

JUL 13 1966

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

GAL-35-17.66

GALLIPOLIS TOWNSHIP
GALLIA COUNTY

APL-1134 (4)

NO. OF DIVISIONS	STATE	PROJECT
2	OHIO	APL-1134 (4)

GAL-35-17.66

LIMITED ACCESS

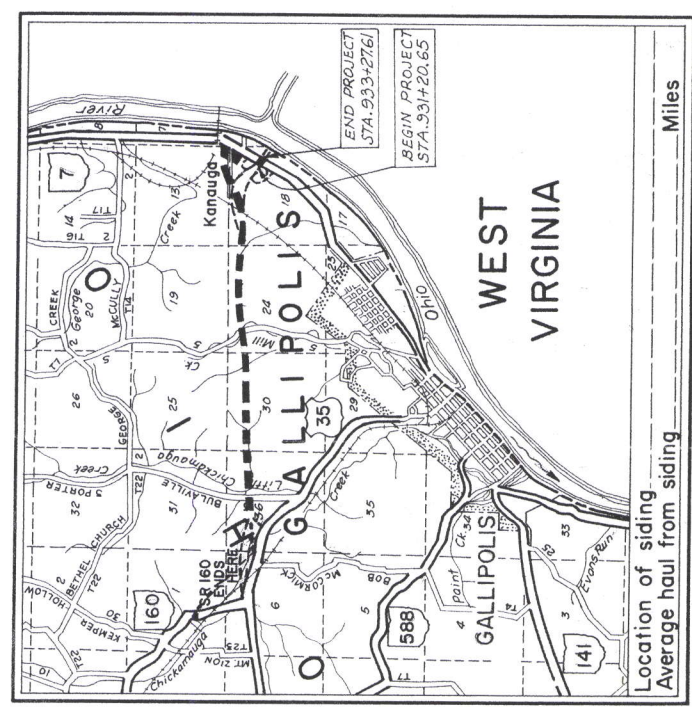
This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director of Highways in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio.

CONVENTIONAL SIGNS

- County Line _____
- Township Line _____
- Section Line _____
- Corporation Line _____
- Fence Line (existing) — x — 352 — (proposed) — x — 353
- Center Line _____
- Trees (to be removed)
- Utility Poles: Telephone ϕ , Power ϕ , Light ϕ

INDEX OF SHEETS

- TITLE SHEET _____
- STRUCTURE OVER 20' SPAN _____
- 1-68 Revised sheet 1-2, Sheets 3, 4, 5, 6, 7, 8 superseded by sheets 3x, 4x, 5x, 6x, 7x, 8x respectively; added sheets 4A, 5A, 6A, 7A, 8A, 8B, 8C, 8D, 8E, 8F, 8G, 8H, 8I, 8J, 8K, 8L, 8M, and 8N.
- 2-68 Revised sheets 1, 2x, 7x, 8x, 8B (added lighting)



LOCATION MAP



Portion to be improved _____
State Roads _____
Other Roads _____

SCALES

Plan _____
Profile: Horizontal _____
Profile: Vertical _____

LINE DATA

BEGIN PROJECT & WORK = STA. 931+20.65
END PROJECT & WORK = STA. 933+27.61
NET LENGTH OF PROJECT & WORK = 206.96 LIN. FT. OR 0.039 MI.

1967 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Highways, including changes and supplemental specifications listed in the proposal shall govern this improvement.

The right of way for this improvement will be provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will not require the closing of the highway to traffic and that provisions for the maintenance and safety of traffic will be as set forth on plans and estimates.

Approved John D. ... Division Deputy Director
Date 5-13-68

Approved C. A. ... Engineer of Bridges
Date 5-13-68

Approved R. E. ... Engineer of Location & Design
Date 5-13-68

Approved P. E. ... Deputy Director of Design & Construction
Date 5-13-68

Approved _____ Deputy Director of Right of Way
Date _____

Approved _____ Deputy Director of Planning & Programming
Date _____

Approved R. W. ... First Assistant Director
Date 5-13-68

Approved P. E. ... Director of Highways
Date 5-13-68

SUPPLEMENTAL SPECIFICATIONS	DATE
808	1-13-67
825	12-19-67
828	1-1-67
832	5-25-67
811	1-1-67
931	5-25-67

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS	DATE
SD-1-65	Sh. 1&2 11-8-65
RB-1-55	2-2-59
BB-1-67	Sh. 1 2-1-68
HL-4	1-1-66

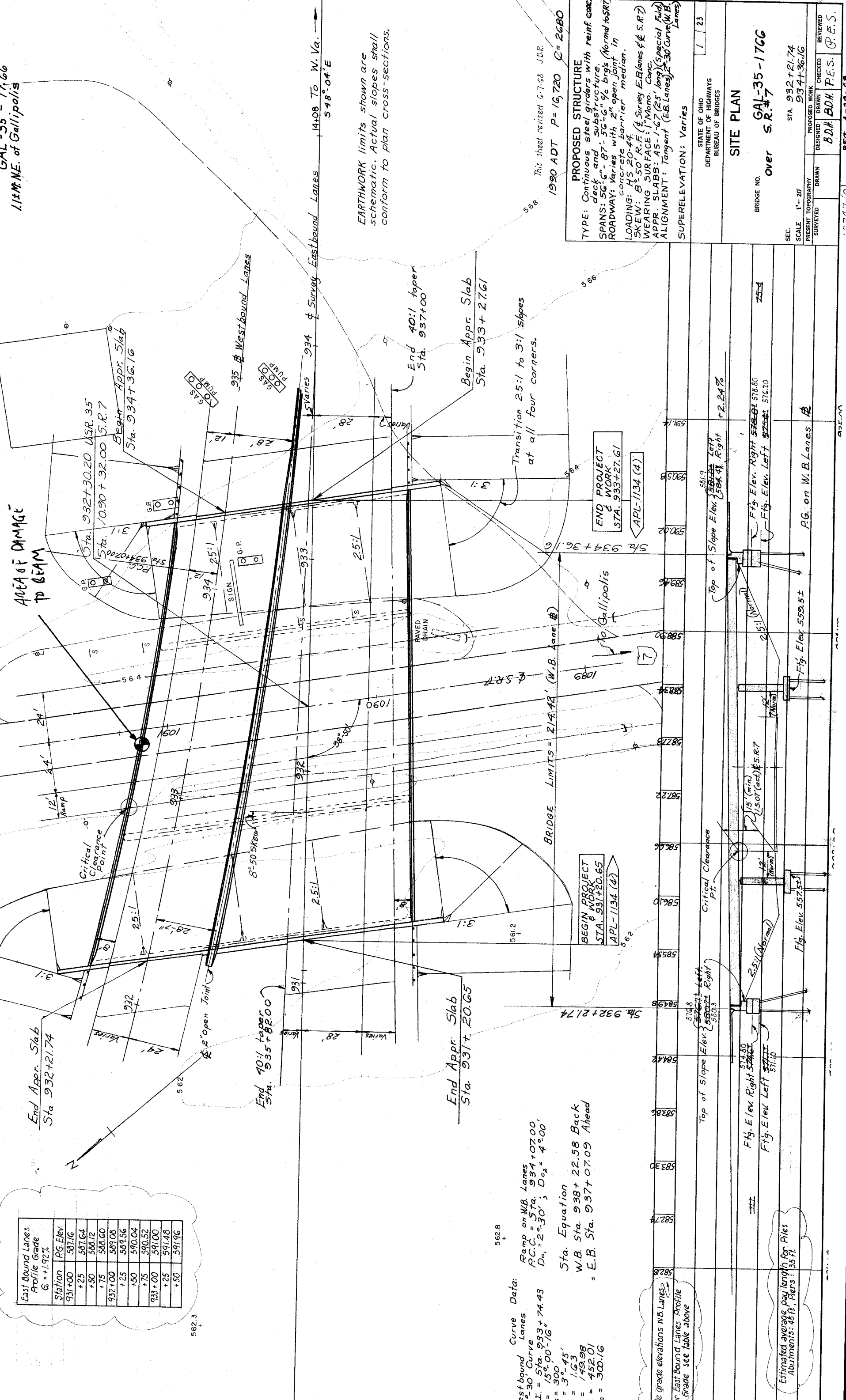
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

APPROVED: _____

DIVISION ENGINEER _____ DATE _____

Subject: _____
Date of Letting: _____ 19 _____ Contract No. _____

1.14 M.N.E. of Gallipolis



562.3

Eastbound Lanes Profile Grade G = +1.92%	
Station	P.G. Elev.
931+00	587.16
+25	587.64
+50	588.12
+75	588.60
932+00	589.08
+25	589.56
+50	590.04
+75	590.52
933+00	591.00
+25	591.48
+50	591.96

Westbound Curve Data:
 2-30' Curve
 P.I. = Sta. 933+74.43
 Δ = 15° 00' 16"
 Ls = 300'
 Δs = 3° 45'
 P = 163'
 k = 149.98
 Ts = 452.01
 Lc = 300.16

562.8

Sta. Equation
 W.B. Sta. 938+22.58 Back
 = E.B. Sta. 937+07.09 Ahead

BRIDGE LIMITS = 214.44' (W.B. Lane #)
 To Gallipolis

PROPOSED STRUCTURE
 TYPE: Continuous steel girders with reinforced deck and substructure.
 SPANS: 56'-6" - 87'-56" - 6" 9/16 brgs (Normal to SRT)
 ROADWAY: Varies with 2" open joint in concrete barrier median.
 LOADING: HS 20-44
 SKEW: 8° 50' R.F. (Survey E.B. Lanes & S.R.T.)
 WEARING SURFACE: 1" Mono. Conc.
 APPR. SLABS: 45'-1-6" (25' long) (Special Field)
 ALIGNMENT: Tangent (E.B. Lanes) 2-30 Curve (W.B. Lanes)
 SUPERELEVATION: Varies

END PROJECT & WORK STA. 933+27.61
 APL-1134 (4)

1990 ADT P = 16,720 Q = 2680
 This sheet revised 6-7-68 J.O.R.

EARTHWORK limits shown are schematic. Actual slopes shall conform to plan cross-sections.

STATE OF OHIO	BRIDGE NO.	GAL-35-1766
DEPARTMENT OF HIGHWAYS	Over	S.R.T. #7
BUREAU OF BRIDGES	SITE PLAN	
SCALE 1" = 20'	SEC	STA. 932+21.74
PRES. TOPOGRAPHY	DESIGNED	934+36.16
SURVEYED	DRAWN	B.D.H. P.E.S.
	CHECKED	P.E.S.
	REVIEWED	P.E.S.

590	Top of Slope Elev. 587.16 Left	587.16
580	Top of Slope Elev. 588.12 Right	588.12
570	Fig. Elev. Right 578.80	578.80
560	Fig. Elev. Left 575.4	575.4
550	Fig. Elev. 557.52	557.52

Estimated average pile length for Piles Abutments: 45 ft, Piers: 35 ft

GENERAL NOTES

REFERENCE shall be made to Standard Drawings SD-16S sheets 142 dated 11-8-65, 183-1-55 revised 2-2-59, and to BR-1-67 sheet 1 dated 2-1-68; and to Supplemental Specifications 808 dated 1-13-67, 811 dated 1-1-67, 825 dated 12-19-67, 828 dated 1-1-67, 832 and 931 both dated 5-25-67.

DESIGN SPECIFICATIONS: This structure conforms to Standard Specifications for Highway Bridges adopted by the American Association of State Highway Officials, 1965, including the Ohio Supplement to these specifications.

DESIGN DATA:

Design Loading HS-20-44
Structural Steel ASTM A36 unit stress 20,000 psi
Concrete Class C unit stress 1200 psi for superstructure, 1333 psi. for substructure.
Reinforcing steel ASTM A15, A16, A16G, deformed, Intermediate or Hard Grade. Unit stress 20,000 psi.
except that spiral reinforcement may be plain bars. Structural grade with a minimum ultimate strength of 58,000 psi.

STATE DIVISION	PROJECT
2 OHIO	

SCHEDULE OF OPERATIONS: The Contractor is hereby advised that a construction contract overlapping this project is currently in progress on the embankments adjacent to each end of the proposed bridge over S.R. 7. Another overlapping project to pave U.S. 35 and S.R. 7 will be placed under contract soon which will probably be concurrently with this project. ABUTMENT excavation quantity includes the removal of fill material from the embankment.

PILES shall be driven to a minimum bearing capacity of 35 tons per pile for both the piers and the abutments.

MACHINE FINISH: The concrete deck may be finished by the use of a finishing machine.

MAINTENANCE OF TRAFFIC on S.R. 7. Two lanes of traffic with a minimum horizontal width of 26'-0" and a minimum vertical clearance of 12'-9" shall be maintained at all times.

PAINTING of structural steel shall be according to Supplemental Specification 832.

WELDS on secondary stress carrying members are shown thus: $\langle \rangle$

WELDED ATTACHMENTS: No attachments shall be made by field welding to the top flanges of the plate girders within a distance of 0.10 of the span length on either side of the interior supports. Welding for attachments to the top flanges at other parts of the spans shall be kept at least 2' from the edge of the flange.

SLAB THICKNESS of 8" for the Westbound and 8 1/2" for the Eastbound portions of the structure include 1" for monolithic wearing surface.

FIELD OFFICE: The Contractor shall, in addition to the requirements of 105, 152, provide a suitable field office having a minimum of 300 sq. ft. of floor space. The Contractor shall have a telephone installed and maintained in this field office during the construction of the project. The Contractor shall also provide and maintain sanitary provisions as per 107.06. All the above is included in the lump sum price bid for field office.

CONSTRUCTION LAYOUT STAKES: See note in proposal describing the work included in this lump sum pay item.

APPROACH SLABS are not a part of this contract.

ADDITIONAL DETAILS to complete this plan will be furnished to the Contractor by the State as soon as possible after the award of the contract. Estimated quantities are to be considered as approximate. Revised estimated quantities will be provided with the complete details.

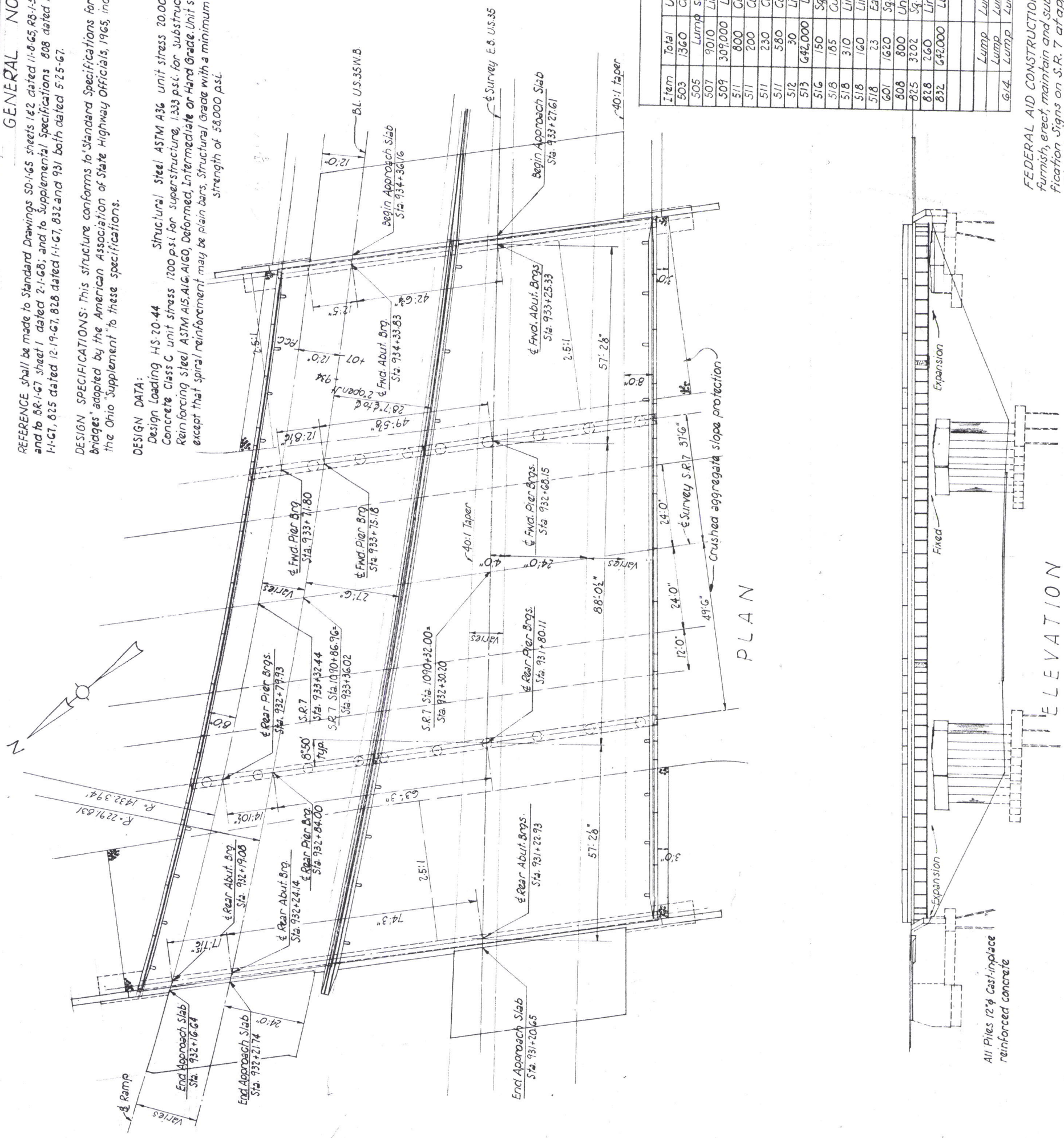
ESTIMATED QUANTITIES

Item	Description	Super	Piers	Abut.	Gen'l
503	Unclassified excavation		580	780	
505	First test pile				Lump
507	12" Cast-in-place reinforced concrete piles		5320	3690	
509	Reinforcing steel	209,000	67,500	32,500	
511	Class C concrete, superstructure	800			
511	Class C concrete, pier caps and columns		200		
511	Class C concrete, pier footings		230		
512	Class C concrete, abutments			580	
513	Premolded sealing strip			30	
516	Structural steel	642,000			
516	1" Preformed expansion joint filler, AASHTO M-153			150	
518	Porous backfill			185	
518	3" Perforated helical corrugated metal pipe, incl. specials, 707.06			310	
518	6" Non-perforated helical corrugated metal pipe, 707.06			160	
518	Supports, including supports	23			
601	Crushed aggregate slope protection				1620
808	Water-reducing, set-retaining admixture	800			
825	Concrete surface treatment	3150			
828	Joint sealer			52	
832	Field painting of structural steel	642,000		260	
This sheet supplemented by sheet 3 & 4					
Lump	Field Office				
Lump	Construction Layout Stakes				
Lump	Maintaining Traffic				

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

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GENERAL PLAN & ELEVATION,
NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. GAL-35-176G
Over S.R. 7

FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS: The Contractor shall furnish, erect, maintain and subsequently remove Federal Aid Construction Identification Signs on S.R. 7 at approximate Stations 1089+00 Rt and 1092+00 Lt. Sign details shall be as specified on Std. Dwg. FACFJ, Code M-54(1)-98(2) modified by deleting reference to "our Highway Taxes At Work", "Federal Highway Trust Funds", "State Highway Funds" and Ohio Department of Highways" and inserting in their respective positions "Your Highway Funds At Work", "Appalachian Highway Funds, State Funds and State of Ohio". The signs shall be erected in accordance with Std. Dwg. FACI-2, Additional requirements shall be as shown on the drawings.

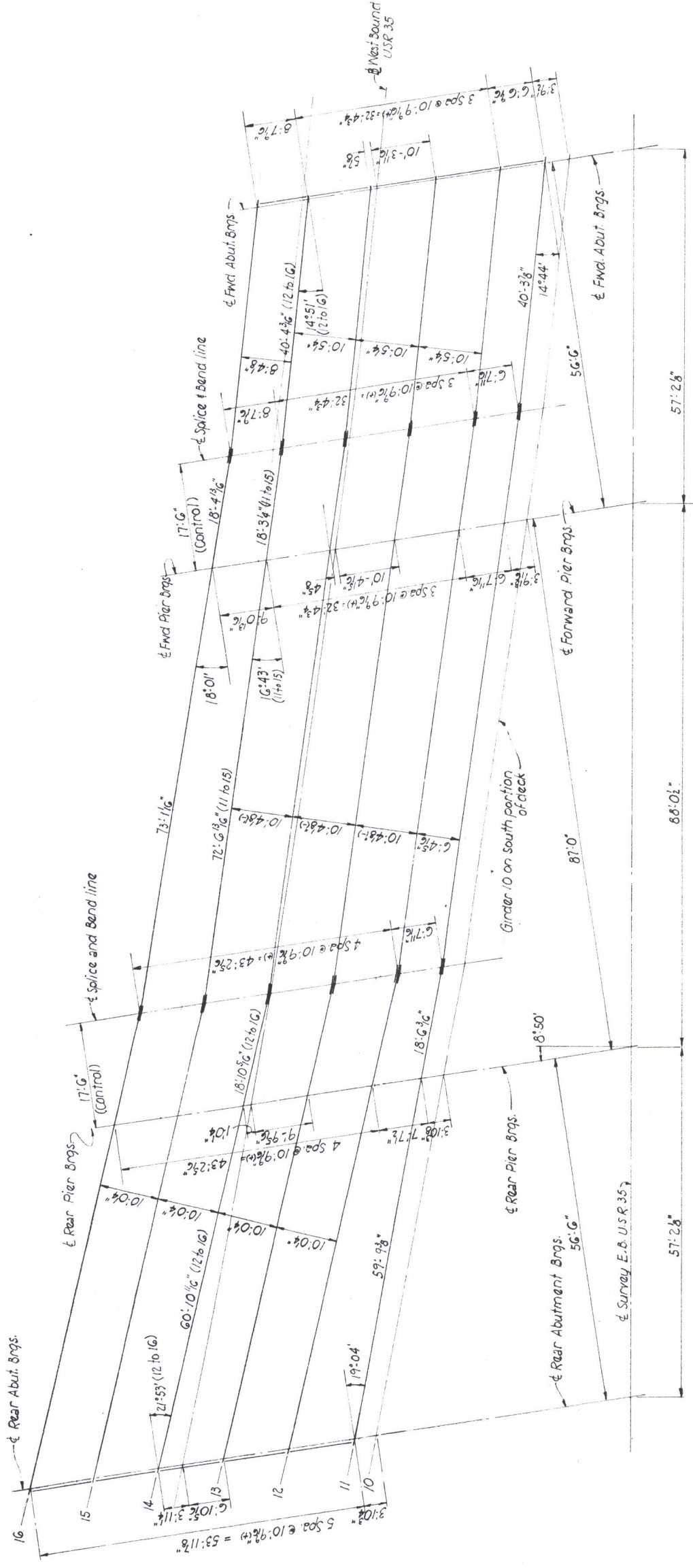


PLAN

ELEVATION

All Piles 12" Cast-in-place reinforced concrete

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	



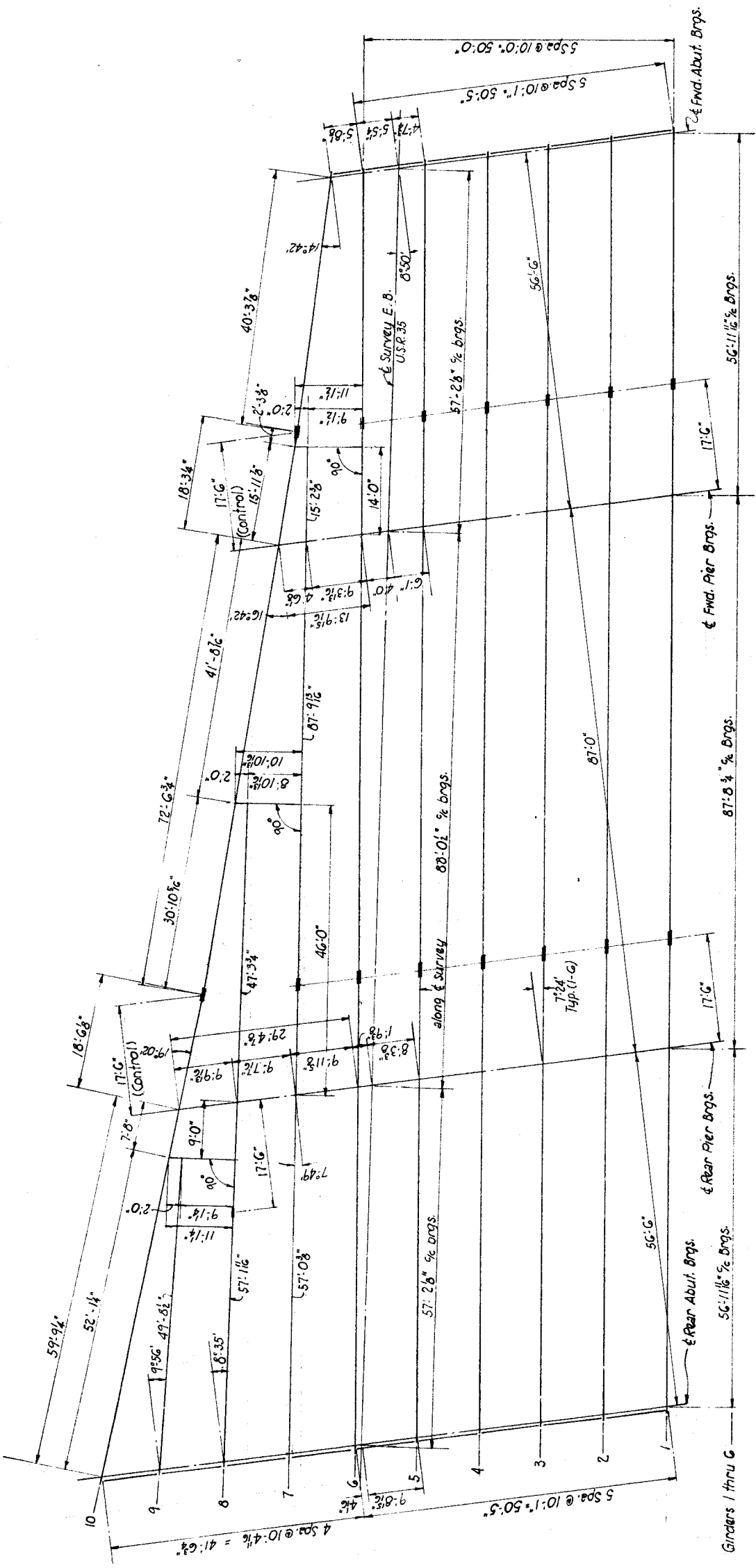
GEOMETRICS - STEEL GIRDER PLAN

This sheet supersedes
Sheet # of the Contract
Plans dated 4-29-68.

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES		3 / 23
WEST BOUND LANES SUPERSTRUCTURE DETAILS BRIDGE NO. GAL-35-1766 Over S.R. 7		
DESIGNED J.D.R.	DRAWN J.D.R.	CHECKED M.F.B.
REVIEWED B.F.G.	DATE 6-7-65	REVISED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

GAL-35-17.66



GEOMETRICS - STEEL GIRDER PLAN

This sheet superseded by sheet 5x 6-7-68

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
J.O.R.	J.O.R.			4-29-68

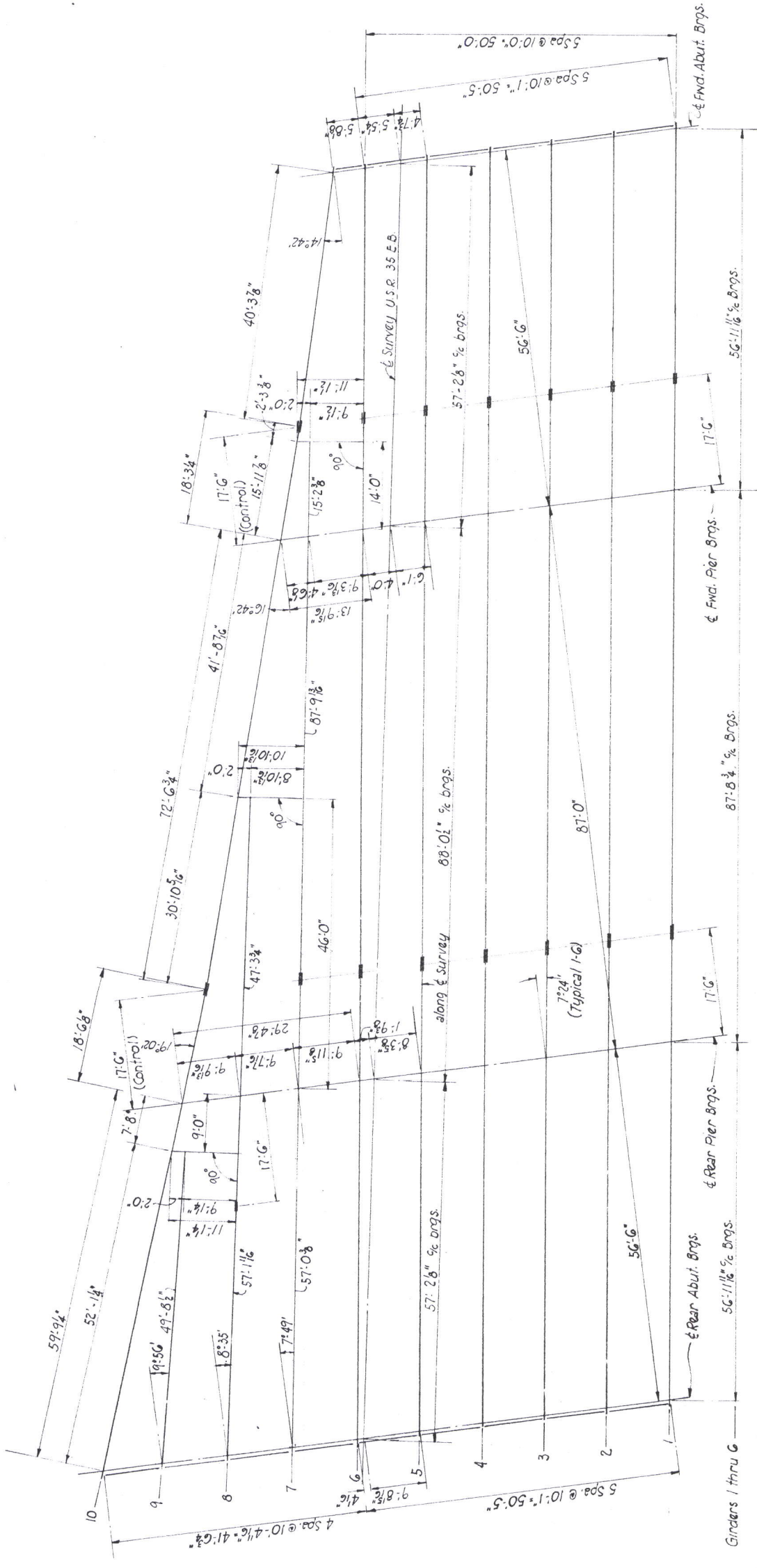
STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 DIVISION OF DESIGN AND CONSTRUCTION
 BUREAU OF BRIDGES

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EAST BOUND LANES
 SUPERSTRUCTURE DETAILS

BRIDGE NO. GAL-35-1766
 OVER S.R. 7

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

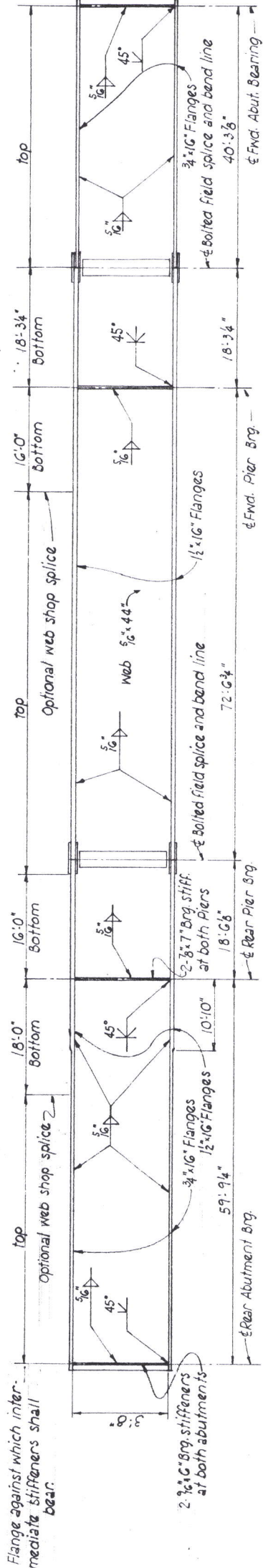


GEOMETRICS - STEEL GIRDER PLAN

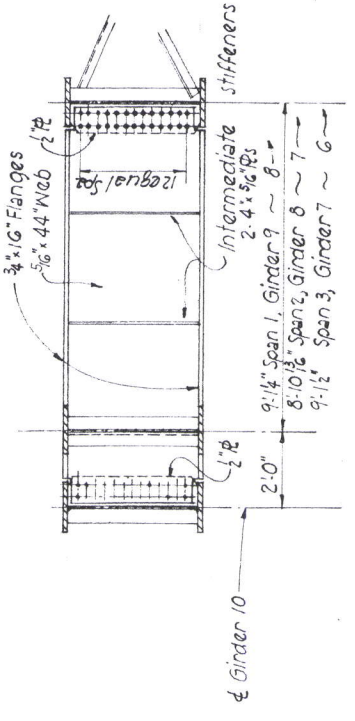
This sheet supersedes
Sheet 5/8 of the Contract
Plans dated 4-29-68.

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES		5 / 23
EAST BOUND LANES SUPERSTRUCTURE DETAILS		
BRIDGE NO. GAL-35-1766		
Over S.R. 7		
DESIGNED J.D.R.	DRAWN J.O.R.	CHECKED M.P.B.
		REVIEWED B.F.G.
		DATE 6-7-68
		REVISED

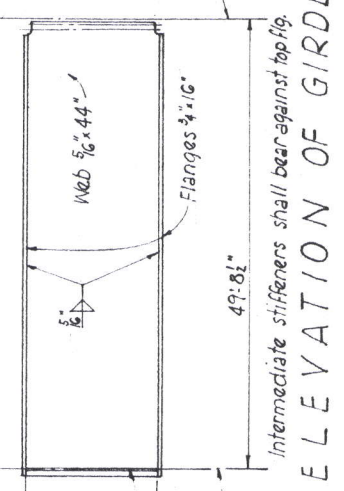
REV. NO.	STATE	PROJECT
2	OHIO	



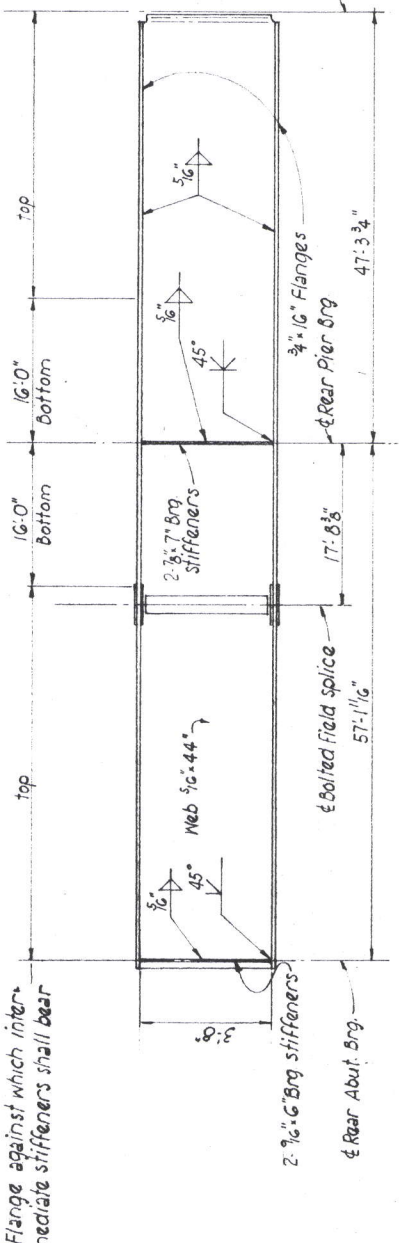
ELEVATION OF GIRDER 10



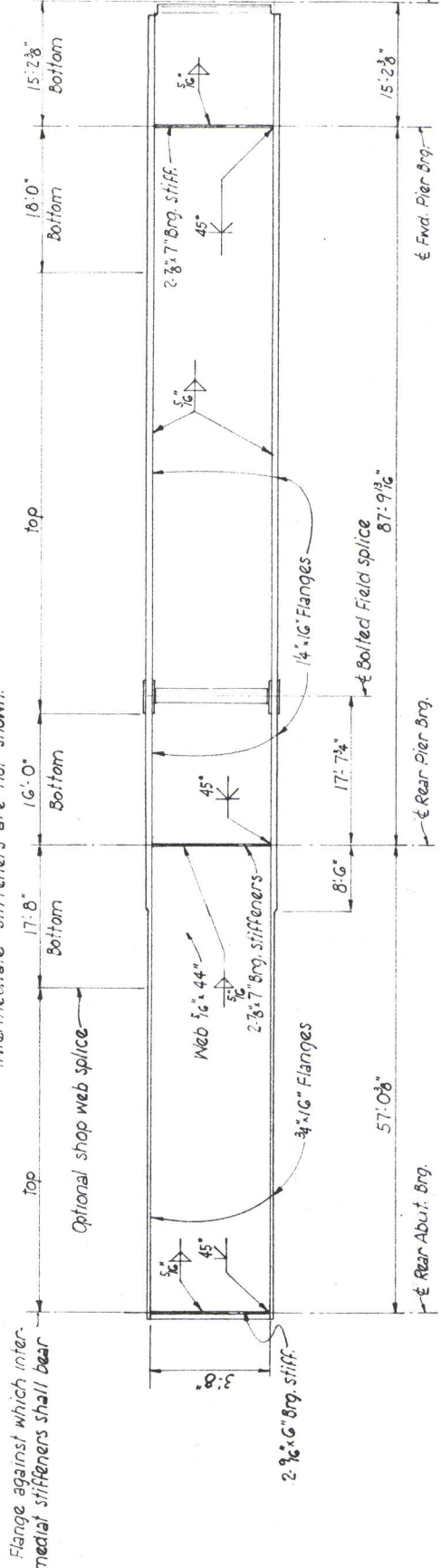
DIAPHRAGM DETAIL



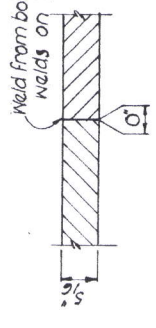
ELEVATION OF GIRDER 9



ELEVATION OF GIRDER 8

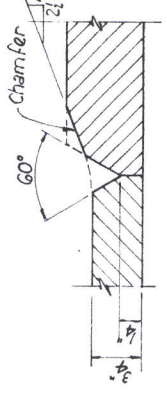


ELEVATION OF GIRDER 7



WEB SHOP SPLICE

These full penetration welds shall be back gouged and welded after welding far side.



FLANGE SHOP SPLICE

JOINT PREPARATION FOR SUBMERGED ARC WELDMENTS

This sheet supplements the Contract Plans dated 4-29-68.

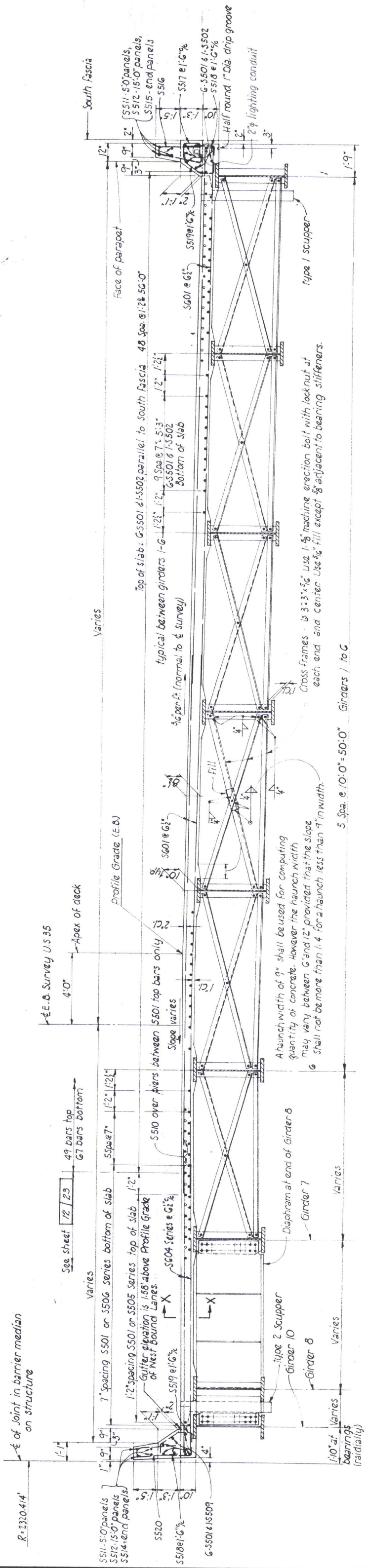
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.	M.P.B.	B.F.G.	6-7-68	

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF BRIDGE AND CONSTRUCTION
BUREAU OF BRIDGES

EAST BOUND LANES
SUPERSTRUCTURE DETAILS
BRIDGE NO. GAL-35-1766
Over S.R. 7

7 23

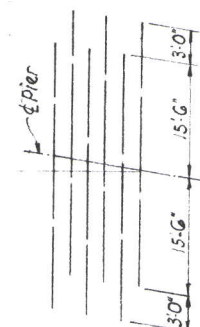
RES. NO. DIVISION	STATE	PROJECT
2	OHIO	



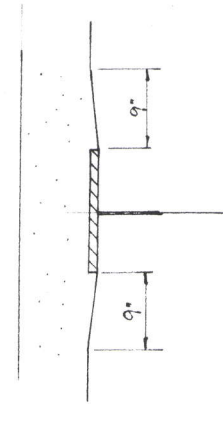
Deck slab thickness includes 1" for monolithic wearing surface. The 10" dimension from the top of the deck slab to the top of the web is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension less the volume of the flanges, even though deviation from it may be necessary because the top flange of the girders may not have the exact camber or conformation required to place it parallel to the finished surface.

SECTION AT STA. 932+20 E. B.

Normal to South Fascia
All longitudinal reinforcing steel shall be placed parallel to South Fascia, except those in median curb & slab. Lap 1:1" Min.
All transverse reinforcing steel shall be placed parallel to the substructures. Lap 1:1" Min.



STAGGER OF S510 BARS OVER PIERS



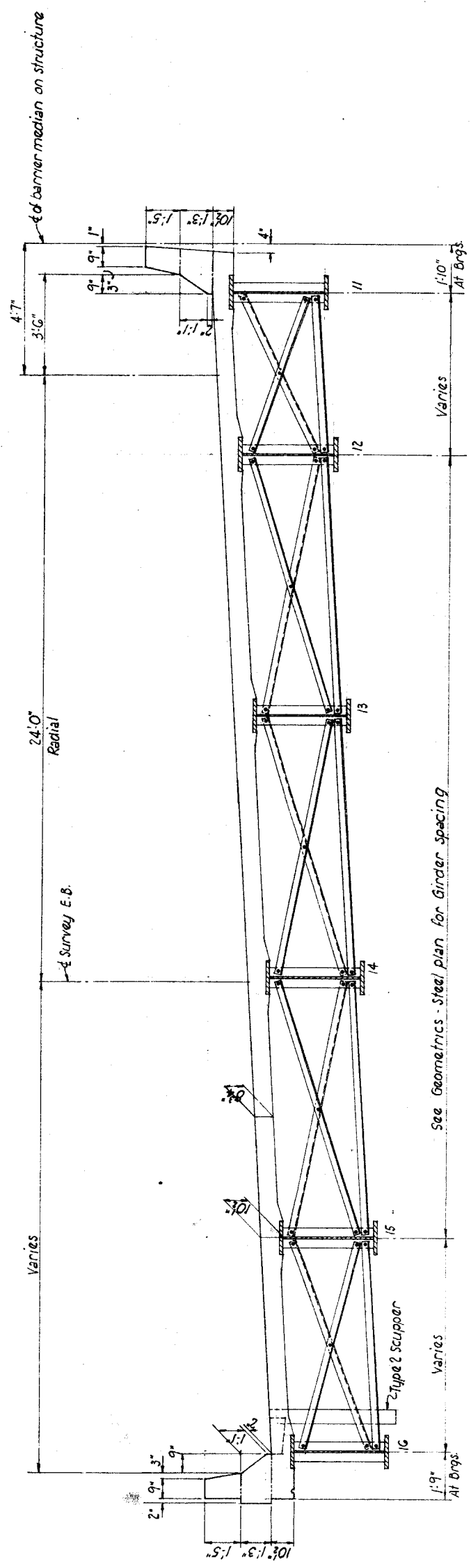
SECTION X-X
Showing Diaphragm haunch

This sheet supersedes Sheet 7/8 of the Contract Plans dated 4-23-68.

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES	8 / 23
EAST BOUND LANES SUPERSTRUCTURE DETAILS	
BRIDGE NO. GAL-35-1766 Over S.R. 7	
DESIGNED JDR	CHECKED MPB
DRAWN JDR	REVIEWED BFG
DATE 6-7-68	DATE 6-7-68

FED. RD. DIST. NO.	STATE	PROJECT
2	OHIO	

GAL-35-17.66



TYPICAL SECTION W.B.

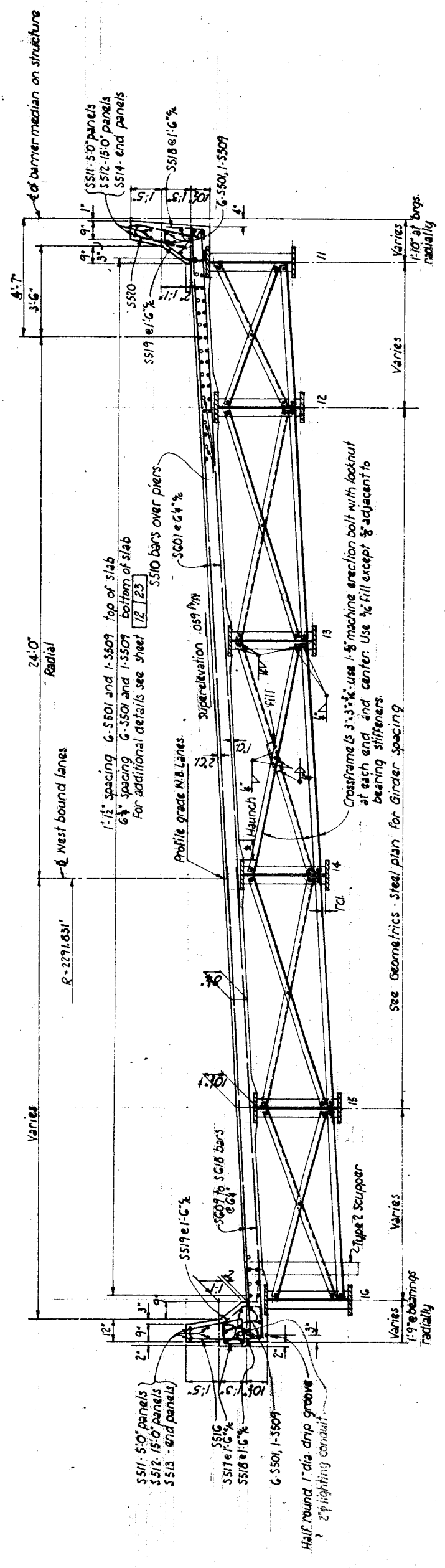
This sheet superseded by sheet 8/8 C-7-68

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF BRIDGE CONSTRUCTION BUREAU OF BRIDGES		7/7
WEST BOUND LANES SUPERSTRUCTURE DETAILS BRIDGE NO. GAL-35-1766 Over S.R. 7		
DESIGNED J.D.R.	CHECKED J.D.R.	DATE 4-29-68

NO. AND REVISION	DATE	PROJECT
2	OHIO	

8X
8

All longitudinal bars except those in the North curb area shall be placed parallel to the N.B. & lap 17" min.
All SG bars shall be placed normal to the N.B. & and lapped 1:1" min.

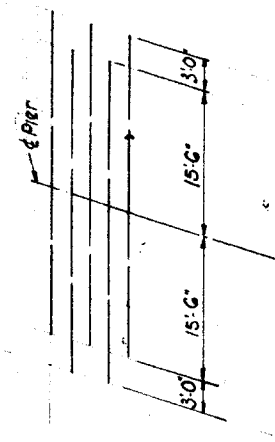


TYPICAL SECTION W.B.

* A haunch width of 9" shall be used for computing quantity of concrete. However the haunch width may vary between 6" and 12" provided that the slope shall not be more than 1:4 for a haunch less than 9" in width.

Deck slab thickness includes 1" for monolithic wearing surface.

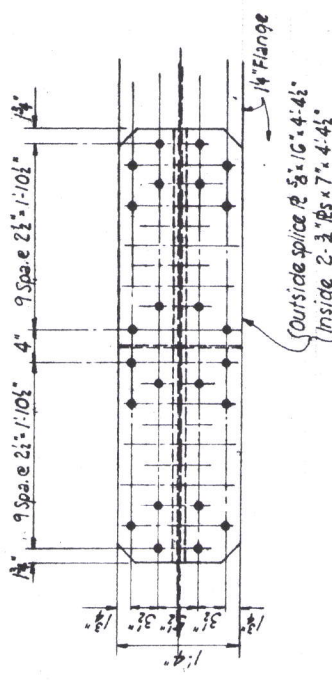
† The 10" dimension from the top of the deck slab to the top of the web is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension less the volume of the flanges, even though deviation from it may be necessary because the top flange of the girders may not have the exact camber or conformation required to place it parallel to the finished surface.



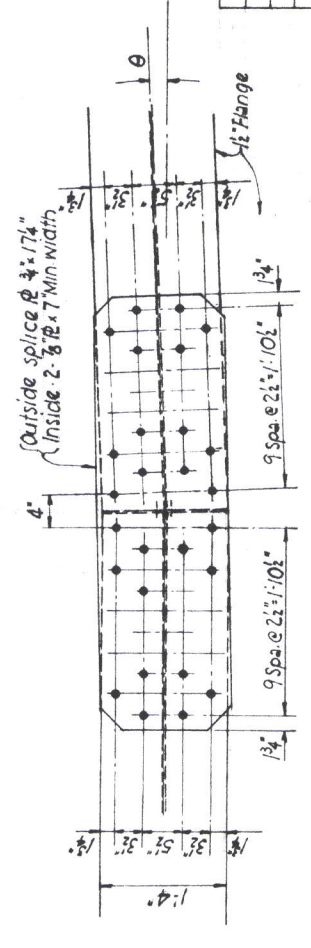
STAGGER OF S510 BARS OVER PIERS

This sheet supersedes Sheet 8 of the Contract Plans dated 4-29-68.

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF BRIDGES AND CONSTRUCTION		9/23
WEST BOUND LANES SUPERSTRUCTURE DETAILS		
BRIDGE NO. GAL-35-176G		
OVER S.R. 7		
DESIGNED BY J.D.R.	CHECKED BY M.P.D.	DATE 8-1-68
DRAWN BY J.D.R.	APPROVED BY S.F.G.	DATE 6-1-68



FLANGE SPLICE SPAN 2
GIRDERS 1 to 7



FLANGE SPLICE SPAN 2
GIRDERS 10 to 16
top flange splice shown

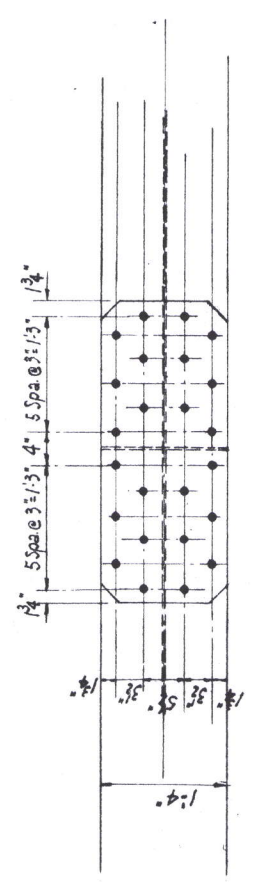
Girder	θ
10	2° 20'
11	2° 20'
12	5° 10'
13	5° 10'
14	5° 10'
15	5° 10'
16	3° 52'

NOTE: Where intermediate stiffeners fall at a field splice use 2 1/2" x 4 1/2" x 5/8" stiffeners and bolt with the line of web bolts nearest that which provides the proper spacing.

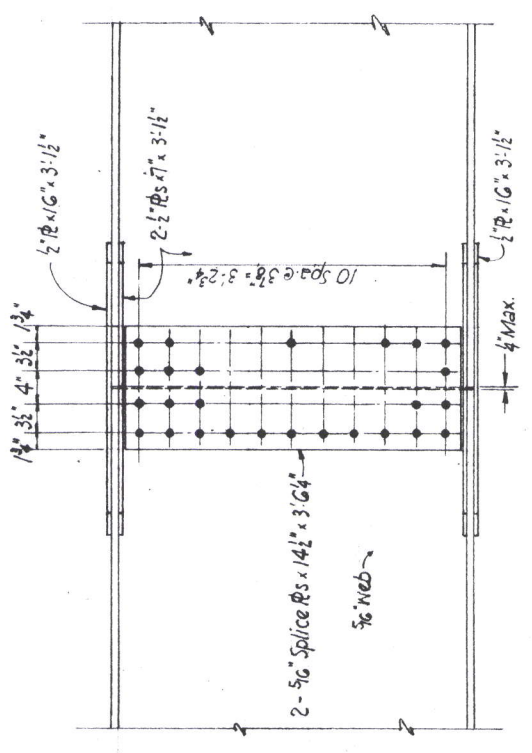
All bolts for these field splices 1/2" High strength bolts.

This sheet supplements the contract plans dated 4-29-68

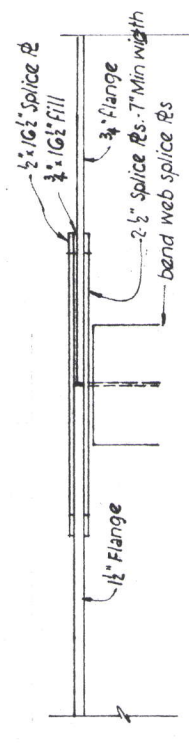
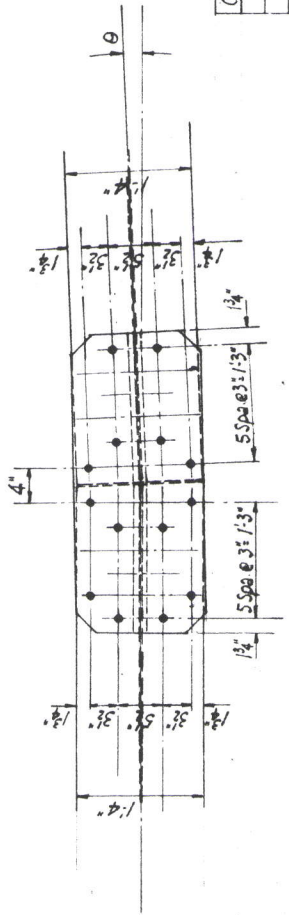
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES		10	23
SUPERSTRUCTURE DETAILS FIELD SPLICES BRIDGE NO. GAL-35-1766 Over S.R. 7			
DESIGNED	DRAWN	CHECKED	DATE
J.D.R.	J.D.R.	M.P.B.	6-7-68
TRACED	REVIEWED	DATE	REVISED



Flange splice for Girder 6 shown, for Girders 1-6 Span 3 use 1/2" x 16" x 5/8" fill between outside plates and the 3/4" flange plate



3/4" FLANGE SPLICE AND
TYPICAL WEB SPLICE



FLANGE SPLICE SPAN 3
GIRDERS 10 to 16
top flange splice shown.

Girder	θ
10	2° 0'
11	2° 0'
12	1° 52'
13	1° 52'
14	1° 52'
15	1° 52'
16	3° 10'