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

SEDGWICK COUNTY HIGHWAY DEPARTMENT

BRIDGE ONLY

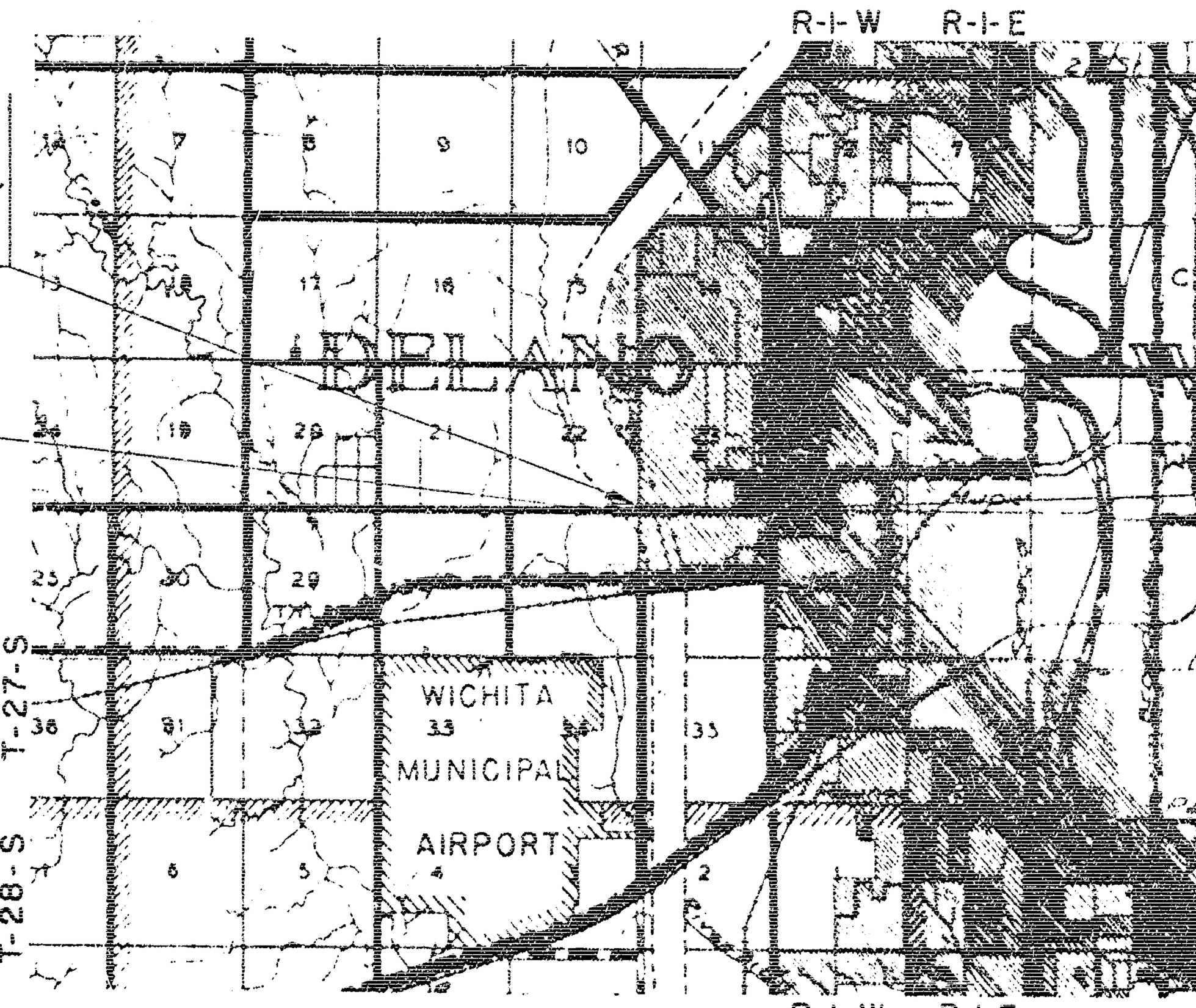
INDEX OF SHEETS

SCALE 1" = 1 MILE

Sta. 50+77.30 Construct 35'-26@ 44'-35' Continuous Steel Beam Spans on Pile Bent Piers. Open Type Abutments -28' Roadway Aluminum Handrail

Sta 44+10.30 Begin Project No. 620-22-5077

COUNTY ROAD # 620



Sta 56+84.30 End Project No. 620-22-5077

CONVENTIONAL SIGNS

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

TRAFFIC COUNT 3,750 V.P.D. (1955)

NET LENGTH OF PROJECT	1216.75	FT	0.230	MILES
NET LENGTH OF BRIDGES	1216.75	FT	0.230	MILES
NET LENGTH OF ROAD	None	FT	None	MILES
EXCEPTIONS	"	FT.	"	MILES
ADDITONS	"	FT.	"	MILES
GROSS LENGTH OF PROJECT	1216.75	FT.	0.230	MILES

PLANS PREPARED BY

SEDGWICK COUNTY ENG'R DEP

DATE

APPROVED DATE

APPROVED

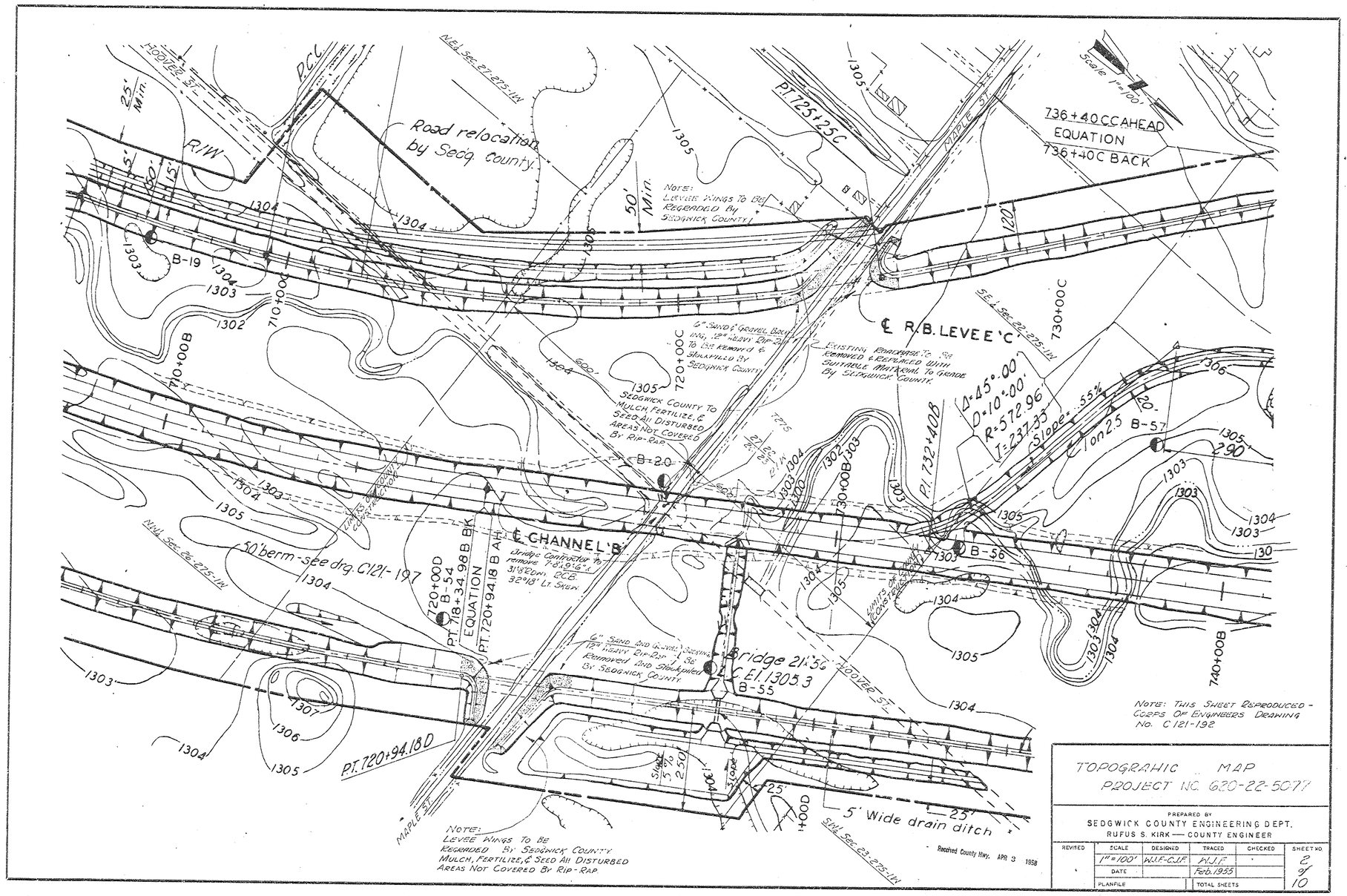
Rufus J. Kirk

COUNTY ENGINEER

DATE 3-4-1958

APPROVED DATE

Received County Hwy. APR 3 1958

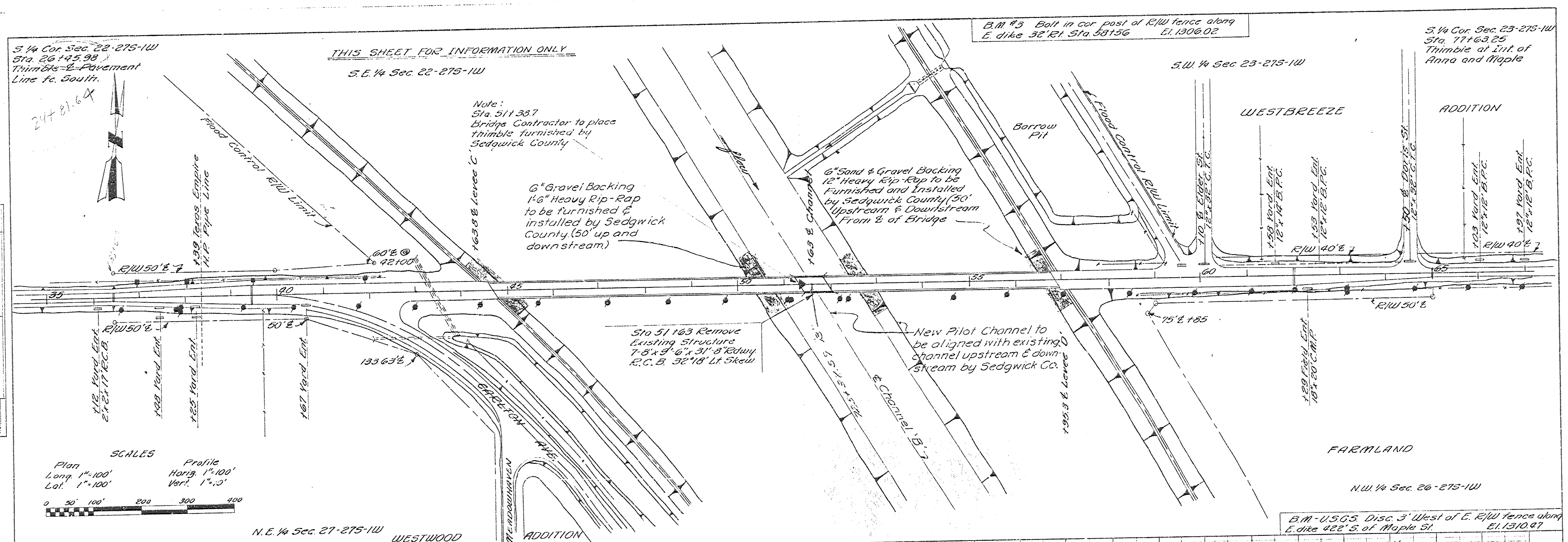


TOPOGRAPHIC MAP
PROJECT NO. 620-22-5077

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

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	1"=100'	W.J.F-C.J.F.	W.J.F.		2
	DATE		Feb. 1958		of
	PLANFILE		TOTAL SHEETS		10

THIS SHEET FOR INFORMATION ONLY


S 1/4 Cor. Sec. 22-27S-1W
Sta. 26+45.98
Thimble ⊈ Pavement
Line fc. South.
S.E. 1/4 Sec. 22-27S-1W
Note:
Sta. 51+38.7
Bridge Contractor to place
thimble furnished by
Sedgwick County
6" Gravel Backing
1'-6" Heavy Rip-Rap
to be furnished &
installed by Sedgwick
County (50' up and
down stream)
6" Sand & Gravel Backing
12" Heavy Rip-Rap to be
Furnished and Installed
by Sedgwick County (50'
Upstream & Downstream
From ⊈ of Bridge
Barrow
Pit
B.M. #3 Bolt in cor post of R/W fence along
E. dike 38' Rt. Sta. 58+56 El. 1306.02
S.W. 1/4 Sec. 23-27S-1W
S. 1/4 Cor. Sec. 23-27S-1W
Sta. 77+63.25
Thimble at Int. of
Anna and Maple
WESTBREEZE
ADDITION
Flood Control R/W Limit
Sta 51+63 Remove
Existing Structure
New Pilot Channel to
be aligned with existing
channel upstream & down
stream by Sedgwick Co.
Channel 'B'
FARMLAND
N.W. 1/4 Sec. 26-27S-1W
SCALES
Plan
Long. 1"=100'
Lat. 1"=100'
Profile
Horiz. 1"=100'
Vert. 1"=10'
0 50' 100' 200 300 400
N.E. 1/4 Sec. 27-27S-1W
WESTWOOD
ADDITION

GENERAL NOTES

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

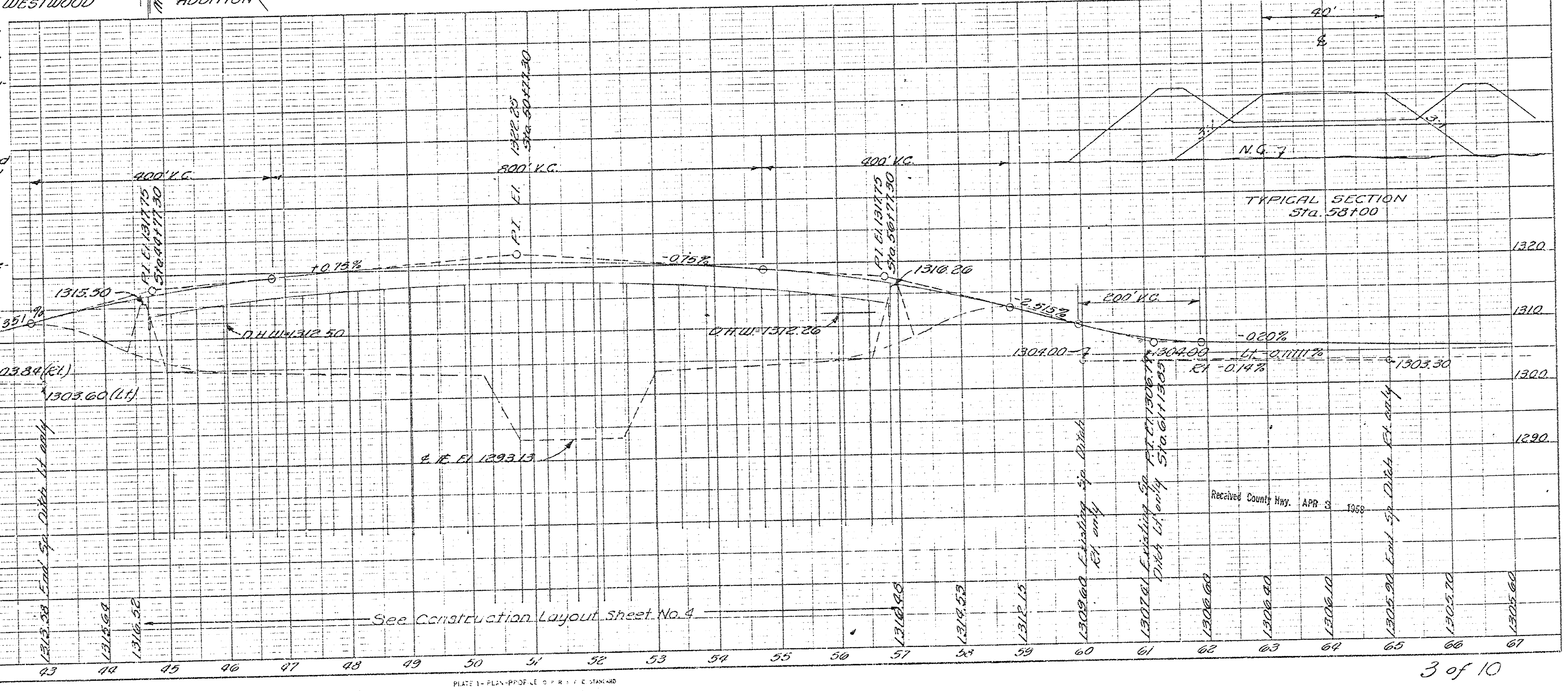
All water lines less than three feet below the surface of the proposed grade, or lines not constructed of lead, copper, cast iron or wrought iron, or lines not in good condition shall be lowered, replaced or moved beyond the limits of the roadbed by the owners.

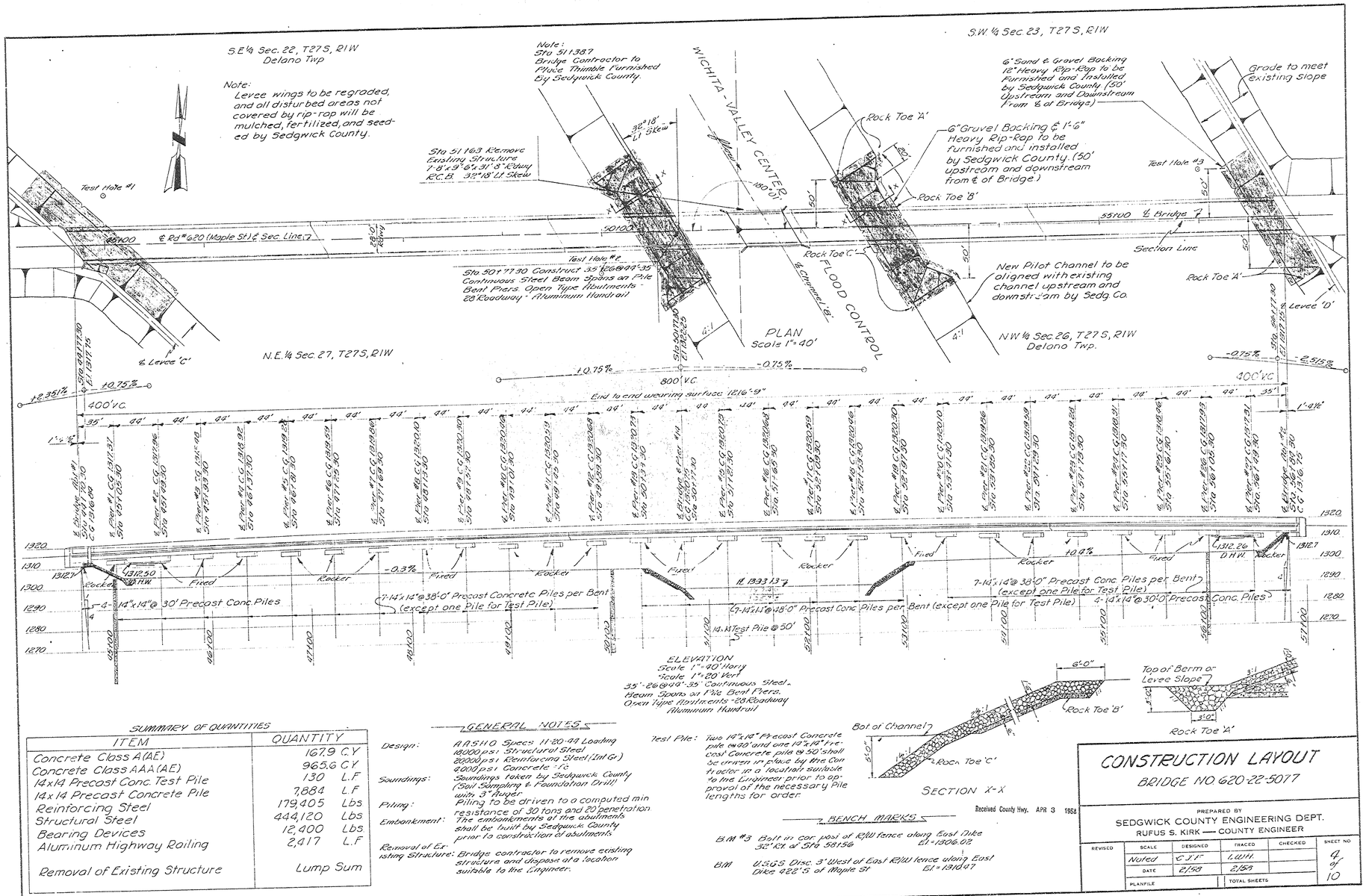
In the interest of public safety, all gas, gasoline and oil lines shall be moved beyond the limits of the roadbed unless special provision for their retention has been noted.

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

All additional Right-of-Way shall be furnished by Sedgwick County except pits, which shall be furnished by the Wichita Valley-Center Flood Control Project.

Grading, culverts, paving and rip-rap to be furnished by Sedgwick County and is not to be considered a part of this project. Old pavement from Sta. 36+50 to Sta. 65+00 to be removed by Sedgwick County and stockpiled on site selected by the County Engineer.





SUMMARY OF QUANTITIES

ITEM	QUANTITY
Concrete Class A (AE)	167.9 C.Y.
Concrete Class AAA (AE)	965.8 C.Y.
14x14 Precast Conc. Test Pile	130 L.F.
14x14 Precast Concrete Pile	7,884 L.F.
Reinforcing Steel	179,405 Lbs.
Structural Steel	444,120 Lbs.
Bearing Devices	12,400 Lbs.
Aluminum Highway Railing	2,417 L.F.
Removal of Existing Structure	Lump Sum

GENERAL NOTES

Design: AASHO Specs. 11-20-49 Loading
18000 psi Structural Steel
20000 psi Reinforcing Steel (Int G)
4000 psi Concrete - f'c

Soundings: Soundings taken by Sedgwick County (Soil Sampling & Foundation Drill) with 3" Auger.

Piling: Piling to be driven to a computed min resistance of 30 tons and 20 penetration

Embankment: The embankments of the abutments shall be built by Sedgwick County prior to construction of abutments.

Removal of Existing Structure: Bridge contractor to remove existing structure and dispose at a location suitable to the Engineer.

Test Pile: Two 14"x14" Precast Concrete pile @ 40' and one 13"x13" Precast Concrete pile @ 50' 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.

BENCH MARKS

B.M. #3 Bolt in cor. post of R/W fence along East Dike 32' Rt. of Sta 50+58.56 — El = 1306.02

B.M. U.S.G.S. Disc. 3' West of East R/W fence along East Dike 422'.5 of Maple St — El = 1310.47

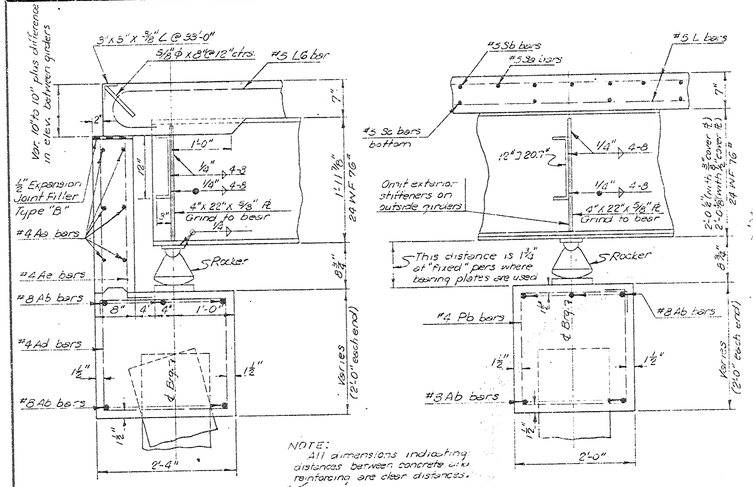
Received County Hwy. APR 3 1958

CONSTRUCTION LAYOUT

BRIDGE NO. 620-22.5077

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

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO
	Noted	C.J.F.	L.W.H.		4 of 10
	DATE	2/58	2/58		
	PLANFILE		TOTAL SHEETS		



BAR	NO	SIZE	LENGTH	REMARKS
Aa	12	#4	34'-0"	Abut. St. wall
Ab	165	#8	34'-4"	Abut. & Piers
Ad	46	#4	10'-5"	Abut. Stirrup
A'd	4	#4	11'-2"	" "
Ae	50	#4	3'-4"	" Bk wall
Pb	70①	#4	8'-0"	Pier Stirrup
P'b	54	#4	9'-5½"	" "
Wa	12	#4	10'-0"	Wingwall
Wb	12	#4	10'-6"	"
W'b	24	#4	5'-0"	"
Wc	40	#4	①	"
Wd	24	#4	5'-6"	"
We	12	#7	13'-4"	"
W'e	12	#7	14'-0"	"
W'f	4	#4	7'-10"	"
Wf	4	#4	8'-0"	"
			Total	19,350

① Increase by 4½" incr. from 7'-4" to 8'-0" (Beg. to end)

GENERAL NOTES

Design: H-20-44 AASHO Spec., Concrete f'c = 3000 psi. in Abut.'s & Pier and f'c = 4,000 psi. in the deck, Reinforcing Steel 20,000 psi. Int Grade.

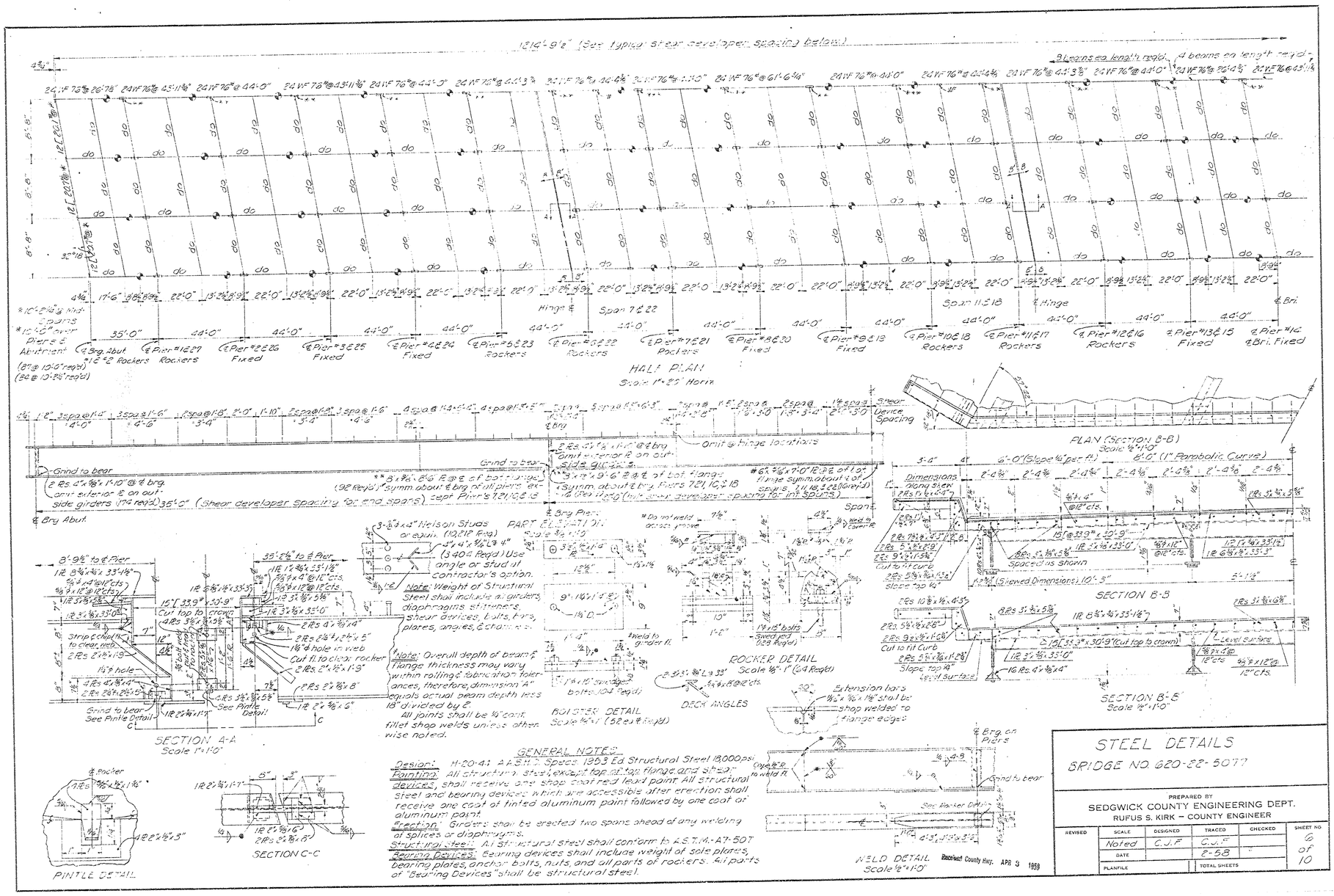
Concrete: Class A.E. concrete shall be used in Abutments and Piers. Class AA(A.E.) concrete shall be used for cap, deck and curb. Bevel all exposed edges with a ¾" molding unless otherwise noted.

Piling: All piles shall be driven to a minimum value of 30 tons per pile and a minimum penetration of 20'.

PIER AND ABUTMENT DETAILS

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

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO
	As Shown	CJF	JVH	CJF	5 of 10
	DATE	2-58	2-58	3-58	
	PLANFILE		TOTAL SHEETS		



STEEL DETAILS

BRIDGE NO. 620-22-5077

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		2-58		of
	PLANFILE		TOTAL SHEETS		10

GENERAL NOTES

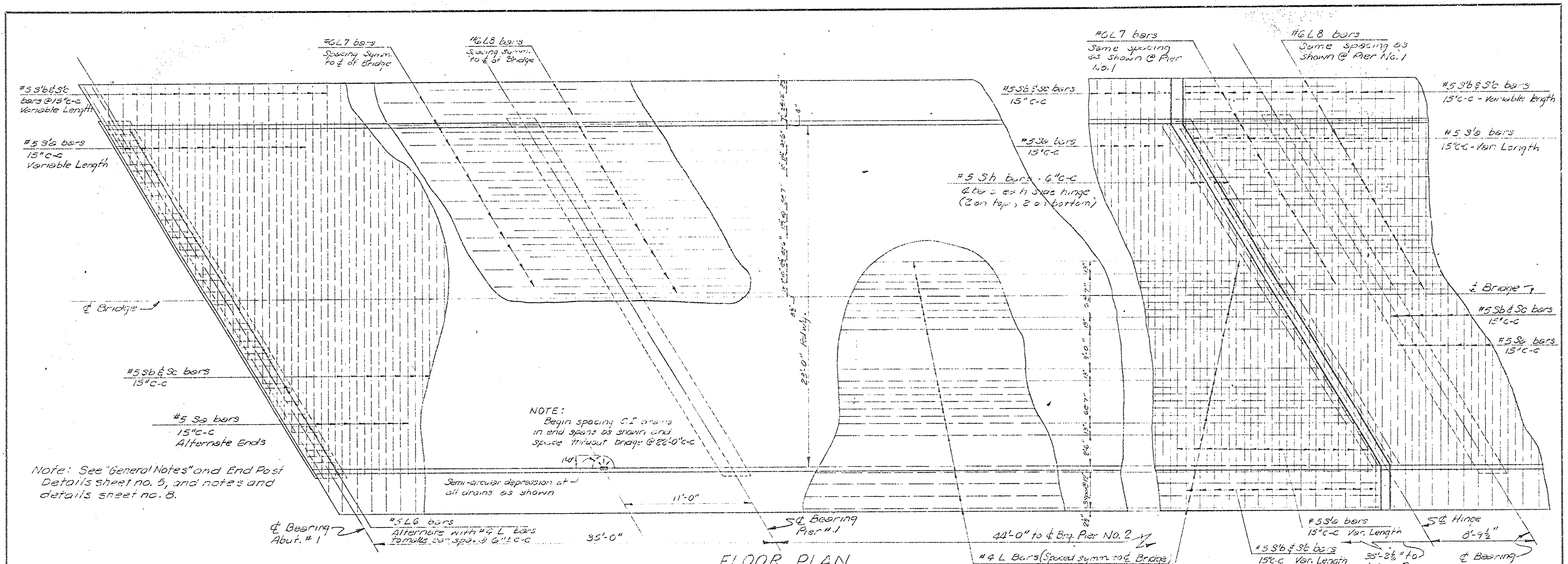
Design: H-20-44 A.A.S.H.O. Specs. 1953 Ed. Structural Steel 18000 psi.

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.

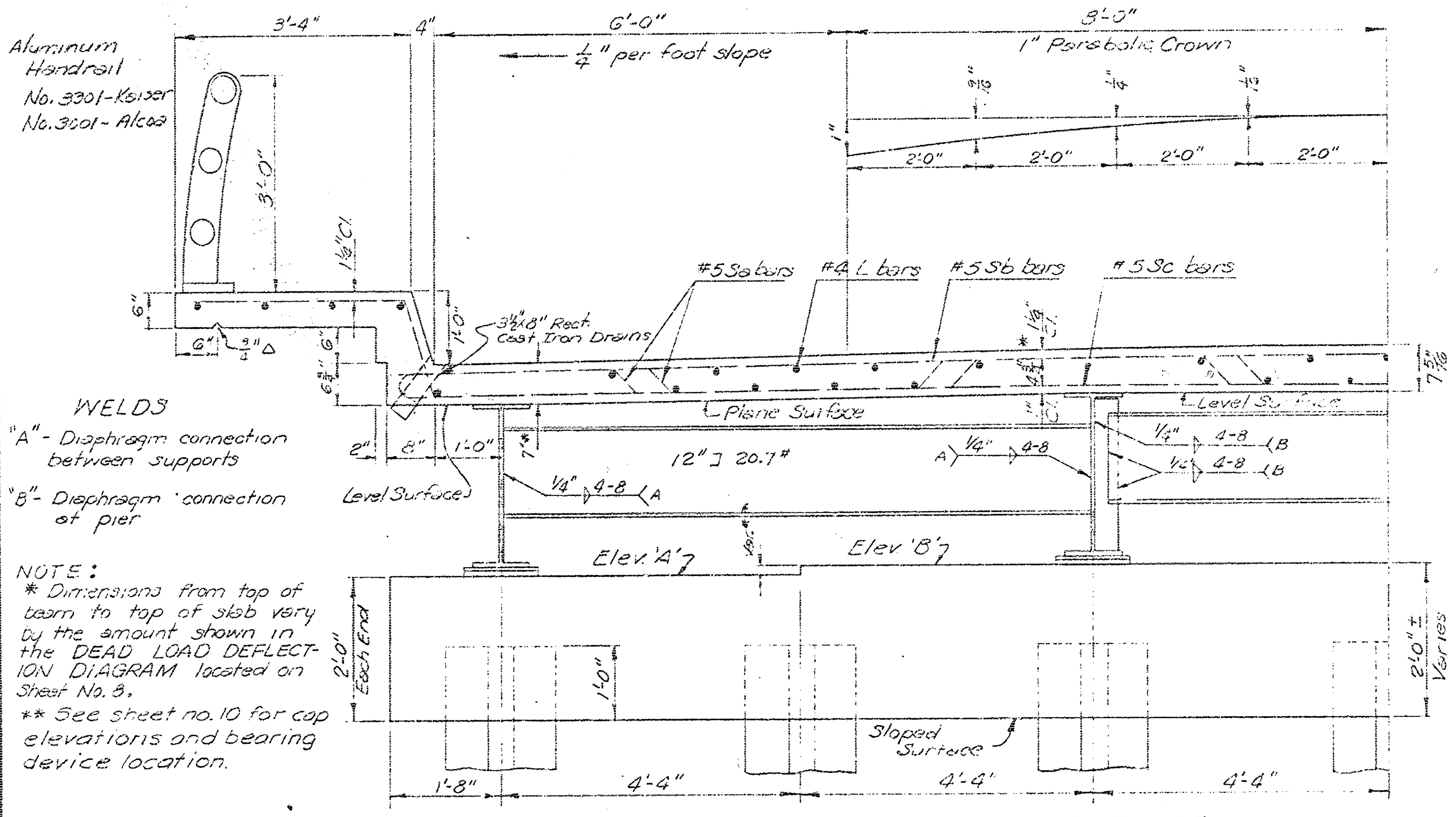
Erection: Girders shall be erected two spans ahead of any welding of splices or diaphragms.

Structural Steel: All structural steel shall conform to A.S.T.M.-A7-50T

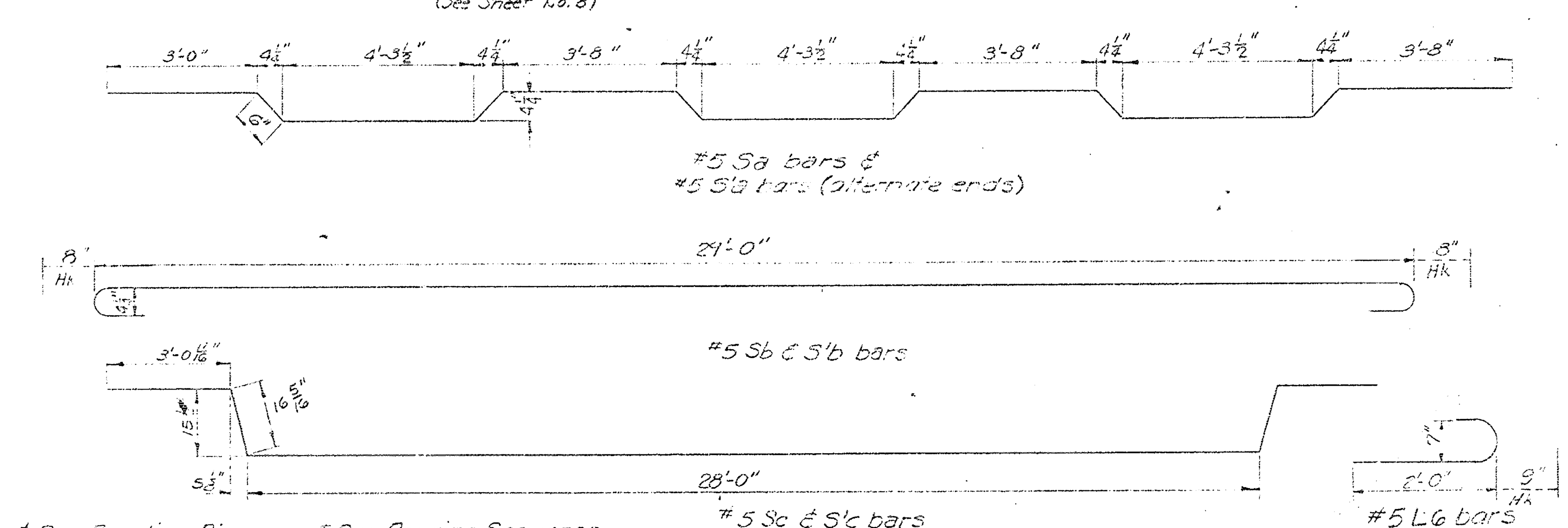
Bearing Devices: Bearing devices shall include weight of sole plates, bearing plates, anchor bolts, nuts, and all parts of rockers. All parts of "Bearing Devices" shall be structural steel.



FLOOR PLAN
Scale: 1/4" = 1'-0"



HALF-SECTION OF FLOOR
Scale: 3/8" = 1'-0"



† See Bending Diagram ‡ See Pouring Sequence

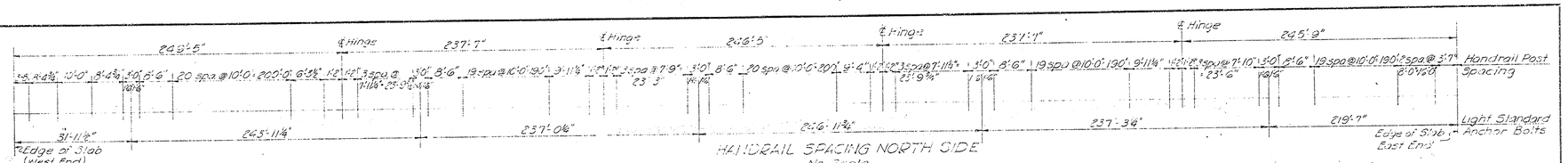
BAR	NO	SIZE	LENGTH	REMARKS	BAR	NO	SIZE	LENGTH	REMARKS
Sa	824	#5	29'-10½" ‡	Deck Slab ‡	L5	148	#4	18'-10"	‡ Sh. #8
Sb	826	#5	30'-4" ‡	" " ‡	L6	76	#5	2'-9" ‡	Slab end
Sc	826	#5	36'-10" ‡	" " ‡	L7	648	#6	21'-8"	Over Piers
S'a	150	#5	① ‡	" " ‡	L8	756	#6	13'-0"	" "
S'b	140	#5	② ‡	" " ‡	Ea	12	#4	9'-6" ‡	Hdrl. Post
S'c	140	#5	③ ‡	" " ‡	Eb	12	#4	8'-6" ‡	" "
Sh	32	#5	34'-0"	Near Hinge	Ec	32	#4	2'-0"	" "
L1	74	#4	24'-10"	‡ Sh. #8	Ed	70	#4	5'-4" ‡	Light Stand
L2	851	#4	21'-8"	" " "	Ee	80	#4	4'-0"	" "
L3	814	#4	24'-0"	" " "	Ef	70	#4	5'-7" ‡	" "
L4	148	#4	25'-5"	" " "				Total	160,055

① Increase by 1'-11¾" incr. from 3'-0" to 28'-8¾" (10 ea. lg. req.)
② " " " " " 2'-8" to 28'-4¾" (" " " ")
③ Increase by 1'-11⅞" incr. from 4'-6" to 32'-2½" (10 ea. length req.)

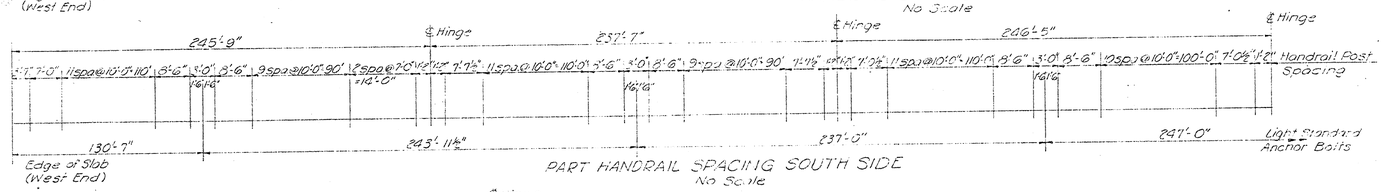
DECK DETAILS

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

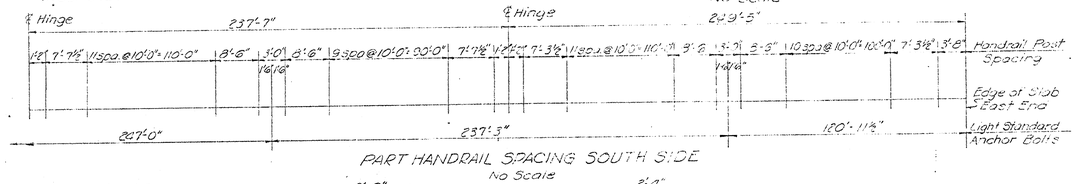
REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	As Shown	C.J.F.	JVH	CJF	7
	DATE	1-58	1-58	2-58	of
	PLANFILE		TOTAL SHEETS		10



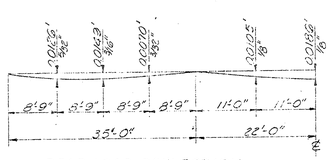
HANDRAIL SPACING NORTH SIDE
No Scale



PART HANDRAIL SPACING SOUTH SIDE
No Scale



PART HANDRAIL SPACING SOUTH SIDE
No Scale



DEAD LOAD DEFLECTION
AT QUARTER POINTS
No Scale

GENERAL NOTES

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

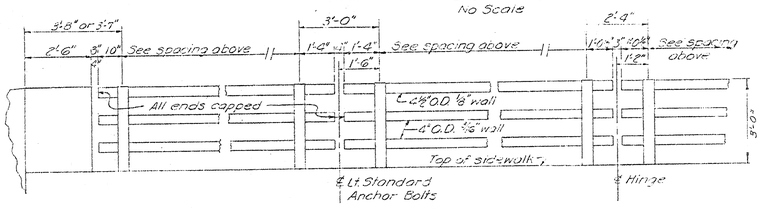
Cast Iron Drains shall be furnished and installed by the contractor and shall not be paid for directly but shall be considered as a subsidiary item to other items in the bridge contract.

GENERAL NOTES

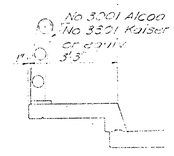
Concrete: Concrete Class AA(AE) shall be used thruout the deck. Bevel all exposed edges with a ¾"⌀ molding unless otherwise noted. Dimensions between top of beam and top of deck shall vary by the amounts shown in the Dead Load Deflection Diagram. Floor sections shall be poured in the sequence shown except that with the approval of the engineer consecutive pours may be combined to pour continuously from end to end of a unit. If a pour does not extend the full length of a continuous unit, the end of the pour shall be at the construction joint short of a pier.

Bridge Plaques: Contractor shall furnish and install two 12"x16" bronze alloy plaques on the concrete end posts. Sedgwick County will furnish the data and detail required. The plaques shall conform to the requirements of section 1182, 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.

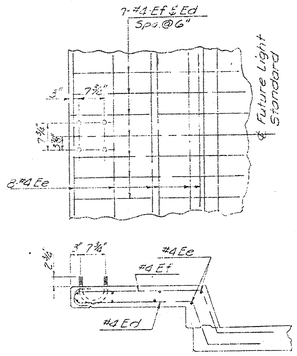
Aluminum Handrail: Aluminum Highway Railing shall be Alcoa 3001, Kaiser 3301 or equivalent. Posts shall be sandblasted and lacquered. The contacting surface between the anchors and posts shall be thoroughly coated with an aluminum impregnated calking compound, or a synthetic rubber gasket shall be used. 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. Basis of payment shall be based on the actual measurement of the lineal feet of aluminum handrail in place. ½"⌀ gaps between railing at the ℄ of every fourth post shall be allowed for expansion or movement of the railing.



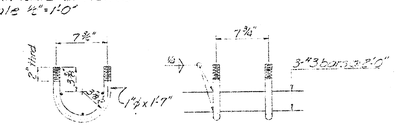
ALUMINUM RAIL SPACING
Scale ½"=1'-0"



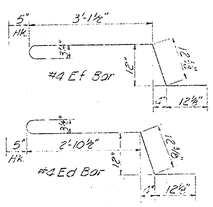
ALUMINUM POST DETAIL
Scale 1½"=1'-0"
(286 Reqd.)

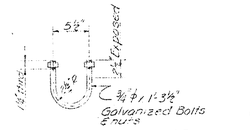


LIGHT STANDARD
Anchor Bolt Installation
And Reinforcing Detail
Scale ¾"=1'-0"

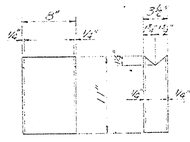


LIGHT STANDARD ANCHOR BOLTS
Scale 1½"=1'-0" (10 units reqd)

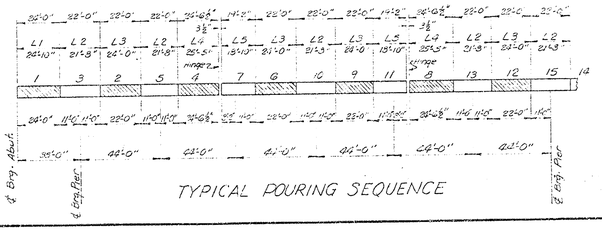




ALUMINUM POST ANCHORS
Scale 1½"=1'-0" (532 reqd)



CAST IRON DRAINS
166 Reqd.
Scale 1½"=1'-0"



TYPICAL POURING SEQUENCE

Received County Hwy. APR 3 1958

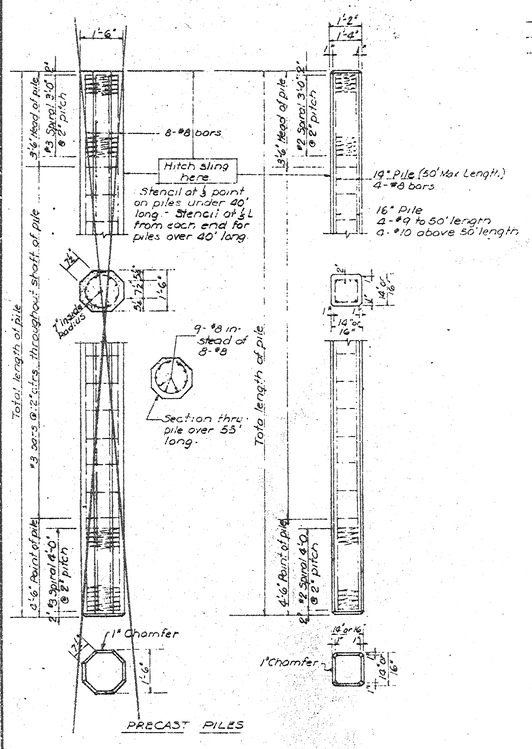
AUXILIARY DETAILS

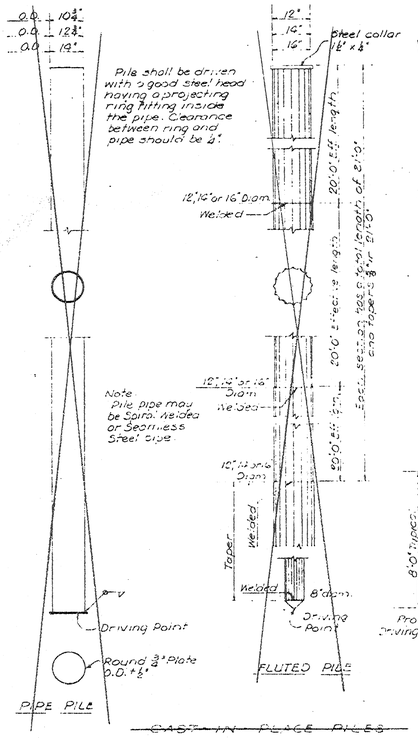
BRIDGE NO. 620-22-5077

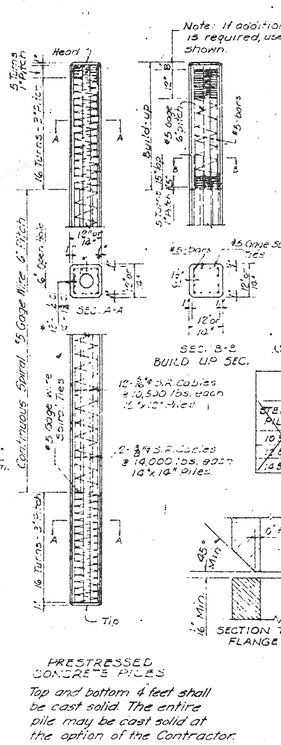
PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK – COUNTY ENGINEER

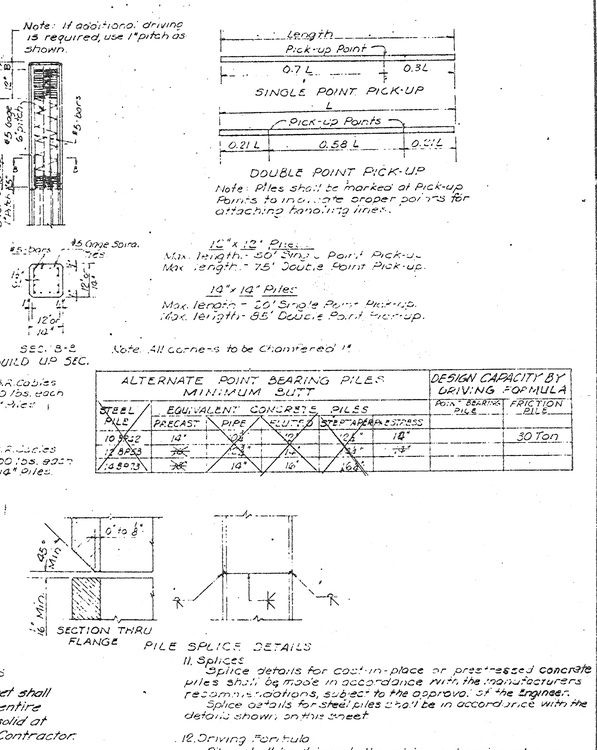
REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	Noted	C.J.E.	C.J.E.		8
	DATE		3-58		of 10
	PLANFILE		TOTAL SHEETS		

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









ALTERNATE POINT BEARING PILES MINIMUM SUIT						DESIGN CAPACITY BY DRIVING FORMULA	
STEEL PILE	EQUIVALENT CONCRETE PILES					POINT BEARING PILE	FRICTION PILE
	PRECAST	PIPE	FLUTED	STEP TAPER	PRESTRESS		
10 WF 42	14"	12"	14"	12"	12"	18"		30 Ton
12 BP 53	16"	14"	16"	14"	14"		
14 BP 73	18"	16"	18"	16"	16"		

Received County Hwy. APR 3 1958

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

STATE HIGHWAY COMMISSION OF KANSAS

STANDARD PILE DETAILS

BRIDGE NO. 620-22-5077

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

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 99.310 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. Solid - SAE 1010 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 shall - SAE 1000.
C. The contractor shall maintain on the job at all times prior to and during the fitting 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 1025 for forged steel, or cast steel meeting the requirements of A.S.T.M. Serial No. A27-49, 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.

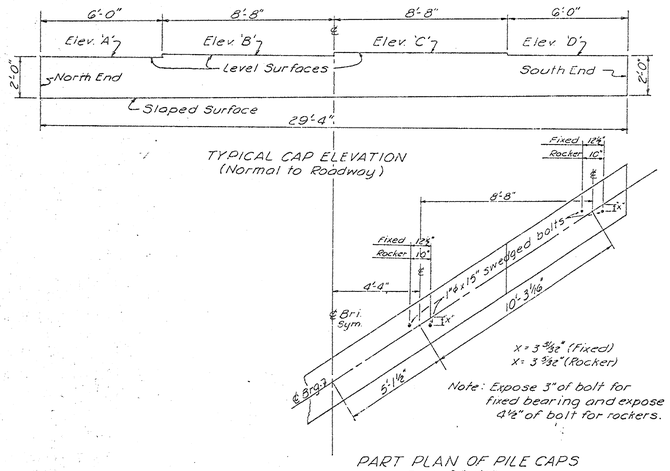
14. Payment
Payment for all piles will be made as set forth in the specifications.

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.

ABUTMENT & PIER ELEVATIONS

ABUTMENT Or PIER NO.		North ELEV 'A'	ELEV 'B'	ELEV 'C'	South Side ELEV 'D'
Abut #1	R	1313.03	1313.28	1313.37	1313.29
Pier #1	R	1313.54	1313.78	1313.86	1313.78
Pier #2	F	1314.73	1314.97	1315.03	1314.94
Pier #3	F	1315.26	1315.49	1315.55	1315.44
Pier #4	F	1315.72	1315.93	1315.98	1315.87
Pier #5	R	1315.51	1315.71	1315.75	1315.63
Pier #6	R	1315.83	1316.02	1316.06	1315.93
Pier #7	R	1316.09	1316.29	1316.32	1316.19
Pier #8	F	1316.93	1317.12	1317.15	1317.01
Pier #9	F	1317.14	1317.32	1317.35	1317.20
Pier #10	R	1316.71	1316.89	1316.91	1316.77
Pier #11	R	1316.86	1317.03	1317.05	1316.90
Pier #12	R	1316.95	1317.13	1317.14	1316.98
Pier #13	F	1317.60	1317.77	1317.77	1317.61
Pier #14, ℄ Bri.		1317.62	1317.79	1317.79	1317.62
Pier #15	F	1317.61	1317.77	1317.77	1317.60
Pier #16	R	1316.98	1317.14	1317.13	1316.95
Pier #17	R	1316.90	1317.05	1317.03	1316.86
Pier #18	R	1316.77	1316.91	1316.89	1316.71
Pier #19	F	1317.20	1317.35	1317.32	1317.14
Pier #20	F	1317.01	1317.15	1317.12	1316.93
Pier #21	R	1316.19	1316.32	1316.29	1316.09
Pier #22	R	1315.93	1316.06	1316.02	1315.83
Pier #23	R	1315.63	1315.75	1315.71	1315.51
Pier #24	F	1315.86	1315.98	1315.93	1315.71
Pier #25	F	1315.43	1315.53	1315.47	1315.25
Pier #26	F	1314.91	1315.00	1314.93	1314.69
Pier #27	R	1313.72	1313.80	1313.72	1313.47
Abut #2	R	1313.21	1313.28	1313.19	1312.94

R=Rockers F=Fixed



TYPICAL CAP ELEVATION
(Normal to Roadway)

Note: Expose 3" of bolt for fixed bearing and expose 4 1/2" of bolt for rockers.

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