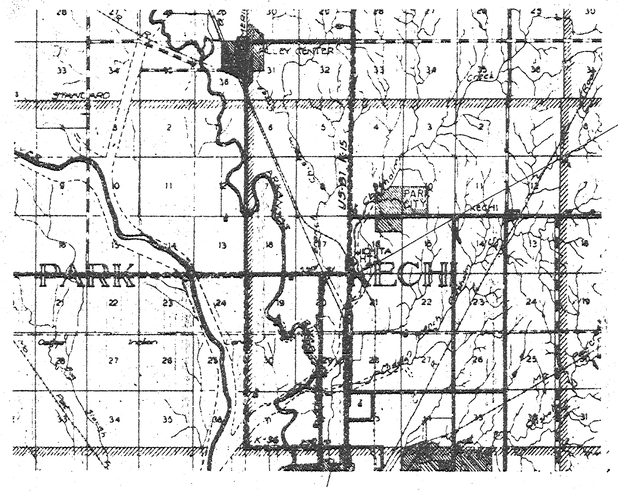
	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	KANSAS				

SEDGWICK COUNTY HIGHWAY DEPARTMENT

BRIDGE - GRADING & RIP-RAP

INDEX OF SHEETS

SHEET NO.	TITLE SHEET
SHEET NO. 1	TITLE SHEET
SHEET NO. 2	PLAN - PROFILE AND RIP-RAP PLAN
SHEET NO. 3	CONSTRUCTION LAYOUT
SHEET NO. 4	CONCRETE FLOOR DETAILS
SHEET NO. 5	STEEL LAYOUT & CONCRETE DETAILS
SHEET NO. 6	ABUTMENT, PIER, AND AUXILIARY DETAILS
SHEET NO. 7	BAR DIAGRAMS & REINFORCING STEEL QUANTITIES
SHEET NO. 8	STANDARD PILE DETAILS
SHEET NO. 9	CROSS SECTIONS



CONSTRUCT BRIDGE NO. 606-27-983 (92°-12'-20" LT. SKEW)
CONTINUOUS STEEL BEAM WITH
CONCRETE DECK - 48'-0" RDWY.
WITH ALUMINUM HANDRAIL.
SPANS: 30'-9@42'-6"-30'.

TRAFFIC COUNT - 600 CARS PER DAY

INCLOSURE WITH LETTER DATED 19 Dec 57
FROM: CO. Engr. Wichita

RECD DEC 19 1957

CONVENTIONAL SIGNS

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

NET LENGTH OF PROJECT	750	FT.	.142 MILES
NET LENGTH OF BRIDGES	232'-8"	FT.	.044 MILES
NET LENGTH OF ROAD	517.33	FT.	.098 MILES
EXCEPTIONS	None	FT.	— MILES
ADDITONS	None	FT.	— MILES
GROSS LENGTH OF PROJECT	750	FT.	.142 MILES

PLANS PREPARED BY
SEDGWICK CO. ENGR. DEPT.
DATE NOVEMBER 1957

APPROVED
COUNTY ENGINEER
DATE NOVEMBER 1957

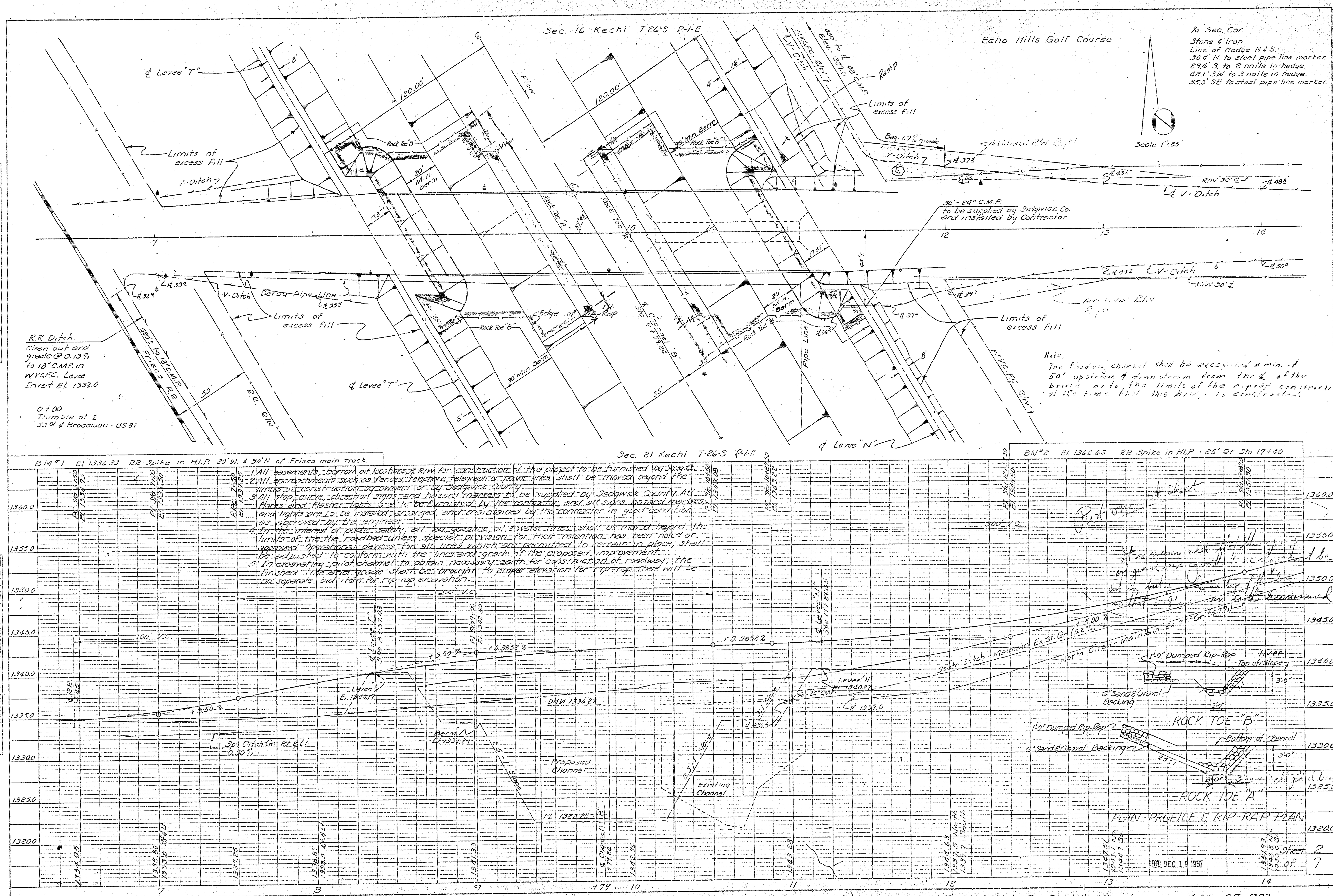
APPROVED DATE
CHAIRMAN
BOARD OF COUNTY COMMISSIONERS

APPROVED DATE

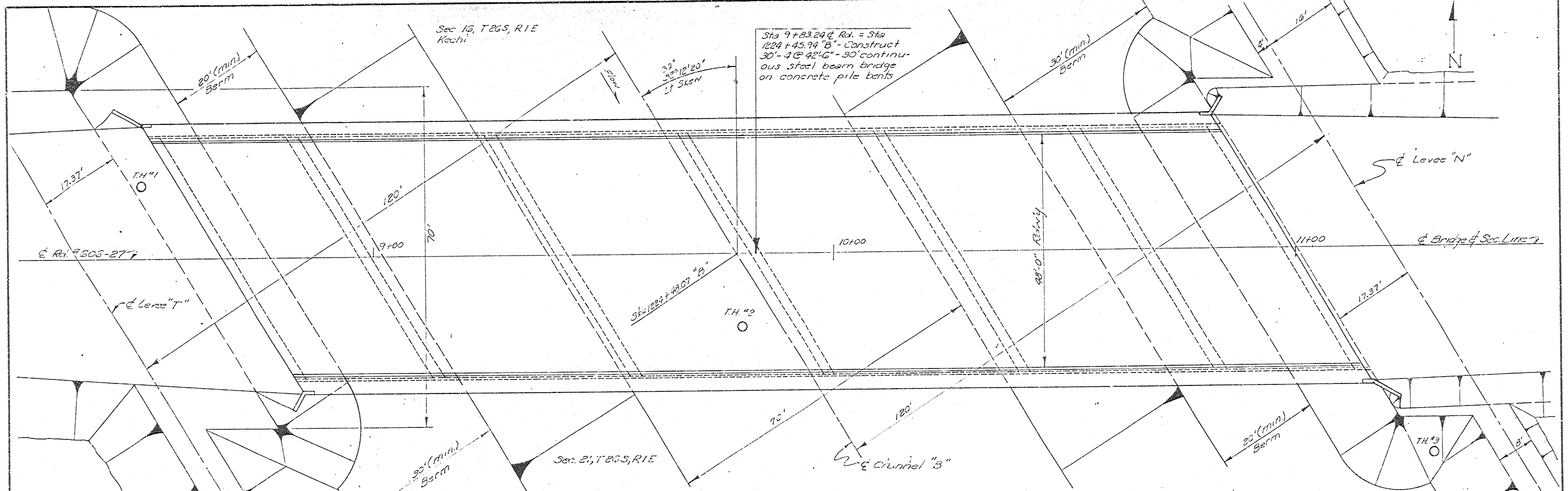
RECD JAN 16 1958
From Tulsa Office

@ COUNTY CROSSINGS
53 RD & MAIN BRANCH

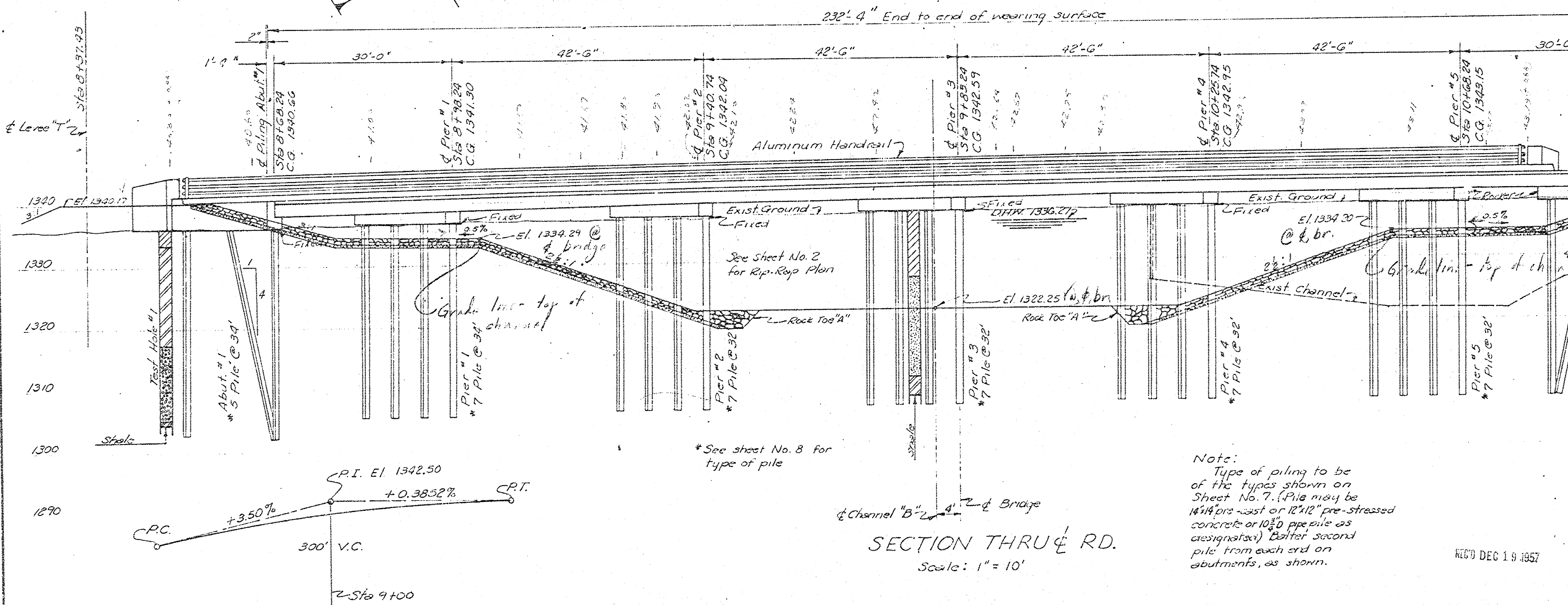
E.B. Smith 1-55-46



Sec. 16 Kechi T-26-S R-1-E
Echo Hills Golf Course
¼ Sec. Cor.
Stone & Iron
Line of Hedge N & S.
30.4' N. to steel pipe line marker.
29.4' S. to 2 nails in hedge.
42.1' SW. to 3 nails in hedge.
35.3' SE to steel pipe line marker.
Scale 1"=25'
℄ Levee "T"
Limits of excess Fill
V-Ditch
Flow
120.00'
Rock Toe "B"
20' Min. berm
Ramp
Limits of excess Fill
Y-Ditch
℄ V-Ditch
R/W 30' ℄
36" - 24" C.M.P. to be supplied by Sedgwick Co. and installed by Contractor
Derby Pipe Line
Edge of Rip-Rap
Rock Toe "A"
Pipe Line
R.R. Ditch
Clean out and grade @ 0.13% to 18" C.M.P. in W.V.G.F.C. Levee
Invert El. 1332.0
Frisco R.R.
R.R. R/W
0+00
Thimble at ℄ 53rd & Broadway - US 81
℄ Levee "N"
Note.
The Proposed channel shall be excavated a min. of 50' upstream & downstream from the ℄ of the bridge or to the limits of the riprap construction at the time that this bridge is constructed.
Sec. 21 Kechi T-26-S R-1-E
BM #1 El. 1336.33 RR Spike in HLP 20' W. & 30' N. of Frisco main track.
BM #2 El. 1360.63 RR Spike in HLP 25' Rt Sta 17+40
1. All easements, borrow pit locations, & R/W for construction of this project to be furnished by Sedg. Co.
2. All encroachments such as fences, telephone, telegraph or power lines shall be moved beyond the limits of construction by owners or by Sedgwick County.
3. All stop, curve, direction signs, and hazard markers to be supplied by Sedgwick County. All flares and flasher lights are to be furnished by the contractor, and all signs, hazard markers, and lights are to be installed, arranged, and maintained by the contractor in good condition as approved by the engineer.
4. In the interest of public safety, all gas, gasoline, oil, & water lines shall be moved beyond the limits of the the roadbed unless special provision for their retention has been noted or approved. Operational devices for all lines which are permitted to remain in place, shall be adjusted to conform with the lines and grade of the proposed improvement.
5. In excavating pilot channel to obtain necessary earth for construction of roadway, the finished line and grade shall be brought to proper elevation for rip-rap. There will be no separate bid item for rip-rap excavation.
300' V.C.
+0.3852 %
DHW 1336.27
Proposed Channel
Existing Channel
Berm "N"
North Ditch Maintain Exist. Gr.
South Ditch Maintain Exist. Gr.
1'-0" Dumped Rip-Rap
6" Sand & Gravel Backing
Top of Slope
Bottom of Channel
ROCK TOE "B"
ROCK TOE "A"
PLAN - PROFILE & RIP-RAP PLAN
Sheet 2 of 7
53rd St & Main Br. Chisholm Creek
606-27-983



PLAN
Scale: 1" = 10'



SECTION THRU ℄ RD.
Scale: 1" = 10'

Note:
Type of piling to be of the types shown on Sheet No. 7. (Pile may be 14"/14" pre-cast or 12"/12" pre-stressed concrete or 10" ø pipe pile as designated) Batter second pile from each end on abutments, as shown.

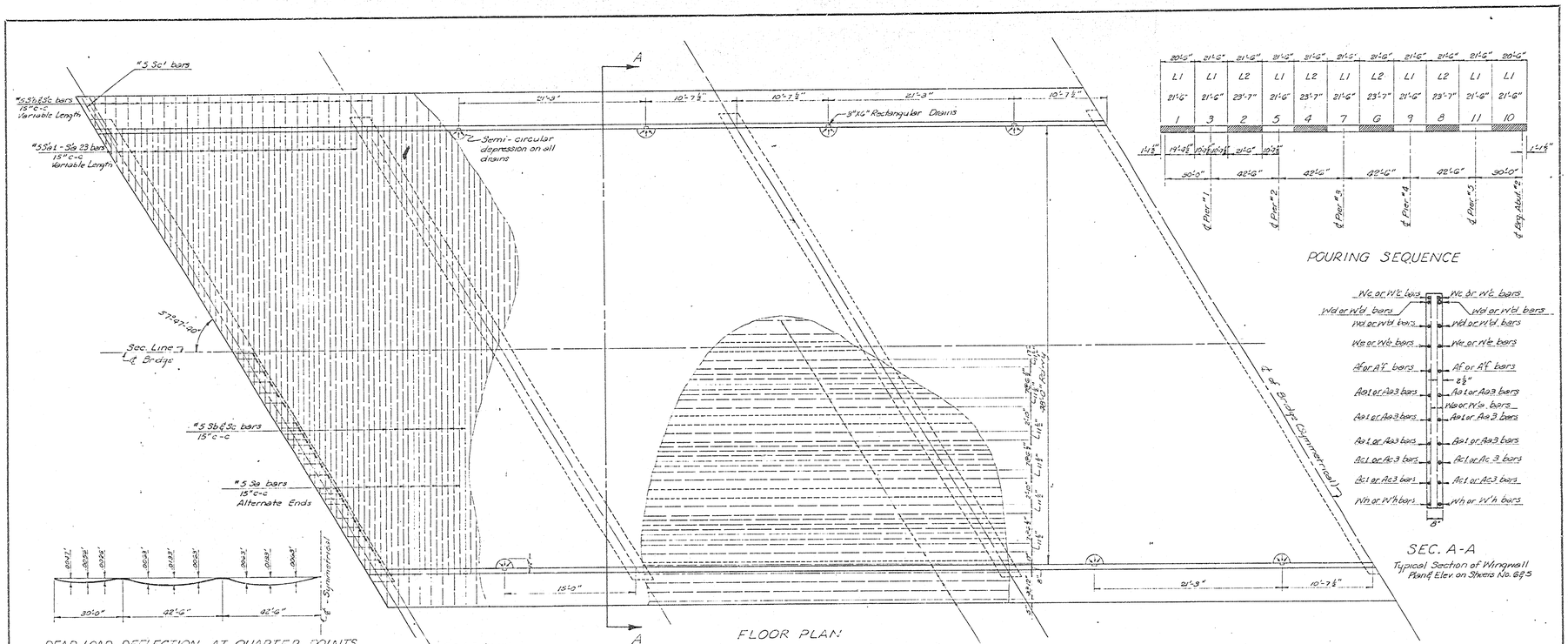
REC'D DEC 19 1957

CONSTRUCTION LAYOUT
BRIDGE NO. 606-27-983

53rd St. & Main Br. Chisholm Creek

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

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	1" = 10'	J.V.H.	J.V.H.	C.J.F.	3 of 8
	DATE	9-57	9-57	9-57	
	PLANFILE		TOTAL SHEETS		

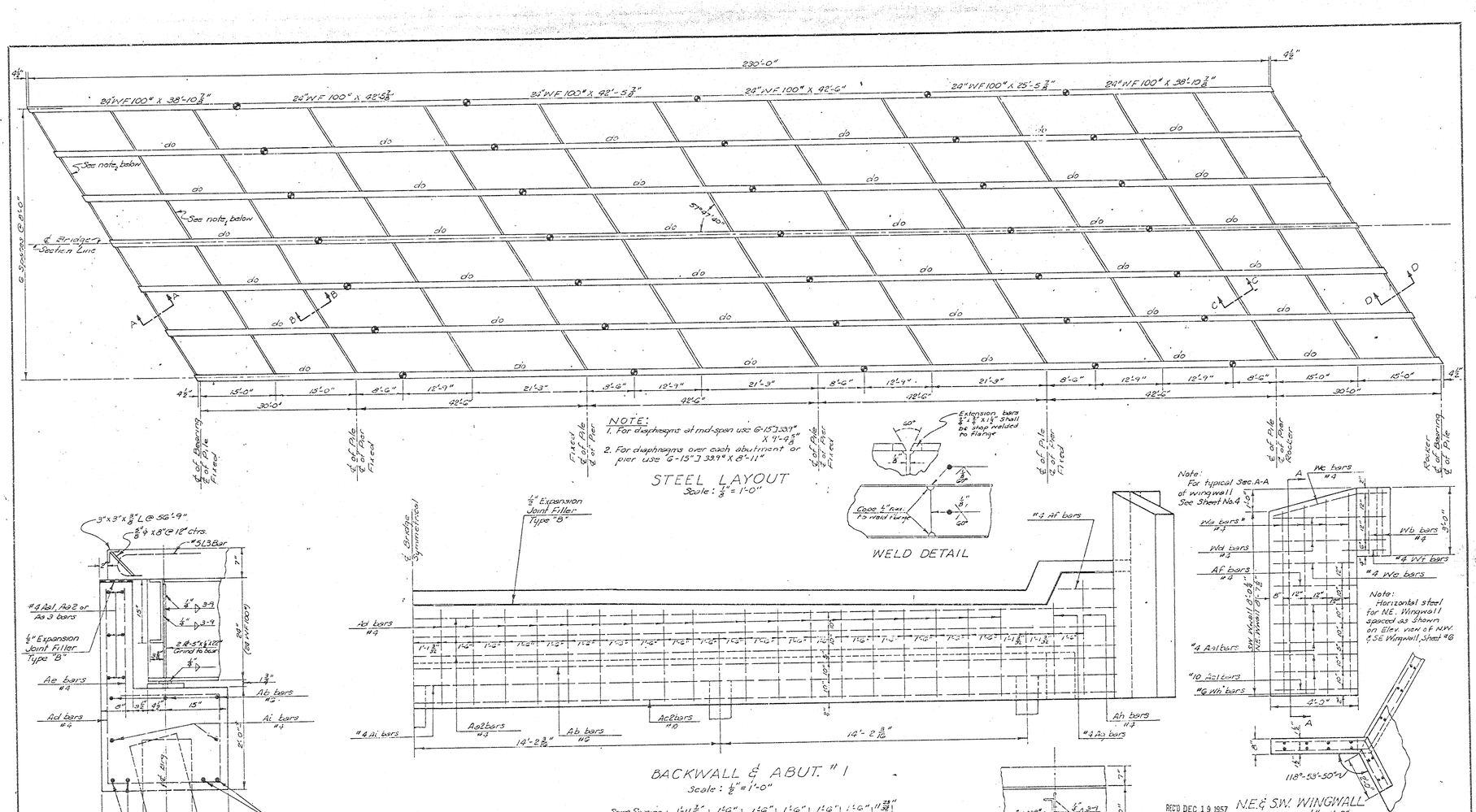


RECD DEC 19 1957

CONCRETE FLOOR DETAILS

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

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO
	As Shown	JVH	JVH	CJF	4 of 8
	DATE	3-57	11-57	11-57	
	PLANFILE		TOTAL SHEETS		

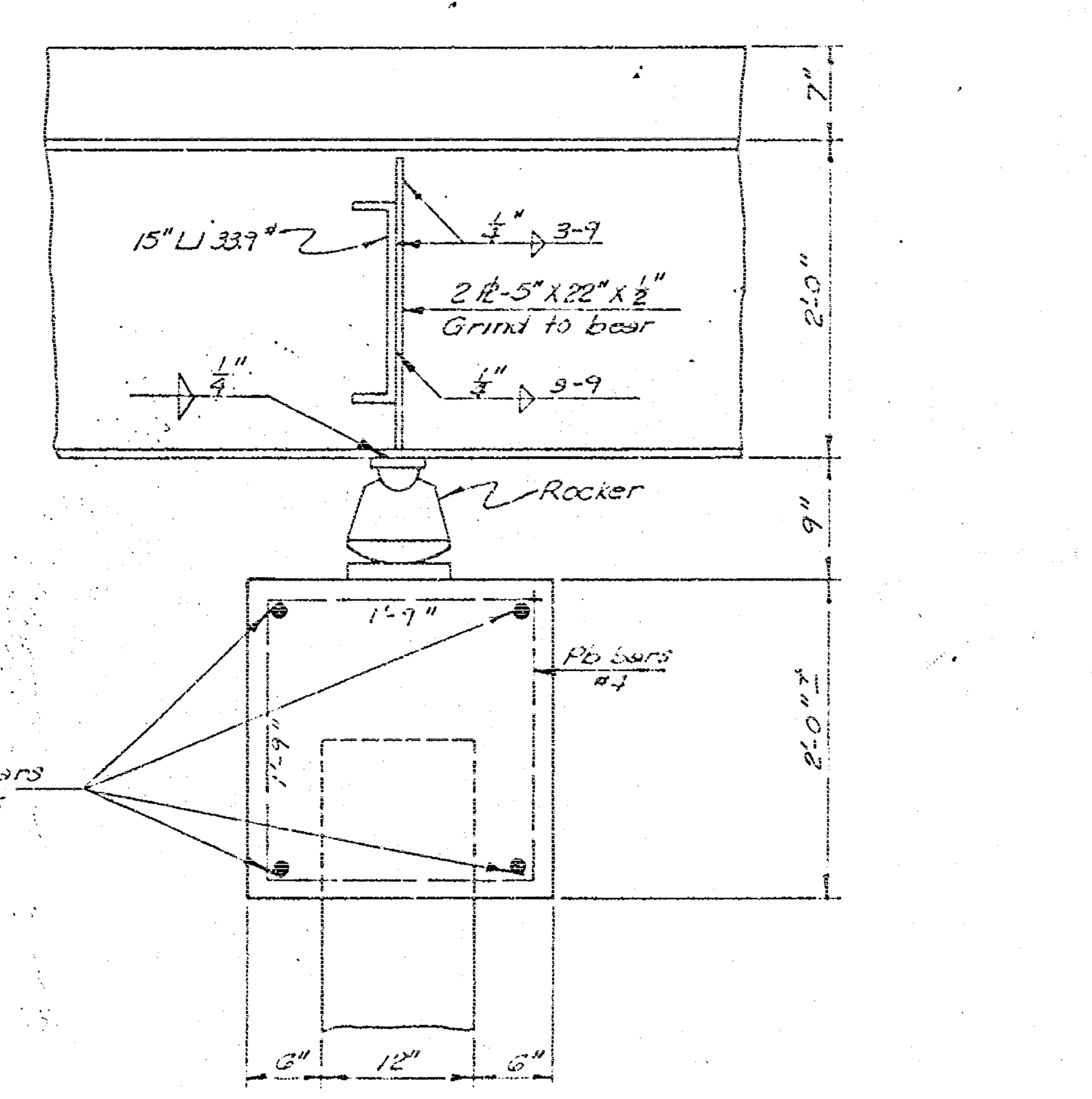


REC'D DEC 19 1957

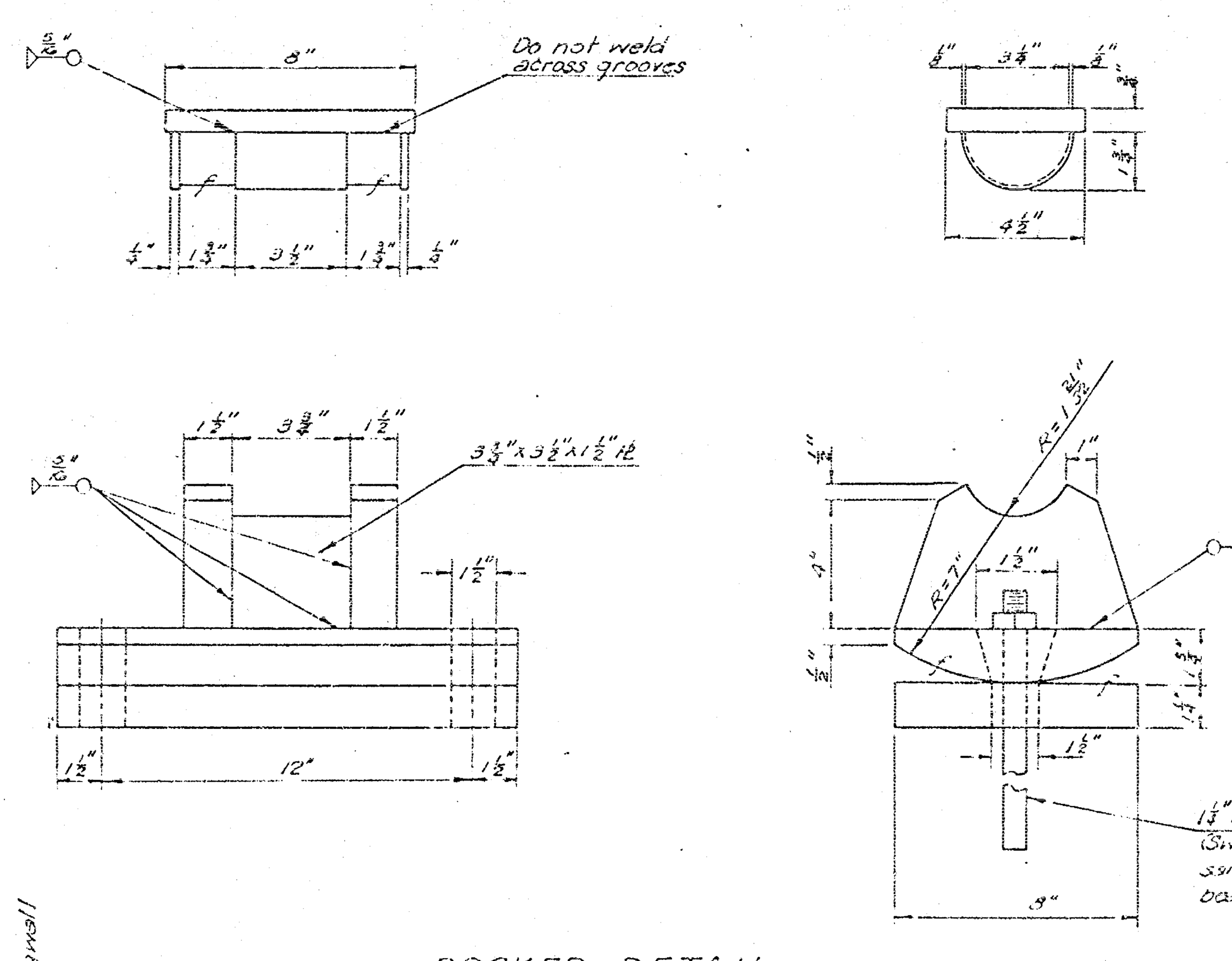
STEEL LAYOUT AND CONCRETE DETAILS

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

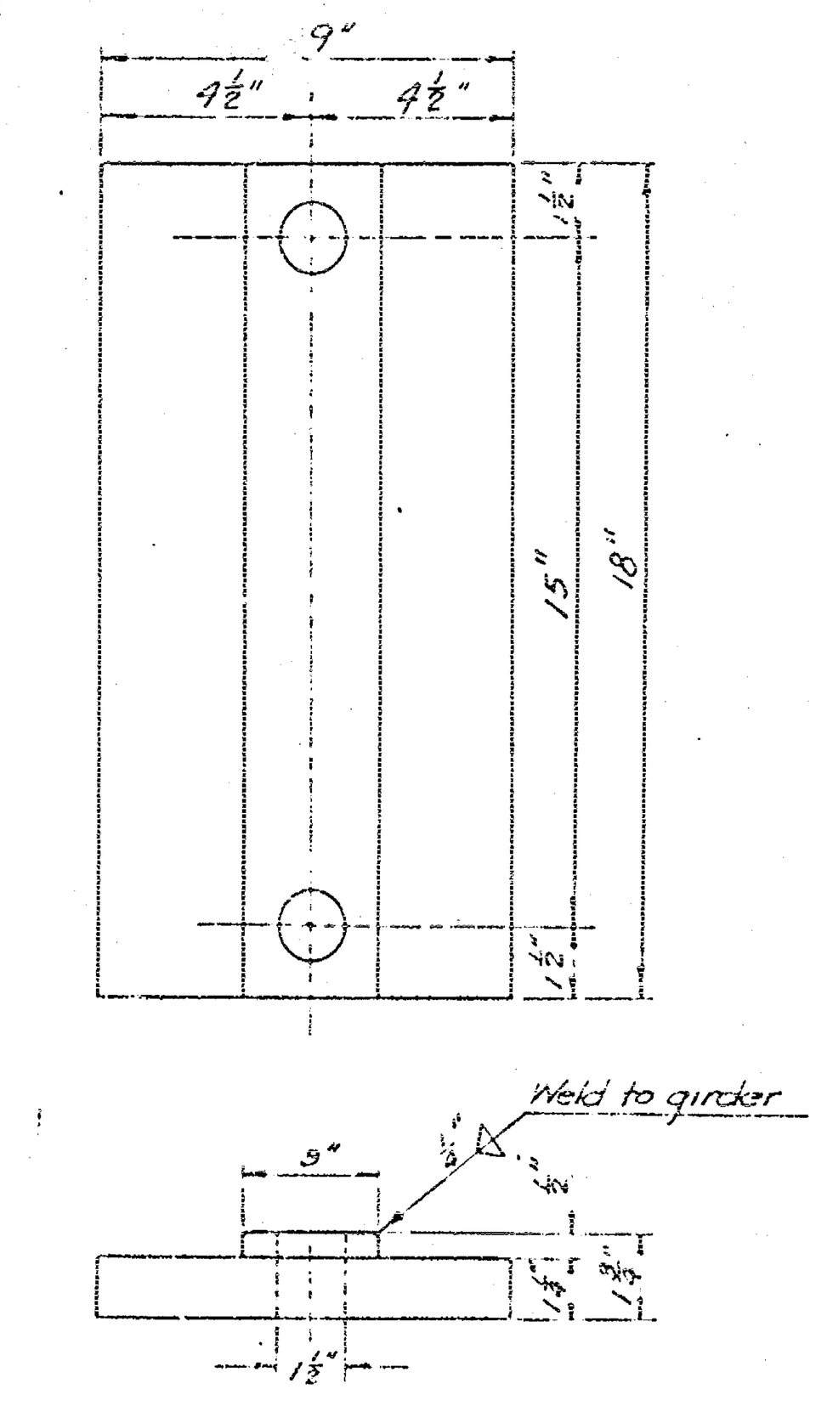
REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	As Shown	JVH	JVH	CJF	5 of 8
	DATE	3-57	10-57	11-57	
	PLANFILE		TOTAL SHEETS		



PIER #5
SEC. C-C (Sheet No.5)
Scale: 1" = 1'-0"

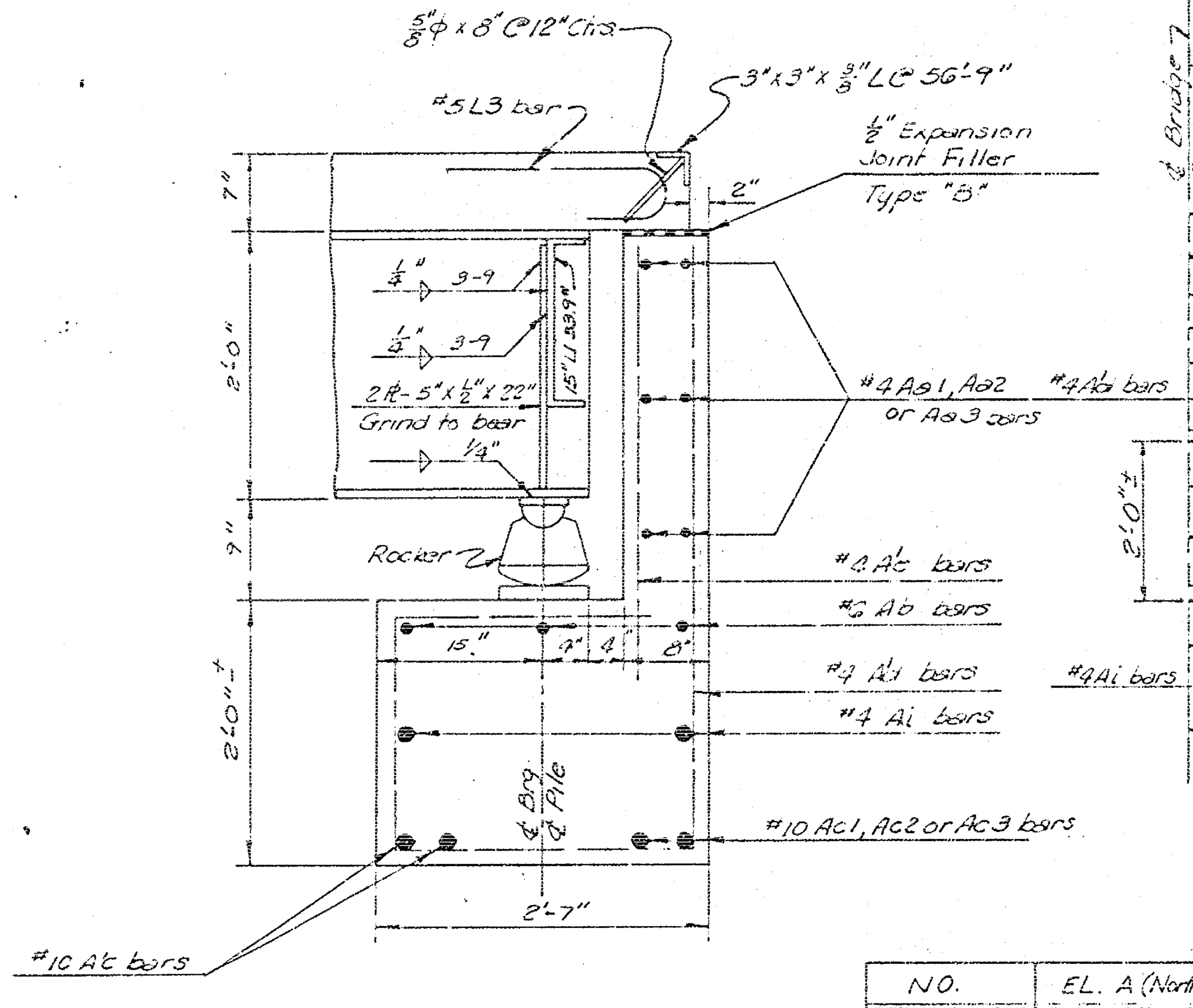


ROCKER DETAIL
(To be used at Pier #5 & Abut. #2)
Scale: ¼" = 1"

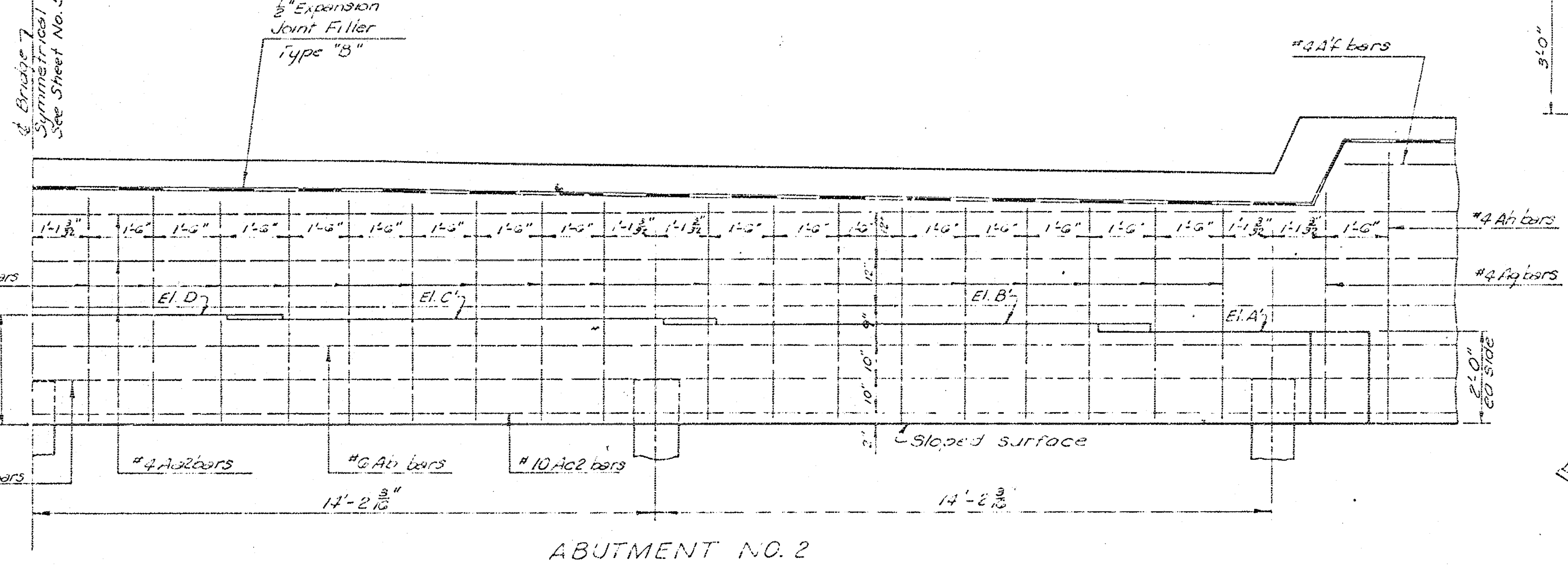


BEARING PLATES
(To be used at Piers #1, #2, #3, #4, & Abut. #1)
Scale: ¼" = 1"

DESIGN - AAHSO Spec. H-20-44 loading.
CONCRETE - Class "A" concrete f_c = 1200 psi. Bevel all exposed edges with a ¾" triangular moulding unless otherwise noted.
REINFORCING STEEL - All dimensions shown relative to placing reinforcing steel are to ℄ of bars unless otherwise noted. f_s = 20,000 psi
CONSTRUCTION JOINTS - Construction joints shown are optional with the contractor, but if used shall be made only at locations shown or as approved by the Engineer. See pouring sequence.
PILING - Piling to be driven to refusal or to a computed minimum bearing value of 50 Tons per pile.
SOUNDINGS - Test holes No. 1, 2, & 3 drilled with a ¾" jet by Sedgwick County.
PLAQUES - Contractor to provide and install two 12"x16" cast bronze alloy plaques on wall adjacent to end handrail post. Thickness and finish of plaques shall conform to Section 118.70 of "Kansas Standard Specifications." Sedgwick County to furnish full size detail drawing. Plaques shall not be paid for directly, but shall be considered as subsidiary to other items in the bridge contract.
HANDRAIL - Aluminum handrail, Kaiser #3301, Alcoa #3001, or equal to be used. Anchor bolts for handrail posts shall be of aluluminum alloy and conform to manufacturers specifications. These bolts shall not be paid for directly but shall be considered subsidiary to Aluminum Handrail.
OLD STRUCTURE - Bridge contractor to remove existing structure prior to construction of new bridge. Existing bridge consists of 3 simple spans, 2@28' and 1@34' - timber pile bents - 6 lines of 18" I-beams - laminated wood deck and timber backwalls and wingwalls. All material from the existing bridge deemed salvable by the engineer shall be handled or disposed of on the site as directed by the engineer. All material not desired as salvage shall be wasted in a location as designated by the engineer.
TEST PILES - Two 36' test pile shall be driven in place and in a location designated by the engineer prior to approval of the necessary pile lengths for order.



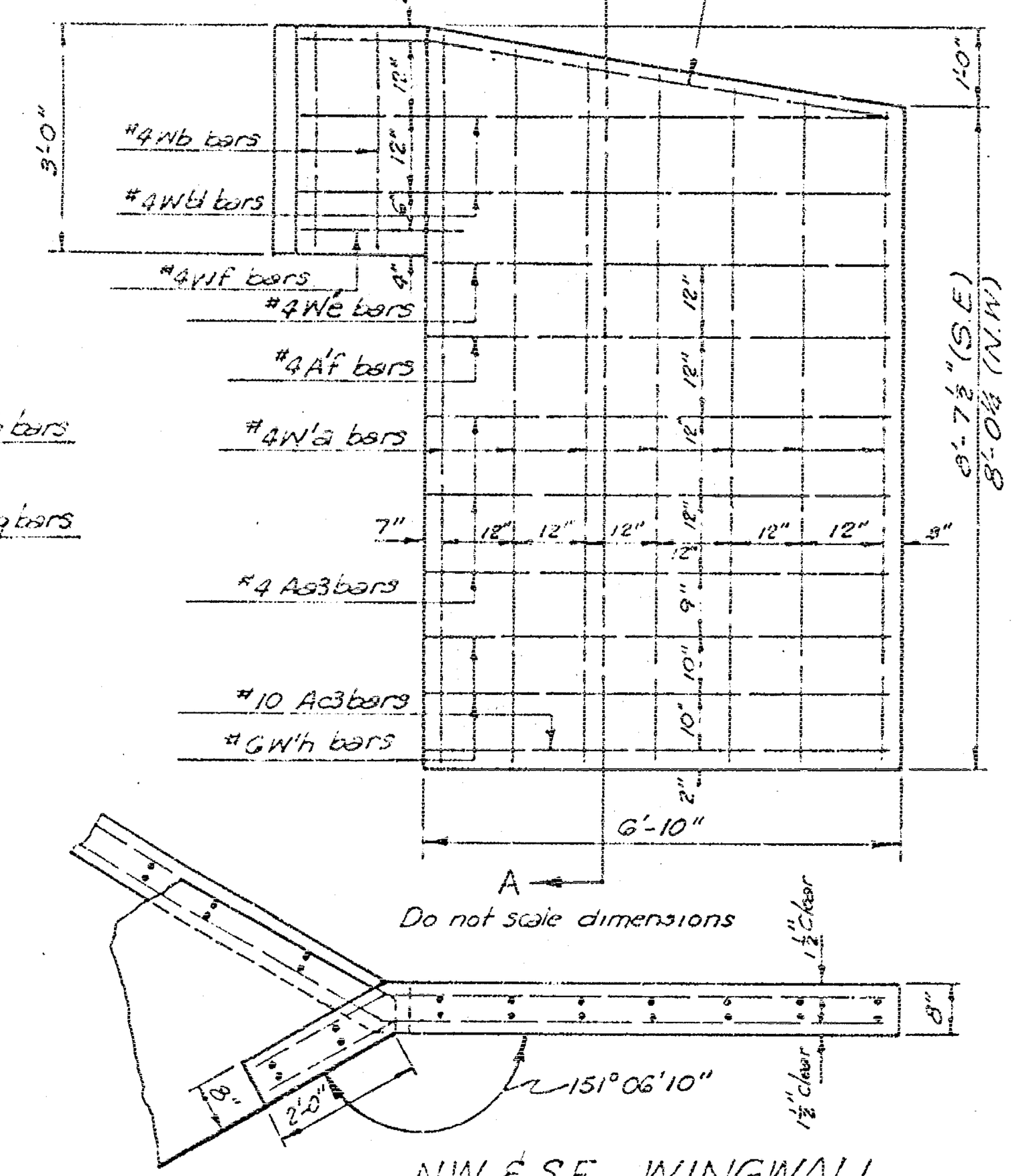
ABUT. #2
SEC. D-D (Sheet No.5)
Scale: 1" = 1'-0"



ABUTMENT NO. 2
Scale: ½" = 1'-0"

Note:
For typical Section A-A of wingwall see Sheet No.4

Note:
Horizontal steel for NW Wingwall spaced as shown on Elev. view of N.E. & S.W. wingwall, Sh. #5



N.W. & S.E. WINGWALL

CAP ELEVATIONS

NO.	EL. A (North)	EL. B	EL. C	EL. D (℄)	EL. C'	EL. B'	EL. A' (So)
Abut. #1	1337.16	1337.45	1337.74	1337.93	1337.96	1337.91	1337.85
Pier #1	1337.84	1338.12	1338.38	1338.57	1338.58	1338.51	1338.44
Pier #2	1338.65	1338.90	1339.15	1339.31	1339.30	1339.20	1339.11
Pier #3	1339.27	1339.50	1339.72	1339.86	1339.83	1339.71	1339.59
Pier #4	1339.70	1339.90	1340.11	1340.22	1340.17	1340.03	1339.89
Pier #5	1339.84	1339.53	1339.71	1339.82	1339.75	1339.60	1339.46
Abut. #2	1339.46	1339.64	1339.83	1339.93	1339.87	1339.72	1339.57

SUMMARY OF QUANTITIES

ITEM	QUANTITY	UNIT
Test Piling	72	Lin. Ft.
Concrete, Class A(AE)	389.7	Cu. Yd.
Piling	1,398	Lin. Ft.
Structural Steel	188,060	Lbs.
Reinforcing Steel	44,940	Lbs.
Bearing Devices	4,595	Lbs.
Aluminum Handrail	456	Lin. Ft.
Excavation, Common	3370	Cu. Yd.
12" Heavy Rip-Rap	1040	Cu. Yd.
6" Sand & Gravel Backing	340	Cu. Yd.

REC'D DEC 10 1957

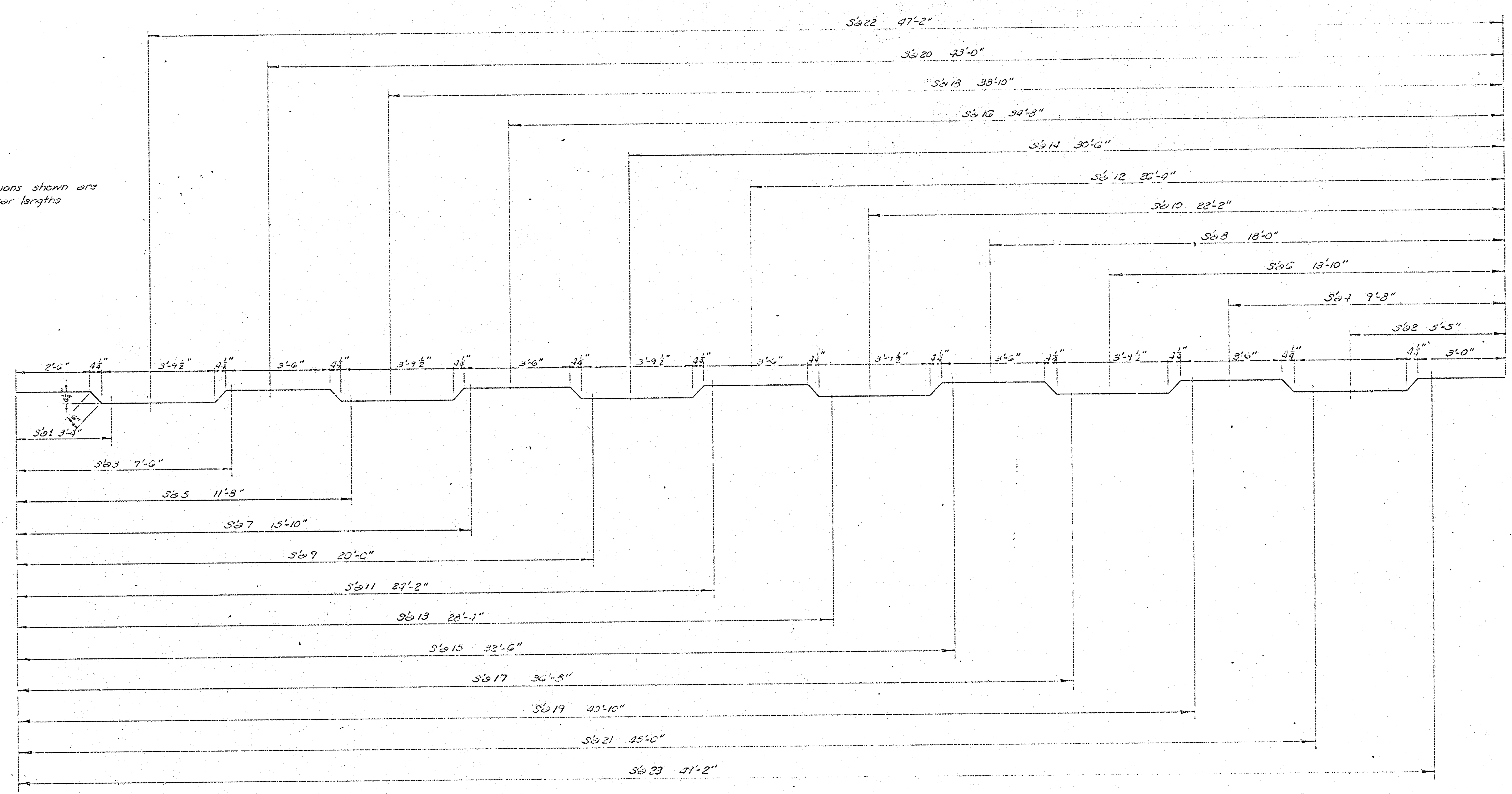
ABUTMENT, PIER, AND AUXILIARY DETAILS

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

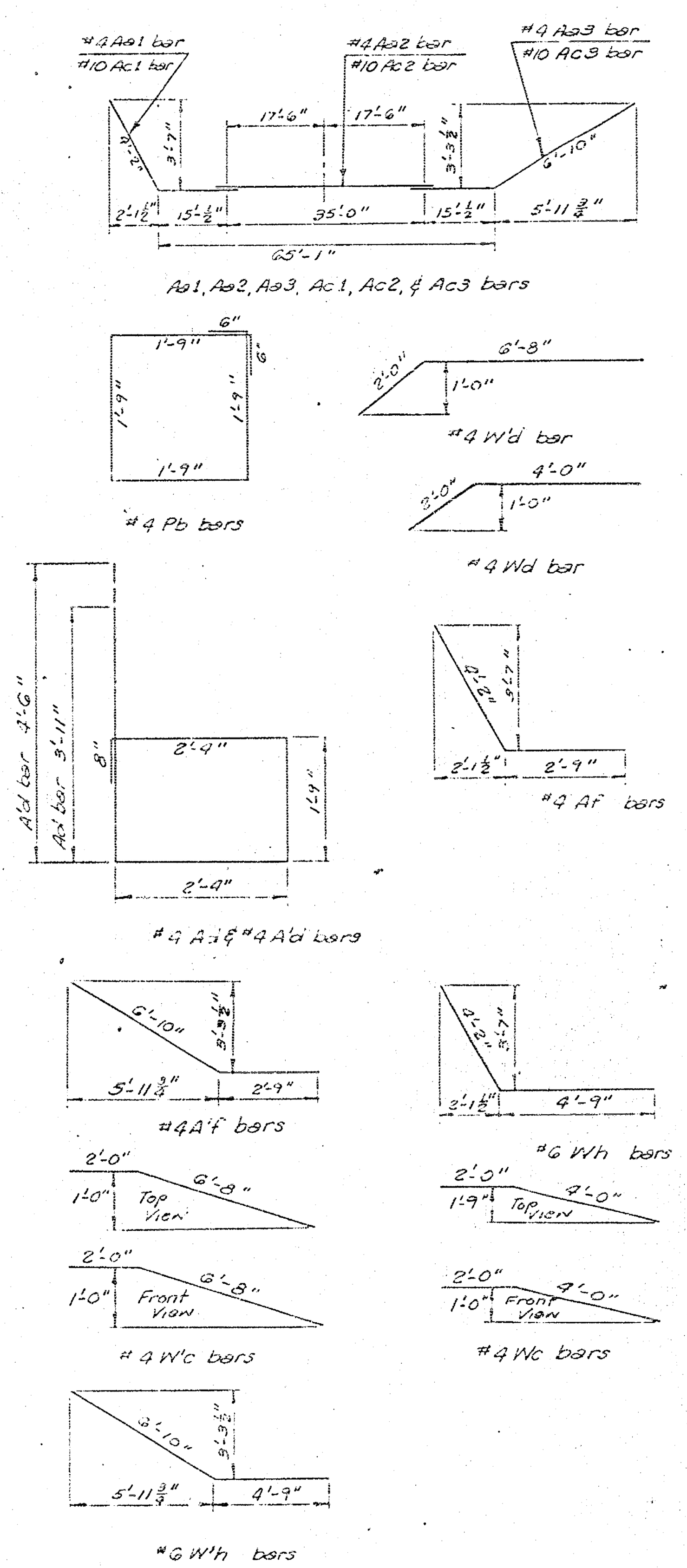
REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	As Shown	JVH	JVH	CJF	6 of 8
	DATE	3-57	11-57	11-57	
	PLANFILE		TOTAL SHEETS		

NOTE:
Dimensions of bar lengths are indicated to the nearest inch.

Note:
Dimensions shown are actual bar lengths



S'a1 through S'a23 Bar Diagrams (2 Sets Req'd)
Scale: ½"=1'0"



BAR DIAGRAMS
No Scale

REINFORCING STEEL QUANTITIES

Bar Desig.	Location	Size	No.	Length	Weight	Remarks	Bar Desig.	Location	Size	No.	Length	Weight	Remarks	Bar Desig.	Location	Size	No.	Length	Weight	Remarks
Aa1	Bkwall & Wingwalls	#4	12	19'-10"		Bar diag. on Sh. #7	L1	Slab	#4	448	21'-6"		Straight Bar	Wd	NE & SW Wingwall	#4	8	6'-0"		Bar diag. Sh. #7
Aa2	" " "	#4	12	36'-0"		"	L2	"	#4	256	23'-7"		" "	W'd	NW & SE Wingwall	#4	8	8'-8"		"
Aa3	" " "	#4	12	22'-6"		"	L3	"	#4	92	2'-6"		Bar diag. Sh. #4	We	NE & SW Wingwall	#4	4	"		Straight Bar
Ab	Abutment	#6	6	60'-0"	541	Straight bar	Pa	Cap (Piers)	#5	20	60'-0"		Straight Bar	W'e	NW & SE Wingwall	#4	4	"		" "
Ac1	Abut. & Wg walls	#10	4	20'-4"		Bar diag. on Sh. #7	Pb	" "	#4	190	8'-0"		Bar diag. Sh. #7	Wf	All Wingwalls	#4	8	2'-2"		" "
Ac2	" " "	#10	4	37'-11"		"	Sa	Slab	#5	135	51'-9"		Bar diag. Sh. #4	Wh	Abut. & NE & SW Wwall	#6	8	8'-11"		Bar diag. sh. #7
Ac3	" " "	#10	4	25'-10"		"	S'a1 thru S'a23	"	#5	46	See Remarks	1504	Bar diag. Sh. #7	W'h	Abut. & NW & SE Wwall	#6	8	11'-7"		"
A'c	Abutment	#10	4	60'-0"	1033	Straight Bar	Sb	"	#5	134	51'-2"		Bar diag. Sh. #4	Wa2	N.E. Wingwall	#4	8	Beg @ 8'-6" inc. 3" to 9'-6" 2 ea. req'd		Same position Wa
Ad	Bkwall & Abut.	#4	38	11'-0"		Bar diag. on Sh. #7	S'b	"	#5	48	See Remarks	1296	Beg. with length 2'-9" incr. 2'-0½" to 49'-0½"	W'a2	N W "	#4	14	Beg @ 8'-0" inc. 2" to 9'-0" 2 ea. req'd.		" " W'a
A'd	" " "	#4	38	11'-7"		"	Sc	"	#5	134	58'-2"		Bar diag. Sh. #4							
Ae	" " "	#4	36'	3'-0"		Straight Bar	S'c	"	#5	50	See Remarks	1582	Beg. with length 6'-4" incr. 2'-0½" to 54'-4" 2 Sets of 25 bars ea.							
A'e	" " "	#4	36	3'-6"		" "	Sc'	"	#5	4	7'-0"		Bar diag. Sh. #4							
Af	Bkwall & NE & SW	#4	4	6'-11"		Bar diag. Sh. #7	Wa	SW Wingwall	#4	8	Beg at 8'-0" incr. 3" to 8'-9"	90	St. bar - 2 Sets req'd							
A'f	Bkwall & NW & SE WW.	#4	4	9'-7"	26	"	W'a	SE Wingwall	#4	14	Beg at 8'-6" incr. 2" to 9'-6"	168	" "							
Ag	Backwall	#4	8	4'-6"		Straight Bar	Wb	All Wingwalls	#4	16	2'-9"	29	Straight Bars							
Ah	"	#4	8	5'-6"		" "	Wc	NE & SW Wingwalls	#4	4	6'-0"		Bar diag. Sh. #7					Total	44,940#	
Ai	Abutment	#4	4	60'-0"	160	" "	W'c	NW & SE Wingwalls	#4	4	8'-8"		"							

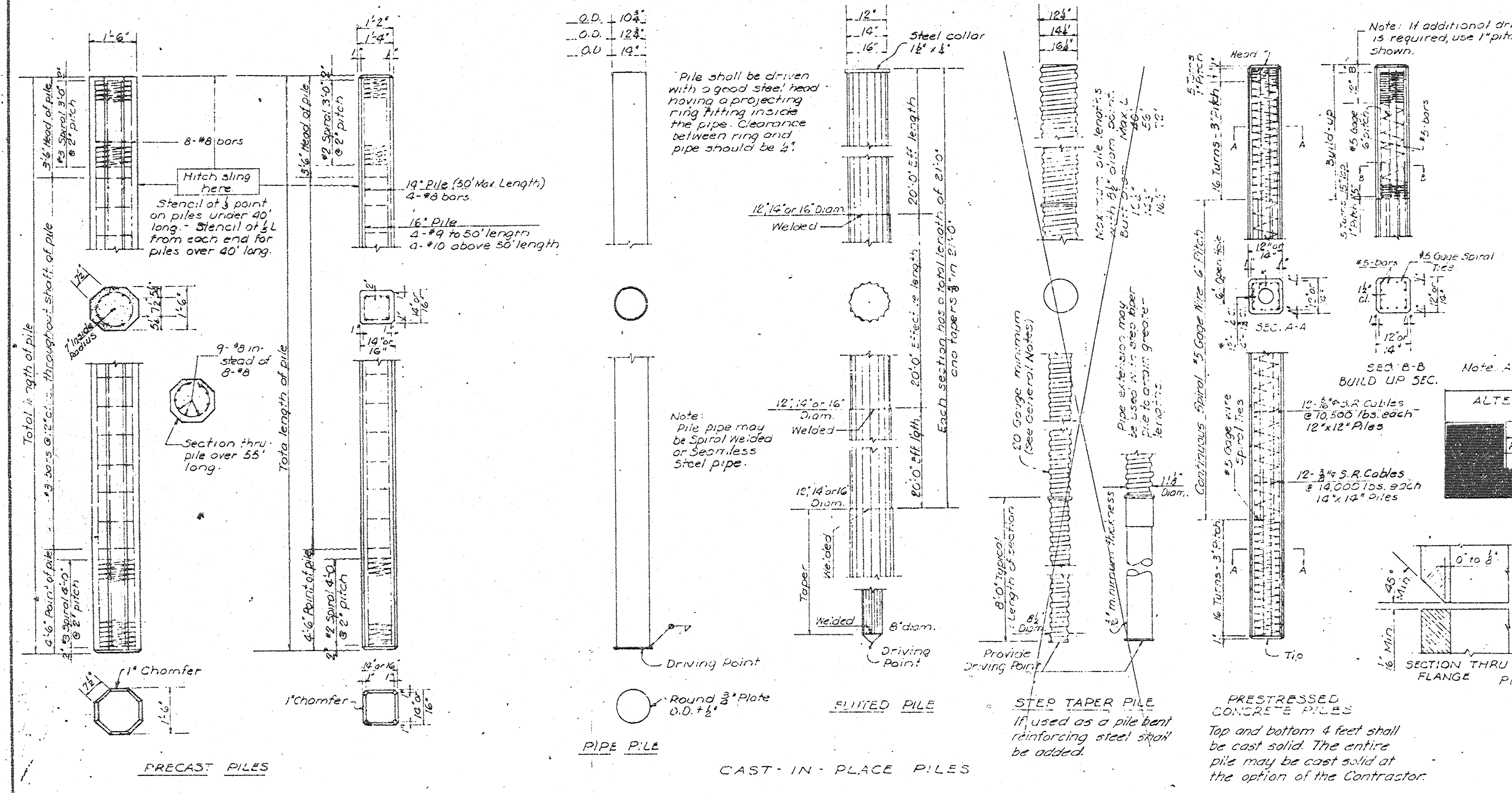
REC'D DEC 19 1957

BAR DIAGRAMS AND REINFORCING STEEL QUANTITIES

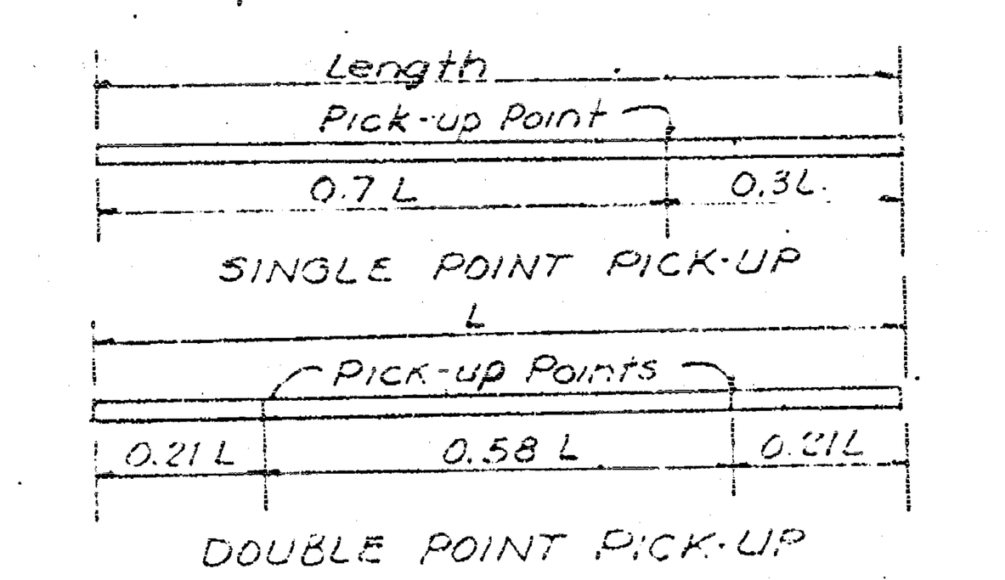
PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK - COUNTY ENGINEER

REVISED		SCALE	DESIGNED	TRACED	CHECKED	SHEET NO
		As Shown	J.V.H.	J.V.H.	C.J.F.	7 of 8
	DATE		3-57	11-57	11-57	
	PLANFILE		TOTAL SHEETS			

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS		195		



Top and bottom 4 feet shall be cast solid. The entire pile may be cast solid at the option of the Contractor.



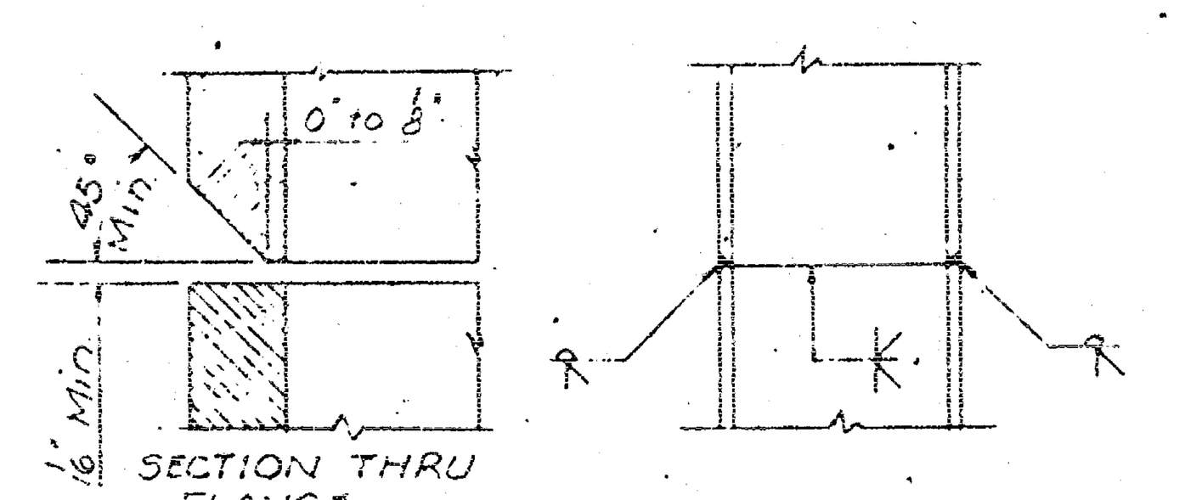
Note: Piles shall be marked at Pick-up Points to indicate proper points for attaching handling lines.

12" x 12" Piles.
Max. length:- 50' Single Point Pick-up
Max. length:- 75' Double Point Pick-up.

14" x 14" Piles
Max. length - 20' Single Point Pick-up.
Max. length - 85' Double Point Pick-up.

Note: All corners to be Chamfered 1".

ALTERNATE POINT BEARING PILES MINIMUM BUTT					DESIGN CAPACITY BY DRIVING FORMULA	
[redacted]	EQUIVALENT CONCRETE PILES				POINT BEARING PILE	
	PRECAST	PIPE	[redacted]	PRESTRESS		
	14"	10¾"		12"		
[redacted]						



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 as 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' fc' = 3000 p.s.i... Concrete for Prestressed piles shall be Class AAA fc' = 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 - 8 gage except fluted pile use 9 gage minimum.
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 1010 classification for 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 1000.

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, broken 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. A7-53T.

8. Pile Points
All cast-in-place piles shall be equipped with a steel driving point of ½" 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-87-49, Grade 2, or structural steel meeting the requirements of A.S.T.M. A7-53T.
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)

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.

NO	DATE	REVISIONS	BY	APP'D
3				
2				
1				

REC'D DEC 19 1957

STATE HIGHWAY COMMISSION OF KANSAS

STANDARD PILE DETAILS

Sheet 8 of 8

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