E-1

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-480-4.86

CUYAHOGA COUNTY
CITY OF NORTH OLMSTED
CITY OF FAIRVIEW PARK

I-480-4(14)-158

FHWA REGION	STATE	PROJECT	
5	OHIO	I-480-4(14)-158	

1/347

CUYAHOGA COUNTY
CUY-480-4.86

MICROFILMED AUG 19 1982

MICROFILMED JUN 27 1984

CONVENTIONAL SIGNS

Center Line
Existing R/W
Proposed R/W
Limited Access Line — LA
Temporary R/W — T
Work Agreement Line
Property Line — PL
Original Lot Line — O.L. 78 / O.L. 79
Water Line — W
Water Valve
Water Hydrant
Gas Line — G
Gas Valve
Telephone Underground — T
Electric Underground — E
Power Pole
Light Pole
Telephone Pole

Existing Sewer
Proposed Sewer
Existing Manhole
Proposed Manhole
Existing Catch Basin
Proposed Catch Basin
Manhole Abandoned
Catch Basin Abandoned
Existing Guard Rail
Proposed Guard Rail
Fence
Existing Retaining Wall
Railroad
Existing Trees Removed

SHEETS ADDED TO PLAN.
No's. 231A, 265A, 265B

SHEETS DELETED FROM PLAN.
No's. 24, 185 thru 195, 216 thru 229, 329 330

INDEX OF SHEETS

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

LINE DATA

Begin Project ~ Sta. 357+00.00 to
End Project ~ Sta. 442+32.50 = 8,532.50 Lin. Ft. or 1.616 Miles

ADD FOR WORK

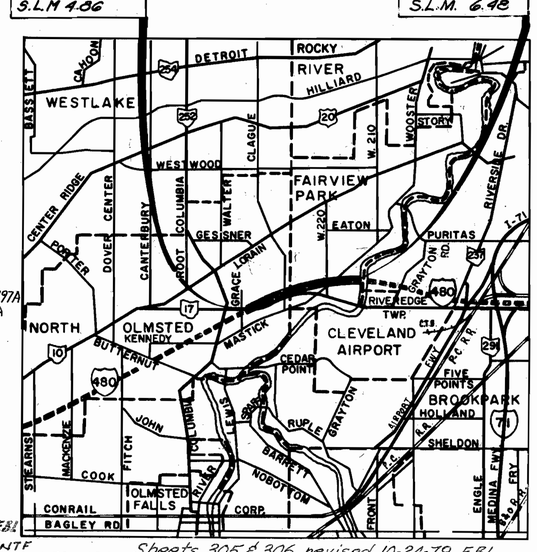
Mainline I-480 Sta. 355+43.00 to Sta. 357+00.00	= 157.00 Lin. Ft.
Clague Road ~ Sta. 0+38.26 to Sta. 16+27.00	= 1,588.74 Lin. Ft.
W. 227th. Street ~ Sta. 10+36.20 to Sta. 21+29.00	= 1,092.80 Lin. Ft.
Maple Drive ~ Sta. 8+90.00 to Sta. 15+40.00 (-24 ft. ~ W. 227th.)	= 626.00 Lin. Ft.
* Mastick Road ~ Sta. 7+50.75 to Sta. 15+40.00	= 789.25 Lin. Ft.
Temp. Road W. 220th. St. ~ Sta. 7+20.00 to Sta. 17+65.00	= 1,045.00 Lin. Ft.
Total "Add for Work"	= 5,298.79 Lin. Ft.
TOTAL WORK = 13,831.29 Lin. Ft. or 2.619 Miles	

* Length adjusted for work on temporary road.

FILE NUMBER	CUYAHOGA COUNTY CUY-480-4.86 00392
	DATE OF LETTING
	CONTRACT NUMBER

BEGIN PROJECT
STA. 357+00
S.L.M. 4.36

END PROJECT
STA. 442+32.50
S.L.M. 6.48



Sheets 305 & 306 revised 10-24-79 EBL

Sh. No. 273 revised 9-7-78 WTF
Sh. No. 297 revised 3-12-78 EBL
Sh. Nos. 243 & 271 revised 10-2-78 WTF
Sh. Nos. 298, 305, 307 & 310 revised 10-12-78 WTF
Sh. Nos. 268 & 271 revised 1-4-79 EBL

SUPPLEMENTAL SPECIFICATIONS	
NUMBER	DATE
808	1-1-71
836	3-12-75
843	10-23-75
846	4-25-77
948	2-13-74
839	11-25-70
842	8-23-74
844	11-8-74
801	4-25-77
1001	1-3-77
950	4-25-77
951	4-25-77
5625	1-11-74
5713	1-11-74
934	1-1-69

LOCATION MAP

SCALE OF MILES

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

SCALES

PLAN	0-50	1" = 50'
PROFILE: HORIZ.	0-50	1" = 50'
VERT.	0-10-20	1" = 20', 1" = 10'
CROSS SECTIONS	0-10	1" = 10'
PAVEMENT DETAILS	0-20	1" = 20'

STANDARD	DRAWINGS
BP-1	6-1-65
BP-2	12-6-76
BP-3	12-6-76
BP-4	12-6-76
BP-5	8-11-75
BP-7	12-6-76
BP-9	12-6-76
BP-10	1-3-75
CB-2-2-A&B	6-1-65
CB2-3 & 2-4	6-1-65
CB-3	1-1-76
CB-3A	1-1-76
CB-5	9-1-69
CB-458A	6-6-68
CB-6	6-1-65
BF-6	6-1-65
F-1	5-1-76
F-3	5-1-76
F-6	5-1-76
GR-1	12-6-76
GR-2B	12-6-76
GR-3	12-6-76
GR-4	12-6-76
GE-5	1-1-71
GE-6	1-1-71
GR-4A	7-26-76
HW-4	1-1-70
MH-4	6-12-75
L-1	6-1-73
MH-1	6-12-75
MH-3	6-12-75
MH-2	6-12-75
MH-5	6-12-75
MC-1	6-13-69
MC-3	6-1-73
MC-4	7-26-76
MC-6	6-1-65
MC-7	10-15-76
MC-10	5-1-76

STANDARD	DRAWINGS
TC-22.20	8-10-77
TC-31.21	8-27-76
TC-32.10	8-27-76
TC-32.11	8-27-76
TC-41.10	8-19-77
TC-41.20	4-1-77
TC-41.50	4-1-77
TC-42.10	8-19-77
TC-42.20	4-1-77
TC-51.10	6-2-75
TC-51.11	6-2-75
TC-52.10	4-1-77
TC-52.20	4-1-77
TC-61.10	8-19-77
TC-71.10	12-1-75
TC-72.20	8-29-77
TC-81.10	4-18-77
TC-83.10	9-5-75
TC-83.20	9-5-75
TC-84.20	9-5-75
TC-85.10	9-5-75
TC-85.20	9-5-75

STANDARD	DRAWINGS
SD-1-69	6-12-69
BR-1-67	10-15-71
RB-1-35	2-2-59
AS-1-72	6-30-72

HL-1	9-6-73	HL-15	1-21-76
HL-2	7-27-73	HL-22	11-9-77
HL-3	7-27-73	HL-17A	4-6-73
HL-4	1-21-76	HL-17B	4-6-73
HL-5	9-6-73		
HL-6	1-21-76	TC-7.65	10-1-74
HL-7	1-21-76	TC-12.30	10-1-74
HL-8	1-21-76	TC-15.115	10-1-74
HL-9	1-21-76	TC-18.26	10-1-74
HL-10	1-21-76	TC-21.10	10-1-74
HL-11	4-6-73	TC-21.20	4-18-77
HL-12	4-6-73	TC-21.40	8-19-77

"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.

1977 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.

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

Approved _____ Thomas M. Krall
Date 5-22-75 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

Approved _____
Date _____ Engineer, Bureau of Bridges and Structural Design

Approved _____ R. E. Gottheim
OK DGG Date 4-14-78 Chief Engineer, Planning and Design

Approved _____ David L. Weir
Date 4-14-78 Director, Department of Transportation

DESIGN DESIGNATION
1969 A.D.T. = 37,500
1987 A.D.T. = 73,200
D.H.V. = 4,800
D. (directional distribution) 67%
T. (percent B&C trucks) 4%
V. (design speed) 60 M.P.H.

NOTE: PROJECT DESIGNATION CUY-80 APPEARING THROUGHOUT THIS PLAN SHALL BE CONSIDERED TO READ CUY-480

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

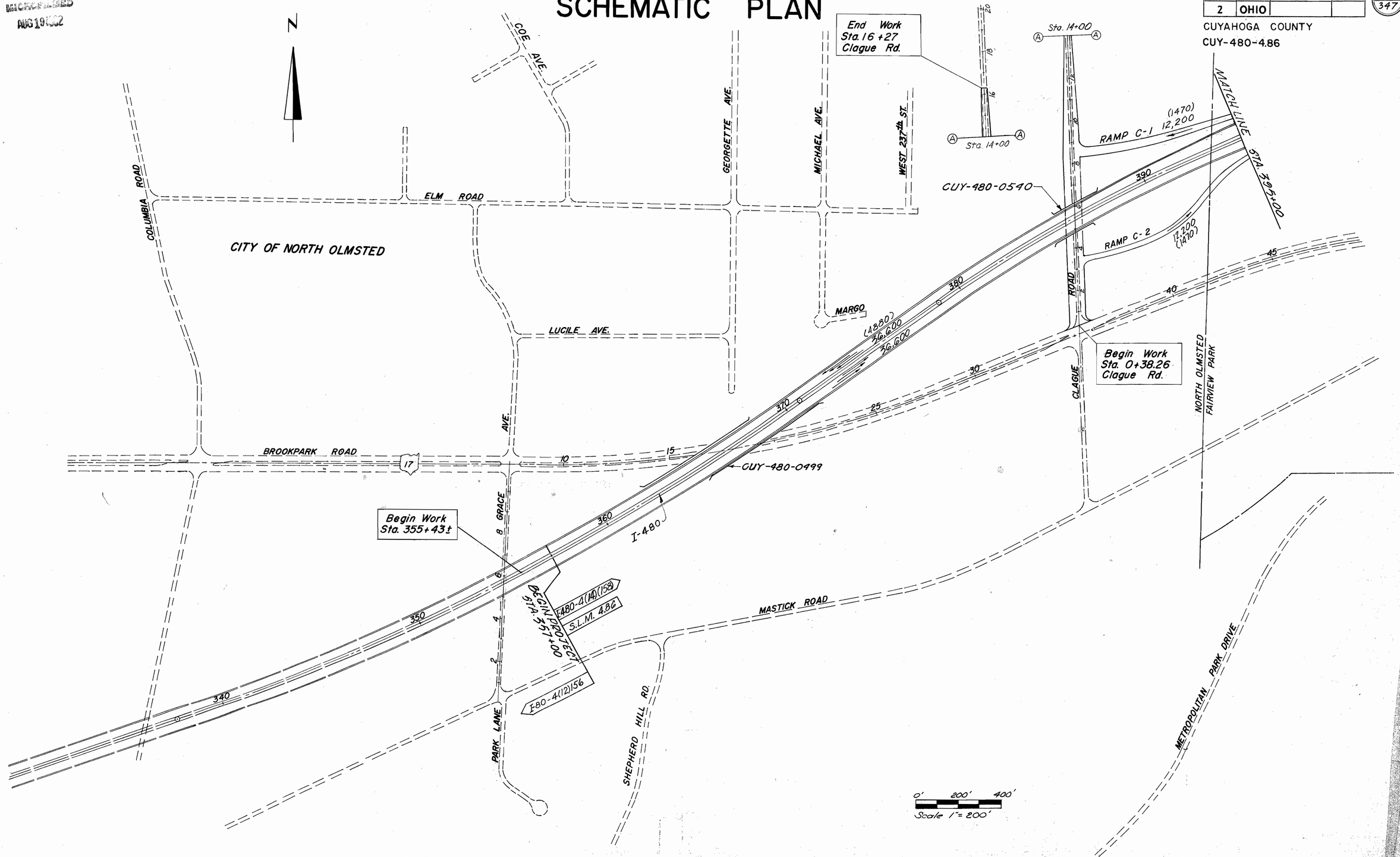
DIVISION ADMINISTRATOR _____ DATE: _____

MICROFILMED
AUG 19 1982

SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

CUYAHOGA COUNTY
CUY-480-4.86



MICROFILMED
AUG 19 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

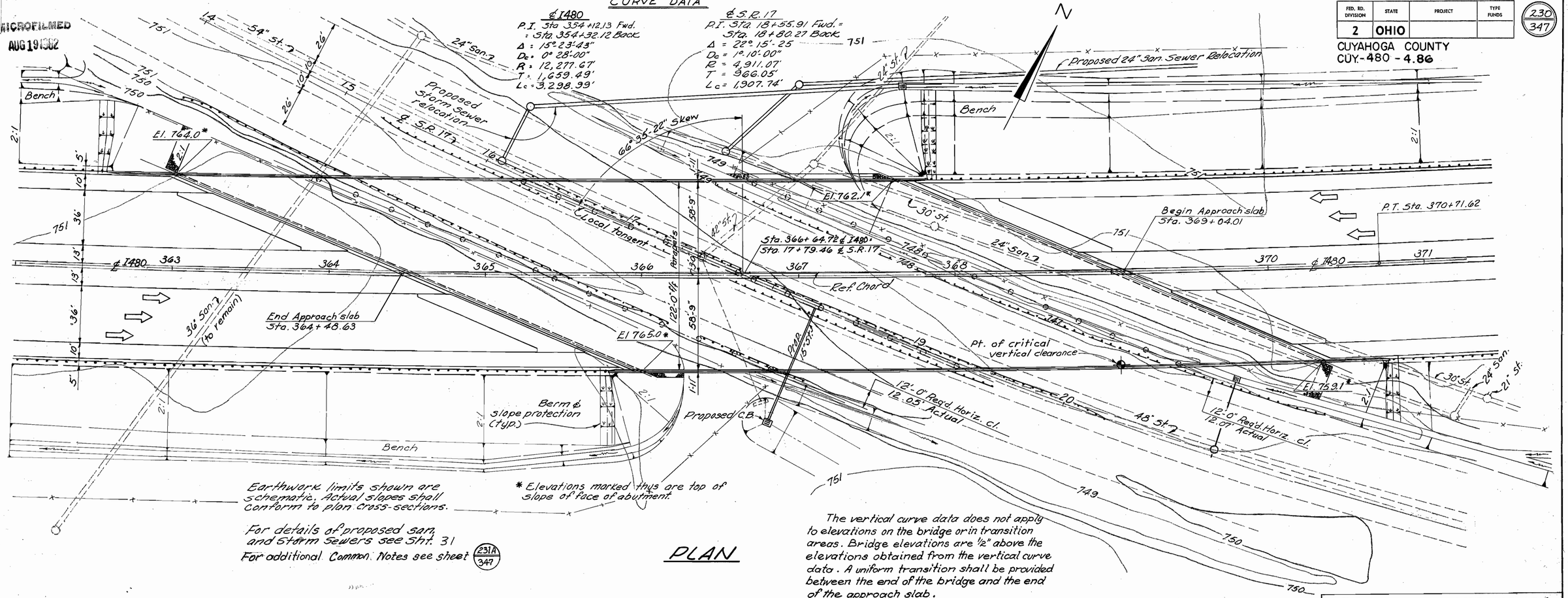
CUYAHOGA COUNTY
CUY.-480 - 4.86

230/347

CURVE DATA

℄ I480
P.I. Sta. 354+12.13 Fwd.
= Sta. 354+32.12 Back
Δ = 15°23'43"
Dc = 0°28'00"
R = 12,277.67'
T = 1,659.49'
Lc = 3,298.99'

℄ S.R. 17
P.I. Sta. 18+55.91 Fwd. =
Sta. 18+80.27 Back
Δ = 22°15'25"
Dc = 1°10'00"
R = 4,911.07'
T = 966.05'
Lc = 1,907.74'



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

For details of proposed san. and storm sewers see Sht. 31

For additional Common Notes see sheet 231A/347

* Elevations marked thus are top of slope of face of abutment.

PLAN

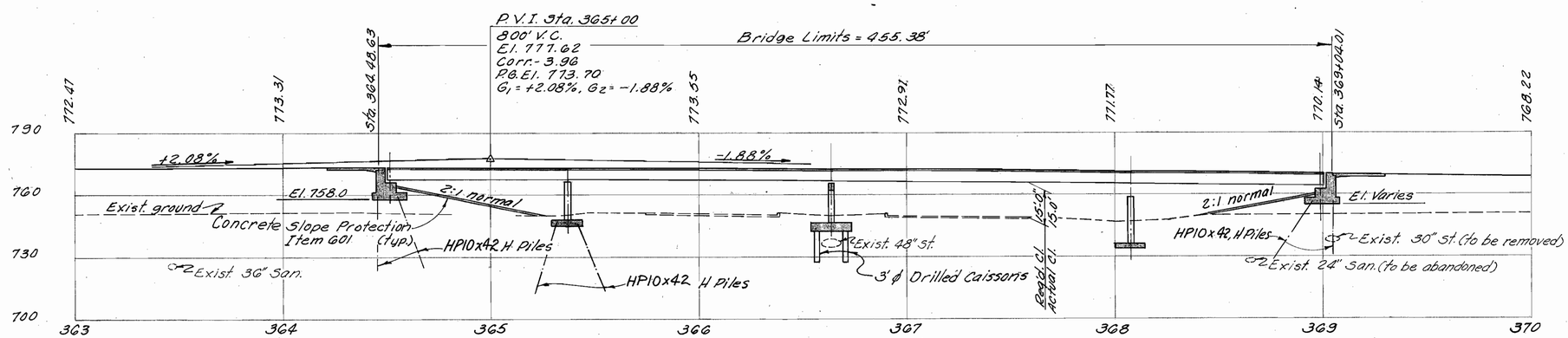
The vertical curve data does not apply to elevations on the bridge or in transition areas. Bridge elevations are 1/2" above the elevations obtained from the vertical curve data. A uniform transition shall be provided between the end of the bridge and the end of the approach slab.

TRAFFIC ESTIMATE

Design Year - 1987
Total A.D.T. 73,200

PROPOSED STRUCTURE

TYPE: Continuous steel girder with reinforced concrete deck & substructure
SPANS: 83'-8", 126'-6" 143'-2 1/2" 90'-8" c/c brgs. along ℄ I-480
ROADWAY: 122'-0" f/f parapets with concrete barrier median
LOADING: HS 20-44 & Interstate Alternate
WEARING SURFACE: monolithic concrete
SKEW: 66°35'22" Rt forward with respect to Reference Chord
ALIGNMENT: 0°28'00" curve Left
SUPERELEVATION: None
APPROACH SLABS: AS-1-72 (Modified) (30' long)



Pile estimated avg. pay length
West abut. - 28'
East abut. - 22'
Pier #1 - 15'

PROFILE ALONG ℄ I-480

Caisson estimated Avg. pay length
4'-0" Dia - 21'
3'-0" Dia - 16'

1/46

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

SITE PLAN
BRIDGE № CUY-480-0499
I-480-OVER S.R. 17 (BROOKPARK RD.)
CUYAHOGA COUNTY
STA. 364+48.63
STA. 369+04.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	G.W.M.	R.T.	R.J.P.	G.W.M.	1/7/69	

MICROFILMED
AUG 19 1982

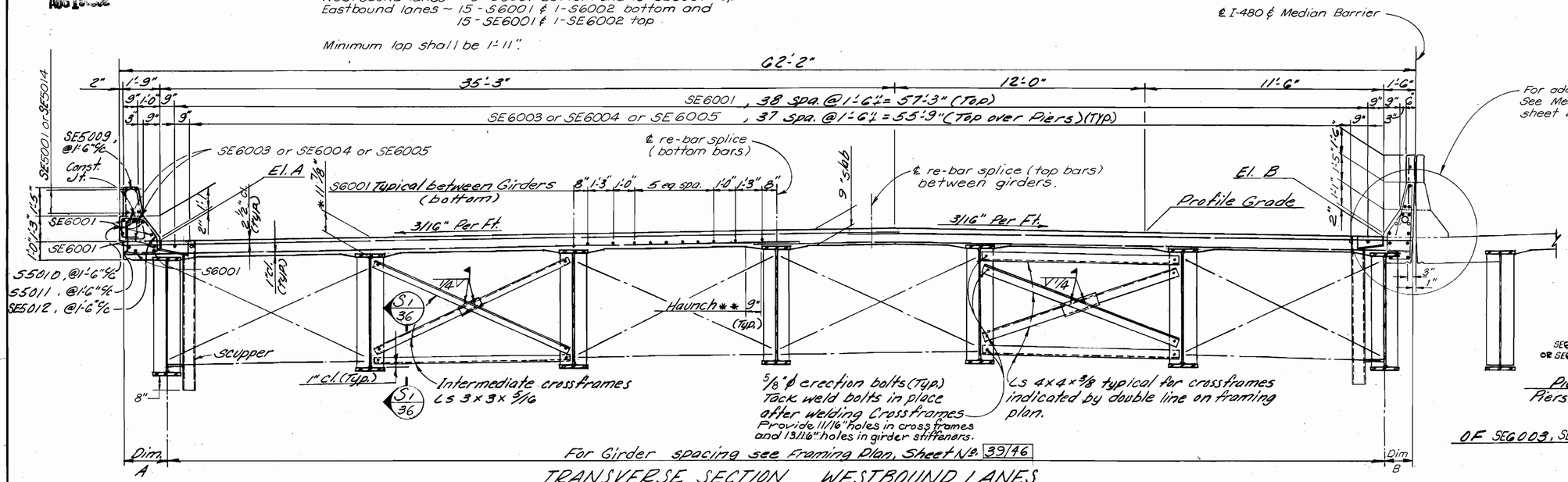
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUYAHOGA COUNTY
CUY-480-4.86

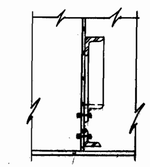
Note: Each longitudinal run of deck reinforcing, excluding SE6003, SE6004 & SE6005 bars over Piers shall be as follows:

Westbound lanes ~ 16 - S6001 bottom and 16 - SE6001 top
Eastbound lanes ~ 15 - S6001 & 1 - S6002 bottom and 15 - SE6001 & 1 - SE6002 top

Minimum lap shall be 1'-11".



TRANSVERSE SECTION WESTBOUND LANES



SECTION S1-S1

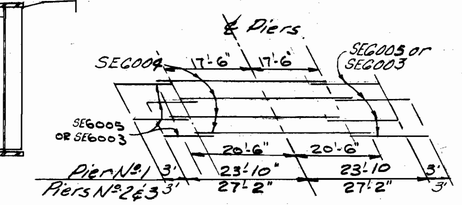
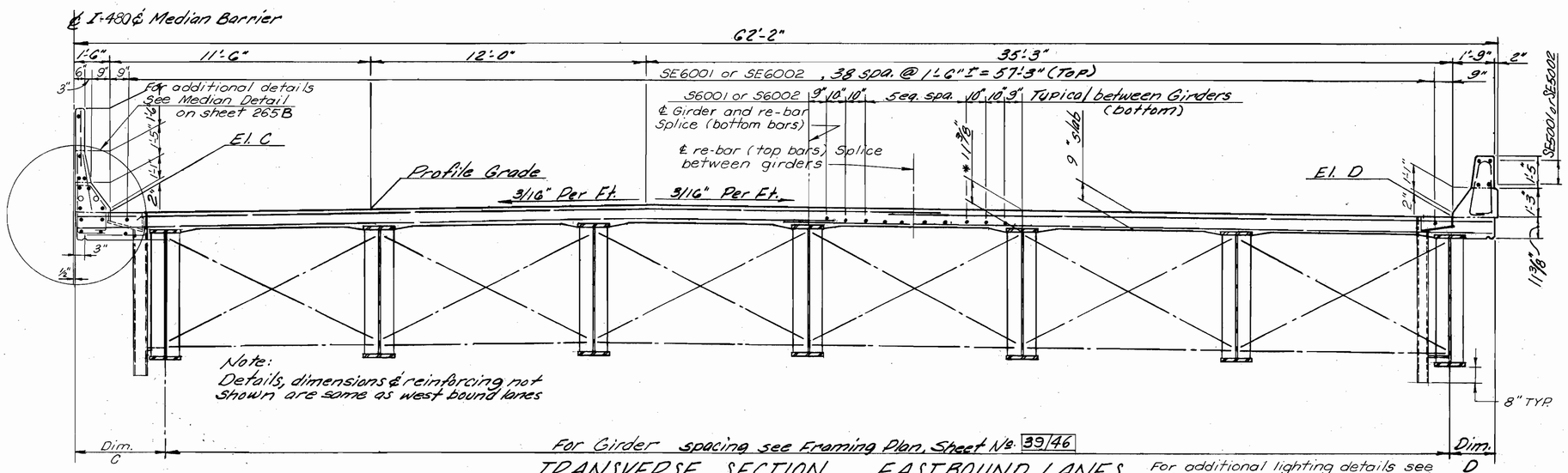


DIAGRAM SHOWING STAGGER OF SE6003, SE6004 & SE6005 BARS OVER PIERS



TRANSVERSE SECTION EASTBOUND LANES

For additional lighting details see Std. Constr. Drwgs. HL-3, HL-4, HL-5, HL-7, HL-17A & HL-17B and sht No. 198/347 for Lighting General Notes.

*This dimension is from the top of the slab to the top of the girder web and is the nominal dimension. The quantity of deck concrete to be paid for shall be based on 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. Deductions shall be made for volume of encased steel plates as per article 511.18 of the Construction and Material Specifications.

**A typical 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" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

For transverse slab reinforcing see 37 & 38/46

Concrete and reinforcing steel for parapets and median barrier shall be included for payment with their respective items, Item 511 Superstructure concrete and Item 509 reinforcing steel.

For Scupper Details see Sht. 41/46

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers. Also, epoxy coated bars that are field cut shall be end treated as per approved manufacturers recommendations. 36/46

TABLE OF SLAB CANTILEVERS

Locations	Span 1				Span 2						Span 3						Span 4				
	℄ Brg. W. Abut.	1/4 Pt.	1/2 Pt.	3/4 Pt.	℄ Brg. Pier No. 1	Splice No. 1	1/3 Pt.	1/2 Pt.	2/3 Pt.	Splice No. 2	℄ Brg. Pier No. 2	Splice No. 3	1/3 Pt.	1/2 Pt.	2/3 Pt.	Splice No. 4	℄ Brg. Pier No. 3	Splice No. 5	1/2 Pt.	3/4 Pt.	℄ Brg. E. Abut.
Dim. A	3'-2 3/8"	2'-10 5/8"	2'-7 1/4"	2'-4 1/4"	2'-1 3/4"	1'-11 1/8"	1'-9 7/8"	1'-8 5/8"	1'-7 1/8"	1'-7 5/8"	1'-7 3/8"	1'-8 5/8"	1'-6 1/2"	1'-4 3/8"	1'-2 3/4"	1'-1 7/8"	1'-1 1/4"	1'-1 3/8"	1'-2 1/8"	1'-3 1/4"	1'-5"
Dim. B	1'-5 1/2"	1'-6 3/8"	1'-6 7/8"	1'-7"	1'-6 3/8"	1'-5 1/2"	1'-7 1/8"	1'-8 7/8"	1'-10 3/8"	1'-11 1/8"	1'-11 3/4"	1'-11 3/4"	1'-11 3/8"	1'-10 1/4"	1'-8 5/8"	1'-7"	1'-3 5/8"	1'-1 1/8"	1'-1 5/16"	1'-2 5/16"	1'-2 7/8"
Dim. C	4'-5 1/2"	4'-1 3/8"	3'-11 1/8"	3'-7 1/2"	3'-4 3/8"	3'-1 1/2"	3'-0 7/8"	2'-10 1/2"	2'-9 1/2"	2'-8 7/8"	2'-8 1/2	2'-8 7/8"	2'-9 5/8"	2'-11"	3'-1"	3'-2 7/8"	3'-6 3/8"	3'-9 3/8"	3'-8 7/8"	3'-7 5/8"	3'-7 1/2"
Dim. D	3'-0"	3'-1 3/8"*	3'-2 1/4"*	3'-2 3/4"*	3'-3"	3'-2 5/8"	3'-2"	3'-0 7/8"*	2'-11 3/8"*	2'-9 3/4"*	2'-7"	2'-5"	2'-4"	2'-5"	2'-5 3/8"*	2'-5 1/4"*	2'-4 1/2"*	2'-3 3/8"*	2'-1 3/8"*	1'-11 3/8"*	1'-9"

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	1/14/69	

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

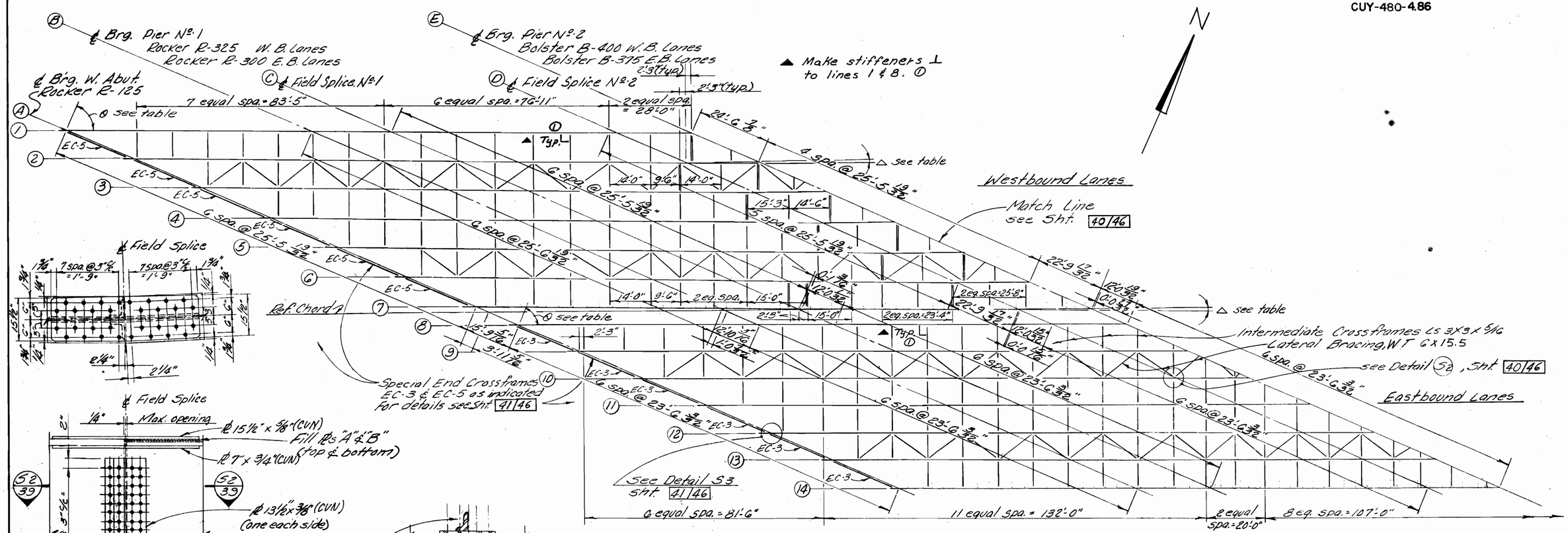
SUPERSTRUCTURE DETAILS

BRIDGE No. CUY-480-0499
I-480 OVER S.R. 17 (BROOKPARK RD.)
CUYAHOGA COUNTY STA. 364+48.63 STA. 369+04.01

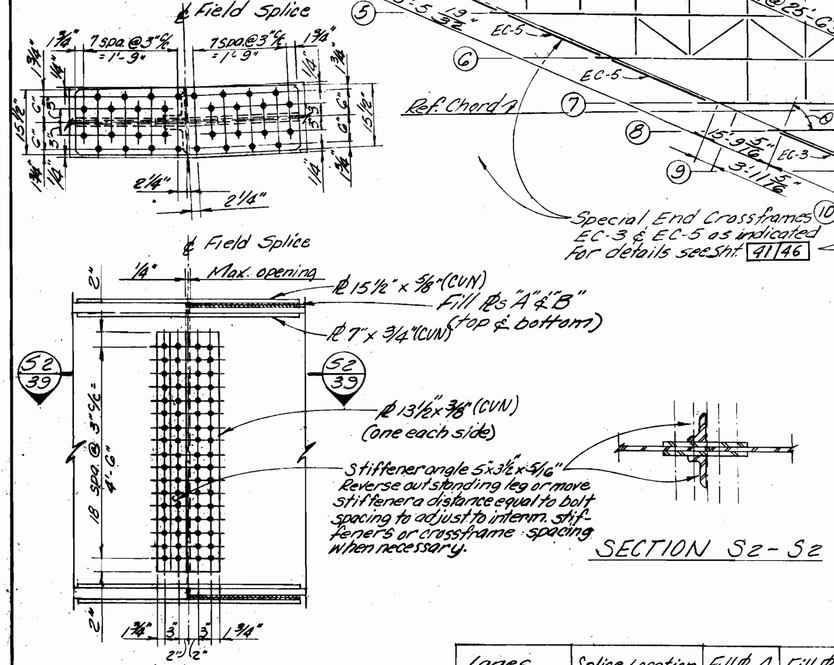
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUYAHOGA COUNTY
CUY-480-4.86

368/347



PART FRAMING PLAN

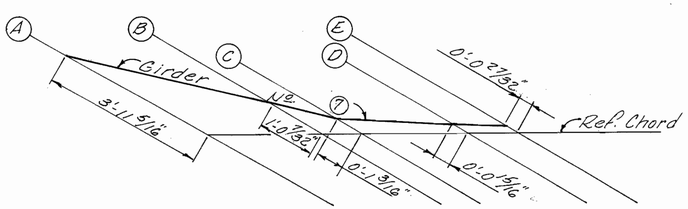


GIRDER FIELD SPLICE DETAIL

NOTES:

1" ϕ High strength bolts shall be used at field splices. Bolt heads on exterior girder web splices shall be on fascia side. Bolts shall conform to A325 steel.

Lanes	Splice Location	Fill ℄ A	Fill ℄ B
Westbound	Ⓓ	1"	13/16"
	Ⓔ	1"	5/8"
Eastbound	Ⓓ	1"	9/16"
	Ⓔ	1"	3/8"



SCHEMATIC LOCATION PLAN

TABLE OF DEFLECTION ANGLES & GIRDER LENGTHS

		Girder Row ①	Girder Row ② thru ⑥	Girder Row ⑦	Girder Row ⑧	Girder Row ⑨ thru ⑫
Bearing Point or Splice Point	θ	67°-23'-11"	67°-23'-11"	67°-23'-11"	66°-36'-25"	66°-36'-25"
	Ⓐ Length Ⓐ Ⓑ	83'-6 5/16"	83'-6 5/16"	83'-6 5/16"	80'-10 11/16"	80'-10 11/16"
	△	0	0	0	0	0
	Ⓑ Length Ⓑ Ⓒ	26'-2 13/16"	26'-2 13/16"	26'-2 13/16"	25'-4 7/8"	25'-4 7/8"
	△	0	0	0°-47'-25"	0°-~~47'-25"~~ ①	0°-~~47'-25"~~ ①
	Ⓒ Length Ⓒ Ⓓ	76'-11"	76'-11"	74'-5 1/2"	74'-5 15/16"	74'-5 15/16"
	△	0	0°-47'-25"	0	0	0
	Ⓓ Length Ⓓ Ⓔ	25'-8 9/16	24'-10 3/4	24'-10 3/4"	24'-10 7/8"	24'-10 7/8"
	△	0	0	0	0	0

TABLE OF BEARING UNIT DIMENSIONS *

Bolster No.	Rocker No.	A	B	C	D	F	G	H	K	L	M	R	T	Y
		Dimensions (inches)												
	R325	3½	21	3½	3¼	¾	12	19 3/8	15	29	26	13	3¼	1 1/16
	R350	3½	22	3½	3¼	¾	12	20 3/8	16	30	27	13½	3½	1 1/16
B-375	R375	4½	24	3½	4	¾	12	21 7/8	14½	24	21	14	4	1 3/16
B-400		4½	24	4	–	¾	–	22 5/8	14½	24	–	14½	4	1 3/16

3 3/4" ①

2 3/16" ①

* For detail drawing and location of dimensions see Std. Dwg. RB-1-55. For additional Notes see sheet 231A/347

① Revision 1-4-79

39/46

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

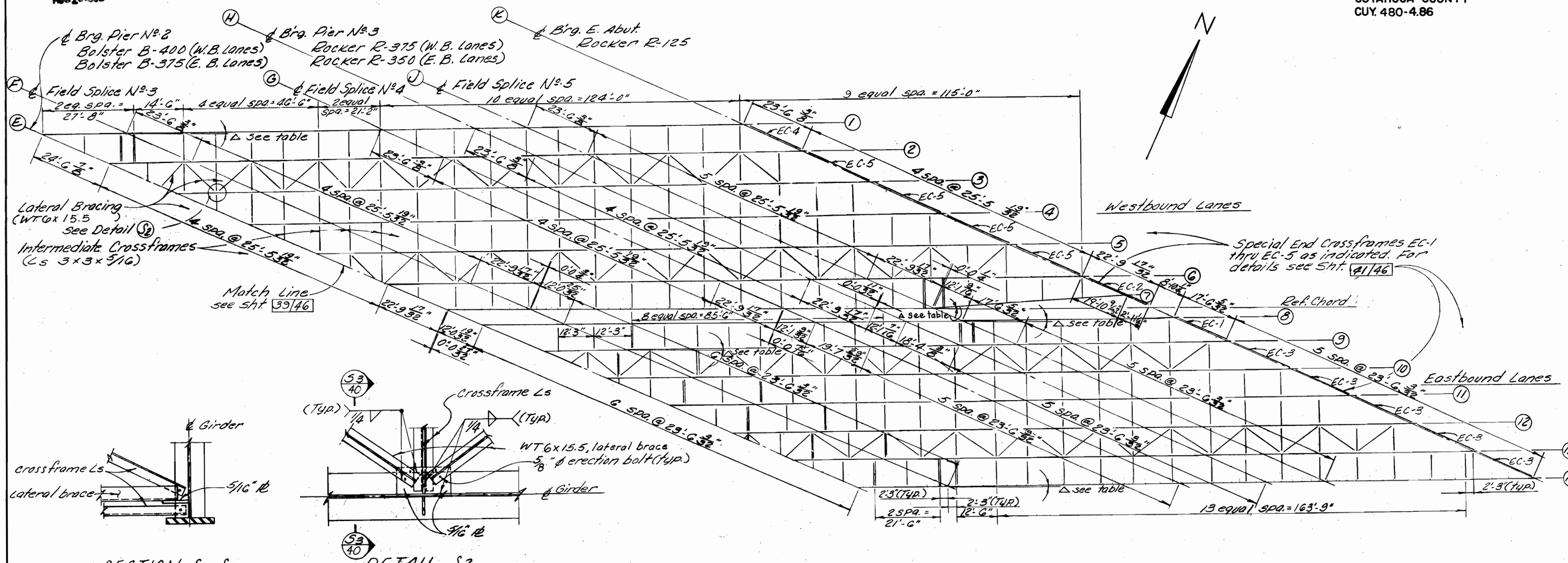
SUPERSTRUCTURE DETAILS
BRIDGE No. CUY-480-0499
I 480-OVER S.R.17 (BROOKPARK RD.)
CUYAHOGA COUNTY
STA. 364+48.63
STA. 369+04.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	1/14/69	1-4-79

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

269/347

CUYAHOGA COUNTY
CUY. 480-4.86

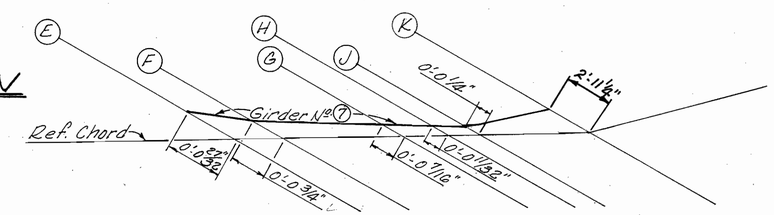


SECTION S3-S3

DETAIL S2

TYPICAL LATERAL BRACING CONNECTION

PART FRAMING PLAN



SCHEMATIC LOCATION PLAN

TABLE OF DEFLECTION ANGLES & GIRDER LENGTHS

Bearing Point or Splice Point		Girder Row ①	Girder Row ② thru ⑥	Girder Row ⑦	Girder Row ⑧	Girder Row ⑨ thru ⑭
Ⓔ	θ	67°-23'-11"	66°-35'-46"	66°-35'-46"	66°-36'-25"	66°-36'-25"
	Length Ⓔ Ⓕ	29'-11 13/16"	29'-0 5/16"	29'-0 5/16"	29'-0 7/16"	29'-0 7/16"
Ⓕ	△	0°-47'-25"	0	0	0	1°-03'-10"
	Length Ⓕ Ⓖ	86'-8 3/16"	86'-8 3/16"	86'-8 3/16"	86'-8 3/16"	83 2 3/8"
Ⓖ	△	0	0	0	0	0
	Length Ⓖ Ⓗ	29'-1 3/8"	29'-1 5/8"	29'-1 5/8"	29'-1 13/16"	27'-11 3/16"
Ⓗ	△	0	0	0	0	0
	Length Ⓗ Ⓙ	19'-2 1/16"	19'-2 1/16"	19'-2 1/16"	19'-2 1/8"	18'-4 13/16"
Ⓙ	△	0	0	0°-55'-50"	1°-03'-10"	0
	Length Ⓙ Ⓚ	74'-6 3/8"	74'-6 3/8"	71'-9 9/16"	71'-6 1/2"	71'-6 1/2"
Ⓚ	θ	66°-35'-46"	66°-35'-46"	65°-39'-56"	65°-39'-16"	65°-33'-16"

For additional General Notes, see sht. 23A/347

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

SUPERSTRUCTURE DETAILS

BRIDGE Nº CUY.-480-0499

I 480 OVER S.R. 17 (BROOKPARK ROAD)

CUYAHOGA COUNTY STA. 364+48.63 STA. 369+04.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	1/14/69	