

BRIDGE CONTRACT No. 386

SHEET NUMBER	SECTION	STRUCTURE				DRAWING NUMBER	SUBJECT	BRIDGE CONTRACT NO.
		NO.	TYPE	SPAN	OVER			
1							<i>Index & Title Sheet</i>	
2							<i>Layout, Strs. 1027 & 1028</i>	
3	A	1027	R.C. Girder	18' 2 1/2' x 3'	State Road #12	492+25.6	General Plan	374
4							Abut. & Decks: Misc. Sects. & Elevs.	
5							" " " " " "	
6							" " " " " "	
7							" " " " " "	
8	A	1028	R.C. Girder	50' 37'-0" x 3' 6" x 25'-0"	C.S. & S.B.R.	494+68.85	Superstructure Details	374
9							General Plan	
10							Details: Benis #1 & #6	
11							" " #3, #4 & #5	
12							Superst. Details	
13							Bill of Mat. Misc. Depts. & Summary	
14							Road Dept. Sheets	
15							Road Plan & Profile - Rd. Proj. 180-A	
16							Detail of Intersect. Sta. 490+00 (Rd. Proj. 180-A)	
17							Cross Sections - Rd. Proj. 180-A	
18							" " " " " "	
19							" " " " " "	
20							" " " " " "	
21							" " " " " "	
22							" " " " " "	
23							" " " " " "	
24							Std. Culvert Headwalls	
25							Std. Box Culu. 2' x 2' to 5' x 5'	
26							End Drains & Corr. Metal Pipe Outlets	
27	A	1016	R.C. Girder	18' 2 1/2' x 3'	State Road #20	449+50.0	Layout	396
28							General Plan	
29							Substructure Details	
30							" " " " " "	
31							" " " " " "	
32							" " " " " "	
33							" " " " " "	
34							" " " " " "	
35							" " " " " "	
36							" " " " " "	
37							" " " " " "	
38							" " " " " "	
39							" " " " " "	
40							" " " " " "	
41							" " " " " "	
42							" " " " " "	
43							" " " " " "	
44							" " " " " "	
45							" " " " " "	
46							" " " " " "	
47							" " " " " "	
48							" " " " " "	
49							" " " " " "	

STATE OF INDIANA
STATE HIGHWAY COMMISSION

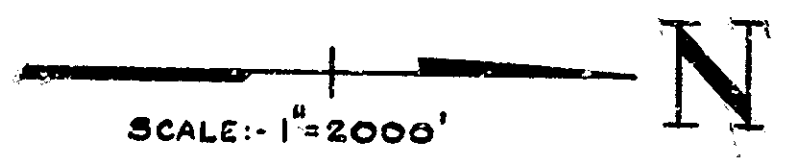
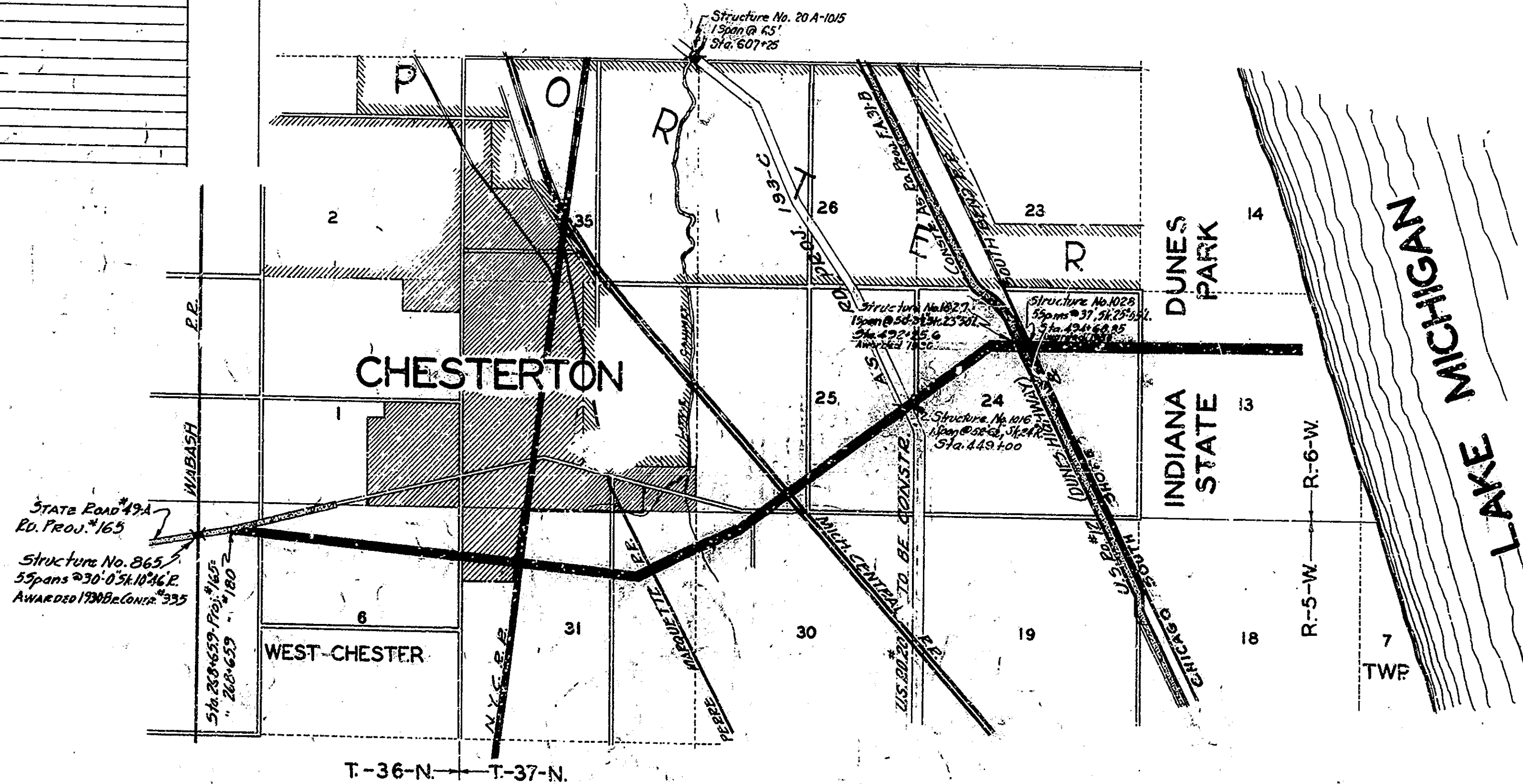
PLANS FOR BRIDGES OF SPANS OVER 20 FEET
FOR PROPOSED

STATE HIGHWAY

PROJECT NO. 49 SECTION A
LOCATION OF STRUCTURE NO. 1028 IN PORTER COUNTY WEST CHESTER TOWNSHIP IN SECTION 24 T-37-N.R-6-W, OVER GHICAGO SOUTH SHORE & SOUTH BEND R.R.
LOCATION OF STRUCTURE NO. 1027 IN PORTER COUNTY WESTCHESTER TOWNSHIP, NEAR CENTER OF WEST HALF OF SECTION 24 T-37-N.R-6-W, OVER STATE ROAD NO. 12.
LOCATION OF STRUCTURE NO. 1016 IN PORTER COUNTY WEST CHESTER TOWNSHIP NEAR THE NORTHWEST CORNER OF THE EAST HALF OF SECTION 25, T. 37 N. R. 6 W, OVER STATE ROAD #20

BRIDGES OVER 20 FT. SPAN				
NO.	STATE	FINISHED	ARCH. FINISH	TOTAL
NO.	NO.	NO.	NO.	NO.
7	IND.	49	1931	1 396

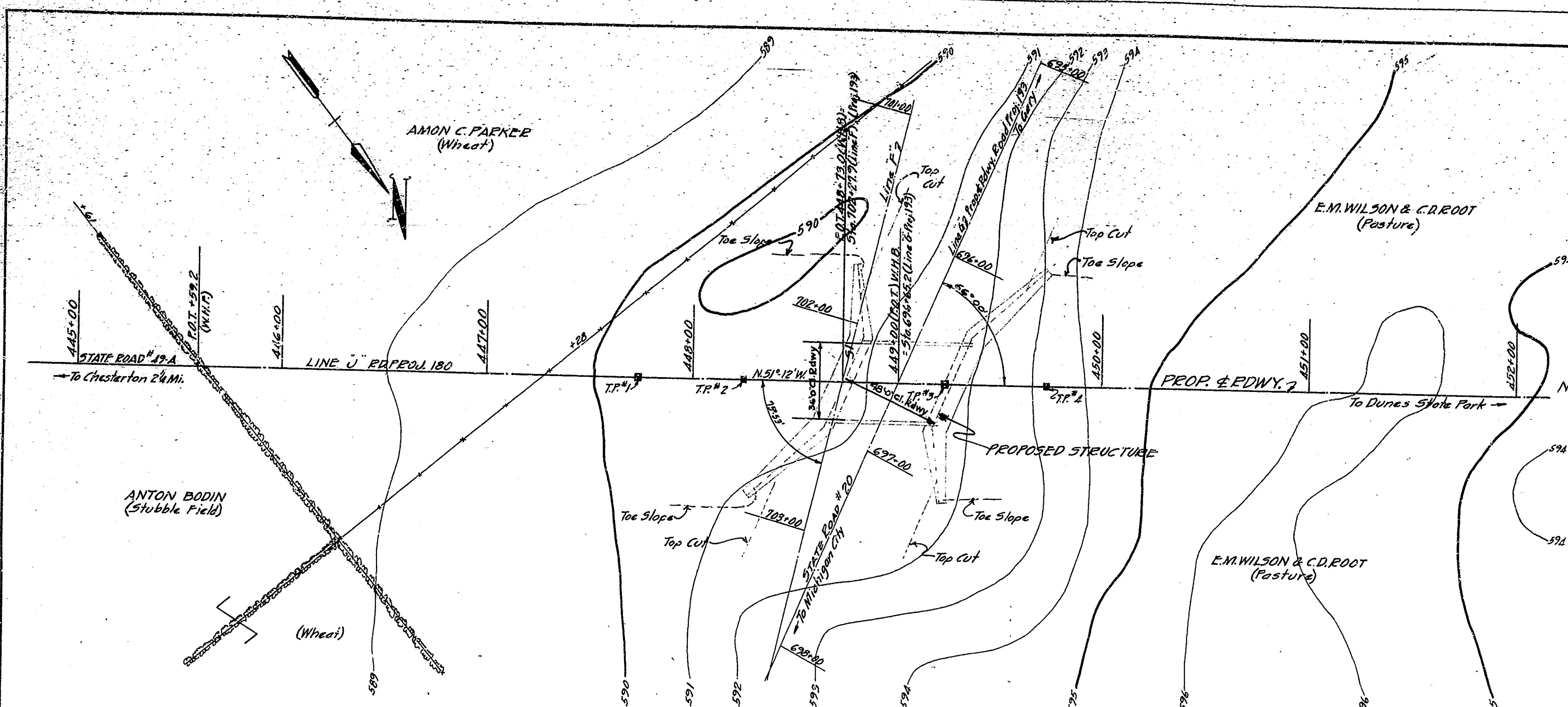
SECTION A



INDIANA STATE HIGHWAY STANDARD
BRIDGE SPECIFICATIONS, 1922 TO BE
USED WITH THESE PLANS.

FOR STRUCTURE 1016
APPROVED JANUARY 17, 1931
J.P. Brown
DIRECTOR - INDIANA STATE HIGHWAY COMMISSION
APPROVED JANUARY 17, 1931
J.P. Brown
CHIEF ENGINEER - INDIANA STATE HIGHWAY COMMISSION
FOR DETAIL PLANS STRUCTURES 1027 & 1028
APPROVED NOVEMBER 9, 1930
J.P. Brown
DIRECTOR - INDIANA STATE HIGHWAY COMMISSION
APPROVED NOVEMBER 9, 1930
J.P. Brown
CHIEF ENGINEER - INDIANA STATE HIGHWAY COMMISSION
FOR PRELIMINARY PLANS STRUCTURE 1028
APPROVED JULY 22, 1930
J.P. Brown
DIRECTOR - INDIANA STATE HIGHWAY COMMISSION
APPROVED JULY 22, 1930
J.P. Brown
CHIEF ENGINEER - INDIANA STATE HIGHWAY COMMISSION

IMPERIAL TRACING CLOTH - INDIANAPOLIS BLUE PINK AND SUPPLY CO.

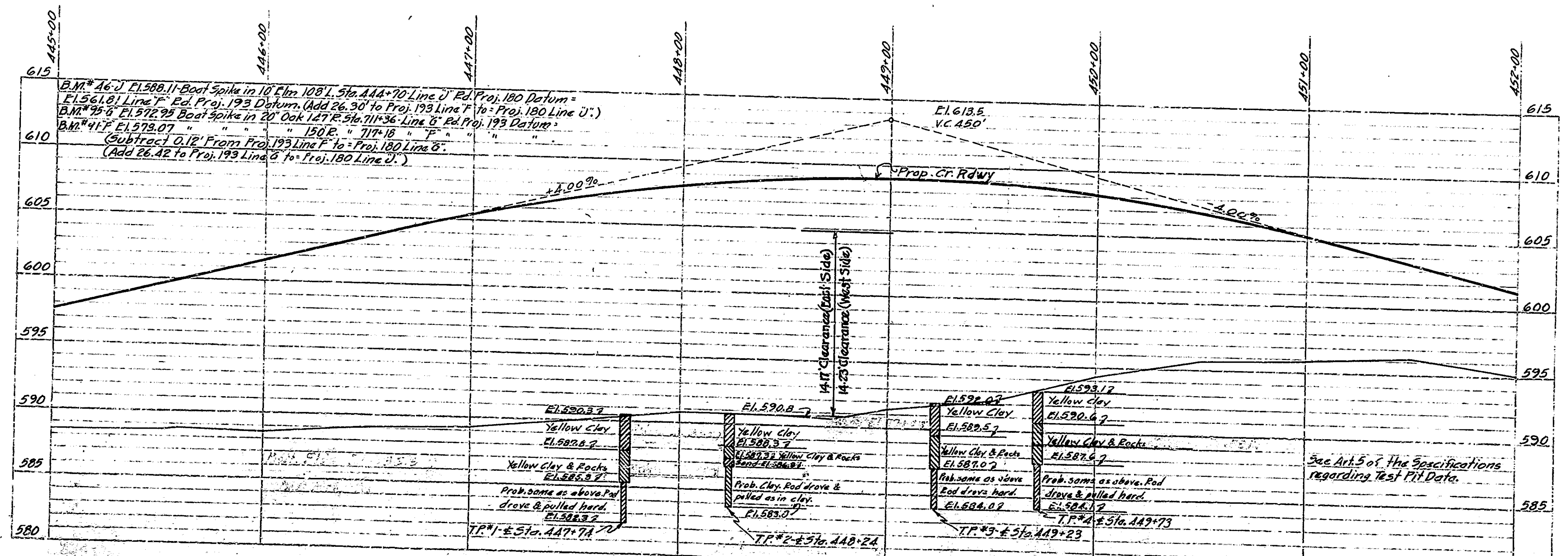


SITUATION PLAN
Scale 1"=30'-0" - Contour Interval 1'-0"

Note: See Rd. Plans For References and For Connections to Road Project 193 (Road 20).

NOTE: This Structure is located on exception of Road Proj. 180-A included in contract of Road Proj. 193-c. See Road Dept. Plans Sheets B, BA, BB & BC of Road Proj. 193-c for Bench Marks, Grade Lines, Connections and References.

NOTE:
W.H.F. = Wood Hub Flush.
W.H.B. = Wood Hub Buried.



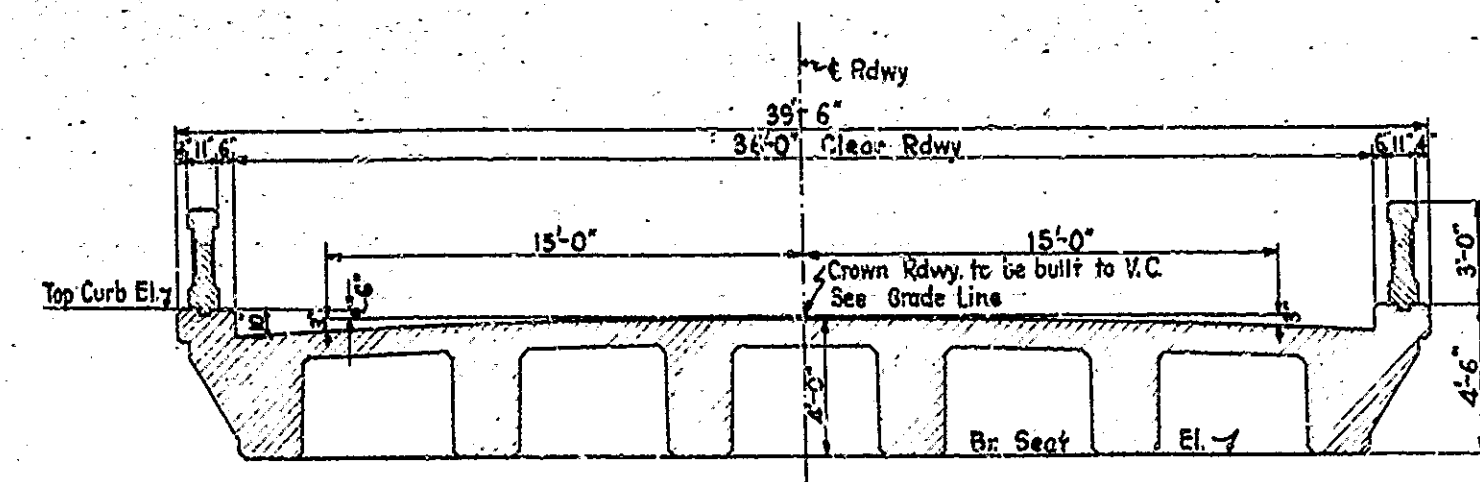
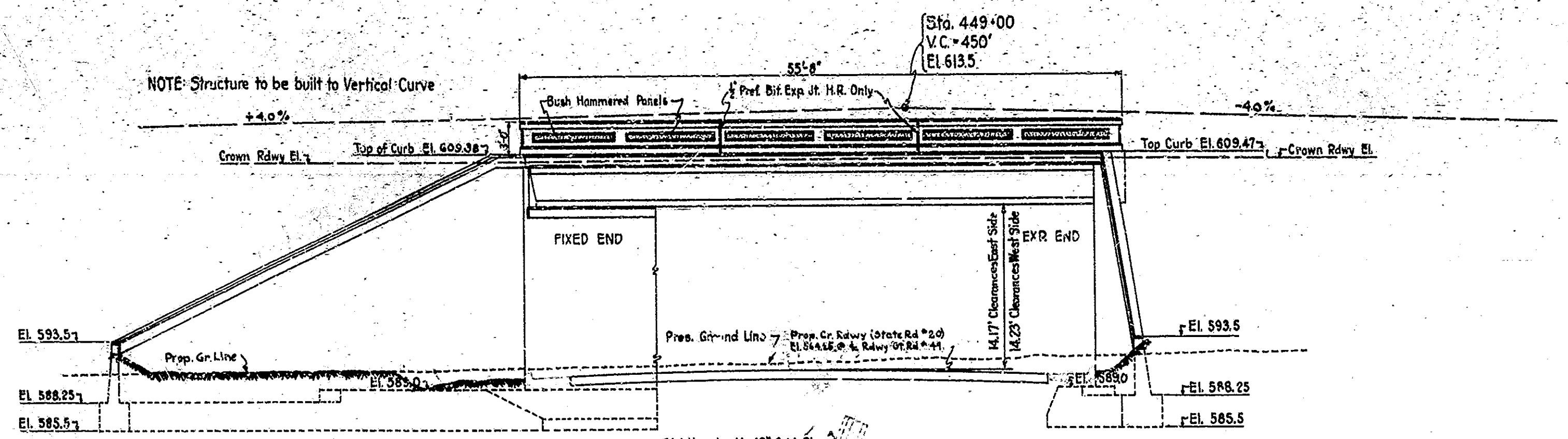
PROFILE ON PROPOSED ROADWAY (LINE J) ROAD PROJECT 180
Scales: Hor. 1"=30'-0"; Ver. 1"=5'-0"

LAYOUT
REINFORCED CONCRETE BRIDGE
SPAN: 52'-6" SKEW 24° R. 36'-0" ROADWAY
OVER STATE ROAD NO. 20 ON STATE ROAD: 49-A
INDIANA STATE HIGHWAY COMMISSION
PORTER COUNTY
SCALE: AS NOTED
RECOMMENDED FOR APPROVAL: *Fred Kellaw* JANUARY 17, 1931
PROJECT: 49 SECTION: A STATION: 449+00
DRAWING: C1 of 5 STRUCTURE NO. 1016
BRIDGE CONTRACT NO. 396

DESIGNED: C.F.D.
DRAWN: H.A.M. 7-10-30
CHECKED: E.P. 7-14-30
TRACES: W.C.B. 12-10-30

Field Notes: Book BR # 211 pp. 37-40

BRIDGES OVER 20' SPAN					
STATE	YEAR	NO.	SPAN	TYPE	TOTAL
IND.	49	1931	37	48	



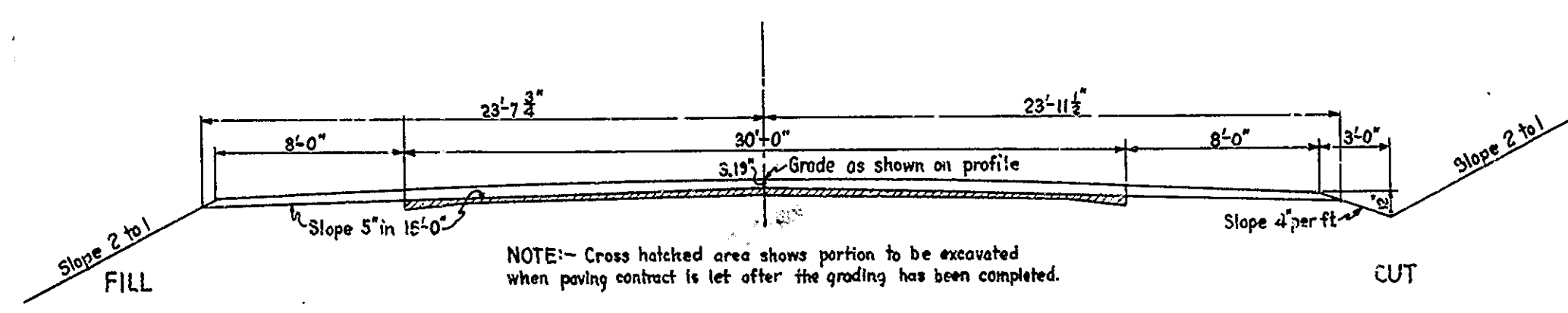
SECTION A-A
Scale 1/8" = 1'-0"

108.0

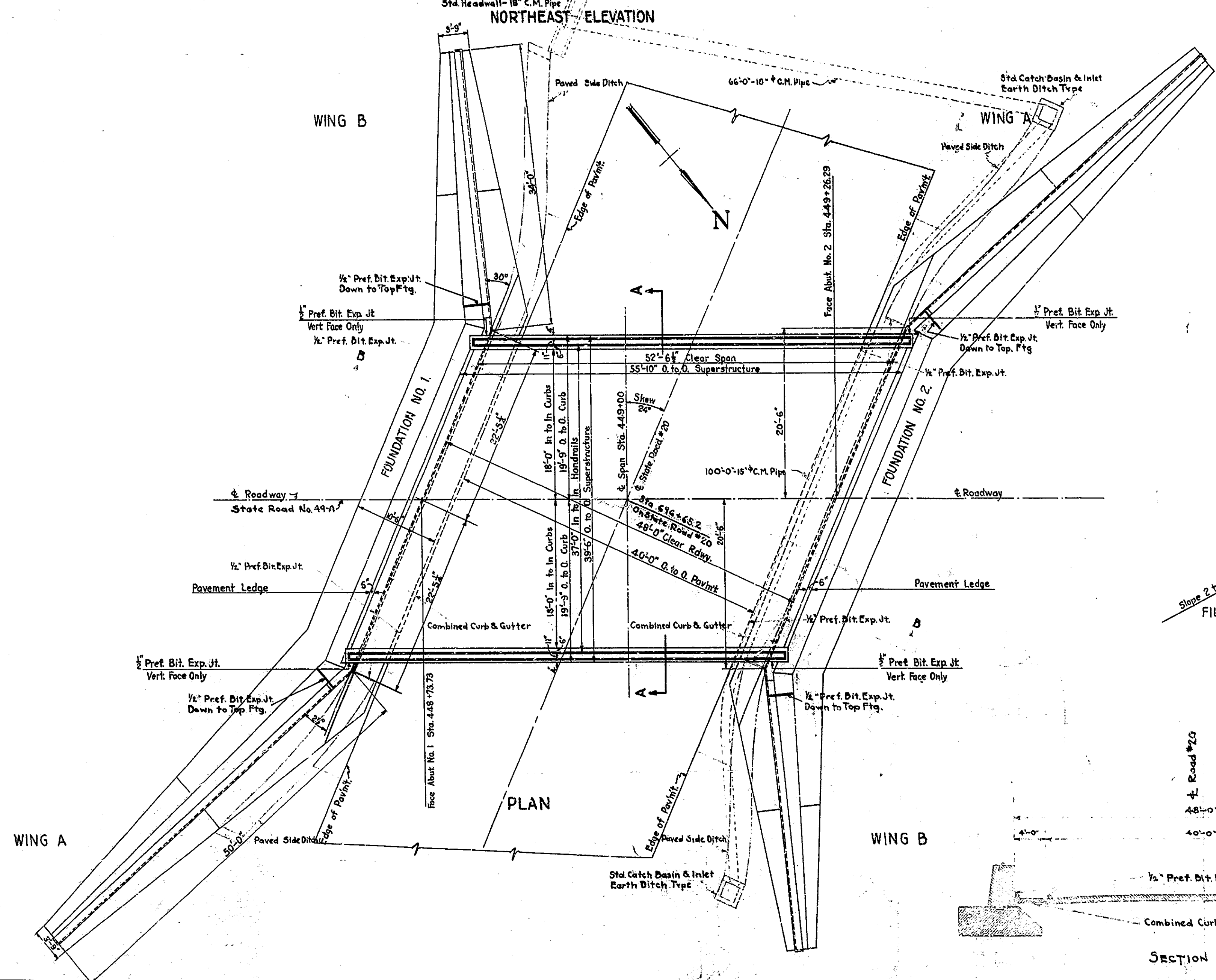
GENERAL NOTES

There is no structure of this location present. Depth of footings to be extended if found necessary. See Art 113 of Supplement. All concrete in footings, wingwalls, and abutments to be Class "E". All concrete in superstructure below elevation of top of curb to be Class "D". All concrete in handrail above elevation of top of curb to be Class "F". All reinforcing steel shall be embedded 3' in substructure and 2' in superstructure unless otherwise noted. Wing walls and abutments to be waterproofed in accordance with specifications. Bevel forms 1/4" on under side of all copings. See detail of handrail. Chamfer all exposed edges 1/4" except the copings and handrail. See Special Provisions regarding approaches for Road No. 49. Contractor is required to have a two bag concrete mixer for the construction of this contract. See Special Provisions. Reinforcing Steel Bar Areas and Weights in accordance with standards adopted April 1930 by Concrete Reinforcing Steel Institute. See Special Provisions regarding Standard Catch Basins & Inlets, Corrugated Metal Pipe, Combined Curbs & Gutters, Paved Side Ditches, Grading & Paving for Proposed Road No. 20. (Road Proj. 193-C). Bituminous filled Expansion Joints to be placed in roadway slab of Road #20 as directed by the Engineer. See Art. 104 of Supplement and Sheets Nos. 47-48.

STANDARD 2C-8-H ROADWAY SECTION FOR ROAD NO. 20 (RD. PROJ. 193-C)
SEE SHEET NO. 46



TYPICAL APPROACH SECTION FOR ROAD #20-A (RD. PROJ. 193-C)
Scale 1/8" = 1'-0"



GENERAL PLAN

REINFORCED CONCRETE BRIDGE
1 SPAN @ 52'-6" SKEW 24° R. 36'-0" ROADWAY
OVER STATE ROAD NO. 20 ON STATE ROAD -49-A

INDIANA STATE HIGHWAY COMMISSION
PORTER COUNTY
JANUARY 17, 1931

SCALE: - 1/8" = 1'-0" Except as noted
RECOMMENDED FOR APPROVAL: *Fred Kellum*
ASST. CHIEF ENGINEER IN CHARGE OF STRUCTURES

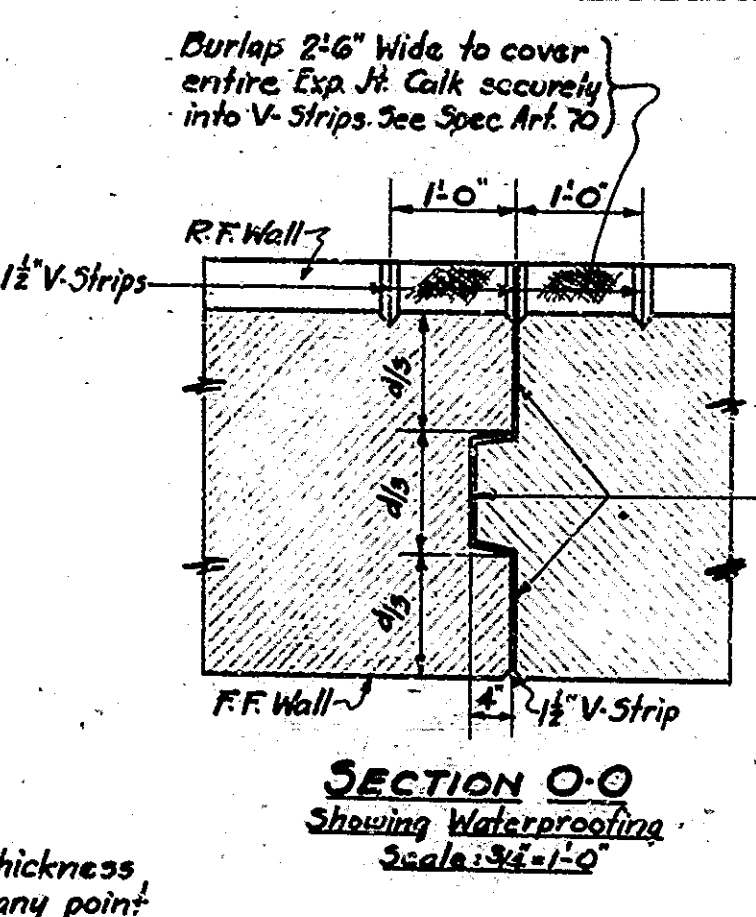
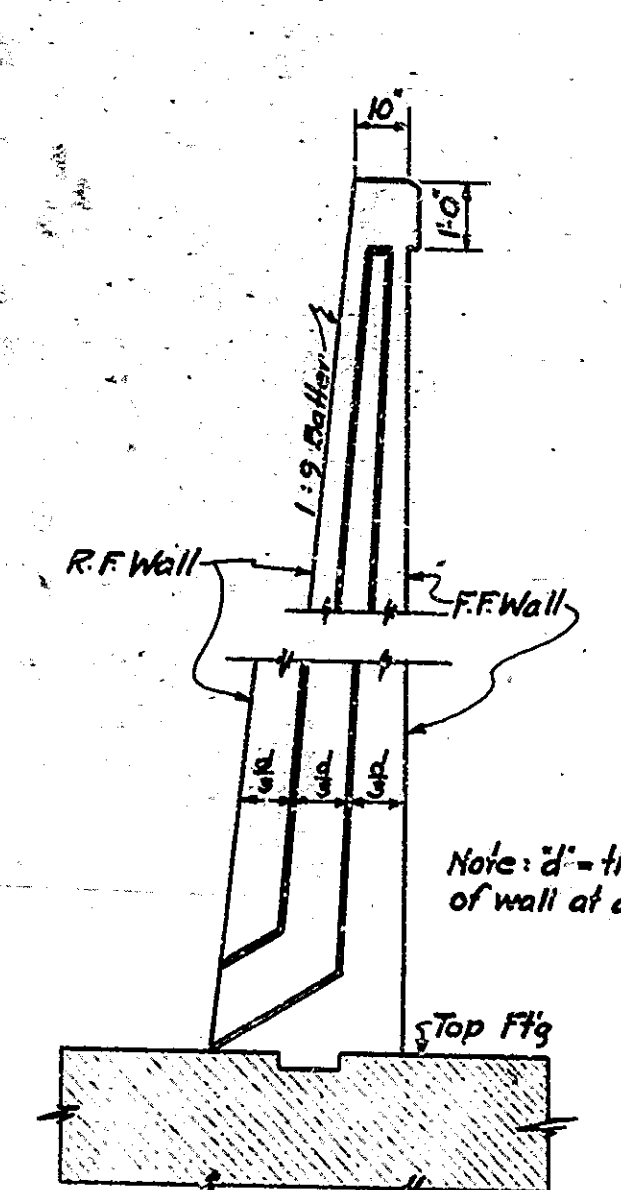
PROJECT: - 49
SECTION: - A
DRAWING: - C₂ OF 5
BRIDGE CONTRACT NO. 396

STATION: - 449+00

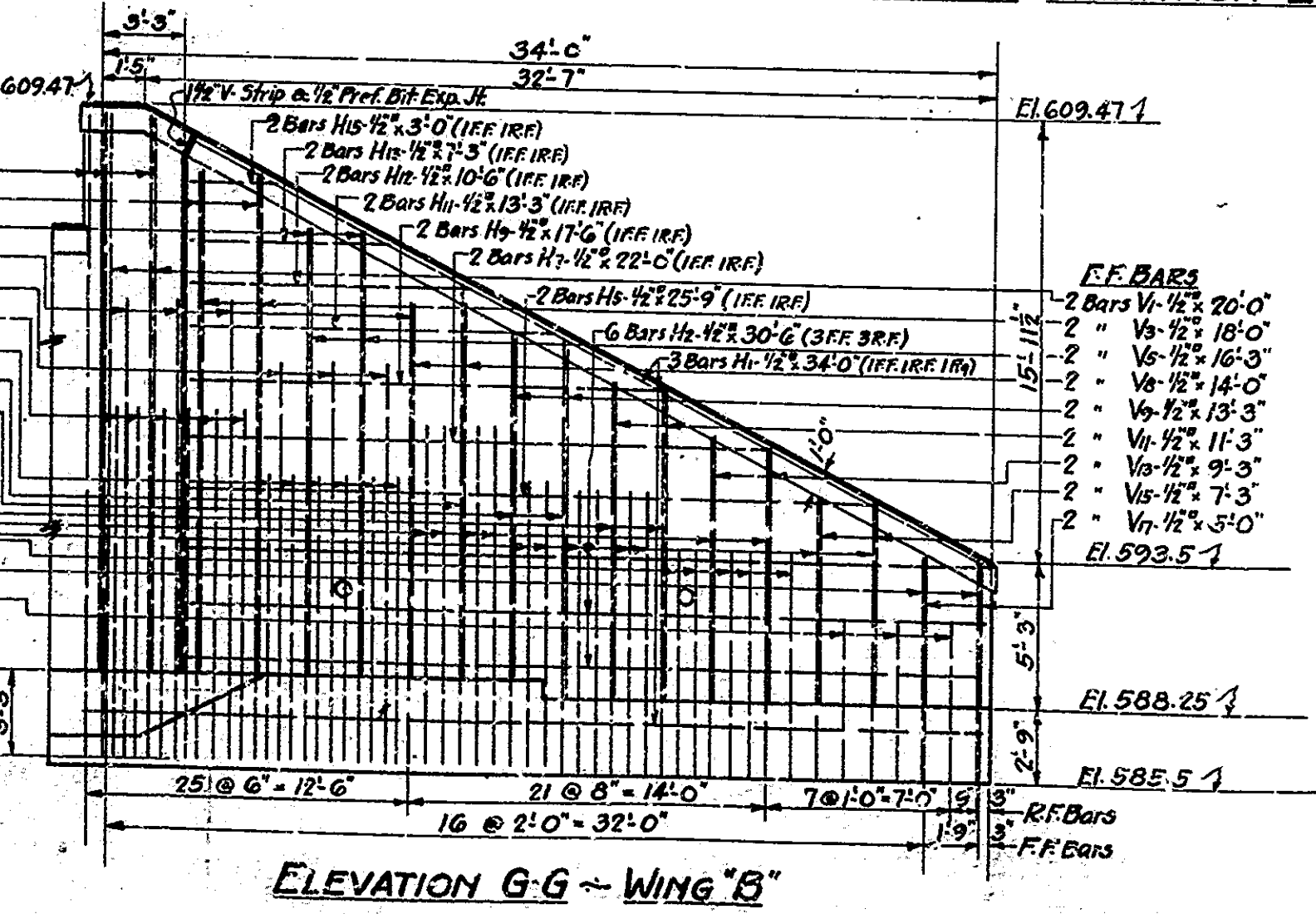
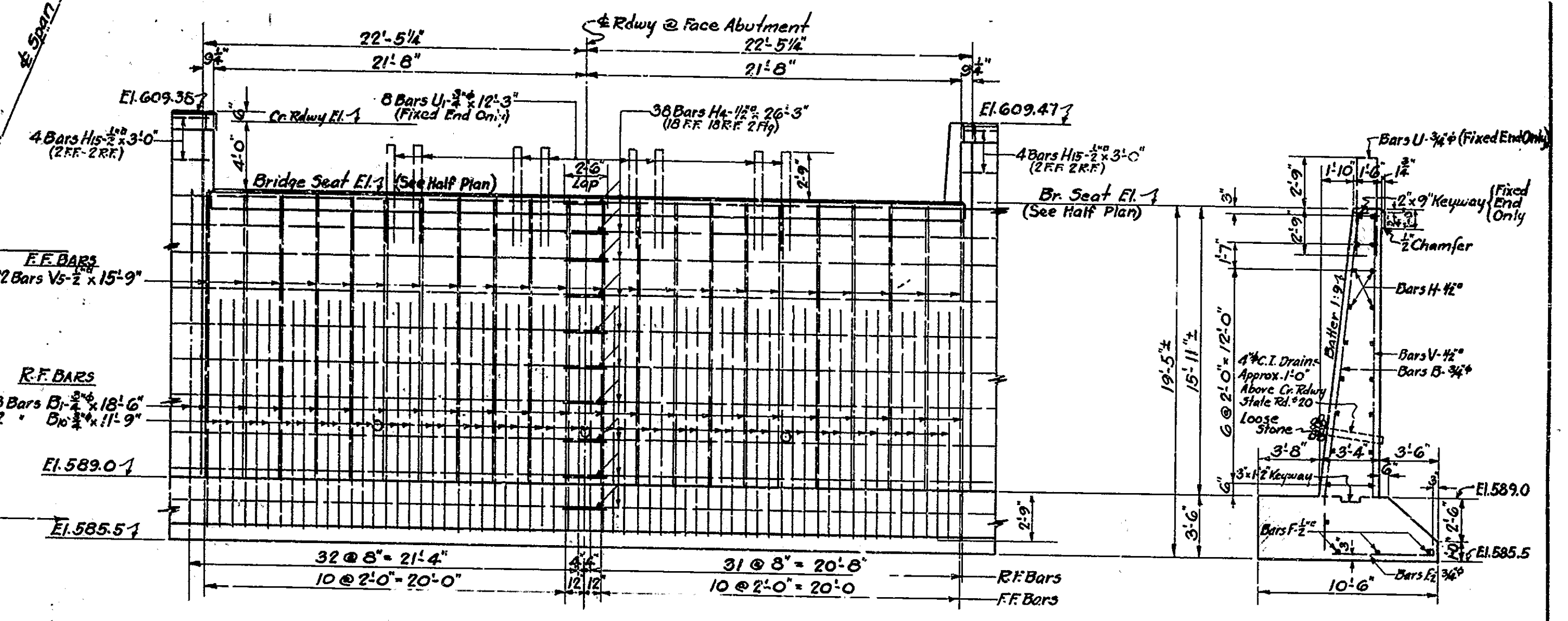
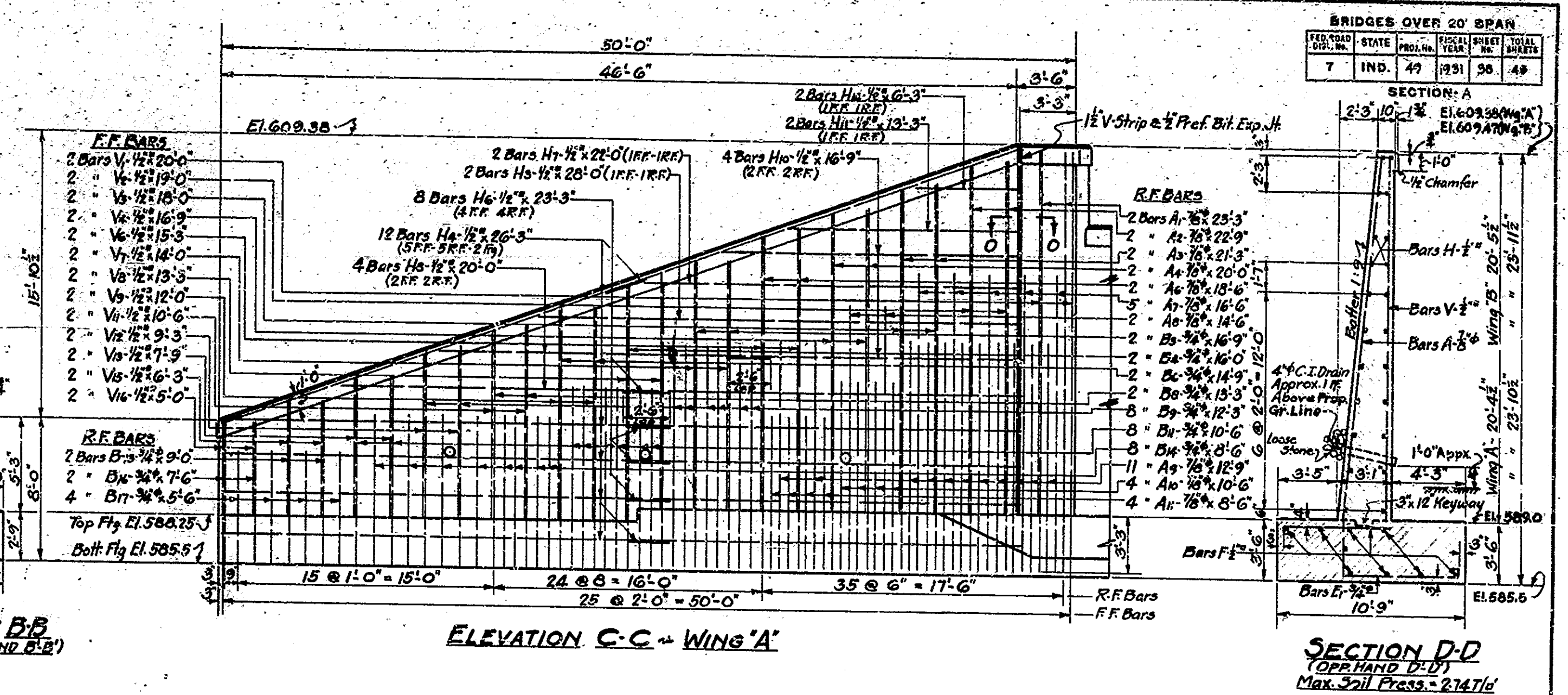
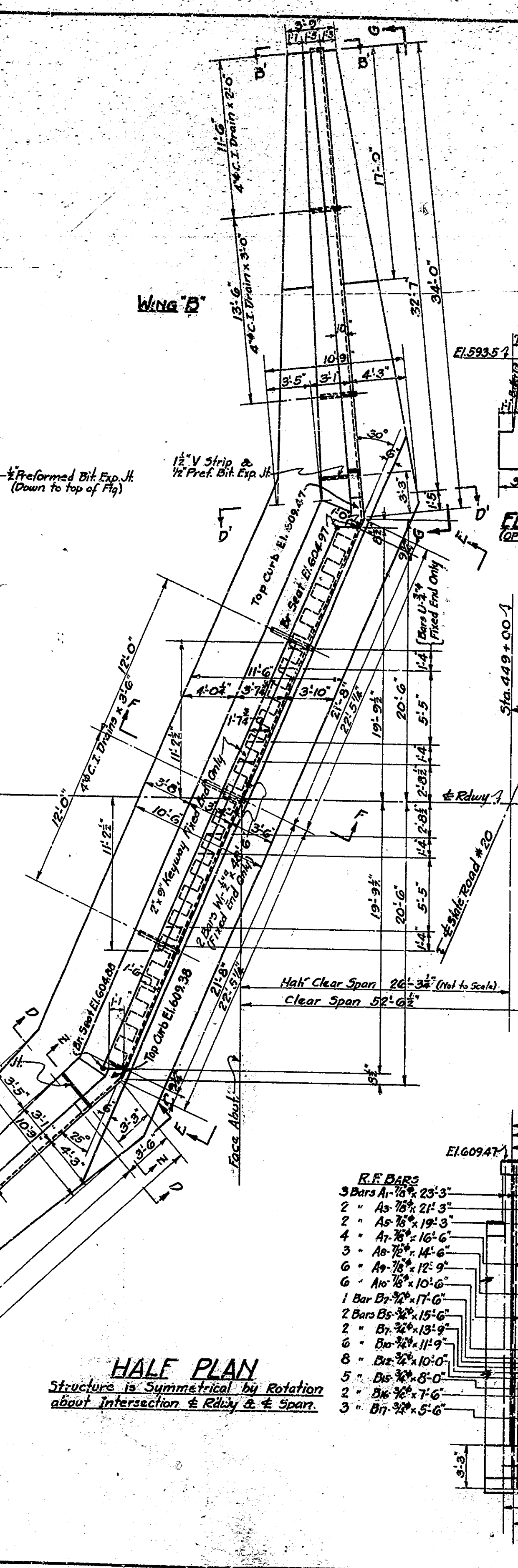
STRUCTURE NO. 1016

DESIGNED: *C.W.D.*
DRAWN: B.B.S. 12-29-30
TRACED: F.E.W. 1-18-31

BRIDGES OVER 20' SPAN			
STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
IND.	49	36	48

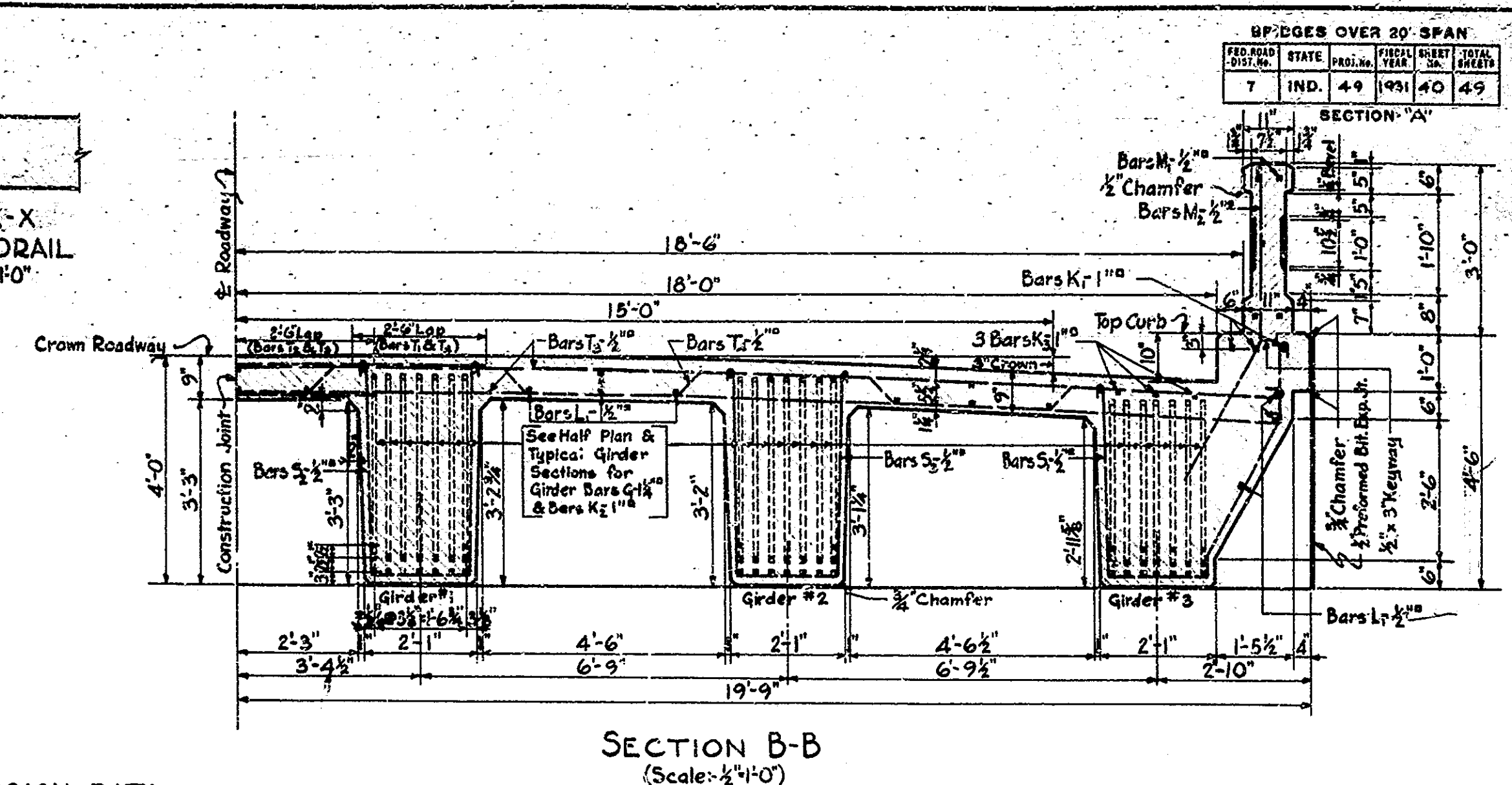
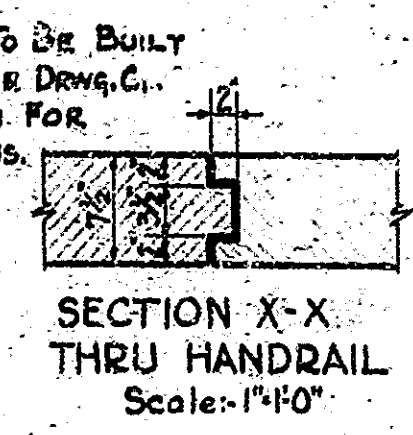
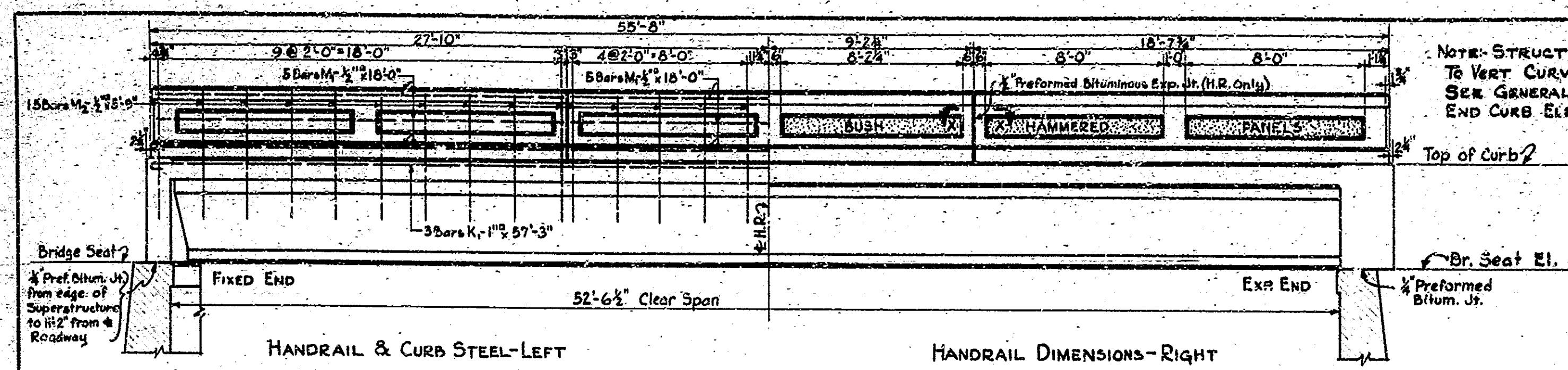


WING EXPANSION JT. DETAILS

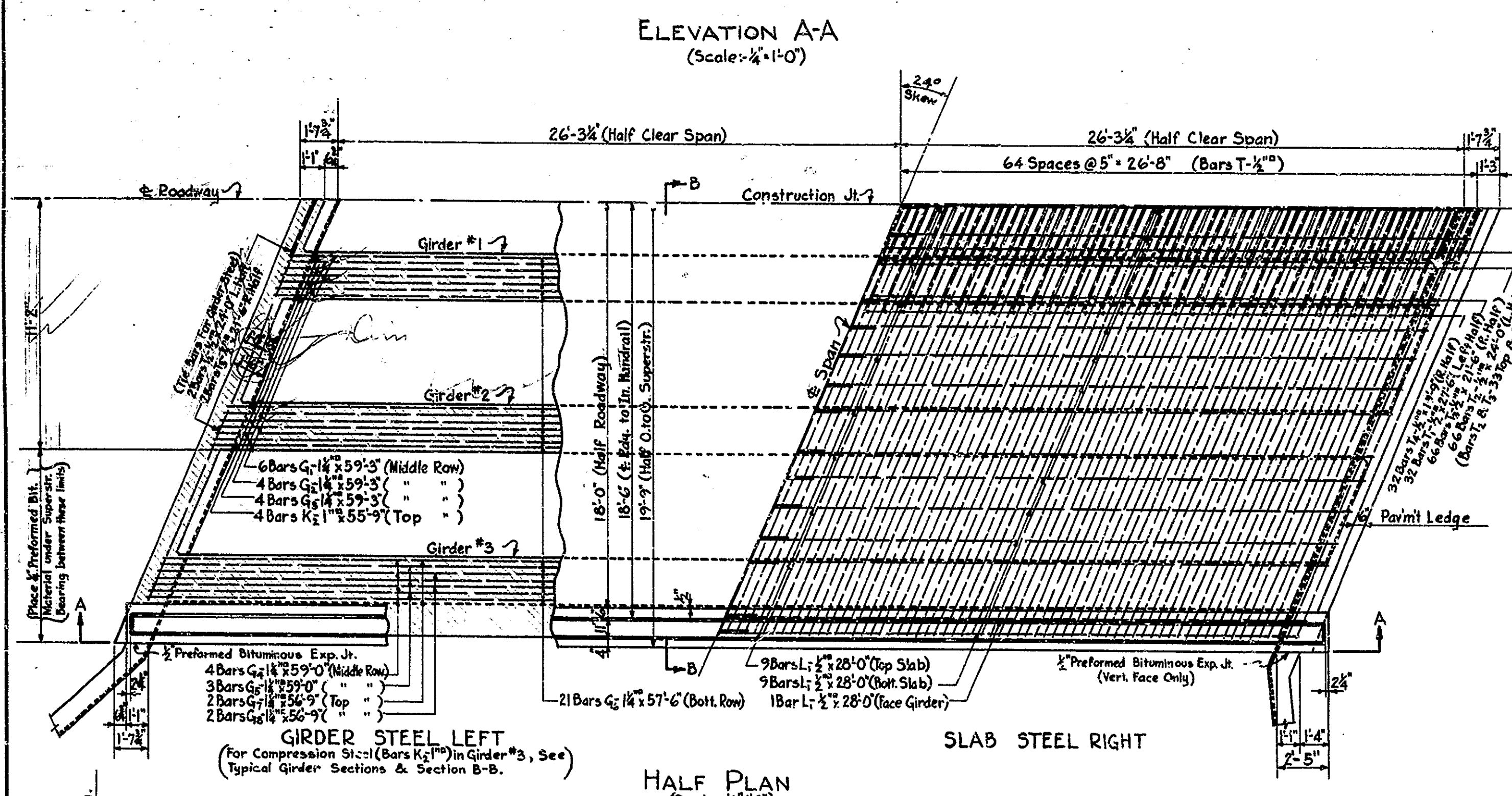


SUBSTRUCTURE DETAILS
REINFORCED CONCRETE BRIDGE
 1 SPAN @ 52'-6 1/2" SKEW 24°R. 36'-0" ROADWAY
 OVER STATE ROAD NO 20 ON STATE ROAD - 49-A
INDIANA STATE HIGHWAY COMMISSION
PORTER COUNTY
 SCALE: - 3/16" = 1'-0" EXCEPT AS NOTED JANUARY 17, 1931.
 RECOMMENDED FOR APPROVAL: *Fred Kellam*
 ASST. CHIEF ENGINEER IN CHARGE OF STRUCTURES
 PROJECT: - 49 STATION: - 449+00
 SECTION: - A DRAWING: - C3 OF 5 STRUCTURE NO. 1016
 BRIDGE CONTRACT NO. 396

DESIGNED BY B.S. HARRIS, CIVIL ENGINEER, I.C. 31
 DRAWN BY S.S. HARRIS, CIVIL ENGINEER, I.C. 31
 TRACED BY R.R. LINDSEY, CIVIL ENGINEER, I.C. 31



BRIDGE NO.	STATE	PROJ. NO.	POST MILE	STATION
7	IND.	49	49	49



DESIGN DATA-

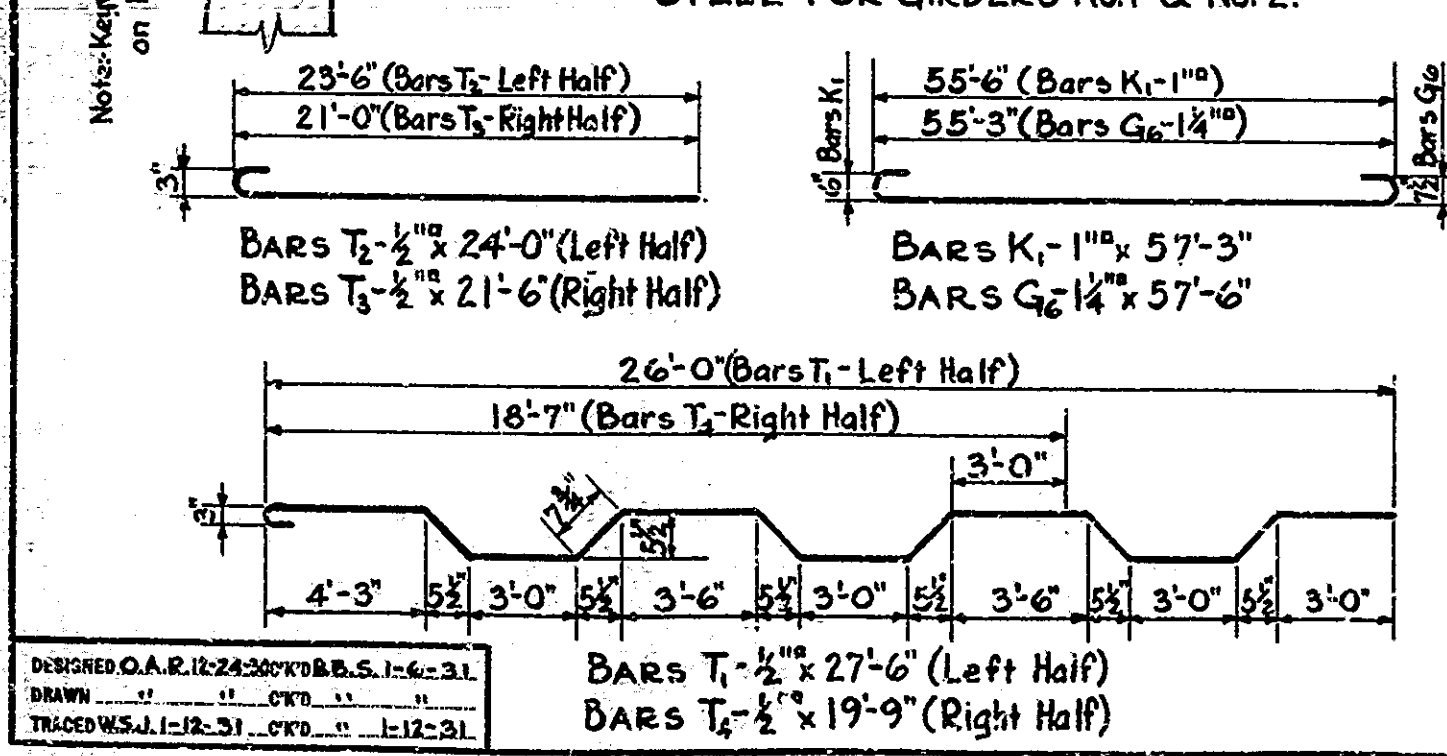
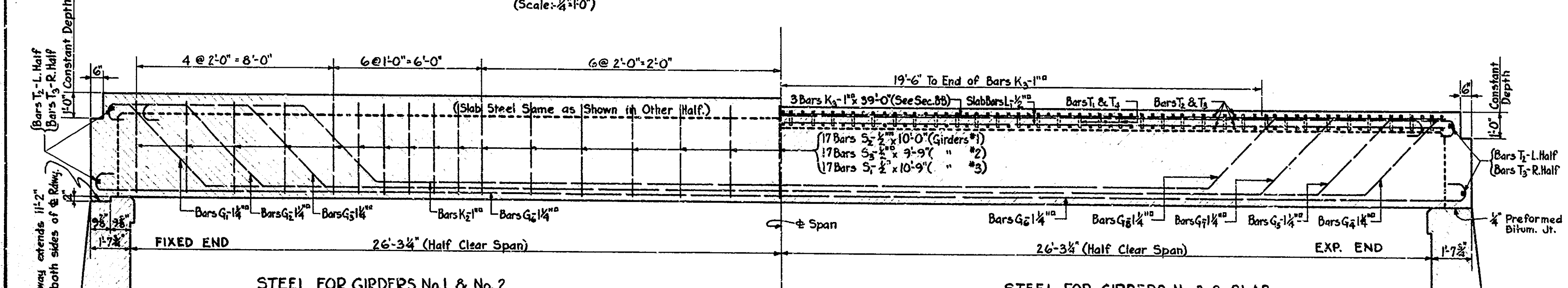
Unit Stresses: $f_s = 16,000 \text{ psi}$, $f_c = 800 \text{ psi}$.
 Live Load H-20 without impact with distribution of loads in accordance with A.A.S.H.O. Specification dated June 1, 1925. (Rev. 1926)
 Designed to carry a 7" concrete pavement on top of slab.
 Slab designed with 1" wearing surface.
 Maximum deflection with maximum live load $\frac{1}{8}$ ".
 Note: All dimensions shown on details and bending diagrams for reinforcing bars are measured on ϵ of bars.

TEST BARS - SAMPLES.

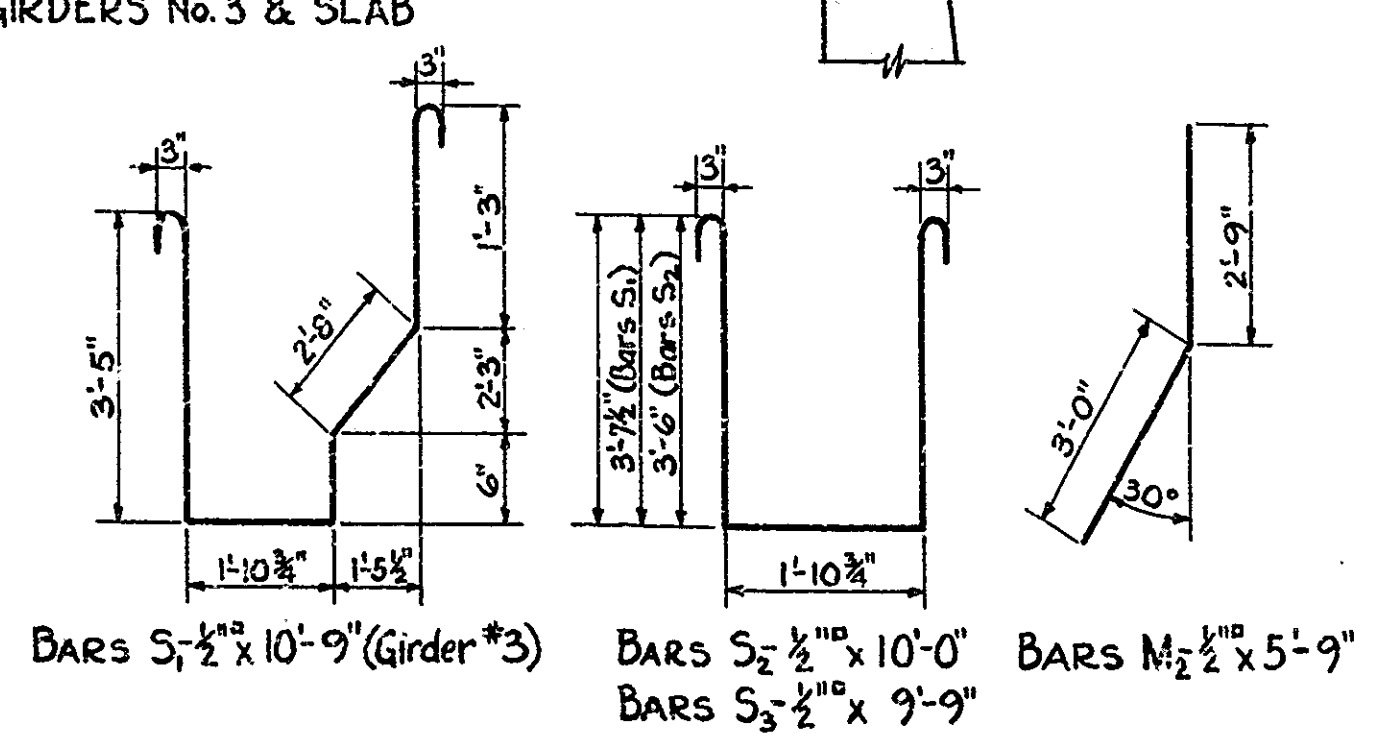
Size $1\frac{1}{2}$ " - Cut 1-3' sample from 1 bar. If from bar G_1 to G_5 , G_7 or G_8 make cuts 6'-6" and 9'-6" from same bent up point. If from G_6 make cuts 7'-0" and 10'-0" from same end. Splice bar cut with bar G_6 .
 Size 1" - Cut 1-3' sample from 1 bar K_1, K_2 or K_3 . If from K_1 make cuts 7'-0" and 10'-0" from same end. If from K_2 make cuts 6'-6" and 9'-6" from same bent up point. If from K_3 cut 3'-0" off end of bar. Splice bar cut with bar K_3 .
 Size $\frac{1}{2}$ " - Cut 3-3' samples from either bars M_1, L_1, T_2 or T_3 . Splice bars cut with bars M_1 .

BILL OF MATERIALS

REINFORCING		STEEL		CONCRETE	
Mark	No. Bars	Size	Length	Location	Total Length
G_1	1	$1\frac{1}{2}$ "	15'-6"	Splice Bar For $1\frac{1}{2}$ " Bar Cut For Test.	15'-6"
G_2	12	"	59'-3"	Longt. Girders #1 & #2 (3 Ea.)	711'-0"
G_3	8	"	59'-3"	" #1 & #2 (2 Ea.)	474'-0"
G_4	8	"	59'-3"	" #3 (4 Ea.)	474'-0"
G_5	6	"	59'-0"	" #3 (3 Ea.)	354'-0"
G_6	42	"	57'-6"	" #1, #2 & #3 (7 Ea.)	2415'-0"
G_7	4	"	56'-9"	" #3 (2 Ea.)	227'-0"
G_8	4	"	56'-9"	" #3 (2 Ea.)	227'-0"
Total $1\frac{1}{2}$ " Bars					5369'-0"
K_1	1	1"	13'-0"	Splice Bar For 1" Bar Cut For Test.	13'-0"
K_2	8	"	57'-3"	Hor. Curbs (3 Ea.)	343'-6"
K_3	6	"	55'-9"	Longt. Girders #1 & #2 (2 Ea.)	446'-0"
K_4	6	"	39'-0"	Top Girders #1 (3 Ea.)	234'-0"
Total 1" Bars					1036'-6"
M_1	3	$\frac{1}{2}$ "	8'-0"	Splice Bars For $\frac{1}{2}$ " Bars Cut For Test.	24'-0"
L_1	30	"	18'-0"	Hor. Handrails.	540'-0"
M_2	60	"	5'-9"	Vert. Handrails (30 Ea.)	345'-0"
L_2	72	"	28'-0"	Longt. Slab (34 Bars) (4 Ea. Girders #3)	2016'-0"
S_1	66	"	10'-9"	Stirrups Girders #3 (33 Ea.)	709'-6"
S_2	66	"	10'-0"	" #1 (33 Ea.)	660'-0"
S_3	66	"	9'-9"	" #2 (33 Ea.)	643'-6"
T_1	64	"	27'-6"	Transv. Slab (Left Half)	1760'-0"
T_2	134	"	24'-0"	Transv. Slab (Right Half) (4 Curt. Wall)	3216'-0"
T_3	34	"	21'-6"	R. Half (2 Curt. Wall)	2881'-0"
T_4	64	"	19'-9"	Slab (Left Half)	1264'-0"
Total $\frac{1}{2}$ " Bars					14059'-0"
Total Steel					12091'
Weights For 1930 Steels.					44491#



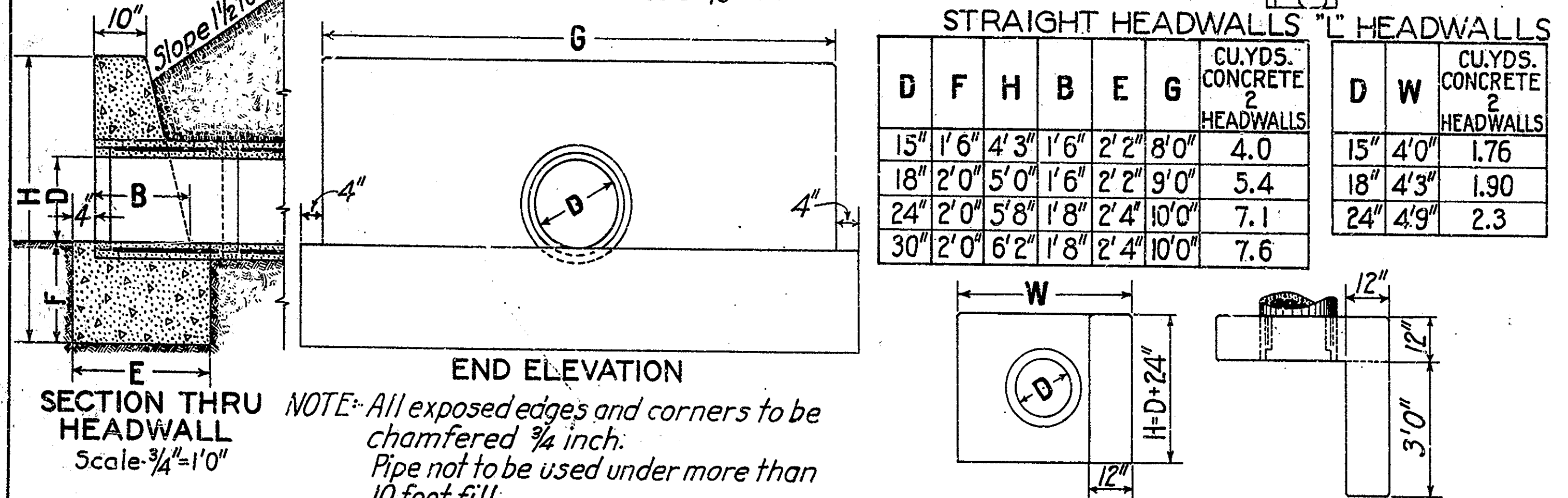
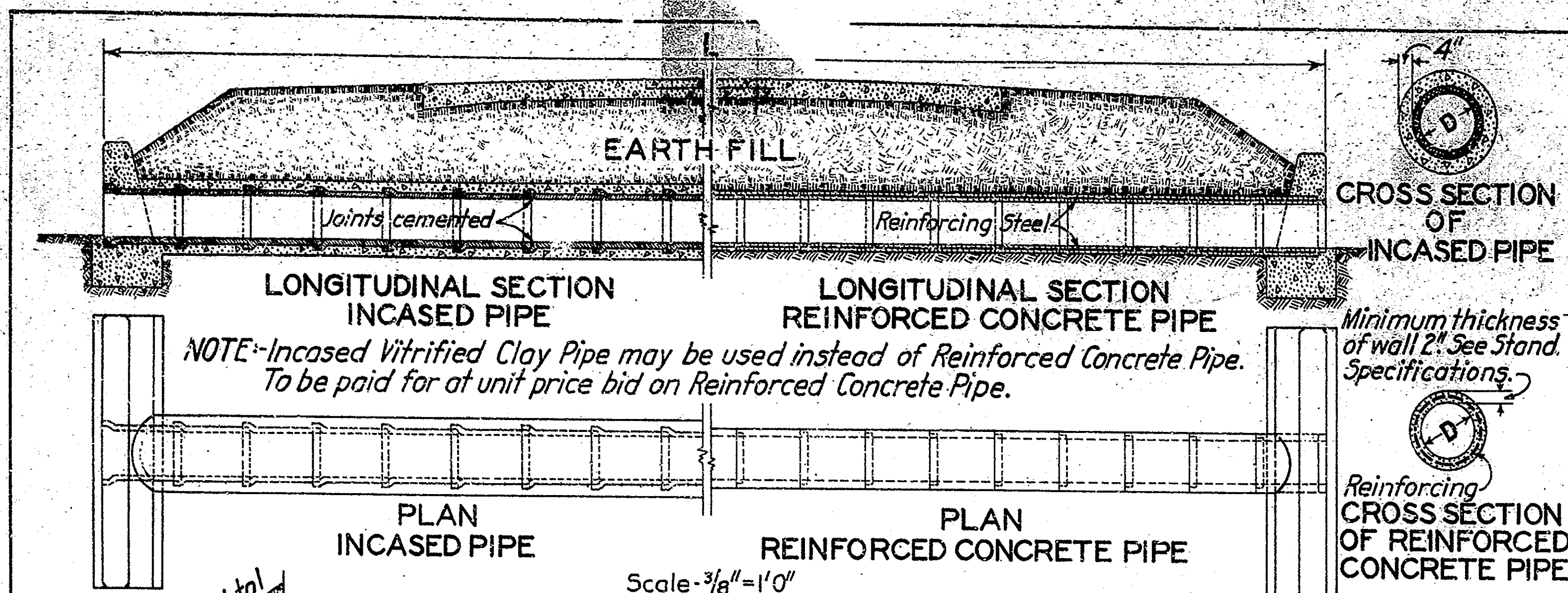
Mark	Size	a	b	c	d	e	Length	Location
G_1	$1\frac{1}{2}$ "	46'-6"	3'-12"	4'-5"	0'-9"	7"	59'-3"	Girders #1 & #2
G_2	"	41'-10"	3'-12"	"	3'-12"	"	59'-3"	" #1 & #2
G_3	"	37'-2"	3'-12"	"	5'-5"	"	59'-3"	" #1 & #2
G_4	"	47'-6"	2'-11"	4'-2"	0'-5"	"	59'-0"	" #3
G_5	"	45'-4"	2'-11"	"	2'-6"	"	59'-0"	" #3
G_7	"	38'-10"	2'-11"	3'-10"	4'-0"	"	56'-9"	" #3
G_8	"	34'-4"	2'-9"	"	6'-3"	"	56'-9"	" #3
K_1	1"	32'-8"	2'-9"	4'-13"	6'-6"	6"	55'-9"	" #1 & #2



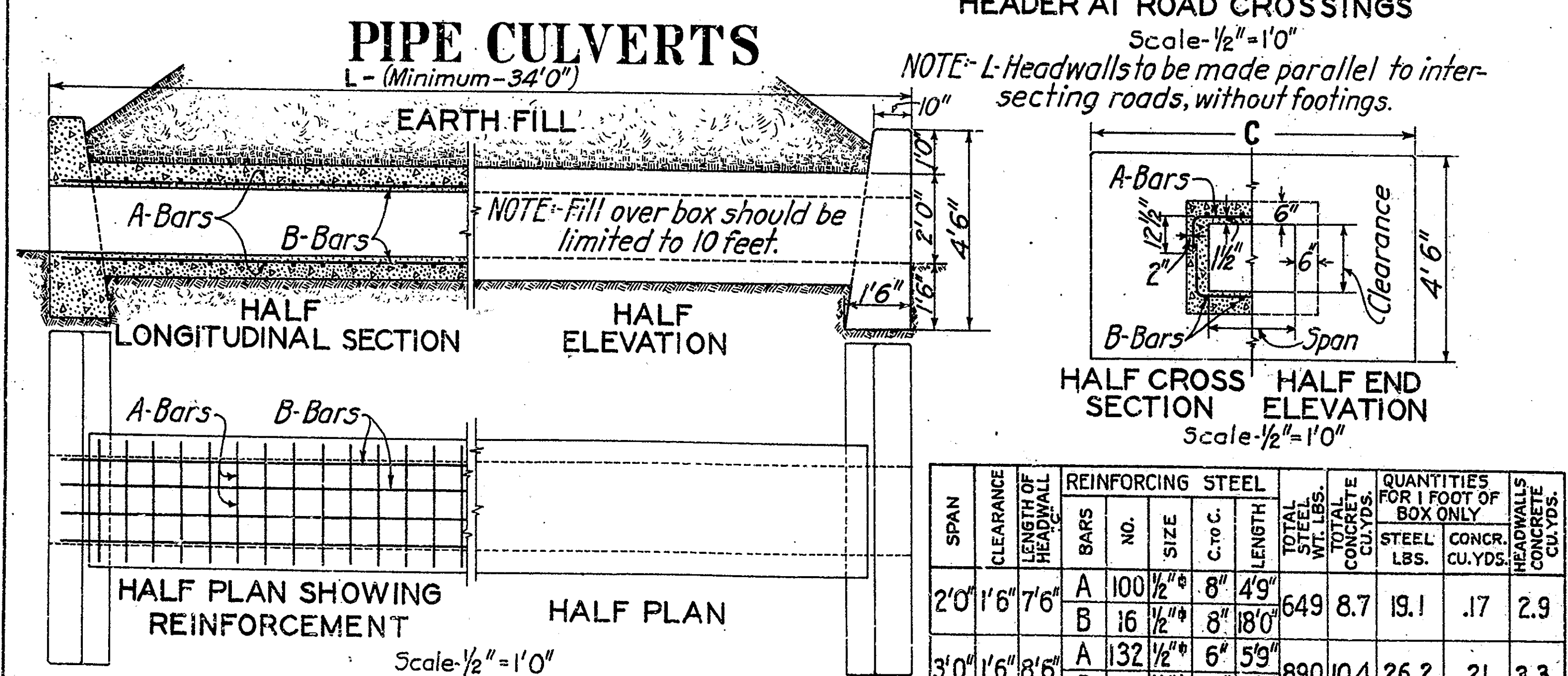
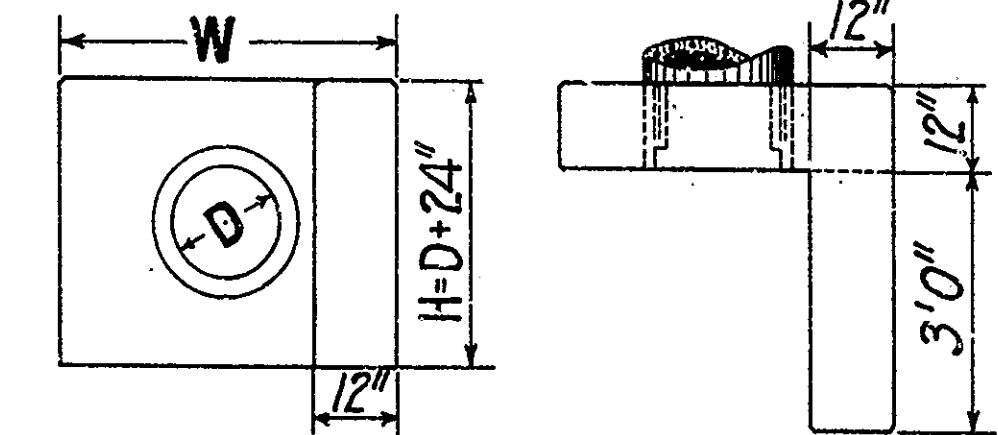
SUPERSTRUCTURE DETAILS
REINFORCED CONCRETE BRIDGE
 1 SPAN @ 52'-6 1/2" SKEW 24". 36'-0" ROADWAY
 OVER STATE ROAD NO. 20 ON STATE ROAD: 49-A
INDIANA STATE HIGHWAY COMMISSION
 PORTER COUNTY
 SCALE: AS NOTED JANUARY 17, 1931
 RECOMMENDED FOR APPROVAL: Fred Keenan
 ASST. CHIEF ENGINEER IN CHARGE OF STRUCTURES
 PROJECT: 49 STATION: 449+00
 SECTION: A DRAWING: C-5 OF 5 STRUCTURE NO. 1016
 BRIDGE CONTRACT NO. 396

BRIDGE AND CULVERT DATA

STRUCTURE NO.	LOCATION	DESCRIPTION		LENGTH L	HEIGHT H	WINGS W	FLOW LINE		CONCRETE-CUYDS		STEEL REINFORCING LBS.	REMARKS	PLANS ON SHEET NO.	STRUCTURE NO.
		SIZE	KIND				UP STREAM	DOWN STREAM	HEAD WALLS CLASS	CULVERTS CLASS				
33		18"	Corrugated Metal Pipe	66'					2.7			Head Wall on Rt. only (See Special Prov.)		
35		15"		100'								No Head Walls Req'd (See Special Prov.)		
34			Std. Catch Basin & Inlet											
36														



D	F	H	B	E	G	CU.YDS. CONCRETE HEADWALLS
15"	1'6"	4'3"	1'6"	2'2"	8'0"	4.0
18"	2'0"	5'0"	1'6"	2'2"	9'0"	5.4
24"	2'0"	5'8"	1'8"	2'4"	10'0"	7.1
30"	2'0"	6'2"	1'8"	2'4"	10'0"	7.6



SPAN	CLEARANCE	LENGTH OF HEADWALL	REINFORCING STEEL		TOTAL STEEL WT. LBS.	CONCRETE CUYDS.	QUANTITIES FOR 1 FOOT OF BOX ONLY			
			BARS NO.	SIZE			STEEL LBS.	CONCRETE CUYDS.		
2'0"	1'6"	7'6"	A 100	1/2"	8"	649	8.7	19.1	.17	2.9
3'0"	1'6"	8'6"	B 16	1/2"	8"	890	10.4	26.2	.21	3.3
4'0"	1'6"	9'6"	A 144	1/2"	5 1/2"	1132	11.9	33.3	.24	3.7

ESTIMATE OF QUANTITIES

EXCAVATION-CUYDS.			SPECIAL BORROW CUYDS.	SHARPENING SHOULDER SIDES DITCHES LIN. FT.	PAVEMENT-SQ.YDS.		CONCRETE-CUYDS.		PIPE CULVERTS		STEEL			
CLASS "A"	CLASS "B"	CLASS "C"			CONCRETE	BITUM. BRICK SURFACE	HEAD WALLS CLASS "A"	CULVERTS CLASS "A"	PIPE KIND	SIZE	FOR CULVERTS LBS.	FOR PAVEMENT LBS.	FOR DITCHES (Earth) Lin. Ft.	FOR GULLIES Lin. Ft.
							2.7		Corr. Metal	18"	66'	2	116	100
									"	15"	100'			

STEEL-Official Weight 1/2" = 0.850 LBS. PER LINEAL FOOT. 3/4" = 1.502 LBS. PER LINEAL FOOT. 49-A-1016