

Table listing various signs and their corresponding symbols, including Easement For Slopes, Channel Easement, Point of Grade Control, etc.

INDEX OF SHEETS

Table listing sheet titles and their corresponding page numbers, such as TITLE SHEET (1), SCHEMATIC LAYOUT PLAN (2-3), etc.

Approved \_\_\_\_\_ Date \_\_\_\_\_ Engineer of Traffic

File No. LAKE COUNTY LAK-2-16.49 Date of Letting \_\_\_\_\_ 19 Contract No. \_\_\_\_\_

MICROFILMED MAR 29 1984

STATE OF OHIO DEPARTMENT OF HIGHWAYS LAK - 2 - 16.49 PAINESVILLE TOWNSHIP CITY OF PAINESVILLE LAKE COUNTY

F-FG-U-329 (23)

Table with columns: FED. RD. DIVISION, STATE, PROJECT, and a circled number 1/313.

LAKE COUNTY LAK-2-16.49

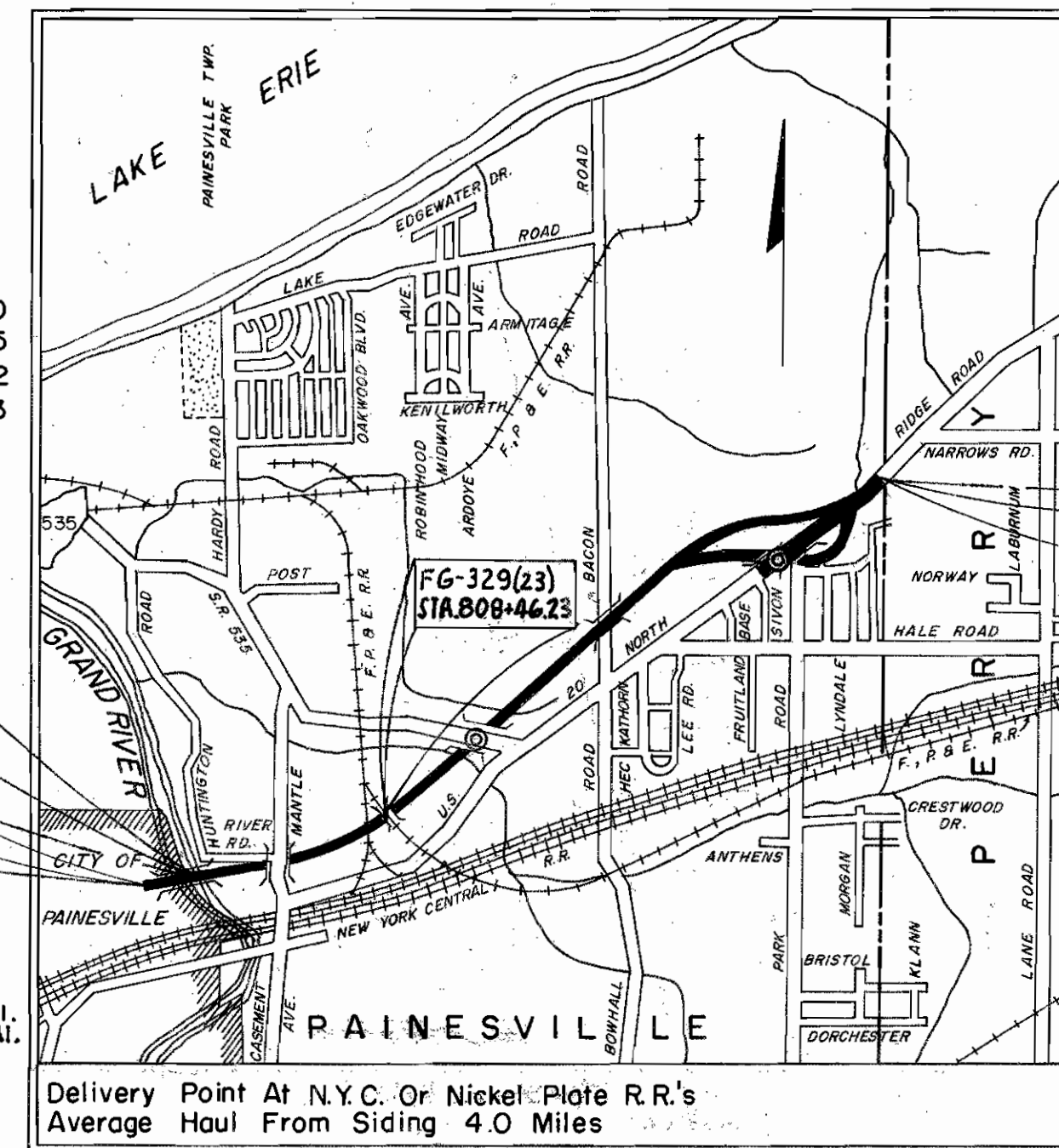
NOTE: 'FG' PORTION OF THIS PROJECT IS LIMITED TO THE STRUCTURE CARRYING THE F.P. & E. R.R. OVER S.R.2 AND THE WORK REQUIRED ON THE RAILROAD APPROACHES.

INDEX OF SHEETS (CONT.)

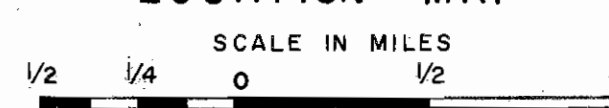
Table listing sheet titles and their corresponding page numbers, such as DRAINAGE STRUCTURES (216-220), MISCELLANEOUS DETAILS (221-225), etc.

LINE DATA table containing project length, net length, and computation of length of work for various project segments.

GRADE SEPARATION WITH THE FAIRPORT PAINESVILLE AND EASTERN RAILROAD COMPANY



LOCATION MAP



LEGEND

- Portion to be improved
Existing Roads
Interchanges

SCALE

- Plan 1" = 50'
Profile Horizontal 1" = 50'
Profile Vertical 1" = 5'

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS table listing drawing numbers and titles.

LIMITED ACCESS

This improvement 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. Revised Code of Ohio and is especially designed for through traffic.

1963 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 the plans and estimates.

Approved \_\_\_\_\_ Date JAN. 27, 1964 Division Deputy Director

Approved \_\_\_\_\_ Date \_\_\_\_\_ Deputy Director, Planning & Programming

Approved \_\_\_\_\_ Date 7-17-64 Engineer of Bridges

Approved \_\_\_\_\_ Date 7-24-64 Engineer of Location & Design

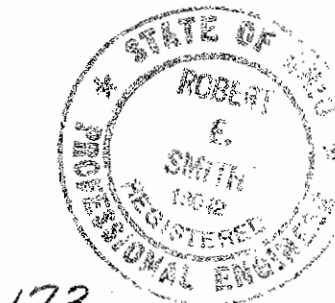
Approved \_\_\_\_\_ Date 7-24-64 Deputy Director of Design & Construction

Approved \_\_\_\_\_ Date \_\_\_\_\_ First Assistant Director

Approved \_\_\_\_\_ Date 6-9-64 Deputy Director of Right of Way

Approved \_\_\_\_\_ Date \_\_\_\_\_ Director of Highways

Prepared and Recommended by Capital Engineering Associates Consulting Engineers, Dillsburg, Pa.



APPROVED \_\_\_\_\_ DATE \_\_\_\_\_ DIVISION ENGINEER

# SCHEMATIC LAYOUT PLAN

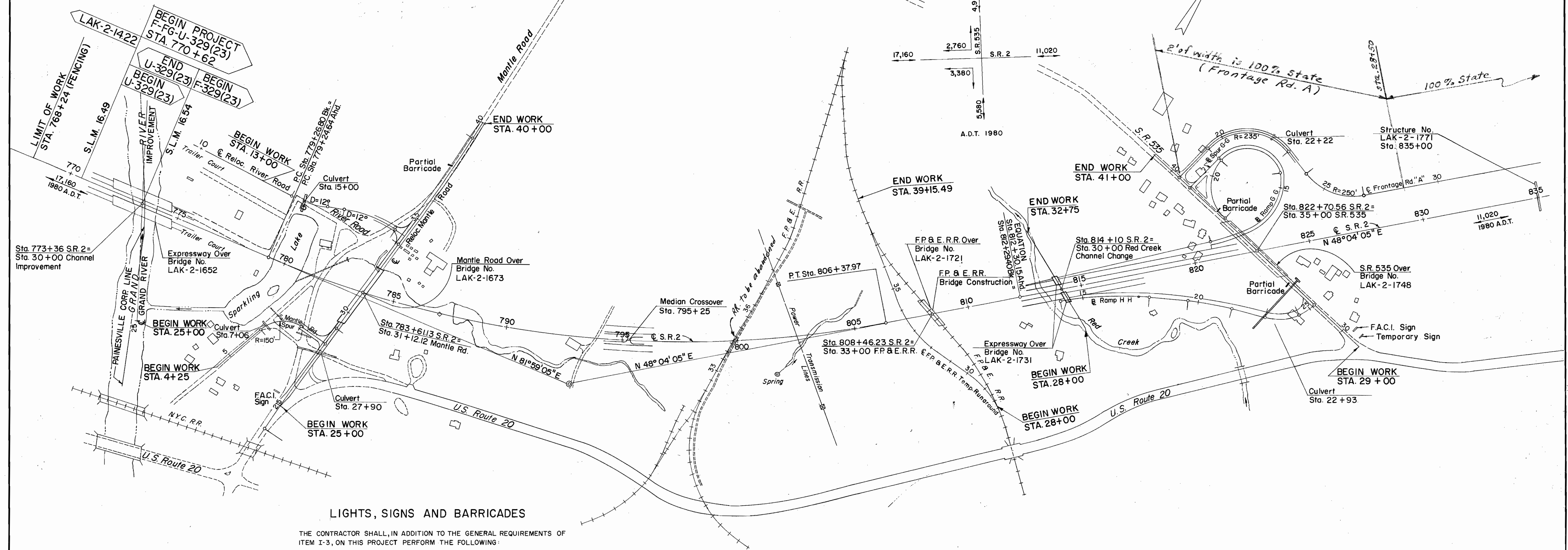
FED. RD. DIVISION	STATE	PROJECT	2 313
2	OHIO		

LAKE COUNTY  
LAK-2-16.49

NOTE: The Typical Section of adjoining section is the same as the Typical Section for this project except the underdrain is 2'-0" from pavement edge, I-18 & I-22 is 3" beyond paved shoulder and median rounding is 4'-0". Transition from adjoining section to Proposed Typical Section in 25 ft.

S.R.2  
CURVE DATA  
P.I. Sta. 793 + 22.36  
 $\Delta = 33^\circ 55' 00''$  Lt.  
D =  $1^\circ 15' 00''$   
R = 4583.66'  
T = 1397.72'  
L = 2713.33'  
E = 208.37'

**MICROFILMED**  
MAR 29 1984



### LIGHTS, SIGNS AND BARRICADES

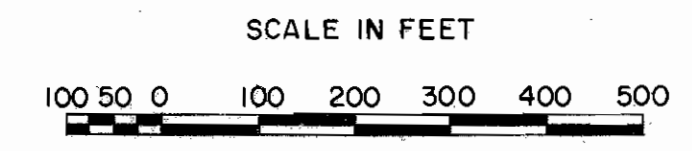
THE CONTRACTOR SHALL, IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM I-3, ON THIS PROJECT PERFORM THE FOLLOWING:

PROVIDE, ERECT, AND MAINTAIN STANDARD 40" x 24" SIZE "ROAD CLOSED" SIGNS, SIGN SUPPORTS, AND LIGHTS AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC:

1. S.R. 535 AT INTERSECTION WITH U.S. ROUTE 20
2. MANTLE RD. AT INTERSECTION WITH S.R. 535
3. S.R. 535 AT INTERSECTION WITH MANTLE RD.
4. BACON RD. AT INTERSECTION WITH LAKE RD.
5. BACON RD. AT INTERSECTION WITH U.S. ROUTE 20
6. U.S. ROUTE 20 AT INTERSECTION WITH SIVON DRIVE
7. PARK RD. AT INTERSECTION WITH HALE RD.
8. SPRING LAKE BLVD. AT INTERSECTION WITH CENTER RD.
9. SPRING LAKE BLVD. JUST SOUTH OF U.S. ROUTE 20
10. U.S. ROUTE 20 BEYOND TERMINUS AT STA. 120 + 50

SIGN SUPPORTS AND LIGHTS FOR "ROAD CLOSED" SIGNS SHALL BE AS DETAILED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING, AND REMOVING LIGHTS, SIGNS, AND SIGN SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "MAINTAINING TRAFFIC."



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MAR 29 1984

FED. RD. DIVISION	STATE	PROJECT	226 313
2	OHIO	LAKE COUNTY LAK-2-1649	

LAKE COUNTY  
LAK-2-1649

Located on East Corporation Line of Painesville

B.M. # 78 - Lag Bolt in root of 24" Poplar  
267' Lt. of Sta. 773+87  
Elev. 587.690

600'± Upstream - New York Central R.R.  
Reinforced Concrete Arch Bridge  
Center Span = 165.5', Rise = 64'

800'± Upstream - U.S. 20  
Reinforced Concrete Arch Bridge  
Center Span = 122', Rise = 37.8'  
Side Spans = 50', Rise = 37.8'

FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of rod soundings and soil-sampling soundings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in the Division office, but the State does not guarantee the accuracy thereof.

PROPOSED STRUCTURE

TYPE: Two 3 Span continuous welded plate girder with Reinf. Conc. Deck & Substructure.  
SPANS: 80'-0", 100'-0", 80'-0" % Brgs.  
ROADWAY: 30' 1/4 of 2'-3" Safety Curbs.  
LOAD FREQUENCY: CF = 2000 (57)  
WEARING SURFACE: 1" monolithic concrete.  
APPROACH SLABS: AS-1-54 (25'-0" Long)  
ALIGNMENT: Tangent  
SKEW: 20° R.F.  
A.D.T. 17,160 (1980)  
DRAINAGE AREA: 680 Sq. Miles  
50 YEAR Q = 20,500 c.f.s.  
BACKWATER: 0.2'  
WATERWAY AREA Q<sub>50</sub> = 3,150 Sq. Ft.

PREPARED BY  
CAPITOL ENGINEERING ASSOCIATES, DILLSBURG, PA.  
FOR

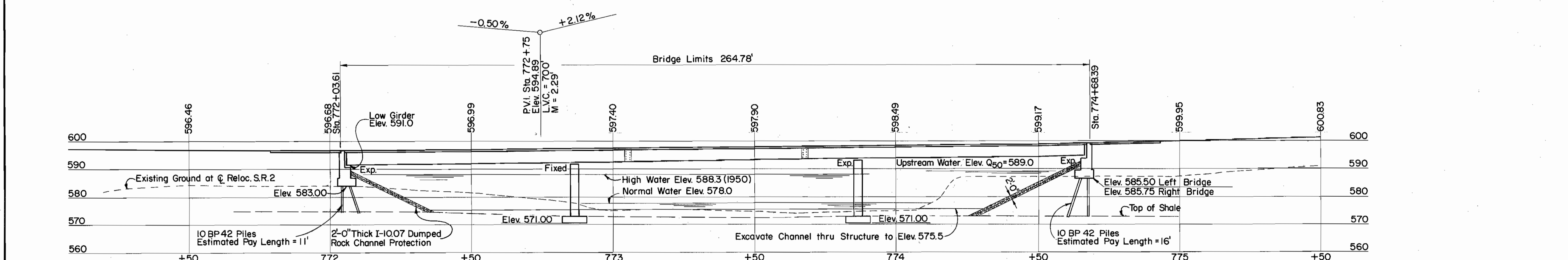
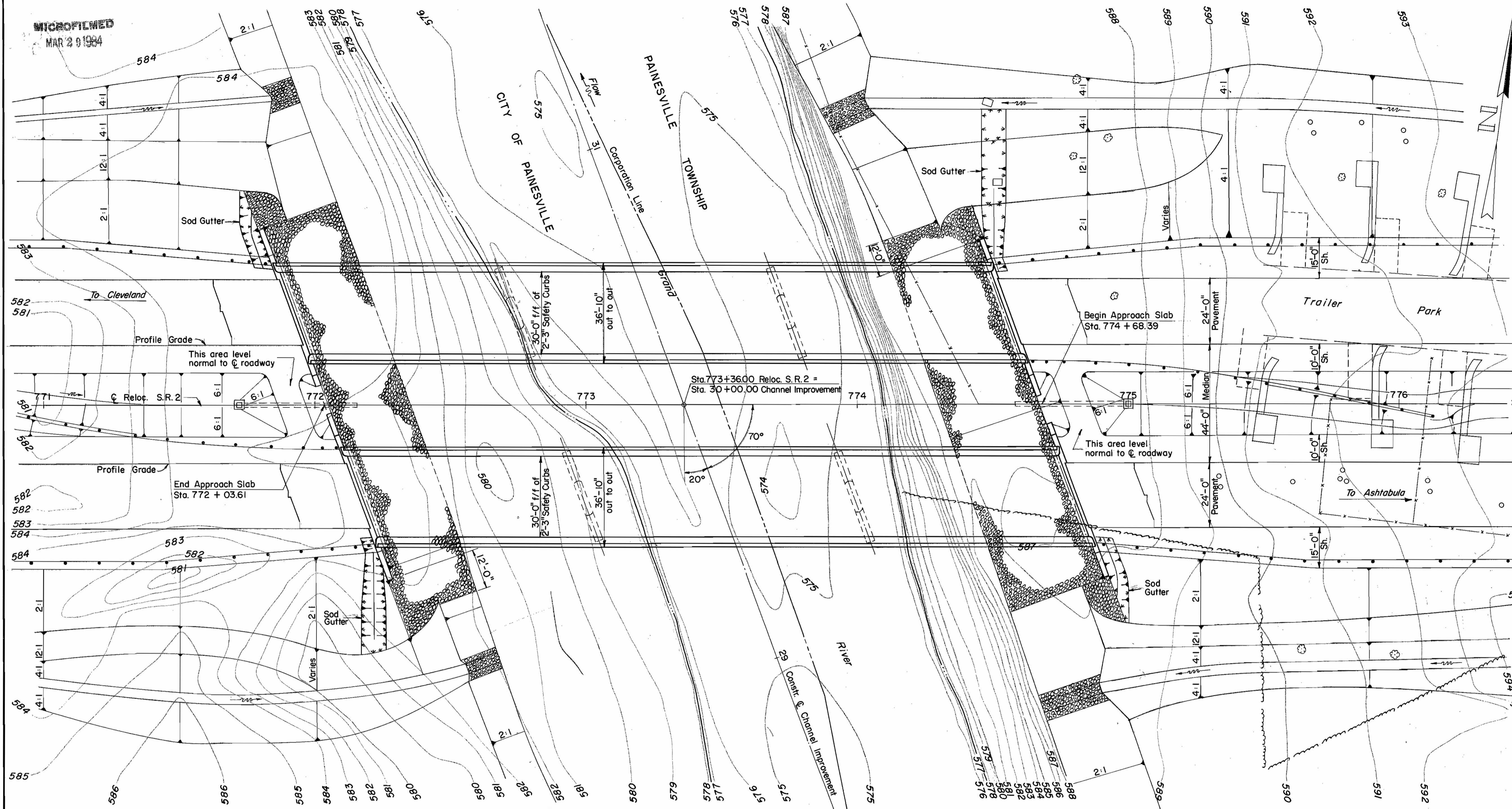
STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
DIVISION OF DESIGN AND CONSTRUCTION  
BUREAU OF BRIDGES

SITE PLAN  
BRIDGE NO. LAK-2-1652 L & R  
RELOC. S.R. 2 OVER GRAND RIVER  
LAKE COUNTY

STA. 772 + 03.61

STA. 774 + 68.39

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	M. J. F.	F. W. B.	J. H. T.			



Dumped Rock Channel Protection along the face of abutments shall extend downward to the bottom of channel where the channel is in shale, and to an Elev. 2 feet below the bottom of the channel where the channel is not in shale.

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FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

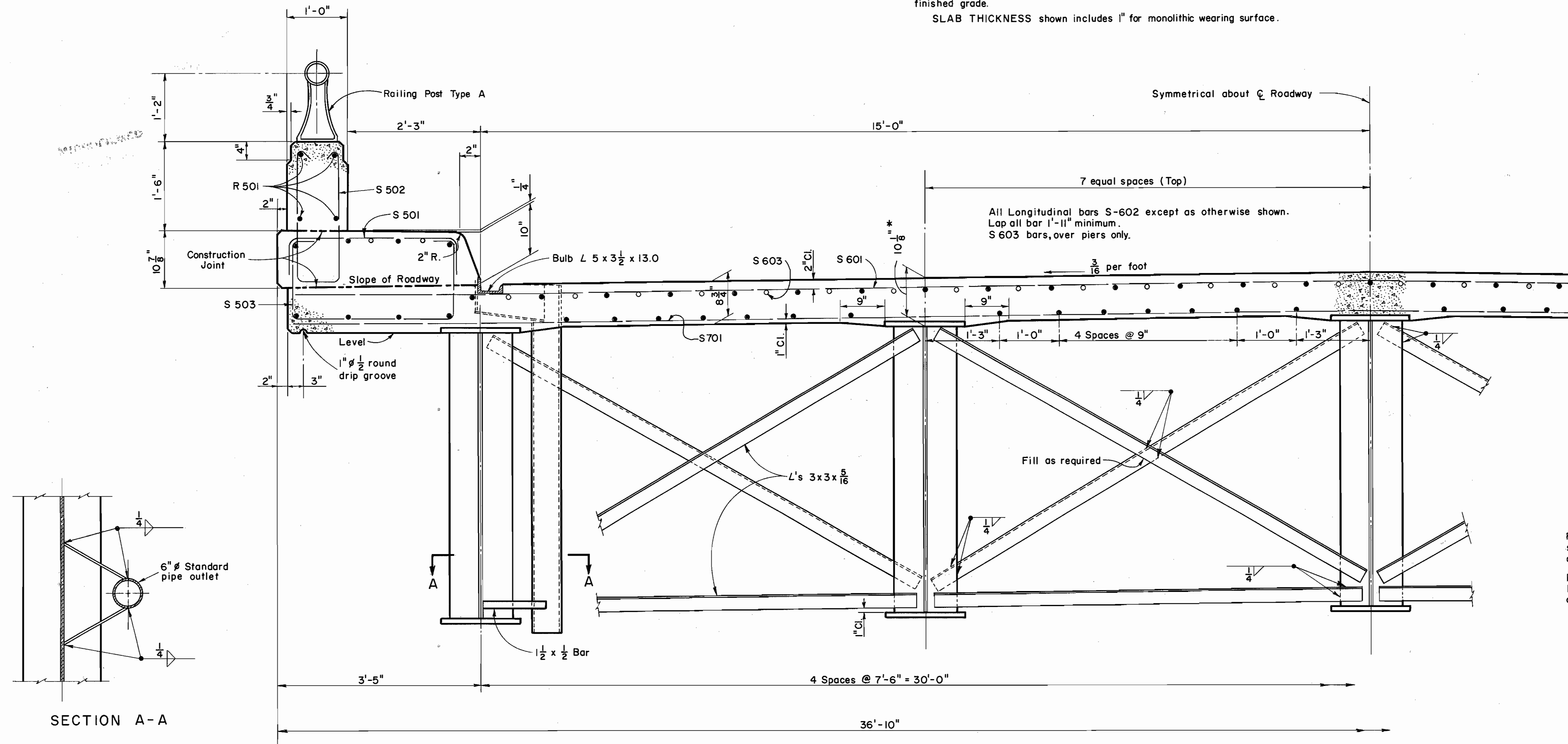
230  
313

LAKE COUNTY  
LAK-2-16.49

DECK SLAB HAUNCH: The haunch in the deck slab adjacent to the top of steel girders, which is shown as 9" wide, may vary from this dimension between the limits of 6" and 12" except the maximum slope shall not exceed 3" inches per foot. Payment for slab concrete shall be based on the 9" width.

\* This is the nominal dimension from top of slab to top of web plate. The quantity of deck concrete to be paid for shall be based on this dimension minus the girder flange thickness, even though deviation from it may be necessary because the top edge of web plate may not have the exact camber or conformation required to place it parallel to the finished grade.

SLAB THICKNESS shown includes 1" for monolithic wearing surface.



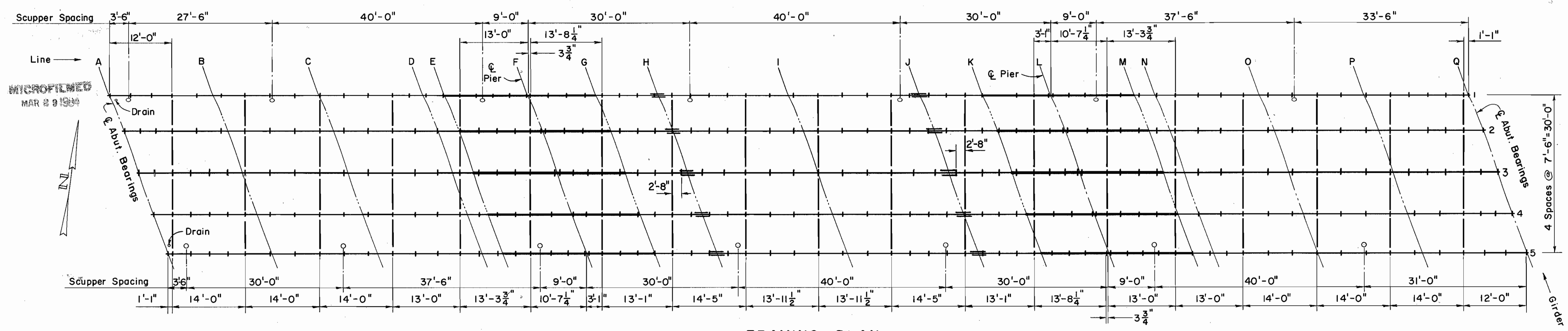
HALF - SECTION OF SUPERSTRUCTURE

Reference shall be made to Standard Drawing CSB-2-56, sheets 2 & 3 of 6, Revised 2-2-59 for details of end dams, gutters, & pipe drains.  
Reference shall be made to Standard Drawing AR-1-57, Revised 4-2-62 for details of aluminum railing and details of concrete parapet.

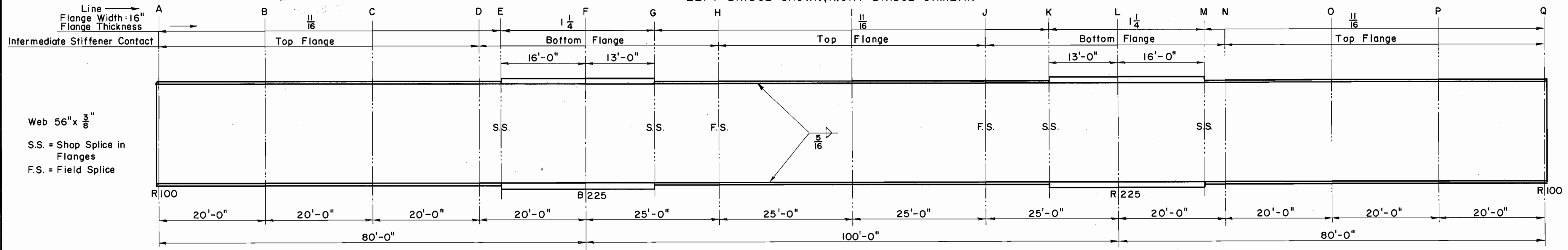
PREPARED BY CAPITOL ENGINEERING ASSOCIATES, DILLSBURG, PA. FOR				
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES				
SUPERSTRUCTURE DETAILS BRIDGE NO. LAK-2-1652 L & R RELOC. SR. 2 OVER GRAND RIVER LAKE COUNTY STA. 772 + 03.61 STA. 774 + 68.39				
DESIGNED C.H.	DRAWN M.J.F.	TRACED FWB	CHECKED L.L.D. M.J.F.	REVIEWED DATE GSW M.C.P.

LAKE COUNTY  
LAK-2-16.49

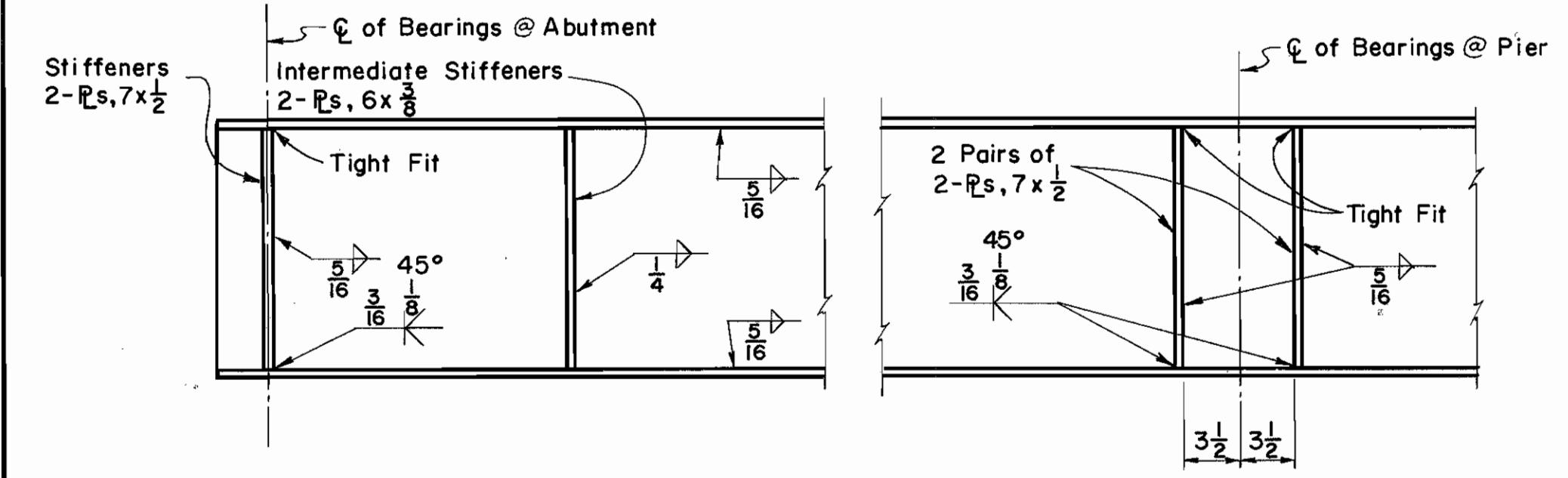
Intermediate stiffeners are spaced equally between control dimensions shown.



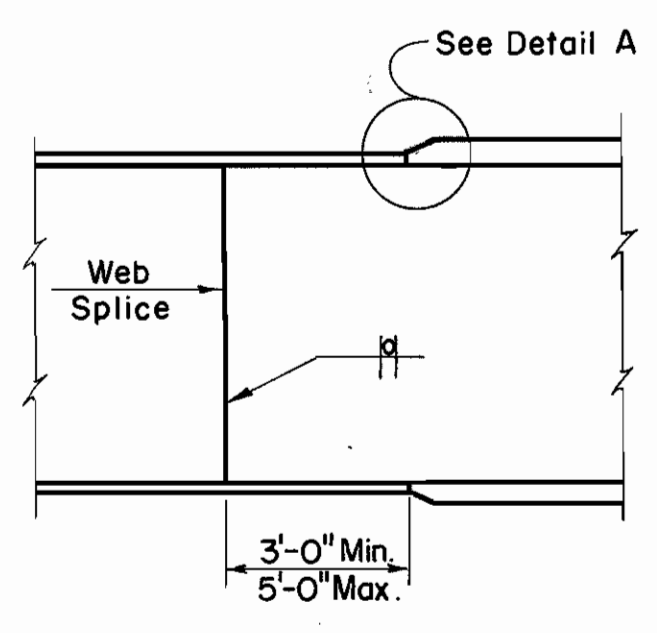
FRAMING PLAN  
LEFT BRIDGE SHOWN, RIGHT BRIDGE SIMILAR



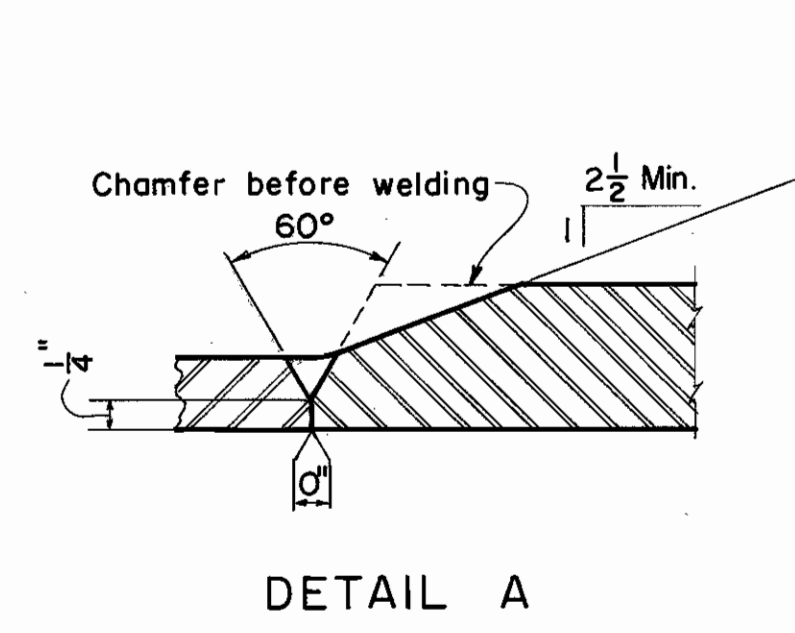
GIRDER DETAIL



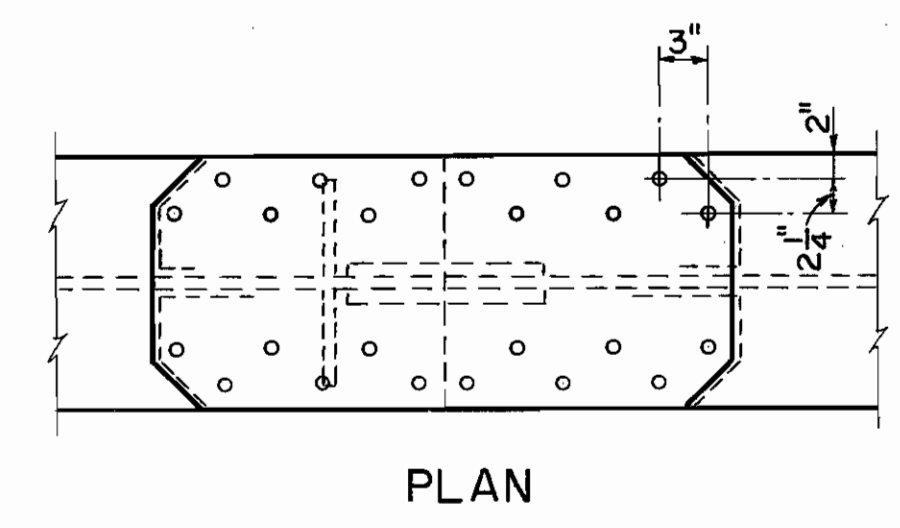
STIFFENER DETAILS



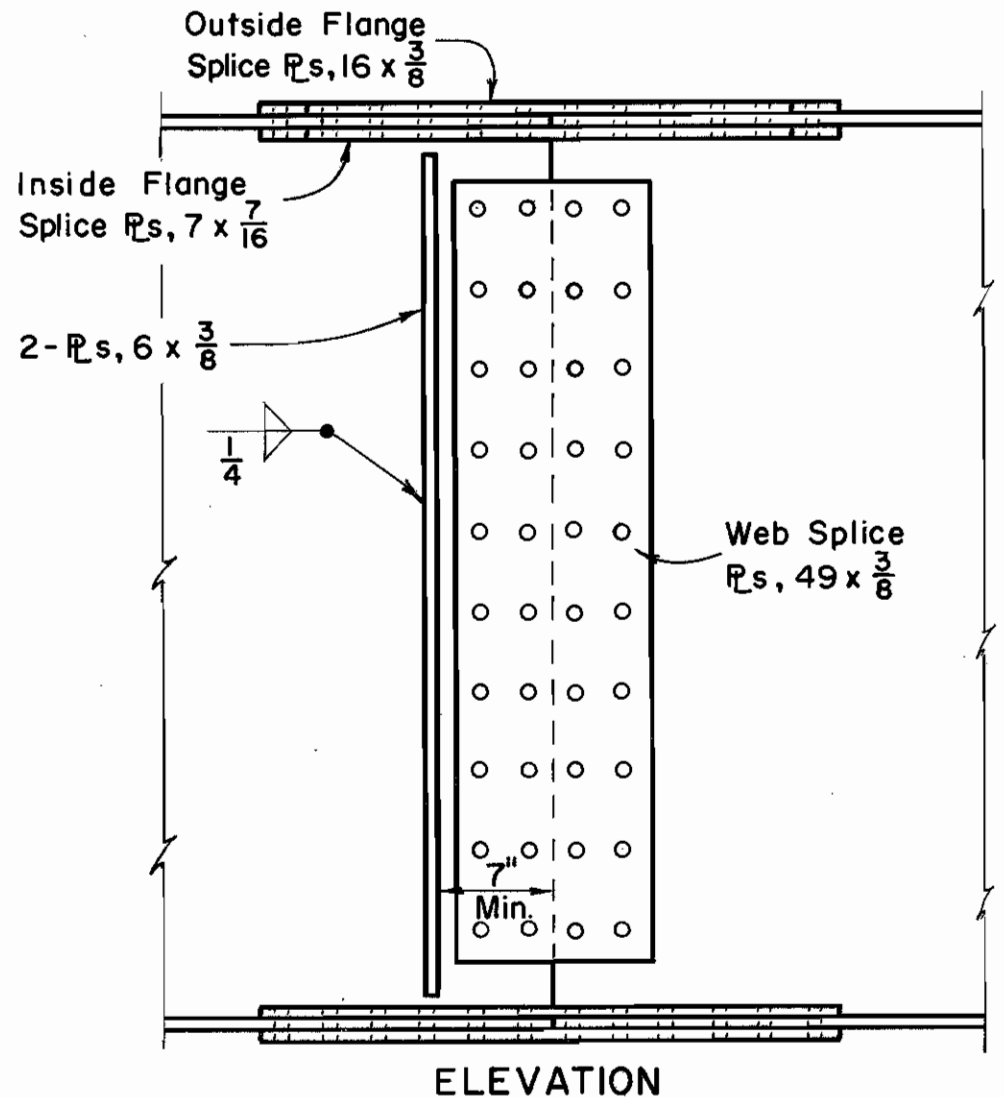
SHOP SPLICE DETAILS



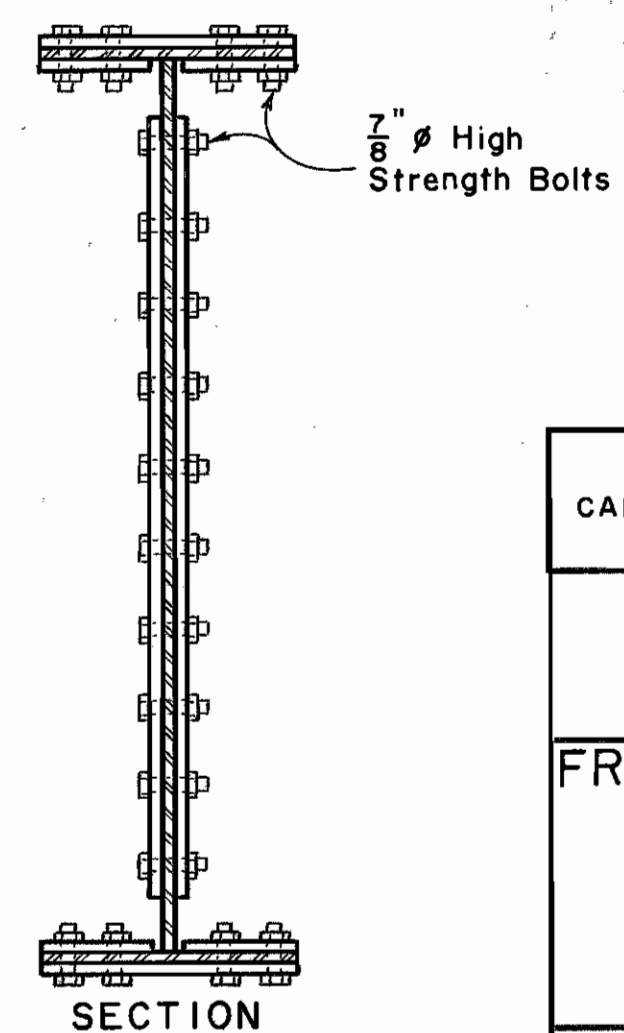
DETAIL A



PLAN



ELEVATION



SECTION

FIELD SPLICE DETAILS

DEFLECTION & CAMBER DATA																	
LINE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Deflection due to weight of steel, each girder	-	1/16"	1/8"	1/16"	1/16"	-	0	1/16"	1/8"	1/16"	0	-	1/16"	1/16"	1/8"	1/16"	-
Deflection due to remaining dead load, each girder	-	7/16"	7/16"	1/4"	3/16"	-	1/16"	3/16"	1/2"	3/16"	1/16"	-	3/16"	1/4"	7/16"	7/16"	-
Vertical Curve Convexity	-	-1/4"	-3/8"	-1/4"	-1/4"	-	-1/4"	-7/16"	-9/16"	-7/16"	-1/4"	-	-1/4"	-1/4"	-3/8"	-1/4"	-
Required Camber	-	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-

REFERENCE shall be made to Standard Drawing RB-1-55 revised 2-2-59 for details of bearings.

SHOP SPLICES: If additional shop splices are necessary, their location and detail shall be submitted to the Director for approval prior to ordering of material.

WELDING OF STRUCTURAL STEEL shall be Class 'A' except as otherwise shown.

ALL BUTT WELDS shall be radiographically inspected according to Supplemental Specification S-307 dated 8-23-62.

BUTT WELDS shall be formed by welding from both sides with back gouging before welding from the second side.

INTERMEDIATE STIFFENERS: Supplementary to Section S-7.14 of the Construction and Material Specifications, intermediate stiffeners of welded, built-up girders shall have contact bearing with the compression flange, but may have a clearance of not more than 1/8 inch from the tension flange at the locations shown. In shop painting, care shall be taken to make certain that paint is forced through from one side to the other of the 1/8 inch opening.

PREPARED BY  
CAPITOL ENGINEERING ASSOCIATES, DILLSBURG, PA.  
FOR

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

FRAMING PLAN & GIRDER DETAILS  
BRIDGE NO. LAK-2-1652 L & R  
RELOC. SR. 2 OVER GRAND RIVER  
LAKE COUNTY  
STA. 772 + 03.61  
STA. 774 + 68.39

DESIGNED M.C.P. L.L.D.	DRAWN M.J.F.	TRACED FWB	CHECKED L.L.D. M.J.F.	REVIEWED DATE G.S.W. M.C.P.	REVISED
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