Bridge #276

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	ARK.	198-A	1924	1	11

374

STATE OF ARKANSAS
STATE HIGHWAY DEPARTMENT

PLAN OF PROPOSED BRIDGES
OVER
FOURCHE RIVER AND SLOUGH

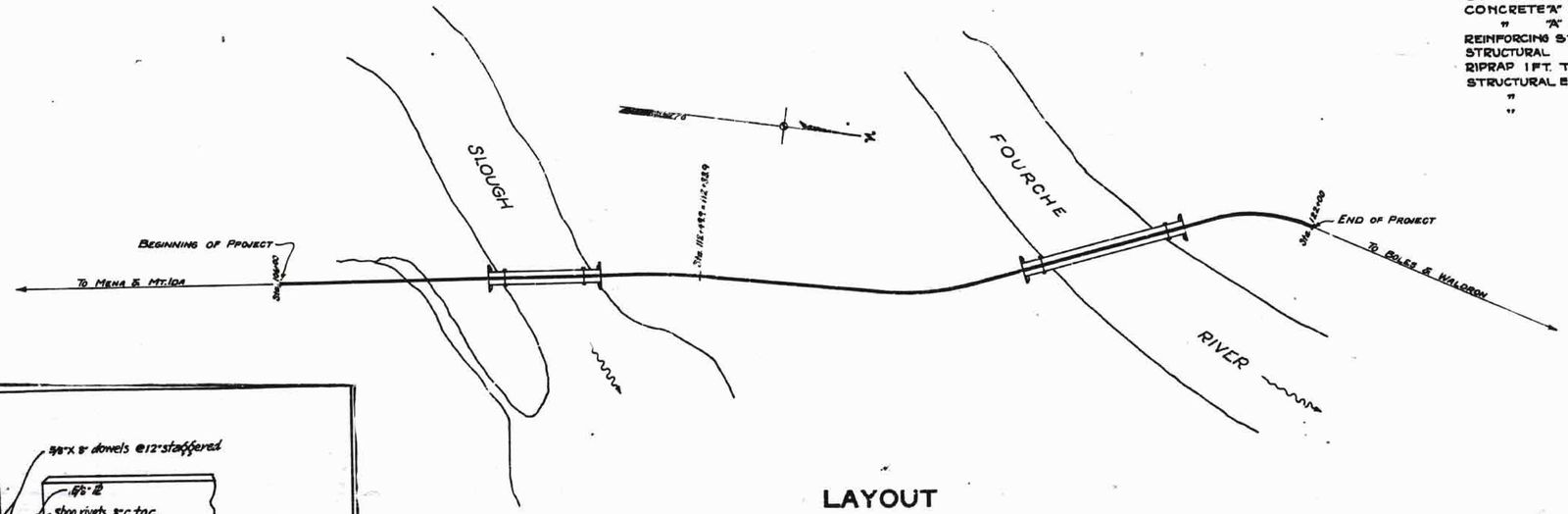
14 MILES SOUTH OF WALDRON, 2½ MILES FROM BOLES SCOTT CO, ARK.

FEDERAL AID PROJECT No. 198-A

INDEX OF SHEETS

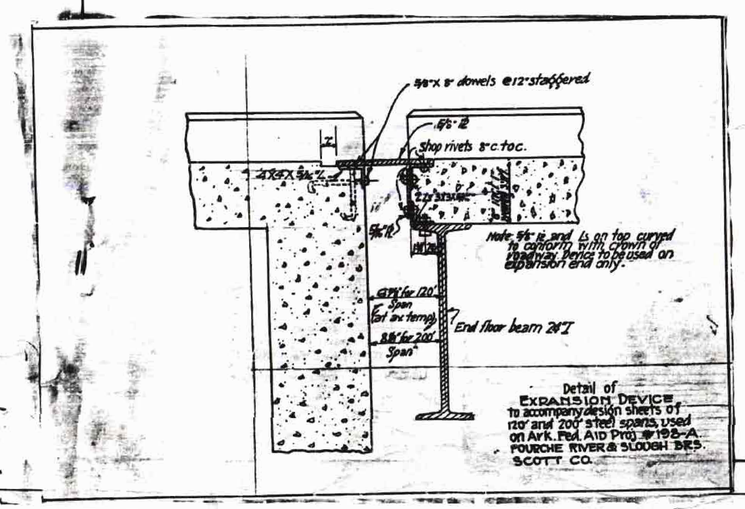
QUANTITIES

EARTH WORK (ROADWAY EXC. 543 CU YDS; BORROW 7253 CU YDS)	7796	CU. YDS
LOOSE ROCK EXCAV.	543	" "
CONCRETE HANDRAIL	248	LIN FT.
CONCRETE "A" 1:2:3 MIX	271.38	CU YDS.
" "A" 1:2:4 "	34725	" "
REINFORCING STEEL	59079	LBS.
STRUCTURAL "	369250	"
RIPRAP 1 FT. THICK	285	SQ. YDS.
STRUCTURAL EXCAV ROCK	68	CU. YDS
" " DRY EARTH	285	" "
" " WET "	336	" "



LAYOUT

GROSS LENGTH OF PROJECT .306 MILES
NET " " " .306 MILES



Detail of EXPANSION DEVICE to accompany design sheets of 120' and 200' steel spans, used on Ark. Fed. Aid Proj. #198-A. FOURCHE RIVER & SLOUGH BRS. SCOTT CO.

APPROVED.
COMMISSIONER, STATE LANDS, HIGHWAYS AND IMPROVEMENTS.

APPROVED.
STATE HIGHWAY ENGINEER.

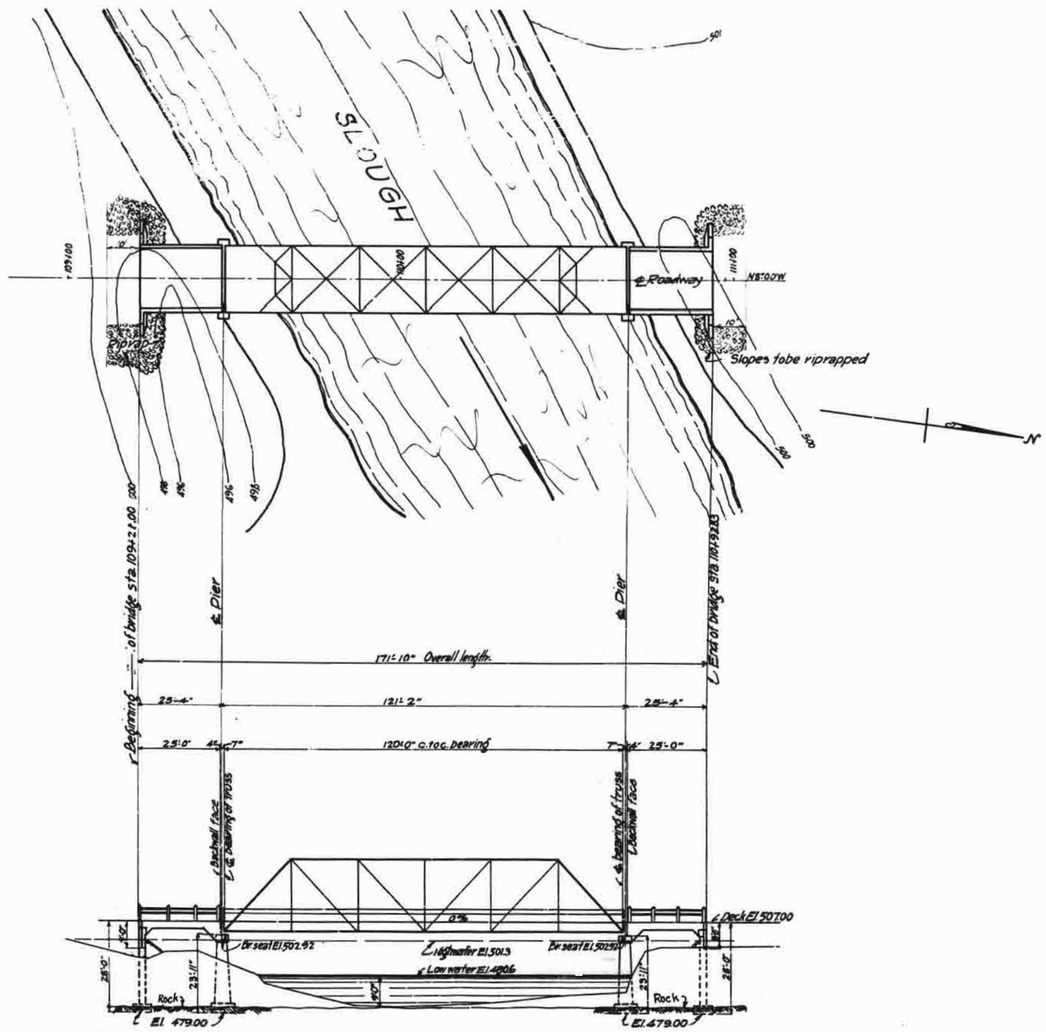
RECOMMENDED FOR APPROVAL.
DISTRICT ENGINEER, U.S. BUREAU OF PUBLIC ROADS.

RECOMMENDED FOR APPROVAL.
CHIEF ENGINEER, U.S. BUREAU OF PUBLIC ROADS.

APPROVED.
DIRECTOR, U.S. BUREAU OF PUBLIC ROADS.

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHTS.
8	ARK.	198 A	1934	4	11

375



Scale: vertical & horizontal, 1" = 20'
Relief waterway for floodwater from river.

SUMMARY OF QUANTITIES

HANDRAIL	114.0 LIN. FT.
CONCRETE 1:2:3 MIX	109.62 CU YDS
" 1:2:4 "	156.51 CU YDS.
REINFORCING STEEL	253302 LBS.
STRUCTURAL "	116500 LBS.
RIPRAP 1' THICK	60.5 SQ YDS
STRUCT. EXCAV., ROCK	23 CU YDS
" " DRY EARTH	95 " "
" " WET "	180 " "

ARKANSAS STATE HIGHWAY DEPARTMENT
SKETCH SHOWING

LAYOUT

OF PROPOSED BRIDGE
OVER
SLOUGH NEAR FOURCHE RIVER
SOUTH OF BOLES, STATE HIGHWAY A-4 71-10
FEDERAL AID PROJECT NO.
APRIL, 1925.

319

PARTIAL, SECTION

SPECIFICATIONS

See Arkansas Highway Department Specifications

FLOOR BEAMS

STRINGERS

STANDARD PLAN

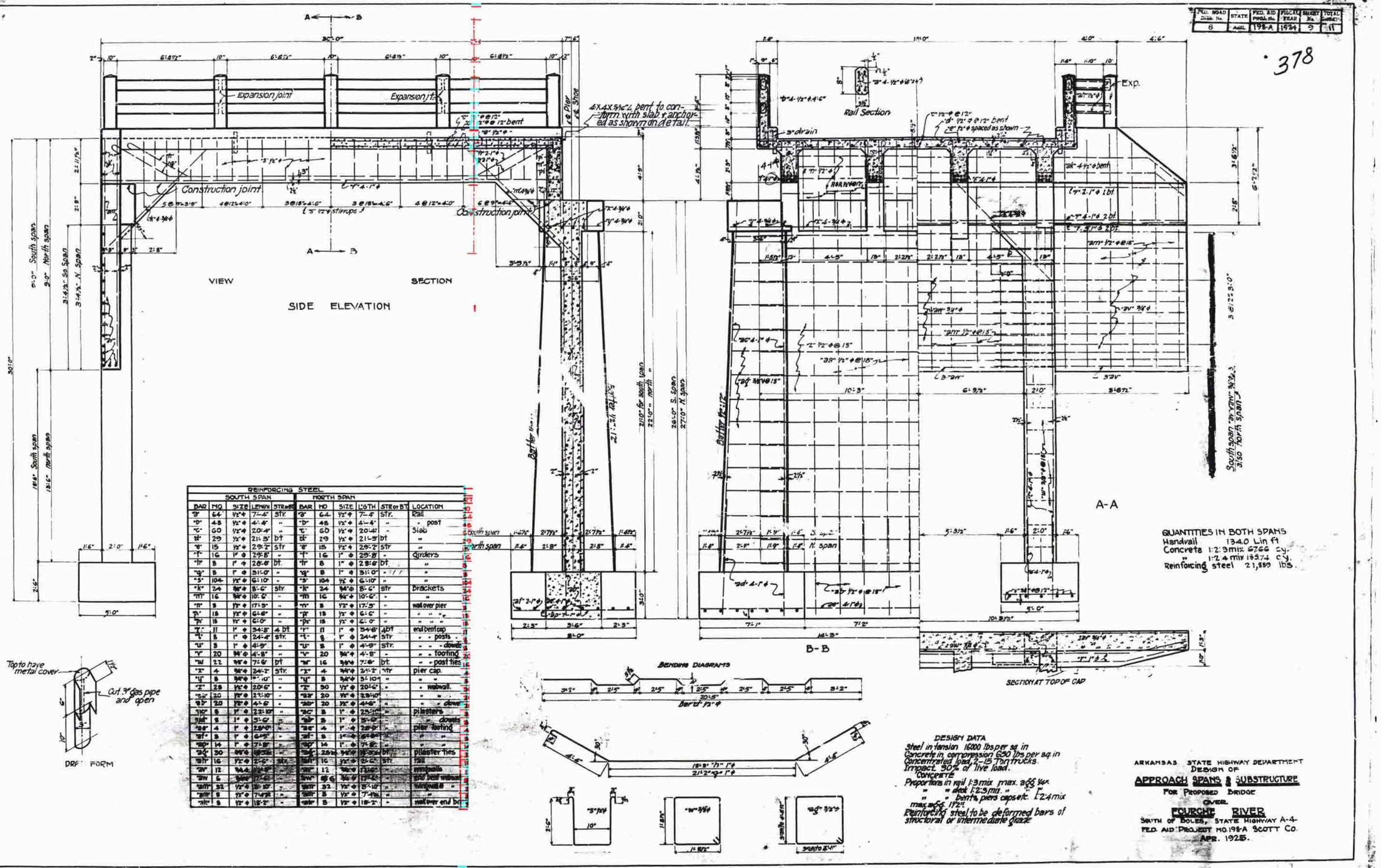
120-FT. STEEL HIGHWAY BRIDGE
18 ROADWAY - CONC. FLOOR

ARKANSAS HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.

March 1924

FED. ROAD Distr. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
8	ARK.	198-A	1924	9	11

378



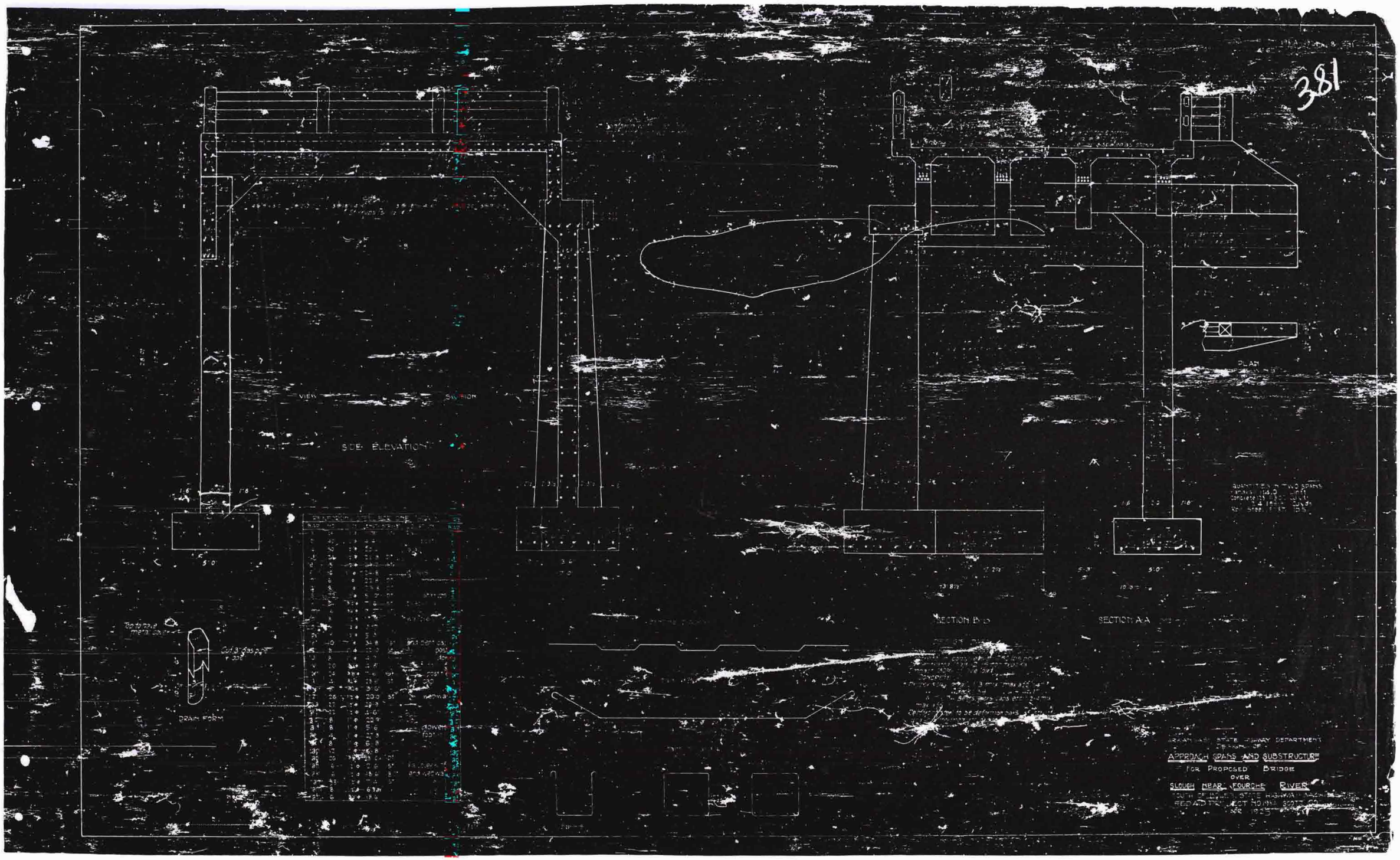
REINFORCING STEEL										
SOUTH SPAN					NORTH SPAN					
BAR	NO	SIZE	LENGTH	STR or BT	BAR	NO	SIZE	LGTH	STR or BT	LOCATION
"A"	64	½" ϕ	7'-4"	STR.	"A"	64	½" ϕ	7'-4"	STR.	Rail
"B"	48	½" ϕ	4'-6"	"	"B"	48	½" ϕ	4'-6"	"	" post
"C"	60	½" ϕ	20'-4"	"	"C"	60	½" ϕ	20'-4"	"	Slab
"D"	29	½" ϕ	21'-8"	bt	"D"	29	½" ϕ	21'-8"	bt	"
"E"	15	½" ϕ	29'-2"	STR	"E"	15	½" ϕ	29'-2"	STR	"
"F"	16	1" ϕ	29'-8"	"	"F"	16	1" ϕ	29'-8"	"	Girders
"H"	8	1" ϕ	28'-8"	bt.	"H"	8	1" ϕ	28'-8"	bt	"
"G"	8	1" ϕ	31'-0"	"	"G"	8	1" ϕ	31'-0"	"	"
"S"	104	½" ϕ	6'-10"	"	"S"	104	½" ϕ	6'-10"	"	"
"K"	24	⅝" ϕ	8'-6"	STR	"K"	24	⅝" ϕ	8'-6"	STR	Brackets
"M"	16	⅝" ϕ	10'-6"	"	"M"	16	⅝" ϕ	10'-6"	"	"
"N"	8	½" ϕ	17'-3"	"	"N"	8	½" ϕ	17'-3"	"	wall over pier
"R"	18	½" ϕ	6'-6"	"	"R"	18	½" ϕ	6'-6"	"	" " "
"P"	18	½" ϕ	6'-0"	"	"P"	18	½" ϕ	6'-0"	"	" " "
"L"	11	1" ϕ	34'-8"	4 bt	"L"	11	1" ϕ	34'-8"	4 bt	end bent cap
"J"	8	1" ϕ	24'-4"	STR.	"J"	8	1" ϕ	24'-4"	STR	" " posts
"U"	8	1" ϕ	4'-9"	"	"U"	8	1" ϕ	4'-9"	STR.	" " dowels
"V"	20	⅝" ϕ	4'-8"	"	"V"	20	⅝" ϕ	4'-8"	"	" " footing
"W"	32	⅝" ϕ	7'-6"	bt	"W"	16	⅝" ϕ	7'-6"	bt.	" " post ties
"X"	4	⅝" ϕ	24'-2"	STR.	"X"	4	⅝" ϕ	24'-2"	STR	pier cap.
"Y"	8	⅝" ϕ	9'-10"	"	"Y"	8	⅝" ϕ	3'-10"	"	" "
"Z"	28	½" ϕ	20'-6"	"	"Z"	30	½" ϕ	20'-6"	"	" wallwall.
"ZZ"	20	⅞" ϕ	21'-10"	"	"ZZ"	20	⅞" ϕ	23'-10"	"	" "
"W"	20	⅞" ϕ	4'-6"	"	"W"	20	⅞" ϕ	4'-6"	"	" " dowe
"AC"	8	1" ϕ	22'-10"	"	"AC"	8	1" ϕ	23'-10"	"	" pilasters
"AB"	8	1" ϕ	5'-6"	"	"AB"	8	1" ϕ	5'-6"	"	" " dowels
"AE"	4	1" ϕ	28'-0"	"	"AE"	4	1" ϕ	28'-0"	"	pier footing
"AF"	8	1" ϕ	6'-5"	"	"AF"	8	1" ϕ	6'-8"	"	" "
"AD"	14	1" ϕ	7'-8"	"	"AD"	14	1" ϕ	7'-8"	"	" "
"AG"	30	⅝" ϕ	19'-3"	"	"AG"	28½	⅝" ϕ	19'-3"	bt	pilaster ties
"AH"	16	½" ϕ	2'-5"	STR.	"AH"	16	½" ϕ	2'-6"	STR.	rail
"AI"	12	¾" ϕ	8'-8"	"	"AI"	12	¾" ϕ	9'-0"	"	wingwalls
"AW"	6	⅝" ϕ	17'-6"	"	"AW"	6	⅝" ϕ	17'-6"	"	end bent wallwall
"AM"	32	½" ϕ	5'-10"	"	"AM"	32	½" ϕ	5'-10"	"	wingwalls "
"AN"	8	½" ϕ	7'-4½"	"	"AN"	8	½" ϕ	7'-4½"	"	"
"AK"	8	½" ϕ	18'-2"	"	"AK"	8	½" ϕ	18'-2"	"	wallwall end bent

QUANTITIES IN BOTH SPANS
Handrail 134.0 Lin ft
Concrete 1:2:3 mix 67.66 Cu. Yd.
" 1:2.4 mix 193.74 Cu. Yd.
Reinforcing steel 21,880 lbs.

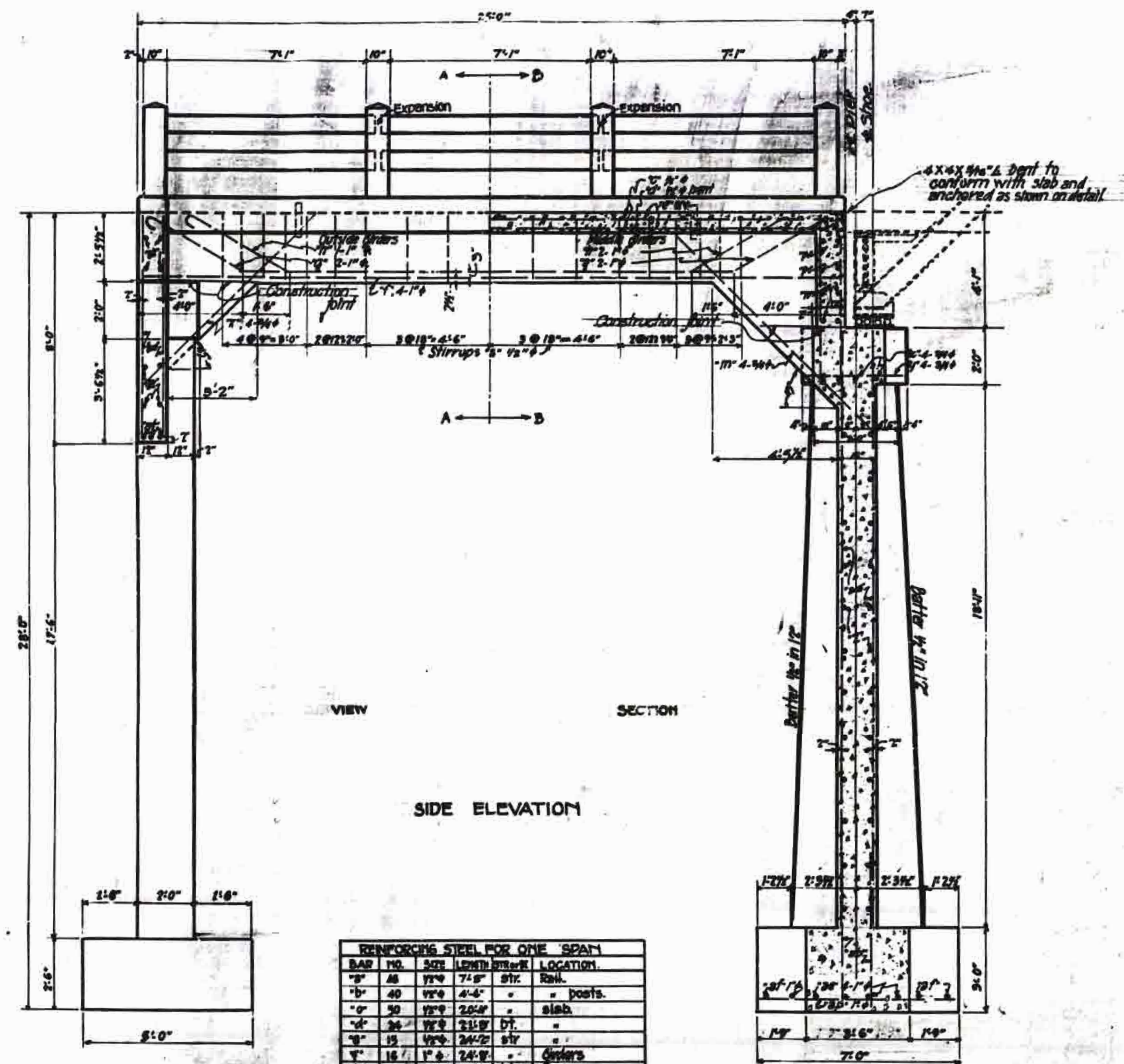
DESIGN DATA
Steel in tension 16000 lbs per sq. in
Concrete in compression 650 lbs per sq. in
Concentrated load, 2-15 Ton trucks.
Impact 30% of live load.
CONCRETE
Proportions in rail 1:3 mix max. agg ¼"
" " deck 1:2.5 mix. " "
" " bents, piers capsetc 1:2.4 mix max agg 1½"
Reinforcing steel to be deformed bars of structural or intermediate grade

ARKANSAS STATE HIGHWAY DEPARTMENT
DESIGN OF
APPROACH SPANS & SUBSTRUCTURE
FOR PROPOSED BRIDGE
OVER
FOURCHE RIVER
SOUTH OF BOLES, STATE HIGHWAY A-4
FED. AID PROJECT NO. 198-A SCOTT CO.
APR. 1925.

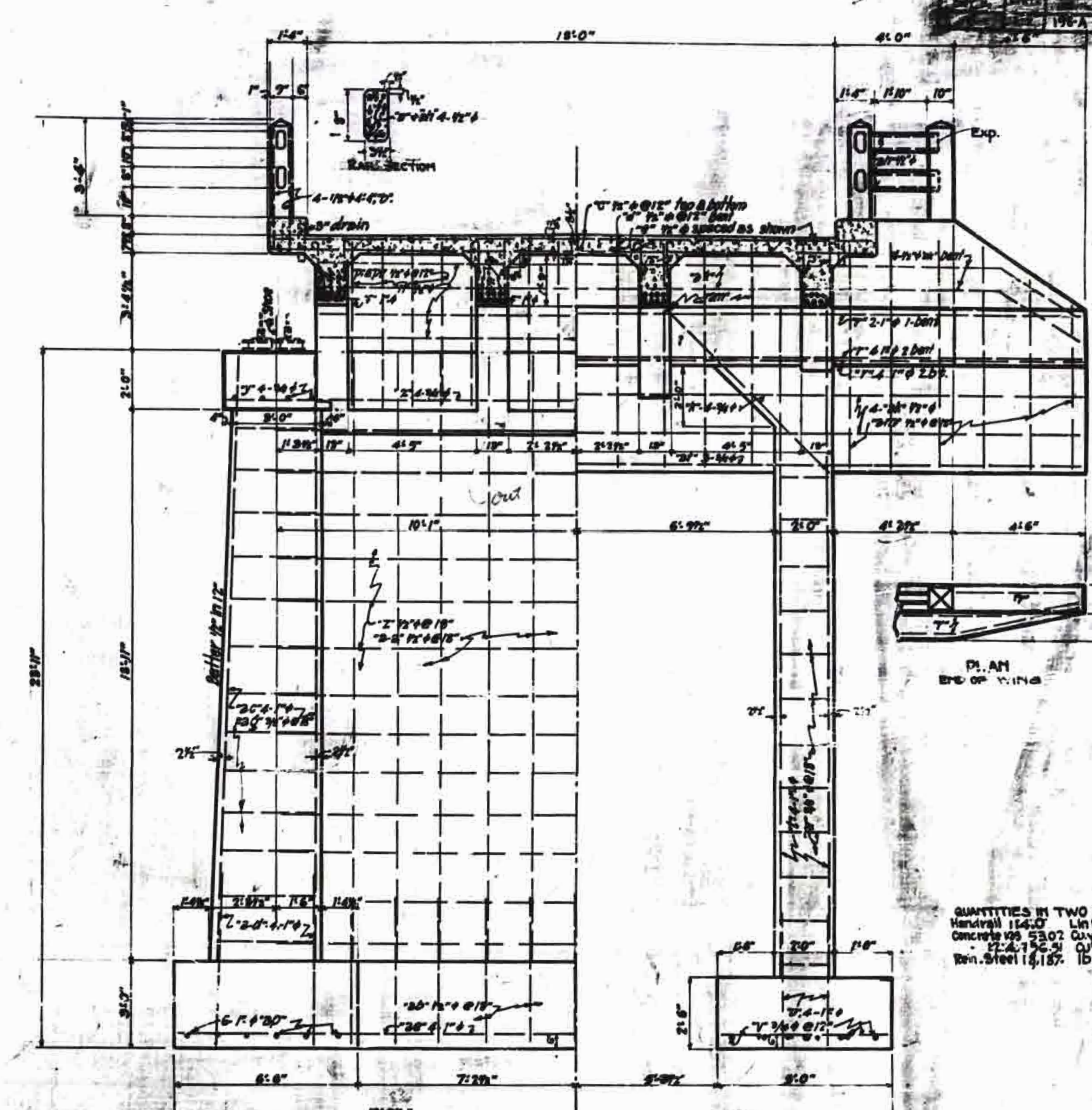
381


SIDE ELEVATION
PLAN
SECTION B-B
SECTION A-A
DRAIN FORM
STATE HIGHWAY DEPARTMENT
APPROACH SPANS AND SUBSTRUCTURE
FOR PROPOSED BRIDGE
OVER
SLOUGH NEAR FOURCHE RIVER

377



SIDE ELEVATION



SECTION B-B

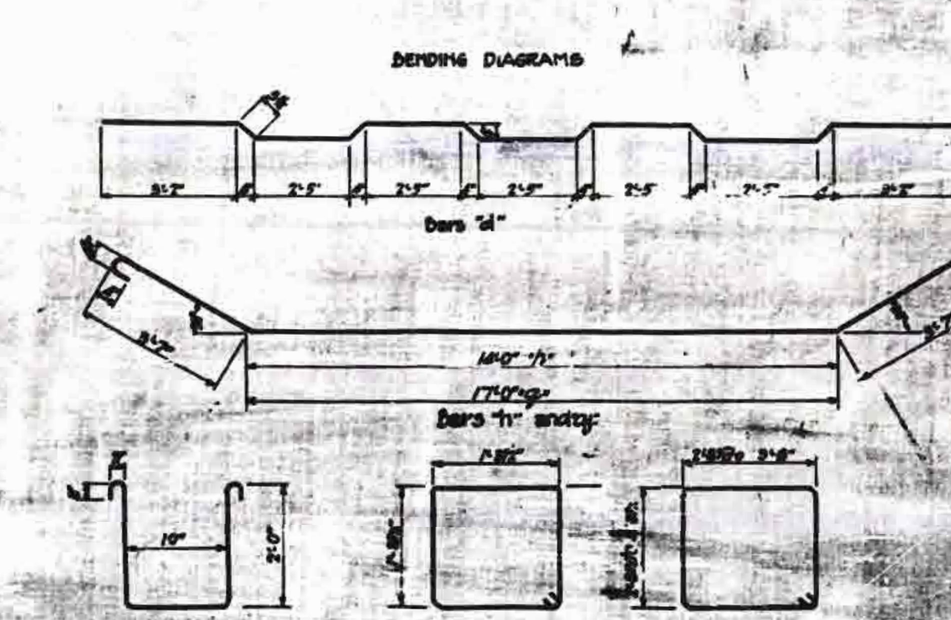
SECTION A-A.

QUANTITIES IN TWO SPANS
Handrail 144.0 Lin ft.
Concrete 530.2 Cu.yds.
Rein. Steel 18,187 lbs.

DRAIN FORM

REINFORCING STEEL FOR ONE SPAN					
BAR	NO.	SIZE	LENGTH	STR. or BT.	LOCATION.
"a"	46	1/2"φ	7'-5"	str.	Rail.
"b"	40	1/2"φ	4'-4"	"	" posts.
"c"	50	1/2"φ	20'-8"	"	slab.
"d"	36	1/2"φ	21'-9"	bt.	"
"e"	15	1/2"φ	24'-2"	str	"
"f"	16	1"φ	24'-9"	"	Girders
"h"	6	1"φ	22'-8"	bt.	"
"g"	8	1"φ	25'-8"	bt.	"
"s"	72	1/2"φ	5'-10"	bt.	" stirrups
"k"	24	[illegible]	7'-6"	st.	brackets
"m"	16	[illegible]	9'-0"	st.	"
"n"	8	1/2"φ	17'-8"	"	wall over pier
"p"	[illegible]	1/2"φ	5'-9"	"	" " "
"pc"	[illegible]	1/2"φ	5'-8"	"	" " "
"r"	10	1"φ	24'-9"	st/bt	end bent cap
"t"	8	1"φ	22'-10"	st.	" " post
"u"	8	1"φ	4'-9"	"	" " dowel
"v"	28	[illegible]	21'-8"	"	" " footing
"w"	24	[illegible]	7'-6"	bt.	" " post ties.
"x"	4	[illegible]	23'-6"	st.	pier cap.
"y"	8	[illegible]	8'-6"	"	" "
"z"	36	1/2"φ	20'-0"	st.	" web wall
"aa"	22	1/2"φ	23'-9"	"	" " "
"bb"	22	1/2"φ	41'-6"	"	" " "
"cc"	8	1"φ	20'-9"	"	"
"dd"	8	1"φ	5'-6"	"	" dowels
"ee"	4	1"φ	22'-9"	"	" footing
"ff"	8	1"φ	6'-8"	"	" "
"gg"	12	1"φ	6'-8"	"	" "
"hh"	56	[illegible]	[illegible]	bt.	" "
"ii"	16	1/2"φ	2'-6"	st	rail over wing
"kk"	16	1/2"φ	18'-6"	s.bt	end web wall
"mm"	36	1/2"φ	7'-4"	st.	" "
"nn"	8	1/2"φ	[illegible]	"	" "
"oo"	6	[illegible]	18'-6"	"	" "

BENDING DIAGRAMS



DESIGN DATA
Steel in tension 18000 lbs per sq in
Concrete in compression 650 lbs per "
Concentrated load 2-15 ton trucks.
Impact 30% of live load.
Concrete
Proportions in rail, 1:3 mix max agg. 1/2"
" " deck 1:2:3 " " " 1"
" " posts, piers, caps, etc. 1:2:4 mix. max agg. 1 1/2"
Reinforcing steel to be deformed bars of structural or intermediate grade

ARKANSAS STATE HIGHWAY DEPARTMENT
DESIGN OF
APPROACH SPANS AND SUBSTRUCTURE
FOR PROPOSED BRIDGE
OVER
BIG MULBERRY FOURCHE RIVER
SOUTH OF [illegible], STATE HIGHWAY [illegible] 71
FED. AID PROJECT NO 198A. SCOTT CO.
APR. 1925.