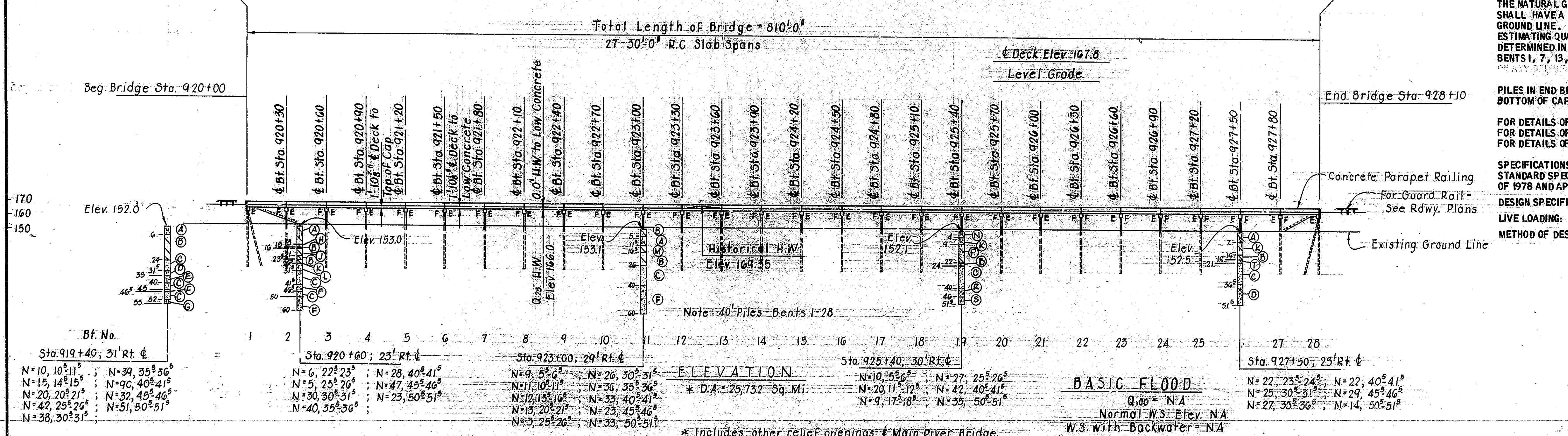
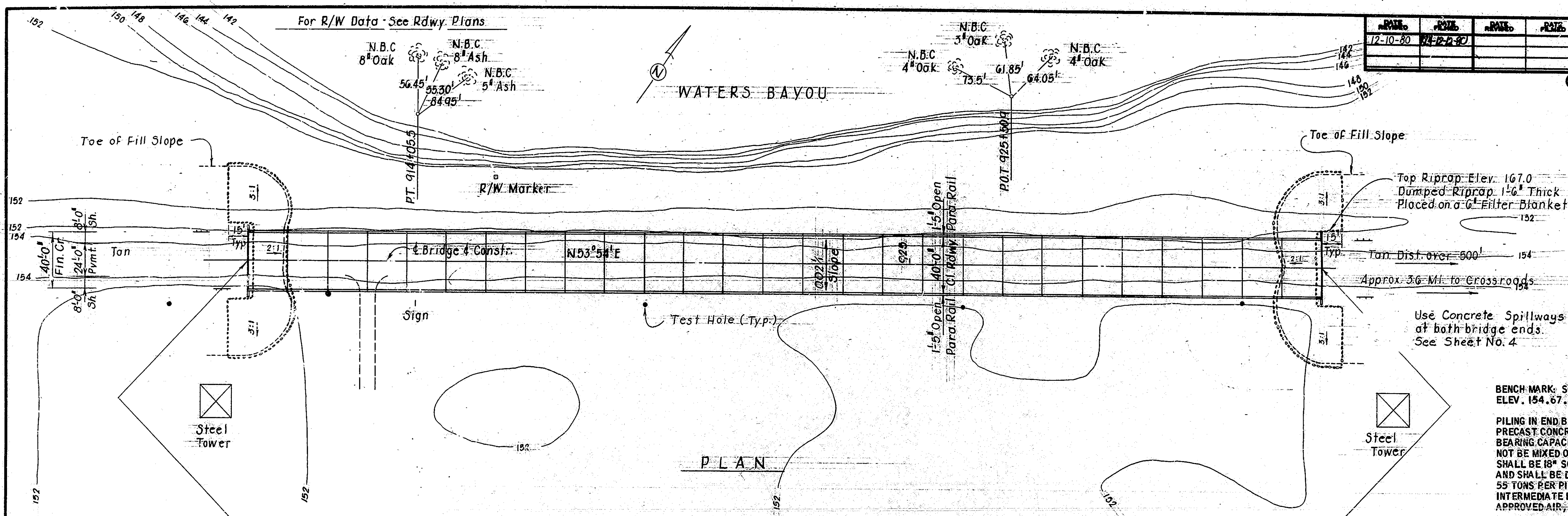


DATE	BY	REVISION	DATE	BY	REVISION	DATE	BY	REVISION	DATE	BY	REVISION
12-10-80	WVA	1	12-10-80	WVA	1	12-10-80	WVA	1	12-10-80	WVA	1
6 ARK. GR-031-123											
JOB NO. 11974 18 72											
5854 LAYOUT 23340											



BORING LOG	
① Moist, Soft, Brown and Gray Silty Clay with some Organic Matter.	② Wet, Dense, Gray Sand with some Gravel and Organic Matter.
③ Moist, Soft to Stiff, Brown or Gray Clay.	③ Wet, Dense, Gray Silty Gravel.
④ Wet, Dense, Gray Sand.	④ Moist, Loose, Brown and Gray Clayey Sand.
⑤ Wet, Dense, Gray Sand with some Gravel.	
⑥ Wet, Dense, Brown Sand with some Organic Matter.	
⑦ Wet, Dense, Gray Gravelly Sand.	
⑧ Wet, Dense, Brown and Gray Gravel.	
⑨ Moist, Soft, Brown and Gray Silty, Sandy Clay with some Organic Matter.	
⑩ Moist, Medium Stiff, Gray, Sandy Clay.	
⑪ Moist or Wet, Medium Stiff, Gray Silty Clay.	
⑫ Wet, Medium Dense, Gray Silty Sand.	
⑬ Moist, Stiff, Gray Clay with Calcareous Nodules.	
⑭ Moist, Medium Stiff, Brown and Gray Silty Clay with Iron Nodules.	
⑮ Moist, Stiff, Brown and Gray Sandy Clay with some Calcareous Nodules.	

**DESIGN FLOOD**  
\* Q<sub>25</sub> = 243,000 cfs  
Q<sub>25</sub> thru Bridge = 42,600 cfs  
Normal W.S. Elev. 166.0  
W.S. with Backwater = 166.5

LAYOUT OF BRIDGE  
WHITE RIVER (ST. CHARLES) RELIEF  
ST. CHARLES BRIDGE - NORTH  
MONROE CO.  
ROUTE 1 SEC. 6  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: WVA DATE: 8-16-78  
CHECKED BY: WVA DATE: 11-13-79  
DESIGNED BY: WVA DATE: 3-16-78  
BRIDGE NO. 5854 DRAWING NO. 23340



\* 29 REQ'D. AT FIX. - EXP. BENT  
58 REQ'D. AT FIX. - FIX. BENT

Dimensions are out to  
out of Bars.

### GENERAL NOTES

DESIGN SPECIFICATIONS - AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES,  
EDITION OF 1977, WITH INTERIM SPECIFICATIONS.

LIVE LOAD: HS20

## METHOD OF DESIGN

**PILING: PILES IN END BENTS SHALL BE 16" OCTAGONAL OR 14" SQUARE PRECAST CONCRETE AND SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 44 TONS PER PILE. THEY SHALL BE DRIVEN AFTER EMBANKMENT TO BOTTOM OF CAP IS IN PLACE. PILES IN INTERIOR BENTS SHALL BE 18" OCTAGONAL OR 18" SQUARE PRECAST CONCRETE AND SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 55 TONS PER PILE.**

ALL CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH =  $f'_c = 3500$  PSI.

REINFORCING STEEL SHALL BE ASTM A615, OR A617, GRADE 60 ( $f_y = 60,000$  PSI).

## QUANTITIES

UNIT OF STRUCTURE	ITEM	
	CLASS & CONC.	REINFORCING STEEL
END BENT	10.11 cu. yds.	1207 LBS.
INT. BENT (FIX.-EXP.)	9.60 cu. yds.	1159 LBS.
INT. BENT (FIX.-FIX.)	9.60 cu. yds.	1207 LBS.

DETAILS OF STANDARD PILE BENTS  
FOR 30'-0" R.C. SLAB SPANS  
40'-0" CLEAR ROADWAY  
CONCRETE PARAPET RAIL

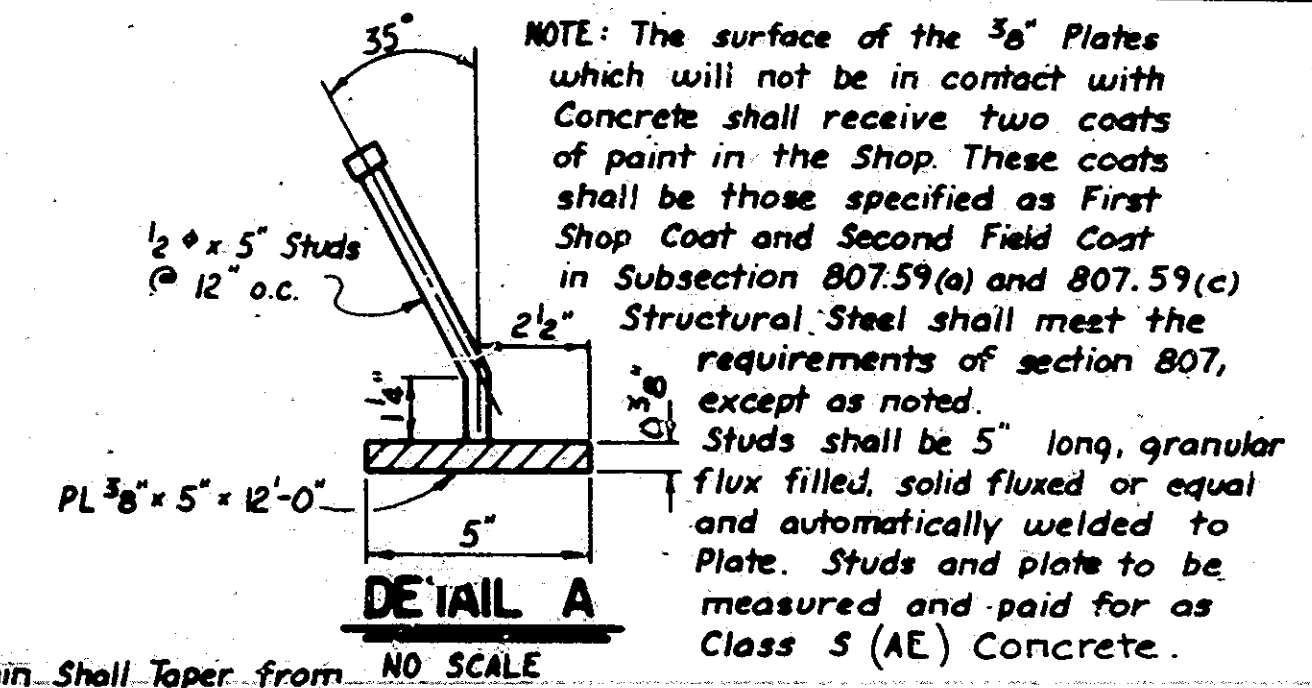
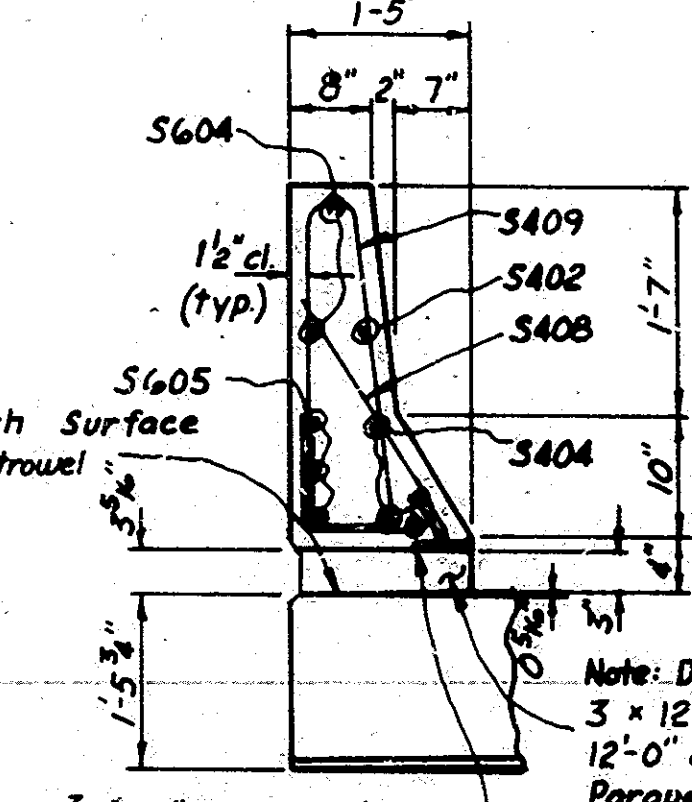
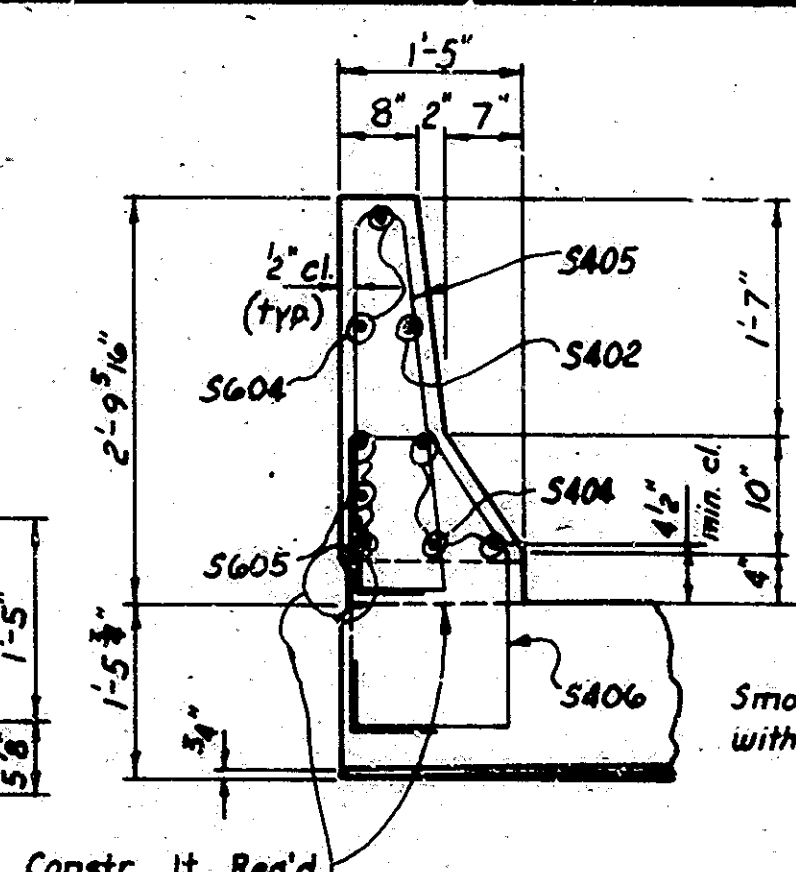
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION

DRAWN BY: TEB DATE: 5-10-77  
CHECKED BY: Jack DATE: 6-20-77 SCALE: 3/8"=1'-0" or as noted  
DESIGNED BY: CEB DATE: 4-22-77

BRIDGE NO. 5854 DRAWING NO. 23341

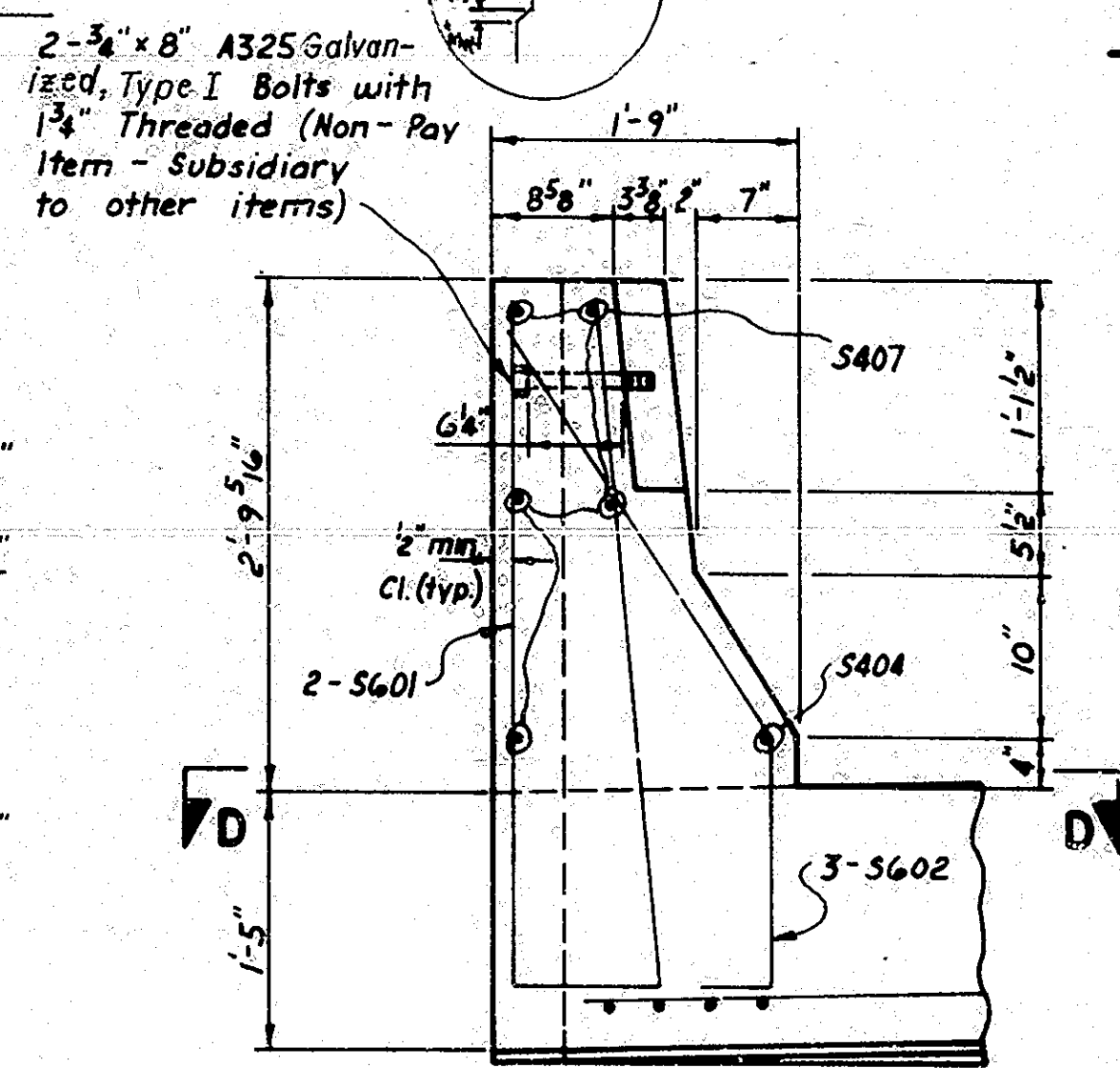
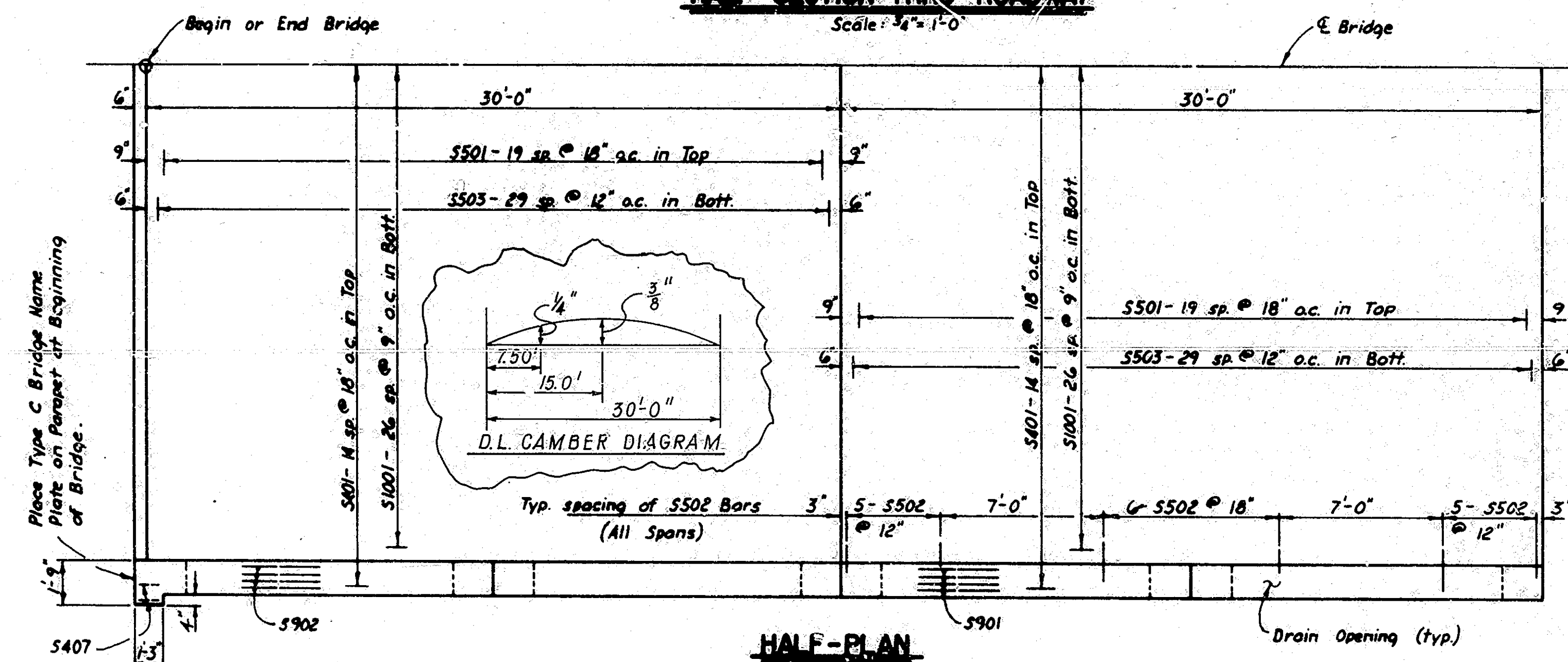






**SECTION A-A**  
Scale:  $\frac{3}{4}" = 1'-0"$

**SECTION B-B**  
Scale:  $\frac{3}{4}" = 1'-0"$



**VIEW C-C**

Scale:  $\frac{1}{4"} = 1'-0"$

### BAR LIST (EACH SPAN)

MARK	NO. REQ'D.		LENGTH	PIN DIA.
	END	INT.		
S401	29	29	29'-8"	Str.
S402	2	-	14'-2"	Str.
S403	8	16	14'-8"	Str.
S404	6	-	15'-2"	Str.
S405	28	32	6'-10"	2"
S406	28	32	7'-4"	2"
S407	10	-	11"	Str.
S408	48	48	3'-2"	2"
S409	48	48	6'-4"	2"
S501	20	20	43'-6"	3 3/4"
S502	32	32	6'-7"	3 3/8"
S601	4	-	8'-1"	3 3/4"
S602	6	-	4'-7"	3 3/4"
S603	10	20	14'-8"	Str.
S604	4	-	14'-2"	Str.
S605	6	-	15'-2"	Str.
S901	-	8	29'-8"	Str.
S902	8	-	30'-2"	Str.
S1001	53	53	29'-8"	Str.
S503	30	30	42'-4"	Str.

### BENDING DIAGRAMS

Dimensions are out to out of Bars.

### GENERAL NOTES

GENERAL NOTES

ALL EXPOSED CORNERS TO BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

BAR SUPPORTS FOR REINFORCING BARS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO THE ITEM "REINFORCING STEEL."

ROOFING FELT, BITUMINOUS FELT, PREFORMED JOINT, AND SYNTHETIC POLYMER SHALL BE MEASURED AND PAID FOR AS CLASS SAE) CONCRETE.

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION 1978 EDITION, AND APPLICABLE SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1977 EDITION, WITH INTERIM SPECIFICATIONS.

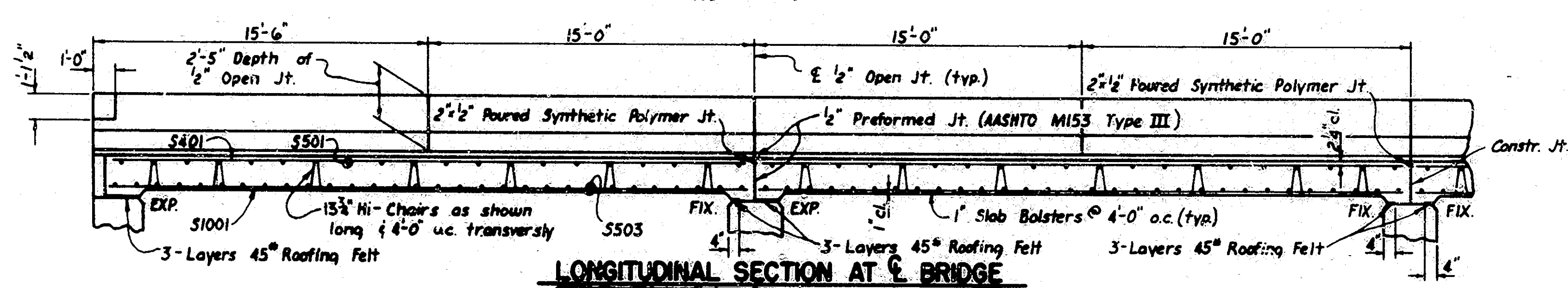
LIVE LOAD: HS 20

METHOD OF DESIGN: LOAD FACTOR

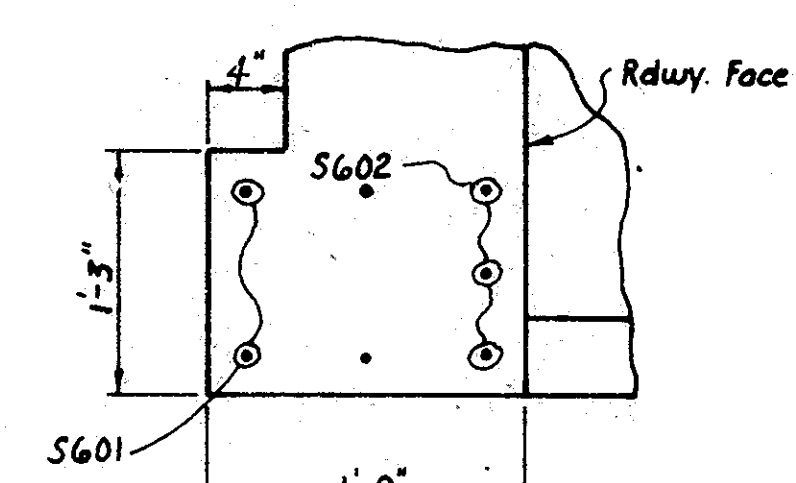
LOAD DISTRIBUTION TO SLAB: DEAD LOAD: 252 PSF  
LIVE LOAD: 0.174 WHEELS/FT. OF WIDTH PLUS 30% IMPACT

CONCRETE: ALL CONCRETE SHALL BE CLASS SAE) WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH  $f_c = 3500$  PSI

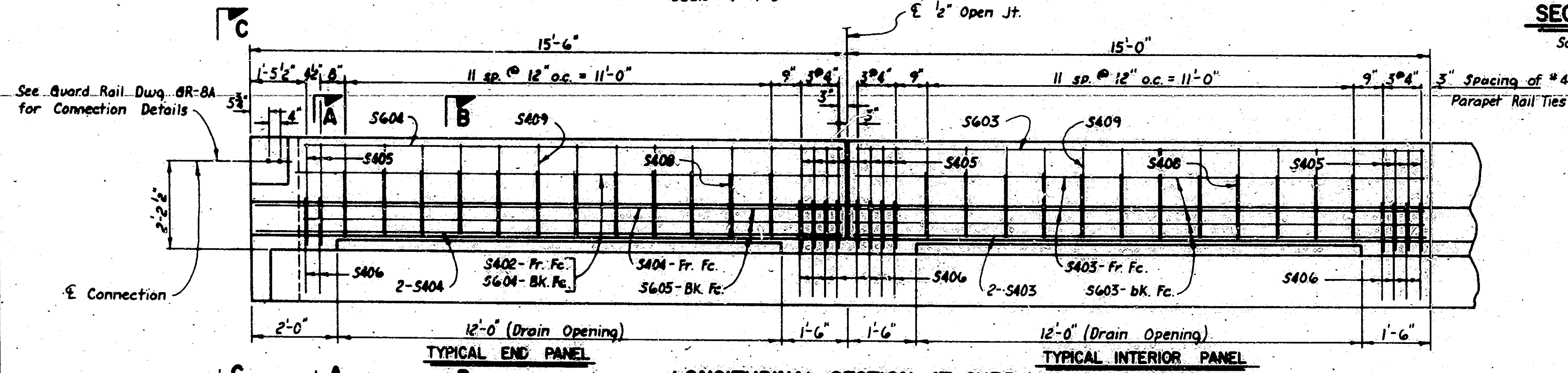
REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A615 OR A617, GRADE 60 (YIELD STRENGTH = 60,000 PSI).



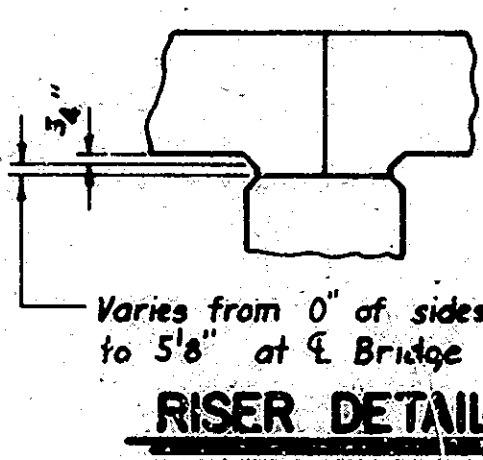
**LONGITUDINAL SECTION AT C BRIDGE**  
Scale: 1/4" = 1'-0"



**SECTION D-D**  
Scale: 1" = 1'-0"



LONGITUDINAL SECTION AT CURB  
Scale: 1" = 1'-0"



**RISER DETAIL**  
NO SCALE

QUANTITY	END SPAN	INT. SPAN
Concrete	74.19 cu. yds.	33.67 cu. yds.
Reinforcing Steel	11878 LBS.	11804 LBS.
Structural Steel	322 LBS.	322 LBS.

DETAILS OF STANDARD  
30'-0" R.C. SLAB SPANS  
CONC. PARAPET RAIL-40'-0" CL. RDWY.

**ROUTE 1 SEC. 6**

**"ARKANSAS STATE HIGHWAY COMMISSION**

**LITTLE ROCK, ARK.**

DRAWN BY: TEB DATE: 5-19-77  
Tak 6-21-77

CHECKED BY: Jck DATE: 6-21-77  
DESIGNED BY: CES DATE: Std

BRIDGE NO. 5854

**BRIDGE NO. 5854**

BRIDGE NO. 3337