FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	624-C	1932

1 / 25

ROSS COUNTY-S.H.(I.C.H) NO. 8 — SEC. M(PT)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

CINCINNATI-CHILLICOTHE ROAD S.H.8-M (PT)

TWIN TWP. & SCIOTO TWP. ROSS COUNTY.

FEB. 1932.

The Standard Specifications of the STATE of OHIO Department of Highways in force on date of contract will govern this improvement.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway and that detours will be provided as indicated on the plans. R/W has been provided by the State.

Approved: _____
Date 3/2/32 Resident District Deputy Director

Approved: _____
Date 3-15-32 Resident Division Deputy Director

Approved: _____
Date 4/13/32 Chief Engineer Bureau of Construction

Approved: _____
Date _____ Chief Engineer Bureau of Maintenance.

Approved: _____
Date 4-12-32 Chief Engineer Bureau of Bridges.

Approved: _____
Date 4-13-32 Chief Engineer and First Ass't Director.

Approved: _____
Date 4-13-32 Director of Highways.

Recommended for Approval _____
District Engineer Bureau of Public Roads.

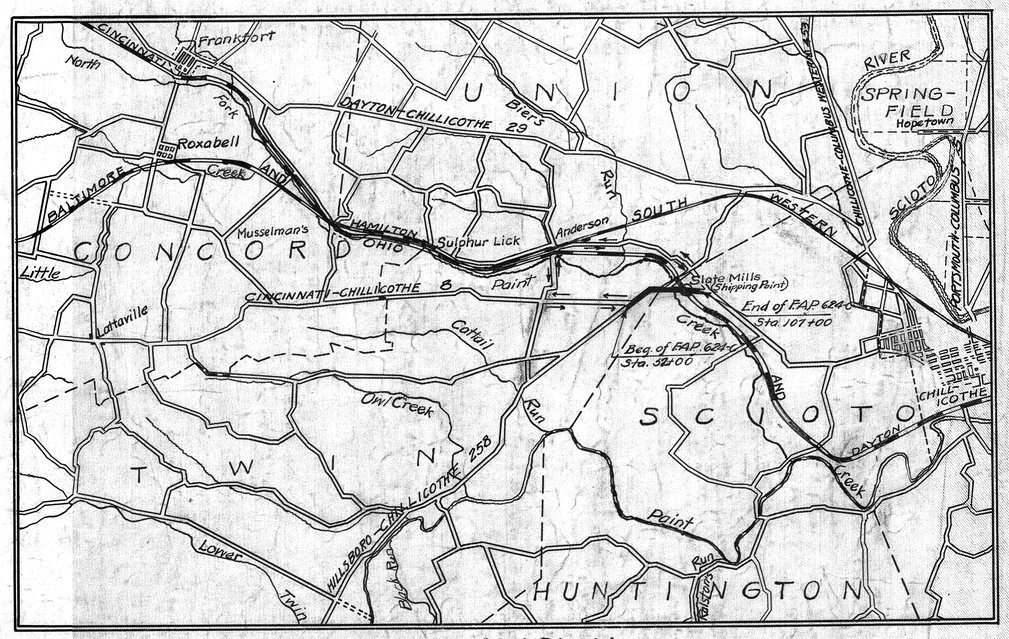
Recommended for Approval _____
Chief Engineer Bureau of Public Roads.

Approved: _____
Date _____ Chief of Bureau

Mt. Pr. Bridge Sta. 20' Conc. R.A. 6-21-32

CONVENTIONAL SIGNS

- State Line
- County Line
- Township Line
- Section Line
- Property Line
- Center Line
- City or Village Line
- Fence
- Telephone or Power Line
- Steam Railroad
- Guard Rail
- Drain Pipe - new
- Drain Pipe - old



LOCATION PLAN

Scale of Miles 0 1 2 3

LOCATION OF IMPROVEMENT
DETOURS SHOWN THUS
IMPROVED ROADS

SCALES

PLAN	1"=100'
PROFILE HORIZONTAL	1"=100'
PROFILE VERTICAL	1"=10'
CROSS SECTIONS	1"=5'
STRUCTURAL PLANS	

INDEX TO SHEETS

SUPPLEMENTAL PRINTS OF STRUCTURAL STANDARDS DRAWINGS NOS 300 & BC-A

149 ROSS - 8 M (PT)

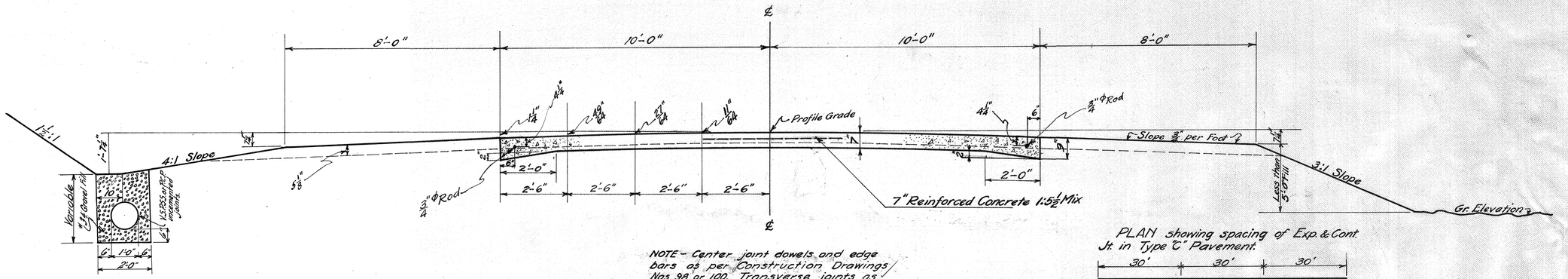
1932 Contract No. 5388
Letting Date 5-6-32

Fed. Rd Dist. No.	STATE	Fed Aid Project	Fiscal Year
10	OHIO	624-C	1932

2/25

Ross County S.H. No. 8 - Sec. M. (Part)

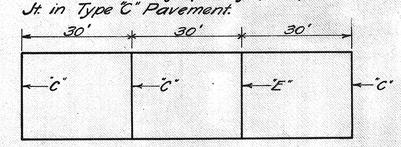
TYPICAL SECTION
ITEM T-7
TYPE-C
CONSTRUCTION DWG.
NO. 134-



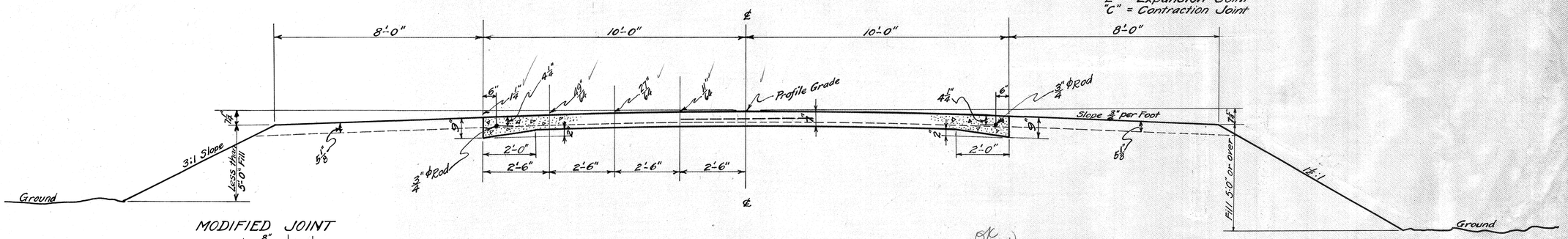
ITEMS S-27 OR S-31
Typical Section above for V.S.P.S.S. or P.C.P. Drain.
Rt. Sta. 63+25 to Sta. 73+50
Lt. Sta. 63+25 to Sta. 74+20

NOTE - Center joint dowels and edge bars as per Construction Drawings Nos. 98 or 100. Transverse joints as per Specifications.
Concrete 1:5½ Mix.

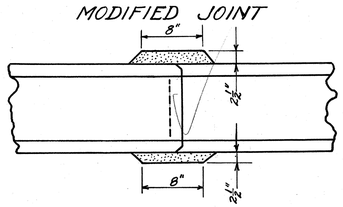
PLAN showing spacing of Exp. & Cont. Jt. in Type "C" Pavement.



"E" = Expansion Joint
"C" = Contraction Joint

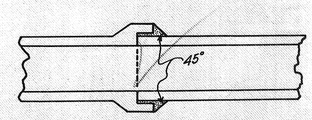


MODIFIED JOINT



SCALE IN FEET

BELL & SPIGOT JOINT



Note:- Superelevate pavement on all curves and where curvature is 5° or over, pavement will be widened. See Curve Data Sheet.

Note: Reinf. Conc. Pipe used as alternate for V.S.P encased shall be cemented as shown in the accompanying Sketches. Where V.S.P. is not to be encased. Reinf Conc. Pipe will not be cemented.

Rough grading will be completed to cross-section indicated by the broken line for all types. All earth below broken line for width of Pavement and full width of berms must be scarified to the depth of the subgrade and parallel to the broken line before any excavated material is placed on shoulders. The subgrade shall then be prepared for the type of pavement specified and material removed from the subgrade or adjacent thereto be placed on the shoulders.

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
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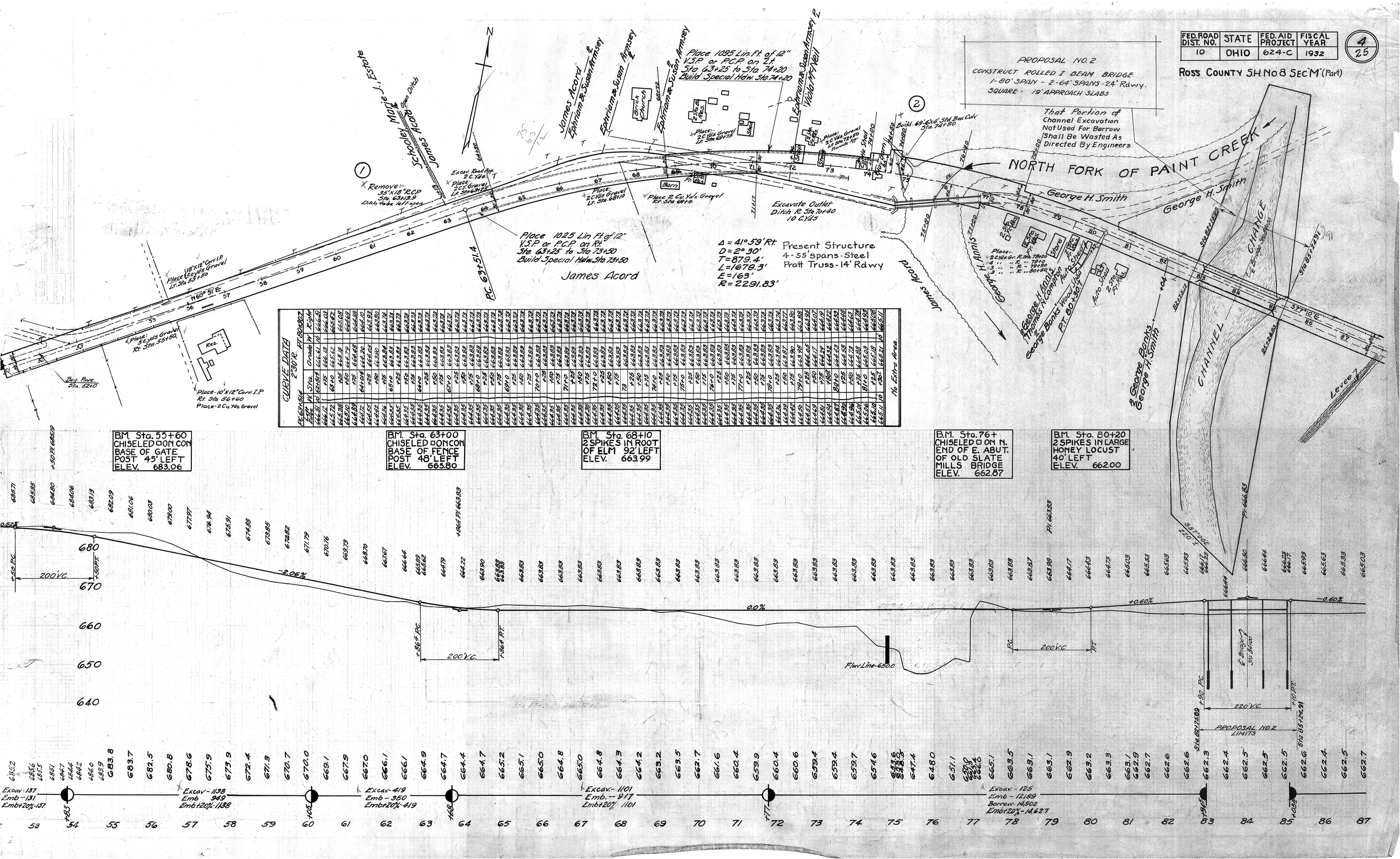
ROSS COUNTY SH. NO 8 SEC "M" (Part)

PROPOSAL NO. 2
CONSTRUCT ROLLED I BEAM BRIDGE
1-80' SPAN - 2-64' SPANS - 24' Rdwy.
SQUARE - 19' APPROACH SLABS

That Portion of Channel Excavation Not Used For Borrow Shall Be Wasted As Directed By Engineers



CURVE DATA
230' E.
PT. 80+30.7

Pt.	Elev.	W. Sta.	Grade	W.	Elev.
63+51.4	666.61	10	666.61	10	666.61
63+50	666.18		666.18		666.18
63+75	665.62		665.62		665.62
64+00	665.18		665.18		665.18
64+25	664.72		664.72		664.72
64+50	664.28		664.28		664.28
64+75	663.82		663.82		663.82
65+00	663.38		663.38		663.38
65+25	663.32		663.32		663.32
65+50	663.32		663.32		663.32
65+75	663.32		663.32		663.32
66+00	663.32		663.32		663.32
66+25	663.32		663.32		663.32
66+50	663.32		663.32		663.32
66+75	663.32		663.32		663.32
67+00	663.32		663.32		663.32
67+25	663.32		663.32		663.32
67+50	663.32		663.32		663.32
67+75	663.32		663.32		663.32
68+00	663.32		663.32		663.32
68+25	663.32		663.32		663.32
68+50	663.32		663.32		663.32
68+75	663.32		663.32		663.32
69+00	663.32		663.32		663.32
69+25	663.32		663.32		663.32
69+50	663.32		663.32		663.32
69+75	663.32		663.32		663.32
70+00	663.32		663.32		663.32
70+25	663.32		663.32		663.32
70+50	663.32		663.32		663.32
70+75	663.32		663.32		663.32
71+00	663.32		663.32		663.32
71+25	663.32		663.32		663.32
71+50	663.32		663.32		663.32
71+75	663.32		663.32		663.32
72+00	663.32		663.32		663.32
72+25	663.32		663.32		663.32
72+50	663.32		663.32		663.32
72+75	663.32		663.32		663.32
73+00	663.32		663.32		663.32
73+25	663.32		663.32		663.32
73+50	663.32		663.32		663.32
73+75	663.32		663.32		663.32
74+00	663.32		663.32		663.32
74+25	663.32		663.32		663.32
74+50	663.32		663.32		663.32
74+75	663.32		663.32		663.32
75+00	663.32		663.32		663.32
75+25	663.32		663.32		663.32
75+50	663.32		663.32		663.32
75+75	663.32		663.32		663.32
76+00	663.32		663.32		663.32
76+25	663.32		663.32		663.32
76+50	663.32		663.32		663.32
76+75	663.32		663.32		663.32
77+00	663.32		663.32		663.32
77+25	663.32		663.32		663.32
77+50	663.32		663.32		663.32
77+75	663.32		663.32		663.32
78+00	663.32		663.32		663.32
78+25	663.32		663.32		663.32
78+50	663.32		663.32		663.32
78+75	663.32		663.32		663.32
79+00	663.32		663.32		663.32
79+25	663.32		663.32		663.32
79+50	663.32		663.32		663.32
79+75	663.32		663.32		663.32
80+00	663.32		663.32		663.32
80+25	663.32		663.32		663.32	No Extra Area.

B.M. Sta. 55+60
CHISELED □ ON CON
BASE OF GATE
POST 45' LEFT
ELEV. 683.06

B.M. Sta. 63+00
CHISELED □ ON CON
BASE OF FENCE
POST 48' LEFT
ELEV. 665.80

B.M. Sta. 68+10
2 SPIKES IN ROOT
OF ELM 92' LEFT
ELEV. 663.99

B.M. Sta. 76+
CHISELED □ ON N.
END OF E. ABUT.
OF OLD SLATE
MILLS BRIDGE
ELEV. 662.87

B.M. Sta. 80+20
2 SPIKES IN LARGE
HONEY LOCUST
40' LEFT
ELEV. 662.00

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	624-C	1932

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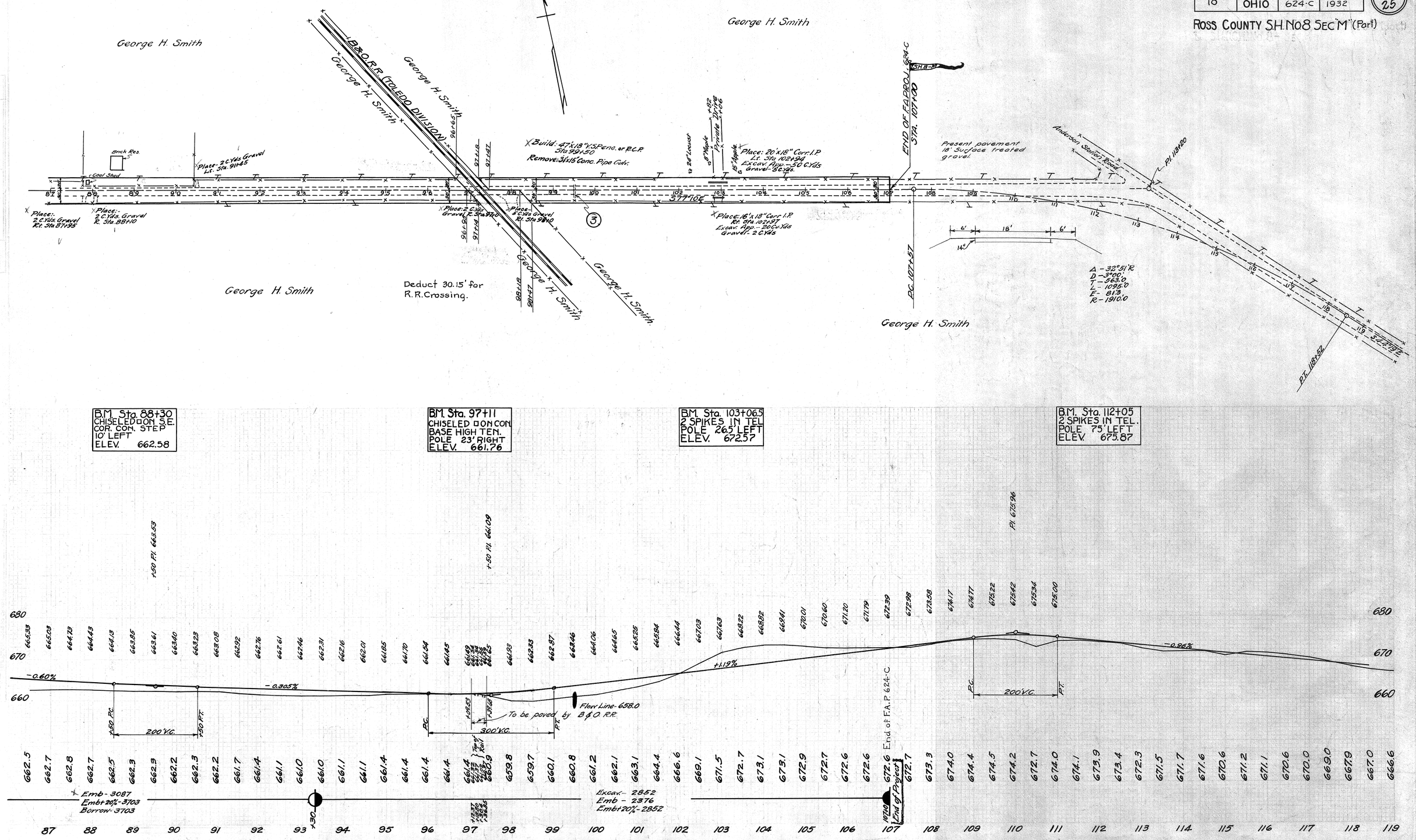
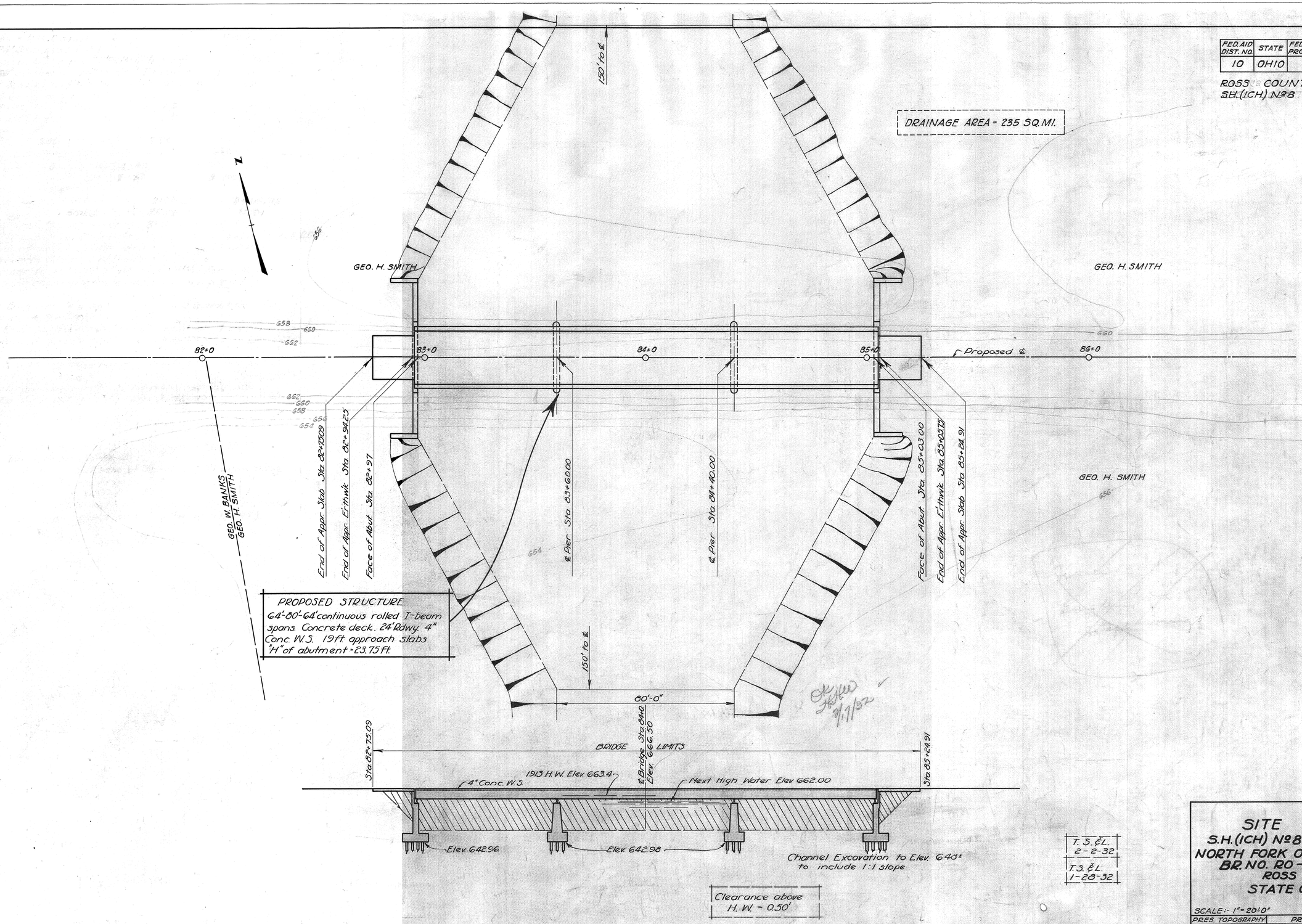
ROSS COUNTY S.H. No. 8 SEC "M" (Part)



FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO		

21
25

ROSS COUNTY
S.H. (ICH) No. 8 SEC. "M"



SITE PLAN
S.H. (ICH) No. 8 SEC. "M"
NORTH FORK OF PAINT CREEK
BR. NO. RO-50-194
ROSS COUNTY
STATE OF OHIO

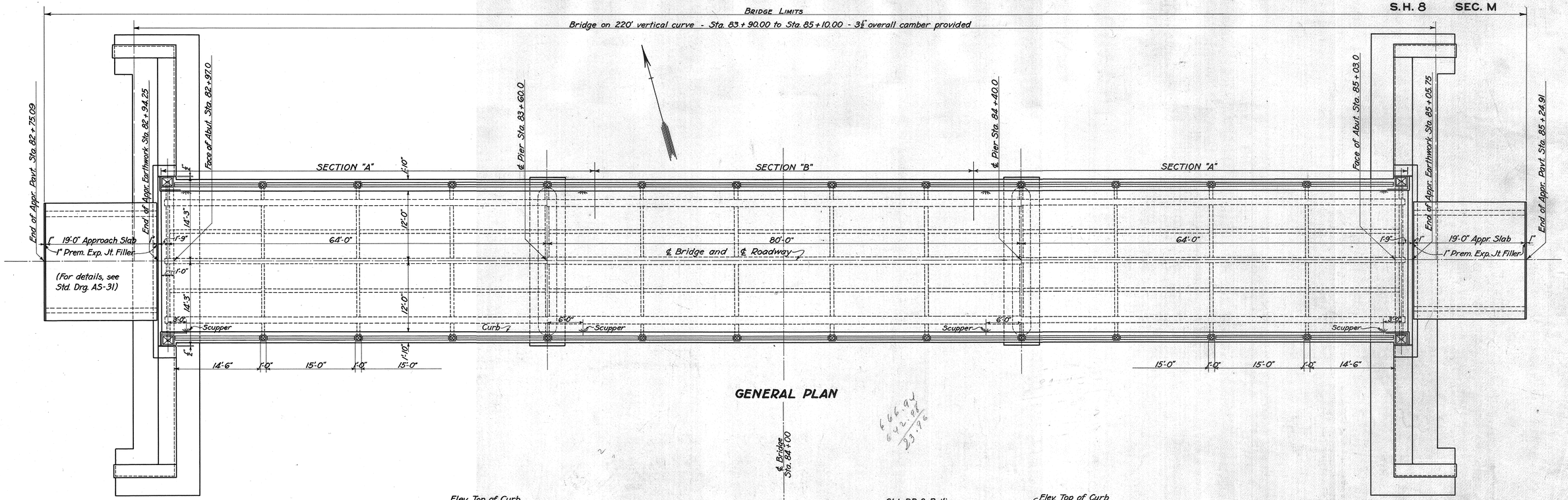
SCALE:- 1" = 20'-0" JANUARY 1931

PRES. TOPOGRAPHY		PROPOSED WORK			
Surveyed	Drawn	Des.	Drn.	Ckd.	Rev.
		CPS RTZ	H.P.H.	CPS	W.W.B. 4/1/32

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO		

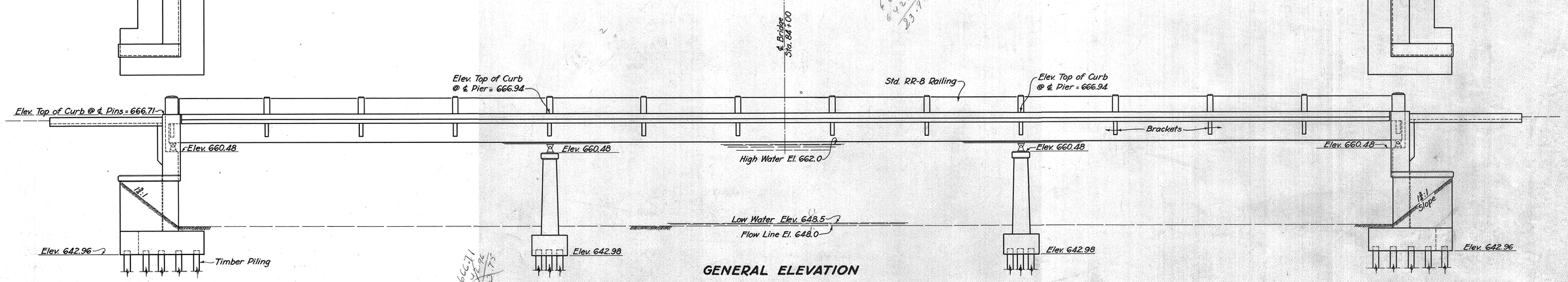
22
25

ROSS COUNTY
S.H. 8 SEC. M



GENERAL PLAN

666.94
642.98
23.96



GENERAL ELEVATION

666.71
642.96
23.75

SUPERSTRUCTURE shall be a continuous steel beam bridge; span, 2 @ 64 ft. and 1 @ 80 ft., with a 24 ft. roadway. Beams shall be fixed over piers and expansion provided at abutments. Reinforced concrete approach slabs, as shown on Std. Drg. No. AS-31, to be used. Bridge is designed for H-15 loading.

CAMBER. The 36" @ 192# rolled I-beams shall have a camber of 1¼" under no load; 230# beams shall have a camber of 2" under no load. In case this camber varies slightly from the specified amount, the difference shall be taken up in the thickness of concrete over the beams. 3½" overall camber provided.

RIVETS shall be ⅞" ϕ.

PLACING SUPERSTRUCTURE CONCRETE. End sections "A" of the concrete deck and curb shall be placed before middle section "B". The concrete shall be placed full width out to out of curbs between transverse construction joints approved by the Engineer.

CONCRETE MIX shall be 1:5½ for superstructure and 1:6½ for substructure.

CHAMFER all exposed edges ¾" unless otherwise shown.

CONSTRUCTION JOINTS. No horizontal construction joints other than those shown will be permitted. Vertical construction joints allowed only by special permission of the Engineer.

PILING. Timber piling, estimated length 20 ft., to be used. Test pile shall be driven first.

EXCAVATION. All excavation below Elev. 648.0 shall be classed as Wet Excavation. All excavation above Elev. 648.0 not included in Channel Excavation shall be classed as Dry Excavation.

RAILING to be standard Type RR-8.

WEARING SURFACE shall be 4" plain concrete, 1:5½ mix.

EXISTING STRUCTURE shall be carefully dismantled and neatly piled along the right of way at the disposal of the State. Existing abutments and piers shall be removed to the natural ground line and disposed of as directed by the Engineer.

ESTIMATED QUANTITIES.

Cofferdams, Sheeting and Pumping	Lump sum	
Foundation Excavation, Dry	223	Cu. Yds.
Foundation Excavation, Wet	570	Cu. Yds.
Channel Excavation	37,388	Cu. Yds.
1:5½ Concrete, superstructure	152	Cu. Yds.
1:6½ Concrete, walls	323	Cu. Yds.
1:6½ Concrete, footings	314	Cu. Yds.
Type B Waterproofing	24	Sq. Yds.
Reinforcing Steel	60,725	Lbs.
Reinforced Concrete Bridge Railing, 1:5½ mix, Type RR-8	420	Lin. Ft.
Structural Steel (except field painting)	217,000	Lbs.
Field Painting of Structural Steel (2 coats)	Lump sum	
1½" Reinforced Concrete Approach Slabs, 1:5½ mix	84.4	Sq. Yds.
First Test Pile	Lump sum	
Timber Piling (Estimated Length 20 ft.)	4,280	Lin. Ft.
Removal of Existing Bridge	Lump sum	
Removal of Trees, 8" diam. or over	50	
4" Plain Concrete Wearing Surface, 1:5½ mix	550	Sq. Yds.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

GENERAL PLAN AND ELEVATION

BRIDGE NO. RO-50-194
OVER NORTH FORK OF PAINT CREEK

ROSS COUNTY S.H. 8
SECTION M STA. 84 + 00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.G.N.	C.G.N.	R.B.K.	C.H.U.	H.A.R.	4/14/32	

RULED ON
14" TRACING CLOTH

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO		

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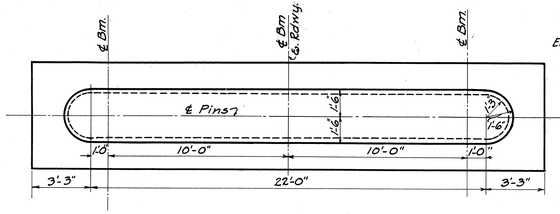
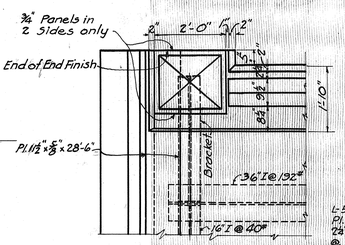
25

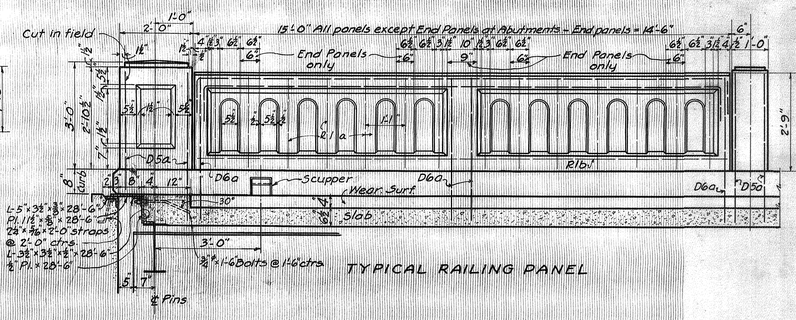
ROSS COUNTY
S.H. 8 SEC. M



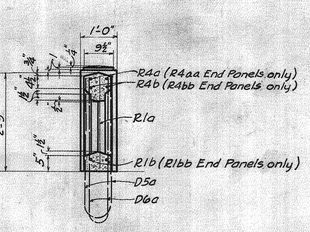
PLAN



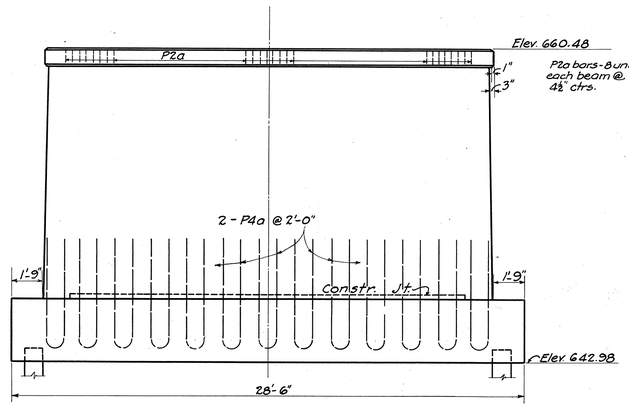
END FINISH DETAILS



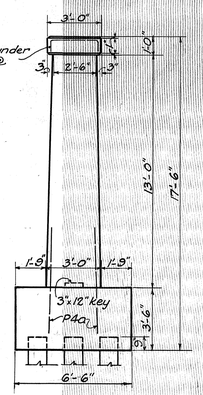
TYPICAL RAILING PANEL



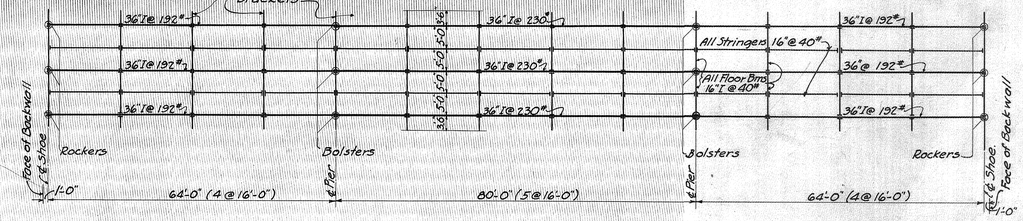
INTERMEDIATE POST



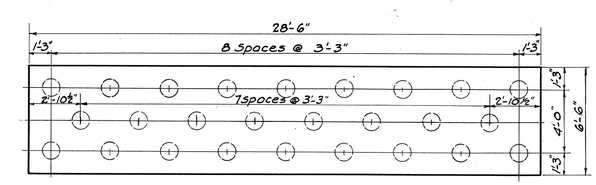
ELEVATION OF PIER



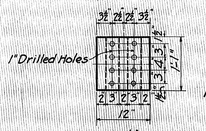
END VIEW



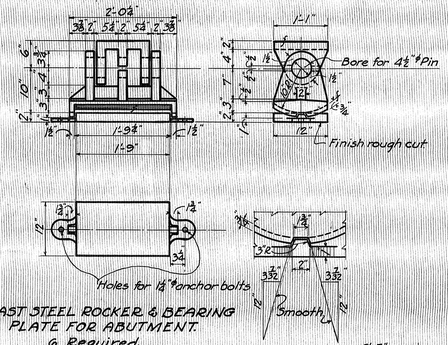
STRUCTURAL LAYOUT



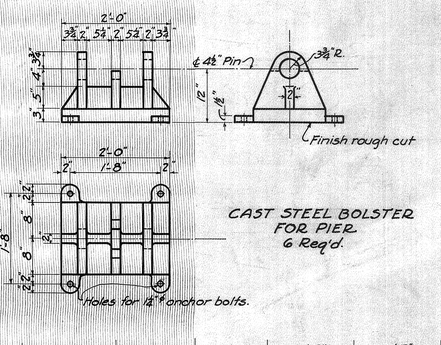
PILING SPACING



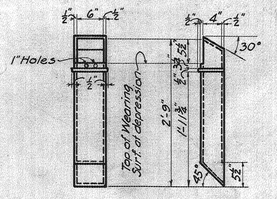
CAST STEEL UPPER SHOE FOR ALL ROCKERS & BOLSTERS
12 Required.



CAST STEEL ROCKER & BEARING PLATE FOR ABUTMENT.
6 Required.



CAST STEEL BOLSTER FOR PIER.
6 Req'd.



SCUPPER DETAIL
1/2" Cast Iron
8 Required.

STEEL NOTES

SETTING ROCKERS:- The rockers shall be so placed that when the bridge is completed the rockers will stand in a vertical position at average temperature.

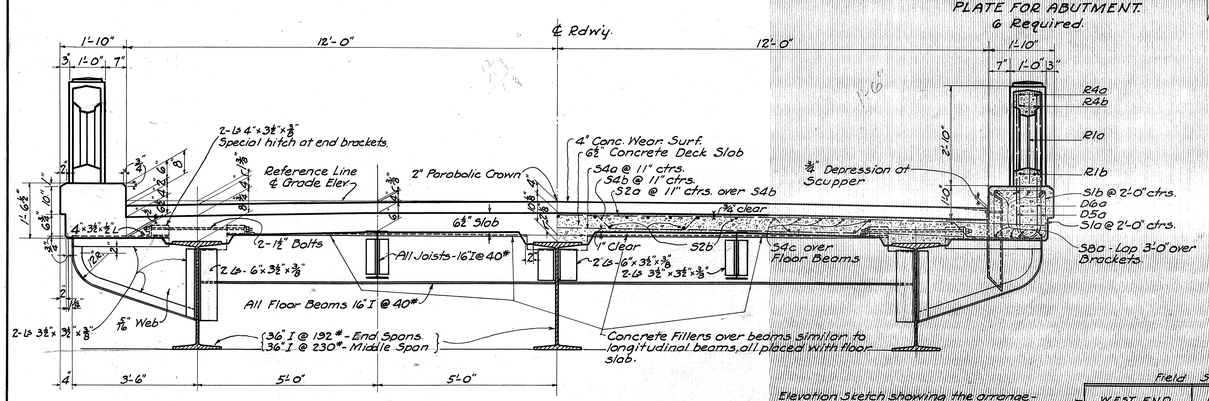
CAMBER:- All 192# Beams (in end spans) shall have a camber of 1 1/2" under no load, all 230# I-Beams (in middle span) shall have a camber of 2" under no load.

RIVETS:- All rivets shall be 7/8" ϕ.

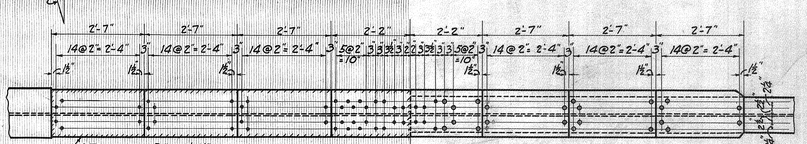
END FINISH:- shall be used as a template for top of backwall on abutments. Backwall shall be built after the Structural Steel has been erected.

ANCHOR BOLTS:- Special care shall be used in placing reinforcing steel to allow sufficient space for anchor bolts without cutting the bars. Anchor bolt holes shall not be drilled until girders are in place. Anchor bolts shall be 1 1/2" ϕ set 1'-0" in masonry.

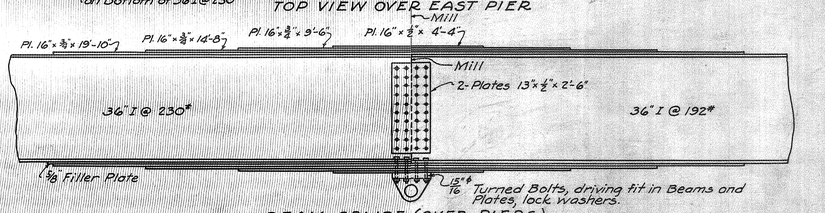
Efficient means shall be employed in the shop to hold the camber in the main beams while milling the ends and fabricating the splices.



TYPICAL CROSS SECTION



TOP VIEW OVER EAST PIER



BEAM SPLICE (OVER PIERS)

Elevation Sketch showing the arrangement of the shop and field work for beam splices, assuming erection begins at West End.

Field	Shop	Field	Shop
WEST END	MIDDLE SPAN		EAST END
Shop	Field	Shop	Field

ERECTOR'S NOTE

Before riveting the field splice over the first pier, the structural steel shall be lightly pinned and bolted together. Then the bottom flange splice shall be riveted up complete. Next, the end of the beam at the second pier shall be raised until full bearing on the milled surface is obtained, and supported during the riveting of the top flange and web splices. Next, remove the blocking and repeat this procedure at the second pier, finally lowering the abutment end of the third beam to its shoe.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DETAILS OF PIER & SUPERSTRUCTURE

BRIDGE NO. RO-50-194
OVER NORTH FORK OF PAINT CREEK

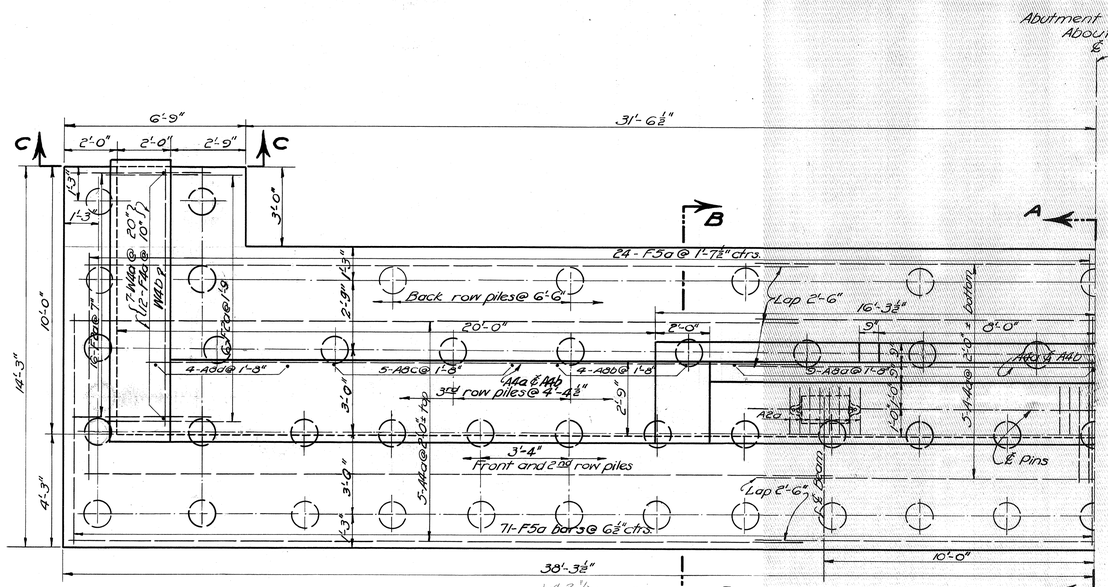
ROSS COUNTY S.H. 8
SECTION M STA. 84 + 00

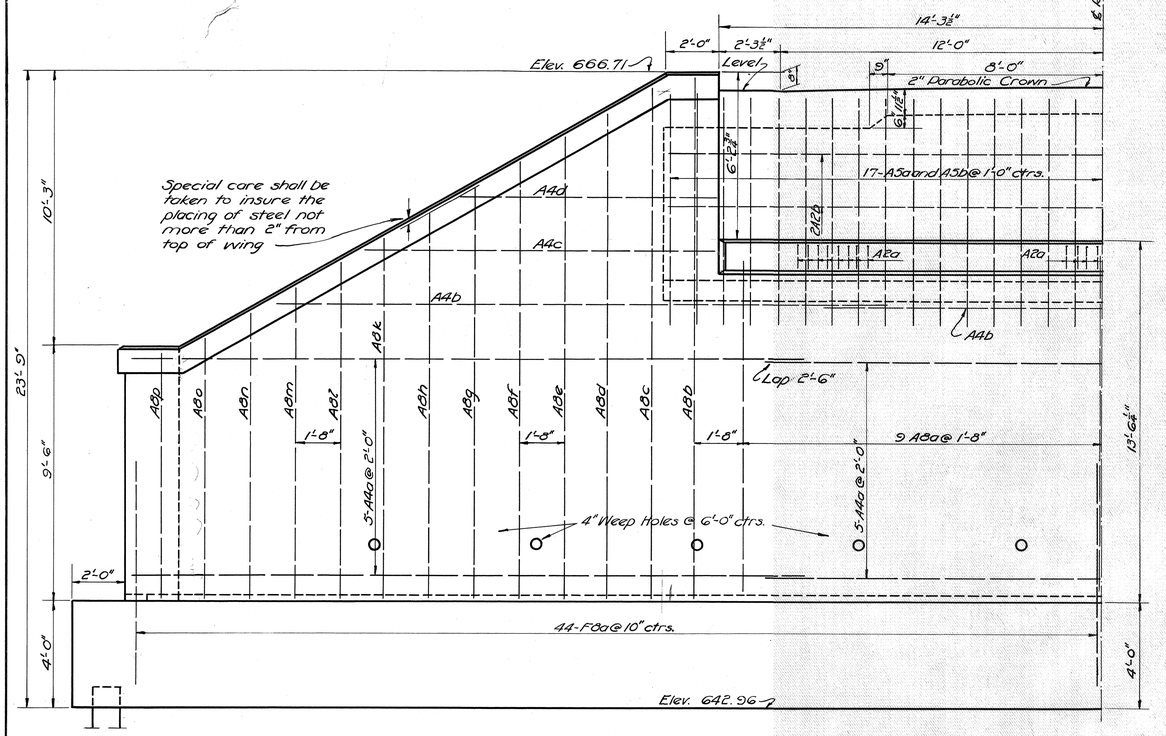
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CEW	CEW	JEP	C.H.U.	WMR	4/16/82	

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO		

24/25

ROSS COUNTY
S.H. 8 SEC. M

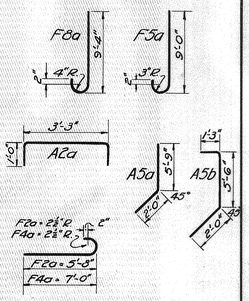




Reinforcing Steel List For Abutments

Mark	Size	No.	Length	Weight	
F8a	1" ϕ	170	10'-3"	3930	
F5a	5/8" ϕ	378	9'-9"	3540	
A4a	5/8" ϕ	90	23'-6"	2396	Str.
A4b	5/8" ϕ	6	22'-0"	137	Str.
A4c	5/8" ϕ	4	13'-0"	54	Str.
A4d	5/8" ϕ	4	10'-0"	42	Str.
A2a	5/8" ϕ	48	3'-3"	168	
A2b	5/8" ϕ	8	32'-0"	171	Str.
A5a	5/8" ϕ	66	7'-9"	769	
A5b	5/8" ϕ	66	8'-9"	868	
F2a	5/8" ϕ	88	6'-4"	372	
F4a	5/8" ϕ	48	7'-8"	384	
F4b	5/8" ϕ	24	10'-0"	250	Str.
W4a	5/8" ϕ	28	8'-6"	248	Str.
W4b	5/8" ϕ	20	9'-0"	188	Str.
A8a	1" ϕ	34	12'-0"	1388	Str.
A8b	1" ϕ	4	19'-6"	265	Str.
A8c	1" ϕ	4	19'-3"	262	Str.
A8d	1" ϕ	4	18'-3"	248	Str.
A8e	1" ϕ	4	17'-6"	238	Str.
A8f	1" ϕ	4	16'-6"	225	Str.
A8g	1" ϕ	4	15'-6"	211	Str.
A8h	1" ϕ	4	14'-6"	197	Str.
A8k	1" ϕ	4	13'-6"	184	Str.
A8l	1" ϕ	4	12'-6"	170	Str.
A8m	1" ϕ	4	11'-9"	160	Str.
A8n	1" ϕ	4	10'-9"	146	Str.
A8o	1" ϕ	4	9'-9"	133	Str.
A8p	1" ϕ	4	9'-3"	126	Str.
			TOTAL	21,470	

Shape



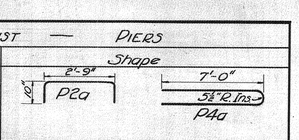
Replacement Steel

Rep-8	1" ϕ	2	7'-3"	49
Rep-3	3/8" ϕ	2	6'-0"	18
Rep.4	5/8" ϕ	2	5'-3"	12
			TOTAL	79

Reinforcing Steel List — Piers

Mark	Size	No.	Length	Weight
P2a	1/2" ϕ	50	4'-3"	142
P4a	5/8" ϕ	32	14'-6"	787
			TOTAL	929

Shape



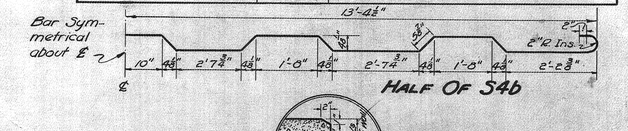
Reinforcing Steel List — Superstructure

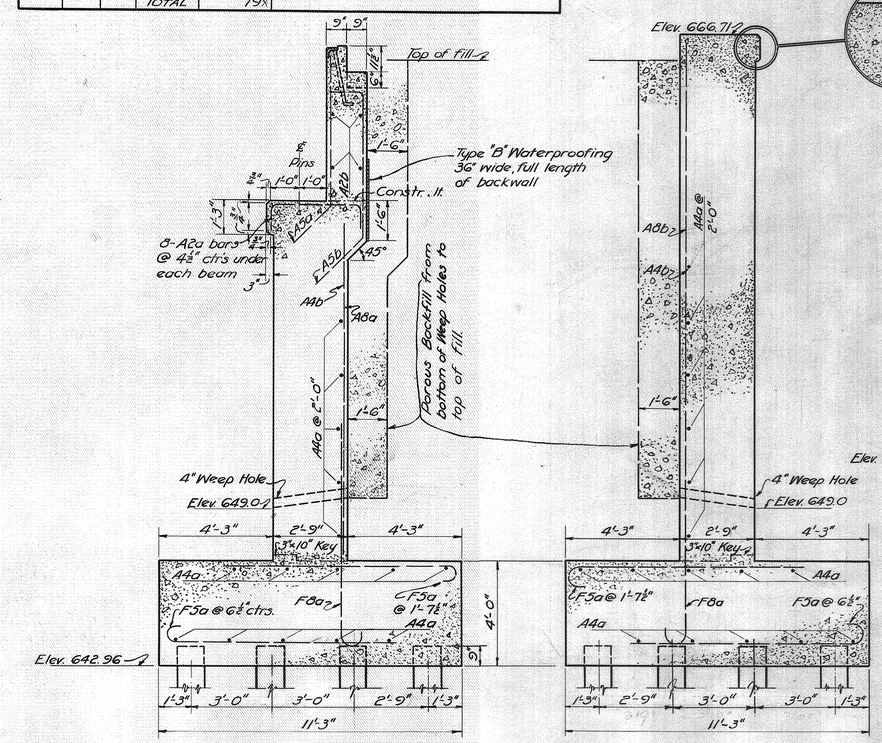
Includes two (2) extra bars for test specimens

Mark	Size	No.	Length	Weight	
S2a	1/2" ϕ	228	27'-0"	4,112	Str.
S2b	1/2" ϕ	77	34'-0"	1750	Str.
S4a	5/8" ϕ	229	27'-0"	6455	Str.
S4b	5/8" ϕ	228	29'-4"	6982	
S4c	5/8" ϕ	308	8'-0"	2571	Str.
S8a	1" ϕ	208	19'-0"	13,450	Str.
S1a	3/8" ϕ	209	4'-6"	394	
S1b	3/8" ϕ	209	2'-3"	177	
D5a	3/8" ϕ	56	8'-3"	694	
D6a	3/8" ϕ	104	8'-0"	1702	
R1a	3/8" ϕ	366	2'-6"		Str.
R1b	3/8" ϕ	44	14'-8"		Str.
R1bb	3/8" ϕ	8	14'-2"		
R4a	3/8" ϕ	44	16'-8"		
R4aa	3/8" ϕ	8	16'-2"		
R4b	3/8" ϕ	44	16'-0"		
R4bb	3/8" ϕ	8	15'-6"		
			TOTAL	38,247	

Top mat rolling for payment

GRAND TOTAL = 60,725





STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

ABUTMENT DETAILS
BRIDGE No RO-50-194
OVER NORTH FORK OF PAINT CREEK

S.H. 8 ROSS COUNTY
SEC. M STA. 84+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.E.N.	C.E.N.	R.P.C.	E.H.Q.	W.H.R.	4/16/82	

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	25
10	OHIO	624-C	1932	25

ROSS COUNTY S.H. NO. 8 - SEC-M(Pt)
BRIDGE NO. RO-50-192

PROPOSAL No. 1
SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES FOR SIDE ROADS & DRIVES

Station	Side of Road	Corrugated I. Pipe 12"	Corrugated I. Pipe 18"	Gravel Cu.Yd.	Excav. Cu.Yd.
55+50	L	18'		5	
55+50	R			5	
56+60	R	10'		2	
63+25	L			2	
68+10	L			2	
69+0	R			2	
69+75	L			2	
72+50	L			2	
78+20	R			2	
79+0	R			4	
79+80	R			3	
80+50	R			3	
87+95	R			2	
88+10	R			2	
91+45	L			2	
97+0	R			2	
98+0	R			5	
102+34	L		20'	5	50
102+97	R		16'	2	20
Totals		28'	36'	54	70

SUMMARY OF STRUCTURES (20 FT. SPAN & UNDER)

No	Station	Type	Length	Excav. Cu.Yd.	Conc. Cu.Yd. 1-5½		Reinf. Steel	V.S.P.S.S. or R.C.P. 18"	REMARKS
1	63+13.9	18" Pipe	35'	6					Remove: 35' x 18" Pipe Ditch to be left open Sta. 63+13.9
2	74+80	6'x4'	69'-0"	173	51.9		4967		Build: 6'x4'x69' Std. Box Culvert, 20° Skew Sta. 74+80
3	99+50	18" Pipe	47'	20	2.7		80	47'	Build: 18" x 47' Pipe Remove 15" x 31' R.C.P. Sta. 99+50
TOTALS				199	54.6		5047	47'	

SUMMARY OF EXCAVATION & EMBANKMENT

From Station	To Station	CUBIC YARDS EXCAV.	EMB.	EMB+20%	BORROW
52+0	53+83	157	131	157	
53+83	60+05	1138	949	1138	
60+05	63+68	419	350	419	
63+68	71+77	1101	917	1101	
71+77	82+345	125	12189	14627	14502
82+345	93+30	—	3087	3703	3703
93+30	107+0	2852	2376	2852	
Totals		5792	19999	23997	18205 *

*Payment for borrow included in channel excavation, Proposal No. 2.

LENGTH OF PROJECT

Sta. 52+0 to Sta. 107+0	5500 Lin. ft.
Deduction for Bridge	249.82 Lin. ft.
Deduction for R.R. Crossing	30.15 Lin. ft.
Net Length	5220.03 Lin. ft.

CONCRETE PAVEMENT (1-5½ Mix)

(5220.03' x 20') ÷ 9 = 11,600.00 Sq. Yds.

Shoulders, Slopes & Ditches (Both Sides)	5258.03 Lin. ft.
Removal of Trees	10
Concrete (1-5½) for special drain Headwalls	0.8 Cu. Yd.
V.S.P.S.S. or R.C.P. 12" (Inc. excav. & gravel backfill)	2120 Lin. ft.

PROPOSAL No. 2
BRIDGE QUANTITIES

Removal of Trees (Channel) 8" dia. or over	50
Channel Excavation	37,388 Cu. Yds.
Cofferdams, Sheeting & Pumping	Lump Sum
Foundation Excavation, Dry	223 Cu. Yds.
Foundation Excavation, Wet	570 Cu. Yds.
1:5½ Concrete, superstructure	152 Cu. Yds.
1:6½ Concrete, walls	323 Cu. Yds.
1:6½ Concrete, footings	314 Cu. Yds.
Type B. Waterproofing	24 Sq. Yds.
Reinforcing Steel	60,725 Lbs.
Reinforced Concrete Bridge Railing, 1:5½ mix - Type R.R.8 -	420 Lin. Ft.
Structural Steel (except field painting)	217,000 Lbs.
Field Painting of Structural Steel (2 Coats)	Lump Sum
11½" Reinforced Concrete Appr. Slabs, 1:5½ mix.	84.4 Sq. Yds.
First Test Pile	Lump Sum
Timber Piling (Est. Length 20 Ft.)	4,280 Lin. Ft.
Removal of Existing Bridge	Lump Sum
4" Plain Conc. Wearing Surface, 1:5½ mix	550 Sq. Yds.