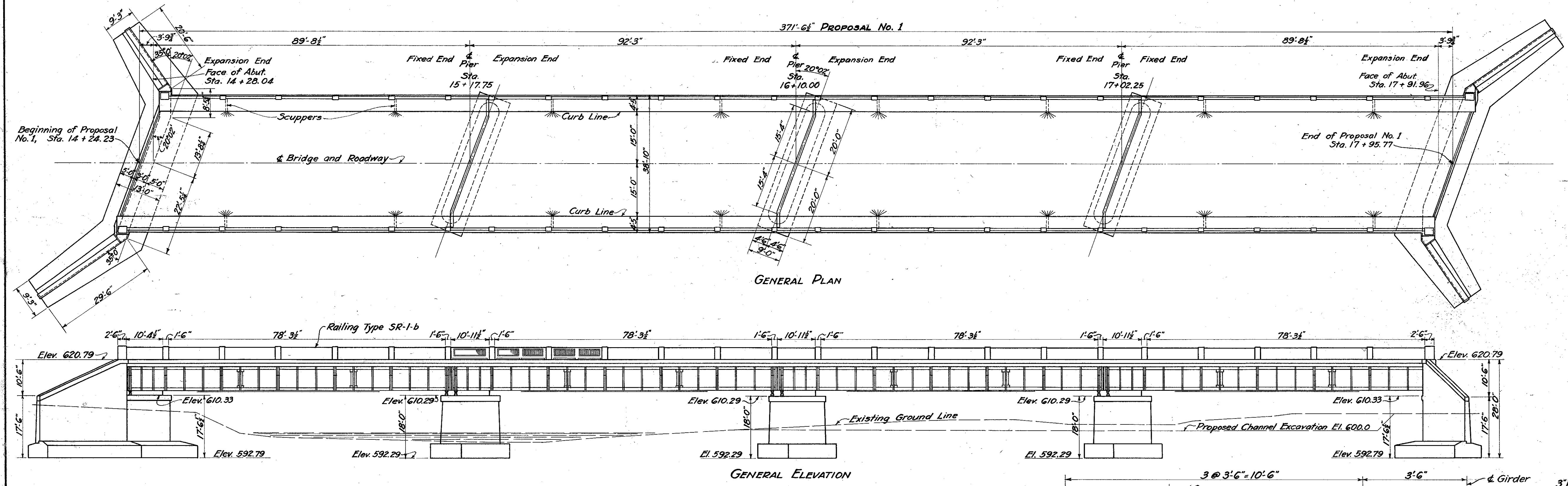


MICROFILMED  
NOV 23 1964

LAKE COUNTY  
S. H. 563 SEC. "PAINESVILLE BRIDGE"



**REINFORCING STEEL LIST.**

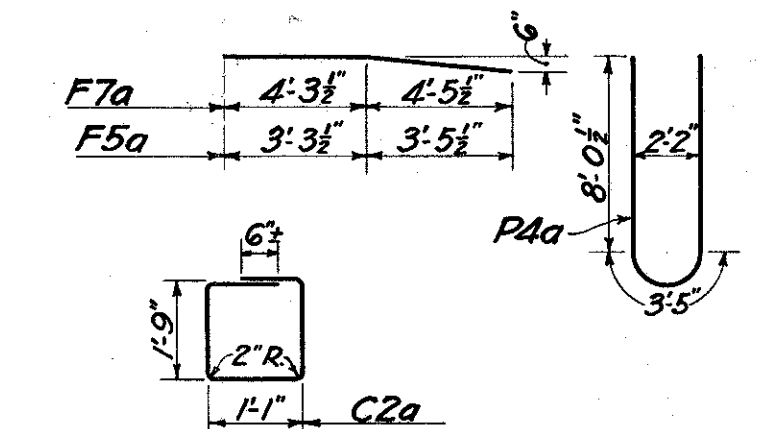
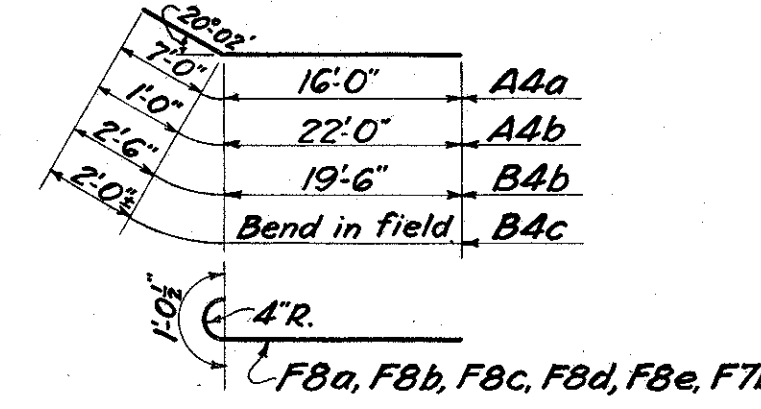
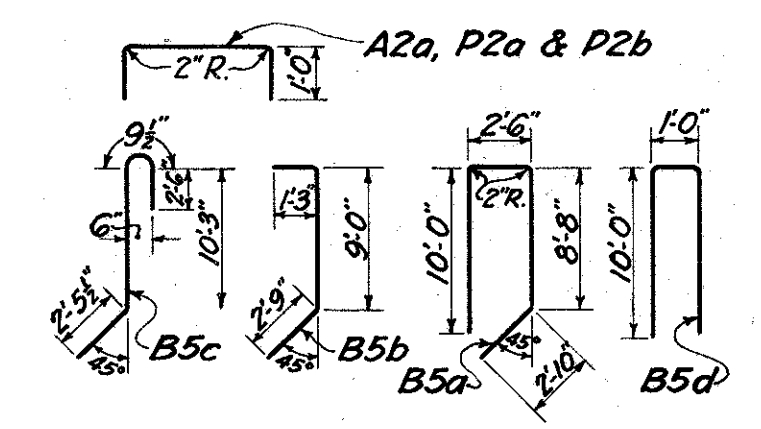
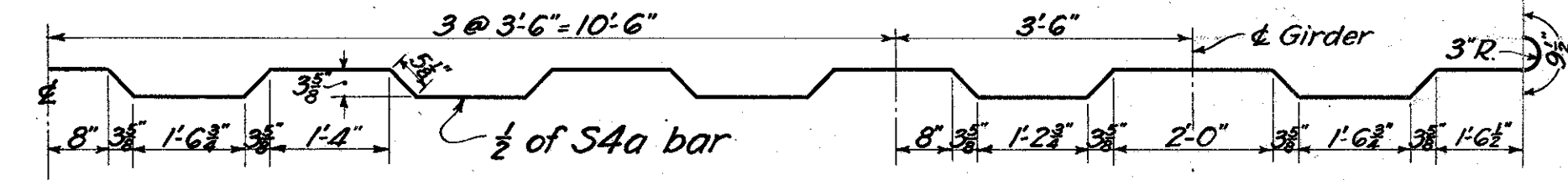
SUBSTRUCTURE.					
MARK	SIZE	SHAPE	No.	LENGTH	WEIGHT
A8a	1"φ	S	56	13'-6"	2573
A4a	3/8φ	B	14	23'-0"	336
A4b	3/8φ	B	14	23'-0"	336
A2a	1/2φ	B	32	5'-0"	107
B5a	3/4φ	B	28	24'-0"	1010
B5b	3/4φ	B	52	13'-0"	1016
B5c	3/4φ	B	52	16'-0"	1240
B5d	3/4φ	B	8	21'-0"	252
B5e	3/4φ	S	20	13'-0"	391
B4a	3/8φ	S	4	36'-0"	150
B4b	3/8φ	B	32	22'-0"	735
B4c	3/8φ	B	32	5'-0"	167
F8a	1"φ	B	118	8'-3"	3313
F8b	1"φ	B	62	7'-9"	1635
F8c	1"φ	B	60	14'-0"	2858
F8d	1"φ	B	132	10'-1"	4530
F8e	1"φ	B	24	11'-6"	939
F7a	1"φ	B	128	8'-9"	3012
F7b	1"φ	B	22	8'-6"	500
F7c	3/4φ	B	22	6'-9"	223
F4a	5/8φ	S	14	44'-0"	643
F4b	5/8φ	S	14	26'-0"	380
F4c	5/8φ	S	14	30'-0"	438
W8a	1"φ	S	14	22'-0"	1048
W8b	1"φ	S	14	19'-6"	929
W8c	1"φ	S	14	17'-0"	810
W8d	1"φ	S	14	14'-6"	691
W8e	1"φ	S	10	12'-6"	425
W4a	3/8φ	S	14	26'-6"	387
W4b	3/8φ	S	2	22'-0"	46
W4c	3/8φ	S	2	18'-0"	38
W4d	3/8φ	S	2	12'-0"	25
W4e	3/8φ	S	14	18'-6"	270
W4f	3/8φ	S	2	16'-0"	33
THREE PIERS.					
P4a	3/8φ	B	75	19'-6"	1527
P4b	3/8φ	S	24	24'-0"	601
P2a	1/2φ	B	36	6'-3"	152
P2b	1/2φ	B	84	4'-0"	224
TOTAL					33,990*

**GENERAL NOTES.**

All excavation below Elev. 600.0 shall be classified as "Wet Excavation."  
All excavation above Elev. 600.0 not included in "Channel Excavation" shall be classified as "Dry Excavation."  
"Channel Excavation" shall be made as shown, to an Elevation of 600.0 with 1:1 slope on banks. (Included in Proposal No. 2)  
French Drains shall extend full length of abutments and wings. Payment therefor is included in payment for excavation.  
Test Piles shall be driven by the contractor before ordering piling to determine whether piling is necessary and what length is required.  
Provisions shall be made in backwalls for future installation of 12" water main and 6" gas main. Inserts in bridge slab for supporting gas and water mains will be furnished by the City if desired, and placed by the contractor as directed by the Engineer in charge. The cost of placing inserts is included in payment for Concrete, 1:5½ mix.  
Bank protection shall be provided, from the exposed shale bank down-stream to the bridge, 666.7 lin. ft., as shown on the site plan, Sheet No. 29. Kellner Steel Jetties, manufactured by the Kellner Jetties Corporation, Topeka, Kansas, or an approved equal shall be used.  
If the Kellner Jetties are used, the protection shall consist of 27 strings of jetties, spaced as shown on the site plan, each 48.5' in length and consisting of five units, spaced 10 ft. on centers, made of 4" x 4" x 1/2" steel angles laced with No. 6 double-annealed wire and 3/8" cable. Each string shall begin at the top of the bank, with one unit on top, and extend down-stream at an angle of approximately 45° with the river bank. Anchorage for each string shall be 1" hemp center galvanized cable, securely fastened to units and extending back 30 ft. from the top of the bank, trenched as necessary, to a creosoted timber deadman, 7" diameter and 4 ft. long, buried sufficiently deep for security. The installation shall be in accordance with the regular practice of installing Kellner Jetties, and subject to the inspection of both the engineer and a representative of the Kellner Corporation.  
If an alternate jetty is used, the installation shall be subjected to similar inspection and approval.  
All necessary clearing and grading of banks shall be done by the contractor who installs the jetties, and payment for same shall be included in the price per lin. ft. bank protection.

**ESTIMATED QUANTITIES.**

SUPERSTRUCTURE.	
Structural Steel	657,300 656,000 Lbs.
Reinforcing Steel	78,880 78,410 Lbs.
Concrete (1:5½ mix)	400 Cu. Yds.
Wearing Surface, 4" plain concrete	1,200 Sq. Yds.
Concrete Railing, Type SR-1-b (1:5½ mix)	743.8 Lin. Ft.
SUBSTRUCTURE.	
Bank Protection	666.7 Lin. Ft.
Wet Excavation	1,080 Cu. Yds.
Dry Excavation	580 Cu. Yds.
Cofferdams, Sheeting and Pumping	Lump
Timber Piling (Estimated Length 20 ft.)	7,160 Lin. Ft.
Footing Concrete (1:6½ mix)	512 Cu. Yds.
Wall Concrete (1:6½ mix)	655 Cu. Yds.
Reinforcing Steel	33,990 Lbs.
1/2" Premolded Expansion Joint Filler	280 Sq. Ft.
Folded Copper Expansion Strip- 24 oz., 12" wide	93 Lin. Ft.
Waterproofing- Type B	60 Sq. Yds.



R4a	14'-0"
R4b	13'-6"
R4d	10'-0"
R4e	9'-6"
R4g	10'-6"
R4h	10'-0"
R4i	10'-0"
C51b	

**SUPERSTRUCTURE.**

MARK	SIZE	SHAPE	No.	LENGTH	WEIGHT
C5a	3/4φ	S	192	25'-6"	7,359
C2a	1/2φ	B	364	6'-0"	1,459
C2b	1/2φ	B	12	8'-0"	64
S5a	3/4φ	B	3024	39'-6"	1,427 1777
S5b	3/4φ	S	108	39'-6"	475 595
S4a	3/8φ	B	444	41'-6"	19,237
S4b	3/8φ	S	448	38'-0"	17,773
S4c	3/8φ	S	936	6'-0"	5,860
S2a	1/2φ	S	448	38'-0"	11,372
S1a	3/8φ	S	768	24'-6"	7,075
S1b	3/8φ	B	744	7'-6"	2,098
D4a	3/8φ	B	92	10'-9"	1,033
D4b	3/8φ	B	272	10'-6"	2,982
D4c	3/8φ	B	16	11'-9"	196
R4a	3/8φ	B	160	16'-0"	
R4b	3/8φ	B	160	15'-6"	
R4c	3/8φ	S	160	14'-0"	
R4d	3/8φ	B	4	12'-0"	
R4e	3/8φ	B	4	11'-6"	
R4f	3/8φ	S	4	10'-0"	
R4g	3/8φ	B	12	12'-6"	
R4h	3/8φ	B	12	10'-0"	
R4i	3/8φ	S	12	10'-6"	
R1a	3/8φ	S	160	14'-0"	
R1b	3/8φ	S	736	3'-0"	
R1c	3/8φ	S	4	10'-0"	
R1d	3/8φ	S	12	10'-6"	
TOTAL					78,410*

PROPOSAL No. 1  
(Sta. 14 + 24.23 to Sta. 17 + 95.77)

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

GENERAL PLAN AND ELEVATION,  
QUANTITIES, NOTES AND STEEL LIST

BRIDGE OVER GRAND RIVER

S. H. 563 LAKE COUNTY  
SECTION "PAINESVILLE BRG." STA. 16 + 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.C.B.	A.C.B.	R.A.K.	V.T.C.	H.P.C.	10/23/30	

Revised Feb 4, 1931 No. 55a and 55b bars changed and weight of structural steel increased. See Sheet No. 32.