	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	KANSAS				

BRIDGE ONLY

INDEX OF SHEETS

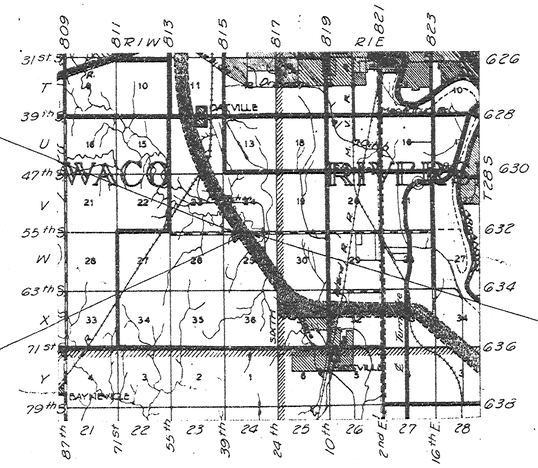
SHEET NO	1	TITLE SHEET
" "	2	TOPOGRAPHY
" "	3	PLAN PROFILE
" "	4	CONSTRUCTION LAYOUT
	5	PIER & ABUTMENT DETAILS
	6	STEEL DETAILS
	7	DECK DETAILS
	8	AUXILIARY DETAILS
	9	STANDARD PILE DETAILS
	10	CAP ELEVATIONS & BRIDGE EXCAVATION

SEDGWICK COUNTY HIGHWAY DEPARTMENT





SCALE 1" = 1 MILE



Sta. 13+68.12 Beginning of Project No. 632-24-1698

Sta. 16+98.12 Construct 36'-0"-13 spans @ 45'-0"-36'-0" Continuous Steel Beam Bridge on Pile Bent Piers-28' Roadway.

Sta. 20+28.12 End of Project No. 632-24-1698

NET LENGTH OF PROJECT	660.0 FT.	0.125 MILES
NET LENGTH OF BRIDGES	660.0 FT.	0.125 MILES
NET LENGTH OF ROAD	None FT.	None MILES
EXCEPTIONS	" FT.	" MILES
ADDITONS	" FT.	" MILES
GROSS LENGTH OF PROJECT	660.0 FT.	0.125 MILES

CONVENTIONAL SIGNS

COUNTY LINE
SECTION LINE
WIRE FENCE
HEDGE ROW
RAILROADS
SURVEY LINE
RIGHT OF WAY
TELEPHONE POLE
POWER POLE
TRAVELED WAY

SENT County Hwy. MAR 14 1959

Received Tulsa Office [illegible] 2 1959

~~State Highway Commission~~

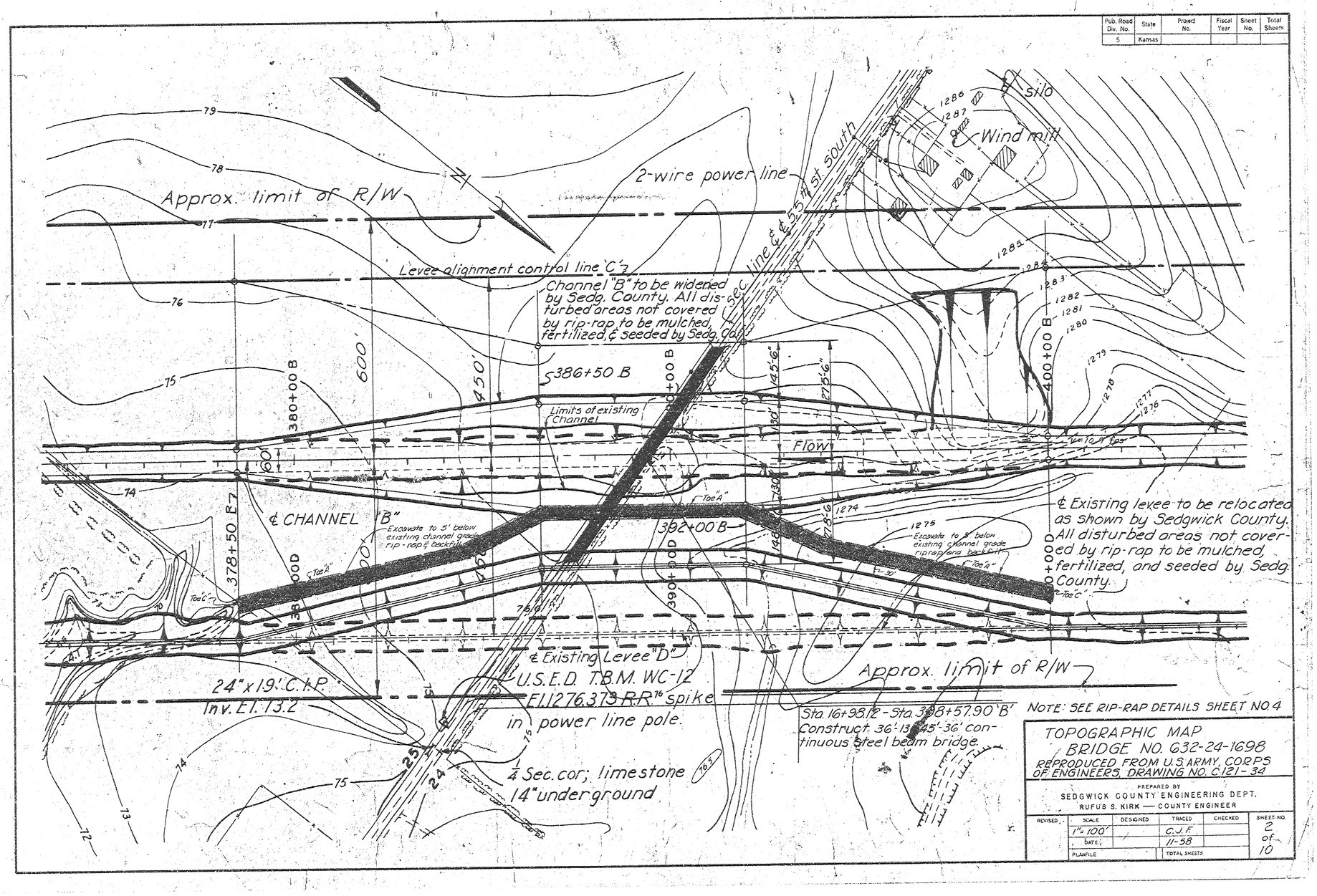
Received County Hwy. MAY 14 1959

PLANS PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPARTMENT
DATE APRIL 1959

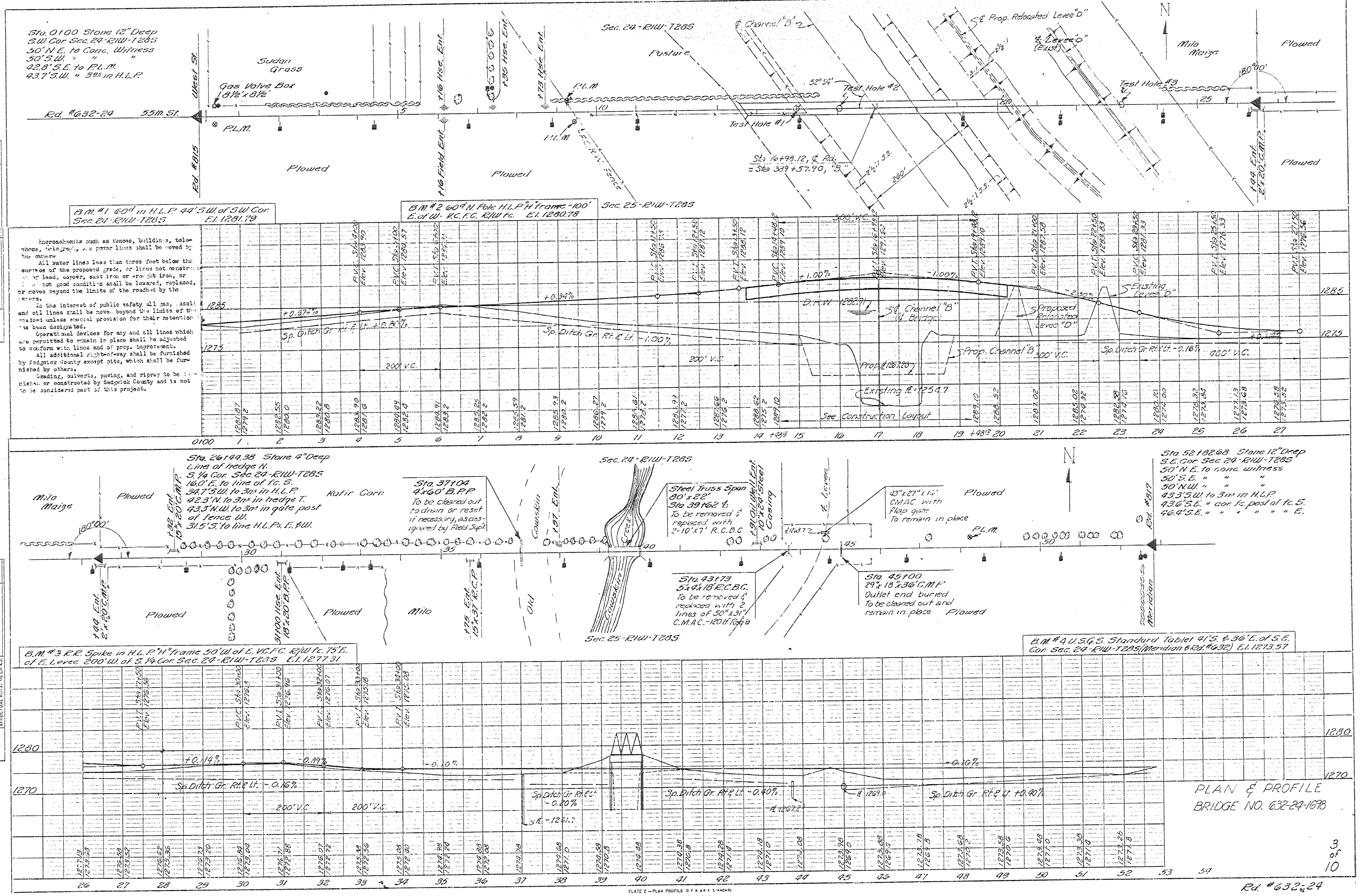
APPROVED
Rufus S. Kirk
COUNTY ENGINEER
DATE April 1959

APPROVED DATE
M O Williams 4-6-59
OFFICE OF THE COUNTY CLERK

APPROVED DATE
Clark Foster 4-6-59



Pub. Road Div. No. 5
State Kansas
Project No.
Fiscal Year
Sheet No.
Total Sheets
Approx. limit of R/W
2-wire power line
Levee alignment control line 'C'
Channel "B" to be widened by Sedg. County. All disturbed areas not covered by rip-rap to be mulched, fertilized, & seeded by Sedg. Co.
sec. line & ℄ 55th st. south
silo
Wind mill
386+50 B
Limits of existing Channel
Flow
380+00 B
400+00 B
390+00 B
378+50 B
℄ CHANNEL "B"
Excavate to 5' below existing channel grade rip-rap & backfill
℄ Existing levee to be relocated as shown by Sedgwick County. All disturbed areas not covered by rip-rap to be mulched, fertilized, and seeded by Sedg. County.
℄ Existing Levee "D"
U.S.E.D. T.B.M. WC-12
El. 1276.373 R.R. spike in power line pole.
24"x19' C.I.P.
Inv. El. 13.2
Approx. limit of R/W
Sta. 16+98.12 - Sta. 398+57.90 'B'
Construct 36'-13 45'-36' continuous steel beam bridge.
NOTE: SEE RIP-RAP DETAILS SHEET NO. 4
1/4 Sec. cor; limestone 14" underground
TOPOGRAPHIC MAP
BRIDGE NO. 632-24-1698
REPRODUCED FROM U.S. ARMY, CORPS OF ENGINEERS, DRAWING NO. C121-34
PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER
REVISED
SCALE 1"=100'
DESIGNED
TRACED C.J.F.
CHECKED
DATE
11-58
PLANFILE
TOTAL SHEETS
SHEET NO. 2 of 10



Encroachments such as fences, buildings, telephone, telegraph, and power lines shall be moved by the owners.

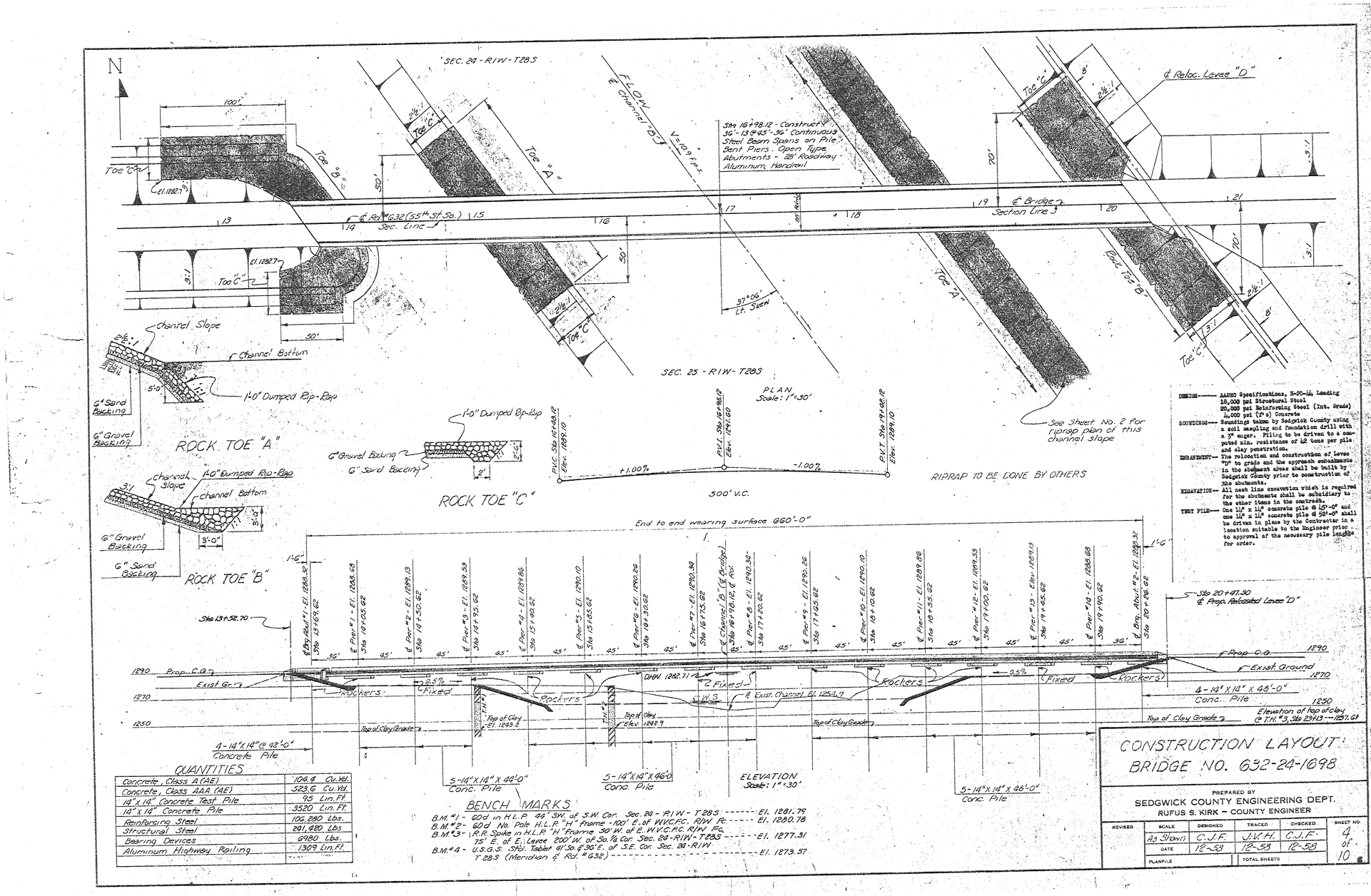
All water lines less than three feet below the surface of the proposed grade, or lines not constructed of lead, copper, cast iron or wrought iron, or lines not good condition shall be lowered, replaced, or moved beyond the limits of the roadbed by the owners.

In the interest of public safety all gas, gasoline and oil lines shall be moved beyond the limits of the roadbed unless special provision for their retention has been designated.

Operational devices for any and all lines which are permitted to remain in place shall be adjusted to conform with lines and of prop. improvement.

All additional right-of-way shall be furnished by Sedgwick County except pits, which shall be furnished by others.

Grading, culverts, paving, and riprap to be furnished or constructed by Sedgwick County and is not to be considered part of this project.



QUANTITIES

Concrete, Class A (AE)	109.4 Cu.Yd.
Concrete, Class AAA (AE)	523.6 Cu.Yd.
14"x14" Concrete Test Pile	95 Lin.Ft.
14"x14" Concrete Pile	3520 Lin.Ft.
Reinforcing Steel	106,280 Lbs.
Structural Steel	291,920 Lbs.
Bearing Devices	6980 Lbs.
Aluminum Highway Railing	1309 Lin.Ft.

BENCH MARKS

B.M. #1 - 60d in H.L.P. 49' SW. of S.W. Cor. Sec. 28 - R.I.W - T28S ---------- El. 1281.79
B.M. #2 - 60d No. Pole H.L.P "H" Frame - 100' E. of W.V.C.F.C. R/W Fc. ---------- El. 1280.78
B.M. #3 - \R.R. Spike in H.L.P "H" Frame 30' W. of E. W.V.C.F.C. R/W Fc. 75' E. of E. Levee 200' W. of So. ¼ Cor. Sec. 28-R.I.W-T28S ---------- El. 1277.31
B.M. #4 - U.S.G.S. Stn. Tablet 91' So. & 36' E. of S.E. Cor. Sec. 28-R.I.W T28S (Meridian & Rd. #632) ---------- El. 1273.57

DESIGN —— AASHO Specifications, H-20-44 Loading
18,000 psi Structural Steel
20,000 psi Reinforcing Steel (Int. Grade)
4,000 psi (f'c) Concrete

SOUNDINGS —— Soundings taken by Sedgwick County using a soil sampling and foundation drill with a 3" auger. Piling to be driven to a computed min. resistance of 42 tons per pile and clay penetration.

EMBANKMENT —— The relocation and construction of Levee "D" to grade and the approach embankments in the abutment areas shall be built by Sedgwick County prior to construction of the abutments.

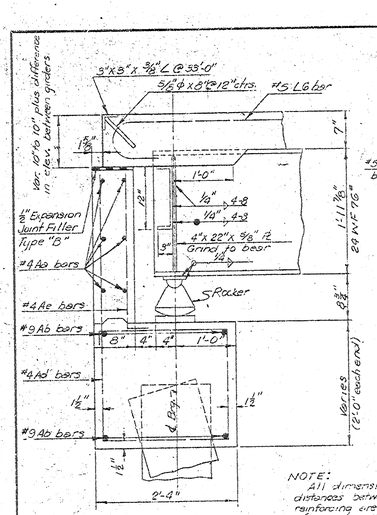
EXCAVATION —— All neat line excavation which is required for the abutments shall be subsidiary to the other items in the contract.

TEST PILE —— One 14" x 14" concrete pile @ 150'-0" and one 14" x 14" concrete pile @ 250'-0" shall be driven in place by the Contractor in a location suitable to the Engineer prior to approval of the necessary pile lengths for order.

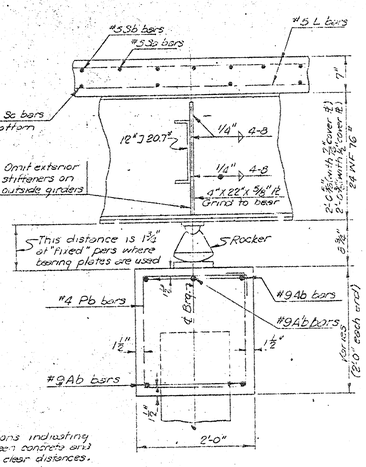
CONSTRUCTION LAYOUT
BRIDGE NO. 632-24-1698

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

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	As Shown	C.J.F.	J.V.H.	C.J.F.	4 of 10
	DATE	12-58	12-58	12-58	
	PLANFILE		TOTAL SHEETS		

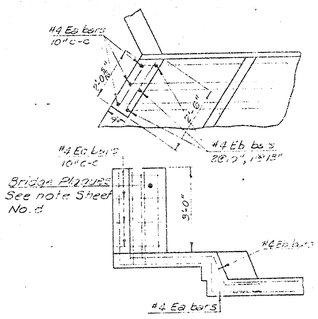


ABUTMENT SECTION
Scale: 3/32" = 0'-1"



PIER SECTION
Scale: 3/32" = 0'-1"

NOTE:
All dimensions indicating distances between concrete and reinforcing are clear distances.

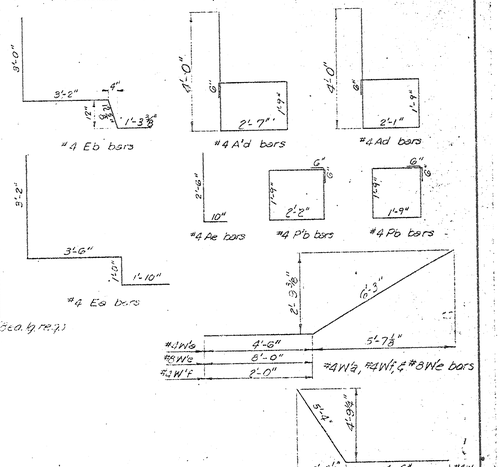


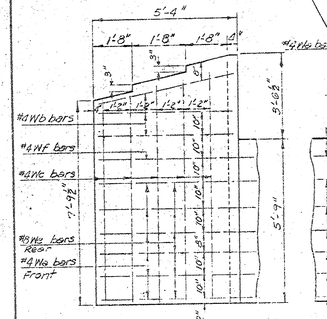
CONCRETE END POSTS
Scale: 1/2" = 1'-0"

BAR	NO	SIZE	LENGTH	REMARKS
Aa	12	#4	36'-6"	Abut & Wall
Ab	64	#9	36'-6"	Abut & Pier
Ad	46	"	10'-5"	Abut Stirrup
Ad1	4	#4	11'-5"	" "
Ae	50	#4	3'-4"	" Wall
Af	384	#4	4'-0"	Pier Stirrup
Af1	28	#4	8'-10"	" "
Wa	12	#4	10'-0"	Wingwall
Wa1	12	#4	10'-9"	" "
Wb	24	#4	5'-0"	" "
Wc	40	#4	①	" "
Wd	24	#4	5'-4"	" "
We	12	#8	13'-4"	" "
Wf	12	#4	14'-3"	" "
Wf1	4	#4	7'-10"	" "
Wf2	4	#4	8'-3"	" "
Ab	14	#9	23'-0"	Piers

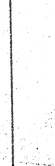
① Increase by 4" incr. from 7'-2" to 8'-0" (Sea. of Wall)

BAR DIAGRAMS
NOTE: All dimensions for reinforcing bars are out to out.



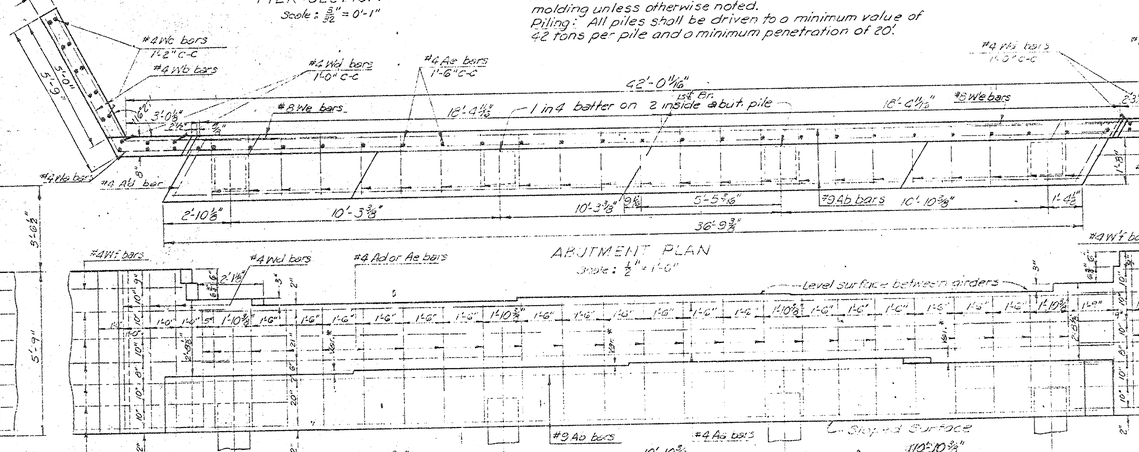


NORTHEAST & SOUTHWEST WINGWALL
Scale: 1/2" = 1'-0"



NOTE: Bevel all exposed edges on wingwalls with 1/2" chamfer

WINGWALL FINISHING DETAIL

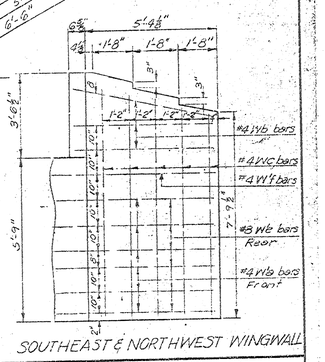


ABUTMENT PLAN
Scale: 1/2" = 1'-0"

ABUTMENT ELEVATION
Scale: 1/2" = 1'-0"

* See sheet no. 10 for cap elevations

PIER ELEVATION
Scale: 1/2" = 1'-0"



SOUTHEAST & NORTHWEST WINGWALL

PIER AND ABUTMENT DETAILS

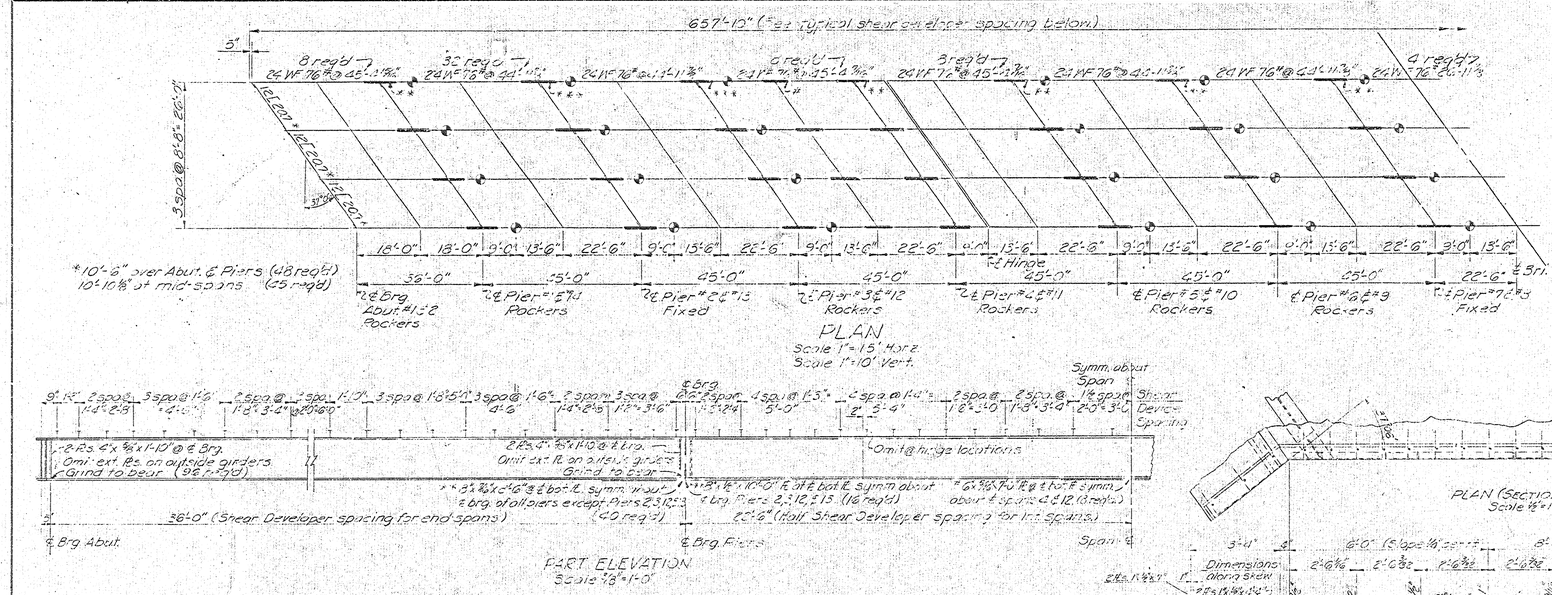
BRIDGE NO. 632-24-1698

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

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
2-17-59 C.J.F	As Shown	C.J.F	J.V.H	C.J.F	5
	DATE	2-58	2-58	3-58	of 10
	PLANFILE		TOTAL SHEETS		

GENERAL NOTES

Design: H20-44 AASHO Spec., Concrete f'_c = 3000 psi. in Abut & Pier and f'_c = 4,000 psi. in the deck, Reinforcing Steel 20,000 psi. Int Grade.
Concrete: Class A(AE) concrete shall be used in Abutments and Piers. Class AAA(AE) concrete shall be used thruout the deck and curb. Bevel all exposed edges with a 3/4" molding unless otherwise noted.
Piling: All piles shall be driven to a minimum value of 42 tons per pile and a minimum penetration of 20'.



GENERAL NOTES

Design: H-20-44 and A.S.H.O. Specs 1957 Ed. Structural Steel (600 psi).

Painting: All structural steel, except top of top flange and shear devices, shall receive one shop coat red lead paint. All structural steel and bearing devices which are accessible after erection shall receive one coat of tinted aluminum paint followed by one coat of aluminum paint.

Erection: Girders shall be erected two spans ahead of any welding of splices or diaphragms.

Structural Steel: All structural steel shall conform to A.S.T.M.-A7-56T

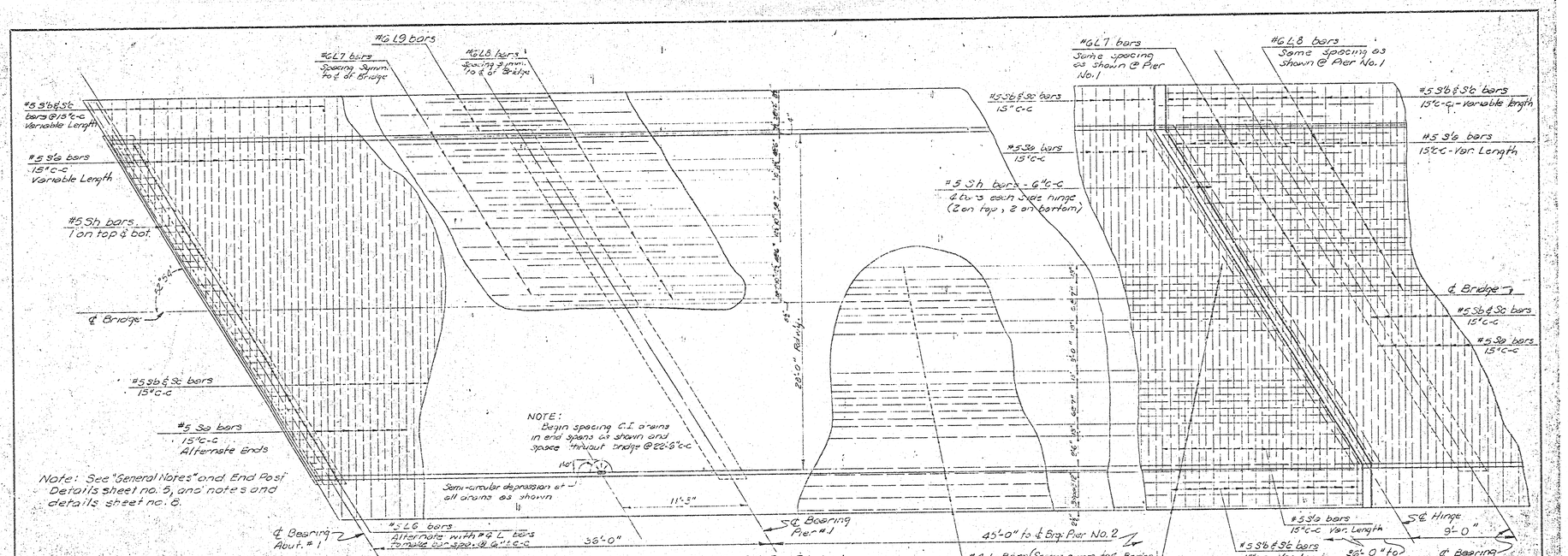
Bearing Devices: Bearing devices shall include weight of sole plates, bearing plates, anchor bolts, nuts, and all parts of rockers. All parts of "Bearing Devices" shall be structural steel.

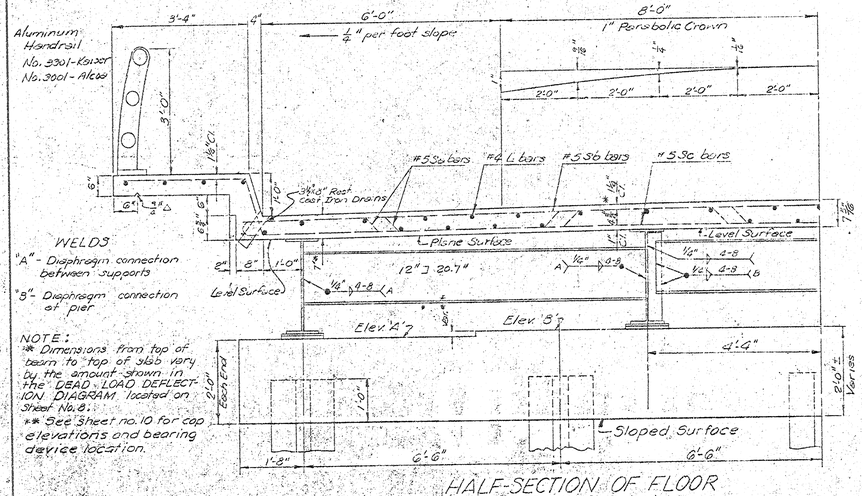
STEEL DETAILS

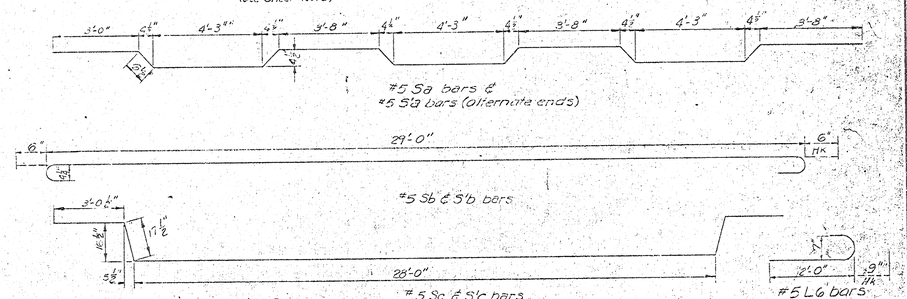
BRIDGE NO. 632-24-1693

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

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	Noted	C.J.F.	C.J.F.		6
	DATE:		2-59		OF
	PLANFILE		TOTAL SHEETS		10







* See Bending Diagram # See Pouring Sequence

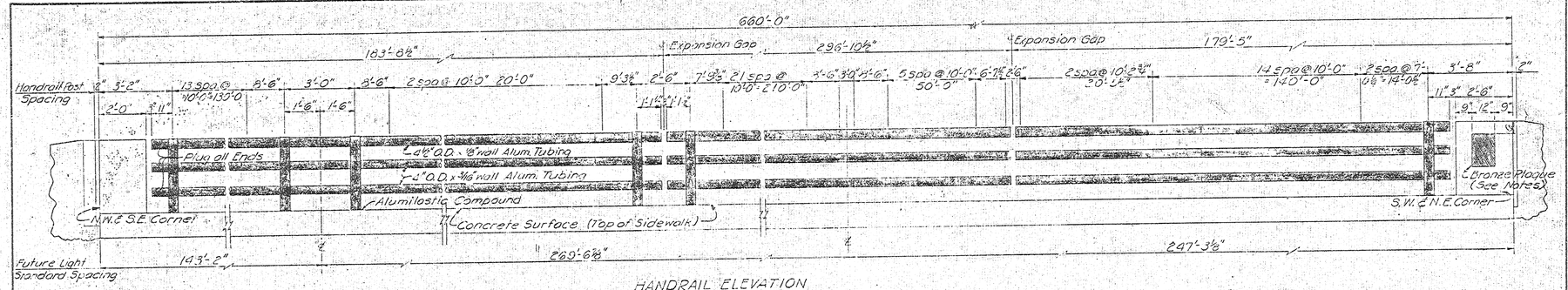
BAR	NO	SIZE	LENGTH	REMARKS	BAR	NO.	SIZE	LENGTH	REMARKS
Sa	475	#5	30'-0" #	Deck Slab #	L5	82	#4	26'-0"	# sh. #8
Sb	478	#5	30'-0" #	" " #	L6	96	#5	2'-9" #	Slab end
Sc	478	#5	37'-0" #	" " #	L7	336	#6	22'-3"	Over Piers
Sb	96	#5	① #	" " #	L8	392	#6	13'-0"	" "
Sb	96	#5	② #	" " #	Ea	12	#4	3'-6" #	Hdrl. Post
Sc	102	#5	③ #	" " #	Eb	12	#4	8'-6" #	" "
Sh	20	#5	36'-6"	Hear Hinge	Ec	32	#4	2'-0" #	" "
L1	22	#4	27'-1"	# Sh. #8	Ed	28	#4	5'-2" #	Light Stand
L2	444	#4	22'-3"	" " "	Ee	32	#4	9'-0"	" "
L3	451	#4	28'-5"	" " "	Ef	28	#4	5'-7" #	" "
L4	74	#4	19'-9"	" " "	L9	112	#6	9'-0"	Over Pier

① Increase by 1'-8" incr. from 3'-8" to 28'-0" (6 eq. lg. req.) ② Increa: by 1'-8" incr. from 4'-2" to 30'-10" (6 eq. length req.)
③ " " " " " 8'-4" to 27'-4" (" " " ")

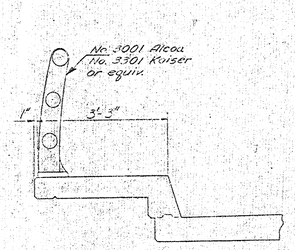
DECK DETAILS
BRIDGE NO. 632-24-1698

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

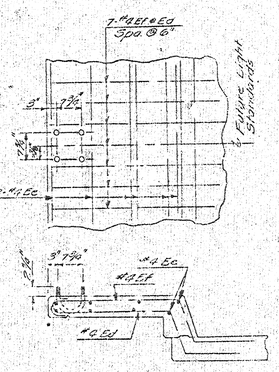
REVISED 3-59 CJF	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	As Shown	CJF.	JVH	CJF	1
	DATE	1-58	1-58	2-58	of
	PLANFILE		TOTAL SHEETS		10



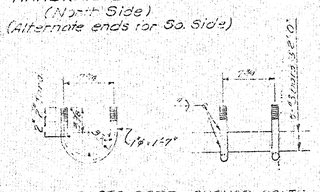
HANDRAIL ELEVATION
(North Side)
(Alternate ends for So. Side)



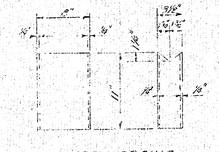
ALUMINUM POST DETAIL
Scale 3/4"=1'-0"
(142 Req'd.)



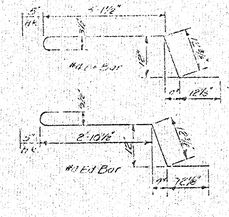
LIGHT STANDARD
Anchor Bolt Installation
And Reinforcing Detail
Scale 3/16"=1'-0"

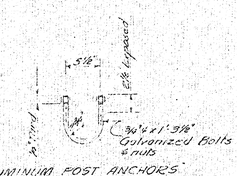


LIGHT STANDARD ANCHOR BOLTS
Scale 1½"=1'-0" (4 units req'd)



CAST IRON DRAINS
53 Req'd.
Scale 1½"=1'-0"





ALUMINUM POST ANCHORS
Scale 1½"=1'-0" (28 Req'd.)

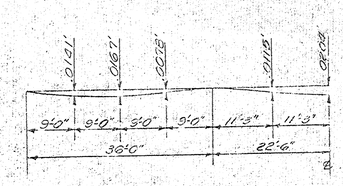
GENERAL NOTES

Light Standard Anchors: Shall be furnished and installed at locations as shown by the Contractor. All materials and work not included in a pay item shall be considered as subsidiary to other items of the bridge contract.

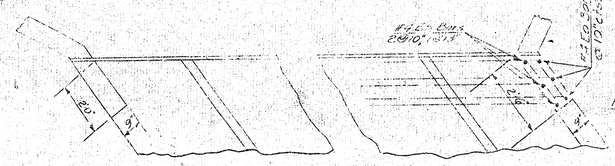
Cast Iron Drains: shall be furnished and installed by the Contractor, and shall not be paid for directly, but shall be considered as a subsidiary item to other items in the bridge contract.

Bridge Plaques: Contractor shall furnish and install two 8"x8" bronze alloy plaques on the concrete end posts. Sedgwick County will furnish the data and text required. The plaques shall conform to the requirements of Section 1091, Standard Specifications, State Highway Commission of Kansas, 1955 Ed. The plaques shall not be paid for directly, but shall be considered as subsidiary to other items in the bridge contract.

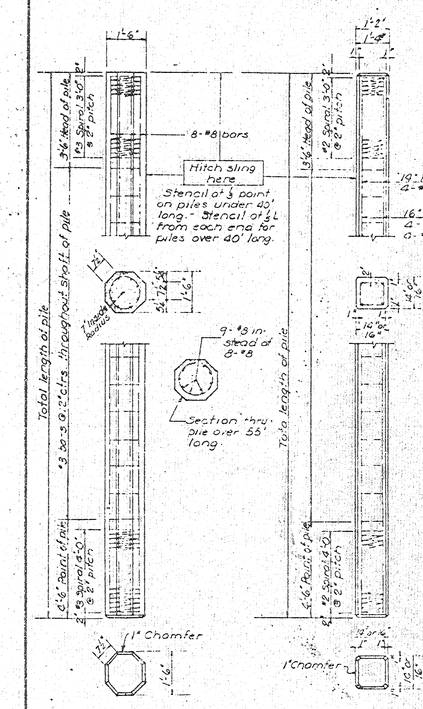
Aluminum Handrail: Aluminum Highway Railing shall be Alcoa 3001, Kuiser 3301 or equivalent. Posts shall be plumbed and lengthened. The sanding surface between the anchors and posts shall be thoroughly coated with an aluminum impregnated caulking compound, or a synthetic rubber gasket shall be used. Caps between railing at the ℄ of every fourth post shall be allowed for expansion or movement of the railing. Basis of payment shall be on the actual no. in place of the lineal feet of aluminum handrail in place. The unit price bid for lineal feet of aluminum handrail shall include posts, anchors, railing, caps, and all other materials and work necessary for complete installation of the handrail.

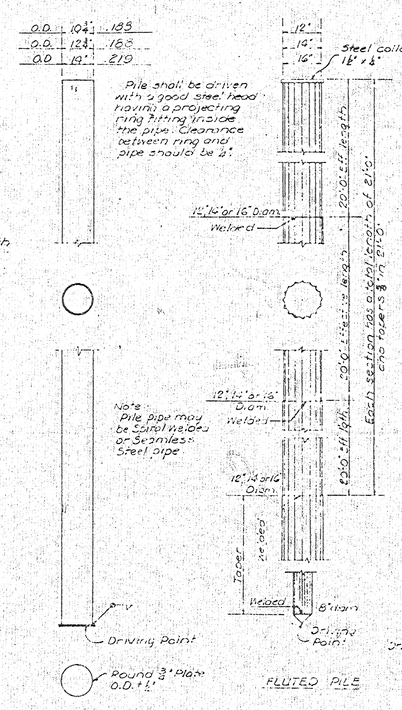


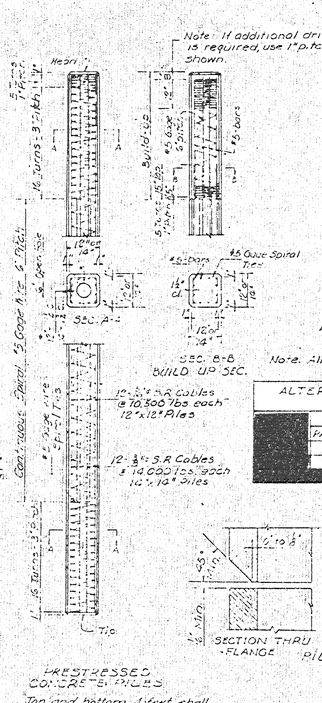
DEAD LOAD DEFLECTION
AT QUARTER POINTS
No Scale

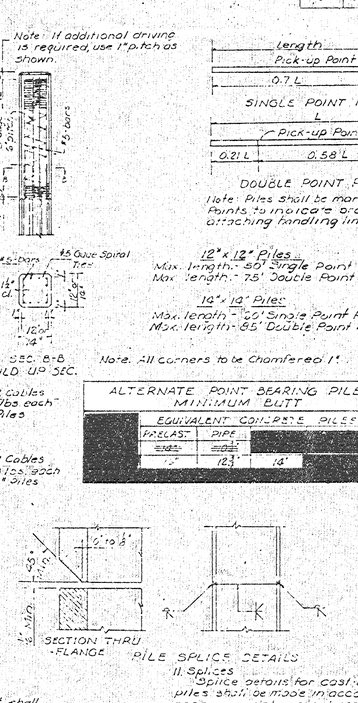

#4 E.C. Bars
2'-0" (10 Spa.)
20'-0"
2'-0"
5'-0"
2'-0"
2'-0"
2

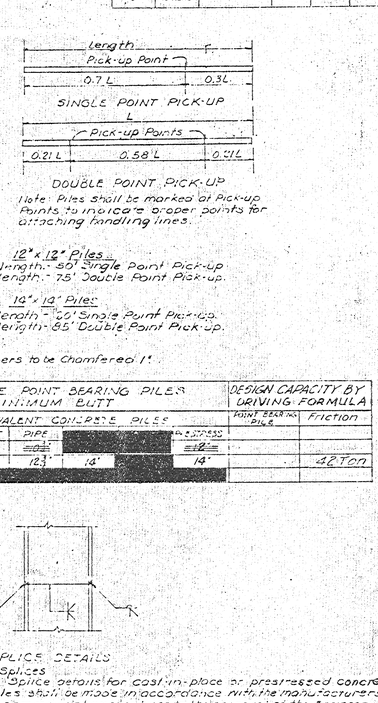
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS		198		











Note: Piles shall be marked at Pick-up Points to indicate proper points for attaching handling lines.

12" x 12" Piles
Max. length - 60' Single Point Pick-up
Max. length - 75' Double Point Pick-up.

14" x 14" Piles
Max. length - 70' Single Point Pick-up.
Max. length - 85' Double Point Pick-up.

ALTERNATE POINT BEARING PILES MINIMUM BUTT				DESIGN CAPACITY BY DRIVING FORMULA	
EQUIVALENT CONCRETE PILES				POINT BEARING PILE	FRICTION
PRECAST	PIPE				
12"	12¾"	14"	14"		42 TON

PILE SPLICE DETAILS

11. Splices
Splice details for cast-in-place or prestressed concrete piles shall be made in accordance with the manufacturers recommendations, subject to the approval of the Engineer.
Splice details for steel piles shall be in accordance with the details shown on this sheet.

12. Driving Formula
Piles shall be driven to the minimum bearing value as specified on the Construction Layout as determined by the driving formulas stipulated in the Specifications.

13. Mill Test Reports
Notarized mill test reports, in triplicate, shall be furnished by the contractor for all steel pile and cast-in-place pile shells.

14. Payment
Payment for all piles will be made as set forth in the specifications.

15. Test Piles
Test piles shall be driven where called for on the Bridge plans. All test piles shall be located so that they will become part of the Bridge pile system.

General Notes

1. Specifications
Standard Specifications for State Road and Bridge Construction as currently used by State Highway Commission of Kansas.

2. Choice of Piles
As indicated in the plans, piles will be considered as point bearing piles or as friction piles. Where point bearing piles are specified, the contractor may elect to use either the steel pile specified on the footing plans or the equivalent precast concrete, cast-in-place concrete or prestressed concrete pile shown in the table on this Sheet. Where friction piles are specified the contractor may elect to use either the size and type concrete pile specified on the footing plans or the equivalent precast concrete, cast-in-place concrete or prestressed concrete pile shown in the table on this Sheet. Steel piles are not included as an alternate where friction piles are specified. Other types of concrete piles not shown here are subject to the approval of the Engineer.

3. Concrete
All concrete for precast and cast-in-place shall be Class 'A' f'c = 3000 p.s.i. Concrete for Prestressed piles shall be Class AAA. f'c = 4000 p.s.i.

4. Reinforcement
Reinforcing bars shall be new billet steel of intermediate grade without exception. Hoops and spirals may be either plain or deformed bars.

5. Precast Piles
Precast piles shall conform to the requirements of Section 59.310 of the Specifications.

6. Cast-in-place Shells
A. Pile shells shall have a minimum thickness as follows
1. Piles driven without mandrel - See minimum shell thickness above.
2. Piles driven with mandrel. Shell shall be of sufficient strength and thickness to withstand driving without injury and to resist harmfull distortion and/or buckling due to soil pressure after being driven and the mandrel removed.
B. Pile shells shall meet the following material requirements:
1. Fluted steel shells and steel collar - SAE 1016 classification or open hearth steel.
2. Spiral welded steel - A.S.T.M. Designation A252, Grade 2 Electric Fusion-Welded Spiral Seam Steel Pipe.
3. Seamless Steel pipe - A.S.T.M. A252, Welded and Seamless Steel Pipe Piles.
4. Corrugated steel shell - SAE 1020.
C. The contractor shall maintain on the job at all times prior to and during the filling of the shells, a light suitable for their inspection.

D. Improperly driven, thrown or otherwise defective shells shall be removed and replaced or otherwise corrected to the satisfaction of the Engineer by removal and replacement or the driving of an additional pile at no extra cost.

7. Steel Piles
Steel pile material shall meet the requirements of A.S.T.M. A7-33.

8. Pile Points
All cast in place piles shall be equipped with a steel driving point of ¼" minimum thickness. Driving points shall be mill welded to the pile shell. Driving points shall be either hot pressed steel meeting the requirements of SAE 1020 for forged steel, or cast steel meeting the requirements of A.S.T.M. Serial No. A-27-33, Grade 2, or structural steel meeting the requirements of A.S.T.M. A7-33.
Steel piles shall have a square cut end only. No driving point is required.

9. Welding
All field welding shall meet the requirements of Section 51.34 of the Specifications.

10. Paint
Shall comply with the Kansas Standard Specifications (1955 Edition) Expose 3' (three feet) of cast in place piles below grade and paint entire exposed surface with one coat red lead paint, followed by two coats of aluminum paint.

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

STATE HIGHWAY COMMISSION OF KANSAS

STANDARD PILE DETAILS
BRIDGE NO. 632-24-1698

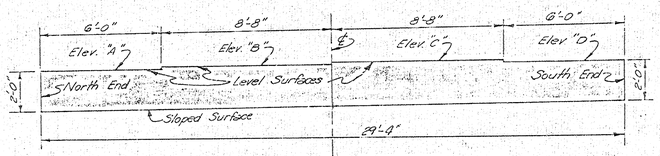
9 of 10

SHEET NO.	OF	SCALE		APP'D		TRACED	
DESIGNED		DETAILED		QUANTITIES		TRACED	
DRAWN		DETAIL CK.		QUAN. CK.		TRACE CK.	

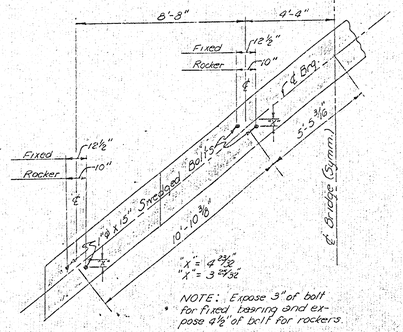
ABUTMENT & PIER ELEVATIONS

ABUTMENT OR PIER. NO.		NORTH ELEV. "A"	ELEV. "B"	ELEV. "C"	SOUTH ELEV. "D"
Abut. No. 1	R	84.73	84.96	85.03	84.92
Pier No. 1	R	85.05	85.28	85.34	85.24
Pier No. 2	F	86.08	86.31	86.37	86.27
Pier No. 3	R	85.92	86.13	86.19	86.08
Pier No. 4	R	86.26	86.47	86.51	86.39
Pier No. 5	R	86.52	86.72	86.75	86.61
Pier No. 6	R	86.70	86.89	86.90	86.76
Pier No. 7	F	87.39	87.56	87.56	87.40
Pier No. 8	F	87.40	87.56	87.56	87.39
Pier No. 9	R	86.76	86.90	86.89	86.70
Pier No. 10	R	86.61	86.75	86.72	86.52
Pier No. 11	R	86.39	86.51	86.47	86.26
Pier No. 12	R	86.08	86.19	86.13	85.92
Pier No. 13	F	86.27	86.37	86.31	86.08
Pier No. 14	R	85.22	85.31	85.23	84.99
Abut. No. 2	R	84.81	84.89	84.80	84.54

R = Rockers , F = Fixed

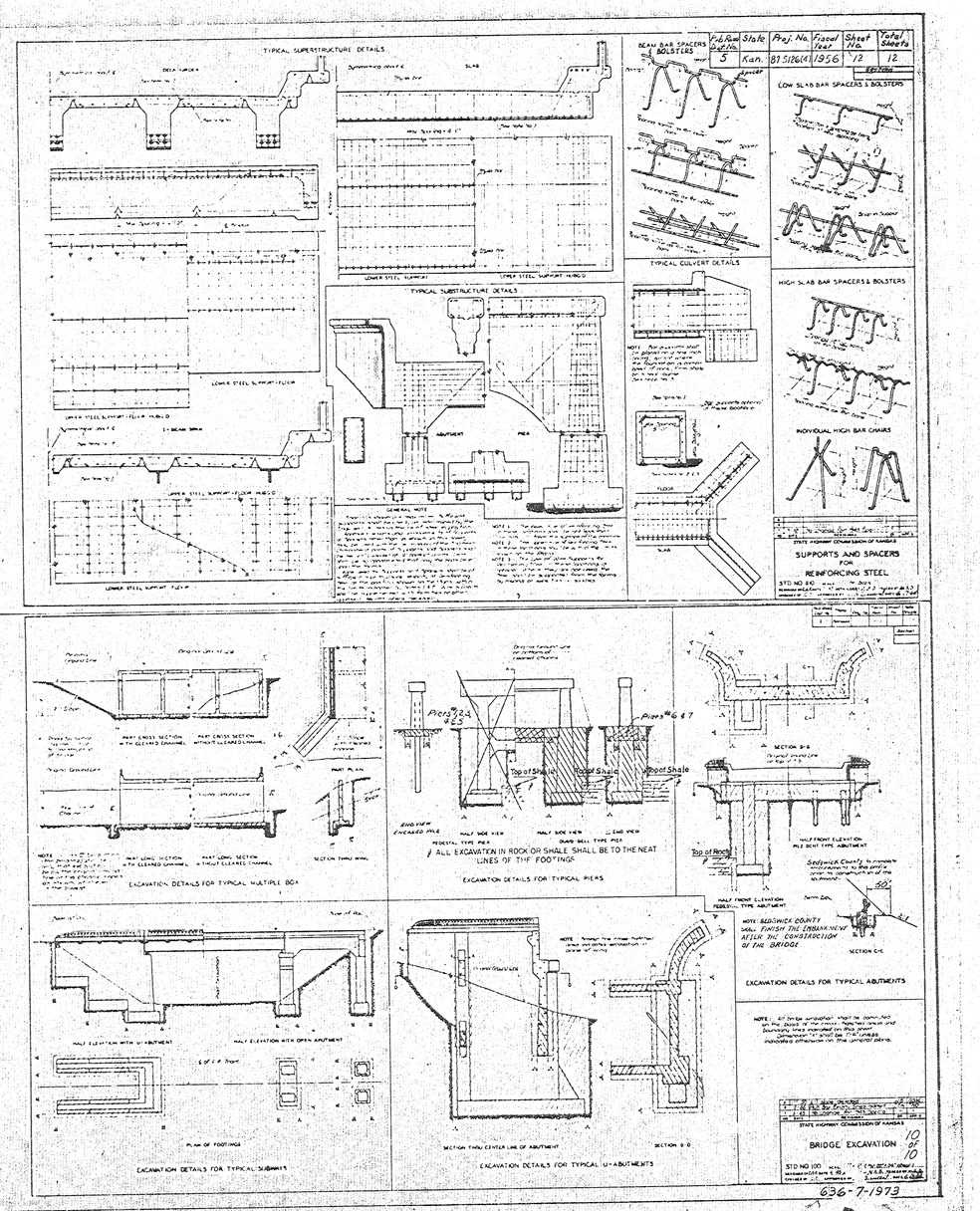


TYPICAL CAP ELEVATION
(Normal to Roadway)



NOTE: Expose 3" of bolt for fixed bearing and expose 4½" of bolt for rockers.

PART PLAN OF PILE CAPS
Scale: 3/8" = 1'-0"



Prob. Road Dist. No.	State	Proj. No.	Fiscal Year	Sheet No.	Total Sheets
5	Kan.	87 S126(4)	1956	12	12

636-7-1973