11-1

S

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-480-12.75

CUYAHOGA COUNTY
CITY OF CLEVELAND
CITY OF BROOKLYN
(VILLAGE OF BROOKLYN HEIGHTS)
(CITY OF PARMA)

MICROFILM
OCT 16 1991

I-480-4(10)-167

Proj. 1004 (84)

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO	I-480-4(10)167	

1/632

CUYAHOGA COUNTY
CUY. 480-12.75

Sheets 458, 475, 487, 490, 491, 492, 536, 571, 573 586, 598 revised 1-14-85 EBL
Sheets 437, 570, 572 revised 3-8-85 EBL
Sheets 586 & 596 revised 3-11-85 EBL

Sheets 549, 562, 563, and 566 revised 6-27-85 LMG

Sheets 402 & 403 revised and Sheets 403A thru 403E added 3-31-86 CKT.

"LIMITED ACCESS"

This improvement is especially designed for thru traffic and has been declared a Limited Access Highway or Freeway by action of the Director of Transportation, in accordance with the provisions of Sec. 5511.02 of The Revised Code of Ohio.

1983 SPECIFICATIONS

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

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 maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved _____ Director of Public Service, City of Cleveland
Date 4/9/84

Approved Martin A. Sallets
Date 4-6-84 District Deputy Director of Transportation

Approved Walter J. Jestings / WTE
Date 9-20-84 Engineer, Bureau of Bridges and Structural Design

Approved Wayne H. Kauble
Date 9-26-84 Chief Engineer, Planning and Design

Approved Warren J. Smith
Date 9-26-84 Director, Department of Transportation

CONVENTIONAL SIGNS

Center Line	Existing Sewer
Existing R/W	Proposed Sewer
Proposed R/W	Existing Manhole
Limited Access Line —LA—	Proposed Manhole
Temporary R/W —T—	Existing Catch Basin
Work Agreement Line	Proposed Catch Basin
Property Line —PL—	Manhole Abandoned
Original Lot Line O.L. 78 / O.L. 79	Catch Basin Abandoned
Water Line —W—	Guard Rail (Existing) (Proposed)
Water Valve	Retaining Wall (Existing) (Proposed)
Water Hydrant	Fence (Existing) (Proposed)
Gas Line —G—	Trees
Gas Valve	Railroad
Telephone Underground —T—	
Electric Underground —E—	
Power Pole	
Light Pole	
Telephone Pole	

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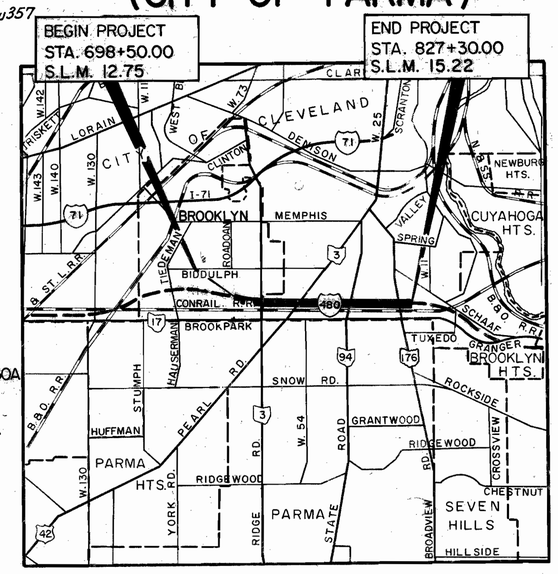
SHEET 519 NOT USED

LINE DATA

	BROOKLYN	CLEVELAND	TOTAL	BROOKLYN HEIGHTS
BEGIN PROJECT	STA. 698+50.00	STA. 714+83.75	STA. 698+50.00	
END PROJECT	STA. 714+83.75	STA. 827+30.00	STA. 827+30.00	
ADDITIONS AND/OR DEDUCTIONS		+197.40 L.F.	+197.40 L.F.	
LENGTH OF PROJECT	1633.75 L.F. OR 0.309 Mi.	11443.65 L.F. OR 2.167 Mi.	13,077.40 L.F. OR 2.477 Mi.	
ADDITIONAL WORK				
STA. 606+00.00 TO STA. 628+50.00	1234.48 L.F.	1015.52 L.F.	2250.00 L.F.	
STA. 698+21.00 TO STA. 698+50.00	29.00 L.F.		29.00 L.F.	
STA. 827+30.00 TO STA. 860+00.00		3106.13 L.F.	3270.00 L.F.	163.87 L.F.
RIDGE RD				
STA. 0+29.00 TO STA. 24+34.45	2405.45 L.F.		2405.45 L.F.	
PEARL RD				
STA. 7+00.00 TO STA. 19+50.00		1250.00 L.F.	1250.00 L.F.	
STATE RD				
STA. 0+30.23 TO STA. 19+02.09		1871.86 L.F.	1871.86 L.F.	
BROADVIEW RD				
STA. 0+50.00 TO STA. 10+50.00		1000.00 L.F.	1000.00 L.F.	
ADD FOR SIGN Nº's 46 & 66 (2 x 100')		200.00 L.F.	200.00 L.F.	
ADD FOR SIGN Nº's 63, 64, 65 & 67 (4 x 100')	400.00 L.F.		400.00 L.F.	
LENGTH OF WORK	5702.68 L.F. OR 1.080 Mi.	19887.16 L.F. OR 3.767 Mi.	25753.71 L.F. OR 4.878	163.87 L.F. OR 0.031 Mi.

SEE "COST PARTICIPATION" SHT. 14



LOCATION MAP

SCALE OF MILES

Portion To Be Improved
State Routes
U.S. Routes
Interstate Routes
City Streets
To Be Improved Under Separate Contract

SCALE

PLAN	1" = 50'
PROFILE: HORIZ.	1" = 50'
VERT.	1" = 10'
	1" = 20'
CROSS SECTIONS	1" = 10'
PAVEMENT DETAILS	1" = 20'

48 Hours BEFORE YOU DIG Call... 800-362-2764 TOLL FREE OHIO UTILITIES PROTECTION SERVICE NON-MEMBERS MUST BE CALLED DIRECTLY

PLANS PREPARED BY
ALDEN E. STILSON & ASSOCIATES
CONSULTING ENGINEERS
75 PUBLIC SQUARE
CLEVELAND, OHIO
FOR
STATE OF OHIO

SUPPLEMENTAL SPECIFICATIONS

803	5-27-83
839	11-25-70
847	10-17-83
848	2-17-83
861	9-9-83
939	6-28-82
947	10-17-83
948	2-19-74
961	9-9-83
824	10-8-82
836	3-12-75
845	1-13-84
955	6-3-78
953	8-21-80
946	10-17-83
810	10-19-81
849	10-19-81

STANDARD CONSTRUCTION DRAWINGS

								LA-1	6-1-79	HL-22	11-9-77	TC 41.41	8-2-79
BP-1	6-1-65	GR-1	2-5-82	MC-9	1-30-84								
BP-2	12-6-76	GR-2B	2-5-82	MC-9A	5-1-81	A3-1-81	11-21-81					TC 41.50	3-26-79
BP-3	12-5-76	GR-3	2-5-82	MC-10	5-1-76	BR-1	5-29-79					TC 42.10	8-13-77
BP-4	7-15-81	GR-4	2-5-82	MC-11	8-1-78	BR-2-82	11-1-82					TC 42.20	3-26-79
BP-5	7-16-81	GR-4A	2-5-82									TC 51.10	3-30-79
		GR-5	2-5-82	MH-1	6-12-75	DBR-2-73	4-10-73	HL-1	9-6-73	TC 17.10	3-1-79	TC 51.11	4-13-79
BP-7	12-6-76	GR-6	2-5-82	MH-2	6-12-75	EXJ-2-81	4-2-84	HL-2	7-27-73	TC 18.24	4-25-79	TC 52.10	4-13-79
BP-9	12-6-76			MH-3	6-12-75	PSBD-1-81	9-18-81	HL-3	7-27-73	TC 21.10	5-24-79	TC 52.20	4-13-79
BP-10	1-30-84	HW-4A	4-1-80	MH-5	6-12-75			HL-4	1-21-76	TC 21.20	5-31-79	TC 61.10	4-5-82
BP-12	7-7-81	HW-4B	4-1-80			SD-1-69	6-12-69	HL-5	9-6-73	TC 21.40	3-1-79	TC 71.10	4-9-79
								HL-6	3-22-77	TC 22.10	3-1-79	TC 72.20	2-26-82
CB-2-2A & B	5-1-79	I-1	6-1-65			TS-EJS-2-81	9-1-81	HL-7	1-21-76	TC 22.20	3-1-79		
CB-5	11-10-83	I-2A	5-1-79			TS-EXJ-1-81	9-1-81	HL-8	1-21-76			TC 81.10	4-10-79
CB-6	5-1-79	I-3A & B	4-1-80			TS-EXJ-3-82	11-15-82	HL-9	3-22-77	TC 31.21	3-6-79	TC 81.20	4-8-80
CB-458A	5-1-79							HL-10	6-1-79	TC 32.10	3-8-79		
		MC-1	6-13-69					HL-11	6-1-79	TC 32.11	3-21-79	TC 83.10	4-13-79
F-1	11-10-83	MC-4	7-26-76					HL-12	4-6-73			TC 83.20	4-17-79
F-3	5-1-76	MC-5	6-12-75					HL-15	1-21-76	TC 41.10	12-23-81	TC 84.20	4-17-79
F-5	5-1-76	MC-6	1-30-84					HL-16	4-6-73	TC 41.20	3-26-79	TC 85.10	4-18-79
		MC-7	10-15-76					HL-19	3-22-77	TC 41.40	6-18-79	TC 85.20	4-18-79

NOTE:
Project Designation CUY-80-12.08, or CUY 480-12.08 Appearing Throughout This Plan Shall Be Considered To Read CUY-480-12.75

0432

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE:

Revised 10-9-84

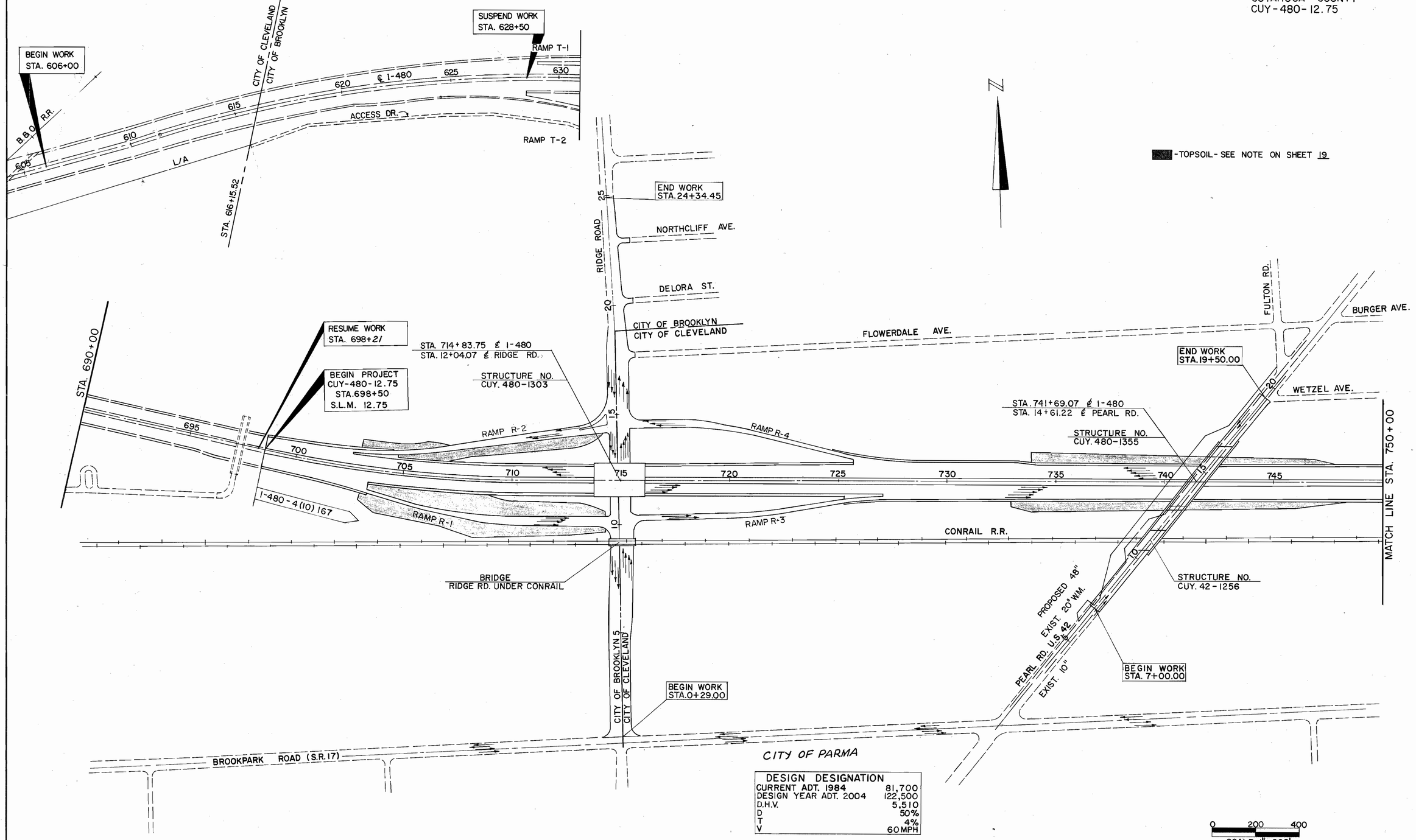
FILE NUMBER	CUYAHOGA COUNTY CUY-480-12.75 00385
	DATE OF LETTING
	CONTRACT NUMBER

SCHEMATIC PLAN

FHWA REGION	STATE	PROJECT	
5	OHIO	I-480-4(10)167	

2
632

CUYAHOGA COUNTY
CUY-480-12.75



DESIGN DESIGNATION	
CURRENT ADT. 1984	81,700
DESIGN YEAR ADT. 2004	122,500
D.H.V.	5,510
D	50%
T	4%
V	60 MPH

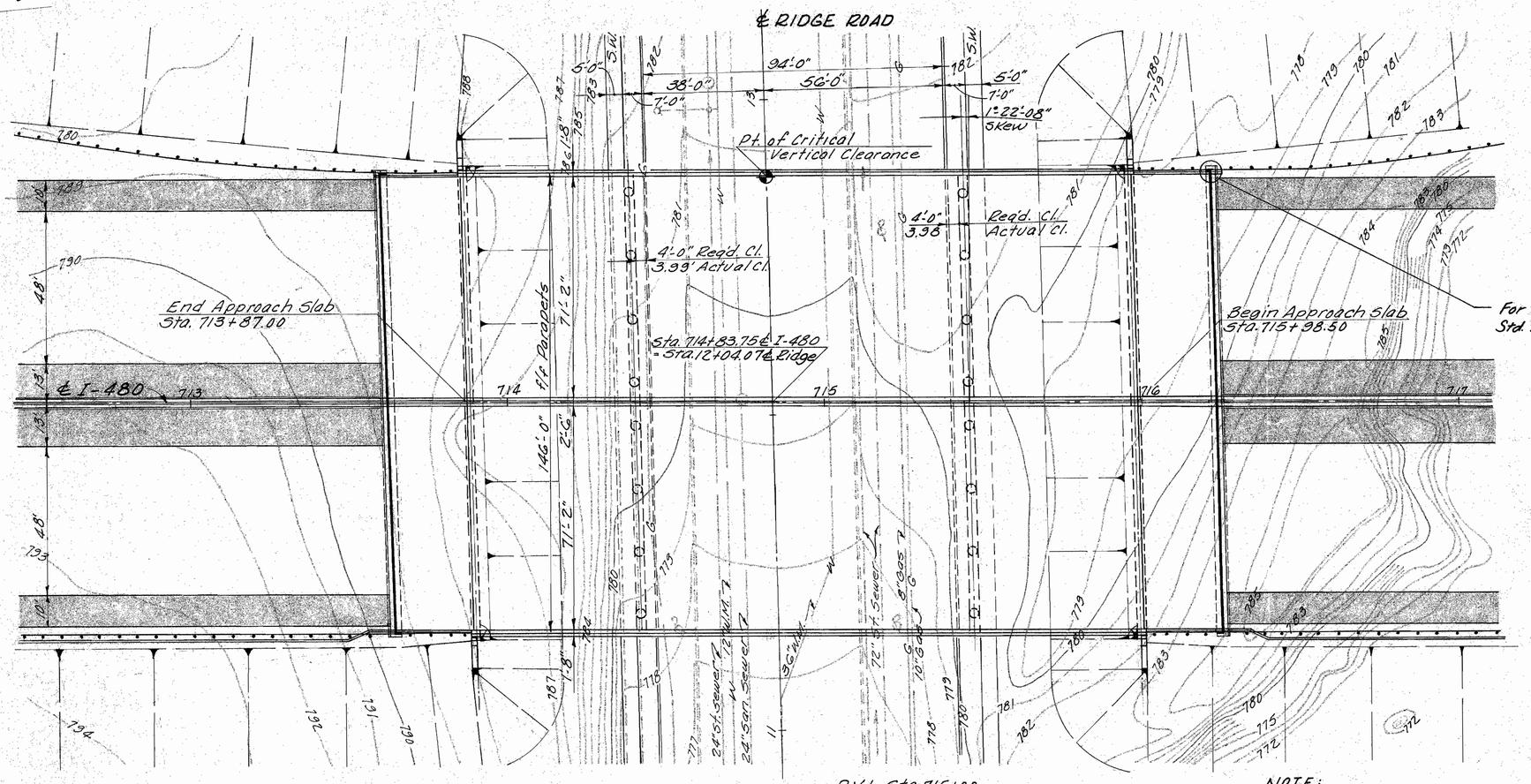
81-1

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

455
632

CUYAHOGA COUNTY
CUY - 480 - 12.75

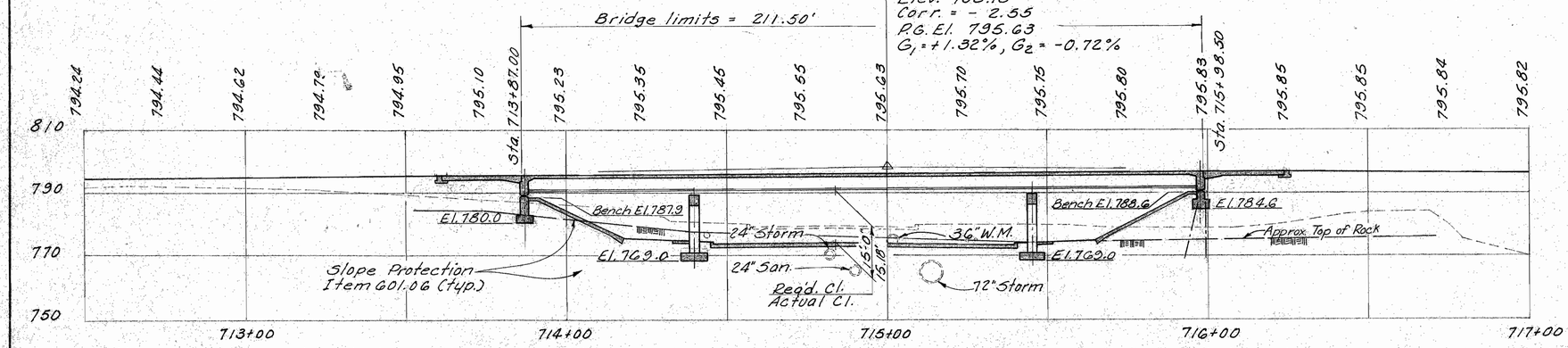
N



PLAN

NOTE:
Earthwork limits shown are approximate.
Actual slopes shall conform to plan cross-sections.

P.V.I. Sta. 715+00
1000' V.C.
Elev. 798.18
Corr. = - 2.55
P.G. El. 795.63
$G_1 = +1.32\%$, $G_2 = -0.72\%$



PROFILE ALONG ℄ I-480

Note:
East abutment piles shall be HP10×42 steel H bearing piles. Estimated average pay length is 18.0'±

PROPOSED STRUCTURE

TYPE: Continuous steel girder with reinforced concrete deck and substructure
SPANS: 52'-6", 105'-0" & 52'-6" c/c brg's.
ROADWAY: 146'-0" f/f parapets; deflector parapets & barrier median
LOADING: HS 20-44 and the alternate Military Loading, CASE I
WEARING SURFACE: 1½" latex modified concrete.
SKEW: 1°-22'-08" R.F.
ALIGNMENT: Tangent.
APPROACH SLABS: AS-1-81 25'-0" long.

TRAFFIC ESTIMATE

Design Year : 2000
Total A.D.T. ~ 135,900
A.D.T.T. ~ 13,600

1/15

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

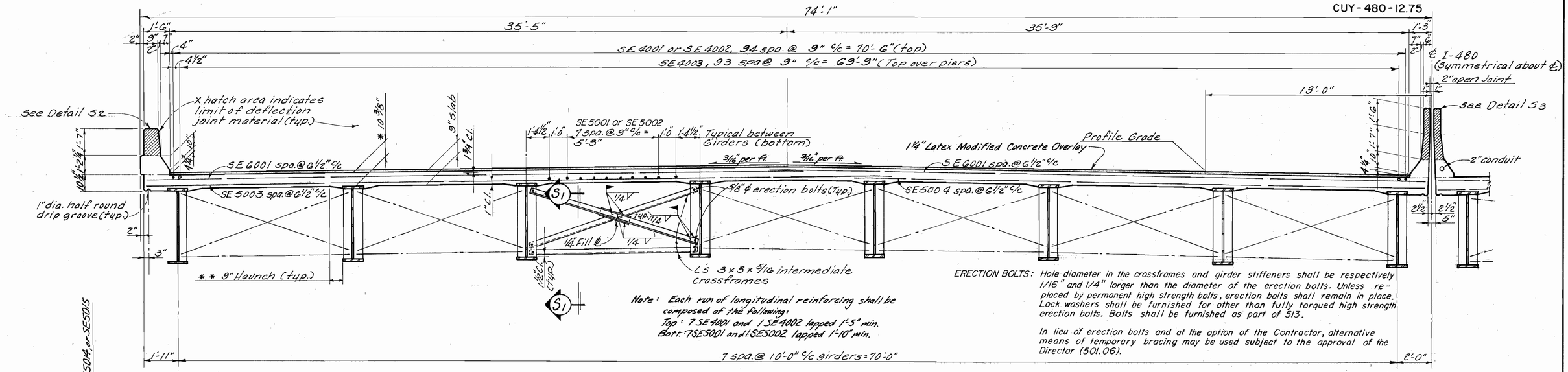
SITE PLAN
BRIDGE No. CUY-480-1303
I-480 OVER RIDGE ROAD
CUYAHOGA COUNTY
STA. 713+86.75
STA. 715+98.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	R.T.		DEM	G.W.M.	6/83	

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

462/632

CUYAHOGA COUNTY
CUY-480-12.75

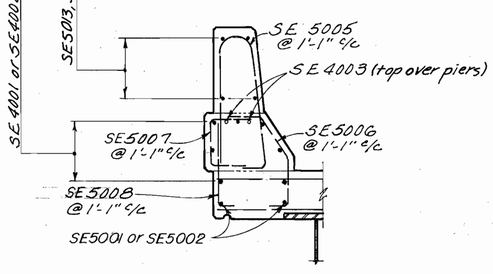


Note: Each run of longitudinal reinforcing shall be composed of the following:
Top: 7 SE 4001 and 1 SE 4002 lapped 1'-5" min.
Bott.: 7 SE 5001 and 1 SE 5002 lapped 1'-10" min.

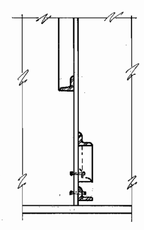
ERECTION BOLTS: Hole diameter in the crossframes and girder stiffeners shall be respectively 1/16" and 1/4" larger than the diameter of the erection bolts. Unless replaced by permanent high strength bolts, erection bolts shall remain in place. Lock washers shall be furnished for other than fully torqued high strength erection bolts. Bolts shall be furnished as part of 513.

In lieu of erection bolts and at the option of the Contractor, alternative means of temporary bracing may be used subject to the approval of the Director (501.06).

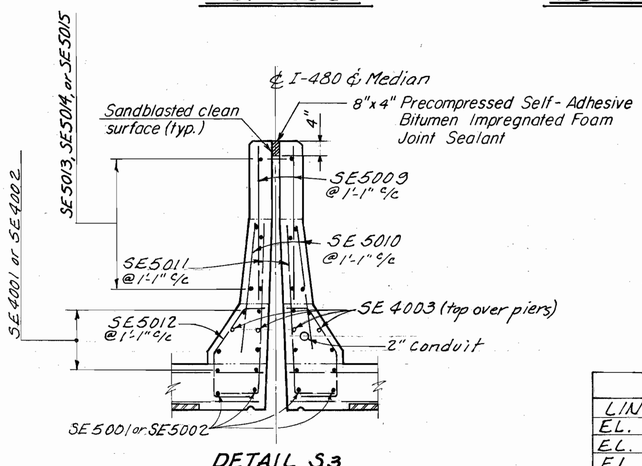
HALF TRANSVERSE SECTION



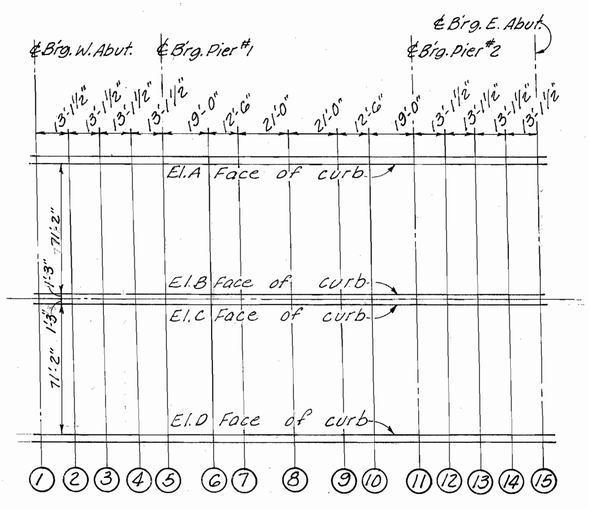
DETAIL S2



SECTION S1-S1



DETAIL S3



SCREED ELEVATIONS

Note: The screed elevations shown are those which are required prior to placing of the concrete deck. Proper allowance has been made for the dead load deflection caused by the weight of the concrete.

TABLE OF SCREED ELEVATIONS															
LINE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
EL. A	795.18	795.21	795.22	795.26	795.44	796.00	796.39	796.72	796.52	796.21	795.77	795.68	795.72	795.80	795.85
EL. B	795.19	795.22	795.23	795.26	795.44	796.00	796.39	796.72	796.52	796.21	795.77	795.68	795.72	795.80	795.85
EL. C	795.19	795.22	795.23	795.27	795.44	796.00	796.39	796.72	796.52	796.21	795.77	795.68	795.72	795.80	795.85
EL. D	795.20	795.23	795.24	795.28	795.45	796.01	796.40	796.73	796.53	796.22	795.78	795.69	795.73	795.80	795.85

* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

** A haunch width of 9" shall be used for all girders in computing quantity of concrete. However, the haunch width may vary between 6" and 12".

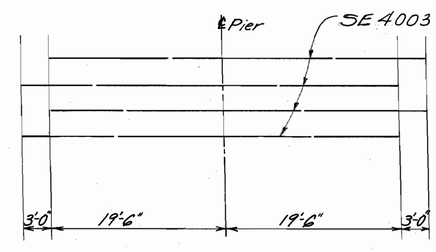


DIAGRAM SHOWING STAGGER OF BARS OVER PIERS

8/15

ALDEN E. STILSON & ASSOCIATES
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

BRIDGE № CUY-480-1303

I-480 OVER RIDGE ROAD

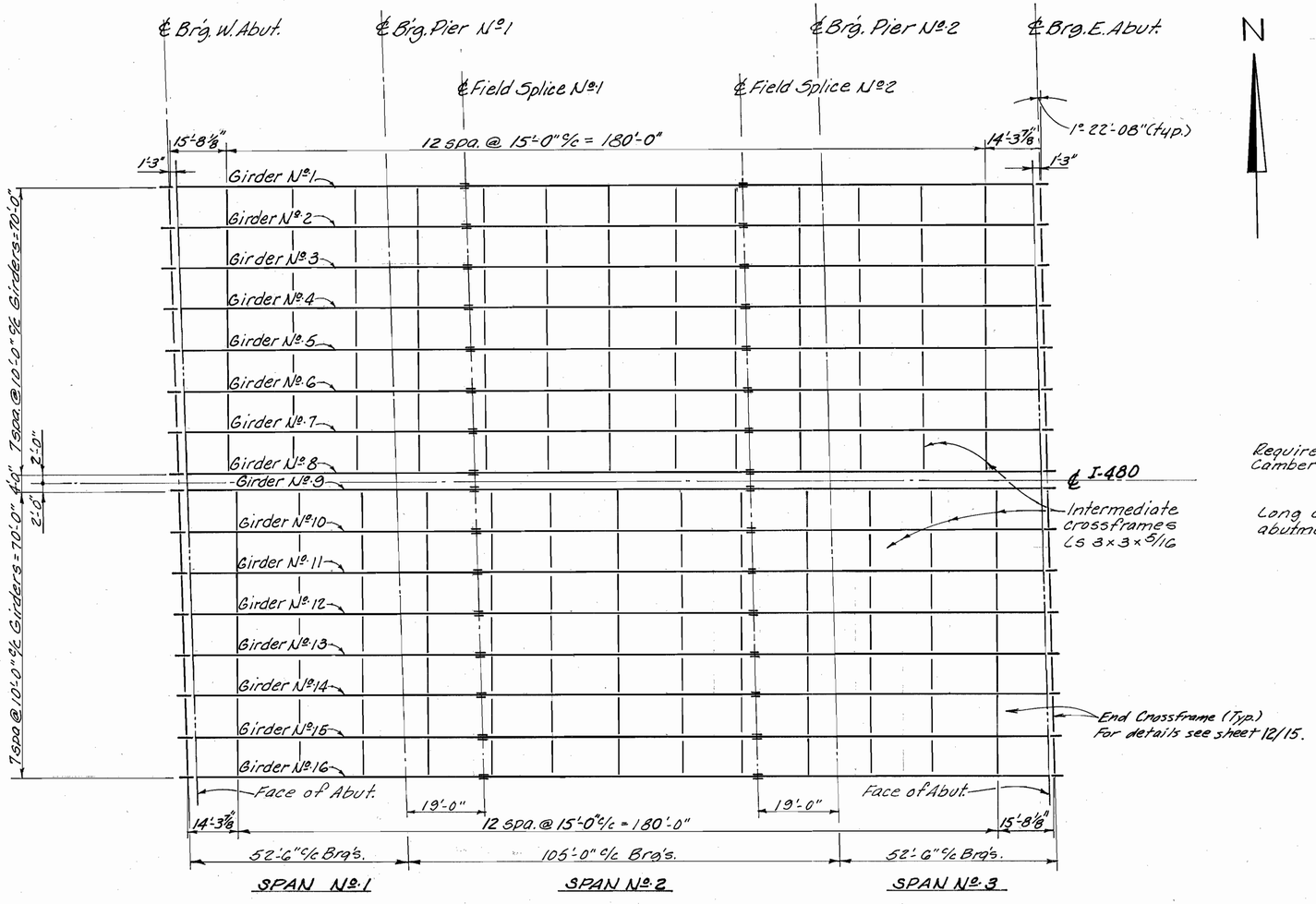
CUYAHOGA COUNTY STA. 713+86.75 STA. 715+98.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DEM	R.T.		WM	G.W.M.	6/6/83	

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

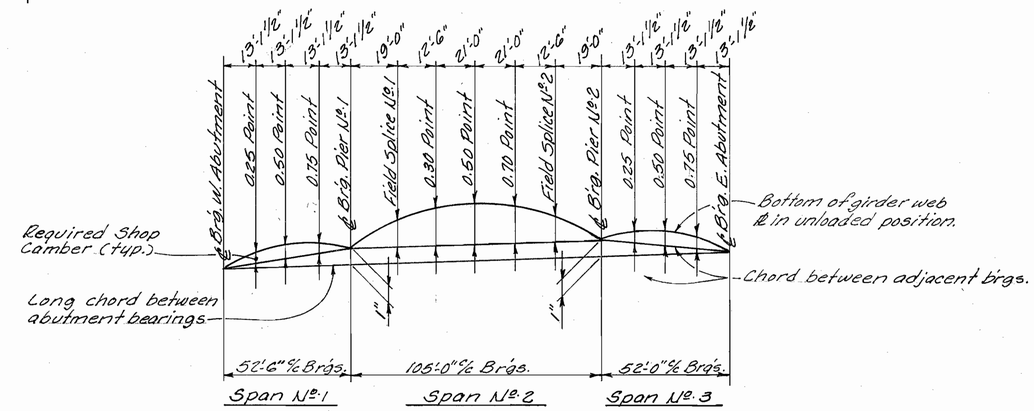
463
632

CUYAHOGA COUNTY
CUY-480-12.75



FRAMING PLAN

Note: Place intermediate crossframes normal to girders.
Cross frames and stiffeners may be moved to avoid interference with field splices.



CAMBER AND BLOCKING DIAGRAM

DEFLECTION AND CAMBER

Location	SPAN No. 1			SPAN No. 2					SPAN No. 3		
Girder No.	1, 8, 9 & 16			1, 8, 9 & 16					1, 8, 9 & 16		
Point along Girder	0.25	0.50	0.75	F.S.	0.30	0.50	0.70	F.S.	0.25	0.50	0.75
Deflection due to weight of steel	—	-1/32	-1/32	1/8	7/32	9/32	7/32	1/8	-1/32	-1/32	—
Deflection due to remaining dead load	-1/32	-3/32	-1/8	1/2	13/16	1 3/32	13/16	1/2	-1/8	-3/32	-1/32
Adjust. req'd. for Vertical curve	1/16	3/32	1/16	3/16	9/32	11/32	9/32	3/16	1/16	3/32	1/16
Required Shop Camber	1/32	-1/32	-3/32	13/16	1 5/16	1 23/32	1 9/16	13/16	-3/32	-1/32	1/32

Location	SPAN No. 1			SPAN No. 2					SPAN No. 3		
Girder No.	2-7, & 10-15			2-7, & 10-15					2-7, & 10-15		
Point along Girder	0.25	0.50	0.75	F.S.	0.30	0.50	0.70	F.S.	0.25	0.50	0.75
Deflection due to weight of steel	—	-1/32	-1/32	1/8	7/32	9/32	7/32	1/8	-1/32	-1/32	—
Deflection due to remaining dead load	-1/16	-1/8	-5/32	11/16	1 5/32	1 17/32	1 5/32	11/16	-5/32	-1/8	-1/16
Adjust. req'd. for Vertical curve	1/16	3/32	1/16	3/16	9/32	11/32	9/32	3/16	1/16	3/32	1/16
Required Shop Camber	0	-1/16	-1/8	1	1 3/32	1 5/32	1 3/32	1	-1/8	-1/16	0

9/15

ALDEN E. STILSON & ASSOCIATES
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS
BRIDGE No. CUY-480-1303
I-480 OVER RIDGE ROAD
CUYAHOGA COUNTY
STA. 713+86.75
STA. 715+98.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DEM	R.T.		WM	G.W.M.	6/7/83	