2

CONVENTIONAL SIGNS

LINE
EXISTING RIGHT OF WAY
SUBDIVISION LINE
SUBLOT OR EXISTING EASEMENT — Z — Z
ORIGINAL TOWNSHIP LOT LINE
PROPOSED RIGHT OF WAY AND HIGHWAY EASEMENT LINE — R/W
TEMPORARY RIGHT OF WAY — T
SEWER EASEMENT LINE — S — S
SLOPE EASEMENT LINE — SL — SL
CHANNEL EASEMENT — X — X
CENTER LINE
FENCE LINE — x — x
GUARD RAIL (EXISTING)
GUARD RAIL (PROPOSED)
TELEPHONE, LIGHT AND POWER POLES
POWER POLES
TELEPHONE POLES
POWER AND TELEPHONE POLES
LIGHT POLES
TREES
ELECTRICAL TOWER
WATER LINE (EXISTING)
CORPORATION LINE
WATER LINE (PROPOSED)
GAS LINE — G — G
TELEPHONE CONDUIT — T — T
ELECTRIC CONDUIT — E — E
EXISTING STORM SEWER
PROPOSED STORM SEWER
EXISTING SANITARY SEWER
PROPOSED SANITARY SEWER
FIRE HYDRANT (EXISTING)
FIRE HYDRANT (PROPOSED)
MANHOLE (EXISTING)
MANHOLE (PROPOSED STORM)
MANHOLE (PROPOSED SANITARY)
CATCH BASIN OR INLET (EXISTING)
PROPOSED DITCH INLET
PROPOSED PAVEMENT CATCH BASIN
GAS VALVE — GV — GV — GV
WATER METER — WM — WM — WM
WATER VALVE — WV — WV — WV
TRAFFIC SIGNS
CONSTRUCTION LIMITS (CUT)
CONSTRUCTION LIMITS (FILL)
RAILROAD TRACK

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GEOMETRIC PLAN AND TABLE ---- 3,4
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AIRPORT ELECTRICAL PLANS ---- 291-309
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CONSTRUCTION SEQUENCE AND TRAFFIC MAINTENANCE PLANS ---- 376-431
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RIGHT-OF-WAY ---- 527-540

SHEET 337 NOT USED

LINE DATA

BEGIN PROJECT S.R. 237	STA. 59+00	LENGTH OF WORK S.R. 237	8,702.05 L.F.
END PROJECT	STA. 108+82.82	BEGIN WORK SNOW ROAD	STA. 11+80.00
LENGTH OF PROJECT	4,982.82 L.F. OR 0.944 MILES	END WORK	STA. 30+00.00
		LENGTH WORK SNOW ROAD	1,820 L.F.
BEGIN WORK S.R. 237	STA. 44+36.00	BEGIN WORK BUDGET CAR RENTAL DRIVE	STA. 10+00.00
STATION EQUATION	STA. 45+64.25 BK. = STA. 45+58.58 AHD.	END WORK	STA. 17+23.00
STATION EQUATION	STA. 114+50 ℄ SB S.R. 237 = STA. 574+17.62, 8' LT. ℄ EXIST. AIRPORT FREEWAY	LENGTH WORK BUDGET CAR RENTAL DRIVE	723 L.F.
		TOTAL LENGTH OF WORK	11,245.05 L.F. OR 2,130 MILES
END WORK	STA. 591+00.00		

FILE NO.	PROJECT: CUYAHOGA COUNTY CUY-237-6.70 DATE OF LETTING CONTRACT NO.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
CUY-237-6.70

CITY OF BROOK PARK
CITY OF CLEVELAND
CUYAHOGA COUNTY

M-ID99(11)

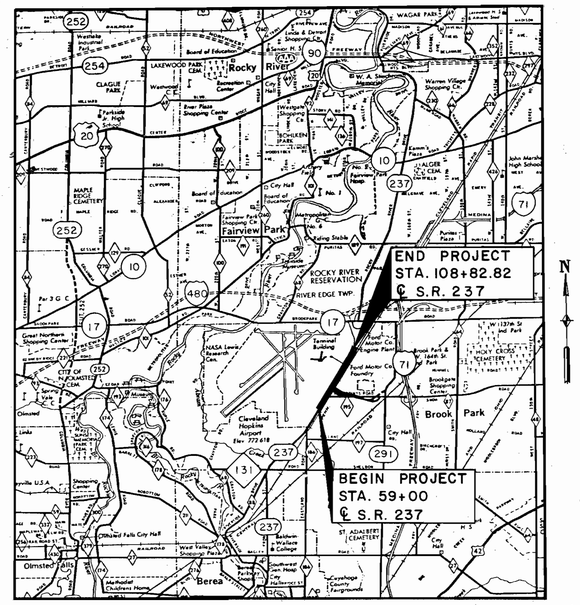
FHWA REGION	STATE	FEDERAL PROJECT	
5	OHIO	M-ID99(11)	

I 540

Federal No. IX-ID99(7) appearing throughout this plan shall be considered to read M-ID99(11).

CUYAHOGA COUNTY
CUY.-237-6.70
Project 813 (83)

MICROFILMED MAY 4 1992



LOCATION MAP

1 0 1 2
SCALE IN MILES

PLANS 0 50 100
INTERSECTION DETAILS 0 20 40
CROSS SECTIONS 0 5 10 HORIZ; 0 5 10 VERT
PROFILES 0 50 100 HORIZ; 0 5 10 VERT
SCALE IN FEET

Sheets 501, 509, 512, 513 revised 12-6-83 EBL

Sheets 515, 520 revised 5-10-84 EBL.
Sheet 513 revised 6-23-84 EBL

SUPPLEMENTAL SPECIFICATIONS	
803	5-27-83
836	3-12-75
824	10-8-82
810	10-19-81
839	11-25-70
843	10-23-75
849	10-19-81
939	6-28-82
948	2-19-74
SPECIAL PROVISIONS: TRAFFIC MANAGEMENT PLAN (TMP)	5-16-83

PREPARED AND RECOMMENDED BY

EUTHENICS INC.
Consulting Engineers
CLEVELAND, OHIO

D.W. KAMINSKI

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 IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02, REVISED CODE OF OHIO.

NOTE:
PROJECT DESIGNATION CUY-237-7.96/8.47 APPEARING THROUGHOUT THIS PLAN SHALL BE CONSIDERED TO READ CUY-237-6.70

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 THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED _____
DATE _____

APPROVED _____
DATE _____

APPROVED _____
DATE _____

APPROVED Martin A. Gallitz
DATE 5/11/83 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED Robert B. Chipka
DATE 5-23-83 ENGINEER, BUREAU OF BRIDGES AND STRUCTURAL DESIGN

APPROVED Wayne H. Kauble
DATE 7-1-83 CHIEF ENGINEER, PLANNING AND DESIGN

APPROVED Warren J. Smith
DATE 7-1-83 DIRECTOR, DEPARTMENT OF TRANSPORTATION

STANDARD CONSTRUCTION DRAWINGS

		CB-5	5-01-79	HL-1	9-06-73	HL-15	1-21-76	MC-5	6-12-75	TC-21.41	3-01-79	TC-42.20	3-26-79
BP-1	6-01-65	CB-6	5-01-79	HL-2	7-27-73	HL-16	4-06-73	MC-9	11-01-77	TC-22.10	3-01-79	TC-51.10	3-30-79
BP-2	12-06-76	LA-1	6-1-79	HL-3	7-27-73	HL-19	3-22-77	MH-1	6-12-75	TC-22.20	3-01-79	TC-52.10	4-03-79
BP-3	12-06-76	LA-2	6-1-79	HL-4	1-21-76	HL-22	11-09-77	MH-3	6-12-75	TC-41.41	8-02-79	TC-52.20	4-03-79
BP-4	7-16-81			HL-5	9-06-73	PSBD-1-81	9-18-81	MH-5	6-12-75	TC-31.21	3-06-79	TC-72.20	2-26-82
BP-6	6-01-65	F-1	5-01-76	HL-6	3-22-77	I-2	5-01-79	RB-1-55	2-02-59	TC-32.10	3-08-79	TC-81.10	4-10-79
BP-7	12-06-76	GR-2C	2-5-82	HL-7	1-21-76	I-2A	5-01-79	TC-7.65	3-01-79	TC-32.11	3-21-79	TC-83.10	4-13-79
BP-9	12-06-76	GR-1	2-05-82	HL-8	1-21-76	I-3A & B	4-01-80	TC-12.30	6-10-81	TC-35.10	10-05-77	TC-83.20	4-17-79
BP-10	1-03-75	GR-2B	2-05-82	HL-9	3-22-77			TC-9.10	4-24-80	TC-41.10	12-23-81	TC-85.20	4-18-79
CB-2-2-A&B	5-01-79	GR-3	2-05-82	HL-10	6-01-79	MC-1	6-13-69	TC-21.10	5-24-79	TC-41.20	3-26-79	TC-85.10	4-18-79
CB-3	5-01-79	GR-4	2-05-82	HL-11	6-01-79	MC-3	6-01-73	TC-21.20	5-31-79	TC-41.50	3-26-79		
CB-3A	5-01-79	GR-6	2-05-82	HL-12	4-06-73	MC-4	7-26-76	TC-21.40	3-01-79	TC-42.10	8-19-77	SD-1-69	SH. 1,2,83
CB-4,5,8A	5-1-79	GR-3B	2-05-82	AS-1-81	11-27-81	MC-6	6-01-65	MC-9A	5-01-81	TC-41.40	6-18-79	6-12-69	
CB-2-5&2 ℄	5-1-79	BP-5	7-16-81	BR-2-82	11-1-82	HW-4B	4-01-80	MC-11	8-01-78	TC-51.11	4-03-79	TC-71.10	4-09-79
						GR-4A	2-05-82	TC-16.20	3-01-79	TC-61.10	4-05-82	TC-81.20	4-08-80

582 1246

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

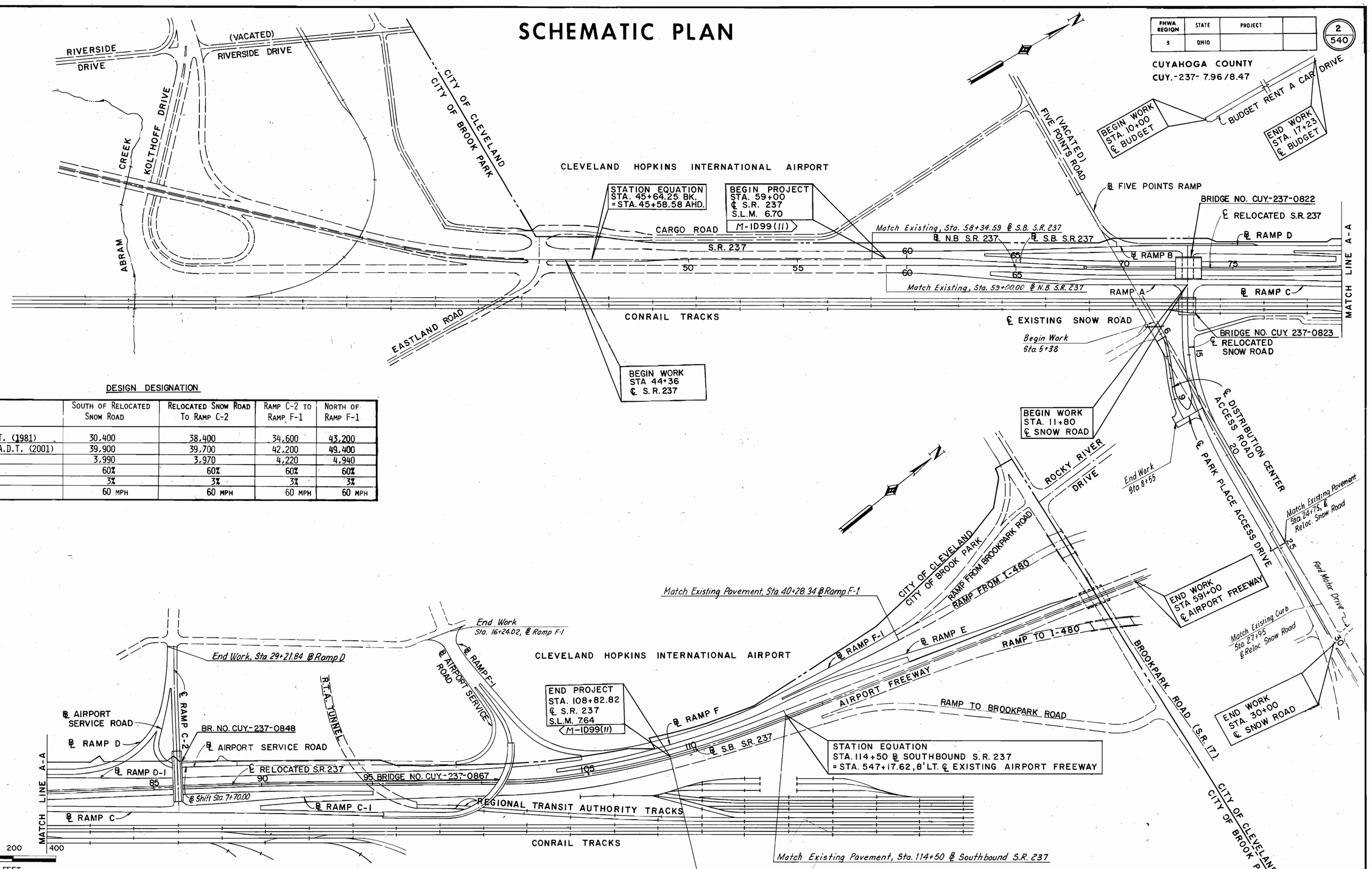
DIVISION ADMINISTRATOR DATE

SCHEMATIC PLAN

FHWA REGION	STATE	PROJECT	
5	OHIO		

2
540

CUYAHOGA COUNTY
CUY.-237- 7.96/8.47



DESIGN DESIGNATION

	South of Relocated Snow Road	Relocated Snow Road To Ramp C-2	Ramp C-2 to Ramp F-1	North of Ramp F-1
Current A.D.T. (1981)	30,400	38,400	34,600	43,200
Design Year A.D.T. (2001)	39,900	39,700	42,200	49,400
D.H.V.	3,990	3,970	4,220	4,940
D.	60%	60%	60%	60%
T	3%	3%	3%	3%
V	60 MPH	60 MPH	60 MPH	60 MPH

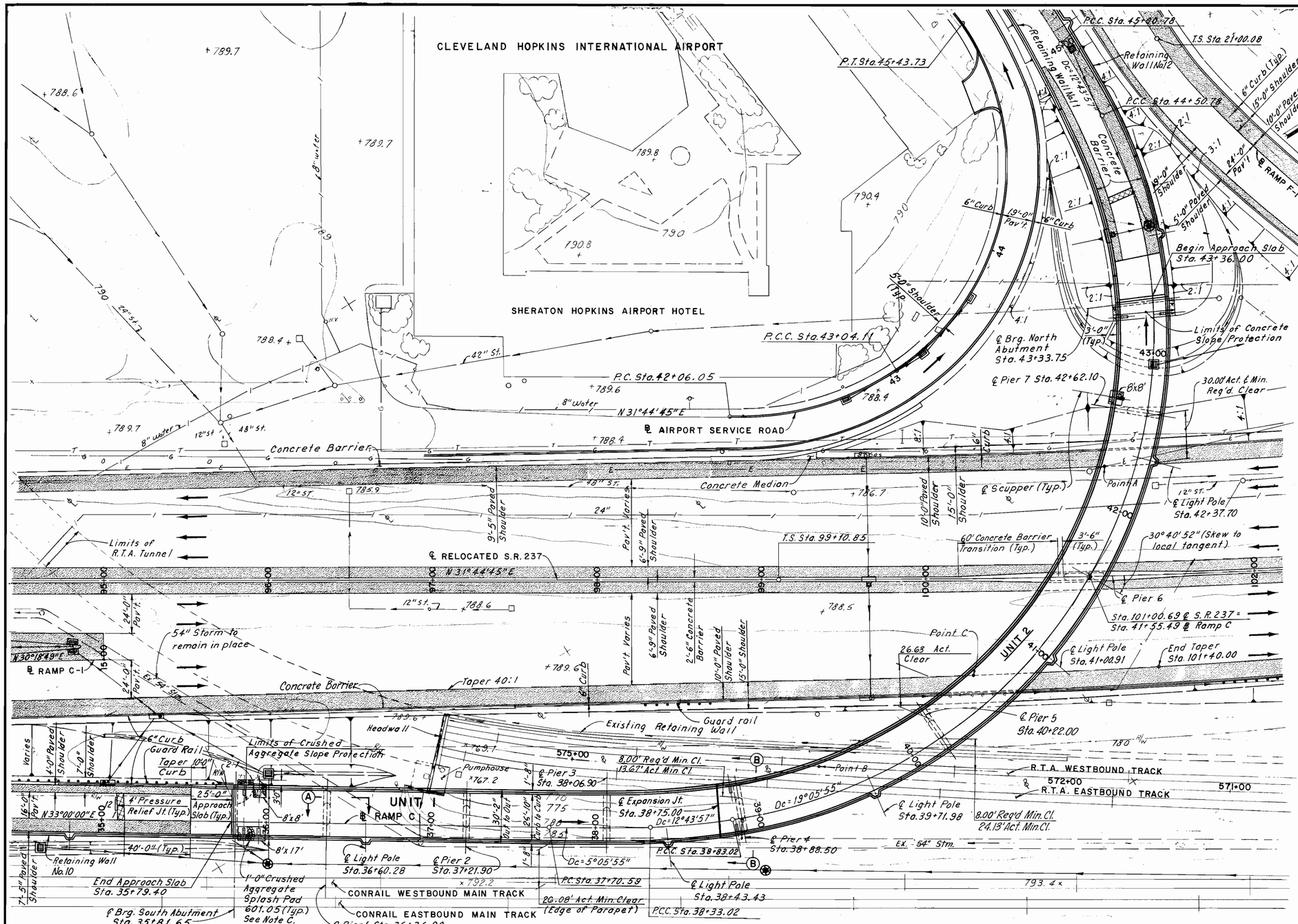
SCALE As Shown
MADE WCH DATE 11-14-77
TRCD. G.F. DATE 11-16-77
CKD. RSW DATE 4-6-79

EUTHENICS INC.
CONSULTING ENGINEERS
CLEVELAND OHIO

FHWA REGION	STATE	PROJECT	
5	OHIO		

499
540

CUYAHOGA COUNTY
CUY.-237- 7.96/8.47



PLAN
SCALE: 1" = 30'

PROPOSED STRUCTURE

TYPE: UNIT 1 - CONTINUOUS STEEL BEAM (ASTM A588, UNPAINTED) WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
UNIT 2 - CONTINUOUS WELDED STEEL CURVED GIRDER (ASTM A588, UNPAINTED) WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: UNIT 1 - 55'-3", 85'-0", 85'-0 1/8" AND 67'-7 1/8" (MEASURED ALONG ℄ RAMP C)
UNIT 2 - 14'-0" CANTILEVER, 133'-6", 133'-5 7/8", 106'-7 3/8" AND 71'-7 3/4" (MEASURED ALONG ℄ RAMP C)

ROADWAY: 28'-0" FACE TO FACE OF PARAPETS

LOADING: HS 20-44 AND ALTERNATE MILITARY LOADING, CASE II

SKEW: UNIT 1 & 2 - SUBSTRUCTURE ELEMENTS PERPENDICULAR TO ℄ RAMP C, EXCEPT 30° 40' 52" RIGHT FORWARD AT PIER 6

WEARING SURFACE: MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-72 (25'-0" LONG)

ALIGNMENT: TANGENT, 5° 05' 55" LEFT, 12° 43' 57" LEFT AND 19° 05' 55" LEFT

SUPERELEVATION: 0.0156 FT. PER FT. TO 0.060 FT. PER FT.

EARTHWORK:

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.

TRAFFIC DATA: (1995) (RAMP C)

4940 A.D.T.
150 A.D.T.T.

NOTES:

FOR DETAILS AND RELOCATION OF EXISTING UTILITIES SEE ROADWAY PLANS.

FOR CLEARANCE AT POINTS A, B AND C SEE SHEET 2/27

FOR SECTION A-A & B-B SEE SHEET 2/27.

FOR DETAILS OF LIGHT POLE SUPPORTS SEE COMMON DETAILS SHEET CD1

NOTE C: THE CRUSHED AGGREGATE SPLASH PADS SHALL BE CENTERED DIRECTLY UNDER THE SCUPPER DOWNSPOUT AND SHALL BE SO PLACED AS TO BLEND WITH THE EXISTING CONTOURS.

EUTHENICS INC.
CONSULTING ENGINEERS
CLEVELAND OHIO

SITE PLAN

RAMP C
OVER S.R. 237 AND R.T.A. TRACKS

BR. NO. CUY.-237-0867 STA. 35+79.40' TO STA. 43+36.00

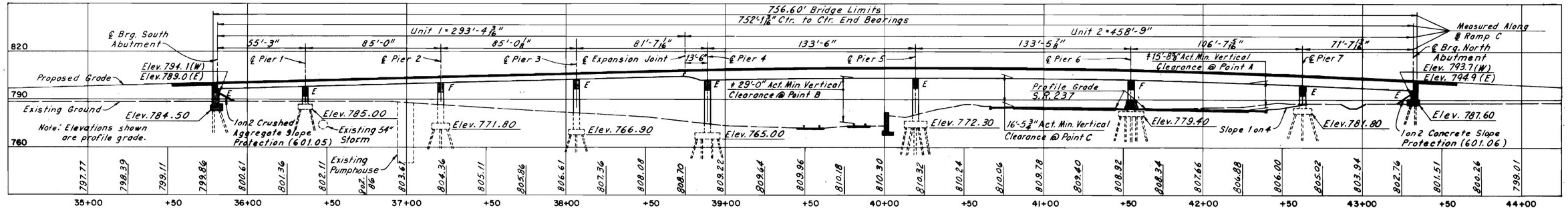
CUYAHOGA COUNTY OHIO

Made KRD	Trcd. JSC	Ckd. LJD	Rev.	Revised
Date 12-8-77	Date 12-8-77	Date 3-26-79	Date	Sheet 1/27

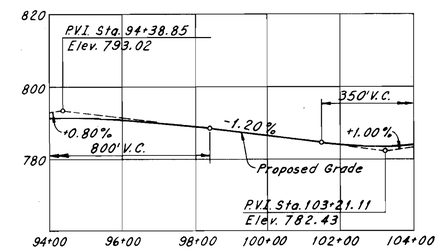
FHWA REGION	STATE	PROJECT	
5	OHIO		

500
540

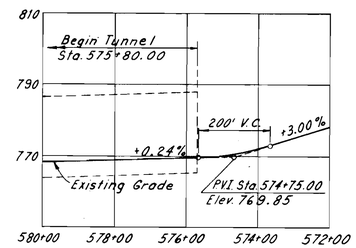
CUYAHOGA COUNTY
CUY.-237-7.96/8.47



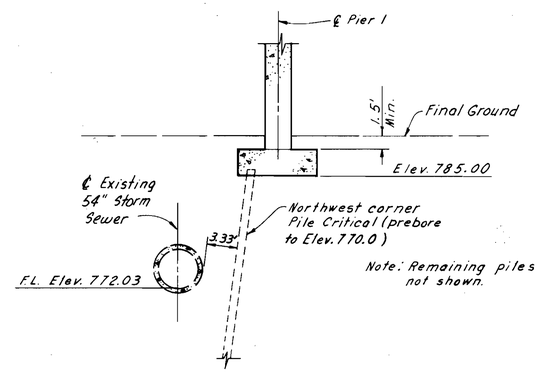
ELEVATION
SCALE: 1" = 30'



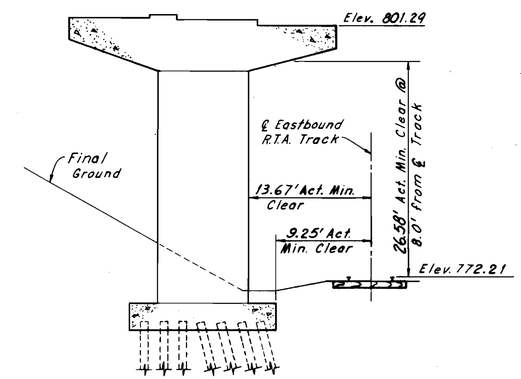
PROFILE S.R.237



PROFILE R.T.A. TRACK



SECTION A-A
(Pier 1)

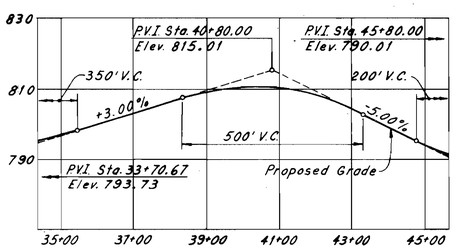


SECTION B-B
(Pier 4)

CURVE DATA-℄ RAMP C

P.I.	= STA. 38+01.81	P.I.	= STA. 42+99.24
Δ	= 3° 10' 59"	Δ	= 108° 26' 00"
Dc	= 5° 05' 55" LEFT	Dc	= 19° 05' 55" LEFT
R	= 1123.74'	R	= 300.00'
T	= 31.22'	T	= 416.22'
L	= 62.43'	L	= 567.76'
E	= 0.43'	E	= 213.06'

P.I.	= STA. 38+58.05	P.I.	= STA. 44+75.81
Δ	= 6° 21' 58"	Δ	= 6° 21' 58"
Dc	= 12° 43' 57" LEFT	Dc	= 12° 43' 57" LEFT
R	= 450.00'	R	= 450.00'
T	= 25.03'	T	= 25.03'
L	= 50.00'	L	= 50.00'
E	= 0.70'	E	= 0.70'



PROFILE RAMP C

CURVE DATA-℄ S.R.237

TS = STA. 99+10.85
SC = STA. 103+10.85
θs = 4° 30' 00"
LT = 266.75'
Ls = 400.00"
ST = 133.41'
P = 2.62'
K = 199.96'

* NOTE: 15'-0" REQUIRED MINIMUM VERTICAL CLEARANCE AT POINT A AND 22'-0" AT POINT B. ACTUAL MINIMUM VERTICAL CLEARANCE AT POINT A OCCURS AT THE INTERSECTION OF THE NORTHWEST EDGE OF PAVEMENT OF SOUTHBOUND 237 AND THE SOUTH EDGE OF THE SOUTH EXTERIOR GIRDER. ACTUAL MINIMUM VERTICAL CLEARANCE AT POINT B OCCURS AT THE INTERSECTION OF THE EAST RAIL OF THE WESTBOUND R.T.A. TRACK AND THE WEST EDGE OF THE WEST EXTERIOR GIRDER.

NOTES:

ALL PILES SHALL BE STEEL H PILES HP 10x42 WITH AN ALLOWABLE DESIGN LOAD OF 55 TONS. ESTIMATED AVERAGE PAY LENGTHS ARE AS FOLLOWS:
NORTH AND SOUTH ABUTMENTS = 35 FT.
PIERS 1,2,3,5 AND 6 = 35 FT.
PIERS 4 AND 7 = 25 FT.

FOR DETAILS AND RELOCATION OF EXISTING UTILITIES SEE ROADWAY PLANS.

FOR LOCATION OF SECTIONS A-A AND B-B SEE SHEET 1/8.

EUTHENICS INC.
CONSULTING ENGINEERS
CLEVELAND OHIO

SITE PLAN

RAMP C
OVER S.R. 237 AND R.T.A. TRACKS

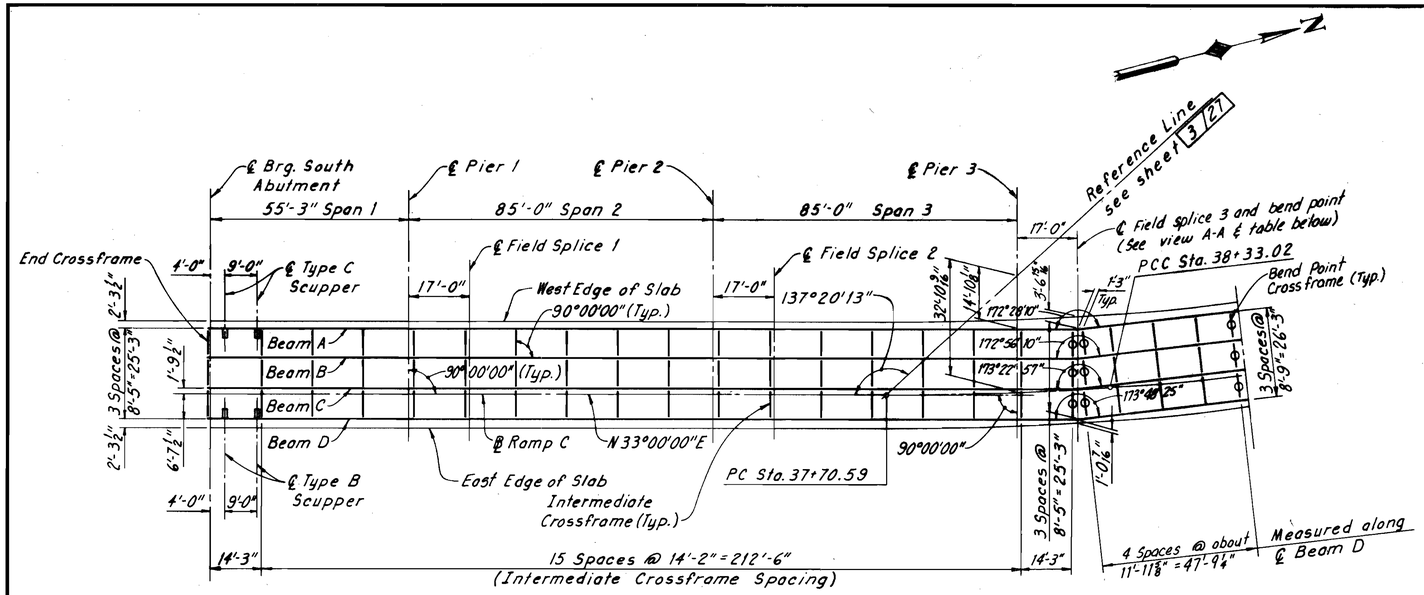
BR. NO. CUY.-237-0867 STA. 35+79.40 TO STA. 43+36.00
CUYAHOGA COUNTY OHIO

Made KRD	Trcd. JSC	Ckd. LJD	Rev.	Revised
Date 12-8-77	Date 12-8-77	Date 3-26-79	Date	Sheet 2/27

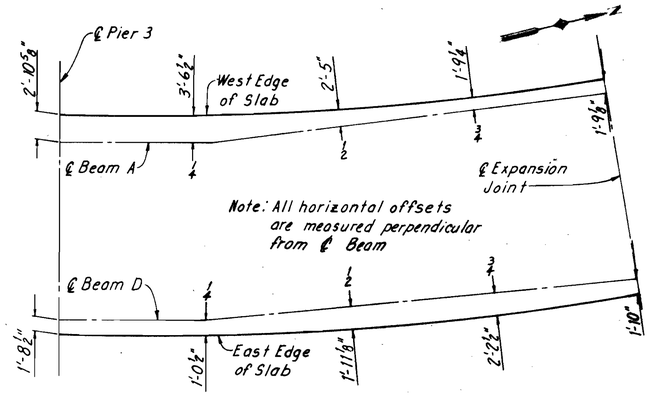
FHWA REGION	STATE	PROJECT	
5	OHIO		

511
540

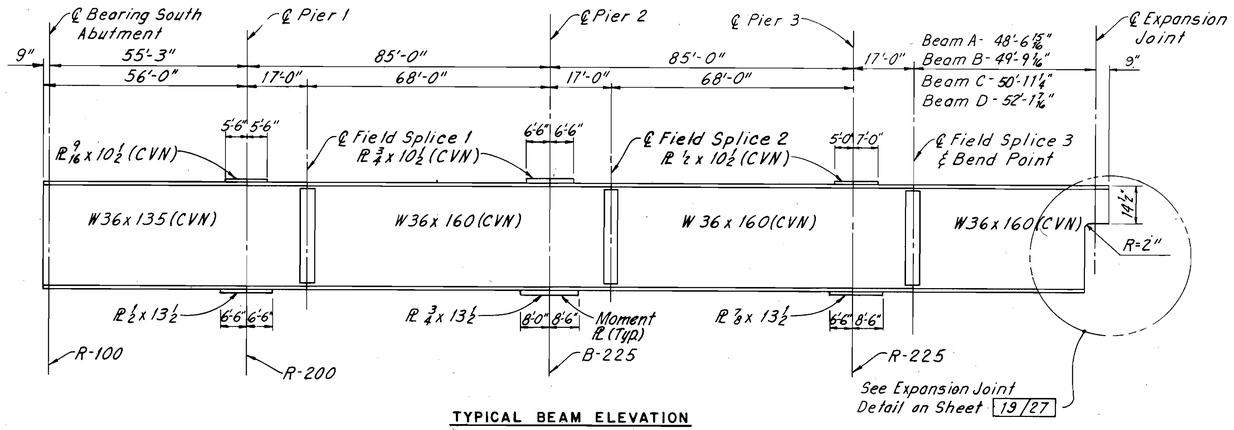
CUYAHOGA COUNTY
CUY.-237-7.96/8.47



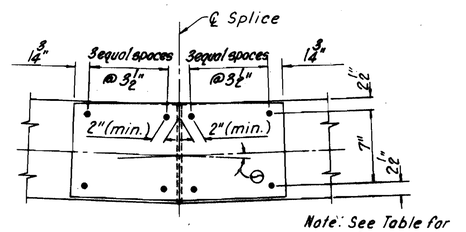
FRAMING PLAN-UNIT I



HORIZONTAL OFFSETS FOR SPAN 4



TYPICAL BEAM ELEVATION



VIEW A-A
(Field Splice 3 only)

BEAMS	BEND ANGLE ⊖
A	7° 31' 50"
B	7° 03' 50"
C	6° 37' 03"
D	6° 11' 35"

NOTES:

FOR MOMENT PLATE WELD DETAILS SEE OHIO STANDARD DRAWING SD-1-69 SHEET 3 OF 4.

ALL BEAM FIELD SPLICES SHALL BE MADE WITH 1" Ø HIGH STRENGTH BOLTS WHICH SHALL CONFORM TO ASTM A325. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF THE EXTERIOR BEAMS AND ON THE BOTTOM OF THE FLANGES. FOR ADDITIONAL DETAILS AND NOTES SEE OHIO STANDARD DRAWING SD-1-69, SHEET 4 OF 4.

WHERE "(CVN)" FOLLOWS A SHAPE OR PLATE SIZE DESIGNATION, THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS. THE FABRICATOR SHALL SUBMIT TO THE DIRECTOR A PROCEDURE DESIGNED FOR POSITIVE IDENTIFICATION OF MATERIAL THROUGH ALL PHASES OF FABRICATION. NO MATERIAL SHALL BE FABRICATED UNTIL THE DIRECTOR HAS APPROVED THE PROCEDURE.

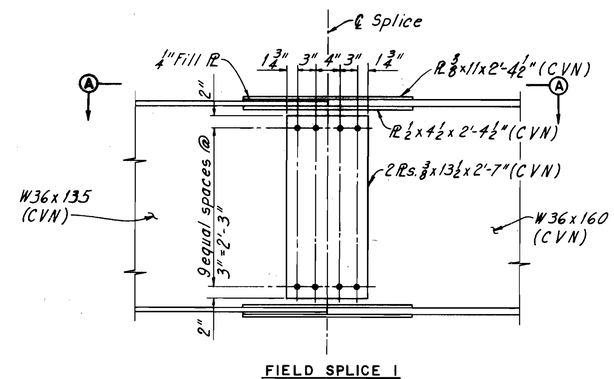
FOR SCUPPER TYPES AND DETAILS SEE SHEET 23/27.

FOR DETAILS OF ROCKERS AND BOLSTERS SEE OHIO STANDARD DRAWING RB-1-55.

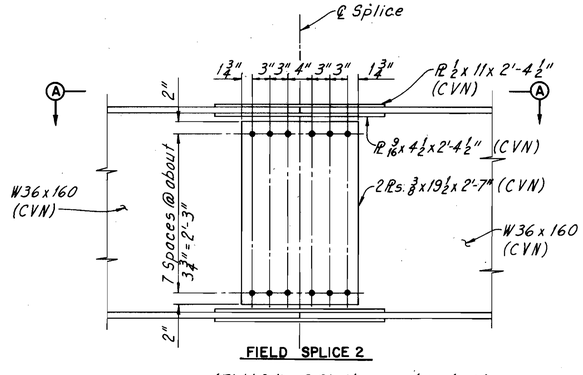
FOR DETAILS OF END CROSSFRAMES SEE OHIO STANDARD DRAWINGS SD-1-69, SHEET 1 OF 4.

FOR DETAILS OF INTERMEDIATE CROSSFRAMES AND BEND POINT CROSSFRAMES SEE SHEET 16/27.

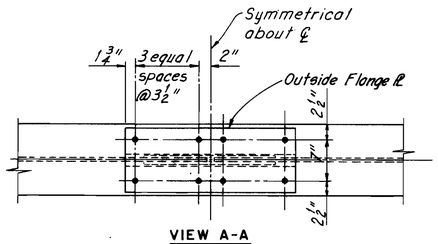
FOR END DAM DETAILS AT SOUTH ABUTMENT SEE SHEET 20/27.



FIELD SPLICE 1



FIELD SPLICE 2
(Field Splice 3 Similar except as shown)



VIEW A-A
(Field Splice 1 and 2)

EUTHENICS INC.
CONSULTING ENGINEERS
CLEVELAND OHIO

FRAMING PLAN & BEAM ELEVATION
UNIT I
RAMP C
OVER S.R. 237 AND R.T.A. TRACKS

BR. NO. CUY.-237-0867 STA. 35+79.40 TO STA. 43+36.00

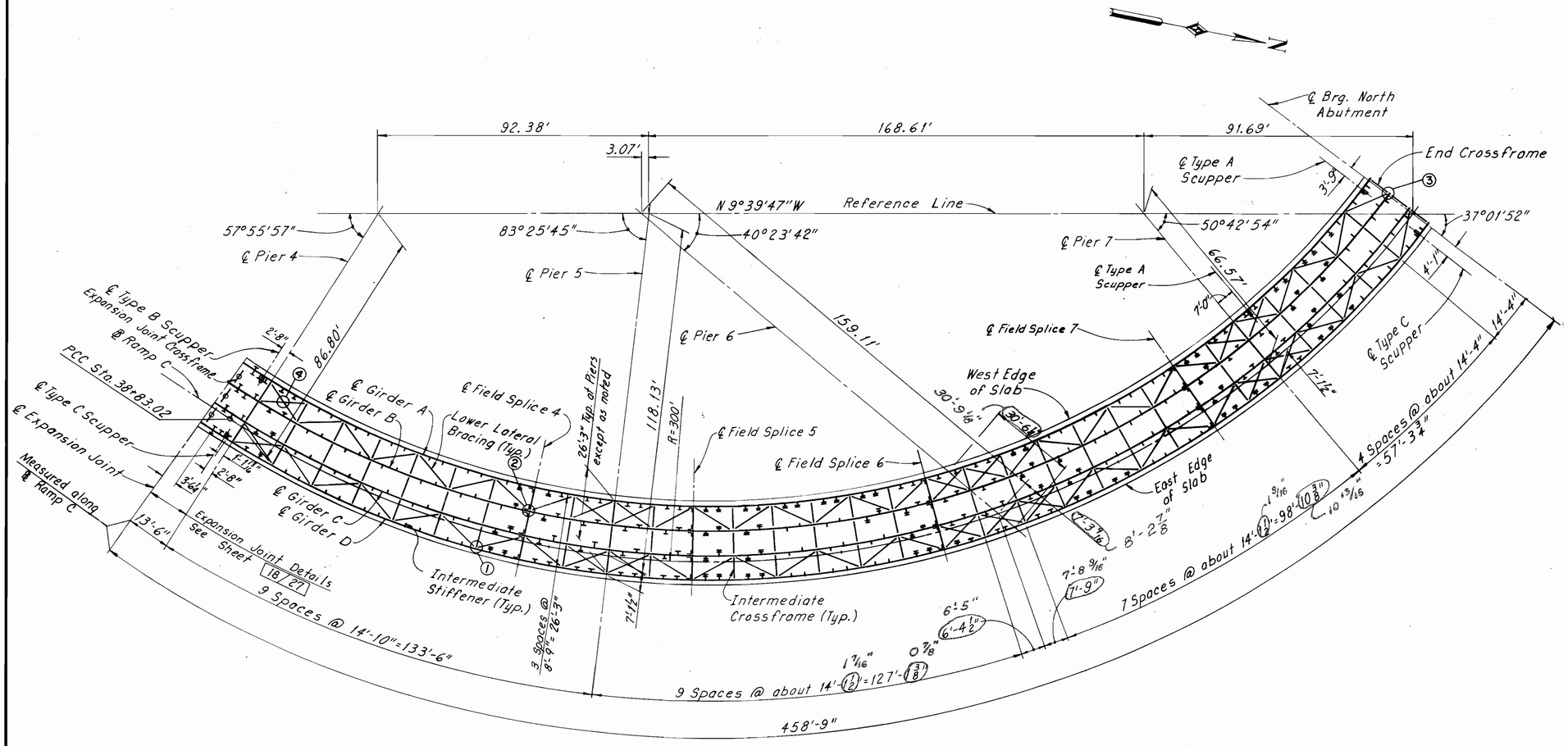
CUYAHOGA COUNTY OHIO

Mode LH	Trcd. JSC	Chkd. LJD	Rev.	Revised
Date 2-5-79	Date 2-7-79	Date 4-2-79	Date	Sheet 13/27

FHWA REGION	STATE	PROJECT	
5	OHIO		

512
540

CUYAHOGA COUNTY
CUY.-237-7.96/8.47



PART FRAMING PLAN -UNIT 2

NOTES:

For Field Splice Details and Stiffener sizes see Sheet 15/27.

For end crossframe details, lateral bracing details types ①, ②, ③, and ④, and Steel Pot Bearing Details see Sheet 21/27.

For Scupper Details see Sheet 23/27.

For Intermediate Crossframe Details see Sheet 17/27.

For Typical Roadway Expansion Joint Details at Abutment see Sheet 20/27.

Girders may not be heat curved.

The Girders shall be fabricated to compensate for the effects of dead load deflections and vertical curvature. The top of the girder web shall parallel the profile of the roadway surface directly over the center line of the girders.

Top and bottom flange plates are to be the same and shall be spliced at points shown on the girder elevation. The web plates may be shop spliced as required by available plate lengths. The location of shop web splices and the locations and details of any additional shop flange splices shall be submitted to the Director for approval prior to ordering of materials.

Intermediate stiffener plates shall be placed as shown on the framing plan equally spaced between crossframes, or crossframes and bearing stiffeners, or crossframes and field splices, except the first two stiffener spaces at the North Abutment shall be one-half of this spacing. Stiffeners shall have a tight fit or be welded as indicated on the framing plan. A tight fit is defined as allowing a gap of up to 1/16 inch between stiffener and flange. The stiffeners shall be clipped at the corners to clear the web-to-flange weld. The dimensions of the clip shall be 2 1/2" along the web and 1" along the flange.

Bearing stiffeners at piers and abutments shall be placed in pairs on all girders. Except where required for crossframe connections intermediate stiffeners shall be used on alternate sides of the interior girders and on the inside of the fascia girders. Intermediate stiffeners and bearing stiffeners at piers shall be normal to the top flange. Bearing stiffeners at abutments shall be vertical.

The Contractor shall submit to the Director for approval three prints showing his proposed erection procedure.

Flange butt welds shall be ground in tension areas only. Except for webs of fascia girders, web welds shall be ground flush from the neutral axis of the web to the flange which is in tension. Webs of fascia girders shall be ground flush for their full depth. Grinding shall be done in direction of stress.

GIRDER RADII	
GIRDER	
A	280'-10 1/2"
B	289'-7 1/2"
C	298'-4 1/2"
D	307'-1 1/2"

FRAMING PLAN LEGEND

⊥ Indicates intermediate stiffener welded to top flange and tight fit at bottom flange.

T Indicates intermediate stiffener welded to bottom flange and tight fit at top flange.

∓ Indicates intermediate stiffener having a tight fit with both the top and bottom flanges.

Intermediate stiffeners located at crossframes are shown on the Typical Cross Section see Sheet 17/27.

① Indicates the Lower Lateral Bracing see Sheet 21/27.

EUTHENICS INC.
CONSULTING ENGINEERS
CLEVELAND OHIO

FRAMING PLAN -UNIT 2
RAMP C
OVER S.R. 237 AND R.T.A. TRACKS

BR. NO. CUY.-237-0867 STA. 35+79.40 TO STA. 43+36.00

CUYAHOGA COUNTY OHIO

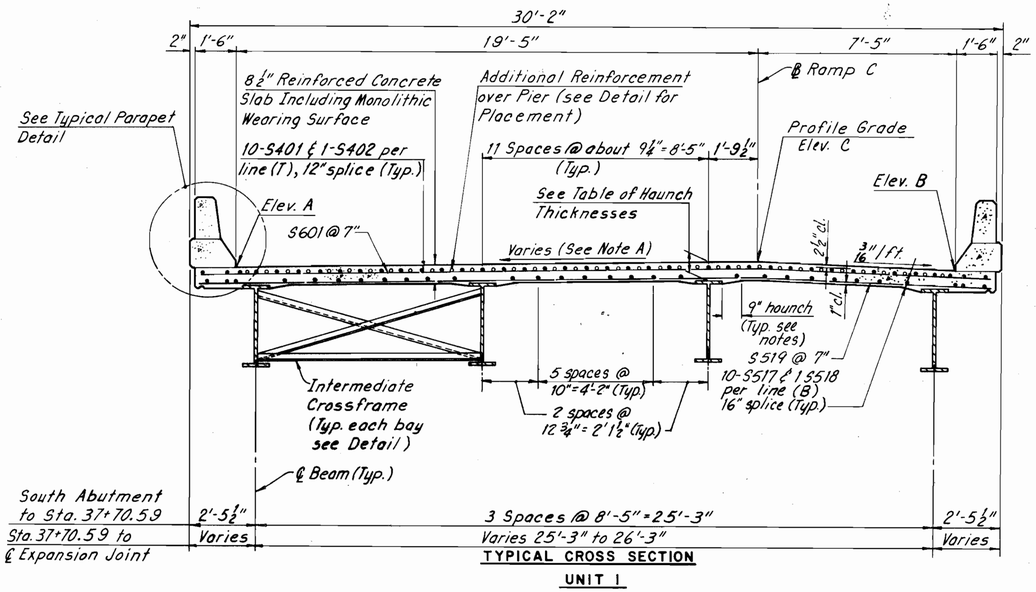
Mode LH	Trcd. JSC	Ckd. LJD	Rev.	Revised
Date 2-15-79	Date 2-17-79	Date 4-3-79	Date	Sheet 14/27

Revised 12-8-83 EBL

FHWA REGION	STATE	PROJECT	
5	OHIO		

514/540

CUYAHOGA COUNTY
CUY.-237-7.96/8.47

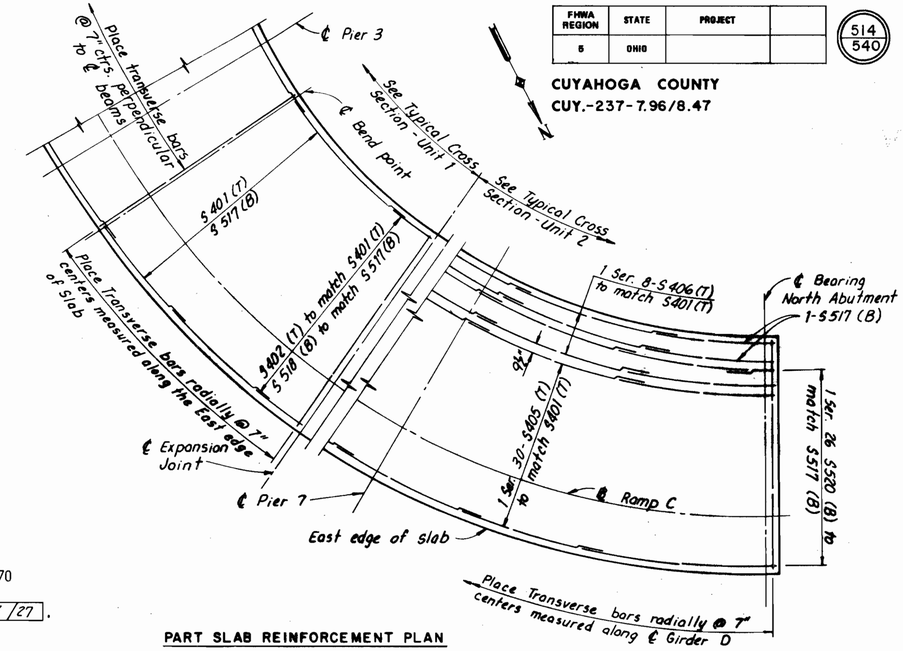


TYPICAL CROSS SECTION
UNIT 1

TABLE OF HAUNCH THICKNESS		
BEAM	A, B & C	D
SOUTH ABUT.	9⅞"	9⅝"
PIER 1	9⅝"	9⅝"
PIER 2	9⅞"	9⅞"
PIER 3	9½"	9⅞"
EXP. JT.	9⅝"	9⅞"

NOTE:
HAUNCH THICKNESS IS TOP OF BEAM TO TOP OF PAVEMENT AT ℄ BEARING.

NOTE A: FROM SOUTH ABUTMENT TO STA. 37+58.70 CROSS SLOPE IS 3/16" PER FT. FROM STA. 37+58.70 TO ℄ EXPANSION JOINT CROSS SLOPE VARIES SEE SUPERELEVATION TRANSITION DIAGRAM ON SHEET 17/27.



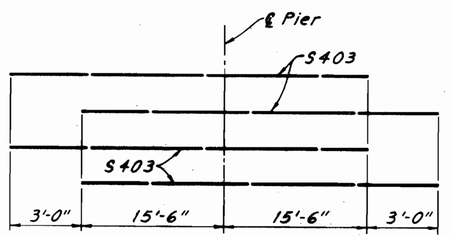
PART SLAB REINFORCEMENT PLAN

NOTES:

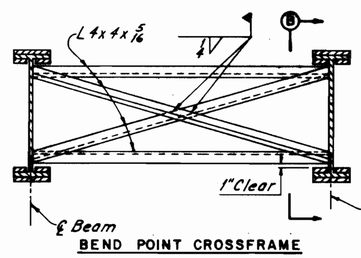
DECK SLAB DEPTH - THIS IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER ANTICIPATED IN THE DESIGN (SEE BEAM CAMBER TABLE).

A TYPICAL 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.

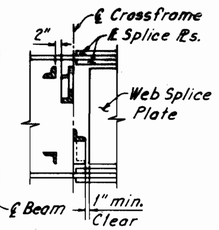
ALL TOP BAR MAT REINFORCING AND INSIDE FACE OF PARAPET REINFORCING SHALL BE EPOXY COATED.



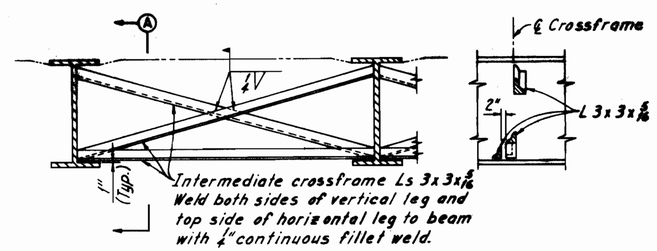
ADDITIONAL REINFORCEMENT OVER PIERS
(Typ. at Piers 1 thru 3)
Epoxy Coated



BEND POINT CROSSFRAME



SECTION B-B



INTERMEDIATE CROSSFRAME

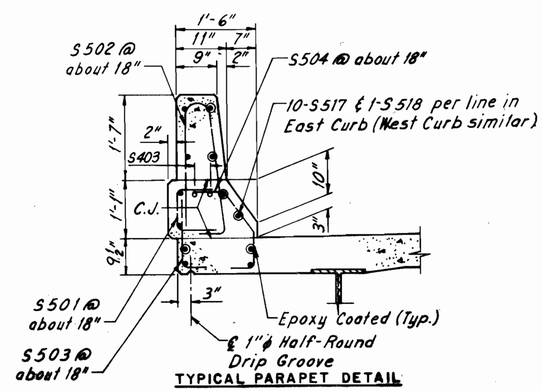
SECTION A-A

TOP OF PAVEMENT ELEVATIONS (Top of Portland Cement Concrete) FINAL ELEVATIONS																	
BEAM	SPAN 1					SPAN 2				SPAN 3				SPAN 4			
	℄ BRG. S. ABUT.	¼	½	¾	℄ PIER 1	FIELD SPLICE 1	½	¾	℄ PIER 2	FIELD SPLICE 2	½	¾	℄ PIER 3	FIELD SPLICE 3	½	¾	℄ EXP. JOINT
A	799.77	800.18	800.60	801.01	801.43	801.94	802.70	803.34	803.98	804.49	805.21	805.71	806.24	806.67	807.00	807.31	807.61
B	799.90	800.31	800.73	801.14	801.56	802.07	802.83	803.47	804.11	804.62	805.36	805.92	806.51	806.99	807.38	807.75	808.10
C	800.03	800.45	800.86	801.27	801.69	802.20	802.96	803.60	804.24	804.75	805.51	806.13	806.78	807.31	807.76	808.19	808.60
D	799.96	800.37	800.78	801.20	801.62	802.12	802.89	803.53	804.17	804.67	805.44	806.10	806.74	807.26	807.82	808.31	808.76

NOTE: TOP OF PAVEMENT ELEVATIONS ARE ALONG ℄ OF BEAMS.

GUTTER LINE AND ℄ ELEVATIONS (Top of Portland Cement Concrete) Screed Elevation																	
ELEV.	SPAN 1					SPAN 2				SPAN 3				SPAN 4			
	℄ BRG. S. ABUT.	¼	½	¾	℄ PIER 1	¼	½	¾	℄ PIER 2	¼	½	¾	℄ PIER 3	¼	½	¾	℄ EXP. JOINT
A	799.76	800.19	800.60	801.00	801.41	802.09	802.75	803.36	803.96	804.63	805.25	805.74	806.21	806.59	807.01	807.34	807.57
B	799.94	800.38	800.78	801.19	801.60	802.28	802.94	803.55	804.15	804.81	805.47	806.10	806.74	807.31	807.85	808.33	808.73
C	℄ Elevations @ Superelevation Transition										805.59	806.21	806.82	807.35	807.88	808.33	808.66

NOTES:
THE GUTTER AND ℄ ELEVATIONS ARE THOSE WHICH ARE REQUIRED BEFORE CONCRETE IS PLACED.
PROPER ALLOWANCES HAVE BEEN MADE FOR THE DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE.



TYPICAL PARAPET DETAIL

NOTE: FOR DEFLECTION JOINT SPACING AND REINFORCEMENT IN PARAPET SEE SHEET 24/27.

NOTES:
LONGITUDINAL REINFORCING STEEL SHALL BE FIELD CUT AS NECESSARY TO AVOID INTERFERENCE WITH SCUPPERS. ALSO EPOXY COATED BARS THAT ARE FIELD CUT SHALL BE TREATED AS PER APPROVED MANUFACTURER'S RECOMMENDATIONS.
FIELD BEND TRANSVERSE BARS TO FIT CROWN. BENDING TO BE INCLUDED IN ITEM 509 FOR PAYMENT. EPOXY COATED BARS DAMAGED BY FIELD BENDING SHALL BE REPAIRED AS PER APPROVED MANUFACTURER'S RECOMMENDATIONS.
ALL REINFORCING BARS SHALL BE PREFIXED S
FOR ADDITIONAL NOTES SEE SHEET 13/27
FOR LIGHT POLE SUPPORT DETAILS SEE SHEET CO 1

EUTHENICS INC.
CONSULTING ENGINEERS
CLEVELAND OHIO

TYPICAL CROSS-SECTION AND ELEVATIONS - UNIT 1
RAMP C
OVER S.R. 237 AND R.T.A. TRACKS

BR. NO. CUY.-237-0867 STA. 35+79. TO STA. 43+35.
CUYAHOGA COUNTY OHIO

Made LH	Trced JSC	Ckd. LJD	Rev.	Revised
Date 2-19-79	Date 2-21-79	Date 4-6-79	Date	Sheet 16/27

NOTES:

THE GUTTER AND ℄ ELEVATIONS ARE THOSE WHICH ARE REQUIRED BEFORE CONCRETE IS PLACED.

PROPER ALLOWANCES HAVE BEEN MADE FOR THE DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE.

FHWA REGION	STATE	PROJECT	
5	OHIO		

515
540

CUYAHOGA COUNTY
CUY.-237-7.96/8.47

GUTTER LINE AND ℄ ELEVATIONS (Top of Portland Cement Concrete) Screed Elevations

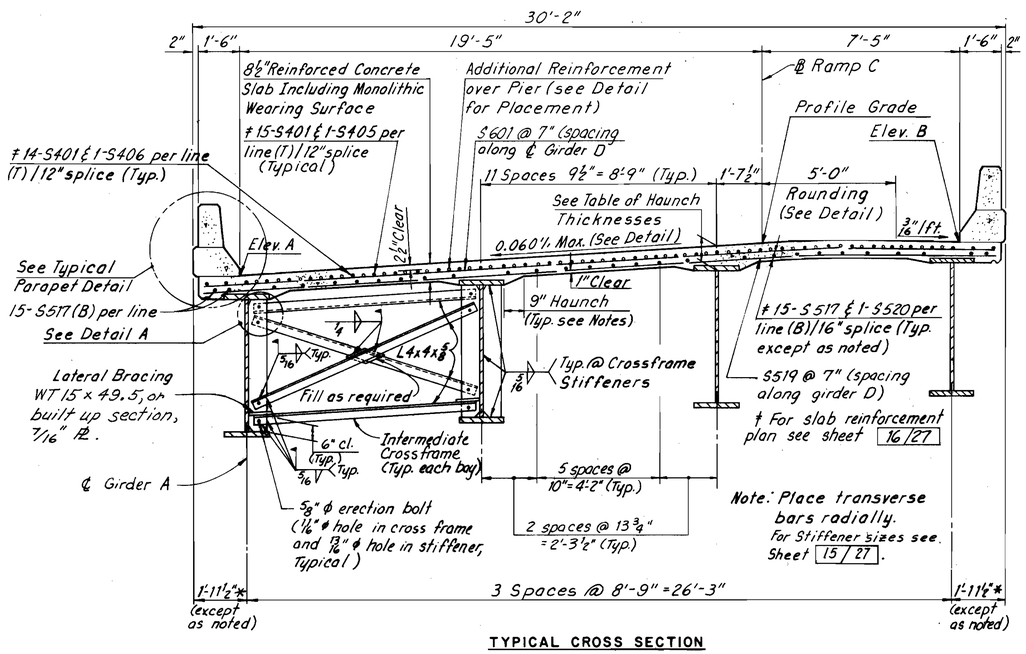
ELEV.	SPAN 5										SPAN 6										SPAN 7				SPAN 8				
	℄ PIER 4	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER 5	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER 6	0.2	0.4	0.6	0.8	℄ PIER 7	1/4	1/2	3/4	℄ BRG. N. ABUT.
A	807.83	808.10	808.33	808.54	808.72	808.87	808.99	809.08	809.13	809.15	809.16	809.14	809.09	809.02	808.93	808.83	808.69	808.52	808.33	808.12	807.90	807.38	806.78	806.07	805.27	804.37	803.64	802.87	802.04	801.16
B	809.06	809.37	809.64	809.87	810.06	810.20	810.30	810.37	810.40	810.40	810.39	810.37	810.33	810.26	810.16	810.03	809.85	809.63	809.38	809.09	808.78	808.28	807.73	807.11	806.38	805.61	804.89	804.11	803.29	802.40
℄	808.99	809.27	809.56	809.79	809.98	810.12	810.23	810.29	810.32	810.33	810.32	810.30	810.26	810.20	810.10	809.97	809.81	809.60	809.36	809.09	808.80	808.30	807.75	807.10	806.35	805.54	804.82	804.05	803.22	802.32

TOP OF PAVEMENT ELEVATIONS (Top of Portland Cement Concrete) Final Elevations

GIRDER	SPAN 5										SPAN 6										SPAN 7				SPAN 8				
	℄ PIER 4	0.1	0.2	0.3	0.4	0.5	0.6	0.7	FIELD SPLICE 4	0.9	℄ PIER 5	0.1	FIELD SPLICE 5	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER 6	0.2	0.4	0.6	FIELD SPLICE 7	℄ PIER 7	1/4	1/2	3/4	℄ BRG. N. ABUT.
A	807.84	808.10	808.34	808.54	808.72	808.86	808.98	809.07	809.12	809.17	809.17	809.15	809.09	809.04	808.95	808.84	808.70	808.54	808.35	*808.07	807.91	807.39	806.77	806.07	804.93	804.39	803.66	802.88	802.05	801.17
B	808.37	808.63	808.86	809.07	809.24	809.39	809.51	809.60	809.65	809.69	809.70	809.68	809.61	809.55	809.46	809.33	809.18	809.00	808.80	*808.60	808.32	807.80	807.20	806.52	805.45	804.91	804.19	803.41	802.58	801.70
C	808.89	809.16	809.39	809.59	809.77	809.92	810.03	810.12	810.17	810.22	810.22	810.20	810.14	810.07	809.96	809.82	809.66	809.47	809.25	*809.12	808.72	808.21	807.63	806.97	805.98	805.44	804.71	803.93	803.10	802.22
D	809.07	809.33	809.56	809.77	809.94	810.09	810.21	810.30	810.35	810.39	810.40	810.37	810.31	810.23	810.12	809.97	809.79	809.59	*809.30	809.08	808.79	808.29	807.72	807.08	806.15	805.61	804.89	804.11	803.28	802.40

*Elevation at Field Splice 6.

805.43 (A)
805.96 (B)
806.43 (C)
806.66 (D)



TYPICAL CROSS SECTION
UNIT 2

NOTES:

DECK SLAB DEPTH - THIS 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 ANTICIPATED IN THE DESIGN (SEE GIRDER CAMBER TABLE).

ALL TOP BAR MAT REINFORCING AND INSIDE FACE OF PARAPET REINFORCING SHALL BE EPOXY COATED.

A TYPICAL 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.

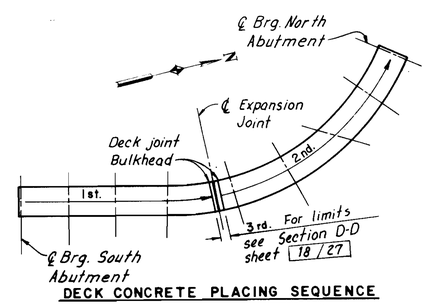
ALL TOP BAR MAT REINFORCING AND INSIDE FACE OF PARAPET REINFORCING SHALL BE EPOXY COATED.

*VARIES FROM 1'-11 1/8" GIRDER A AND 2'-0" GIRDER D AT ℄ EXPANSION JOINT TO 1'-11 1/2" AT PCC STA. 38+83.02.

TABLE OF HAUNCH THICKNESS			
GIRDER	A	B & C	D
HAUNCH THICKNESS	11¼"	11¾"	11⅛"

NOTE:

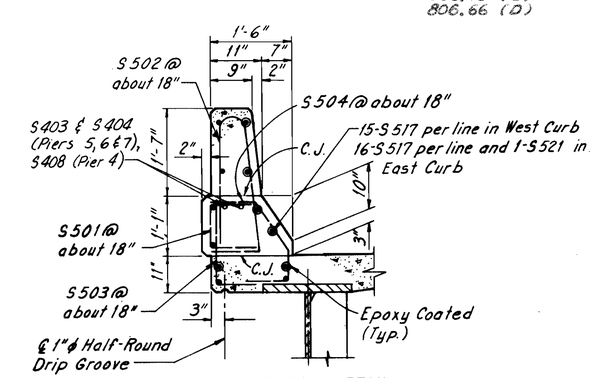
HAUNCH THICKNESS IS TOP OF WEB TO TOP OF PAVEMENT.



DECK CONCRETE PLACING SEQUENCE

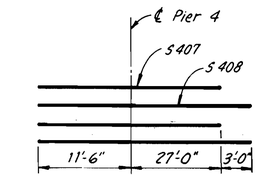
BEGIN POUR SEQUENCE AT SOUTH ABUTMENT AND PROCEED NORTH TO DECK JOINT BULKHEAD AT EXPANSION JOINT. CONTINUE NORTH FROM DECK JOINT BULKHEAD AT EXPANSION JOINT TO NORTH ABUTMENT. PLACE CONCRETE WITHIN BULKHEAD AREA.

THE CONTRACTOR MAY ALTER THE PLACEMENT SEQUENCE WITH WRITTEN APPROVAL OF THE DIRECTOR.

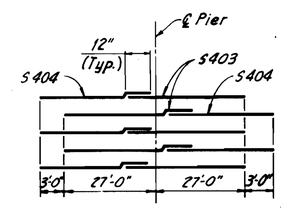


TYPICAL PARAPET DETAIL

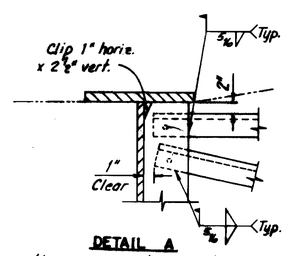
NOTE: FOR DEFLECTION JOINT SPACING AND REINFORCING IN PARAPET SEE SHEET 24/27.



PIER 4

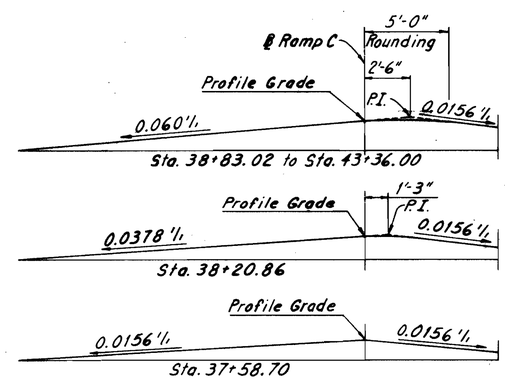


PIER 5, 6 & 7
ADDITIONAL REINFORCEMENT OVER PIERS
(Epoxy Coated)



DETAIL A

(Lower connection similar except at gusset plates for lateral bracing. See lateral connection details on sheet 21.)



SUPERELEVATION TRANSITION DETAIL
(Looking Northwest)

NOTES:

ALL REINFORCING BARS SHALL BE PREFIXED S

FOR ADDITIONAL NOTES SEE SHEET 16/27

FOR LIGHT POLE SUPPORT DETAILS SEE SHEET CD 1

EUTHENICS INC.
CONSULTING ENGINEERS
CLEVELAND OHIO

TYPICAL CROSS-SECTION AND ELEVATIONS - UNIT 2
RAMP C
OVER S.R. 237 AND R.T.A. TRACKS

BR. NO. CUY.-237-0867 STA. 35+79. TO STA. 43+35.

CUYAHOGA COUNTY OHIO

Made LRH	Trcd JSC	Chkd LJD	Rev.	Revised 5-10-84
Date 1-19-79	Date 1-23-79	Date 3-22-79	Date	Sheet 17/27