

SCALE 2250' - TRACED FROM U.S.G.S. QUADRANGLE

THE STATE ROAD COMMISSION  
OF WEST VIRGINIA

PLAN AND PROFILE FOR CONSTRUCTION

OF

STATE ROAD

ROUTE NO. W.VA. 20

JUMPING BRANCH & PIPESTEM DISTRICTS SUMMERS COUNTY

PROJECT NO. 3494

TRUE BRIDGE

Sta. 228+19.667 To Sta. 239+93.000

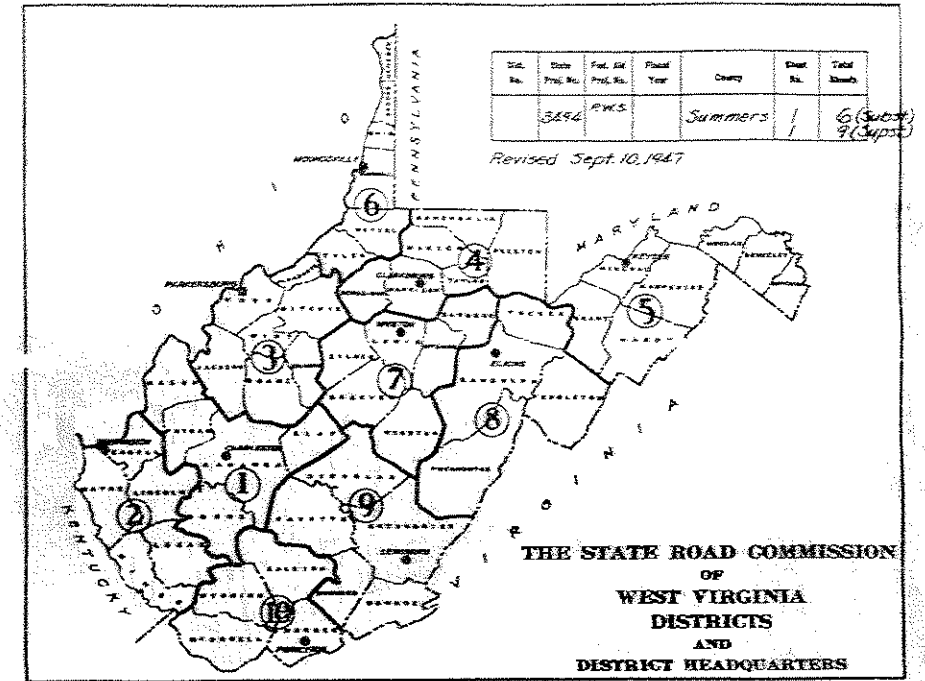
Length = 0.219 MI.

Plan 1 IN. =

SCALES

PROFILE HOR. 1 IN. =

VERT. 1 IN. =



TYPE OF CONSTRUCTION  
BRIDGE

SPECIFICATIONS: Standard Specifications for Highway Bridges dated January 1943, by the State Road Commission of West Virginia.

Special Provisions for Projects Financed with State Funds dated Feb-18-1947 will govern.

For Pool Data see Bluestone Dam Pool Data dated March-18-1947 attached to Proposal for substructure and Bluestone Dam Pool Data dated Oct. 10, 1947, attached to Proposal for superstructure.

ROUTE NO. W. VA. 20

PROJECT NO. 3494

PREPARED & RECOMMENDED

REVIEWED

RECOMMENDED FOR APPROVAL

APPROVED

LAYOUT  
SCALE 1 IN. = FT.

CONVENTIONAL SIGNS

Scale Line	Wall
County Line	Marsh
Corporation Line	Hedge
District Line	Deep Inlet
Right of Way Line	Bridge
Property Line	Present Culvert
Fence Line	Proposed
Guard Rail	Telegraph Pole
Proposed Road	Trolley Pole
Traveled Road	Power Pole
Railroad	Tree
Electric Railway	Brick Dwelling
Frame Dwelling	

INDEX TO SHEETS (Substructure Contract)

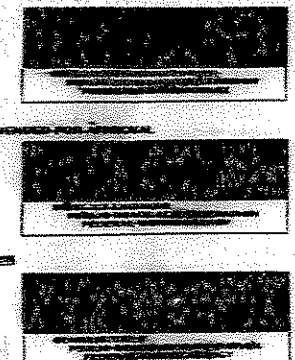
No.	Description
1	Title Sheet
2	Profile & Foundation Plan
3	Abutments
4	Piers
5	Bar List
6	Situation Plan

INDEX TO SHEETS (Superstructure Contract)

No.	Description
1	Title Sheet
2 to 8	Superstructure Details
9	Situation Plan

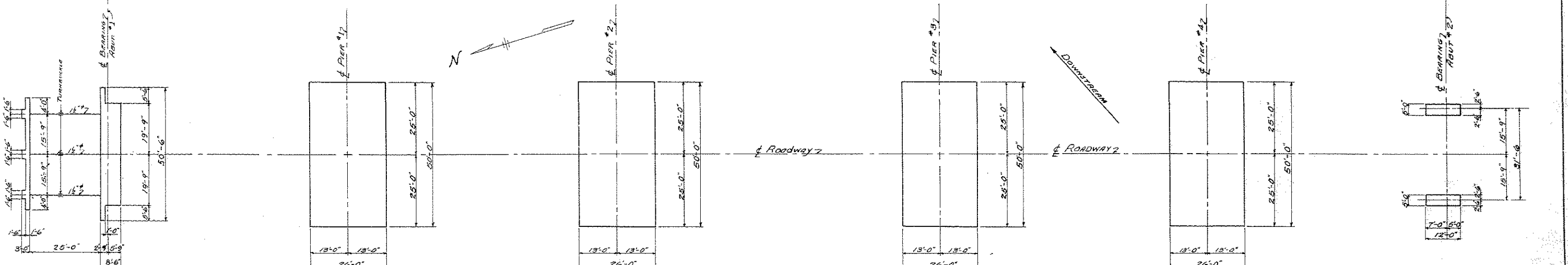
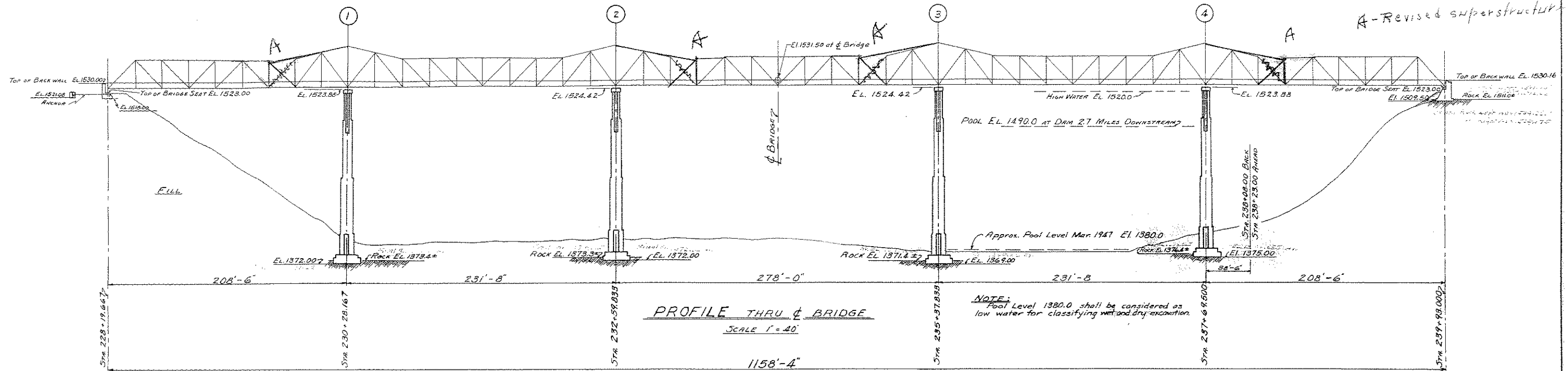
NOTE: Sheets 3 and 5 of the substructure plans are to be included with the superstructure plans.

SUBSTRUCTURE PLANS COMPLETED March-20-1947  
SUPERSTRUCTURE PLANS COMPLETED Sept.-27-1947



# 1764

Dist. No.	State Proj. No.	Federal Aid Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
3494				Summers	2	6



**NOTES:**  
Standard Specifications for Bridges, Jan. 1943 by State Road Commission of W. Va. shall govern.  
The Bridge is designed for H-15-S12 Loading and an additional wearing surface of 15" per sq. ft. of Roadway. The superstructure is not included in this Contract.

The approach fills are not included in this Contract. All concrete in the Substructure shall be Class A. The Contractor shall furnish certified Copies, secured from the Manufacturer of the results of Tests for autoclave expansion and Chemical analysis of all Portland Cement used in this project. These Tests shall conform to the A.S.T.M. designations T-1-42 (para. 6), T-107-42, T-105-42 and M85-42. Six copies of these certified results shall be submitted to the Dept. of Tests, Mechanical Hall, Morgantown, W. Va.  
Superstructure, Abutment No. 1, and Curtain Wall above construction joint in Abutment No. 2 NOT included in Substructure Contract.  
Anchor and bottom 2'-0" of abutment No. 1 shall be excavated to rock lines and concrete poured directly against earth without forms. If loose rocks are encountered on the heel line of this excavation these shall be removed and the openings formed. Back fill of such places shall be tamped in accordance with Specifications.  
Rail Steel Reinforcing bars may be used in lieu of new billet steel bars.

	THIS CONTRACT					FUTURE CONTRACT	
	PIER 1	PIER 2	PIER 3	PIER 4	ABT. 2	ABT. 1	ABT. 2
Dry Exc. cy	477.8	638.5	0	508.0	231.0	325	0
Wet Exc. cy	376.0	381.0	246.0	205.0	0	0	0
Rock Exc. cy	72.5	53	116.5	72.3	8.9	0	0
CL. A CON. CY	1409.3	1419.3	1435.4	1387.1	48.7	91.5	22.6
St. Reinf. #	112,760	113,144	114,226	110,982	4788	9018	2582
					4788	9056	2577

SIZE	REINFORCING BARS		TOTAL WEIGHT
	Present Contract	Future Contract	
3/8"	0	48	48
1/2"	31,820	345	32,165
5/8"	867	3115	3,982
3/4"	20,069	255	20,324
1"	202,624	3765	206,389
1 1/2"	201,220	3320	204,540
1 3/4"	0	754	754
<b>Total</b>	<b>456,600</b>	<b>11,600</b>	<b>468,200</b>

SUMMARY OF ESTIMATE	This Contract	Future Contract	TOTAL	Substructure Contract	Superstr. Contract
7. DRY EXCAVATION	1855	325	2180 C.Y.	1712.85	200.40
8. WET EXCAVATION	1205	0	1205 C.Y.	1175.08	
9. ROCK EXCAVATION	322	0	322 C.Y.	487.68	
12. CLASS A CONCRETE	5694	114	5808 C.Y.	5712.11	127.36
7B STEEL REINFORCING	456,600	11,600	468,200 LBS.	472,230	
<b>Total</b>	<b>477,310</b>	<b>11,939</b>	<b>489,249</b>	<b>472,230</b>	<b>200.40</b>

**THE STATE ROAD COMMISSION  
OF WEST VIRGINIA**

**TRUE BRIDGE OVER BLUESTONE RIVER**  
PROJECT #3494 SUMMERS COUNTY, W. VA.

**PROFILE AND FOUNDATION PLAN**  
SUBSTRUCTURE CONTRACT # 1764

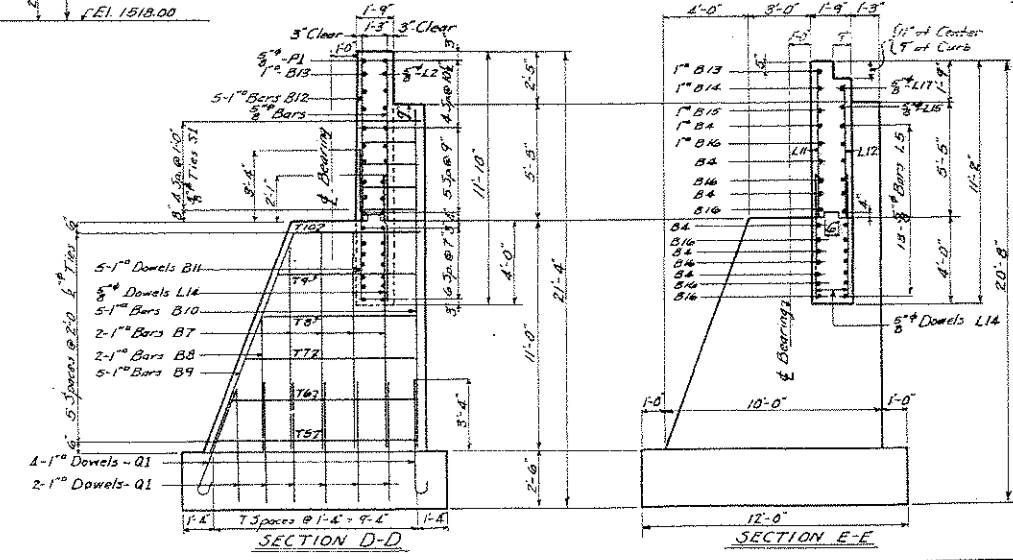
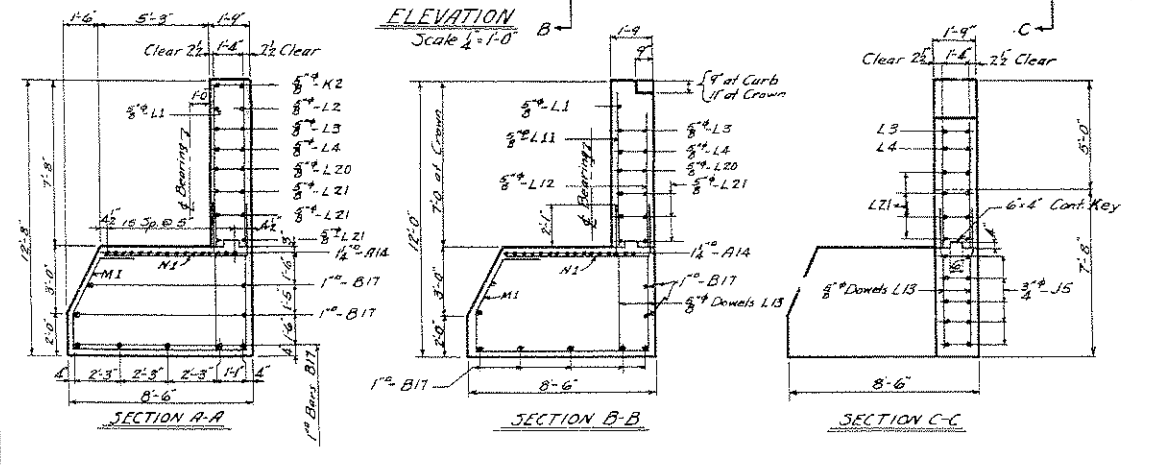
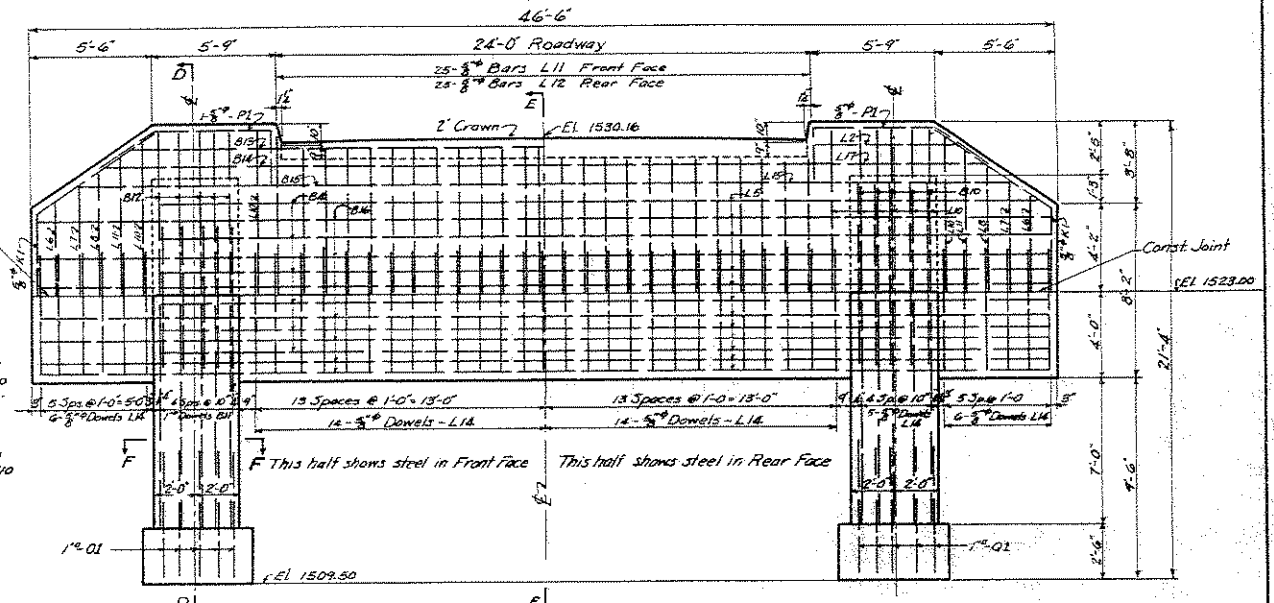
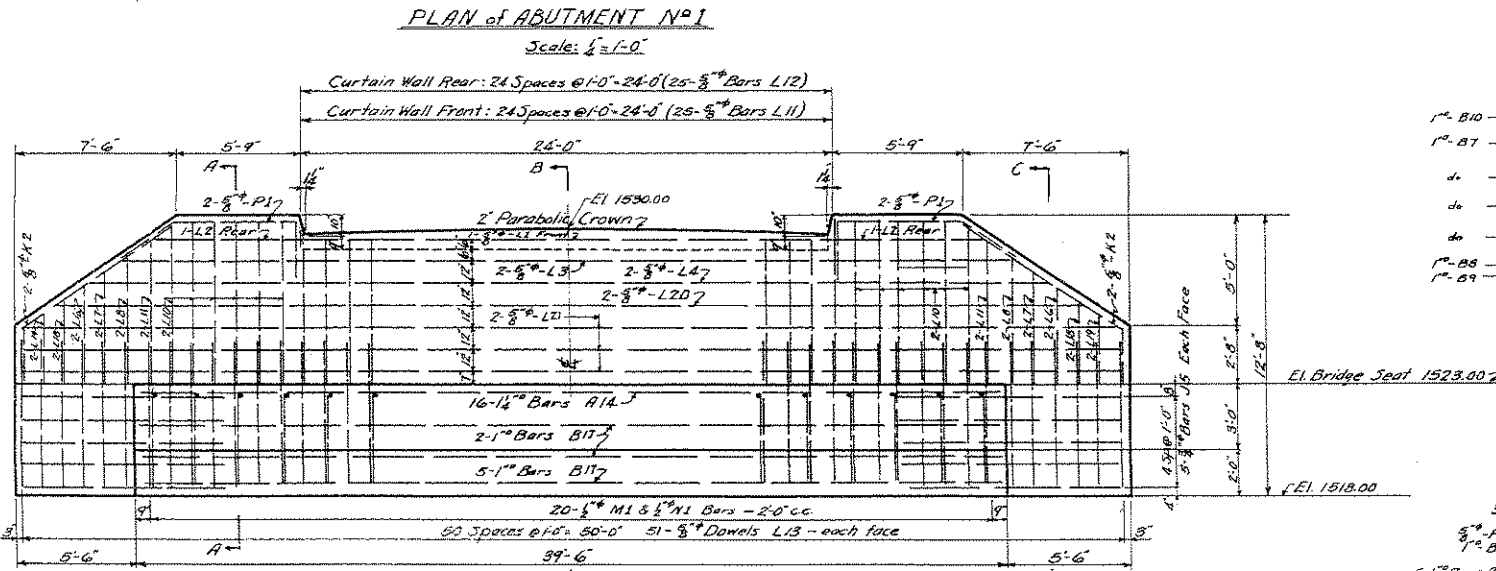
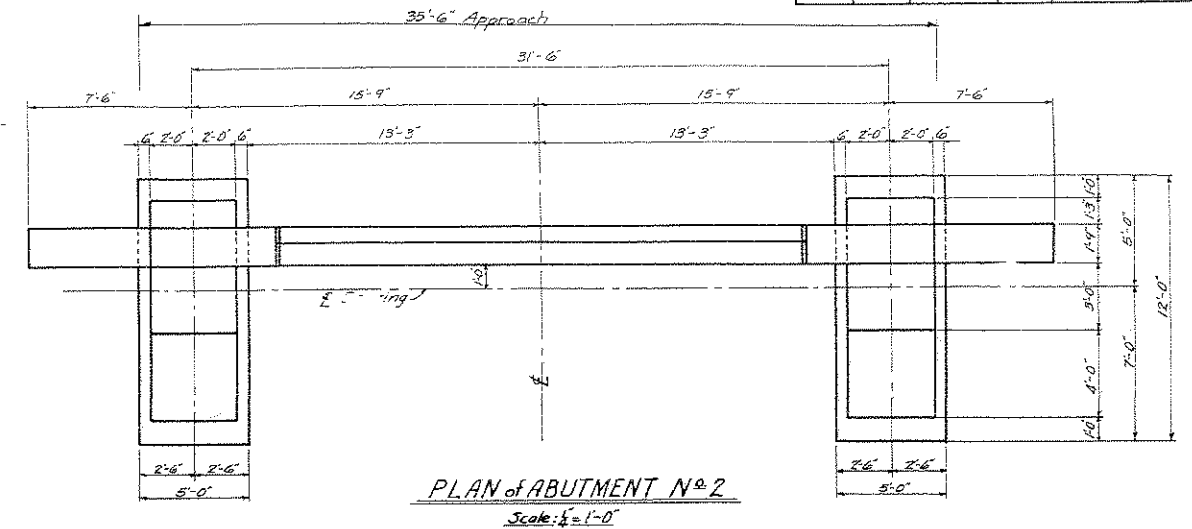
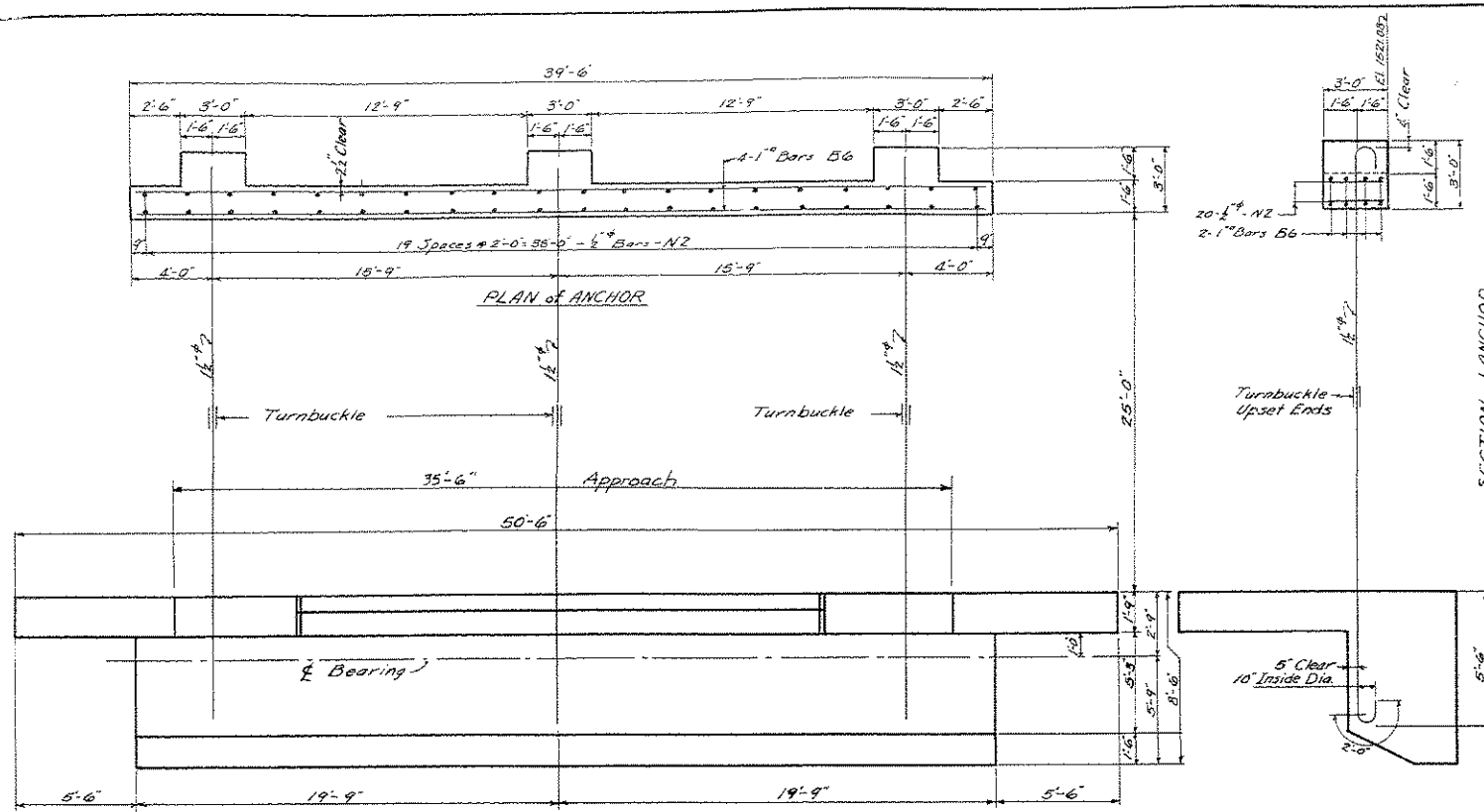
DESIGN BY FRANK D. MEENTER, CONSULTING ENGINEER, CLARKSBURG, W. VA.

SCALE: AS SHOWN. Date: MAR 7, 1944

DESIGNED BY K.M.J.	CHECKED BY M.R.
DRAWN BY M.R.	CHECKED BY K.M.J.
TRACED BY F.D.H.	CHECKED BY K.M.J.

# See Sheets 1 & 2 AS BUILT - SHOWN IN RED

Dist No.	State Proj. No.	Federal Aid Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
	3494	P.W.S.		Summers	3	6



**NOTE:**  
 Concrete in Curtain Wall above Construction Joint is not to be poured until Steel Superstructure is in place.  
 Construction Joint thru Curtain Wall is to be treated with Membrane Waterproofing for a width of one foot on each side of joint. This is to be included in Price Bid for Class P Concrete.  
 No flashing is required.

**THE STATE ROAD COMMISSION**  
**OF WEST VIRGINIA**  
**TRUE BRIDGE OVER BLUESTONE RIVER**  
 PROJECT #3494 SUMMERS COUNTY, W. VA.  
**ABUTMENTS**  
 SUBSTRUCTURE CONTRACT #1764

DESIGN BY FRANK D. McENTEER CONSULTING ENGINEER CLARKSBURG, W. VA.	SCALE: 1/4"=1'-0" Designed by K.H.J. Drawn by M.R. Traced by A.D.H.	DATE: MAR. 7, 1947 Checked by M.R. Checked by K.H.J. Checked by K.H.J.
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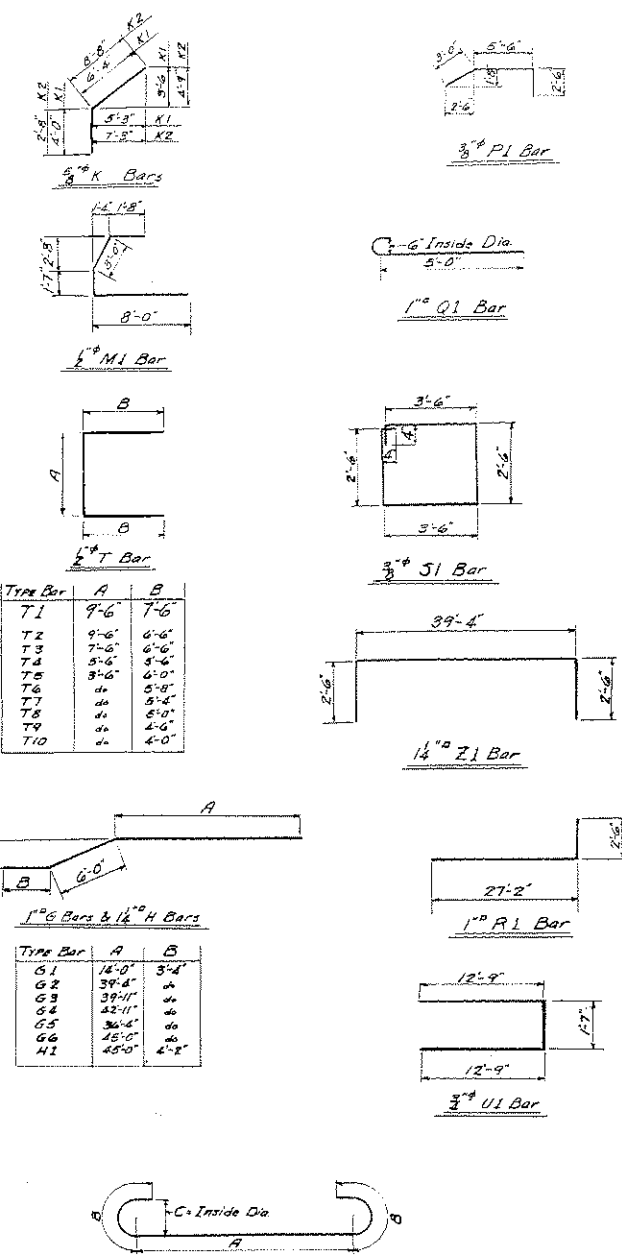
## BILL of REINFORCING STEEL

ABUTMENT #1				ABUTMENT #2				PIER #1				PIER #2				PIER #3				PIER #4			
No.	MK.	SIZE	LENGTH	No.	MK.	SIZE	LENGTH	No.	MK.	SIZE	LENGTH	No.	MK.	SIZE	LENGTH	No.	MK.	SIZE	LENGTH	No.	MK.	SIZE	LENGTH
16	A12	1 1/2"	39'-0" Straight	6	B4	1"	35'-0" Straight	79	A1	1 1/2"	11'-10" Straight	79	A1	1 1/2"	11'-10" Straight	79	A1	1 1/2"	11'-10" Straight	79	A1	1 1/2"	11'-10" Straight
9	B17	1"	39'-0" Straight	16	B7	1"	10'-10" Straight	12	A2	1 1/2"	41'-0" Straight	12	A2	1 1/2"	41'-0" Straight	12	A2	1 1/2"	41'-0" Straight	12	A2	1 1/2"	41'-0" Straight
20	J5	3/4"	8'-6" Straight	4	B8	1"	7'-6" Straight	8	A3	1 1/2"	19'-8" Straight	8	A3	1 1/2"	19'-8" Straight	8	A3	1 1/2"	19'-8" Straight	8	A3	1 1/2"	19'-8" Straight
4	K2	3/4"	11'-4" Bent	10	B9	1"	11'-6" Straight	70	A4	1 1/2"	24'-2" Straight	70	A4	1 1/2"	24'-2" Straight	70	A4	1 1/2"	24'-2" Straight	70	A4	1 1/2"	24'-2" Straight
1	L1	1"	38'-0" Straight	10	B10	1"	16'-3" Straight	20	A5	1 1/2"	45'-0" Straight	20	A5	1 1/2"	45'-0" Straight	20	A5	1 1/2"	45'-0" Straight	20	A5	1 1/2"	45'-0" Straight
2	L2	1"	7'-0" Straight	10	B11	1"	7'-0" Straight	50	A6	1 1/2"	49'-6" Straight	50	A6	1 1/2"	49'-6" Straight	50	A6	1 1/2"	49'-6" Straight	50	A6	1 1/2"	49'-6" Straight
2	L3	1"	41'-6" Straight	10	B12	1"	7'-8" Straight	16	A13	1 1/2"	50'-8" Straight	16	A13	1 1/2"	50'-8" Straight	16	A13	1 1/2"	50'-8" Straight	16	A13	1 1/2"	50'-8" Straight
2	L4	1"	44'-6" Straight	1	B13	1"	38'-0" Straight	26	H1	1"	55'-2" Bent	26	H1	1"	55'-2" Bent	26	H1	1"	55'-2" Bent	26	H1	1"	55'-2" Bent
6	L21	1"	50'-2" Straight	1	B14	1"	41'-0" Straight	12	Z1	1 1/2"	44'-4" Bent	12	Z1	1 1/2"	44'-4" Bent	12	Z1	1 1/2"	44'-4" Bent	12	Z1	1 1/2"	44'-4" Bent
4	L6	1"	4'-2" Straight	1	B15	1"	44'-0" Straight	49	B1	1"	11'-0" Straight	49	B1	1"	11'-0" Straight	49	B1	1"	11'-0" Straight	49	B1	1"	11'-0" Straight
4	L7	1"	4'-10" Straight	7	B16	1"	46'-0" Straight	12	B2	1"	50'-8" Straight	12	B2	1"	50'-8" Straight	12	B2	1"	50'-8" Straight	12	B2	1"	50'-8" Straight
4	L8	1"	5'-6" Straight	40	O1	1"	6'-3" Bent	64	B3	1"	27'-2" Straight	64	B3	1"	27'-2" Straight	64	B3	1"	27'-2" Straight	64	B3	1"	27'-2" Straight
24	L10	1"	7'-4" Straight	4	K1	5/8"	10'-4" Bent	100	C1	1"	27'-4" Bent	100	C1	1"	27'-4" Bent	100	C1	1"	27'-4" Bent	100	C1	1"	27'-4" Bent
29	L11	1"	6'-8" Straight	2	L2	1"	7'-0" Straight	12	C2	1"	42'-10" Straight	12	C2	1"	42'-10" Straight	12	C2	1"	42'-10" Straight	12	C2	1"	42'-10" Straight
25	L12	1"	5'-11" Straight	13	L5	1"	46'-0" Straight	48	G1	1"	23'-4" Straight	48	G1	1"	23'-4" Straight	48	G1	1"	23'-4" Straight	48	G1	1"	23'-4" Straight
108	L13	1"	6'-9" Straight	4	L6	1"	4'-2" Straight	48	G2	1"	48'-8" Straight	48	G2	1"	48'-8" Straight	48	G2	1"	48'-8" Straight	48	G2	1"	48'-8" Straight
4	P1	5/8"	11'-0" Bent	4	L7	1"	4'-10" Straight	66	G6	1"	54'-4" Straight	66	G6	1"	54'-4" Straight	66	G6	1"	54'-4" Straight	66	G6	1"	54'-4" Straight
20	M1	1/2"	14'-3" Bent	5	L8	1"	5'-6" Straight	14	R1	1"	29'-8" Bent	14	R1	1"	29'-8" Bent	14	R1	1"	29'-8" Bent	14	R1	1"	29'-8" Bent
20	N1	1/2"	6'-6" Straight	16	L10	1"	7'-4" Straight	20	C3	1"	51'-4" Bent	20	C3	1"	51'-4" Bent	20	C3	1"	51'-4" Bent	20	C3	1"	51'-4" Bent
4	L18	3/4"	3'-6" Straight	29	L11	1"	6'-8" Straight	40	F1	3/4"	8'-0" Bent	40	F1	3/4"	8'-0" Bent	40	F1	3/4"	8'-0" Bent	40	F1	3/4"	8'-0" Bent
4	L19	5/8"	2'-10" Straight	25	L12	1"	5'-11" Straight	22	J1	1"	27'-2" Straight	22	J1	1"	27'-2" Straight	22	J1	1"	27'-2" Straight	22	J1	1"	27'-2" Straight
2	L20	5/8"	47'-6" Straight	88	L14	1"	5'-9" Straight	22	J2	1"	19'-8" Straight	22	J2	1"	19'-8" Straight	22	J2	1"	19'-8" Straight	22	J2	1"	19'-8" Straight
DEADMAN				1	L15	1"	44'-0" Straight	23	J3	1"	10'-2" Straight	23	J3	1"	10'-2" Straight	23	J3	1"	10'-2" Straight	23	J3	1"	10'-2" Straight
8	B6	1"	39'-0" Straight	1	L17	1"	41'-0" Straight	11	U1	3/4"	27'-1" Bent	11	U1	3/4"	27'-1" Bent	11	U1	3/4"	27'-1" Bent	11	U1	3/4"	27'-1" Bent
40	N2	1/2"	2'-6" Straight	4	P1	5/8"	11'-0" Bent	80	T1	1/2"	24'-6" Straight	80	T1	1/2"	24'-6" Straight	80	T1	1/2"	24'-6" Straight	80	T1	1/2"	24'-6" Straight
3-1/2" Anchor Bars, Upset ends & Turnbuckle				4	T5	1/2"	15'-6" Straight	180	T2	1/2"	22'-6" Straight	180	T2	1/2"	22'-6" Straight	180	T2	1/2"	22'-6" Straight	180	T2	1/2"	22'-6" Straight
				4	T6	1"	14'-10" Straight	204	T3	1/2"	20'-6" Straight	204	T3	1/2"	20'-6" Straight	204	T3	1/2"	20'-6" Straight	204	T3	1/2"	20'-6" Straight
				4	T7	1"	14'-2" Straight	96	T4	1/2"	16'-6" Bent	96	T4	1/2"	16'-6" Bent	96	T4	1/2"	16'-6" Bent	96	T4	1/2"	16'-6" Bent
				4	T8	1"	13'-6" Straight	54	J4	3/4"	27'-0" Straight	54	J4	3/4"	27'-0" Straight	54	J4	3/4"	27'-0" Straight	54	J4	3/4"	27'-0" Straight
				4	T9	1"	12'-6" Straight	1	N1	1/2"	5'-9" Straight	1	N1	1/2"	5'-9" Straight	1	N1	1/2"	5'-9" Straight	1	N1	1/2"	5'-9" Straight
				4	T10	1/2"	11'-6" Straight																
				10	S1	3/8"	12'-8" Bent																

**Note:**  
Abut. #1 and Deadman reinforcing steel are not included in the Substr. contract.

**Note:**  
The following bars in the above list for Abut. #2 are in the curtain wall above the concrete joint and are not included in the Substructure Contract:  
3 B4, all of B12, B13, B14, B15, 3B16, all of L1 and L2, 6L5, all of L6, L7, L8, L9, L11, L12, L13, L14, L15, L17, P1 and S1.

**Note:**  
Reinforcing steel revised to provide splices in Plans Nos. 1 to 4 inclusive at supplemental construction (as permitted during Govt. as shown on sheet #4. See approved supplemental shop drawings, contractors nos. E 3969-1, E 3969-2, and E 3969-3 for revised lengths used.



Type Bar	A	B
T1	9'-6"	7'-6"
T2	9'-6"	6'-6"
T3	7'-6"	6'-6"
T4	8'-6"	8'-6"
T5	8'-6"	6'-0"
T6	do	5'-8"
T7	do	5'-4"
T8	do	5'-0"
T9	do	4'-6"
T10	do	4'-0"

Type Bar	A	B
G1	14'-0"	5'-4"
G2	39'-4"	do
G3	39'-4"	do
G4	42'-11"	do
G5	36'-6"	do
G6	45'-0"	do
H1	do	4'-2"

Type Bar	A	B	C
C1	24'-10"	1'-3"	6"
C2	40'-4"	1'-3"	6"
C3	48'-10"	1'-3"	6"
F1	6'-0"	1'-0"	5"

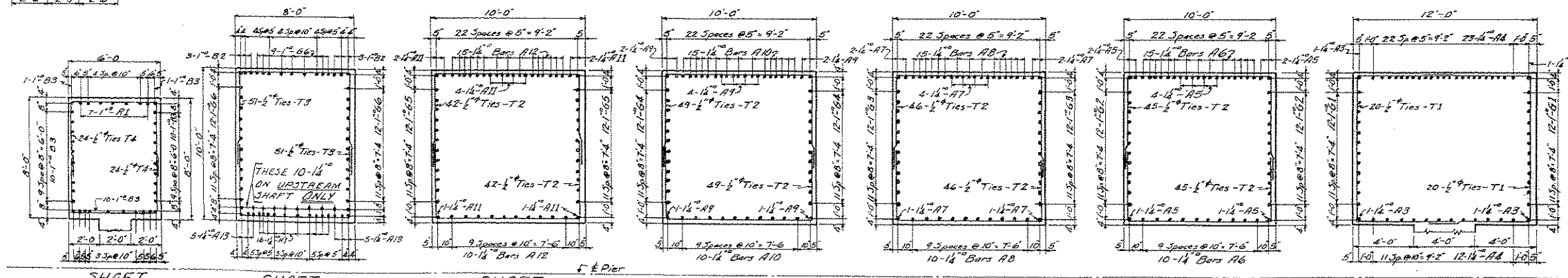
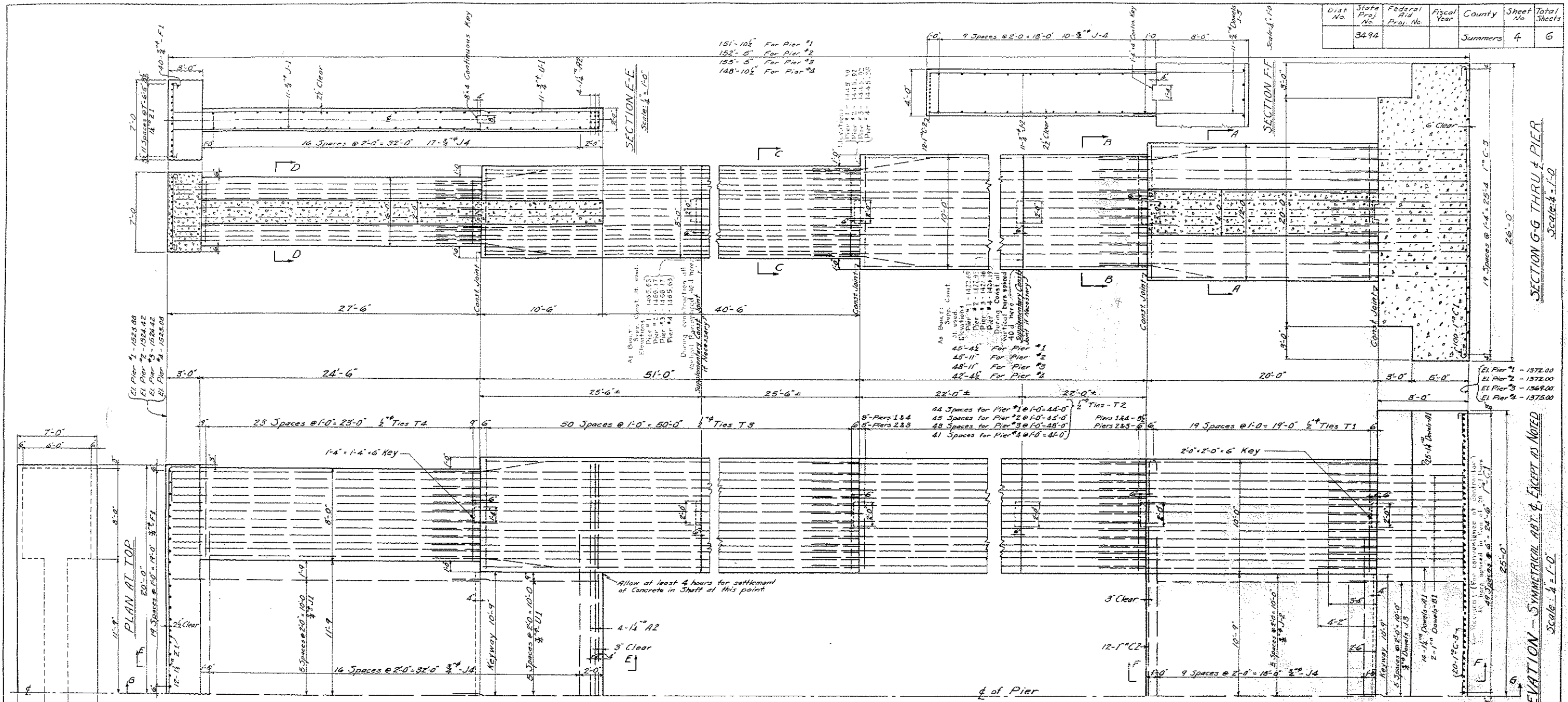
THE STATE ROAD COMMISSION  
OF WEST VIRGINIA

TRUE BRIDGE OVER BLUESTONE RIVER  
PROJECT #3494 SUMMERS COUNTY, W. VA.

BAR LIST  
SUBSTRUCTURE CONTRACT #1764

DESIGNED BY FRANK D. McENTEER CONSULTING ENGINEER CLARKSBURG, W. VA.	Scale: None	DATE: Mar 21/1947
	Designed by R.H.J.	Checked by M.R.
	Drawn by M.R.	Checked by R.H.J.
	Traced by R.D.N.	Checked by K.N.J.

Dist No	State Proj No	Federal Aid Proj No	Fiscal Year	County	Sheet No	Total Sheets
	3494			Summers	4	6



**NOTE:**  
All footings to be poured monolithically.

THE STATE ROAD COMMISSION  
OF WEST VIRGINIA

**TRUE BRIDGE OVER BLUESTONE RIVER**

PROJECT #3494      SUMMERS COUNTY, W. VA.

**PIERS**  
SUBSTRUCTURE CONTRACT

**#1764**

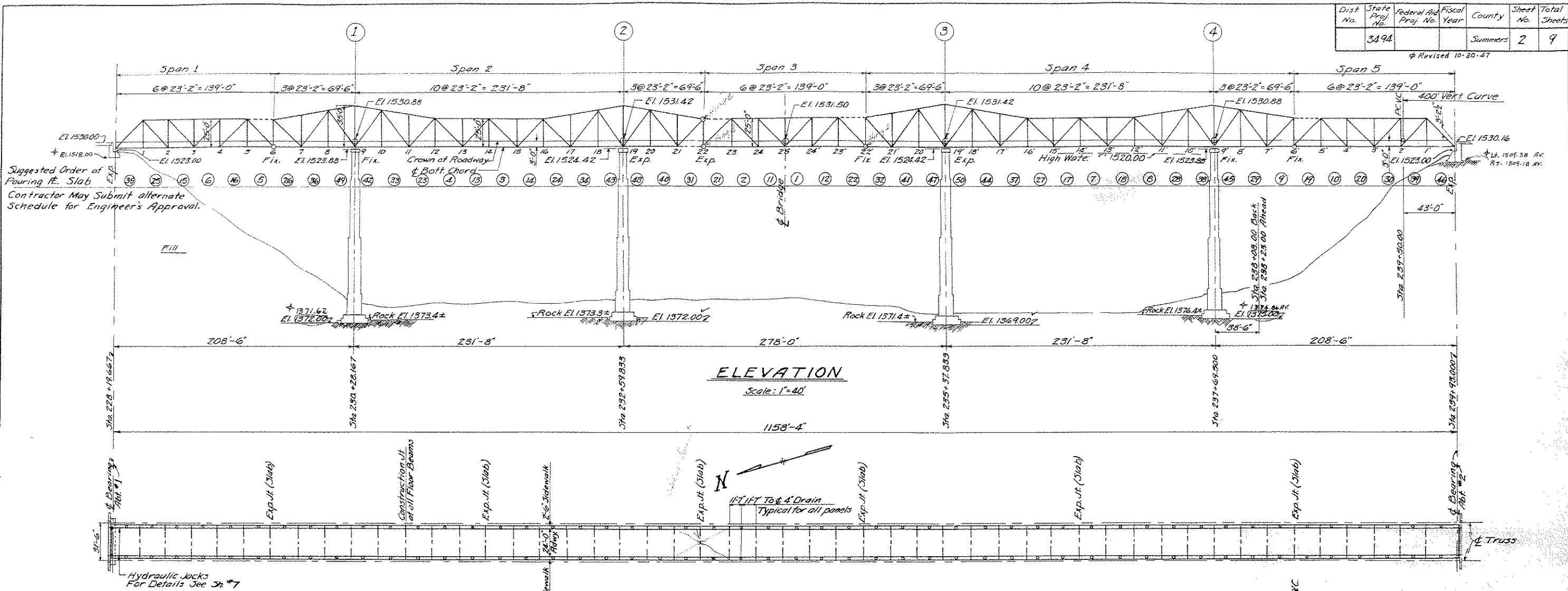
DESIGN BY FRANK D. M'ENTEEER CONSULTING ENGINEER CLARKSBURG, W. VA.	Scale: 1/4" = 1'-0" Designed by R.H.J. Drawn by M.R. Traced by R.D.H.	Date: MAR 1941 Checked by M.R. Checked by K.H.L. Checked by K.H.L.
---------------------------------------------------------------------------	--------------------------------------------------------------------------------	-----------------------------------------------------------------------------

SHAFT SECTION D-D Scale: 1/4" = 1'-0"  
SHAFT SECTION C-C Scale: 1/4" = 1'-0"  
SHAFT SECTION B-B (PIER #4) Scale: 1/4" = 1'-0"  
SHAFT SECTION B-B (PIER #3) Scale: 1/4" = 1'-0"  
SHAFT SECTION B-B (PIER #2) Scale: 1/4" = 1'-0"  
SHAFT SECTION B-B (PIER #1) Scale: 1/4" = 1'-0"  
SHAFT SECTION A-A Scale: 1/4" = 1'-0"



Dist. No.	State Proj. No.	Federal Aid Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
	349A			Summers	2	9

Revised 10-30-47



**NOTES:**

Standard Specifications for Bridges, Jun 1943 by the State Road Commission of W. Va shall govern.

The Bridge is designed for H15-312 loading and an additional wearing surface of 15 lbs. per sq. ft. of roadway.

All concrete in this Contract shall be Class A.

All Joint Fillers to be sponge rubber Type III or Cork, Type I Art. 3.8.2 of the Specifications.

Approach fills are not included in this Contract.

This Contract includes superstructure, Abut. #1, curtain wall of Abut. #2 and bridge seat pedestals on Abutments. Anchor and bottom 2'-0" of Abutment #1 shall be excavated to neat lines and concrete poured directly against earth without forms. If loose rocks are encountered on the neat line of this excavation, these shall be removed and the openings formed. Backfill at such places shall be tamped in accordance with Specifications.

The Contractor shall submit a lump sum bid for steel superstructure, Item 90, a lump sum bid for jacking arrangement, Item 130, and a unit price bid for all other items shown in the estimate.

Copper flashing and floor drains shall be included in unit price bid for Class A Concrete, Item 71.

The Contractor shall furnish certified copies, secured from the Manufacturer of the results of Tests for autoclave expansion and chemical analysis of all Portland Cement used in this Project. These tests shall conform to the A. A. S. H. O. designations T-1-42 (par. 5), T-107-42, T-105-42 and M85-42. Six copies of these certified results shall be submitted to the Dept. of Tests, Mechanical Hall, Morgantown, W. Va. See sheets #3 and #5 of Substructure Plans for Abutment details and reinforcing bars for same.

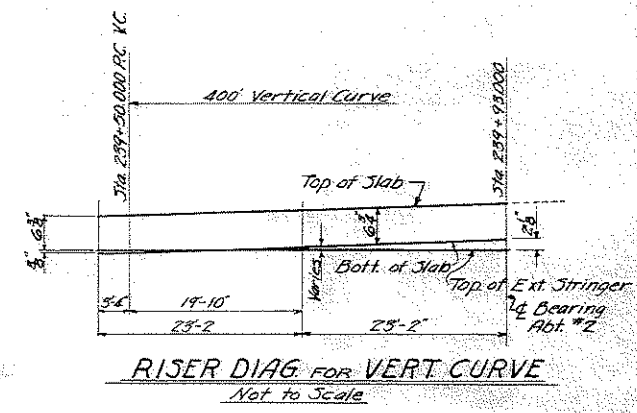
The Contractor shall submit to the Engineer his scheme for erection and his calculations of erection stresses. He will not be reimbursed for additional steel required due to erection stresses.

The Final coat of field paint shall be aluminum as specified under Art. 3.11.8 of the Specifications.

Back of Abutments from bottom to 1'-0" of top to be waterproofed with Paint-Coat-Waterproofing (membrane at construction joints).

⊕ All Structural Steel shall be copper bearing.

**PLAN**  
Scale: 1"=40'



SIZE	Sub-Structure	Super-Structure	Total (lbs)
3/8"	48	27	75
1/2"	345	73,157	73,502
5/8"	3,115	100,171	103,286
3/4"	255		255
1"	3,763		3,763
1 1/2"	3,320		3,320
1 3/4"	754		754
	11,600	173,355	184,955

Item	Sub-Structure	Super-Structure	Total	Unit
7. Dry Excavation	325		325	c.y.
71. Class A Concrete Structure		774	774	c.y.
72. Class A Concrete Sub-Structure	114		114	c.y.
78. Steel Reinforcing	11,600	173,355	184,955	Lbs.
90. Steel Super-Structure		2,396,600	2,396,600	Lump Sum
130. Jacking Arrangement		2	2	Lump Sum
86. Paint-Coat-Waterproofing	118.0		118.0	Sq. Yds.

THE STATE ROAD COMMISSION OF WEST VIRGINIA

**TRUE BRIDGE OVER BLUESTONE RIVER PROJECT #349A SUMMERS CO., W. VA.**

**PLAN AND ELEVATION SUPERSTRUCTURE CONTRACT #1764**

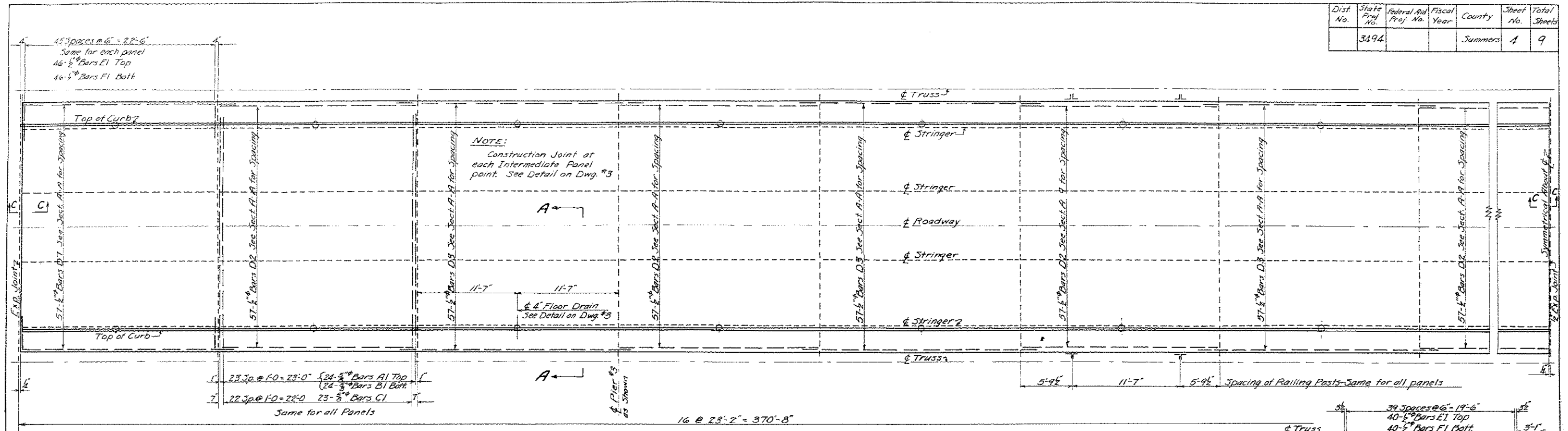
DESIGNED BY FRANK D. MCENTEER CONSULTING ENGINEER CLARKSBURG, W. VA.

Scale: As Noted Date: Aug 25, 1947

Designed by K.H.J. Checked by R.D.H.  
 Drawn by M.E.B. Checked by K.H.J.  
 Traced by M.E.B. Checked by N.D.W.



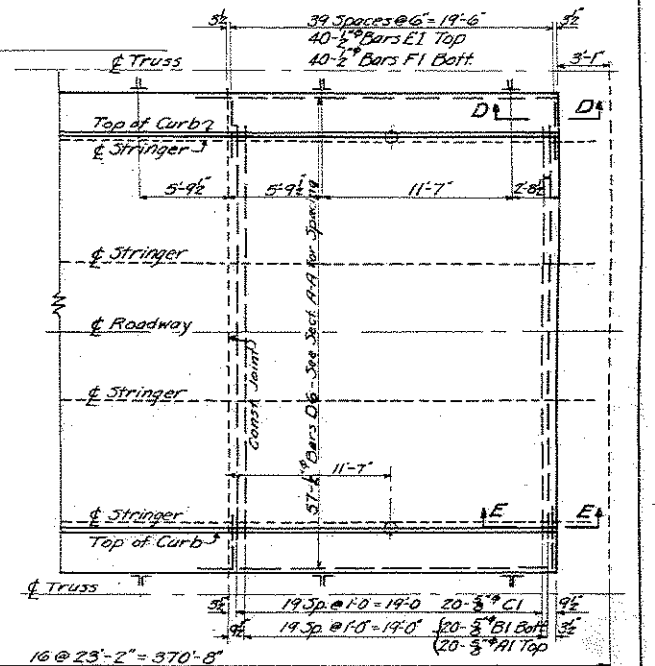
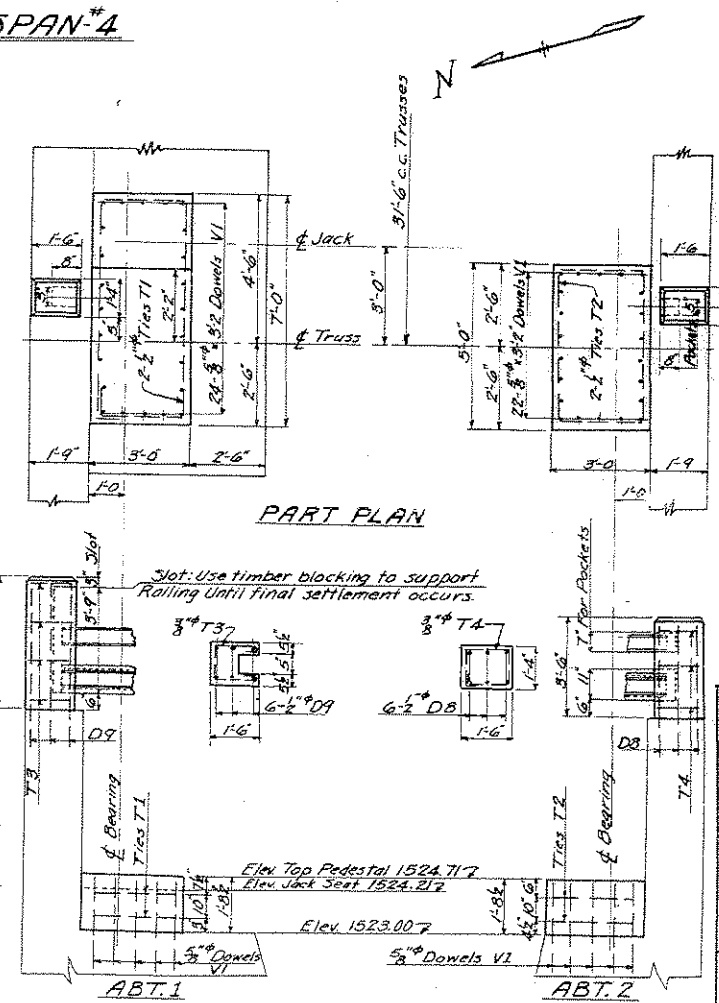
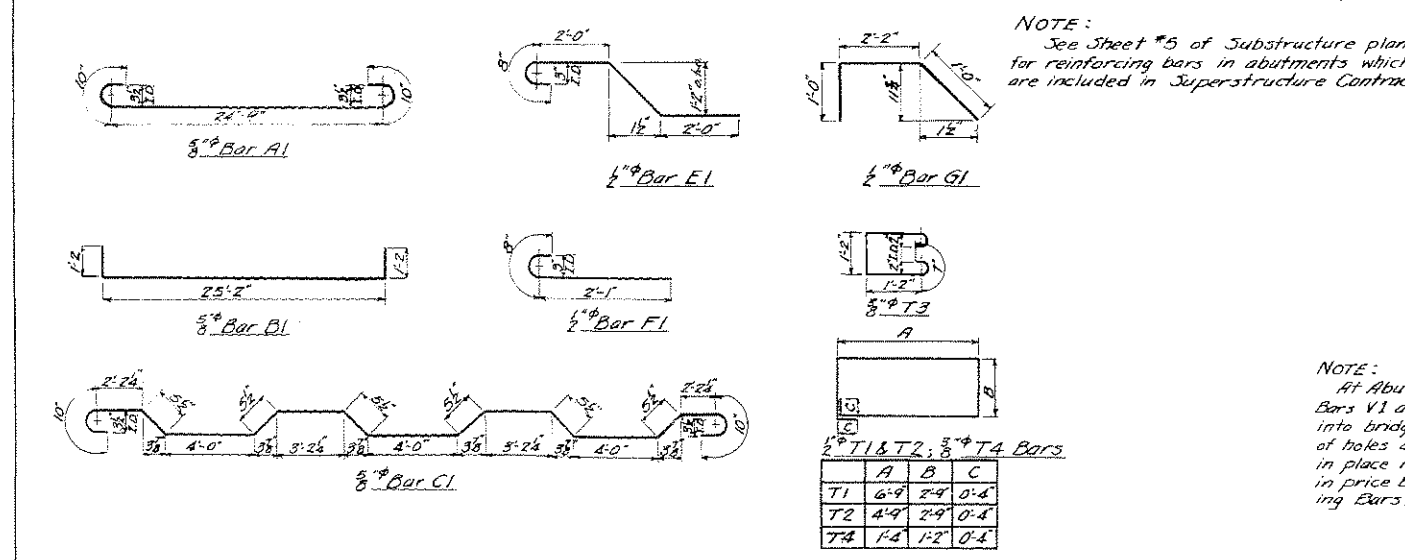
Dist. No.	State Proj. No.	Federal Aid Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
	3494			Summers	4	9



HALF PLAN OF SLAB - SPAN #4  
Scale: 3/8" = 1'-0"

**BILL OF REINFORCING STEEL**

SPAN #1 & 5 - (One listed)				SPAN #2				SPAN #3				SPAN #4				POSTS & PEDESTALS			
No.	MK.	SIZE	LENGTH	No.	MK.	SIZE	LENGTH	No.	MK.	SIZE	LENGTH	No.	MK.	SIZE	LENGTH	No.	MK.	SIZE	LENGTH
145	A1	5/8"	26'-5" Bent	382	A1	5/8"	26'-5" Bent	144	A1	5/8"	26'-5" Bent	386	A1	5/8"	26'-5" Bent	92	V1	5/8"	3'-2" Str
144	B1	do	27'-6" do	380	B1	do	27'-6" do	143	B1	do	27'-6" do	384	B1	do	27'-6" do	4	T1	1/2"	19'-8" Bent
138	C1	do	27'-2" do	365	C1	do	27'-2" do	137	C1	do	27'-2" do	368	C1	do	27'-2" do	4	T2	do	15'-8" do
57	D1	1/2"	25'-4" Str	57	D7	1/2"	24'-10" Str	171	D2	1/2"	23'-0" Str	114	D7	1/2"	24'-10" Str	12	D9	do	6'-2" Str
171	D2	do	23'-0" do	456	D2	do	23'-0" do	114	D3	do	26'-6" do	456	D2	do	23'-0" do	8	T3	3/8"	4'-8" Bent
114	D3	do	26'-6" do	342	D3	do	26'-6" do	14	D4	do	26'-0" do	347	D3	do	26'-6" do	6	T4	do	5'-8" do
557	E1	do	5'-10" Bent	57	D6	do	21'-8" do	43	D5	do	24'-0" do	1474	E1	do	5'-10" Bent	12	D8	do	5'-2" Str
556	F1	do	2'-9" do	1462	F1	do	5'-10" Bent	551	F1	do	5'-10" Bent	1472	F1	do	2'-9" do				
				1460	F1	do	2'-9" do	8	G1	do	4'-2" do								



THE STATE ROAD COMMISSION  
OF WEST VIRGINIA

TRUE BRIDGE OVER BLUESTONE RIVER  
PROJECT #3494 SUMMERS CO., W. VA.

CONCRETE DECK DETAILS FOR CANTILEVER SPAN

SUPERSTRUCTURE CONTRACT #1764

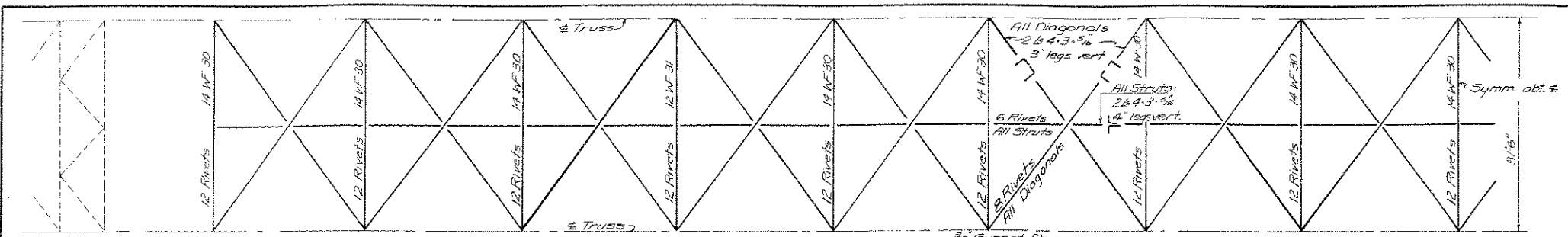
DESIGN BY FRANK D. MEENTER  
CONSULTING ENGINEER  
Clarksburg, W. Va.

Scale: As Noted Date: Aug. 23, 1947  
Designed by K.H.J. Checked by R.D.H.  
Drawn by M.E.B. Checked by K.H.J.  
Traced by M.E.B. Checked by N.D.W.

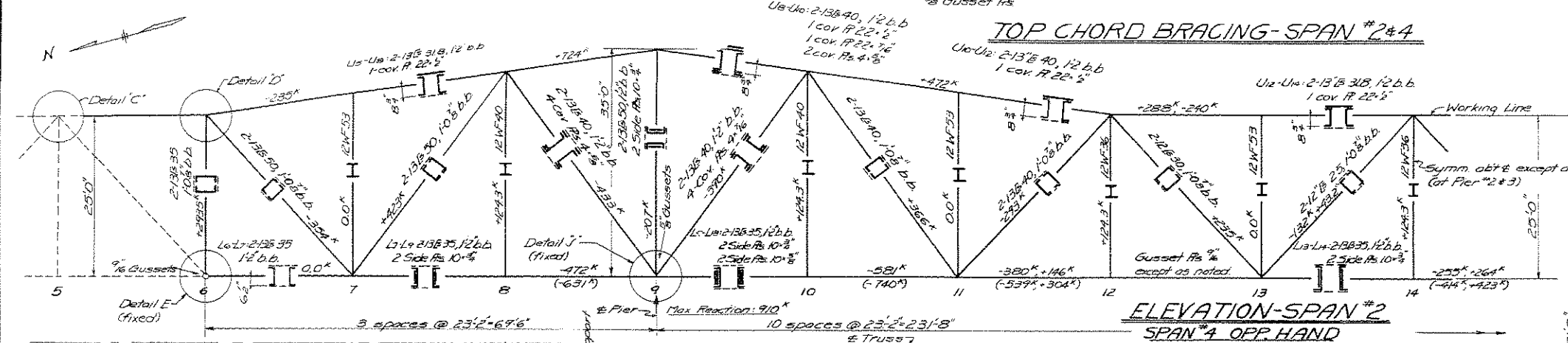




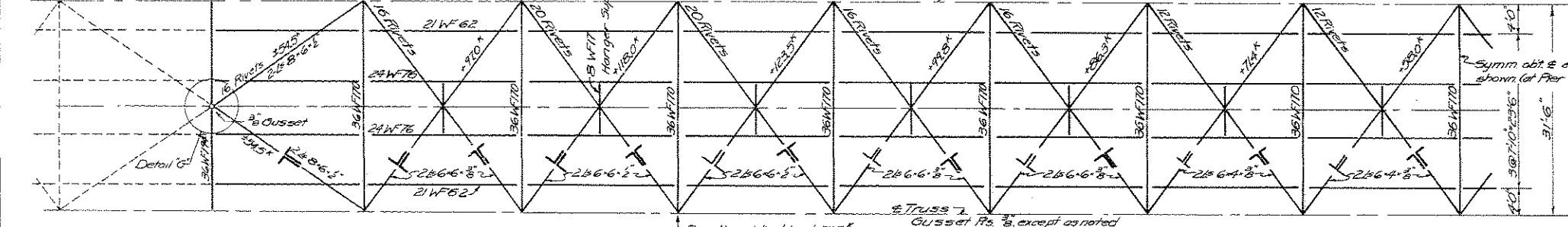
Dist. No.	State Proj. No.	Federal Aid Proj. No.	Fisc. Year	County	Sheet No.	Total No. Sheets
	3494			Summers	6	9



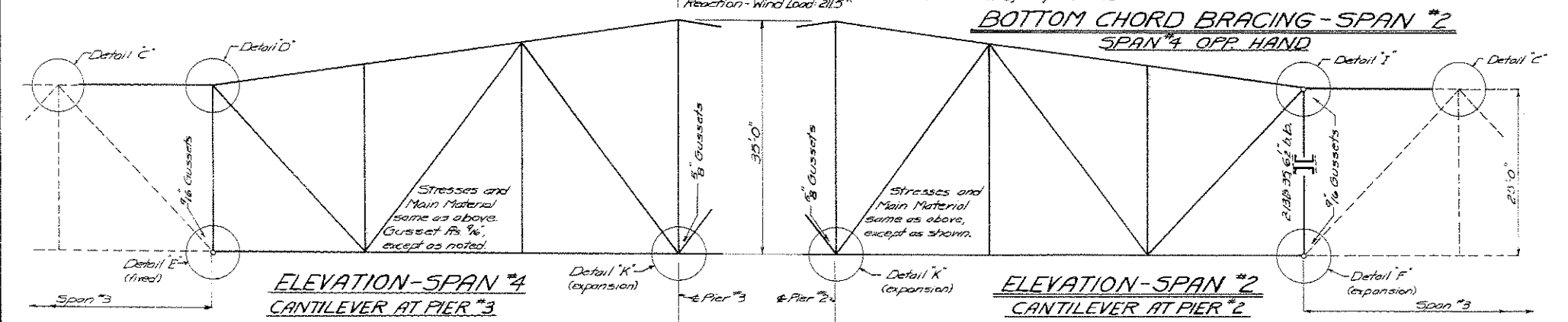
**TOP CHORD BRACING-SPAN #2 & 4**



**ELEVATION-SPAN #2**

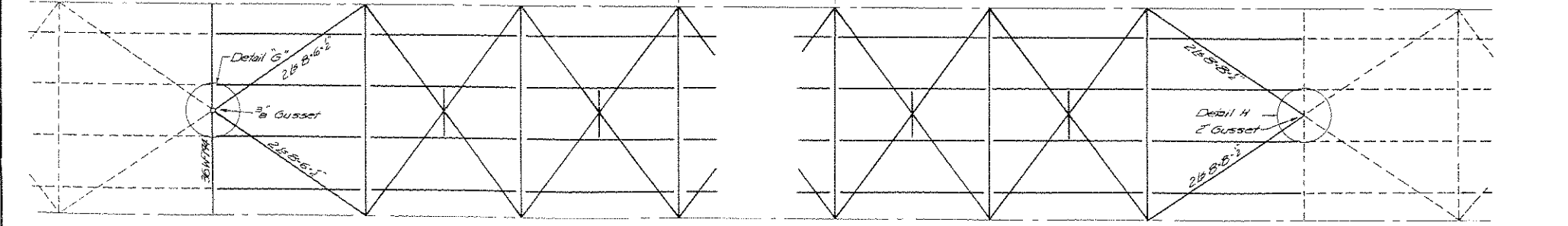


**BOTTOM CHORD BRACING-SPAN #2**



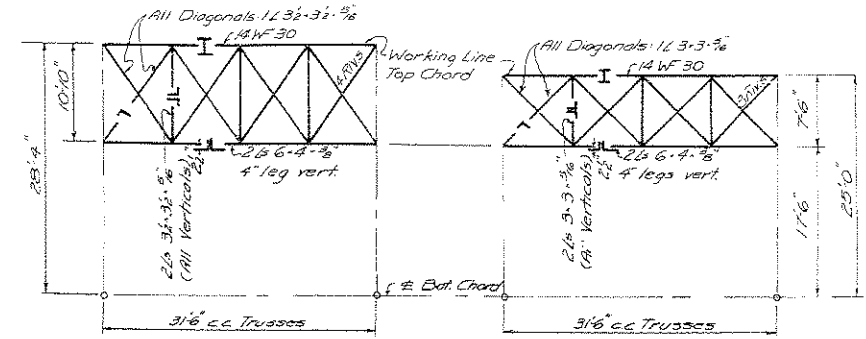
**ELEVATION-SPAN #4**

**ELEVATION-SPAN #2**



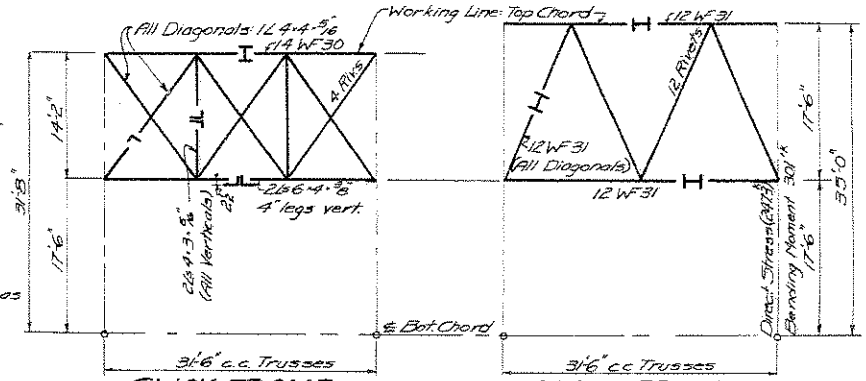
**BOTTOM CHORD BRACING**

**BOTTOM CHORD BRACING**



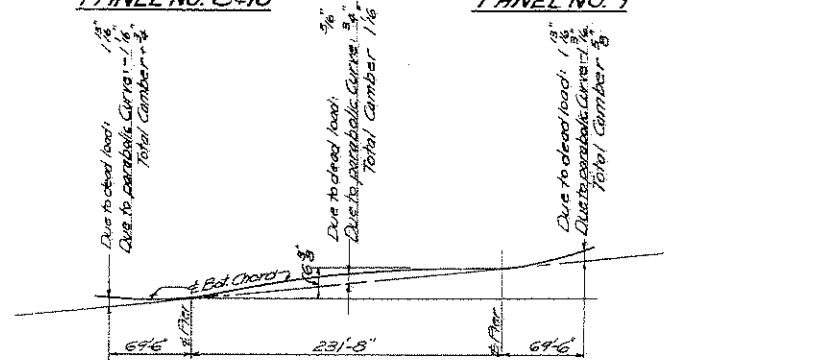
**SWAY FRAME**  
PANEL NO. 7 & 11

**SWAY FRAME**  
PANEL NO. 6, 12, 13 & 14



**SWAY FRAME**  
PANEL NO. 8 & 10

**SWAY FRAME**  
PANEL NO. 9



**CAMBER DIAGRAM**

Note: Stresses for truss members, given thus 472 are for DL+LL+Imp. Stresses in parenthesis, thus (631) also include 30% Wind. For Stresses in Stringers, Floor Beams & Trusses see Dwg. #3.

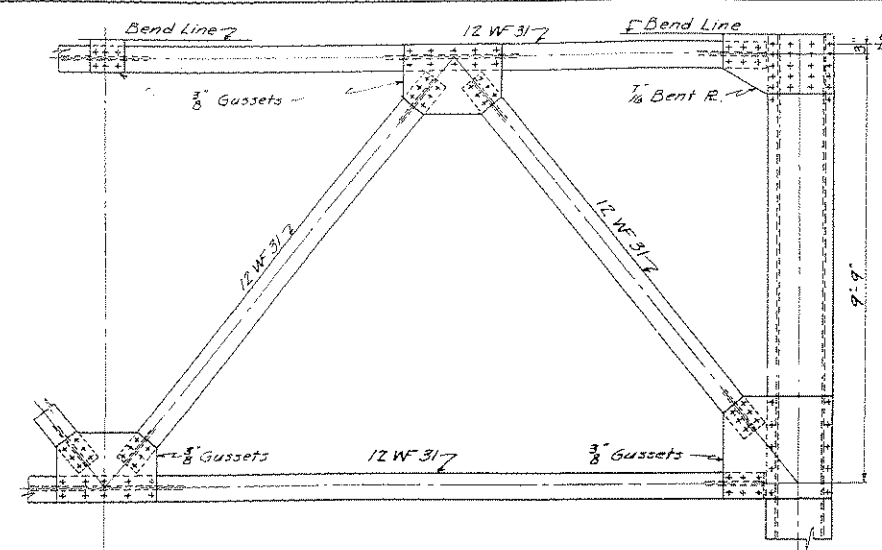
5" Rivets

THE STATE ROAD COMMISSION  
OF WEST VIRGINIA  
TRUE BRIDGE OVER BLUESTONE RIVER  
PROJECT #3494 SUMMERS CO., W.VA.  
STRESS SHEET FOR CANTILEVER SPANS  
SUPERSTRUCTURE CONTRACT #1764

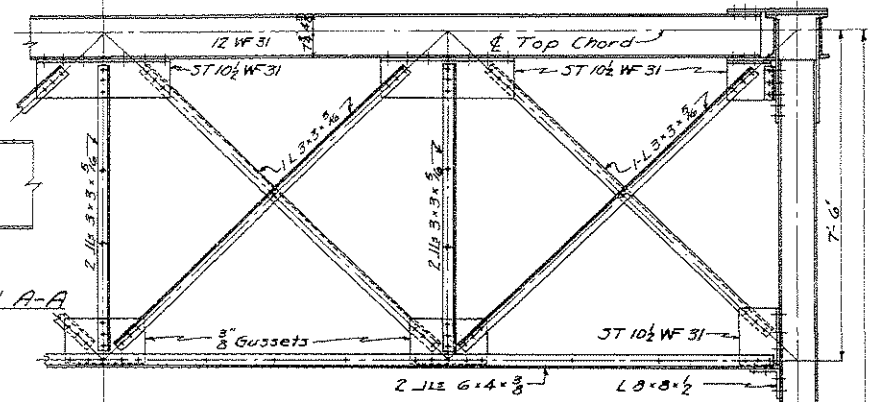
DESIGN BY FRANK D. MCENTEER  
CONSULTING ENGINEER  
Clarksburg, W. Va.

Scale: 1"=10'-0" Date: Aug. 23, 1947  
Designed by K.H.J. Checked by R.D.H.  
Drawn by K.H.J. Checked by R.D.H.  
Traced by N.D.W. Checked by R.D.H.

Dist. No.	State Proj. No.	Federal Aid Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
	3494			Summers	7	9



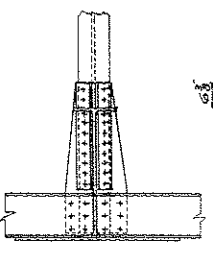
**PORTAL FRAMING**  
Scale: 1/2" = 1'-0"



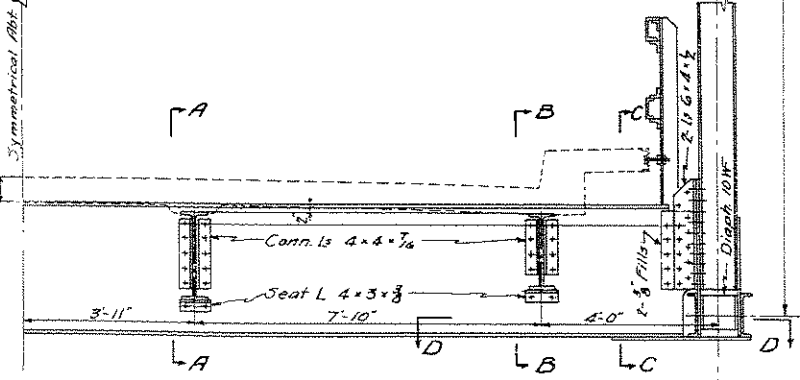
**TYPICAL SWAY FRAME**  
Scale: 1/2" = 1'-0"

SECTION A-A

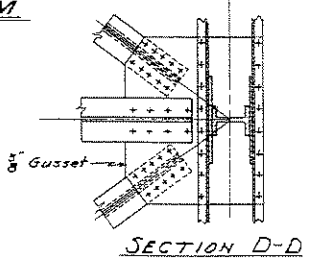
SECTION B-B



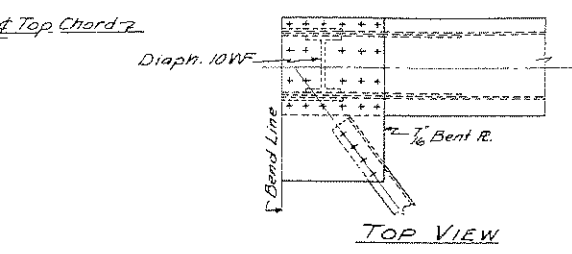
SECTION C-C



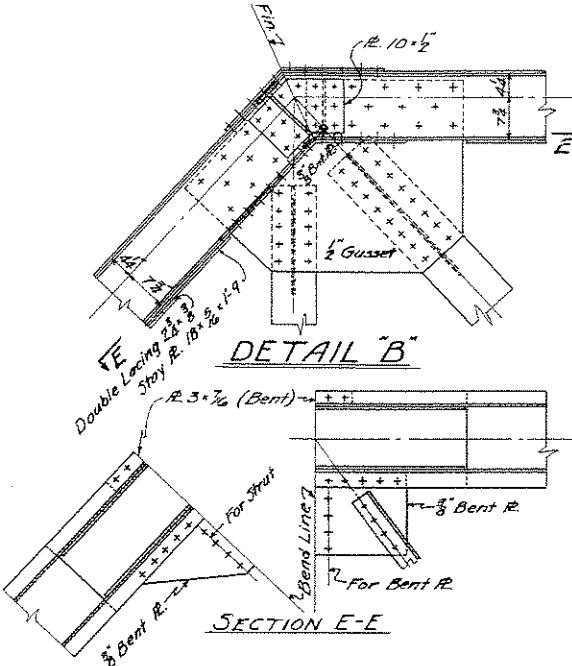
**TYPICAL FLOOR BEAM**  
Scale: 1/2" = 1'-0"



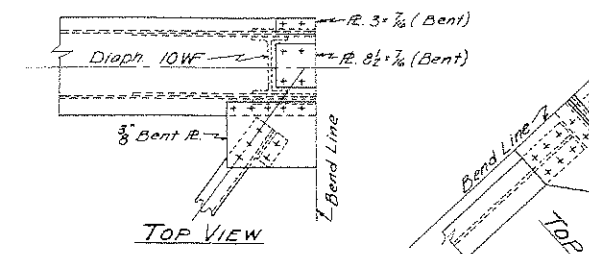
SECTION D-D



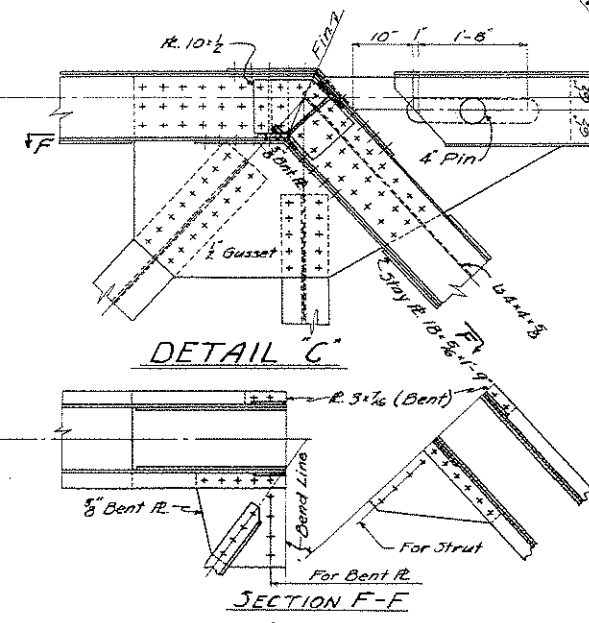
DETAIL B



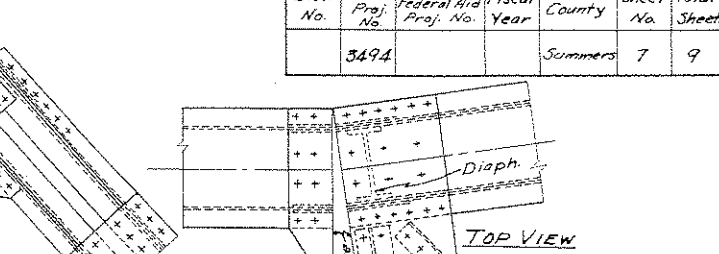
SECTION E-E



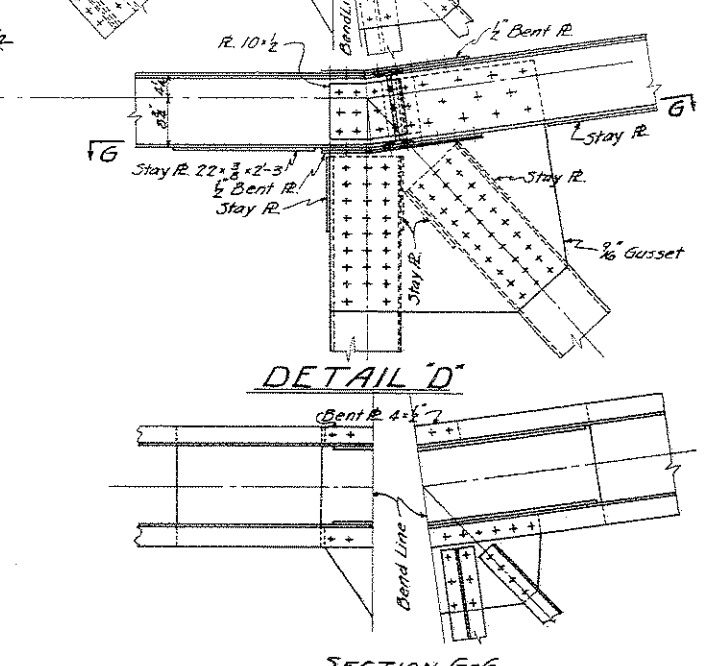
DETAIL C



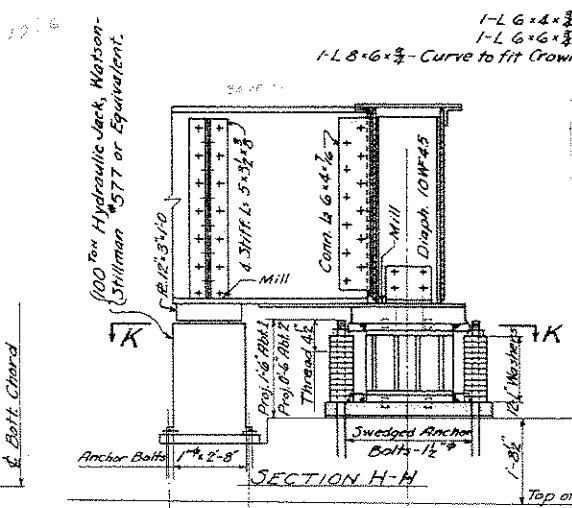
SECTION F-F



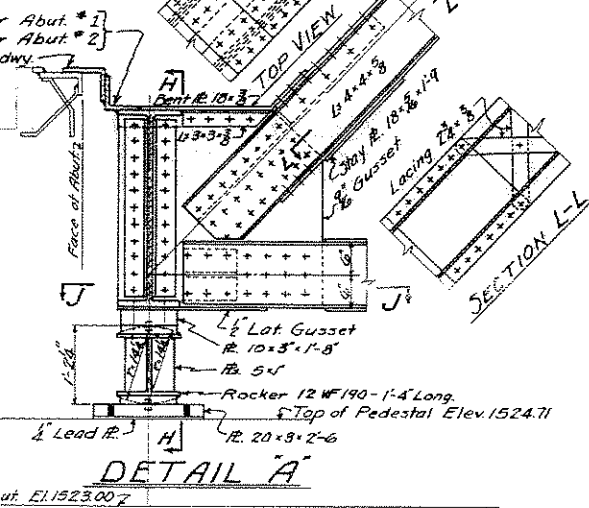
DETAIL D



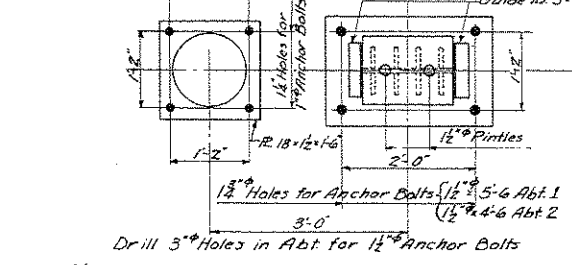
SECTION G-G



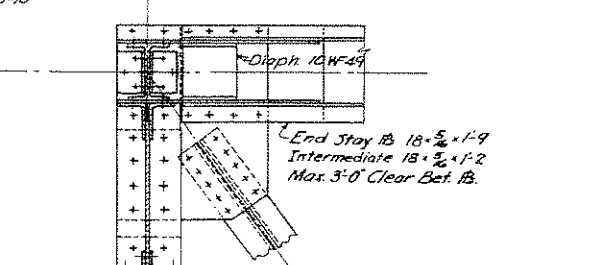
SECTION H-H



DETAIL A



SECTION K-K



SECTION J-J

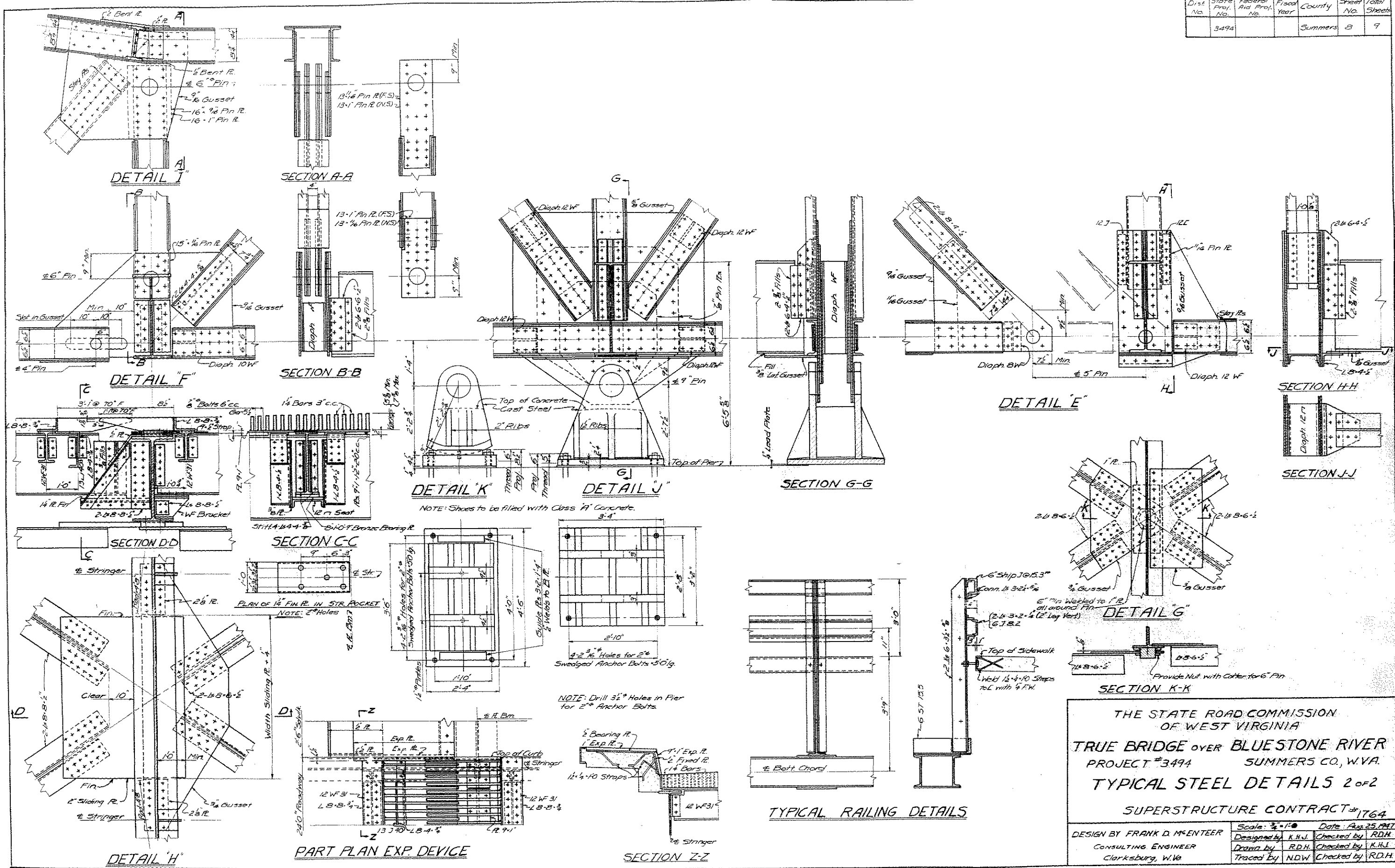
NOTE: Jacking arrangement for Abutment #1 Only.

THE STATE ROAD COMMISSION  
OF WEST VIRGINIA  
TRUE BRIDGE OVER BLUESTONE RIVER  
PROJECT #3494 SUMMERS CO., W.VA.  
TYPICAL STEEL DETAILS 1 of 2  
SUPERSTRUCTURE CONTRACT #1764

DESIGN BY FRANK D. M'ENTEER  
CONSULTING ENGINEER  
Clarksburg, W. Va.

Scale: 3/8" = 1'-0" unless noted  
Date: AUG 25, 1947  
Designed by K.H.J. Checked by R.D.H.  
Drawn by R.D.H. Checked by K.H.J.  
Traced by R.D.H. Checked by M.E.B.

Dist. No.	State Proj. No.	Federal Aid Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
	3494			Summers	8	9



THE STATE ROAD COMMISSION  
 OF WEST VIRGINIA  
**TRUE BRIDGE OVER BLUESTONE RIVER**  
 PROJECT #3494 SUMMERS CO., W.VA.  
**TYPICAL STEEL DETAILS 2 OF 2**  
 SUPERSTRUCTURE CONTRACT #1764

Scale: 3/4" = 1'-0" Date: Aug 25, 1947  
 DESIGN BY FRANK D. McENTEER  
 CONSULTING ENGINEER  
 Clarksburg, W. Va.

Designed by K.H.J.	Checked by R.D.H.
Drawn by R.D.H.	Checked by K.H.J.
Traced by NDW	Checked by R.D.H.

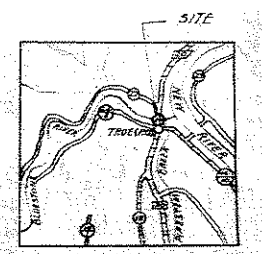
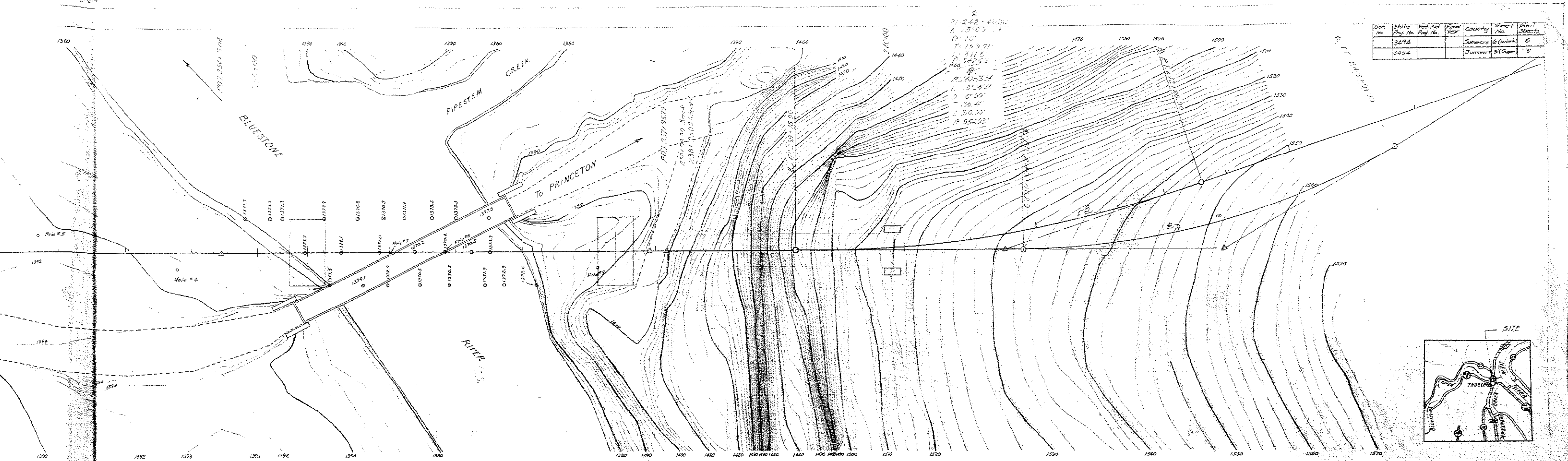






Date	State	Fed. Aid	County	Sheet	Scale
No.	Plan No.	Proj. No.	Year	No.	Feet
	2494		Summers	6 (Sheet)	6
	3494		Summers	9 (Super)	9

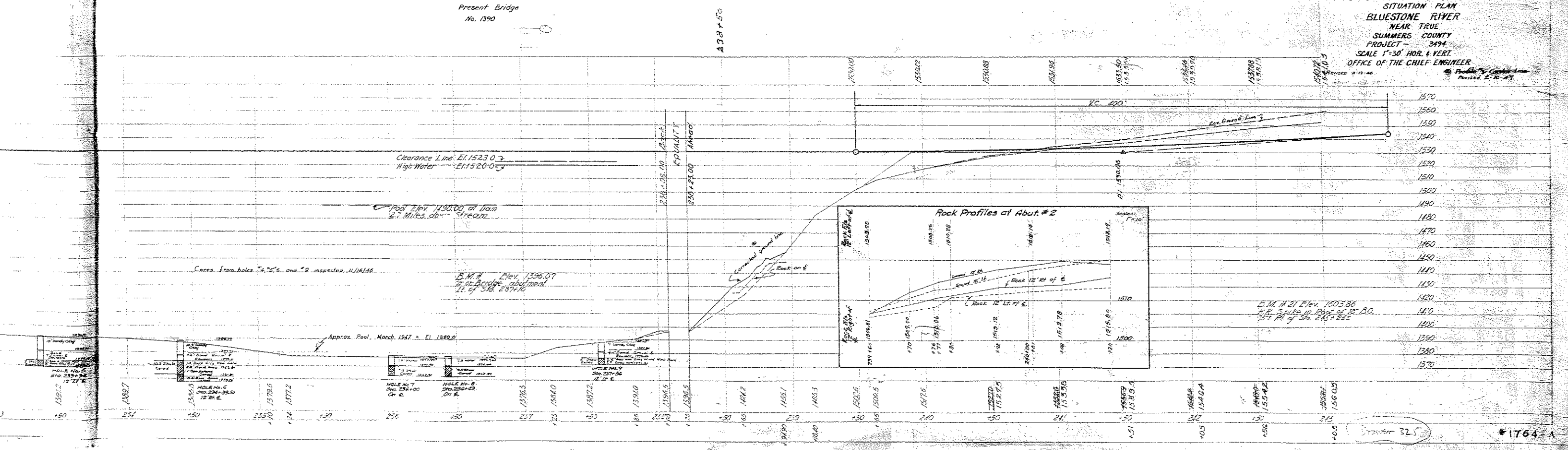
P.I. 242 - #100  
 D. 13'0" - 11'  
 T. 15'9" - 11'  
 R. 211.5  
 L. 27.54  
 D. 0'00"  
 L. 370.00  
 R. 554.33'



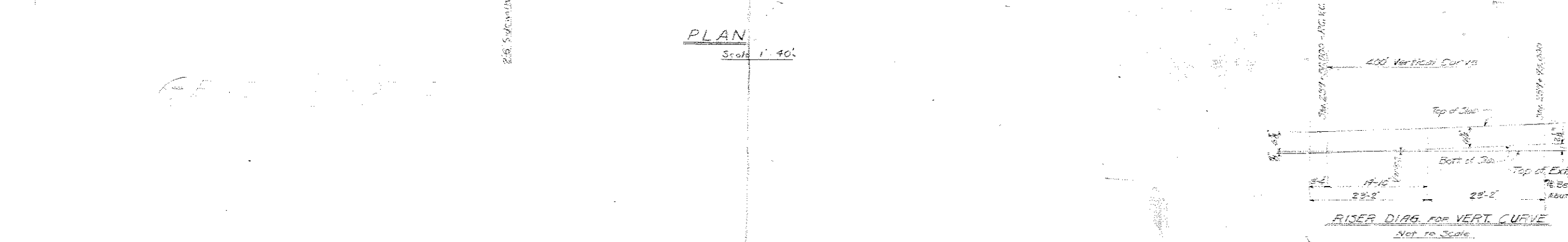
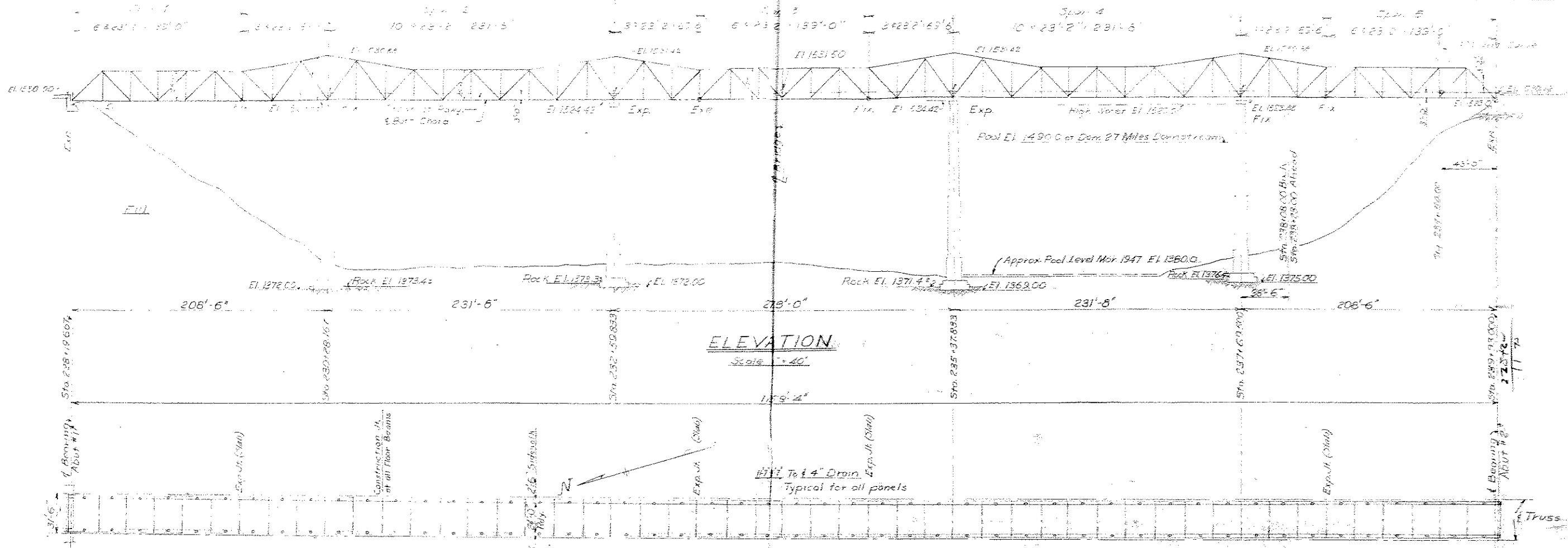
Present Bridge  
No. 1390

4381+50

THE STATE ROAD COMMISSION OF WEST VIRGINIA  
 SITUATION PLAN  
 BLUESTONE RIVER  
 NEAR TRUE  
 SUMMERS COUNTY  
 PROJECT - 3494  
 SCALE 1"=30' HOR. & VERT.  
 OFFICE OF THE CHIEF ENGINEER  
 Revised 8-19-46  
 Printed by Carolina Line  
 Revised 2-10-47



Dist. No.	2010	Federal Aid Proj. No.	3494	County	Summers	Sheet No.	2	Total Sheets	9
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THE STATE ROAD COMMISSION  
OF WEST VIRGINIA

TRUE BRIDGE OVER BLUESTONE RIVER  
PROJECT 3494 SUMMERS COUNTY

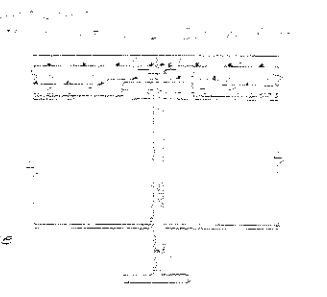
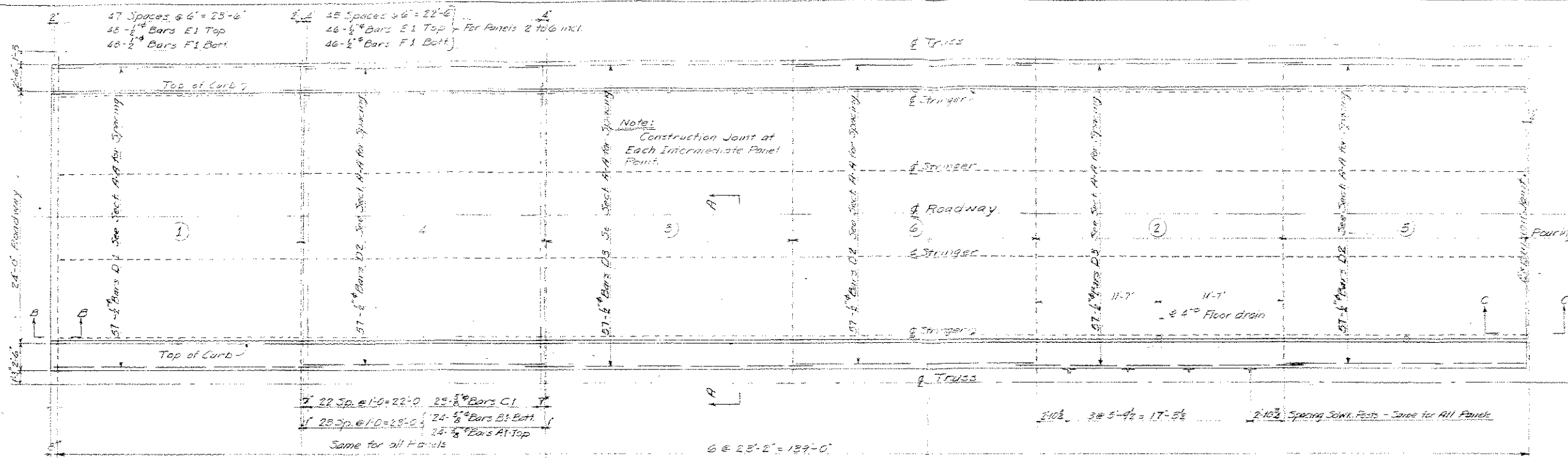
PLAN AND ELEVATION  
SUPERSTRUCTURE CONTRACT #1764

DESIGN BY FRANK D. MENTEER  
Consulting Engineer  
Clarksburg, W. Va.

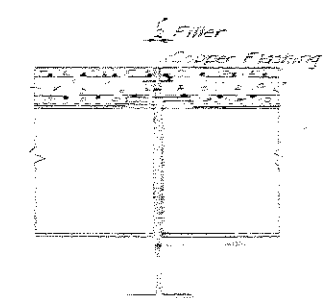
Scale: As Shown Date: \_\_\_\_\_

Drawn by: FME	Checked by: [Signature]
Traced by: [Signature]	Checked by: [Signature]

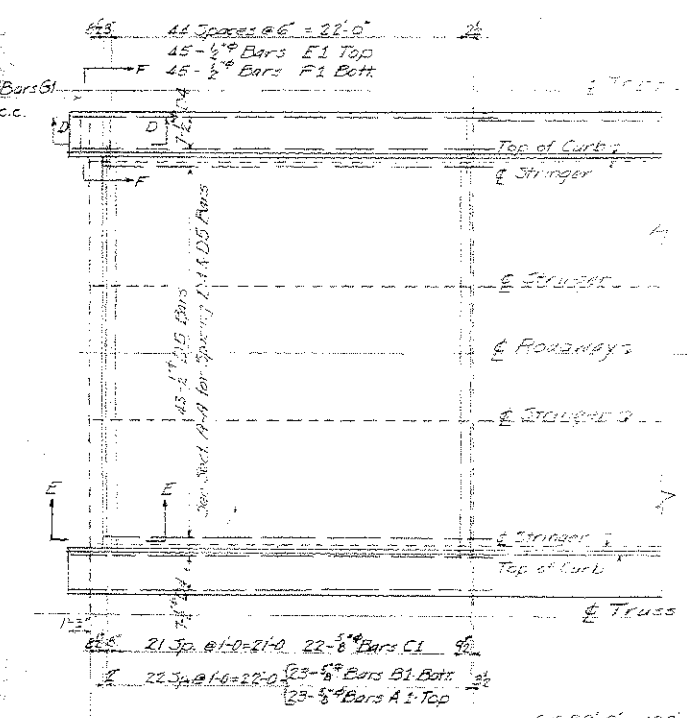
Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
13494				Summers	7	9



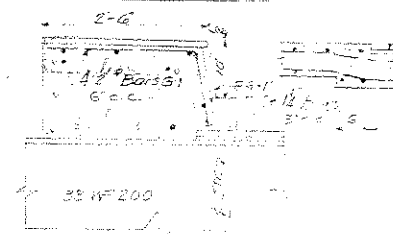
CONSTRUCTION JOINT  
Scale: 3/8"=1'-0"



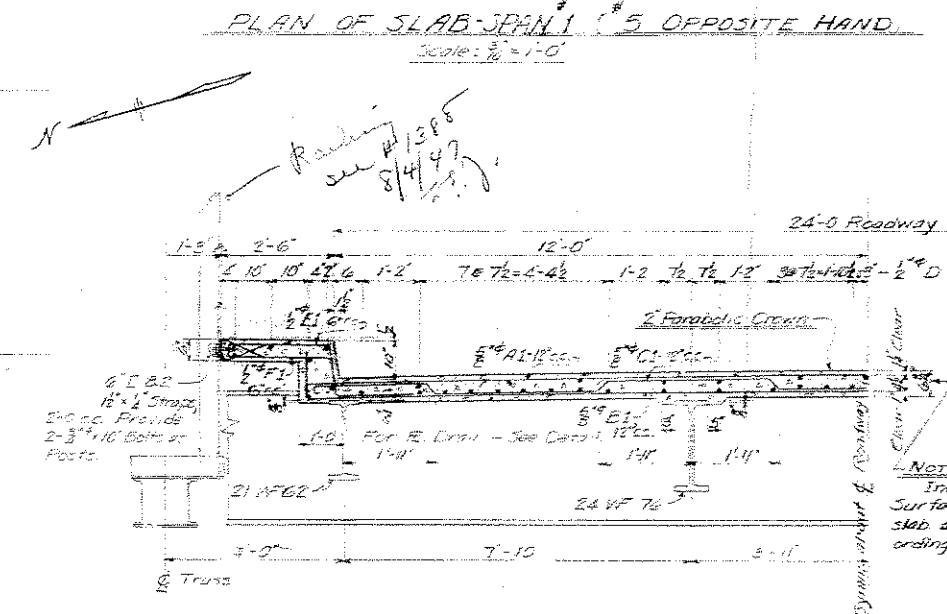
SECTION C-C  
Scale: 3/8"=1'-0"



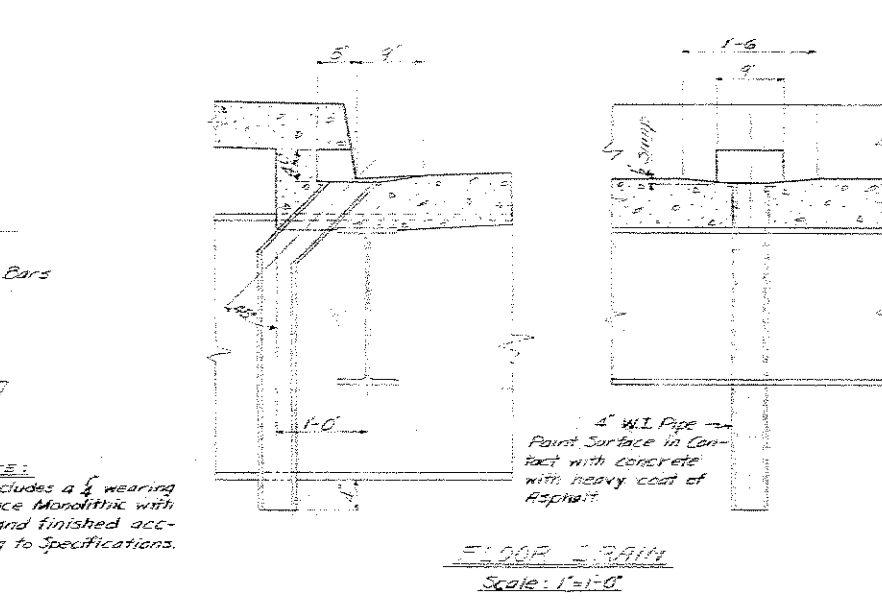
PLAN OF SLAB-SPAN #3  
Panels 2 to 6 Incl. Same as For Span #1.  
Scale: 3/8"=1'-0"



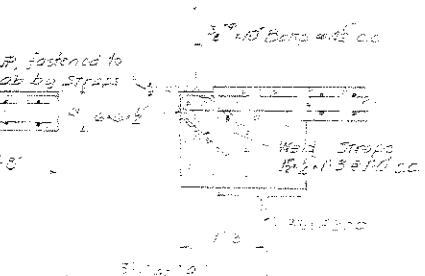
SECTION F-F  
Scale: 3/8"=1'-0"



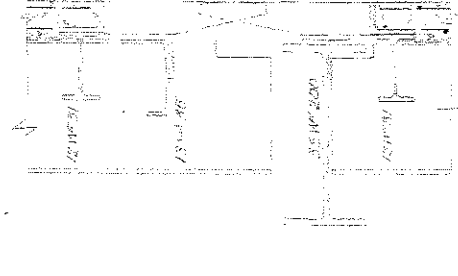
SECTION A-A  
Scale: 3/8"=1'-0"



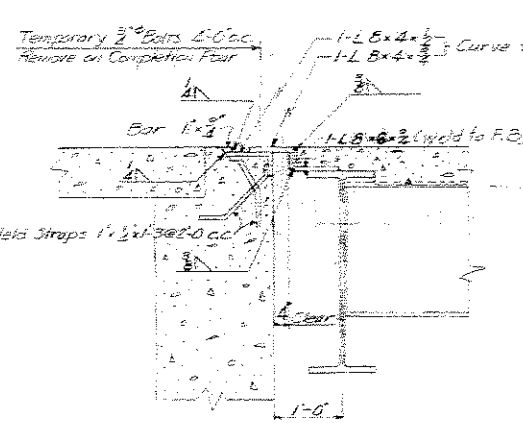
FLOOR DRAIN  
Scale: 1/2"=1'-0"



SECTION L-L  
Scale: 3/8"=1'-0"



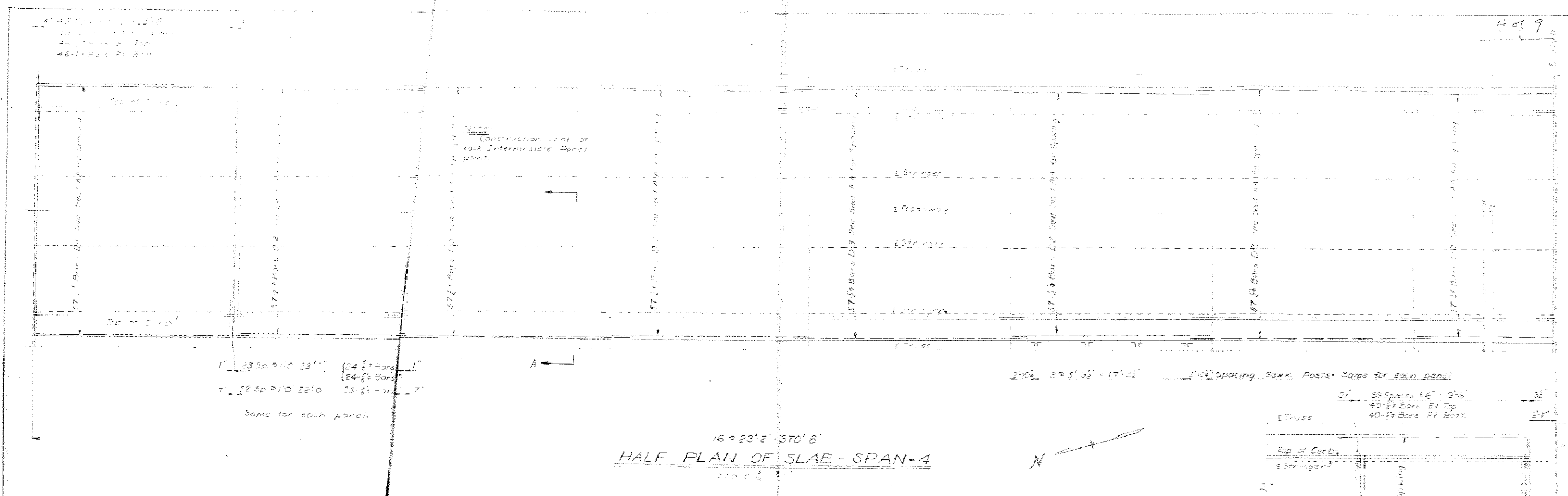
SECTION E-E  
Scale: 3/8"=1'-0"



SECTION B-B  
Scale: 3/8"=1'-0"

THE STATE ROAD COMMISSION  
OF WEST VIRGINIA  
TRUE BRIDGE OVER BLUESTONE RIVER  
PROJECT #3494 SUMMERS COUNTY  
CONCRETE DECK FOR 139'-0" SPAN  
SUPERSTRUCTURE CONTRACT #1764

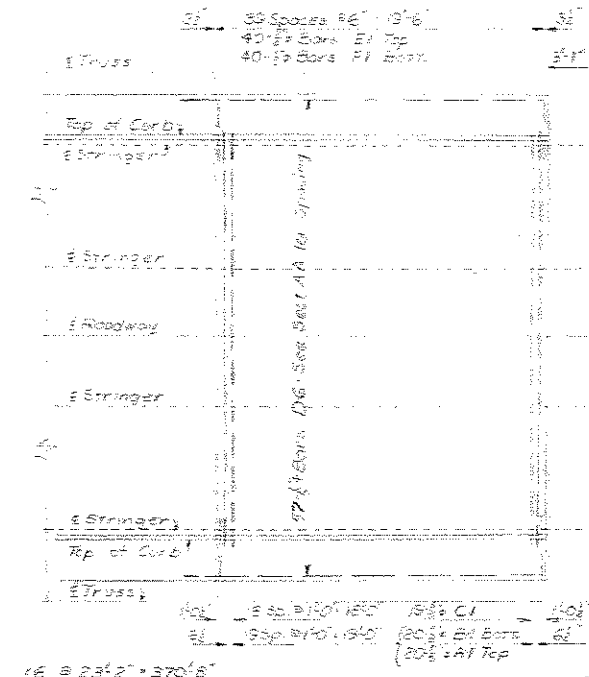
DESIGN BY FRANK D. MAENTEEP Consulting Engineer Clarksburg, W. Va.	Scale: As Noted Date:
Designed by K.H.J.	Checked by R.D.H.
Drawn by R.D.H.	Checked by K.H.J.
Traced by	Checked by



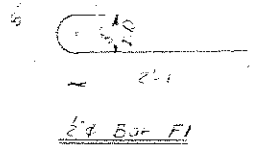
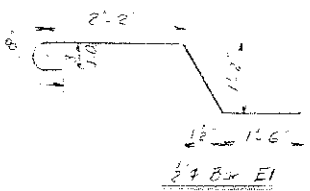
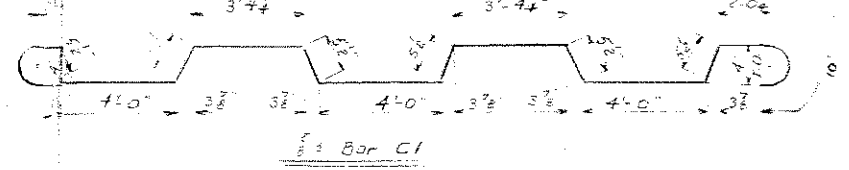
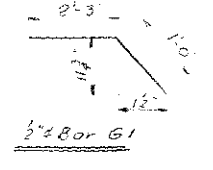
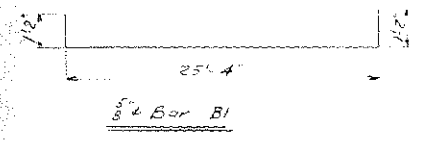
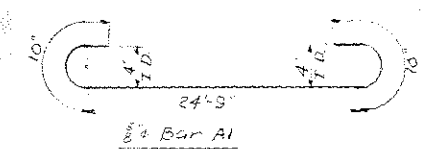
16 @ 23'-2" = 370' 8"  
**HALF PLAN OF SLAB - SPAN-4**  
 Scale 1/8" = 1'-0"

**BILL OF REINFORCING STEEL**

SPAN #1 & 5 - (one listed)				SPAN #2				SPAN #3				SPAN #4			
No.	MK	SIZE	LENGTH	No.	MK	SIZE	LENGTH	No.	MK	SIZE	LENGTH	No.	MK	SIZE	LENGTH
144	A1	5/8"	26'-5"	380	A1	5/8"	25'-5"	384	A1	5/8"	26'-5"	384	A1	5/8"	26'-5"
144	B1	do	27'-8"	do	B1	do	27'-8"	do	B1	do	27'-8"	do	B1	do	27'-8"
136	C1	do	27'-2"	364	C1	do	27'-2"	368	C1	do	27'-2"	368	C1	do	27'-2"
57	D1	1/2"	24'-2"	57	D1	1/2"	24'-2"	57	D1	1/2"	24'-2"	57	D1	1/2"	24'-2"
171	D2	do	23'-0"	393	D2	do	23'-0"	456	D2	do	23'-0"	456	D2	do	23'-0"
114	D3	do	27'-2"	393	D3	do	27'-2"	393	D3	do	27'-2"	393	D3	do	27'-2"
556	E1	do	5'-7"	57	D3	do	22'-0"	1472	E1	do	5'-7"	1472	E1	do	5'-7"
556	F1	do	2'-9"	1460	E1	do	5'-7"	1472	F1	do	2'-9"	1472	F1	do	2'-9"
				1460	F1	do	2'-9"		G1	do	3'-5"				



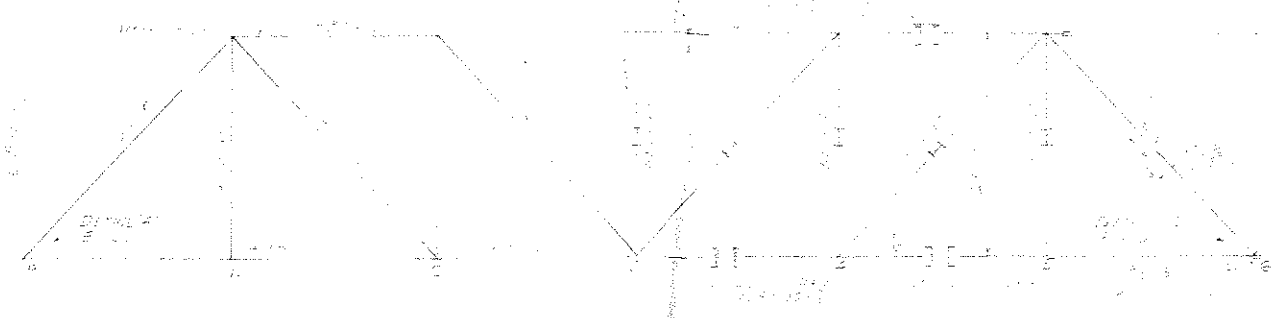
16 @ 23'-2" = 370' 8"  
**PLAN OF SLAB - SPAN-2**  
 Panels 1 to 6 Incl. Same as Slab - Span 4  
 Scale 1/8" = 1'-0"



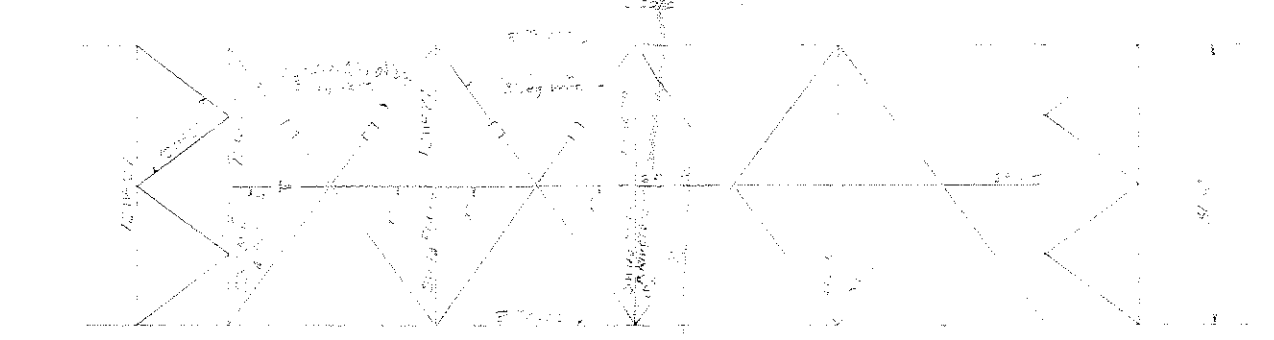
THE STATE ROAD COMMISSION  
 OF WEST VIRGINIA  
 TRUE BRIDGE OVER BLUESTONE RIVER  
 PROJECT #3494 SHAMERS C&T  
 CONCRETE DECK DETAILS FOR CANTILEVER SPAN  
 SUPERSTRUCTURE CONTRACT #1764

**PRELIMINARY**

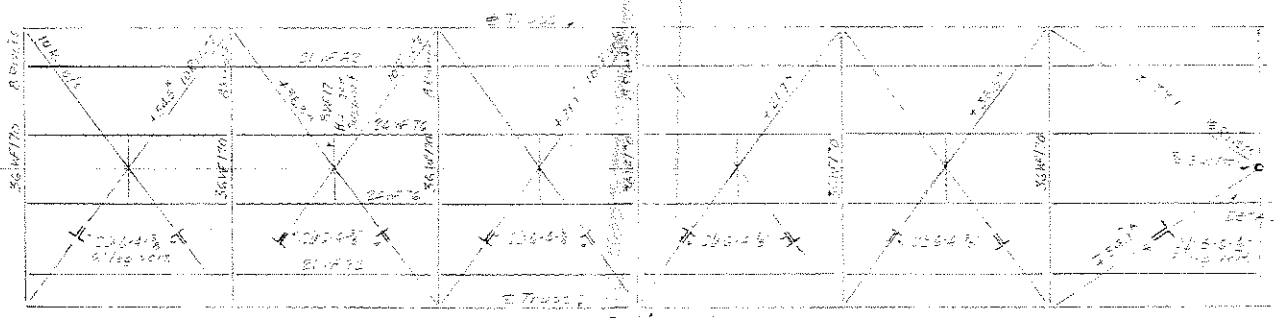
DESIGN BY FRANK D. MENTZER	SEVERAL APPROVED	DATE
Consulting Engineer	Checked by R.D.H.	
Charleston, W. Va.	Drawn by M.E.E.	
	Checked by	



ELEVATION-SPAN #1



TOP CHORD BRACING  
SPAN #1

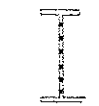


BOTTOM CHORD BRACING  
SPAN #1

DESIGN DATA: -Live Load: H-15-S16-

Roadway Structures:

	Moments	Shears
Dead Load	518'	16.2'
Live Load	1323'	36.5'
Impact	45.3'	5.3'
Total	2300'	62.0'



Net S.M. reqd. = 155 m<sup>2</sup>  
Net S.M. provided = 168 m<sup>2</sup>

24 WF 76  
8" Rivets

Sidewalk Structures:

	Moments	Shears
Dead Load	47.6'	1.06'
Live Load	11.0'	2.5'
Impact	2.1'	0.5'
Total	60.7'	4.1'



Net S.M. reqd. = 113 m<sup>2</sup>  
Net S.M. provided = 125 m<sup>2</sup>

21 WF 52  
7" Rivets

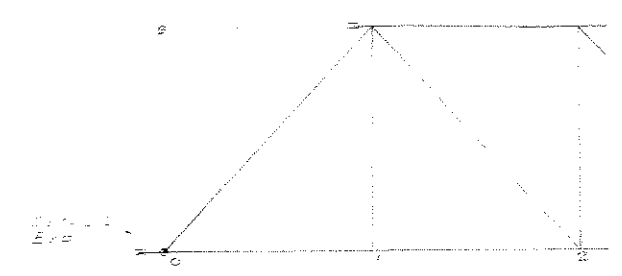
Floor Beams:

	Moments	Shears
Dead Load	3324'	43.5'
Live Load	17.5'	5.0'
Impact	57.5'	4.8'
Total	3519'	53.3'

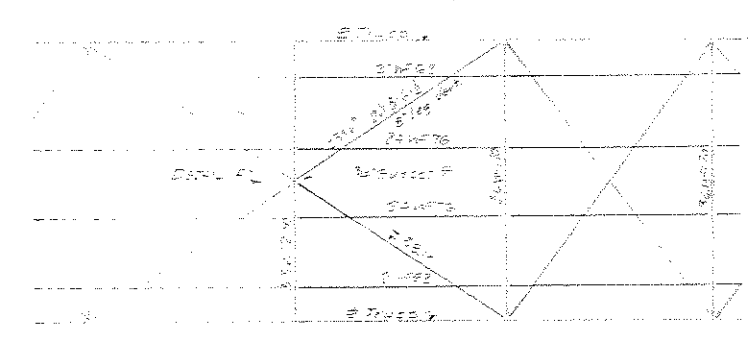


Net S.M. reqd. = 280 m<sup>2</sup>  
Net S.M. provided = 340 m<sup>2</sup>

36 WF 170  
8" Rivets



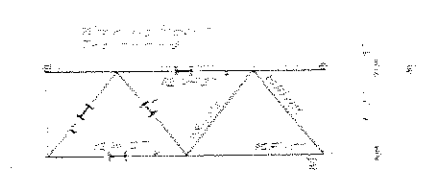
ELEVATION-SPAN #3



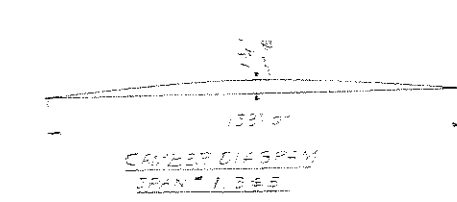
BOTTOM CHORD BRACING  
SPAN #3



TRANSVERSE TRUSS  
TYPICAL



PORTAL  
TYPICAL



CAMBERED DIAPHRAGM  
SPAN #1, 3 & 5

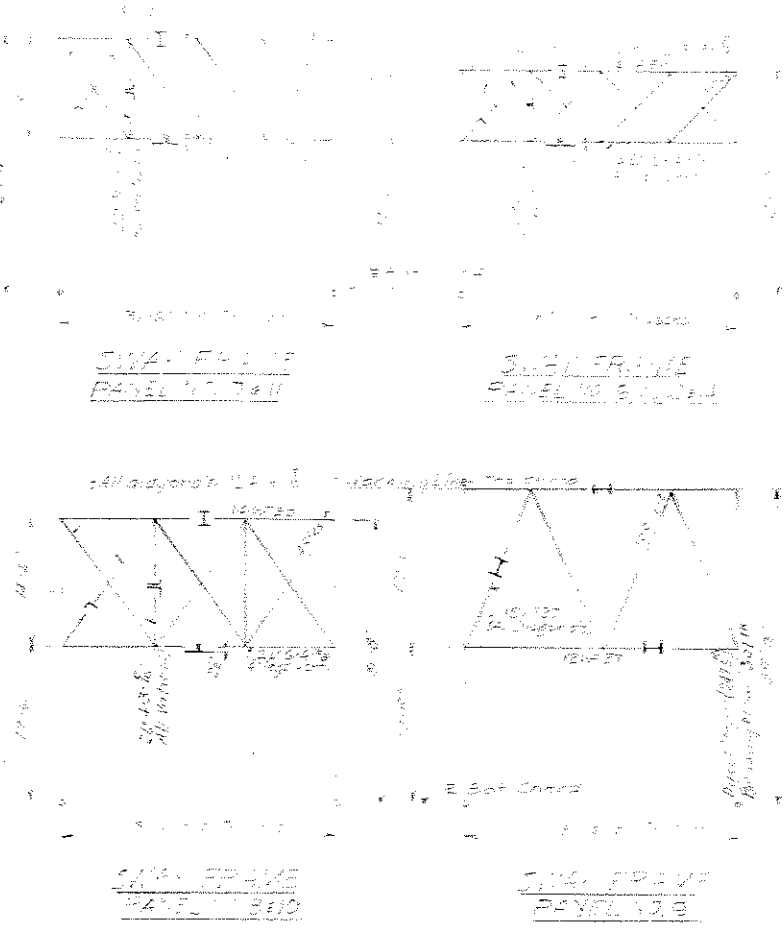
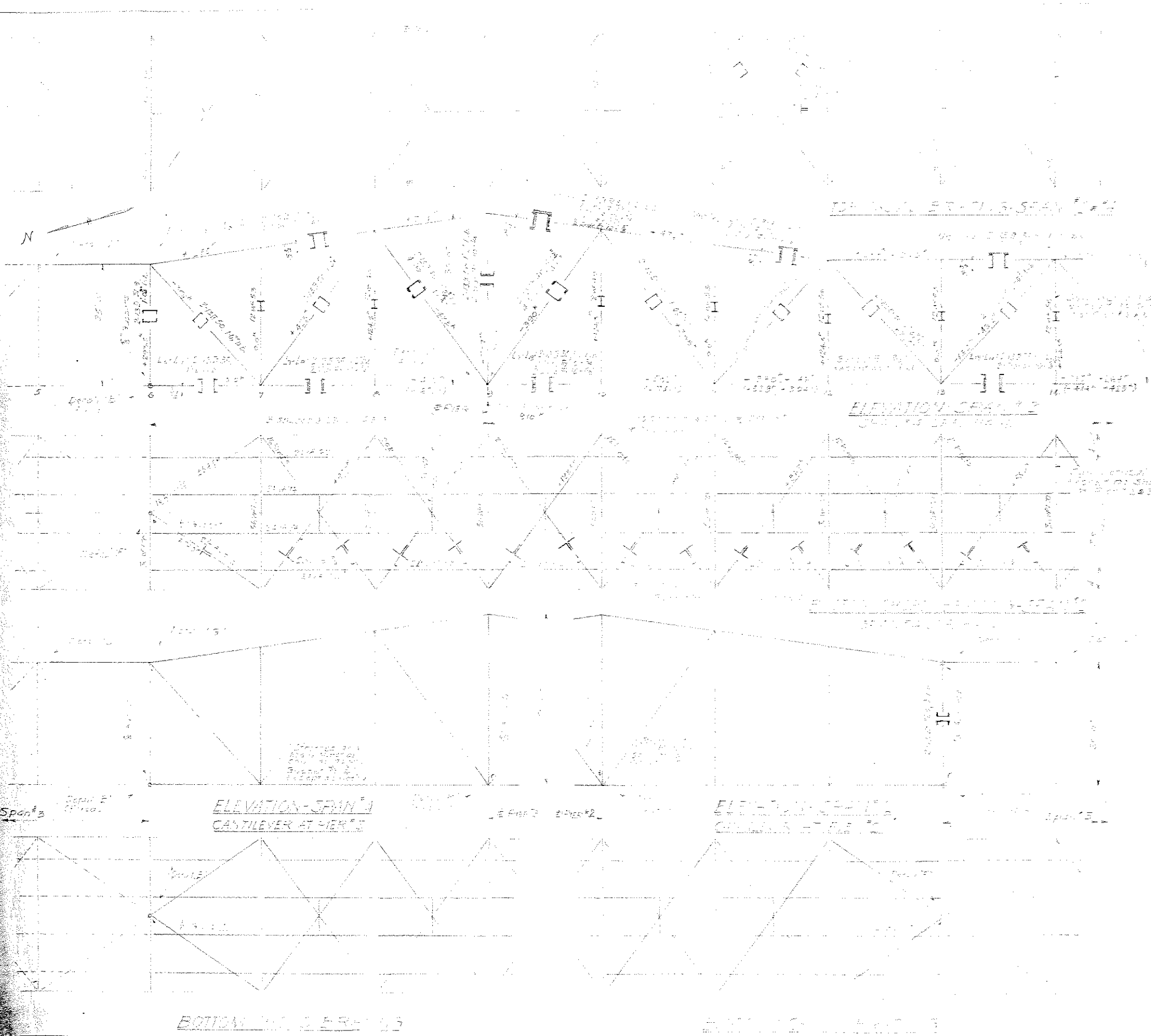
THE STATE ROAD COMMISSION  
OF WEST VIRGINIA

TRUE BRIDGE OVER BLUESTONE RIVER  
PROJECT #3494 SUMMERS COUNTY, W. VA.

STRESS SHEET FOR 139'-0" SPANS  
SUPERSTRUCTURE CONTRACT #1764

DESIGN BY FRANK D. McENTEE Consulting Engineer Clarksburg, W. Va.	Scale: 1" = 10'-0" Drawn by R.H.A. Traced by	Date: Checked by R.D.K. Checked by R.D.K. Checked by
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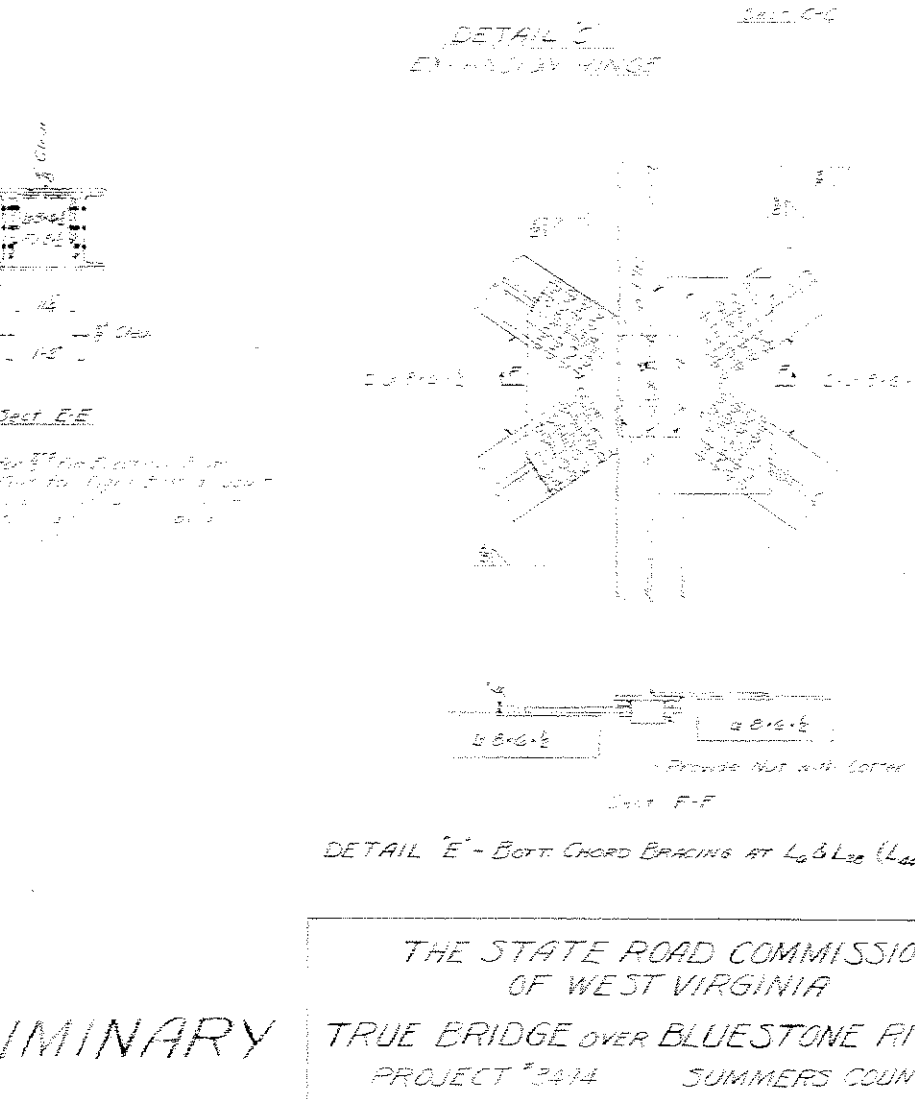
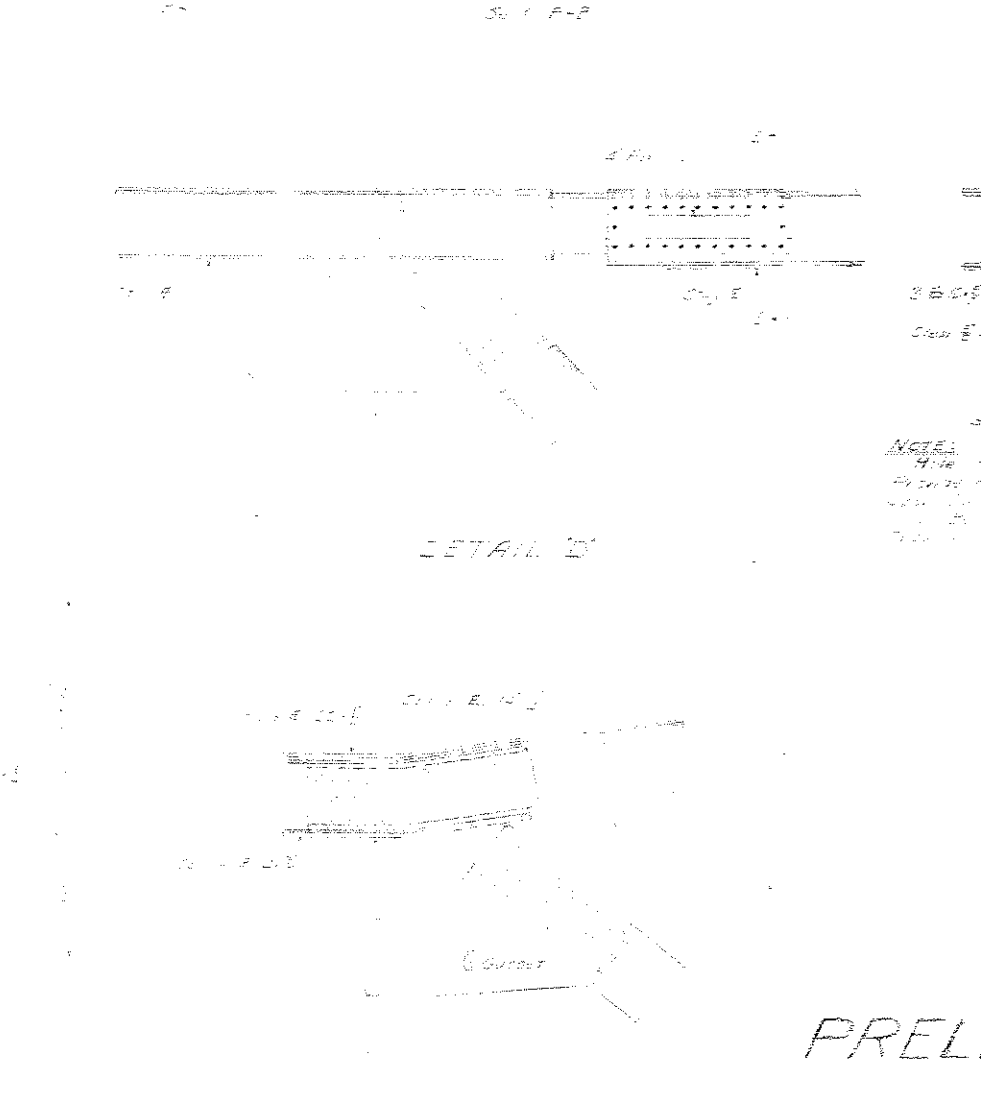
Note: Stresses for truss members given here are for  $D_1 = 1.0$  and  $D_2 = 1.0$ .  
 Stresses in parenthesis, feet (821) also include 30% wind.  
 The stresses in stringers and floor beams are in lbs/ft.

THE STATE ROAD COMMISSION  
 OF WEST VIRGINIA  
 TRUSS BRIDGE OVER BLUESTONE RIVER  
 PROJECT 3486 SUMMERS COUNTY W.VA.  
 STRESS SHEET AND CANTILEVER DETAILS  
 SUPERSTRUCTURE CONTRACT

DESIGNED BY FRANK C. McINTYRE  
 Consulting Engineer  
 CHARLOTTE, N.C.

APPROVED BY  
 J. H. HARRIS  
 Chairman

CHECKED BY  
 W. H. HARRIS  
 Engineer



NOTE:  
 4" dia. rivets in end plates  
 Provide flat bar type rivets in end  
 plates.

PRELIMINARY

THE STATE ROAD COMMISSION  
 OF WEST VIRGINIA  
 TRUE BRIDGE OVER BLUESTONE RIVER  
 PROJECT #3474 SUMMERS COUNTY  
 STRUCTURAL STEEL DETAILS  
 SUPERSTRUCTURE CONTRACT #1764

DESIGNED BY FRANK D. WENTZ	SCALE: 3/4" = 1'-0"	DATE:
CONSULTING ENGINEER	DESIGNED BY WALS CHECKED BY RDM	
CLAYTON, W. VA.	DRAWN BY RDM CHECKED BY	
	TYPED BY	CHECKED BY

DETAIL 'E' - BOT. CHORD BRACING AT L<sub>3</sub> & L<sub>20</sub> (L<sub>20</sub> Opp. Hand)