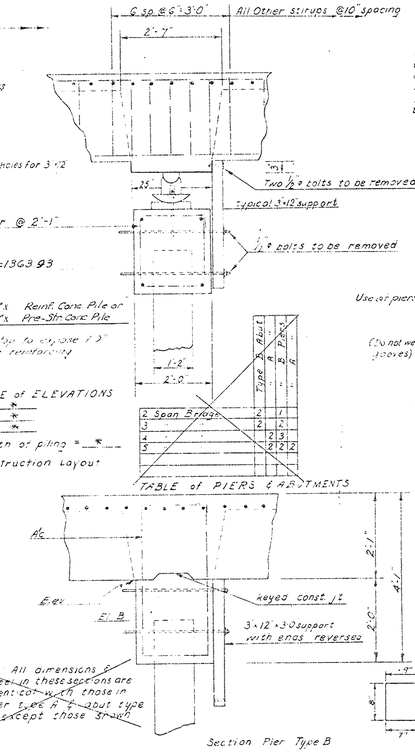


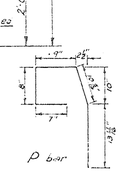
TABLE of ELEVATIONS

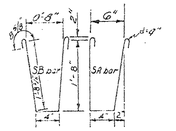
El A =	ft
El B =	ft
El C =	ft

Length of piling = ft

*See Construction Layout

Note: All dimensions & steel in these sections are identical with those in Pier Type B except those shown

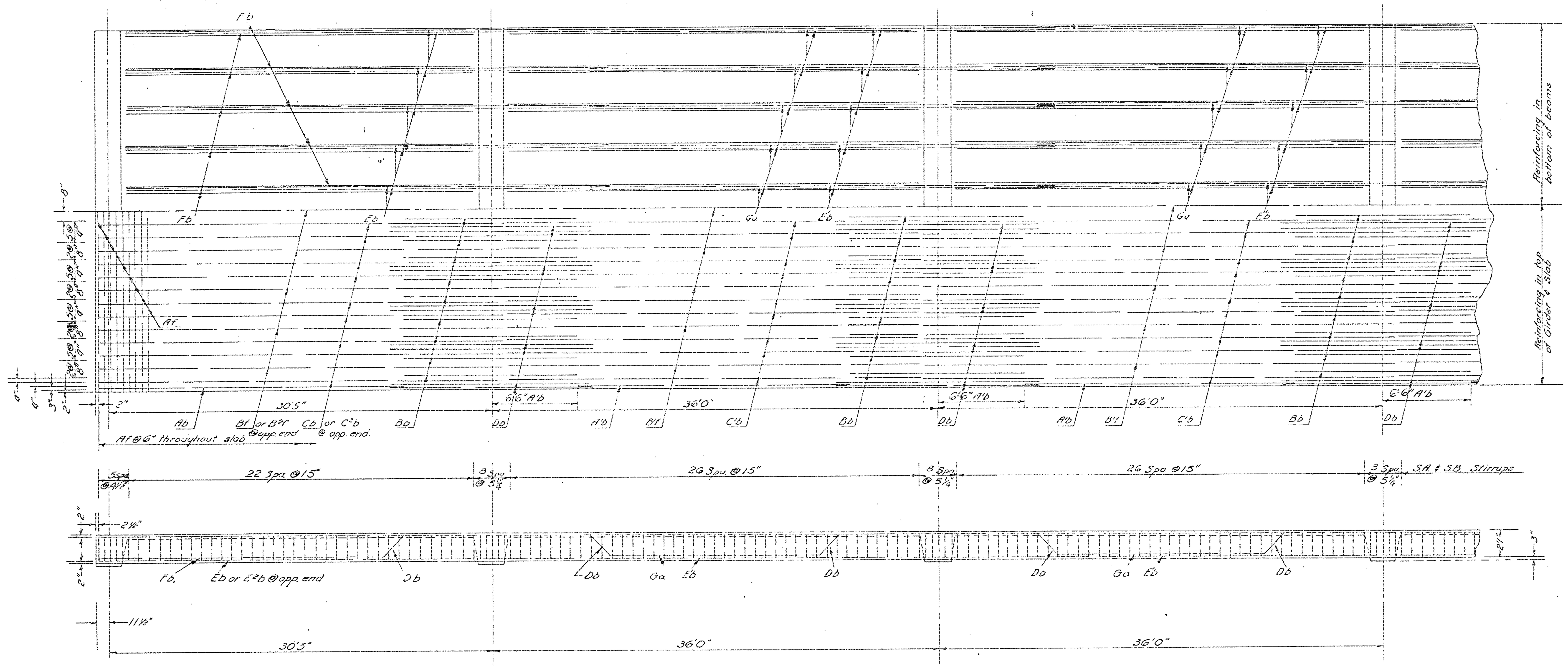


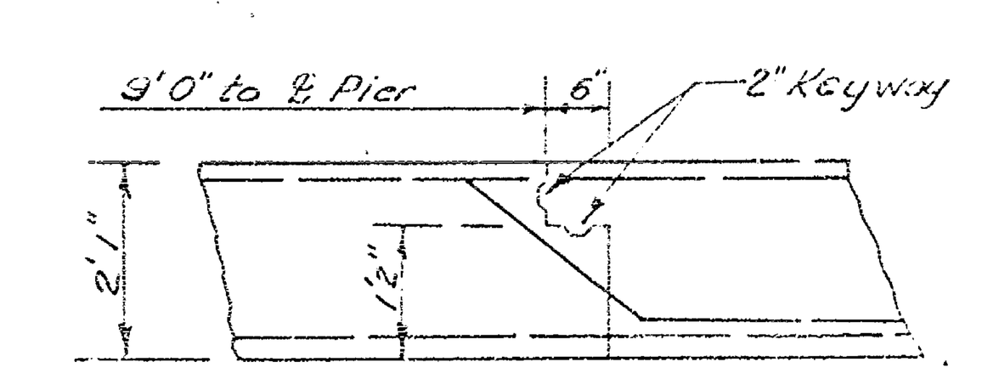

Ba bar
32
Bending Diagrams

REINFORCING DETAIL
BRIDGE NO. 598-22-5261

PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	1/4" = 1'0"	M.E.S.		CJF	9
	DATE	3-52		10-56	
	PLANFILE		TOTAL SHEETS 10		





TYPICAL CONSTRUCTION JOINT

SUMMARY OF QUANTITIES

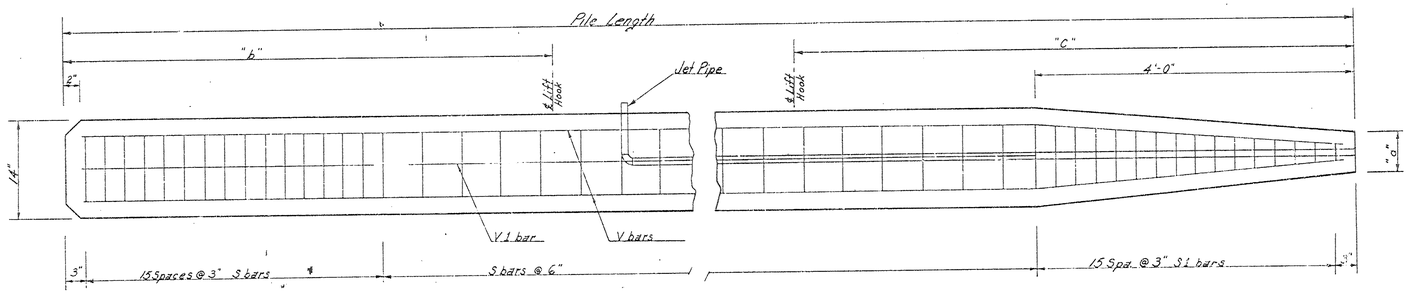
30'5" - 13 @ 36' - 30'5" Continuous Spans; 26'-1" Roadway; Metal Handrail

Bar	Aa	A'a	Ar	Ba	Ca	Ac	A'c	Ab	A'b	Af	Bb	Bf	B'f	Cb	C'b	Db	Eb	E'b	Fb	Ga	SA	SB	Thr Rod	P	P_1	P_2	P_3	E^2b	B^2f	C^2b
No.	84	24	12	23	84	84	112	4	26	1023	252	9	117	18	237	230	20	260	40	260	1008	4032	38	706	78	6	6	20	9	18
Size	#4	#4	#4	#4	#8	#4	#4	#4	#4	#4	#7	#4	#4	#7	#7	#7	#8	#8	#9	#7	#4	#4	1/2" ϕ	#4	#4	#4	#4	#8	#9	#7
Length	9'8"	*	40'0"	9'8"	27'5"	7'8"	11'8"	25'0"	23'0"	27'4"	17'0"	42'6"	38'0"	42'6"	38'0"	23'6"	42'6"	38'0"	21'7"	16'6"	5'2"	5'2"	28'-3"	4'-0"	31'-0"	32'-0"	31'-0"	21'7"	21'7"	21'7"

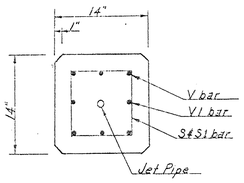
Concrete Class A	710.6	Cu. Yd.	Deep Beam Handrail	1075	Lin. Ft.
Reinforcing Steel	138,790	Lb.	Structural Steel	6582	Lb.
14"x14" Reinf. Conc. or 12"x12" Pre-Str. Pile	3400	L.F.			
Bearing Devices	1800	Lb.			

* Cut 4 bars @ 4'-7"
" " " " 4'-5"
" " " " 4'3"
" " " " 4'-1"
" " " " 3'-11"
" " " " 3'-1"

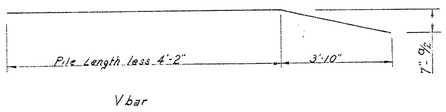
Pub. Rd Div No.	State	Project No.	Fiscal Year	Sheet No.	Total Sheets
5	Kansas				



ELEVATION

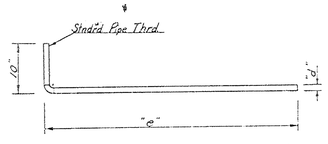


END VIEW

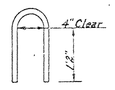


V bar

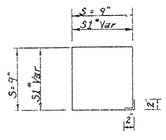
Pile Length	20'6"		24'-6"		28'6"		32'-6"		36'6"		40'-6"	
Bar	Size	Length No.	Size	Length No.	Size	Length No.	Size	Length No.	Size	Length No.	Size	Length No.
V	#7	20'6" 4	#7	24'2" 4	#7	28'2" 4	#7	32'2" 4	#6	36'2" 4	#6	40'2" 4
V1									#6	32'6" 4	#6	36'0" 4
S	#2	3'4" 41	#2	3'4" 49	#2	3'4 57	#2	3'4" 65	#2	3'4" 73	#2	3'4" 81
S1	#2	"Var 15	#2	"Var 15	#2	"Var 15	#2	"Var 15	#2	"Var 15	#2	"Var 15
Lift Hook	#8	3'0" 2	#8	3'0" 2	#8	3'0" 2	#8	3'0" 2	#8	3'0" 2	#8	3'0" 2
Jet Pipe												
"a"	6"		6"		6"		6"		6"		6"	
"b"	6'0"		7'-2"		8'-4"		9'-6"		10'-8"		11'-10"	
"c"	8'-0"		9'-2"		10'-4"		11'-6"		12'-8"		13'-10"	
"d"												
"e"												
"x" "y" "z"	3/4 to 8 3/4 by 1/2		3/4 to 8 3/4 by 1/2		3/4 to 8 3/4 by 1/2		3/4 to 8 3/4 by 1/2		3/4 to 8 3/4 by 1/2		3/4 to 8 3/4 by 1/2	
Concrete	.94 Cu. Yds.		1.14 Cu. Yds.		1.34 Cu. Yds.		1.55 Cu. Yds.		1.75 Cu. Yds.		1.95 Cu. Yds.	
Rebar	209 Lbs.		247 Lbs.		284 Lbs.		321 Lbs.		472 Lbs.		524 Lbs.	



"d" Dia. Jet Pipe



#8 Lift Hook



S#S1 bar

"S1" - 15 bars; increase from "x" to "y" by "z" increments

Pile Length	37'0"		30'-0"		48'-0"							
Bar	Size	Length No.	Size	Length No.	Size	Length No.	Size	Length No.	Size	Length No.	Size	Length No.
V	#6	36'8" 4	#7	49'8" 4	#7	121'8" 4						
V1	#6	33'0" 4	#8	45'10" 4	#8	45'10" 4						
S	#2	3'4" 74	#2	3'-4" 100	#2	3'4" 96						
S1	#2	"Var 15	#2	"Var 15	#2	"Var 15						
Lift Hook	#8	3'0" 2	#8	3'-0" 2	#8	3'-0" 2						
Jet Pipe		1		1		1						
"a"	10"		6"		6"							
"b"	10' 10"		14'-0"		12'-6"							
"c"	11' 11"		16'-0"		14'-8"							
"d"												
"e"												
"x" "y" "z"	3/4 to 8 3/4 by 1/2		3/4 to 8 3/4 by 1/2		3/4 to 8 3/4 by 1/2							
Concrete	1.82 Cu. Yds.		2.43 Cu. Yds		2.33 Cu. Yd.							
Rebar	482 Lbs		956 lb.		918"							

General Notes

Design: According to AASHO Specifications 1949 Edition. Fs=12,000 psi Fc=1,000 psi.
Concrete: Use class A throughout if Piling are to be encased or otherwise protected. Use class A (AE) if piling are to form open bent, unless otherwise noted.
Reinforcing: All dimensions are to center of bars unless otherwise noted.
Jet Pipe: Standard pipe of Dimensions shown unless otherwise approved by Engineer.
Curing: Piling shall be left in forms or otherwise properly cured for at least 7 days. Piling shall not be moved until concrete has attained its design Strength or a minimum of 4 weeks after casting.
Payment: The cost of material and labor used for casting and driving of piles shall be included in the unit bid for concrete piles.
Handling: Piling shall only be lifted by handling hooks or by rigging within 18" of hook location.

14"x14" Re. Conc. Piling
BRIDGE NO. 598-22-5261

PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
		Schwab	Houseman	C.J.F.	10
	DATE	12-51	1-52	10-22-50	
	PLANFILE		TOTAL SHEETS	10	