CUY-90-14.90

PID 77332/85531

APPENDIX EX-64

CUY-090-1599 PID 05584
(Reference Document)

State of Ohio
Department of Transportation
Jolene M. Molitoris, Director

Innerbelt Bridge
Construction Contract Group 1 (CCG1)

Revision Date: 1996

DESIGN DESIGNATION		
CURRENT YEAR	1994 A.D.T.	= 149,800
DESIGN YEAR	2014 A.D.T.	= 160,400
DESIGN HOURLY VOLUME (2014)		= 12,800
D (DIRECTIONAL DISTRIBUTION)		= 65 %
T (PERCENT B & C TRUCKS)		= 09%
V (DESIGN SPEED)		= 55 M.P.H.
LEGAL SPEED		= 50 M.P.H.
DESIGN EXCEPTIONS: BRIDGE WIDTH, SUPERELEVATION, SHOULDER WIDTH		

CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CORPORATION LINE
FENCE LINE (EXISTING)
FENCE LINE (PROPOSED)
CENTERLINE
EXISTING GUARDRAIL
TREES STUMPS , TO BE REMOVED
UTILITY POLES, TELEPHONE, POWER, LIGHT

CONVENTIONAL SIGNS CONTINUED

LIMITED ACCESS (ONLY) — LA
RIGHT OF WAY (ONLY) — RW
LIMITED ACCESS & RIGHT OF WAY — LA&RW
EXISTING RIGHT OF WAY — RW
PROPERTY LINE — PL
PROPERTY LINE IN EXIST. FENCE — X — PL — X
RAILROAD
PROPOSED GUARDRAIL

INDEX OF SHEETS

LINE DATA I-90

BEGIN PROJECT STA. 43+34.45 AH.
END PROJECT STA. 54+90.78
NET LENGTH OF PROJECT = 1156.33 LIN. FT.
OR 0.219 MILES

ADDITIONS. I-90

STA. 1979-00 TO STA. 1999-01.08 BK	= 2001.08	LIN. FT.
STA. 3 + 84.63 AH. TO STA. 43+34.72 BK	= 3947.09	LIN. FT.
STA. 54+90.78 TO STA. 73+00	= 1809.22	LIN. FT.
TOTAL ADDITIONS	7757.39	LIN.
TOTAL	8913.72	LIN. FT.
	OR 1.688	MILES

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

2 WORKING DAYS BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

PROJECT: CUY-90-15.99 CUYAHOGA COUNTY (PID 5584)

DATE OF LETTING _____ 19__, CONTRACT NO. _____

ACL form no. 1

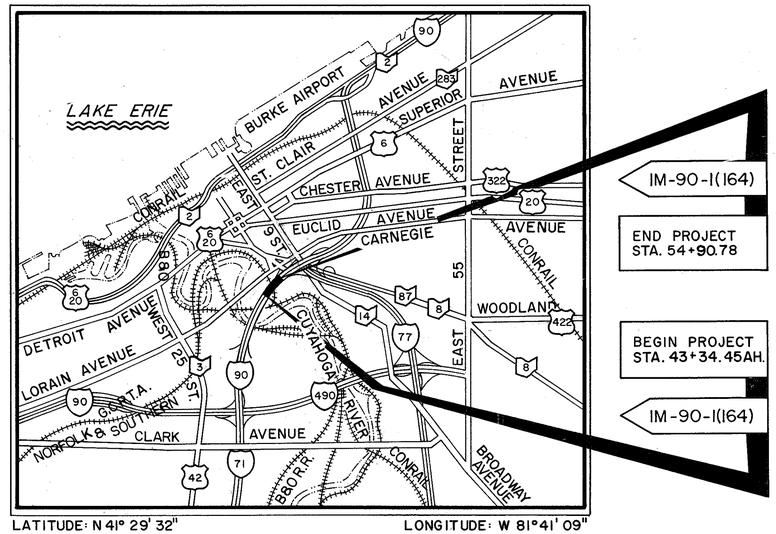
BRUNING 44-232 98104-03

CUY-90-15.99
970315
151PGS
05-07-97
DIST.12

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
CUY - 90 - 15.99
CITY OF CLEVELAND
CUYAHOGA COUNTY

MICROFILMED
OCT 16 1998

MICROFILMED
OCT 16 1998



LATITUDE: N 41° 29' 32" LONGITUDE: W 81°41' 09"

LOCATION PLAN

0 1/2 1 2 3 4
SCALE IN MILES

PORTION TO BE IMPROVED
INTERSTATE ROUTES
U.S. ROUTES
STATE ROUTES
OTHER ROADS

CALC. ____ DATE ____	CUYAHOGA COUNTY CUY-90-15.99 INNERBELT FREEWAY	OHIO F.H.W.A. REGION 5
CHKD. ____ DATE ____	NON-FEDERAL	FEDERAL PROJECT

1/151

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 OF THE REVISED CODE OF OHIO.

1995 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.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (I) OF THE REVISED CODE OF OHIO, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

APPROVED: Stanley E. Gluskin
DATE 10-10-96 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED: _____
DATE ____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATIONS			
NUMBER	DATE	NUMBER	DATE
802	3-23-95		
815	5-30-96		
902	6-14-95		
910	7-17-95		
921	6-14-95		
923	6-14-95		

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED:
_____ DIVISION ADMINISTRATOR
_____ DATE

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

NUMBER	DATE	NUMBER	DATE	NUMBER	DATE	NUMBER	DATE	NUMBER	DATE	NUMBER	DATE	NUMBER	DATE	NUMBER	DATE	NUMBER	DATE	NUMBER	DATE
BP- 2.1	10-28-94	GR- 3.2	5-6-91	AS-1-81	11-27-81	HL- 10.12	5-1-87	HL - 30.22	5-01-87	MT - 95.30	10/10/88	MT - 98.15	6/24/93	BP - 1.1	2/21/92	TC- 21.20	9/1/92		
BP- 2.2	10-28-94	GR-4.1	5-6-91	EXJ - 4-87	11-12-93	HL- 10.31	5-1-87	HL - 30.31	5-01-87	MT - 97.10	4/29/88	TC - 31.21	9/01/92	MC- 9	1/30/84	TC- 21.40	9/1/92		
BP- 2.4	2-21-92	GR-4.2	5-6-91	SD-1-69	6-12-69	HL- 20.13	5-1-87	HL - 40.10	5-01-87	MT - 99.10	11/14/86	TC - 32.11	9/01/92	GR- 3.3	5/6/91	TC- 22.20	9/1/92		
BP- 3.1	2-21-92	GR-1.3	2-21-92	PCB-91	4-24-92	HL - 20.14	5-1-87	HL - 50.21	5-01-87	MT 99.20	4/29/88	TC - 35.10	8/29/84	MT- 98.16	6/24/93	TC- 32.10	9/1/92		
BP- 5.1	10-28-94	GR-2.3	5-6-91	HL-10.11	5-1-87	HL - 20.15	5-1-87	HL - 60.11	5-01-87	MT-105.10	7/01/92	TC - 41.40	6/18/79	TC- 7.65	3/1/79	TC- 41.10	8/29/84		
GR-1.1	5-6-91	GR-5.1	10-30-92	HL-10.13	5-1-87	HL - 20.21	5-1-87	HL 60.12	5-01-87	MT-105.11	7/01/92	TC - 42.20	3/26/79	TC- 9.10	4/24/80	TC- 42.10	8/19/77		
GR-1.2	10-30-92	MC-9.2	5-6-91	HL-20.11	5-1-87	HL - 20.31	5-1-87	HL - 60.21	5-01-87	MT- 95.31	10/10/88	TC- 52.10	4/3/79	TC- 12.30	1/20/84	TC- 51.11	9/30/94		
GR-2.1	5-6-91	MC-9.3	10-30-92	HL-30.11	5-1-87	HL - 30.21	5-1-87	HL - 60.31	5-01-87	MT- 95.32	8/25/89	TC - 52.20	4/03/79	TC- 18.24	4/25/79	TC- 71.10	9/10/91		
GR-3.1	5-6-91	MC-10	5-1-76	MC-11	8-1-78	HL - 50.11	5-1-87	MT - 98.14	6-24-93	MT-101.60	7/01/92	TC - 41.20	6/21/94	TC- 21.10	9/1/92	TC- 72.20	2/26/82		

INNERBELT FREEWAY

TITLE SHEET

SCHEMATIC PLAN

200 0 200 400 600 800
SCALE IN FEET

CALC.	CUYAHOGA COUNTY	OHIO
DATE.	CUY - 90 - 15.99	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE.		

2 / 151

BEGIN WORK
STA. 1974+00

I-90

SCRANTON ROAD

I-90 LANE N-W

I-90 LANE W-N

1970 1975 1980 1985 1990 1995

5 10 15 20 25

STA. 30+00

FAIRFIELD AVE.

RAMP W-3

RAMP W-2

ABBEY AVE.

RAMP W-1

CUYAHOGA RIVER

CONRAIL

G.C.R.T.A.
NORFOLK SOUTHERN

MATCH LINE

STARKWEATHER AVE.

KENILWORTH AVE.

WEST 14 th. ST.

EQUATION ℄ I-90
STA. 1999+01.08 BACK =
STA. 3+87.63 AHEAD

BRIDGE No. CUY-90-1524

℄ I-90 STA. 12+42.48

BRIDGE No. CUY-90-1540

℄ I-90 STA. = 16+13.02

BRIDGE No. CUY-90-1547

ELEVATION DATUM
EXISTING GEODETIC
MONUMENT
OM. 42
ELEV. = 669.727

END PROJECT
STA. 54+90.78
S.L.M. 16.21

I-490

BEGIN PROJECT
STA. 43+34.45 AHD.
S.L.M. 15.99

IM-90-1(164)

IM-90-1(164)

BROADWAY

EAST 9 th. ST.

CARNEGIE AVE.

EAST 14 th. ST.

EAST 18th. ST.

EAST 19 th. ST.

EAST 21 st. ST.

EAST 22nd. ST.

Sta. 83+09.31 ℄ I-90 BK=
Sta. 98+00.00 ℄ I-90 AH

NORFOLK SOUTHERN

G.C.R.T.A.

RAMP E-1

RAMP E-3

RAMP E-5

RAMP E-2

RAMP E-4

CANAL RD.

B&O R.R.

CONRAIL

W. 4th. ST.

W. 3rd. ST.

HARRISON

MATCH LINE

STA. 30+00

35 40 45 50 55 60 65 70 75 80 100 105

I-90

BENCHMARK
SOUTH CORNER OF CONCRETE LIGHT POLE BASE STA. 2+15, 36' LEFT OF ℄ RAMP E-1
ELEV. = 670.65

BRIDGE No. CUY-90-1599

BRIDGE No. CUY-90-1547

℄ I-90 STA. 43+34.72 BACK =
STA. 43+34.45 AHEAD

℄ I-90 STA. 54+65.78

I-77

CEDAR AVE.

CENTRAL AVE.

END WORK
STA. 100+00

NOTE: FOR HORIZONTAL CURVE DATA
SEE SHEET No. 3

INNERBELT FREEWAY

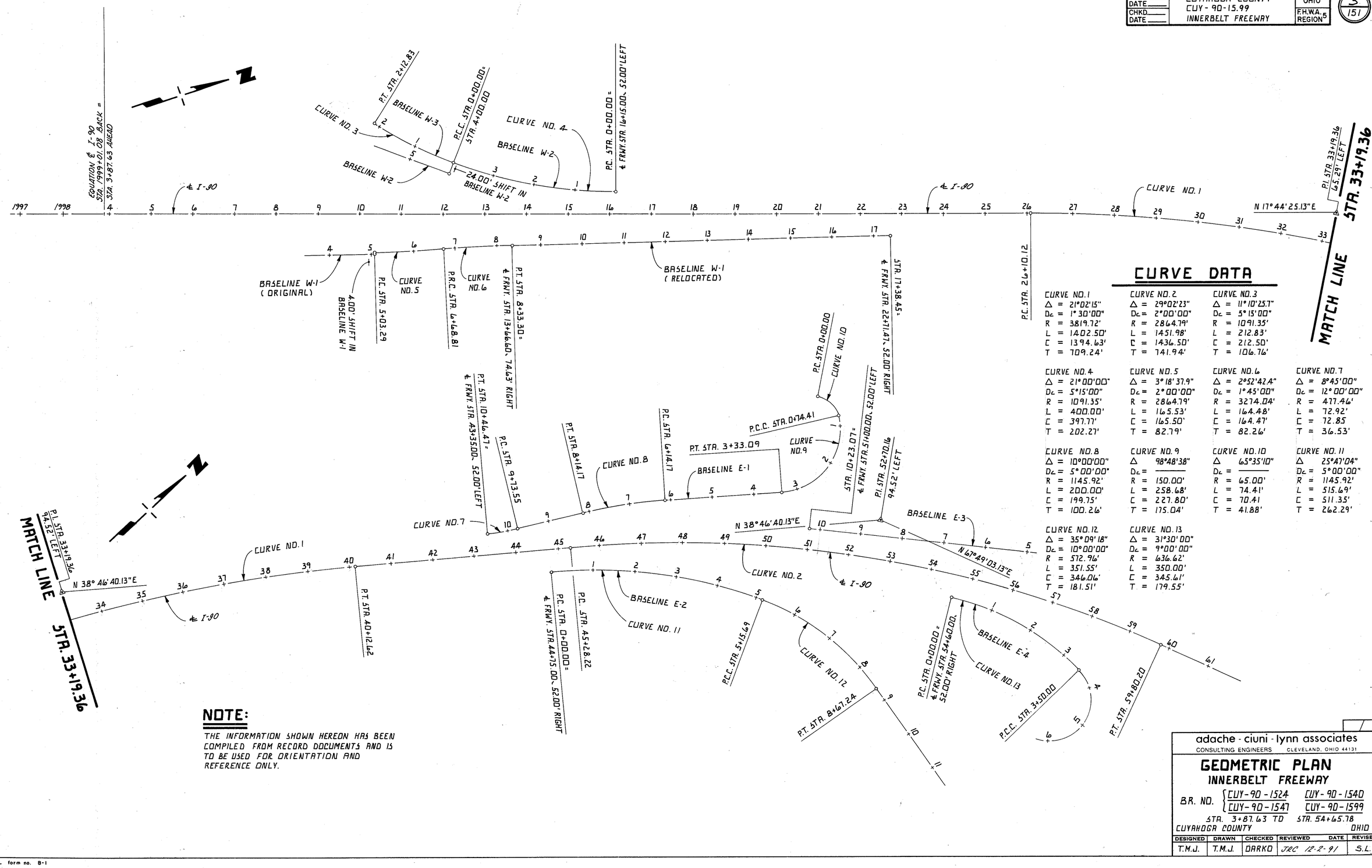
SCHEMATIC PLAN

BRUNING 44-232-981 04-003

A-C-L form no. 1

CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY-90-15.99 INNERBELT FREEWAY	F.H.W.A. REGION 5

3 / 151



CURVE DATA

CURVE NO. 1	CURVE NO. 2	CURVE NO. 3
Δ = 21°02'15"	Δ = 29°02'23"	Δ = 11°10'25.7"
Dc = 1°30'00"	Dc = 2°00'00"	Dc = 5°15'00"
R = 3819.72'	R = 2864.79'	R = 1091.35'
L = 1402.50'	L = 1451.98'	L = 212.83'
C = 1394.63'	C = 1436.50'	C = 212.50'
T = 709.24'	T = 741.94'	T = 106.76'

CURVE NO. 4	CURVE NO. 5	CURVE NO. 6	CURVE NO. 7
Δ = 21°00'00"	Δ = 3°18'37.9"	Δ = 2°52'42.4"	Δ = 8°45'00"
Dc = 5°15'00"	Dc = 2°00'00"	Dc = 1°45'00"	Dc = 12°00'00"
R = 1091.35'	R = 2864.79'	R = 3274.04'	R = 477.46'
L = 400.00'	L = 165.53'	L = 164.48'	L = 72.92'
C = 397.77'	C = 165.50'	C = 164.47'	C = 72.85
T = 202.27'	T = 82.79'	T = 82.26'	T = 36.53'

CURVE NO. 8	CURVE NO. 9	CURVE NO. 10	CURVE NO. 11
Δ = 10°00'00"	Δ = 98°48'38"	Δ = 65°35'10"	Δ = 25°47'04"
Dc = 5°00'00"	Dc = ————	Dc = ————	Dc = 5°00'00"
R = 1145.92'	R = 150.00'	R = 65.00'	R = 1145.92'
L = 200.00'	L = 258.68'	L = 74.41'	L = 515.69'
C = 199.75'	C = 227.80'	C = 70.41	C = 511.35'
T = 100.26'	T = 175.04'	T = 41.88'	T = 262.29'

CURVE NO. 12	CURVE NO. 13
Δ = 35°09'18"	Δ = 31°30'00"
Dc = 10°00'00"	Dc = 9°00'00"
R = 572.96'	R = 636.62'
L = 351.55'	L = 350.00'
C = 346.06'	C = 345.61'
T = 181.51'	T = 179.55'

NOTE:

THE INFORMATION SHOWN HEREON HAS BEEN COMPILED FROM RECORD DOCUMENTS AND IS TO BE USED FOR ORIENTATION AND REFERENCE ONLY.

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

GEOMETRIC PLAN
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	JRC	12-2-91	S.L.

INNERBELT FREEWAY

BRUNING 44-232-67195-01

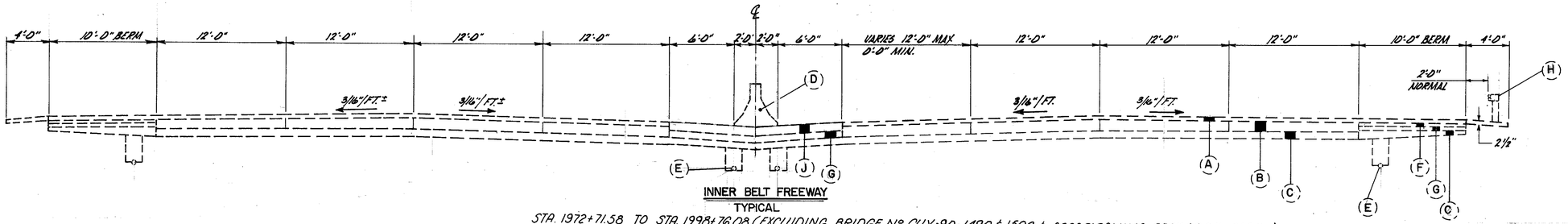
A-C-L form no. B-1

EXISTING

TYPICAL SECTIONS

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.99	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEBELT	
DATE		

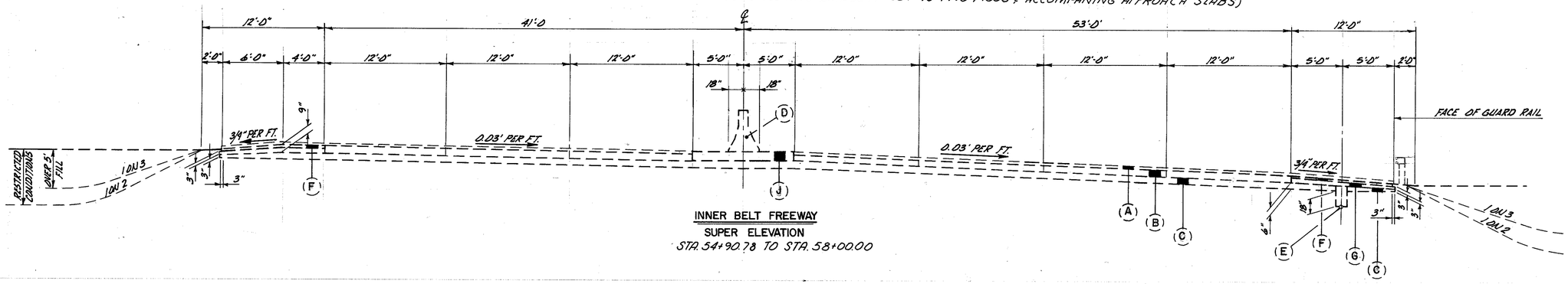
4 / 151



INNER BELT FREEWAY

TYPICAL

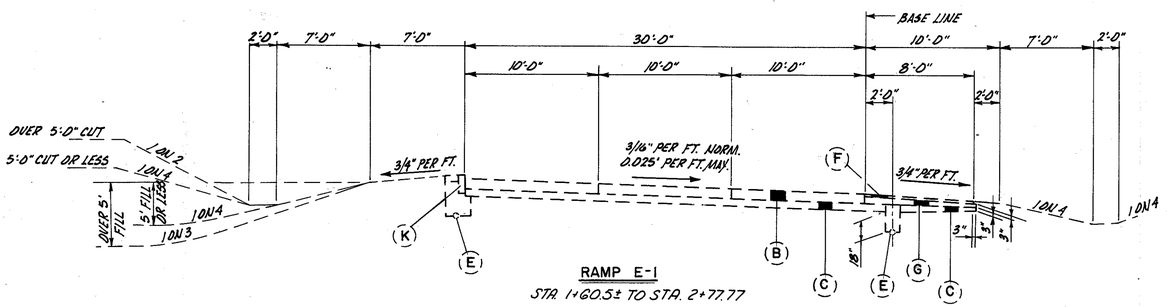
STA. 1972+71.58 TO STA. 1998+76.08 (EXCLUDING BRIDGE Nº CUY-90-1490 & 1506 & ACCOMPANING APPROACH SLABS)



INNER BELT FREEWAY

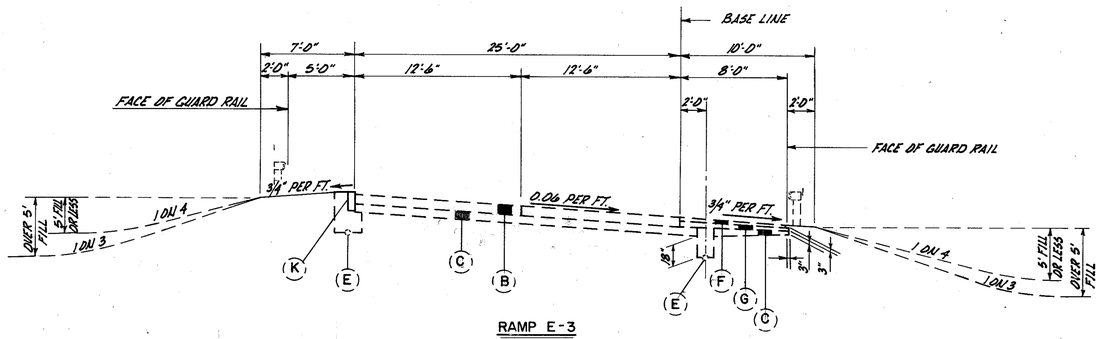
SUPER ELEVATION

STA. 54+90.78 TO STA. 58+00.00



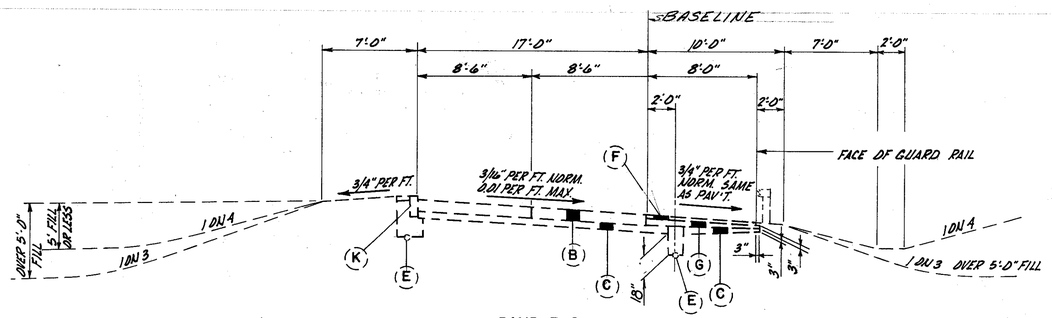
RAMP E-1

STA. 1+60.5± TO STA. 2+77.77



RAMP E-3

STA. 3+06.43 TO STA. 6+61.94



RAMP E-2

STA. 7+20.01 TO STA. 10+22.99

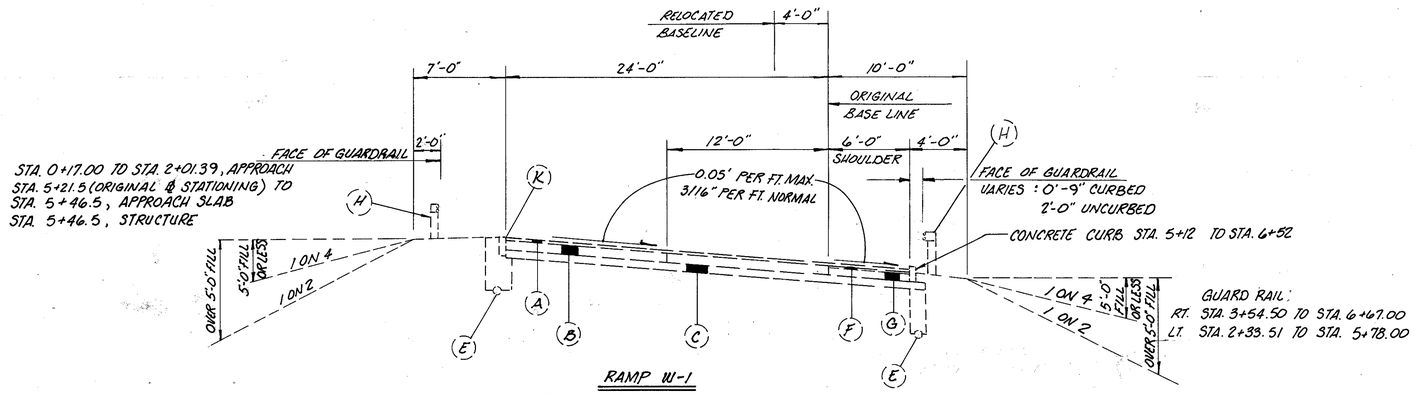
LEGEND

- (A) 3" ASPHALT CONCRETE
- (B) 9" REINFORCED CONCRETE
- (C) 6" SUBBASE
- (D) CONCRETE MEDIAN BARRIER
- (E) 6" UNDERDRAIN
- (F) WATERPROOFED AGGREGATE BASE
- (G) STABILIZED CRUSHED AGGREGATE SHOULDER
- (H) GUARDRAIL
- (J) 9" PLAIN PORTLAND CEMENT CONCRETE PAVEMENT
- (K) CURB (6"x18" SANDSTONE)

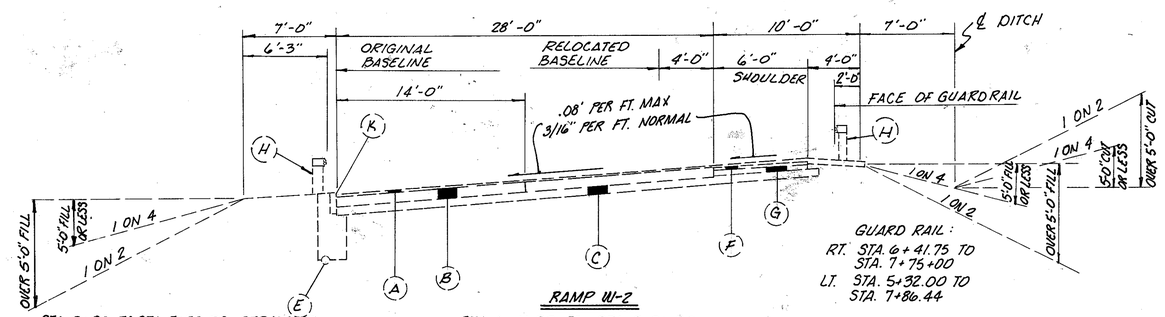
INNERBELT FREEWAY

EXISTING TYPICAL SECTIONS

EXISTING
TYPICAL SECTIONS

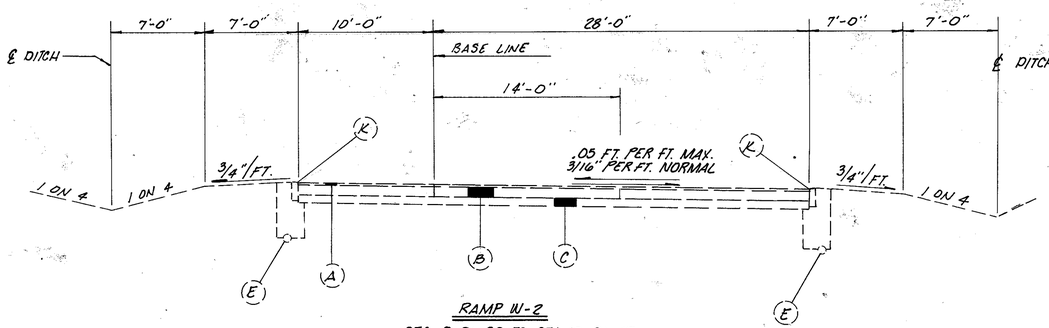


RAMP W-1
STA. 2+01.39 TO STA. 5+46.5



STA. 0+00 TO STA. 5+22.00, STRUCTURE
STA. 5+22.00 TO STA. 5+47.00 APPROACH SLAB
STA. 5+47.00 TO STA. 6+11.02, APPROACH

RAMP W-2
STA. 6+11.02 TO STA. 8+96.92



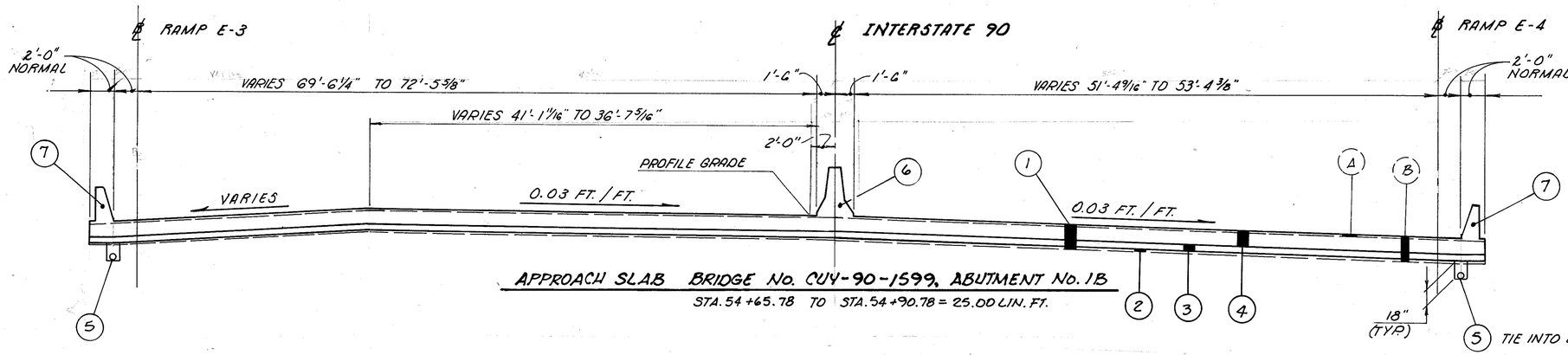
RAMP W-2
STA. 8+96.92 TO STA. 10+96.47

NOTE:
FOR LEGEND SEE SHEET 4.

TYPICAL SECTIONS

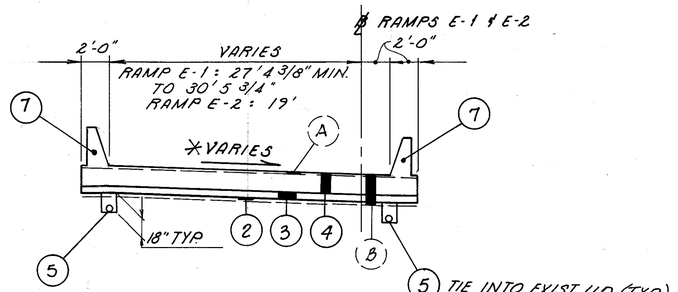
CALC	CUYAHOGA COUNTY
DATE	CUY-90-15.99
CHKD	INNERBELT FREEWAY
DATE	OHIO
	F.H.W.A. REGION 5

5 / 151



APPROACH SLAB BRIDGE No. CUY-90-1599, ABUTMENT No. 1B

STA. 54+65.78 TO STA. 54+90.78 = 25.00 LIN. FT.



APPROACH SLAB RAMP E-1

STA. 2+77.77 TO STA. 3+02.77 = 25.00 LIN. FT.

APPROACH SLAB RAMP E-2

STA. 6+95.01 TO STA. 7+20.01 = 25+00 LIN. FT.

* RAMP E-1 : 3/16" PER FT. NORM.
0.025" PER FT. MAX.
RAMP E-2 : 5/16" PER FT. NORM.
0.08" PER FT. MAX.

LEGEND

PROPOSED

REF. NO.	ITEM NO.	DESCRIPTION
1	203	EXCAVATION INCLUDING EMBANKMENT CONST.
2	203	SUBGRADE COMPACTION
3	310	6" SUBBASE, TYPE II,
4	611	REINFORCED CONCRETE APPROACH SLAB, T=15", AS PER PLAN
5	605	6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP
6	622	CONCRETE BARRIER, TYPE B50, AS PER PLAN
7	622	42" SINGLE SLOPE CONCRETE BARRIER

EXISTING

A	2½" ASPHALT CONCRETE
B	13" REINFORCED CONCRETE APPROACH SLAB

NOTES

1.) FOR APPROACH SLAB DETAILS, SEE SHEETS 34-36.

2.) FOR PHASE CONSTRUCTION JOINT LAYOUT ON BRIDGE NO. CUY-90-1599, ABUTMENT NO. 1B, SEE SHEET 35.

INNERBELT FREEWAY

GENERAL NOTES

ROADWAY

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 OF THE OHIO REVISED CODE.

UTILITY OWNERSHIP
THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

CITY OF CLEVELAND
DIVISION OF LIGHT, POWER, & WATER
DISTRIBUTION ENGINEERING
1201 LAKESIDE AVE.
CLEVELAND, OHIO 44114
ATTN: MARK SUNYAK
PHONE: (216) 664-2444

AMERICAN TELEPHONE & TELEGRAPH
3833 WEYMOUTH ROAD
MEDINA, OHIO 44256
ATTN: DENNIS ROSIN
PHONE:(216) 723-9110

AMERITECH
13630 LORAIN RD.
FOURTH FLOOR
CLEVELAND, OHIO 44111
ATTN: DAVE A. ZIEL
PHONE: (216) 476-6141

CLEVELAND THERMAL ENERGY
2274 CANAL ROAD
CLEVELAND, OHIO 44113
ATTN: VIRGINIA BOULDEN
PHONE: (216) 241-3636

CLEVELAND ELECTRIC ILLUMINATING CO.
55 PUBLIC SQUARE, P.O. BOX 5000
CLEVELAND, OHIO 44101
ATTN: GLENN YOUNG
PHONE: (216) 479-3452

CITY OF CLEVELAND
CLEVELAND PUBLIC POWER
1300 LAKESIDE AVE.
CLEVELAND, OHIO 44114
ATTN: DALE TURKOVICH
PHONE: (216) 664-2776

EAST OHIO GAS COMPANY
1201 EAST 55TH STREET
CLEVELAND, OHIO 44114
ATTN: MAMIE REED
PHONE: (216) 736-6803

CITY OF CLEVELAND
SAFETY SIGNAL SYSTEM
310 CARNEGIE
CLEVELAND, OHIO 44115
ATTN: LEROY L. BEGIN, CHIEF
PHONE: (216) 664-3247

GREATER CLEVELAND
REGIONAL TRANSIT AUTHORITY
(G.C.R.T.A.)
615 WEST SUPERIOR AVE.
CLEVELAND, OHIO 44113
PHONE: (216) 566-5100

CUYAHOGA COUNTY SANITARY
ENGINEER
6100 WEST CANAL ROAD
VALLEY VIEW, OHIO 44125
ATTN: RICHARD HUNTSINGER
PHONE: (216) 443-8204

NORFOLK SOUTHERN CORP.
840 MINKON AVE.
CLEVELAND, OHIO 44145
PHONE: (216) 483-1893

US COAST GUARD NINTH DISTRICT
1240 EAST NINTH STREET
CLEVELAND, OHIO 44199-8204
ATTN: ROBERT W.BLOOM,JR.,CHIEF

CALL OHIO UTILITIES PROTECTION SERVICE TWO (2) WORKING DAYS BEFORE YOU DIG. TOLL FREE TELEPHONE: 1-800-362-2764

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON EXISTING GEODETIC MONUMENT O.M. 42 AS SHOWN ON SHEET 2.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION.

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE, GRADE, AND REINSTALL GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIALS ARE ON THE SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED ON THIS PROJECT UNTIL SUCH TIME THAT THE ENGINEER IS ASSURED OF SAID COMPLIANCE.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.1. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 201 - CLEARING AND GRUBBING

THIS LUMP SUM ITEM SHALL BE USED TO CLEAR BRUSH AND TREES, AS NECESSARY, WHERE REGRADING IS NECESSARY DUE TO PAVEMENT WIDENING.

THE FIRST LOCATION IS BETWEEN RAMP E-4 (ONTARIO STREET EXIT) AND I-90 EASTBOUND FROM APPROXIMATELY STA. 57+50 TO 58+00.

THE SECOND LOCATION IS BETWEEN RAMP E-11 (E.22ND STREET EXIT) AND I-90 EASTBOUND FROM APPROXIMATELY STA. 80+00 TO STA. 98+57.57.

ITEM 203 - EMBANKMENT, AS PER PLAN

THE METHOD OF MEASUREMENT FOR THIS ITEM SHALL BE BY THE METHOD OF AVERAGE END AREAS WHERE CROSS SECTIONS ARE INCLUDED IN THE PLANS.

THE TOP THREE (3) INCHES OF EMBANKMENT SHALL CONSIST OF LOOSE, FRIABLE, LOAMY SOIL WITHOUT THE ADMIXTURE OF REFUSE OR STONE GREATER THAN ONE (1) INCH. THE SOIL SHALL BE CAPABLE OF SUPPORTING VEGETATION.

ITEM 304 - AGGREGATE BASE, AS PER PLAN

THE ONLY SLAG MATERIAL PERMITTED FOR THIS ITEM SHALL BE CRUSHED AIR-COOLED BLAST FURNACE SLAG, A MIXTURE OF CRUSHED AND GRANULATED SLAGS, OR OPEN HEARTH SLAG FROM APPROVED SOURCES ON FILE AT THE LABORATORY. ALL MATERIAL OR BLENDED MATERIALS SHALL MEET THE GRADATION REQUIREMENTS OF 304.02.

ANY GRANULATED SLAG MATERIALS SHALL MEET THESE GRADATION REQUIREMENTS IN LIEU OF 703.08.

ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (UNDER GUARDRAIL), AS PER PLAN

THIS ITEM SHALL CONSIST OF PAVING UNDER GUARDRAIL AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

PAVING SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED USING ON OF THE FOLLOWING METHODS:

METHOD A: 1) SET GUARDRAIL POSTS.
2) PLACE ITEM 448.
3) SEE NOTE 3.

METHOD B: 1) PLACE ITEM 448.
2) BORE ASPHALT AT POST LOCATIONS. (SEE NOTE 1)
3) SET GUARDRAIL POSTS.
4) PATCH AROUND POSTS. (SEE NOTE 2)
5) SEE NOTE 3.

NOTE 1: BORING OF ASPHALT MAY BE EXCLUDED IF STEEL POSTS ARE TO BE USED.

NOTE 2: THE MATERIAL USED FOR PATCHING SHALL BE A BITUMINOUS CONCRETE APPROVED BY THE ENGINEER. PATCHING AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

NOTE 3: WHEN THIS ITEM IS PLACED IN A SEPARATE OPERATION FROM ADJACENT ASPHALT PAVING THEN ITEM 404-ASPHALT CONCRETE (LIGHT TRAFFIC) SHALL BE USED.

ALTERNATE METHODS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448-ASPHALT CONCRETE.

INTERMEDIATE COURSE, TYPE 1 (UNDER GUARDRAIL), AS PER PLAN.

ITEM 608 - 6" CONCRETE WALK, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF PROVIDING A REINFORCED CONCRETE WALK BETWEEN THE PROPOSED APPROACH SLAB AND THE RECONSTRUCTED WINGWALL, AS DETAILED ON SHEETS 34-36.

ITEM 611-REINFORCED CONCRETE APPROACH SLAB, (T=15"), AS PER PLAN

THIS ITEM OF WORK SHALL INCLUDE THE CONCRETE BARRIER WALLS ALONG WITH ALL THE APPROPRIATE DETAILS TO PROVIDE THE GUARDRAIL TERMINALS AS PER THE DETAILS ON SHEETS 34-36.

ITEM 622-CONCRETE BARRIER, TYPE B42, AS PER PLAN

THIS ITEM SHALL BE USED TO CONSTRUCT A CONCRETE BARRIER AS SHOWN ON SHEET 45HH.

TRANSITIONS ARE AS SHOWN ON SHEET 45HH. FOR QUANTITIES SEE SHEET 45HH.

GENERAL NOTES

ROADWAY, CONT'D

ITEM 622-CONCRETE BARRIER, TYPE D, AS PER PLAN

THIS ITEM OF WORK SHALL INCLUDE THE CONSTRUCTION OF A CONCRETE BARRIER TYPE D INCLUDING NO. 8 BAR REINFORCING ON AN EXISTING CONCRETE BASE OR A PROPOSED CONCRETE BASE WIDENING AS DETAILED ON SHEET 33. ITEM 608 REINFORCED CONCRETE WALK, AS PER PLAN.

ITEM 622-PORTABLE CONCRETE BARRIER, 32", AS PER PLAN

THIS ITEM OF WORK SHALL BE USED TO REPLACE THE CONCRETE BARRIER BETWEEN RAMP E-1 AND E-3 REMOVED IN THE PRELIMINARY PHASE. THE PORTABLE CONCRETE BARRIER WILL NOT BE REMOVED BUT WILL BECOME A PERMANENT INSTALLATION. THE BARRIER SHALL BE PLACED IN THE SAME LOCATION AS THE ORIGINAL. SEE SHEET 66 FOR DETAILS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE ROADWAY GENERAL SUMMARY:

ITEM 622-PORTABLE CONCRETE BARRIER,32", AS PER PLAN	900 LIN.FT.
ITEM 802-BARRIER REFLECTOR, TYPE A	20 EACH

IMPACT ATTENUATOR WORK AT RAMP E-4

THESE ITEMS OF WORK SHALL INCLUDE THE REMOVAL OF THE EXISTING IMPACT ATTENUATOR INCLUDING ALL HARDWARE AT STA. 57+00 IN THE I-90/RAMP E-4 GORE. AFTER REMOVAL, THE ATTENUATOR AND ALL HARDWARE SHALL BE DELIVERED AND UNLOADED BY THE CONTRACTOR TO THE O.D.O.T. RIVEREDGE YARD, 4940 OLD GRAYTON ROAD, CLEVELAND, OHIO 44135 (216-676-5295). AT LEAST 48 HOURS ADVANCE NOTICE WILL BE REQUIRED BEFORE DELIVERY. PAYMENT FOR THE REMOVAL OF THE EXISTING IMPACT ATTENUATOR INCLUDING ALL HARDWARE AND ITS SUBSEQUENT DELIVERY AND UNLOADING AT THE O.D.O.T. RIVEREDGE YARD SHALL BE PAID FOR UNDER THE UNIT BID PRICE FOR ITEM 202-REMOVAL MISC.: IMPACT ATTENUATOR.

THE CONCRETE PAD FOR THE EXISTING IMPACT ATTENUATOR SHALL BE REMOVED UNDER THE UNIT BID PRICE FOR ITEM 202 - PAVEMENT REMOVED. SEE MAINTENANCE OF TRAFFIC, PHASE IVA, PLAN SHEET 13A FOR DETAILS AND QUANTITIES.

THE PROPOSED ATTENUATOR FOR RAMP E-4 SHALL BE A HEX-FOAM SANDWICH SYSTEM, MODEL #209800H8S WITH A DIAGONAL BACKUP, MANUFACTURED BY ENERGY ABSORPTION SYSTEMS INC. THE PROPOSED LOCATION IS AT STA. 56+25. SEE SHEET 27A FOR DETAILS AND QUANTITIES. PAYMENT FOR THE PROPOSED ATTENUATOR INCLUDING ALL HARDWARE AND INSTALLATION SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM SPECIAL - IMPACT ATTENUATOR, HEX-FOAM SANDWICH SYSTEM.

THE CONCRETE PAD FOR THE PROPOSED IMPACT ATTENUATOR SHALL BE PAID FOR UNDER ITEM 451 - 12" REINFORCED CONCRETE PAVEMENT, AS PER PLAN. SEE SHEET 13A FOR DETAILS AND QUANTITIES.

ITEM 606-ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN ET-2000, OPTION "C", GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO STEEL COMPANY, 1170 N.STATE STREET, GIRARD, OHIO 44420. (TELEPHONE: 216-545-4373)

THE ANCHOR ASSEMBLY SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATIONS SHOWN IN THE PLANS. (THE DETAIL ON SHEET 33E IS SHOWN FOR ILLUSTRATION ONLY, ALL DETAILS AND SPECIFICATIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS)

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 606, EACH, ANCHOR ASSEMBLY, TYPE E. PAYMENT SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT THE 25' LONG ANCHOR ASSEMBLY, INCLUDING ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY. THIS ITEM SHALL ALSO INCLUDE PAYMENT OVER ABOVE THE COST OF STANDARD TYPE 5 GUARDRAIL FOR INSTALLING TYPE I BREAKAWAY POSTS (AS PER STANDARD CONSTRUCTION DRAWING GR-1.3) AT THE FOLLOWING LOCATIONS: 1) AT THE POINT WHERE THE ANCHOR ASSEMBLY AND GUARDRAIL RUN ,MEET; AND 2) AT THE NEXT THREE (3) PST LOCATIONS INTO THE GUARDRAIL RUN.

ITEM 622-BARRIER MISC.,CONCRETE TRANSITION BARRIER, TYPE W,X,Y,AND Z, AS PER PLAN

THE TRANSITION SECTIONS SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS.

TYPE W IS 25 FEET LONG AND IS DETAILED ON SHEET 33A AND IS TO BE USED FOR BRIDGE CUY-90-1599.

TYPE X IS 25 FEET LONG AND IS DETAILED ON SHEET 33B AND IS TO BE USED FOR BRIDGE CUY-90-1599.

TYPE Y IS 14 FEET LONG AND IS DETAILED ON SHEET 33C AND IS TO BE USED FOR BRIDGE CUY-90-1524.

TYPE Z IS 14 FEET LONG AND IS DETAILED ON SHEET 33D AND IS TO BE USED FOR BRIDGE CUY-90-1540.

PAYMENT WILL BE MADE AT CONTRACT PRICE FOR:

ITEM	UNIT	DESCRIPTION
622	EACH	BARRIER MISC., CONCRETE TRANSITION BARRIER, TYPE W, AS PER PLAN
622	EACH	BARRIER MISC., CONCRETE TRANSITION BARRIER, TYPE X, AS PER PLAN
622	EACH	BARRIER MISC., CONCRETE TRANSITION BARRIER, TYPE Y, AS PER PLAN
622	EACH	BARRIER MISC., CONCRETE TRANSITION BARRIER, TYPE Z, AS PER PLAN

PAVEMENT

ITEM 305-9" CONCRETE BASE, AS PER PLAN

THE SECOND SENTENCE IN 305.01 (A) SHALL READ "LOAD TRANSFER DEVICES ARE REQUIRED AT ALL TRANSVERSE CONTRACTION, CONSTRUCTION, AND EXPANSION JOINTS. THE MAXIMUM JOINT SPACING SHALL BE 17".

ITEM 407-TACK COAT

THE RATE OF APPLICATION OF 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENTS AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 446

ON THIS PROJECT, ITEM 446 PROPERTIES OF MIXTURE SHALL BE FOR HEAVY TRAFFIC VOLUMES.

ITEM 446-ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AS PER PLAN

NO OPEN HEARTH, BASIC OXYGEN, OR ELECTRIC FURNACE SLAG (STEEL SLAG) IS PERMITTED FOR FINE AGGREGATE USED IN THE COURSE MIX. THE COURSE AGGREGATE USED IN THE SURFACE COURSE SHALL BE LIMITED TO CRUSHED AIR COOLED BLAST FURNACE SLAG. NO RECYCLED ASPHALT PRODUCTS OF ANY TYPE SHALL BE PERMITTED IN THE SURFACE COURSE.

CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, CONTRACTION JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE SO AS TO FORM CONTINUOUS JOINTS WITH THOSE IN THE EXISTING CONCRETE.

THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN THE NEW CONCRETE SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2. IF NECESSARY, ADDITIONAL JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE AT APPROXIMATELY EQUAL INTERVALS BETWEEN EXISTING JOINTS THAT EXCEED THE MAXIMUM SPACING.

EROSION CONTROL / DRAINAGE

WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENT SEEDED AREAS AS PER 659.09.

ITEM - WATER	4 M.GAL

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207 - TEMPORARY SEEDING AND MULCHING	475 SQ.YD.
ITEM 207 - STRAW OR HAY BALES	125 EACH
ITEM 207 - TEMPORARY SLOPE DRAINS	75 LIN.FT.
ITEM 207 - FILTER FABRIC FENCE	1200 LIN.FT.
ITEM 207 - TEMPORARY DIKES	1500 LIN.FT.
ITEM 659 - COMMERCIAL FERTILIZER	0.02 TONS
ITEM 659 - WATER	1000 M.GAL.

ITEM 207 - FILTER FABRIC FENCE

FILTER FABRIC FENCE SHALL MEET THE REQUIREMENTS OF PROPOSAL NOTE NO. 57-93.

EROSION CONTROL

ITEMS 601, 660, 667, 668, AND 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS AND TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE 660, 667, OR 668. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THESE ITEMS SHALL MEET THE REQUIREMENT OF 108.04.

ITEM 604-MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN, BOLTED DOWN

WHEN SPECIFIED, BOLTED-DOWN MANHOLE COVERS SHALL BE PROVIDED AND THEIR CASTS SHALL BE INCLUDED IN THE PERTINENT 604 ITEM DESIGNATED, "BOLTED DOWN".

MATERIALS FURNISHED SHALL BE:
FOUR (4) EQUALLY-SPACED HALF-INCH (1/2") STAINLESS STEEL HEX CAP SCREWS CONFORMING TO ASTM F-593, ALLOY GROUP 1.

COUNTERSINKS, HOLES, THREADING AND PLACEMENT SHALL BE DONE IN ACCORDANCE WITH THE CASTING MANUFACTURER'S RECOMMENDATIONS AND METHODS.

GENERAL NOTES

TRAFFIC CONTROL

REMOVAL OF EXISTING ITEMS

ALL 630 REMOVAL ITEMS NOT SPECIFICALLY INCLUDING STORAGE OR REERECTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR. REMOVAL AND DISPOSAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

SIGN LOCATIONS

SIGN LOCATIONS OF EXISTING AND PROPOSED SIGNS ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR PRIOR TO ERECTION OF ALL SIGN SUPPORTS (POSTS, BEAMS, OVERHEADS) SHALL STAKE THE PROPOSED LOCATION, INCLUDING OFFSET. OVERHEAD SUPPORT LOCATIONS SHALL ALSO INCLUDE FOUNDATION ELEVATIONS. THE ENGINEER SHALL APPROVE ALL SUPPORT LOCATIONS AND MAY ADJUST THE LOCATION TO CORRECT SLOPE AND SUBSURFACE DIFFICULTIES, SIGN SIGHT DISTANCE OBSTRUCTIONS, IMPROVE SAFETY AND ELIMINATE OVERHEAD OBSTACLES.

TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS

REFERENCE TO SUPPLEMENTARY SPECIFICATIONS 857, 858, 861, 957, 958, AND 961 ON THE TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTED REFERENCES TO ITEMS 630, 631, 633, 730, 731, AND 733.

POWER SUPPLY FOR LIGHTED SIGNS

THE POWER SUPPLY FOR LIGHTED SIGNS IS INCORPORATED INTO THE ROADWAY LIGHTING CIRCUITS, UNLESS OTHERWISE NOTED.

ITEM 630-REMOVAL OF SIGN SERVICE

INCIDENTAL TO THE REMOVAL, RELOCATION OR MODIFICATION OF A SIGN SUPPORT IN ACCORDANCE WITH SPECIFICATION 630.12, SIGN SERVICE TO THE SUPPORT SHALL ALSO BE REMOVED. SIGN SERVICE CABLES SHALL BE DISCONNECTED AT THE SERVICE PULLBOX AND REMOVED. CONNECTION OF THE REMAINING CABLES SHALL CONFORM TO 625.17 TO INSURE CIRCUIT CONTINUITY.

ITEM 630-REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN

REMOVAL AND REERECTION OF THE LUMINAIRE SUPPORT ASSEMBLY, MERCURY VAPOR LUMINAIRE AND BALLAST SHALL BE INCLUDED UNDER THIS ITEM OF WORK. ANY HARDWARE, LUMINAIRE SUPPORT ASSEMBLY, MERCURY VAPOR LUMINAIRE AND/OR BALLAST DAMAGED DURING THE REMOVAL OR SUBSEQUENT REERECTION SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.

SIGN WIRED WILL BE PAYED FOR UNDER A SEPARATE ITEM, BUT THE SIGN SHALL BE FULLY FUNCTIONAL UPON REERECTION AFTER IT IS WIRED.

REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, AS PER PLAN

THE BARRIER AND NON-BARRIER FOUNDATIONS WILL NOT BE REMOVED UNDER THIS ITEM OF WORK, BUT WILL REMAIN IN PLACE. ALL OTHER ITEMS GENERALLY REMOVED UNDER THIS ITEM OF WORK ARE TO BE REMOVED.

SIGNS REVISED WITH DEMOUNTABLE COPY

FOR EXISTING SIGNS WITH LEGENDS TO BE REVISED WITH DEMOUNTABLE COPY, THE NEW LEGENDS ARE TO BE CENTERED ON THE SIGN.

TYPICAL PLACEMENT OF GF SERIES SIGNS

FOR DETAILS ON THE PLACEMENT OF THE GF SERIES SIGNS MOUNTED IN THE GORE, SEE SHEET 4511.

FORMER CONSTRUCTION PLANS

FOR EXISTING SIGNING DETAILS REFER TO APPLICABLE PLANS LISTED BELOW:

COUNTY, ROUTE, AND SECTION

CUY-90-16.24	CUY-77-10.39	CUY-77-13.81
CUY-490-1.49	CUY-71/77/90 VAR.	CUY-77/90-14.12/16.21
CUY-77-10.50	CUY-90-14.67	

COPIES OF THESE PLANS ARE AVAILABLE FOR REFERENCE THROUGH ODOT DISTRICT 12.

ITEM 202-PULLBOX REMOVED, AS PER PLAN

THIS ITEM OF WORK WILL CONSIST OF REMOVING AN EXISTING PULLBOX WHICH SHALL THEN BE PROPERLY DISPOSED OF. THE RESULTANT OPENING SHALL THEN BE BACKFILLED TO GRADE WITH SUITABLE COMPACTED SOIL AND RESTORED TO MATCH SURROUNDING AREA.

PAYMENT WILL BE MADE FOR EACH ITEM 202 "PULLBOX REMOVED, AS PER PLAN".

ITEM SPECIAL-DISCONNECT SWITCH CIRCUIT

THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTION OF AN EXISTING LIGHT CIRCUIT AT A PULLBOX OR A LIGHT POLE.

DISCONNECTION AT A PULLBOX SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL SPLICE KITS. ANY CABLE THAT IS TO BE ABANDONED SHALL BE TERMINATED IN A MANNER SUCH THAT NO CABLE IS LEFT REMAINING IN THE PULLBOX.

DISCONNECTION AT A LIGHT SHALL INVOLVE THE REMOVAL OF THE PART OF CABLE THAT IS TO BE ABANDONED FROM THE POLE. THOSE ENDS OF THE CONNECTOR KITS FROM WHICH THE ABANDONED CABLE IS REMOVED SHALL BE PLUGGED AND TAPED.

ANY CABLE THAT IS TO BE REUSED IN A PULLBOX OR LIGHT POLE SHALL BE CUT IN A MANNER SO THAT THERE IS SUFFICIENT LENGTH OF CABLE LEFT FOR RECONNECTION. CABLE SPLICE KITS AND CONNECTOR KITS WILL BE PAID FOR RESPECTIVELY UNDER EACH ITEM 625.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH ITEM SPECIAL "DISCONNECT EXISTING CIRCUIT" AND SHALL BE FULL COMPENSATION INCLUDING ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK.

ITEM 603-UNDERDRAINS FOR PULLBOXES

REFERENCE IS MADE TO STANDARD DRAWING HL-30.11 FOR DETAILS OF DRAINING PULLBOXES. UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY TWENTY FEET (20'). AN ESTIMATED QUANTITY OF ITEM 603 - 4" CONDUIT, TYPE E IS INCLUDED IN THE SIGN LIGHTING SUB-SUMMARY FOR THIS PURPOSE.

ITEM 630-OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE TC-18.24, AS PER PLAN

IN LIEU OF THE ANCHOR BOLTS SPECIFIED IN STANDARD CONSTRUCTION DRAWING TC-18.24, THE CONTRACTOR SHALL USE 6 ½" X ½" STAINLESS STEEL THREADED ANCHOR RODS WITH A MINIMUM EMBEDMENT OF 4 ¼". THE GROUT AND HOLES SHALL BE AS PER 705.20 AND SUPPLEMENTAL SPECIFICATION 852. GROUT MATERIAL SHALL BE LIMITED TO EPOXY RESIN ONLY AS PER 705.02.

ITEM 631-REMOVAL OF LUMINAIRE AND DISPOSAL

INCIDENTAL TO THE REMOVAL OF LUMINAIRE, SIGNS WIRED, BALLAST AND THE MOUNTING BRACKET ASSEMBLY SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

ITEM 631-ENCLOSURE PADLOCKS

DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH SPECIFICATION 631.08 SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 48KA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS, AND KEYING IN ACCORDANCE WITH THE FOREGOING SPECIFICATION.

ITEM 631-BALLAST, BY TYPE, INTEGRAL

BALLAST FOR MERCURY VAPOR LUMINAIRES SHALL BE MOUNTED WITHIN THE LUMINAIRE HOUSING (INTEGRAL) OR MOUNTED IN A WEATHER PROOF HOUSING ATTACH TO OR BESIDE THE LUMINAIRE (CONTIGUOUS). BALLAST HOUSINGS SHALL BE OF CORROSION RESISTANT MATERIALS.

INTEGRAL BALLASTS SHALL BE USED TO LIGHT ALL NON-STRUCTURALLY MOUNTED OVERHEAD SIGNS AS SHOWN IN THE PLANS.

ITEM 631-BALLAST ENCLOSURE, REMOTE BALLAST

ENCLOSURES SHALL BE WETHERPROOF NEMA TYPE 4 IN ACCORDANCE WITH THE PLAN DETAILS, FABRICATED OF 0.06 INCH STEEL GALVANIZED IN ACCORDANCE WITH 711.02. THE FRONT COVER SHALL BE REMOVABLE AND BEAR A WARNING SIGN CONFORMING TO 713.19, PARAGRAPH 16D. CONDUIT, FITTINGS AND ATTACHMENT HARDWARE SHALL BE FURNISHED WITH THE ENCLOSURE. ENCLOSURES SHALL CONTAIN A STEEL PANEL COMPLYING WITH 713.19, PARAGRAPH 16E FOR INSTALLING TERMINAL BLOCKS AND BUSBARS, RATED AT 600 VOLTS AND PROVIDED WITH MARKER STRIPS AND CAPABLE OF TERMINATING THE WIRE GAGE USED. BALLASTS SHALL BE ARRANGED IN THE ENCLOSURE IN THE SAME RELATIVE POSITION AS THEIR ASSOCIATED LUMINAIRE ON THE SIGN SUPPORT STRUCTURE.

ENCLOSURES SHALL BE OF A SIZE TYPE B FOR OVERPASS STRUCTURES.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE FOR EACH ENCLOSURE, FURNISHED, IN PLACE, COMPLETE AND READY FOR SERVICE.

EXIT NUMBER PANELS (GEP SERIES) ON OVERHEAD SIGNS

EXIT NUMBER PANELS (GEP SERIES) ON OVERHEAD SIGNS SHALL BE PLACED TO THE TOP RIGHT OR LEFT OF THE MAJOR OVERHEAD MOUNTED SIGN AS SHOWN ON THE ELEVATION VIEWS, SHEETS 45CC-45EE. LOCATION OF THE EXIT NUMBER PANEL IS BASED ON THE LOCATION OF THE EXIT RAMP IN RELATION TO THE THRU TRAFFIC MOVEMENT (RIGHT SIDE FOR RIGHT-HAND EXITS, LEFT SIDE FOR LEFT-HAND EXITS, ORIENTED WITH THE DIRECTION OF TRAFFIC). ALL SIGNS WHICH HAVE EXIT NUMBER PANELS SHALL BE OFFSET AS STATED ABOVE.

GENERAL NOTES

MAINTENANCE OF TRAFFIC

ITEM 614-MAINTAINING TRAFFIC

A MINIMUM OF THREE LANES OF TRAFFIC IN EACH DIRECTION ON IR-90 SHALL BE MAINTAINED WHEN WORK IS BEING PERFORMED IN BOTH DIRECTIONS CONCURRENTLY. WHEN ONLY ONE DIRECTION OF IR-90 IS BEING WORKED ON, A MINIMUM OF TWO LANES OF TRAFFIC MUST BE MAINTAINED IN THE DIRECTION THAT THE WORK IS BEING PERFORMED, WHILE ALL EXISTING LANES OF TRAFFIC MUST BE MAINTAINED IN THE DIRECTION OF NO WORK. SEE SCHEDULE OF LANES TO BE MAINTAINED FOR MORE INFORMATION.

ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 15 AND MARCH 15. SHORT TERM LANE CLOSURES ARE PERMITTED AS PER THE "SCHEDULE OF LANES TO BE MAINTAINED" AND AS APPROVED BY THE PROJECT ENGINEER. THE CONTRACTOR SHALL SCHEDULE HIS WORK TO MEET THIS REQUIREMENT. IF THE CONTRACTOR CHOOSES TO EXTEND HIS WORK BEYOND NOVEMBER 15, EVEN IF THE TIME LIMIT FOR THE PHASE BEING WORKED ON IS LESS THAN THAT SHOWN IN THE MAINTENANCE OF TRAFFIC GENERAL NOTE "USER COST DAMAGES FOR INTERIM COMPLETION REQUIREMENTS", HE SHALL BE ASSESSED THE LIQUIDATED DAMAGES SHOWN IN THE NOTE FOR EACH CALENDAR DAY THAT ALL LANES ARE NOT OPEN AND AVAILABLE TO TRAFFIC.

NO ADDITIONAL LANES SHALL BE CLOSED ON IR-90 DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	NEW YEARS
MEMORIAL DAY	FOURTH OF JULY
LABOR DAY	THANKSGIVING

THE PERIOD OF TIME THAT ALL SCHEDULED LANES ARE TO BE OPEN DEPENDS UPON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL SCHEDULED LANES ARE TO BE OPENED
SUNDAY	12:00N FRIDAY THROUGH 12:00N MONDAY
MONDAY	12:00N FRIDAY THROUGH 12:00N TUESDAY
TUESDAY	12:00N MONDAY THROUGH 12:00N WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 12:00N THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 12:00N MONDAY
FRIDAY	12:00N THURSDAY THROUGH 12:00N MONDAY
SATURDAY	12:00N FRIDAY THROUGH 12:00N MONDAY

NO ADDITIONAL LANE CLOSURES ON IR-90 SHALL BE PERMITTED FOR DOWNTOWN EVENTS EXCEEDING 15,000 SEATING CAPACITY FOR 2 HOURS PRIOR AND 2 HOURS AFTER.

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES AS OUTLINED IN THE MAINTENANCE OF TRAFFIC GENERAL NOTE "USER COST DAMAGES FOR INTERIM COMPLETION REQUIREMENTS."

GENERAL CONSTRUCTION SEQUENCE

THE CONTRACTOR IS REMINDED THAT, IN THE CONDUCT OF THIS PROJECT, HIS SEQUENCE OF OPERATIONS SHALL BE PLANNED AND EXECUTED IN SUCH A WAY AS TO MINIMIZE THE NUMBER OF LANE REDUCTIONS AND/OR LANE WIDTH REDUCTIONS REQUIRED TO MAINTAIN TRAFFIC THROUGH THE PROJECT. IN THIS REGARD, WHEN A TRAFFIC LANE IS CLOSED, ALL OPERATIONS TO THAT LANE (EXCEPT THE FINAL PAVEMENT MARKINGS) SHALL BE PERFORMED IN AN ORDERLY SEQUENCE SUCH THAT IT WILL NOT BE NECESSARY TO AGAIN CLOSE THAT LANE UNTIL THE NEXT TRAFFIC PATTERN OR FINAL PAVEMENT MARKING IS IN POSITION.

CONTRACTOR'S EQUIPMENT AND OPERATION

ALL VEHICLES AND EQUIPMENT THAT ARE NOT WORKING BEHIND PORTABLE CONCRETE BARRIER OR MUST ENTER THE HIGHWAY MORE THAN ONCE A DAY MUST BE EQUIPPED WITH AT LEAST ONE FLASHING, ROTATING, OR OSCILLATING AMBER LIGHT. THE LIGHT MUST BE VISIBLE TO ALL DIRECTIONS OF TRAFFIC FOR AT LEAST ONE QUARTER MILE, DAY OR NIGHT.

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC.

PROJECT PROGRESS MEETINGS

PROGRESS MEETINGS WILL BE HELD EVERY FOUR (4) WEEKS AT THE PROJECT OFFICE, OR OTHER LOCATION DESIGNATED BY THE CONSTRUCTION ENGINEER, AND ATTENDED BY O.D.O.T. AND CONSTRUCTION DECISION MAKING PERSONNEL.

THE PURPOSE OF THESE MEETINGS WILL BE TO DISCUSS CRITICAL OPERATIONS AND POTENTIAL PROBLEMS. THE CONTRACTOR WILL CONFIRM THE NUMBER AND DURATION OF WORK SHIFTS, NUMBER OF WORK CREWS, AND SPECIFIC PORTIONS OF THE WORK TO BE PERFORMED DURING THE FOLLOWING WEEKS.

THESE MEETINGS CAN ONLY BE WAIVED BY THE CONSTRUCTION ENGINEER.

PROGRESS SCHEDULE (CRITICAL PATH METHOD)

THE PRE-CONSTRUCTION MEETING SHALL BE HELD NO LATER THAN 30 CALENDAR DAYS AFTER THE CONTRACT IS SIGNED. THE CONTRACTOR SHALL SUBMIT THEIR PROPOSED CPM SCHEDULE AT THE PRE-CONSTRUCTION MEETING FOR THE REVIEW BY THE CONSTRUCTION ENGINEER. WRITTEN COMMENTS REGARDING THE CPM SCHEDULE WILL BE FORWARDED TO THE CONTRACTOR BY THE CONSTRUCTION ENGINEER WITHIN 14 CALENDAR DAYS AFTER THE PRE-CONSTRUCTION MEETING.

A FINAL CPM SCHEDULE SHALL BE SUBMITTED TO THE CONSTRUCTION ENGINEER WITHIN 30 CALENDAR DAYS FROM THE DATE OF THE PRE-CONSTRUCTION MEETING BUT AT LEAST SEVEN (7) CALENDAR DAYS PRIOR TO THE DATE DESIGNATED AS THE STARTING DATE IN THE CPM SCHEDULE. THE SCHEDULE SHALL BE SIGNED AND DATED BY THE PRIME CONTRACTOR AND NAMED SUBCONTRACTORS.

ITEM 619 - FIELD OFFICE, TYPE C, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS STATED IN THE SPECIFICATIONS, THE FOLLOWING EQUIPMENT SHALL BE INCLUDED FOR PAYMENT UNDER THIS ITEM:

A. TWO (2) CELLULAR PHONES (WITH SEPARATE LINES FOR EACH PHONE) FOR USE AS DIRECTED BY THE ENGINEER. PLEASE NOTE THAT THIS IS IN ADDITION TO THE REQUIREMENT FOR TELEPHONES PER 619.02.

B. FAX MACHINE WITH DEDICATED PHONE LINE.

ADJUSTMENTS IN CONTRACT TIME

TIME EXTENSIONS WILL ONLY BE CONSIDERED WHEN CONTROLLING ITEMS OF WORK ON THE APPROVED CPM SCHEDULE ARE AFFECTED DUE TO NO FAULT OF THE CONTRACTOR.

WHEN ADDITIONAL WORK IS REQUIRED, TIME EXTENSIONS WILL ONLY BE GRANTED FOR CONTROLLING ITEMS ON THE CPM SCHEDULE.

FAILURE TO COMPLY

IF THERE IS ANY FAILURE TO COMPLY WITH PROVISIONS FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES, OR WITH THE PROVISIONS OF THE "MANUAL", THE HIGHWAY IN THE VICINITY OF THE WORK AREA SHALL NOT BE CONSIDERED IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC. ANY FAILURE TO KEEP THE HIGHWAY IN THE VICINITY OF THE WORK AREA IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

TRAFFIC CONTROL MATERIALS

A. SIGNS

SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES, SHALL BE AS PROVIDED IN THE OMUTCD, OR IN SIGN DESIGN DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. THE SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THE PROJECT.

ALL SIGNS SHALL HAVE A REFLECTORIZED BACKGROUND OF REFLECTIVE MATERIALS AS DESCRIBED IN THE OMUTCD.

B. SIGN SUPPORTS

SUPPORTS SHALL BE ADEQUATE IN MASS AND STABILITY TO PREVENT THE SIGNS BEING BLOWN OVER BY WIND OR VEHICULAR GENERATED AIR TURBULENCE. (SEE MT-105.10 & 105.11)

C. DRUMS

DRUMS SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF THE OMUTCD. ALL COSTS FOR INSTALLING, MAINTAINING AND SUBSEQUENT REMOVAL OF SAID DRUMS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

D. FLASHERS

FLASHERS SHALL BE 12 VOLT BATTERY-OPERATED MODELS WITH 7 INCH DIAMETER YELLOW LENSES ILLUMINATED BY RAPID INTERMITTENT FLASHES OF SHORT DURATION AND SHALL BE PLACED WHERE NOTED ON THE PLANS.

E. FLASHING ARROW BARRICADE

WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORIST SHALL BE WARNED AND DIVERTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW BARRICADE FOR EACH LANE CLOSED. THE FLASHING ARROW PANEL SHALL BE POSITIONED TO ASSURE CLEAR VISIBILITY. LOCATIONS SHALL BE DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL REFER TO STD. DWG. TC-35.10 AND THE PROVISION SET FORTH IN OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS FOR ALL INFORMATION REGARDING FURNISHING, MAINTAINING AND USE OF FLASHING ARROW BARRICADES. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.

TRAFFIC CONTROL, CONT'D

ITEM 645-(PAVEMENT MARKING BY TYPE), TYPE A3, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS AS STATED IN THE PROPOSAL NOTE, THE FOLLOWING ADDITIONAL REQUIREMENTS SHALL APPLY TO THIS ITEM OF WORK:

THE CONTRACTOR SHALL PREPARE THE PAVEMENT SURFACE IN ACCORDANCE WITH THE PAVEMENT MARKING MANUFACTURUR'S SPECIFICATIONS. APPLICATION OF PAVEMENT MARKINGS SHALL BE PERFORMED AS PER THE MANUFACTURER'S SPECIFICATIONS REGARDING WEATHER (TEMPERATURE, HUMIDITY) AND SURFACE CONDITIONS.

A REPRESENTATIVE OF THE PAVEMENT MARKING MANUFACTURER SHALL BE PRESENT THROUGHOUT THE INSTALLATION OF THIS ITEM OF WORK TO ASSIST THE CONTRACTOR IN THE APPLICATION OF THE PAVEMENT MARKING MATERIAL. THE REPRESENTATIVE SHALL BE PRESENT DURING SURFACE PREPARATION OPERATIONS, APPLICATION OF PAVEMENT MARKING MATERIAL AND DURING THE TESTING OF THE REFLECTIVE MEASUREMENT AFTER THE PAVEMENT MARKINGS ARE APPLIED. THE CONTRACTOR SHALL HAVE PREVIOUS EXPERIENCE IN INSTALLING THIS ITEM AND MEET MINIMUM TRAINING REQUIREMENTS AS RECOMMENDED BY THE MANUFACTURER IN ORDER TO BE QUALIFIED FOR PERFORMING THIS ITEM OF WORK.

UPON COMPLETION OF THIS ITEM OF WORK, THE ENGINEER SHALL RECEIVE A SIGNED DOCUMENT FROM THE MANUFACTURER WHICH ACCEPTS THE CONTRACTORS WORK AS BEING COMPLETED IN CONFORMANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

GENERAL NOTES

MAINTENANCE OF TRAFFIC, CONT'D

ITEM SPECIAL - ROADWAY MISC., TOW TRUCK SERVICE

THE CONTRACTOR SHALL PROVIDE A TOW SERVICE FOR ANY DISABLED VEHICLE WITHIN THE ROADWAY THAT AFFECTS THE FLOW OF TRAFFIC DURING ANY TEMPORARY OR PERMANENT LANE(S) CLOSURE OR RESTRICTIONS. THE INTENT IS TO REMOVE THE DISABLED VEHICLE TO A LOCATION OFF THE TRAVELED WAY.

THE TOW TRUCKS SHALL BE CAPABLE OF HANDLING A GROSS VEHICLE WEIGHT OF 18,000 POUNDS. EACH TRUCK SHALL BE EQUIPPED WITH AN AMBER CAB MOUNTED FLASHING LIGHT , TOW RIG, CUSHIONED BUMPER, AND REAR PINTLE HOOKS. FOR LARGE DISABLED TRUCKS, THE CONTRACTOR SHALL PROVIDE MORE THAN ONE TOW TRUCK, AS NEEDED. TOWING SHALL BE PROVIDED TO REMOVE DISABLED VEHICLES FROM WITHIN THE ROADWAY TO ANOTHER LOCATION OFF THE TRAVELED WAY. THIS SERVICE SHALL BE PROVIDED AT NO CHARGE TO THE OPERATORS OF THE DISABLED VEHICLES. THE OPERATORS OF THE DISABLED VEHICLES SHALL FILL OUT A FORM PROVIDED BY ODOT. THIS FORM SHALL BE SUBMITTED TO ODOT FOR PAYMENT OF THE TOW. ANY ADDITIONAL TOWING TO AN OFF SITE LOCATION SHALL BE ARRANGED BY THE POLICE OR MOTORIST, BUT SHALL NOT BE PART OF THE WORK REQUIRED UNDER THIS CONTRACT.

THE TOW TRUCK MAY BE CALLED TO THE SCENE BY THE POLICE, CONTRACTOR, ENGINEER, OR DESIGNATED ENGINEER'S OR CONTRACTOR'S REPRESENTATIVES. THE TOW TRUCK MUST RESPOND AND ARRIVE AT THE SCENE OF THE DISABLED VEHICLE NO LATER THAN TEN MINUTES AFTER THE RECEIPT OF THE CALL. IF THE TOW TRUCK CANNOT ARRIVE IN TEN MINUTES AS DEEMED BY THE PROJECT ENGINEER, THIS REQUIREMENT MAY BE WAIVED. THE CONTRACTOR MUST PROVIDE TEN MINUTES RESPONSE SERVICE EVEN THOUGH THERE MAY BE MULTIPLE DISABLED VEHICLES AT DIFFERENT LOCATIONS WITHIN THE LIMITS OF WORK. IN THE CASE OF SERIOUS VEHICULAR ACCIDENTS, THE TOW TRUCK MUST NOT REMOVE THE DISABLED VEHICLES UNTIL AUTHORIZED BY POLICE OR THE ENGINEER. THE CONTRACTOR SHALL NOT LET ANY VEHICLE REMAIN IN THE TRAVELED WAY FOR 30 MINUTES WITHOUT NOTIFYING THE TOWING SERVICE. IF THE TOWING SERVICE IS NOT NOTIFIED IN 30 MINUTES, THE CONTRACTOR SHALL ONLY BE PAID FOR ONE HALF OF THE TOW TRUCK SERVICE UNIT PRICE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE REPRESENTATIVES TO ENSURE THE TOWING SERVICE RESPONDS WITHIN THESE GUIDELINES. THE TOWING SERVICE SHALL RESPOND TO ANY VEHICLE WITHIN THE LIMITS OF THE FIRST ADVANCED WARNING SIGNS ON THE PROJECT.

THE CONTRACTOR SHALL PROVIDE THE PHONE NUMBERS OF THE TOW TRUCK SERVICE TO THE POLICE AND ENGINEER AS SOON AS THEY BECOME AVAILABLE.

TOW TRUCK SERVICE SHALL BE MEASURED BY THE NUMBER OF TOWS THAT THE TOW TRUCK SERVICE ACTUALLY PERFORMS. THE RELOCATION OF EACH VEHICLE OFF THE TRAVELED WAY, WHETHER BY TOWING OR PUSHING SHALL BE COUNTED AS A TOW. IF TOWING IS PERFORMED BY MORE THAN ONE TOW TRUCK (AS NEEDED TO REMOVE HEAVY VEHICLES) MEASUREMENT WILL BE MADE PER EACH TOW TRUCK.

PAYMENT FOR TOW TRUCK SERVICE WILL BE MADE AT THE CONTRACT UNIT PRICE PER TOW. THIS PRICE SHALL BE FULL COMPENSATION FOR FURNISHING THE TOW TRUCK, OPERATOR, TOOLS, EQUIPMENT, INSURANCE AND ALL OTHER MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM SPECIAL-ROADWAY,MISC.:TOW TRUCK SERVICE (AUTO) 50 EACH
ITEM SPECIAL-ROADWAY,MISC.:TOW TRUCK SERVICE (COMMERCIAL) 50 EACH

MAINTAINING TRAFFIC

I-90 INNERBELT FREEWAY

IT IS THE INTENT OF THIS PROJECT THAT THROUGH TRAFFIC SHALL BE MAINTAINED ON AS MANY LANES AS POSSIBLE DURING THIS CONSTRUCTION AND AT NO TIME LESS THAN TWO (2), ELEVEN (11) FOOT LANES IN EITHER DIRECTION. BRIDGE WORK SHALL BE DONE IN FIVE (5) MAIN PHASES, DELINEATED AS FOLLOWS:

CONSTRUCTION PHASING

PRELIMINARY PHASE

THE PRELIMINARY PHASE SHALL BE FOR THE INSTALLATION OF THE SIGNING AND PAVEMENT ADJUSTMENTS TO BE MADE FOR THE IMPROVEMENT OF IR-77. ALSO, THE TEMPORARY AND PERMANENT PAVEMENT SHALL BE PLACED DURING THIS PHASE TO PREPARE FOR THE IMPLEMENTATION OF PHASE IA AND B. ALL WORK SHALL CONFORM TO ANY APPLICABLE STANDARD CONSTRUCTION DRAWINGS AND AS STATED UNDER THE SCHEDULE OF LANES TO BE MAINTAINED.

DURING THIS PHASE, THE SIGNING AND PAVEMENT MARKING PLACEMENT TO BE PERFORMED ON IR-77 NORTHBOUND REGARDING THE IR-90 INTERCHANGE MUST BE PERFORMED CONCURRENTLY AND WITHOUT ANY DISRUPTION TO THE MOTORIST. THIS WORK SHALL BE PERFORMED IN ONE (1) DAY. A SINGLE LANE CLOSURE MAY BE USED AS NEEDED TO PERFORM THIS WORK.

AFTER THE SIGNING AND PAVEMENT MARKING UPGRADE ON IR-77 NORTHBOUND WITH REGARDS TO IR-90 IS COMPLETE AND IN PLACE, TWO (2) PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE PLACED FOR A PERIOD OF THIRTY (30) CONSECUTIVE DAYS. THESE PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE USED TO ALERT MOTORISTS THAT A CHANGE IN DRIVING PATTERNS HAS OCCURRED.

THE FIRST PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE PLACED APPROXIMATELY 4000 FEET IN ADVANCE OF THE RAMPS E-8/E-17 GORE. THE SECOND PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE PLACED APPROXIMATELY 1400 FEET IN ADVANCE OF THE GORE.

PHASE IA AND IB

THESE PHASES SHALL BE FOR THE REMOVAL AND RECONSTRUCTION OF THE MEDIAN PARAPET WALL AND DECK BETWEEN THE INSIDE TWO GIRDERS OF CUY-90-1599 WHILE MAINTAINING THREE LANES IN EACH DIRECTION AS DETAILED IN THE PLANS AND AS STATED UNDER THE SCHEDULE OF LANES TO BE MAINTAINED.

DURING THIS PHASE, THE SIGNING AND PAVEMENT MARKING PLACEMENT TO BE PERFORMED ON IR-90 EASTBOUND FROM STA. 1986+45 TO STA. 99+00 MUST BE PERFORMED CONCURRENTLY AND WITHOUT ANY DISRUPTION TO THE MOTORIST. THIS WORK SHALL BE PERFORMED IN ONE (1) DAY. A SINGLE LANE CLOSURE MAY BE USED AS NEEDED TO PERFORM THIS WORK. SEE SHEETS 45-45II FOR DETAILS.

THE PAVEMENT WIDENING ON IR-90 EASTBOUND AT RAMP E-11 SHALL BE EXPEDITED TO COMPLETE THE WORK WITHIN ONE (1) WEEKS TIME. NO DAY TIME CLOSURES WILL BE PERMITTED. A SINGLE-LANE NIGHT TIME CLOSURE IS PERMITTED AS STATED UNDER THE SCHEDULE OF LANES TO BE MAINTAINED. ALL LANES MUST BE OPEN TO TRAFFIC AT ALL OTHER TIMES. CLOSURE OF RAMP E-11 IS NOT PERMITTED. SEE MAINTENANCE OF TRAFFIC SHEET 9B FOR ADDITIONAL INFORMATION.

PHASE IIA

THIS PHASE SHALL BE FOR THE REMOVAL AND RECONSTRUCTION OF THE WESTBOUND DECK OF CUY-90-1599 BETWEEN INTERIOR GIRDERS 2 AND 4 AND THE RENOVATION OF THE INTERIOR PORTIONS OF THE WESTBOUND DECKS OF CUY-90-1524/1540/1547 WHILE MAINTAINING TWO LANES AS STATED UNDER THE SCHEDULE OF LANES TO BE MAINTAINED. RAMP E-1 WILL BE CLOSED FOR THE DURATION OF THIS PHASE. EASTBOUND TRAFFIC SHALL BE OPENED TO ALL EXISTING LANES DURING THIS PHASE OF CONSTRUCTION.

PHASE IIB

THIS PHASE SHALL BE FOR THE REMOVAL AND RECONSTRUCTION OF THE DECK ALONG RAMP E-1. THE RAMP WILL BE CLOSED FOR THE DURATION OF THIS PHASE. TRAFFIC SHALL BE DETOURED AS SHOWN IN THE PLANS AND AS STATED UNDER THE SCHEDULE OF LANES TO BE MAINTAINED. EASTBOUND TRAFFIC SHALL BE OPENED TO ALL EXISTING LANES DURING THIS PHASE OF CONSTRUCTION.

PHASE IIIA

THIS PHASE SHALL BE FOR THE COMPLETION OF THE RENOVATION OF THE WESTBOUND DECKS OF CUY-90-1524/1540/1547 WHILE MAINTAINING TWO LANES AS STATED UNDER THE SCHEDULE OF LANES TO BE MAINTAINED. EASTBOUND TRAFFIC SHALL BE OPENED TO ALL EXISTING LANES DURING THIS PHASE OF CONSTRUCTION. RAMP W-2 SHALL BE RENOVATED IN TWO STAGES (STAGES 1 AND 2) AS SHOWN IN THE PLAN.

PHASE IIIB

THIS PHASE SHALL BE FOR THE REMOVAL AND RECONSTRUCTION OF THE WESTBOUND EXTERIOR PORTION OF THE DECK OF CUY-90-1599 FROM APPROXIMATELY STA. 43+34 TO STA. 46+00 (SEE DEMOLITION PLAN FOR EXACT LIMITS) WHILE MAINTAINING TWO LANES AS STATED UNDER THE SCHEDULE OF LANES TO BE MAINTAINED. RAMP E-1 WILL BE CLOSED FOR THE DURATION OF THIS PHASE. EASTBOUND TRAFFIC SHALL BE OPENED TO ALL EXISTING LANES DURING THIS PHASE OF CONSTRUCTION.

PHASE IIIC

THIS PHASE SHALL BE FOR THE REMOVAL AND RECONSTRUCTION OF THE WESTBOUND EXTERIOR PORTION OF THE DECK OF CUY-90-15.99 FROM APPROXIMATELY STA. 46+00 TO STA. 54+50 (SEE DEMOLITION PLAN FOR EXACT LIMITS) WHILE MAINTAINING TWO LANES AS STATED UNDER THE SCHEDULE OF LANES TO BE MAINTAINED. THIS PHASE WILL COMPLETE THE REPLACEMENT OF THE WESTBOUND DECK. RAMP E-3 WILL BE CLOSED FOR THE DURATION OF THIS PHASE. EASTBOUND TRAFFIC SHALL BE OPENED TO ALL EXISTING LANES DURING THIS PHASE OF CONSTRUCTION.

PHASE IV

THIS PHASE SHALL BE FOR THE REMOVAL AND RECONSTRUCTION OF THE EASTBOUND DECK OF CUY-90-1599 BETWEEN INTERIOR GIRDERS 2 AND 4 AND THE RENOVATION OF THE INTERIOR PORTIONS OF THE EASTBOUND DECKS OF CUY-90-1524/1540/1547 WHILE MAINTAINING TWO LANES AS STATED UNDER THE SCHEDULE OF LANES TO BE MAINTAINED. WESTBOUND TRAFFIC SHALL BE OPENED TO ALL EXISTING LANES DURING THIS PHASE OF CONSTRUCTION.

ALSO UNDER THIS PHASE, PAVEMENT ADJUSTMENTS SHALL BE MADE AT THE GORE OF RAMP E-4, AS DETAILED ON SHEETS 13A-13B. INCLUDED IN THIS PAVEMENT ADJUSTMENT IS THE PROPOSED CONCRETE PAD FOR THE NEW IMPACT ATTENUATOR. THIS PAVEMENT ADJUSTMENT IS NECESSARY FOR THE IMPLEMENTATION OF THE DETOUR UNDER MAINTENANCE OF TRAFFIC PHASE VA.

PHASE VA

THIS PHASE SHALL BE FOR THE REMOVAL AND RECONSTRUCTION OF THE DECK ALONG RAMP E-2. THE RAMP WILL BE CLOSED FOR THE DURATION OF THIS PHASE. TRAFFIC SHALL BE DETOURED AS SHOWN IN THE PLANS AND AS STATED UNDER THE SCHEDULE OF LANES TO BE MAINTAINED. WESTBOUND TRAFFIC SHALL BE OPENED TO ALL EXISTING LANES DURING THIS PHASE OF CONSTRUCTION.

PHASE VB

THIS PHASE SHALL BE FOR THE COMPLETION OF THE RENOVATION OF THE EASTBOUND DECKS OF CUY-90-1524/1540/1547 AND THE REMOVAL AND RECONSTRUCTION OF THE EASTBOUND EXTERIOR PORTION OF THE DECK OF CUY-90-1599 WHILE MAINTAINING TWO LANES AS STATED UNDER THE SCHEDULE OF LANES TO BE MAINTAINED. RAMP E-2 WILL BE CLOSED FOR THE DURATION OF THIS PHASE. WESTBOUND TRAFFIC SHALL BE OPENED TO ALL EXISTING LANES DURING THIS PHASE OF CONSTRUCTION.

RAMP E-2 TRAFFIC SHALL CONTINUE TO BE DETOURED ONTO RAMP E-4 BY THE USE OF TEMPORARY PAVEMENT MARKINGS AS DETAILED ON SHEET 20A.

GENERAL NOTES

MAINTENANCE OF TRAFFIC, CONT'D

ALTHOUGH THE MAINTENANCE OF TRAFFIC DETAILS INDICATE THE MAXIMUM CLOSURE TO TRAFFIC DURING PHASES II-V ON STRUCTURES 1524, 1540 AND 1547 AND THE MAXIMUM CLOSURE REQUIRED FOR THE SEALING OF THE DECK OPERATION, IT IS THE ENGINEERS OPTION TO PERMIT THREE (3) LANES OF TRAFFIC ON THESE STRUCTURES WHILE THE CONTRACTOR IS WORKING ON THE PARAPET WALL REMOVAL AND RECONSTRUCTION, CONFINING THE CONTRACTOR TO THE CURB LANE OF THE PARAPET ON WHICH HE IS WORKING. IF THE THIRD LANE OF TRAFFIC IS ESTABLISHED THEN THE CONTRACTOR MAY BLOCK SHORT WORK AREAS OF THAT EXTRA LANE FOR JOINT AND DECK REPAIR IN COMPLIANCE WITH THE SCHEDULE OF THROUGH LANES TO BE MAINTAINED.

SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FOREWARNED OF FUTURE LANE CLOSURES AND TRAFFIC RESTRICTIONS. THEREFORE, THE CONTRACTOR SHALL SUBMIT A SCHEDULE TO THE OHIO DEPARTMENT OF TRANSPORTATION INDICATING THE LOCATION AND DATE OF EACH LANE CLOSURE AT LEAST TWO (2) WEEKS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES. THE CONTRACTOR SHALL ALSO NOTIFY CLEVELAND'S POLICE, FIRE AND SERVICE DEPARTMENTS 72 HOURS IN ADVANCE OF IMPLEMENTING SAID CLOSURES.

NO STOPPAGE OF I-90 TRAFFIC OR ESTABLISHMENT OF LANE RESTRICTIONS SHALL OCCUR WITHOUT LAW ENFORCEMENT PERSONNEL AT EACH LOCATION TO DIRECT TRAFFIC. (SEE TRAFFIC STOPPAGE DETAIL)

WHEN RAMPS E-1 OR E-3 ARE CLOSED AND WHEN RAMPS E-2 AND E-4 ARE CLOSED, THE TRAFFIC SHALL BE DETOURED AS PER THE SIGNING ON SHEET 9.

NIGHT TIME WORK SHALL BE PERMITTED. A PLAN FOR LIGHTING FOR NIGHT TIME OPERATIONS SHALL BE PRESENTED TO AND APPROVED BY THE ENGINEER. IN ORDER TO ASSURE THE SAFEST CONDITIONS DURING NIGHT TIME WORK THE CONTRACTOR SHALL PROVIDE FLOOD LIGHTING OF THE WORK AREA.

THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL TRAFFIC CONTROL DEVICES AS PER THE DETAILED PLANS FOR MAINTAINING TRAFFIC.

TRAFFIC CONTROL DEVICES SHALL BE SET UP PRIOR TO THE START OF CONSTRUCTION, AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH SPECIAL CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS THEY ARE NEEDED AND SHALL BE IMMEDIATELY REMOVED THEREAFTER. WHERE OPERATIONS ARE PERFORMED IN STAGES, THERE SHALL BE IN PLACE ONLY THOSE DEVICES THAT APPLY TO THE CONDITION PRESENT DURING THE STAGE IN PROGRESS. ALL SIGNS WITH MESSAGES WHICH DO NOT APPLY DURING A CERTAIN PERIOD SHALL BE COVERED OR SET ASIDE OUT OF THE VIEW OF TRAFFIC.

ALL THROUGH TRAFFIC LANES SHALL BE KEPT OPEN AT ALL TIMES EXCEPT AS NOTED HERE AND IN THE MAINTENANCE OF TRAFFIC PLANS. TRAFFIC MAINTENANCE PHASES SHALL NOT BE IMPLEMENTED CONCURRENTLY UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO MAINTAIN TRAFFIC IN ACCORDANCE WITH THE PRECEDING REQUIREMENTS.

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHENEVER THEY ARE NOT APPLICABLE. STANDARD CONSTRUCTION DRAWINGS MT-95.30 SHALL BE APPLICABLE FOR ALL PREWARNING SIGNS AND ASSOCIATED NOTES AND DETAILS. THE EXTRA ADVANCE WARNING SIGN GROUPS AS PER THE STANDARD CONSTRUCTION DRAWING MT-95.30 SHALL BEGIN TWO (2) MILES PRIOR TO THE WORK ZONE ON I-90 EAST AND WEST AND FOR I-71 TO THE SOUTH.

GENERAL CONSTRUCTION REQUIREMENTS

PHASES IA AND IB SHALL BE IMPLEMENTED CONCURRENTLY.

PHASES IIA AND IIB MAY BE IMPLEMENTED CONCURRENTLY.

PHASES IV AND VA MAY BE IMPLEMENTED CONCURRENTLY.

MAINTENANCE OF TRAFFIC FOR WORK ON THE DECKS OF CUY-90-1524/1540/1547

WHEN IMPLEMENTING THE SUB-PHASES TO PERFORM THE WORK ON THESE DECKS, AND TO KEEP THE LENGTH OF THE LONG TERM CLOSURES TO A MINIMUM DURING PHASES IIA AND VB, THE CONTRACTOR SHALL FOLLOW THE INTERIM COMPLETION REQUIREMENTS (SEE SHEET 7E). THE LANE CLOSURES FOR THE DECK REPLACEMENT FOR CUY-90-1599 SHALL BE THE SAME ALTHOUGH THE EASTBOUND ENTRANCE TO THE CONSTRUCTION ZONE WOULD BE SHIFTED TO THE EAST PER STANDARD DRAWINGS WHEN THIS DECK WORK IS COMPLETED. BARRIER PROTECTION SHALL BE UTILIZED AT ALL TIMES FOR WORK ON CUY-90-1599 AS SHOWN IN THE PLANS.

ITEM 622, PORTABLE CONCRETE BARRIER, 32", AND ITEM 622, PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED

IT IS ANTICIPATED THAT THE SAME BARRIER WILL BE USED IN VARIOUS PHASES OF CONSTRUCTION. MOVEMENT OF THE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIER IS COMPLETE.

ALL COSTS INVOLVED IN REMOVING AND REINSTALLING THE CONCRETE BARRIER WILL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 622, PORTABLE CONCRETE BARRIER, 32" AND ITEM 622, PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED. (EACH MOVEMENT IS PAID FOR SEPARATELY).

ITEM 614-BARRIER REFLECTORS AND OBJECT MARKERS

REFLECTORS, OBJECT MARKERS AND THEIR MOUNTINGS SHALL CONFORM TO PROPOSAL NOTE AND SUPPLEMENTAL SPECIFICATION 802 (BARRIER REFLECTORS), EXCEPT THAT SPACING SHALL BE AT 25' C-C.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, BY CLASS,AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON THE LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY.

THE LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS WILL BE AS DIRECTED BY THE ENGINEER. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NECESSARY.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.03(C). THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE. THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 104.04.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID PER SIGN MONTH FOR EACH ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM) SHALL BE FURNISHED FOR USE BY THE DISTRICT WORK ZONE TRAFFIC CONTROL ENGINEER AND SHALL BE INSURED AGAINST THEFT.

EACH PCMS SHALL BE EQUIPPED WITH A MYRAID SAFETY BEAM OR AN APPROVED EQUAL AS DETERMINED BY THE ENGINEER. THE MYRAID SAFETY BEAM SENDS OUT A SIGNAL THAT ACTIVATED RADAR DETECTORS AND THE BEAM IS APPROVED BY THE F.C.C.. THE MYRAID SAFETY BEAM SHALL USE THE SAME POWER SUPPLY AS THE PCMS. THE MYRAID SAFETY BEAM SHALL BE ABLE TO BE ACTIVATED WITH THE SIGN RUNNING OR NOT. THE MYRAID SAFETY BEAM IS DISTRIBUTED EXCLUSIVELY BY:

THE TRIPLEX GROUP, INC.
P.O. BOX 428
NEW HOPE, PA 18938
PHONE: (215) 862-5077

NOTES:

1. CLASS I PCMS ARE VISIBLE FROM 1200 FT. CLASS II PCMS VISIBLE FROM 850 FT.
2. TWO PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE A CLASS I. THE CLASS I PCMS WILL BE AVAILABLE AT THE START OF THE PROJECT AND WILL BE USED FOR THE DURATION OF THE PROJECT.
3. ONE OF THE CLASS I PCMS SHALL BE A: SOLAR MESSAGE CENTER
   MODEL # SMC 2000
   TRAILER MOUNTED FULL MATRIX
   VARIABLE MESSAGE SIGN,

   THIS SIGN IS MANUFACTURED BY: PRECISION SOLAR CONTROLS INC.
   2960 MARKET STREET
   GARLAND, TEXAS 75041
   PHONE NO. (214) 278-0553

THIS SIGN MUST BE NEW AND BE THE LATEST MODEL MANUFACTURED BY THE COMPANY.

AN APPROVED EQUAL THAT MEETS ALL THE SPECIFICATIONS OF SMC 2000 MAY BE FURNISHED WITH THE APPROVAL OF DISTRICT 12S WORK ZONE TRAFFIC CONTROL ENGINEER.

THIS PCMS MUST BE EQUIPPED WITH A CELLULAR PHONE FOR REMOTE CONTROL OF THE SIGN AND WITH THE RADAR OPTION OFFERED BY THE MANUFACTURER. THE RADAR SHALL BE ABLE TO TELL THE MOTORIST APPROACHING THE SIGN THEIR SPEED. THIS SIGN DOES NOT HAVE TO BE EQUIPPED WITH THE MYRAID SAFETY BEAM.

AT THE COMPLETION OF THIS PROJECT (WHEN ALL CONSTRUCTION WORK IS COMPLETE) THIS PCMS (SOLAR MESSAGE CENTER MODEL #SMC 2000) SHALL BECOME THE PROPERTY OF THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 12. IT SHALL BE IN GOOD WORKING ORDER AND MUST BE ACCEPTED BY THE WORKING ZONE TRAFFIC CONTROL ENGINEER IN WRITING. THE PCMS SHALL BE DELIVERED TO ODOT, DISTRICT 12, 5500 TRANSPORTATION BLVD., GARFIELD HTS., OHIO.

A SOFTWARE PROGRAM TO RUN THE SIGNS REMOTELY AND A SENTINAL KEY MUST BE PROVIDED TO ODOT WHEN THE PCMS IS DELIVERED TO ODOT. THE SIGN SHALL BE EQUIPPED WITH A 2 INCH BALL HITCH AND A 3 INCH PINTLE HITCH. THE PLUG FOR THE TRAILER LIGHTS SHALL BE A N.A.P.A. SIX POLE PLUG TC-6207 OR APPROVED EQUAL. ALL OPERATIONS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO ODOT.

GENERAL NOTES

MAINTENANCE OF TRAFFIC, CONT'D

TWO ADDITIONAL PORTABLE CHANGEABLE MESSAGE SIGNS WILL BE CLASS II AND WILL ONLY BE USED WHEN DIRECTED BY THE ENGINEER.

IF THE PCMS ARE NOT BEING USED AS DETERMINED BY THE ENGINEER OR WHEN CONSTRUCTION HAS BEEN SUSPENDED FOR THE WINTER SEASON THE PROJECT ENGINEER MAY DIRECT THE CONTRACTOR TO REMOVE THE PCMS AND DISCONTINUE PAYMENTS FOR THIS TIME.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

(ESTIMATED QUANTITY - 2 CLASS I AND 2 CLASS II SIGNS@48 MONTHS EACH=192 SIGN MONTHS)

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, CLASS I, AS PER PLAN 96 SIGN MONTHS

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, CLASS II,AS DIRECTED BY THE ENGINEER, AS PER PLAN. 96 SIGN MONTHS

TRAFFIC CONTROL DEVICES LOCATED OUTSIDE OF THE LIMITS OF CONSTRUCTION

IN ADDITION TO THE REQUIREMENTS OF 614.03 (b) OF THE CMS, THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN, AND SUBSEQUENTLY REMOVE SUCH ADDITIONAL TRAFFIC CONTROL DEVICES LOCATED OUTSIDE OF THE LIMITS OF CONSTRUCTION AS ARE REQUIRED ON HIGHWAYS WHICH ARE USED AS DETOURS, INCLUDING THE ROAD CLOSED SIGNS UPON THE BARRICADES AT THE POINT WHERE THE HIGHWAY IS CLOSED.

ITEM SPECIAL - ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER

WHEN ADDITIONAL SIGNING IS NEEDED TO MAINTAIN TRAFFIC THE CONTRACTOR SHALL FURNISH THE SIGN OR SIGNS AS DIRECTED BY THE ENGINEER. THESE SIGNS SHALL BE GROUND MOUNTED AND MEET ALL THE SPECIFICATIONS OF THE PLAN, PROPOSAL AND CURRENT YEAR STATE OF OHIO, DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

PAYMENT FOR THIS ITEM SHALL INCLUDE BUT NOT BE LIMITED TO THE COST TO FURNISH THE SIGN, ERECT IT, INCLUDING DRIVE POSTS OR OTHER APPROVED METHOD OF SUPPORT, MAINTAIN IT, AND REMOVE IT.

PAYMENT SHALL BE BY SQUARE FOOT.

ITEM SPECIAL: ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER 750 SQ. FT.

TEMPORARY LANE LINE, CLASS I, AS PER PLAN

THIS ITEM IS TEMPORARY SOLID LANE LINE, WHITE, CLASS I, 740.05, TYPE C OR TEMPORARY SOLID LANE LINE, WHITE, CLASS I, 642 PAINT AS CALLED OUT ON THE PLANS AND SHALL CONSIST OF 4" TEMPORARY CHANNELIZING LINE, CLASS I, 740.05, TYPE C OR 4" TEMPORARY CHANNELIZING LINE, CLASS I, 642 PAINT.

LIGHTING

THE EXISTING LIGHTING SYSTEM SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL THE PROPOSED TOWER LIGHTS OR REPLACEMENT LIGHTS ARE INSTALLED.

THE TOWER LIGHTS SHALL BE INSTALLED DURING PHASE I CONSTRUCTION. THE REPLACEMENT LIGHTS AND WIRING SHALL BE INSTALLED DURING PHASE III AND PHASE V CONSTRUCTION ON A UNIT BY UNIT BASIS TO MAINTAIN LIGHTING OF THE STRUCTURE.

TEMPORARY PAVEMENT MARKINGS PLACED DURING PRELIMINARY PHASE

THE FOLLOWING NOTE ONLY APPLIES TO TEMPORARY PAVEMENT MARKINGS PLACED DURING THE PRELIMINARY PHASE. DURING THE PRELIMINARY PHASE OF MAINTENANCE OF TRAFFIC, THE FOLLOWING QUANTITIES ARE TO BE PLACED ACCORDING TO THE PERMANENT PAVEMENT MARKING LOCATION AS SHOWN ON THE TRAFFIC CONTROL SHEETS 45H TO 45J.

DUE TO THE DURATION OF THE PROJECT, TEMPORARY PAVEMENT MARKINGS PLACED DURING THE PRELIMINARY PHASE MAY REQUIRE A SECOND APPLICATION. QUANTITIES HAVE BEEN QUADRUPLED WITH RESPECT TO THE PERMANENT PAVEMENT MARKING QUANTITIES SO THAT IF MARKINGS ARE WORN, SUBSEQUENT APPLICATIONS CAN BE MADE AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE MADE FOR EACH APPLICATION OF THE TEMPORARY PAVEMENT MARKINGS UNDER ITS RESPECTIVE ITEM 614-TEMPORARY PAVEMENT MARKING, BY TYPE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE MAINTENANCE OF TRAFFIC GENERAL SUMMARY ON SHEET 25B.

ITEM 614-TEMPORARY LANE LINE, CLASS I, 642 PAINT 0.12 MI.
ITEM 614-TEMPORARY CHANNELIZING LINE, CLASS I, 642 PAINT 2824 LIN.FT.
ITEM 614-TEMPORARY CHANNELIZING LINE,AS PER PLAN, CLASS I, 642 PAINT 2512 LIN.FT.
ITEM 614-TEMPORARY TRANSVERSE LINE, CLASS I, 642 PAINT 1808 LIN.FT.

TEMPORARY OVERLAY

FOR EXISTING OVERHEAD SIGNS WITH PROPOSED TEMPORARY OVERLAYS LARGER THAN THE SIGN ITSELF, A TEMPORARY EXTRUSHEET EXTENSION PANEL(S) SHALL BE FASTENED TO THE TOP OF THE EXISTING SIGN IN ACCORDANCE WITH STANDARD DRAWING TC-42.10. THE HEIGHT OF THE EXTENSION SHALL BE ENOUGH TO MAKE THE SIZE OF THE EXISTING SIGN THE SAME SIZE AS THE TEMPORARY OVERLAY. THE TEMPORARY EXTRUSHEET EXTENSION PANEL(S) SHALL BE ADDED TO THE SIGN PRIOR TO THE TEMPORARY OVERLAY BEING FASTENED TO THE SIGN. THE EXISTING EXIT PANEL SHALL BE TEMPORARILY REMOVED AND REATTACHED AFTER THE TEMPORARY OVERLAY AND EXTRUSHEET EXTENSIONS ARE REMOVED. THE COST TO PERFORM THE ABOVE MENTIONED WORK SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.

TRUCK MOUNTED ATTENUATOR

WHEN THE CONTRACTOR IS PERFORMING SHORT TERM WORK ON BERMS OR MEDIANS LESS THAN 10 FEET IN WIDTH AND ON A ROAD WITH SPEEDS OF 45 MPH OR HIGHER, A TRUCK MOUNTED ATTENUATOR MUST TRAIL THE OPERATION. THIS SAME TRUCK MUST HAVE A TYPE B FLASHING ARROW PANEL MOUNTED ON IT FACING THE REAR OF THE TRUCK.

THE T.M.A. SHALL BE AN ALPHA 60 M.D., MANUFACTURED BY
ENERGY ABSORPTION SYSTEMS, INC.
ONE EAST WACKER DRIVE
CHICAGO, IL 60601-2076
(312)467-6750

AN EQUAL PRODUCT MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER. THE T.M.A. MUST BRING A VEHICLE WEIGHING ABOUT 1800 TO 4500 LBS. AND TRAVELING AT 60 MPH TO A SAFE, CONTROLLED STOP, PER NCHRP 350 CRITERIA. THE MANUFACTURER'S SPECIFICATION MUST BE FOLLOWED CONCERNING THE SIZE OF THE TRUCK AND THE CONNECTIONS TO THE T.M.A.

OPERATIONS THAT THE T.M.A. AND FLASHING ARROW PANEL ARE INTENDED FOR, BUT NOT LIMITED TO, ARE THE FOLLOWING:

1.) INSTALLATION, COVERING, UNCOVERING OF CONSTRUCTION SIGNS.
2.) SET-UP AND TEAR-DOWN OF A LANE CLOSURE.
3.) PLACING OR PICKING UP DRUMS, CONES, OR EQUIPMENT.
4.) APPLYING PAVEMENT MARKINGS WITH A MOVING ZONE.
5.) ANYTIME AS DIRECTED BY THE ENGINEER.

ALL COSTS ASSOCIATED WITH THIS ITEM ARE TO BE INCLUDED IN ITEM 614, MAINTAINING TRAFFIC.

TEMPORARY IMPACT ATTENUATOR, TRUCK MOUNTED (TMA)

A TEMPORARY TRUCK MOUNTED ATTENUATOR (TMA) SHALL BE IN PLACE IN THE RAMP E-11/IR-90 GORE WHEN THE PAVEMENT WIDENING WORK IS BEING PERFORMED. THE TMA SHALL BE REMOVED WHENEVER WORK IS NOT BEING DONE. THE TMA SHALL BE AS STATED UNDER THE "TRUCK MOUNTED ATTENUATOR" NOTE ON THIS SHEET.

ALL WORK SHALL BE AS DIRECTED BY THE ENGINEER AND INCLUDED FOR PAYMENT UNDER THE LUMP SUM BID ITEM 614 - MAINTAINING TRAFFIC.

ITEM 614 - TEMPORARY IMPACT ATTENUATOR, QUADGUARD SYSTEM

THIS WORK SHALL CONSIST OF FURNISHING A TEMPORARY IMPACT ATTENUATOR, AS REQUIRED IN THE PLANS. THIS ITEM SHALL INCLUDE ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT A COMPLETE AND FUNCTIONAL QUADGUARD IMPACT ATTENUATOR SYSTEM. THE IMPACT ATTENUATOR SHALL BE A QUADGUARD cz MODEL #QZ3006Y AS MANUFACTURED BY THE ENERGY ABSORPTION SYSTEMS INC.,ONE EAST WACKER DRIVE, CHICAGO, ILLINOIS 60601; TELEPHONE (312) 467-6750. THE ATTENUATOR SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATION SHOWN IN THE PLAN.

THE BACKUP SYSTEM SHALL BE TRANSITIONED FROM THE CONCRETE BARRIER SHAPE TO A RECTANGULAR SHAPE FOR USE AS A CONCRETE BACKUP FOR THE QUADGUARD SYSTEM. THE MANUFACTURER SHALL PROVIDE THE DETAILS FOR THE SHAPE AND TRANSITION. THE COSTS FOR THIS WORK NECESSARY FOR COMPLETION OF THE ITEM SHALL BE CONSIDERED INCIDENTAL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, REPAIRING, AND OTHERWISE RESTORING THE TEMPORARY IMPACT ATTENUATOR IN ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS WHILE IT IS IN USE ON THE PROJECT. SUCH REPAIRS SHALL BE PERFORMED WITHIN TWELVE (12) HOURS OF THE INCIDENT WHICH CAUSED DAMAGE TO THE ATTENUATOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL NECESSARY MATERIALS AND EQUIPMENT REQUIRED TO PERFORM THE ABOVE DESCRIBED RESTORATION OF THE ATTENUATOR. ONE (1) EXTRA COMPLETE SET OF HEX-FOAM CARTRIDGES, AS MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., FOR THE ATTENUATOR FURNISHED, SHALL BE STOCKED AT ALL TIMES FOR THE ABOVE REPAIRS AND THE COST SHALL BE INCLUDED IN THE COST OF THE TEMPORARY ATTENUATOR.

AFTER THE WORK IS COMPLETE, AND THE TEMPORARY IMPACT ATTENUATOR IS REMOVED, IT SHALL BE DELIVERED AND UNLOADED BY THE CONTRACTOR TO THE O.D.O.T. RIVEREDGE YARD, 4940 OLD GRAYTON ROAD, CLEVELAND, OHIO 44135 (216-676-5295) AND BECOME PROPERTY OF THE STATE, AT LEAST 48 HOURS ADVANCE NOTICE WILL BE REQUIRED BEFORE DELIVERY.

THE NOSE COVER OF THE TEMPORARY ATTENUATOR SHALL BE MARKED WITH THREE EVENLY SPACED FOUR INCH (4") WIDE HORIZONTAL STRIPES (TWO WHITE, ONE ORANGE) OF REFLECTORIZED SHEETING, TYPE G-730.19.

ALL COSTS FOR THE REPAIR OF THE TEMPORARY ATTENUATOR SHALL BE BORNE BY THE CONTRACTOR (HOWEVER, HE MAY RECOVER THESE COSTS FROM THE PARTY CAUSING THE DAMAGE TO THE ATTENUATOR). THE STATE WILL ASSUME NO REPAIR COST OF THE TEMPORARY ATTENUATOR DURING ITS USE ON THE PROJECT.

PAYMENT FOR THE INITIAL INSTALLATION INCLUDING THE PAD AND ALL NECESSARY HARDWARE , THE SUBSEQUENT REMOVAL, DELIVERY, UNLOADING AT THE RIVEREDGE YARD, AND THE STATE'S ASSUMPTION OF OWNERSHIP INCLUDING ONE (1) SET OF SPARE HEX-FOAM CARTRIDGES SHALL BE PAID FOR UNDER THE UNIT BID PRICE FOR ITEM 614 - TEMPORARY IMPACT ATTENUATOR, QUADGUARD SYSTEM.

GENERAL NOTES

MAINTENANCE OF TRAFFIC, CONT'D

ITEM SPECIAL-IMPACT ATTENUATOR MISC.: RESTORATION OF THE EXISTING QUADGUARD IMPACT ATTENUATOR

THIS ITEM OF WORK IS FOR THE MAINTENANCE OF THE EXISTING QUADGUARD IMPACT ATTENUATOR AT STA. 3+79.50 RAMP E-17. DURING THE LIFE OF THIS PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSPECTION, REPAIRING AND OTHERWISE RESTORING THE EXISTING IMPACT ATTENUATOR IN ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS. SUCH REPAIRS SHALL BE PERFORMED WITHIN TWELVE (12) HOURS OF THE INCIDENT WHICH CAUSED THE DAMAGE TO THE ATTENUATOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL NECESSARY MATERIALS AND EQUIPMENT REQUIRED TO PERFORM THE ABOVE DESCRIBED RESTORATION OF THE ATTENUATOR.

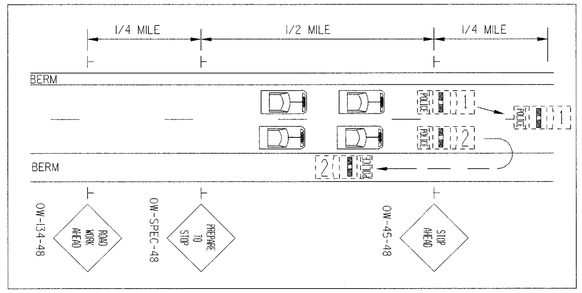
LIABILITY FOR THE RESTORATION OF THE IMPACT ATTENUATOR SHALL BE BORNE BY THE PARTY CAUSING THE DAMAGE. THE CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTING THE MONEY FROM THE PARTY THAT CAUSED THE DAMAGE. IN THE CASE OF A HIT AND RUN ACCIDENT, WHERE THE PARTY AT FAULT CANNOT BE FOUND, THE STATE WILL PAY FOR THE RESTORATION OF THE IMPACT ATTENUATOR. UNDER ALL OTHER CIRCUMSTANCES THE CONTRACTOR SHALL PAY FOR ALL COSTS OF RESTORATION. ALL MATERIALS, HARDWARE, EQUIPMENT AND WORK NECESSARY TO PERFORM THE RESTORATION WILL BE INCLUDED UNDER THE UNIT BID PRICE FOR ITEM SPECIAL - RESTORATION OF THE EXISTING QUADGUARD IMPACT ATTENUATOR. THE STATE SHALL BEAR NO COST FOR THE WORK WHENEVER THE PARTY AT FAULT IS FOUND. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM SPECIAL - RESTORATION OF EXISTING QUADGUARD IMPACT ATTENUATOR 5 EACH

ANY AND ALL COSTS INCURRED UNDER THIS WORK WHICH ARE NOT PAID FOR UNDER ITEM SPECIAL - RESTORATION OF EXISTING QUADGUARD IMPACT ATTENUATOR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC

MAINTENANCE OF TRAFFIC COMPLETE STOPPAGE OF TRAFFIC

ANYTIME TRAFFIC IS TO BE STOPPED ON THE FREEWAY INCLUDING ERECTION OF SPAN TYPE, BRIDGE MOUNTED OVERHEAD SUPPORTS BRIDGE BEAMS AND ANY OTHER OVERHEAD CONSTRUCTION IT SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT COMPLETE TRAFFIC STOPPAGE ON ALL LANES OF ANY DIRECTIONAL ROADWAY IS NO MORE THAN 10 IN ANY ONE CONSECUTIVE 30 MINUTE PERIOD. A MINIMUM OF TWO (2) LAW ENFORCEMENT PATROL VEHICLES SHALL BE USED TO PACE MOTORISTS TO A STOP. AFTER TRAFFIC HAS BEEN SLOWED, ONE (1) PATROL VEHICLE SHALL TRAVEL ALONG THE ROADWAY SHOULDER 500 FEET BEHIND THE BACK UP OF STOPPED VEHICLES. WHERE STOPPAGE OCCURS IN THE VICINITY OF FREEWAY ENTRANCES, THE CONTRACTOR SHALL PLACE FLAGGERS ON THE RAMPS TO STOP TRAFFIC. PATROL VEHICLES SHALL HAVE HIGH RISE FLASHING BEACONS TO PROVIDE ADEQUATE VISIBILITY TO APPROACHING MOTORISTS. THE CONTRACTOR SHALL ERECT AND MAINTAIN "ROADWORK AHEAD", "PREPARE TO STOP", AND "STOP AHEAD" SIGNS WITH FLASHING TWELVE INCH (12) TRAFFIC SIGNAL HEADS IN ACCORDANCE WITH 632.05. THESE SIGNS SHALL BE ILLUMINATED DURING NIGHT OPERATIONS. PATROL VEHICLES AND SIGNS SHALL BE LOCATED IN ACCORDANCE WITH THE FOLLOWING SKETCH. ERECTION SHALL BE DONE AT NIGHT BETWEEN THE HOURS OF 12 P.M. AND 6 A.M.



BROADWAY AND COMMERCIAL DRIVE

PARTIAL CLOSURE OF BROADWAY AND COMMERCIAL DRIVE SHALL BE REQUIRED SO AS NOT TO PERFORM WORK OVER A TRAVELED LANE FOR SUCH THINGS AS CONSTRUCTION OF TEMPORARY FALSEWORK, SAW CUTTING AND REMOVAL OF BRIDGE DECK, DECK POURS, INSTALLATION OF FENCE POSTS AND FABRIC AND REMOVAL OF FALSEWORK. THESE CLOSURES SHALL BE LIMITED TO THE HOURS OF 9 A.M. TO 3 P.M. AND/OR 7 P.M. TO 6 A.M. UNLESS OTHERWISE APPROVED IN WRITING BY THE DIRECTOR. A MINIMUM OF TWO (2), TEN (10) FOOT LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON BROADWAY, WHILE ONE (1), TWELVE (12) FOOT LANE SHALL BE MAINTAINED FOR COMMERCIAL DRIVE FOR TWO-WAY TRAFFIC WITH THE AID OF FLAGGERS.

ITEM SPECIAL-LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

CITY OF CLEVELAND
POLICE DEPARTMENT, THIRD DISTRICT
2001 PAYNE AVENUE
CLEVELAND, OHIO 44114
PHONE (216) 623-5300

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE HOURLY BASIS UNDER ITEM SPECIAL-LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM SPECIAL LAW ENFORCEMENT OFFICER WITH PATROL CAR 400 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

ITEM SPECIAL, REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM SPECIAL, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 250 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM SPECIAL, REPLACEMENT SIGN

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED BUT GOOD CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTACT PRICE PER SQUARE FOOT FOR ITEM SPECIAL, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 200 SQUARE FEET HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

CALC BY ____ DATE ____
CHKD BY ____ DATE ____
CUYAHOGA COUNTY
CUY-90-15.99
OHIO
FHWA REGION 5
7F
151

MAINTENANCE OF TRAFFIC, CONT'D

USER COST DAMAGES FOR INTERIM COMPLETION REQUIREMENTS

THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS AND INCREASE HIS WORK FORCE AS NECESSARY SO AS TO COMPLETE ALL WORK ITEMS REQUIRING PERMANENT LANE CLOSURES WITHIN THE TIME LIMIT ALLOCATED. AS STATED BELOW.

NON-RUSH HOUR CLOSURES ARE NOT CONSIDERED WITHIN THE TIME LIMITS ABOVE. (THOSE CLOSURES ARE DISCUSSED UNDER THE "SCHEDULE OF THROUGH LANES TO BE MAINTAINED" SHEET.)

THE COMPLETION OF A PHASE REQUIRES THAT ALL LANES BE REOPENED TO TRAFFIC OR THE SUBSEQUENT TRAFFIC CONTROL PHASE BE IMPLEMENTED. SEE THE SCHEDULE OF THROUGH LANES TO BE MAINTAINED FOR RESTRICTIONS CONCERNING PERMISSIBLE LATE CONSTRUCTION START TIMES.

THE TIME LIMIT AS SHOWN SHALL BEGIN ON THE FIRST DAY THAT PERMANENT CLOSURES (CLOSURES EXTENDING THROUGH RUSH HOURS) ARE IMPLEMENTED AND SHALL CONTINUE COUNTING BASED UPON CALENDAR DAYS UNTIL COMPLETION AS DEFINED ABOVE.

THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS AND INCREASE HIS WORK FORCE AS NECESSARY SO AS TO COMPLETE ALL WORK ITEMS FOR THE FOLLOWING CONSTRUCTION, WITHIN THE TIME LIMITS ALLOCATED. TIME SHOWN ARE FOR EACH STAGE OF WORK, AND ARE CONCURRENT WHEN POSSIBLE.

PHASE	TIME LIMIT	DAMAGES ($/DAY)
PRELIMINARY	15 DAYS	SEE PERMISSIBLE SHORT TERM LANE CLOSURE NOTE
IA	75 DAYS	$ 5000
IB	75 DAYS	$ 5000
IIA	50 DAYS	$ 25000
CUY-90-1524/1540/ 1547 WORK W.B.	30 DAYS*	$ 2000
IIB	75 DAYS	$ 1800
IIIA	30 DAYS	$ 2000
IIIB	50 DAYS	$ 25000
IIIC	75 DAYS	$ 25000
IV	45 DAYS	$ 25000
VA	75 DAYS	$ 500
VB	115 DAYS	$ 25000
CUY-90-1524/1540/ 1547 WORK E.B.	30 DAYS**	$ 500

*-30 DAYS TO BE IMPLEMENTED CONCURRENTLY WITH PHASE IIA. THE 30 DAYS IS NOT IN ADDITION TO THE 50 DAYS SHOWN FOR PHASE IIA, RATHER IT IS INCLUDED WITHIN THE 50 DAYS SHOWN.

**-30 DAYS TO BE IMPLEMENTED CONCURRENTLY WITH PHASE VB. THE 30 DAYS IS NOT IN ADDITION TO THE 115 DAYS SHOWN FOR PHASE VB, RATHER IT IS INCLUDED WITHIN THE 115 DAYS SHOWN.

GENERAL NOTES

MAINTENANCE OF TRAFFIC, CONT'D

SCHEDULE OF LANES TO BE MAINTAINED

PHASE	DIRECTION	NUMBER OF EXISTING LANES (NORMAL)	NUMBER OF LANES TO BE MAINTAINED (LONG TERM CLOSURES)	PERMISSABLE SHORT TERM LANE CLOSURES				LATEST POSSIBLE PHASE IMPLEMENTATION DATE	REMARKS
				WEEKDAYS		WEEKENDS			
				1 LANE CLOSED	2 LANES CLOSED	1 LANE CLOSED	2 LANES CLOSED		
PREL.	I-90	3	3	7PM-6AM*	11PM-6AM**	7PM FRI-6AM MON+	12AM-9AM SAT++ 12AM-11AM SUN++ 11PM SUN-6AM MON++	MARCH 15, 1997	
		4	4	9AM-3PM 7PM-6AM	8PM-6AM	7PM FRI-6AM MON	10PM FRI-11AM SAT 9PM SAT-12AM SUN 10PM SUN-6AM MON		
	I-77	2	2	9PM-6AM≠	N/A	12AM-10AM SAT Ø 12AM-11AM SUN Ø 10PM SUN-6AM MON Ø	N/A		
		3	3	10AM-3PM 7PM-6AM	9PM-6AM	8PM FRI-6AM MON	12AM-10AM SAT 12AM-11AM SUN 10PM SUN-6AM MON		
IA	WB	4	3	SEE * ABOVE	SEE ** ABOVE	SEE + ABOVE	SEE ++ ABOVE	APRIL 1, 1997	PHASES IA AND IB SHALL BE IMPLEMENTED CONCURRENTLY
IB	EB	4	3	SEE * ABOVE	SEE ** ABOVE	SEE + ABOVE	SEE ++ ABOVE	APRIL 1, 1997	PHASES IA AND IB SHALL BE IMPLEMENTED CONCURRENTLY
IIA	WB	4	2	SEE ≠ ABOVE	N/A	SEE Ø ABOVE	N/A	JUNE 15, 1997	PHASES IIA AND IIB MAY BE IMPLEMENTED CONCURRENTLY
IIB	WB	1 (RAMP E-1)	CLOSED	N/A	N/A	N/A	N/A	MAY 15, 1997	PHASES IIA AND IIB MAY BE IMPLEMENTED CONCURRENTLY
IIIA	WB	4	2	SEE ≠ ABOVE	N/A	SEE Ø ABOVE	N/A	AUGUST 1, 1997	RAMP W-2 SHALL BE REPAIRED USING TWO STAGES AS SHOWN.
IIIB	WB	4	2	SEE ≠ ABOVE	N/A	SEE Ø ABOVE	N/A	AUGUST 1, 1997	
IIIC	WB	4	2	SEE ≠ ABOVE	N/A	SEE Ø ABOVE	N/A	MARCH 15, 1998	
IV	EB	4	2	SEE ≠ ABOVE	N/A	SEE Ø ABOVE	N/A	JUNE 1, 1998	PHASES IV AND VB MAY BE IMPLEMENTED CONCURRENTLY
VA	EB	1 (RAMP E-2)	CLOSED	N/A	N/A	N/A	N/A	AUGUST 1, 1998	
VB	EB	4	2	SEE ≠ ABOVE	N/A	SEE Ø ABOVE	N/A	JULY 15, 1998	RAMP W-1 SHALL BE REPAIRED USING TWO STAGES AS SHOWN. RAMP W-1 MAY BE CLOSED FOR A WEEKEND TO FACILITATE REPAIRS.

NOTES: AFTER WORK ON THE DECKS OF CUY-90-1524/1540/1547 DURING EACH APPLICABLE PHASE, THE CONTRACTOR SHALL FOLLOW THE INTERIM COMPLETION REQUIREMENTS.

WEEKDAYS: MONDAY A.M. TO FRIDAY P.M.

WEEKENDS: FRIDAY P.M. TO MONDAY A.M.

WORK RELATED TO THE LANE CLOSURES LISTED ABOVE MUST BE IN PROGRESS DURING THE TIME THE LANE IS CLOSED.

LIQUIDATED DAMAGES IN THE AMOUNT OF $90.00 PER MINUTE SHALL BE ASSESSED FOR ANY VIOLATION OF THE SHORT TERM LANE CLOSURES.

▲ STATION EQUATION: 1999+01.08 BACK
3+87.63 AHEAD

MAINTENANCE OF TRAFFIC SUBSUMMARY

CALC BY LGM DATE
CHKD BY LDH DATE

CUYAHOGA COUNTY
CUY-90-15.99
INNERBELT FREEWAY

OHIO
FHWA REGION 5

8
151

			614																				614		622			642	SPEC.		
			TEMPORARY LINES, CLASS I, 740.05, TYPE C												TEMPORARY LINES, CLASS I, 642 PAINT										PORTABLE CONCRETE BARRIER, 32"						
SHT NO.	SIDE	LOCATION	EDGE LINE				CHANNELIZING LINE		TRANSVERSE LINE		STOP LINE		EDGE LINE				CHANNELIZING LINE			STOP LINE			BARRIER REFLECTOR, TYPE B	OBJECT MARKER	BRIDGE MOUNTED			REMOVAL OF PAVEMENT MARKING	TEMPORARY IMPACT ATTENUATOR QUADGUARD cz		
			WHITE	YELLOW									WHITE	YELLOW																	
			L.F.	L.F.			L.F.		L.F.		L.F.		L.F.	L.F.			L.F.			L.F.			EACH	EACH	L.F.		L.F.	L.F.	EACH		
		PHASE I (A&B)																													
10	LT.	40+65 - 63+20	4000	770																			60	60	370		1130	4250			
10	RT.	33+55 - 60+00	3870	980																			58	58	40		1410	660			
10	L/R	RAMP E-1											670				80			12								470			
10	L/R	RAMP E-3	360	360			100																					700			
10	L/R	RAMP E-5	415	360			80																					380			
		PHASE II (A&B)																													
12	LT.	1994+92.50 - 1998+50	358	150																								716			
13	LT.	1998+50 - 29+00 ▲	2564	2564																								2564			
14	LT.	29+00 - 57+00	1435	1600									1365										56	56	260		1140	1600			
14	LT.	RAMP E-3									12																				
15	LT.	57+00 - 72+50	1170	1550																								860			
		PHASE III (A,B,&C)																													
17	LT.	1994+92.50 - 1998+50	510																												
18	LT.	1998+50 - 29+00 ▲	5127				110																								
18	L/R	RAMP W-2		560			110																					480			
19	LT.	9+42.50 - 18+75	755				150																								
19	L/R	RAMP W-2	490	105			150																								
20	LT.	29+00 - 57+00	4620																				47	47			1170				
20	L/R	RAMP E-3															175			12											
21	LT.	42+45 - 57+00	355																				44	44	240		850				
22	LT.	57+00 - 73+00	1600																									430			
22	L/R	RAMP E-5	405	200			145																								
		PHASE IV																													
12	LT.	LANE W-N	660																									660			
12	RT.	1979+50 - 1998+50	2325	1950					1400														20	20	480			1570			
13	RT.	1998+50 - 29+00 ▲	2564	2564																								2564			
14	RT.	29+00 - 57+00	1625	1400									1175										72	72	40		1740	2960			
15	RT.	57+00 - 58+70	170																									340			
		PHASE V (A&B)																													
17	RT.	1992+70 - 1998+50	1160	580																			21	21	520			580			
18	RT.	1998+50 - 29+00 ▲	5128																												
18	L/R	RAMP W-1	320	780			155																					300			
19	L/R	RAMP W-1	635	195			150																								
20	RT.	29+00 - 57+00	4235																				67	67	60		1615				
20A	RT.	55+00 - 58+70																										370			
20A	LT.	01+56 - 03+68																										215			
20A	RT.	56+44 - 58+08																										330			
20A	RT.	56+27 - 58+55					228																								
20A	RT.	56+27 - 58+55							450																						
20A	LT.	56+27 - 03+68.11					227																								
20A	RT.	0+64.76 - 3+68.11	320																												
20A	LT.	03+04 - 04+63																					3	3	200						
20A	RT.	57+77 - 58+76																							100				1		
			47176	16668									3210	0																	
			OR										OR																		
		TOTAL	12.09 MILES				1605		1850		12		0.61 MILES				255			24			448	448	2310		9055	22999	1		

PLOT SUBMITTED: 19-JUL-1996 13:13
05584LSA.DGN
PLOTTED BY: coop1
PLOTTED FROM: i:\pd\lhazapis\pid05584\d05584m

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.99	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

TO ⊠ 3"x1" OVERLAY (WHITE ON GREEN)

⊠ 18"x15" OVERLAY (WHITE ON GREEN)

⊠ 18"x15" OVERLAY (WHITE ON GREEN)

GATES AND BARRICADE PER MT-101.60

COVER DURING RAMP E-1 CLOSURE.

E-1 E-2 E-3 E-4 E-5 E-6

ONTARIO

EAST 9th ST.

CARNEGIE

E. 14th ST.

E. 22nd. ST.

E. 30th ST.

WOODLAND

BROADWAY

422 90 71 77 14 490

ABBEY AVE.

FAIRFIELD AVE.

KENILWORTH AVE.

STARKWEATHER AVE.

W. 14th. ST.

CUYAHOGA RIVER

BOWER

E. 55th ST.

400 0 400 800 1200
SCALE IN FEET

LEGEND

- • • • PHASES IIA, IIB, AND IIIB DETOUR ROUTE, RAMP E-1 CLOSED TO TRAFFIC, RAMP E-3 OPEN TO TRAFFIC.
- x x x x PHASE IIIC DETOUR ROUTE, RAMP E-3 CLOSED TO TRAFFIC, RAMP E-1 OPEN TO TRAFFIC.
- ▲ OVERLAY APPLIED FOR PHASES IIA, IIB, AND IIIB RAMP E-1 CLOSURE.
- ⊠ OVERLAY APPLIED FOR PHASE IIIC, RAMP E-3 CLOSURE.
- ● TO 90 TO 71 ↑ 10' x 4'-6"

ITEM 614 TEMPORARY CONCRETE BARRIER

DIRECTION OF TRAFFIC — RIGHT EDGE LINE — SHOULDER — 16:1 TAPER MIN.

10' TAPERED END SECTION, TYPICAL WITH 9"X15" OBJECT MARKER, TOP MOUNTED PER PROPOSAL NOTE.

PORTABLE CONCRETE BARRIER END TAPER
RIGHT LANE(S) CLOSING SHOWN
LEFT LANE(S) SIMILAR

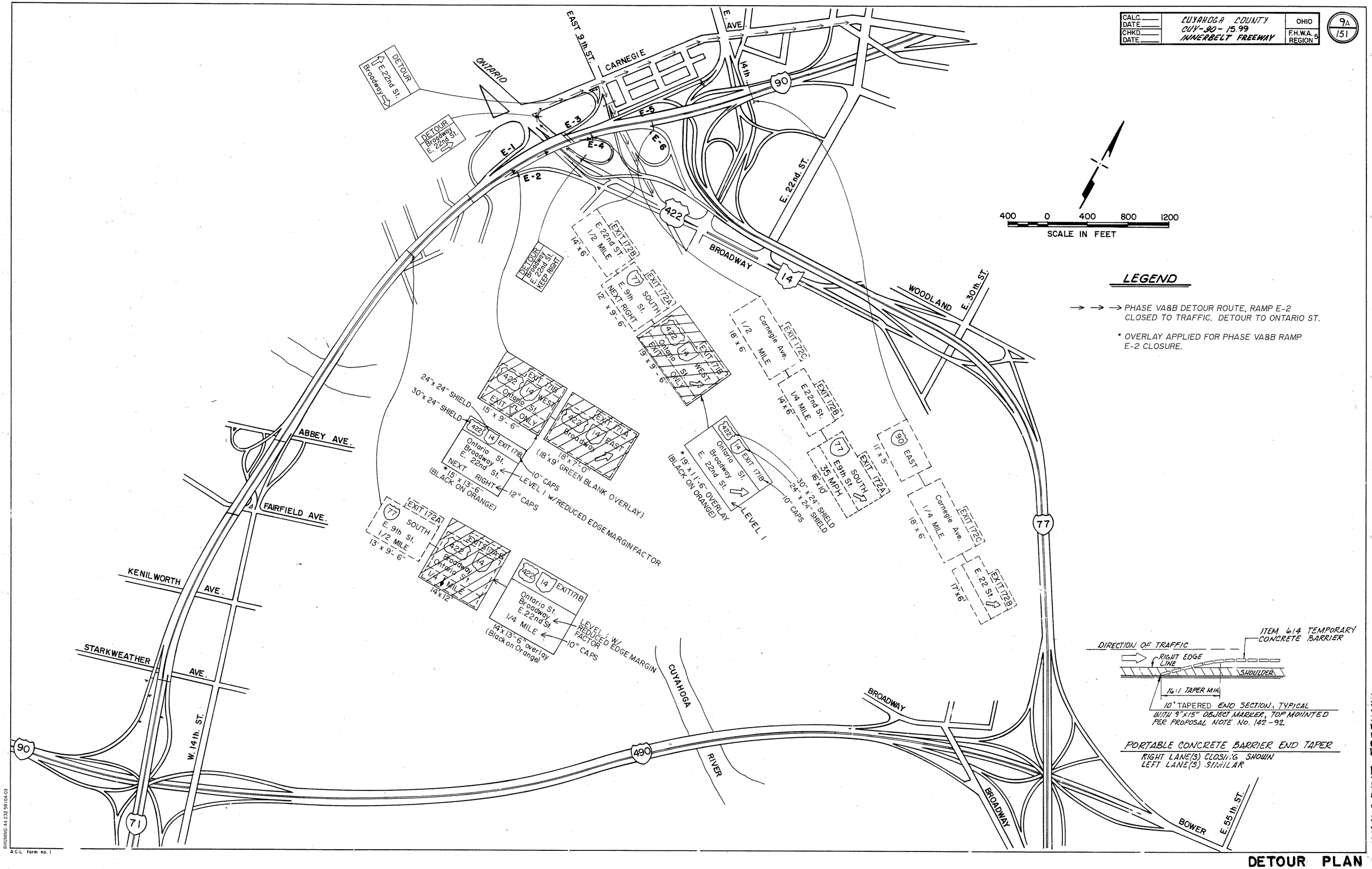
BRUNING 44-232-98104-03

A-C-L to. a no. 1

DETOUR PLAN

CALC.		CUYAHOGA COUNTY	OHIO
DATE		CUY-90-15.99	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE			

9A / 151



LEGEND

→ → → PHASE VA8B DETOUR ROUTE, RAMP E-2 CLOSED TO TRAFFIC. DETOUR TO ONTARIO ST.

* OVERLAY APPLIED FOR PHASE VA8B RAMP E-2 CLOSURE.

PORTABLE CONCRETE BARRIER END TAPER

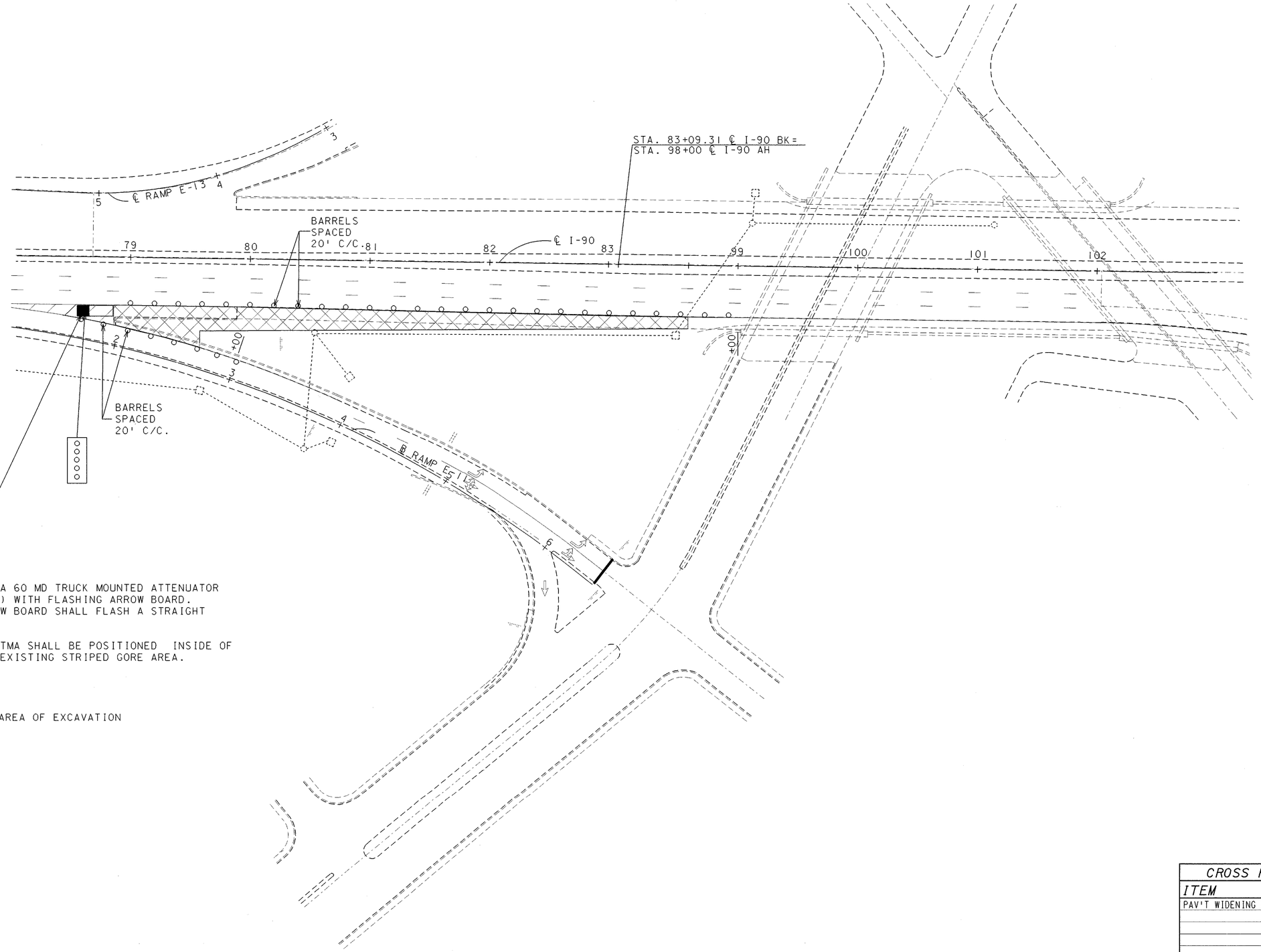
RIGHT LANE(S) CLOSING SHOWN
LEFT LANE(S) SIMILAR

INNERBELT FREEWAY

DETOUR PLAN

BRUNING 44-232-581 (04-03)

A.C.L. form no. 1



WORK TO BE PERFORMED DURING PHASES 1A & 1B

CROSS REFERENCE	
ITEM	SHEET
PAV'T WIDENING DETAIL	9C

SCALE IN FEET 0 40 80

CALCULATED LGM CHECKED ACB

MAINTENANCE OF TRAFFIC PLAN SHEET
IR-90
STA. 78+00 TO STA. 103+00

CUYAHOGA COUNTY
CUY-90-15.99

9B
151

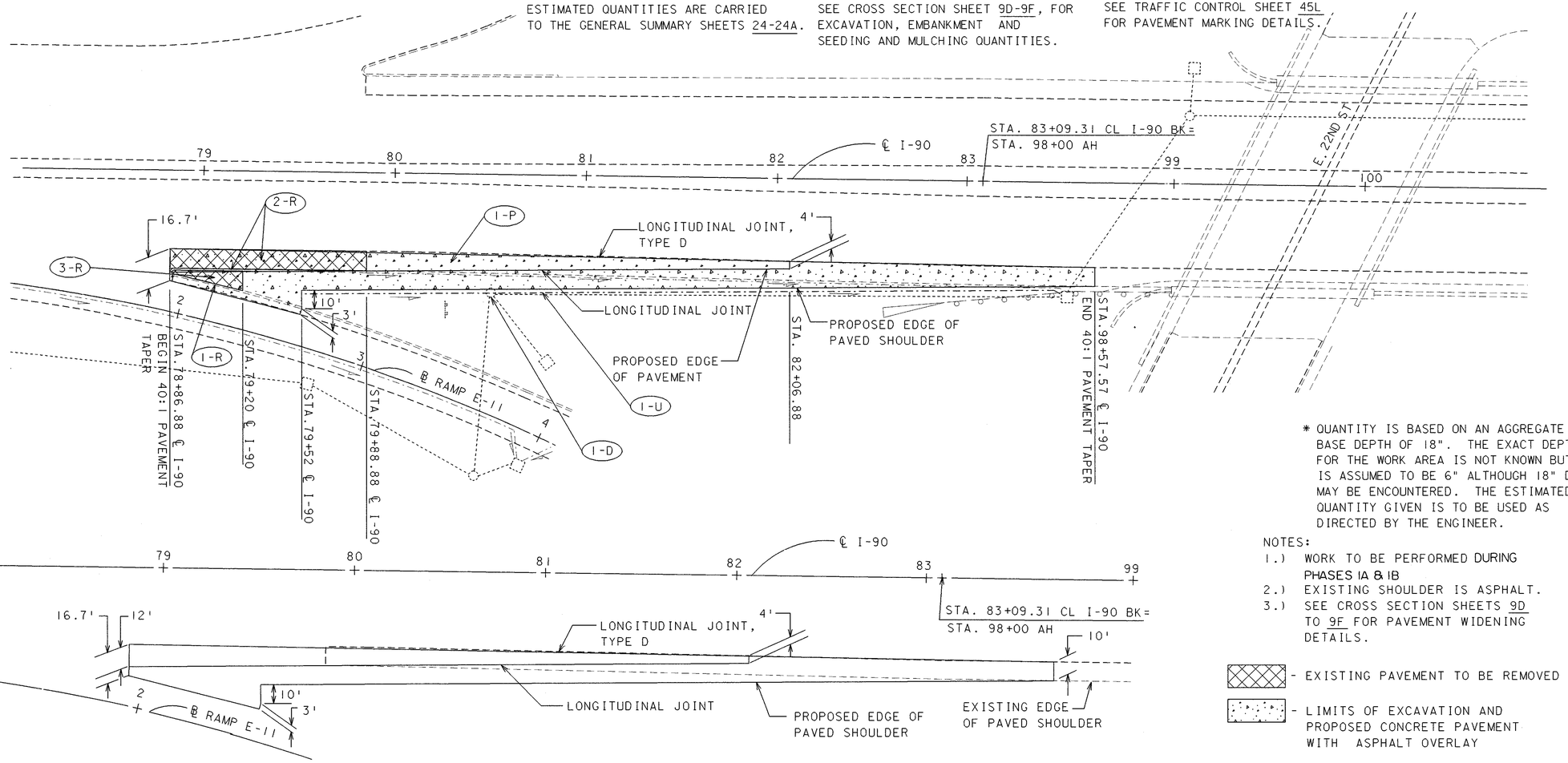
ESTIMATED QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	202 CURB REMOVED	202 PAVEMENT REMOVED	203 SUBGRADE COMPACTION	304 AGGREGATE BASE AS PER PLAN	407 TACK COAT	446 ASPHALT CONCRETE SURFACE COARSE, TYPE 1, AC-20 AS PER PLAN, (1 1/4")	446 ASPHALT CONCRETE INTERMEDIATE COARSE, TYPE 2, AC-20, (1 3/4")	305 9" CONCRETE BASE AS PER PLAN	603 6" CONDUIT, TYPE F, 707.17 NON-PERFORATED, D-ASTM 3034 SDR 35, SS931 OR SS944	604 MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN, BOLTED DOWN	605 6" SHALLOW PIPE UNDERDRAIN
				LIN.FT.	SQ.YD.	SQ.YD.	CU.YD.	GAL.	CU.YD.	CU.YD.	CU.YD.	LIN.FT.	EACH	LIN.FT.
1-R	1+91	2+61	RT.	70										
2-R	78+86.88	79+88.88	RT.	100	114									
3-R	78+86.88	79+52	RT.		26									
1-P	78+86.88	98+57.57	RT.			890	*446	89	31	44	226			
1-U	79+52	98+45	RT.									10		405
1-D	80+52		60' RT.										1	
TOTALS				170	140	890	*446	89	31	44	226	10	1	405

ESTIMATED QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY SHEETS 24-24A.

SEE CROSS SECTION SHEET 9D-9F, FOR EXCAVATION, EMBANKMENT AND SEEDING AND MULCHING QUANTITIES.

SEE TRAFFIC CONTROL SHEET 45L FOR PAVEMENT MARKING DETAILS.



* QUANTITY IS BASED ON AN AGGREGATE BASE DEPTH OF 18". THE EXACT DEPTH FOR THE WORK AREA IS NOT KNOWN BUT IS ASSUMED TO BE 6" ALTHOUGH 18" DEPTH MAY BE ENCOUNTERED. THE ESTIMATED QUANTITY GIVEN IS TO BE USED AS DIRECTED BY THE ENGINEER.

NOTES:

1.) WORK TO BE PERFORMED DURING PHASES IA & IB
2.) EXISTING SHOULDER IS ASPHALT.
3.) SEE CROSS SECTION SHEETS 9D TO 9F FOR PAVEMENT WIDENING DETAILS.

- EXISTING PAVEMENT TO BE REMOVED
- LIMITS OF EXCAVATION AND PROPOSED CONCRETE PAVEMENT WITH ASPHALT OVERLAY

SCALE IN FEET 0 30 60

CALCULATED LGM CHECKED ENF

PLAN SHEET
IR-90
STA. 78+00 TO STA. 101+00

CUYAHOGA COUNTY
CUY-90-15.99

9C
151

PLOT SUBMITTED: 1-JUL-1996 09:53

PLOTTED BY: coop1
PLOTTED FROM: i:\pd\lmincek\pid05584\05584gmc.dgn

EXISTING LEGEND

- (A) ASPHALT CONCRETE SURFACE COURSE
- (B) 9" REINFORCED CONCRETE PAVEMENT
- (C) SUBBASE
- (D) BITUMINOUS AGGREGATE BASE
- (E) SANDSTONE CURB AND/OR GORE NOSE TO BE REMOVED

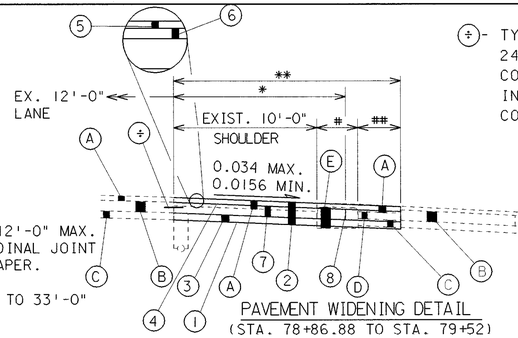
PROPOSED LEGEND

- (1) ITEM 203-SUBGRADE COMPACTION
- (2) ITEM 203-EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
- (3) ITEM 304-6" AGGREGATE BASE, AS PER PLAN
- (4) ITEM 407-TACK COAT
- (5) ITEM 446-ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20, (1-1/4" THICK), AS PER PLAN
- (6) ITEM 446-ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20, (1-3/4" THICK)
- (7) ITEM 305-9" CONCRETE BASE, AS PER PLAN
- (8) STANDARD LONGITUDINAL JOINT

SEE PLAN SHEET 9C FOR QUANTITIES AND FURTHER DETAILS.

SEE CROSS SECTION SHEET 9E FOR PAVEMENT WIDENING DETAIL FOR STA. 79+52 TO STA. 98+57.57.

WORK TO BE PERFORMED DURING PHASES IA & IB.



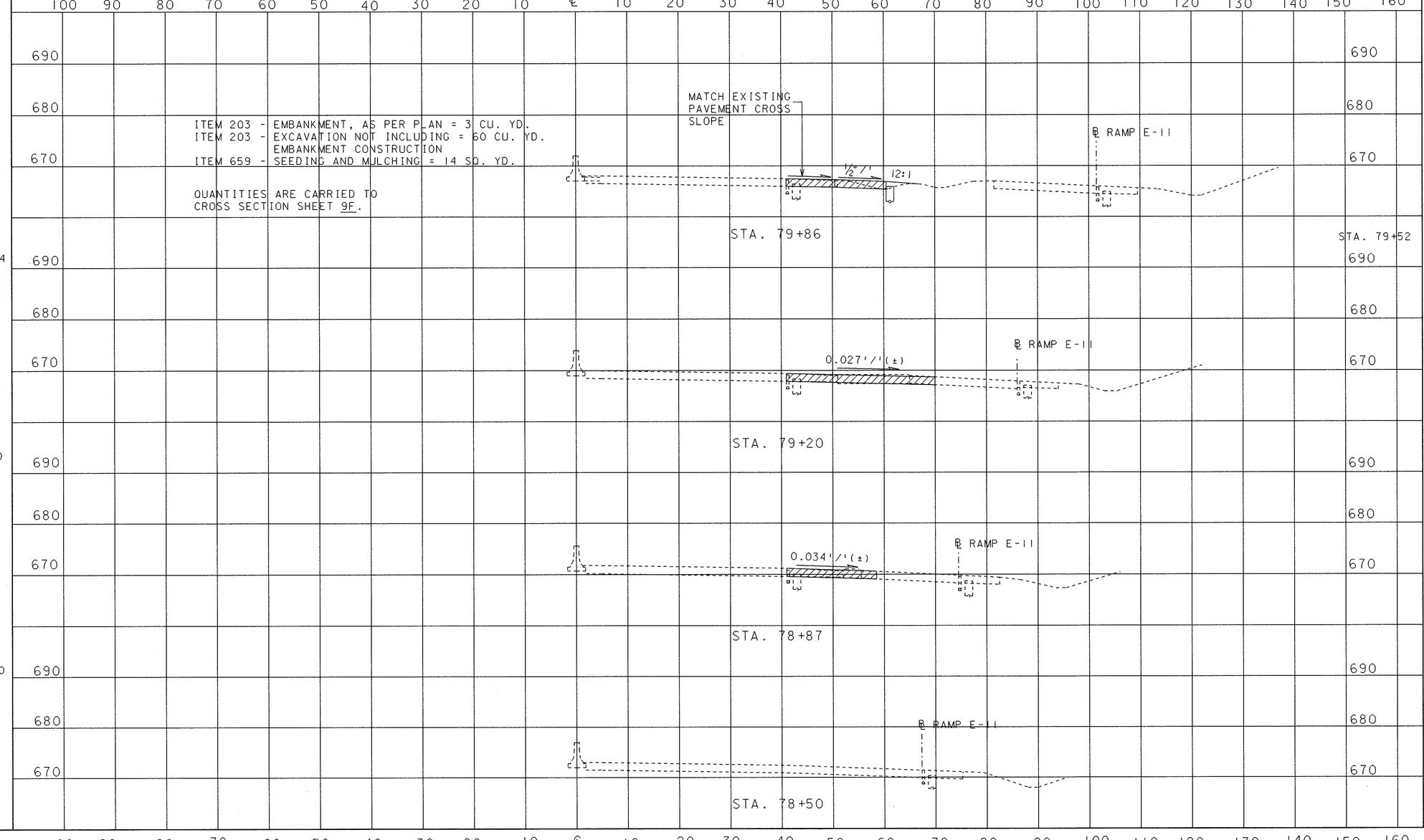
PAVEMENT WIDENING DETAIL
(STA. 78+86.88 TO STA. 79+52)

* - WIDTH VARIES, 12'-0" MAX. UNTIED LONGITUDINAL JOINT IS AT A 40:1 TAPER.

** - VARIES 16'-8½" TO 33'-0"

(÷)- TYPE D JOINT AS PER BP-2.1 USING 24" LONG NO.5 DEFORMED BARS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM-305, CONCRETE BASE, AS PER PLAN.

\# - VARIES 4'-0" MIN. TO 10'-0" MAX.
- EXISTING 3'-0" SHOULDER



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8		7	4	26	3
	14	34	0	34	0
0		24	0	0	0
0		0	0	0	0
0		0	0		

CALCULATED LGM
CHECKED ENF

CROSS SECTION SHEET
IR-90
STA. 78+50 TO STA. 79+86

CUYAHOGA COUNTY
CUY-90-15.99

9D
151

PLOT SUBMITTED: 1-JUL-1996 10:20
PLOTTED BY: coopl
PLOTTED FROM: i:\pd\lmancek\pid05584\05584gxa.dgn
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EXISTING LEGEND

- (A) ASPHALT CONCRETE SURFACE COURSE
- (B) 9" REINFORCED CONCRETE PAVEMENT
- (C) SUBBASE
- (D) BITUMINOUS AGGREGATE BASE
- (E) SANDSTONE CURB TO BE REMOVED

WORK TO BE PERFORMED DURING PHASES IA & IB.

SEE PLAN SHEET 9C FOR QUANTITIES AND FURTHER DETAILS.

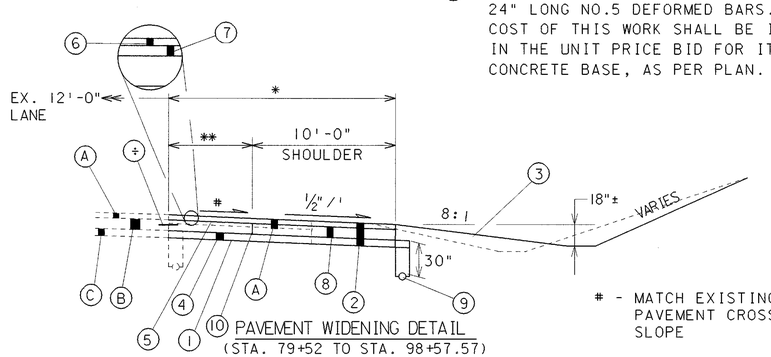
SEE CROSS SECTION SHEET 9D FOR PAVEMENT WIDENING DETAIL FOR STA. 78+50 TO STA. 79+52.

PROPOSED LEGEND

- (1) ITEM 203-SUBGRADE COMPACTION
- (2) ITEM 203-EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
- (3) ITEM 203-EMBANKMENT
- (4) ITEM 304-6" AGGREGATE BASE, AS PER PLAN
- (5) ITEM 407-TACK COAT
- (6) ITEM 446-ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20, (1-1/4" THICK), AS PER PLAN
- (7) ITEM 446-ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20, (1-3/4" THICK)
- (8) ITEM 305-9" CONCRETE BASE, AS PER PLAN
- (9) ITEM 605-6" SHALLOW UNDERDRAIN
- (10) STANDARD LONGITUDINAL JOINT WITHOUT TIE BAR

* - WIDTH VARIES, 20'-8½" MAX. TO 4'-0" MIN. AT STA. 82+06.88. UNTIED LONGITUDINAL JOINT IS AT A 40:1 TAPER. SEE PLAN SHEET 9C FOR MORE DETAILS.

** - VARIES 10'-8½" TO 4'-0" STOP UNTIED LONGITUDINAL JOINT AT STA. 82+06.88. SEE PLAN SHEET 9C FOR MORE DETAILS.



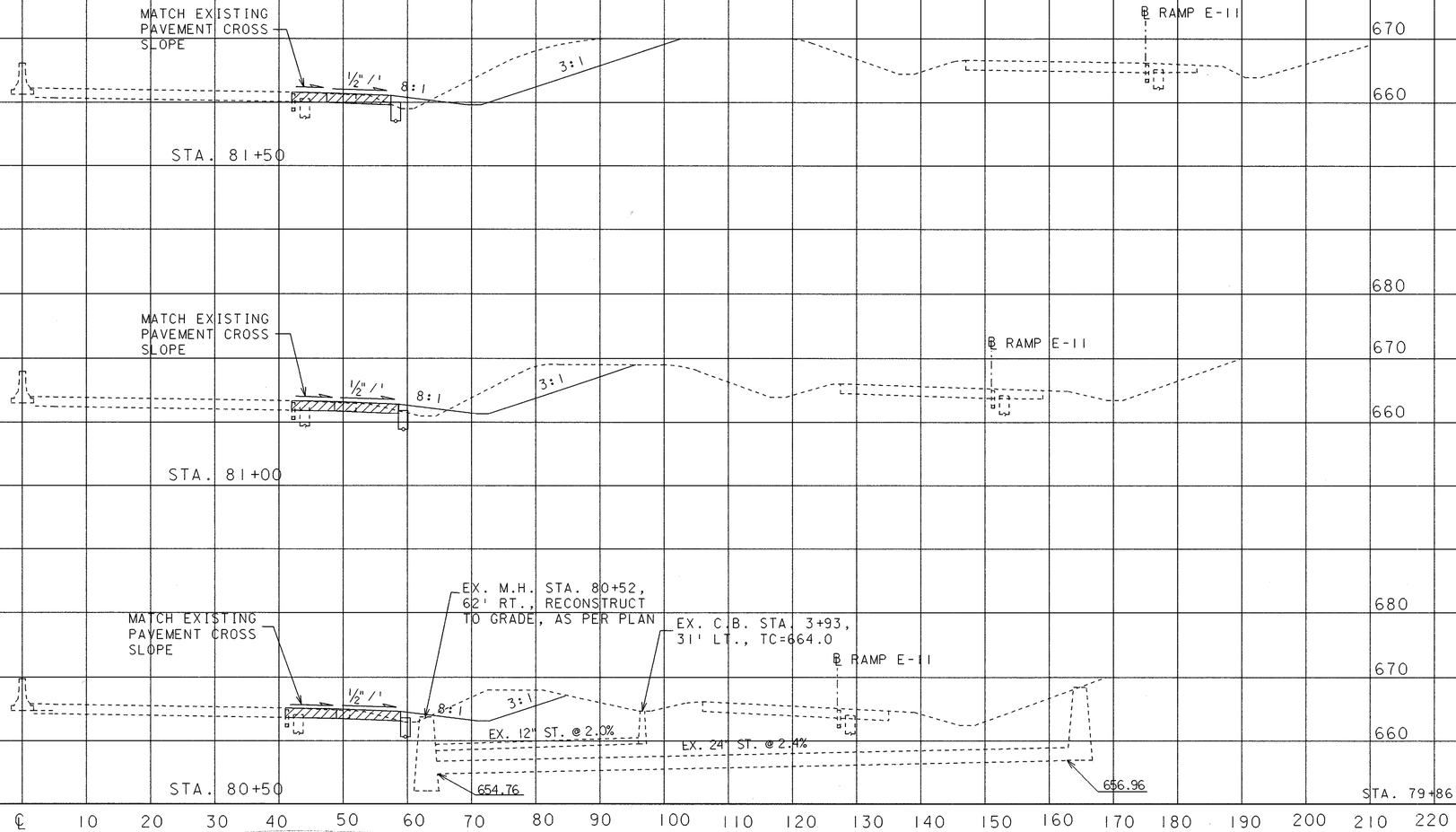
PAVEMENT WIDENING DETAIL
(STA. 79+52 TO STA. 98+57.57)

÷ - TYPE D JOINT AS PER BP-2.1 USING 24" LONG NO.5 DEFORMED BARS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM-305, CONCRETE BASE, AS PER PLAN.

\# - MATCH EXISTING PAVEMENT CROSS SLOPE

ITEM 203 - EMBANKMENT, AS PER PLAN = 39 CU. YD.
ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION = 513 CU. YD.
ITEM 659 - SEEDING AND MULCHING - 1252 SQ. YD.

QUANTITIES ARE CARRIED TO CROSS SECTION SHEET 9F.



SEEDING END WIDTH	SEEDING SQ. YDS.
143	8
86	55

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
162	8		
106	9	248	15
75	5	168	13
7	4	97	11

CALCULATED LGM
CHECKED ENF

CROSS SECTION SHEET
TR-90
STA. 80+50 TO STA. 81+50

CUYAHOGA COUNTY
CUY-90-15.99

9E
151

SEEDING END WIDTH	SEEDING SQ. YDS.
4	19
1	314
112	803
177	889
143	

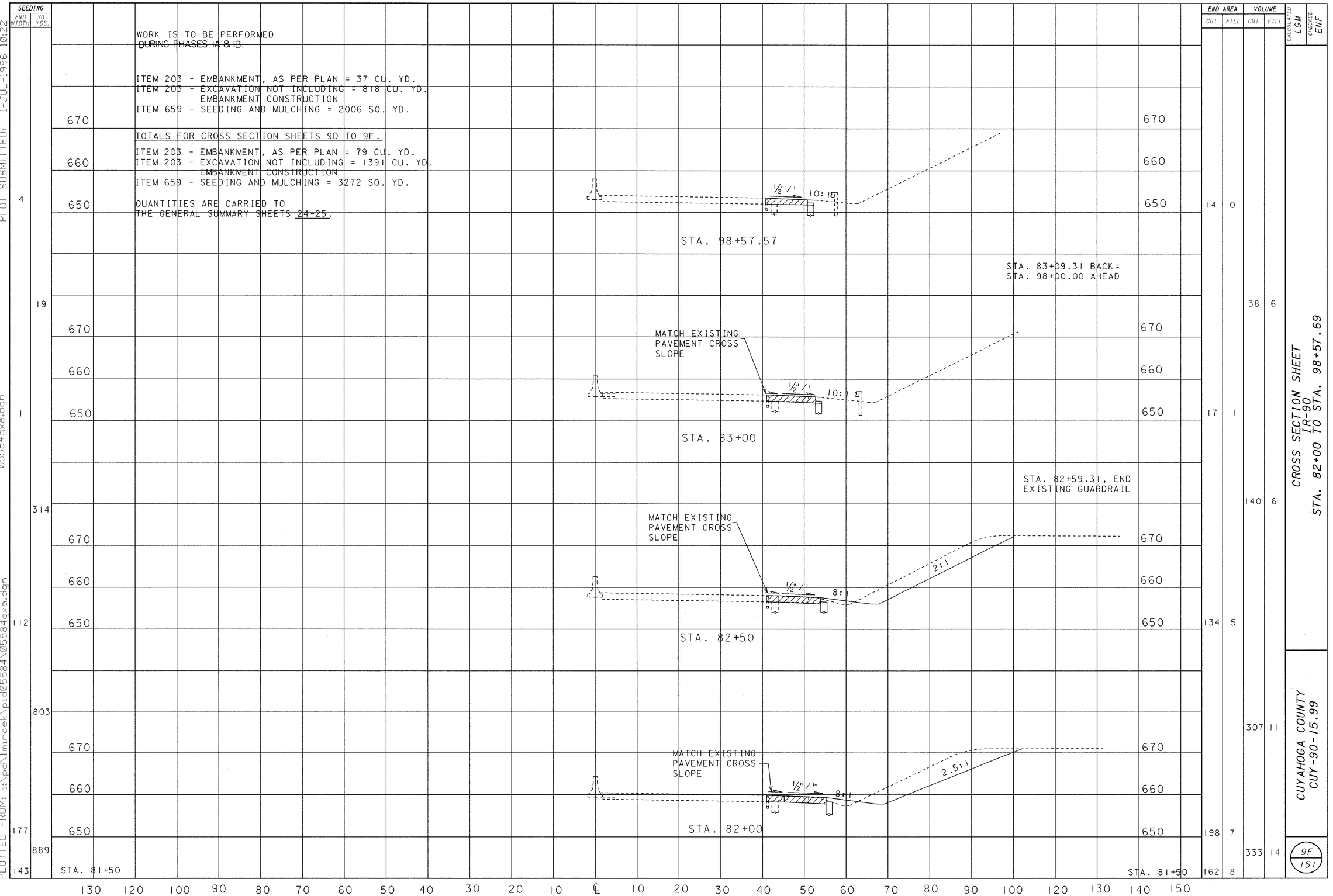
WORK IS TO BE PERFORMED
~~DURING PHASES 1A & 1B.~~

ITEM 203 - EMBANKMENT, AS PER PLAN = 37 CU. YD.
ITEM 203 - EXCAVATION NOT INCLUDING = 818 CU. YD.
EMBANKMENT CONSTRUCTION
ITEM 659 - SEEDING AND MULCHING = 2006 SQ. YD.

TOTALS FOR CROSS SECTION SHEETS 9D TO 9F.

ITEM 203 - EMBANKMENT, AS PER PLAN = 79 CU. YD.
ITEM 203 - EXCAVATION NOT INCLUDING = 1391 CU. YD.
EMBANKMENT CONSTRUCTION
ITEM 659 - SEEDING AND MULCHING = 3272 SQ. YD.

QUANTITIES ARE CARRIED TO
THE GENERAL SUMMARY SHEETS ~~24-25~~.



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
14	0	38	6
17	1	140	6
134	5	307	11
198	7	333	14
162	8		

CALCULATED LGM
CHECKED ENF

CROSS SECTION SHEET
IR-90
STA. 82+00 TO STA. 98+57.69

CUYAHOGA COUNTY
CUY-90-15.99

9F
151

MAINTENANCE OF TRAFFIC
PHASE I (A & B)

CALC.	CUYAHOGA COUNTY	OHIO	10
DATE	CUY-90-15.99	F.H.W.A. REGION 5	151
CHKD.	INNERBELT FREEWAY		
DATE			

FLASHING ARROW PANEL

50' DRUM SPACING @ 10' C-C

4'-9" 12' 12' 12' 12'

34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

55:1 TAPER MIN.

STA. 40+65 LT. & RT. BEGIN EDGE LINE CLASS I, 740.05 TYPE C

PORTABLE CONCRETE BARRIER, BRIDGE MOUNTED

TEMP. CHANNELIZING LINE, WHITE, CLASS I, 642, PAINT

TEMP. STOP LINE, CLASS I, 642, PAINT

TEMP. EDGE LINE, WHITE, CLASS I, 642, PAINT

DRUMS @ 40' C-C (RAMPS)

RAMP E-1

21'-11.5" MIN. MEDIAN WIDTH

10' MIN.

STOP R-1-48

+05 BEGIN TAPER SHOULDER

OW-138-36

TYPICAL APPROACH SIGNING AS PER SCO MT-95.40
2-OW-600-48 STA. 28+40
2-OW-121-48* STA. 23+40
2-OW 128-48* STA. 18+40
* WITH TYPE A WARNING LIGHT

REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.)

EXISTING LANE LINES TO REMAIN

DRUMS @ 50' C-C (MAINLINE) OW-138-36 SIGN ALONG TAPER @ 150' C-C

+65 TAPER

TEMP. EDGE LINE, YELLOW, CLASS I, 740.05 TYPE C

16:1 TAPER SEE DETAIL ON SHEET NO. 9

STA. 43+33.5±

BRIDGE No. CUY-90-1547

BRIDGE No. CUY-90-1599

TEMP. EDGE LINES, WHITE, CLASS I 740.05 TYPE C

RAMP E-2

EXISTING EXIT GORE & RAMP E-2, PAVEMENT MARKINGS TO BE MAINTAINED

MATCHLINE STA. 48+45

NOTE: FOR LEGEND SEE SHEET 11.

EXIT 172A — E. 9th St. 1/2 MILE — SOUTH — 77

EXIT 171A-B — Broadway Ontario St. 1/4 MILE — 422 — 14

34' MIN. — ℄ SURVEY & CONSTRUCTION 1'-3" (TYP.)

11'-6" 11'-0" 11'-6" 20' 18' 36' MIN. 3-12' LANES

11.30' MIN. 15.98' MAX. 11.09' MIN. 11.33' MAX.

WORK AREA

* SEE DEMOLISHION PLAN SHEET 39/89 FOR PHASE LINE CONTROL POINTS.

PHASE I CONSTRUCTION

OW-128-48 ROAD CONSTRUCTION AHEAD +90

TYPE A WARNING LIGHT

BROADWAY (WEST BOUND) BROADWAY (EAST BOUND)

PORTABLE CONC. BARRIER, BRIDGE MOUNTED — PORTABLE CONC. BARRIER, 32"

DRUMS @ 40' C-C (RAMPS)

TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE C

YIELD AHEAD OW-48-48 +10

OW-138-36 +40

TEMP. EDGE LINE, WHITE, CLASS I, 642 PAINT

TEMPORARY CHANNELIZING LINE, WHITE, CLASS I, 740.05, TYPE C

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE C

R-2-60 YIELD

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE C

FLASHING ARROW PANEL

EAST 9TH ST.

TYPE A WARNING LIGHT

YIELD AHEAD OW-48-48

TYPICAL APPROACH SIGNING I-90
AS PER SCO MT-95.40
2-OW-600-48 STA. 68+00
2-OW-121-48 STA. 73+00
2-OW-128-48 STA. 78+00

TYPE A WARNING LIGHT

ROAD CONSTRUCTION AHEAD OW-128-48

STOP AHEAD OW-45-48 +80 +20 +40 +00 OW-138-36

25:1 TAPER

RAMP E-1

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE C

11.5 MIN. 11.5 MIN. 11.5 MIN.

MATCHLINE STA. 48+45

RAMP E-2

12' MIN. 12' MIN. 12' MIN.

TEMP. EDGE LINE, WHITE, CLASS I, 740.05 TYPE C (SAME LOCATION AS EXISTING PAVEMENT MARKINGS)

PORTABLE CONC. BARRIER, BRIDGE MOUNTED — PORTABLE CONC. BARRIER, 32"

+00 BEGIN TAPER

10' MIN.

TEMPORARY PAVEMENT, CLASS A (SEE SHEET 23 FOR DETAILS)

16:1 TAPER MIN. SEE DETAIL ON SHEET No. 9.

TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE C

TEMP. CHANNELIZING LINE, WHITE, CLASS I, 740.05, TYPE C

RAMP E-4

REMOVE CONFLICTING PAVEMENT MARKING (TYP.)

OW-49R-48 +00

RAMP E-3

25:1 TAPER

OW-49R-48 +90

PERMANENT PAVEMENT (SEE SHEET 23 FOR DETAILS)

TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE C

RAMP E-5

RAMP E-8

25:1 TAPER

DRUMS @ 40' C-C (RAMPS)

55:1 TAPER MIN.

50' DRUM SPACING @ 10' C-C

640 TAPER +10

RAMP E-6

EX. GORE MARKINGS TO BE MAINTAINED

FLASHING ARROW PANEL

INNERBELT FREEWAY

MAINTENANCE OF TRAFFIC

SCHEMATIC PLAN

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.99	
CHKD.	INNERBELT FREEWAY	F.H.W.A. REGION 5
DATE		

11
151

200 0 200 400 600 800
SCALE IN FEET

PHASE II (WESTBOUND)(A & B)
PHASE IV (EASTBOUND)

I-90
SCRANTON ROAD
PORTABLE CONCRETE BARRIER
FAIRFIELD AVE
RAMP W-3
RAMP W-2
ABBEY AVE.
CUYAHOGA RIVER
CONRAIL
B.C.R.T.A. & NORFOLK SOUTHERN
STA. 30+00
I-90 LANE N-W
1990
1995
1985
1980
1975
1970
KENILWORTH AVE.
WEST 14 th. ST.
STARKWEATHER AVE.
RAMP W-1
EQUATION ℄ I-90 STA. 1999+01.08 BACK = STA. 3+87.63 AHEAD
℄ I-90 STA. 12+42.48
℄ I-90 STA. = 16+13.02
BRIDGE No. CUY.-90-1524
BRIDGE No. CUY.-90-1540
BRIDGE No. CUY.-90-1547
MATCH LINE
I-490
END PROJECT STA. 54+90.78 S.L.M. 16.21
TEMPORARY PAVEMENT
BEGIN PROJECT STA 43+34.45 AHD. S.L.M. 15.99
BROADWAY
EAST 9 th. ST.
CARNEGIE AVE.
EAST 14 th. ST.
EAST 18th ST.
EAST 19th. ST.
EAST 21 st. ST.
EAST 22nd. ST.
PORTABLE CONCRETE BARRIER
CANAL RD.
RAMP E-1
RAMP E-3
RAMP E-5
RAMP E-10
RAMP E-13
B.&O.R.R.
W. 3rd. ST.
W. 4th. ST.
CONRAIL
COMMERCIAL DRIVE
NORFOLK SOUTHERN
G.C.R.T.A.
RAMP E-2
RAMP E-4
RAMP E-18
RAMP E-6
RAMP E-16
RAMP E-8
RAMP E-9
RAMP E-7
RAMP E-11
I-90
CEDAR AVE.
I-77
HARRISON
MATCH LINE
STA. 30+00
BRIDGE No. CUY.-90-1599
BRIDGE No. CUY.-90-1547
℄ I-90 STA. 43+34.72 BACK = STA. 43+34.45 AHEAD
℄ I-90 STA. 54+65.78

LEGEND:
- DECK TREATMENT & PARAPET WALL WORK
- DECK REPLACEMENT
- TEMPORARY PAVEMENT
- FLASHING ARROW PANEL
- TYPE III GATE & BARRICADE
- PAVEMENT MARKING REMOVAL
- BARRELS @ 50' C/C (MAINLINE) (40' C/C RAMPS) WITH EDGE LINE
- TRAVEL LANE

PHASES II & IV CONSTRUCTION
BRIDGE No. CUY.-90-1524, 1540 & 1547
DECK TREATMENT
AND PARAPET WALL WORK
BRIDGE No. CUY.-90-1599
DECK REPLACEMENT
(INSIDE LANES)

SCHEMATIC PLAN

BRUNING 44-233 SB (10/0)
A.C.L. form no. 1

MAINTENANCE OF TRAFFIC
PHASE II (WESTBOUND) (A&B)
PHASE IV (EASTBOUND)

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.99	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

12 / 151

I-90 LANE N-W

I-90 LANE W-N

I-490

H-90

STA. 1985+00

STA. 1998+50

MATCH LINE

AVE.

STARKWEATHER

KENILWORTH

AVE.

EXISTING YELLOW EDGE LINE TO REMAIN

EX. EDGE LINE & PAVED SHOULDER MARKINGS (TO REMAIN)

EX. PORTABLE CONCRETE BARRIER (TO REMAIN)

EXIST PAVED SHOULDER

TEMP. EDGE LINE, YELLOW CLASS I, 740.05, TYPE C

55:1 TAPER

DRUMS 50' C/C

EXIST. EDGE LINES (TO REMAIN)

TEMP. TRANSVERSE LINES, @ 12' C/C, WHITE, CLASS I, 740.05, TYPE C

DRUMS @ 50' C/C, (MAINLINE)

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE C

50' DRUMS SPACED 10' C-C

REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.)

TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE C

EX. PAVED SHOULDER

27.5:1 TAPER

PORTABLE CONCRETE BARRIER, 32" 16:1 TAPER MIN. SEE DETAIL ON SHEET No. 9

27.5:1 TAPER (TYP.)

11' MIN.

11' MIN.

TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE C

END TAPER

DRUMS @ 50' C/C

TEMP. EDGE LINE WHITE, CLASS I, 740.05, TYPE C

TEMP. TRANSVERSE LINES @ 12' C/C, WHITE, CLASS I, 740.05, TYPE C

EX. PAVED SHOULDER

EXISTING EDGE LINE TO REMAIN

REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.)

ROAD CONSTRUCTION AHEAD — OW-128-48

40 MPH — OW-145-24

ROAD CONSTRUCTION AHEAD

RIGHT LANE CLOSED AHEAD — OW-122-48

TYPE A WARNING LIGHT

OW-40B-48

FLASHING ARROW PANEL

OW-139-36 SPACED @ 150' C-C

OW-139-36 SPACED @ 150' C-C

END CONSTRUCTION — OW-8-30

OW-128-48

45 MPH — OW-143-24

LANE CLOSED AHEAD — OW-123-48

LEFT LANE CLOSED AHEAD

EXIT 108 WEST 90 Toledo 45 M.P.H.

SOUTH 71 Columbus

SOUTH 77 E 9th ST 1 1/4 MILES

Conv. Center Stadium USE ONTARIO EXIT

TYPE A WARNING LIGHT

STA 22+20 BEGIN EDGE LINE & 660' TAPER

BEGIN TAPER +50

END TAPER +32

BEGIN TAPER +92.50

END TAPER +32

1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998

1987+75

1994+45

INNERBELT FREEWAY

MAINTENANCE OF TRAFFIC

BRUNING 44-222-58104-03

A-C-L form no. 1

CALC.	CUYAHOGA COUNTY	OHIO	13 / 151
DATE	CUY-90-15.99	F.H.W.A. REGION 5	
CHKD.	INNERBELT FREEWAY		
DATE			

MAINTENANCE OF TRAFFIC
PHASE II (W.B.)(A&B)
PHASE IV (E.B.)

STA. 1998+50 — MATCH LINE

STA. 14+00 — MATCH LINE

(90) WEST Toledo — EXIT ONLY

(71) SOUTH Columbus

24" x 36" BLANK OVERLAY (BLACK ON ORANGE)

24" x 36" OVERLAY WITH TYPE B ARROW (BLACK ON ORANGE)

REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.)

TEMP. EDGE LINE, YELLOW CLASS I, 740.05, TYPE 'C'

TEMP. EDGE LINE, WHITE CLASS I, 740.05, TYPE 'C'

EXISTING EDGE LINE, WHITE TO REMAIN

11' MIN. 11' MIN.

I.— 90

LANE "B"

RAMP W-2

ABBEY AVE.

EXIT 171 W 14th St / Abbey Ave

℄ I-90 STA. 12+89.54, 63.83' LT. = ℄ RAMP W-2 STA. 31+19.61, 35.83' LT.

W. 14th. ST.

EXISTING RAMP GORE STRIPING TO REMAIN

1998+60

1999

FAIRFIELD AVE.

MIN 11' MIN 11'

DRUMS @ 50' C-C (MAINLINE)

RAMP W-1

EX. CURB PAINTED WHITE

EX. EDGE LINES AND GORE STRIPING (TO REMAIN)

℄ RAMP P.C. STA. 5+03.29 = ℄ REL. RAMP W-1 P.C. STA. 5+03.29, 4.00' LT.

℄ REL. RAMP W-1 PRC. STA. 6+68.81

℄ I-90 STA. 12+71.47, 78.37' RT. = P.O.C. REL. ℄ RAMP W-1 P.T. STA. 7+38.76, 28' LT.

℄ I-90 STA. 13+66.60, 74.63' RT. = REL. ℄ RAMP W-1 P.T. STA. 8+33.30

EQUATION
℄ I-90 STA. 1999+01.08 BACK =
℄ I-90 STA. 3+87.63 AHEAD

BRIDGE No. CUY-90-1524

UNIVERSITY AVE.

EAST TO (90) (77) Abbey Ave

CONSTRUCTION AHEAD ROAD

OW-128-48 +50

TYPE 'A' WARNING LIGHT

BRIDGE No. CUY-90-1524

BRIDGE No. CUY-90-1540

BRIDGE No. CUY-90-1540

BRIDGE No. CUY-90-1547

I.— 90

11' MIN. 11' MIN.

PHASE IIA (TYP.)

CUYAHOGA RIVER

MILL 11' MIN. 11'

PHASE IV (TYP.)

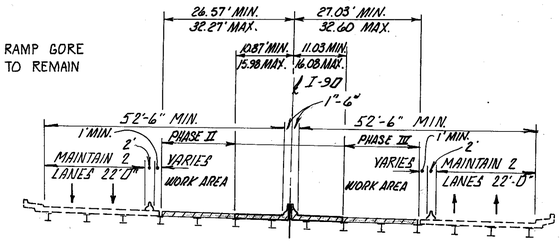
REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.)

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE C

TEMP. EDGE LINE, YELLOW CLASS I, 740.05, TYPE C

DRUMS @ 50' C/C

EXISTING EDGE LINE, WHITE
EXISTING CHANNELIZING LINE
(TO REMAIN)



WORK AREA

STA. 43+34.72 TO STA. 54+65.78
REMOVE & CONSTRUCT BRIDGE DECK FOR BRIDGE #1599 ONLY. STA. 43+34.72 TO STA. 54+65.78 (SEE SHT. 14 FOR LOCATION)

PHASE II & IV TRANSVERSE SECTION

NOTES:

1. DURING PHASE II FOUR LANES OF TRAFFIC SHALL BE MAINTAINED EASTBOUND AND TWO WESTBOUND.
2. DURING PHASE IV FOUR LANES OF TRAFFIC SHALL BE MAINTAINED WESTBOUND AND TWO EASTBOUND.
3. SEE DEMOLITION PLAN SHEET 39/89 FOR EXACT LOCATION OF THE PHASE LINE CONTROL POINTS WHICH DETERMINE THE WIDTH OF CONSTRUCTION. AT STA. 48+44.28, THE WESTBOUND WIDTH OF CONSTRUCTION EXCEEDS 29.00 FEET; THEREFORE, THE WIDTH OF MAINTAINED LANES SHALL BE REDUCED TO 10.5' FEET FOR THE EXTERIOR LANE AND 10' FEET FOR THE INTERIOR LANE DURING PHASE II CONSTRUCTION. THE MINIMUM 11 FOOT LANE WIDTH SHALL BE MAINTAINED WHEN THIS SITUATION OCCURS IN THE EXIT OR ENTRANCE RAMP AREAS.
4. FOR LEGEND SEE SHEET No. 11.

INNERBELT FREEWAY

MAINTENANCE OF TRAFFIC

BEGINNING 44-24-08104 JP

A.C.L. form no. 1

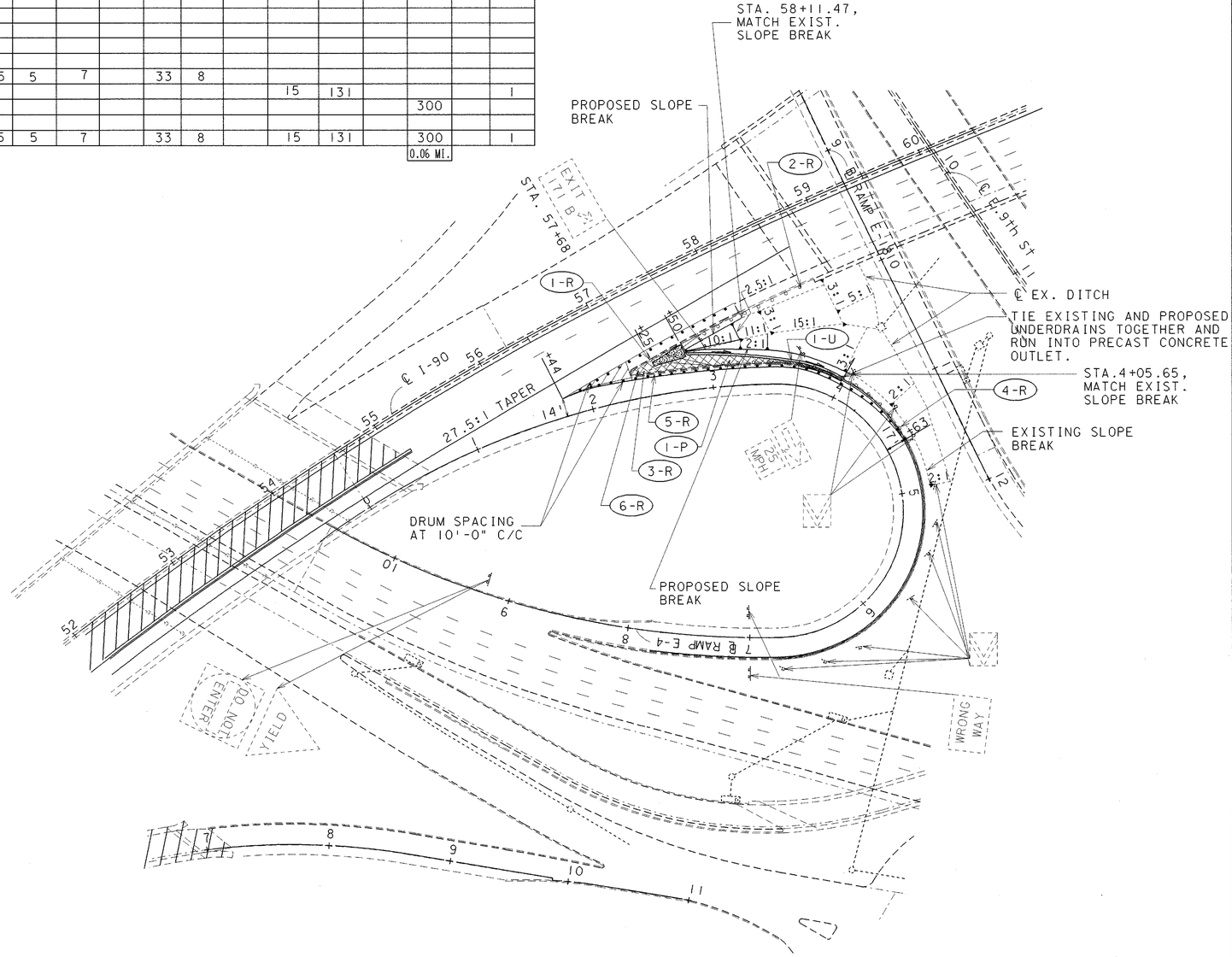
ESTIMATED QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED	202 CURB REMOVED	202 PAVEMENT REMOVED	202 REMOVAL MISC.: IMPACT ATTENUATOR	203 SUBGRADE COMPACTION	304 6" AGGREGATE BASE AS PER PLAN	407 TACK COAT	446 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20, (1¼"), A.P.P.	446 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20, (1¾")	451 9" REINFORCED CONCRETE PAVEMENT	451 12" REINFORCED CONCRETE PAVEMENT, AS PER PLAN	603 6" CONDUIT, TYPE F, 707.17 NON-PERFORATED, D-ASTM 3034 SDR 35, SS931 OR SS 944	605 6" SHALLOW PIPE UNDERDRAIN	642 TEMPORARY EDGE LINE YELLOW, CLASS 1, 740.05, TYPE C	SPEC. PRECAST REINFORCED CONCRETE OUTLET
				LIN.FT.	LIN.FT.	SQ.FT.	EACH	SQ.YD.	CU.YD.	GAL.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	LIN.FT.	LIN.FT.	LIN.FT.	EACH
1-R	57+00	58+09	RT.		109													
2-R	57+08	58+76	RT.	168														
3-R	57+00	57+20	LT.				1											
4-R	2+63	4+63	LT.	200														
5-R	2+35	4+63	LT.		228													
6-R	57+00	4+00	LT.			30												
1-P	57+00	4+00	RT.					156	25	15	5	7	33	8				
1-U	2+83	4+00	LT.												15	131		1
1-T	1+80	4+63	LT.														300	
TOTALS				368	337	30	1	156	25	15	5	7	33	8	15	131	300 (0.06 MI.)	1

ESTIMATED QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY SHEETS 24, 24A, 25A.

SEE CROSS SECTION SHEET 13B, FOR EXCAVATION, EMBANKMENT AND SEEDING AND MULCHING QUANTITIES.

- PROPOSED 9" REINFORCED CONCRETE PAVEMENT WITH 3" ASPHALT OVERLAY.
- PROPOSED 12" REINFORCED CONCRETE PAVEMENT FOR PROPOSED IMPACT ATTENUATOR PAD WITH NO ASPHALT OVERLAY.



MAINTENANCE OF TRAFFIC PHASE IVA
STA. 52+00 TO STA. 61+00
TEMPORARY PAVEMENT AND GRADING PLAN SHEET

SCALE IN FEET 0 50 100

CALCULATED LGM
CHECKED ENF

CUYAHOGA COUNTY
CUY-90-15.99

13A
151

PLOT SUBMITTED: 1-JUL-1996 10:24

PLOTTED BY: coop1
PLOTTED FROM: i:\pd\lmincek\pid05584\05584gxa.dgn
05584gxa.dgn

EXISTING LEGEND

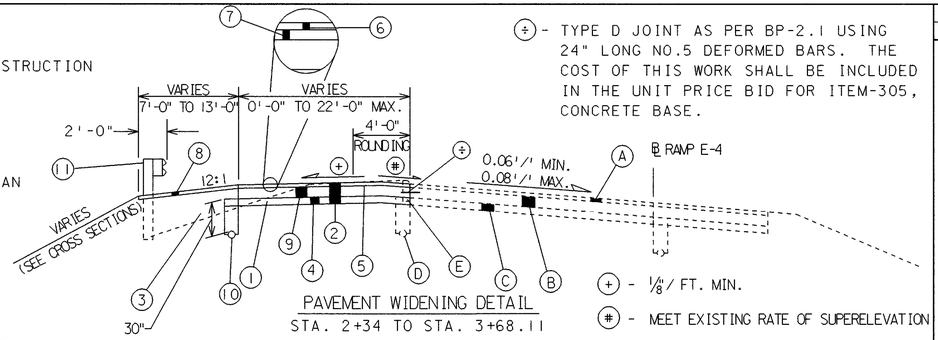
- (A) ASPHALT CONCRETE SURFACE COURSE
- (B) 9" REINFORCED CONCRETE PAVEMENT
- (C) SUBBASE
- (D) 6" UNDERDRAIN TO BE REMOVED
- (E) SANDSTONE CURB TO BE REMOVED

SEE MAINTENANCE OF TRAFFIC PLAN SHEET 13A, FOR ADDITIONAL QUANTITIES. QUANTITIES ARE CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY SHEET .

SEE MAINTENANCE OF TRAFFIC SHEET 13A FOR REMOVAL OF THE EXISTING CONCRETE PAD AND THE INSTALLATION OF THE PROPOSED CONCRETE PAD AT STA. 2+52.

PROPOSED LEGEND

- (1) ITEM 203-SUBGRADE COMPACTION
- (2) ITEM 203-EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
- (3) ITEM 203-EMBANKMENT
- (4) ITEM 304-6" AGGREGATE BASE, AS PER PLAN
- (5) ITEM 407-TACK COAT
- (6) ITEM 446-ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20, (1-1/4" THICK), AS PER PLAN
- (7) ITEM 446-ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20, (1-3/4" THICK)
- (8) ITEM 448-ASPHALT CONCRETE, INTERMEDIATE COURSE, (UNDER GUARDRAIL), TYPE 1, AS PER PLAN
- (9) ITEM 451-9" REINFORCED CONCRETE PAVEMENT
- (10) ITEM 605-6" SHALLOW UNDERDRAIN
- (11) ITEM 606-GUARDRAIL, TYPE 5

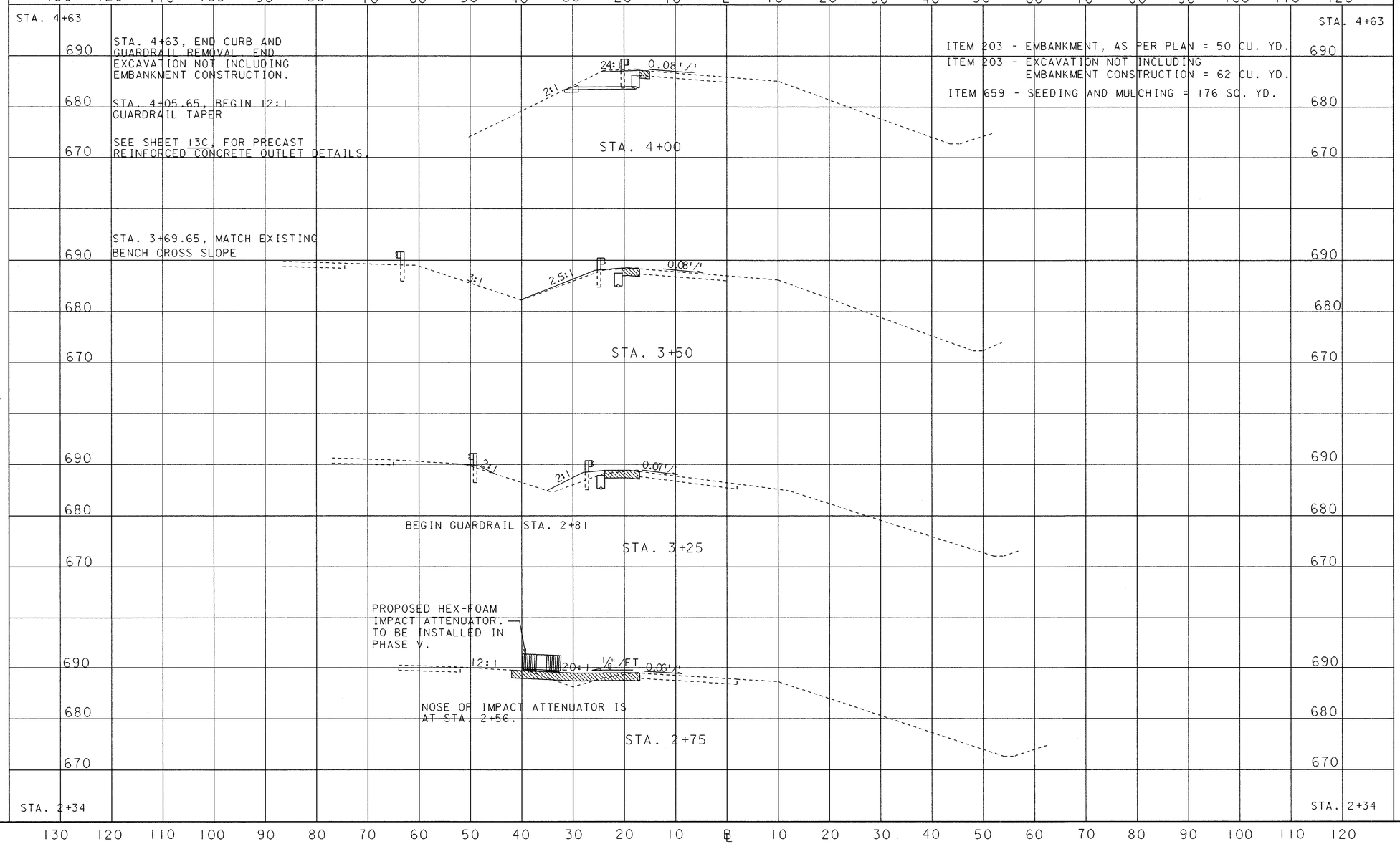


PAVEMENT WIDENING DETAIL
STA. 2+34 TO STA. 3+68.11

(÷) - TYPE D JOINT AS PER BP-2.1 USING 24" LONG NO.5 DEFORMED BARS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM-305, CONCRETE BASE.

(+) - 1/8"/ FT. MIN.

(#) - MEET EXISTING RATE OF SUPERELEVATION



ITEM 203 - EMBANKMENT, AS PER PLAN = 50 CU. YD.
ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION = 62 CU. YD.
ITEM 659 - SEEDING AND MULCHING = 176 SQ. YD.

SEEDING END WIDTH	SEEDING SQ. YDS.
9	13
9	92
24	46
9	25
0	0
0	

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	2		
		0	5
1	2		
		6	8
5	7		
		7	11
11	17		
		29	21
20	6		
		20	5
6	0		

CALCULATED LGM
CHECKED ENF

CROSS SECTION AND PAVEMENT DETAIL BASELINE RAMP E-4 STA. 2+75 TO STA. 4+05.65

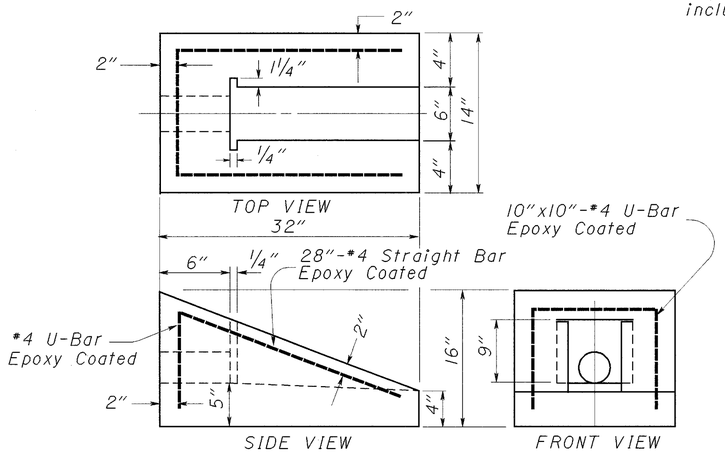
CUYAHOGA COUNTY
CUY-90-15.99

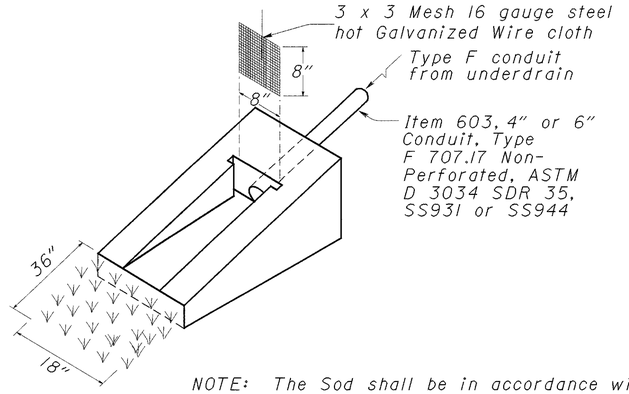
13B
151

OUTLET DETAILS

ITEM SPECIAL - PRECAST REINFORCED CONCRETE OUTLET

The Concrete outlet shall meet the requirements of Item 604 in the Construction & Materials Specifications. Payment shall be made on an Each basis. Payment shall include the cost of the Sod & Wire Cloth.

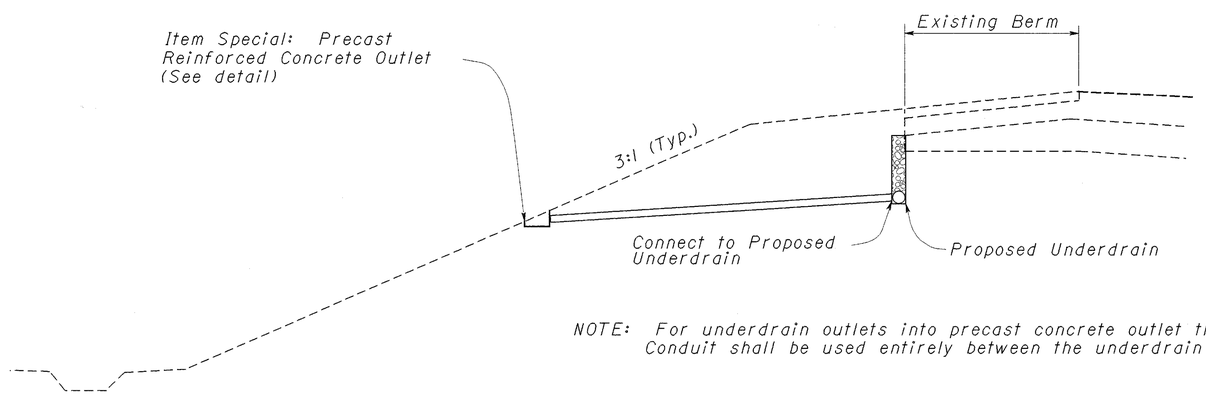




NOTE: The Sod shall be in accordance with Item 660 and staked at each corner approximately 3 inches in from the edge.

See sheet 13A for estimated quantities.

The underdrain outlets shall be placed in accordance with Item 603 as directed by the Engineer, using outlet fittings. The manufacturer shall supply outlet fittings which will make the transition between the prefabricated edge drain and the outlet pipe. Fittings shall be installed as recommended by the manufacturer.



METHOD OF MEASUREMENT: Completed and accepted underdrain outlets will be measured by the linear foot in place.

NOTE: For underdrain outlets into precast concrete outlet the above Type F Conduit shall be used entirely between the underdrain & concrete outlet.

CROSS REFERENCE	
ITEM	SHEET
M.O.T. PLAN SHEET	13A

NOT TO SCALE

CALCULATED LGM CHECKED ENF

DRAINAGE DETAIL SHEET
PRECAST CONCRETE OUTLET

CUYAHOGA COUNTY
CUY-90-15.99

13C
151

MAINTENANCE OF TRAFFIC
PHASE II (W.B.) (A&B)
PHASE IV (E.B.)

CALC.	CUYAHOGA COUNTY	OHIO
DATE.	CUY-90-15.99	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE.		

14/151

MATCH LINE STA. 29+00

PHASE IIA (TYP.)

PHASE IV (TYP.)

REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.)

24"x36" BLANK OVERLAY (BLACK ON ORANGE)

EXIT 170B — 90 WEST Toledo — (7) SOUTH Columbus — 3/4 MILE

24"x36" OVERLAY WITH TYPE B ARROW (BLACK ON ORANGE)

W. 3rd ST.

±35 BEGIN TAPER

I.— 90

11' MIN. 11' MIN.

B&O R.R.

16:1 TAPER MIN. SEE DETAIL ON SHEET No. 9.

PORTABLE CONCRETE BARRIER, BRIDE MOUNTED

STA. 44+00

PHASE IIA CONSTRUCTION

PHASE IV CONSTRUCTION

DRUMS @ 50' C-C (MAINLINE)

HARRISON ST.

35+40

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE 2"

TEMP. EDGE LINE, YELLOW CLASS I, 740.05, TYPE 2"

CANAL RD.

50' MIN

LIMIT TEMP. STRIPING 740.05, TYPE 2

LIMIT TEMP. STRIPING, 642, PAINT

BRIDGE No. CUY-90-1547

BRIDGE No. CUY-90-1599

MATCH LINE

CLOSE RAMP E-1 AS SHOWN ON SHT 20.

EXIT 172A — (7) SOUTH — (422) E 9th St — 1/2 MILE

EXIT 171A-B — (4) Broadway Ontario St — 1/4 MILE

G.C.R.T.A.

PHASE IIB

TEMP. EDGE LINE (FROM PHASE I)

RAMP E-1

TEMP. EDGE LINE, WHITE, CLASS I, 642, PAINT

℄ I-90 STA. 45+78.01, 56' LT. = ℄ RAMP E-1 STA. 8+04.26, 28' LT.

℄ I-90 STA. 51+00, 52' LT. = ℄ RAMP E-3 STA. 10+23.07

℄ RAMP E-3

I.— 90

BROADWAY (EASTBOUND)

BROADWAY (WESTBOUND)

TEMPORARY CHANNELIZING LINE (FROM PHASE I)

PORTABLE CONC. BARRIER, BRIDGE MOUNTED

PORTABLE CONC. BARRIER, 32"

TEMP. PAV'T. CL. A (FROM PH. I)

TEMP. STOP LINE, CLASS I, 740.05, TYPE C

TYPE A WARNING LIGHT

ON-45-48

STOP AHEAD

STOP

R1-48

+40 BEGIN TAPER

+80

+120

DRUMS 40' C-C RAMPS

PERMANENT PAVEMENT (FROM PHASE I)

RAMP E-3

32' 25:1 TAPER

275:1 TAPER

10' MIN.

STA. 57+00

STA. 43+34.72 (FROM PHASE I)

TEMP. EDGE LINE (FROM PHASE I)

TEMP. EDGE LINE (FROM PHASE I)

℄ I-90 STA. 56+25. 40.42' LT. = ℄ RAMP E-5 STA. 6+25

TEMP. EDGE LINE WHITE (FROM PHASE I)

TEMP. EDGE LINE CLASS I, 740.05, TYPE C

TEMP. EDGE LINE, YELLOW CLASS I, 740.05, TYPE C

NOTES:
1. FOR TRANSVERSE SECTION, SEE SHEET 13.
2. FOR LEGEND, SEE SHEET 11.
3. DURING PHASE II FOUR LANES OF TRAFFIC SHALL BE MAINTAINED EASTBOUND & TWO WESTBOUND.
4. DURING PHASE IV FOUR LANES OF TRAFFIC SHALL BE MAINTAINED WESTBOUND & TWO EASTBOUND.

16:1 TAPER MIN. SEE DETAIL ON SHEET No. 9.

RAMP E-2

NORFOLK SOUTHERN R.R.

COMMERCIAL DR.

EXIST. EXIT GORE & RAMP E-2, PAVEMENT MARKINGS TO BE MAINTAINED

℄ I-90 STA. 48+07.15, 64' RT. = ℄ RAMP E-2 STA. 3+23.55, 23' LT.

EXISTING IMPACT ATTENUATOR TO REMAIN IN PHASE IV REPLACE IN PHASE V. SEE BRIDGE PLANS.

RAMP E-2 DECK TO BE REPLACED IN PHASE V A THE CONTRACTOR MAY IMPLEMENT PHASE V A DURING PHASE IV

TEMP. EDGE LINE, WHITE, CLASS I, 642, PAINT

REMOVE CONFLICTING PAVEMENT MARKING (TYP.)

PORTABLE CONC. BARRIER, BRIDGE MOUNTED

PORTABLE CONC. BARRIER, 32"

+40 BEGIN TAPER

LIMIT 642, PAINT

LIMIT 740.05, TYPE C

REMOVE GORE

BRIDGE No. CUY-90-1599

MATCH LINE

STA. 44+00

INNERBELT FREEWAY

MAINTENANCE OF TRAFFIC

BRUNING 44-232-581-004-003

A.C.L. form no. 1

MAINTENANCE OF TRAFFIC
PHASE II (W.B.)(A & B)
PHASE IV (E.B.)

CALC. ____ DATE ____ CHKD. ____ DATE ____	CUYAHOGA COUNTY CUY-90-15.99 INNERBELT FREEWAY	OHIO F.H.W.A. REGION 5	15/151

STA. 57+00
MATCH LINE
STA. 71+00
MATCH LINE
STA. 71+00
MATCH LINE
I - 90
EAST 9 th. ST.
EAST 14 th. ST. (SOUTHBOUND)
EAST 14 th. ST. (NORTHBOUND)
EAST 22 nd. ST.
RAMP E-3
RAMP E-4
RAMP E-5
RAMP E-6
RAMP E-8
RAMP E-9
RAMP E-10
RAMP E-11
RAMP E-13
RAMP E-16
(FROM PHASE I)
ROAD CONSTRUCTION AHEAD
DRUMS 40' C-C, RAMPS (FROM PHASE I)
FLASHING ARROW PANEL
YIELD
YIELD AHEAD
REMOVED (FROM PHASE I)
PERMANENT PAVEMENT (FROM PH. I)
TEMP. CHANNELIZING LINE (FROM PHASE I)
TEMP. EDGE LINE (FROM PHASE I)
+57.50 END TAPER
25:1 TAPER
27.5:1 TAPER
8' PAVED SHOULDER
4' PAVED SHOULDER
10' PAVED SHOULDER
TYPE 'C'
TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE 'I'
DRUMS @ 50' C-C, (MAINLINE)
+70 END TAPER
+50 END TAPER
TEMP. EDGE LINE, CLASS I, 740.05, TYPE C
SEE SHEET 20A FOR RAMP E-4 PAVEMENT MARKINGS.
PORTABLE CONCRETE BARRIER 16:1 TAPER MIN. SEE DETAIL ON SHEET No. 9.
OW-5A-48
45 MPH
OW-143-24
RIGHT LANE MUST USE SHOULDER
OC-49R-48
EXIT 171 W. 14 th. St. Abbey Ave. 1 MILE
64+50
EXIT 172C Carnegie Ave 1/2 MILE
STA. 61+71
EXIT 172B E 22 nd St 1/4 MILE
E 9th St 35 MPH 77 SOUTH
END CONSTRUCTION
OC-8-6D
+40 BEGIN TAPER
55:1 TAPER
ALL TRUCKS LEFT LANE
OC-39BR-48
OW-138-3G (SPACED @ 150' C-C)
REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.)
EXIT 172B HOSPITAL Cleve State Univ Cuy Comm Coll NEXT RIGHT
E 22 nd ST 1/8
Carnegie Ave 3/8
Chester Ave 1
EXIT 172A 77 SOUTH Akron 40 MPH
EXIT 172A 77 SOUTH E 9th St EXIT ONLY
90 WEST
EXIT 170B 71 SOUTH Columbus 1 1/2 MILES
OW-60D-48
OW-138-3G (SPACED 150' C-C)
8' PAVED SHOULDER
90 EAST
STA. 74+20
EXIT 172C Carnegie Ave 1/4 MILE
EXIT 172B E 22nd St EXIT ONLY
+00 END TAPER
50'
DRUMS SPA. 10' C-C
FLASHING ARROW PANEL
TYPE A WARNING LIGHT
LEFT LANE CLOSED AHEAD
OW-122-48
45 MPH
OW-143-24
ROAD CONSTRUCTION AHEAD
OW-128-48
EXIT 173B Chester Ave 1/2 MILE
EXIT 172C Carnegie Ave

NOTES:
1. FOR LEGEND SEE SHEET 11.
2. DURING PHASE II FOUR LANES OF TRAFFIC SHALL BE MAINTAINED EASTBOUND AND TWO WESTBOUND.
3. DURING PHASE IV FOUR LANES OF TRAFFIC SHALL BE MAINTAINED WESTBOUND AND TWO EASTBOUND.

BRUNING 44-232 58104-03
A·C·L form no. 1

INNERBELT FREEWAY

MAINTENANCE OF TRAFFIC

SCHEMATIC PLAN

CALC. —— DATE ——	CUYAHOGA COUNTY CUY-90-15.99 INNERBELT FREEWAY	OHIO F.H.W.A. REGION 5
CHKD S.C. DATE 5/94		

16
151

200 0 200 400 600 800
SCALE IN FEET

* PHASE III (WESTBOUND)(A,B&C)
PHASE V (EASTBOUND)(A&B)

I-90
SCRANTON ROAD
I-90 LANE N-W
I-90 LANE W-N
1970
1975
1980
1985
1990
1995
STARKWEATHER AVE.
KENILWORTH
PORTABLE CONCRETE BARRIER
WEST 14th. ST.
FAIRFIELD AVE.
RAMP W-3
RAMP W-2
RAMP W-1
ABBEY AVE.
CONRAIL
CUYAHOGA RIVER
CONRAIL
G.C.R.T.A.
NORFOLK SOUTHERN
STA. 30+00
MATCH LINE
17 19
18 19 20 21
5 10 15 20 25
EQUATION ℄ I-90
STA. 1999+01.08 BACK=
STA. 3+87.63 AHEAD
BRIDGE No CUY.-90-1524
℄ I-90 STA. 12+42.48
BRIDGE No. CUY.-90-1540
℄ I-90 STA. -16+13.02
BRIDGE No. CUY-90-1547

* PHASE III CONTAINS THREE STAGES

END PROJECT
STA. 54+90.78
S.L.M. 16.21

BEGIN PROJECT
STA. 43+34.45 AHD.
S.L.M. 15.99

I-490
PORTABLE CONCRETE BARRIER
BROADWAY
EAST 9th. ST.
CARNEGIE AVE.
EAST 14th. ST.
EAST 18th. ST.
EAST 19th. ST.
EAST 21st. ST.
EAST 22nd. ST.
CANAL RD.
B&O R.R.
W. 3rd. ST.
W. 4th. ST.
CONRAIL
MATCH LINE
HARRISON
COMMERCIAL DRIVE
NORFOLK SOUTHERN
G.C.R.T.A.
RAMP E-1
RAMP E-2
RAMP E-3
RAMP E-4
RAMP E-5
RAMP E-6
RAMP E-7
RAMP E-8
RAMP E-9
RAMP E-10
RAMP E-11
RAMP E-13
RAMP E-16
RAMP E-18
I-77
I-90
35 40 45 50 55 60 65 70 75 80 85 90
20 21 22
STA. 30+00
BRIDGE No. CUY.-90-1547
BRIDGE No. CUY.-90-1599
℄ I-90 STA. 43+34.72 BACK=
STA. 43+34.45 AHEAD
℄ I-90 STA. 54+65.78

LEGEND:
- DECK TREATMENT AND PARAPET WALL WORK
- DECK REPLACEMENT
- TEMPORARY PAVEMENT
- FLASHING ARROW PANEL
- TYPE III GATE & BARRICADE
- BARRELS @ 50' C/C((MAINLINE) WITH EDGE LINE(40' C/C RAMPS)
- 11' MIN. TRAVEL LANE
- PAVEMENT MARKING REMOVAL

PHASES III & V CONSTRUCTION
BRIDGE No. CUY.-90-1524
1540 & 1547
DECK TREATMENT
AND PARAPET WALL WORK
BRIDGE No. CUY.-90-1599
DECK REPLACEMENT
(OUTSIDE LANES)

INNERBELT FREEWAY

BRUNING 44-232.5B104-09
A.C.L. form no. 1

SCHEMATIC PLAN

MAINTENANCE OF TRAFFIC
*PHASE III (WESTBOUND)(A,B&C)
PHASE V (EASTBOUND)(A&B)

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.99	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

17/151

I-90 LANE N-W

I-90 LANE W-N

I-490

STA. 1985+00

STA. 1998+50

MATCH LINE

MATCH LINE

KENILWORTH AVE.

STARKWEATHER AVE.

ROAD CONSTRUCTION AHEAD (FROM PHASE IV)

45 MPH (FROM PHASE IV)

LEFT LANE CLOSED AHEAD (FROM PHASE IV)

RIGHT LANE CLOSED AHEAD (FROM PHASE IV)

40 MPH (FROM PHASE IV)

ROAD CONSTRUCTION AHEAD (FROM PHASE IV)

EXIT 108 WEST 90 Toledo 45 MPH

SOUTH 71 Columbus

SOUTH 77 E 9th ST 1 1/4 MILES

Conv Center Stadium Use Ontario EXIT

BEGIN TAPER +65

END TAPER +85

BEGIN TAPER +70

END TAPER +30

BEGIN TAPER +92.50

END TAPER +100

END CONSTRUCTION (FROM PHASE IV)

SAME AS PHASE IV SEE SHEET 12.

REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.)

EX. PORTABLE CONCRETE BARRIER

EX. PAVED SHOULDER

EX. EDGE LINE (TO REMAIN)

EX. DRUMS (FROM PHASE IV)

EX. TEMP. EDGE LINE (FROM PHASE IV)

EX. TEMP. TRANSVERSE STRIPING (FROM PHASE IV)

EX. TEMP. TRANSVERSE LINES (FROM PHASE IV)

EX. TEMP. EDGE LINE, (FROM PHASE IV)

EX. EDGE LINES (TO REMAIN)

TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE 'C'

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE 'C'

PORTABLE CONCRETE BARRIER, 32" 16:1 TAPER MIN. SEE DETAIL ON SHEET NO. 9

55:1 TAPER

22.5:1 TAPER

21.5:1 TAPER (TYP.)

11' MIN.

11' MIN.

24'

12'

ONI-138-36 (SPACED @ 150'(-)

NOTE:

1. FOR LEGEND SEE SHT. 16
2. ALL LANES EASTBOUND ARE TO BE OPEN DURING PHASE III CONSTRUCTION.
3. ALL LANES WESTBOUND ARE TO BE OPEN DURING PHASE V CONSTRUCTION.

* STAGE I

INNERBELT FREEWAY

MAINTENANCE OF TRAFFIC

BRUNING 44-232-58104-03

A.G.I. form no. 1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.99	F.H.W.A. 5
CHKD.	INNERBELT FREEWAY	REGION
DATE		

18
151

MAINTENANCE OF TRAFFIC
* PHASE III (W.B.)(A,B&C)
* PHASE V (E.B.)(A&B)

NOTES:
1. ALL LANES EASTBOUND ARE TO BE OPEN DURING PHASE III CONSTRUCTION.
2. ALL LANES WESTBOUND ARE TO BE OPEN DURING PHASE V CONSTRUCTION.
3. FOR LEGEND, SEE SHEET 16.

* STAGE I

STA. 1998+50 — MATCH LINE — STA. 14+00 — STA. 29+00

I. — 90

LANE "B"

PHASE III A, STAGE I

PHASE V A, STAGE I

PHASE III A, STAGE I

PHASE V A

RAMP W-1

RAMP W-2

EQUATION
℄ I-90 STA. 1999 +01.08 BACK =
℄ I-90 STA. 3+87.63 AHEAD

BRIDGE No. CUY-90-1524

BRIDGE No. CUY-90-1540

BRIDGE No. CUY-90-1547

CUYAHOGA RIVER

UNIVERSITY AVE.

FAIRFIELD AVE.

ABBEY AVE.

W. 14th. ST.

EAST TO (90) (71) Abbey Ave

WEST (90) Toledo

SOUTH (71) Columbus

EXIT ONLY

24" x 36" BLANK OVERLAY (BLACK ON ORANGE)

24" x 36" OVERLAY WITH TYPE B ARROW (BLACK ON ORANGE)

EXIT (71) W 14th St Abbey Ave

℄ I-90 STA. 12+84 = ℄ RAMP W-2 STA. 3+19.61 LT.

℄ I-90 STA. 12+89.54, 63.83' LT. = 35.83' LT.

REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.)

DRUMS @ 40' C-C (RAMPS)

TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE C

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE 'C'

TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE C

DRUMS @ 50' C-C. (MAINLINE)

DRUMS @ 50' C-C (MAINLINE)

DRUMS @ 40' C-C. (RAMPS)

DRUMS @ 40' C-C (RAMPS)

50' DRUMS @ 10' C-C

50:1 TAPER

EX. EDGE LINE (TO REMAIN)

RELOC'D ℄ & EX. EDGE LINE RAMP W-1

℄ RAMP W-1 STA. 5+03.29, 40.0' LT. = ℄ REL. RAMP W-1 STA. 5+03.29, P.C.

℄ REL. ℄ RAMP W-1 PR.C. STA. 6+68.81

℄ I-90 STA. 12+71.47, 78.37 RT. = ℄ RAMP W-1 STA. 7+38.76, 28' LT.

℄ I-90 STA. 13+66.60, 74.63' RT. = REL. ℄ RAMP W-1 PT. STA. 8+33.30

TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE C

TEMP. CHANNELIZING LINE, WHITE, CLASS I, 740.05, TYPE 'C' (150' EACH SIDE)

TEMP. CHANNELIZING LINE, WHITE, CLASS I, 740.05, TYPE 'C' (150' MIN.)

TEMP EDGE LINE, YELLOW, CLASS I, 740.05, TYPE 'C'

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE 'C'

REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.)

EXIT — OW-52-48 — 35 MPH — OW-143-24

EXIT RAMP OPEN — OC-45A-48

EXIT RAMP OPEN AHEAD — 35 MPH — OC-45A-48 — OW-143-24

ROAD CONSTRUCTION AHEAD — OW-128-48

OC-8-60 END CONSTRUCTION

OW-138-36

R-2-60 YIELD

20' DRUM SPACING

200' MIN. OPENING

11' MIN.

1998+60 — 1999 — 15+20 — 16+40 — 17+20 — 18+40 — 19+60 — 14+20

+50 — +75 — +90 — +10 — +80

BRUNING 44-232-581-04-03

A.C.L. form no. 1

INNERBELT FREEWAY

MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC
* PHASE III (W.B.) (A,B&C)
* PHASE V (E.B.) (A&B)

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.99	F.H.W.A. 5
CHKD	INNERBELT FREEWAY	REGION
DATE		

19 / 151

MATCH LINE STA. 1998+50

EQUATION
℄ I-90 STA. 1999+01.08 BACK=
℄ I-90 STA. 3+87.63 AHEAD

(90) WEST Toledo EXIT ONLY
(71) SOUTH Columbus

℄ FAIRFIELD AVE.

1998+60

1999

I. — 90

LANE "B"

ITEM 644. SEE TRAFFIC CONTROL PLANS

12' 12' 12' 12'

4 5 6 7 8 9 10 11 12 13

+425 BEGIN TAPER

+00 END TAPER

22.5:1 TAPER

DRUMS @ 50' C-C (MAINLINE)

TEMP. EDGE LINE (FROM SHEET 18)

+50 BEGIN TAPER

50:1 TAPER

RAMP W-1

+50 END TAPER

EX. EDGE LINES (TO REMAIN)

9+80

11+80

DW-138-36

12+60

13+40

℄ RAMP W-1 STA. 5+03.29,40.0' LT. = ℄ REL. RAMP W-1 STA. 5+03.29

℄ REL. ℄ RAMP W-1 P.R.C. STA. 6+68.81

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE C

STAGE 2

℄ I-90 STA. 12+71.47, 78.37' RT. = ℄ RAMP W-1 STA. 7+38.76, 28' LT.

DW-49R-48

℄ I-90 STA. 13+66.60, 74.63' RT. = REL. ℄ RAMP W-1 PT. STA. 8+33.30

DRUMS @ 40' C-C, (RAMPS)

EX. G' CURB

MATCH LINE

STA. 14+00

℄ I-90 STA. 12+89.54, 63.83' LT.
℄ RAMP W-2 STA. 3+19.61, 35.83' LT.

EXIT 17 W 14th St

Abbey Ave

W. 14th. ST.

12+84

50'

DRUMS SPACED @ 10' C-C

5

RAMP W-2

4

ABBEY AVE.

** TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE C

DRUMS @ 40' C-C (RAMPS)

26.57' MIN. 32.27' MAX.
27.03' MIN. 32.60' MAX.
1'-6"
52'-6" MIN.
1' MIN. WORK AREA PHASE III
2'
MAINTAIN 2 LANES 3-22'-0"
MAINTAIN 2 LANES 3-22'-0"
2'-1' MIN. WORK AREA PHASE V

REMOVE & CONSTRUCT BRIDGE DECK FOR BRIDGE #1599 ONLY STA. 43+34.72 TO STA. 54+65.78 (FOR LOCATION SEE SHEETS 20 & 21)

WORK AREA

TRANSVERSE SECTION
PHASES III & V

NOTES:

1) RAMP W-1 TO BE CLOSED WHILE DECK SURFACE IS TREATED AND CURED IN THE RAMP AND ACCELERATION AREA. THE CONTRACTOR SHALL ARRANGE THAT THIS WORK IS DONE OVER A ONE WEEKEND PERIOD, EXCLUDING HOLIDAY WEEKENDS BEGINING NO EARLIER THAN 6 PM ON FRIDAY AND LASTING TO 6 AM MONDAY. SHOULD THE CONTRACTOR FAIL TO MEET THIS REQUIREMENT, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH THE PLAN NOTE ON SHEET NO. ___
2) FOR LEGEND SEE SHEET 16
3) ALL LANES EASTBOUND ARE TO REMAIN OPEN DURING PHASE III CONSTRUCTION.
4) ALL LANES WESTBOUND ARE TO REMAIN OPEN DURING PHASE V CONSTRUCTION.

* STAGE 2
** DRUM SPACING TEMP. GORE AREA: 20' C-C

OW-96-48
OW-143-24
EXIT 35 MPH
+10
UNIVERSITY AVE.
** TEMP. CHANNELIZING LINE, WHITE, CLASS I, 740.05, TYPE C (150' MIN.)
REVISE SIGNING & STRIPING TO PROVIDE CLOSURE OF NORTH SIDE OF RAMP W-2 WITHIN PHASE IIIA CONSTRUCTION. (STAGE 2)
TEMP. EDGE LINE, (FROM SHEET 18)
200' MIN. OPENING
+00
+25
EXIT RAMP OPEN OC-45A-48
NO CHANGE FROM SHT. 18 (PHASE IIIA)
ROAD CONSTRUCTION AHEAD (FROM PHASE III)
EAST (90) (77) TO Abbey Ave
BRIDGE NO. CUY-90-1524
BRIDGE Nº CUY-90-1524
BRIDGE Nº CUY-90-1540
EXIT RAMP OPEN AHEAD 35 MPH
(FROM SHEET 18)
+10

STA. 14+00

I. — 90

RAMP W-2
RAMP W-1
PHASE IIIA, STAGE 1
PHASE IIB

15 16 17 18 19 20 21 22 23 24 25 26 27 28

STA. 29+00

MATCH LINE

CUYAHOGA RIVER

14+20
15+00
15+80
22+91
DRUMS @ 40' C-C (RAMPS)
DRUMS @ 50' C/C (MAINLINE)
+00
TEMP. EDGE LINE (FROM SHEET 18)
REVISE SIGNING & STRIPING TO PROVIDE CLOSURE OF SOUTH SIDE OF RAMP W-1 WITHIN PHASE IIB CONSTRUCTION. (STAGE 2)
NO CHANGE FROM SHEET 18 (PHASE V)
YIELD R-2-60
OW-138-36
BRIDGE NO. CUY-90-1540
BRIDGE NO. CUY-90-1547

BRUNING 44-232-581-04-03
A.C.L. form no. 1

INNERBELT FREEWAY

MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC
PHASE III (W.B.)(A&B)
PHASE V (E.B.)(A&B)

CALC.	CUYAHOGA COUNTY	OHIO
DATE.	CUY-90 - 15.99	F.H.W.A. 5
CHKD.	INNERBELT FREEWAY	REGION
DATE		

20 / 151

MATCH LINE
STA. 29+00
℄ I-90 STA. 45+78.01, 56' LT. =
℄ RAMP E-1 STA. 8+04.26, 28' LT.

EX. EDGE LINE (TO REMAIN)

MIN. 11'
MIN. 11'

24" x 36" BLANK OVERLAY (BLACK ON ORANGE)

99 WEST Toledo

EXIT 170B
71 SOUTH Columbus
3/4 MILE

24" x 36" OVERLAY WITH TYPE B ARROW (BLACK ON ORANGE)

I. — 90

W. 3rd. ST.

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE 2"

B & O. R. R.

ALL WORK IN PHASE IIIB TO BE COMPLETED PRIOR TO OPENING RAMP E-1 TO TRAFFIC

PORTABLE CONCRETE BARRIER, BRIDGE MOUNTED

PHASE IIIA

PHASE IVB

30 31 32 33 34 35 36 37 38 39 40 41 42 43

35+40

HARRISON ST.

DRUMS @ 50' C-C, (MAINLINE)

11' MIN.
11' MIN.

+50 BEGIN TAPER

CANAL RD.

STA. 44+00

BRIDGE No. CUY-90-1547

BRIDGE No. CUY-90-1599

MATCH LINE

16:1 TAPER MIN. SEE DETAIL ON SHEET NO. 9 (TYP)

STA. 43+34.72

EXIT 172A
71 SOUTH
E 9th St
1/2 MILE

EXIT 171A-B
422
Broadway
Ontario St
1/4 MILE

DECK REPLACEMENT SHALL BEGIN DURING PHASE IIB. RAMP SHALL REMAIN CLOSED THROUGHOUT PHASE IIIB.

G.C.R.T.A.

℄ I-90 STA. 51+00 52' LT. =
℄ RAMP E-3 STA. 10+23.07

R-15-60
ROAD CLOSED

CLOSE RAMP E-1 AT BROADWAY ENTRANCE WITH TYPE III BARRICADE AND CATE. COVER ALL RAMP E-1 APPROACH SIGNS. (SEE SHEET 9 & STD. DRAWING MT-101.60)

STOP
R1-48

BROADWAY (EASTBOUND)
BROADWAY (WESTBOUND)

RAMP E-3 SAME AS PHASE I AND PHASE II

TYPE A WARNING LIGHT

STOP AHEAD
W1-45-48

PORTABLE CONC. BARRIER BRIDGE MOUNTED

DRUMS @ 40' C-C (RAMPS)

+20

+60 END TAPER

EXISTING EDGE LINE TO REMAIN

STA. 57+00

(FROM PHASE I & II)

RAMP E-1

PHASE IIIB

I. — 90

45 46 47 48 49 50 51 52 53 54 55 56

RAMP E-3

12' MIN.
11' MIN.
11' MIN.

125' BEGIN TAPER

225:1 TAPER 2

TEMP. EDGE LINE (FROM PHASE I & II.)

PHASE VB

RAMP E-2 PHASE VA

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE 2"

TEMP STOP LINE, CLASS I, 642 PAINT

TEMP. CHANNELIZING LINE, WHITE, CLASS I, 642, PAINT

TEMP. EDGE LINE, WHITE. CLASS I, 740.05, TYPE C

P.C.B. BRIDGE MOUNTED

P.C.B. 32"

+25

MATCH LINE
STA. 44+00

COMMERCIAL DR.

NORFOLK SOUTHERN R.R.

℄ I-90 STA. 48+07.15, 64' RT. =
℄ RAMP E-2 STA. 3+23.55, 23' LT.

BRIDGE No. CUY-90-1599

NOTES.

1.) FOR TRANSVERSE SECTION SEE SHT. 18

2.) FOR LEGEND SEE SHT. 16

3.) ALL LANES EASTBOUND ARE TO BE OPEN DURING PHASE III CONSTRUCTION.

4.) ALL LANES WESTBOUND ARE TO BE OPEN DURING PHASE V CONSTRUCTION.

5.) SEE SHEET 20A FOR RAMP E-4 PAVEMENT MARKINGS.

INNERBELT FREEWAY

MAINTENANCE OF TRAFFIC

BRUNING-44-232-58104-03

A.C.L. form no. 1

ESTIMATED QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	614 TEMPORARY CHANNELIZING LINE, CLASS I, 740.05, TYPE C	614 TEMPORARY TRANSVERSE LINE, CLASS I, 740.05, TYPE C	614 TEMPORARY EDGE LINE (WHITE), CLASS I, 740.05, TYPE C	614 BARRIER REFLECTOR TYPE B	622 PORTABLE CONCRETE BARRIER, 32"	642 PAVEMENT MARKING REMOVED	SPEC. TEMPORARY QUADGUARD cz IMPACT ATTENUATOR
	FROM	TO		LIN.FT.	LIN.FT.	LIN.FT.	EACH	LIN.FT.	LIN.FT.	EACH
I-R	55+00	58+70	RT.						370	
2-R	I+56	3+68	LT.						215	
3-R	56+44	58+08	RT.						330	
I-T	56+27	58+55	RT.	228						
2-T	56+27	58+55	RT.		450					
3-T	56+27	3+68.11	LT.	227						
4-T	0+64.76	3+68.11	RT.			320				
I-B	3+04	4+63	LT.				3	200		
2-B	57+77	58+76	RT.					100		I
TOTALS				455	450	320	3	300	915	I

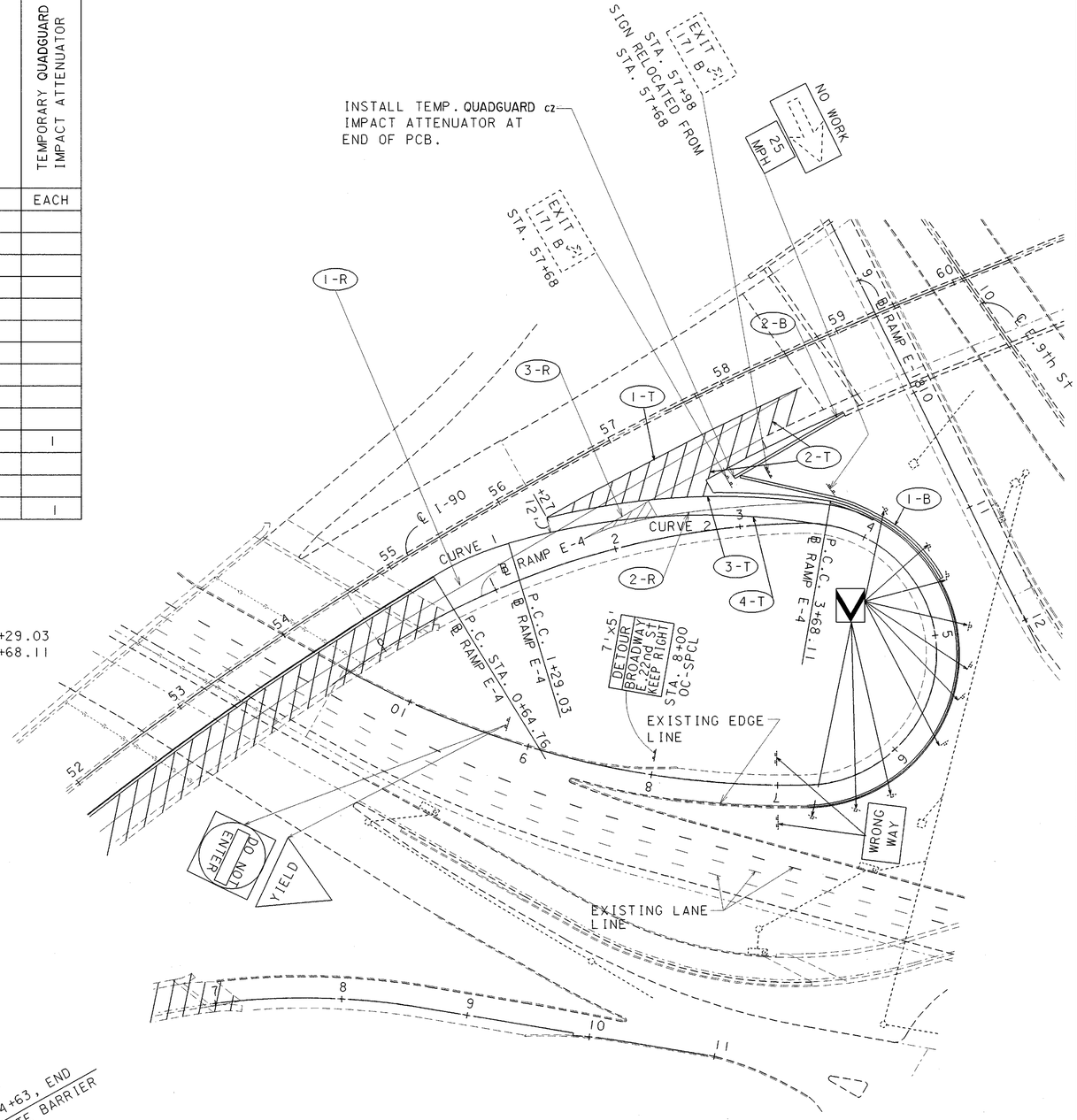
QUANTITIES ARE CARRIED TO THE MAINTENANCE OF TRAFFIC SUBSUMMARY SHEET 8.

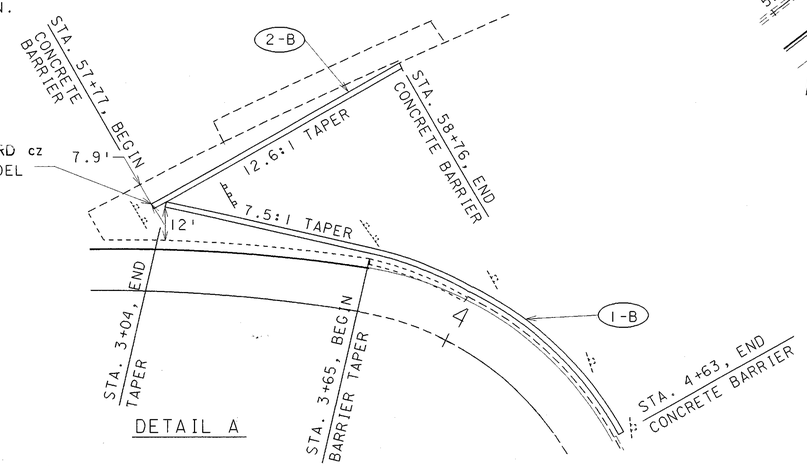
SEE MAINTENANCE OF TRAFFIC, PHASE V, PLAN SHEETS 9, 17-20, AND 22 FOR ADDITIONAL SIGNING AND PAVEMENT MARKINGS.

NOTES:
1.) REMOVE THE EXISTING GORE MARKING SIGN AT STA. 57+68 FOR RE-ERECTION.
2.) RELOCATE THE EXISTING GORE SIGN TO STA. 57+98 AND MOUNT IT ON THREE NO. 6 POSTS. LENGTHS OF POSTS ARE 20'-3", 21'-0", AND 21'-9".
3.) THE EXISTING CONCRETE EMBEDDED FOUNDATIONS AND BEAM SUPPORTS SHALL BE REMOVED FOR DISPOSAL.
4.) THE ABOVE MENTIONED WORK SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614-MAINTAINING TRAFFIC.
5.) SEE PLAN SHEET 27A, FOR PERMANENT INSTALLATION AND QUANTITIES FOR THE GORE MARKING SIGN.

CURVE 1
P.C.= STA. 0+64.76
P.C.C.= STA. 1+29.03
R = 248.614'
D = 23°02'46"
T = 32.32'
L = 64.27'
Δ = 14°48'42"

CURVE 2
P.C.C.= STA. 1+29.03
P.C.C.= STA. 3+68.11
R = 553.083'
D = 10°21'34"
T = 121.44'
L = 239.08'
Δ = 24°46'02"





DETAIL A

CALCULATED LGM
CHECKED ACB

SCALE IN FEET 0 50 100

MAINTENANCE OF TRAFFIC PHASE VB PLAN SHEET
STA. 0+00 ℄ RAMP E-4 TO STA. 10+00 ℄ RAMP E-4

CUYAHOGA COUNTY
CUY-90-15.99

20A
151

PLOT SUBMITTED: 1-JUL-1996 14:02
PLOTTED BY: coopl
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MAINTENANCE OF TRAFFIC
PHASE III (W.B.)(C)

CALC.	CUYAHOGA COUNTY	OHIO	21
DATE	CUY-90-15.99	F.H.W.A. REGION 5	151
CHKD.	INNERBELT FREEWAY		
DATE			

MATCH LINE STA. 29+00

I.— 90

EXIT 170B (71) SOUTH Columbus 3/4 MILE

90 WEST Toledo

W. 3rd. ST.

B.&O.R.R.

HARRISON ST.

35+40

ITEM 644, SEE TRAFFIC CONTROL PLANS

ALL WORK IN PHASE IIIB TO BE COMPLETED PRIOR TO OPENING RAMP E-1 TO TRAFFIC

TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE C

DRUM SPACING @ 40' C-C, RAMP

12'

+45

11' MIN

11' MIN

TEMP. EDGE LINE (FROM SHEET 20)

STA. 44+00

MATCH LINE

CANAL RD.

BRIDGE No. CUY-90-1547

BRIDGE No. CUY-90-1599

STA. 43+34.72

EXIT 172A (7) SOUTH E 9th St 1/2 MILE

EXIT 171A-B (422) (14) Broadway Ontario St 1/4 MILE

℄ I-90 STA. 45+78.01, 56' LT. = ℄ RAMP E-1 STA 8+04.26, 28' LT.

ITEM 644 - SEE TRAFFIC CONTROL PLANS

DRUMS @ 50' C/C (MAINLINE)

G.C.R.T.A.

RAMP E-1

BROADWAY (EASTBOUND)

BROADWAY (WESTBOUND)

TEMP. EDGE LINE (FROM SHEET 20)

P.C.B. 37" BRIDGE MTD.

P.C.B. 32"

I.— 90 PHASE - III C

RAMP E-3

STA. 57+00

CLOSE RAMP E-3 AT CARNEGIE AND E. 9TH. ST. WITH TYPE III BARRICADE AND GATE AND COVER ALL RAMP E-3 APPROACH SIGNS.

SEE SHEET 9 & STD. DWG. MT-101.60

MATCH LINE STA. 44+00

COMMERCIAL DR.

TEMP. EDGE LINE WHITE CLASS I, 740.05, TYPE C

NORFOLK SOUTHERN R.R.

℄ I-90 STA. 48+07.15, 64' RT. = ℄ RAMP E-2 STA. 3+23.55, 23' LT.

RAMP E-2

TEMP. EDGE LINE (FROM SHEET 20)

11' MIN.

11' MIN.

11' MIN.

11' MIN.

16:1 TAPER MIN. SEE DETAIL ON SHEET NO. 9.

BRIDGE No. CUY-90-1599

NOTES:

1) FOR TRANSVERSE SECTION SEE SHT. 19.

2) FOR LEGEND SEE SHT. 16.

3) ALL LANES EASTBOUND SHALL BE OPEN DURING PHASE III CONSTRUCTION.

4) RAMP E-1 TO BE SIGNED & STRIPED AS PER TRAFFIC CONTROL PLAN. SEE SHEET 48.

INNERBELT FREEWAY

MAINTENANCE OF TRAFFIC

BRUNING 44-232-5B104.03

A.C.L. form no. 1

MAINTENANCE OF TRAFFIC
PHASE III (W.B.)(C)
PHASE V (E.B.)(A&B)

CALC.	CUYAHOGA COUNTY	OHIO	22
DATE	CUY-90-15.99	F.H.W.A. 5	151
CHKD.	INNERBELT FREEWAY	REGION	
DATE			

STA. 57+00 — STA. 71+00 — STA. 71+00 — MATCH LINE

RAMP E-3 — RAMP E-4 — RAMP E-5 — RAMP E-6 — RAMP E-8 — RAMP E-9 — RAMP E-10 — RAMP E-11 — RAMP E-13 — RAMP E-16

I-90

EAST 9th ST. — EAST 14th ST. (SOUTHBOUND) — EAST 14th ST. (NORTHBOUND) — EAST 22nd ST.

W 14th ST Abey Ave 1 MILE — EXIT 171 — 64+50

E 9th St 35 MPH SOUTH — EXIT 172A — E 22nd St 1/4 MILE — EXIT 172B — Carnegie Ave 1/2 MILE — EXIT 172C — Cleve State Univ Cuy Comm Coll HOSPITAL — EXIT 172B — E 22nd ST Carnegie Ave Chester Ave 1/8 3/8 1 — EXIT 172B — Chester Ave 1/2 MILE — EXIT 172B — Carnegie Ave — EXIT 172A

DRUMS @ 40' C-C (RAMP) — DRUMS @ 10' C-C — 50' DRUMS @ 50' C-C (MAINLINE) — OW-138-36 (SPACED @ 150' C-C)

YIELD AHEAD — ROAD CONSTRUCTION AHEAD — R-2-60 — YIELD — CONSTRUCTION AHEAD

TEMP. EDGE LINE (FROM SHEET 15) — TEMP. EDGE LINE, YELLOW, CLASS I, 740.05, TYPE C — TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE C — TEMP. SOLID LANE LINE, WHITE, CLASS I, 740.05, TYPE C — TEMP. CHANNELIZING LINE, WHITE, CLASS I, 740.05, TYPE C — TEMP. EDGE LINE, WHITE, CLASS I, 740.05, TYPE C

275:1 TAPER — 55:1 TAPER — 82.5' END TAPER — 100' END TAPER — BEGIN TAPER — 12' — 10' — 5' — 2'

EXISTING EDGE LINES TO REMAIN — REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.) — EXISTING LANE LINES TO REMAIN (TYP.) — REMOVE CONFLICTING PAVEMENT MARKINGS (TYP.)

SEE SHEET 20A FOR RAMP E-4 PAVEMENT MARKINGS.

ITEM 644, SEE TRAFFIC CONTROL PLANS — ITEM 644, SEE TRAFFIC CONTROL PLANS

* TO BE REPLACED WITH TYPE III GATES AND BARRICADES WHEN RAMP E-3 IS CLOSED TO TRAFFIC.

** FROM PHASE I & II.

TYPE B WARNING LIGHT — RIGHT LANE CLOSED AHEAD — OW-142-48 — 45 MPH — OW-143-24 — OW-128-48

NOTE:
1) FOR LEGEND SEE SHEET 16.
2) ALL LANES EASTBOUND SHALL BE OPEN DURING PHASE III CONSTRUCTION.
3) ALL LANES WESTBOUND SHALL BE OPEN DURING PHASE V CONSTRUCTION.

INNERBELT FREEWAY

MAINTENANCE OF TRAFFIC

BRUNING 44-232-56104-03

A.C.L. form no. 1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.99	F.H.W.A. REGION
CHKD.	INNERBELT FREEWAY	
DATE		

PERMANENT PAVEMENT ESTIMATED QUANTITIES

ITEM 203 *	3162.5 ÷ 9	351 SQ. YDS.
ITEM 203 **	351 x 19/12 ÷ 3	176 CU. YDS.
ITEM 305	3000 ÷ 9	333 SQ. YDS.
ITEM 304	3162.5 x 9/12 ÷ 27	59 CU. YDS.
ITEM 403	3000 x 1¾/12 ÷ 27	16 CU. YDS.
ITEM 404	3000 x 1¼/12 ÷ 27	12 CU. YDS.
ITEM 407	3000÷9 x 0.075	25 GAL.

QUANTITIES CARRIED TO GENERAL SUMMARY
* SUBGRADE COMPACTION
** EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION

TEMPORARY PAVEMENT ESTIMATED QUANTITIES
ITEM 615 - TEMPORARY PAVEMENT, CLASS A = 113 S.Y.
QUANTITY CARRIED TO GENERAL SUMMARY.

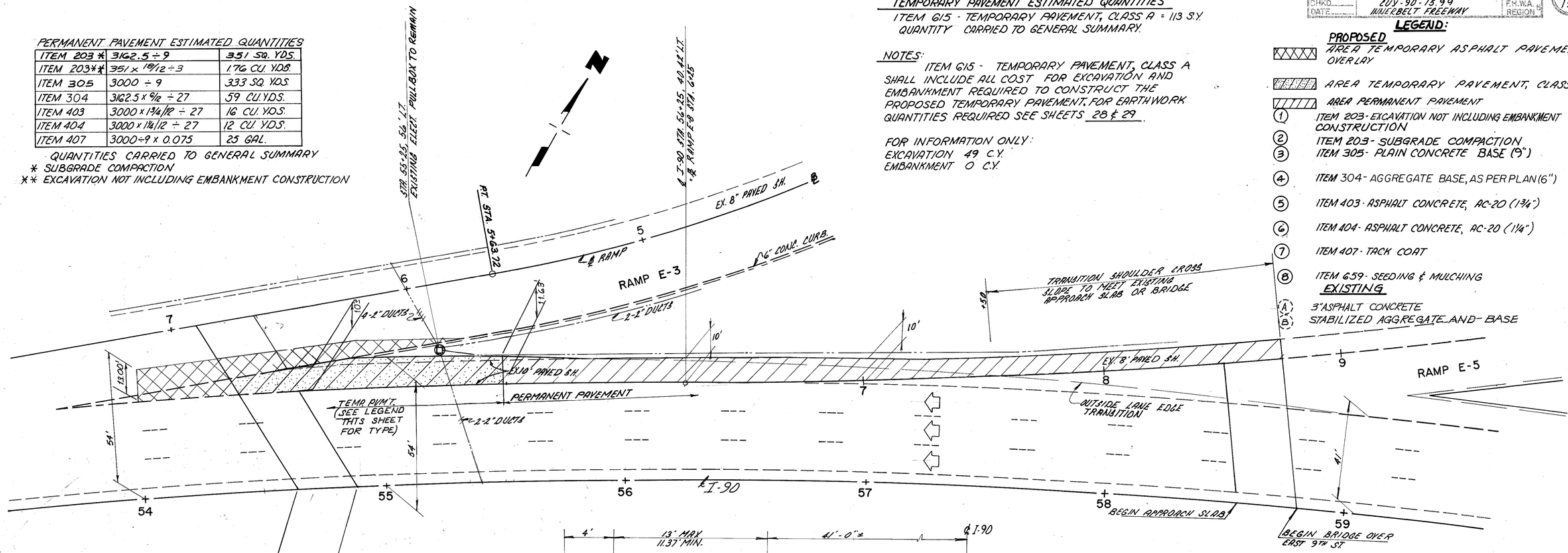
NOTES:
ITEM 615 - TEMPORARY PAVEMENT, CLASS A SHALL INCLUDE ALL COST FOR EXCAVATION AND EMBANKMENT REQUIRED TO CONSTRUCT THE PROPOSED TEMPORARY PAVEMENT. FOR EARTHWORK QUANTITIES REQUIRED SEE SHEETS 28 & 29.

FOR INFORMATION ONLY:
EXCAVATION 49 C.Y.
EMBANKMENT 0 C.Y.

LEGEND:

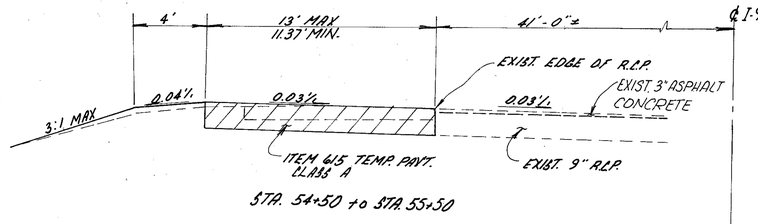
PROPOSED
- AREA TEMPORARY ASPHALT PAVEMENT OVERLAY
- AREA TEMPORARY PAVEMENT, CLASS A
- AREA PERMANENT PAVEMENT
- (1) ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
- (2) ITEM 203 - SUBGRADE COMPACTION
- (3) ITEM 305 - PLAIN CONCRETE BASE (9")
- (4) ITEM 304 - AGGREGATE BASE, AS PER PLAN (6")
- (5) ITEM 403 - ASPHALT CONCRETE, AC-20 (1¾")
- (6) ITEM 404 - ASPHALT CONCRETE, AC-20 (1¼")
- (7) ITEM 407 - TACK COAT
- (8) ITEM 659 - SEEDING & MULCHING

EXISTING
- (A) 3" ASPHALT CONCRETE
- (B) STABILIZED AGGREGATE AND BASE

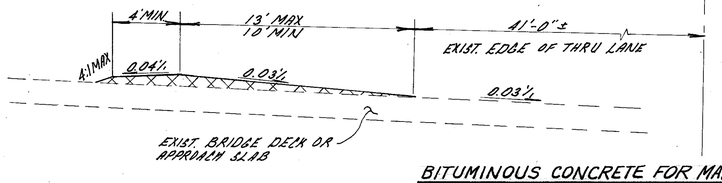


END APPROACH SLAB
STA. 54+90.78

BEGIN APPROACH SLAB
STA. 54+65.78



STA. 54+50 to STA. 55+50

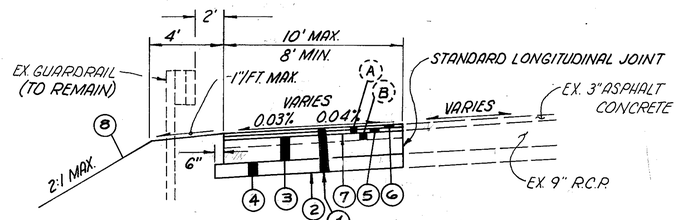


STA. 54+00 to 54+50

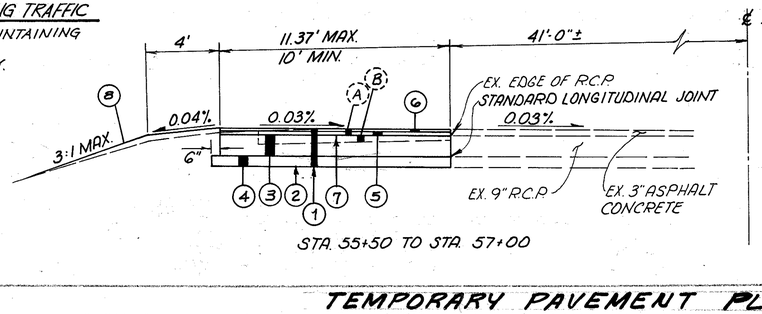
OFFSETS FOR OUTSIDE LANE CONTROL THRU TRANSITION

STATION	OFFSET	REMARKS
54+00	54.00	
+50	54.00	
55+00	54.00	BEGIN TRANSITION
+50	52.37	
56+00	50.75	
+50	49.12	
57+00	47.50	
+50	45.87	
58+00	44.25	
+50	42.62	
59+00	41.00	END TRANSITION
60+00	41.00	

BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC
ITEM 404 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC = 2 CU. YDS.
QUANTITY CARRIED TO GENERAL SUMMARY.



STA. 7+00 TO STA. 8+75± RAMP E-5



STA. 55+50 TO STA. 57+00

PAVEMENT PLAN

INNERBELT FREEWAY

TEMPORARY PAVEMENT PLAN

ITEM	SHEET NUMBER																	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	6A		9C	9F		13A	13B		23	26	27	27A	30	31	32	37	45HH						
																						ROADWAY	
202											300			85	47			202	22900	432	SQ.YD.	APPROACH SLAB REMOVED	
202			140			30											39	202	23000	209	SQ.YD.	PAVEMENT REMOVED	
202											148			36	23			202	23500	207	SQ.YD.	WEARING COURSE REMOVED	
202											25						35	202	30700	60	LIN.FT.	CONCRETE BARRIER REMOVED	
202			170			337								125				202	32000	632	LIN.FT.	CURB REMOVED	
202						368				225	126.5		139		212.5			202	38000	1071	LIN.FT.	GUARDRAIL REMOVED	
202						1												202	98100	1	EACH	REMOVAL MISC.: IMPACT ATTENUATOR	
203				1391			62		176		296			25	15	599		203	12000	2564	CU.YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
203											145							203	20000	145	CU.YD.	EMBANKMENT	
203				79			50											203	20001	129	CU.YD.	EMBANKMENT, AS PER PLAN	6
203																1074		203	21000	1074	CU.YD.	EMBANKMENT USING GRANULAR MATERIAL	
203			890			156			351		376			96	68			203	50000	1937	SQ.YD.	SUBGRADE COMPACTION	
203												3.1						203	60000	3.1	STATION	LINEAR GRADING	
606										190	74	262.5	146.5	75				606	13000	748	LIN.FT.	GUARDRAIL, TYPE 5	
606												2		2				606	25000	4	EACH	ANCHOR ASSEMBLY, TYPE A	
606													1					606	26100	1	EACH	ANCHOR ASSEMBLY, TYPE E	
606											1	1			4			606	26500	6	EACH	ANCHOR ASSEMBLY, TYPE T	
606										1	1		2	2				606	35000	6	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
606															1			606	35100	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
606												1						606	35120	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE3	
608											87			104	110			608	13001	301	SQ.FT.	6" CONCRETE WALK, AS PER PLAN	6
622																	25	622	23405	25	LIN.FT.	CONCRETE BARRIER, TYPE B-50, AS PER PLAN	45HH
622											1				2			622	90200	3	EACH	BARRIER MISC.: CONCRETE TRANSITION BARRIER (TYPE W), AS PER PLAN	33A
622											1			2				622	90200	3	EACH	BARRIER MISC.: CONCRETE TRANSITION BARRIER (TYPE X), AS PER PLAN	33B
622										1								622	90200	1	EACH	BARRIER MISC.: CONCRETE TRANSITION BARRIER (TYPE Y), AS PER PLAN	33C
622													2					622	90200	2	EACH	BARRIER MISC.: CONCRETE TRANSITION BARRIER (TYPE Z), AS PER PLAN	33D
SPEC.												1						SPEC.	69010400	1	EACH	IMPACT ATTENUATOR, HEX FOAM SANDWICH SYSTEM	
																						EROSION CONTROL	
207	475																	207	10000	475	SQ.YD.	TEMPORARY SEEDING AND MULCHING	
207	1200																	207	30000	1200	LIN.FT.	FILTER FABRIC FENCE	
207	75																	207	40000	75	LIN.FT.	TEMPORARY SLOPE DRAIN	
207	1500																	207	55000	1500	LIN.FT.	TEMPORARY DIKES	
207	125																	207	70000	125	EACH	STRAW OR HAY BALES	
601																1806		601	21100	1806	SQ.YD.	SLOPE PROTECTION, MISC.: GROUT FILLED FABRIC MATS	
659				3272			176				531							659	10000	3979	SQ.YD.	SEEDING AND MULCHING	
659	0.02										0.05							659	20000	0.07	TON	COMMERCIAL FERTILIZER	
659											0.24							659	30000	0.24	TON	AGRICULTURAL LIMING	
659	1000																	659	35000	1000	MGAL.	WATER	
670																920		670	41000	920	SQ.YD.	SLOPE EROSION PROTECTION	
SPEC.																1806		SPEC.	69012010	1806	SQ.YD.	GEOTEXTILE FABRIC, 712.09, TYPE B	

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CALCULATED LGM
CHECKED ENF

GENERAL SUMMARY

CUYAHOGA COUNTY
CUY-90-15.99

ITEM	SHEET NUMBER																	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
			9C	9F			13A	13B	13C	23	26	27	27A	30	31	32	34	37						
																						DRAINAGE	
603			10				15												603	01500	25	LIN.FT.	6" CONDUIT, TYPE F, 707.17 NON-PERFORATED D-ASTM 3034 SDR 35 SS931 OR SS944	
603																		210	603	04600	210	LIN.FT.	12" CONDUIT, TYPE C	
604																		6	604	04901	6	EACH	CATCHBASIN NO. 2-3, AS PER PLAN	40
604			1																604	35501	1	EACH	MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN, BOLTED DOWN	6A
SPEC.									1										SPEC.	60436600	1	EACH	PRECAST REINFORCED CONCRETE OUTLET	
605			405				131												605	11100	536	LIN.FT.	6" SHALLOW PIPE UNDERDRAIN	
605												50			50	50			605	11110	150	LIN.FT.	6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP	
																						PAVEMENT	
304							25			59		80			16	11			304	20001	191	CU.YD.	6" AGGREGATE BASE, AS PER PLAN	6
304			446																304	20001	446	CU.YD.	AGGREGATE BASE, AS PER PLAN	6,9C
305										333		95							305	13000	428	SQ.YD.	9" CONCRETE BASE	
305			226																305	13001	226	SQ.YD.	9" CONCRETE BASE, AS PER PLAN	6
403										16		5							403	20000	21	CU.YD.	ASPHALT CONCRETE, AC-20	
404										12		7			1	1			404	20000	21	CU.YD.	ASPHALT CONCRETE, AC-20	
407			89				15			25		7							407	10000	136	GALLON	TACK COAT	
446			44				7												446	01200	51	CU.YD.	ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, AC-20	
446			31				5												446	01401	36	CU.YD.	ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AC-20, AS PER PLAN	6A
448													388						448	14101	388	CU.YD.	ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, (UNDER GUARDRAIL), AS PER PLAN	6
451							33												451	14000	33	SQ.YD.	9" REINFORCED CONCRETE PAVEMENT	
451							8												451	16001	8	SQ.YD.	12" REINFORCED CONCRETE PAVEMENT, AS PER PLAN	13A
SPEC.												140			30	17			SPEC.	45132000	187	LIN.FT.	PRESSURE RELIEF JOINT, TYPE C	
611																	540		611	25001	540	SQ.YD.	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN	34-36

PLOT SUBMITTED: 4-SEP-1996 08:04
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CALCULATED LGM
CHECKED ENF

GENERAL SUMMARY

CUYAHOGA COUNTY
CUY-90-15.99

24A
151

ITEM	SHEET NUMBER 27A	45A	45B	45C	45D	45E	46	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
												TRAFFIC CONTROL	
202							1	202	75300	1	EACH	PULLBOX REMOVED	
202						2		202	75301	2	EACH	PULLBOX REMOVED, AS PER PLAN	6B
202							1	202	75510	1	EACH	POWER SERVICE REMOVED	
202							LUMP	202	75700	LUMP		CONTROL CENTER REMOVED	
603						10	10	603	00400	20	LIN.FT.	4" CONDUIT, TYPE E	
625						4	2	625	01500	6	EACH	CABLE SPLICING KIT	
625						120	80	625	24100	200	LIN.FT.	1½" DUCT CABLE WITH TWO NO. 4 AWG 5000 VOLT CABLES	
625						100		625	29002	100	LIN.FT.	TRENCH, 24" DEEP	
625						1	1	625	30706	2	EACH	PULLBOX, 713.08, 24"	
625			2	2				625	32000	4	EACH	GROUND ROD	
625							1	625	34000	1	EACH	POWER SERVICE	
SPEC.						1	1	SPEC.	62540020	2	EACH	DISCONNECT EXISTING CIRCUIT	
630			20.49	9.54				630	00000	30.03	CU.YD.	CONCRETE FOR ANCHOR BASE FOUNDATION	
630	2.2	0.54						630	00100	2.74	CU.YD.	CONCRETE FOR EMBEDDED FOUNDATION	
630							48	630	02100	48	LIN.FT.	GROUND MOUNTED SUPPORT, NO. 2 POST	
630		91.2						630	03100	91.2	LIN.FT.	GROUND MOUNTED SUPPORT, NO. 3 POST	
630		31					28	630	04100	59	LIN.FT.	GROUND MOUNTED SUPPORT, NO. 4 POST	
630		33						630	06400	33	LIN.FT.	GROUND MOUNTED SUPPORT, S4X7.7 BEAM	
630	40.5							630	07600	40.5	LIN.FT.	GROUND MOUNTED SUPPORT, W10X12 BEAM	
630	2	2						630	09000	4	EACH	BREAKAWAY BEAM CONNECTION	
630			1					630	20800	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN NO. 8, 30' ARM	
630				1				630	31300	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-9.10, DESIGN NO. 3	
630				1				630	37000	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN NO. 6, 72 FT. SPAN	
630			1					630	47500	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN NO. 8, 75 FT. SPAN	
630			6	19	24			630	75000	49	EACH	SIGN ATTACHMENT ASSEMBLY	
630			4	11	6			630	75106	21	EACH	LUMINAIRE SUPPORT ASSEMBLY TYPE TC-31.21	
630					1			630	77001	1	EACH	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE TC-18.24, AS PER PLAN	6B
630							8	630	79600	8	EACH	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED	
630	45	60.3					158	630	80102	263.3	SQ.FT.	SIGN, FLATSHEET, TYPE G	
630		36	656.5	855.8	791			630	80204	2339.3	SQ.FT.	SIGN, EXTRUSHEET, TYPE G	
630			186					630	80402	186	SQ.FT.	SIGN, PERMANENT OVERLAY, TYPE G	
630		3						630	82000	3	EACH	SIGN BACKING ASSEMBLY	
630		1	5	7	1			630	82500	14	EACH	EXISTING SIGN REVISED WITH DEMOUNTABLE COPY	
630		4					5	630	84900	9	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
630													
630		2					6	630	86002	8	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
630					1		3	630	86310	4	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	
630			1		1			630	87101	2	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN	6B
630			4	8	4			630	87400	16	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
630		2					5	630	87500	7	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
630				1	1			630	89702	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	
630			1					630	89703	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, AS PER PLAN	6B
630			2					630	97700	2	EACH	SIGNING MISC.: REMOVAL AND REERECTION OF EXIT PANEL	
631					1			631	70100	1	EACH	BALLAST WIRING ENCLOSURE, TYPE B	
631			1	1			4	631	84000	6	EACH	SIGN SERVICE	
631			5	8	6			631	84300	19	EACH	SIGN WIRED	
631					1			631	84400	1	EACH	SIGN WIRED, OVERPASS STRUCTURE MOUNTED	
631			1	1	1			631	85100	3	EACH	DISCONNECT SWITCH WITH ENCLOSURE, TYPE X	
631					1			631	87200	1	EACH	BALLAST, TYPE CMRI-175-480, REMOTE	
631			8	9	5			631	87202	22	EACH	BALLAST, TYPE CMRI-175-480, INTEGRAL	
631				2	3			631	87302	5	EACH	BALLAST, TYPE CMRI-250-480, INTEGRAL	
631			8	9	6			631	89200	23	EACH	MERCURY VAPOR LUMINAIRE, TYPE TC-31.21 WITH 175W LAMP	
631				2	3			631	89300	5	EACH	MERCURY VAPOR LUMINAIRE, TYPE TC-31.21 WITH 250W LAMP	
631			4	13	9			631	94200	26	EACH	REMOVAL OF LUMINAIRE AND DISPOSAL	
631							1	631	94412	1	EACH	REMOVAL OF SIGN SERVICE AND DISPOSAL	

CALCULATED LGM
CHECKED ENF

GENERAL SUMMARY

CUYAHOGA COUNTY
CUY-90-15.99

ITEM	SHEET NUMBER																	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	7A	7B	7D	7E		8	13A	23	26	27	30	31	32			45	46						
																						TRAFFIC CONTROL (CONT'D)	
642																751		642	30000	751	LIN.FT.	REMOVAL OF PAVEMENT MARKING	
642																8		642	30020	8	EACH	REMOVAL OF PAVEMENT MARKING	
644																0.11	2.81	644	00100	2.92	MILE	EDGE LINE	
644																0.17	2.59	644	00200	2.76	MILE	LANE LINE	
644																2509	1607	644	00400	4116	LIN.FT.	CHANNELIZING LINE	
644																	430	644	00401	430	LIN.FT.	CHANNELIZING LINE, AS PER PLAN	45F
644																56		644	00500	56	LIN.FT.	STOP LINE	
644																116		644	00600	116	LIN.FT.	CROSSWALK LINE	
644																783	990	644	00700	1773	LIN.FT.	TRANSVERSE LINE	
644																9		644	01300	9	EACH	LANE ARROW	
644																3		644	01400	3	EACH	WORD ON PAVEMENT, 72"	
644																140		644	01500	140	LIN.FT.	DOTTED LINE, 4"	
644																3995		644	30000	3995	LIN.FT.	REMOVAL OF PAVEMENT MARKING	
645																	4.2	645	00111	4.2	MILE	EDGE LINE, TYPE A3, AS PER PLAN	6C
645																	5.04	645	00211	5.04	MILE	LANE LINE, TYPE A3, AS PER PLAN	6C
645																	1480	645	00411	1480	LIN.FT.	CHANNELIZING LINE, TYPE A3, AS PER PLAN	6C
645																	156	645	00711	156	LIN.FT.	TRANSVERSE LINE, TYPE A3, AS PER PLAN	6C
802									5	7	10	5	8					802	00100	35	EACH	BARRIER REFLECTOR, TYPE A	
																						MAINTENANCE OF TRAFFIC	
404								2										404	35000	2	CU.YD	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	
SPEC.				400														614	11100	400	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
614						1												614	12350	1	EACH	TEMPORARY IMPACT ATTENUATOR (QUADGUARD cz)	
614	20																	614	12470	20	EACH	WORK ZONE SPEED LIMIT SIGN	
614	15																	614	12480	15	EACH	DOUBLED FINES IN WORK ZONE SIGN	
SPEC.				200														SPEC.	61412500	200	SQ.FT.	REPLACEMENT SIGN	
SPEC.				250														SPEC.	61412600	250	EACH	REPLACEMENT DRUM	
614						448												614	13300	448	EACH	BARRIER REFLECTOR, TYPE B	
614						448												614	13350	448	EACH	OBJECT MARKER	
614			192															614	18601	192	SIGN-MON	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	7D
614			0.12															614	20100	0.12	MILE	TEMPORARY LANE LINE, CLASS I, 642 PAINT	
614						0.61												614	22100	0.61	MILE	TEMPORARY EDGE LINE, CLASS I, 642 PAINT	
614						12.09	0.06											614	22300	12.15	MILE	TEMPORARY EDGE LINE, CLASS I, 740.05, TYPE C	
614			2824			255												614	23200	3079	LIN.FT.	TEMPORARY CHANNELIZING LINE, CLASS I, 642 PAINT	
614			2512															614	23201	2512	LIN.FT.	TEMPORARY CHANNELIZING LINE, AS PER PLAN, CLASS I, 642 PAINT	
614						1605												614	23600	1605	LIN.FT.	TEMPORARY CHANNELIZING LINE, CLASS I, 740.05, TYPE C	
614			1808															614	25200	1808	LIN.FT.	TEMPORARY TRANSVERSE LINE, CLASS I, 642 PAINT	
614						1850												614	25600	1850	LIN.FT.	TEMPORARY TRANSVERSE LINE, CLASS I, 740.05 TYPE C	
614						24												614	26200	24	LIN.FT.	TEMPORARY STOP LINE, CLASS I, 642 PAINT	
614						12												614	26600	12	LIN.FT.	TEMPORARY STOP LINE, CLASS I, 740.05, TYPE C	
615								113										615	20000	113	SQ.YD.	TEMPORARY PAVEMENT, CLASS A	
622						2310												622	40020	2310	LIN.FT.	PORTABLE CONCRETE BARRIER, 32"	
622						9055												622	40040	9055	LIN.FT.	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
642						22999												642	30000	22999	LIN.FT.	REMOVAL OF PAVEMENT MARKING	
SPEC.				5														SPEC.	69011000	5	EACH	IMPACT ATTENUATOR MISC.: RESTORATION OF THE EXISTING QUADGUARD	
SPEC.		50																SPEC.	69098000	50	EACH	ROADWAY, MISC., TOW TRUCK SERVICE (AUTO)	
SPEC.		50																SPEC.	69098000	50	EACH	ROADWAY, MISC., TOW TRUCK SERVICE (COMMERCIAL)	
SPEC.			750															SPEC.	69098200	750	SQ.FT.	ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER	
																						FOR LIGHTING GENERAL SUMMARY SEE SHEET 52.	
																						FOR STRUCTURE OVER 20' SPAN ESTIMATED	
																						QUANTITIES SEE SHEETS 71-75 OF BRIDGE PLANS	
614																		614	11000	LUMP		MAINTAINING TRAFFIC	
619																		619	15020	LUMP		FIELD OFFICE, TYPE C	
623																		623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
624																		624	10000	LUMP		MOBILIZATION	

CALCULATED LGM
CHECKED ENF

GENERAL SUMMARY

CUYAHOGA COUNTY
CUY-90-15.99

25A
151

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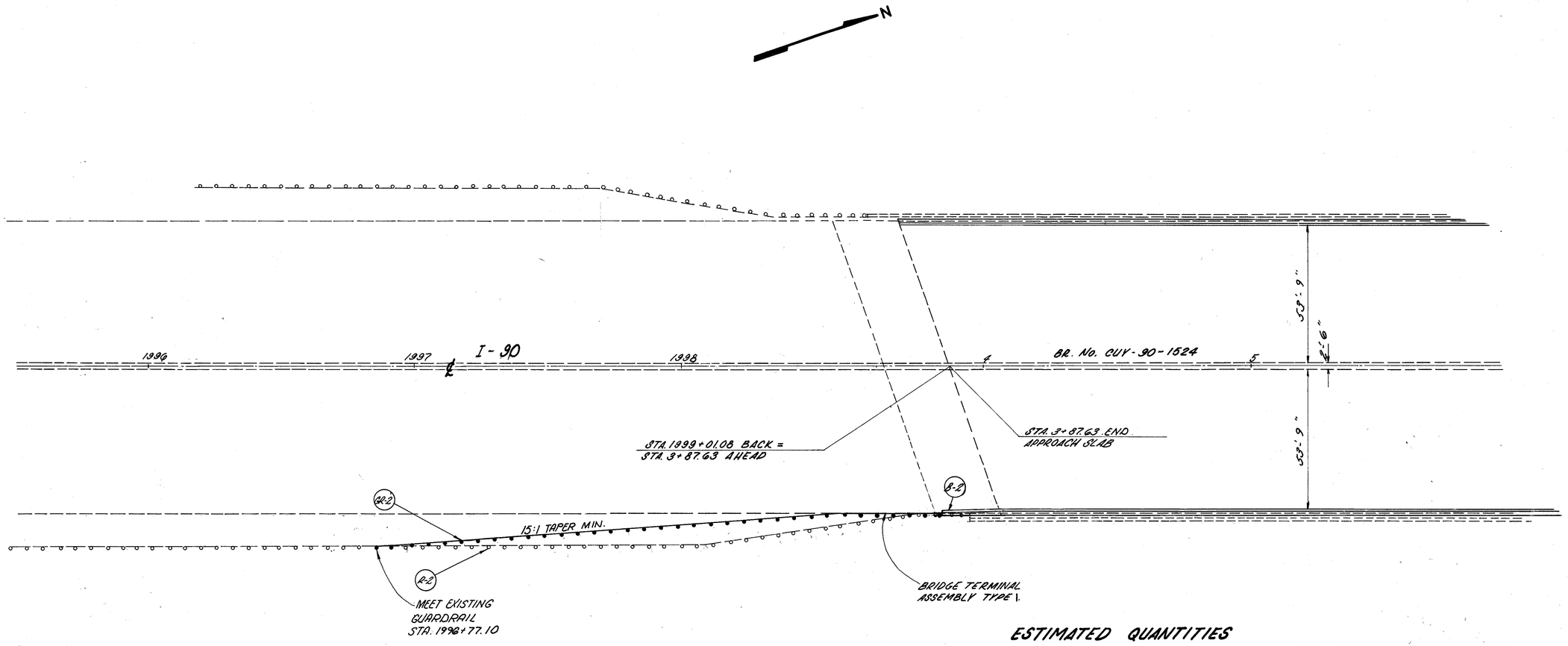
CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.99	F.H.W.A.
CHKD.	INNERBELT FREEWAY	REGION 5
DATE		

26
151

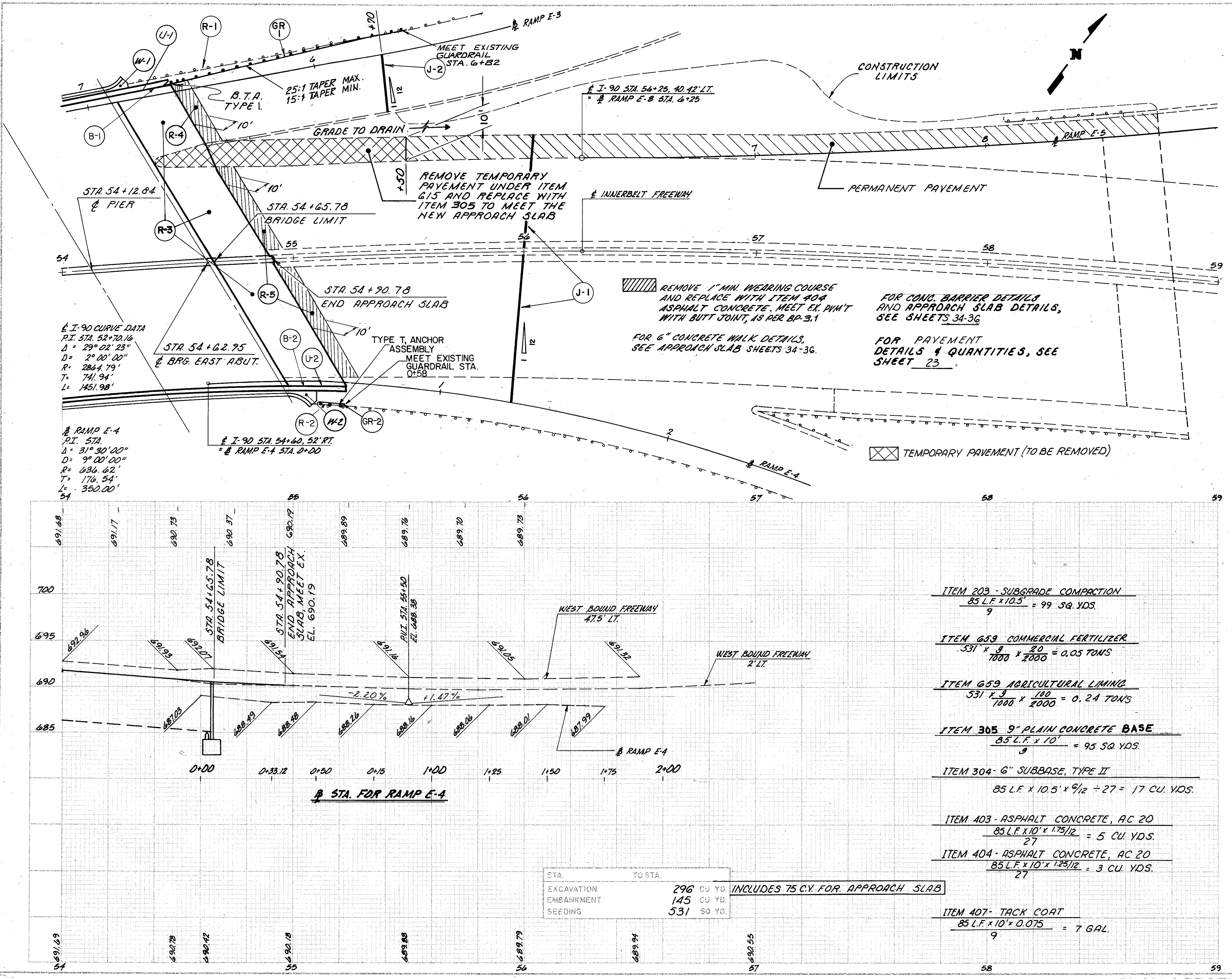


ESTIMATED QUANTITIES

REF. NO.	LOCATION	SIDE	202 GUARDRAIL REMOVED	606 BRIDGE TERMINAL ASSEMBLY TYPE 1	606 BRIDGE TERMINAL ASSEMBLY TYPE 2	606 GUARDRAIL TYPE 5		622 CONCRETE BARRIER (TYPE V) AS PER PLAN	802 BARRIER REFLECTOR TYPE A	SEE SHEET NO.
			L.F.	EA.	EA.	L.F.		EA.	EA.	
GR-2	1996+89.6 TO 3+91.1	RT.		1		190			5	
R-2	1996+89.6 TO 3+95	RT.	225							
B-2	1999+00.55 TO 4+01.1	RT.						1		330
	TOTAL		225	1		190		1	5	

INNERBELT FREEWAY

PLAN STA. 1996+77.1 TO 4+01.10



STA.	TO STA.	
EXCAVATION	296	CU. YD.
EMBANKMENT	145	CU. YD.
SEEDING	531	SQ. YD.

INCLUDES 75 C.Y. FOR APPROACH SLAB

ITEM 203 - SUBGRADE COMPACTION
$\frac{85\ L.F. \times 10.5'}{9} = 99$ SQ. YDS.

ITEM 659 COMMERCIAL FERTILIZER
$531 \times \frac{9}{1000} \times \frac{20}{2000} = 0.05$ TONS

ITEM 659 AGRICULTURAL LIMING
$531 \times \frac{9}{1000} \times \frac{100}{2000} = 0.24$ TONS

ITEM 305 9" PLAIN CONCRETE BASE
$\frac{85\ L.F. \times 10'}{9} = 95$ SQ. YDS.

ITEM 304 - 6" SUBBASE, TYPE II
$85\ L.F. \times 10.5' \times 6/12 \div 27 = 17$ CU. YDS.

ITEM 403 - ASPHALT CONCRETE, AC 20
$\frac{85\ L.F. \times 10' \times 1.75/12}{27} = 5$ CU. YDS.

ITEM 404 - ASPHALT CONCRETE, AC 20
$\frac{85\ L.F. \times 10' \times 1.25/12}{27} = 3$ CU. YDS.

ITEM 407 - TACK COAT
$\frac{85\ L.F. \times 10' \times 0.075}{9} = 7$ GAL.

ESTIMATED QUANTITIES

REF NO.	STATION TO STATION (* RAMP E-3, ** RAMP E-4)	SIDE	202 G.R. REM. L.F.	202 APPR SLAB REM. S.Y.	202 CONC. BARR. REM. L.F.	202 WEAR. COURSE REMOVE S.Y.	203 SUB-GRADE COMP. S.Y.	622 CONC. TRANS. BARRIER (TYPE W) AS PER PLAN E.A.	622 CONC. TRANS. BARRIER (TYPE X) AS PER PLAN E.A.		304 6" AGG. BASE A.P.P. C.Y.	404 ASPH. CONC. C.Y.	606 G.R. TYPE 5 L.F.	606 BR. TERM. ASS'Y TYPE 1 EA.	606 BR. TERM. ASS'Y TYPE 2 EA.	606 6" CONC. WALK AS PER PLAN S.F.	606 ANCHOR ASS'Y TYPE T	802 BARRIER REFLECTOR, TYPE A EA.	SPEC. PRESS RELIEF JOINT TYPE C L.F.	605 6" SHALLOW PIPE UNDERDRAIN W/ FABRIC WRAP L.F.	SEE SHT. NO.
R-1	5+70 - 6+82 *	RT.	112.5																		
R-2	0+45 - 0+59 **	RT.	14																		
R-3	54+65.78-54+90.78	LT & RT.		300	25		376				63										
R-4	6+63 - 6+73					34						1									
R-5	54+65.78-54+75.78	LT & RT.				114						3									
GR-1	5+70 - 6+69 *												74	1				4			
GR-2	0+45 - 0+59 **												0				1	3			
B-1	6+65 - 6+90 **								1												33B
B-2	0+33 - 0+58 *							1													33A
J-1	56+00	LT & RT.																	115		
J-2	5+70 *	LT.																	25		
W-1	6+82 - 6+90 *	RT.														39					6
W-2	0+33 - 0+45 **	RT														48					6
U-1	6+61.94 - 6+86.94 *	RT																		25	
U-2	0+33.96 - 0+59.97 **	RT																		25	
TOTALS			126.5	300	25	148	376	1	1		63	4	74	1		87	1	7	140	50	

INNERBELT FREEWAY

PLAN & PROFILE STA. 54+00 TO STA. 59+00

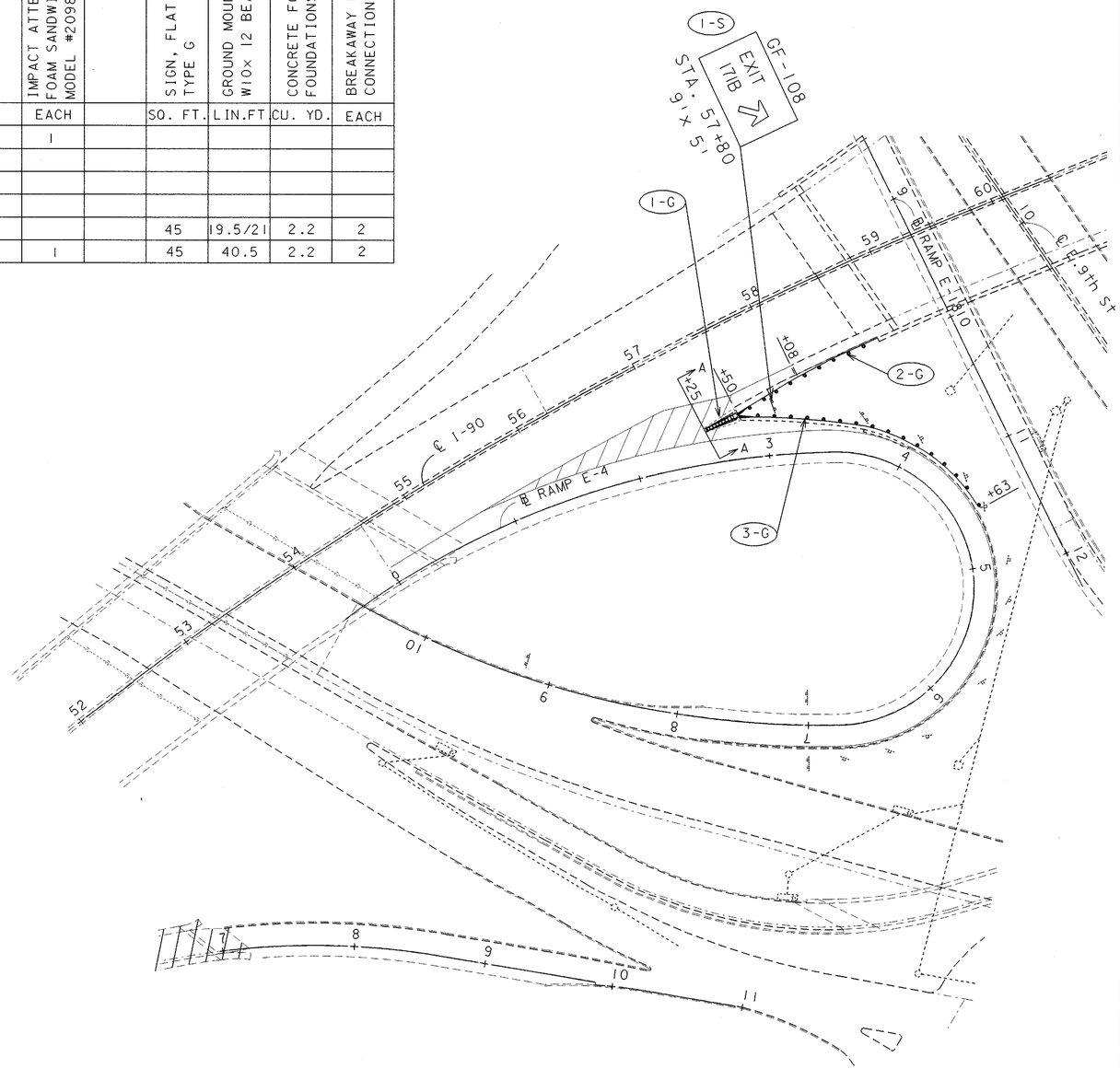
ESTIMATED QUANTITIES

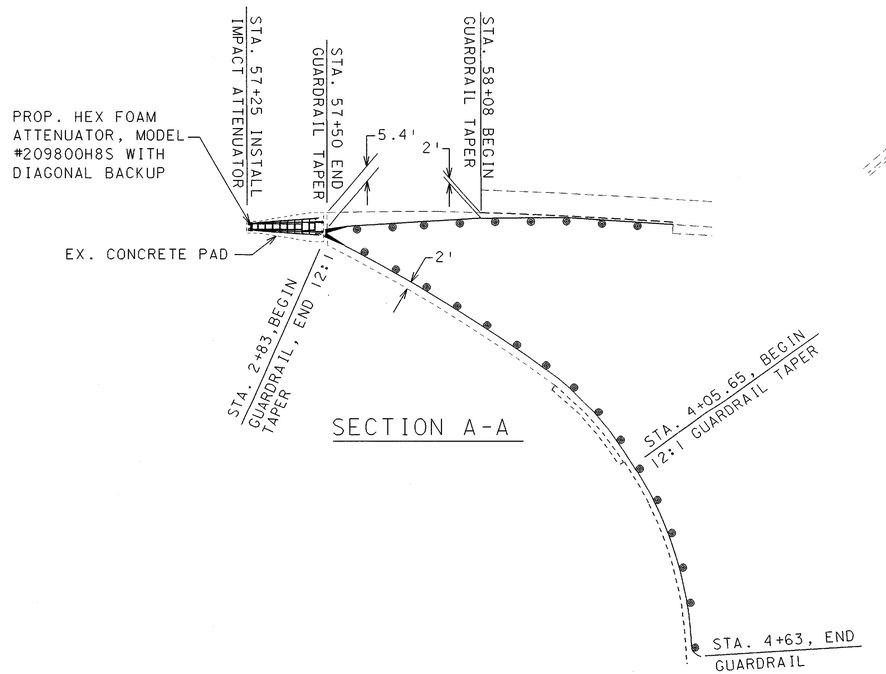
REF. NO.	STATION FROM	STATION TO	SIDE	203 LINEAR GRADING		448 ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE I (UNDER GUARDRAIL), AS PER PLAN		606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE A	606 ANCHOR ASSEMBLY, TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE 3		SPEC IMPACT ATTENUATOR, HEX FOAM SANDWICH SYSTEM, MODEL #209800H8S		630 SIGN, FLAT SHEET TYPE G	630 GROUND MOUNTED SUPPORTS, W10x 12 BEAM	630 CONCRETE FOR EMBEDDED FOUNDATIONS	630 BREAKAWAY BEAM CONNECTION
				STA.		SQ. YD.		LIN.FT.	EACH	EACH	LIN.FT.		EACH		SQ. FT.	LIN.FT	CU. YD.	EACH
1-G	57+25	57+50	RT.										1					
2-G	57+50	58+76	RT.	1.3		200		100	1		1							
3-G	2+83	4+63	LT.	1.8		188		162.5	1	1								
1-S	57+80														45	19.5/21	2.2	2
TOTALS				3.1		388		262.5	2	1	1		1		45	40.5	2.2	2

QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY SHEETS 24-25.

SEE TRAFFIC CONTROL PLAN SHEETS 48-49 FOR SIGNING AND PAVEMENT MARKING DETAILS.

WORK TO BE PERFORMED AT THE END OF MAINTENANCE OF TRAFFIC PHASE V.





SECTION A-A

CALCULATED LGM
CHECKED ENF

SCALE IN FEET 0 50 100

PLAN SHEET
STA. 0+00 ℄ RAMP E-4 TO STA. 10+00 ℄ RAMP E-4

CUYAHOGA COUNTY
CUY-90-15.99

27A
151

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DATE	CUYAHOGA COUNTY	OHIO
DATE	CUY-90 · 15.99	F.H.W.A. REGION 5
DATE	INNERBELT FREEWAY	

28
151

SEEDING		END AREA		VOLUME	
SQ. YDS.		CUT	FILL	CUT	FILL
	110				
	100				
	90				
	80				
	70				
	60				
	50				
	40				
	30				
	20				
	10				
	0				

℄ RAMP E-3

3:1

690

STA. 56+00
689.79

695

690

15 12

31 11

STA. 55+50
689.88

STA. 55+50, BEGIN PERMANENT PAVEMENT
STA. 55+50, END TEMPORARY PAVEMENT

18 0

12• 0•

695

690

35 0
20• 0•

20 0
10• 0•

STA. 55+00
690.18

TEMPORARY PAVEMENT, CLASS A

17 0
17• 0•

695

690

STA. 54+69, BEGIN EARTHWORK FOR PERMANENT PAVEMENT

10 0

8• 0•

STA. 54+50
690.78

NOTE:
EXCAVATION FOR THE APPROACH SLAB IS BASED ON THE AREA OF THE PROPOSED APPROACH SLAB. SEE PLAN & PROFILE FOR QUANTITIES ON SHT. 27.

12• 0•

STA. 54+50
BEGIN EARTHWORK FOR TEMPORARY PAVEMENT, CLASS A

5• 0•

℄ RAMP E-3

695

690

STA. 54+00
691.69 (EXIST.)

LEGEND

▨ EXCAVATION FOR TEMPORARY PAVEMENT, CLASS A

• EARTHWORK QUANTITIES FOR TEMPORARY PAVEMENT, CLASS A (FOR INFORMATION ONLY)

STA. 54+69

INNERBELT FREEWAY

CROSS SECTIONS STA. 54+00 TO STA. 56+00

CALC	CUYAHOGA COUNTY	OHIO
DAT	CUY-90-15.99	F.H.W.A.
CHK	INNERBELT FREEWAY	REGION 5
DATE		

29
151

SECTIONS

END WIDTH	SQ. YDS.
5	
	28
5	
	28
5	
	103
32	
	161
26	
	111
14	

110 100 90 80 70 60 50 40 30 20 10

℄ RAMP E-5

690

STA. 58+50

℄

690

STA. 58+00

℄

695

690

STA. 57+50

℄

695

690

3:1

STA. 57+00
690.55

℄ RAMP E-5

695

690

3:1

STA. 56+50
689.94 (EXIST.)

56+00 110 100 90 80 70 60 50 40 30 20 10 0 STA. 56+00

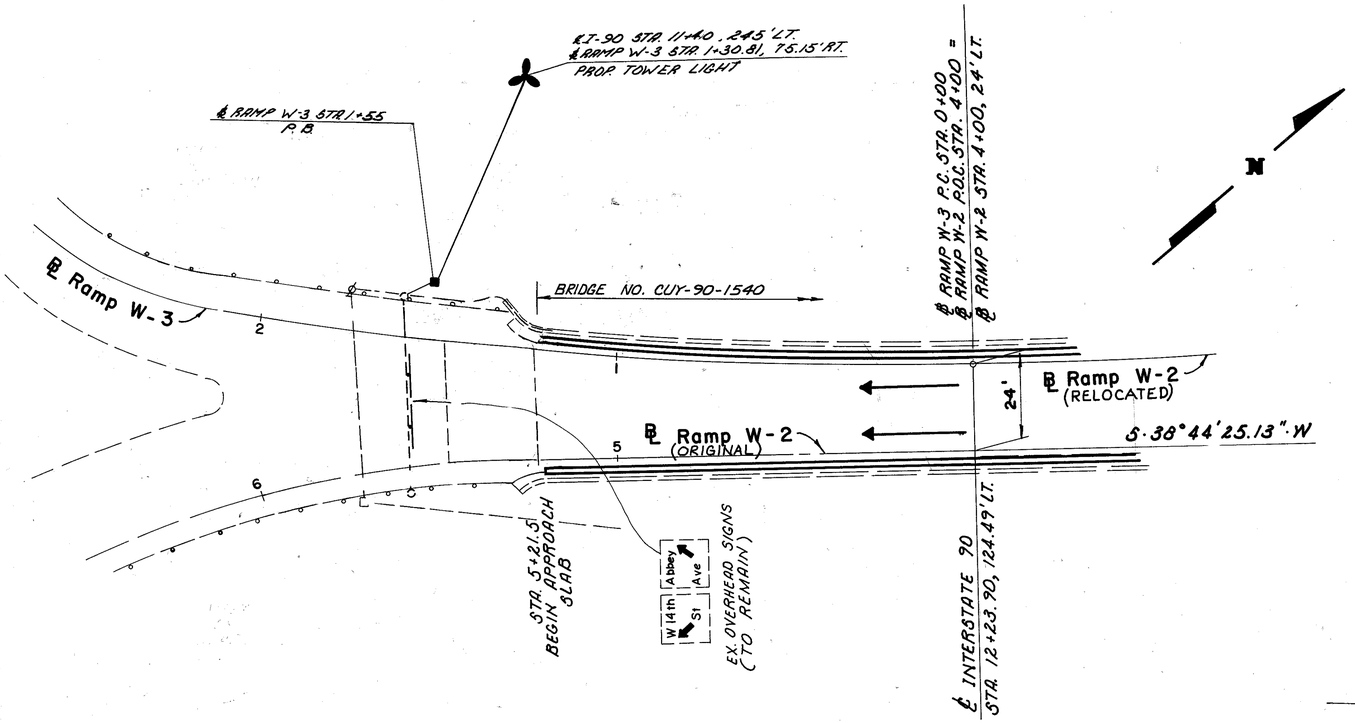
	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA. 58+70 END EARTHWORK FOR PERMANENT PAVEMENT	13	0		
			10	0
	13	0		
			24	0
	13	0		
			27	0
	16	0		
			28	19
	14	20		
			24	61
	12	46		
			25	54
	15	12		

INNERBELT FREEWAY

CROSS SECTIONS STA. 56+50 TO STA. 58+50

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.99	F.H.W.A. REGION 5
CHKD	INNERBELT FREEWAY	
DATE		

30/151

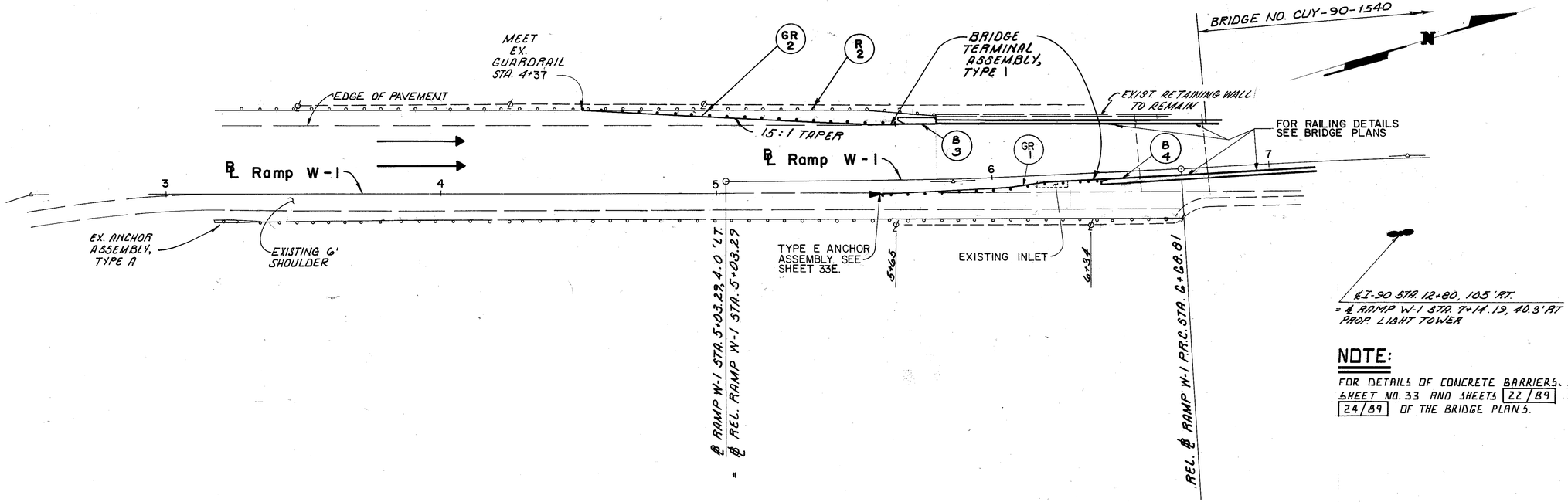


ESTIMATED QUANTITIES

REF. NO.	LOCATION	SIDE	202 GUARDRAIL REMOVED	606 ANCHOR ASSEMBLY (TYPE E)	606 BRIDGE TERMINAL ASSEMBLY TYPE 1	606 BRIDGE TERMINAL ASSEMBLY TYPE 2	606 GUARDRAIL, TYPE 5	802 BARRIER REFLECTOR, TYPE A		622 CONCRETE TRAFFIC BARRIER (TYPE 2) AS PER PLAN
			LF.	EA.	EA.	EA.	L.F.	EA.		EA.
GR-1	● 5+55.5 – ● 6+43	RT.		1	1		37.5	6		
GR-2	● 4+37 – ● 5+71	LT.			1		109	4		
R-2	● 4+37 ● 5+76	LT.	139							
B-3	● 5+67 – ● 5+81	LT.								1
B-4	● 6+39 – ● 6+53	RT.								1
	TOTAL		139	1	2		146.5	10		2

● RAMP W-1
●● RAMP W-2
●●● RAMP W-3

℄ N 17°44'25.13" E
INTERSTATE 90

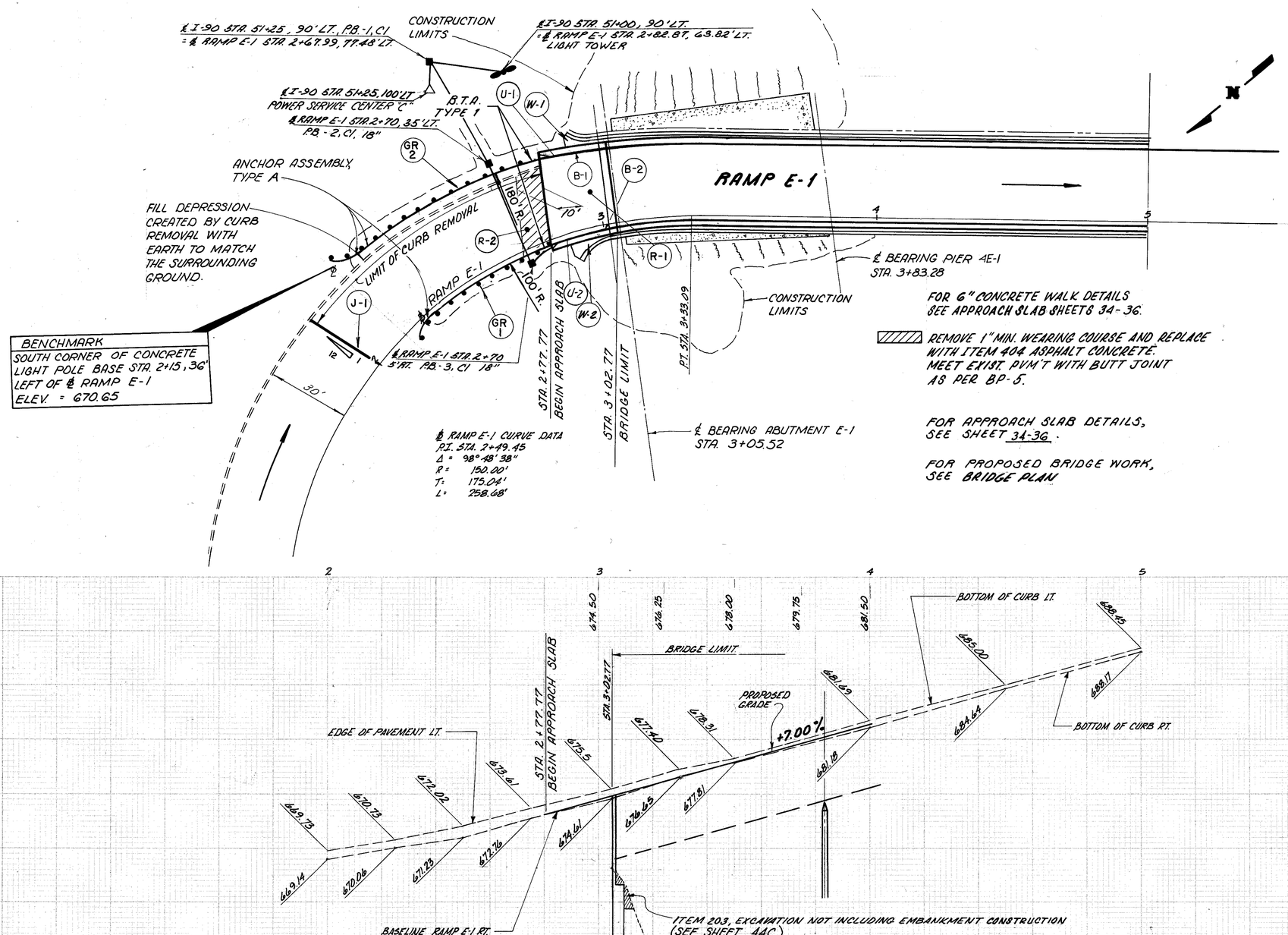


NOTE:

FOR DETAILS OF CONCRETE BARRIERS, SEE SHEET NO. 33 AND SHEETS 22/89 AND 24/89 OF THE BRIDGE PLANS.

INNERBELT FREEWAY

RAMP W-1, W-2 & W-3 PLAN



STA.	TO STA.		
EXCAVATION		25	CU. YD. FOR APPROACH SLAB
EMBANKMENT			CU. YD
SEEDING			SQ. YD

ESTIMATED QUANTITIES

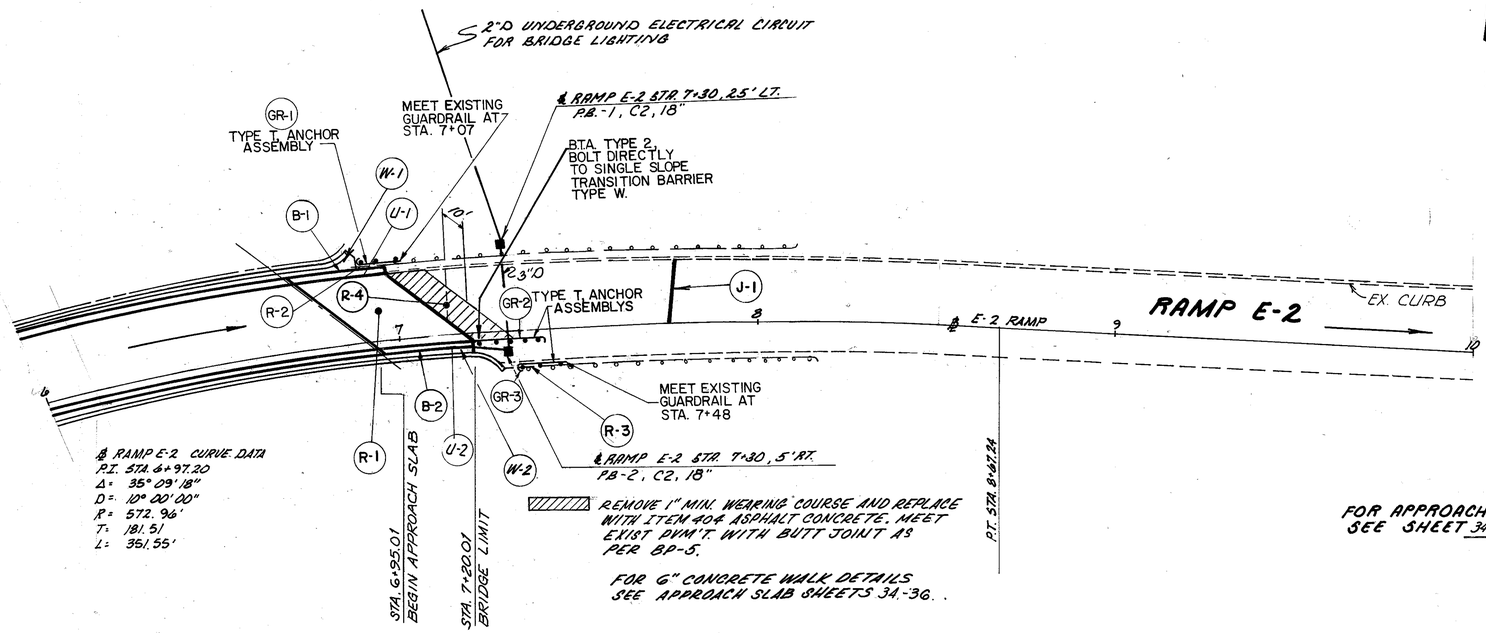
REF. NO.	STATION TO STATION	SIDE	202 APPR. SLAB, REM. S.Y.	203 SUB-GRADE COMP. S.Y.	304 6" AGG. BASE A.PP C.Y.	202 CURB REMOVE S.Y.	202 G.R. TYPE S L.F.	202 ANC. ASS'Y TYPE A EA.	202 GR. TERM. ASS'Y TYPE 1 EA.	608 6" CONC. WALK, A.PP S.F.
A-1	2+60.52 - 3+05.52	LT. & RT.	85	96	16	36				
A-2	2+70.52 - 2+80.52	LT. & RT.								
B-1	2+77.77 - 3+02.77	RT.					25	1	1	53
B-2	2+77.77 - 3+02.77	LT.					30	1	1	51
GR-1	2+12.5± - 2+80.52	RT.								
GR-2	2+87.5 - 2+80.52	LT.								
J-1	2+00	LT.								
W-1	2+92.02 - 3+05.52	LT.								
W-2	2+91.02 - 3+05.52	RT.								
U-1	2+77.77 - 3+02.77	RT.								
U-2	2+77.77 - 3+02.77	LT.								
TOTALS			85	96	16	36	25	2	2	104

SEE SHT. NO.	605 6" SHALLOW PIPE UNDERDRAIN W/ FABRIC WRAP L.F.	202 CURB REM L.F.	802 BARRIER REFLECTOR, TYPE A EA.	622 CONC. BARRIER (TYPE X) AS PER PLAN TRANS. EA.	404 ASPH. CONC C.Y.	SPEC. PRESS. RELIEF JOINT TYPE C L.F.
33B	25	125	2	—	1	30
33B	25		3			
6	50	125	5	2	1	30
6						

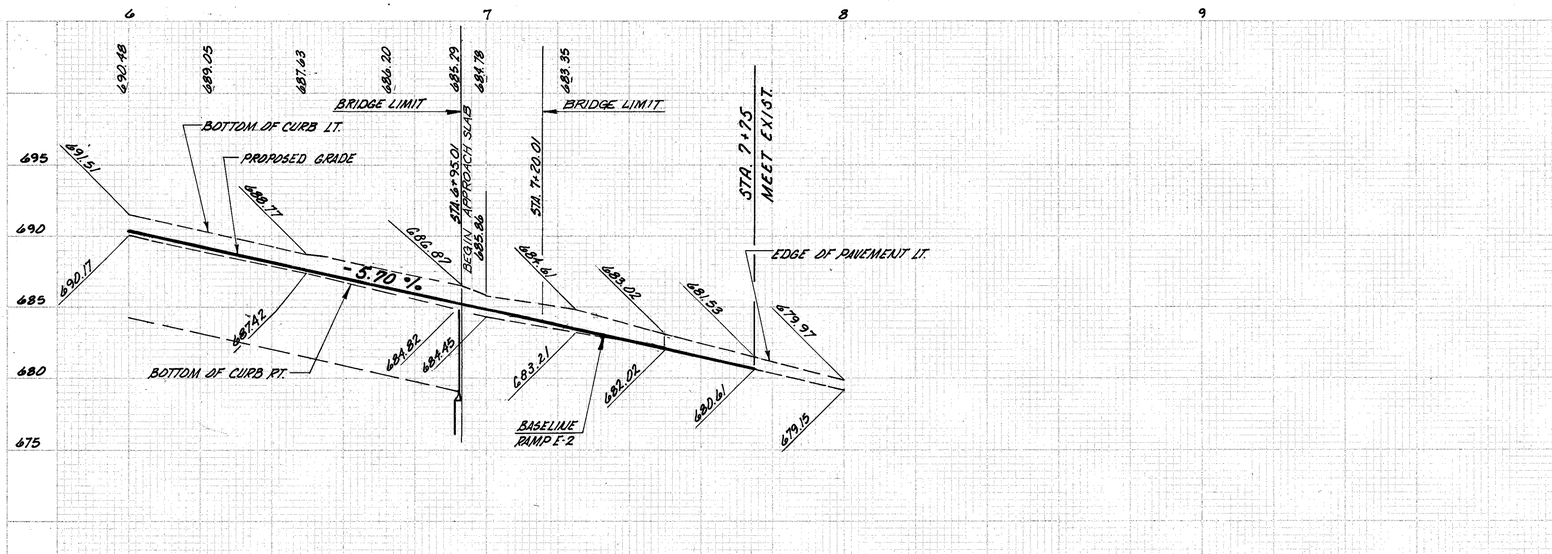
RAMP E-1 PLAN & PROFILE STA. 2+00 TO STA. 5+00

INTERBELT FREEWAY

CALC. DATE
CHKD. DATE
CUYAHOGA COUNTY
CUY.-90-15.99
INNERBELT FREEWAY
OHIO
F.H.W.A. REGION 5
32
151



FOR APPROACH SLAB DETAILS, SEE SHEET 34-36.



STA.	TO STA.		
EXCAVATION		15	CU. YD. FOR APPROACH SLAB
EMBANKMENT			CU. YD.
SEEDING			SQ. YD.

ESTIMATED QUANTITIES

REF NO.	STATION TO STATION	SIDE	202 APP. SLAB REM. S.Y.	202 G.R. REM. L.F.	WEARING COURSE REMOVE S.Y.	203 SUB-GRADE COMP. S.Y.	CONC. TRANS. BARRIER (TYPE SS) AS PER PLAN EA. 622	6" AGG. BASE C.Y. 304	ASPH. CONC. C.Y. 404	G.R. TYPE S L.F.	ANC. ASSY. TYPE T EA.	BR. TERM. ASSY. TYPE 2 EA.	S.C. CONC. WALK AS PER PLAN S.F. 608	SPECIAL JOINT TYPE C PREF. REL. L.F.	6" SHALLOW PIPE UNDERDRAIN W/ FABRIC WRAP L.F. 605	SEE SHT NO.
R-1	6+97 - 7+14	LT. & RT.	47			68		11	1							
R-2	6+89 - 8+14 ±	LT.		125											25	33A
R-3	7+30 - 8+17	RT.		855	43										25	33A
R-4	7+16 - 7+26	LT. & RT.												17		
B-1	6+76 - 7+01	LT.					1									
B-2	6+95.01 - 7+20.01	RT.					1									
GR-1	6+93 - 7+07	LT.									1	1				
GR-2	7+18 - 7+46	RT.									1	1				
GR-3	7+34 - 7+48	RT.									1	1				
J-1	7+25	LT.											40		G	
W-1	6+89 - 6+98	LT.											70		G	
W-2	7+16 - 7+26	RT.														
U-1	6+76 - 7+01	LT.														
U-2	6+95.01 - 7+20.01	RT.														
TOTALS			47	212523		68	2	11	1		4	2	110	17	50	

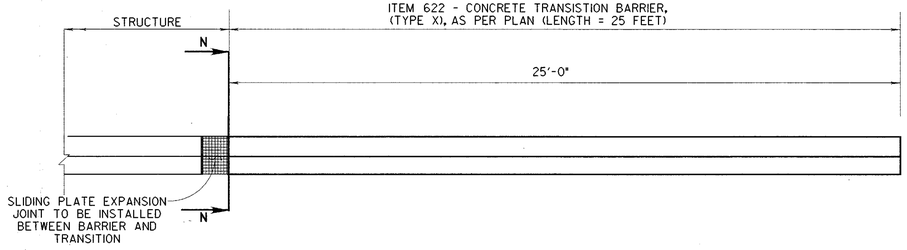
INNERBELT FREEWAY

RAMP E-2 PLAN & PROFILE STA. 6+00 TO STA. 10+00

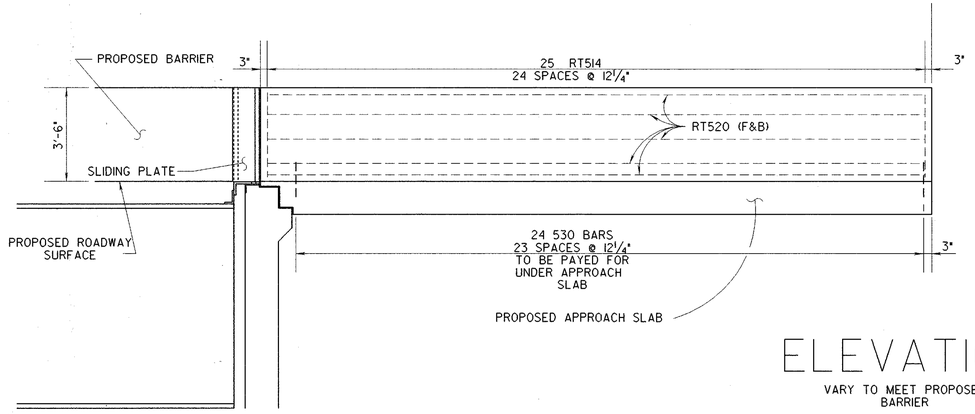
A-C-L form no. P&P-1

CONCRETE TRANSISTION BARRIER
(TYPE W)

CUYAHOGA COUNTY	OHIO	33A
CUY-90-15.24	FHWA REGION 5	151
INNERBELT FREEWAY	FEDERAL PROJECT	

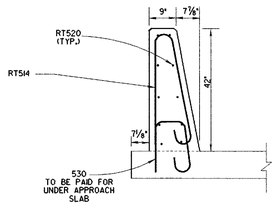


PLAN



ELEVATION

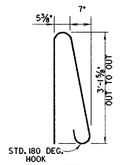
VARY TO MEET PROPOSED BARRIER



SECTION N-N

REINFORCING BAR LIST

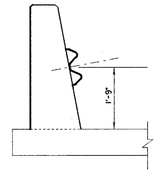
MARK	NO.	LENGTH	TYPE
RT514	10	7'-1"	BT
RT520	8	24'-6"	STR.



RT514

ALL REBAR SHALL MAINTAIN A 2 INCH MINIMUM COVER.

NO DRAINAGE SLOTS LOCATED IN TRANSISTION SECICTIONS.



ON THE SOUTH SIDE OF THE APPROACH SLAB AT RAMP E-2, A TYPE 2 B.T.A. SHALL BE INSTALLED. SEE STANDARD DRAWING GR-3.2 FOR DETAILS. BOLT THE BTA DIRECTLY TO THE SLOPED BARRIER AND TRANSISTION THE GUARDRAIL TO THE VERTICLE POSITION. THE BOLT PLATE MAY BE FEILD DRILLED TO ADJUST FOR DIFFERENCES IN BOLT SPACING

SHEET

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

TRANSITION BARRIER (TYPE W)

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

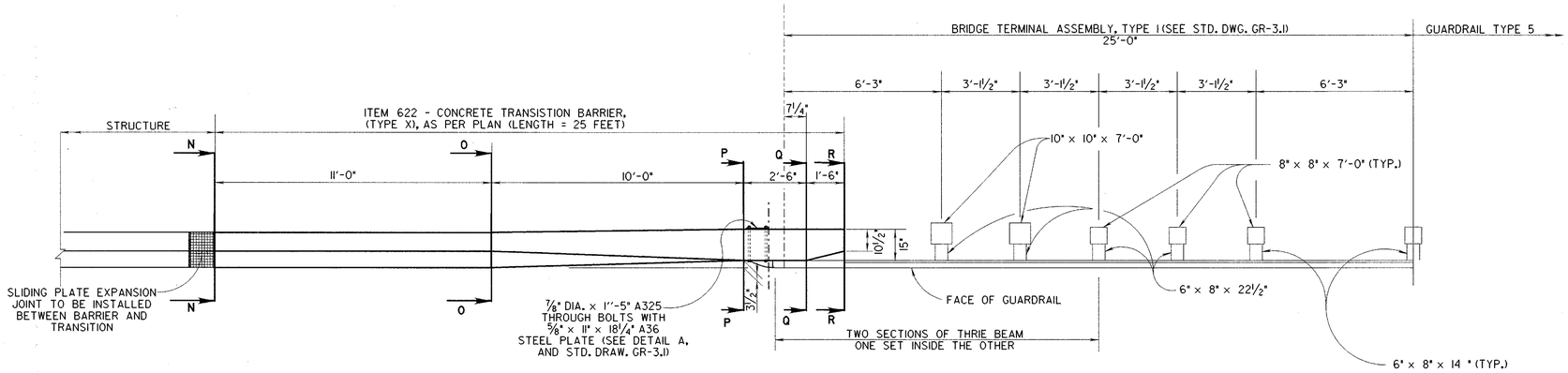
DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM		DATE	SHEET

C:\DGN\JC901524\JEFF.DGN

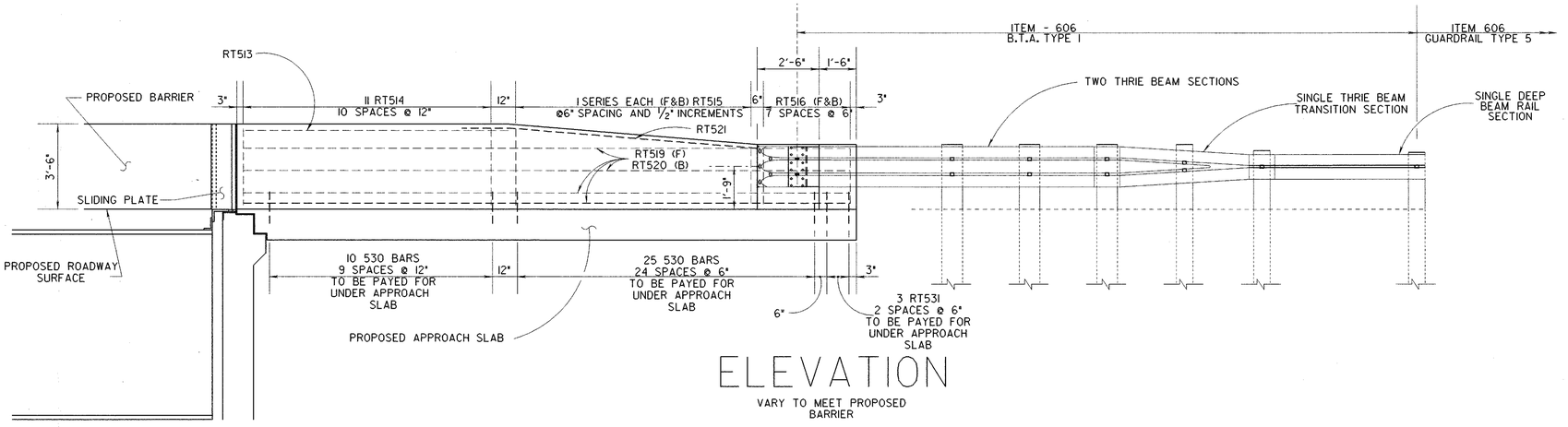
CUYAHOGA COUNTY	OHIO
CUY-90-15.24	FHWA REGION 5
INNERBELT FREEWAY	FEDERAL PROJECT

33B / 151

CONCRETE TRANSISTION BARRIER (TYPE X)



PLAN

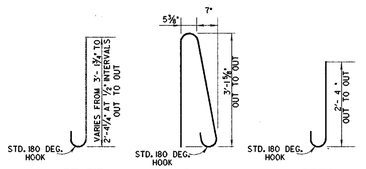


ELEVATION

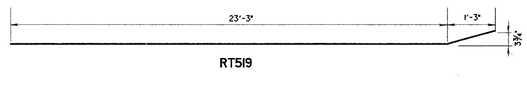
VARY TO MEET PROPOSED BARRIER

REINFORCING BAR LIST

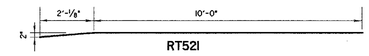
MARK	NO.	LENGTH	TYPE
RT513	2	10'-9"	STR.
RT514	10	7'-1"	BT
RT515	34	3'-8¾" / 2'-11¼"	TWO SERIES OF HOOKS F&B
RT516	2	2'-11"	HOOK
RT519	3	24'-6½"	BT
RT520	3	24'-6"	STR.
RT521	2	12'	BT



RT 515 RT514 RT516



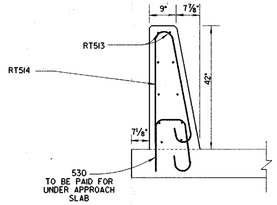
RT519



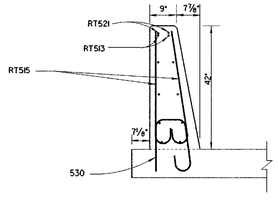
RT521

ALL REBAR SHALL MAINTAIN A 2 INCH MINIMUM COVER.

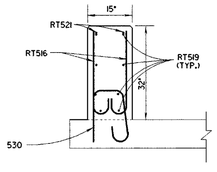
NO DRAINAGE SLOTS LOCATED IN TRANSISTION SECICTIONS.



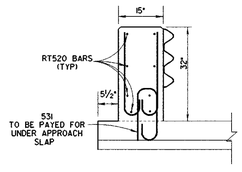
SECTION N-N



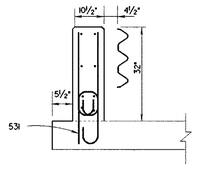
SECTION O-O



SECTION P-P



SECTION Q-Q



SECTION R-R

SHEET

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

TRANSITION BARRIER (TYPE X)

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM		DATE	SHEET

C:\DGN\JC90524\JEFF.DGN

CONCRETE TRANSITION BARRIER (TYPE Y)

AREA OF EXISTING CONCRETE TO BE REMOVED (NOTE: DO NOT REMOVE ANY BACKWALL CONCRETE OR WINGWALL FOOTING CONCRETE.)

AREA OF EXISTING ASPHAULT TO BE REMOVED

ALL REBAR BELOW GROUND LEVEL SHALL MAINTAIN A 3 INCH MINIMUM COVER
ALL OTHER REBARS SHALL MAINTAIN A 2 INCH MINIMUM COVER.

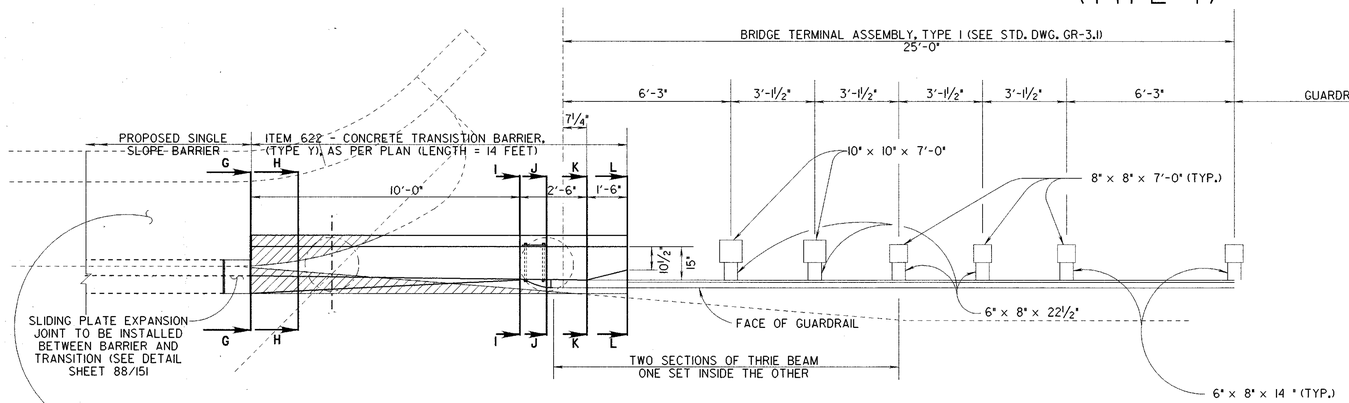
ALL REMOVAL ASSOCIATED WITH THIS DETAIL SHALL BE PAID FOR AS PER ITEM 622 CONCRETE TRANSISION BARRIER (TYPE Y), AS PER PLAN.

NO DRAINAGE SLOTS LOCATED IN TRANSISTION SECICTIONS.

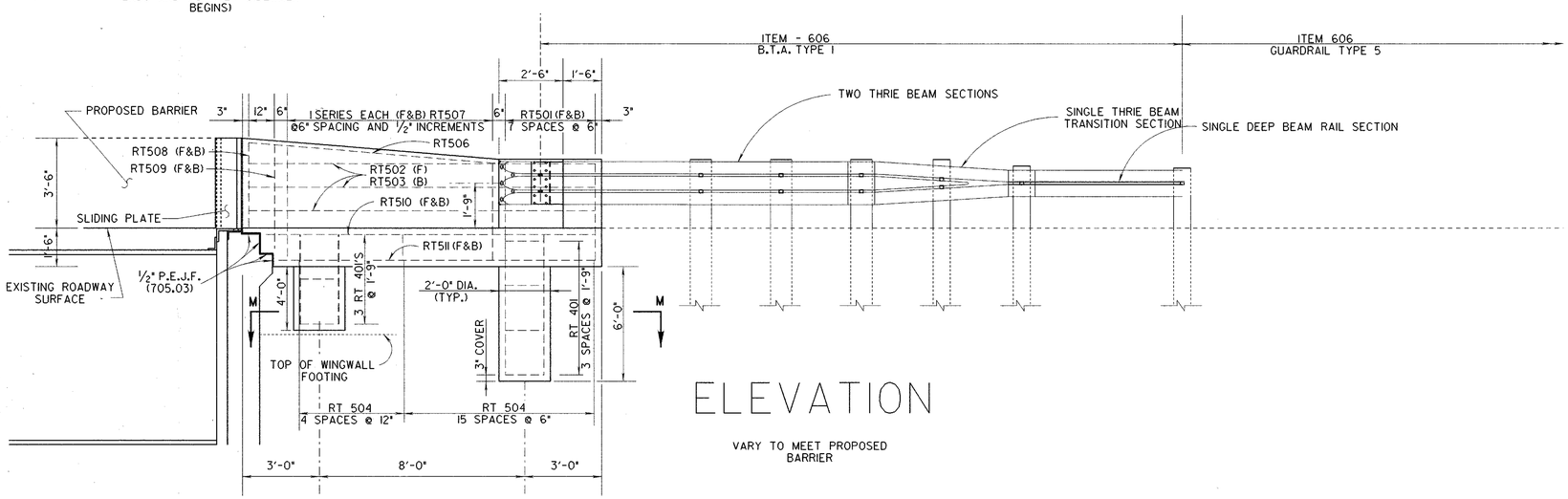
CUYAHOGA COUNTY
CUY-90-15.24
INNERBELT FREEWAY

OHIO
FHWA REGION 5
FEDERAL PROJECT

33C
151



PLAN

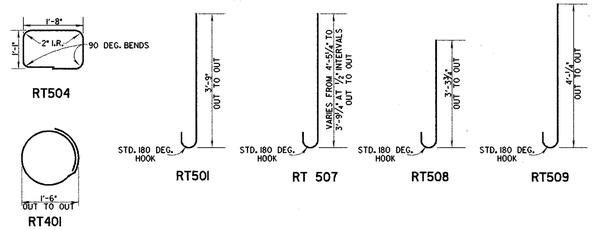


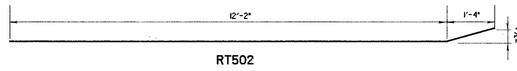
ELEVATION

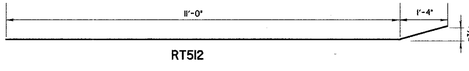
VARY TO MEET PROPOSED BARRIER

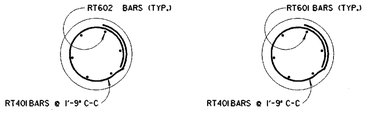
REINFORCING BAR LIST

MARK	NO.	LENGTH	TYPE
RT401	7	6'-0"	BT
RT501	16	4'-4"	HOOK
RT502	3	13'-6⅜"	BT
RT503	3	13'-6"	STR.
RT504	20	4'11⅞"	BT
RT506	2	9'-9⅝"	STR.
RT507	34	4'-4⅛" / 5'- ⅛"	TWO SERIES OF HOOKS F&B
RT508	2	3'-10¾"	HOOK
RT509	2	4'-7¼"	HOOK
RT510	2	12'-10"	STR.
RT511	3	12'-4"	STR.
RT512	1	12'-4⅜"	BT
RT601	6	5'-6"	STR.
RT602	6	3'-6"	STR.

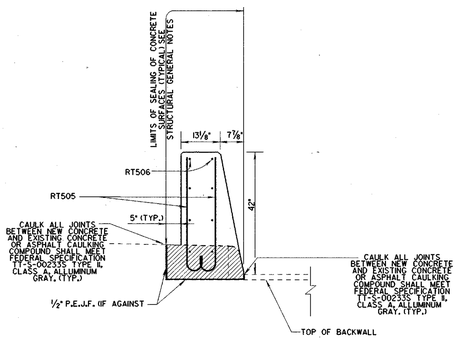








SECTION M-M



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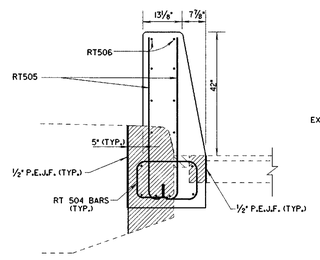

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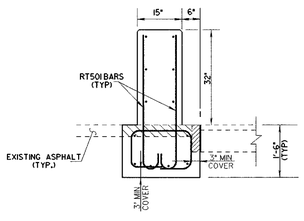
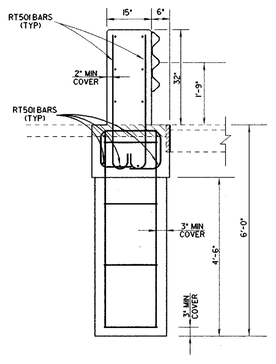
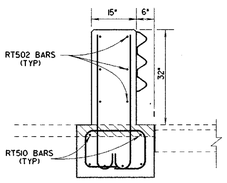


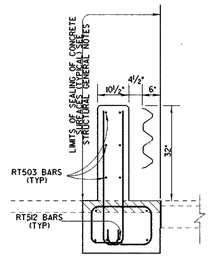
SECTION I-I



SECTION J-J



SECTION K-K



SECTION L-L

SHEET

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

TRANSITION BARRIER (TYPE Y)

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

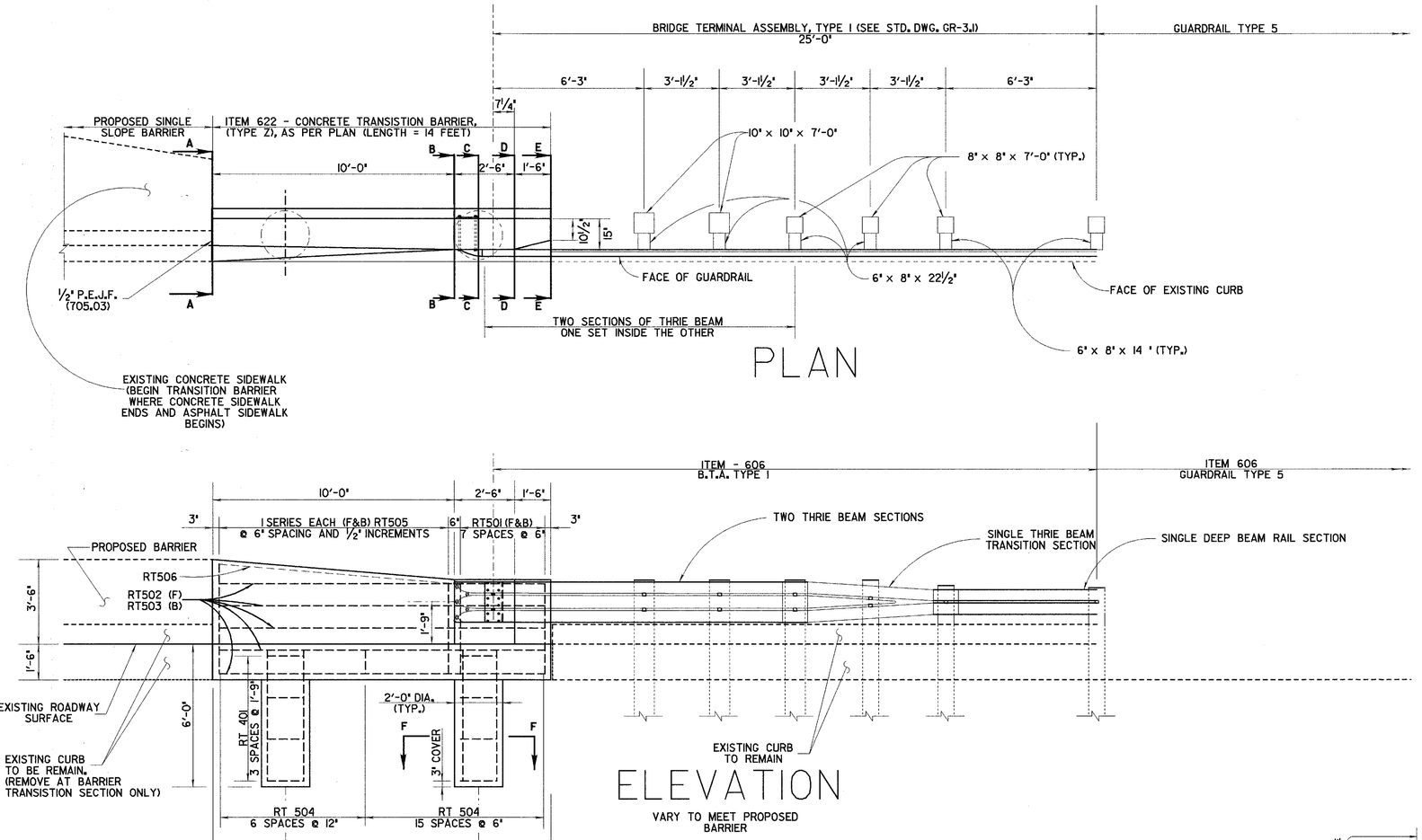
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

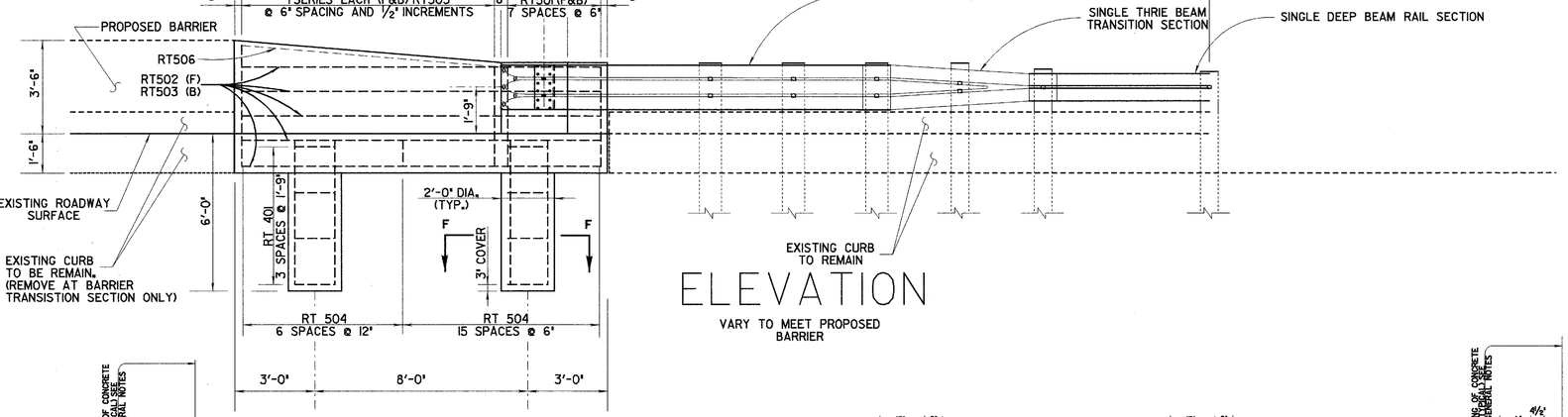
DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM		DATE	SHEET

C:\DGN\JC90524\JEFF.DGN

CONCRETE TRANSITION BARRIER (TYPE Z)

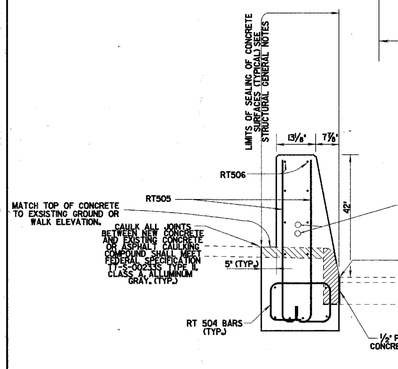


PLAN

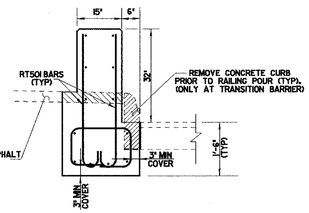


ELEVATION

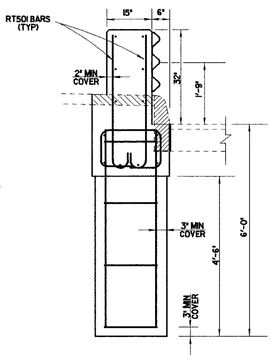
VARY TO MEET PROPOSED BARRIER



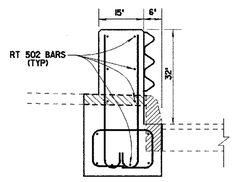
SECTION A-A



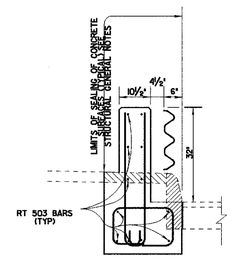
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

CUYAHOGA COUNTY CUY-90-15.24 INNERBELT FREEWAY	OHIO FHWA REGION 5 FEDERAL PROJECT	33D 151

AREA OF EXISTING CONCRETE TO BE REMOVED (NOTE: DO NOT REMOVE ANY BACKWALL CONCRETE OR WINGWALL FOOTING CONCRETE.)

AREA OF EXISTING ASPHAULT TO BE REMOVED

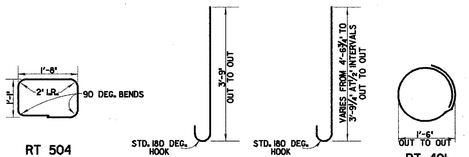
ALL REBAR BELOW GROUND LEVEL SHALL MAINTAIN A 3 INCH MINIMUM COVER
ALL OTHER REBARS SHALL MAINTAIN A 2 INCH MINIMUM COVER.

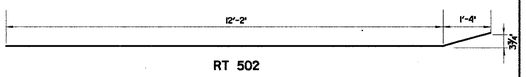
ALL REMOVAL ASSOCIATED WITH THIS DETAIL SHALL BE PAID FOR AS PER ITEM 622 CONCRETE TRANSISION BARRIER (TYPE Z), AS PER PLAN.

NO DRAINAGE SLOTS LOCATED IN TRANSISTION SECICTIONS.

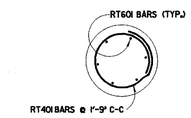
REINFORCING BAR LIST

MARK	NO.	LENGTH	TYPE
RT401	8	6'-0"	BT
RT501	16	4'-4"	HOOK
RT502	4	13'-6⅜"	BT
RT503	8	13'-6"	STR.
RT504	22	4'11⅞"	BT
RT505	40	4'-4⅛" 5'-1⅝"	TWO SERIES OF HOOKS F&B
RT506	2	9'-9¾"	STR.
RT601	12	5'-6"	STR.





RT 502



SECTION F-F

SHEET

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

TRANSITION BARRIER (TYPE Z)

INNERBELT FREEWAY

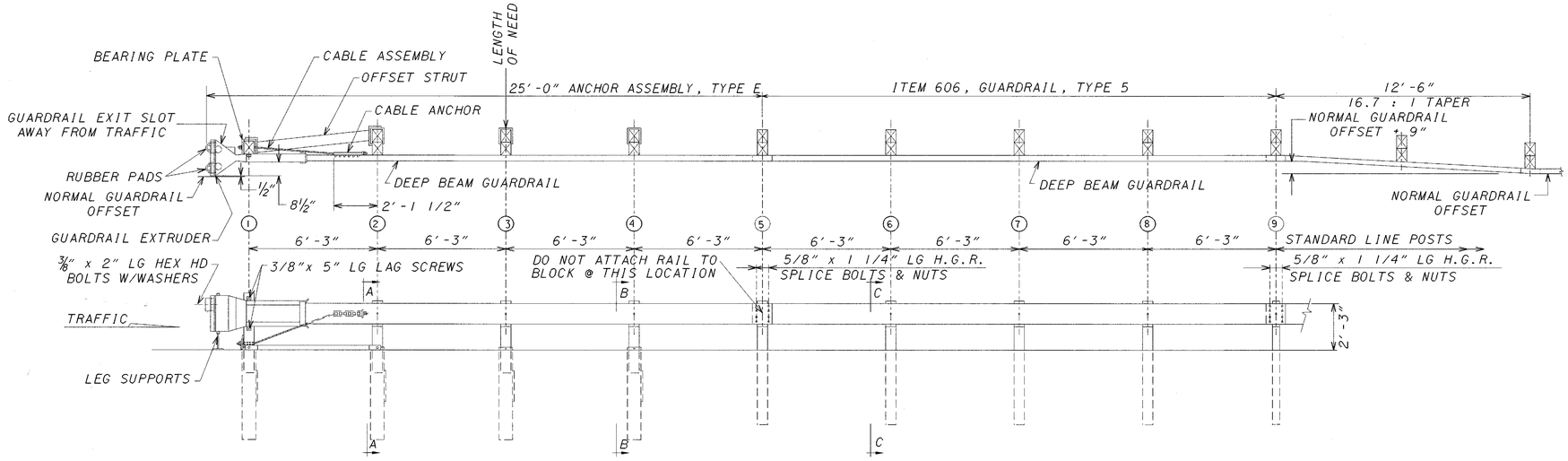
BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM		DATE	SHEET

C:\DGN\JC901524\JEFF.DGN

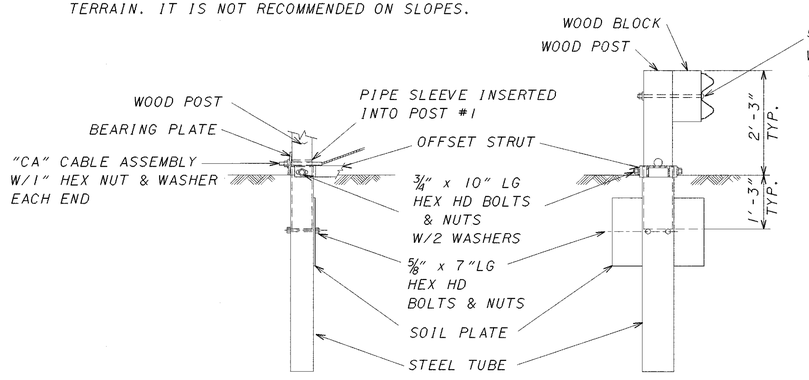
CUYAHOGA COUNTY CUY-90-15.24 INNERBELT FREEWAY	OHIO FHWA REGION 5 FEDERAL PROJECT	33E 151



NOTES: 1.) THE 5/8" FLAT WASHER IS USED UNDER THE NUT, BEHIND THE POST ONLY, NO WASHER IS USED AT THE RAIL.

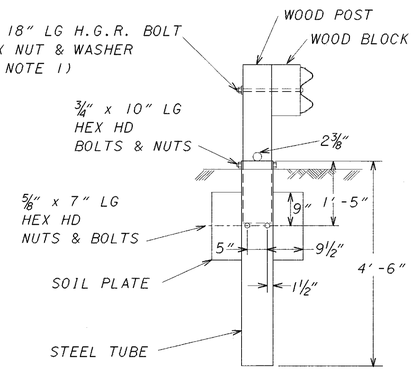
2.) THE BREAKWAY POST @ LOCATIONS * 5, 6, 7, & 8 MAY BE AS SHOWN OR MAY UTILIZE POSTS AS SHOWN WITH FOUNDATION TUBES.
POST @ LOCATIONS *1, 2, 3, &4 MUST USE FOUNDATION TUBES.

3.) TYPE E WAS TESTED ON FLAT & LEVEL TERRAIN. IT IS NOT RECOMMENDED ON SLOPES.

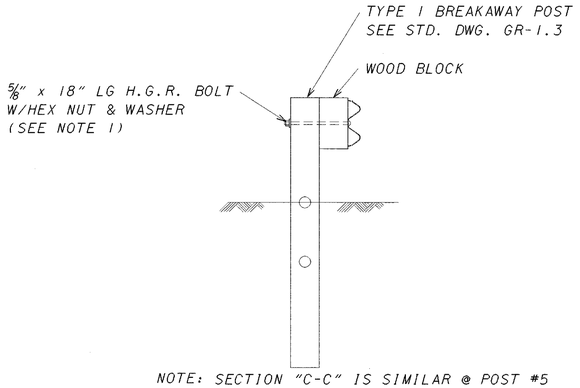


PARTIAL VIEW @ POST #1

SECTION "A-A"
(TYP @ POST #2)



SECTION "B-B"
(TYP @ POSTS #3 & 4)



NOTE: SECTION "C-C" IS SIMILAR @ POST #5 EXCEPT RAIL IS NOT ATTACHED.

SECTION "C-C"
(TYP @ POSTS #6, 7 & 8)

SHEET

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

TYPE E ANCHOR ASSEMBLY DETAILS
INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
KAS	KAS	LDH	DATE	SHEET

CALC. T.M.J. DATE 12/93	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY – 90 – 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

ABUTMENT NO. 1B

MARK	NUMBER REQUIRED PH. IA	PH. IB	PH. II	PH. III	PH. IV	PH. V	TOTAL NUMBER REQUIRED	LENGTH ft	in	TYPE	DIM A ft	in	DIM B ft	in	DIM C ft	in	DIM D ft	in	INCREMENT ft	in	TOTAL WEIGHT (lbs.)	PHASE IA WEIGHT (lbs.)	PHASE IB WEIGHT (lbs.)	PHASE II WEIGHT (lbs.)	PHASE III WEIGHT (lbs.)	PHASE IV WEIGHT (lbs.)	PHASE V WEIGHT (lbs.)
AS1B 501	10	22	14	45	14	28	133	24	6	STR.											3399	256	562	358	1150	358	715
AS1B 502				54		51	105	30	0	STR.											3285				1689		1596
AS1B 503			1 SER.				1 SER.	18	9	STR.									0′-0	3/16″	694			694			
			35 BARS				35 BARS	19	3																		
AS1B 504			1 SER.				1 SER.	18	9	STR.									0′-0	3/8″	317			317			
			16 BARS				16 BARS	19	3																		
AS1B 505		20		10			30	5	0	STR.											156		104		52		
AS1B 506				51			51	26	8	STR.											1418				1418		
AS1B 507						51	51	6	5	STR.											341						341
AS1B 508		26					26	6	6	39											176		176				
AS1B 509		26					26	9	10	23	0	10.5	3	10	0	5	0	10			267		267				
AS1B 511				15		15	30	3	4	24	0	8	0	6	0	8.5	1	1			104				52		52
AS1B 512				7		7	14	2	7	4	0	10.5	1	10							38				19		19
AS1B 513				7		7	14	5	3	34											78				39		39
AS1B 514				12		12	24	4	2	4	0	10.5	3	5							104				52		52
AS1B 515				8		8	16	3	0	1	1	2	5								50				25		25
AS1B 517				4		4	8	12	8	STR.											106				53		53
AS1B 518				2		2	4	13	8	STR.											58				29		29
AS1B 519				2		2	4	13	8	40											58				29		29
AS1B 520	1 SER.						1 SER.	11	11	STR.									0′-0	5/16″							
	35 BARS						35 BARS	12	9																		
AS1B 521	1 SER.						1 SER.	11	11	STR.									0′-0	11/16″	450		450				
	16 BARS						16 BARS	12	9																		
AS1B 522		1 SER.					1 SER.	13	9	STR.									0′-0	1/4″	206		206				
	35 BARS						35 BARS	14	5																		
AS1B 523		1 SER.					1 SER.	13	9	STR.									0′-0	9/16″	514			514			
		16 BARS					16 BARS	14	5																		
AS1B 524					1 SER.		1 SER.	19	4	STR.									0′-0	1/8″	235			235			
					35 BARS		35 BARS	19	9																		
AS1B 525					1 SER.		1 SER.	19	4	STR.									0′-0	5/16″	713					713	
					16 BARS		16 BARS	19	9																		
AS1B 1001	20	22	30	83	30	53	238	25	11	1	1	24	6								26542	2230	2453	3346	9256	3346	5911
ASIB 530				35		25	60	4′-2″		50	0′-2¼″		0′-9⅝″		1′-5″						260				152		108
ASIB 531				3			3	3′-8⅞″		51	0′-6½″		1′-5″								12				12		
																			TOTAL WEIGHT		38985	2486	4218	5464	13729	4417	8671

ABUTMENT NO. E1

MARK	NUMBER REQUIRED PHASE V	TOTAL	LENGTH ft	in	TYPE	DIM A ft	in	DIM B ft	in	DIM C ft	in	DIM D ft	in	INCREMENT ft	inches	TOTAL WEIGHT (lbs.)	PHASE V WEIGHT (lbs.)
ASE1 501	25	25	24	3	STR.											632	632
ASE1 502	114	114	19	0	STR.											2259	2259
ASE1 511	30	30	3	4	24	0	8	0	6	0	8.5	1	1			104	104
ASE1 512	14	14	2	7	4	0	10.5	1	10							38	38
ASE1 513	14	14	5	3	34											77	77
ASE1 514	24	24	4	2	4	0	10.5	3	5							104	104
ASE1 515	16	16	3	0	1	1	2	5								50	50
ASE1 516	8	8	24	6	STR.											204	204
ASE1 517	8	8	12	8	STR.											106	106
ASE1 518	4	4	13	8	STR.											57	57
ASE1 519	4	4	13	8	40											57	57
ASE1 530	70	70	4′	2″	50	0′-2¼″		0′-9⅝″		1′-5″						304	304
ASE1 531	6	6	3′-8⅝″		51	0′-6½″		1′-5″								24	24
ASE1 1001	63	63	25	8	1	24	3									6958	6958
														TOTAL WEIGHT		10177	10177

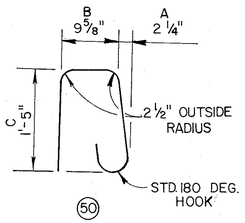
ABUTMENT NO. E2

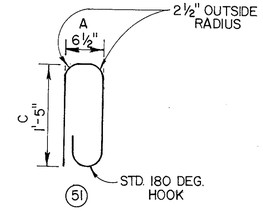
MARK	NUMBER REQUIRED PH.III	TOTAL	LENGTH ft	in	TYPE	DIM A ft	in	DIM B ft	in	DIM C ft	in	DIM D ft	in	INCREMENT ft	inches	TOTAL WEIGHT (lbs.)	PHASE III WEIGHT (lbs.)
ASE2 501	18	18	24	6	STR.											460	460
ASE2 502	78	78	19	7	STR.											1593	1593
ASE2 503	7	7	3	6	STR.											26	26
ASE2 511	30	30	3	4	24	0	8	0	6	0	8.5	1	1			104	104
ASE2 512	14	14	2	7	4	0	10.5	1	10							38	38
ASE2 513	14	14	5	3	34											77	77
ASE2 514	24	24	4	2	4	0	10.5	3	5							104	104
ASE2 515	16	16	3	0	1	1	2	5								50	50
ASE2 516	8	8	24	6	STR.											204	204
ASE2 517	8	8	12	8	STR.											106	106
ASE2 518	4	4	13	8	STR.											57	57
ASE2 519	4	4	13	8	40											57	57
ASE2 530	50	50	4′-2″		50	0′-2¼″		0′-9⅝″		1′-5″						217	217
ASE2 1001	43	43	25	11	1	24	6									4795	4795
														TOTAL WEIGHT		7091	7091

ESTIMATED QUANTITY

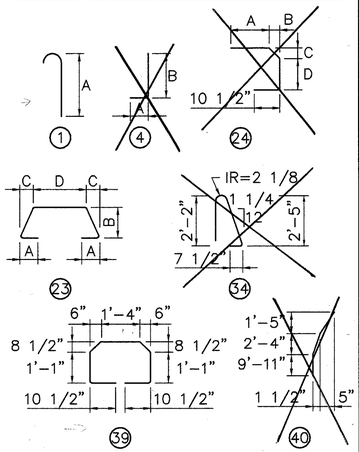
ITEM	EXTENSION	DESCRIPTION		
611	25001	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN		
LOCATION	ABUTMENT NO. 1B	ABUTMENT NO. E1	ABUTMENT NO. E2	TOTAL
PHASE IA	30.1 SQ.YD.			30.1 SQ.YD.
PHASE IB	35.7 SQ.YD.			35.7 SQ.YD.
PHASE II	46.5 SQ.YD.			46.5 SQ.YD.
PHASE III	135.0 SQ.YD.	95.6 SQ.YD.		230.6 SQ.YD.
PHASE IV	47.8 SQ.YD.			47.8 SQ.YD.
PHASE V	80.8 SQ.YD.		68.2 SQ.YD.	149.0 SQ.YD.
TOTAL	375.9 SQ.YD.	95.6 SQ.YD.	68.2 SQ.YD.	539.7 SQ.YD.

QUANTITIES CARRIED DIRECTLY TO GENERAL SUMMARY





BENDING DIAGRAMS



NOTES:

FOR NOTES AND DETAILS NOT SHOWN, SEE STANDARD DRWAING AS-1-81 (NO.8 ANCHOR BARS INTO THE APPROACH SLAB SEAT SHALL BE REQUIRED ON ABUTMENT NO. 1B ONLY).

~~FOR APPROACH GUARDRAIL DETAILS, SEE STANDARD CONSTRUCTION GR-3.2 .~~

FOR I-90 CENTERLINE AND RAMP BASELINE GEOMERTY, SEE GEOMETRIC LAYOUT IN THE BRIDGE PLANS.

MEDIAN BARRIER AS SHOWN ON THE PLAN SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 611-"REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN FOR PAYMENT.

REINFORCING STEEL SAMPLES: REFER TO SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLES. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

REINFORCING BARS IN THE APPROACH SHALL BE SPLICED AT THE LONGITUDINAL CONSTRUCTION JOINTS USING APPROVED MECHANICAL CONNECTORS CONFORMING TO 509.08 OF C.M.S.

ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

REINFORCING SCHEDULE
INNERBELT FREEWAY

BR.NO. CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	2/94	

INNERBELT FREEWAY

APPROACH SLAB DETAILS

F:\89131-2D\REBAR07 12-1-94 3:12:39 pm EST

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

35
151

END APPROACH SLAB
STA. 54+90.78
℄ I-90

155'-1¼"

86'-8⅛"

68'-5⅛"

BEGIN APPROACH SLAB
STA. 6+61.94
BASELINE RAMP E-3

55'-2½" PHASE III CONSTRUCTION

18'-9⅜" PHASE II CONSTR.

12'-8" PHASE IA CONSTR.

13'-9½" PHASE IB CONSTR.

19'-9⅝" PHASE IV CONSTRUCTION

35'-0⅜" PHASE V CONSTRUCTION

31'-0⅜" | 14'-1¾" | 10'-0⅜"

38-501 @ 1'-5¾" (-) = 54'-8½" (TOP)
83-1001 @ 8" (+) = 54'-8½" (BOTTOM)

14-501 @ 1'-5"(-) = 18'-4⅛" (TOP)
30-1001 @ 7⅝"(+) = 18'-4⅛" (BOTT.)

10-501 @ 1'-4½" = 12'-4½" (TOP)
20-1001 @ 7⅞"(-) = 12'-4½" (BOTTOM)

11-501 @ 1'-4⅝" = 13'-4" (TOP)
23-1001 @ 7⅝"(+) = 13'-4" (BOTT.)

14-501 @ 1'-5⅞"(+) = 19'-4½" (TOP)
30-1001 @ 8"(+) = 19'-4½" (BOTTOM)

24-501 @ 1'-6" (+) = 34'-6⅜" (TOP)
53-1001 @ 8" (-) = 34'-6⅜" (BOTTOM)

1-505 (TOP & BOTTOM)
3-531 AT 6"
4-505 @ 6" = 1'-6" (TOP & BOTTOM)

EQUAL

FAN 501 & 1001 AS REQUIRED

4-505 @ 6" = 1'-6" (TOP & BOTTOM)

6-505 @ 6" = 2'-6" (TOP & BOTTOM)

1-502 (TOP)
1-502 (BOTTOM)
1-501 (TOP) *
1-501 (BOTTOM) *
* FIELD BEND AS REQUIRED

16-502 & 16-506 @ 1'-5¼"(-) = 21'-5⅞" (TOP)
29-502 & 29-506 @ 7⅛"(-) = 18'-3⅞" (BOTTOM)
6-502 & 6-506 @ 6" = 2'-6" (BOTTOM)

PAVEMENT RIDGE LINE
PAVEMENT VALLEY LINE

CONSTRUCTION JOINT

1 SERIES OF 16-504 (TOP)
1 SERIES OF 35-503 (BOTTOM)
(SEE PHASE III CONSTRUCTION FOR BAR SPACING)

CONSTRUCTION JOINT
OPTIONAL CONSTRUCTION JOINT

1 SERIES OF 16-521 (TOP)
1 SERIES OF 35-520 (BOTTOM)
(SEE PHASE III CONSTRUCTION FOR BAR SPACING)

1 SERIES OF 16-513 (TOP)
1 SERIES OF 35-512 (BOTTOM)
(SEE PHASE III CONSTRUCTION FOR BAR SPACING)

1 SERIES 16 525 (TOP)
1 SERIES 35 524 (BOTTOM)
(SEE PHASE III CONSTRUCTION FOR BAR SPACING)

CONSTRUCTION JOINT

CONSTRUCTION JOINT

16-502 & 16-507 @ 1'-5¼"(-) = 21'-5⅞" (TOP)
29-502 & 29-507 @ 7⅛"(-) = 18'-3⅞" (BOTTOM)
6-502 & 6-507 @ 6" = 2'-6" (BOTTOM)

BASELINE RAMP E-3

BASELINE RAMP E-4

I-90

10-530 AT 12"
25-530 AT 6"
25-530 AT 12¼"

2'-0"
45°
8"

END APPROACH SLAB
STA. 0+59.97
BASELINE RAMP E-4

BEARING ABUTMENT

2'-1⅝" | 32'-2" | 15'-4¾" | 1'-8⅜" | 12'-8 3/4" | 28'-4¾" | 2'-4"

49'-8⅜" PHASE III CONSTRUCTION
19'-3⅝" PHASE II CONSTRUCTION
11'-11¼" PHASE IA CONSTR.
14'-5⅛" PHASE IB CONSTR.
19'-4⅜" PHASE III CONSTRUCTION
30'-8¾" PHASE V CONSTRUCTION
144'-10⅞"

END APPROACH SLAB
STA. 6+86.94
BASELINE RAMP E-3

BEGIN APPROACH SLAB
STA. 54+65.78
℄ I-90

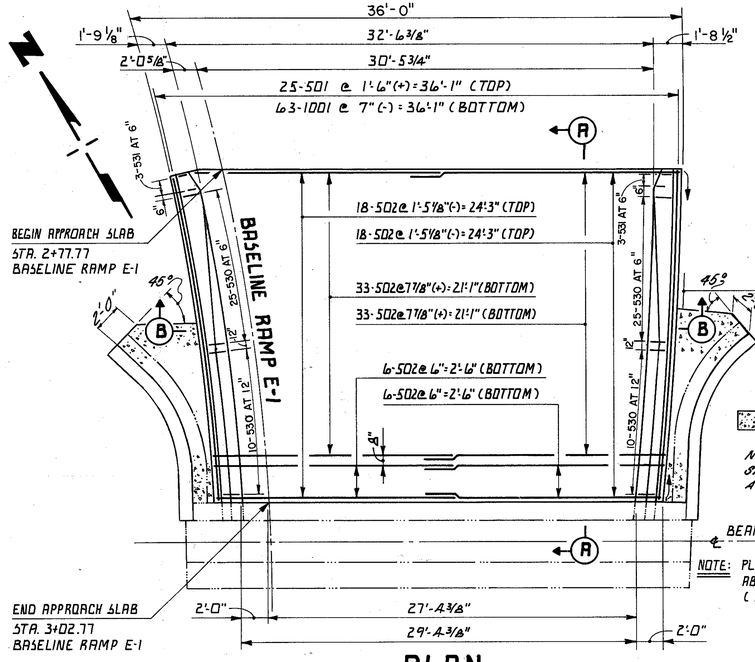
BEGIN APPROACH SLAB
STA. 0+33.96
BASELINE RAMP E-4

CURVE DATA
BASELINE RAMP E-4
P.C. STA. 0+00.00
P.T. STA. 3+50.00
Δ = 31°30'00"
Dc = 9°00'00"
R = 636.62'
A = 350.00'
C = 345.61'
T = 179.55'

PLAN

APPROACH SLAB AT ABUTMENT NO. 1B

CURVE DATA
℄ I-90
P.C. STA. 45+28.22
P.T. STA. 59+80.20
Δ = 29° 02' 23"
Dc = 2° 00' 00"
R = 2864.79'
A = 1451.98'
C = 1436.50'
T = 741.94'



CURVE DATA
BASELINE RAMP E-1
P.C. STA. 0+74.41
P.T. STA. 3+33.09
Δ = 98°48'38"
R = 150.00'
A = 258.68'
C = 227.80'
T = 175.04'

CURVE DATA
EDGE OF APPROACH SLAB
Δ = 4°49'27"
R = 294.10'
A = 24.76'
C = 24.76'
T = 12.39'

6" CONCRETE WALK, AS PER PLAN

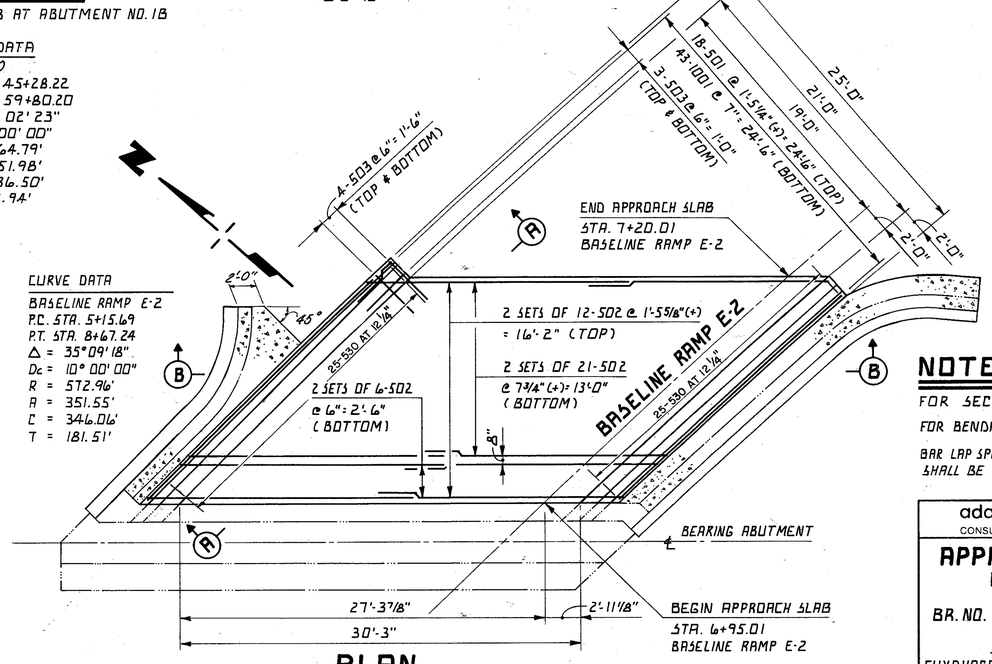
NOTE: 6" CONCRETE WALK, AS PER PLAN SHALL BE REINFORCED WITH WIRE FABRIC AS PER BP-2

BEARING ABUTMENT

NOTE: PLACE 501 & 1001 BARS NORMAL TO ABUTMENT. FAN AT BARRIERS (ABUTMENT E-1 ONLY).

PLAN

APPROACH SLAB AT ABUTMENT NO. E1



CURVE DATA
BASELINE RAMP E-2
P.C. STA. 5+15.69
P.T. STA. 8+67.24
Δ = 35°09'18"
Dc = 10° 00' 00"
R = 572.96'
A = 351.55'
C = 346.06'
T = 181.51'

PLAN

APPROACH SLAB AT ABUTMENT NO. E2

NOTES:

FOR SECTIONS A-A, B-B AND C-C, SEE SHEET NO. 36.

FOR BENDING DIAGRAMS, SEE SHEET NO. 34.

BAR LAP SPLICES FOR NO. 5 REINFORCING BARS SHALL BE 1'-11" MINIMUM.

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

APPROACH SLAB PLANS
INNERBELT FREEWAY

BR. NO. CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	10/15/91	

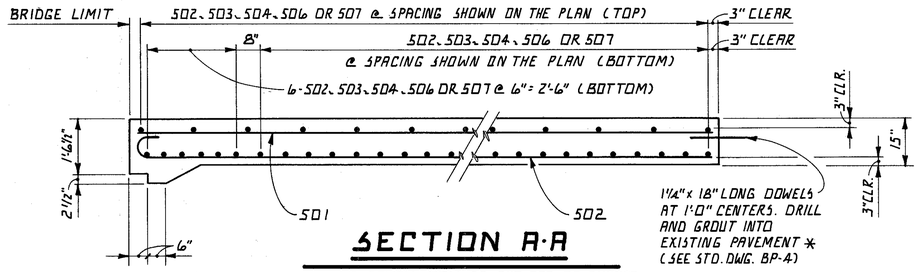
INNERBELT FREEWAY

APPROACH SLAB DETAILS

BRUNING 44-232 67195-01

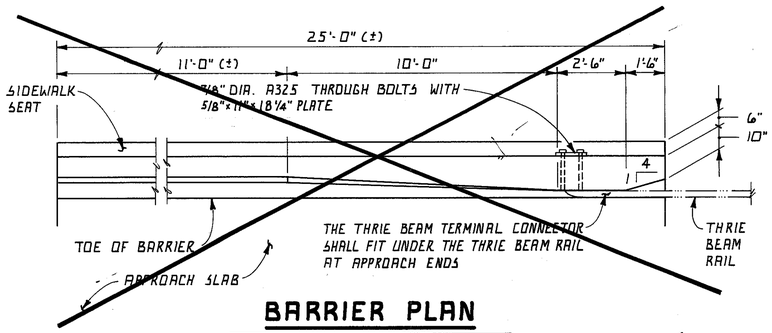
A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

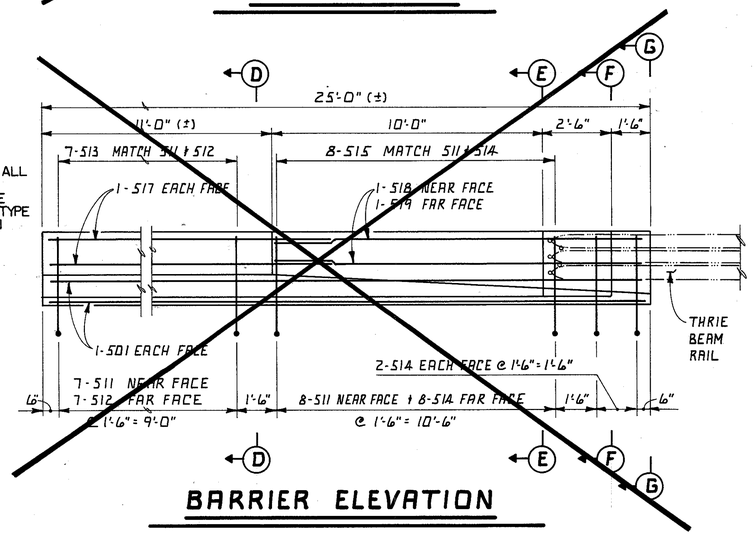


SECTION A-A

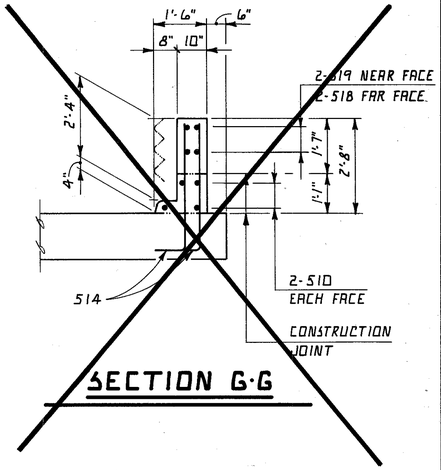
* EXISTING DOWELS SHALL BE CUT-OFF OR BURNED-OFF FLUSH WITH EXISTING PAVEMENT. IF IN THE OPINION OF THE ENGINEER THEY ARE IN USABLE CONDITION, THEY NEED NOT BE REMOVED AND NEW DOWELS SHALL NOT BE REQUIRED.



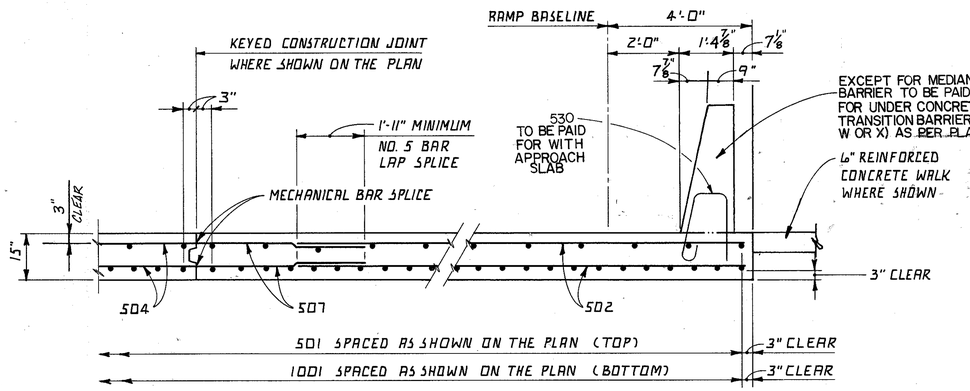
BARRIER PLAN



BARRIER ELEVATION

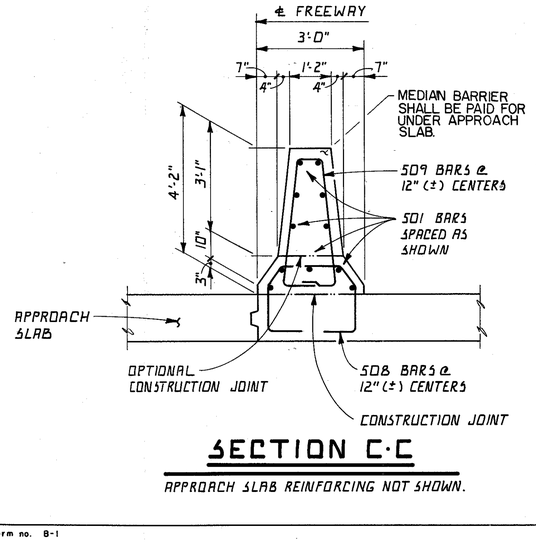


SECTION G-G



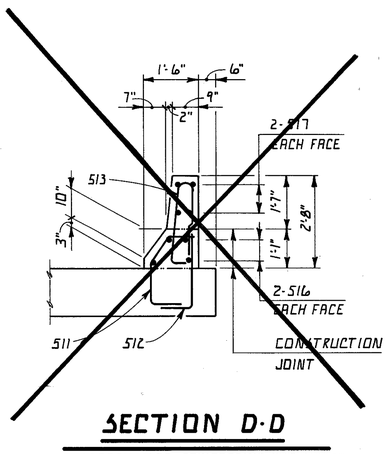
SECTION B-B

ABUTMENT 1B SHOWN, ABUTMENTS E-1 AND E-2 SIMILAR.



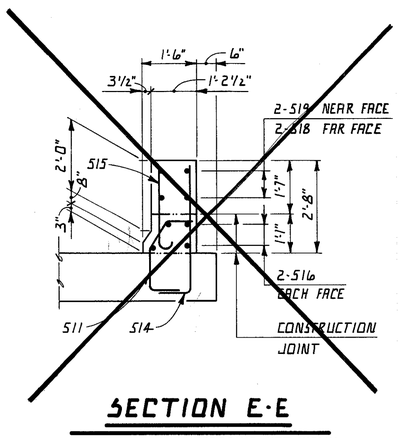
SECTION C-C

APPROACH SLAB REINFORCING NOT SHOWN.



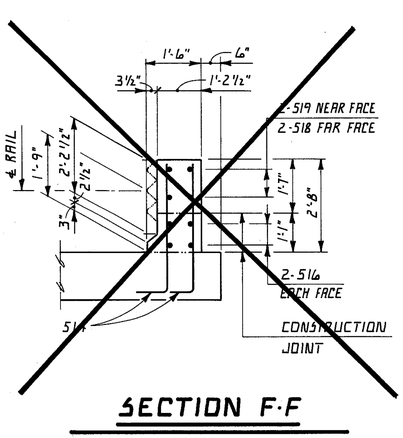
SECTION D-D

APPROACH SLAB REINFORCING NOT SHOWN.



SECTION E-E

APPROACH SLAB REINFORCING NOT SHOWN.



SECTION F-F

APPROACH SLAB REINFORCING NOT SHOWN.

NOTES:

FOR LOCATION OF SECTION A-A, B-B AND C-C, SEE SHEET NO. 35

FOR REINFORCING BAR SCHEDULE AND BAR BENDING DIAGRAM, SEE SHEET NO. 34.

FOR ESTIMATED QUANTITIES, SEE SHEET NO. 34.

FOR ADDITIONAL NOTES, SEE SHEET NO. 34.

APPROACH END GUARDRAIL (BRIDGE TERMINAL ASSEMBLY, TYPE 1) SHOWN, SEE STD. DWG. GR-3.1. TRAILING END GUARDRAIL (BRIDGE TERMINAL ASSEMBLY TYPE 2) SIMILAR, SEE STD. DWG. GR-3.2

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

APPROACH SLAB DETAILS
INNERBELT FREEWAY

B.R. NO. { CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	JRC	10/15/91	

INNERBELT FREEWAY

APPROACH SLAB DETAILS

SLOPE REPAIR QUANTITIES, CALCULATIONS AND NOTES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHEET NO.
203	12000	599	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
203	21000	1074	CU. YD.	EMBANKMENT USING GRANULAR MATERIAL	
601	21100	1806	SQ. YD.	SLOPE PROTECTION, MISC: GROUT FILLED FABRIC MATS	
603	04600	210	LIN. FT.	12" CONDUIT, TYPE C	
604	04901	6	EACH	CATCH BASIN NO. 2-3, AS PER PLAN	40
670	41000	920	SQ. YD.	SLOPE EROSION PROTECTION	
SPECIAL	69012010	1806	SQ. YD.	GEOTEXTILE FABRIC, 712.09, TYPE "B"	37, 40

QUANTITIES ARE CARRIED DIRECTLY TO THE GENERAL SUMMARY

ITEM 203 - EMBANKMENT USING GRANULAR MATERIAL

THE CONTRACTOR'S PARTICULAR ATTENTION IS DRAWN TO SECTION 203.09 CONSTRUCTION METHODS OF CONSTRUCTION AND MATERIAL SPECIFICATIONS.

EMBANKMENT USING GRANULAR MATERIAL SHALL BE USED UNDER GROUT FILLED FABRIC MATS FOR PROPOSED SLOPES STEEPER THAN 2:1.

ITEM 601 - SLOPE PROTECTION MISC: GROUT FILLED FABRIC MATS

GENERAL

THE SURFACES TO BE PROTECTED SHALL BE PREPARED AND GRADED TO SUCH AN EXTENT THAT THEY ARE NORMALLY STABLE IN THE ABSENCE OF EROSIVE FORCES. A FABRIC ENVELOPE IN A MAT CONFIGURATION SHALL BE POSITIONED OVER THESE SURFACES AND FILLED WITH A PUMPABLE SAND/CEMENT GROUT IN SUCH A WAY AS TO FORM A STABLE MAT OF SUITABLE WEIGHT AND CONFIGURATION. EXCAVATION REQUIRED TO INSTALL THE MATS SHALL BE INCLUDED IN ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION.

THE CONTRACTOR SHALL FURNISH RECORDS OF PAST SUCCESSFUL EXPERIENCE IN PERFORMING THIS TYPE OF WORK. THE CONTRACTOR SHALL SAVE THE OWNER HARMLESS FROM LIABILITY OF ANY KIND ARISING FROM THE USE OF ANY PATENTED OR UNPATENTED INVENTION IN THE PERFORMANCE OF THIS WORK.

MATERIALS

FABRIC FORMING MATERIAL SHALL CONSIST OF DOUBLE-LAYER, OPEN-SELVAGE FABRIC JOINED IN A MAT CONFIGURATION. FABRIC SHALL BE WOVEN OF SYNTHETIC FIBER. IF POLYPROPYLENE FIBER IS USED, IT SHALL EXHIBIT RESISTANCE TO ULTRAVIOLET DEGRADATION WHEN TESTED IN A CARBON ARC WEATHEROMETER AS DESCRIBED IN ASTM G-23-81 SUCH THAT RETENTION OF TENSILE STRENGTH AFTER 2,000 HOURS OF EXPOSURE IS NOT LESS THAN 85%.

EACH LAYER OF FABRIC SHALL EXHIBIT A MINIMUM GRAB TENSILE STRENGTH OF NOT LESS THAN 200 LBS./IN. IN BOTH WARP AND FILL DIRECTIONS WHEN TESTED IN ACCORDANCE WITH ASTM D-1682.

FABRIC SHALL EXHIBIT A POROSITY OF NOT LESS THAN 100 CU. FT./MIN./SQ. FT. WHEN TESTED IN ACCORDANCE WITH ASTM D-737.

THE COMBINED TENSILE STRENGTH AND SPACING OF CORDS USED TO CONTROL THICKNESS OF THE FINISHED REVETMENT SHALL BE SUCH AS TO PROVIDE RESISTANCE TO BURSTING OF NOT LESS THAN 25 LBS./SQ. IN. OF MAT SURFACE AREA.

THE CONTRACTOR SHALL SUBMIT MATERIAL CERTIFICATIONS FOR THE PROPOSED FABRIC DEMONSTRATING CONFORMANCE WITH ALL MATERIAL REQUIREMENTS SPECIFIED.

FABRIC SHALL BE WOVEN IN SUCH A MANNER AS TO PROVIDE A FINISHED THICKNESS OF APPROXIMATELY EIGHT (8) INCHES. THICKNESS SHALL BE MEASURED BY INSERTING A STIFF WIRE THROUGH THE MAT IMMEDIATELY AFTER GROUT INJECTION IS COMPLETED AT THE POINT OF INTERSECTION OF DIAGONALS BETWEEN SPACER CORDS. DEPTH OF GROUT AT THIS POINT SHALL BE NOT LESS THAN 8" THICK ± 9%.

FABRIC POROSITY IS ESSENTIAL FOR THE SUCCESSFUL EXECUTION OF THIS WORK. AT THE DIRECTION OF THE ENGINEER, THE CONTRACTOR SHALL DEMONSTRATE THE SUITABILITY OF FABRIC DESIGN BY INJECTING THE PROPOSED GROUT INTO 5 1/2" DIAMETER SLEEVES UNDER PRESSURE OF 10 TO 15 PSI WHICH SHALL BE MAINTAINED BY MEANS OF AIR PRESSURE OR A STANDPIPE FOR 10 MINUTES. THE SLEEVES SHALL BE CONSTRUCTED OF AB FABRIC. TEST CYLINDERS, 12" LONG, SHALL BE CUT FROM EACH SPECIMEN AND TESTED IN ACCORDANCE WITH ASTM C-39.

WHERE GROUNDWATER CONDITIONS REQUIRE PROVISION FOR RELIEF OF HYDROSTATIC UPLIFT, 7/8" I.D. WEEP HOLE ASSEMBLIES SHALL BE INSERTED THROUGH THE FABRIC.

THESE WEEP HOLE ASSEMBLIES SHALL BE HELD IN PLACE DURING GROUT INJECTION BY MEANS OF SNAP ON COLLAR ATTACHED TO THE LOWER END OF THE WEEP HOLE ASSEMBLY. WEEP HOLES SHALL BE LOCATED AT FIVE (5) FOOT CENTER TO CENTER OVER THE MAT AREA.

ADJACENT FABRIC PANELS SHALL BE CONNECTED BY SEWING OR BY MEANS OF ZIPPERS. THE TWO TOP LAYERS OF FABRIC AND THE TWO BOTTOM LAYERS OF FABRIC SHALL BE JOINED SEPARATELY PERMITTING FULL MAT THICKNESS BETWEEN THE TWO PARALLEL SEAMS. A SINGLE SEAM IN WHICH ALL FOUR LAYERS OF FABRIC ARE JOINED AT ONE POINT WILL NOT BE PERMITTED. IF REQUIRED, GROUT STOPS MAY BE INSTALLED PARALLEL TO THE MILL WIDTHS AT PREDETERMINED INTERVALS TO REGULATE THE FLOW OF FLUID GROUT. GROUT STOPS SHALL BE SO DESIGNED AS TO PRODUCE FULL MAT THICKNESS ALONG THE FULL LENGTH OF THE GROUT STOP.

GROUT SHALL CONSIST OF A MIXTURE OF PORTLAND CEMENT, FINE AGGREGATE, AND WATER SO PROPORTIONED AND MIXED AS TO PROVIDE A READILY PUMPABLE SLURRY. ADMIXTURES AND/OR A POZZOLAN MAY BE USED WITH THE APPROVAL OF THE ENGINEER. THE HARDENED GROUT SHALL EXHIBIT A COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS WHEN SPECIMENS ARE MADE AND TESTED ACCORDING TO THE PROVISIONS OF ASTM C-31 AND C-39.

THE AVERAGE COMPRESSIVE STRENGTH OF FABRIC FORMED CAST TEST CYLINDERS, AS DESCRIBED ABOVE, SHALL BE AT LEAST 20% HIGHER AT 7 DAYS THAN THAT OF COMPANION TEST CYLINDERS MADE IN ACCORDANCE WITH C-31, AND NOT LESS THAN 2,500 PSI AT 28 DAYS.

INSTALLATION

IMMEDIATELY FOLLOWING RECEIPT OF FABRIC ON THE JOB SITE, FABRIC SHALL BE INSPECTED AND STORED IN A CLEAN DRY AREA WHERE IT WILL NOT BE SUBJECT TO MECHANICAL DAMAGE OR EXPOSURE TO MOISTURE OR DIRECT SUNLIGHT.

PRIOR TO GROUT INJECTION, THE FABRIC SHALL BE POSITIONED OVER A GEOTEXTILE FILTER FABRIC, AS SPECIFIED BY THE ENGINEER AT ITS APPROXIMATE DESIGN LOCATION, MAKING APPROPRIATE ALLOWANCE FOR APPROXIMATELY 4% CONTRACTION OF THE FABRIC IN EACH DIRECTION WHICH WILL OCCUR AS A RESULT OF GROUT INJECTION.

PANELS OF FABRIC SHALL BE FACTORY ASSEMBLED IN PREDETERMINED SIZES AND JOINED TOGETHER SIDE-BY-SIDE AT THE JOB SITE BY FIELD SEWING OR BY MEANS OF ZIPPER CLOSURES ATTACHED TO THE UPPER AND LOWER LAYERS OF FABRIC. IF JOINING PANELS, AS DESCRIBED ABOVE, IS IMPRACTICAL, ADJACENT PANELS MAY BE OVERLAPPED A MINIMUM OF TWO FEET, SUBJECT TO ENGINEER'S APPROVAL. IN NO CASE WILL SIMPLE BUTT JOINTS BETWEEN PANELS BE ALLOWED.

MEASUREMENT

GROUT FILLED FABRIC MATS WILL BE MEASURED BY THE SQUARE YARD OF FINISHED SURFACE COMPLETE IN PLACE.

PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT BID PRICE FOR:

ITEM 601 - SLOPE PROTECTION MISC: GROUT FILLED FABRIC MATS SQ. YD.

THIS PRICE SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM AS SPECIFIED, INCLUDING FINAL SLOPE PREPARATION.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATED SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATION IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.09. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 230.09.

ITEM SPECIAL - GEOTEXTILE FABRIC

GENERAL

THIS ITEM OF WORK CONSISTS OF FURNISHING AND INSTALLING TILE FABRIC ON A PREPARED SLOPE JUST PRIOR TO PLACING ITEM SPECIAL - GROUT FILLED FABRIC MATS, IN REASONABLY CLOSE CONFORMITY WITH THE LINES AND GRADES SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER.

MATERIAL

GEOTEXTILE FABRIC SHALL CONFORM IN ALL RESPECTS TO 712.09, TYPE "B" OF CONSTRUCTION AND MATERIAL SPECIFICATIONS.

INSTALLATION

IMMEDIATELY FOLLOWING RECEIPT OF FABRIC ON THE JOB SITE, FABRIC SHALL BE INSPECTED AND STORED IN A CLEAN DRY AREA WHERE IT WILL NOT BE SUBJECT TO MECHANICAL DAMAGE OR EXPOSURE TO MOISTURE OR DIRECT SUNLIGHT.

PRIOR TO PLACING GROUT FILLED FABRIC MATS THE GEOTEXTILE FABRIC SHALL BE PLACED ON THE EMBANKMENT SLOPE AT ITS DESIGN LOCATION, MAKING APPROPRIATE ALLOWANCE FOR APPROXIMATELY 4% CONTRACTION OF THE FABRIC IN EACH DIRECTION WHICH WILL OCCUR AS A RESULT OF GROUT INJECTION OF THE GROUT FILLED FABRIC MATS. THE GEOTEXTILE FABRIC SHALL BE PLACED HORIZONTALLY ALONG THE SLOPE AND EXTEND TO THE BOTTOM OF ALL ANCHOR TRENCHES. HORIZONTAL PANELS OF GEOTEXTILE FABRIC SHALL BE LAPPED A MINIMUM OF TWO (2) FEET WITH THE UPPER PANEL LAPPING OVER THE LOWER. FOR VERTICAL LAPS THE PANELS SHALL BE LAPPED A MINIMUM OF TWO (2) FEET IN THE DIRECTION OF THE GROUT FILLED FABRIC MAT GROUT INJECTION. THE GEOTEXTILE FABRIC SHALL BE STAKED SECURELY TO THE SLOPE BY USING 1" X 1" X 8" HARDWOOD STAKES OR T-SHAPED PINS, 8"LONG, PLACED AT FIVE (5) FOOT CENTER TO CENTER OVER THE ENTIRE FABRIC AREA AND AT THIRTY (30) INCHES CENTER TO CENTER ALONG ALL EDGES, ANCHOR TRENCHES AND FABRIC LAPS, OR AS RECOMMENDED BY THE FABRIC MANUFACTURER AND DIRECTED BY THE ENGINEER.

MEASUREMENT

GEOTEXTILE FABRIC WILL BE MEASURED BY THE SQUARE YARD OF FINISHED SURFACE COMPLETE IN PLACE WITH NO ALLOWANCE FOR CONTRACTION, LAPS OR FABRIC EXTENDING INTO GROUT FILLED FABRIC MAT ANCHOR TRENCHES.

PAYMENT

PAYMENT FOR ACCEPTED QUANTITY, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQUARE YARD	GEOTEXTILE FABRIC, 712.09, TYPE "B"

THIS PRICE SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK AS SPECIFIED.

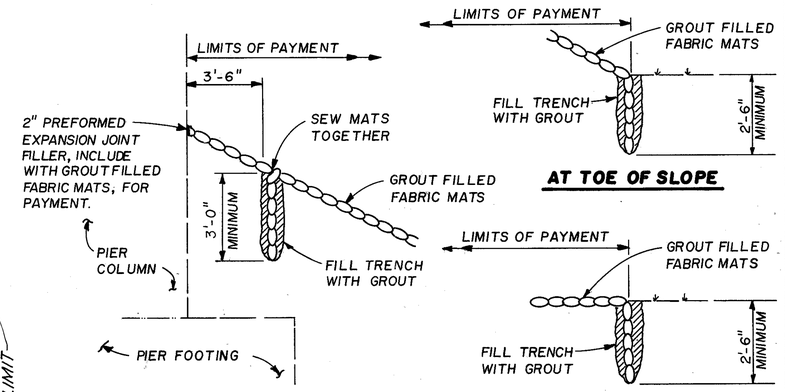
LIMIT OF CONSTRUCTION
SLOPE EROSION PROTECTION
FLARED END SECTION
℄ STA. 3+00, END GUARDRAIL
CURB AND GROUT FILLED FABRIC MATS
CURB, TYPE 6
GUARDRAIL, TYPE 4, AS PER PLAN
RIPRAP, AS PER PLAN
SEE DETAIL, SHEET 40
EXISTING CATCH BASIN
TOP/GRATE ELEV. 669.07
RECONSTR. TO ELEV. 668.00
12" INV. ELEV. 664.0 ±
GUARDRAIL POST
(SEE DETAILS SHEET 40)
EXISTING STORM MANHOLE, TO REMAIN
RIM ELEV. 669.33
27" INV. ELEV. 649.8 ±
12" INV. ELEV. 662.6 ±
EXISTING WOOD POSTS SET IN CONCRETE, TO BE REMOVED
CONCRETE DRIVE WITH ASPHALT OVERLAY
T.B.M.
P.K. NAIL SET
℄ STA. 0+98, 87' LT.
ELEVATION = 670.08
OUTLINE OF STRUCTURE (OVERHEAD) TYPICAL
EXISTING CATCH BASIN
TOP/GRATE ELEV. 670.19
RECONSTR. TO ELEV. 669.20
12" INV. ELEV. 663.0 ±
RIPRAP, AS PER PLAN
GUARDRAIL POST (SEE DETAIL SHT 40)
GUARDRAIL, TYPE 4, AS PER PLAN
CURB, TYPE 6
℄ STA. 0+25, BEGIN GUARDRAIL, CURB AND GROUT FILLED FABRIC MATS
FLARED END SECTION
STRUCTURAL CAVITY REPAIR
SEE DETAIL, SHEET 40 .
SLOPE EROSION PROTECTION
LIMITS OF CONSTRUCTION
FILTER FABRIC FENCE
EX. CRIBWALL (DO NOT DISTURB)
10" ITEM 304 AGGREGATE BASE
RAMP E-1
RAMP E-2
SIGNAL POLE
T.B.M. SOUTHWEST BOLT OF SIGNAL POLE FOUNDATION
STA. 2+00, 90' RIGHT
ELEVATION = 628.13
TANGENT OF CENTERLINE CURVE
WESTBOUND LANES
EAST BOUND LANES
℄ FREEWAY
STA. 47+97.80
℄ PIER 3B
STA. 50+13.48
℄ PIER 4B
STA. 51+00
℄ "E"
℄ "D"
STA. 0+25
100' RADIUS (TYPICAL)
RAILROAD TIE RETAINING WALL (TO BE REMOVED)
LIMITS OF SLOPE GRADING, STA. 0+40 (±) TO STA. 3+40 (±)
SLOPE FAILURE AREA
BASELINE - SLOPE REPAIR PLAN
40' LT. ℄ G.C.R.T.A. TRACK (EASTBOUND)
℄ EXISTING GRAVEL DRIVE
℄ RELOCATED GRAVEL DRIVE
DEBRIS PILE (TO BE REMOVED)
HUB SET STA. 1+00
HUB SET STA. 2+19.96
G.C.R.T.A. TRACK (EASTBOUND)
G.C.R.T.A. TRACK (WESTBOUND)
EX. PIER 2E-1
EX. PIER 2E-2
EXISTING PIER 3B
EXISTING PIER 4B
EX. 12" ST (TO REMAIN)
EX. C.B.
EX. CONCRETE FLUME
EX. TOP OF BANK
CONSTRUCTION LIMIT
LIMIT OF GROUT FILLED MATS
GRADE BREAK
ABT. E-1
1/4"/FT.
1.6:1
2:1
3:1
12" STORM
27" STORM
P-1
P-2
P-3
P-4
P-5
P-6
A1
A2
A3
A4
A5
A6
A7
B1

PLAN

GROUT FILLED FABRIC MAT ANCHOR TRENCH DETAILS

PROVIDE 2'-6" DEEP INTERMEDIATE ANCHOR TRENCHES, FULL WIDTH OF 2:1 SLOPE, AT THIRD POINTS UP THE SLOPE. TRENCHES SHALL BE SIMILAR TO TRENCH AT TOP OF SLOPE.

AREAS WITHIN THE CONSTRUCTION LIMITS NOT DESIGNATED FOR PLACEMENT OF GROUT FILLED MATS SHALL HAVE SLOPE EROSION PROTECTION APPLIED IN CONFORMANCE WITH SPECIFICATION 670 (TYP.)



NOTES:

FOR QUANTITIES, CALCULATIONS AND NOTES, SEE SHEET 32 AND SHEET 37 .

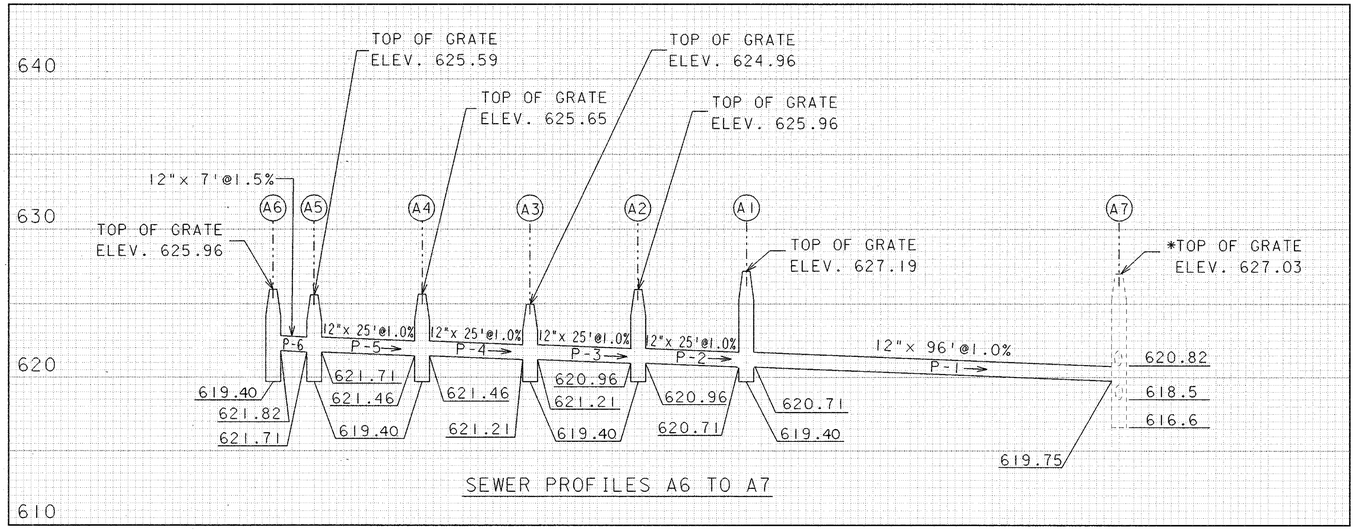
FOR DETAILS, SEE SHEET 40 .

FOR SLOPE CROSS SECTIONS, SEE SHEETS 41 THRU 43.

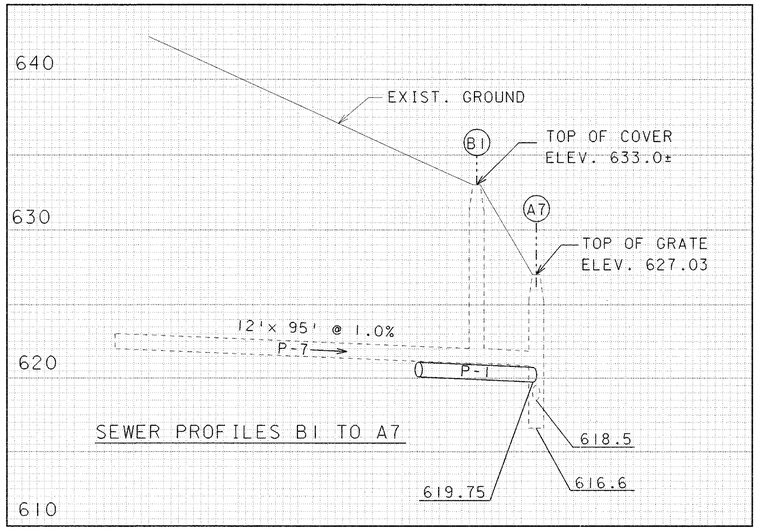
NON-PERFORM ALL SLOPE REPAIR WORK INCLUDING THE GRAVEL DRIVE RELOCATION WEST OF THE G.C.R.T.A. TRACKS.

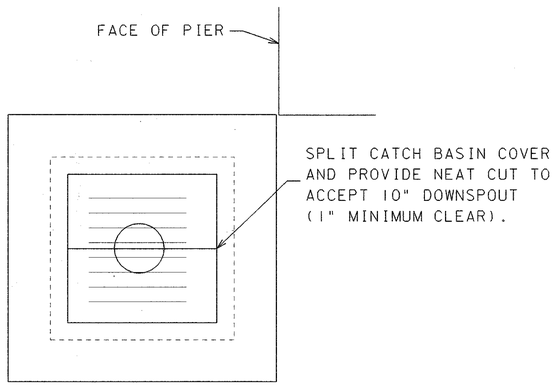
INNERBELT FREEWAY

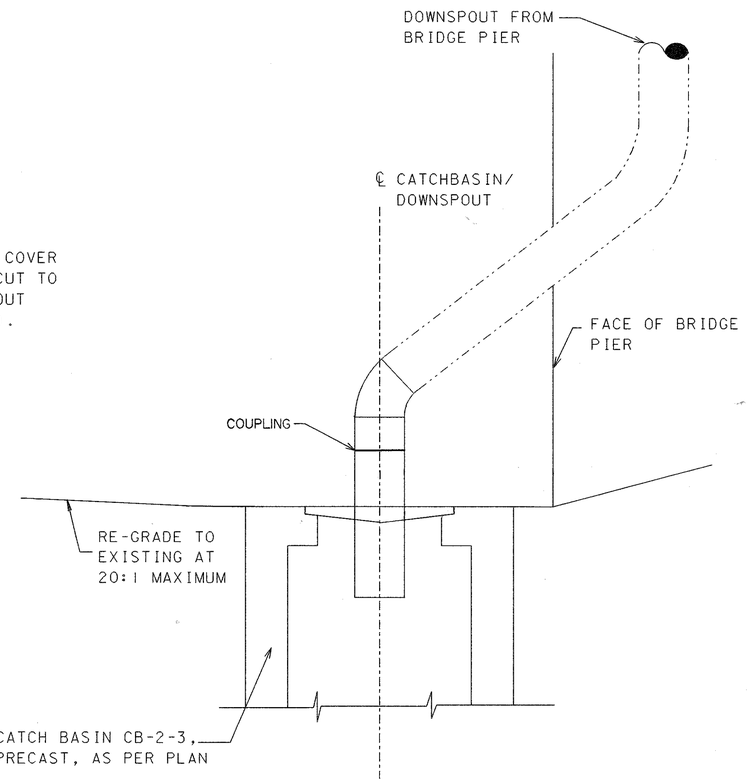
SLOPE REPAIR PLAN



* THE TOP OF GRATE ELEVATION FOR THE EXISTING CATCHBASIN A7 WAS TAKEN FROM THE ORIGINAL PLANS. THE TOP OF THE GRATE WAS USED AS THE TEMPORARY BENCH MARK TO SET THE ELEVATIONS OF PROPOSED CATCH BASINS A1 THRU A6.







SECTION A-A

ESTIMATED QUANTITIES

REF. NO.	STATION (℄ "D") FROM	TO	SIDE	603 12" CONDUIT, TYPE C LIN.FT.	604 C.B. NO. 2-3, AS PER PLAN EACH
P-1	5+34(E-2)	0+45	RT.	100	1
P-2	0+45	0+68	RT.	25	1
P-3	0+68	0+90	RT.	25	1
P-4	0+90	1+13	RT.	25	1
P-5	1+13	1+35	RT.	25	1
P-6	1+35	1+43	RT.	10	1
TOTALS				210	6

SEE SHEETS 39 & 110 MORE DETAILS.

QUANTITIES CARRIED TO THE SUB-SUMMARY SHEET 37.

CALCULATED LGM CHECKED LDH

STORM SEWER PROFILES ON EAST SIDE OF G.C.R.T.A. TRACKS

CUYAHOGA COUNTY CUY-90-15.99

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.99	F.H.W.A. REGION 5
CHKD. S.L.	INNERBELT FREEWAY	
DATE 5/14		

41
151

GROUT FILLED FABRIC MATS

END WIDTH	SQ. YDS.
85	
	472
85	
	264
85	
0	736 TOTAL

STA. 1+00

STA. 0+50

STA. 0+22 AHEAD
STA. 0+22 BACK

STA. 0+00

℄ "D"

℄ WESTBOUND G.C.R.T.A. TRACKS

MATCHLINE STA. 0+50

MATCHLINE STA. 0+00

PIER 4B

PIER 5B

TOP OF WALL ELEV. = 635.0±

10'-0" ROUNDING

1/4"/FT.

8"

*1.6:1

GROUT FILLED FABRIC MATS

GEOTEXTILE FABRIC 712.09, TYPE "B"

FILTER FABRIC FENCE

* EMBANKMENT REQUIRED TO CONSTRUCT PROPOSED SLOPES STEEPER THAN 2:1 SHALL CONSIST OF GRANULAR MATERIAL PER ITEM 203 - EMBANKMENT USING GRANULAR MATERIAL.

STA. 0+50

STA. 0+22, BEGIN GROUT FILLED FABRIC MATS
STA. 0+22, END SLOPE EROSION PROTECTION

STA. 0+00

STA. 0-23, BEGIN EARTHWORK & SLOPE EROSION PROTECTION

	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
STA. 0+50	58	62		
			30	48
STA. 0+22 AHEAD	0	30		
STA. 0+22 BACK	27	44		
			12	*20
STA. 0+00	3	5		
			1	*2
STA. 0-23	0	0		
TOTALS	43	*70		

INNERBELT FREEWAY

CROSS SECTIONS STA. 0+00 TO STA. 0+50

CALC.	CUYAHOGA COUNTY	OHIO	42
DATE	CUY - 90 - 15.99	F.H.W.A. REGION 5	151
CHKD. S.L.	INNERBELT FREEWAY		
DATE 5/94			

GROUT FILLED FABRIC MATS

10'-0" ROUNDING

1¼"/FT.

℄ "E"

℄ "D"

℄ WESTBOUND G.C.R.T.A. TRACKS

MATCHLINE STA. 1+50

STA. 1+50

GROUT FILLED FABRIC MATS

*1G:1

8"

GEOTEXTILE FABRIC 712.09. TYPE "B"

PIER 48

TOP OF WALL ELEV. = 635.0±

FILTER FABRIC FENCE

℄ "B"

MATCHLINE STA. 1+00

STA. 1+00

* EMBANKMENT REQUIRED TO CONSTRUCT PROPOSED SLOPES STEEPER THAN 2:1 SHALL CONSIST OF GRANULAR MATERIAL PER ITEM 203 - EMBANKMENT USING GRANULAR MATERIAL.

10'-0" ROUNDING

℄ "C"

PIER 58

1¼"/FT.

℄ "E"

℄ "D"

℄ WESTBOUND G.C.R.T.A. TRACKS

MATCHLINE STA. 1+00

STA. 0+50

		END AREA		VOLUME	
		CUT	FILL	CUT	FILL
86	675	8	256		
	670				
	665				
	660				
	655			24	*332
475	680				
	675	18	103		
	670				
	665				
	660				
85	655			70	*153
	650				
	645				
	640				
	635				
	630				
475	TOTAL	94	*485		

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

INNERBELT FREEWAY

CROSS SECTIONS STA. 1+00 TO STA. 1+50

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.99	F.H.W.A. REGION 5
CHKD. S.L.	INNERBELT FREEWAY	
DATE 5/94		

43
151

GROUT FILLED FABRIC MATS

CHG. WIDTH	CU. YDS.
0	
81.5	
398	
81.5	
63	
81.5	
0	
0	
86	
134	
86	
595	TOTAL

STA. 2+75, END EARTHWORK & SLOPE EROSION PROTECTION

STA. 2+50

STA. 2+47, BEGIN SLOPE EROSION PROTECTION
STA. 2+47, END GROUT FILLED FABRIC MATS

STA. 2+00

STA. 1+93, BEGIN GROUT FILLED FABRIC MATS
STA. 1+93, END SLOPE EROSION PROTECTION

STA. 1+74, BEGIN SLOPE EROSION PROTECTION
STA 1+74, END GROUT FILLED FABRIC MATS

STA. 2+44 AHEAD (AVG.)
STA. 2+44 BACK (AVG.)

STA. 2+00

STA. 1+93 AHEAD
STA. 1+93 BACK

STA. 1+64 AHEAD (AVG.)
STA. 1+64 BACK (AVG.)

STA. 1+50

℄ "D"
℄ "E"
℄ WESTBOUND G.C.R.T.A. TRACKS
MATCHLINE STA. 2+50
MATCHLINE STA. 2+00
10'-0" ROUNDING
VARIES
2:1
FILTER FABRIC FENCE
EXCAVATION REQUIRED BEYOND ABUTMENT
EXIST. PAVEMENT LINE ALONG RAMP E-1
FACE OF ABUTMENT RAMP E-1
EXIST. GROUND LINE BEYOND ABUTMENT WALL
PROP. GROUND LINE ALONG FACE OF ABUTMENT WALL
1/4" / FT.
4'-0" RND.G.
LIMIT OF FABRIC
GROUT FILLED FABRIC MATS
*1.6:1
GEOTEXTILE FABRIC 712.09, TYPE "B"
8"
STA. 2+50 (END EXCAVATION FOR BEAM SEATS)
STA. 2+00 AHD.
STA. 2+00 BK.
STA. 1+90 (BEGIN EXCAVATION FOR BEAM SEATS)
STA. 1+50

* EMBANKMENT REQUIRED TO CONSTRUCT PROPOSED SLOPES STEEPER THAN 2:1 SHALL CONSIST OF GRANULAR MATERIAL PER ITEM 203 - EMBANKMENT USING GRANULAR MATERIAL.

	END AREA OUT	END AREA FILL	VOLUME OUT	VOLUME FILL
STA. 2+50 (END EXCAVATION FOR BEAM SEATS)	299	1		
			138	*1
			313	*125
STA. 2+00 AHD.	39	134		
STA. 2+00 BK.	28	184		
			5	*68
STA. 1+90 (BEGIN EXCAVATION FOR BEAM SEATS)	0	184		
			6	*325
STA. 1+50	8	256		
TOTALS	462	*519		

CROSS SECTIONS STA. 2+00 TO STA. 2+50

INNERBELT FREEWAY

TRAFFIC CONTROL QUANTITIES

CALCULATED LGM
CHECKED ACB

PAVEMENT MARKINGS

REFERENCE NO.	PLAN SHEET NO.	LOCATION ROADWAY	LOCATION FROM STATION	LOCATION TO STATION	642 REMOVAL OF PAVEMENT MARKING LIN FT	642 REMOVAL OF PAVEMENT MARKING EACH		644 REMOVAL OF PAVEMENT MARKING LIN FT	644 EDGE LINE (WHITE) LIN FT	644 EDGE LINE (YELLOW) LIN FT	644 LANE LINE LIN FT	644 CHANNELIZING LINE LIN FT	644 CHANNELIZING LINE, AS PER PLAN LIN FT	644 STOP LINE LIN FT	644 CROSSWALK LINE LIN FT	644 TRANSVERSE LINE LIN FT	644 LANE ARROW EACH	644 WORD "ONLY" ON PAVEMENT, 72" EACH	644 DOTTED LINE, 4" LIN FT				645 LANE LINE LIN FT	645 CHANNELIZING LINE LIN FT	645 CHANNELIZING LINE, AS PER PLAN LIN FT
	45H	I-90 E.B.	47+12	51+00				388																	*388
	45I	I-90 E.B.	51+00	58+00				903				*410	*240												
		RAMP E-4	0+77 (55+40)	3+64				260				*287				*452									
	45J	I-90 E.B.	58+00	60+76				276															*163	*9	
	45K	I-90 E.B.	77+25	78+00				150			75														
	45L	I-90 E.B.	78+00	83+00				570	342		87	190				168									
		RAMP E-11	1+10	2+68				158																	
	45W	ORANGE AVE.**	2+21	4+78	257	8					257	444		56			9	3							
			2+21	13+73 (RAMP F-2)															140						
		E. 30th St**	9+67	14+00 (RAMP F-2)											50										
			9+85		50							400				370									
		RAMP F-2**	10+22.50	14+00	444					232		120			66										
		RELOCATED ORANGE AVE.**	7+00	11+52.50							455	215				83									
	45Z	RAMP E-17**	0+00	1+48 (RAMP E-8)				865																	
			0+00	1+93 (RAMP E-9)				425				900				85									
			1+66	1+48 (RAMP E-8)								240				77									
	TOTAL				751	8		3995	342 574=0.11 MI.	232	874 0.17MI.	2509		56	116	783	9	3	140						

ALL WORK PERTAINING TO LOCATIONS W/O ** SHALL BE PERFORMED IN PHASES IA&IB.

* THESE QUANTITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. SEE MAINTENANCE OF TRAFFIC GENERAL NOTE, "TEMPORARY PAVEMENT MARKINGS PLACED DURING PHASES IA&IB FOR QUANTITIES. SEE SHEET 46 FOR PERMANENT PAVEMENT MARKING QUANTITIES.

**WORK TO BE PERFORMED IN PRELIMINARY PHASE.

TRAFFIC CONTROL QUANTITIES
PAVEMENT MARKINGS

CUYAHOGA COUNTY
CUY-90-15.99

TRAFFIC CONTROL QUANTITIES

GROUND MOUNTED SIGNS

REFERENCE NO.	PLAN SHEET NO.	ELEVATION VIEW SHEET NO.	SPECIAL DETAIL SHEET NO.	LOCATION	SIGN CODE NO.	SIGN SIZE	630 SIGN, FLAT SHEET TYPE G SQ FT	630 SIGNS, EXTRUSHEET TYPE G SQ FT	630 EXISTING SIGN REVISED WITH DEMOUNTABLE COPY EACH	630 GROUND MOUNTED SUPPORT, NO. 3 POST LIN FT	630 GROUND MOUNTED SUPPORT, NO. 4 POST LIN FT	630	630 GROUND MOUNTED SUPPORT, S4x 7.7 BEAM LIN FT	630 SIGN BACKING ASSEMBLY EACH	630 BREAKAWAY BEAM CONNECTION EACH	630 CONCRETE FOR EMBEDDED FOUNDATIONS CU YD	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH
				E.B. BROADWAY															
52A	45M	45FF		14+00 RT.	D-11A	96"x 18"		12					16.5-16.5		2	0.54			
52B					D-11A	96"x 18"		12											
52C					D-11A	96"x 18"		12											
				WOODLAND AVE,															
53	45W			6+70 LT.*	EXISTING												1		2
54A	45W			6+70 LT.*	IM-38-24	24"x 12"	2			16.5-16.7				1					
54B					M-5-24-2	24"x 24"	4												
54C					IM-21-21	21"x 15"	2.2												
54D					IM-8-24	24"x 12"	2							1					
54E					M-5-24-2	24"x 24"	4												
54F					IM-21-21	21"x 15"	2.2												
				ORANGE AVE.															
55	45W			2+33 LT.*	EXISTING													1	
56	45W			2+50 LT.*	R-31-SPCL	54"x 30"	11.25			15.0-15.0									
57A	45W			2+38 RT.*	(NO WORK)														
57B					EXISTING												1		
57C					(NO WORK)														
58	45W			2+50 RT.*	R-31-SPCL	54"x 30"	11.25			14.0-14.0									
59	45W			4+04 RT.*	EXISTING													1	
				E. 30th St															
60A	45X			13+41 LT.*	IM-38-24	24"x 12"	2				15.5-15.5			1					
60B					M-5-24-2	24"x 24"	4												
60C					IM-24-21	21"x 15"	2.2												
60D					IM-8-24	24"x 12"	2												
60E					M-5-24-2	24"x 24"	4												
60F					IM-24-21	21"x 15"	2.2												
				RAMP F-4															
61A	45X			2+30 RT.*	NO WORK														
61B					NO WORK														
61C					IM-28-30	30"x 24"	5										1		
61D					EXISTING												1		
				I-77 N.B.															
62	45V			118+20 RT.*	EXISTING				1										
TOTAL							60.3	36	1	91.2	31		33	3	2	0.54	4	2	2

* WORK TO BE PERFORMED IN THE PRELIMINARY PHASE. ALL QUANTITIES SHOWN W/O AN * SHALL BE PERFORMED DURING PHASES IA & IB.

CALCULATED LGM
CHECKED ACB

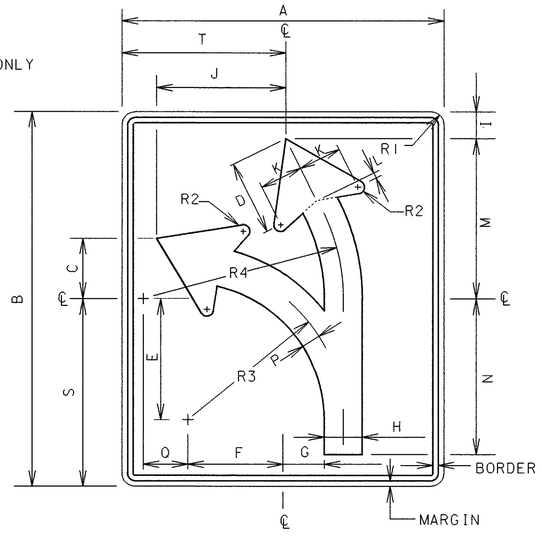
TRAFFIC CONTROL QUANTITIES
GROUND MOUNTED SIGNS

CUYAHOGA COUNTY
CUY-90-15.99

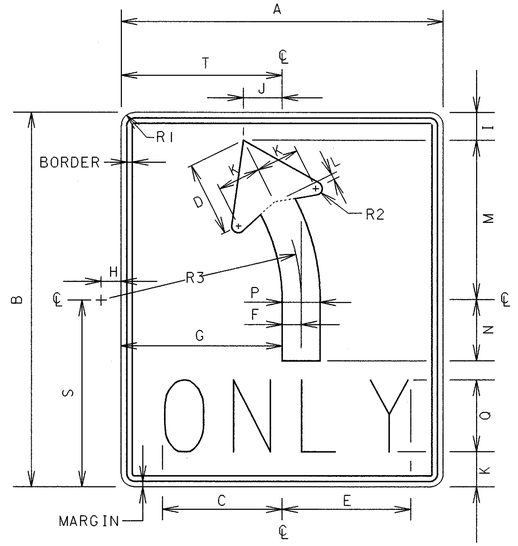
45A
151

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tsa.dgn
PLOT SUBMITTED: 29-MAY-1996 08:34

NOTE: DIMESIONS FOR BOTH ARROW HEADS ARE THE SAME BUT ARE ONLY SHOWN ON ONE FOR CLARITY.

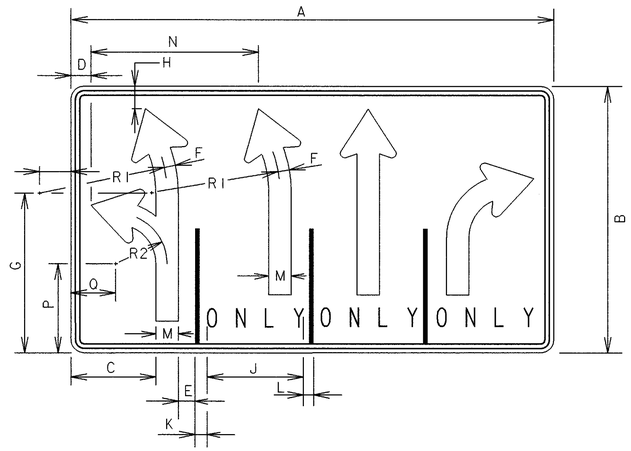


R-28A-SPCL



R-30A-SPCL

NOTE: SEE STANDARD SIGN SHOP DRAWINGS FOR DIMENSIONS NOT SHOWN.



R-31-SPCL

DIMENSIONS (INCHES)																													
CODE NO.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	O	S	T	U	V	W	X	Y	Z	R1	R2	R3	R4	BORDER	MARGIN
R-28A-SPCL	36	42	6¾	8 7/16	13½	10⅝	4⅝	4¼	3	14⅛	4 13/16	⅝	18	17⅜	2⅛	5	21	18 5/16							1½	¾	17⅜	22⅜	⅝	⅝
R-30A-SPCL	36	42	13⅜	8 7/16	14⅜	2⅛	18	2¼	3	4 5/16	4	⅝	18	6⅞	4¼	8	21	18							1½	¾	22⅜		⅝	⅝
R-31-SPCL	54	30	9½	2¼	1⅞	1¼	18	2½	-	10¾	1⅜	1⅛	2½	18⅝	10	5									14¼	5¾			½	½

WORK TO BE PERFORMED IN PRELIMINARY PHASE.

CALCULATED LGM
CHECKED XXX

SCALE IN FEET 0 1 2

TRAFFIC CONTROL
DETAIL SHEET

CUYAHOGA COUNTY
CUY-90-15.99

45AA
151

TRAFFIC CONTROL QUANTITIES

OVERHEAD MOUNTED SIGNS

SUPPORT NO.	PLAN SHEET NO.	ELEVATION VIEW SHEET NO.	LOCATION	SIGN SIZE	SIGN CODE NO.	630 SIGNS, EXTRUSHEET TYPE G	630 SIGN, PERMANENT OVERLAY, TYPE G	630 EXISTING SIGN REVISED WITH DEMOUNTABLE COPY	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, A.P.P.	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, A.P.P.	630 SIGN MISC.: REMOVAL AND REERECTION OF EXIT PANEL	630 OVERHEAD SIGN SUPPORT TYPE TC-7.65 SPAN 75' DESIGN NO. 8	630 OVERHEAD SIGN SUPPORT TYPE TC-12.30, DESIGN NO. 8, 30' ARM	630 SIGN ATTACHMENT ASSEMBLY	630 CONCRETE FOR ANCHOR BASE FOUNDATIONS	630 REMOVAL OF LUMINAIRE AND DISPOSAL	631 SIGN SERVICE	631 SIGN WIRED	630 LUMINAIRE SUPPORT ASSEMBLY TC-31.21 3'-3" ARMS	630 LUMINAIRE SUPPORT ASSEMBLY TC-31.21 4'-3" ARMS	630 LUMINAIRE SUPPORT ASSEMBLY TC-31.21 5'-9" ARMS	631 MERCURY VAPOR LUMINAIRE WITH LAMP TC-32.21 175W	631 MERCURY VAPOR LUMINAIRE WITH LAMP TC-32.21 250W	631 BALLAST, INTEGRAL TYPE CMRI 175W 480V	631 BALLAST, INTEGRAL TYPE CMRI 250W 480V	631 BALLAST, REMOTE TYPE CMRI 175W 480V	631 BALLAST, REMOTE TYPE CMRI 250W 480V	625 GROUND ROD	631 DISCONNECT SWITCH WITH ENCLOSURE, TYPE X
				FT X FT		SQ.FT.	SQ.FT.	EA	EA	EA	EA	EA	EA	EA		CU.YD.	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
			I-90																											
1	45F	45CC	1986+45	13'x 7.5'	GC	97.5								1		3.97													1	
				9'x 2'	GEP-108	18																								
2A	45G		35+40	NO WORK																										
2B			35+40	EXISTING			42																							
3A	45H		48+45	EXISTING			45					1																		
3B			48+45	EXISTING								1																		
4A	45I	45CC	55+52.5	EXISTING															1											
4B			55+52.5	12'x 10'	GB	120									1	16.52		1	1		2		2		2				1	1
				9'x 2'	GEP-108	18																								
4C			55+52.5	19'x 10'	GE	190													1		2		2		2					
				9'x 2'	GEP-108	18																								
5A	45I		56+65	EXISTING					1		1																			
5B			56+65	EXISTING						1																				
5C			56+65	EXISTING						1																				
6A	45J		61+71	NO WORK																										
6B			61+71	NO WORK																										
6C			61+71	EXISTING			48																							
7A	45K		74+25	NO WORK																										
7B			74+25	NO WORK																										
7C			74+25	EXISTING			51																							
			I-77																											
8	45N		141+82*	EXISTING				1																						
9	45N		177+10*	EXISTING				1																						
10A	45O		49+95 *	NO WORK																										
10B			49+95 *	EXISTING				1																						
10C			49+95 *	NO WORK																										
11A	45P		58+35 *	NO WORK																										
11B			58+35 *	EXISTING				1																						
12A	45Q		64+85 *	NO WORK																										
12B			64+85 *	EXISTING				1																						
			℄ RAMP S-E																											
13A	45R	45CC	10+37 *	15'x 6.5'	GE	97.5				1				3		2		1		2		2		2					
13B			10+37 *	NO WORK																										
			℄ RAMP N-W																											
14A	45S	45CC	7+30 *	NO WORK																										
14B			7+30 *	15'x 6.5'	GE	97.5				1				3		2		1		2		2		2					
TOTAL						656.5	186	5	1	4	1	2	1	6		20.49	4	1	5	4		8		8				2	1

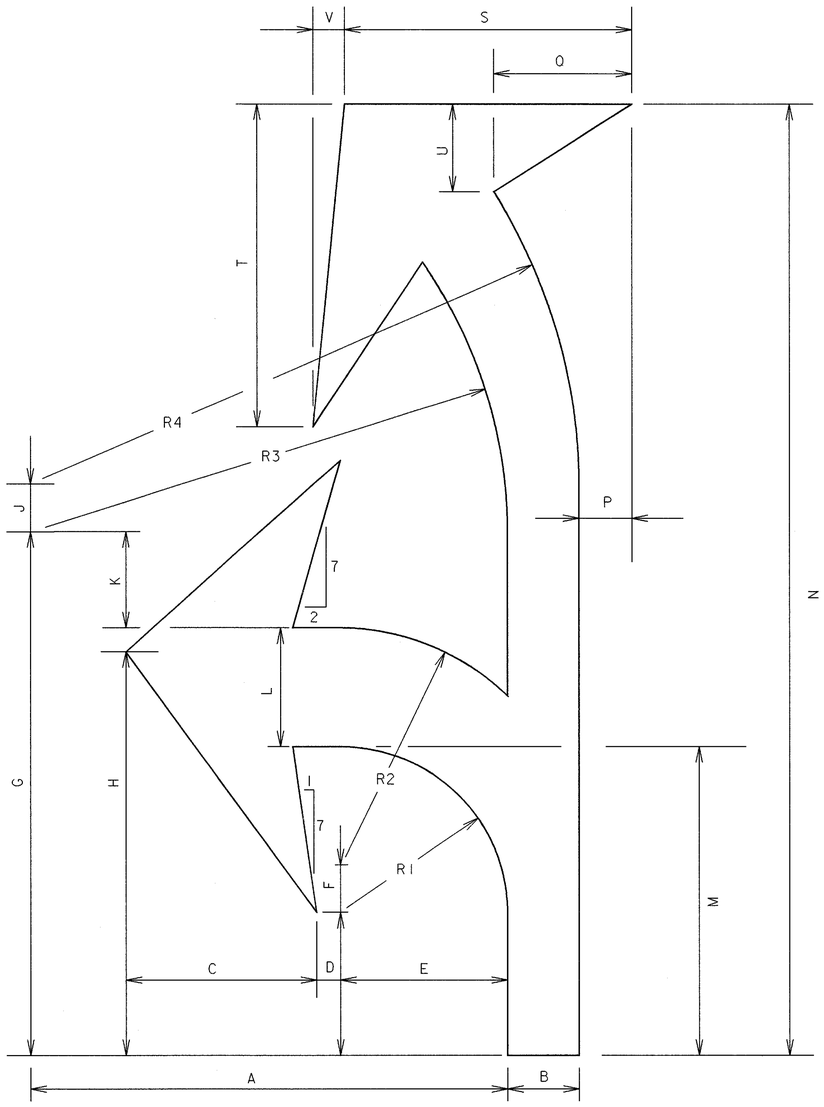
* WORK TO BE PERFORM IN PRELIMINARY PHASE
ALL QUANTITIES SHOWN W/O AN * SHALL BE
PERFORMED DURING PHASES IA & IB.

CALCULATED LGM
CHECKED ACB

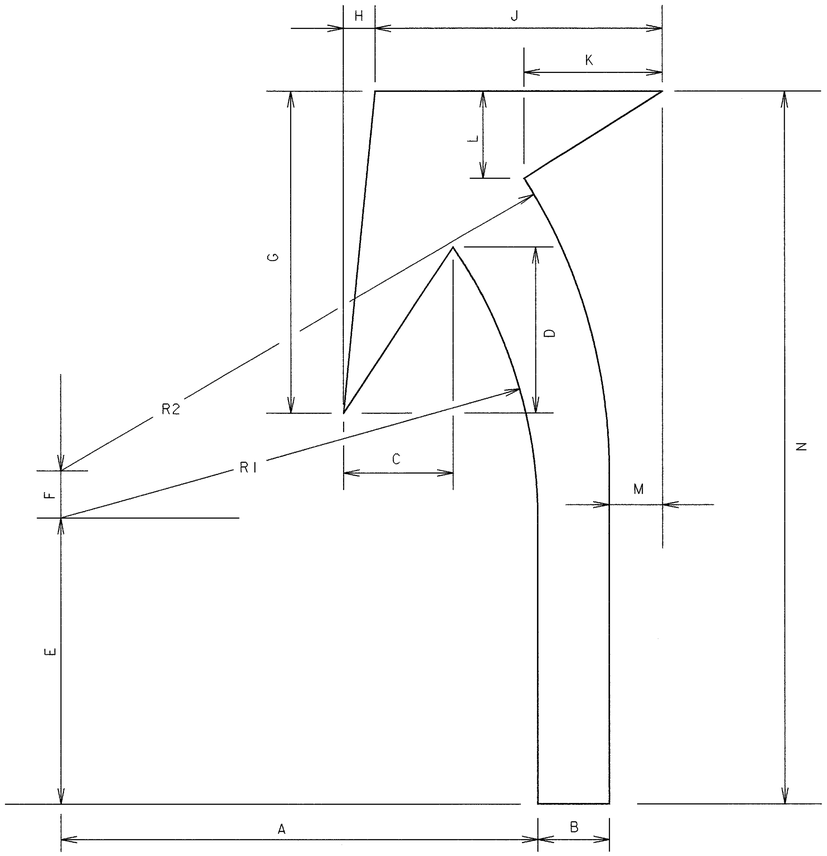
TRAFFIC CONTROL QUANTITIES
OVERHEAD MOUNTED SIGNS

CUYAHOGA COUNTY
CUY-90-15.99

45B
151



LANE ARROW AS PER PLAN
DETAIL A



LANE ARROW AS PER PLAN
DETAIL B

DIMENSIONS (INCHES)																												
DETAIL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	S	T	U	V	W	X	Y	Z	R1	R2	R3	R4
A	80	12	32	4	28	8	88	68	-	8	16	20	52	160	8 15/16	23 3/16	48 3/16	54 1/8	14 3/4	5 5/16					28	40	80	92
B	80	12	18 3/8	27 3/4	48 5/32	8	54 1/8	5 5/16	-	48 3/16	23 3/16	14 3/4	8 15/16	120											80	92		

WORK TO BE PERFORMED IN PRELIMINARY PHASE.

TRAFFIC CONTROL
PAVEMENT MARKING
DETAIL SHEET

CALCULATED LGM
CHECKED ACB

0 1 2
SCALE IN FEET

CUYAHOGA COUNTY
CUY-90-15.99

45BB
151

TRAFFIC CONTROL QUANTITIES

OVERHEAD MOUNTED SIGNS

SUPPORT NO.	PLAN SHEET NO.	ELEVATION VIEW SHEET NO.	LOCATION	SIGN SIZE	SIGN CODE NO.		630 SIGNS, EXTRUSHEET TYPE 6	630 SIGN, PERMANENT OVERLAY, TYPE 6	630 EXISTING SIGN REVISED WITH DEMOUNTABLE COPY		630 REMOVAL OF OVER-HEAD MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF OVER-HEAD SIGN SUPPORT AND DISPOSAL	630 OVERHEAD SIGN SUPPORT TYPE TC-7.65 SPAN	72'		630 OVERHEAD SIGN SUPPORT, TYPE TC-9.10, DESIGN 3	630 OVERHEAD SIGN SUPPORT TYPE TC-12.30, DESIGN NO. 8, 30' ARM	630 SIGN ATTACHMENT ASSEMBLY	630 SIGN BACKING ASSEMBLY	630 CONCRETE FOR ANCHOR BASE FOUNDATIONS	630 REMOVAL OF LUMINAIRE AND DISPOSAL	631 SIGN SERVICE	631 SIGN WIRED	631 SIGNS WIRED OVERPASS STRUCTURE MOUNTED	631 SWITCH ENCLOSURE MOUNTING BRACKET ASSEMBLY	630 LUMINAIRE SUPPORT ASSEMBLY TC-31.21			631 MERCURY VAPOR LUMINAIRE WITH LAMP TC-32.21		631 BALLAST, INTEGRAL TYPE CMRI		631 BALLAST, REMOTE TYPE CMRI		631 BALLAST WIRING ENCLOSURE			625 GROUND ROD	631 DISCONNECT SWITCH WITH ENCLOSURE, TYPE X
				FT X FT			SQ.FT.	SQ.FT.	EA		EA	EA	DESIGN NO.	6		EA	EA	EA	EA	CU.YD.	EA	EA	EA	EA	EA	EA	3'-3" ARMS	4'-3" ARMS	5'-9" ARMS	175W	250W	175W	250W	175W	250W	MOUNTING BRACKET ASSEMBLY	TYPE A	TYPE B	EA	EA
			I-77																																			
15A	45S		89+86 *	NO WORK																																		
15B			89+86 *	EXISTING					1																														
16A	45T		101+05 *	NO WORK																																		
16B			101+05 *	EXISTING					1																														
17A	45U	45DD	108+90 *	11'x 12.5'	GG		137.5				1							4			2		1				1			1		1						
17B			108+90 *	13'x 6.5'	GB		84.5				1							3			2		1			2			2		2						
				8'x 2'	GEP-96		16																															
17C				NO WORK																																		
17D				NO WORK																																		
18	45V		118+55 *	EXISTING					1																													
			WOODLAND AVE																																			
19	45W		7+50 *	EXISTING					1																													
			RAMP F-2																																			
20A	45W	45DD	13+15 *	16'x 7'	GG		112				1							3			2		1			2			2		2						
20B			13+15 *	9'x 7'	GE		63				1							2			1		1			1			1		1						
			E. 30th ST																																			
21	45W	45DD	10+51 *	EXISTING							2	1									2																	
21A	45W		10+56 *	9'x 8'	GH-1		72									1							1	1			1		1		1				1	1
21B			10+56 *	9'x 8'	GH-1		72																	1			1		1		1						
			ORANGE AVE																																			
22A	45W	45DD	4+93 *	3'x 3.5'	R-28A-SPCL		10.5						1							9.54																1	
22B			4+93 *	3'x 3.5'	R-30A-SPCL		10.5																															
22C			4+93 *	3'x 3.5'	R-30A-36		10.5																															
22D			4+93 *	3'x 3.5'	M-45-SPCL		12.3																															
22E			4+93 *	3'x 3.5'	R-27A-36		10.5																															
			I-77																																			
23A	45X	45EE	125+60 *	11'x 12.5'	GG		137.5				1							4			2		1				1			1		1						
23B			125+60 *	14'x 6.5'	GE		91				1							3			2		1			2			2		2						
				8'x 2'	GEP-96		16																															
23C			125+60 *	NO WORK																																		
			RAMP F-4																																			
24A	45X		1+12 *	EXISTING					1																													
24B			1+12 *	NO WORK																																		
24C			1+12 *	NO WORK																																		
			E. 30th ST																																			
25A	45X		13+29 *	EXISTING					1																													
25B			13+29 *	EXISTING					1																													
TOTAL							855.8		7		8	1		1			1		19		9.54	13	1	8			7	2	2	9	2	9	2					2	1

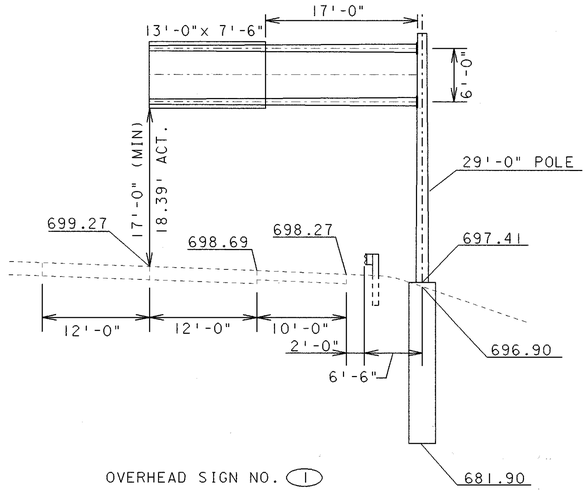
* WORK TO BE PERFORMED IN PRELIMINARY PHASE
ALL QUANTITIES SHOWN W/O AN * SHALL BE
PERFORMED DURING PHASES IA & IB.

CALCULATED LGM
CHECKED ACB

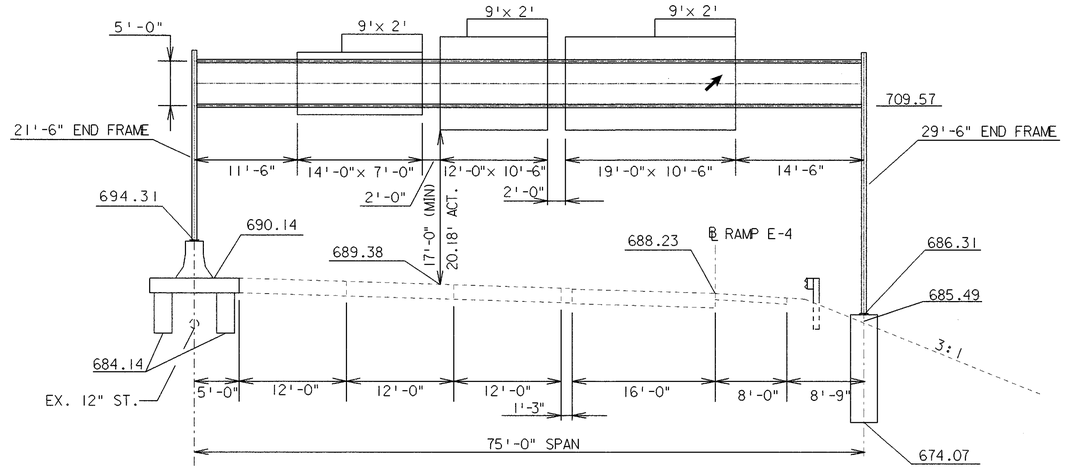
TRAFFIC CONTROL QUANTITIES
OVERHEAD MOUNTED SIGNS

CUYAHOGA COUNTY
CUY-90-15.99

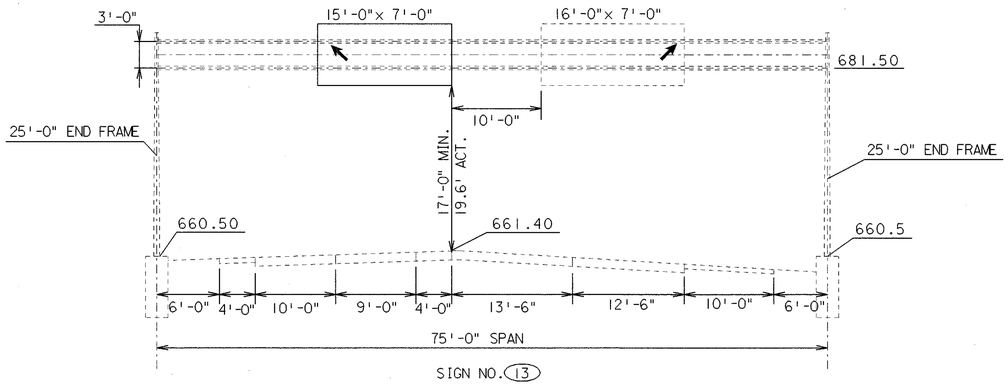
45C
151



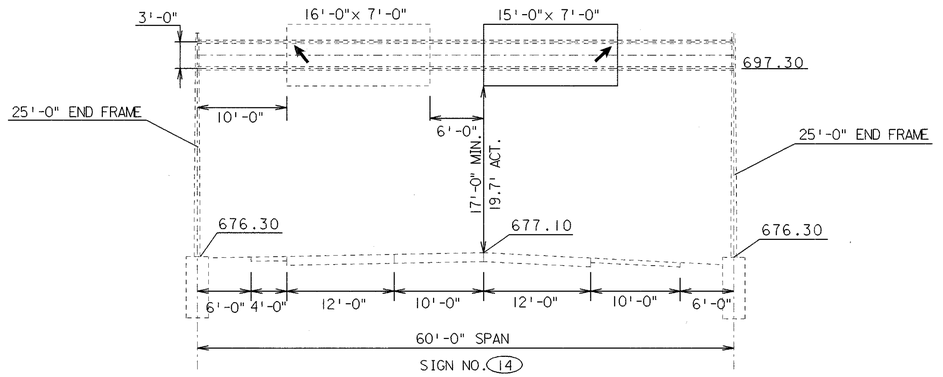
OVERHEAD SIGN NO. (1)
STA.1986+45, E.B. I-90
TYPE TC-12.30, DES. 8
30'-0" ARM
WORK TO BE PERFORMED DURING PHASES IA & IB.



SIGN NO. (4)
STA. 55+52.5 E.B. I-90
TYPE TC-7.65 DESIGN NO. 8
WORK TO BE PERFORMED DURING PHASES IA & IB.



SIGN NO. (13)
STA. 10+37 RAMP S-E
EXISTING I-129 NO. 7.4 DESIGN NO. 1
WORK TO BE PERFORMED DURING PRELIMINARY PHASE



SIGN NO. (14)
STA. 7+30 RAMP N-W
EXISTING I-129 NO. 7.3 DESIGN NO. 2
WORK TO BE PERFORMED DURING PRELIMINARY PHASE

SCALE IN FEET
0 8 16

CALCULATED LGM
CHECKED XXX

OVERHEAD SIGN SUPPORT ELEVATION VIEWS

CUYAHOGA COUNTY
CUY-90-15.99

45CC
151

1 4 13 14 OVERHEAD SIGN SUPPORT ELEVATION VIEWS

TRAFFIC CONTROL QUANTITIES

OVERHEAD MOUNTED SIGNS

SUPPORT NO.	PLAN SHEET NO.	ELEVATION VIEW SHEET NO.	LOCATION	SIGN SIZE	SIGN CODE NO.	630 SIGNS, EXTRUSHEET TYPE G	630 EXISTING SIGN REVISED WITH DEMOUNTABLE COPY	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN	630 OVERPASS STRUCTURE MOUNTED SIGN SUPPORT TYPE TC-18.24, AS PER PLAN	630 SIGN ATTACHMENT ASSEMBLY	630 REMOVAL OF LUMINAIRE AND DISPOSAL	631 SIGN SERVICE	631 SIGN WIRED	631 SIGNS WIRED OVERPASS STRUCTURE MOUNTED	630 LUMINAIRE SUPPORT ASSEMBLY TC-31.21			631 MERCURY VAPOR LUMINAIRE WITH LAMP TC-32.21		631 BALLAST, INTEGRAL TYPE CMRI		631 BALLAST, REMOTE TYPE CMRI		631 BALLAST WIRING ENCLOSURE			631 DISCONNECT SWITCH WITH ENCLOSURE, TYPE X
				FT X FT		SQ.FT.	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	3'-3" ARMS	4'-3" ARMS	5'-9" ARMS	175W	250W	175W 480V	250W 480V	175W 480V	250W 480V	MOUNTING BRACKET ASSEMBLY	TYPE A	TYPE B	EA
			I-77																											
26	45X	45EE	123+50*	9'x 6.5'	GH-1	71.5			1	1		1		1		1					1				1			1		1
27	45X		123+50*	EXISTING			1																							
28A	45Y	45EE	46+00*	15'x 12.5'	GG	187.5		1					5	2		1				1		1			1					
28B			46+00*	14'x 6.5'	GE	109		1					3	2		1		2			2		2							
				8'x 2'	GEP-96	16							3																		
28C			46+00*	EXISTING							1																				
			RAMP E-17																											
29A	45Z	45FF	1+87*	15'x 10'	GE	150		1					5	2		1				2		2		2						
29B			1+87*	15'x 10'	GG	150		1					5	2		1			1		1		1							
29C			1+87*	14'x 6.5'	GE	91							3			1					2		2							
				8'x 2'	GEP-96	16																									
TOTAL						791	1	4	1	1	1	1	24	9		6	1	2	1	3	6	3	5	3	1			1		1

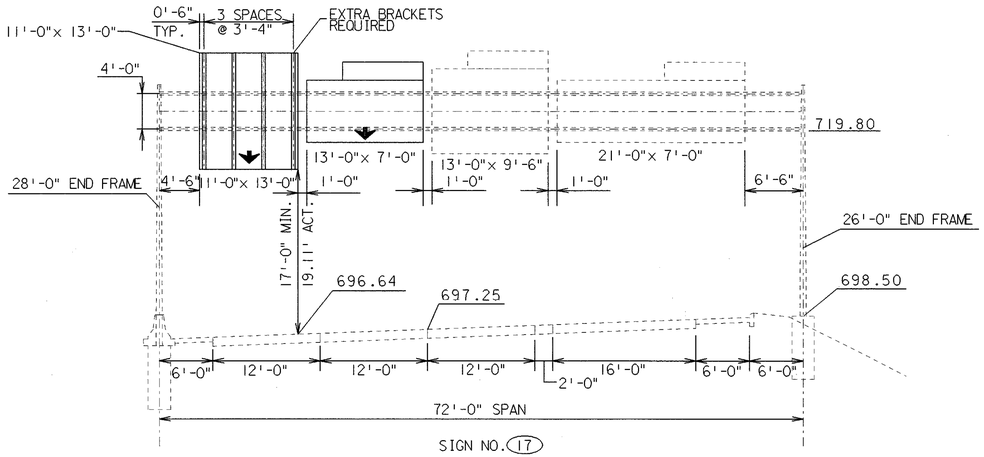
* WORK TO BE PERFORMED IN PRELIMINARY PHASE
ALL QUANTITIES SHOWN W/O AN * SHALL BE
PERFORMED DURING PHASES IA & IB.

CALCULATED LGM
CHECKED ACB

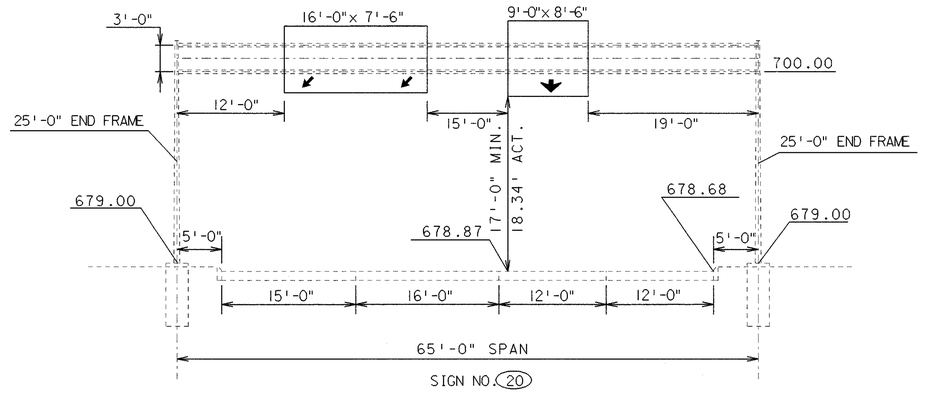
TRAFFIC CONTROL QUANTITIES
OVERHEAD MOUNTED SIGNS

CUYAHOGA COUNTY
CUY-90-15.99

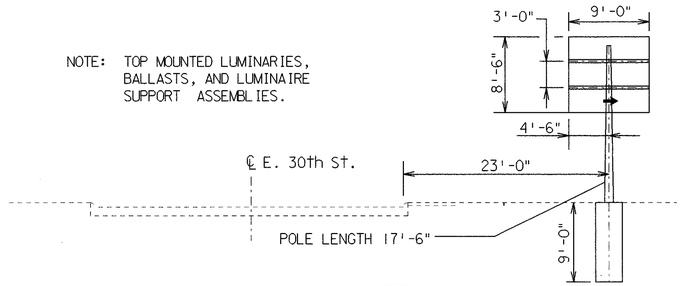
45D
151



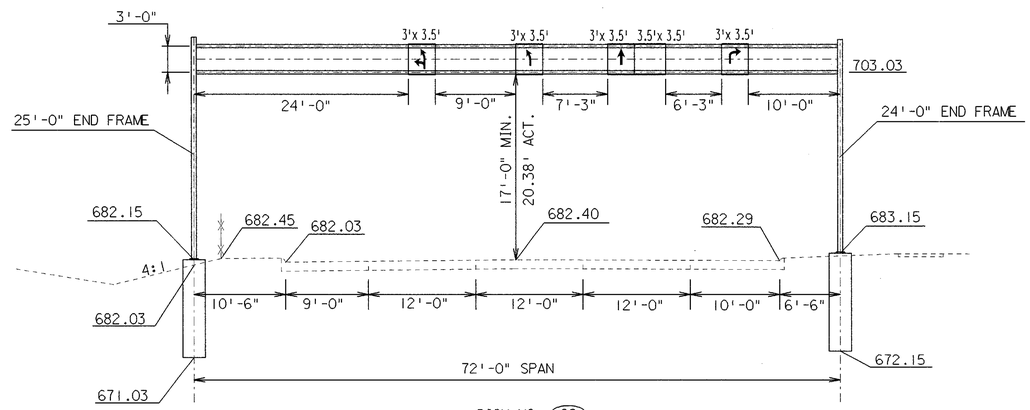
SIGN NO. (17)
STA. 108+90 N.B. I-77
EXISTING I-129 NO. 7.5 DESIGN NO. 2
WORK TO BE PERFORMED DURING PRELIMINARY PHASE



SIGN NO. (20)
STA. 13+15 RAMP F-2
EXISTING I-129 NO. 7.4 DESIGN NO. 1
WORK TO BE PERFORMED DURING PRELIMINARY PHASE



SIGN NO. (21)
STA. 10+56 E. 30th St.
NO. TC-9.10 DESIGN 3
ARM 9'-0"
WORK TO BE PERFORMED DURING PRELIMINARY PHASE



SIGN NO. (22)
STA. 3+93 ORANGE AVE.
TYPE TC-7.65 DESIGN 6
WORK TO BE PERFORMED DURING PRELIMINARY PHASE

OVERHEAD SIGN SUPPORT ELEVATIONS

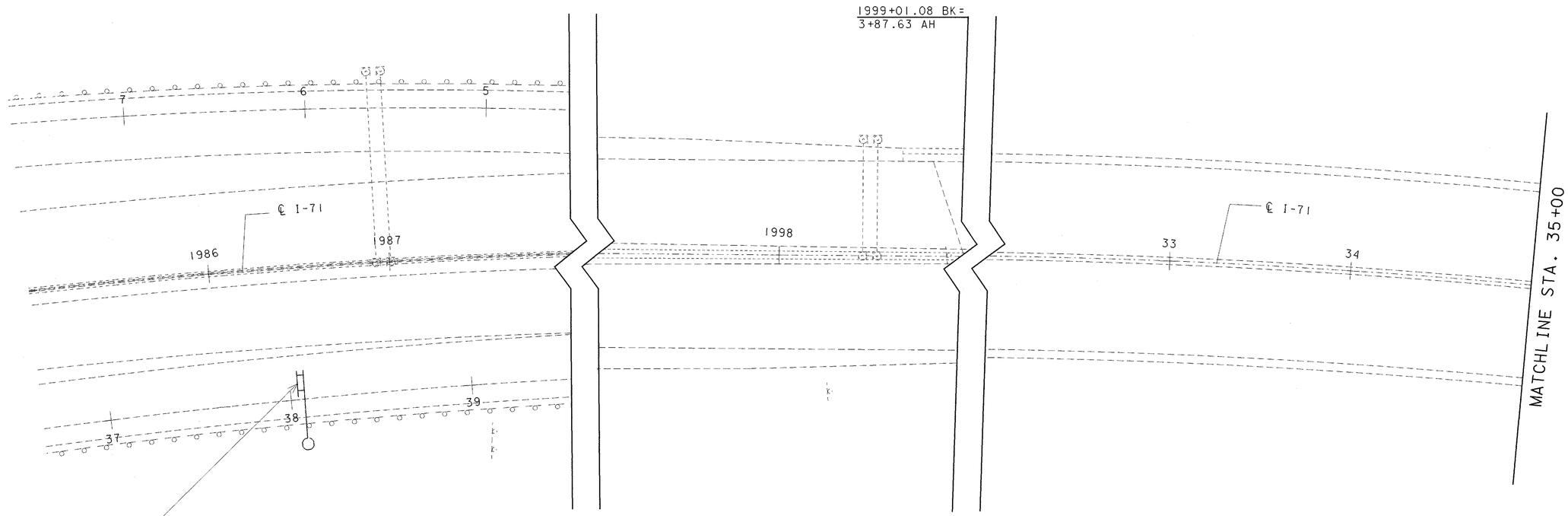
SCALE IN FEET 0 8 16

CALCULATED LGM
CHECKED ACB

CUYAHOGA COUNTY
CUY-90-15.99

45DD
151

17 20 21 22 OVERHEAD SIGN SUPPORT ELEVATION VIEWS



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN REMOVED
- PROPOSED SIGN

NOTE: SIGN SIZES SHOWN ARE THE EFFECTIVE SIGN SIZES.

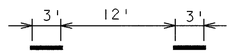
ALL SIGNS SHOWN IN THE PLANS WITH LEGENDS TO BE REVISED, SHALL HAVE THEIR LEGENDS RECENTERED.

EXISTING PAVEMENT MARKING LEGEND

- (A) CENTER LINE, DOUBLE
- (B) LANE LINE
- (C) TRANSVERSE LINE
- (D) EDGE LINE (YELLOW)
- (E) EDGE LINE (WHITE)
- (F) STOP LINE
- (G) LANE ARROW
- (H) CHANNELIZING LINE
- (J) DOTTED LINE
- (K) CROSSWALK LINE

PROPOSED PAVEMENT MARKING LEGEND

- (1) LANE LINE
- (2) CHANNELIZING LINE
- (3) TRANSVERSE LINE
- (4) EDGE LINE (YELLOW)
- (5) EDGE LINE (WHITE)
- (6) STOP LINE
- (7) CROSSWALK LINE
- (8) 4" DOTTED LINE
- (9) LANE ARROW
- (10) WORD "ONLY" ON PAVEMENT, 72"
- (11) CHANNELIZING LINE, AS PER PLAN (SEE DETAIL A)



DETAIL A

WORK TO BE PERFORMED DURING PHASES IA & IB.

CROSS REFERENCE	
ITEM	SHEET
SIGN ELEVATION VIEW	45CC
SIGNING SUB SUMMARY	45B

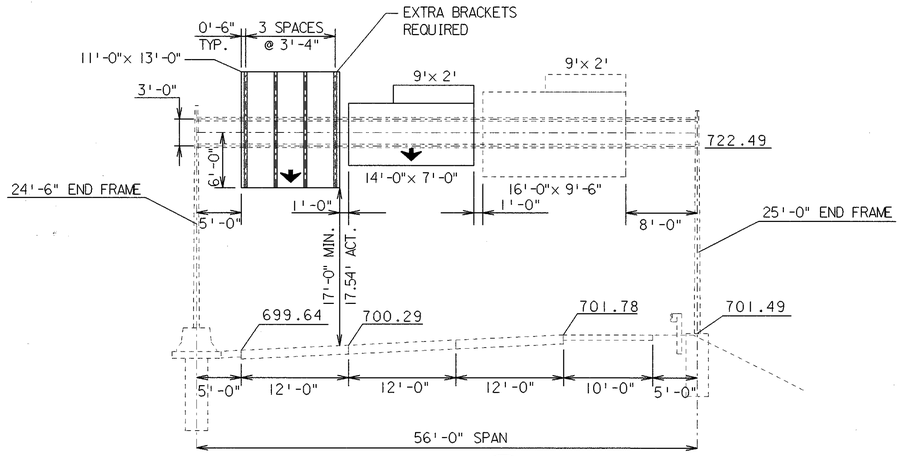
CALCULATED LGM
CHECKED XXX

0 30 60
SCALE IN FEET

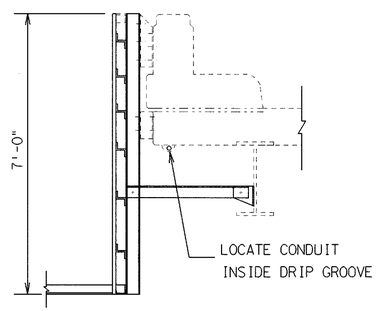
TRAFFIC CONTROL PLAN SHEET
IR-90
STA. 1985+00 TO STA. 35+00

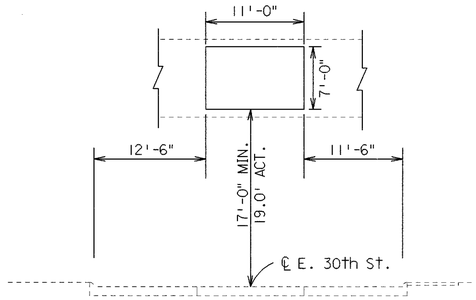
CUYAHOGA COUNTY
CUY-90-15.99

45F
151

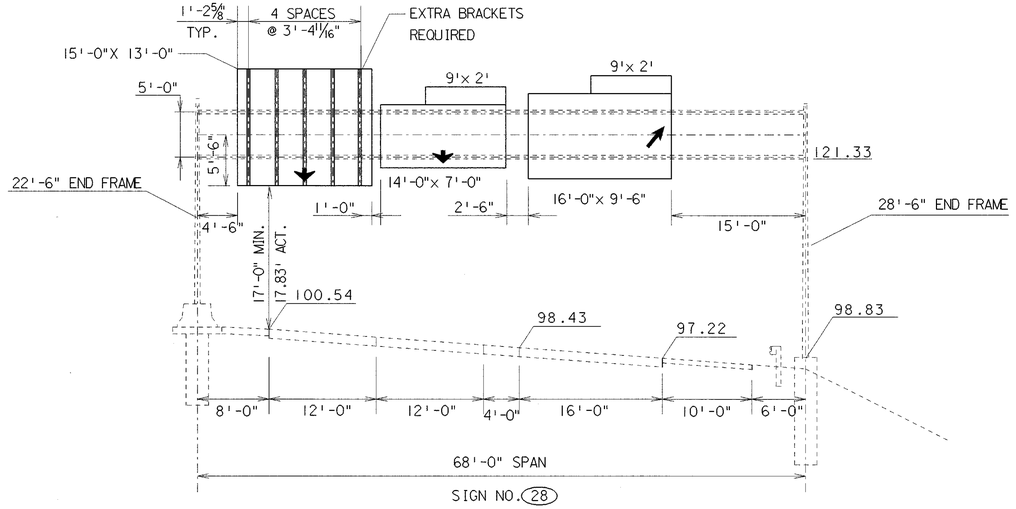


SIGN NO. (23)
STA. 125+60 I-77 N.B.
EXISTING I-129 NO. 7.5 DESIGN NO. 1 (MOD.)
WORK TO BE PERFORMED DURING PRELIMINARY PHASE

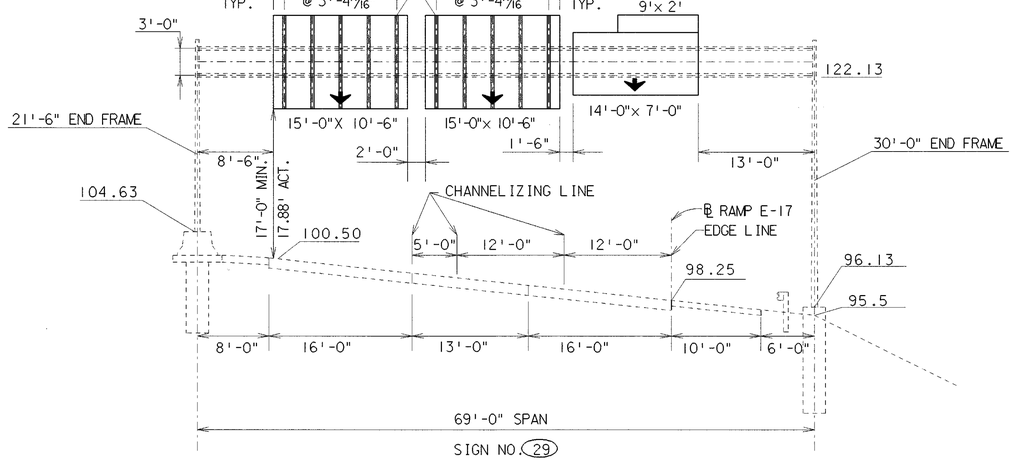




SIGN NO. (26)
MOUNTED ON I-77 STRUCTURE STA. 125+50±
OVER E. 30th St
TC-18.24, AS PER PLAN
WORK TO BE PERFORMED DURING PRELIMINARY PHASE



SIGN NO. (28)
STA. 46+00 I-77 N.B.
EXISTING TC-7.65 DESIGN NO. 8 (MOD.)
WORK TO BE PERFORMED DURING PRELIMINARY PHASE



SIGN NO. (29)
STA. 1+87 ℄ RAMP E-17
STA. 51+72 I-77 N.B.
EXISTING TC-7.65 DESIGN NO. 6 (MOD.)
WORK TO BE PERFORMED DURING PRELIMINARY PHASE

OVERHEAD SIGN SUPPORT ELEVATION VIEWS

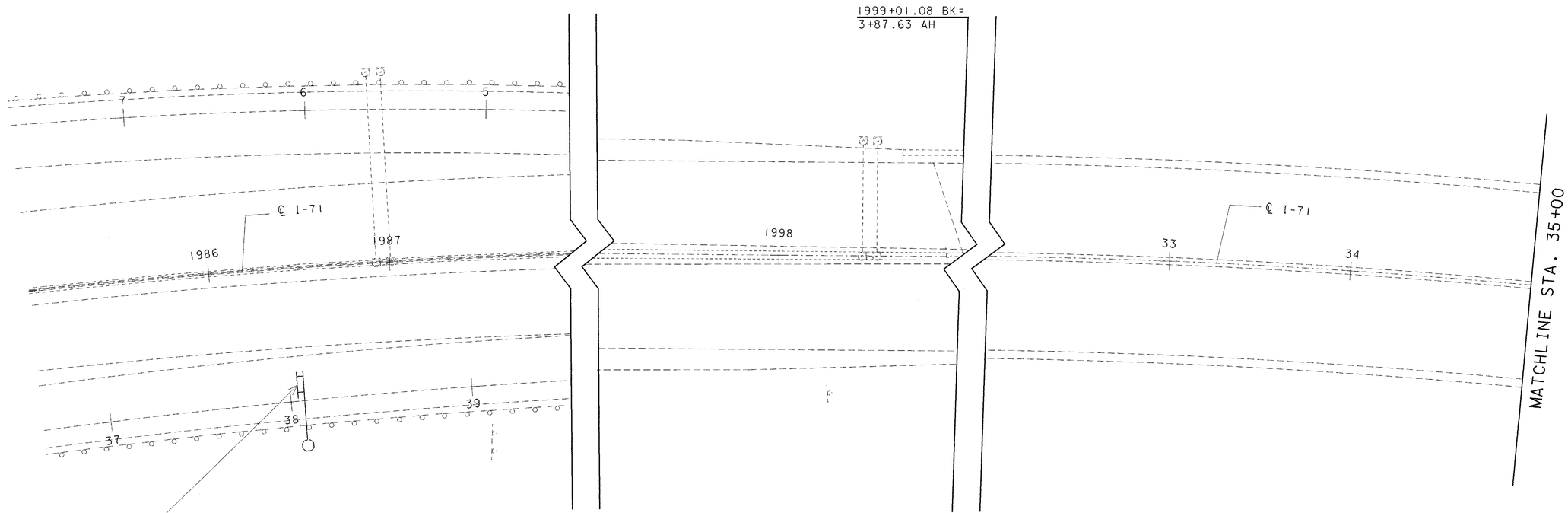
CUYAHOGA COUNTY
CUY-90-15.99

CALCULATED LGM
CHECKED ACB

SCALE IN FEET 0 8 16

45EE
151

(23) (26) (28) (29) OVERHEAD SIGN SUPPORT ELEVATION VIEWS



SIGNING LEGEND

— EXISTING SIGN TO REMAIN

— EXISTING SIGN REMOVED

— PROPOSED SIGN

NOTE: SIGN SIZES SHOWN ARE THE EFFECTIVE SIGN SIZES.

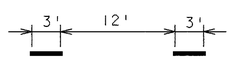
ALL SIGNS SHOWN IN THE PLANS WITH LEGENDS TO BE REVISED, SHALL HAVE THEIR LEGENDS RECENTERED.

EXISTING PAVEMENT MARKING LEGEND

(A) CENTER LINE, DOUBLE
(B) LANE LINE
(C) TRANSVERSE LINE
(D) EDGE LINE (YELLOW)
(E) EDGE LINE (WHITE)
(F) STOP LINE
(G) LANE ARROW
(H) CHANNELIZING LINE
(J) DOTTED LINE
(K) CROSSWALK LINE

PROPOSED PAVEMENT MARKING LEGEND

(1) LANE LINE
(2) CHANNELIZING LINE
(3) TRANSVERSE LINE
(4) EDGE LINE (YELLOW)
(5) EDGE LINE (WHITE)
(6) STOP LINE
(7) CROSSWALK LINE
(8) 4" DOTTED LINE
(9) LANE ARROW
(10) WORD "ONLY" ON PAVEMENT, 72"
(11) CHANNELIZING LINE, AS PER PLAN (SEE DETAIL A)



DETAIL A

WORK TO BE PERFORMED DURING PHASES IA & IB.

CROSS REFERENCE	
ITEM	SHEET
SIGN ELEVATION VIEW	45CC
SIGNING SUB SUMMARY	45B

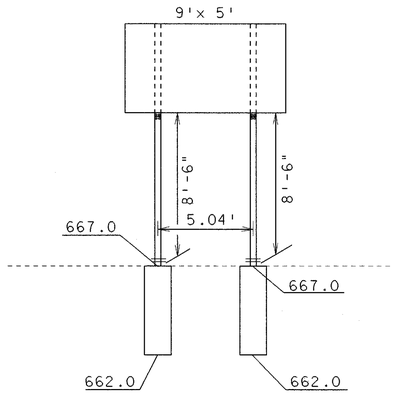
CALCULATED LGM
CHECKED XXX

0 30 60
SCALE IN FEET

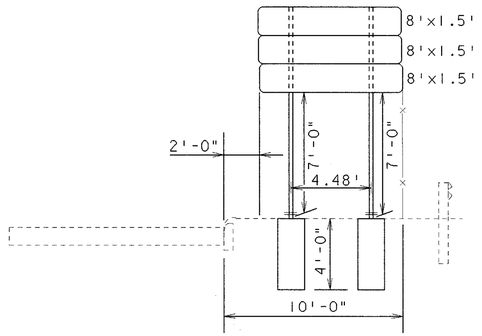
TRAFFIC CONTROL PLAN SHEET
IR-90
STA. 1985+00 TO STA. 35+00

CUYAHOGA COUNTY
CUY-90-15.99

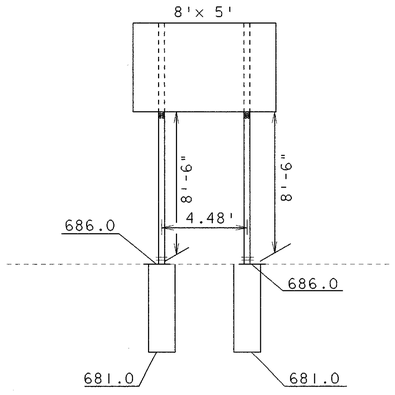
45F
151



SIGN NO. (51)
RAMP E-11
STA. 79+93 RT. (I-90)
TWO BEAMS (W6x9)
(BREAKAWAY)
WORK TO BE PERFORMED DURING PHASES IA & IB.



SIGN NO. (52)
BROADWAY
STA. 14+00 RT.
TWO BEAMS (S4x7.7)
(BREAKAWAY)
WORK TO BE PERFORMED DURING PHASES IA & IB.



SIGN NO. (62)
STA. 1+33 RT. (RAMP E-9)
TWO BEAMS (W6x9)
(BREAKAWAY)
WORK TO BE PERFORMED DURING PRELIMINARY PHASE.

CALCULATED LGM
CHECKED ACB

SCALE IN FEET
0 4 8

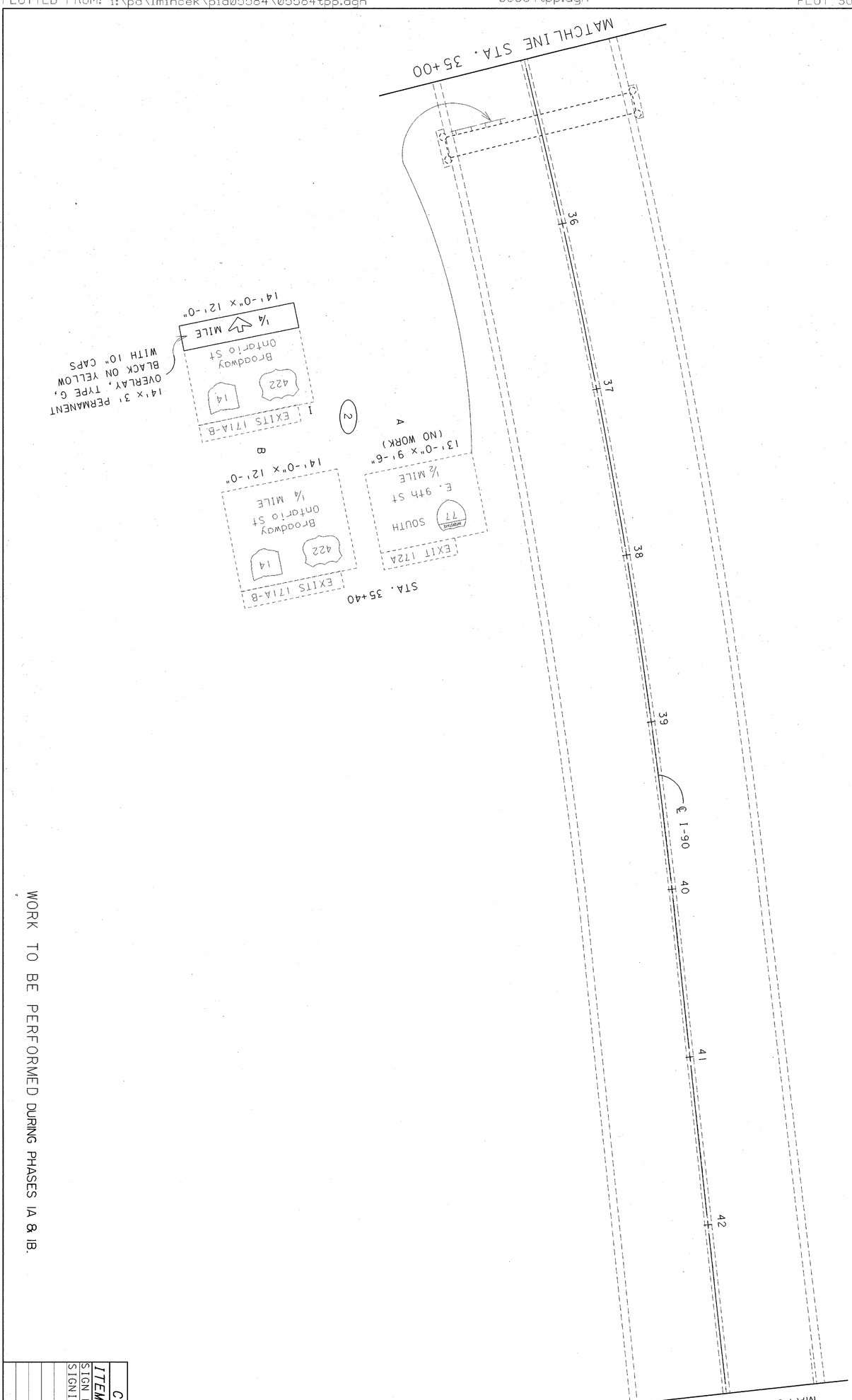
GROUND MOUNTED SIGN DETAILS

CUYAHOGA COUNTY
CUY-90-15.24

45FF
151

(51) (52) (62) GROUND MOUNTED SIGN DETAILS

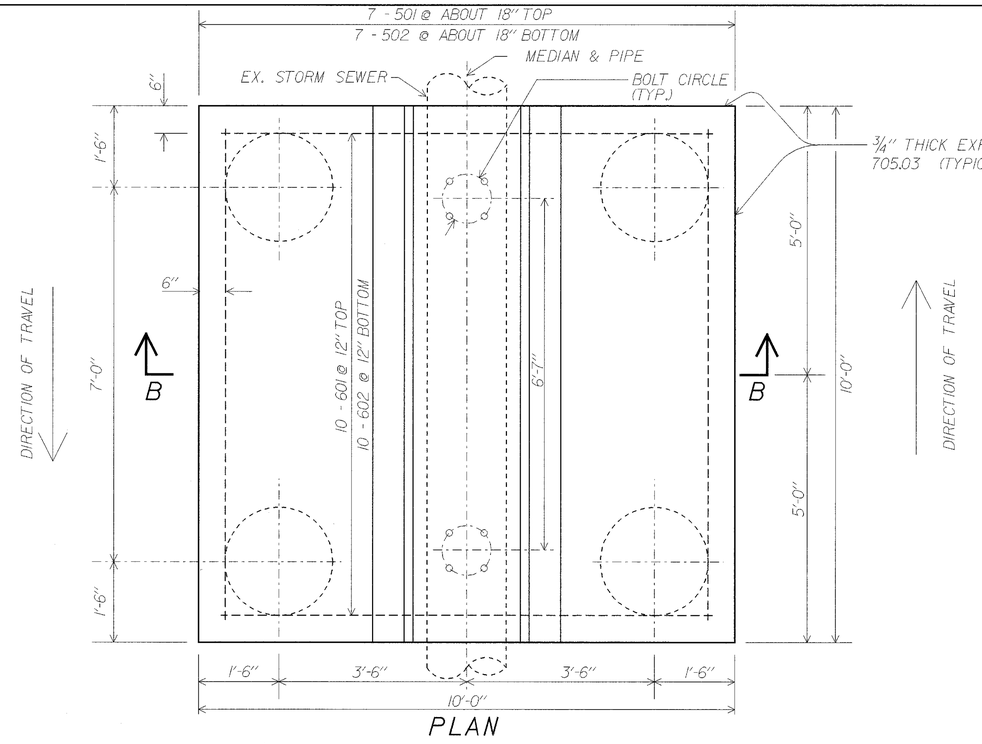
PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584ted.dgn
PLOT SUBMITTED: 31-MAY-1996 11:10
05584ted.dgn

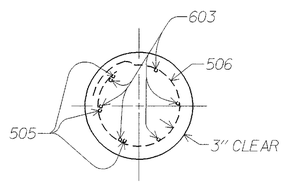


WORK TO BE PERFORMED DURING PHASES IA & IB.

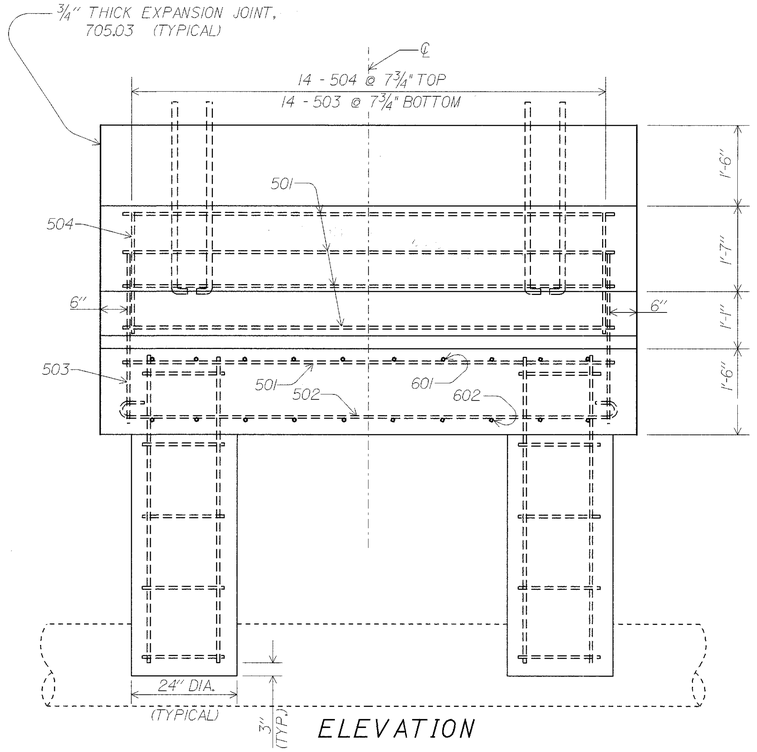
CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
SIGNING SUB SUMMARY	45B

456 / 151	CUYAHOGA COUNTY CUY-90-15.99	TRAFFIC CONTROL PLAN SHEET IR-90 STA. 35+00 TO STA. 43+00	CALCULATED LGM CHECKED ACB 0 30 60 SCALE IN FEET

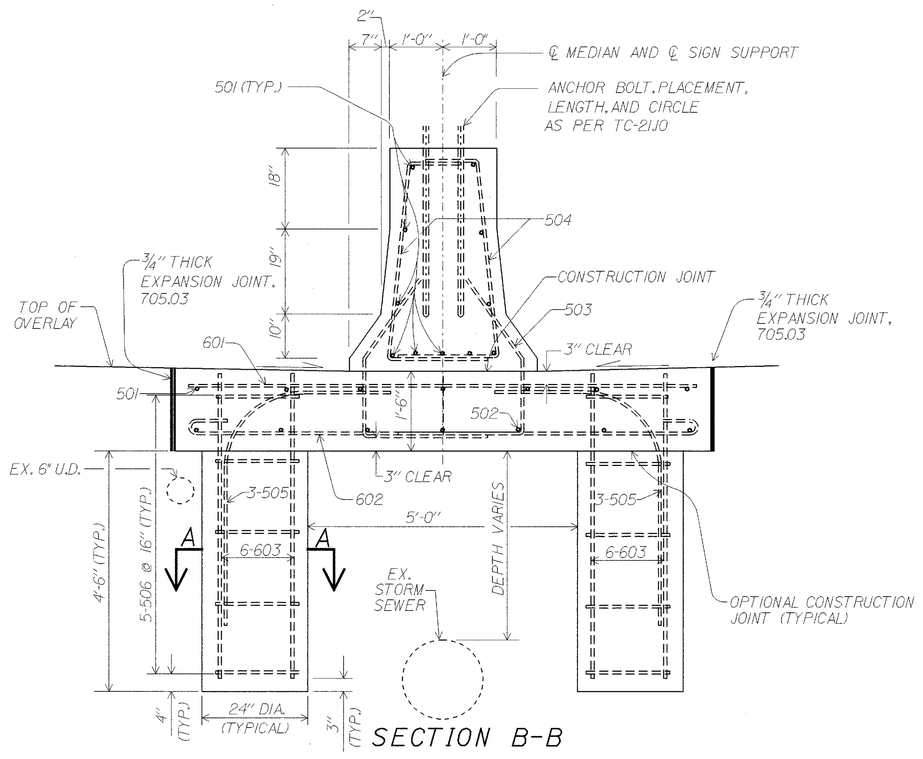




SECTION A-A



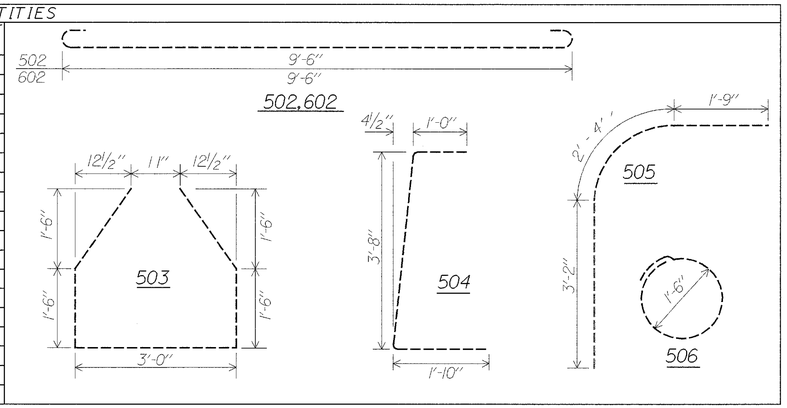
ELEVATION



SECTION B-B

REINFORCING STEEL QUANTITIES

MARK	NO.	LENGTH	TYPE	SER. INCR.	WEIGHT (LBS.)
501	18	9'-6"	STR		178
502	7	10'-8"	BT		78
503	14	9'-6"	BT		139
504	28	6'-3"	BT		183
505	12	7'-3"	BT		91
506	20	6'-0"	BT		125
601	10	9'-6"	STR		143
602	10	10'-10"	BT		163
603	24	5'-6"	STR		198
			TOTAL		1307



NOTES:
ALL NOTES LISTED ON STANDARD CONSTRUCTION DRAWING TC-21.40 (DATED 3-1-79) SHALL APPLY TO THE WORK.

SPECIAL CARE SHOULD BE TAKEN DURING CONSTRUCTION TO PREVENT DAMAGE TO EXISTING PIPES.
CAISSONS AND SLABS SHALL BE PLACED IN WELL-COMPACTED, UNDISTURBED SOIL.

WHEN REQUIRED, THE REMOVAL OF EXISTING PAVEMENT IN ORDER TO INSTALL THE FOUNDATION TO THE DIMENSIONS SHOWN SHALL BE PAID FOR UNDER THE PERTINENT ROADWAY REMOVAL ITEMS.
ALL ITEMS SHALL BE INCLUDED UNDER ITEM 630 - CONCRETE FOR ANCHOR BASE FOUNDATIONS FOR PAYMENT

CALCULATED LGM
CHECKED XXX

0 1 2 SCALE IN FEET

TRAFFIC CONTROL MISCELLANEOUS DETAIL
FOUNDATION DESIGN FOR OVERHEAD SIGN SUPPORT TYPE TC-7.65
DESIGN 8, OVERHEAD SIGN NO. 4, STA. 55+52.5, I-90 E.B.

CUYAHOGA COUNTY
CUY-90-15.99

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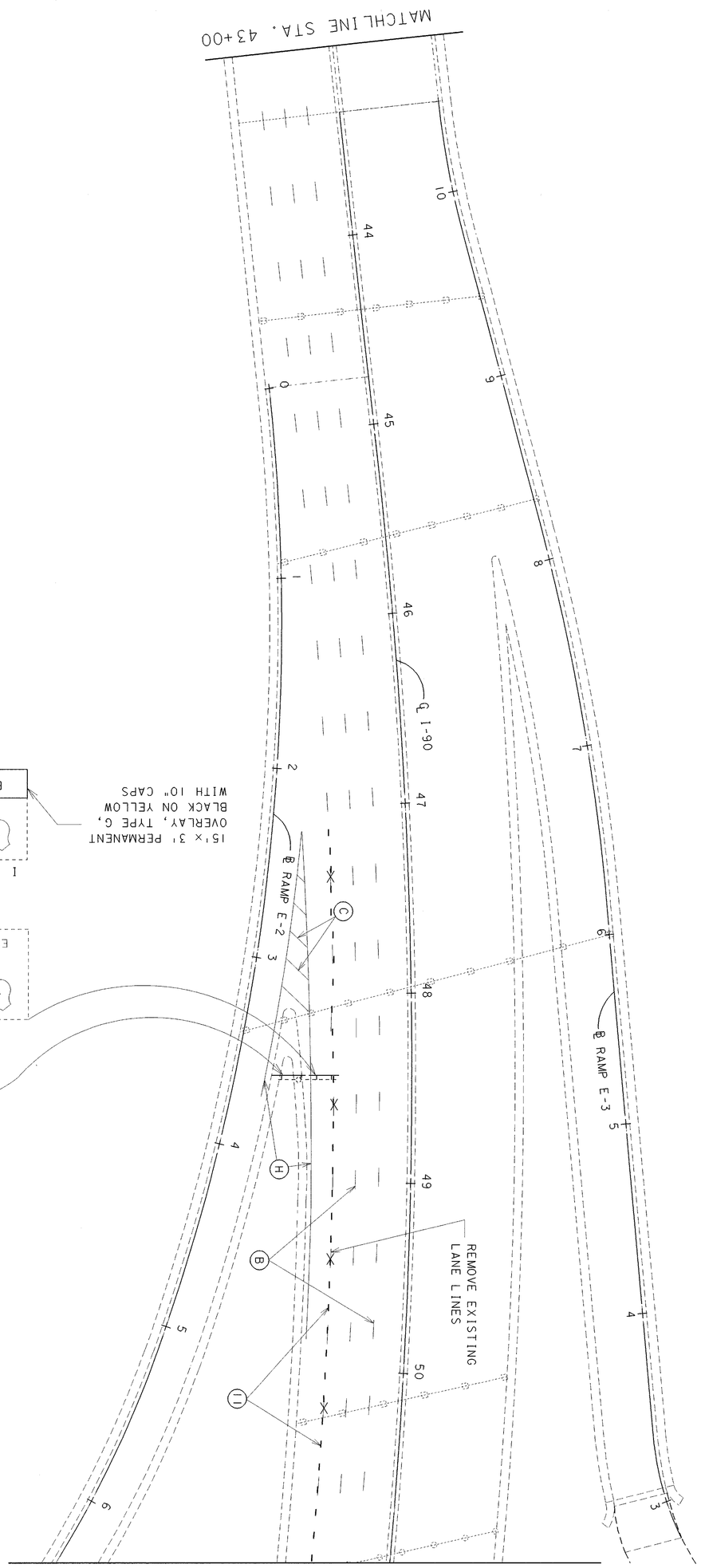
151

TRAFFIC CONTROL MISCELLANEOUS DETAILS

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tpq.dgn
05584tpq.dgn
PLOT SUBMITTED: 29-MAY-1996 10:19



WORK TO BE PERFORMED DURING PHASES IA & IB.

CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
PAV'T MARKING LEGEND	45F
PAV'T MARKING SUB SUMMARY	45
SIGNING SUB SUMMARY	45B

45H
151

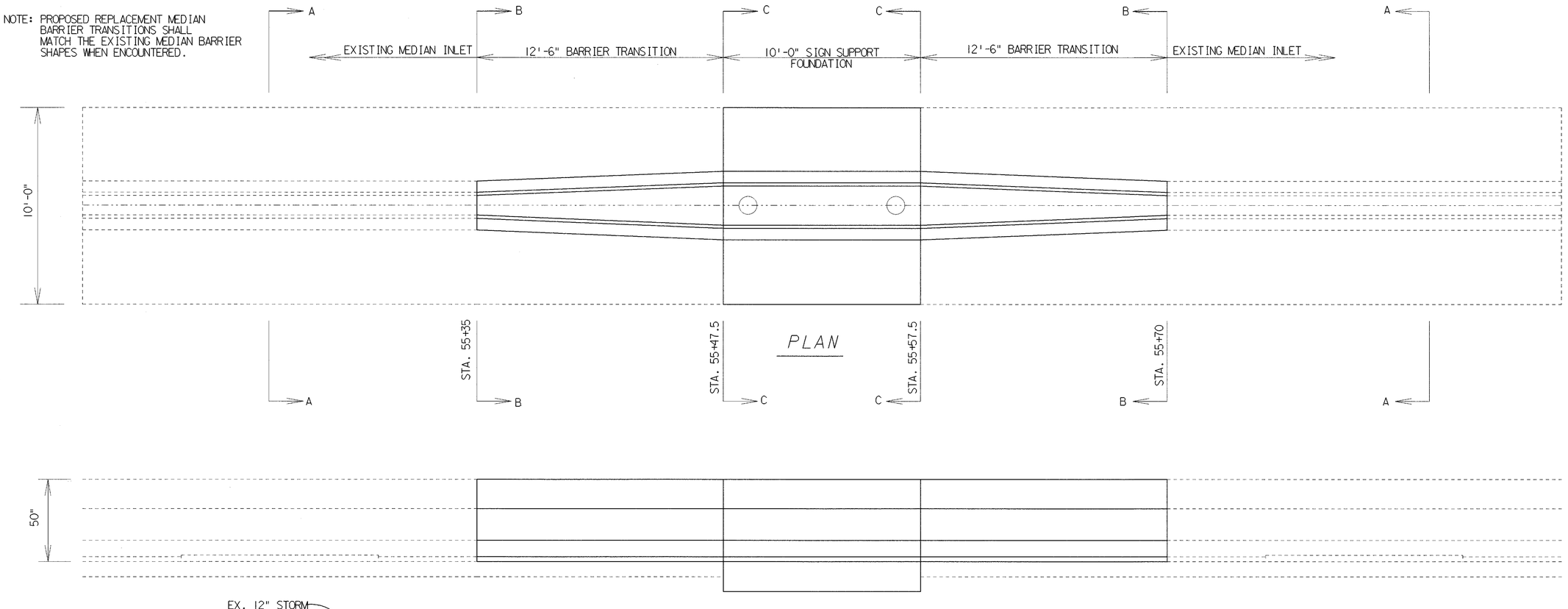
CUYAHOGA COUNTY
CUY-90-15.99

TRAFFIC CONTROL PLAN SHEET
IR-90
STA. 43+00 TO STA. 51+00

CALCULATED LGM
CHECKED ACB

0 30 60
SCALE IN FEET

NOTE: PROPOSED REPLACEMENT MEDIAN BARRIER TRANSITIONS SHALL MATCH THE EXISTING MEDIAN BARRIER SHAPES WHEN ENCOUNTERED.



PLAN

ELEVATION

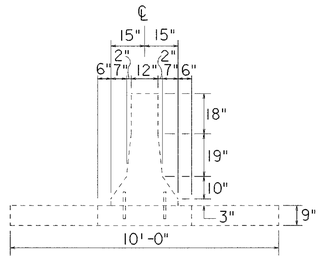
MEDIAN CONCRETE BARRIER SUB-SUMMARY

LOCATION		LENGTH	202	202		603			622
STATION			CONCRETE BARRIER REMOVED	PAVEMENT REMOVED		6" CONDUIT, TYPE F, 707.17, NON-PERFORATED, ASTM D3034, SDR 35, SS 931 OR SS 944			CONCRETE BARRIER TYPE B50, AS PER PLAN
FROM	TO	LIN. FT.	LIN. FT.	SQ. YD.		SQ. YD.			LIN. FT.
55+35	55+70	35	35	38.9					
55+35	55+47.5	12.5							12.5
55+47.5	55+57.5	10				*10			
55+57.5	55+70	12.5							12.5
TOTAL			35	39		*10			25

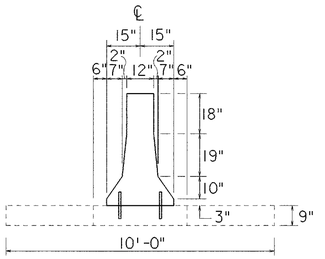
NOTE:
ANY CONCRETE BASE DAMAGED IN THE BARRIER TRANSITION SECTIONS DURING THE REMOVAL OF THE EXISTING MEDIAN CONCRETE BARRIER SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.

SEE SHEET 45C FOR SIGN SUPPORT QUANTITIES.

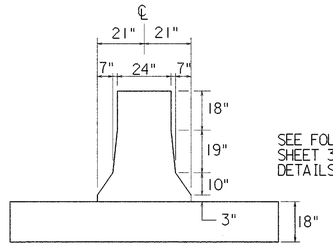
* NOTE: QUANTITY TO BE USED IF A CONFLICT BETWEEN THE PROPOSED FOUNDATION AND EXISTING UNDERDRAIN ARISES.



SECTION A-A



SECTION B-B



SEE FOUNDATION DETAIL SHEET 34, FOR MORE DETAILS

SECTION C-C

MEDIAN CONCRETE BARRIER DETAIL
STA. 55+25 TO STA. 55+80

CUYAHOGA COUNTY
CUY-90-15.99

CALCULATED LGM
CHECKED XXX

SCALE IN FEET 0 1 2

45HH
151

TRAFFIC CONTROL MISCELLANEOUS DETAILS

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tpr.dgn
PLOT SUBMITTED: 29-MAY-1996 10:33
05584tpr.dgn

MATCHLINE STA. 51+00

BROADWAY EASTBOUND

BROADWAY WESTBOUND

℄ I-90

℄ RAMP E-3

℄ RAMP E-4

℄ RAMP E-2

℄ E.B. BROADWAY

℄ W.B. BROADWAY

INSTALL NEW PULLBOX AT STA. 55+50

MATCHLINE STA. 58+00

STA. 56+65

14'-0" x 6'-0" SIGN REMOVED FOR REERECTION RELOCATE SIGN TO STA. 55+52.5

E. 22nd St ½ MILE (EXIT 172B) A

14'-0" x 6'-0" (EXIT 172B) B

19'-0" x 7'-0" C

5

NO WORK WRONG WAY

NO WORK WRONG WAY

NO WORK DO NOT ENTER

NO WORK

MATCHLINE STA. 41+00 SEE SHEET 45M.

EXIT 172B STA. 57+68 (NO WORK)

RELOCATED FROM STA. 55+65 14'-0" x 6'-0" SIGN

E. 22nd St ½ MILE (EXIT 172B) A

E. 9th St NEXT RIGHT 12'-0" x 9'-6" STA. 55+52.5 (EXIT 172A) SOUTH B

Ontario St 422 14 (EXIT 171B) WEST C

19'-0" x 9'-6" EXIT ONLY 10" CAPS B/V

LIGHTING LEGEND

- EXISTING PULLBOX
- EXISTING PULLBOX, TO BE REMOVED
- PROPOSED PULLBOX
- EXISTING LIGHT TOWER
- EXISTING CONDUIT
- EXISTING CIRCUIT, TO BE ABANDONED

WORK TO BE PERFORMED DURING PHASES IA & IB.

SEE SHEET 45HH FOR MEDIAN BARRIER DETAILS AND QUANTITIES.

* TRANSVERSE LINES SPACED AT 10' C/C.

CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
PAV'T MARKING LEGEND	45F
SIGN ELEVATION VIEW	45CC
SIGNING SUB SUMMARY	45B
PAV'T MARKING SUB SUMMARY	45
SIGN LIGHTING SUB-SUM	45E
FOUNDATION DETAIL	45GG

CALCULATED LGM
CHECKED ACB

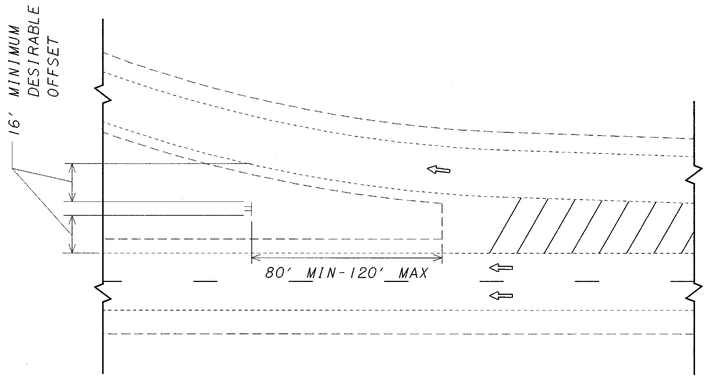
0 30 60 SCALE IN FEET

TRAFFIC CONTROL PLAN SHEET
IR-90
STA. 51+00 TO STA. 58+00

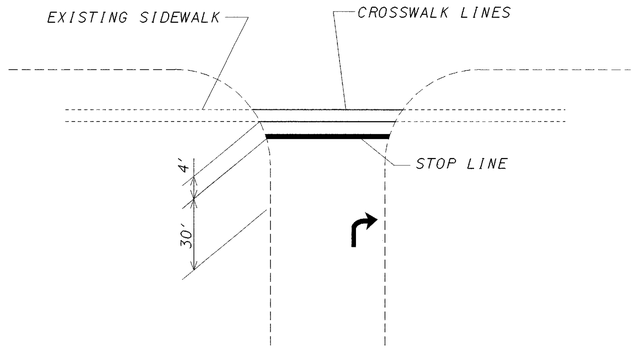
CUYAHOGA COUNTY
CUY-90-15.99

45I
151

GF SERIES
(CENTERED IN GRASSY AREA)



TYPICAL PLACEMENT OF GF SERIES SIGNS



TYPICAL PLACEMENT OF STOP LINES
(WITH SIDEWALKS)

CALCULATED LGM
CHECKED ACB

TRAFFIC CONTROL
MISCELLANEOUS DETAILS

CUYAHOGA COUNTY
CUY-90-15.99

451
151

REMOVE EXISTING CHANNELIZING LINE FROM STA.58+82 TO STA. 60+76

REMOVE EXISTING LANE LINE TO STA. 58+82

REMOVE EXISTING WHITE EDGE LINE TO STA. 58+09

MATCHLINE STA. 58+00

MATCHLINE STA. 66+50

℄ I-90

℄ RAMP E-6

℄ RAMP E-7

℄ E. 9th St

E. 9th St Downtown
16'-0" x 6'-0"

SOUTH
15'-0" x 5'-0"

STA. 0+90 (NO WORK)

12'-0" x 8'-0"
STA. 63+00
(NO WORK)
35 MPH
E. 9th St
SOUTH

18'-0" x 6'-0"
(NO WORK)
½ MILE
Carnegie Ave.
EXIT 172C
A

STA. 61+71

14'-0" x 6'-0"
(NO WORK)
¼ MILE
E. 22nd St
EXIT 172B
B

18" CAPS
16'x3" PERMANENT OVERLAY, TYPE G, BLACK ON YELLOW
12" CAPS
16'-0" x 9'-6"
35 MPH
E. 9th St
SOUTH
EXIT 172A

16'-0" x 9'-6"
E. 9th St ONLY
EXIT
SOUTH
EXIT 172A
C

6

WORK TO BE PERFORMED DURING PHASES IA & IB.

CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
PAV'T MARKING LEGEND	45F
SIGNING SUB SUMMARY	45B
PAV'T MARKING SUB SUMMARY	45

CALCULATED LGM
CHECKED ACB

0 30 60 SCALE IN FEET

TRAFFIC CONTROL PLAN SHEET
IR-90
STA. 58+00 TO STA. 66+50

CUYAHOGA COUNTY
CUY-90-15.99

45J
151

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmancek\pid05584\05584tps.dgn
PLOT SUBMITTED: 29-MAY-1996 10:51
05584tps.dgn

WORK TO BE PERFORMED DURING PHASES 1A & 1B.

CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
PAV'T MARKING LEGEND	45F
SIGNING SUB SUMMARY	45B
PAV'T MARKING SUB SUMMARY	45

CALCULATED LGM
CHECKED ACB

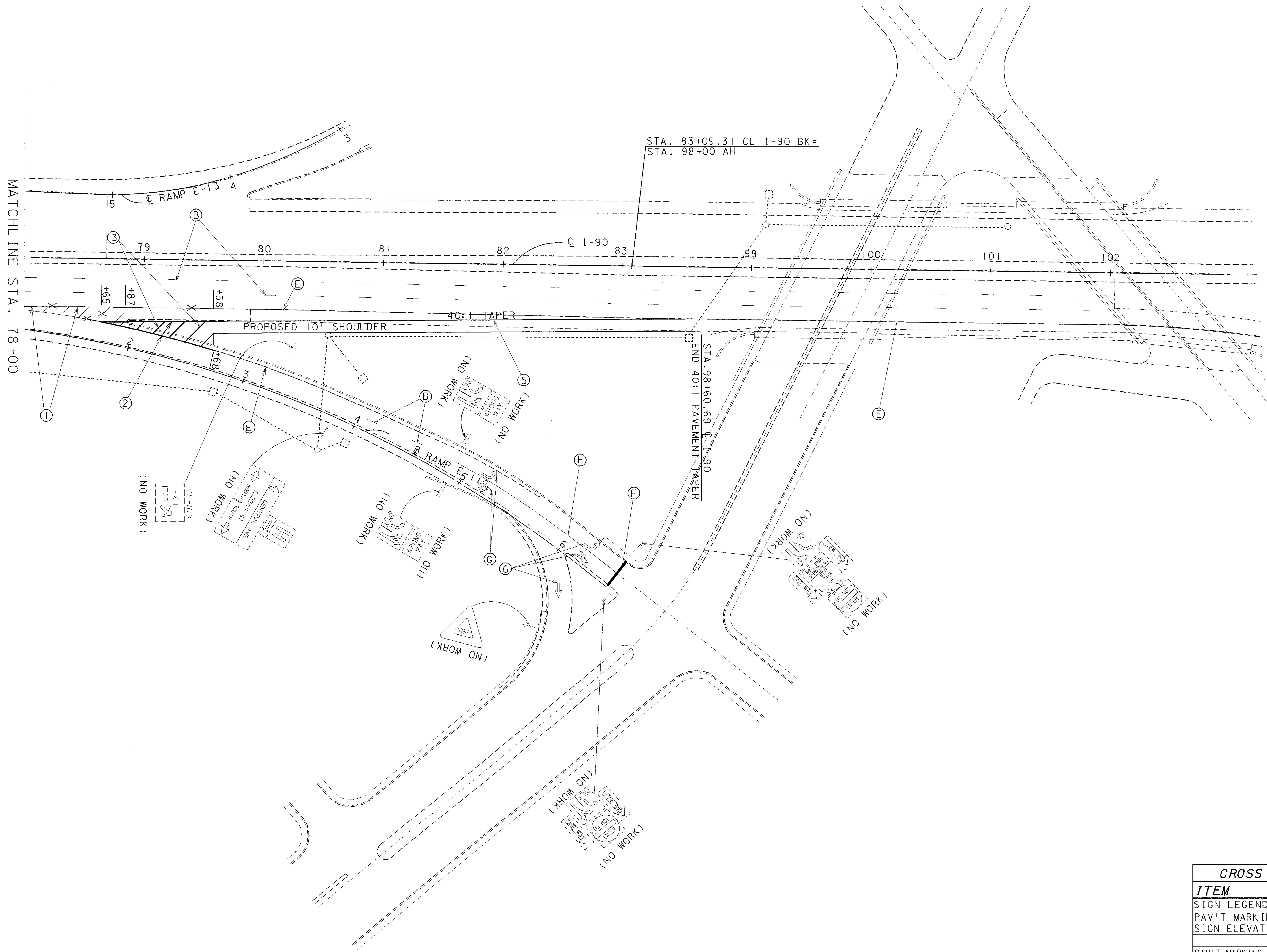
0 40 80
SCALE IN FEET

TRAFFIC CONTROL PLAN SHEET
IR-90
STA. 68+00 TO STA. 77+00

CUYAHOGA COUNTY
CUY-90-15.99

45K
151

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tpy.dgn
05584tpy.dgn
PLOT SUBMITTED: 29-MAY-1996 12:44



WORK TO BE PERFORMED DURING PHASES IA & IB.

CALCULATED LGM
CHECKED ACB

SCALE IN FEET 0 40 80

TRAFFIC CONTROL PLAN SHEET
IR-90
STA. 78+00 TO STA. 103+00

CUYAHOGA COUNTY
CUY-90-15.99

CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
PAV'T MARKING LEGEND	45F
SIGN ELEVATION VIEW	45FF
PAV'T MARKING SUB SUMMARY	45
PAV'T WIDENING DETAIL	

MATCHLINE STA. 41+00
SEE SHEET 45I

STA.18+97.97 ℄ E.9th St=
STA.32+97.94 ℄ BROADWAY=
STA.32+97.94 ℄ ORANGE

℄ RAMP E-15

℄ W.B. BROADWAY

℄ E.B. BROADWAY

℄ E. 9th St

10' TYP.

E. 14th St
E. 22nd St
Broadway
STA. 14+00

52

WORK TO BE PERFORMED DURING PHASES IA & IB.

CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
PAV'T MARKING LEGEND	45F
SIGN ELEVATION VIEW	45FF
SIGNING SUB SUMMARY	45B

CALCULATED LGM
CHECKED ACB

0 30 60 SCALE IN FEET

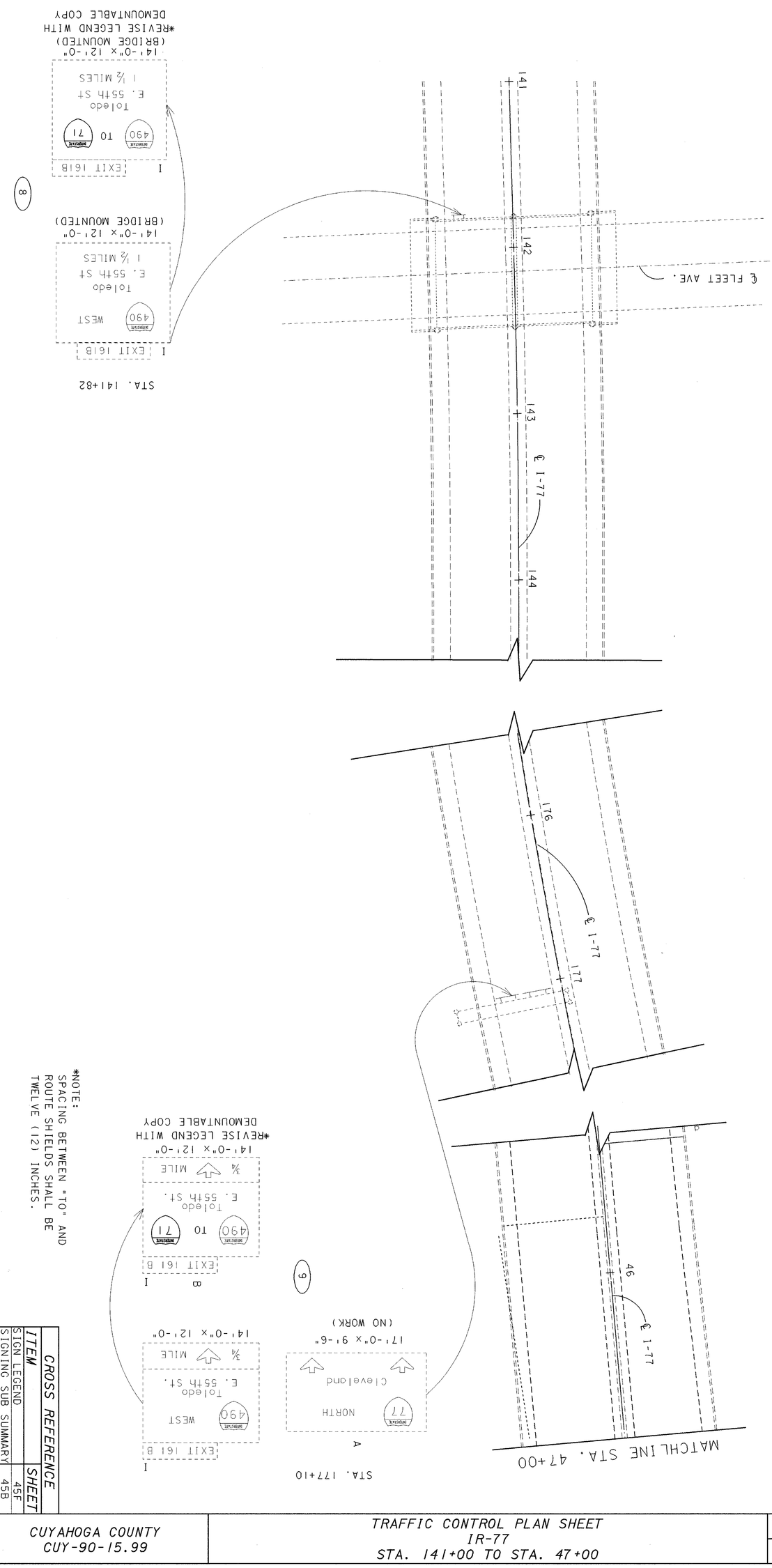
TRAFFIC CONTROL PLAN SHEET
BROADWAY AVE.
STA. 32+50 TO STA. 41+00

CUYAHOGA COUNTY
CUY-90-15.99

45M
151

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tpc.dgn
05584tpc.dgn
PLOT SUBMITTED: 29-MAY-1996 13:01

WORK TO BE PERFORMED IN PRELIMINARY PHASE.



*NOTE:
SPACING BETWEEN "TO" AND ROUTE SHIELDS SHALL BE TWELVE (12) INCHES.

CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
SIGNING SUB SUMMARY	45B

45N
151

CUYAHOGA COUNTY
CUY-90-15.99

TRAFFIC CONTROL PLAN SHEET
IR-77
STA. 141+00 TO STA. 47+00

CALCULATED LGM
CHECKED ACB

0 30 60
SCALE IN FEET

N

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tpd.dgn
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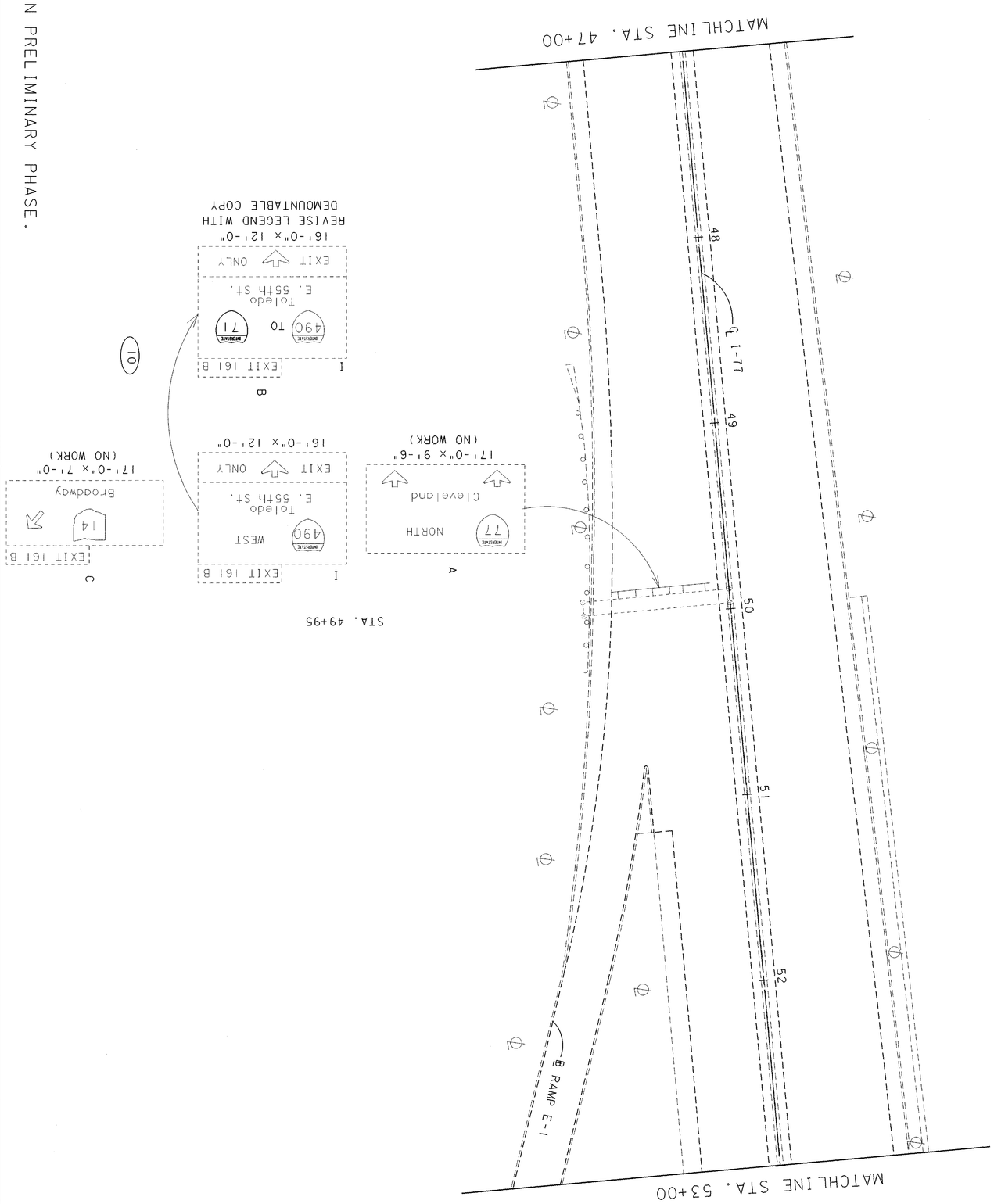
PLOT SUBMITTED: 29-MAY-1996 13:16

WORK TO BE PERFORMED IN PRELIMINARY PHASE.

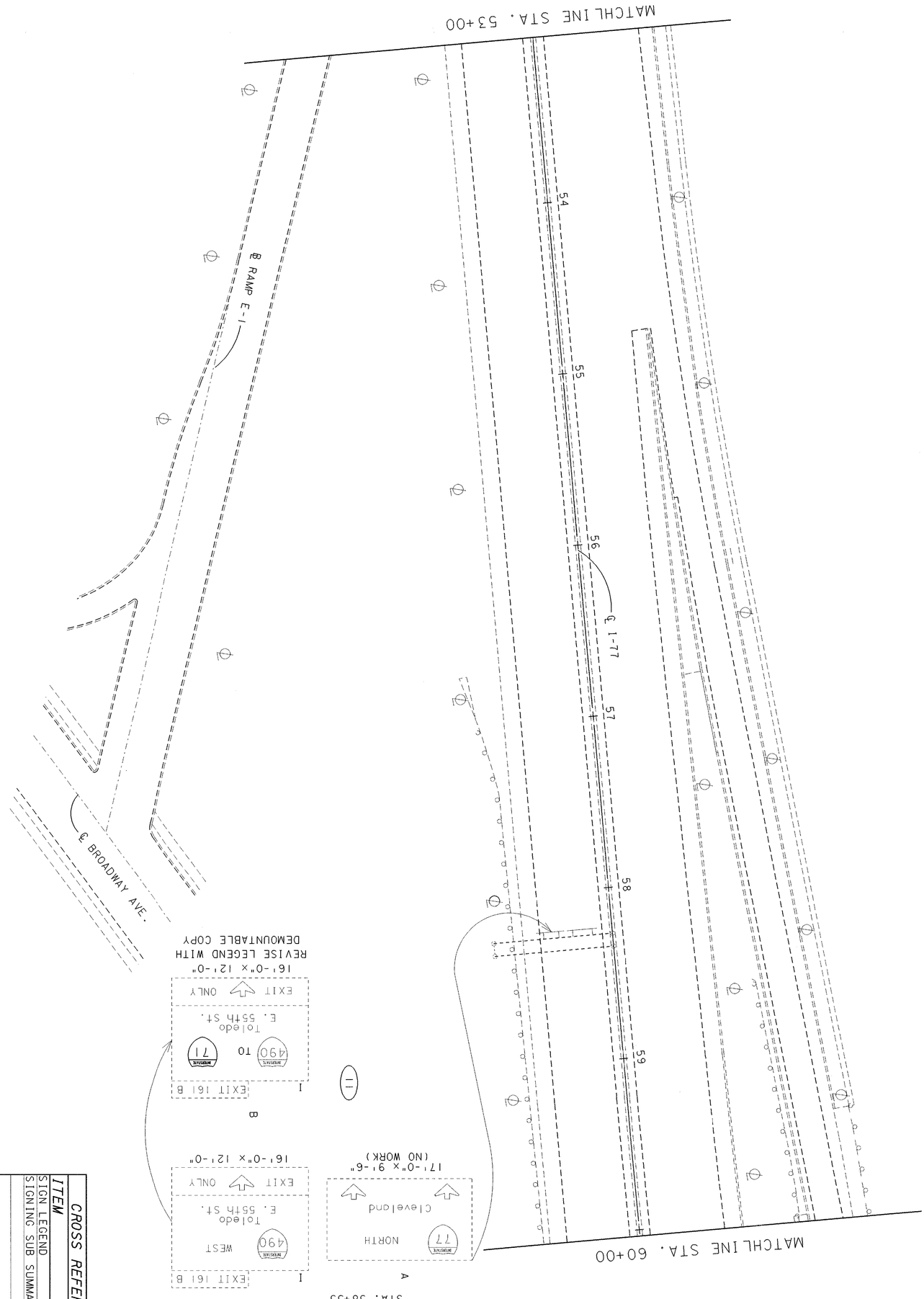


CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
SIGNING SUB SUMMARY	45B

450 / 151	CUYAHOGA COUNTY CUY-90-15.99	TRAFFIC CONTROL PLAN SHEET IR-77 STA. 47+00 TO STA. 53+00	CALCULATED LGM CHECKED ACB	0 30 60 SCALE IN FEET

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tpe.dgn
05584tpe.dgn
PLOT SUBMITTED: 30-MAY-1996 09:55

WORK TO BE PERFORMED IN PRELIMINARY PHASE.



CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
SIGNING SUB SUMMARY	45B

45P
151

CUYAHOGA COUNTY
CUY-90-15.99

TRAFFIC CONTROL PLAN SHEET
IR-77
STA. 53+00 TO STA. 60+00

CALCULATED LGM
CHECKED ACB

0 30 60
SCALE IN FEET

N

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\p1d05584\05584tpg.dgn
05584tpg.dgn
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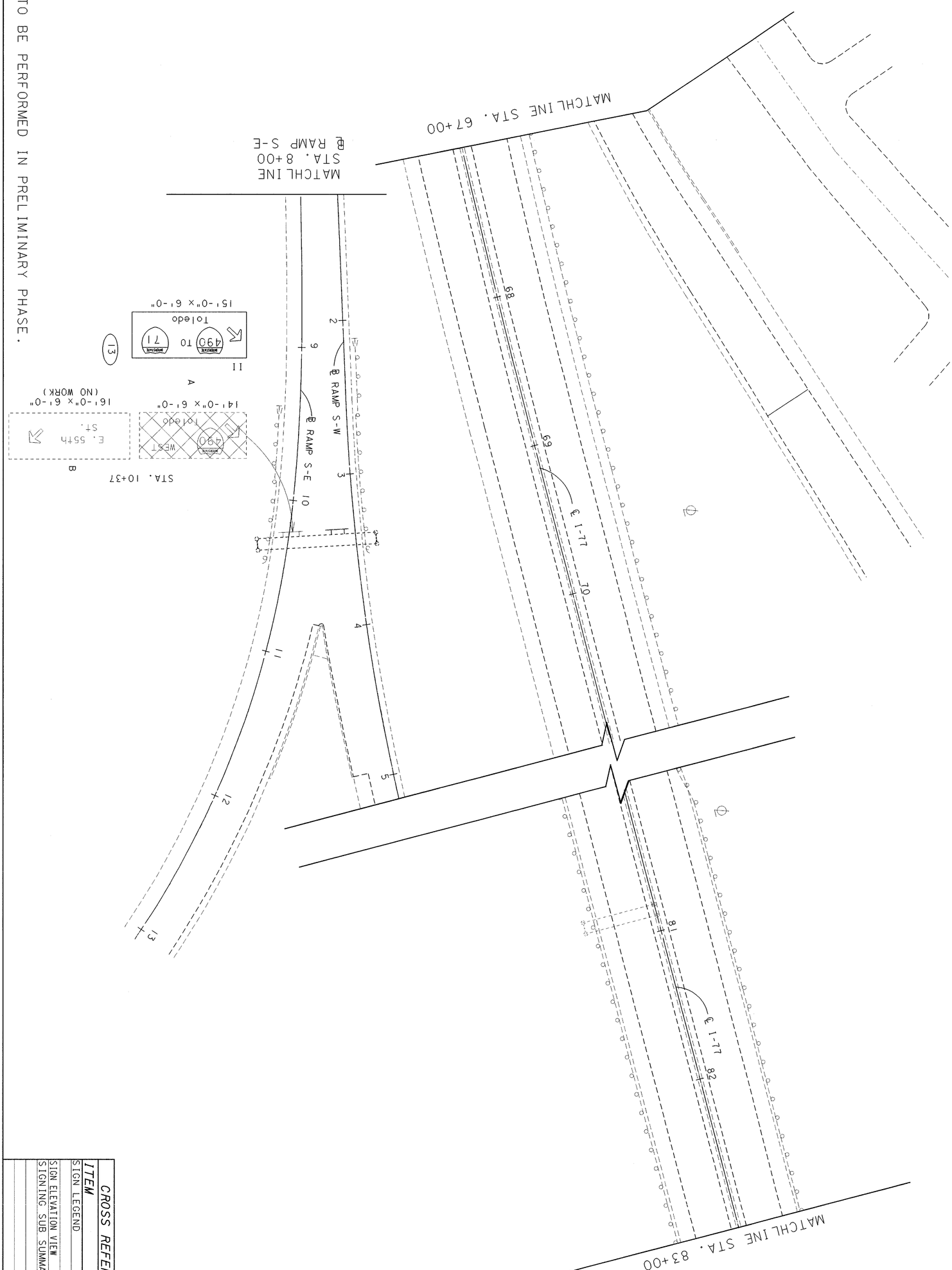
WORK TO BE PERFORMED IN PRELIMINARY PHASE.



CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
SIGN ELEVATION VIEW	45CC
SIGNING SUB SUMMARY	45B

45R
151

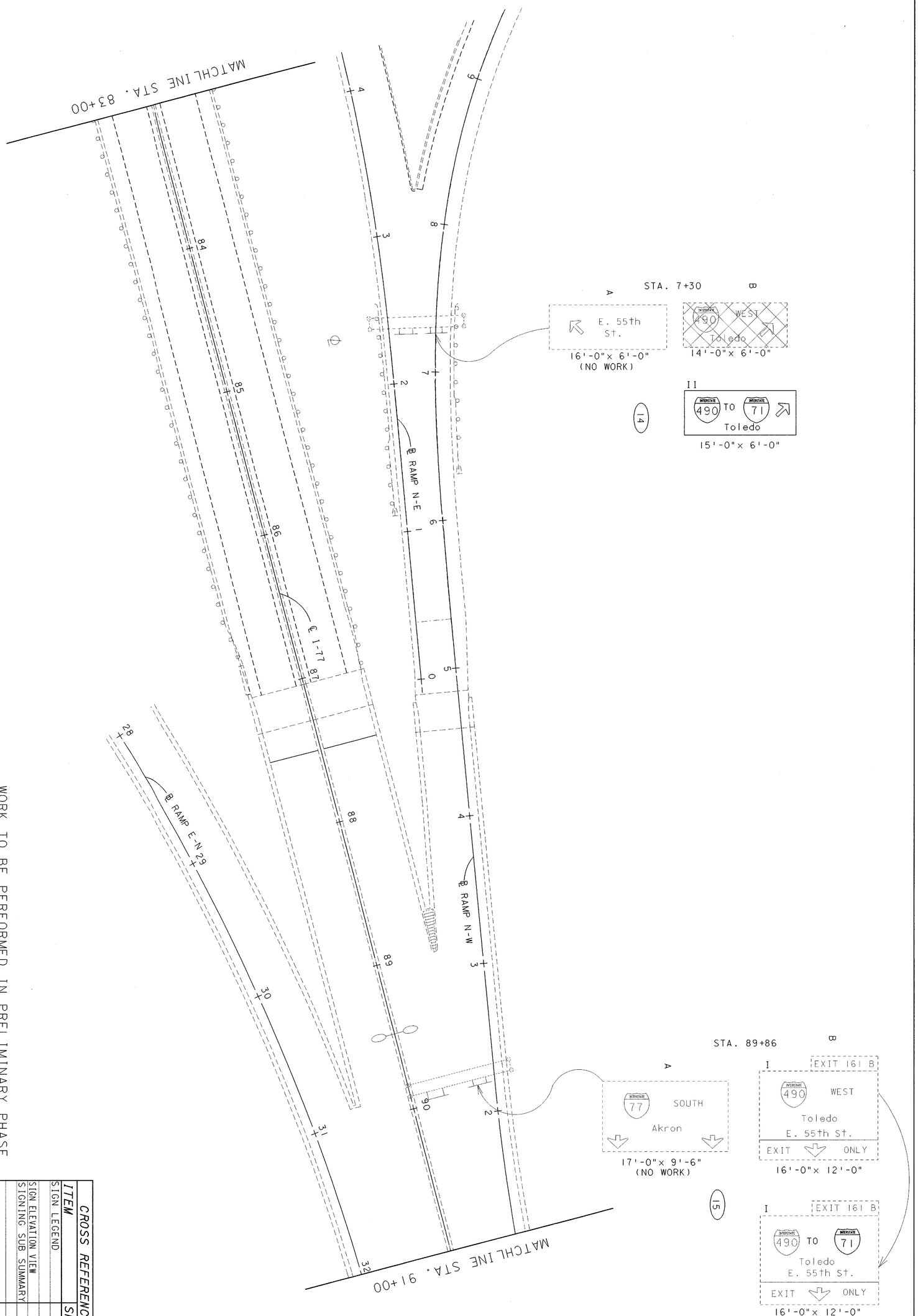
CUYAHOGA COUNTY
CUY-90-15.99

TRAFFIC CONTROL PLAN SHEET
IR-77
STA.67+00 TO STA. 83+00

CALCULATED LGM
CHECKED ACB

0 30 60
SCALE IN FEET

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tph.dgn
05584tph.dgn
PLOT SUBMITTED: 30-MAY-1996 11:13



WORK TO BE PERFORMED IN PRELIMINARY PHASE.

CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45P
SIGN ELEVATION VIEW	45CC
SIGNING SUB SUMMARY	45B

45S
151

CUYAHOGA COUNTY
CUY-90-15.99

TRAFFIC CONTROL PLAN SHEET
IR-77
STA. 83+00 TO STA. 91+00

CALCULATED LGM
CHECKED ACB

0 30 60
SCALE IN FEET

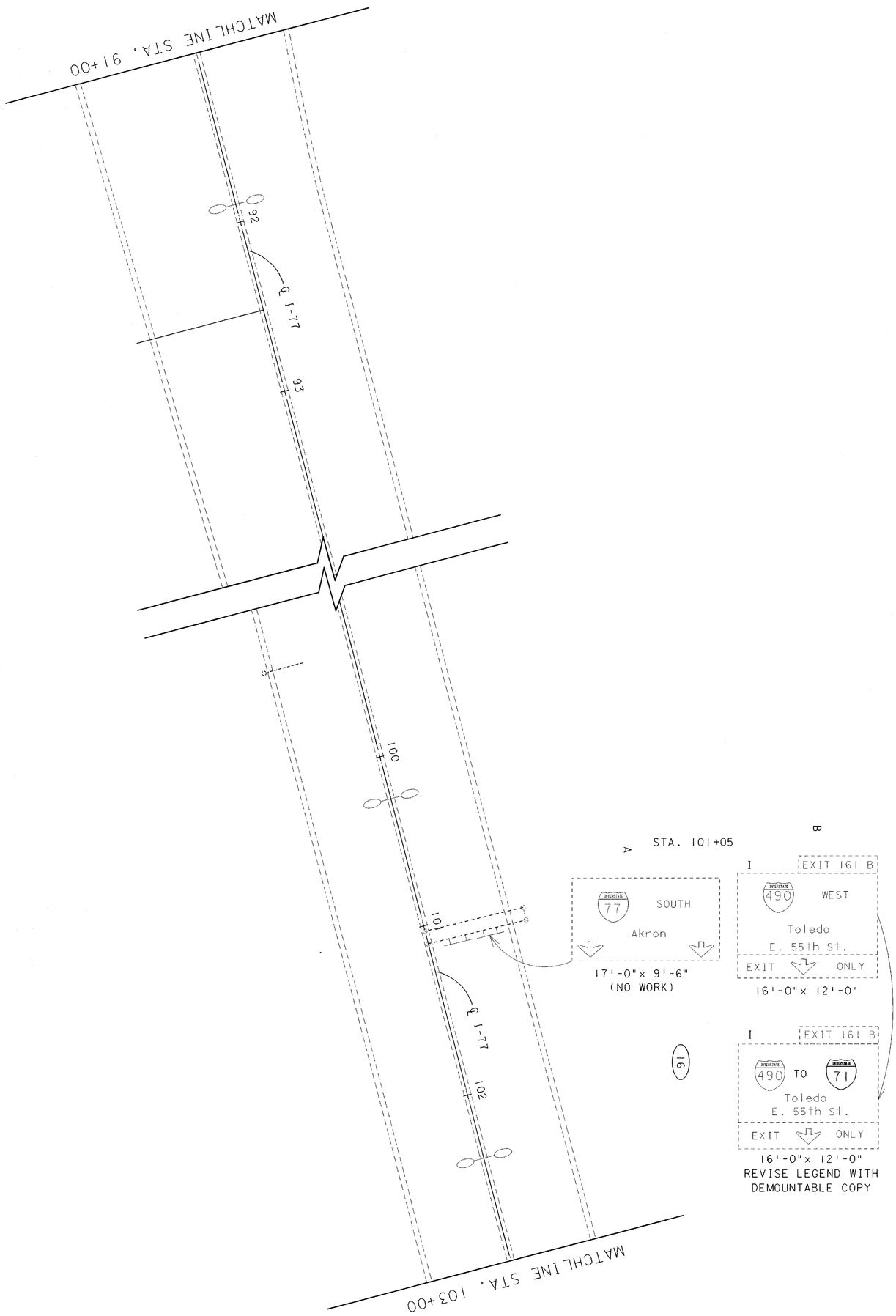
N

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tp1.dgn

05584tp1.dgn

PLOT SUBMITTED: 30-MAY-1996 11:17

WORK TO BE PERFORMED IN PRELIMINARY PHASE.



CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
SIGNING SUB SUMMARY	45B

457
157

CUYAHOGA COUNTY
CUY-90-15.99

TRAFFIC CONTROL PLAN SHEET
IR-77
STA. 91+00 TO STA. 103+00

CALCULATED LGM
CHECKED ACB

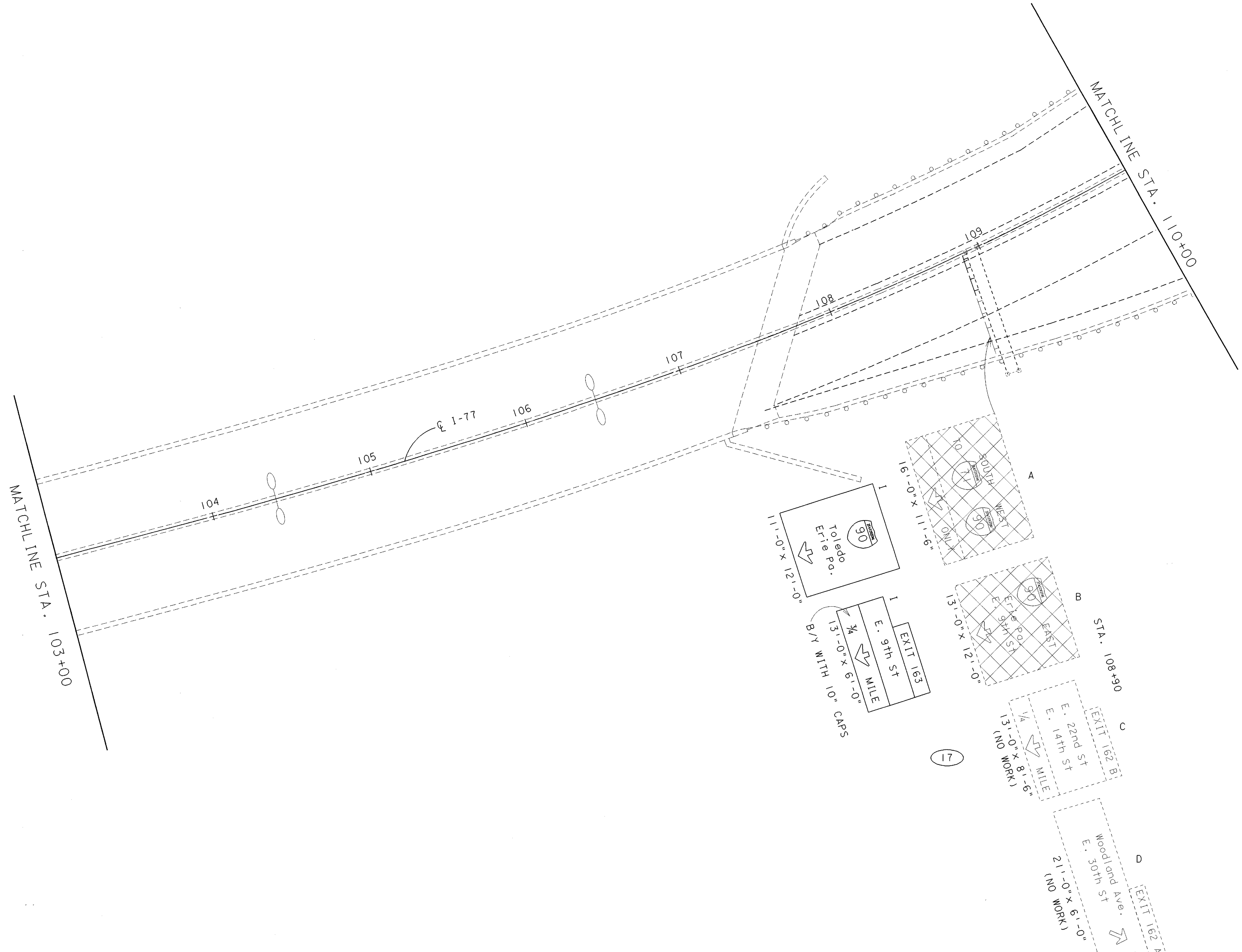
0 30 60
SCALE IN FEET

N

PLOT SUBMITTED: 30-MAY-1996 11:20

05584tpj.dgn

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tpj.dgn



WORK TO BE PERFORMED IN PRELIMINARY PHASE.

CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
SIGN ELEVATION VIEW	45DD
SIGNING SUB SUMMARY	45B

N

0 30 60
SCALE IN FEET

CALCULATED LGM
CHECKED ACB

TRAFFIC CONTROL PLAN SHEET
IR-77
STA. 103+00 TO STA. 110+00

CUYAHOGA COUNTY
CUY-90-15.99

SEE SHEET 45W, FOR RELOCATED ORANGE AVE. AND WOODLAND AVE. SIGNING AND PAVEMENT MARKING.

WORK TO BE PERFORMED IN PRELIMINARY PHASE.

CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
SIGNING SUB SUMMARY	45B

CALCULATED LGM
CHECKED ACB

0 30 60
SCALE IN FEET

TRAFFIC CONTROL PLAN SHEET
IR-77
STA. 110+00 TO STA. 120+00

CUYAHOGA COUNTY
CUY-90-15.99

45V
151

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tpk.dgn
PLOT SUBMITTED: 30-MAY-1996 13:19
05584tpk.dgn

PLOTTED BY: coop8
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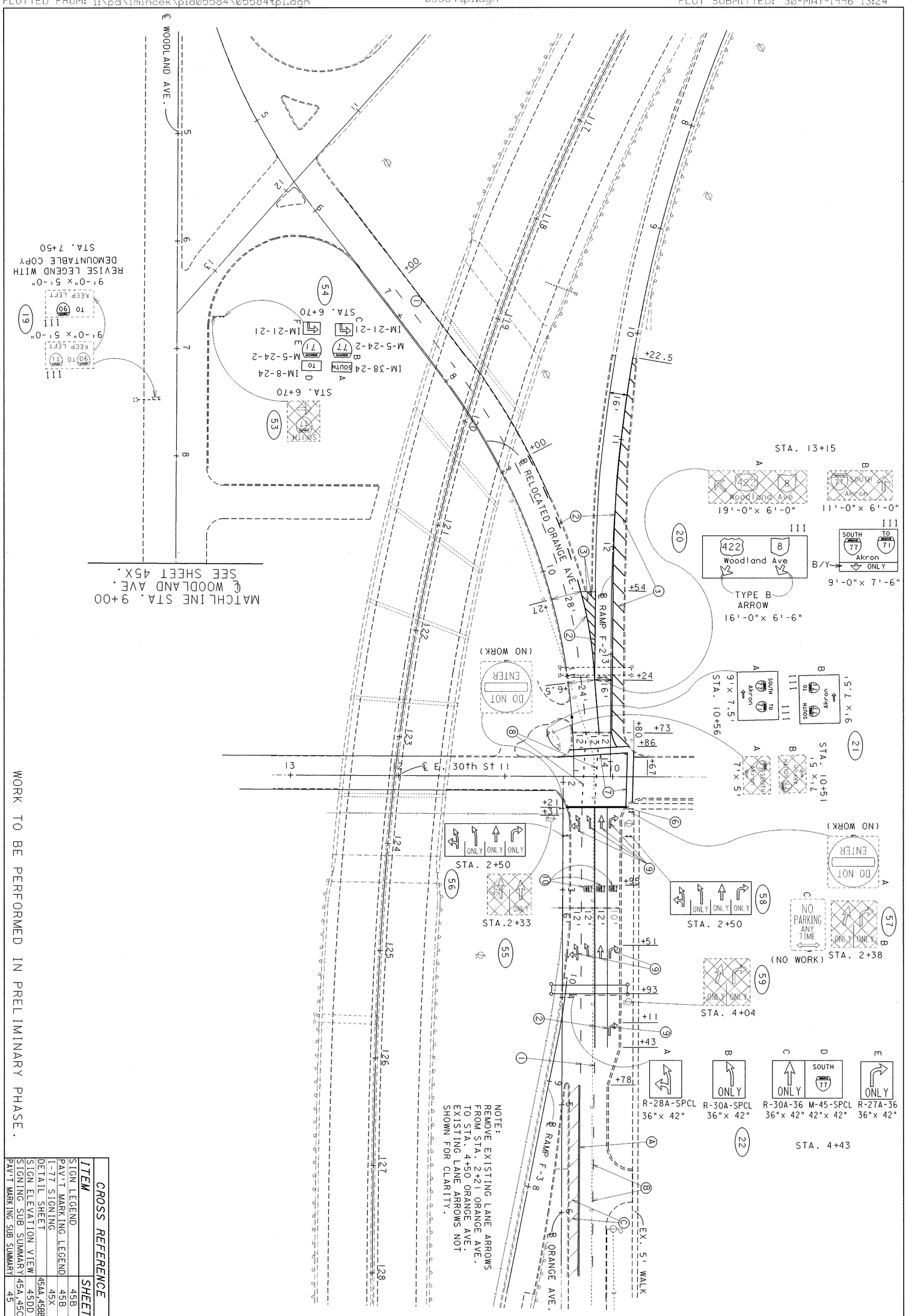


CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45B
PAV'T MARKING LEGEND	45B
I-77 SIGNING	45X
DETAIL SHEET	45AA-45BB
SIGN ELEVATION VIEW	45DD
SIGNING SUB SUMMARY	45A-45C
PAV'T MARKING SUB SUMMARY	45

45W
151

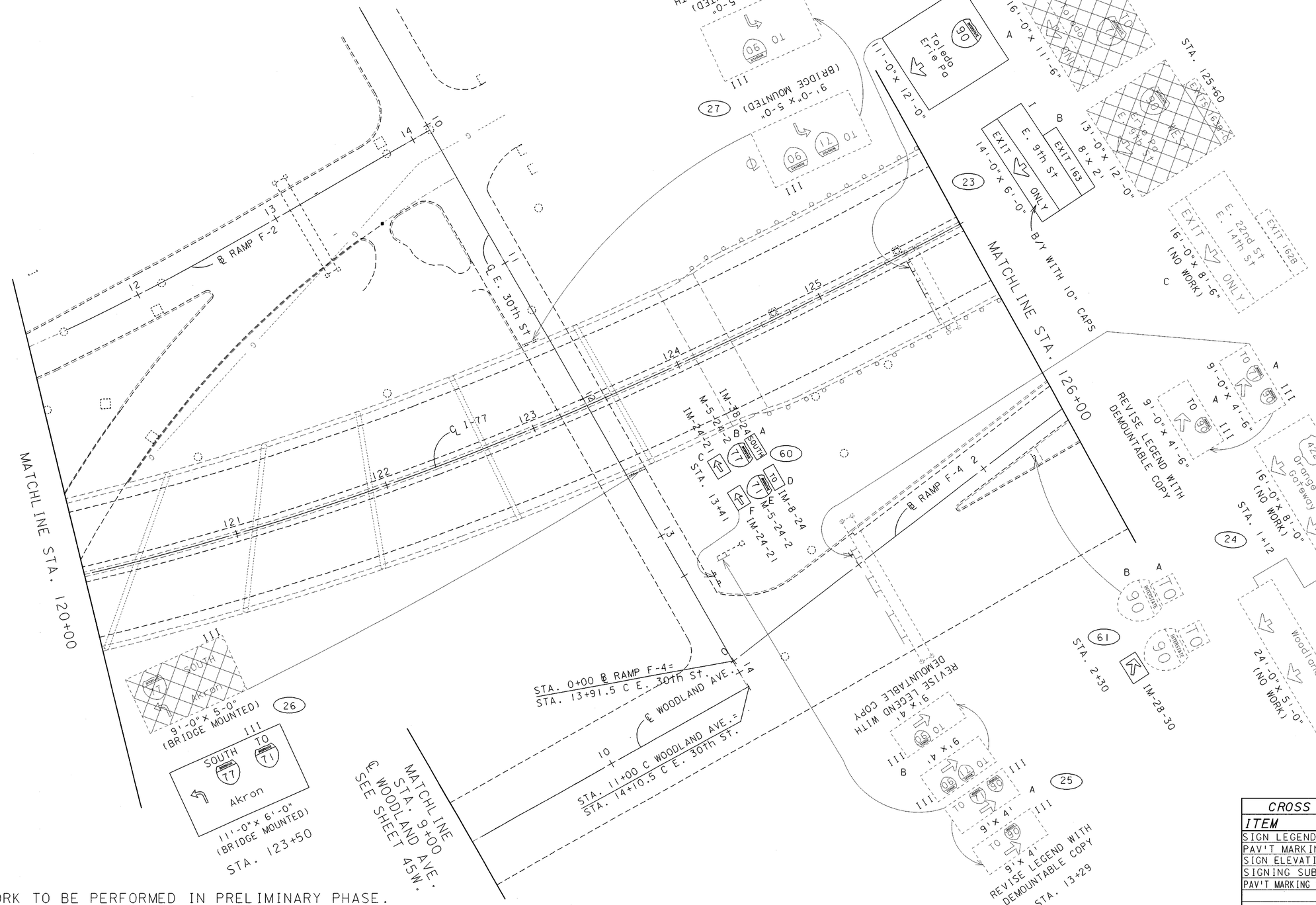
CUYAHOGA COUNTY
CUY-90-15.99

TRAFFIC CONTROL
PLAN SHEET

CALCULATED LGM
CHECKED ACB

0 40 80
SCALE IN FEET

SEE SHEET 45W, FOR ORANGE AVE., E. 30th St, RELOCATED ORANGE AVE., WOODLAND AVE., AND RAMP F-2 SIGNING AND PAVEMENT MARKING.



WORK TO BE PERFORMED IN PRELIMINARY PHASE.

CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
PAV'T MARKING LEGEND	45F
SIGN ELEVATION VIEW	45EE
SIGNING SUB SUMMARY	45A,45C,45D
PAV'T MARKING SUB SUMMARY	45

CALCULATED LGM
CHECKED ACB

SCALE IN FEET 0 30 60

TRAFFIC CONTROL PLAN SHEET

CUYAHOGA COUNTY CUY-90-15.99

45X / 151

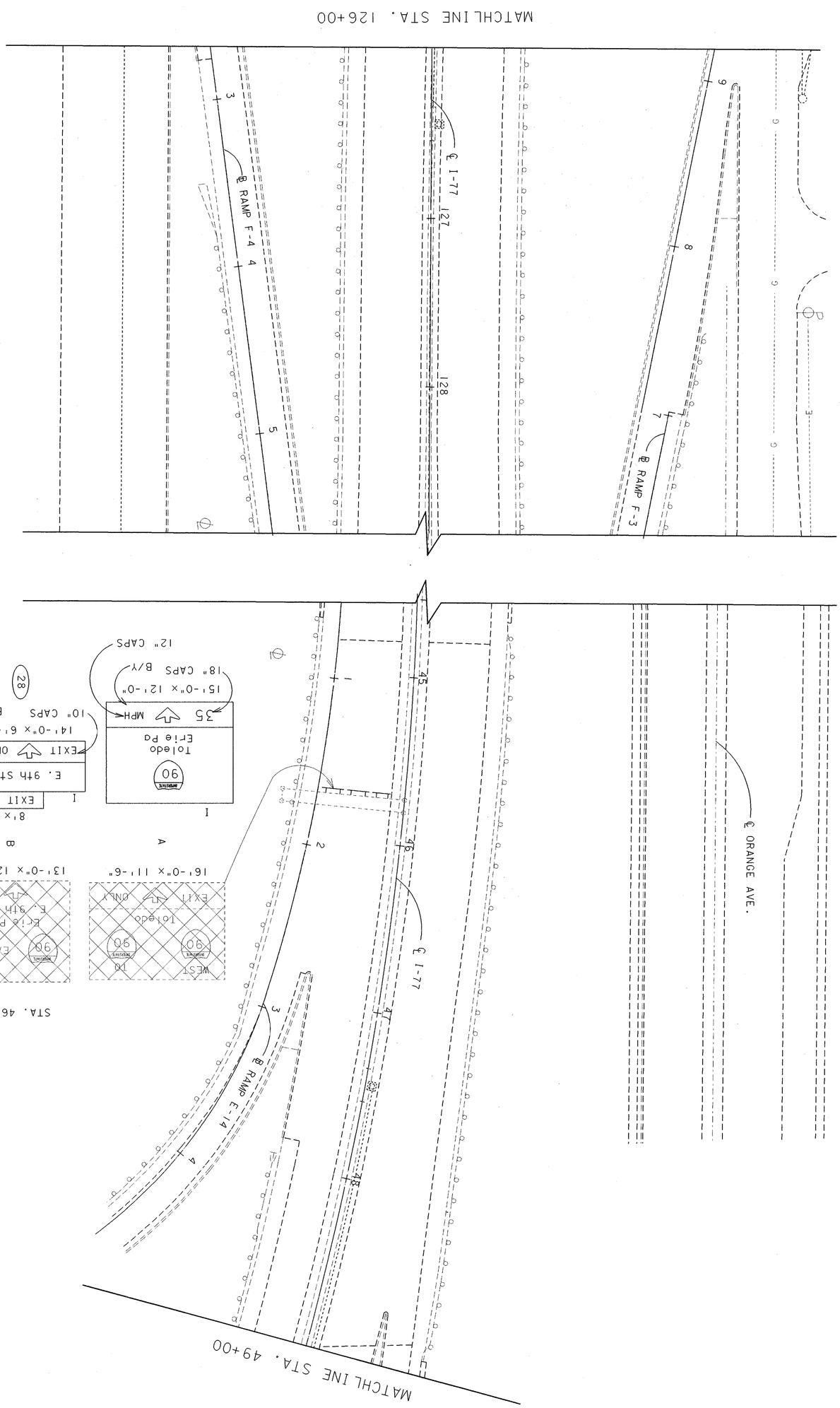
PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tpl.dgn
PLOT SUBMITTED: 30-MAY-1996 13:26
05584tpl.dgn

PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tpm.dgn

05584tpm.dgn

PLOT SUBMITTED: 30-MAY-1996 15:34

WORK TO BE PERFORMED IN PRELIMINARY PHASE.



CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
SIGN ELEVATION VIEW	45EE
SIGNING SUB SUMMARY	45B

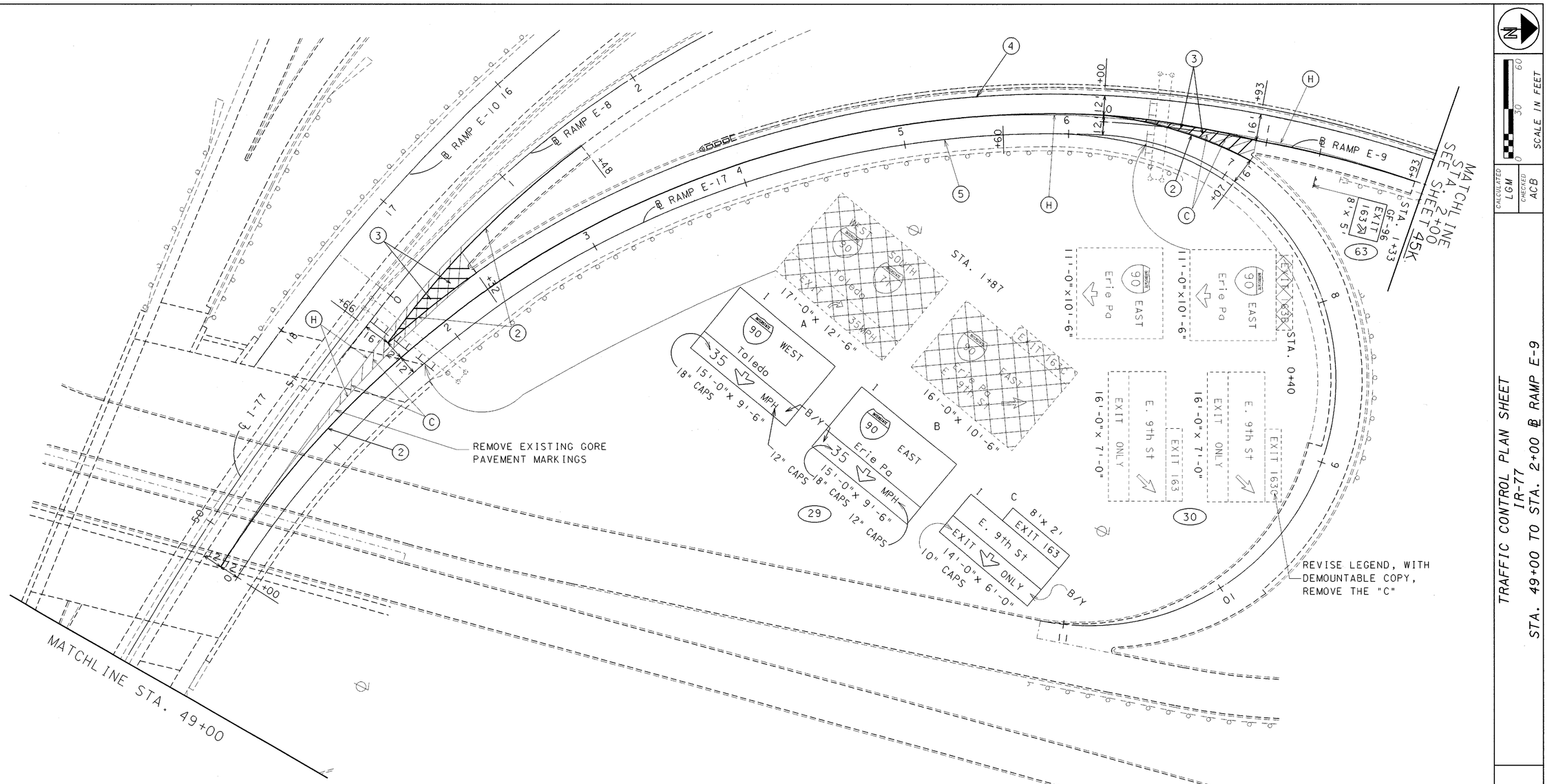
45Y
151

CUYAHOGA COUNTY
CUY-90-15.99

TRAFFIC CONTROL PLAN SHEET
IR-77
STA. 126+00 TO STA. 49+00

CALCULATED LGM
CHECKED ACB

0 30 60
SCALE IN FEET



CROSS REFERENCE	
ITEM	SHEET
SIGN LEGEND	45F
PAV'T MARKING LEGEND	45F
SIGN ELEVATION VIEW	45EE
SIGNING SUB SUMMARY	45B
PAV'T MARKING SUB SUMMARY	45

WORK TO BE PERFORMED IN PRELIMINARY PHASE.

CALCULATED LGM
CHECKED ACB
SCALE IN FEET 0 30 60

TRAFFIC CONTROL PLAN SHEET
IR-77
STA. 49+00 TO STA. 2+00 ℄ RAMP E-9

CUYAHOGA COUNTY
CUY-90-15.99

45Z
151

PLOT SUBMITTED: 31-MAY-1996 07:39
PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmrcek\pid05584\05584tpn.dgn
05584tpn.dgn

TRAFFIC CONTROL QUANTITIES

CALCULATED LGM
CHECKED ACB

PAVEMENT MARKINGS

PLAN SHEET NO.	LOCATION: ROADWAY	LOCATION: FROM STATION	LOCATION: TO STATION	SIDE	SIGN CODE	202: PULLBOX REMOVED EACH	202: POWER SERVICE REMOVED EACH	202: CONTROL CENTER REMOVED EACH	603: 4" CONDUIT, TYPE E L.F.	625: CABLE SPLICING KIT EACH	625: 1½" DUCT CABLE WITH 2-#4 AWG 5000 VOLT CABLES L.F.	625: PULLBOX, 713.08, 24" EACH	625: POWER SERVICE EACH	625: DISCONNECT EXISTING CIRCUIT EACH	630: GROUND MOUNTED SUPPORT NO. 2 POST EACH	630: GROUND MOUNTED SUPPORT NO. 4 POST EACH	630: SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED, TYPE 2 EACH	630: SIGN, FLAT SHEET, TYPE G SQ.FT.	630: REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630: REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630: REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL EACH	630: REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	631: SIGN SERVICE EACH	631: REMOVAL OF SIGN SERVICE AND DISPOSAL EACH	644: EDGE LINE (WHITE) L.F.	644: EDGE LINE (YELLOW) L.F.	644: LANE LINE L.F.	644: CHANNELIZING LINE L.F.	644: CHANNELIZING LINE, AS PER PLAN L.F.	644: TRANSVERSE LINE L.F.	645: EDGE LINE (WHITE) L.F.	645: EDGE LINE (YELLOW) L.F.	645: LANE LINE L.F.	645: CHANNELIZING LINE L.F.	645: TRANSVERSE LINE L.F.
46A	I-90	1977+80	1985+00	RT.	N/A																											720	720	720		56
46A	LANE W-N	25+80	1985+00 (I-90)	RT.	N/A																											1080	680	1080	400	
46A	I-90	1985+00	1998+50	RT.	N/A																											1815	1350	3585	465	
46A	I-90	1994+00	1998+50	LT.	N/A																											450	450	1350		
47	I-90	1998+50	14+00	RT.	N/A																											1064	1064	3192		
47	I-90	14+00	29+00	RT.	N/A																											1500	1500	4500		
47	RAMP W-1	3+50	15+00 (I-90)	L/R	N/A																											804	389		415	
47	I-90	1998+50	14+00	LT.	N/A																											939	1064	3192	100	
47	I-90	14+00	29+00	LT.	N/A																											1500	1500	4500		
47	RAMP W-2	1+85	5+35	L/R	N/A																											350	235		100	100
48	I-90	29+00	44+00	RT.	N/A																											1500	1500	4500		
48	I-90	44+00	57+00	RT.	N/A																									1010	1300	2910	675	380	990			
48	RAMP E-2			L/R	N/A																									365	500		115	50				
48	I-90	29+00	44+00	LT.	N/A																									1525	1500	4345	155					
48	I-90	44+00	57+00	LT.	N/A																									1300	1300	2600						
48	RAMP E-1	2+30	7+30	L/R	N/A																									725	525		180					
48	RAMP E-3	3+00	6+70	L/R	N/A																									370	255		115					
49	I-90	57+00	58+00	RT.	N/A																									150	150	268	137					
49	I-90	57+00	71+00	LT.	N/A																									1400	1400	2800						
49	I-90	71+00	74+80	LT.	N/A																									200	380	760	125					
49	RAMP E-5	8+15	11+00	L/R	N/A																									285	180		105					
47	I-90	1998+85		RT.	X-6R										12			3	1	1																
47	I-90	1998+60		L/R	N/A	1	1	LUMP	10	2	80	1	1	1										1	1										
47	I-90	8+85		RT.	W-49R-48												1	16					1													
47	RAMP W-3	1+55		LT.	N/A																		1													
47	RAMP W-1	1+80		LT.	N/A																		1													
47	I-90	12+80		LT.	N/A																		1													
47	I-90	14+13		RT.	R-2-60												1	10.83					1													
47	I-90	25+89		LT.	R-10-48												1	20					1													
48	I-90	47+25		LT.	W-50-48												1	16			1															
48	I-90	47+82		RT.	W-97-48												1	20			1															
48	I-90	48+60		LT.	R-10-48												1	20					1													
48	I-90	51+50		LT.	R-2-60												1	10.83					1													
48	I-90	56+00		LT.	W-49R-48											14/14		16	1	2															
48	RAMP E-1	2+85		RT.	X-6R										12			3	1	1															
				LT.	X-6L										12			3	1	1															
48	RAMP E-1	7+25		RT.	W-50-48												1	16			1															
48	RAMP E-3	6+60		RT.	X-6R										12			3	1	1															
TOTAL						1	1	LUMP	10	2	80	1	1	1	48	28	8	157.66	5	6	3	5	4	1	7330	7490	13683	1607	430	990	11722	10452	26619	1480	156
																									2.81 MI.	2.59MI					4.20 MI.	5.04MI		

TRAFFIC CONTROL QUANTITIES
PAVEMENT MARKINGS

CUYAHOGA COUNTY
CUY-90-15.99

46
151

PLOT SUBMITTED: 31-MAY-1996 08:03
PLOTTED BY: coop8
PLOTTED FROM: i:\pd\lmincek\pid05584\05584tse.dgn

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.99	F.H.W.A. 5
CHKD.	INNERBELT FREEWAY	REGION
DATE		

46A
151

BEGIN WORK
STA. 1977+80
EASTBOUND

45 MPH

RAMP
45 MPH

AVE.

STA. 1985+00

MATCH LINE

1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984

I-490

MEET EXISTING
STA. 25+80

LANE W-N

MATCH EXIST.
SPACING (TYP.)

@ I-90 STA. 1981+55 =
LANE W-N STA. 33+15

STA. 1981+00, BEGIN
CHANNELIZING LINE

STARKWEATHER

EXIT 170
WEST
Toledo
90
45 M.P.H.

SOUTH
71
Columbus
1987+75

BEGIN WORK
STA. 1994+00
WEST BOUND

KENILWORTH

AVE.

I-90

STA. 1998+50

MATCH LINE

1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998

STA. 1985+00

SPEED LIMIT 50

EXIT 171A
E. 22nd St.
ALT. ROUTE
USE BROADWAY
STA. 1986+45

77
SOUTH
E 9th ST
1 1/4 MILES
Conv Center
Stadium
USE ONTARIO
EXIT
STA. 1994+45

NOTE: FOR PAVEMENT MARKING AND SIGNING
LEGENDS, SEE SHEET 45F

INNERBELT FREEWAY

TRAFFIC CONTROL

BRUNING 44-232-581044-003

A-C-L form no. 1

CALC.	CUYAHOGA COUNTY	OHIO	47
DATE.	CUY-90-15.99	F.H.W.A. REGION 5	151
CHKD.	INNERBELT FREEWAY		
DATE.			

STA. 1998+50

MATCH LINE

STA. 1998+50, 65' LT.
PULL BOX, 7"8.08, 24"(2 SPRUCE KITS)
EX. PULL BOX
(TO BE REMOVED)
STA. A+00.00 LT., 480V
POWER SERVICE DROP FOR SIGN

EXIT 170B
90 WEST Toledo
71 SOUTH Columbus
EXIT ONLY

FAIRFIELD AVE.

I - 90

LANE "B"

STA. 1999

STA. 1998+90, 130' RT.
EXIST. CONTROL CENTER
(TO BE REMOVED)

℄ I-90, STA. 1999+10.08 BK. = ℄ I-90, STA. 3+87.63 AHD.

RAMP W-2

W. 14th St
Abbey Ave

EXIT 171
W 14th St
Abbey Ave
(NEW SIGN SERVICE FROM JUNCTION BOX STA. 3+15 ℄ RAMP W-2, STA. 12+89.54, 63.83' LT. = ℄ I-90, STA. 12+89.54, ℄ RAMP W-2, STA. 3+19.61, 35.83' LT.

EXIT 25 MPH (MOUNTED TO BRIDGE GIRDER)

ABBEY AVE.

W. 14th. ST.

STA. 14+00

MATCH LINE

RAMP W-1

W-492-48

PROHIBITED
PEDESTRIAN
FARM MACHINERY
ANIMALS
MOTORCYCLES
BICYCLES WITH 3 BRAKE HP
LESS THAN

EAST To 90 (71)

Abbey Ave

℄ RAMP W-1 STA. 5+03.29 = ℄ REL. RAMP W-1 STA. 5+03.29, 40.0' LT.

REL. ℄ RAMP W-1 P.R.C. STA. 6+68.81

℄ I-90 STA. 12+71.47, 78.37 RT. = ROC REL. ℄ RAMP W-1 STA. 7+38.76, 28' LT.

℄ I-90 STA. 13+66.60, 74.63' RT. = REL. ℄ RAMP W-1 P.T. STA. 8+33.30

R-10-48

SPEED LIMIT 50

EXIT 171
W 14th St
Abbey Ave.
1/4 MILE

STA. 29+00

MATCH LINE

UNIVERSITY AVE.

STA. 14+00

MATCH LINE

I - 90

CUYAHOGA RIVER

YIELD

R-2-60

NOTE:
FOR PAVEMENT MARKING AND SIGNING LEGENDS, SEE SHEET 45F

BRUNING 44-232-58104-03
A·C·L form no. 1

INNERBELT FREEWAY

TRAFFIC CONTROL

48 151

CALC
DATE
CHKD
DATE

CUYAHOGA COUNTY
CUY - 90 - 25.99
INNERBELT FREEWAY

OHIO
F.H.WA. 5
REGION

STA. 44+00
MATCH LINE
STA. 43+34.72
BRIDGE No. I-90-1599
BRIDGE No. I-90-1547
CANAL RD.
B.&O.R.R.
W. 3rd. ST.
I 90
EXIT 170B
90 WEST Toledo
71 SOUTH Columbus
3 3/4 MILE
35+40
HARRISON ST.
EXIT 172A
77 SOUTH
E 9th St
1/2 MILE
EXIT 171 A-B
422 14
Broadway
Ontario St
1/4 MILE
STA. 29+00
MATCH LINE
EXIT 172B
E 22nd St
1/2 MILE
EXIT 172A
77 SOUTH
E 9th St
NEXT RIGHT
EXIT 171B
422 14 WEST
Ontario St
EXIT ONLY
STA. 57+00
MATCH LINE
YIELD AHEAD
RAMP E-3
AKRON ONLY
77 SOUTH
422 EAST
90 SOUTH
Orange Ave
Woodland Ave
14 EAST
Broadway
E I-90 STA 44+65 = RAMP E-3 STA 6+25
W-49R-48
X-GR
BROADWAY (WESTBOUND)
BROADWAY (EASTBOUND)
25 MPH
EX. EDGE LINES
X TRANSVERSE LINES SPACED AT 10' C/C
NOTES:
1. FOR PAVEMENT MARKING AND SIGNING LEGEND, SEE SHEET 45 F
MEET EXIST
R-2-60
YIELD
I 90
SPEED LIMIT 50
R-10-48
G.C.R.T.A.
RAMP E-1
RAMP E-2
NEW SIGN SERVICE TO BE PROVIDED FROM JUNCTION BOX STA. 3+59. RAMP E-2
EXIT 171A
422 14 EAST
Broadway
℄ I-90 STA. 48+07.15, 64'RT. = ℄ RAMP E-2 STA. 3+23.55, 23'LT.
EXIT 25 MPH
W-97-48
EXIT 171B
422 14 WEST
Ontario St
EXIT ONLY
W-50-48
NORFOLK SOUTHERN R.R.
℄ I-90 STA. 45+78.01, 56' LT. =
℄ RAMP E-1 STA. 8+04.26, 28' LT.
40:1 TAPER (FROM 8' TO 12' LANE WIDTH)
COMMERCIAL DR.
STA. 44+00
MATCH LINE

BRUNING 44-232 SB104-03

TRAFFIC CONTROL

49
151

CALC. DATE
CHKD. DATE

CUYAHOGA COUNTY
CUY-90-18.99
INNERBELT FREEWAY

OHIO
F.H.WA. REGION 5

MATCH LINE STA. 71+00

RAMP E-10

RAMP E-9

RAMP E-16

RAMP E-5

RAMP E-8

RAMP E-6

RAMP E-13

RAMP E-11

I-90

EAST 22nd. ST.

STA. 83+09.3 ℄ I-90 BK =
STA. 98+00 ℄ I-90 AH

EXIT 173B
Chester Ave
1/2 MILE

EXIT 172C
Carnegie Ave

E 22 nd ST 1/8
Carnegie Ave 3/8
Chester Ave 1

EXIT 172B
HOSPITAL
Cleve State Univ
Cuy Comm Coll
NEXT RIGHT

EXIT 171
W 14 th ST
Abbey Ave
1 MILE
64+50

SOUTH 77
E 9th St
35 MPH

END WORK
STA. 74+80
WESTBOUND

NOTE:
FOR PAVEMENT MARKING AND SIGNING
LEGEND, SEE SHEET 45 F

TO Broadway 14

MEET EXISTING STA. 11+00

EXIT 172C
Carnegie Ave
1/2 MILE

EXIT 172B
E 22 nd St
1/4 MILE

EXIT 172A
77 SOUTH
E 9th St
35 MPH

EXIT 172A
77 SOUTH
Akron
40 MPH

90 WEST

EXIT 170B
71 SOUTH
Columbus
1 1/2 MILES

STA. 74+20

90 EAST

EXIT 172C
Carnegie Ave
1/4 MILE

EXIT 172B
E 22nd St

77 SOUTH
Akron
ONLY

EAST 9th. ST.

RAMP E-5

MEET EXISTING STA. 3+00

END WORK
STA. 58+50
EAST BOUND

EAST 14th. ST. (NORTHBOUND)

EAST 14th. ST. (SOUTHBOUND)

RAMP E-10

RAMP E-9

MATCH LINE STA. 57+00

MATCH LINE STA. 71+00

LIGHTING NOTES

GENERAL

THE CONTRACTOR SHALL IN THE AREAS WHERE TOWER LIGHTS ARE PROPOSED MAINTAIN THE EXISTING LIGHT POLES UNTIL THE REPLACEMENT TOWER LIGHTING IS PROVIDED. ON STRUCTURES 1547 AND 1599 WHERE THE PARAPET POLE LIGHTING SYSTEM IS RETAINED, THE CONTRACTOR SHALL MAINTAIN LIGHTING ON ONE SIDE OR THE OTHER WITH THE EXISTING OR THE PROPOSED LIGHTING SYSTEM. THIS WORK SHALL BE COORDINATED WITH THE MAINTENANCE OF TRAFFIC PHASES OF WORK.

SCOPE OF WORK

THE WORK INCLUDED WITH THIS PROJECT IS TO REPLACE THE EXISTING LIGHTING SYSTEM FOR STRUCTURES 1524, 1540, 1547, 1599, THE RAMP LIGHTING SYSTEM BETWEEN FAIRFIELD AVENUE AND ABBEY AVENUE ADJOINING STRUCTURE 1540, AND THE RAMP LIGHTING SYSTEM ADJOINING STRUCTURE 1599 TO BROADWAY AVENUE AND CARNEGIE AVENUE. TOWER LIGHTS WILL REPLACE THE STRUCTURE LIGHTS FOR STRUCTURES 1540 AND 1524 AS WELL AS THE RAMP LIGHTS BETWEEN FAIRFIELD AVENUE AND ABBEY AVENUE. TOWER LIGHTS AT THE EASTERLY END OF STRUCTURE 1599 WILL REPLACE SOME EXISTING LIGHTS AS WELL AS ALL OF THE LIGHTS REQUIRED FOR THE RAMPS ADJOININC BROADWAY AVENUE AND CARNEGIE AVENUE. ON THE MAIN VIADUCT BRIDGE, STRUCTURE 1547, THE EXISTING LIGHT POLES, LUMINAIRES, LAMPS, WIRING, CONDUITS AND JUNCTION BOXES WILL BE REPLACED. THE LIGHT POLE BASES WHICH ARE AN INTEGRAL PART OF THE STRUCTURE AND HANDRAILING SHALL BE RETAINED AS PER THE DETAILS IN THE PLAN.

STRUCTURE 1599 IS TO BE REDECKED FROM THE MAIN GIRDERS AND BEAMS. THE NEW LIGHTING, CONDUITSAND JUNCTION BOXES WILL BE INTEGRAL WITH THE NEW DECK AT NEW LOCATIONS AS PER DETAILS IN THE STRUCTURE PLANS. THE EXISTING LIGHTING SYSTEM ON THIS STRUCTURE WILL BE REMOVED IN ACCORDANCE WITH THE STRUCTURE DEMOLITION PLANS.

THIS PROJECT WILL ALSO RENOVATE THE EXISTING NAVIGATIONAL LIGHTS OVER THE CUYAHOGA RIVER ON STRUCTURE 1547 AND PROVIDE NEW WIRING FOR THESE LIGHTS FROM THE ABBEY AVENUE POWER SUPPLY.

THE WORK SHALL ALSO INCLUDE TWO NEW POLE MOUNTED POWER SUPPLY POINTS, ONE AT EACH END OF THE PROJECT.

PAYMENT FOR REMOVAL OF ELECTRICAL ITEMS, CONDUIT, JUNCTION BOXES, CABLES, ETC., (EXCEPT LIGHT POLES AND LUMINAIRES) ON STRUCTURE 1599 WILL BE INCLUDED WITH THE LUMP SUM PAYMENT FOR THE DEMOLITION OF THAT STRUCTURE. ON STRUCTURE 1547, THE CENTRAL VIADUCT BRIDGE, THESE ITEMS WILL BE REPLACED WITH NEW ITEMS IN THE SAME LOCATION AND ALL REMOVAL COSTS WILL BE INCLUDED WITH THE COST OF THE NEW ITEMS. ON STRUCTURES 1524 AND 1540 AND ALONG THE APPROACH RAMPS AND ROADWAYS, ALL LIGHTING ITEMS TO BE REMOVED SHALL BE REMOVED ON AN EACH BASIS AS PER THE APPROPRIATE NOTES AND DETAILS ON THE PLAN. PAYMENT FOR THE REMOVAL OF LIGHT POLES AND LUMINAIRES SHALL BE INCLUDED IN THE RESPECTIVE REMOVAL ITEMS (202).

SPECIFICATIONS

THESE NOTES ARE SUPPLEMENTAL TO ITEMS 625 AND 713 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (ODOT SPECS).

REFERENCE SHALL BE MADE TO STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET OF THESE PLANS.

POWER SERVICE

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS: CLEVELAND PUBLIC POWER, 1825 LAKESIDE AVENUE, CLEVELAND, OHIO 44114.

LAMPS

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC 'LUCALOX', WESTINGHOUSE 'CERAMALUX', SYLVANIA 'LUMALUX', OR EQUAL APPROVED BY THE ENGINEER.

ITEM SPECIAL - LIGHT POLE ANCHOR BOLTS FOR BRIDGES AND RETAINING WALLS

ANCHOR BOLTS FOR MOUNTING LIGHT POLES ON BRIDGES AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF 713.01 AND DETAILS SHOWN ON THE PLANS AND STANDARD DRAWINGS, OR THE APPROVED SHOP DRAWINGS, FOR THE RESPECTIVE POLES TO BE PLACED THEREON. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH SET OF THE SIZE REQUIRED AND NECESSARY TO INSTALL ONE POLE, AND THIS PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND PLACING THE BOLTS.

CONDUIT ON STRUCTURE

EXPANSION FITTINGS FOR CONDUIT ON STRUCTURES SHALL BE OZ TYPE AX, CROUSE-HINDS TYPE XJ-4, APPLETON TYPE XJ-4, OR EQUAL APPROVED BY THE ENGINEER, FOR BRIDGE NO. CUY-90-1540 AND OZ TYPE AX-8, OR EQUAL APPROVED BY THE ENGINEER, FOR BRIDGE NOS. CUY-90-1547 AND CUY-90-1599. EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.

ELECTRICAL SERVICE FOR ILLUMINATED SIGNS

THE PAY ITEMS IN THE LIGHTING GENERAL SUMMARY INCLUDE THE PULL BOX OR JUNCTION BOX ADJACENT TO EACH LIGHTED SIGN AND THE ELECTRICAL SERVICE CONNECTIONS LEADING INTO THE BOX, INCLUDING SPLICES OR CONNECTOR KITS IN THE PULL BOX OR JUNCTION BOX. QUANTITIES FOR ELECTRICAL SERVICE FROM THE CONNECTION IN THE PULL BOX OR JUNCTION BOX TO THE SIGN ARE INCLUDED IN THE TRAFFIC CONTROL GENERAL SUMMARY.

QUANTITIES FOR ELECTRICAL SERVICE FROM THE CONNECTOR KITS TO LUMINAIRES MOUNTED ON COMBINATION TYPE SIGN SUPPORTS, INCLUDING DISTRIBUTION CABLE, POLE AND BRACKET CABLE, LUMINAIRE SUPPORT ARM, LUMINAIRE, ETC., EXCLUSIVELY REQUIRED TO SERVICE THE ROADWAY LIGHTING UNIT, ARE INCLUDED IN THE LIGHTING GENERAL SUMMARY.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A AND SHALL BE KEYED IN ACCORDANCE WITH SPECIFICATION 631.08, PARAGRAPH 3. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEMS BEING LOCKED.

ITEM 202 - LIGHT POLE REMOVED

ITEM 202 - LUMINAIRE REMOVED

THE COST FOR DISPOSAL SHALL BE INCIDENTAL TO THE RESPECTIVE REMOVAL ITEMS.

ITEM 202 - LIGHT POLE REMOVED, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF ALL LABOR, TOOLS AND EQUIPMENT NECESSARY TO REMOVE AND DISPOSE EACH BRIDGE MOUNTED LIGHT POLE COMPLETE ON STRUCTURE NOS. 1524 AND 1540. THE WORK SHALL INCLUDE: THE POLE WITH BRACKET ARM AND POLE SUPPORT TO THE TOP OF THE EXISTING CONCRETE WALK. IT SHALL ALSO INCLUDE THE CLOSING OF THE POLE BASE WITH A 3/8 INCH THICK PLATE WELDED TO THE EXISTING BASE. THE REMOVAL AND DISPOSAL OF THE CABLE SHALL BE CONSIDERED INCIDENTAL WITH THIS ITEM OF WORK.

ITEM 202 - LIGHT POLE FOUNDATION REMOVED, AS PER PLAN

THIS ITEM OF WORK SHALL BE FOR ALL LABOR, TOOLS AND EQUIPMENT NECESSARY TO REMOVE EACH LIGHT POLE FOUNDATION COMPLETE ON THE APPROACH RAMPS TO THE STRUCTURES. THE REMOVAL WORK SHALL INCLUDE: REMOVAL OF THE FOUNDATION TO A MINIMUM OF ONE (1) FOOT BELOW THE GROUND LINE, AND THE RESTORATION OF THE AREA BY FILLING THE DEPRESSION WITH EARTH TO MATCH THE SURROUNDING GROUND. ITEM 659 SEEDING AND MULCHING SHALL BE USED WHERE DIRECTED BY THE ENGINEER. ALL REMOVED ITEMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF AS PER 202.02 OF THE SPECIFICATION.

PAYMENT WILL BE FOR EACH LIGHT POLE FOUNDATION, REMOVED, AS PER PLAN.

ITEM 202 - PULLBOX REMOVED, AS PER PLAN

THIS ITEM OF WORK SHALL BE FOR ALL LABOR, TOOLS AND EQUIPMENT NECESSARY TO REMOVE EACH EXISTING PULLBOX TO A MINIMUM OF ONE (1) FOOT BELOW THE GROUND LINE AND THE RESTORATION OF AREA BY FILLING THE DEPRESSION WITH EARTH TO MATCH THE SURROUNDING GROUND. ITEM 659 SEEDING AND MULCHING SHALL BE USED WHERE DIRECTED BY THE ENGINEER.

PAYMENT SHALL BE FOR EACH PULLBOX REMOVED AND DISPOSED OF.

ITEM 202 - POWER SERVICE, REMOVED, AS PER PLAN

THIS ITEM OF WORK SHALL BE FOR ALL LABOR, TOOLS AND EQUIPMENT NECESSARY TO REMOVE A TWELVE (12) FOOT BY TWELVE (12) FOOT BY TEN (10) FOOT HIGH CONCRETE BLOCK VAULT NEAR ABBEY AVENUE, INCLUDING ALL ELECTRICAL EQUIPMENT INSIDE. THE TRANSFORMERS, DISCONNECT SWITCHES AND ANY OTHER ITEM OF VALUE SHALL BE REMOVED AND STORED ON SITE FOR PICK UP BY CLEVELAND PUBLIC POWER. ALL OTHER ITEMS SHALL BE REMOVED TO ONE (1) FOOT MINIMUM BELOW GRADE AND THE DEPRESSION FILLED WITH EARTH TO MATCH THE SURROUNDING GROUND. ITEM 659 SEEDING AND MULCHING SHALL BE USED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR 'ITEM 202-POWER SERVICE, REMOVED, AS PER PLAN' WILL BE AT THE CONTRACT BID PRICE PER EACH POWER SERVICE REMOVED, AS PER PLAN.

ITEM 625 - PULLBOX, MISC: WELD COVER

THIS ITEM OF WORK SHALL INCLUDE WELDING SHUT THE PULLBOX COVER PER THE DETAIL ON SHEET NO. 57. IF THE EXISTING COVER IS MISSING, A 3/8 INCH THICK PLATE SHALL BE PROVIDED. ALL PLATES NEW OR USED SHALL BE CLEANED AND PAINTED.

625.07 - 713.11 LUMINAIRES

STYLE B LUMINAIRES SHALL HAVE SINGLE RATED 480 VOLT, 200 WATT, INTEGRAL REGULATOR BALLASTS FOR USE WITH HIGH PRESSURE SODIUM LAMPS AND SHALL BE GENERAL ELECTRIC M400, WESTINGHOUSE OV-25, ITT AMERICAN 400, OR EQUAL APPROVED BY THE ENGINEER.

STYLE C LUMINAIRES SHALL HAVE SINGLE RATED 480 VOLT, 400 WATT, INTEGRAL REGULATOR BALLASTS AND SHALL BE GENERAL ELECTRIC M-1000, WESTINGHOUSE OV-50, ITT AMERICAN 1000, OR EQUAL APPROVED BY THE ENGINEER.

ITEM 625 - LIGHT POLE 8B35.7, AS PER PLAN

THIS ITEM SHALL CONSIST OF ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL ONE LIGHT POLE 8B35.7 INCLUDING BRACKET ARM AND ALL INCIDENTALS NOT SPECIFICALLY MENTIONED BUT REQUIRED TO COMPLETE THIS ITEM OF WORK AS DETAILED ON SHEET NO. 58. PAYMENT FOR ITEM 625 - LIGHT POLE 8B35.7, AS PER PLAN WILL BE AT THE CONTRACT BID PRICE PER EACH COMPLETE AND IN PLACE.

ITEM 625 - LIGHTING, MISC.: SERVICE TO NAVIGATION LIGHTING

THIS ITEM SHALL CONSIST OF PROVIDING COMPLETE ELECTRICAL SERVICE, EXCEPT FOR NAVIGATIONAL LUMINAIRES AND STRUCTURE GROUNDING, FOR A NAVIGATIONAL LIGHTING SYSTEM ON BRIDGE NO. CUY-90-1547 (OVER) THE CUYAHOGA RIVER. BEGINNING AT THE NAVIGATIONAL LIGHTING TRANSITION JUNCTION BOX (STA.0+14) THIS WORK SHALL INCLUDE CONDUITS, CONDUIT GROUNDING, MOUNTINGS, FITTINGS, JUNCTION BOXES, CABLES, CONNECTORS, SPLICING KITS AND ALL INCIDENTALS NECESSARY TO COMPLETE, READY FOR USE, THE SERVICE AS DETAILED ON SHEETS 57 & 58. THE LUMP SUM PRICE BID FOR 'ITEM 625 LIGHTING MISC., SERVICE TO NAVIGATIONAL LIGHTING' SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE FURNISHED AND CONSIDERED PAID FOR AS PART OF THE ITEM. THE LOCATION AND METHOD OF CONNECTION OF THE 1" NAVIGATIONAL CONDUITS ALONG THE EXISTING CATWALKS SHALL BE PER DETAILS ON SHEET NO. 60A. THE NAVIGATIONAL LIGHTING SYSTEM WILL BE IN A PHYSICALLY SEPARATE SYSTEM (I.E. POWER SERVICE, PULLBOXES, JUNCTION BOXES, STRUCTURE GROUNDING SYSTEM ETC.) FROM THE ROADWAY LIGHTING.

ITEM 625 - LIGHTING MISC.: NAVIGATION LIGHT

THIS WORK SHALL CONSIST OF ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO PROPERLY INSTALL NAVIGATIONAL LIGHTS AT THE LOCATIONS SHOWN ON THE PLANS. THE INSTALLATION WORK SHALL INCLUDE ~~PIVOT SUPPORTS~~, LUMINAIRES , ~~LATCH PLATES~~, FLEXIBLE CONDUITS, CABLES, CHAINS AND ALL INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK. PAYMENT FOR "ITEM 625 - LIGHTING MISC., NAVIGATIONAL LIGHT" WILL BE AT THE CONTRACT BID PRICE PER EACH COMPLETE AND IN PLACE. SEE SHEET 60D/151.

LIGHTING NOTES

ELECTRICAL CONDUITS

ALL CONDUITS SHALL BE 713.04 UNLESS SPECIFIED OTHERWISE. FLEXIBLE CONDUIT SHALL BE PAID FOR AS 713.04 CONDUIT.

ITEM 625 - STRUCTURE GROUNDING, AS PER PLAN

ALL PROPOSED LIGHTING CONDUITS AND JUNCTION BOXES SHALL BE GROUNDED TO THE EXISTING GROUNDED SUPERSTRUCTURE OF BRIDGE NO. CUY-90-1540, CUY-90-1547 AND CUY-90-1599. ALL WORK SHALL BE IN ACCORDANCE WITH HL-50.21.

ITEM 625 - JUNCTION BOX, AS PER PLAN

THIS ITEM CONSISTS OF A 6" X 6" X 4" FLUSH MOUNTED JUNCTION BOX. WHEN ATTACHED TO THE CONCRETE DECK IT SHALL BE ANCHORED USING GROUTED ANCHORS, AS PER 705.20. PROVIDE FOUR 3/8" DIAMETER DRAIN HOLES, ONE IN EACH CORNER OF THE LOW SIDE.
WHEN USED UNDER THE SIDEWALK ON STRUCTURE CUY-90-1547, THIS ITEM SHALL CONSIST OF A 10" X 14" PLASTIC PULLBOX AS DESCRIBED ON SHEET NO. 60.

ITEM 603 - UNDER DRAINS FOR PULL BOXES

REFERENCE IS MADE TO STANDARD DRAWING HL-30.11 FOR DETAILS OF DRAINING PULL BOXES. UNDER DRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHEREVER POSSIBLE. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS OUTLINED ABOVE TO DRAIN BOTH EXISTING AND PROPOSED PULL BOXES:

ITEM 603 - 4" CONDUIT, TYPE E.....200 L.F.

ITEM 625 - LIGHT TOWER FOUNDATIONS

LIGHT TOWER FOUNDATIONS SHALL EXTEND 18 INCHES ABOVE GROUND IN OR ADJACENT TO DITCHES AND 6 INCHES ABOVE GROUND ELSEWHERE. (RATHER THAN FLUSH AS SHOWN ON HL-20.21). THE CONTRACTOR SHALL ACCURATELY LOCATE ALL UNDERGROUND CIRCUITS PRIOR TO DRILLING FOR FOUNDATIONS. FOUNDATION LOCATIONS SHALL BE SHIFTED AS NECESSARY TO AVOID ANY UNDERGROUND UTILITIES OR CONDUITS.
ALL FOUNDATIONS RELOCATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO DRILLING. THE SPECIFIED FOUNDATION DEPTH SHALL BE MEASURED FROM THE TOP OF THE ABOVE GROUND EXTENSION. ALL COSTS FOR REMOVAL OF EXCAVATED MATERIAL, GRADING, AND RESTORATION OF ALL DISTURBED AREAS IN ACCORDANCE WITH ITEM 659 SHALL BE CONSIDERED AS INCIDENTAL TO THE LIGHT TOWER FOUNDATION ITEM. REGRADING AS SHOWN ON STANDARD DRAWING HL-20.21 SHALL NOT BE REQUIRED.

HIGH MAST LUMINARIES

THE LUMINAIRE ARRAYS AND ASSOCIATED ILLUMINATION TEST AREAS SPECIFIED IN SECTION 713.21 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS ARE HEREBY WAIVED FOR THIS PROJECT. INSTEAD, THE LUMINAIRES FOR TOWER LIGHTING SHALL MEET THE FOLLOWING REQUIREMENTS.

ASYMMETRIC, TYPE I, LUMINAIRES FOR TOWER LIGHTING MAY BE HOLOPHANE "HMSC" TEST #43191, GENERAL ELECTRIC "HM" TEST #7349, OR COOPER "HMC" TEST #764130.

TOWER LIGHTING REVISIONS

THE PURPOSE OF THE FOLLOWING WORK IS TO REDUCE THE AMOUNT OF SPILL OVER LIGHTING OCCURRING ALONG IR-271 BETWEEN BRAINARD ROAD AND SHAKER BOULEVARD. THE SPILLOVER LIGHT IN THESE AREAS WILL BE LESSENED BY REPLACING THE EXISTING SYMMETRIC, TYPE 5 LUMINAIRES WITH ASYMMETRIC, TYPE I LUMINAIRES. THIS WILL BE ACCOMPLISHED BY PURCHASING NEW, ASYMMETRIC TYPE I LUMINARIES FOR THIS PROJECT, REPLACING MANY OF THE EXISTING SYMMETRIC TYPE 5 LUMINAIRES WITHIN THE LIMITS ABOVE, AND USING THE REMOVED SYMMETRIC TYPE 5 LUMINAIRES FOR THE NEW TOWER LIGHT POLES WITHIN THIS PROJECT. THE EXACT LOCATIONS FOR THIS WORK WILL BE PROVIDED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION CONFERENCE. THE 30 SYMMETRIC LUMINAIRES SHOWN IN THE SUB-SUMMARY HAVE BEEN REPLACED IN THIS PROJECT WITH THE FOLLOWING:

ITEM 625 - LUMINAIRE, ASYMMETRIC, 400 WATT HPS,
713.21, 480 VOLT.....30 EACH

ITEM 625 - REMOVAL OF LUMINAIRE AND REERECTION, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE CAREFUL REMOVAL OF AN EXISTING LIGHT LUMINAIRE ON IR-271 AND ITS SUBSEQUENT REERECTION ON THIS PROJECT. IN ADDITION TO THE ABOVE WORK, THE CONTRACTOR SHALL CAREFULLY PACKAGE AND STORE THE REMOVED LUMINAIRE UNTIL IT CAN BE RE-ERECTED AT ITS FINAL LOCATION. THE REMOVAL PORTION OF THIS ITEM AND THE INSTALLATION OF THE NEW LUMINAIRES SHALL BE PERFORMED WITHIN 6 MONTHS OF THE AWARDING OF THIS CONTRACT. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO PERFORM THIS WORK.

ITEM 625 - REMOVAL OF LUMINAIRE AND REERECTION,
AS PER PLAN.....30 EACH

GENERAL SUMMARY
LIGHTING

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.99	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

52
151

ITEM	SHEET NUMBER 50	51	53	54	55	56	56A	60A	PARTICIPATION	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	AS PER PLAN REF.
202						59				202	75301	59	EA.	PULL BOX REMOVED, AS PER PLAN	
202						63	54			202	75400	117	EA.	LIGHT POLE REMOVED	
202						28				202	75401	28	EA.	LIGHT POLE REMOVED, AS PER PLAN	50
202						50				202	75501	50	EA	LIGHT POLE FOUNDATION REMOVED, AS PER PLAN	50
202						92	54			202	75506	146	EA.	LUMINAIRE REMOVED	
202						1				202	75511	1	EA.	POWER SERVICE REMOVED, AS PER PLAN	50
202								6		202	98100	6	EA.	REMOVAL MISC.: NAVIGATION LIGHTING	
603		200								603	00400	200	LIN.FT.	4" CONDUIT, TYPE E	
625			19	22	16					625	00500	57	EA.	CONNECTOR KIT, TYPE II	
625			19	22	16					625	00600	57	EA.	CONNECTOR KIT, TYPE III	
625			8		9					625	00800	17	EA	CONNECTOR KIT, TYPE IV	
625			8		9					625	00900	17	EA.	CONNECTOR KIT, TYPE VI	
625			4		6					625	01004	10	EA.	CONNECTOR KIT, TYPE VII B	
625			6	6	10					625	01500	22	EA.	CABLE SPLICING KIT	
625															
625			19	19	16					625	10500	54	EA.	LIGHT POLE MISC., DESIGN: 8.B35.1, AS PER PLAN	50
625				1						625	13204	1	EA.	LIGHT TOWER, BBBB110	
625				1						625	13208	1	EA.	LIGHT TOWER, BBBB120	
625					4					625	13210	4	EA.	LIGHT TOWER, BBBB130	
625			1							625	13406	1	EA	LIGHT TOWER, BBBBBB120	
625				1						625	15100	1	EA.	LIGHT TOWER, FOUNDATION, 36" x 20' DEEP	
625			1	1						625	15200	2	EA.	LIGHT TOWER FOUNDATION, 36" x 25' DEEP	
625					4					625	15400	4	EA.	LIGHT TOWER FOUNDATION, 42" x 25' DEEP	
625			5298	4926	7344					625	23200	17568	LIN.FT.	No. 4 AWG. 5000 VOLT DISTRIBUTION CABLE	
625			1198							625	23306	1198	LIN.FT.	No. 10 AWG 600 VOLT DISTRIBUTION CABLE	
625			2090	2090	1760					625	23400	5940	LIN.FT.	No. 10 AWG. POLE AND BRACKET CABLE	
625			240	1101	777					625	24100	2118	LIN.FT.	1½" DUCT CABLE WITH TWO No. 4 AWG, 5000 VOLT CABLES	
625			113	43	165					625	25300	321	LIN.FT.	CONDUIT, 1½", 713.04	
625			80							625	25302	80	LIN.FT.	CONDUIT, 1½", 713.07	
625			2837	2262	3221					625	25400	8320	LIN.FT.	CONDUIT, 2", 713.04	
625					88					625	25900	88	LIN.FT.	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, SIZE 3"	
625			19	19	16					625	26300	54	EA.	LUMINAIRE, STYLE B, TYPE III, 200 WATT HIGH PRESSURE SODIUM, 713.11, 480 VOLT	
625	30									625	27000	30	EA.	LUMINAIRE, ASYMMETRIC, 400 WATT HIGH PRESSURE SODIUM, 713.21, 480 VOLT	
625	30			4						625	27520	30	EA.	REMOVAL OF LUMINAIRE AND REERECTION, AS PER PLAN	51
625			305	1008	579					625	28000	4	EA.	GLARE SHIELD	
625			25	22	26					625	29002	1892	LIN.FT.	TRENCH, 24" DEEP	
625			6	2	9					625	29901	73	EA.	JUNCTION BOX, AS PER PLAN	51
625			5	3	5					625	29911	17	EA.	TRANSITION JUNCTION, BOX AS PER PLAN	60
625						28				625	30700	13	EA.	PULL BOX, 713.08, 18"	
625			2	4	8					625	31600	28	EA.	PULL BOX MISC.: WELD COVER	
										625	32000	14	EA	GROUND ROD	
625		1								625	33001	1	EA.	SYSTEM STRUCTURE GROUNDING, AS PER PLAN	51
625			2		1					625	34001	3	EA.	POWER SERVICE, AS PER PLAN	56A
625			6							625	98000	6	EA.	LIGHTING MISC.: NAVIGATION LIGHT	
625			LUMP							625	98200	LUMP		LIGHTING MISC.: SERVICE TO NAVIGATION LIGHTING	

INNERBELT FREEWAY

A.C.L. form no. 1

LIGHTING GENERAL SUMMARY

LIGHTING SUBSUMMARY

CALC BY _____ DATE _____
CHKD BY _____ DATE _____

CUYAHOGA COUNTY
CUY-90-15.99
INNERBELT FREEWAY

OHIO
FHWA REGION 5

53
151

● RAMP W-2
●● RAMP W-3

625

SHT NO.	SIDE	STATION		PULL BOX 713.08 18"	TRENCH 24" DEEP	CONDUIT JACKED OR DRILLED UNDER PAVT., 3"	GROUND ROD	CABLE SPLICING KIT	1½" CONDUIT 713.07	CONDUIT 713.04 1½"	CONDUIT 713.04 2"	CONNECTOR KITS II	III	V	VI	VIIB	JUNCTION BOX, AS PER PLAN	TRANSITION JUNCTION BOX, AS PER PLAN	LUMINAIRE 400 W HPS 713.21 480 VOLT SYM	GLARE SHIELD	LIGHT TOWER BBBB 110	BBBB 120	BBBBBB 120	BBBB 130	LIGHT TOWER FOUNDATION 36"x20'	36"x25'	42"x25'	DISTRIBUTION CABLE, #4 AWG	#10 AWG	1½" DUCT CABLE WITH 2#4 AWG		SERVICE TO NAVIGATION LIGHTING	NAVIGATION LIGHTS	LUMINAIRE STYLE B 200 W HPS 713.11 480 VOLT TYPE III	LIGHT POLE DESIGN 8B35.7, AS PER PLAN	POLE & BRACKET CABLE 600 VOLT # 10 AWG	POWER SERVICE AS PER PLAN		
				EA.	L.F.	L.F.	EA.	EA.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.		LUMP	EA.	EA.	EA.	L.F.	EA.		
57	LT	11+75	11+70		10						15																	40								1		
	LT	11+70	0+53 ● ●	1	80				80																			170										
		0+53 ● ●		1	5			2		25																		70										
		0+53 ● ●	2+40 ●								213			1	1			1										446										
		2+40 ●	0+14 ●								226			1	1			1										472										
		0+14 ●	19+30											1	1			1														LUMP	2					
58	L/R	19+30	20+30																														2					
	L/R	20+30	21+30																														2					
57	LT	11+75	11+80		10						15																		20							1		
		11+80	11+40	1	38																								43									
		11+40	1+55 ● ●	1	70			2																					80									
		11+40	0+56 ● ●		87		2											6					1			1			97									
		0+56 ● ●		1	5			2		25																		70										
		0+56 ● ●	3+85 ●								71			1	1			1										162										
		3+85 ●	3+70 ●							45				2	2		2											130										
		3+85 ●	0+10 ●								375					2		1										770										
		0+10 ●	16+18							15				1	1		1	1										50										
		16+18								3				1	1		1											16										
57/58		16+18	16+79								61						1											132										
58		16+79	17+79								100		1	1			1											220				1	1	110				
		17+79	18+82								103		1	1			1											226				1	1	110				
		18+82	19+81								99		1	1			1											218				1	1	110				
		19+81	20+80								99		1	1			1											218				1	1	110				
		20+80	21+89								109		1	1			1											238				1	1	110				
		21+89	22+86								97		1	1			1											214				1	1	110				
		22+86	23+86								100		1	1			1											220				1	1	110				
		23+86	24+89								103		1	1			1											226				1	1	110				
		24+89	25+89								100		1	1			1											220				1	1	110				
		25+89	26+89								100		1	1			1											220				1	1	110				
		26+89	27+15								26		1	1			1											72				1	1	110				
		27+15	27+81								66					2	1											152										
		27+81	28+88								107		1	1			1											234				1	1	110				
58/59		28+88	29+64								76		1	1			1											172				1	1	110				
59		29+64	30+84								120		1	1			1											260				1	1	110				
		30+84	31+63								79		1	1			1											178				1	1	110				
		31+63	32+78								115		1	1			1											250				1	1	110				
		32+78	33+77								99		1	1			1											218				1	1	110				
		33+77	34+73								96		1	1			1											212				1	1	110				
		34+73	35+40								67		1	1			1															1	1	110				
SHEET TOTALS				5	305		2	6	80	113	2837	19	19	8	8	4	25	6	6*				1			1		5298	1198	240		LUMP	6	19	19	2090	2		

*SEE GENERAL NOTE ON SHEET 51

LIGHTING SUBSUMMARY

INNERBELT FREEWAY

LIGHTING SUBSUMMARY

CALC BY _____ DATE _____
CHKD BY _____ DATE _____

CUYAHOGA COUNTY
CUY-90-15.99
INNERBELT FREEWAY

OHIO
FHWA REGION 5

54
151

625

● RAMP W-1

SHT NO.	SIDE	STATION		PULL BOX 713.08 18"	TRENCH 24" DEEP	CONDUIT JACKED OR DRILLED UNDER PAVT., 3"	GROUND ROD	CABLE SPLICING KIT	1½" CONDUIT 713.07	CONDUIT 713.04 1½"	CONDUIT 713.04 2"	CONNECTOR KITS II	CONNECTOR KITS III	CONNECTOR KITS V	CONNECTOR KITS VI	CONNECTOR KITS VIIB	JUNCTION BOX, AS PER PLAN	TRANSITION JUNCTION BOX, AS PER PLAN	LUMINAIRE 400 W HPS 713.21 480 VOLT SYM	GLARE SHIELD	LIGHT TOWER BBBB 110	LIGHT TOWER BBBB 120	LIGHT TOWER BBBBBB 120	LIGHT TOWER BBBB 130	LIGHT TOWER FOUNDATION 36"x20'	LIGHT TOWER FOUNDATION 36"x25'	LIGHT TOWER FOUNDATION 42"x25'	DISTRIBUTION CABLE, #4 AWG	DISTRIBUTION CABLE, #10 AWG	1½" DUCT CABLE WITH 2#4 AWG		SERVICE TO NAVIGATION LIGHTING	NAVIGATION LIGHTS	LUMINAIRE STYLE B 200 W HPS 713.11 480 VOLT TYPE III	LIGHT POLE DESIGN 8B35.7, AS PER PLAN	POLE & BRACKET CABLE 600 VOLT # 10 AWG	POWER SERVICE AS PER PLAN		
				EA.	L.F.	L.F.	EA.	EA.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.		LUMP	EA.	EA.	EA.	L.F.	EA.		
57	LT	11+75	11+80																																				
		11+80	11+90		120																									20									
	L/R	11+90	12+77	1	245			2																						125									
	RT	12+77	7+25	1	580			2																						255									
		7+25	1+80 ●	1	35		2	2										4		1				1						590									
		12+77	12+80		23		2											4	4		1				1					45									
		12+77	7+32 ●		5					25																				66									
		7+32 ●	16+05								340	1	1					1												70									
		16+05	16+18							15		1	1				1	1												700									
		16+18								3							1													50									
57/58		16+18	16+79								61	1	1				1													16									
58		16+79	17+79								100	1	1				1													142									
		17+79	18+82								103	1	1				1													220				1	1	110			
		18+82	19+81								99	1	1				1													226				1	1	110			
		19+81	20+80								99	1	1				1													218				1	1	110			
		20+80	21+89								109	1	1				1													218				1	1	110			
		21+89	22+86								97	1	1				1													238				1	1	110			
		22+86	23+86								100	1	1				1													214				1	1	110			
		23+86	24+89								103	1	1				1													220				1	1	110			
		24+89	25+89								100	1	1				1													226				1	1	110			
		25+89	26+89								100	1	1				1													220				1	1	110			
		26+89	27+81								92	1	1				1													220				1	1	110			
		27+81	28+88								107	1	1				1													204				1	1	110			
58/59		28+88	29+64								76	1	1				1													234				1	1	110			
59		29+64	30+84								120	1	1				1													172				1	1	110			
		30+84	31+63								79	1	1				1													260				1	1	110			
		31+63	32+78								115	1	1				1													178				1	1	110			
		32+78	33+77								99	1	1				1													250				1	1	110			
		33+77	34+73								96	1	1				1													218				1	1	110			
		34+73	35+40								67	1	1				1													212				1	1	110			
SHEET TOTALS				3	1008		4	6		43	2262	22	22				22	2	8*	4	1	1			1	1		4926		1101				19	19	2090			

* SEE GENERAL NOTE ON SHEET 51

LIGHTING SUBSUMMARY

INNERBELT FREEWAY

LIGHTING SUBSUMMARY

CALC BY ____ DATE ____
CHKD BY ____ DATE ____

CUYAHOGA COUNTY
CUY-90-15.99
INNERBELT FREEWAY

OHIO
FHWA REGION 5

55
151

625

• RAMP E-1 •• RAMP E-2				PULL BOX 713.08	TRENCH 24" DEEP	CONDUIT JACKED OR DRILLED UNDER PAVT., 3"	GROUND ROD	CABLE SPLICING KIT	1½" CONDUIT 713.07	CONDUIT 713.04		CONNECTOR KITS					JUNCTION BOX, AS PER PLAN	TRANSITION JUNCTION BOX, AS PER PLAN	LUMINAIRE 400 W HPS 713.21 480 VOLT	GLARE SHIELD	LIGHT TOWER				LIGHT TOWER FOUNDATION			DISTRIBUTION CABLE, 5000 VOLTS		1½" DUCT CABLE WITH 2#4 AWG		SERVICE TO NAVIGATION LIGHTING	NAVIGATION LIGHTS	LUMINAIRE STYLE B 200 W HPS 713.11 480 VOLT TYPE III	LIGHT POLE DESIGN 8B35.7, AS PER PLAN	POLE & BRACKET CABLE 600 VOLT # 10 AWG	POWER SERVICE AS PER PLAN		
				18"						1½"	2"	II	III	V	VI	VIIB			SVM		BBBB 110	BBBB 120	BBBBBB 120	BBBB 130	36"x20'	36"x25'	42"x25'	#4 AWG	#10 AWG											
SHT NO.	SIDE	STATION		EA.	L.F.	L.F.	EA.	EA.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.		LUMP	EA.	EA.	EA.	L.F.	EA.		
59	LT	35+40	35+72								32			1	1		1										84											
		35+72	36+72								100	1	1				1											220						1	1	110			
		36+72	37+70								98	1	1				1											216						1	1	110			
		37+70	38+81								111	1	1				1											242						1	1	110			
		38+81	39+80								99	1	1				1											218						1	1	110			
		39+80	40+80								100	1	1				1											220						1	1	110			
		40+80	41+80								100	1	1				1											220						1	1	110			
		41+80	42+54								74	1	1				1											168						1	1	110			
		42+54	43+30								76	1	1				1											172						1	1	110			
		43+30								3				1	1		1											16											
		43+30	43+40							12							2											40											
		43+40	6+13•								415			1	1			1										850											
		6+13•	6+07•							10								1																					
		6+07•	5+98•								9			1	1			1										68											
		5+98•	6+03•		5					35						2		1										90											
		6+03•	47+70	1	39		2	2											4				1			1				49									
		5+98•	2+70•								328																	676											
		2+70•	51+25	1	40	50		2																						95									
		51+25		1	10						15																			20								1	
		51+25	2+55•		25		2												4				1			1				50									
59	RT	35+40	35+72								32			1	1		1										84											
		35+72	36+72								100	1	1				1											220						1	1	110			
		36+72	37+70								98	1	1				1											216						1	1	110			
		37+70	38+81								111	1	1				1											242						1	1	110			
		38+81	39+80								99	1	1				1											218						1	1	110			
		39+80	40+80								100	1	1				1											220						1	1	110			
		40+80	41+80								100	1	1				1											220						1	1	110			
		41+80	42+54								74	1	1				1											168						1	1	110			
		42+54	43+30								76	1	1				1											172						1	1	110			
		43+30								3				1	1		1											16											
		43+30	43+40							12							2											40											
		43+40	45+72								232			1	1			1										484											
		45+72	45+76		5					35						2		1										90											
		45+76	45+72	1	8		2	2											4				1			1				18									
		45+72	3+37••								240																	500											
		3+37••	3+20••							45				1	1	2	2	1										110											
		3+37••	3+57••								20																	90											
		3+57••	3+63••							10								1																					
		3+63••	7+30••								367			1	1			1										754											
		7+30••	52+50	1	102	38		2																						150									
		52+50	51+25		240		2				15								4				1			1				265									
		52+25	51+25		105			2																						130									
SHEET TOTALS				5	579	88	8	10		165	3221	16	16	9	9	6	26	9	16*				4			4	7344		777				16	16	1760	1		

*SEE GENERAL NOTE ON SHEET 51

LIGHTING SUBSUMMARY

CALC. | CUYAHOGA COUNTY | OHIO
DATE
CHKD. S.L. | CUY - 90 - 15.99 | F.H.W.A. REGION 5
DATE 6/94 | INNERBELT FREEWAY

56
151

SHEET NO.	LOCATION	SIDE	202 LIGHT POLE REMOVED FOUNDATION, AS PER PLAN EA.	202 LIGHT POLE REMOVED AS PER PLAN EA.	202 POLE REMOVED AS PER PLAN EA.	202 PULLBOX REMOVED AS PER PLAN EA.	202 POWER SERVICE REMOVED AS PER PLAN EA.	202 LUMINAIRE REMOVED EA.	625 PULLBOX MISC. WELD COVER EA.
57	RAMP W-1								
	2+20	LT.	1	1		1		1	
	2+89	LT.	1	1		1		1	
	3+58	LT.	1	1		1		1	
	4+27	LT.	1	1		1		1	
	4+96	LT.	1	1		1		1	
	5+65	LT.&RT.	1	1		2		1	
	6+34	RT.	1	1		1		1	
	LANE A								
	0+96	RT.	1			1			
	1+55	RT.	1	1		1		1	
	2+18	RT.	1	1		1		1	
	2+94	RT.	1	1		1		1	
	3 60	RT.	1	1		1		1	
	4+26	RT.	1	1		1		1	
	4+95	RT.	1	1		1		1	
	5+58	RT.	1	1		1		1	
	6+38	RT.	1	1		1		1	
	7+04	RT.	1	1		1		1	
	7+70	RT.&LT.	1	1		2		1	
	LANE B								
	1+50	LT.&RT.	1	1		2		1	
	2+24	LT.	1	1		1		1	
	2+93	LT.	1	1		1		1	
	3+60	LT.	1	1		1		1	
	4+31	LT.	1	1		1		1	
	5+00	LT.	1	1		1		1	
	RAMP W-2								
	3+56	RT.			1			1	1
	4+26	RT.			1			1	1
	4+95	RT.			1			1	1
	5+42	LT.				1			
	5+75	LT.	1	1		1		1	
	6+50	RT.	1	1		1		1	
	7+07	RT.	1			1			
	7+64	RT.	1	1		1		1	
	8+21	RT.	1			1			
	8+78	RT.	1			1			
	10+85	RT.	1			1			
	RAMP W-3								
	1+70	RT.	1	1		1		1	
	2+40	LT.	1			1			
	2+85	LT.	1	1		1		1	
	3+30	LT.	1			1			
	4+02	LT.	1	1		1		1	
	4+55	LT.&RT.	1	1		2		1	
	5+35	RT.	1	1		1		1	
	ABBEY AVE.								
	3+75	RT.	1	1		1		1	
	4+20	RT.				1			
	4+40	RT.				1			
	5+00	RT.					1		
	7+40	LT.	1	1		1		1	
57	7+50	RT.				1			

SHEET NO.	LOCATION	SIDE	202 LIGHT POLE REMOVED FOUNDATION, AS PER PLAN EA.	202 LIGHT POLE REMOVED AS PER PLAN EA.	202 PULL-BOX REMOVED AS PER PLAN EA.	202 POWER SERVICE REMOVED AS PER PLAN EA.	202 LUMINAIRE REMOVED EA.	625 PULLBOX MISC. WELD COVER EA.
	I-90							
57	4+09	LT.		1			1	1
	4+10	RT.		1			1	1
	5+34	LT.&RT.		2			2	2
	6+56	RT.		1			1	1
	6+62	LT.		1			1	1
	7+78	LT.&RT.		2			2	2
	9+01	RT.		1			1	1
	9+02	LT.		1			1	1
	10+08	RT.		1			1	1
	10+11	LT.		1			1	1
	11+34	RT.		1			1	1
	11+38	LT.		1			1	1
	12+60	RT.		1			1	1
	13+27	LT.		1			1	1
	13+36	RT.		1			1	1
	13+97	LT.		1			1	1
	14+06	RT.		1			1	1
	14+86	LT.&RT.		2			2	2
	15+92	LT.&RT.		2			2	2
	12+47	RT.		1			1	1
57	12+54	LT.		1			1	1
	RAMP E-3							
59	0+90	RT.	1	1	1		1	
	1+55	RT.	1	1	1		1	
	2+15	LT.	1	1	1		1	
	2+75	LT.	1	1	1		1	
	BROADWAY							
	46+85	RT.	1	1	1		1	
	46+89	LT.	1	1	1		1	
	47+45	℄	1	1	1		2	
	47+40	LT.			1			
	48+20	LT.	1	1	1		1	
	48+20	RT.	1	1	1		1	
59	48+20	℄	1	1	1		1	
	I-90							
58	16+79	LT.		1			1	
	17+79	LT.		1			1	
	18+82	LT.		1			1	
	19+81	LT.		1			1	
	20+80	LT.		1			1	
	21+89	LT.		1			1	
	22+86	LT.		1			1	
	23+86	LT.		1			1	
	24+89	LT.		1			1	
	25+89	LT.		1			1	
	26+89	LT.		1			1	
	27+81	LT.		1			1	
	28+88	LT.		1			1	
	16+79	RT.		1			1	
	17+79	RT.		1			1	
	18+82	RT		1			1	
	19+81	RT.		1			1	
	20+80	RT.		1			1	
	21+89	RT.		1			1	
	22+86	RT.		1			1	
	SUBSUMMARY		50	63	28	59	1	92	28

INNERBELT FREEWAY

A-C-L form no. 1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.99	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

564
151

SHEET NO.	LOCATION	SIDE	202 LIGHT POLE REMOVED FOUNDATION, AS PER PLAN EA.	202 LIGHT POLE REMOVED AS PER PLAN EA.	202 PULLBOX REMOVED AS PER PLAN EA.	202 POWER SERVICE REMOVED AS PER PLAN EA.	202 LUMINAIRE REMOVED EA.	625 PULLBOX MISC. W/LID COVER EA.
	I-90							
58	23+86	RT		1			1	
	24+89	RT.		1			1	
	25+89	RT.		1			1	
	26+89	RT.		1			1	
	27+81	RT.		1			1	
	28+88	RT.		1			1	
	I-90							
59	29+64	LT.		1			1	
	30+84	LT.		1			1	
	31+63	LT.		1			1	
	32+78	LT.		1			1	
	33+77	LT.		1			1	
	34+73	LT.		1			1	
	35+72	LT.		1			1	
	36+72	LT.		1			1	
	37+70	LT.		1			1	
	38+81	LT.		1			1	
	39+80	LT.		1			1	
	40+80	LT.		1			1	
	41+80	LT.		1			1	
	42+54	LT.		1			1	
	43+66	LT.		1			1	
	44+60	LT.		1			1	
	45+61	LT.		1			1	
	46+60	LT.		1			1	
	47+62	LT.		1			1	
	48+62	LT.		1			1	
	49+60	LT.		1			1	
	50+58	LT.		1			1	
	51+57	LT.		1			1	
	52+63	LT.		1			1	
	53+62	LT.		1			1	
	44+60	RT.		1			1	
	45+58	RT.		1			1	
	46+60	RT.		1			1	
	47+62	RT.		1			1	
	48+60	RT.		1			1	
	49+60	RT.		1			1	
	50+58	RT		1			1	
	51+57	RT.		1			1	
	52+57	RT.		1			1	
	53+55	RT.		1			1	
	54+54	RT.		1			1	
	RAMP E-1							
59	7+45	RT.		1			1	
	6+72	RT.		1			1	
	5+92	RT.		1			1	
	5+10	LT.		1			1	
	4+33	LT.		1			1	
	3+63	LT.		1			1	
	2+75	LT.		1			1	
	RAMP E-2							
59	3+63	RT.		1			1	
	4+35	LT.		1			1	
	5+10	LT.		1			1	
	5+83	LT.		1			1	
	6+60	LT.		1			1	
	TOTAL			54			54	

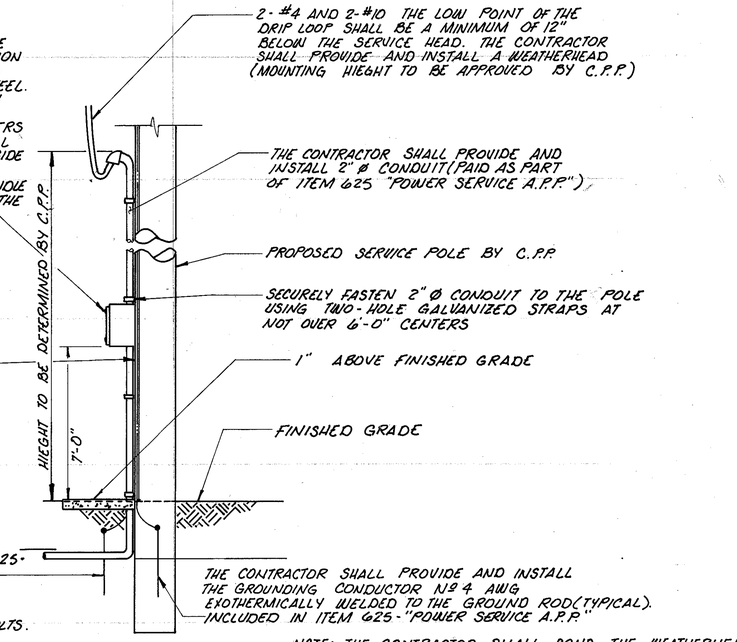
A·C·L form no. 1

SINGLE DOOR ENCLOSURE SHALL BE NEMA TYPE 4 WATERTIGHT CONSTRUCTION WITH NEMA 3 RAINSHIELD OF 0.078(14) GAGE, ASTM-A320-304 STAINLESS STEEL. ALL SEAMS SHALL BE CONTINUOUSLY WELDED AND GROUND SMOOTH AND POLISHED. BODY AND DOOR STIFFENERS SHALL BE PROVIDED. THE DOOR SHALL HAVE A CONTINUOUS HINGE ON ONE SIDE AND GASKETED 3-POINT LATCHING SHALL BE PROVIDED AND THE HANDLE BE ARRANGED FOR PAD LOCKING. THE CABINET SHALL FACE ROADWAY.

THE CONTRACTOR SHALL PROVIDE AND INSTALL Nº 4 AWG INSULATED CONDUCTOR FOR NEUTRAL AND EQUIPMENT GROUND. ATTACH TO POLE WITH STAPLES. PROVIDE WOOD MOLDING TO AT LEAST 10' ABOVE THE GROUND.

48"x36"x4" CONTRETE WORK PAD INCLUDED IN ITEM 625-"POWER SERVICE A.P.P."

THE CONTRACTOR SHALL PROVIDE AND INSTALL 1"Ø X10'-0" GROUND ROD(S) 7/3.16 INCLUDED IN ITEM 625-"POWER SERVICE A.P.P."



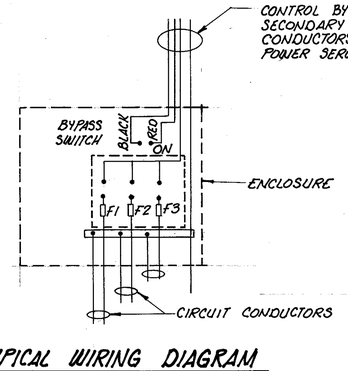
A 100 AMPHERE BY-PASS SWITCH RATED AT 600 VOLTS. COMPLETE WITH Nº 10 WIRE AND CONDUIT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THE C.P.P. CO. WILL MAKE THE FINAL CONNECTION TO THE SWITH FOR MANUAL BY PASS CONTROL OF THEIR LIGHTING CONTROLLER. THE BYPASS SWITCH WILL BE LOCATED INSIDE OF THE POLE MOUNTED ENCLOSURE.

BYPASS SWITCH INCLUDED IN ITEM 625-"POWER SERVICE A.P.P."

NOTE: THE CONTRACTOR SHALL BOND THE WEATHERHEAD AND CONDUIT TO THE Nº 4 AWG GROUND CONDUCTOR. PAYMENT INCLUDED IN ITEM 625-"POWER SERVICE A.P.P."

THE CONTRACTOR SHALL ARRANGE WITH THE UTILITY COMPANY FOR A FIELD INSPECTION OF EACH SERVICE LOCATION PRIOR TO HIS INSTALLATION OF SERVICE EQUIPMENT.

POWER SERVICE DETAIL



TYPICAL WIRING DIAGRAM

INNERBELT FREEWAY

LIGHTING SUB-SUMMARY

CALC.	CUYAHOGA COUNTY	OHIO	57
DATE	CUY - 90 - 15.99	F.H.W.A. REGION 5	151
CHKD.	INNERBELT FREEWAY		
DATE			

50 0 50 100 150 200

℄ I-90, STA. 11+75, 245' LT. = ℄ RAMP W-3, STA. 0+97.04, 9.03' RT.
POWER SERVICE CENTER B (480 V)
TYPE SC-100 ENCLOSURE
℄
POWER SERVICE CENTER N (120V)
TYPE S-GO ENCLOSURE
POWER TO BE PROVIDED BY C.P.P.

℄ I-90, STA. 11+80, 255' LT
B1, B2, PB (NO SPLICES)

POWER SERVICE IDENTITY	TYPE OF SERVICE	CONNECTED LOAD K.V.A.	ENCLOSURE RATING (AMPS)	CABLE SIZE AWG.	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	FUSE (AMPS)	MAINTAINING AGENCY
B	480 VOLT, SINGLE PHASE, GROUNDED	17.7	100	4	1	17.95	30	O.D.O.T.
				4	2	19.01	30	O.D.O.T.
N	120 VOLTS	**	60	10	1	8.6	15	O.D.O.T.
C	480 VOLT SINGLE PHASE, GROUNDED	14.7	50	4	1	15.16	20	O.D.O.T.
				4	2	15.47	20	O.D.O.T.

** NAVIGATION LIGHTS

STA. 1938+60, B3
SIGHT 850 WATTS

℄ I-90 STA. 4+20, 75' LT.
(480V) POWER SERVICE DROP FOR SIGN ONLY, INCLUDED WITH TRAFFIC CONTROL QUANTITIES

FAIR FIELD AVE.

RAMP W-3

ABBEY AVE.

℄ I-90 STA. 11+40, 245' LT. = ℄ RAMP W-3 STA. 1+30.81, 75.15' RT. B1
BBBBBB 120

℄ RAMP W-3, STA. 1+55, RT.
B1 - PB

℄ RAMP W-3 STA. 1+75
2 SIGNS (200 W)

T-2

℄ RAMP W-3 STA. 1+70 = ℄ RAMP W-2 STA. 4+00 & B.K.
= ℄ RAMP W-2 STA. 4+00 2.8' LT. AH.

℄ I-90, STA. 11+70, 235' LT
N1, PB (NO SPLICES)
STA. 11+90± 135'± LT.
B2 PB

STA. 3+85, B1
TRANS. JB, APP & JB, APP

STA. 3+35±, B-1, SIGN (350 W)
SIGN SERVICE FROM J.B. APP ON PIER AT 3+70

STA. 2+40 N1,
TRANS. JB, APP

EXISTING SIGN LIGHTED

ABANDON DUCT

2 #10 AWG

EXIT 171
W 14th St
Abbey Ave

STA. 0+10±, JB, A.P.P. & TRANS. J.B. AS PER PLAN

STA. 0+14± N1, JB A.P.P. & TRANS. J.B. AS PER PLAN

UNIVERSITY AVE.

STA. 16+18±
B1 - J.B., AS PER PLAN

STA. 16+20±
N1 - J.B.,
AS PER PLAN

P.C. STA. 0+00 = ℄ FWY. STA. 16+15.00 52' LT.

2-#4 2-#10 AWG (IN SEPARATE SYSTEMS)

STA. 16+50

℄ RAMP W-1 STA. 1+75 SIGN (450 W) SIGN SERVICE

STA. 7+25, 70' RT.
B2 BBBB 110

T-1

RAMP W-1

LANE A

LANE B

℄ I-90

ABBY RD. STA. 5+00, 75' RT.
STA. 12+08±, 80'± LT. EXIST 12'+12'+10'
EX. CONCRETE VAULT ABOVE GROUND POWER SERVICE B (REMOVE)

STA 0+56, B1
TRANS. JB, APP, & PULL BOX

STA 0+53, N1
TRANS. JB APP, & PULLBOX

STA 3+70 B1
JB, APP (ON PIER)

T-3

STA. 12+80, 105' RT.
B2, BBBB 120

STA. 12+77 82' RT
B2, PULLBOX

FOR DETAILS OF CONDUIT LOCATION ONTO THE MAIN VIADUCT SEE SHEET 60.

2-#4 AWG

STA. 16+05± B2, TRANS. JB AS REP PLAN & JB A.P.P.

STA. 16+18± B2 - J.B. AS REP PLAN

MATCH LINE

STA. 16+13.03 EXPANSION JOINT

℄ I-90 STA. 1939+01.08 BK =
℄ E-90 STA. 3+87.63 AHD.

FOURTEENTH ST.

CUY - 90 - 1524

CUY - 90 - 1540

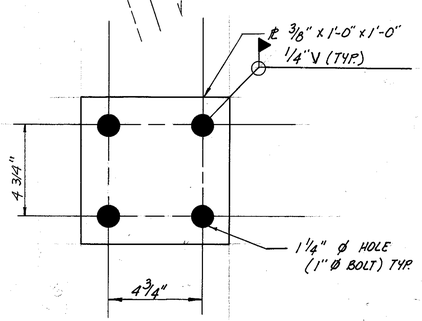
CUY - 90 - 1547

STA 7+32, B2
TRANS. JB. A.P.P.

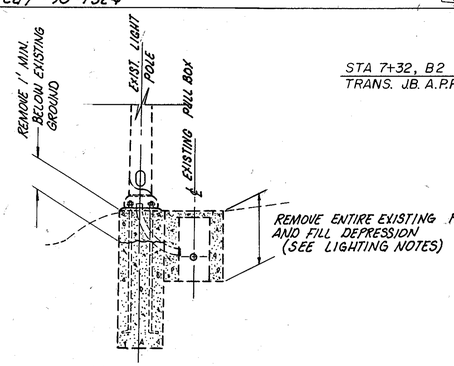
LEGEND

- EXISTING PULL BOX JUNCTION BOX
- EXISTING PULL BOX REMOVED
- PROPOSED PULL BOX OR JUCTION BOX
- EXISTING LIGHT POLE UNIT ON STRUCTURE TO BE REMOVED
- EXISTING LIGHT POLE, FOUNDATION AND PULL BOX REMOVED
- EXISTING POLE FOUNDATION AND PULL BOX REMOVED
- EXISTING LIGHT POLE UNIT REMOVED AND REPLACED
- NEW LIGHT WITH JUNCTION BOX ON STRUCTURE 1599
- NAVIGATIONAL LIGHTS
- TOWER LIGHTS, 400W HPS, SYM. LUMINAIRES
- TOWER LIGHTS WITH GLARE SHIELDS
- POWER SERVICE
- CONDUIT, 713.04 (SIZE AS SHOWN)
- DUCT CABLE (2 #4 AWG UNLESS SHOWN OTHERWISE)
- EXISTING SIGN SUPPORT WITH SIGN(S)
- EXISTING DUCT CABLE TO BE ABANDONED
- 3" CONDUIT JACKED UNDER EXISTING PAVEMENT WITH DUCT CABLE
- 1 1/2" 713.04 CONDUIT ON PIER

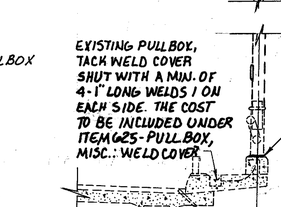
NOTE:
PULL BOX UNDERDRAINS SHALL BE CONNECTED TO THE EXISTING UNDERDRAIN SYSTEM UNLESS OTHERWISE INDICATED ON THE PLANS.



DETAIL - 3/8" PLATE AT LIGHT POLES ON APPROACH, BRIDGES 1524 & 1540

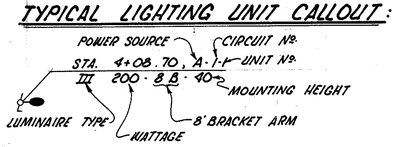


EXISTING GROUND MOUNTED LIGHTING UNIT



TYPICAL SECTION AT LIGHTING UNIT ON APPROACH BRIDGES 1524 & 1540

TYPICAL LIGHTING UNIT CALLOUT:



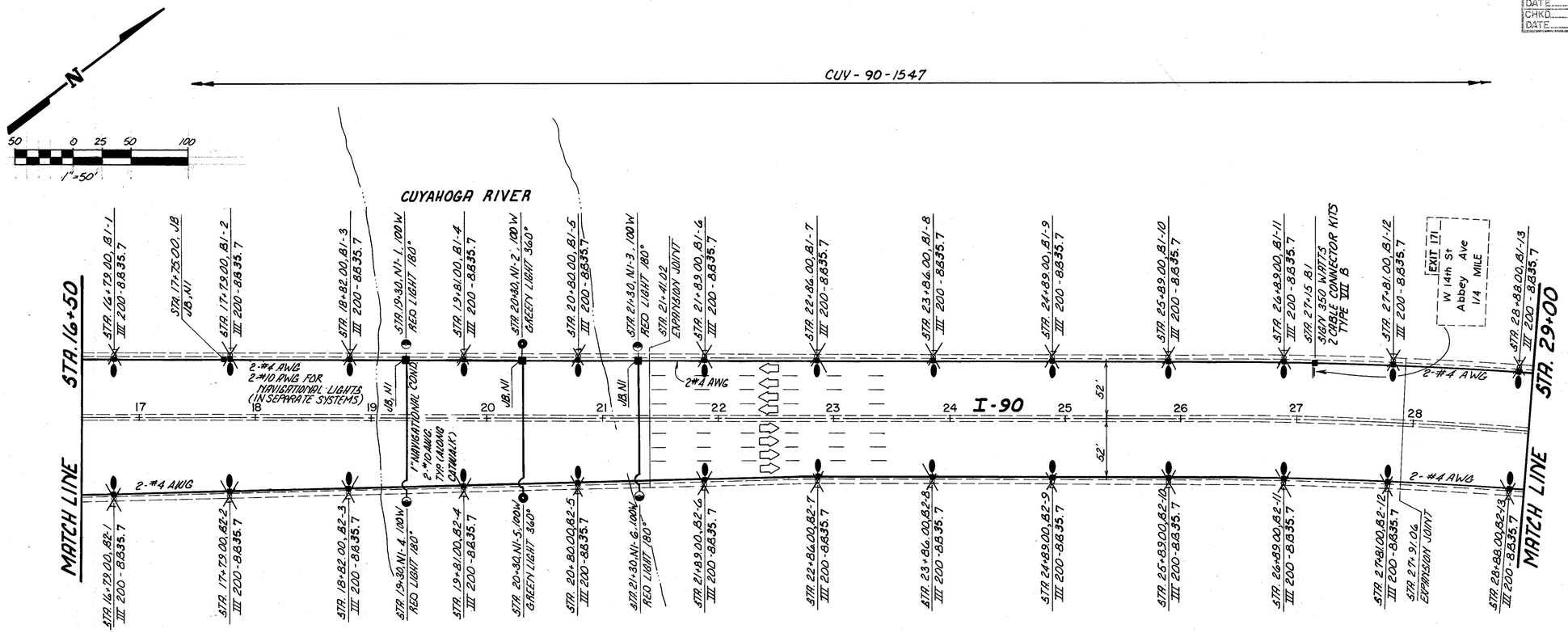
INNERBELT FREEWAY

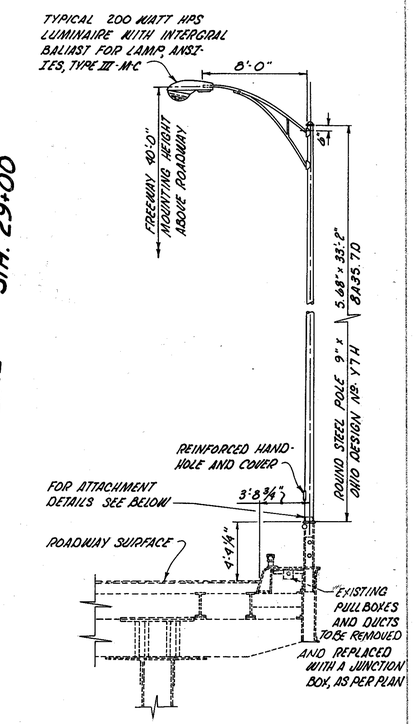
LIGHTING PLAN

BRUNING 5X104 FORM 7 ACL NO. 1

CALC.	CUYAHOGA COUNTY	OHIO	58
DATE	CUY - 90 - 15.99	F.H.W.A. REGION 5	151
CHKD.	INNERBELT FREEWAY		
DATE			

FOR LEGEND SEE SHEET 57.



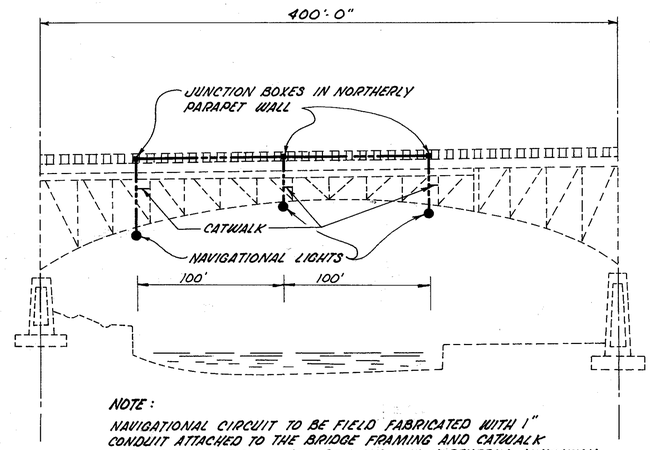


TYPICAL LIGHTING UNIT ON STR I-90-15 47

(LIGHT POLE B835.7)

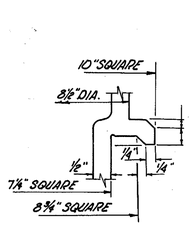
NOTES

1. EXISTING POLE LOCATIONS WILL BE REUSED ON STRUCTURES.
2. EXISTING POLE AND LUMINAIRE REMOVAL TO BE PAID UNDER ITEM 202 - LIGHT POLE REMOVED AND LUMINAIRE REMOVED RESPECTIVELY.
3. EXISTING PULLBOXES, DUCTS AND APPURTENANCES REMOVED TO BE PAID UNDER THE COSTS OF THE NEW ITEMS WHICH REPLACE THEM.

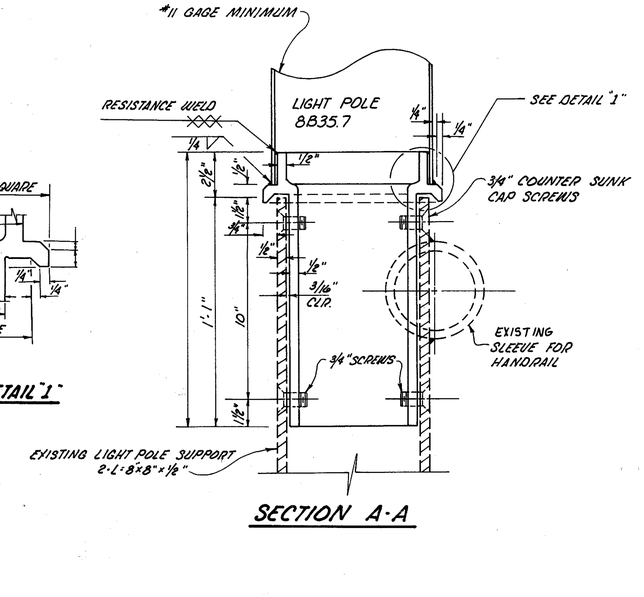


NOTE:

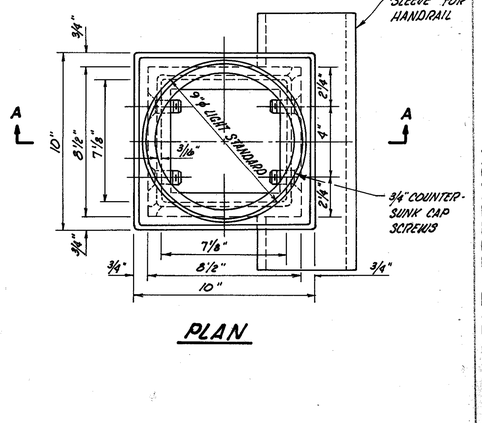
NAVIGATIONAL CIRCUIT TO BE FIELD FABRICATED WITH 1" CONDUIT ATTACHED TO THE BRIDGE FRAMING AND CATWALK AND WALL JUNCTION BOXES, DOWN TO THE NORTHERLY NAVIGATION LIGHT WITH A CROSSOVER ALONG THE CATWALK TO SERVICE THE SOUTHERLY NAVIGATION LIGHT. ALL EXISTING FIXTURES SHALL BE REPLACED NEW, IN THE SAME LOCATION AS EXISTING.



DETAIL "1"



SECTION A-A



PLAN

INTERBELT FREEWAY

LIGHTING PLAN

CALC. ____ DATE ____ CHKD. ____ DATE ____

CUYAHOGA COUNTY
CUY - 90 - 15.99
INNERBELT FREEWAY

OHIO F.H.W.A. REGION 5

59 / 151

MATCH LINE STA. 29+00
MATCH LINE STA. 44+00
I.R. 90
2-#4 AWG
STA. 29+64.00, B1-14 III 200-8B35.7
STA. 30+84.00, B1-15 III 200-8B35.7
STA. 31+63.00, B1-16 III 200-8B35.7
STA. 32+78.00, B1-17 III 200-8B35.7
STA. 33+77.00, B1-18 III 200-8B35.7
STA. 34+73.00, B1-19 III 200-8B35.7
STA. 35+40 SIGNS C1 (700W) I-II & I-III CONNECTOR KITS
STA. 35+72.00, C1-15 III 200-8B35.7
STA. 36+72.00, C1-14 III 200-8B35.7
STA. 37+70.00, C1-13 III 200-8B35.7
STA. 38+81.00, C1-12 III 200-8B35.7
STA. 39+80.00, C1-11 III 200-8B35.7
STA. 40+80.00, C1-10 III 200-8B35.7
STA. 41+80.00, C1-9 III 200-8B35.7
STA. 42+54.00 C1-8 III 200-8B35.7
STA. 43+30± C1-JB, AS PER PLAN
STA. 43+40± C1, TRANS., JB, APP & JB, AS PER PLAN
EMPTY CONDUIT
EXIT 170B 71 SOUTH Columbus 3/4 MILE
90 WEST Toledo
W. 3rd. ST.
B.&O. R.R.
HARRISON ST.
35+40
STA. 29+64.00, B2-14 III 200-8B35.7
STA. 30+84.00, B2-15 III 200-8B35.7
STA. 31+63.00, B2-16 III 200-8B35.7
STA. 32+34.87 EXPANSION JOINT
STA. 32+78.00, B2-17 III 200-8B35.7
STA. 33+77.00, B2-18 III 200-8B35.7
STA. 34+73.00, B2-19 III 200-8B35.7
STA. 35+40 SIGNS C2-(850W)
STA. 35+72.00, C1-15 III 200-8B35.7
STA. 36+72.00, C1-14 III 200-8B35.7
STA. 37+70.00, C1-13 III 200-8B35.7
STA. 38+31.70 EXPANSION JOINT
STA. 38+81.00, C1-12 III 200-8B35.7
STA. 39+80.00, C1-11 III 200-8B35.7
STA. 40+80.00, C1-10 III 200-8B35.7
STA. 41+80.00, C1-9 III 200-8B35.7
STA. 42+54.00 C2-8 III 200-8B35.7
STA. 43+30± C2-JB, AS PER PLAN
STA. 43+40± C2 TRANS. JB, APP & JB, AS PER PLAN
EX. DUCT CABLE (TO BE ABANDONED)
CANAL RD.
BRIDGE No. CUY-90-1547
EXPANSION JOINT
BRIDGE No. CUY-90-1599
STA. 43+34.72
EXIT 172A 77 SOUTH E 9th St 1/2 MILE
EXIT 172 A-B 422 14 Broadway Ontario St 1/4 MILE
G.C.R.T.A.
STA. 51+25, 100' LT.
POWER SERVICE CENTER C TYPE SC-100 ENCLOSURE POWER TO BE PROVIDED BY C.P.P.
BENCHMARK
SOUTH CORNER OF CONCRETE LIGHT POLE BASE STA. 2+15, 36' LEFT OF ℄ RAMP E-1 ELEV. = 670.65
SEE DETAIL ON SHEET 60C
STA. 6+13 & STA. 6+07±, C1 TRANS. JB, A.P.P.
STA. 6+03±, C1 PULLBOX
STA. 47+70± 67.0' LT± C1, BBBB130
STA. 5+98±, C1 TRANS. JB, A.P.P.
℄ RAMP E-1 STA. 2+70, C1 P.B.
℄ I-90 STA. 45+78.01, 56' LT. = ℄ RAMP E-1 STA. 8+04.26, 28' LT.
RAMP E-1
STA 2+55, 75' LT C1, BBBB130
T-4
T-5
T-6
T-7
BROADWAY (EASTBOUND)
BROADWAY (WESTBOUND)
EX. GROUND MOUNTED LIGHT POLE TO BE REMOVED (TYP.)
77 SOUTH Akron ONLY
422 EAST 8 SOUTH Orange Ave Woodland Ave
14 EAST Broadway
(700 W)
STA. -51+25, 90' LT. C1, C2 PB (NO SPLICES)
STA. 52+25± EX. P.B. PROVIDE 2 CABLE SPLICING KITS
RAMP E-3
STA. 3+20±, C2 JB, APP (ON PIER)
STA. 45+76±, C2 PULLBOX
COMMERCIAL DR.
STA. 45+72±67.7' RT± C2, BBBB130
SEE DETAIL ON SHEET 60C
STA. 45+72±, C2 TRANS. JB, A.P.P.
EXIT 171B 422 14 WEST Ontario St 1/4 MILE
EXIT 171A 422 14 EAST Broadway
℄ I-90 STA. 48+07.15, 64' RT. = ℄ RAMP E-2 STA. 3+23.55, 23' LT.
RAMP E-2
STA. 48+45±, C2, SIGN (700W) SIGN SERV. FROM JB, APP ON PIER AT 3+20
STA. 3+57± & STA. 3+63, C2 TRANS. JB, A.P.P.
STA. 3+37, C2 TRANS. JB, A.P.P. & JB. A.P.P.
STA. 50+29.48 EXPANSION JOINT
STA. 52+50, 100' RT. C2-BBBB130
℄ RAMP E-2 STA. 7+30 C2, PB
STA. 54+65.78 EXPANSION JOINT
BRIDGE NO. CUY-90-1599

TOWER CIRCUIT C1 LAYOUT

FOR LEGEND SEE SHEET 57.
FOR DETAILS OF CONDUIT LOCATION OFF OF MAIN VIADUCT SEE SHEET 60.

FOR LIGHT SUPPORT DETAILS ON BRIDGES NO. CUY-90-1599 SEE SHEET NO. 116B.

INNERBELT FREEWAY

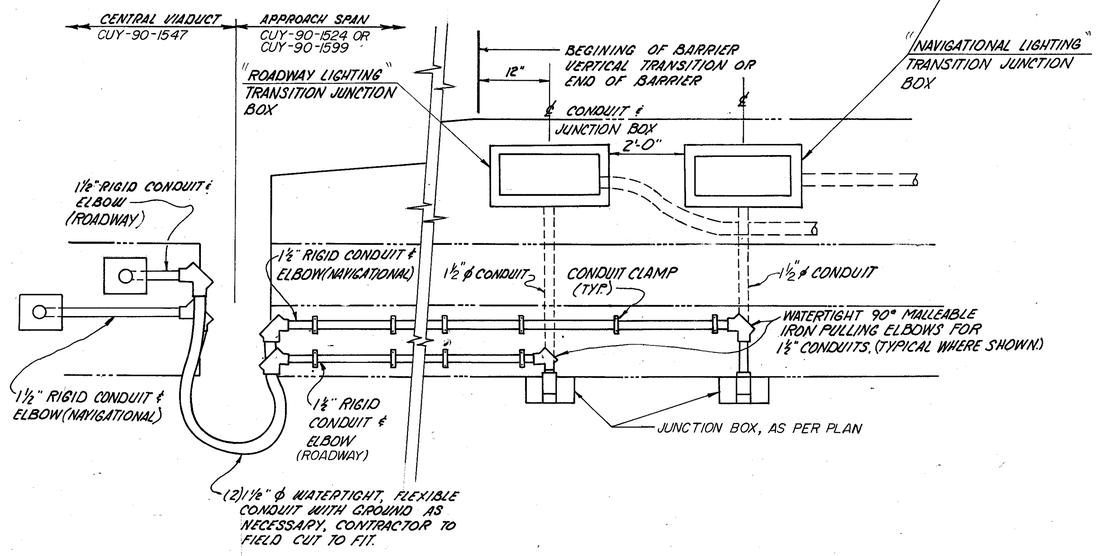
BRUNING 44-232 58104-03

A.C.L. form no. 1

LIGHTING PLAN

NOTE:
1. CONTRACTOR TO REPLACE ALL CONDUIT AND JUNCTION BOXES ON THIS STRUCTURE.

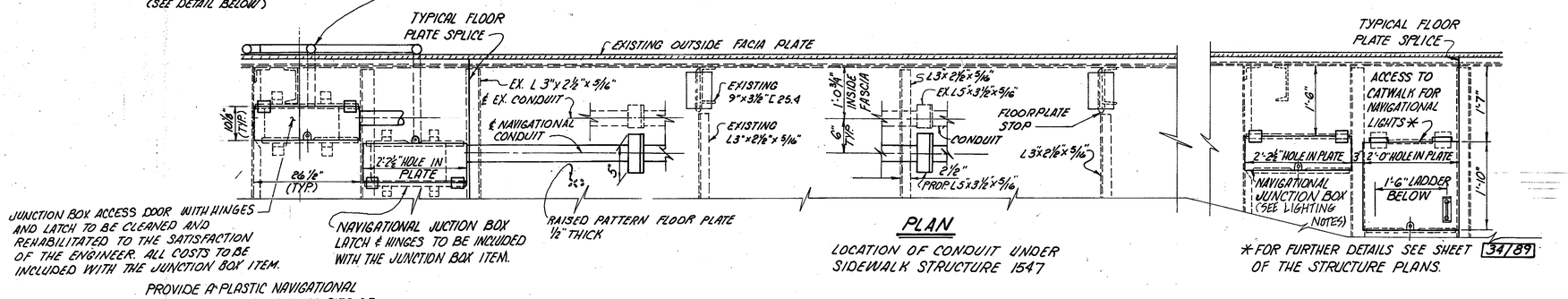
ITEM 625-LIGHTING MISC: SERVICE TO NAVIGATION LIGHTING SHALL INCLUDE ALL CONDUITS, CONDUIT SUPPORTS, WIRING, JUNCTION BOXES AND INCIDENTALS FROM THE NAVIGATION TRANSITION JUNCTION BOX SHOWN BELOW TO THE NAVIGATION LIGHT SHOWN ON SHEET 60A.



TRANSITION JUNCTION BOX, AS PER PLAN CONNECTION DETAILS

TRANSITION JUNCTION BOX, AS PER PLAN SHALL INCLUDE ALL CONDUIT, FITTINGS COUPLING, FASTENERS AND LABOR AND EQUIPMENT TO COMPLETE THE AND INCLUDE A TYPE I JUNCTION BOX ON THE CONCRETE BARRIER SIDE OF THE BRIDGE.

THE CONTRACTOR SHALL REPLACE THE L.B. CONDUIT FITTING AND THE 1½" CONDUIT TO THE JUNCTION BOX UNDER THE EXISTING SIDEWALK (SEE DETAIL BELOW)

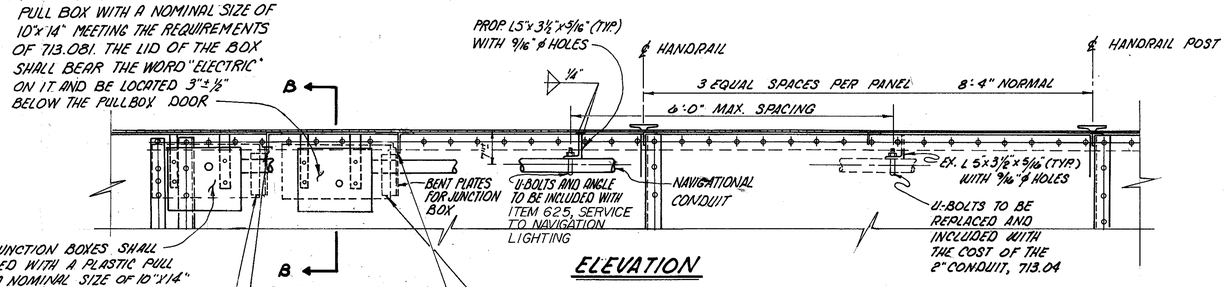


PLAN

LOCATION OF CONDUIT UNDER SIDEWALK STRUCTURE 1547

*FOR FURTHER DETAILS SEE SHEET 34/89 OF THE STRUCTURE PLANS.

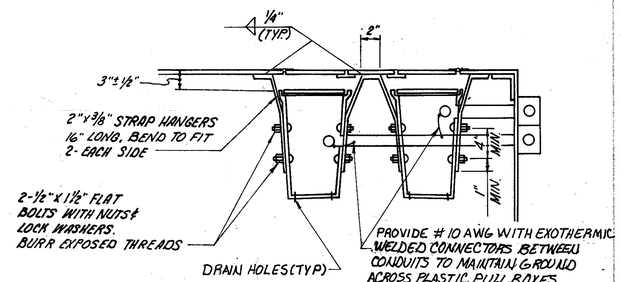
PROVIDE A PLASTIC NAVIGATIONAL PULL BOX WITH A NOMINAL SIZE OF 10"x14" MEETING THE REQUIREMENTS OF 713.081. THE LID OF THE BOX SHALL BEAR THE WORD "ELECTRIC" ON IT AND BE LOCATED 3"±½" BELOW THE PULLBOX DOOR



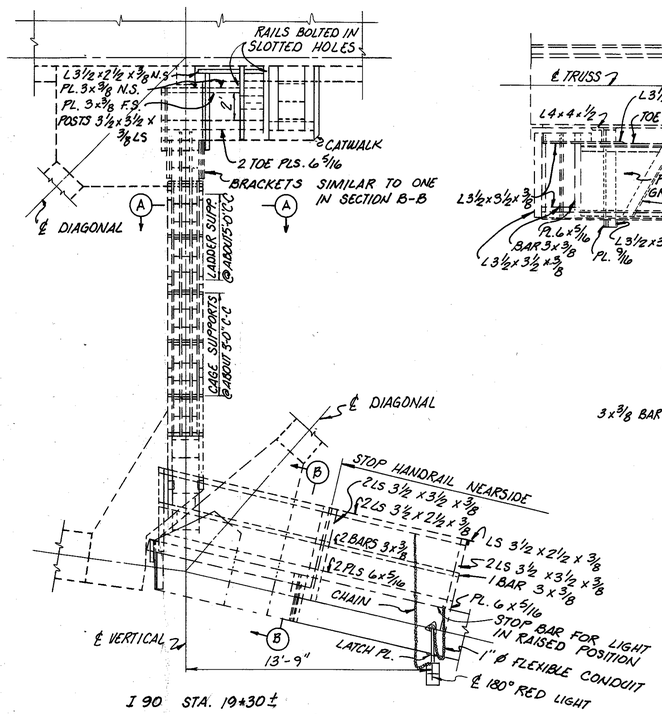
ELEVATION

EXISTING JUNCTION BOXES SHALL BE REPLACED WITH A PLASTIC PULL BOX WITH A NOMINAL SIZE OF 10"x14" MEETING THE REQUIREMENTS OF 713.081. THE LID OF THE BOX SHALL BEAR THE WORD "ELECTRIC" ON IT AND BE LOCATED 3"±½" BELOW THE JUNCTION BOX DOOR. PROVIDE FOUR ½" ϕ DRAIN HOLES, ONE IN EACH CORNER.

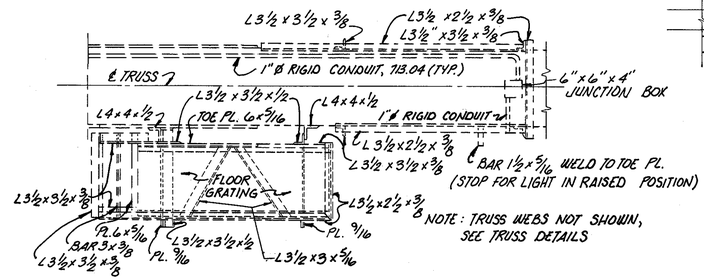
JUNCTION BOX, AS PER PLAN

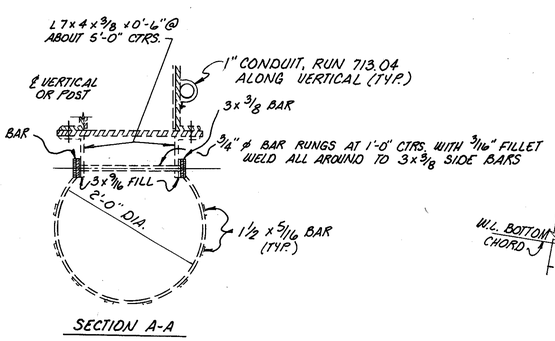


SECTION B-B

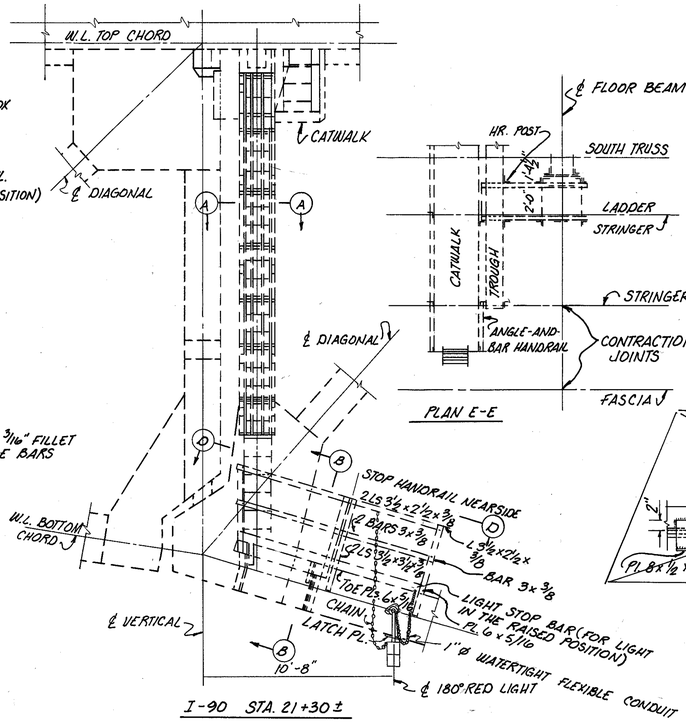


I 90 STA. 19+30 ±



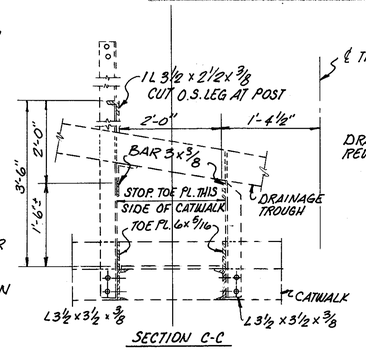


SECTION A-A



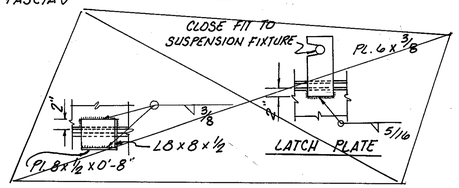
I-90 STA. 21+30 ±

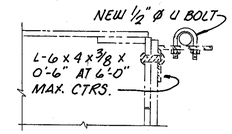
PLAN E-E



DRAWN FOR SOUTH TRUSS. REVERSE FOR NORTH TRUSS.

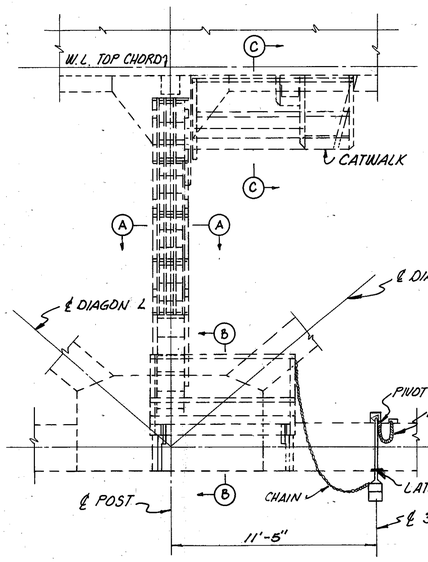
SECTION C-C



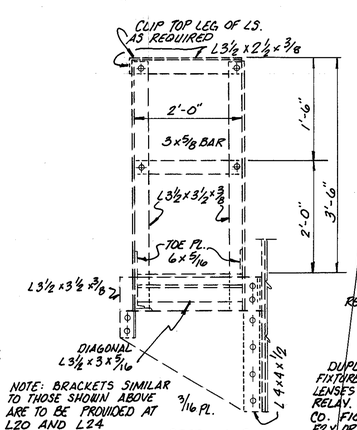


SUPPORTING BRACKET FOR CONDUIT TO NAVIGATIONAL LIGHTS *

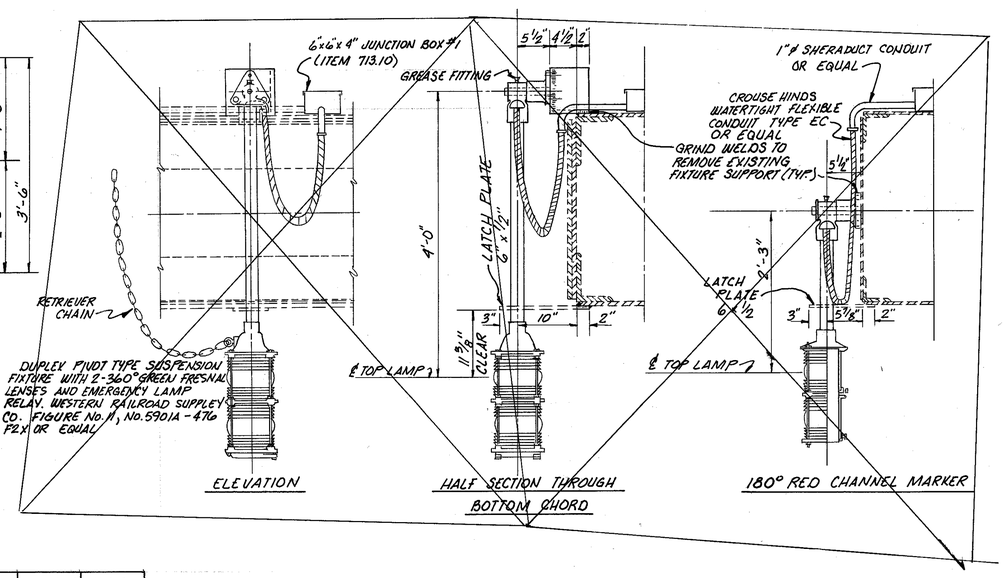
* REVISE EXISTING CONDUIT LOCATIONS WHERE POSSIBLE. AT LOCATIONS WHERE THIS DETAIL IS NOT APPLICABLE, FASTEN THE CONDUIT USING 1" RIGID BACKSTRAPS WITH SELF-TAPPING STAINLESS STEEL @ 6' C-C MAX OR OTHER APPROVED MEANS.



I-90 STA. 20+30 ±



SECTION B-B



DUPLEX PIVOT TYPE SUSPENSION FIXTURE WITH 2-360° GREEN FRESNAL LENSES AND EMERGENCY LAMP RELAY. WESTERN RAILROAD SUPPLEY CO. FIGURE NO. 11, NO. 5901A-476 PZX OR EQUAL

ELEVATION

HALF SECTION THROUGH BOTTOM CHORD

180° RED CHANNEL MARKER

NOTES:

1. ITEM 202 - REMOVAL MISC.: NAVIGATION LIGHTS SHALL INCLUDE THE REMOVAL OF THE FIXTURES, CONDUITS, JUNCTION BOXES, CONDUIT CLAMPS, U-BOLTS AND ALL OTHER INCIDENTAL ITEMS. DO NOT REMOVE ITEMS WELDED OR RIVETED TO THE EXISTING STRUCTURE EXCEPT AS REQUIRED FOR THE COMPLETE INSTALLATION OF THE NAVIGATION LIGHT.
2. ITEM 625 - LIGHTING MISC.: NAVIGATION LIGHTS SHALL INCLUDE FURNISHING AND INSTALLING COMPLETE FIXTURE, FIXTURE SUPPORT, FLEXIBLE AND RIGID CONDUIT TO JUNCTION BOX #1 AS INDICATED ABOVE.
3. PROVIDE JUNCTION BOXES EVERY 50' C-C MAX. THE MAXIMUM ALLOWABLE BENDS IN A CONDUIT RUN, BETWEEN JUNCTION BOXES, SHALL NOT EXCEED 270°. PROVIDE FOUR x ½" ø DRAIN HOLES IN EACH BOX, ONE IN EACH CORNER.
4. ITEM 625 - LIGHTING MISC.: SERVICE TO NAVIGATION LIGHTING SHALL INCLUDE ALL CONDUITS, CONDUIT SUPPORTS, WIRING, JUNCTION BOXES AND INCIDENTALS FROM THE NAVIGATION TRANSITION JUNCTION BOX SHOWN ON SHEET NO. 60. TO THE NAVIGATION LIGHT SHOWN ON THIS SHEET. (NOT INCLUDING THE NAVIGATIONAL TRANSITION JUNCTION BOX)
5. ALL NAVIGATION LIGHTING AND INCIDENTALS SHALL CONFORM TO UNITED STATES COAST GUARD SPECIFICATIONS AND REQUIREMENTS. THE COST TO MAINTAIN TEMPORARY NAVIGATION LIGHTING, AS REQUIRED BY THE COAST GUARD, SHALL BE INCLUDED IN ITEM 625 - LIGHTING MISC.: NAVIGATION LIGHTS. CONTACT THE U.S. COAST GUARD, NINTH DISTRICT TWO WEEKS PRIOR TO CONSTRUCTION.

ITEM	DESCRIPTION	QUANTITY	UNIT
202	REMOVAL MISC.: NAVIGATION LIGHTS	6	EA.

QUANTITY CARRIED TO GENERAL SUMMARY

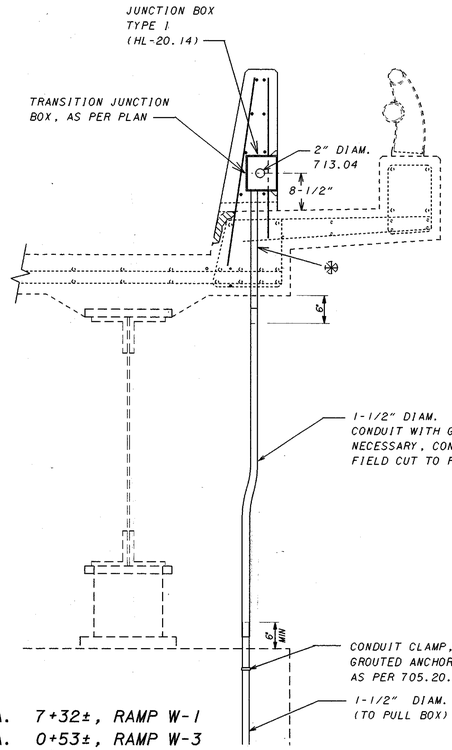
THE NAVIGATION LIGHT ASSEMBLIES REMOVED SHALL REMAIN THE PROPERTY OF THE STATE OF OHIO. ONCE ALL THE ASSEMBLIES ARE REMOVED THE CONTRACTOR SHALL DELIVER THEM TO O.D.O.T.'S MAYFIELD YARD LOCATED AT 734 SOM CENTER IN MAYFIELD VILLAGE, OHIO 44143.

FOR ADDITIONAL DETAILS SEE SHEET 60D/151.

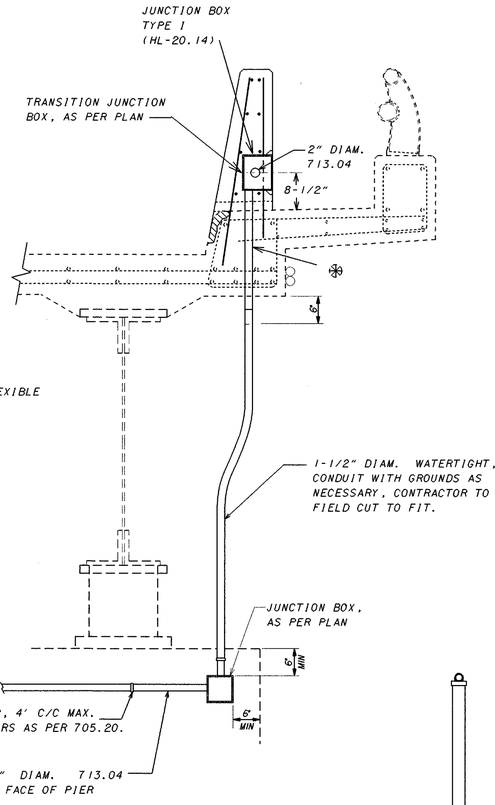
FOR NAVIGATION LIGHT DETAILS SEE SHEET 60D/151.

PLOT SUBMITTED: 13-SEP-1996 09:54
PLOTTED BY: klennon
PLOTTED FROM: i:/pd/klennon/pid05584/05584ld
05584LDA.DGN

CALC BY	CUYAHOGA COUNTY	OHIO	60B
CHKD BY	CUY-90-15.99	FHWA REGION 5	151
DATE	INNERBELT FREEWAY		

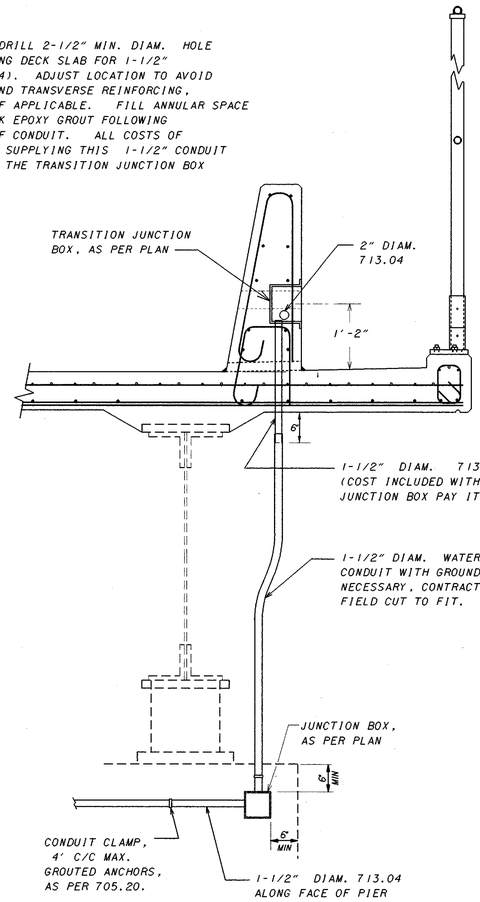


STA. 7+32±, RAMP W-1
STA. 0+53±, RAMP W-3
STA. 0+56±, RAMP W-3



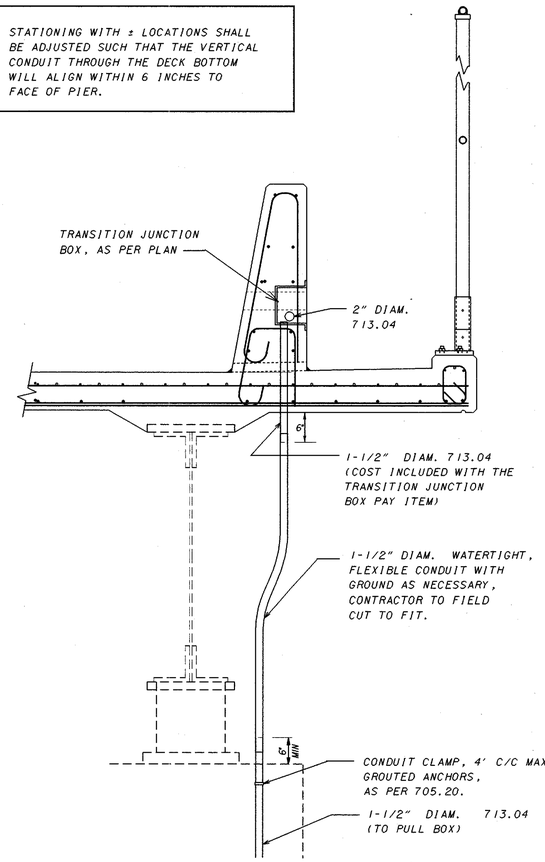
STA. 3+85±, RAMP W-2

✻ CONTRACTOR TO DRILL 2-1/2" MIN. DIAM. HOLE THROUGH EXISTING DECK SLAB FOR 1-1/2" CONDUIT (713.04). ADJUST LOCATION TO AVOID LONGITUDINAL AND TRANSVERSE REINFORCING, AND GIRDER, IF APPLICABLE. FILL ANNULAR SPACE WITH NON-SHRINK EPOXY GROUT FOLLOWING INSTALLATION OF CONDUIT. ALL COSTS OF INSTALLING AND SUPPLYING THIS 1-1/2" CONDUIT IS INCLUDED IN THE TRANSITION JUNCTION BOX PAY ITEM.

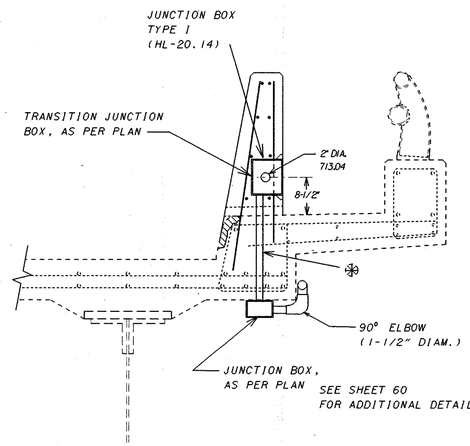


STA. 3+37±, RAMP E-2

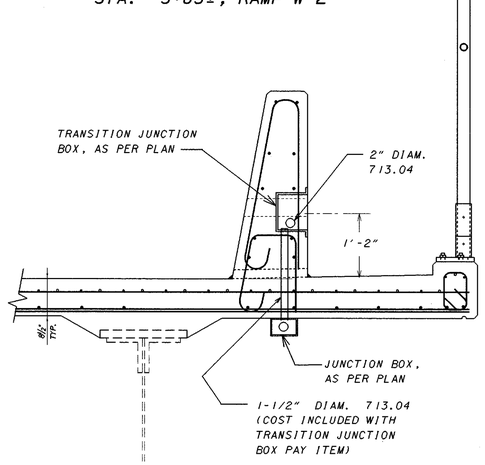
STATIONING WITH ± LOCATIONS SHALL BE ADJUSTED SUCH THAT THE VERTICAL CONDUIT THROUGH THE DECK BOTTOM WILL ALIGN WITHIN 6 INCHES TO FACE OF PIER.



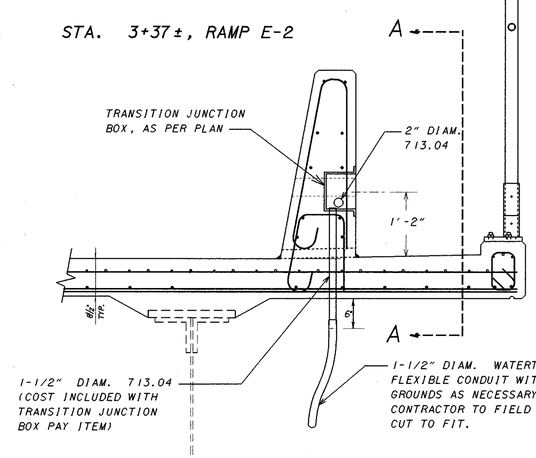
STA. 45+72, EAST BOUND
STA. 5+98±, RAMP E-1



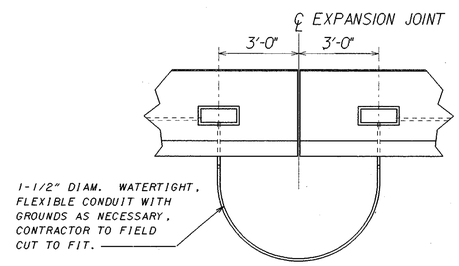
STA. 0+10±, RAMP W-2
STA. 0+14±, RAMP W-2
STA. 2+40, RAMP W-2 (OMIT JUNCTION BOX AS PER PLAN)
STA. 16+05±, EAST BOUND



STA. 43+40 WEST BOUND
STA. 43+40 EAST BOUND



STA. 6+07±, RAMP E-1
STA. 6+13±, RAMP E-1
STA. 3+57±, RAMP E-2
STA. 3+63±, RAMP E-2



SECTION A-A
REDUCED SCALE

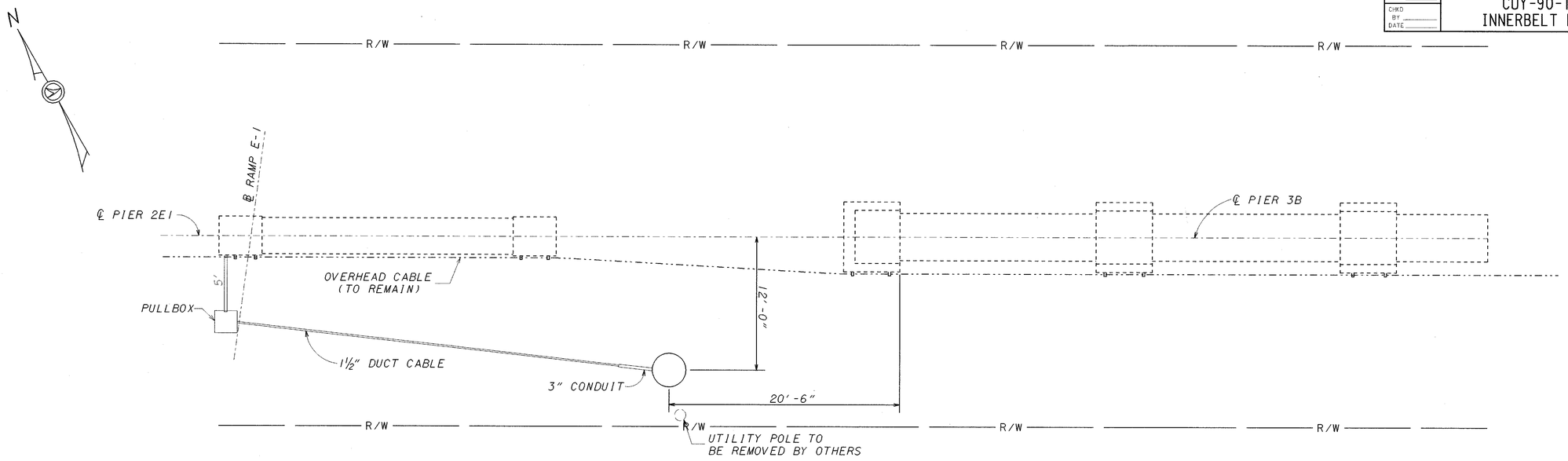
PARAPET JOINT DETAIL

CALC BY ____ DATE ____
CHKD BY ____ DATE ____

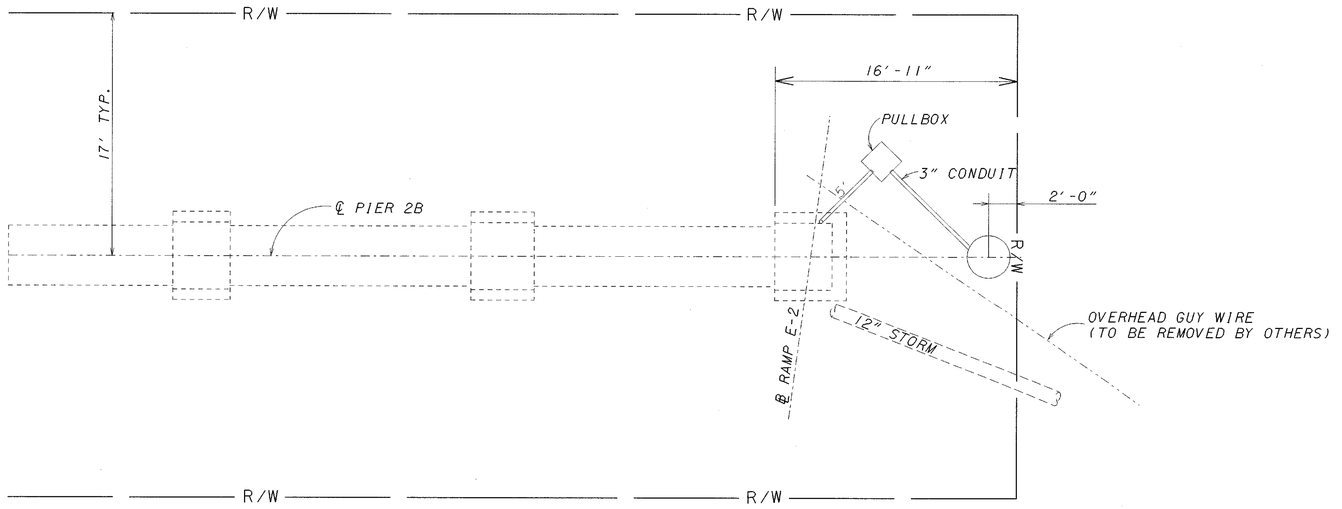
CUYAHOGA COUNTY
CUY-90-15.99
INNERBELT FREEWAY

OHIO
FHWA REGION 5

60C
151



LOCATION DETAIL - TOWER LIGHT (T-5)



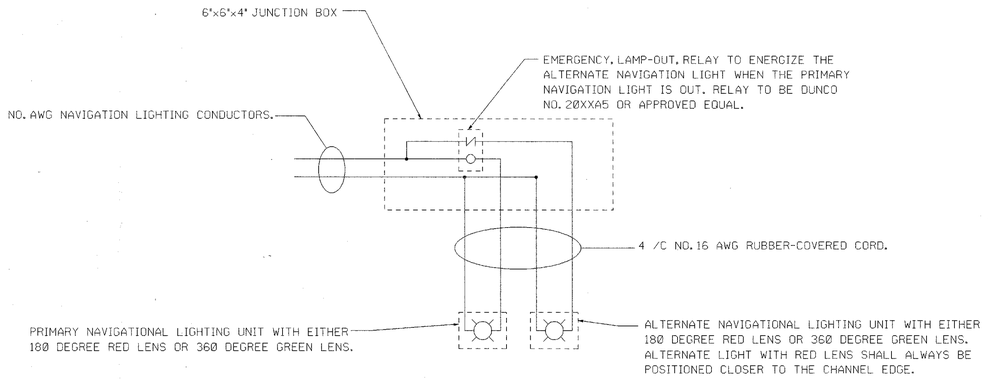
LOCATION DETAIL - TOWER LIGHT (T-4)

LOCATION DETAIL - TOWER LIGHTS

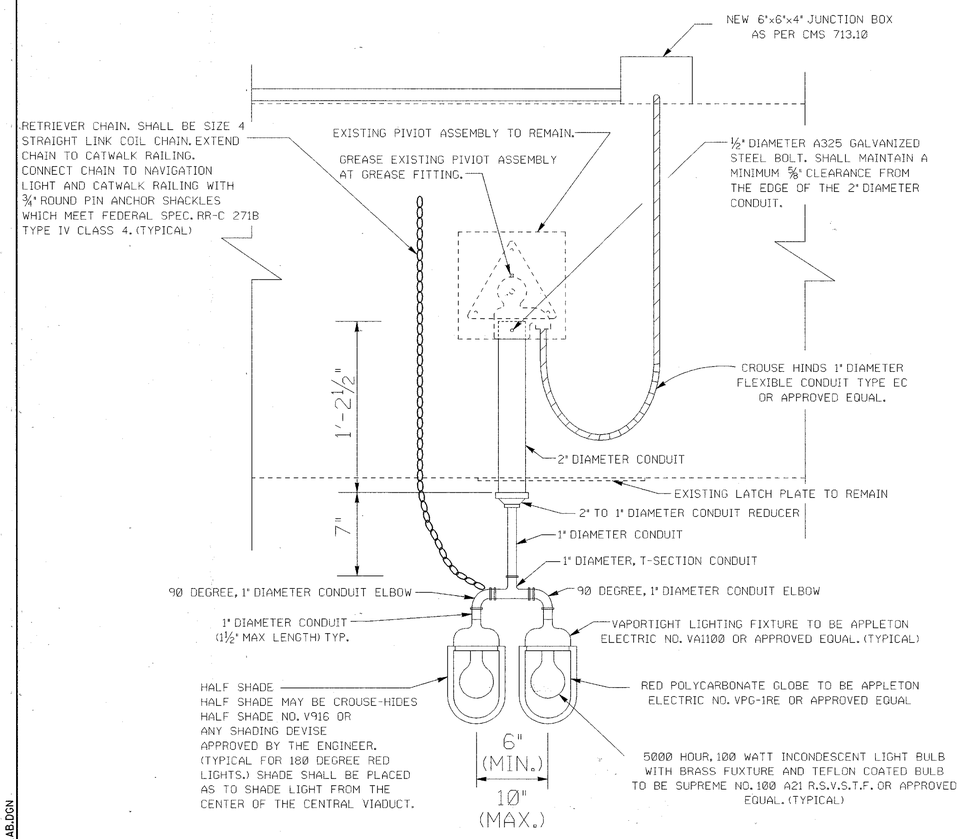
PLOTTED BY: klennon
PLOTTED FROM: i:/pd/klennon/pid05584/05584ld
PLOT SUBMITTED: 18-JUL-1996 11:19
05584LDB.DGN

CUYAHOGA COUNTY CUY-90-15.24 INNERBELT FREEWAY	OHIO FHWA REGION 5 FEDERAL PROJECT	60D 151

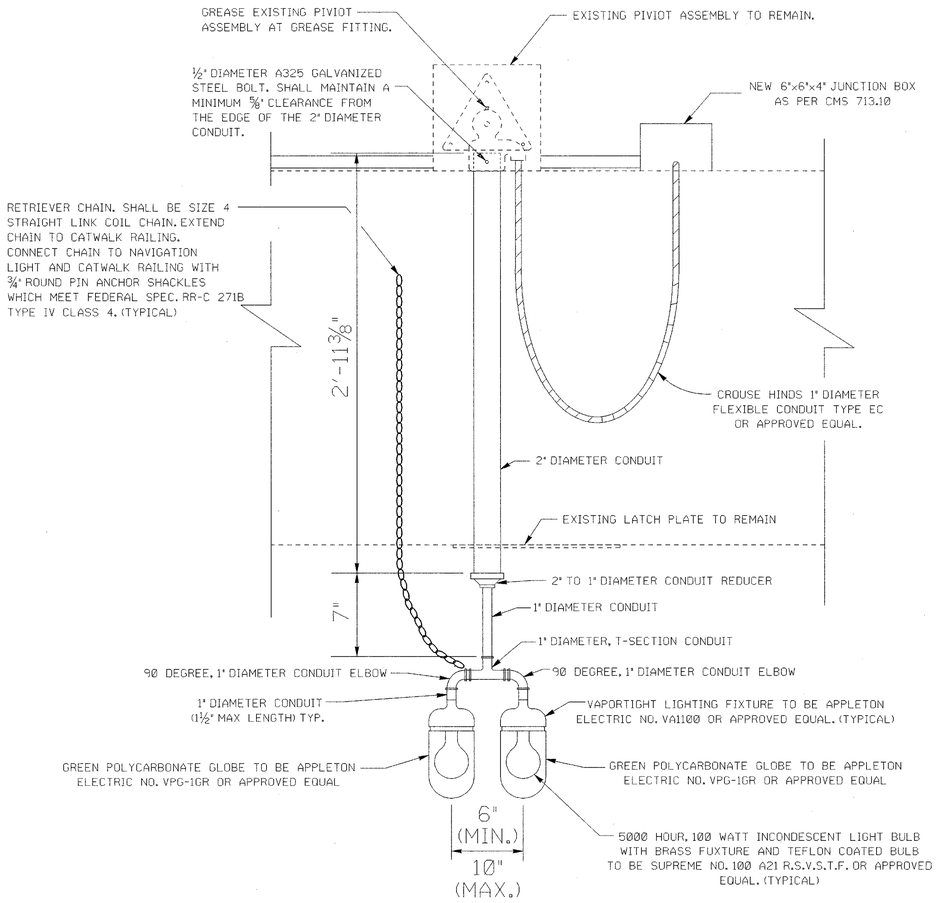
SEE SHEET 60A/151 FOR NOTES AND ADDITIONAL DETAILS.



TYPICAL NAVIGATION LIGHT WIRING DIAGRAM



180 DEGREE RED EDGE CHANNEL MARKER LIGHT



360 DEGREE GREEN CENTER CHANNEL MARKER LIGHT

C:\DGN\J\C90524\SLAB.DGN

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

NAVIGATION LIGHTS
INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

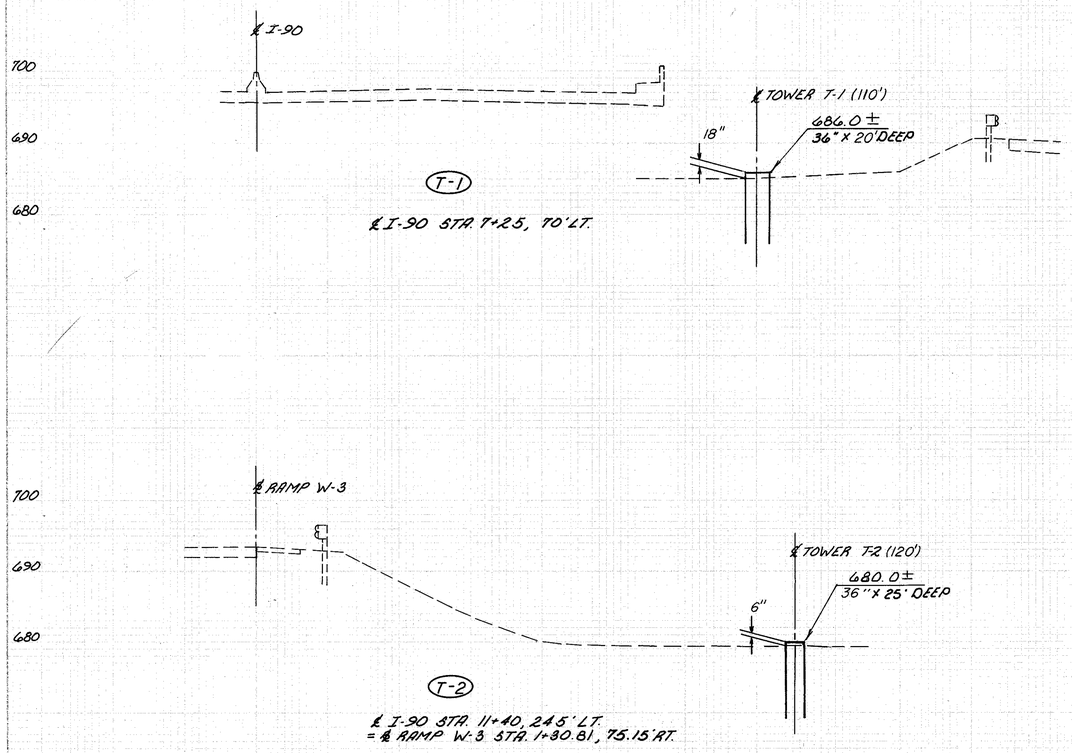
DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM		DATE 10-96	SHEET

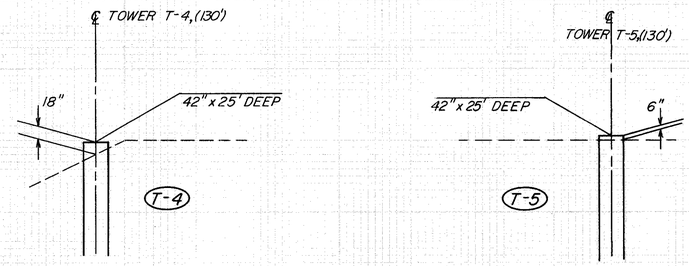
SEEDING	
SQ. YDS.	

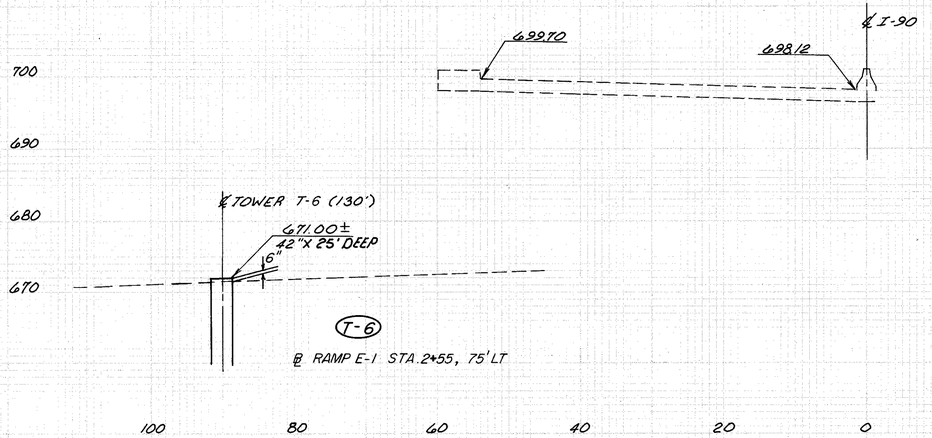
CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.99	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

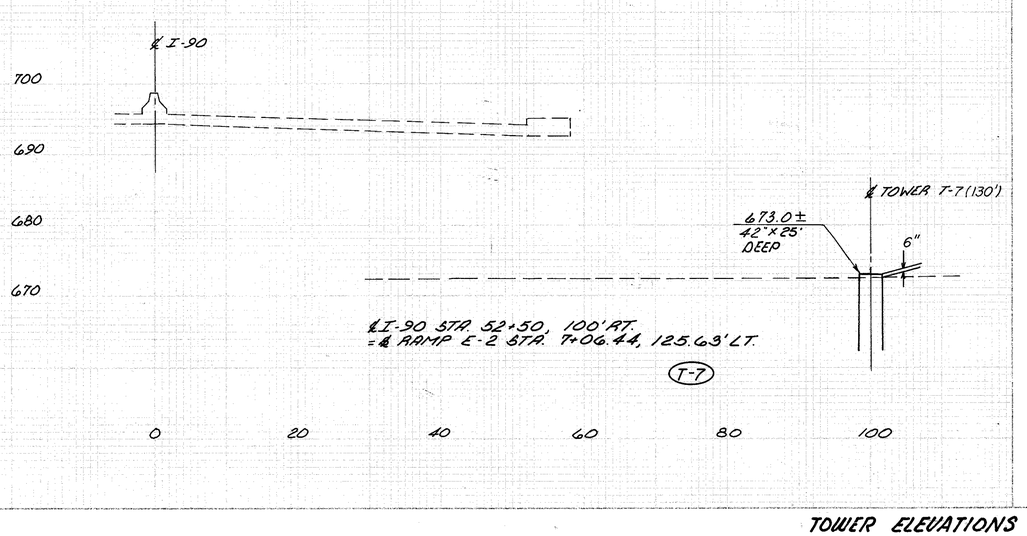
61
151

END AREA		VOLUME	
CUT	FILL	CUT	FILL





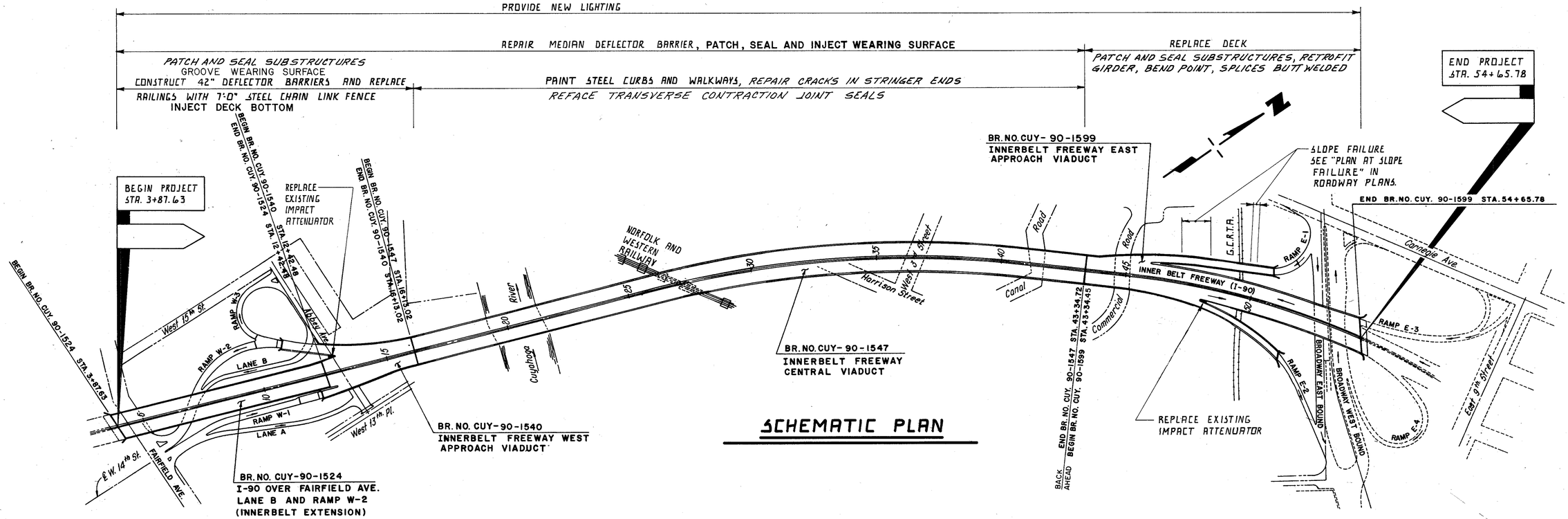




INNERBELT FREEWAY

TOWER ELEVATIONS

CALC.		CUYAHOGA COUNTY	OHIO
DATE		CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE			



SCHEMATIC PLAN

EXISTING STRUCTURE
BRIDGE NO. CUY - 90 - 1524

TYPE: CONTINUOUS WELDED STEEL GIRDER AND CONTINUOUS STEEL BEAM WITH REINFORCED DECK AND SUBSTRUCTURE.

SPANS: VARIES, SEE GENERAL PLAN

ROADWAY: TOE TO TOE DEFLECTOR BARRIERS
2 @ 53'-9" - EXISTING
2 @ 52'-9" - PROPOSED

LOADING: CF2000 (ST)

SKEW: VARIES

WEARING SURFACE: DENSE CONCRETE OVERLAY

APPROACH SLABS: AS-1-54 (25'-0" LONG)

ALIGNMENT: TANGENT

SUPERELEVATION: NONE (NORMAL CROWN)

SEE SHEETS 17 / 89 THRU 21 / 89.

EXISTING STRUCTURE
BRIDGE NO. CUY - 90 - 1540

TYPE: CONTINUOUS STEEL BEAMS AND GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: VARIES, SEE GENERAL PLAN

ROADWAY: TOE TO TOE DEFLECTOR BARRIERS
2@ 52'-6 & VARIES - EXISTING
2@ 52'-6" & VARIES - PROPOSED

LOADING: CF2000

SKEW: VARIES

WEARING SURFACE: DENSE CONCRETE OVERLAY

APPROACH SLABS: NONE

ALIGNMENT: TANGENT

SUPERELEVATION: NONE (NORMAL CROWN)

SEE SHEETS 22 / 89 THRU 28 / 89.

EXISTING STRUCTURE
BRIDGE NO. CUY - 90 - 1547

TYPE: STEEL DECK TRUSSES WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: VARIES, SEE GENERAL PLAN

ROADWAY: 2 @ 52'-9" FACE OF CURB TO TOE OF DEFLECTOR BARRIER

LOADING: CF2000

SKEW: VARIES

WEARING SURFACE: LATEX MODIFIED CONCRETE OVERLAY

APPROACH SLABS: NONE

ALIGNMENT: TANGENT, 1°30' CURVE RIGHT AND TANGENT

SUPERELEVATION: NONE (NORMAL CROWN), VARIES AND NONE (NORMAL CROWN)

SEE SHEETS 29 / 89 THRU 37 / 89.

EXISTING STRUCTURE
BRIDGE NO. CUY - 90 - 1599

TYPE: CONTINUOUS STEEL BEAMS AND GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: VARIES, SEE GENERAL PLAN

ROADWAY: 2 @ 52'-6" MINIMUM FACE OF CURB TO TOE OF DEFLECTOR BARRIER

LOADING: CF2000

SKEW: VARIES

WEARING SURFACE: DENSE CONCRETE OVERLAY

APPROACH SLABS: AS-1-54 (25'-0" LONG)

ALIGNMENT: 2° CURVE RIGHT

SUPERELEVATION: VARIES

PROPOSED STRUCTURE
BRIDGE NO. CUY - 90 - 1599

TYPE: CONTINUOUS STEEL BEAMS AND GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: VARIES, SEE GENERAL PLAN

ROADWAY: 2 @ 52'-6" MINIMUM TOE TO TOE DEFLECTOR BARRIERS

LOADING: HS20-44 (CASE I) AND THE ALTERNATE MILITARY LOADING

SKEW: VARIES

WEARING SURFACE: MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-81 (25'-0" LONG)

ALIGNMENT: 2° CURVE RIGHT

SUPERELEVATION: VARIES

NOTES:

THE SCHEMATIC PLAN IS TAKEN FROM RECORDS AND REVISED TO REFLECT CURRENT CONDITIONS.

THIS STRUCTURE IS COMPOSED OF FOUR (4) BRIDGES. EACH BRIDGE NUMBER IS SHOWN IN THE TITLE BLOCK. BRIDGE NUMBERS THAT ARE UNDERLINED DENOTE WHICH BRIDGE(S) THAT SHEET APPLIES TO.

D-12 REVISED 9-96

1 / 89

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SCHEMATIC PLAN
INNERBELT FREEWAY

BR. NO. { CUY - 90 - 1524, CUY - 90 - 1540, CUY - 90 - 1547, CUY - 90 - 1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

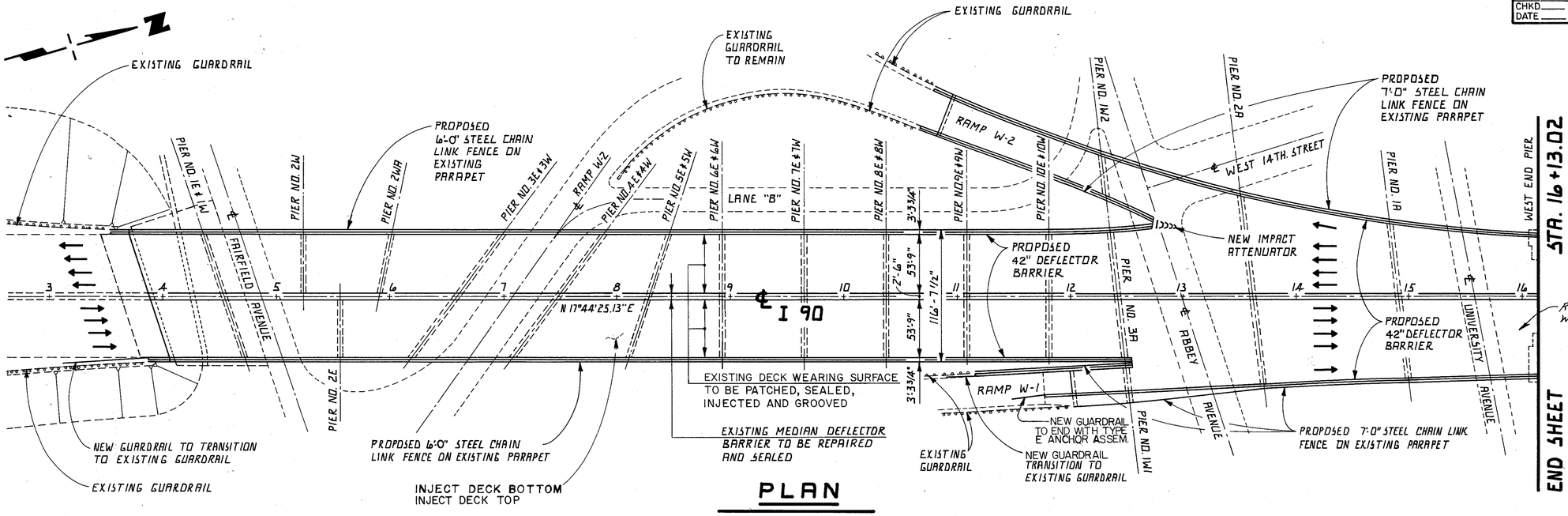
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
———	T.M.J.	A.J.M.	J.R.C.	OCT. 10, 1991	

BRUNING 44-232-67195-01

A-C-L form no. B-1

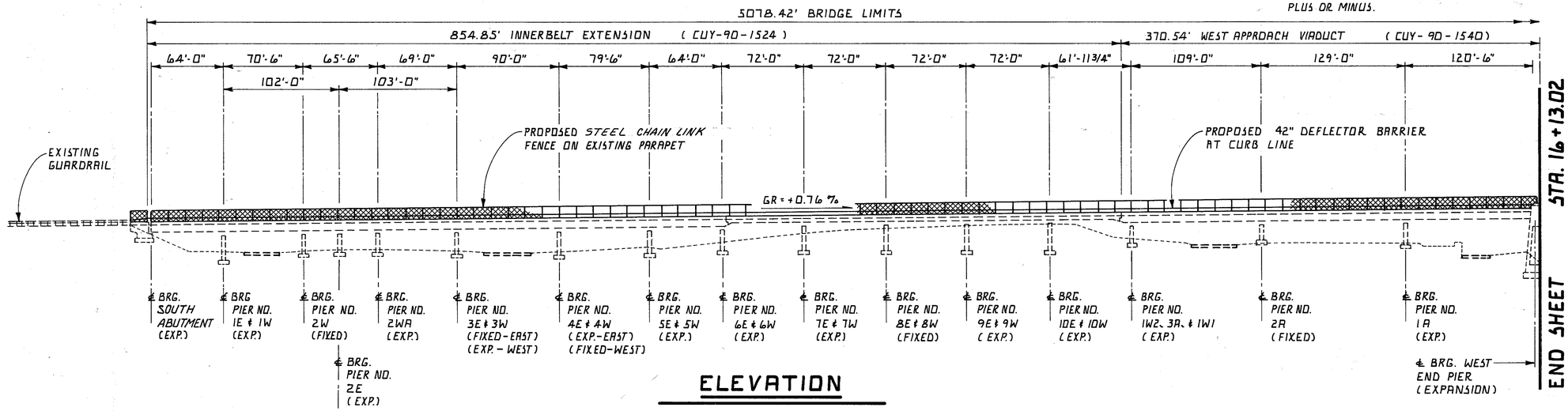
CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

63
151



PLAN

NOTE: SPAN LENGTH DIMENSIONS ARE TAKEN FROM ORIGINAL CONSTRUCTION DRAWINGS AND HAVE NOT BEEN FIELD VERIFIED, AND THEREFORE SHALL BE CONSIDERED TO BE PLUS OR MINUS.



ELEVATION

D-12 REVISED 9-96

2/89

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GENERAL PLAN AND ELEVATION
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

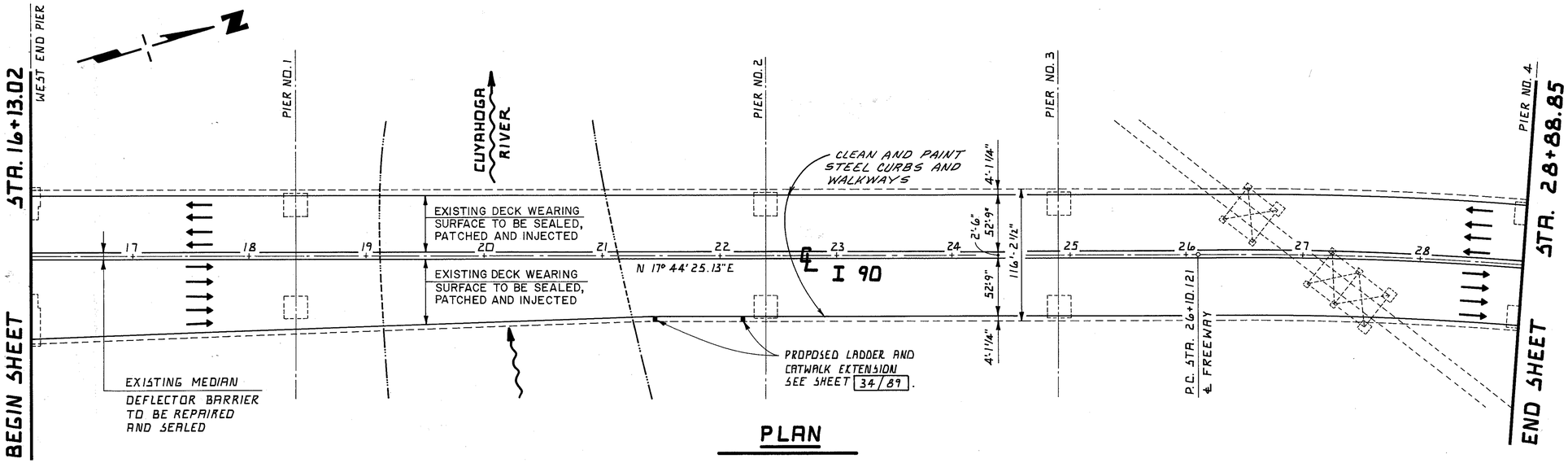
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT. 15, 1991	

BRUNING 44.232 67195.01

A·C·L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY 90 15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

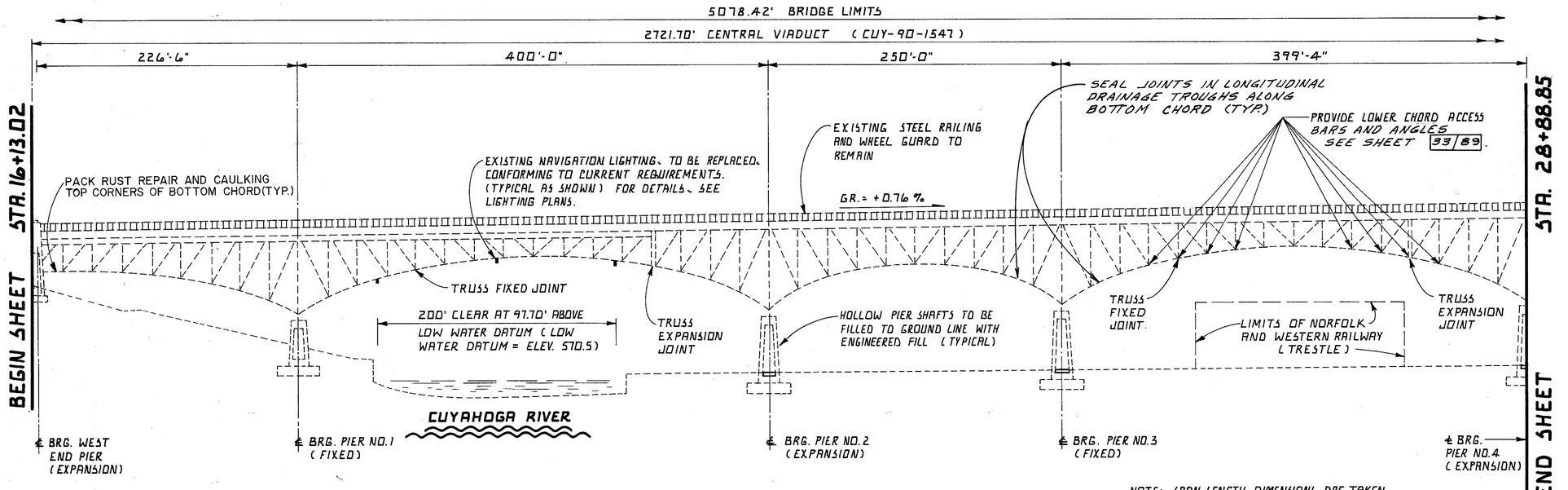
64 / 151



PLAN

HORIZONTAL CURVE DATA

P.I. = STA. 33+19.357
P.I. = STA. 26+10.121
P.T. = STA. 40+12.621
Δ = 21° 02' 15"
Dc = 1° 30' 00"
R = 3819.719'
L = 1402.500'
T = 709.236'
C = 1349.635'
E = 65.287'



ELEVATION

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3 / 89

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GENERAL PLAN AND ELEVATION
INNERBELT FREEWAY

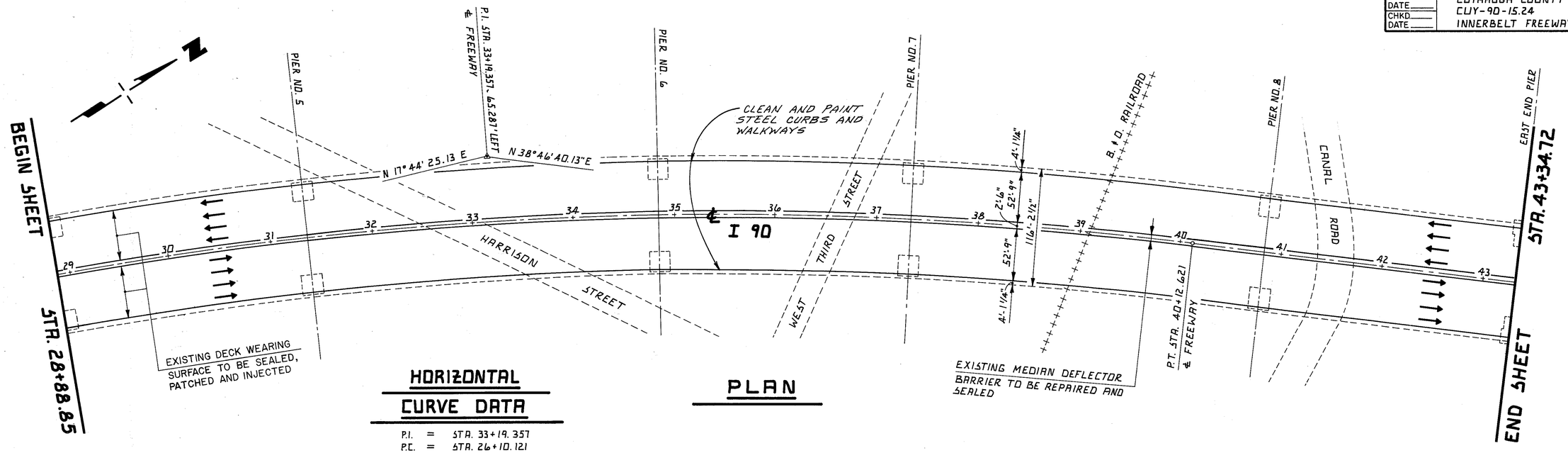
BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.L.	OCT. 15, 1991	

BRUNING 44-232-67195-01
A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

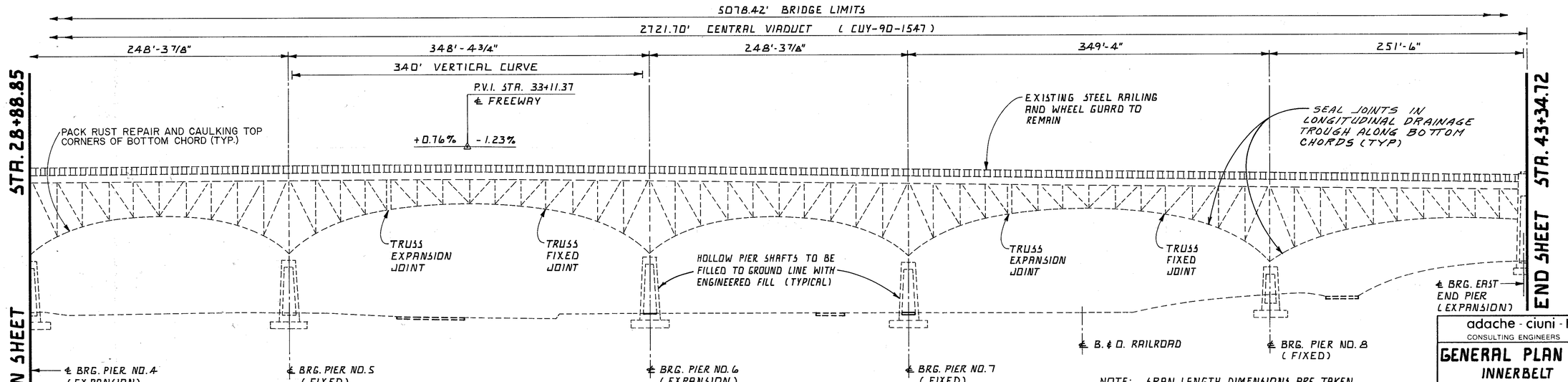
65
151



PLAN

HORIZONTAL CURVE DATA

P.I.	=	STA. 33+19.357
P.C.	=	STA. 26+10.121
P.T.	=	STA. 40+12.621
△	=	21° 02' 15"
Dc	=	1° 30' 00"
R	=	3819.719'
L	=	1402.500'
T	=	709.236'
C	=	1349.635'
E	=	65.287'



ELEVATION

NOTE: SPAN LENGTH DIMENSIONS ARE TAKEN FROM ORIGINAL CONSTRUCTION DRAWINGS AND HAVE NOT BEEN FIELD VERIFIED. AND THEREFORE SHALL BE CONSIDERED TO BE PLUS OR MINUS.

4/89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

GENERAL PLAN AND ELEVATION
INNERBELT FREEWAY

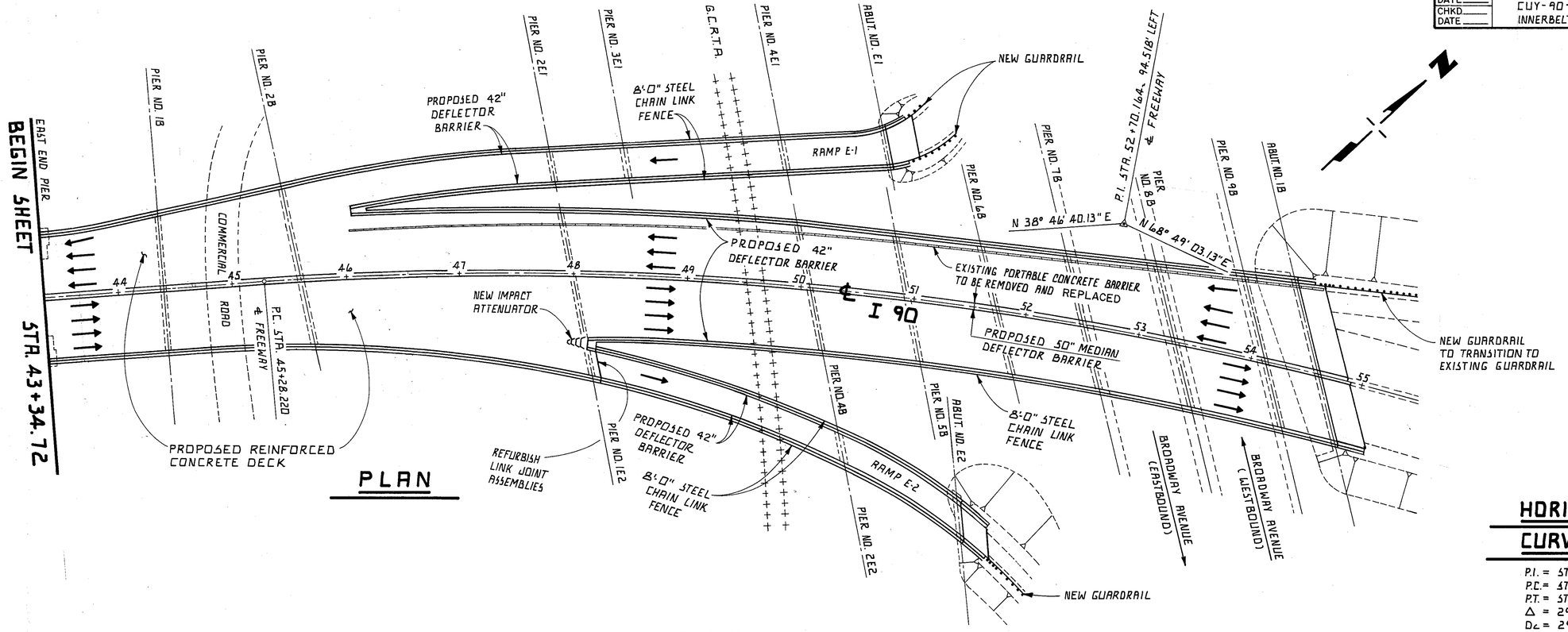
BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STR. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT. 15, 1991	

BRUNING 44-232.67195-01

A-C-L form no. B-1

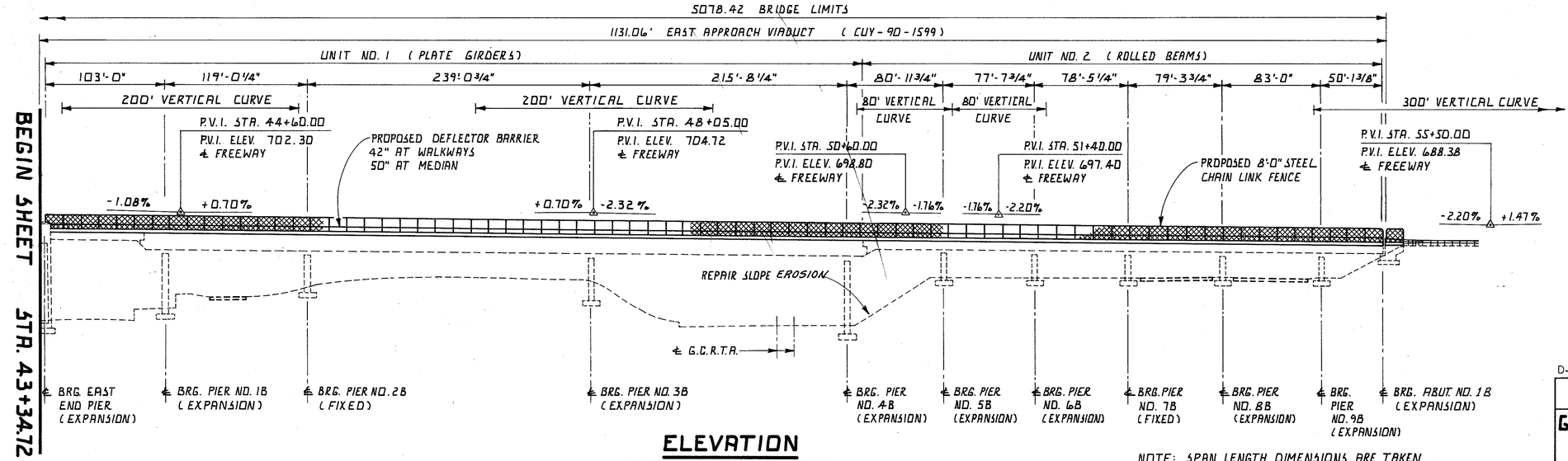
CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-1524	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		



PLAN

HORIZONTAL CURVE DATA

P.I. = STA. 52+70.164
P.C. = STA. 45+28.220
P.T. = STA. 59+80.206
Δ = 29° 02' 23"
D$_c$ = 2° 00' 00"
R = 2864.789'
L = 1451.986'
T = 741.944'
C = 1436.495'
E = 94.518'



ELEVATION

NOTE: SPAN LENGTH DIMENSIONS ARE TAKEN FROM ORIGINAL CONSTRUCTION DRAWINGS AND HAVE NOT BEEN FIELD VERIFIED, AND THEREFORE SHALL BE CONSIDERED TO BE PLUS OR MINUS.

D-12 REVISED 9-96

5/89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

GENERAL PLAN AND ELEVATION
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT. 15, 1991	

BRUNING 44-232 67195-01

A-C-L form no. B-1

STRUCTURAL GENERAL NOTES

PROPOSAL NOTES:

BRIDGE DECK GROOVING
HIGH PERFORMANCE CONCRETE
SLIPFORM CONSTRUCTION OF BRIDGE PARAPETS
COOPERATION WITH RAILROADS
FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU
FIELD PAINTING OF NEW STEEL, SYSTEM IZEU

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

EXJ-4-87 DATED 01-05-89
AS-1-81 DATED 11-27-81
SD-1-69 DATED 06-12-69
VPF-1-90 DATED 09-26-90

HL-20.14 DATED 05-01-87
HL-20.15 DATED 05-01-87
HL-30.31 DATED 05-01-87
HL-50.21 DATED 05-01-87

AND SUPPLEMENTAL SPECIFICATIONS
852 DATED 06-10-87

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATIONS OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, FIFTEENTH EDITION, 1992, INCLUDING 1993 AND 1994 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENTAL" TO THESE SPECIFICATIONS.
DESIGN LOADING - HS20-44 CASE I AND THE ALTERNATE MILITARY LOADING
HIGH PERFORMANCE CONCRETE (H.P.C.)- COMPRESSIVE STRENGTH 4,500 PSI, SUPERSTRUCTURE
REINFORCING STEEL - ASTM A615, A616, A617 - GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI
STRUCTURAL STEEL A 36 - YIELD STRENGTH 36,000 PSI, A572 YIELD STRENGTH 50,000 PSI
DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL AND SEALING OF CONCRETE SURFACES

STRUCTURE DESIGNATION

CUY-90-1524 INNERBELT EXTENSION
CUY-90-1540 WEST APPROACH
CUY-90-1547 CENTRAL VIADUCT
CUY-90-1599 EAST APPROACH

PROPOSED WORK

THE MAJOR WORK INVOLVED IN THIS PROJECT IS THE REDECKING OF THE EAST APPROACH, INCLUDING RAMPS E-1 AND E-2. THE OTHER ITEMS OF WORK ARE AS FOLLOWS:

PHASE IA AND IB

JACK BEAM "H" AT PIER 9B (EAST APPROACH) AND RECONSTRUCT CONCRETE PAD UNDER BEARING.

PATCH AND SEAL EXISTING MEDIAN BARRIERS ON THE CENTRAL VIADUCT, WEST APPROACH AND INNERBELT EXTENSION.

MODIFY INSIDE PORTIONS OF EXISTING CONTRACTION JOINTS ON THE CENTRAL VIADUCT.

REPAIR PHASE IA AND IB CENTRAL VIADUCT, WEST APPROACH, AND INNERBELT EXTENSION BY PATCHING SEALING AND INJECTING WEARING SURFACE. GROOVE WEST APPROACH AND INNERBELT EXTENSION.

RETROFIT GIRDER BENDS AT LOCATIONS DETAILED IN THE PLANS ON THE EAST APPROACH ONLY WHEN THE DECK IS OFF THE DESIGNATED GIRDER

PHASE IIA

REPAIR PHASE II CENTRAL VIADUCT, WEST APPROACH, AND INNERBELT EXTENSION BY PATCHING, SEALING AND INJECTING WEARING SURFACE. GROOVE WEST APPROACH AND INNERBELT EXTENSION.

RETROFIT GIRDER BENDS AT LOCATIONS DETAILED IN THE PLANS ON THE EAST APPROACH ONLY WHEN THE DECK IS OFF THE DESIGNATED GIRDER

MODIFY MIDDLE PORTIONS OF EXISTING CONTRACTION JOINTS ON THE CENTRAL VIADUCT, WESTBOUND SIDE.

PHASE IIB

RETROFIT GIRDER BENDS AT LOCATIONS DETAILED IN THE PLANS ON THE EAST APPROACH ONLY WHEN THE DECK IS OFF THE DESIGNATED GIRDER

PHASE IIIA

CONSTRUCT 42-INCH TALL BARRIERS ON THE WEST APPROACH AND INNERBELT EXTENSION ON THE WESTBOUND SIDE INCLUDING RAMP W-2.

REMOVE EXISTING RAILING ON THE WEST APPROACH AND INNERBELT EXTENSION ON THE WESTBOUND SIDE INCLUDING RAMP W-2.

CONSTRUCT CHAIN LINK FENCE ON THE WEST APPROACH AND INNERBELT EXTENSION ON THE WESTBOUND SIDE INCLUDING RAMP W-2.

MODIFY OUTSIDE PORTIONS OF THE EXISTING CONTRACTION JOINTS ON THE CENTRAL VIADUCT, WESTBOUND SIDE.

CLEAN AND PAINT EXISTING CENTRAL VIADUCT WALKWAY ON THE WESTBOUND SIDE.

REPAIR PHASE IIIA CENTRAL VIADUCT, WEST APPROACH, AND INNERBELT EXTENSION BY PATCHING SEALING AND INJECTING WEARING SURFACE. GROOVE WEST APPROACH AND INNERBELT EXTENSION.

PHASE IIIB

RETROFIT GIRDER BENDS AT LOCATIONS DETAILED IN THE PLANS ON THE EAST APPROACH ONLY WHEN THE DECK IS OFF THE DESIGNATED GIRDER

PHASE IIIC

RETROFIT GIRDER BENDS AT LOCATIONS DETAILED IN THE PLANS ON THE EAST APPROACH ONLY WHEN THE DECK IS OFF THE DESIGNATED GIRDER

PHASE IV

MODIFY MIDDLE PORTIONS OF EXISTING CONTRACTION JOINTS ON THE CENTRAL VIADUCT, EASTBOUND SIDE.

REPAIR PHASE IV CENTRAL VIADUCT, WEST APPROACH, AND INNERBELT EXTENSION BY PATCHING SEALING AND INJECTING WEARING SURFACE. GROOVE WEST APPROACH AND INNERBELT EXTENSION.

RETROFIT GIRDER BENDS AT LOCATIONS DETAILED IN THE PLANS ON THE EAST APPROACH ONLY WHEN THE DECK IS OFF THE DESIGNATED GIRDER

PHASE VA

REPLACE PIN AND HANGER ASSEMBLIES AT RAMP E-2 WHEN RAMP E-2 IS CLOSED TO TRAFFIC.

RETROFIT GIRDER BENDS AT LOCATIONS DETAILED IN THE PLANS ON THE EAST APPROACH ONLY WHEN THE DECK IS OFF THE DESIGNATED GIRDER

PHASE VB

CONSTRUCT 42-INCH TALL BARRIERS ON THE WEST APPROACH AND INNERBELT EXTENSION ON THE EASTBOUND SIDE INCLUDING RAMP W-1.

REMOVE EXISTING RAILING ON THE WEST APPROACH AND INNERBELT EXTENSION ON THE EASTBOUND SIDE INCLUDING RAMP W-1.

MODIFY OUTSIDE PORTIONS OF THE EXISTING CONTRACTION JOINTS ON THE CENTRAL VIADUCT, EASTBOUND SIDE.

CLEAN AND PAINT EXISTING CENTRAL VIADUCT WALKWAY ON THE EASTBOUND SIDE.

REPAIR PHASE VB CENTRAL VIADUCT, WEST APPROACH, AND INNERBELT EXTENSION BY PATCHING SEALING AND INJECTING WEARING SURFACE. GROOVE WEST APPROACH AND INNERBELT EXTENSION.

RETROFIT GIRDER BENDS AT LOCATIONS DETAILED IN THE PLANS ON THE EAST APPROACH ONLY WHEN THE DECK IS OFF THE DESIGNATED GIRDER

THE FOLLOWING ITEMS ARE NOT RESTRICTED TO A PARTICULAR CONSTRUCTION PHASE:

EXTEND EXISTING CATWALKS AT TWO LOCATIONS ON THE CENTRAL VIADUCT.

INSTALL HAND HOLD BARS AND FOOT HOLDS AT 16 LOCATIONS ON THE CENTRAL VIADUCT.

INSTALL NEW DRAINAGE COLLECTION SYSTEM AT THE EAST APPROACH ROLLERS.

INSTALL SAFETY CLIMB SYSTEM ON THE EAST APPROACH GIRDERS.

EXTEND EXISTING CATWALK AT RAMP E-2 ON THE EAST APPROACH.

PATCH AND SEAL ALL SUBSTRUCTURE UNITS ON ALL BRIDGES EXCEPT THE CENTRAL VIADUCT.

REPLACE CENTRAL VIADUCT PIER ACCESS DOORS AND FILL INSIDE OF PIERS TO BOTTOM OF WEEP HOLES.

PLACE DUMPED ROCK FILL AT ABUTMENTS W-1 AND W-2.

REPAIR PORTION OF WEST APPROACH END CROSSFRAMES AT WEST END PIER.

REPAIR PACK RUSTED AREAS AND CAULK THE BOTTOM CHORD MEMBERS ON THE CENTRAL VIADUCT.

SEAL JOINTS IN THE LONGITUDINAL DRAINAGE TROUGHS ON THE CENTRAL VIADUCT.

RETROFIT STRINGER ENDS ON THE CENTRAL VIADUCT AT THE LOCATIONS DETAILED IN THE PLANS.

REPLACE NAVIGATION AND HIGHWAY LIGHTING SYSTEMS.

REPAIR AND PROTECT SLOPE UNDER EAST APPROACH

CLEAN EXISTING DRAINAGE SYSTEM

D-12 REVISED 8/22/96 — 6 / 89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

STRUCTURAL GENERAL NOTES
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
M.J.L.	D.S.	T.M.J.	J.R.C.	2/94	

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CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

STRUCTURAL GENERAL NOTES

LIMITATIONS OF OPERATIONS

NO CONCRETE PATCHING, CONCRETE SEALING, OR SHOTCRETING SHALL BE PERFORMED BETWEEN NOVEMBER 1st. AND MARCH 31st. OF ANY YEAR.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM. FOR ADDITIONAL UTILITY NOTES AND LIST OF AFFECTED UTILITIES, SEE ROADWAY PLANS.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

REPLACEMENT OF EXISTING REINFORCING STEEL

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW EPOXY COATED REINFORCING STEEL AT HIS COST.

WORK INVOLVING G.C.R.T.A.

PRIOR TO COMMENCING ANY WORK INVOLVING THE REMOVAL OF THE EXISTING STRUCTURE, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER AND GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY (G.C.R.T.A.) FOR APPROVAL COMPLETE DETAILS OF THE PROPOSED METHOD FOR REMOVING THE EXISTING STRUCTURE AND RETAINING WALLS. NO DEMOLITION SHALL BEGIN UNTIL WRITTEN APPROVAL FROM BOTH AGENCIES IS RECEIVED.

ALL WORK WITHIN OR DIRECTLY ADJACENT TO THE G.C.R.T.A. R/W SHALL BE SUBJECT TO THE APPROVAL OF THE G.C.R.T.A. AND TO INSPECTION OF ALL TIMES BY ITS PROPERLY DESIGNATED REPRESENTATIVE. SAFETY AND CONTINUITY OF OPERATIONS OF THE G.C.R.T.A. TRAFFIC AND THE PROTECTION OF G.C.R.T.A. COMMUNICATION LINES SHALL BE OF MAJOR IMPORTANCE AND SHALL AT ALL TIMES BE PROTECTED AND SAFEGUARDED. THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE DULY AUTHORIZED REPRESENTATIVE OF THE G.C.R.T.A. AT LEAST TEN WORKING DAYS IN ADVANCE OF THE TIME THE CONTRACTOR INTENDS TO COMMENCE ANY WORK ON OR ABOVE THE G.C.R.T.A. R/W. WHENEVER PERFORMING ANY WORK SUCH AS CONSTRUCTION OF TEMPORARY SUPPORTS, IN THE OPINION OF THE ENGINEER, COULD AFFECT G.C.R.T.A. OPERATION, THE CONTRACTOR SHALL SUBMIT COMPLETE PLANS AND DETAILS OF THE PROPOSED WORK TO BOTH THE G.C.R.T.A. AND THE STATE FOR APPROVAL. NO SUCH WORK SHALL BE COMMENCED OR PROSECUTED WITHOUT PRIOR APPROVAL OF BOTH AGENCIES. APPROVAL OF SUCH WORK SHALL NOT BE CONSTRUED AS A RELEASE FROM RESPONSIBILITY OF LIABILITY FOR ANY DAMAGE WHICH THE RAILROAD MAY SUFFER.

THE CONTRACTOR SHALL NOT AT ANY TIME PERMIT EQUIPMENT IN HIS USE TO ENTER UPON OR FOUL THE G.C.R.T.A. TRACKS EXCEPT WHEN SUCH EQUIPMENT IS PROTECTED BY AUTHORIZED EMPLOYEES OF THE G.C.R.T.A.

THE CONTRACTOR SHALL PROVIDE A PROTECTION SHIELD TO PREVENT DEBRIS FROM FALLING ONTO THE TRACKS OF G.C.R.T.A. A DETAILED PLAN OF THE PROTECTION SHIELDS SHALL BE SUBMITTED TO THE ENGINEER AND G.C.R.T.A. FOR APPROVAL.

G.C.R.T.A. TRAFFIC MAY HAVE TO BE TERMINATED FOR SPECIFIED INTERVALS OF TIME. THE CONTRACTOR SHALL PROVIDE MEANS FOR PROTECTING G.C.R.T.A. TRACKS FROM DAMAGE BY FALLING DEBRIS. THE CONTRACTOR SHALL HAVE SUFFICIENT NUMBER OF PEOPLE AND EQUIPMENT ON THE JOB TO DEMOLISH THE EXISTING DECK, REMOVE DEBRIS AND RESTORE TRACK TO SERVICE WITHIN THE ALLOTTED TIME. THE G.C.R.T.A. SHALL DETERMINE THE AMOUNT OF TIME AND THE TIME OF DAY THE TRACK CAN BE OUT OF SERVICE DURING DECK REMOVAL OR ANY OTHER OPERATION THAT MAY REQUIRE THE G.C.R.T.A. TO TERMINATE SERVICE.

PAINTING

1. AREAS TO BE PAINTED

A. ALL NEW STEEL IN THE FOLLOWING LIST THAT IS NOT STAINLESS OR GALVANIZED SHALL BE PAINTED IN ACCORDANCE WITH THE PROPOSAL NOTE ENTITLED "FIELD PAINTING OF NEW STEEL, SYSTEM IZEU". THIS INCLUDES BUT IS NOT NECESSARILY LIMITED TO:

1. PIN AND HANGER ASSEMBLIES AT RAMP E-2 - CUY-90-1599.
2. NEW EXPANSION JOINT ARMOR - ALL BRIDGES.

4. NEW HAND HOLDS AND FOOT HOLDS - CUY-90-1547.
5. NEW END CROSSFRAME MEMBERS - CUY-90-1540 & CUY-90-1599.

PAYMENT FOR THE PAINTING OF NEW STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID PER POUND OF STEEL FIELD PAINTED UNDER ITEM SPECIAL "FIELD PAINTING OF NEW STEEL, SYSTEM IZEU".

B. ALL EXISTING STEEL IN THE FOLLOWING LIST SHALL BE PAINTED IN ACCORDANCE WITH THE PROPOSAL NOTE ENTITLED "FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU". THIS INCLUDES BUT IS NOT NECESSARY LIMITED TO:

1. PORTIONS OF EXISTING GIRDERS LOCATED AT PIN AND HANGER ASSEMBLIES BETWEEN THE TWO CLOSEST STIFFINERS AT RAMP E-2 - CUY-90-1599.
2. EXISTING EXPANSION JOINT ARMOR - ALL BRIDGES.
3. EXISTING STEEL WALKWAYS AND CURBS - CUY-90-1547.
4. PORTIONS OF END CROSSFRAMES AT THE WEST END PIER - CUY-90-1540.
5. PORTIONS OF BOTTOM CHORD ADJACENT TO PACK RUST REPAIR AND CAULKING - CUY-90-1547.

PAYMENT FOR THE FIELD PAINTING OF EXISTING STEEL SHALL BE INCLUDED AT THE LUMP SUM PRICE BID FOR "ITEM SPECIAL - SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU", "ITEM SPECIAL - FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU", "ITEM SPECIAL - FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU", AND "ITEM SPECIAL - FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU".

C. ALL RETROFITTED AND TESTED AREAS ON THE CENTRAL VIADUCT AND EAST APPROACH SHALL BE PAINTED AND PAID UNDER ITEM-514 FIELD PAINTING MISC.; FIELD PAINTING OF TESTED AND/OR RETROFITTED AREAS.

2. GENERAL

THE FINISH COAT SHALL BE GREY AS PER FEDERAL COLOR STANDARD NO. FS-595A-16440. THE TOP COAT COLORS AS SPECIFIED IN THE "OZEU" PROPOSAL NOTE SHALL NOT APPLY.

AFTER ALL STEEL IS ERECTED, FIELD WELDS AND ADJACENT SURFACES, THE EDGES OF CONTACT SURFACES, ANY EXPOSED UNPAINTED AREAS CREATED BY STRUCTURAL MODIFICATION IN THIS CONTRACT, AND ALL SURFACES FROM WHICH THE PRIME COAT WAS OMITTED, OR HAS BEEN REMOVED OR BECOME DEFECTIVE, SHALL BE CLEANED AND PAINTED USING PROCEDURES SPECIFIED IN THE "OZEU" PROPOSAL NOTE.

ITEM SPECIAL - CAULKING

THE VERTICAL GAPS BETWEEN THE BEARING STIFFENER ANGLES UNDER THE CUY-90-1599 MAINLINE AND RAMP E-1 ROLLERS ON THE EAST APPROACH SHALL BE CLEANED AND SEALED. THE CLEANING SHALL BE IN ACCORDANCE WITH ITEM SPECIAL "SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU". AFTER THE VERTICAL GAPS BETWEEN THE BEARING STIFFENER ANGLES HAVE BEEN THOROUGHLY CLEANED, THEY SHALL BE SEALED WITH A TROWELABLE SEALANT. THE TROWELABLE SEALANT SHALL BE IN ACCORDANCE WITH FEDERAL SPECIFICATION TT-S-00227E TYPE I, CLASS A. ONCE THE SEALANT HAS COMPLETELY CURED, THE EXISTING PAINT COAT ON THE BEARING STIFFENER ANGLES DAMAGED BY THE CLEANING PROCESS SHALL BE PAINTED (ALL COATS) IN ACCORDANCE WITH THE "PAINTING" NOTE IN THE STRUCTURAL GENERAL NOTES. THIS PAINTING SHALL BE INCLUDED WITH ITEM SPECIAL, CAULKING FOR PAYMENT.

COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO ACCOMPLISH THIS ITEM OF WORK SHALL BE MADE PER LINEAR FOOT UNDER ITEM SPECIAL, CAULKING.

ITEM 516 - STRUCTURAL STEEL EXPANSION JOINTS

EXPANSION JOINTS SHALL BE IN ACCORDANCE WITH STANDARD DRAWING EXJ-4-87 AND SHALL BE MODIFIED AS SHOWN IN THE PLANS. THE COST OF ALL LABOR, MATERIALS, INCIDENTALS AND EQUIPMENT NECESSARY TO COMPLETE THESE ITEMS OF WORK SHALL BE MADE AT THE UNIT PRICE BID PER LINEAR FOOT FOR THE FOLLOWING ITEMS:

ITEM 516	STRUCTURAL STEEL EXPANSION JOINT INCLUDING 3" ELASTOMERIC STRIP SEAL, AS PER PLAN
ITEM 516	STRUCTURAL STEEL EXPANSION JOINT INCLUDING 4" ELASTOMERIC STRIP SEAL, AS PER PLAN
ITEM 516	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN
ITEM 516	STRUCTURAL STEEL EXPANSION JOINT (EXISTING FINGER JOINT REMOVED AND RESET), AS PER PLAN

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THE EXISTING BEAM "H" AND ROCKER BEARING AT PIER 9B ON THE EAST APPROACH SHALL BE RAISED TO ALLOW THE HOLLOW AND SPALLING CONCRETE UNDER THE BEARING TO BE REMOVED AND REPLACED. THE BEAM SHALL BE RAISED DURING PHASE I CONSTRUCTION ONCE THE EXISTING DECK HAS BEEN REMOVED AND PRIOR TO ERECTION OF DECK FORMWORK AND REINFORCING STEEL. THE REMOVAL OF BEARING SEAT CONCRETE SHALL BE IN ACCORDANCE WITH CMS 520.03. HIGH STRENGTH NON-METALLIC GROUT, CMS 705.20, OR GROUT, SPECIFIED IN "SHOTCRETING CONCRETE STRUCTURES" NOTE, SHALL BE USED TO REPLACE THE BEARING SEAT CONCRETE TO ITS ORIGINAL ELEVATION.
PAYMENT FOR THE REMOVAL AND REPLACEMENT OF BEARING SEAT CONCRETE SHALL BE INCLUDED WITH ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF AN ADEQUATE SUPPORT AND JACKING SYSTEM CAPABLE OF RAISING THE STRUCTURE AND WILL BE RESPONSIBLE FOR PROPERLY ARRANGING ALL TEMPORARY SUPPORTS SO AS NOT TO DAMAGE OR INDUCE OVERSTRESS IN ANY BRIDGE MEMBERS AND DIAPHRAGMS. THE STRUCTURE SHALL NOT BE RAISED MORE THAN NECESSARY TO REMOVE AND REPLACE THE BEARINGS. THE JACKING SYSTEM DESIGN AND STRESS CALCULATIONS SHALL BE PREPARED BY A REGISTERED STRUCTURAL ENGINEER.

THE CONTRACTOR SHALL SUBMIT DETAILS OF THE PROPOSED TEMPORARY SUPPORT AND JACKING SYSTEMS TO THE ENGINEER, FOR APPROVAL, PRIOR TO BEGINNING WORK. THE SUBMITTAL SHALL INDICATE MATERIALS, MEMBER SIZES, SPACINGS, SUPPORT LOCATIONS, JACKING POINTS, REACTIONS (I.E. LOADS) AND REMOVAL PROCEDURES.

PAYMENT FOR ALL LABOR, MATERIAL AND EQUIPMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

D-12 REVISED 8/96

7 / 89

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STRUCTURAL GENERAL NOTES
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
M.J.L.	D.S.	T.M.J.	J.R.C.	2/94	

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STRUCTURAL GENERAL NOTES

CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

ITEM 518 - 8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL PIPES, SUPPORT ANGLES, CONNECTIONS, ETC. NECESSARY TO CONDUCT THE DRAINAGE FROM THE DRAINAGE COLLECTOR TO THE OUTLET AS SHOWN ON THE PLANS.

ALL SUPPORT ANGLES, CONNECTIONS, ETC. SHALL BE GALVANIZED IN ACCORDANCE WITH 711.02 OF THE C.M.S.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID PER LINEAR FOOT UNDER ITEM 518 - 8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN.

ITEM 518 - STRUCTURE DRAINAGE, MISCELLANEOUS (DRAINAGE COLLECTOR), AS PER PLAN

THIS ITEM SHALL INCLUDE ALL COLLECTORS, NEOPRENE FLASHING, SUPPORT ANGLES, PLATES, CONNECTIONS, STEEL FIELD COUPLINGS, ETC. NECESSARY TO CONDUCT THE DRAINAGE FROM THE DECK JOINT TO THE OUTLET INTO THE 8" DOWNSPOUT AS SHOWN ON THE PLANS.

ALL STEEL SUPPORT ANGLES, CONNECTIONS, FIELD COUPLINGS, ETC. SHALL BE GALVANIZED IN ACCORDANCE WITH 711.02 OF C.M.S.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID PER EACH DRAINAGE COLLECTOR FOR ITEM 518 STRUCTURE DRAINAGE, MISCELLANEOUS (DRAINAGE COLLECTOR), AS PER PLAN.

ITEM 518 - STRUCTURE DRAINAGE, MISCELLANEOUS (DOWNSPOUT REPAIRS), AS PER PLAN

THE EXISTING DRAINAGE COLLECTION DROP PIPE AT THE NORTH SIDE OF PIER 1W-2 SHALL BE CENTERED AND EXTENDED ONE INCH INTO THE EXISTING CONCENTRIC REDUCER AT THE TOP OF THE DOWNSPOUT PIPE.

THE EXISTING CRACK IN THE DOWNSPOUT PIPE AT THE NORTH END OF PIER 7E&W SHALL BE REPAIRED BY HEAT BENDING THE PIPE TOGETHER AND THEN WELDING THE CRACK WITH A COMPLETE PENETRATION WELD OR BY ANOTHER METHOD APPROVED BY THE ENGINEER.

PAYMENT FOR ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE THIS ITEM OF WORK SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 518, STRUCTURE DRAINAGE, MISCELLANEOUS (DOWNSPOUT REPAIRS), AS PER PLAN.

ITEM 517 - RAILING MISC.;(42"), AS PER PLAN

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS, CAULKING, SAW CUTTING CRACK CONTROL JOINTS, INSTALLING DRAINAGE SLOTS, INSTALLING STEPS, INSTALLING TRANSITIONS, AND ALL LABOR NECESSARY TO CONSTRUCT AND ERECT THE RAILING AS SHOWN IN THE PLANS AND AS SPECIFIED HEREIN.

ALL CONCRETE SHALL CONFORM TO THE PROPOSAL NOTE "HIGH PERFORMANCE CONCRETE" AND SHALL BE INCLUDED IN THE COST OF THIS ITEM.

ALL REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL BE INCLUDED IN THE COST OF THIS ITEM. THE CONTRACTOR MAY FIELD BEND REINFORCING STEEL TO MAINTAIN MINIMUM CLEARANCES AND COVER.

CAULK EDGES OF ALL CONSTRUCTION JOINTS AND ALL CRACK CONTROL JOINTS WITH CAULK WHICH MEETS FEDERAL SPECIFICATION TT-S-00227E. ALL CAULKING COSTS SHALL BE INCLUDED UNDER THIS ITEM.

ALL CONDUIT FOR HIGHWAY LIGHTING SHALL BE INSTALLED PRIOR TO RAILING POUR.

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT UNIT PRICE FOR:

ITEM	*UNIT*	*DESCRIPTION*
517	*LIN. FT.*	*RAILING MISC.;(42"), AS PER PLAN*

ITEM 517 - RAILING MISC.;(50"), AS PER PLAN

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS, CAULKING, SAW CUTTING CRACK CONTROL JOINTS, INSTALLING TRANSITIONS, AND ALL LABOR NECESSARY TO CONSTRUCT AND ERECT THE RAILING AS SHOWN IN THE PLANS AND AS SPECIFIED HERE IN.

ALL CONCRETE SHALL CONFORM TO THE PROPOSAL NOTE "HIGH PERFORMANCE CONCRETE" AND SHALL BE INCLUDED IN THE COST OF THIS ITEM.

ALL REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL BE INCLUDED IN THE COST OF THIS ITEM. THE CONTRACTOR MAY FIELD BEND REINFORCING STEEL TO MAINTAIN MINIMUM CLEARANCES AND COVER.

CAULK EDGES OF ALL CONSTRUCTION JOINTS AND ALL CRACK CONTROL JOINTS WITH CAULK WHICH MEETS FEDERAL SPECIFICATION TT-S-00227E. ALL CAULKING COSTS SHALL BE INCLUDED UNDER THIS ITEM.

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT UNIT PRICE FOR:

ITEM	*UNIT*	*DESCRIPTION*
517	*LIN. FT.*	*RAILING MISC.;(50"), AS PER PLAN*

ITEM 517 - RAILING MISC.;(RETROFIT, 42"), AS PER PLAN

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS, DRILLING, EPOXY GROUTING, REMOVING UNSOUND CURB CONCRETE, CAULKING, CUTTING CRACK CONTROL JOINTS, INSTALLING DRAINAGE SLOTS, INSTALLING OF TRANSITIONS, AND ALL LABOR NECESSARY TO CONSTRUCT AND ERECT THE RAILING AS SHOWN IN THE PLANS AND AS SPECIFIED HEREIN.

ALL CONCRETE SHALL CONFORM TO THE PROPOSAL NOTE "HIGH PERFORMANCE CONCRETE" AND SHALL BE INCLUDED IN THE COST OF THIS ITEM.

ALL REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL BE INCLUDED IN THE COST OF THIS ITEM. THE CONTRACTOR MAY FIELD BEND REINFORCING STEEL TO MAINTAIN MINIMUM CLEARANCES AND COVER.

ALL DRILLING AND EPOXY GROUTING REQUIRED FOR INSTALLATION OF RAILING SHALL CONFORM TO C.M.S. 510 (GROUT ANCHORING) AND SHALL BE INCLUDED IN THE COST OF THIS ITEM.

BEFORE ANY DRILLING, THE CONTRACTOR SHALL USE A REBAR LOCATOR TO IDENTIFY LOCATIONS OF EXISTING REINFORCING STEEL. THE CONTRACTOR SHALL DRILL ONLY WHERE EXISTING REINFORCING STEEL IS NOT LOCATED.

CAULK EDGES OF ALL JOINTS BETWEEN NEW AND EXISTING CONCRETE AND ALL CRACK CONTROL JOINTS WITH CAULK WHICH MEETS FEDERAL SPECIFICATION TT-S-00227E. ALL CAULKING COSTS SHALL BE INCLUDED UNDER THIS ITEM.

ALL CONDUIT FOR HIGHWAY AND NAVIGATIONAL LIGHTING SHALL BE INSTALLED PRIOR TO RAILING POUR.

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR:

ITEM	*UNIT*	*DESCRIPTION*
517	*LIN. FT.*	*RAILING MISC.;(RETROFIT, 42"), AS PER PLAN*

ITEM 601 - DUMPED ROCK FILL

DUMPED ROCK FILL SHALL BE PLACED AT ERODED AREAS AT ABUTMENTS W-1 AND W-2 ON THE WEST APPROACH CAUSED BY DRAINAGE DOWNSPOUT OUTLET AND LEAKY DECK JOINT. A CONTINGENCY QUANTITY OF FIVE (5) CUBIC YARDS FOR ABUTMENT W-1 AND 45 CUBIC YARDS FOR ABUTMENT W-2 SHALL BE USED AS DIRECTED BY THE ENGINEER. COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO ACCOMPLISH THIS ITEM SHALL BE MADE PER CUBIC YARD UNDER ITEM 601, DUMPED ROCK FILL.

ITEM 513 - STRUCTURAL STEEL, MISCELLANEOUS (HAND HOLD BAR AND FOOTHOLD ANGLE SYSTEM), AS PER PLAN

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING A SAFETY ACCESS SYSTEM CONSISTING OF ONE INCH DIAMETER BAR STOCK AND FOOTHOLD ANGLES BOLTED TO 16 GUSSET PLATES ON THE CENTRAL VIADUCT AS SHOWN ON THE PLANS.

ALL STRUCTURAL STEEL WORKS SHALL BE AS PER ITEM 513 - (AISC CERTIFICATION NOT REQUIRED) OF THE CMS. THE ANGLES AND BAR STOCK SHALL BE A-36 STEEL. THE AREA WHERE THE ANGLE IS BOLTED SHALL BE THOROUGHLY CLEANED OF ALL RUST AND DEBRIS, AND PRIMED IF BARE STEEL IS EXPOSED PRIOR TO CONNECTING THE ANGLES TO THE GUSSET PLATES TO ASSURE A SATISFACTORY CONNECTION.

THE HAND HOLD BAR AND FOOTHOLD ANGLE SYSTEM SHALL BE PAINTED WHEN ALL WELDING AND BOLTING HAS BEEN COMPLETED. COST FOR PAINTING THE HAND HOLD BAR AND FOOTHOLD ANGLE SYSTEM SHALL BE INCLUDED UNDER FIELD PAINTING OF NEW STEEL, SYSTEM 1ZEU.

THE UNIT TO BE PAID FOR UNDER THIS ITEM SHALL BE THE LINEAR FOOT OF HAND HOLD BAR AND FOOTHOLD ANGLES COMPLETE IN PLACE AND ACCEPTED. THE ACCEPTED QUANTITY OF HAND HOLD BAR AND FOOTHOLD ANGLE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING AND INSTALLING THE HAND HOLD BAR AND ALL MATERIAL (INCLUDING SUPPORT ANGLES), LABOR INCLUDING FIELD DRILLING, AND EQUIPMENT NECESSARY TO COMPLETE THIS WORK.

ITEM 513 - STRUCTURAL STEEL, MISCELLANEOUS; BARRIER CURB REPAIRED, AS PER PLAN

DAMAGED SECTIONS OF THE EXISTING STEEL BARRIER CURB ON THE CENTRAL VIADUCT SHALL BE REMOVED AND REPLACED WITH CAREFULLY REMOVED SECTIONS OF BARRIER CURB AND RELATED HARDWARE FROM THE EAST APPROACH, WEST APPROACH OR INNERBELT EXTENSION. A CONTINGENT QUANTITY OF 25 LINEAR FEET SHALL BE USED AS DIRECTED BY THE ENGINEER.

COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO ACCOMPLISH THIS ITEM OF WORK SHALL BE MADE AT THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 513, STRUCTURAL STEEL, MISCELLANEOUS (BARRIER CURB REPAIRED).

D-12 REVISED 8/96 | 8/89

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M.J.L.	D.S.	T.M.J.	J.R.C.	2/94	

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STRUCTURAL GENERAL NOTES

ITEM SPECIAL - IMPACT ATTENUATOR, HEX-FOAM SANDWICH SYSTEM

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING IMPACT ATTENUATORS. THE IMPACT ATTENUATORS SHALL BE HEX-FOAM TYPE AS MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC. AND DISTRIBUTED BY BALDWIN AND SOURS, 1312 GRANDVIEW AVENUE, COLUMBUS, OHIO 43212, PHONE (614) 851-8800, WITH THE FOLLOWING MODEL NUMBERS:

RAMP E-2: MODEL 209120OH8N CUSTOM 8 BAY EXTRA WIDE HEX-FOAM SANDWICH SYSTEM

RAMP W-2: MODEL 209800H8S STANDARD 8 BAY HEX-FOAM SANDWICH SYSTEM WITH BACK-UP

THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO ACCOMPLISH THIS ITEM OF WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH UNDER ITEM SPECIAL - IMPACT ATTENUATOR, HEX-FOAM SANDWICH SYSTEM.

ITEM 530 - STRUCTURE MISC.; ADHESIVE ANCHORS

THIS WORK SHALL BE PERFORMED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND SHALL INCLUDE FURNISHING AND INSTALLING ANCHOR BOLTS CAPABLE OF SUPPORTING THE PROPOSED FENCE POST BASE PLATES.

ANCHORS SHALL BE CAPABLE OF DEVELOPING A WORKING LOAD OF 6.7 KIPS.

THE ANCHOR BOLTS AND INSTALLATION SHALL CONFORM TO CMS 510. GROUT SHALL BE EPOXY.

ITEM SPECIAL - SHOTCRETLNG CONCRETE STRUCTURES

ALL OF THE PROVISIONS OF ITEM 520 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL APPLY, EXCEPT AS MODIFIED HEREIN. THIS ITEM SHALL INCLUDE ANY TEMPORARY SHORING REQUIRED DURING THE PATCHING OPERATIONS TO ENSURE STRUCTURAL INTEGRITY OF THE MEMBER BEING PATCHED.

DESCRIPTION:
THIS ITEM APPLIES TO THE SURFACE REPAIR OF CONCRETE STRUCTURES USING SHOTCRETE APPLIED (PNEUMATICALLY PLACED) MORTAR AND INCLUDES THE REMOVAL OF CONCRETE, CONCRETE SURFACE PREPARATION, THE FURNISHING AND PLACING OF REINFORCING STEEL INCLUDING WIRE FABRIC, DOWELS, AND/OR EXPANSION ANCHOR BOLTS WHEN REQUIRED, AND THE PREPARING AND APPLYING OF THE MORTAR IN THE AREAS SHOWN OR NOTED ON THE PLANS OR WHEN DIRECTED BY THE ENGINEER. THE THICKNESS OF THE MORTAR SHALL NOT BE LESS THAN 1/2 INCH.

SURFACE PREPARATION:
AFTER THE DAMAGED CONCRETE IS REMOVED ALL SURFACES TO WHICH THE MORTAR IS TO BOND, INCLUDING EXPOSED REINFORCING STEEL AND THE WORK FACE OF ANY PREVIOUSLY PLACED MORTAR, SHALL BE CLEANED BY ABRASIVE BLASTING OR ULTRA HIGH PRESSURE WATER BLASTING NOT MORE THAN 24 HOURS PRIOR TO THE PLACEMENT OF THE MORTAR. STEEL SURFACES SHALL BE CLEANED TO THE NEAR-WHITE (SA 2-1/2 / SSPC-SP10) PREPARATION GRADE. BLASTING ABRASIVES CONTAINING MORE THAN 1% FREE SILICA WILL NOT BE ALLOWED. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, AND ALL CONTAMINANTS DETRIMENTAL TO THE ACHIEVEMENT OF AN ADEQUATE BOND. ULTRA-HIGH PRESSURE HYDRO-DEMOLITION OF 20,000 PSI OR MORE IS AN ACCEPTABLE METHOD OF SURFACE PREPARATION.

MATERIALS:
THE REQUIREMENTS FOR 520.06 AND 520.08 SHALL BE VOID. MORTAR UTILIZED MUST MEET THE FOLLOWING CRITERIA:

A. IF THE MORTAR IS A PRE-PACKAGED, BRANDED ENTITY, PREPARATION IN EITHER THE WET OR DRY PROCESS SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS.

B. IF THE MIX USED EMPLOYS MATERIALS BATCHED AT THE JOBSITE, BATCHED BY THE SHOTCRETLNG CONTRACTOR HIMSELF PRIOR TO USE ON THE JOBSITE, OR SUPPLIED IN A READY MIX TRUCK, THE INGREDIENTS OF THESE MIXES MUST BE READILY DOCUMENTABLE, IN BOTH QUALITY AND QUANTITY. THIS APPLIES TO BOTH QUALIFICATION TESTING PRIOR TO JOBSITE APPLICATION AND FOR JOBSITE APPLICATION.

SHOTCRETE MORTAR SHALL MEET THE FOLLOWING REQUIREMENTS AS VERIFIED BY CERTIFIED TEST DATA FROM AN INDEPENDENT TESTING LABORATORY APPROVED BY THE STATE OF OHIO.

MINIMUM COMPRESSIVE STRENGTH: (ASTM C-109, 3-INCH CUBES)
1 DAY.....1800 PSI
7 DAY.....5500 PSI
28 DAY.....7000 PSI

MINIMUM FLEXURAL STRENGTH: (ASTM C-78)
7 DAY.....1100 PSI
28 DAY.....1500 PSI

MINIMUM TENSILE STRENGTH: (ASTM C-496)
7 DAY.....550 PSI
28 DAY.....750 PSI

MODULUS OF ELASTICITY (ASTM C469@28 DAYS)...3,500,000 TO 4,000,000 PSI

MINIMUM BOND STRENGTH (ASTM C882 MODIFIED*).....1700 PSI
* - MORTAR SCRUBBED IN SUBSTRATE

CHLORIDE ION PERMEABILITY (AASHTO T-277).....500 COULOMBS OR LESS

THE MORTAR MAY CONTAIN MICROSILICA, POLYMERS, WATER REDUCING AGENTS OR OTHER ADDITIVES IN ANY COMBINATION THAT WILL PRODUCE THE REQUIRED PERFORMANCE.

REINFORCEMENT:
REINFORCEMENT SHALL BE USED FOR REPAIR AREAS TO BE REPAIRED BY SHOTCRETING WHERE THE DEPTH OF REPAIR IS FOUR INCHES (4") OR GREATER OVER AN AREA OF ONE SQUARE FOOT (1 SQ.FT.) OR MORE. REINFORCEMENT SHALL CONFORM WITH THE REQUIREMENTS OF 520.04, EXCEPT AS MODIFIED HEREIN. WELDED WIRE FABRIC SHALL BE 4-INCH BY 4-INCH, AND 8 OR 6 GAGE. ALL REINFORCEMENT SHALL BE HELD SECURELY IN CORRECT POSITION BY MEANS OF APPROVED METAL SUPPORTS, SPACERS AND/OR TIE WIRES TO POSITIVELY PREVENT DISPLACEMENT DURING SHOTCRETING OPERATIONS. CARE SHALL BE EXERCISED TO MAINTAIN PROPER CLEARANCE BETWEEN THE REINFORCEMENT AND THE FINISHED SURFACE OF THE SHOTCRETE.

PLACING:
THE MORTAR SHALL BE PNEUMATICALLY PLACED.

WHEN WET MIX SHOTCRETING IS EMPLOYED, THE NOZZLE OPERATOR MUST BE ABLE TO DEMONSTRATE EXPERIENCE AND CAPABILITY IN THE SHOTCRETE APPLICATION PROCESS.

WHEN DRY MIX SHOTCRETING IS EMPLOYED, THE NOZZLE OPERATOR MUST BE QUALIFIED ACCORDING TO THE GUIDELINES PRESENTED IN ACI 506 R 91.

IF THE FLOW OF MATERIAL AT THE NOZZLE IS NOT UNIFORM, RESULTING IN SLUGS, POCKETS, OR SLOUGHING OF THE SHOTCRETE, THE NOZZLE OPERATOR SHALL DIRECT THE NOZZLE AWAY FROM THE REPAIR AREA UNTIL THE FAULTY CONDITIONS ARE CORRECTED. SUCH DEFECTS SHALL BE REPLACED AS THE WORK PROGRESSES.

SHOTCRETING SHALL BE TEMPORARILY SUSPENDED IF RAIN OCCURS WHICH MAY CAUSE WASHOUTS OR SLOUGHING OF THE REPAIR SURFACE. MORTAR SHALL BE PLACED ONLY WHEN THE AMBIENT TEMPERATURE IS AT LEAST 40 DEGREES AND RISING AND THE TEMPERATURE OF THE STRUCTURE TO BE REPAIRED IS AT LEAST 50 DEGREES.

THE CONTRACTOR SHALL COOL THE INGREDIENTS OR TAKE OTHER APPROPRIATE MEASURES WHEN PREMATURE STIFFENING OF THE MORTAR OCCURS IN WARM WEATHER.

THE MORTAR SHALL BE PNEUMATICALLY PLACED CONTINUOUSLY ON VERTICAL AND OVERHEAD SURFACES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

PRECONSTRUCTION TESTING:
AN INVESTIGATION SHALL BE MADE PRIOR TO THE START OF THE WORK TO CHECK THE OPERATION OF THE EQUIPMENT, THE QUALIFICATIONS OF THE APPLICATION CREWS, AND TO ENSURE THAT A SATISFACTORY QUALITY OF PNEUMATICALLY PLACED MORTAR CAN BE PRODUCED.

TEST PANELS SHALL BE FABRICATED BY SHOOTING MORTAR ONTO THE PLYWOOD BOTTOM OF A SQUARE 24 INCH X 24 INCH OPEN BOX THAT IS 8 INCHES DEEP. REINFORCEMENT IN THE LARGER SIZES AND TIGHTER SPACING FOUND IN A BRIDGE SHALL BE INCORPORATED IN OTHER TEST PANELS WHICH ARE 24 INCHES SQUARE. THE BOXES SHALL BE MOUNTED VERTICALLY OR HORIZONTALLY TO SIMULATE THE ACTUAL JOB CONDITION. THE MORTAR SHALL BE APPLIED USING THE PERSONNEL, EQUIPMENT, AND PROCEDURES PROPOSED FOR THE JOB UNTIL THE BOX IS FULL. THE MIXING WATER SHALL BE ADJUSTED TO PROVIDE MORTAR OF THE PROPER CONSISTENCY AS RECOMMENDED BY THE MANUFACTURER. THE QUANTITY OF MIXING WATER INTRODUCED INTO THE MIX SHALL BE MEASUREABLE AND SHALL BE DOCUMENTED DURING ANY SHOTCRETE APPLICATION PROCEDURE.

THREE CORES SHALL BE TAKEN FROM EACH PANEL AND TESTED ACCORDING TO ASTM C 42 BY AN INDEPENDENT TESTING LABORATORY APPROVED BY THE STATE. A COMPRESSIVE STRENGTH OF AT LEAST 7000 PSI AT 28 DAYS WILL BE REQUIRED. ADDITIONAL CORES SHALL BE TAKEN AND TESTED AS NECESSARY TO VERIFY THAT THE TEST PANEL MORTAR MEETS ALL THE REQUIREMENTS OF MATERIALS: SECTION B.

THE PANELS SHALL ALSO BE BROKEN SO THAT THE INTERIOR PORTIONS CAN BE CAREFULLY EXAMINED. THEY SHALL BE SUBSTANTIALLY FREE OF HOLLOW AREAS AND SAND POCKETS AND THE MORTAR SHALL BE WELL BONDED TO THE REINFORCEMENT.

EACH CREW MUST FABRICATE SATISFACTORY PANELS SIMULATING THE ACTUAL ON-SITE CONDITIONS (E.G. VERTICAL OR OVERHEAD APPLICATION) BEFORE APPLYING THE MORTAR TO THE STRUCTURE.

INSPECTION AND TESTING:
ALL PATCHED AREAS SHALL BE SOUNDED AFTER CURING AND BEFORE FINAL ACCEPTANCE. ALL UNSOUND AREAS AND AREAS EXHIBITING CRACKING SHALL BE REMOVED AND REPATCHED.

THE ACCEPTANCE OF THE SHOTCRETED MORTAR WILL ALSO BE BASED ON CORES TAKEN FROM PATCHED AREAS AND TEST PANELS AND TESTED AS FOLLOWS:

@ 1000 SQ. FT. - SHOOT PANEL AND TEST
@ 2000 SQ. FT. -SHOOT PANEL AND TEST
@ 3000 SQ. FT. -SHOOT PANEL AND TEST
ETC...

@ 400 SQ. FT. - IN-PLACE CORE TEST
@ 800 SQ. FT. - IN-PLACE CORE TEST
@ 1200 SQ. FT. - IN-PLACE CORE TEST
ETC...

THE LOCATION OF THE IN-PLACE CORES WILL BE DETERMINED BY THE ENGINEER. ONE IN-PLACE CORE WILL BE TAKEN FOR EACH 400 SQ. FT. OF SHOTCRETING. THE CORES SHALL EXTEND COMPLETELY THROUGH THE PATCHED AREA AND INTO THE UNDERLYING SOUND CONCRETE AT LEAST TWO INCHES. THE CORES WILL BE VISUALLY INSPECTED AT THE SITE BY THE ENGINEER FOR HOLLOW AREAS, SAND POCKETS, VOIDS AROUND THE REINFORCING STEEL AND LACK OF BOND TO THE UNDERLYING CONCRETE.

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

STRUCTURAL GENERAL NOTES
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
M.J.L.	D.S.	T.M.J.	J.R.C.	2/94	

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ADDITIONAL 24 INCH X 24 INCH X 8 INCH DEEP TEST PANELS SHALL BE SHOT FOR EACH 1000 SQ. FT. OF SHOTCRETING THROUGHOUT THE ENTIRE PATCHING OPERATION. CORES SHALL BE TAKEN TO VERIFY THE PROPERTIES OF THE MORTAR PRODUCED.

THE AVERAGE 28-DAY COMPRESSIVE STRENGTH OF THE CORES AS DETERMINED ACCORDING TO ASTM C42 BY AN INDEPENDENT LABORATORY SHALL BE NOT LESS THAN 6000 PSI AND NO CORE SHALL TEST LOWER THAN 5000 PSI. CORES TAKEN FROM TEST PANELS SHALL BE TESTED TO VERIFY THAT THE MORTAR MEETS ALL THE REQUIREMENTS IN MATERIALS: SECTION B.

ALL PATCHES DETERMINED TO BE DEFECTIVE BY SOUNDING, VISIBLE CRACKS, UNACCEPTABLE CORES OR TESTS SHALL BE REMOVED, REPLACED AND CORED. PATCH REPLACEMENT WILL CONTINUE UNTIL ONLY ACCEPTABLE PATCHES REMAIN. CORE HOLES SHALL BE SURFACE PREPPED AS DESCRIBED ABOVE AND FILLED BY HAND PACKING WITH A MORTAR THAT MEETS ALL THE REQUIREMENTS OF MATERIALS: SECTION B.

ALL TEST PANEL, CORING, REPAIR OF CORE HOLES, INDEPENDENT LABORATORY TESTING OF THE CORES AND REPLACEMENT OF THE REJECTED AREAS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM.

BASIS FOR PAYMENT:
PAYMENT SHALL BE MADE AT THE CONTRACT UNIT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQ. FT.	SHOTCRETING CONCRETE STRUCTURES

THE FOLLOWING QUANTITIES FOR ITEM SPECIAL - SHOTCRETING CONCRETE STRUCTURES, ARE INCLUDED IN THE WORK:

LOCATION	ESTIMATED QUANTITY
SUBSTRUCTURE:	
(CUY-90-1524)	
PIER 2WA	414 S.F.
PIER 3W	138 S.F.
PIER 6E	1164 S.F.
PIER 6W	180 S.F.
SOUTH ABUTMENT	504 S.F.
SUBTOTAL	2400 S.F.
(CUY-90-1540)	
PIER 1A	30 S.F.
PIER 2A	120 S.F.
PIER 3A	504 S.F.
ABUTMENT W-1	54 S.F.
ABUTMENT W-2	192 S.F.
SUBTOTAL	900 S.F.
(CUY-90-1599)	
PIER 1B	750 S.F.
PIER 2B	1488 S.F.
PIER 3B AND 1E2	2424 S.F.
PIER 4B	3360 S.F.
PIER 5B	156 S.F.
PIER 6B	192 S.F.
PIER 7B	30 S.F.
PIER 8B	1416 S.F.
PIER 9B	888 S.F.
ABUTMENT 1B	1326 S.F.
PIER 2E-2D AND ABUTMENT E2	138 S.F.
PIER 2E1	300 S.F.
PIER 3E1	332 S.F.
PIER 4E1	306 S.F.
ABUTMENT E1	90 S.F.
SUBTOTAL	13196 S.F.
SUBTOTAL SUBSTRUCTURE =	16496 S.F.
MEDIAN BARRIER	
(CUY-90-1524)	1776 S.F.
(CUY-90-1540)	768 S.F.
(CUY-90-1547)	5616 S.F.
SUBTOTAL MEDIAN BARRIER =	8160 S.F.
GRAND TOTAL =	21356 S.F.

BASIS FOR PAYMENT:
PAYMENT SHALL BE MADE AT THE CONTRACT UNIT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQ. FT.	SHOTCRETING CONCRETE STRUCTURES

STRUCTURE MISC.; PREPARATION OF CONCRETE WEARING SURFACE FOR SEALING, AS PER PLAN

A. DESCRIPTION

THIS ITEM SHALL CONSIST OF THE LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE PREPARATION OF CONCRETE FOR SEALING AS SPECIFIED AND AS DIRECTED BY THE ENGINEER.

THIS WORK ITEM SHALL NOT BE PERFORMED DURING THE PERIOD BEGINNING NOVEMBER 1ST AND ENDING MARCH 31ST.

NOTE: THE VENDOR FOR HIGH PRESSURE CONCRETE CLEANING SHALL HAVE A MINIMUM OF 3 YEARS EXPERIENCE IN HYDRODEMOLITION OR EQUIVALENT CONCRETE CLEANING OPERATIONS AND SHALL FURNISH A NOTARIZED STATEMENT DETAILING THIS EXPERIENCE AND A LIST OF HYDRODEMOLITION OR EQUIVALENT CONCRETE CLEANING OPERATIONS WITH THE OWNERS' NAMES AND PHONE NUMBERS. THE VENDOR SHALL ALSO HAVE EQUIPMENT CAPABLE OF OPERATING IN THE 10,000 P.S.I. WATER BLAST RANGE.

B. SURFACE PREPARATION

THE CONCRETE SURFACES ARE TO BE THOROUGHLY CLEANED TO REMOVE DUST, DIRT, OIL, WAX, CURING COMPOUNDS, EFFLORESCENCE, LAITANCE, COATINGS, AND OTHER FOREIGN MATERIALS. THE METHOD OF CLEANING SHALL BE LIMITED TO HIGH-PRESSURE WATER BLAST. CARE SHALL BE TAKEN NOT TO DAMAGE THE SURFACE BY ETCHING OR EXPOSING COARSE AGGREGATE WITH THE BLAST OPERATION. THE GENERAL CLEANING OF THE DECK WILL REQUIRE THE EQUIPMENT TO BE CALIBRATED TO PROVIDE A MINIMUM OF 7,000 P.S.I. WATER PRESSURE. HYDRODEMOLISHING EQUIPMENT CALIBRATED TO PROVIDE THE DESIRED CLEANING RESULTS WILL BE PERMITTED. IMMEDIATELY AFTER THE COMPLETION OF THE HIGH PRESSURE WASH, A MEDIUM PRESSURE "FLUSH" WASH WILL BE REQUIRED WHICH WILL MOVE ANY LOOSENED FOREIGN MATERIAL TO THE GUTTER AREA THEN ALONG THE GUTTER TO THE NEAREST BRIDGE DRAIN SCUPPER. POTABLE WATER SHALL BE USED. REMOVAL OF PAVEMENT MARKINGS SHALL BE AS PER CMS 641.10.

HYDRODEMOLITION EQUIPMENT

THE HYDRODEMOLITION EQUIPMENT SHALL BE A SELF-PROPELLED MACHINE THAT UTILIZES A HIGH PRESSURE WATER JET STREAM CAPABLE OF CLEANING CONCRETE. HAND HELD HIGH PRESSURE WANDS SHALL BE USED IN AREAS THAT ARE INACCESSIBLE TO THE SELF-PROPELLED MACHINE.

PRIOR TO THE COMMENCEMENT OF THE CLEANING OPERATION, THE EQUIPMENT SHALL BE CALIBRATED ON AN AREA OF SOUND CONCRETE AS DESIGNATED BY THE ENGINEER.

THE ENGINEER SHALL VERIFY THE FOLLOWING SETTINGS:

1. *WATER PRESSURE GAUGE*
2. *MACHINE STAGING CONTROL (STEP)*
3. *NOZZLE SIZE*
4. *NOZZLE SPEED (TRAVEL)*

DURING THE CALIBRATION, ANY OR ALL OF THE ABOVE SETTINGS MAY BE MODIFIED IN ORDER TO ACHIEVE ADEQUATE CLEANING. WHEN THE DESIRED CLEANING IS ATTAINED, THE SETTINGS SHALL BE RECORDED AND MAINTAINED THROUGHOUT THE CLEANING OPERATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

CALIBRATION SHALL BE REQUIRED ON EACH STRUCTURE, EACH TIME CLEANING IS PERFORMED AND AS REQUIRED TO ACHIEVE THE RESULTS REQUIRED.

ADDITIONAL CLEANING TREATMENT SHALL BE REQUIRED ALONG ALL IDENTIFIABLE CRACKS. THE CLEANING SHALL CONSIST OF A HIGH PRESSURE (6000 P.S.I.) WATER BLAST USING A ZERO DEGREE NOZZLE HELD APPROXIMATELY 3 INCHES FROM THE CRACK. IMMEDIATELY FOLLOWING THE WATER BLAST, THE CRACK SHALL BE WET-VACUUMED TO REMOVE ALL DIRT AND WATER.

THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO PREVENT WATER FROM FLOWING INTO LANES OPEN TO TRAFFIC.

ALTERNATE SURFACE PREPARATION PROCEDURE

Alt B. SURFACE PREPARATION

THE CONCRETE SURFACES ARE TO BE THOROUGHLY CLEANED TO REMOVE DUST, DIRT, OIL, WAX, CURING COMPOUNDS, EFFLORESCENCE, LAITANCE, COATINGS, AND OTHER FOREIGN MATERIALS. THE METHOD OF CLEANING SHALL BE LIMITED TO HIGH-PRESSURE WATER BLAST. CARE SHALL BE TAKEN NOT TO DAMAGE THE SURFACE BY ETCHING OR EXPOSING COARSE AGGREGATE WITH THE BLAST OPERATION. THE GENERAL CLEANING WILL REQUIRE HYDROCLEANING EQUIPMENT TO BE CALIBRATED TO PROVIDE A MINIMUM AVERAGE WATER PRESSURE OF 29,000 P.S.I. IMMEDIATELY AFTER THE COMPLETION OF THE HYDROCLEANING BLAST, THE BLASTED AREA SHALL BE WET VACUUMED TO REMOVE ALL DIRT AND WATER. AFTER THE ENTIRE WIDTH OF THE LANE CLOSURE HAS BEEN BLASTED AND VACUUMED, A MEDIUM PRESSURE "FLUSH" WASH WILL BE REQUIRED WHICH WILL MOVE ANY LOOSENED FOREIGN MATERIAL TO THE GUTTER AREA THEN ALONG THE GUTTER TO THE NEAREST BRIDGE DRAIN SCUPPER OR END OF THE BRIDGE. POTABLE WATER SHALL BE USED. REMOVAL OF PAVEMENT MARKINGS SHALL BE AS PER CMS 641.10.

HYDRODEMOLITION EQUIPMENT

THE HYDRODEMOLITION EQUIPMENT SHALL BE A SELF-PROPELLED MACHINE THAT UTILIZES MULTIPLE HIGH PRESSURE WATER JET STREAMS CAPABLE OF CLEANING CONCRETE AND CRACKS. HAND HELD HIGH PRESSURE WANDS SHALL BE USED IN AREAS THAT ARE INACCESSIBLE TO THE SELF-PROPELLED MACHINE.

PRIOR TO THE COMMENCEMENT OF THE CLEANING OPERATION, THE EQUIPMENT SHALL BE CALIBRATED ON AN AREA OF SOUND CONCRETE AS DESIGNATED BY THE ENGINEER.

THE ENGINEER SHALL VERIFY THE FOLLOWING SETTINGS:

1. *WATER PRESSURE GAUGE*
2. *NOZZLE SPEED (TRAVEL)*

DURING THE CALIBRATION, ANY OR ALL OF THE ABOVE SETTINGS MAY BE MODIFIED IN ORDER TO ACHIEVE ADEQUATE CLEANING. WHEN THE DESIRED CLEANING IS ATTAINED, THE SETTINGS SHALL BE RECORDED AND MAINTAINED THROUGHOUT THE CLEANING OPERATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

CALIBRATION SHALL BE REQUIRED ON EACH STRUCTURE, EACH TIME CLEANING IS PERFORMED AND AS REQUIRED TO ACHIEVE THE RESULTS REQUIRED.

THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO PREVENT WATER FROM FLOWING INTO LANES OPEN TO TRAFFIC.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

GENERAL NOTES

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM	GLC	DWL DATE 8-96	SHEET /

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C. METHOD OF MEASUREMENT

PREPARATION OF CONCRETE FOR SEALING SHALL BE MEASURED AS THE ACTUAL DECK AREA IN SQUARE YARDS PREPARED.

D. BASIS OF PAYMENT

ACCEPTED QUANTITIES OF PREPARATION OF CONCRETE FOR SEALING SHALL BE PAID FOR AT THE CONTRACT PRICE UNIT PRICE BID PER SQUARE YARD, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR PREPARING THE CONCRETE SURFACE AND CRACKS INCLUDING REMOVAL OF PAVEMENT MARKINGS AND ALL MATERIALS, EQUIPMENT, TOOLS, LABOR AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

PAYMENT SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
530	SQUARE YARD	STRUCTURE MISC.; PREPARATION OF CONCRETE WEARING SURFACE FOR SEALING, AS PER PLAN

STRUCTURE MISC.; SEALING CONCRETE WEARING SURFACE CRACKS WITH HMWM RESIN, AS PER PLAN

A. DESCRIPTION

THIS ITEM SHALL CONSIST OF THE LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE APPLICATION OF SEALER TO PREPARED CRACKS IN ACCORDANCE WITH THESE SPECIFICATIONS, IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND THE MANUFACTURER'S RECOMMENDATIONS AND AS DIRECTED BY THE ENGINEER.

THIS WORK ITEM SHALL NOT BE PERFORMED DURING THE PERIOD BEGINNING NOVEMBER 1ST AND ENDING MARCH 31ST.

B. MATERIALS

THE MATERIAL USED FOR TREATING THE CRACKS SHALL BE A LOW VISCOSITY, NON-FUMING, HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN CONFORMING TO THE FOLLOWING:

1. VISCOSITY SHALL BE LESS THAN 25 CPS (BROOKFIELD VISCOMETER, MODEL RVT WITH UL ADAPTER OR MODEL LVF, #1 SPINDLE AND UL ADAPTER @ 77 DEGREES FAHRENHEIT) ASTM D 1824)
2. DENSITY SHALL BE GREATER THAN 8.4 LBS/GAL @ 77 DEGREES FAHRENHEIT (ASTM D 2849)
3. FLASH POINT SHALL BE GREATER THAN 200 DEGREES FAHRENHEIT (PENSKY-MARTENS CC) (ASTM D 93)
4. VAPOR PRESSURE SHALL BE LESS THAN 1.0 MM Hg @ 77 DEGREES FAHRENHEIT (ASTM D 323)
5. TG (DSL) SHALL BE GREATER THAN 58 DEGREES C (135 DEGREES FAHRENHEIT) (ASTM D 3418)
6. SHELF LIFE SHALL BE 1 YEAR MINIMUM AT MANUFACTURER'S RECOMMENDED ENVIRONMENTAL CONSIDERATIONS
7. GEL TIME SHALL BE GREATER THAN 40 MINUTES - 100 G MASS (ASTM D 2471) (THIN FILM)
8. PERCENT SOLIDS SHALL BE GREATER THAN 90% BY WEIGHT
9. BOND STRENGTH SHALL BE GREATER THAN 1500 PSI (ASTM 882)

THE RESIN MAY BE OBTAINED FROM ONE OF THE FOLLOWING SUPPLIERS:

3M COMPANY
3M CENTER
ST. PAUL, MN 55144-1000
PHONE: 1-612-733-7119

SIKA CORPORATION
201 POLITO AVENUE
LYNDHURST, NJ 07071
PHONE: 1-201-933-8800

ADHESIVE ENGINEERING COMPANY
CONCRESIVE 2075
1411 INDUSTRIAL ROAD
SAN CARLOS, CA 94070
PHONE: 1-415-592-7900

TRANSPO INDUSTRIES, INC.
20 JONES STREET
NEW ROCHELLE, NY 10801
PHONE: 1-914-636-1000

A COMPATIBLE PROMOTER/INITIATOR SYSTEM CAPABLE OF PROVIDING THE SAME PHYSICAL QUALITIES OF THE HARDENED RESIN AS IF PROMOTED/INITIATED WITH 2% COBALT NAPHTHANATE (6%) AND 2% CUMENE HYDROPEROXIDE SHALL ALSO BE PROVIDED. MATERIALS SHALL BE STORED AT 65-80 DEGREES FAHRENHEIT. THE SYSTEM SHALL PROVIDE A RESIN SET TIME OF NOT LESS THAN 40 MINUTES TO NOT MORE THAN 1-1/2 HOURS AT THE TIME AND TEMPERATURE OF APPLICATION. THE GEL TIME SHALL BE ADJUSTED TO COMPENSATE FOR THE CHANGE IN TEMPERATURE THROUGHOUT THE DAY. THE TEMPERATURE OF THE SURFACES TO BE TREATED MAY RANGE FROM 50 DEGREES FAHRENHEIT TO 100 DEGREES FAHRENHEIT. THE CONTRACTOR SHALL ARRANGE TO HAVE A TECHNICAL REPRESENTATIVE ON SITE TO PROVIDE MIXING PROPORTIONS, EQUIPMENT SUITABILITY, AND SAFETY ADVICE TO THE CONTRACTOR AND ENGINEER. ANY CONFLICT BETWEEN THESE PROVISIONS AND REPRESENTATIVE'S ADVICE SHALL BE RESOLVED AT THE JOB SITE. THE TECHNICAL REPRESENTATIVE SHALL REMAIN AT THE JOB SITE UNTIL SUCH TIME AS HE AND THE ENGINEER AGREE THAT THE CONTRACTOR IS QUALIFIED IN ALL ASPECTS OF THE APPLICATION OF THE SEALER.

THE PROMOTER AND INITIATOR, IF SUPPLIED SEPARATE FROM THE RESIN, SHALL NOT CONTACT EACH OTHER DIRECTLY. CONTAINERS OF PROMOTERS OR INITIATORS SHALL NOT BE STORED TOGETHER IN A MANNER THAT WILL ALLOW LEAKAGE OR SPILLAGE FROM ONE TO CONTACT THE CONTAINERS OR MATERIAL OF THE OTHER.

BEFORE USING THE MATERIAL THE CONTRACTOR SHALL SUBMIT TO ODOT'S BUREAU OF TESTING COPIES OF THE MANUFACTURER'S CERTIFIED TEST DATA SHOWING THAT THE MATERIAL COMPLIES WITH THE QUALITATIVE AND QUANTITATIVE REQUIREMENTS OF THE SPECIFICATION. THE TEST DATA SHALL BE DEVELOPED BY AN INDEPENDENT APPROVED TESTING LABORATORY, AND SHALL INCLUDE THE BRAND NAME OF THE MATERIAL, NAME OF MANUFACTURER, NUMBER OF THE LOT TESTED AND DATE OF MANUFACTURE. WHEN THE MATERIAL HAS BEEN APPROVED BY THE DIRECTOR, FURTHER TESTING BY THE MANUFACTURER WILL NOT BE REQUIRED UNLESS THE FORMULATION OF MANUFACTURING PROCESS HAS BEEN CHANGED, IN WHICH CASE NEW CERTIFIED TEST RESULTS WILL BE REQUIRED. THE MANUFACTURER SHALL CERTIFY THAT THE FORMULATION IS THE SAME AS THAT FOR WHICH DATA HAS BEEN SUBMITTED. THE STATE RESERVES THE RIGHT TO SAMPLE AND TEST DELIVERED LOTS FOR COMPLIANCE.

C. SURFACE PREPARATION

PREPARATION SHALL BE PAID FOR AND PERFORMED AS SPECIFIED UNDER NOTE "PREPARATION OF CONCRETE FOR SEALING." APPLICATION OF CRACK SEALER SHALL NOT TAKE PLACE UNTIL PREPARATION HAS BEEN COMPLETED.

D. APPLICATION

CRACK SEALER SHALL BE APPLIED PRIOR TO ANY CONCRETE SURFACE SEALER. APPLICATION OF THE CRACK SEALER MATERIAL SHALL BE IN STRICT ACCORDANCE WITH THE SUPPLIER'S CURRENT PUBLISHED INSTRUCTIONS AND/OR SPECIFIC INSTRUCTIONS OF THE MANUFACTURER'S TECHNICAL REPRESENTATIVE AND AS FOLLOWS. THE CRACK AREA TO BE TREATED SHALL REMAIN DRY FOR A MINIMUM OF 8 HOURS AND ABOVE 50 DEGREES FAHRENHEIT PRIOR TO APPLICATION. CRACKS GREATER THAN 1/250TH OF AN INCH IDENTIFIED BY THE ENGINEER SHALL BE DIRECTLY SEALED WITH HMWM RESIN APPLIED WITH PLASTIC SQUEEZE BOTTLES, CAULKING OR OTHER EQUIPMENT CAPABLE OF DELIVERING A NARROW RESIN STREAM AND APPROVED BY THE ENGINEER. ADDITIONAL APPLICATION OF MATERIAL TO THE CRACK AREA CAN BE ANTICIPATED IF THE INITIAL APPLICATION DISSIPATES FULLY INTO THE CRACK. IF THE SURFACE CONTAINS LARGE DEEP CRACKS, THE LOW-VISCOSITY LIQUID COULD RUN COMPLETELY THROUGH THE DECK OR OVERLAY. IN THESE AREAS, A SECOND COAT WILL BE REQUIRED AFTER THE FIRST COAT HAS STARTED TO CURE.

THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO PREVENT ANY RESIN FROM FLOWING INTO LANES OPEN TO TRAFFIC.

CLEANING AND FLUSHING OF EQUIPMENT, TOOLS, ETC. SHALL BE DONE WITH AN APPROPRIATE SOLVENT, AS APPROVED BY THE ENGINEER, IN SUCH A MANNER TO MINIMIZE PERSONAL AND ENVIRONMENTAL HAZARDS. WORKMEN SHOULD BE ADVISED THE RESIN WILL SOFTEN GUM RUBBER SOLES, AND A FACE-MASK SHOULD BE USED TO PROTECT FROM ACCIDENTAL SPLASHES. CLOTHING AND LEATHER SATURATED WITH RESIN WILL HARDEN AND BECOME USELESS.

A TECHNICAL REPRESENTATIVE OF THE MANUFACTURER OR SUPPLIER MUST BE PRESENT ON SITE PRIOR TO STARTING APPLICATION.

E. RESTRICTIONS

TRAFFIC AND EQUIPMENT SHALL NOT BE PERMITTED ON THE SEALED CRACKS UNTIL THE HMWM RESIN IS TACK FREE AND A MINIMUM OF 6 HOURS HAVE ELAPSED SINCE APPLICATION. THE RESIN SHALL BE PROTECTED FROM MOISTURE FOR NOT LESS THAN 4 HOURS AFTER PLACEMENT.

F. METHOD OF MEASUREMENT

SEALING CONCRETE CRACKS WITH HMWM RESIN SHALL BE MEASURED AS THE ACTUAL LENGTH IN LINEAR FEET OF CRACK SEALED.

G. BASIS OF PAYMENT

ACCEPTED QUANTITIES OF SEALING CONCRETE CRACKS WITH HMWM RESIN SHALL BE PAID FOR AT THE UNIT PRICE BID PER LINEAR FOOT WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, APPLICATION OF THE RESIN, PROVIDING MANUFACTURER'S TECHNICAL REPRESENTATIVE, PROTECTION OF WATERWAYS AND TRAFFIC BELOW BRIDGE, CLEAN UP AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

PAYMENT SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
530	LINEAR FEET	STRUCTUE MISC.; SEALING CONCRETE WEARING SURFACE CRACKS WITH HMWM RESIN, AS PER PLAN

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

GENERAL NOTES

INNERBELT FREEWAY

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STRUCTURE MISC.; SEALING CONCRETE WEARING SURFACES (NON-EPOXY), AS PER PLAN

A. DESCRIPTION

THIS ITEM SHALL CONSIST OF THE LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE APPLICATION OF PENETRATING CONCRETE SEALER TO A PREPARED SURFACE IN ACCORDANCE WITH THESE SPECIFICATIONS, IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND THE MANUFACTURER'S RECOMMENDATIONS AND AS DIRECTED BY THE ENGINEER.

THIS WORK ITEM SHALL NOT BE PERFORMED DURING THE PERIOD BEGINNING NOVEMBER 1ST AND ENDING MARCH 31ST.

B. MATERIALS

ONLY A NON-EPOXY CONCRETE SEALER SHALL BE USED. THE SELECTED SEALER SHALL BE ONE THAT IS IN ODOT'S APPROVED LIST WHICH IS MAINTAINED IN THE BUREAU OF TESTING AT 1600 WEST BROAD STREET IN COLUMBUS, OHIO.

THE SEALING SYSTEM SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

1. ABSORPTION - THE ABSORPTION OF TREATED CONCRETE UNDER TOTAL IMMERSION SHALL NOT EXCEED 1.0% AFTER 48 HOURS OR 2.0% AFTER 50 DAYS (ASTM C642, NON-AIR ENTRAINED CONCRETE). CONCRETE SHOULD BE PROPORTIONED AND MIXED IN ACCORDANCE WITH ASTM C672.

2. SCALING RESISTANCE - TREATED CONCRETE SHALL PASS ASTM C672, SCALING RESISTANCE TEST WITH A RATING OF "NO-SCALING" AFTER 100 CYCLES (NON-AIR ENTRAINED CONCRETE) AS COMPARED TO "SEVERE SCALING" ON UNTREATED CONCRETE.

3. NCHRP 244, SERIES II - CUBE TEST
   3.1 WEIGHT GAIN - NOT TO EXCEED 25% OF UNTREATED CUBE
   3.2 ABSORBED CHLORIDE - NOT TO EXCEED 25% OF UNTREATED CUBE

4. NCHRP 244, SERIES IV - SOUTHERN EXPOSURE 4.1 ABSORBED CHLORIDE - NOT TO EXCEED 10% OF UNTREATED CONCRETE

5. SKID RESISTANCE - CERTIFICATION IS TO BE PROVIDED INDICATING NO PERMANENT REDUCTION IN SKID RESISTANCE.

6. CONCRETE SEALING AFTER ABRASION - COMPLIANCE IS REQUIRED WITH ALBERTA TRANSPORTATION AND UTILITIES SPECIFICATION B 388-90 FOR SEALER TYPE 1B.

7. CONCRETE SEALING MATERIAL IS TO BE OF LOW VOLATILE ORGANIC CONTENT THAT WILL BE LESS THAN 2.9 LBS. PER GALLON USING E.P.A. TEST METHOD 24.

PREQUALIFICATION OF MATERIAL REQUIRES THAT THE MANUFACTURER PROVIDE THE TEST DATA FROM AN APPROVED INDEPENDENT TESTING FACILITY, A ONE-QUART SAMPLE AND THE MSDS TO ODOT'S BUREAU OF TESTING. DRUMS OR CONTAINERS OF THE SEALER OR SEALER COMPONENTS SHALL BE DELIVERED TO THE JOB SITE UNOPENED AND WITH THE MANUFACTURER'S NUMBERED SEAL INTACT.

C. SURFACE PREPARATION

PREPARATION SHALL BE PAID FOR AND PERFORMED AS SPECIFIED UNDER NOTE "PREPARATION OF CONCRETE FOR SEALING." APPLICATION OF SEALER SHALL NOT TAKE PLACE UNTIL PREPARATION HAS BEEN COMPLETED.

D. APPLICATION

THE NON-EPOXY CONCRETE SEALER SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDED MODE OF APPLICATION AND UNDER THE OBSERVATION OF THE ENGINEER. WHEN SPRAY EQUIPMENT IS USED, THE SEALER SHALL BE SPRAYED ONTO CONCRETE SURFACES IN A ONE-PASS OPERATION.

1. DO NOT PROCEED WITH APPLICATION OF THE SEALER IF THE AMBIENT TEMPERATURE IS BELOW 50 DEGREES TEMPERATURE OR WHEN THE AMBIENT TEMPERATURE IS EXPECTED TO FALL BELOW 32 DEGREES FAHRENHEIT WITHIN 12 HOURS AFTER APPLICATION.

2. DO NOT PROCEED WITH APPLICATION OF THE SEALER IF RAIN IS ANTICIPATED WITHIN 2 HOURS AFTER APPLICATION.

3. THE SEALER SHALL BE UNIFORMLY SPRAYED TO SATURATE/FLOOD THE SURFACE. THEN SHALL BE BROOMED IN TO BREAK THE SURFACE TENSION OF THE SEALER AND PROVIDE EVEN DISTRIBUTION.

   IF THE APPLICATOR IS UNABLE TO COMPLETE THE ENTIRE APPLICATION CONTINUOUSLY, THE LOCATION WHERE THE APPLICATION WAS STOPPED SHALL BE NOTED OR CLEARLY MARKED.

4. A TEST APPLICATION SHALL BE PERFORMED PRIOR TO FINAL APPLICATION. THE CONTRACTOR SHALL APPLY SEALER TO MEASURED TEST COVERAGE AREAS OF THE WEARING SURFACE TO DEMONSTRATE THE VISUAL ILLUSTRATION OF THE ABSORPTION NECESSARY TO ACHIEVE THE SPECIFIED COVERAGE RATE. THE APPLICATOR SHALL USE AT LEAST * GALLON OF SEALER AND FOLLOW THE MANUFACTURER'S RECOMMENDED METHOD OF APPLICATION FOR THE TOTAL OF THE TEST SURFACES.

5. COVERAGE SHALL BE A MINIMUM OF ONE GALLON OF NON-EPOXY SEALER APPLIED FOR EACH 100 SQUARE FEET OF WEARING SURFACE.

6. APPEARANCE OF THE SEALER SHALL BE UNIFORM.

7. PRECAUTIONS SHALL BE FOLLOWED AS INDICATED ON THE MANUFACTURER'S MSDS.

8. WHEN APPLYING A SEALER, THE CONTRACTOR SHALL PROTECT BY MASKING OFF OR BY OTHER MEANS ADJOINING SURFACES OF THE STRUCTURE WHICH ARE NOT TO BE SEALED. THE CONTRACTOR SHALL ALSO MAKE PROVISION TO PROTECT THE PUBLIC WHEN APPLYING SEALER.

   ASPHALT AND MASTIC TYPE SURFACES SHALL BE PROTECTED FROM SPILLAGE AND HEAVY OVER SPRAY. THE SEALERS SHALL NOT COME IN CONTACT WITH JOINT SEALANTS WHICH HAVE NOT BEEN ALLOWED TO CURE ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. JOINT SEALANTS, TRAFFIC PAINTS AND ASPHALT OVERLAYS MAY BE APPLIED TO THE TREATED SURFACES 48 HOURS AFTER THE SEALER HAS BEEN APPLIED. WHEN A SILOXANE SEALER IS APPLIED, THE ADJOINING AND NEARBY SURFACES OF STEEL, ALUMINUM OR GLASS SHALL BE COVERED WHERE THERE IS A POSSIBILITY OF SEALER BEING DEPOSITED ON THE SURFACES.

9. PROTECT PLANTS AND VEGETATION FROM OVER SPRAY BY COVERING WITH DROP CLOTHS.

10. APPLICATION EQUIPMENT SHALL BE AS RECOMMENDED BY THE SEALER MANUFACTURER. THE SPRAY EQUIPMENT, TANKS, HOSES, BROOMS, ROLLERS, COATERS, SQUEEGEES, ETC., SHALL BE THOROUGHLY CLEAN, FREE OF FOREIGN MATTER, OIL RESIDUE AND WATER PRIOR TO APPLYING THE CONCRETE SEALER.

11. MIXING SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDED PROCEDURES. MATERIAL SHALL BE MIXED TO A UNIFORM CONSISTENCY WHICH SHALL BE MAINTAINED DURING APPLICATION.

12. SEALER COMPONENTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS IN A DRY LOCATION AND AS RECOMMENDED BY THE MANUFACTURER.

E. RESTRICTIONS

TRAFFIC AND EQUIPMENT SHALL NOT BE PERMITTED ON THE SEALED SURFACE UNTIL IT IS TACK FREE AND A MINIMUM OF 6 HOURS HAVE ELAPSED SINCE TREATMENT. THE TREATMENT SHALL BE PROTECTED FROM MOISTURE FOR NOT LESS THAN 4 HOURS AFTER PLACEMENT.

F. METHOD OF MEASUREMENT

SEALING OF CONCRETE WEARING SURFACES (NON-EPOXY)SHALL BE MEASURED AS THE ACTUAL WEARING SURFACE AREA IN SQUARE YARDS SEALED.

G. BASIS OF PAYMENT

APPLICATION OF SEALING OF CONCRETE WEARING SURFACES (NON-EPOXY) SHALL BE PAID FOR AT THE CONTRACT PRICE UNIT PRICE BID PER SQUARE YARD, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, APPLICATION OF THE CONCRETE SEALER, PROVIDING MANUFACTURER'S TECHNICAL REPRESENTATIVE, PROTECTION OF WATERWAYS AND TRAFFIC UNDER BRIDGE, CLEAN UP AND FOR ALL EQUIPMENT, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

PAYMENT SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
530	SQUARE YARD	STRUCTURE MISC.; SEALING CONCRETE WEARING SURFACE (NON-EPOXY), AS PER PLAN

ITEM 518 - STRUCTURE DRAINAGE MISC.; CLEANING BRIDGE DRAINAGE SYSTEM, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING ALL DIRT AND DEBRIS FROM ALL BRIDGE SEATS AND BRIDGE DRAINAGE SYSTEM TO BE REUSED INCLUDING THE UNDERGROUND STORM SEWER TO THE ADJACENT MANHOLE. AFTER THE DIRT AND DEBRIS ARE REMOVED THE SYSTEM SHALL BE FLUSHED WITH CLEAN WATER MAKING CERTAIN THE WATER FLOWS SMOOTHLY. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT PRIOR TO BEGINNING OF WORK FOR THE PURPOSE OF EXAMINING THE SALVAGED BRIDGE DRAINING SYSTEM. THE CONTRACTOR'S SUPERINTENDENT SHALL ACCOMPANY THE ENGINEER AT THIS TIME IN MAKING THE DETAILED EXAMINATION. MISSING CLEANOUT PLUG PIPES SHALL BE REPLACED.

THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO COMPLETE THE INSPECTION AND CLEANOUT OF THE BRIDGE DRAINAGE SYSTEM.

PAYMENT SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
518	LUMP	STRUCTURE DRAINAGE MISC.; CLEANING BRIDGE DRAINAGE SYSTEM, AS PER PLAN

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

GENERAL NOTES

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
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CUYAHOGA COUNTY OHIO

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MJM	MJM	GLC	DWL DATE 8-96	SHEET

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ITEM SPECIAL - LOW PRESSURE EPOXY INJECTING DELAMINATED CONCRETE

THIS WORK SHALL CONSIST OF LOW-PRESSURE EPOXY INJECTION OF DELAMINATED CONCRETE OF BRIDGE DECKS IN ACCORDANCE WITH THESE SPECIFICATIONS. IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND MANUFACTURER'S RECOMMENDATIONS AS DIRECTED BY THE ENGINEER. ALL REMOVAL OPERATIONS ON THE DECK MUST BE COMPLETE BEFORE THE BOTTOM CAN BE INJECTED.

THE INJECTION RESIN SHALL BE THERMAL-CHEM INJECTION RESIN PRODUCT NO. 2, POLY-CARB MARK-10 INJECTION RESIN, DURAL CRETE LV OR SIKADUR 52 INJECTION RESIN. BONDER SHALL BE THERMAL-CHEM BONDER PRODUCT NO. 4, POLY-CARB MARK 8 NON SAG EPOXY BONDER, DURAL CRETE GEL OR SIKADUR HI-MOD GEL (SIKASTIX 31). ALL MATERIALS SHALL BE STORED AND INCORPORATED IN THE WORK AS RECOMMENDED BY THE MANUFACTURER. A MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT AT JOB SITE UNTIL SUCH TIME AS HE AND THE ENGINEER ARE SATISFIED THAT THE CONTRACTOR IS QUALIFIED IN ALL ASPECTS OF EPOXY PRESSURE COATING.

PORTS SHALL BE INSTALLED IN CLEAN HOLES VACUUM-DRILLED TO PREVENT FINES FROM BEING IMPACTED INTO THE CRACK. THE HOLES SHALL BE 6 INCHES DEEP FOR TOP SURFACE INJECTION AND 3 INCHES FOR BOTTOM SURFACE INJECTION SO THAT THE EPOXY WILL PENETRATE THE HOLLOW PLANE. THE FIRST PORT SHALL BE LOCATED NEAR THE EDGE OF THE OUTLINED UNSOUND AREA. ADDITIONAL PORTS SHALL BE PLACED AT DISTANCES SLIGHTLY GREATER THAN THE DISTANCE FROM THE FIRST PORT TO THE VOID EDGE. PORT PLACEMENT MUST ENSURE THAT THE GROUT FACE REACHES THE EDGE OF THE VOID BEFORE REACHING THE NEXT PORT. PORTS AND VISIBLE CRACKS SHALL BE SEALED WITH BONDER TO PREVENT EMISSION OF INJECTION RESIN. THE BONDER SHALL CURE 24 HOURS PRIOR TO INJECTION OF EPOXY RESIN.

THE RESIN SHALL BE INJECTED ONLY WHEN THE DECK IS DRY AND ITS TEMPERATURE IS ABOVE 50 DEGREES F. THE INJECTION RESIN SHALL BE AT 70 DEGREES F PRIOR TO MIXING COMPONENTS. THE EPOXY INJECTION EQUIPMENT SHALL BE CAPABLE OF INJECTING THE MATERIAL INTO THE PORTS AT LOW PRESSURE OF 14 TO 20 PSI. THE INJECTION EQUIPMENT SHALL BE CAPABLE OF METERING, MIXING, INJECTING AND MEASURING THE FLOW OF THE EPOXY RESIN ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

THE INJECTION SHALL COMMENCE AT THE EDGE OF THE DELAMINATION AND CONTINUE UNTIL THE EPOXY RESIN APPEARS AT THE NEXT PORT. MOST INCOMPLETELY FILLED VOIDS ARE CAUSED BY THE OPERATOR STOPPING THE INJECTION PROCESS PREMATURELY; THEREFORE, A STEADY, LOW PRESSURE SHALL BE MAINTAINED ON THE EPOXY UNTIL A STEADY CLEAR FLOW APPEARS AT THE NEXT PORT. THEN THE NOZZLE IS REMOVED, THE PORT CLOSED AND THE INJECTION CONTINUED FROM PORT TO PORT UNTIL THE VOID IS COMPLETELY FILLED. SINCE THE GROUT IS MOVING UNDER VISCOUS FLOW CONDITIONS WHICH ARE GOVERNED BY FLUID SURFACE FRICTION, THE INJECTION PROCESS IS SLOW. REGARDLESS, INJECTION PRESSURE SHALL BE 20 PSI MAXIMUM SO THAT COVER CONCRETE IS NOT BLOWN OFF. PROGRESS OF THE EPOXY SHALL BE CHECKED WITH A TAPPING HAMMER.

THE OUTLINED INJECTED VOIDS SHALL BE SOUNDED WITH A HAMMER BY THE ENGINEER. ANY REMAINING UNSOUND AREAS SHALL BE PORTED AND RE-INJECTED AT NO ADDITIONAL COST TO THE STATE. ALL PORTS SHALL BE CUT OFF FLUSH WITH THE SURFACE. ALL EQUIPMENT, LABOR AND MATERIALS REQUIRED BY THE ENGINEER TO ACCOMPLISH THIS WORK SHALL BE SUPPLIED BY THE CONTRACTOR.

THIS SPECIFICATION LIMITS THE INJECTING PRESSURE TO 20 PSI MAX. TO PREVENT BLOWING THE DELAMINATION OFF THE DECK. IF THE CONTRACTOR PREFERS TO UTILIZE A HIGHER PRESSURE INJECTION PROCESS INSTEAD OF THE LOW PRESSURE HEREIN REQUIRED, HE SHALL SUBMIT HIS PROPOSED METHOD OF PREVENTING BLOW OFF OF THE SURFACE TO THE DIRECTOR FOR APPROVAL. NO HIGH PRESSURE INJECTION WILL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE DIRECTOR.

NO VEHICULAR TRAFFIC INCLUDING CONSTRUCTION TRAFFIC WILL BE PERMITTED ON A BRIDGE DECK WHICH HAS RECEIVED TOP SURFACE INJECTION UNTIL THE EPOXY HAS CURED SUFFICIENTLY TO DEVELOP DESIGN STRENGTH. TIME REQUIRED TO CURE WILL DEPEND ON THE EPOXY FORMULATION AND WILL BE DETERMINED BY THE MANUFACTURER. A MINIMUM OF 24 HOURS IS REQUIRED. THIS INFORMATION WILL BE PROVIDED TO THE ENGINEER.

METHOD OF MEASUREMENT: THE FOOTAGE UNDER THIS ITEM SHALL BE THE NUMBER OF SQUARE FEET OF DELAMINATED DECK CONCRETE THAT ARE SATISFACTORILY INJECTED AND ACCEPTED.

BASIS OF PAYMENT: THE CONTRACT UNIT PRICE BID SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND PLACING ALL MATERIALS, SOUNDING THE INJECTED AREAS, SUPPLYING THE MANUFACTURER'S REPRESENTATIVE AND ALL OTHER MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK IN ACCORDANCE WITH THIS SPECIFICATION. PAYMENT WILL BE MADE AT CONTRACT PRICES FOR:

THE FOLLOWING QUANTITIES FOR THIS ITEM ARE INCLUDED IN THE WORK:

LOCATION	ESTIMATED QUANTITY
DECK UNDERSIDE:	
CUY-90-1524	24960 S.F.
CUY-90-1540	14040 S.F.
UNDERSIDE TOTAL =	39000 S.F.
DECK TOPSIDE:	
CUY-90-1524	2400 S.F.
CUY-90-1540	2400 S.F.
CUY-90-1547	4000 S.F.
TOPSIDE TOTAL =	8800 S.F.

ITEM	UNIT	DESCRIPTION
SPECIAL	SQUARE FOOT	LOW PRESSURE EPOXY INJECTING DELAMINATED CONCRETE - BRIDGE DECK TOP SURFACE
SPECIAL	SQUARE FOOT	LOW PRESSURE EPOXY INJECTING DELAMINATED CONCRETE - BRIDGE DECK BOTTOM SURFACE

ITEM 519 - PATCHING CONCRETE STRUCTURE MISC.;WITH TROWELABLE MORTAR, AS PER PLAN

A. DESCRIPTION: THIS ITEM CONSISTS OF THE REMOVAL OF ALL LOOSE AND DISINTEGRATED CONCRETE, PREPARATION OF THE SURFACE, AND THE MIXING, PLACING, FINISHING AND CURING OF THE PATCHES IN THE AREAS SHOWN OR NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE WORK SHALL BE PERFORMED UPON CONCRETE COMPONENTS IN ACCORDANCE WITH THESE SPECIFICATIONS, AND IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

B. MATERIALS: ALL MATERIALS SHALL BE PREPACKAGED AND STORED AND INCORPORATED IN THE WORK AS RECOMMENDED BY THE MANUFACTURER. A MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT AT THE JOB SITE UNTIL SUCH A TIME AS HE AND THE ENGINEER ARE SURE THAT THE CONTRACTOR IS QUALIFIED IN ALL ASPECTS OF PATCHING CONCRETE STRUCTURES WITH THE SELECTED MATERIAL.

TROWELABLE MORTAR WILL MEET THE FOLLOWING TEST REQUIREMENTS:
COMPRESSIVE STRENGTH(ASTM C-109, 3 INCH CUBES)
1 DAY.....1800 psi
7 DAY.....5500 psi
28 DAY.....7000 psi

TENSILE STRENGTH(ASTM C-496)
7 DAY.....550 psi
28 DAY.....750 psi

FLEXURAL STRENGTH(ASTM C-78)
7 DAY.....1100 psi
28 DAY.....1500 psi

BOND STRENGTH(ASTM C882 MODIFIED)*
28 DAY.....1500 psi
**MORTAR SCRUBBED INTO SUBSTRATE*

CHLORIDE ION PERMEABILITY(AASHTO T-277).....500 COULOMBS OR LESS

MODULUS OF ELASTICITY(ASTM C469@28 DAYS)3,500,000 - 4,000,000 psi

THE TROWEABLE MORTAR MATERIAL PROPOSED FOR USE SHALL BE PREQUALIFIED. PRIOR TO APPROVAL, COPIES OF THE MANUFACTURER'S CERTIFIED TEST DATA SHOWING THAT THE MATERIAL COMPLIES WITH THE PERFORMANCE REQUIREMENTS OF THIS SPECIFICATION SHALL BE SUBMITTED TO THE ENGINEER OF TESTS, 160 W. BROAD ST., COLUMBUS, OHIO 44223. THE CERTIFIED TEST DATA SHALL ALSO STATE THE FOLLOWING PHYSICAL PROPERTIES FOR THE TROWEABLE MORTAR:

1. *COLOR*
2. *MATERIAL COMPONENTS AND PROPORTIONS*
3. *SHELF LIFE*
4. *YIELD*
5. *WORKING TIME*
6. *FINAL CURE TIME*
7. *POT LIFE*
8. *CONSISTENCY*

THE TEST DATA SHALL BE DEVELOPED BY AN INDEPENDENT TESTING LABORATORY APPROVED BY THE DIRECTOR AND SHALL INCLUDE THE BRAND NAME OF MANUFACTURER, NUMBER OF LOTS TESTED, AND DATE OF MANUFACTURE.

THE FOLLOWING ITEMS SHALL ALSO BE SUBMITTED TO THE DIRECTOR PRIOR TO APPROVAL:

1. *MANUFACTURER'S TECHNICAL DATA SHEET FOR EACH COMPONENT.*
2. *MATERIAL SAFETY DATA SHEET FOR EACH COMPONENT.*
3. *ENOUGH COMPONENTS TO PRODUCE A QUART SAMPLE OF TROWEABLE MORTAR*
4. *A ONE QUART SAMPLE OF THE SOLVENT TO BE USED FOR CLEANUP.*

WHEN THE TROWEALBLE MORTAR MATERIAL HAS BEEN APPROVED BY THE DIRECTOR, FURTHER PERFORMANCE TESTING BY THE MANUFACTURER WILL NOT BE REQUIRED UNLESS THE FORMULATION OR MANUFACTURING PROCESS HAS BEEN CHANGED, IN WHICH CASE NEW CERTIFIED TEST RESULTS WILL BE REQUIRED. ACCEPTANCE VARIANCES SHALL BE ESTABLISHED BY THE ODOT LABORATORY.

THE CONTRACTOR SHALL FURNISH THE ENGINEER A COPY OF THE MANUFACTURER'S COMPREHENSIVE JOB SPECIFIC PREPARATION, MIXING AND APPLICATION INSTRUCTIONS. ANY SIGNIFICANT CHANGES TO THESE INSTRUCTIONS WHICH ARE RECOMMENDED BY THE REPRESENTATIVE FOR AN UNANTICIPATED SITUATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE ADOPTION OF SUCH CHANGES.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

GENERAL NOTES

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

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C. REMOVAL OF CONCRETE: THE ENGINEER SHALL SOUND THE STRUCTURE AND OUTLINE THE AREAS TO BE REMOVED. ALL LOOSE, SOFT, HONEY-COMBED, DISINTEGRATED CONCRETE, AND ONE-FORTH (1/4) INCH DEPTH OF SOUND CONCRETE SHALL BE REMOVED. WHERE THE BOND BETWEEN THE CONCRETE AND A REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE-HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM ONE-HALF OF AN INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICAL. AFTER COMPLETION OF THE SECONDARY REMOVAL OPERATION, THE ENGINEER WILL RESOUND THE AREAS TO ENSURE THAT ONLY SOUND CONCRETE REMAINS. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT DAMAGE OR SHATTER THE CONCRETE THAT IS TO REMAIN, AND WILL NOT CUT, ELONGATE OR DAMAGE THE REINFORCING STEEL IN ANY WAY. CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 35-POUND CLASS. WHERE EXISTING REINFORCING BARS WOULD BE LESS THAN ONE INCH FROM THE PROPOSED FINISHED SURFACE OF CONCRETE, THEY SHALL, IF PRACTICAL, BE DRIVEN BACK INTO RECESSES CUT IN THE MASONRY TO OBTAIN THAT COVERAGE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

D. SURFACE PREPARATION: CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL BY NOT MORE THAN 24 HOURS. THE SURFACE TO BE PATCHED SHALL BE CLEANED BY ABRASIVE BLASTING FOLLOWED BY AN AIR BLAST OR BY ULTRA-HIGH PRESSURE WATER BLASTING. BLASTING ABRASIVES CONTAINING MORE THAN 1% FREE SILICA WILL NOT BE ALLOWED. STEEL SURFACES SHALL BE CLEANED TO THE NEAR-WHITE (Sa 2 1/2 /SSPC-SP10) PREPARATION GRADE. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL OR ANCHOR BOLTS. THE SURFACE SHALL BE FREE OF SPALLS, LAITANCE AND ALL TRACES OF FOREIGN MATERIAL. IF NECESSARY, DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING TO ENSURE THE REMOVAL OF CONTAINMENTS THAT ARE DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND. ULTRA-HIGH HYDRO-DEMOLITION OF 20,000 PSI OR MORE IS AN ACCEPTABLE METHOD OF TOTAL SURFACE PREPARATION. ANY ADDITIONAL SURFACE PREPARATION SHALL BE IN ACCCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE PATCHING MATERIAL WHICH IS USED. ALL UNCHIPPED SURFACES THAT WILL RECEIVE NEW MATERIAL SHALL BE MECHANICALLY ROUGHENED.

E. PATCHING: THE MIXING, PROPORTIONING, PLACING AND CURING PROCEDURES, AS WELL AS, TOOLS, EQUIPMENT, LABOR AND MATERIALS USED SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. THE FINISHED SURFACE OF THE REPAIR AREA SHALL BE FLUSH WITH THE SURROUNDING AREA AND CONFORM TO THE ORIGINAL CONCRETE SURFACE.

F. CURING: PATCHES SHALL BE CURED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWED BY A 60 DAY MINIMUM AIR CURE PRIOR TO SEALING.

G. INSPECTION AND SOUNDING OF CONCRETE PATCHES: AFTER CURING AND BEFORE FINAL ACCEPTANCE, ALL PATCHES SHALL BE SOUNDED. ALL UNSOUND OR CRACKED PATCH AREAS SHALL BE REMOVED AND REPATCHED ACCORDING TO THIS NOTE. ALL SOUNDING AND REPLACEMENT OF REJECTED AREAS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM. SOUNDING AND REPATCHING SHALL CONTINUE UNTIL ONLY SOUND, UNCRACKED PATCHES REMAIN.

H. METHOD OF MEASUREMENT: THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE FEET OF THE EXPOSED SURFACE OF ALL ACCEPTED PATCHES, IRRESPECTIVE OF DEPTH OR THICKNESS OF THE PATCH. IF THE PATCH INCLUDES CORNERS OR EDGES OF MEMBERS ALL OF THE EXPOSED SURFACES SHALL BE INCLUDED. THE COST OF ALL LABOR, EQUIPMENT, INCIDENTALS AND MATERIALS FOR SOUNDING AND PATCHING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

I. BASIS OF PAYMENT: PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM	*UNIT*	*DESCRIPTION*
519	*SQ. FT.*	*PATCHING OF CONCRETE STRUCTURE MISC.; WITH TROWELABLE MORTAR, AS PER PLAN*

ITEM SPECIAL - PATCHING CONCRETE BRIDGE DECK OVERLAYS WITH QSC

A. DESCRIPTION. THIS ITEM SHALL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO REPAIR CONCRETE BRIDGE DECK OVERLAYS AND BACKWALL TOPS, INCLUDING THE REMOVAL OF LOOSE AND UNSOUND CONCRETE AND BITUMINOUS PATCHES, THE SURFACE PREPARATION AND THE MIXING, PLACING, FINISHING, CURING, COMPRESSIVE STRENGTH TESTING, AND SEALING OF ALL THE PATCHES,AS DESIGNATED IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

B. REMOVAL OF UNSOUND CONCRETE. THE ENGINEER SHALL SOUND THE WEARING SURFACE AND BACKWALL TOPS AND OUTLINE THE AREAS TO BE REMOVED. SOUNDING MAY HAVE TO BE DELAYED UNTIL THE DECK IS SUFFICIENTLY DRY TO PERMIT DETECTION OF ALL AREAS OF DELAMINATION. THE PERIMETER OF ALL REMOVAL AREAS SHALL BE SAWED TO A DEPTH OF 2" TO PRODUCE A VERTICAL OR SLIGHTLY UNDERCUT FACE. ADDITIONAL SAW CUTS MAY BE REQUIRED TO FACILITATE REMOVAL. SAW CUTS SHALL NOT EXTEND BEYOND THE LIMITS OF THE PATCH. COOLING WATER FROM WET SAWING AND DUST FROM DRY SAWING SHALL NOT BE ALLOWED TO CONTAMINATE THE EXPOSED PATCH HOLES. ALL PATCHES OTHER THAN SOUND CONCRETE AND ALL OBVIOUSLY LOOSE AND DISINTEGRATED CONCRETE SHALL BE REMOVED. THE UNSOUND CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 35-POUND CLASS AND SHALL BE OPERATED AT AN ANGLE OF LESS THAN 45 DEGREES MEASURED FROM THE SURFACE OF THE DECK. CONCRETE SHALL BE REMOVED IN A MANNER THAT PREVENTS CUTTING, ELONGATING OR DAMAGING REINFORCING STEEL. WHERE THE BOND BETWEEN THE CONCRETE AND A PRIMARY REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A THREE-QUARTER INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICABLE. REINFORCEMENT WHICH HAS BECOME LOOSE SHALL BE ADEQUATELY SUPPORTED AND TIED BACK INTO PLACE. THE AVERAGE PATCH DEPTH IS APPROXIMATELY FIVE INCHES. NO ADJUSTMENT OF COST SHALL BE MADE IF DEPTH VARIES FROM THIS FIVE INCHES. MINIMUM DEPTH OF PATCH IS ONE-INCH.

C. SURFACE PREPARATION. CLEANING SHALL CLOSELY PRECEDE APPLICATION OF THE PATCHING MATERIAL. THE SURFACE TO BE PATCHED AND THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED WITHIN 24 HOURS PRIOR TO PATCHING BY ABRASIVE BLASTING FOLLOWED BY AN AIR BLAST. BLASTING ABRASIVES CONTAINING MORE THAN 1% FREE SILICA SHALL NOT BE ALLOWED. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL.

CONTAMINATION OF THE AREA TO BE PATCHED BY CONSTRUCTION EQUIPMENT OR FROM ANY OTHER SOURCE SHALL BE PREVENTED BY PLACEMENT OF A CLEAN 4-MIL POLYETHYLENE SHEET (OR ANY OTHER COVERING AS APPROVED BY THE ENGINEER) ON THE SURFACE OF THE DECK FOLLOWING THE AIR BLAST CLEANING.

WHERE REINFORCING STEEL IS EXPOSED, THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORTS FOR THE CONCRETE MIXER SO THAT REINFORCING STEEL AND ITS BOND WITH THE CONCRETE WILL NOT BE DAMAGED BY THE WEIGHT AND MOVEMENT OF THE CONCRETE MIXER, OR SHALL PROVIDE MEANS TO CONVEY CONCRETE FROM THE MIXER TO THE PATCH LOCATIONS.

FOR PATCHES WHICH DO NOT USE WATER AS THE ACTIVATOR, THE PREPARED SURFACE SHALL BE SURFACE DRY. FOR PATCHES WHICH REQUIRE WATER AS THE ACTIVATOR THE PREPARED SURFACE SHALL BE LEFT IN THE CONDITION AS RECOMMENDED BY THE MANUFACTURER. ANY ADDITIONAL SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE PATCHING MATERIAL WHICH IS USED.

D. MATERIALS. OVERLAYS SHALL BE PATCHED WITH QUICK SETTING CONCRETE MORTAR MEETING THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 933, TYPE 2.

E. PLACING. QSC PATCHES SHALL BE PROPORTIONED, MIXED, BONDED AND PLACED PER THE MANUFACTURER'S RECOMMENDATIONS WHEN THE AMBIENT TEMPERATURE IS ABOVE 40 DEGREES F. COARSE AGGREGATE, WHICH HAS BEEN CLEANED, DRIED AND BAGGED, SHALL BE ADDED AT A RATE OF 30 POUNDS OF AGGREGATE PER 50 LBS. OF DRY QSC MORTAR. A MINIMUM OF TWO PORTABLE CONCRETE MIXERS SHALL BE PRESENT AT THE WORK.

IF PLACEMENT OF THE PATCHES IS TO BE MADE AT NIGHT, THE CONTRACTOR SHALL SUBMIT A PLAN WHICH PROVIDES ADEQUATE LIGHTING FOR WORK AREA. THE PLAN SHALL BE SUBMITTED AT LEAST 15 CALENDAR DAYS IN ADVANCE AND BE APPROVED BY THE ENGINEER BEFORE CONCRETE IS PLACED. THE LIGHTS SHALL BE DIRECTED SO THAT THEY DO NOT AFFECT OR DISTRACT APPROACHING TRAFFIC.

THE PATCHING MATERIAL SHALL BE PLACED, CONSOLIDATED AND FINISHED TO THE ADJACENT GRADE. THE PATCHES SHALL BE HAND VIBRATED AND LEVELED WITH A STRAIGHTEDGE LONG ENOUGH TO SPAN THE PATCH. THE SCREED SHALL BE PLACED PARALLEL TO THE BRIDGE CENTERLINE SO THAT THE DECK PROFILE REMAINS CONSISTENT WITH THE WORN SURFACE.

THE CONTRACTOR SHALL TEST THE SURFACE OF THE PLASTIC CONCRETE FOR TRUENESS AND FOR BEING FLUSH WITH THE EDGES OF THE ADJACENT SURFACES BY USE OF A STRAIGHTEDGE. THE STRAIGHTEDGING SHALL BE DONE BY PLACING THE STRAIGHTEDGE PARALLEL TO THE BRIDGE CENTERLINE WITH THE ENDS RESTING ON

THE EXISTING WEARING SURFACE ADJACENT TO THE PATCH AND DRAWING THE STRAIGHTEDGE ACROSS THE PATCH. THE STRAIGHTEDGE SHOULD BE IN CONTACT WITH THE ADJACENT EXISTING SURFACE WHILE DRAWING IT ACROSS THE PATCH. ANY HIGH OR LOW AREAS EXCEEDING 1/8 INCH IN 10 FEET SHALL BE CORRECTED. IF ANY CORRECTIONS ARE MADE, THE SURFACE SHALL BE RECHECKED.

F. FINISHING. AFTER THE PATCHES HAVE BEEN CONSOLIDATED AND FINISHED THEY SHALL BE TEXTURED IN ACCORDANCE WITH SECTION 451.09 OF THE CMS.

G. CURING. QSC PATCHES SHALL BE CURED FOR A MINIMUM OF 2 HOURS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. 2000 PSI COMPRESSIVE STRENGTH SHALL BE VERIFIED WITH A PROPERLY CALIBRATED IMPACT REBOUND HAMMER, PROVIDED BY THE CONTRACTOR, PRIOR TO OPENING TO TRAFFIC.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

GENERAL NOTES

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

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H. INSPECTION AND SOUNDING OF CONCRETE PATCHES. ALL PATCHED AREAS SHALL BE SOUNDED AFTER CURING AND BEFORE FINAL ACCEPTANCE. ALL UNSOUND AREAS SHALL BE REMOVED AND RE-PATCHED ACCORDING TO THIS NOTE. REPLACEMENT OF REJECTED AREAS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM.

I. METHOD OF MEASUREMENT. THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE YARDS OF THE EXPOSED SURFACE OF ALL PATCHES, IRRESPECTIVE OF THE DEPTH OF THE PATCH, COMPLETE, IN PLACE AND ACCEPTED.

J. BASIS OF PAYMENT. PAYMENT SHALL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQ. YD.	PATCHING CONCRETE BRIDGE DECK OVERLAYS WITH QSC.

ITEM 530 - STRUCTURE MISC.,SEALING OF CONCRETE SURFACES WITH EPOXY-URETHANE, AS PER PLAN
ITEM 530 - STRUCTURE MISC.,SEALING OF CONCRETE SURFACES WITH NON-EPOXY, AS PER PLAN

A SEALER SHALL BE APPLIED TO EXPOSED EXISTING AND NEW CONCRETE SURFACE AREAS OF BRIDGES AS DESIGNATED ON THE PLANS AND BELOW. SEALING SHALL NOT BE DONE UNTIL ALL NEW CONCRETE AND ALL CONCRETE REPAIRS TO A GIVEN BRIDGE HAVE BEEN COMPLETED AND CURED ,AIR DRIED, FOR 90 DAYS. CONCRETE BRIDGE DECK WEARING SURFACES SHALL NOT BE SEALED UNDER THIS ITEM. THIS ITEM SHALL CONSIST OF THE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO PREPARE AND TREAT PORTLAND CEMENT CONCRETE SURFACES WITH AN APPROVED SEALER IN ACCORDANCE WITH THESE SPECIFICATIONS. THE SEALER SHALL BE APPLIED AT THE COVERAGE RATES SPECIFIED UNDER COVERAGE FOR THE TYPES OF SURFACES AND THE TYPE OF SEALER DESCRIBED HEREIN.

WHEN THE PAY ITEM DESCRIPTION DESIGNATES EPOXY-URETHANE, THE FIRST COAT SHALL BE EPOXY AND THE SECOND COAT SHALL BE URETHANE. WHEN THE PAY ITEM DESCRIPTION DESIGNATES 'NON-EPOXY', ONLY A NON-EPOXY SEALER SHALL BE USED. THE SELECTED SEALER SHALL BE ONE THAT IS ON ODOT'S APPROVED LIST WHICH IS MAINTAINED IN THE BUREAU OF TESTING AT 1600 WEST BROAD STREET IN COLUMBUS, OHIO.

TO BE COATED WITH EPOXY-URETHANE

1. ALL ABUTMENTS INCLUDING SEATS, BACKWALLS, AND WINGWALLS.

2. PIERS. ALL EXPOSED SURFACES OF PIERS SHALL BE SEALED WITH THE EXCEPTION OF A 1'-0" WIDE VERTICAL STRIP ON EACH COLUMN ON THE SIDE NOT EXPOSED TO DEICING SALTS. PIER 8B ON THE EAST APPROACH SHALL NOT BE SEALED ON THE TOP OF THE PIER CAP AND ITS COLUMNS SHALL BE COMPLETELY SEALED.

   A. ALL EAST APPROACH PIERS INCLUDING CAPS AND STEMS
   B. BOTH EAST AND WEST END PIERS
   C. ALL AREAS PATCHED UNDER THIS CONTRACT ON THE WEST APPROACH PIERS
   D. ALL AREAS PATCHED UNDER THIS CONTRACT ON THE INNERBELT EXTENSION PIERS

3. BARRIERS AND PARAPETS

   A. ALL MEDIAN BARRIERS

   B. EAST APPROACH, WEST APPROACH AND INNERBELT EXTENSION EXTERIOR PARAPETS INCLUDING FENCE CURB AND FASCIA TO EXTERIOR BEAM/GIRDER FLANGE. (DO NOT SEAL WALKWAY WITH EPOXY-URETHANE)

TO BE COATED WITH NON-EPOXY

1. WALKWAYS (SHALL BE TINTED TO MATCH BARRIER AND PARAPET EPOXY-URETHANE SEALER)

   A. EAST APPROACH, WEST APPROACH, AND INNERBELT EXTENSION CONCRETE WALKWAYS

MATERIALS: THE SEALING SYSTEM SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

1. ABSORPTION - THE ABSORPTION OF TREATED CONCRETE UNDER TOTAL IMMERSION SHALL NOT EXCEED 1.0% AFTER 48 HOURS OR 2.0% AFTER 50 DAYS (ASTM C642, NON-AIR ENTRAINED CONCRETE). CONCRETE SHOULD BE PROPORTIONED AND MIXED IN ACCORDANCE WITH ASTM C672.

2. SCALING RESISTANCE - TREATED CONCRETE SHALL PASS ASTM C672, SCALING RESISTANCE TEST WITH A RATING OF 'NO SCALING' AFTER 100 CYCLES (NON-AIR ENTRAINED CONCRETE) AS COMPARED TO 'SEVERE SCALING' ON UNTREATED CONCRETE.

3. NCHRP 244, SERIES 11 - CUBE TEST
   3.1 WEIGHT GAIN - NOT TO EXCEED 25% OF UNTREATED CUBE
   3.2 ABSORBED CHLORIDE - NOT TO EXCEED 25% OF UNTREATED CUBE

4. NCHRP 244, SERIES IV - SOUTHERN EXPOSURE
   4.1 ABSORBED CHLORIDE - NOT TO EXCEED 1 0% OF UNTREATED CONCRETE

TO BECOME PREQUALIFIED, THE MANUFACTURER SHALL PROVIDE TO THE LABORATORY THE TEST DATA FROM AN APPROVED INDEPENDENT TESTING FACILITY, PLUS ONE LITER (ONE QUART) SAMPLE AND THE MSDS. DRUMS OR CONTAINERS OF THE SEALER OR SEALER COMPONENTS SHALL BE DELIVERED TO THE JOB SITE UNOPENED AND WITH THE MANUFACTURER'S NUMBERED SEAL INTACT.

SURFACE CONDITION: SURFACES TO WHICH SEALERS ARE TO BE APPLIED SHALL BE DRY AND FREE FROM DUST, DIRT, OIL, WAX, CURING COMPOUNDS, EFFLORESCENCE, LAITANCE, COATINGS AND OTHER FOREIGN MATERIALS AND SHALL BE STRUCTURALLY SOUND. WEAK SECTIONS AND SPALLED AREAS SHALL HAVE BEEN REPAIRED BEFORE APPLICATION OF THE SEALER.

THE SEALER SHALL BE APPLIED ONLY AFTER NEW CONCRETE HAS AIR DRIED FOR AT LEAST NINETY (90) DAYS AFTER COMPLETION OF REQUIRED CURING. CAVITIES WHICH REQUIRE GROUT FILLING SHALL HAVE BEEN FILLED, CURED AND AIR-DRIED FOR NINETY DAYS.

SURFACE PREPARATION: THE SURFACE SHALL BE THOROUGHLY CLEANED TO REMOVE DUST, DIRT, OIL, WAX, CURING COMPONENTS, EFFLORESCENCE, LAITANCE, COATINGS AND OTHER FOREIGN MATERIALS. THE USE OF CHEMICALS AND OTHER CLEANING COMPOUNDS TO FACILITATE THE REMOVAL OF THESE FOREIGN MATERIALS SHALL BE APPROVED BY THE SEALER MANUFACTURER OR ITS REPRESENTATIVE BEFORE USE. THE SEALER SHALL BE APPLIED WITHIN 48 HOURS FOLLOWING SURFACE PREPARATION.

CLEANING EQUIPMENT SHALL BE FITTED WITH SUITABLE TRAPS, FILTERS, DRIP PANS AND OTHER DEVICES TO PREVENT OIL AND OTHER FOREIGN MATERIAL FROM BEING DEPOSITED ON THE SURFACE.

THE REQUIRED CLEANING METHOD FOR ALL CONCRETE SURFACES TO BE SEALED IS

1. A SANDBLAST FOLLOWED BY AIR BROOMING OR POWER SWEEPING TO REMOVE DUST AND SAND FROM THE SURFACES AND OPENED PORES. ALL CURING COMPOUND SHALL BE REMOVED.

APPLICATION: CONCRETE SEALER SHALL BE APPLIED AS FOLLOWS:

A. EPOXY & URETHANE SEALERS. APPLY SEALERS AT SURFACE TEMPERATURE OF 10C (50 F) OR ABOVE WITH A BRUSH, SQUEEGEE, ROLLER OR SPRAYING EQUIPMENT. TWO COATS OF SEALER SHALL BE APPLIED. ONE COAT OF EPOXY SEALER FIRST, THEN ONE COAT OF URETHANE SEALER. ELAPSED TIME BETWEEN COATS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. BOTH COATS SHALL BE FROM THE SAME MANUFACTURER. THE SECOND COAT (URETHANE) ONLY SHALL BE TINTED TO FEDERAL COLOR STANDARD NO. 36492 (GRAY) OR 37722 (BUFF), UNLESS OTHERWISE SPECIFIED ON THE PLAN. PIGMENT CONTENT SHALL BE LIMITED SO AS NOT TO REDUCE SEALING EFFECTIVENESS OF THE SECOND COAT. SEALERS SHALL BE FREE FROM SAGS AND RUNS. ON SIDEWALKS AND OTHER HORIZONTAL SURFACES SUCH AS SHOULDER AREAS SUBJECT TO REPETITIVE FOOT TRAFFIC OR VEHICULAR TRAFFIC, THE SURFACE OF THE SECOND COAT SHALL INCORPORATE SILICA SAND C-O) 0.8 KG/SQUARE METER (1-1/2 LBS. PER SQUARE YARD) TO PRODUCE A NON-SKID SURFACE SATISFACTORY TO THE ENGINEER.

B. NON-EPOXY SEALER. A NON-EPOXY SEALER SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDED MODE OF APPLICATION AND UNDER THE OBSERVATION OF THE ENGINEER. WHEN SPRAY EQUIPMENT IS USED, THE SEALER SHALL BE SPRAYED ONTO CONCRETE SURFACES IN A ONE- PASS OPERATION. ON VERTICAL SURFACES A SECOND PASS MAY BE REQUIRED WITHIN 10 TO 15 MINUTES TO ACHIEVE ABSORPTION AT THE APPLICATION RATE PRESCRIBED UNDER COVERAGE. WHEN A POLYESTER RESIN SEALER IS APPLIED TO BRIDGE DECK SHOULDER AREAS THE APPLICATION SHALL INCORPORATE SILICA SAND C@ 0.8 KG/SQUARE METER (1-1/2 LBS. PER SQUARE YARD) TO PRODUCE A NON-SLICK SURFACE AS SPECIFIED FOR EPOXY SEALER. CLEAR NON-EPOXY SEALERS SHALL BE TINTED WITH A VANISHING DYE THAT DOES NOT DAMAGE THE CONCRETE.
1. DO NOT PROCEED WITH APPLICATION OF THE SEALER IF THE AMBIENT TEMPERATURE IS BELOW 5C (40 DEGREES F) OR WHEN THE AMBIENT TEMPERATURE IS EXPECTED TO FALL BELOW OC (32 DEGREES F) WITHIN 12 HOURS AFTER APPLICATION.
2. DO NOT PROCEED WITH APPLICATION OF THE SEALER IF RAIN IS ANTICIPATED WITHIN 2 HOURS AFTER APPLICATION.

3. ON HORIZONTAL SURFACES THE SEALER SHALL BE UNIFORMITY SPRAYED TO SATURATE/FLOOD THE SURFACE. PROPER QUANTITIES ARE BEING APPLIED WHEN THE SEALER STANDS FOR A FEW SECONDS BEFORE COMPLETELY PENETRATING.
IF RECOMMENDED BY THE MANUFACTURER, THE SEALER SHALL BE BROOMED IN. ON SMOOTH-FINISHED OR DENSE CONCRETE, ALL EXCESS MATERIAL SHALL BE SQUEEGEED OFF AFTER 10 MINUTES TO ASSURE THAT NO EXCESS SOLIDS REMAIN WHICH CAN CAUSE EXCESSIVE SLICKNESS.

4. ON VERTICAL SURFACES THE SEALER SHALL BE UNIFORMITY SPRAYED TO SATURATE/FLOOD THE SURFACE. PROPER QUANTITIES OF PENETRATING SEALER ARE BEING APPLIED WHEN EXCESS SEALER RUNS 150 TO 300 MM (6 TO 12 INCHES) BELOW THE SPRAY PATTERN. IF RECOMMENDED BY THE MANUFACTURER, THE SEALER MAY BE APPLIED WITH A BRUSH OR ROLLER.

IF THE APPLICATOR IS UNABLE TO COMPLETE THE ENTIRE APPLICATION CONTINUOUSLY, THE LOCATION WHERE THE APPLICATION WAS STOPPED SHALL BE NOTED OR CLEARLY MARKED.

TEST APPLICATION: PRIOR TO FINAL APPLICATION, THE CONTRACTOR SHALL APPLY SEALER TO MEASURED TEST COVERAGE AREAS ON HORIZONTAL AND VERTICAL SURFACES OF THE DIFFERENT COMPONENTS OF THE STRUCTURE TO BE SEALED FOR THE PURPOSE OF DEMONSTRATING THE DESIRED PHYSICAL AND VISUAL EFFECT OF AN EPOXY APPLICATION OR OF OBTAINING A VISUAL ILLUSTRATION OF THE ABSORPTION NECESSARY TO ACHIEVE THE SPECIFIED COVERAGE RATE FOR A NON-EPOXY SEALER. IN THE LATTER CASE, THE APPLICATOR SHALL USE AT LEAST 2 LITER (· GALLON) OF SEALER FOLLOWING THE MANUFACTURER'S RECOMMENDED METHOD OF APPLICATION FOR THE TOTAL OF THE TEST SURFACES. HORIZONTAL TEST SURFACES SHALL BE LOCATED ON THE DECK AND ON THE SAFETY CURB OR SIDEWALK, AND VERTICAL TEST SURFACES SHALL BE LOCATED ON AN ABUTMENT PARAPET AND PIER FACE SO THAT THE DIFFERENT TEXTURES ARE DISPLAYED.

COVERAGE:
EPOXY-URETHANE SEALERS: EPOXY SEALER SHALL BE APPLIED TO THE CONCRETE SURFACES DESIGNATED, AT THE RATE OF 3.0 SQUARE METERS/LITER (120 SQUARE FEET PER GALLON) FOR ONE COAT. THIS SPECIFIED COVERAGE SHALL BE OBTAINED REGARDLESS OF THE NUMBER OF PASSES PER COAT. URETHANE SEALER SHALL BE APPLIED TO THE CONCRETE SURFACES DESIGNATED (ONLY AFTER THE EPOXY SEALER HAS BEEN APPLIED), AT THE RATE OF 3.75 SQUARE METERS/LITER (150 SQUARE FEET PER GALLON) FOR ONE COAT. THIS SPECIFIED COVERAGE SHALL BE OBTAINED REGARDLESS OF THE NUMBER OF PASSES.

NON-EPOXY SEALERS: A MINIMUM OF ONE LITER (GALLON) OF NON-EPOXY SEALER SHALL BE APPLIED FOR EACH: 2.5 SQUARE METER (100 SQUARE FEET) OF SURFACES SUBJECT TO ABRASIVE WEAR (BRIDGE DECKS, BRIDGE DECK SHOULDERS AND SIDEWALKS); 3.1 SQUARE METER (125 SQUARE FEET) OF CURBS AND VERTICAL SURFACES OF BEAMS AND DECK SLABS SUBJECT TO DIRECT ROADWAY DRAINAGE; AND 3.7 SQUARE METER (1 50 SQUARE FEET) OF SURFACES NOT SUBJECT TO ABRASIVE WEAR OF DIRECT ROADWAY DRAINAGE (FOR EXAMPLE, PARAPETS, ABUTMENTS, PIER CAPS AND MEDIAN DIVIDERS).

APPEARANCE. THE SEALER SHALL RESULT IN A UNIFORM APPEARANCE. ALSO, THE SECOND COAT OF SEALER SHALL BE OPAQUE.

TRAFFIC: TRAFFIC MAY BE ALLOWED ON DECK SHOULDER AREAS WHICH HAVE BEEN SEALED WITH AN EPOXY OR URETHANE SEALER AFTER 12 HOURS. TRAFFIC MAY BE ALLOWED ON A DECK ONLY AFTER A NON-EPOXY SEALER APPEARS TOTALLY DRY.

PRECAUTIONS. PRECAUTIONS SHALL BE FOLLOWED AS INDICATED ON THE MANUFACTURER'S MSDS.

PROTECTION OF ADJOINING SURFACES AND THE PUBLIC. WHEN APPLYING A SEALER, THE CONTRACTOR SHALL PROTECT BY MASKING OFF OR BY OTHER MEANS ADJOINING SURFACES OF THE STRUCTURE WHICH ARE NOT TO BE SEALED. THE CONTRACTOR SHALL ALSO MAKE PROVISION TO PROTECT THE PUBLIC WHEN APPLYING SEALER TO THE FASCIA OF A BRIDGE AND/OR PORTIONS OF THE UNDERSIDE OF THE DECK OF A BRIDGE THAT SPANS AN AREA USED BY THE PUBLIC.

ASPHALT AND MASTIC TYPE SURFACES SHALL BE PROTECTED FROM SPILLAGE AND HEAVY OVERSPRAY. THE SEALERS SHALL NOT COME IN CONTACT WITH JOINT SEALANTS WHICH HAVE NOT BEEN ALLOWED TO CURE ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. JOINT SEALANTS, TRAFFIC PAINTS AND ASPHALT OVERLAYS MAY BE APPLIED TO THE TREATED SURFACES 48 HOURS AFTER THE SEALER HAS BEEN APPLIED. WHEN A SILOXANE SEALER IS APPLIED, THE ADJOINING AND NEARBY SURFACES OF STEEL, ALUMINUM OR GLASS SHALL BE COVERED WHERE THERE IS A POSSIBILITY OF SEALER BEING DEPOSITED ON THE SURFACES.

ENVIRONMENTAL REQUIREMENTS. PROTECT PLANTS AND VEGETATION FROM OVERSPRAY BY COVERING WITH DROP CLOTHS.

EQUIPMENT. APPLICATION EQUIPMENT SHALL BE THAT WHICH IS RECOMMENDED BY THE SEALER MANUFACTURER. THE SPRAY EQUIPMENT, TANKS, HOSES, BROOMS, ROLLERS, COATERS, SQUEEGEES, ETC., SHALL BE THOROUGHLY CLEAN, FREE OF FOREIGN MATTER, OIL RESIDUE AND WATER PRIOR TO APPLYING THE CONCRETE SEALER.

MIXING. MIXING SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDED PROCEDURES. MATERIAL SHALL BE MIXED TO A UNIFORM CONSISTENCY WHICH SHALL BE MAINTAINED DURING APPLICATION.

STORAGE. SEALER COMPONENTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS IN A DRY LOCATION AND AS RECOMMENDED BY THE MANUFACTURER.

METHOD OF MEASUREMENT. THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE METERS (SQUARE YARDS) OF SURFACES SEALED AND SHALL INCLUDE SURFACE PREPARATION, MATERIAL, APPLICATION, AND PREQUALIFICATION TESTING COSTS.

BASIS OF PAYMENT. PAYMENT FOR COMPLETED WORK WILL BE MADE AT THE CONTRACT PRICES FOR:

ITEM	UNIT	DESCRIPTION
530	SQUARE YARD	STRUCTURE MISC.,SEALING OF CONCRETE SURFACES WITH EPOXY-URETHANE, AS PER PLAN
530	SQUARE YARD	STRUCTURE MISC.,SEALING OF CONCRETE SURFACES WITH NON-EPOXY, AS PER PLAN

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STRUCTURE RETROFIT NOTES

PENCIL ABRASIVE BLASTING

THE PENCIL ABRASIVE BLASTING REFERRED TO IN THE VARIOUS NOTES AND REPAIR ITEMS IN THESE PLANS SHALL CONFORM TO THE FOLLOWING:

CLEAN THE DESIGNATED NON-DESTRUCTIVE TESTING (NDT) AREAS OF ALL PAINT, RUST, AND FOREIGN MATERIAL BY ABRASIVE BLASTING TO A SURFACE QUALITY EQUAL TO SSPC-SP10 PREPARATION GRADE SA 2 ACCORDING TO AND AS SHOWN IN SSPC-VIS 1-89. SINCE THE INTENT OF THE PENCIL ABRASIVE BLASTING IS TO ENHANCE THE VISUAL AND NDT CRACK DETECTION TECHNIQUES, A GENTLE ABRASIVE BLAST SHALL BE USED SUCH THAT THE SURFACE IS NOT PEENED OR OTHERWISE COLD WORKED. PERFORM THE ABRASIVE BLASTING USING A MAXIMUM COMPRESSED AIR PRESSURE OF 100 PSI, A HOSE NOZZLE DIAMETER OF 1/4 INCH (+/- 1/16 INCH), AND A GRADE 30/60 COAL SLAG ABRASIVE OR EQUIVALENT. DO NOT USE BLASTING ABRASIVES CONTAINING MORE THAN ONE-PERCENT FREE SILICA. BLASTERS USED FOR SURFACE PREPARATION FOR STRUCTURAL STEEL COATING CANNOT BE USED FOR PENCIL BLASTING. AFTER THE ABRASIVE BLASTING IS COMPLETE, AIR BLOW THE AREA CLEAN.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT PENCIL ABRASIVE BLASTING CAN SATISFACTORILY BE PERFORMED ACCORDING TO THESE SPECIFICATIONS PRIOR TO THE START OF THE WORK. THE COST OF THE PENCIL ABRASIVE BLASTING HAS BEEN INCLUDED FOR PAYMENT IN THE APPROPRIATE REPAIR ITEMS.

ITEM 513 - STRUCTURAL STEEL MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NDT

THIS WORK CONSISTS OF THE FOLLOWING SEQUENCE OF OPERATIONS PERFORMED AT THE AREAS AS DESIGNATED IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

1. CLEAN THE DESIGNATED AREA BY PENCIL ABRASIVE BLASTING THE PAINT AND/OR RUST FROM THE STEEL SURFACE. CLEANED AREAS SHALL BE AT LEAST 3-INCHES WIDE ALONG EACH SIDE OF A SUSPECTED CRACK LOCATION UNLESS OTHERWISE SHOWN IN THE PLANS.

2. THE ENGINEER, ACCOMPANIED BY THE CONTRACTOR, SHALL CAREFULLY VISUALLY INSPECT THE CLEANED AREA. GRINDING MAY BE DIRECTED BY THE ENGINEER TO ENHANCE THE INVESTIGATION FOR CRACK PRESENCE. ALL GRINDING MUST BE DONE CAUTIOUSLY, ESPECIALLY IN TENSION ZONES. THE GRINDING MOTION SHALL BE PARALLEL WITH THE FLANGE EDGE.

3. NON-DESTRUCTIVELY TEST (NDT) THE AREA USING MAGNETIC PARTICLE EXAMINATION AND/OR DYE PENETRATION SO THAT THE ENGINEER MAY FURTHER INSPECT FOR CRACKS.

4. ALL CRACKS AND/OR CRACK TIPS THAT ARE ACCESSIBLE ARE TO BE REMOVED AS SHOWN IN THE PLANS AND PAID FOR AS ITEM 513 - STRUCTURAL STEEL MISC.: DRILLING STRUCTURAL STEEL, GRINDING AND NDT. ANY CRACKS INACCESSIBLE TO DRILLING ARE TO BE REMOVED AS SHOWN IN THE PLANS BY CAREFUL GRINDING, OR BY CAREFULLY ENLARGING THE DRILLED HOLES BY GRINDING, AND PAID FOR UNDER: ITEM 513 - STRUCTURAL STEEL MISC.: DRILLING STRUCTURAL STEEL, GRINDING AND NDT.

5. PERFORM STEPS 1 THRU 4 ON THE OTHER SIDE OF THIS LOCATION.

THE ACCEPTED NUMBER OF LOCATIONS OF WORK AS DESCRIBED IN THIS NOTE WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LOCATION. THIS PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO CLEAN, GRIND, AND PERFORM NDT ON ALL SURFACES AT EACH LOCATION.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID UNDER:

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NDT

ITEM 513 - STRUCTURAL STEEL, MISC.: GIRDER BEND POINT FLANGE SPLICE RETROFIT

THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY FOR INSTALLING SPLICE PLATES ON THE TOP AND BOTTOM FLANGES (ONE RETROFIT) AT EXISTING GIRDER BEND POINTS AS DETAILED IN THE PLANS AND THIS NOTE. THIS ITEM SHALL INCLUDE THE REMOVAL OF EXISTING RIVETS AND BOLTS, DRILLING HOLES, FABRICATING AND BENDING RETROFIT FLANGE SPLICE PLATES (AND FILL PLATES WHERE REQUIRED) INSTALLING HIGH STRENGTH BOLTS AND ANY OTHER INCIDENTALS REQUIRED TO PERFORM THIS WORK.

NO WORK SHALL BEGIN ON THE RETROFIT UNTIL AFTER THE DECK HAS BEEN REMOVED IN THE SPAN CONTAINING THE RETROFIT LOCATION. NO TWO ADJACENT GIRDERS SHALL BE RETROFITTED SIMULTANEOUSLY. EACH GIRDER RETROFIT ON RAMP E-2 SHALL BE PERFORMED INDIVIDUALLY. THE CONTRACTOR SHALL SUBMIT A PROCEDURE DESCRIBING THE SEQUENCE OF THE PROPOSED RETROFIT WORK AND RECEIVE THE ENGINEER'S APPROVAL BEFORE BEGINNING THE RETROFIT WORK.

THE NDT AND CRACK REPAIR ON THE FLANGES, PER ITEM 513 - STRUCTURAL STEEL MISC.: PENCIL ABRASIVE BLASTING, GRINDING AND NDT AND ITEM 513 - STRUCTURAL STEEL MISC.: DRILLING STRUCTURAL STEEL, GRINDING , AND NDT SHALL BE COMPLETED PRIOR TO COMMENCEMENT OF THE RETROFIT. POINTS WHERE CRACKS EXIST SHALL NOT HAVE THE BOTTOM AND TOP BEND POINT SPLICE PLATE RETROFIT PERFORMED SIMULTANEOUSLY. ONLY AFTER ONE FLANGE SPLICE PLATE (TOP OR BOTTOM) HAS BEEN COMPLETED SHALL THE CONTRACTOR PROCEED WITH THE REMOVAL OF THE EXISTING RIVETS AND BOLTS FROM THE OTHER FLANGE AT THESE CRACK LOCATIONS. THE TOP AND BOTTOM BEND POINT FLANGE SPLICE PLATES MAY BE INSTALLED SIMULTANEOUSLY AT LOCATIONS WHERE NO CRACKS HAVE BEEN DETECTED.

STRUCTURAL STEEL FOR THIS ITEM SHALL BE ASTM A572 GRADE 50 AND ALL BOLTS SHALL BE GALVANIZED ASTM A490. STRUCTURAL STEEL SHALL NOT REQUIRE A SHOP APPLIED PRIME COAT. STRUCTURAL STEEL UNDER THIS ITEM WILL NOT REQUIRE SHOP DRAWINGS TO BE APPROVED PRIOR TO FABRICATION. THE CONTRACTOR SHALL MAKE THE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, TABLES, ETC. THE ENGINEER SHALL HAVE THE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE OFFICE OF STRUCTURAL ENGINEERING. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INCORPORATING THE STEEL ITEMS INTO THE WORK, AS REQUIRED BY 501.07. AFTER FABRICATION THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET OF SHOP DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING FOR INFORMATION.THE FABRICATOR SHALL FURNISH THE OFFICE OF STRUCTURAL ENGINEERING A 35 MILLIMETER MICROFILM COPY OF EACH APPROVED SHOP DRAWING. THE MICROFILM SHALL BE MOUNTED ON AN APERTURE CARD AS SPECIFIED IN 501.05.

'EACH' GIRDER RETROFIT IS LOCATED AT A HORIZONTAL BEND POINT THAT MAY ALSO HAVE A VERTICAL BEND WITH VARYING ANGLE CONFIGURATIONS. EACH RETROFIT LOCATION MUST BE ACCURATELY FIELD MEASURED BEFORE FABRICATION OF THE REQUIRED PLATES. EACH NEW RETROFIT PLATE SHALL BE ONE CONTINUOUS PIECE. NO WELDING TO ACHIEVE THE VERTICAL AND/OR HORIZONTAL BEND WILL BE PERMITTED. WHEN CAREFULLY PLANNED AND SUPERVISED, THE APPLICATION OF LOCALIZED HEAT WILL BE PERMITTED FOR BENDING THE PLATE VERTICALLY TO MATCH THE EXISTING VERTICAL BEND OF THE GIRDER. THE TEMPERATURE OF THE HEATED AREA SHALL NOT EXCEED 1200 DEGREES FAHRENHEIT (650 DEGREES CELSIUS) AS CONTROLLED BY A PYROMETRIC STICK OR THERMOMETERS. QUENCHING TO ACCELERATE COOLING IS PROHIBITED. THE HORIZONTAL BEND IN THE PLATE SHALL BE ACHIEVED BY CUTTING A SINGLE OVERSIZED PLATE TO THE DESIRED DIMENSIONS AND SHAPE. FLANGE SPLICE PLATES SHALL NOT BE BENT TO ACHIEVE THE HORIZONTAL BEND. ONLY SHOP FLAME CUTTING SHALL BE PERMITTED. ALL HOLES FOR THE FLANGE SPLICE PLATES SHALL BE FIELD DRILLED TO MATCH EXISTING RIVET/BOLT SPACING TO ENSURE FIT UP.

THE RETROFIT FAYING SURFACES OF EXISTING AND NEW STEEL SHALL BE BLAST CLEANED SO THAT A SLIP COEFFICIENT OF 0.50 OR MORE WILL BE ACHIEVED. THE BLAST CLEANING SHALL MEET Sa 2 1/2, NEAR WHITE METAL, ACCORDING TO ASTM D 2200 OR SSPC-SP10.

RIVETS/BOLTS IN THE EXISTING SECTION CONNECT THE EXISTING COVER PLATES AND LATERAL GUSSET PLATES TO THE FLANGE ANGLES. ANY TEMPORARY SUPPORT REQUIRED TO ENSURE ZERO DISPLACEMENT OF THESE MEMBERS, RELATIVE TO EACH OTHER, DURING THE RETROFIT OPERATION SHALL ALSO BE INCLUDED IN THIS ITEM. TEMPORARY SUPPORTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

COMPLETED RETROFITS SHALL BE FIELD PAINTED AS PER ITEM 514 - FIELD PAINTING MISC.: FIELD PAINTING OF TESTED AND/OR RETROFITTED AREAS.

THE ACCEPTED NUMBER OF TOP AND BOTTOM FLANGE SPLICE RETROFITS COMPLETED AT EACH GIRDER BEND POINT AS DESCRIBED ABOVE AND AS DETAILED IN THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE PER EACH COMPLETED RETROFIT. PAYMENT WILL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL MISC.: GIRDER BEND POINT FLANGE SPLICE RETROFIT.

ITEM 513- STRUCTURAL STEEL MISC.: STRINGER BOTTOM FLANGE RETROFIT

THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL THE DOUBLE ANGLES REQUIRED FOR THE STRINGER BOTTOM FLANGE RETROFIT AS SHOWN IN THE PLANS AND STATED HEREIN. THIS ITEM SHALL INCLUDE ALL PRE-DRILLED STRUCTURAL STEEL, BOLTS, NUTS AND WASHERS, FIELD DRILLING OF BOLT HOLES, AND ALL OTHER INCIDENTALS NECESSARY TO INSTALLATION OF THE DOUBLE ANGLES.

STRUCTURAL STEEL SHALL BE ASTM A36 CONFORMING TO 513 OF THE CMS AND SHALL NOT REQUIRE A SHOP APPLIED PRIME COAT. STRUCTURAL STEEL UNDER THIS ITEM WILL NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. THE CONTRACTOR SHALL MAKE THE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, TABLES, ETC. THE ENGINEER SHALL HAVE THE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE OFFICE OF STRUCTURAL ENGINEERING. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INCORPORATING THE STEEL ITEMS INTO THE WORK, AS REQUIRED BY 501.07. AFTER FABRICATION THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET OF SHOP DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING FOR INFORMATION. THE FABRICATOR SHALL FURNISH THE OFFICE OF STRUCTURAL ENGINEERING A 35 MILLIMETER MICROFILM COPY OF EACH APPROVED SHOP DRAWING. THE MICROFILM SHALL BE MOUNTED ON AN APERTURE CARD AS SPECIFIED IN 501.05.

ALL BOLTS SHALL BE 1-INCH DIAMETER, GALVANIZED, A325 UNLESS OTHERWISE NOTED. CONNECTIONS SHALL BE IN ACCORDANCE WITH 513.15 OF THE CMS.

THE COST FOR FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY TO INSTALL THE DOUBLE ANGLES AT ONE STRINGER BOTTOM FLANGE RETROFIT LOCATION SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL MISC.: STRINGER BOTTOM FLANGE RETROFIT

CALCULATED GLC
CHECKED MJM
10-96

STRUCTURE RETROFIT NOTES

CUYAHOGA COUNTY
CUY-90-15.24

9H/89

70H
151

STRUCTURE RETROFIT NOTES

ITEM 513 - STRUCTURAL STEEL MISC.: DRILLING STRUCTURAL STEEL, GRINDING, AND NDT

THIS WORK CONSISTS OF DRILLING CRACKS AND ENDS OF CRACKS, GRINDING TO ENLARGE DRILLED HOLES, AND NON DESTRUCTIVE TESTING AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER. DISTRICT PRODUCTION DEPARTMENT (BRIDGE SECTION) APPROVAL MUST BE OBTAINED BEFORE DRILLING ANY HOLES IN THE FLANGES UNDER THIS PAY ITEM.

DRILL HOLES TO REMOVE ENTIRE CRACKS OR THE APPARENT ENDS OF THE CRACKS REVEALED BY THE INITIAL NDT AND/OR VISUAL INSPECTION. GRIND SMOOTH THE EXPOSED CIRCUMFERENCE OF EACH DRILLED HOLE AND CAREFULLY INSPECT FOR CRACKS USING MAGNETIC PARTICLE EXAMINATION AND/OR DYE PENETRATION. CONTINUE DRILLING, GRINDING, AND TESTING UNTIL ALL CRACK ENDS ARE REMOVED. WHEN NO CRACKS ARE DETECTED AT A LOCATION, NO HOLES SHALL BE DRILLED UNDER THIS ITEM.

SINCE ANY OF THESE CRACKS COULD PROPAGATE INTO A TENSION ZONE, REMOVING THEIR ENDS IS IMPERATIVE. CRACKS LESS THAN 1½ INCHES LONG, AND CRACKED AREAS OR DEFECTS LESS THAN 1½ INCHES IN DIAMETER SHALL BE REMOVED BY A SINGLE HOLE WHEN PRACTICAL. ENDS OF CRACKS LONGER THAN 1½ INCH, AND DEFECTS SMALLER THAN ½ INCH SHALL BE DRILLED WITH 1 INCH DIA METER DRILL BITS. HOLES SHALL BE CAREFULLY EXAMINED FOR CRACKS IN THE PLANE OF THE PLATE. 1½INCH OR 2 INCH DIAMETER HOLES MAY DRILLED WHERE THE PROXIMITY OF THE CRACK END TO ADJACENT STEEL PRECLUDES DRILLING OF 1" DIAMETER HOLES.

THE LOCATION OF ALL HOLES SHALL BE DETERMINED BY AND DRILLED UNDER THE DIRECTION OF THE ENGINEER.

THE ACCEPTED NUMBER OF HOLES DRILLED IN THE STRUCTURAL STEEL AS DETAILED ABOVE WILL BE PAID FOR AT THE CONTRACT PRICE PER EACH HOLE. PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY FOR DRILLING THE HOLES,GRINDING TO ENLARGE DRILLED HOLES, AND NDT.

PAYMENTS WILL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL MISC.: DRILLING STRUCTURAL STEEL, GRINDING, AND NDT

ITEM 514 - FIELD PAINTING MISC.: FIELD PAINTING OF TESTED AND/OR RETROFITTED AREAS

THIS ITEM SHALL CONSIST OF PREPARING AND COATING (1) THE ENDS THE STRINGER RETROFITTED AREAS FROM THE END OF THE STRINGER TO A DISTANCE OF 2'-6" FROM THE END OF THE STRINGER, (2) THE GIRDER BEND POINT WEB RETROFIT AREAS, AND (3) THE GIRDER FLANGE SPLICE PLATE AND BOLTS.
SURFACE PREPARATION SHALL CONSIST OF ABRASIVE BLASTING THE STEEL TO BE COATED TO AN SA 2½ NEAR-WHITE CONDITION. BLASTING ABRASIVES CONTAINING MORE THAN 1% FREE SILICA SHALL NOT BE ALLOWED. THESE AREAS SHALL BE COATED THE SAME DAY THAT THEY ARE BLASTED.

THE PREPARED AREAS SHALL BE COATED WITH ONE COAT OF A HIGH SOLIDS EPOXY AT LEAST 5 MILS THICK. THE HIGH SOLIDS EPOXY SHALL BE APPLIED BY BRUSH. THE COLOR OF THE HIGH SOLIDS EPOXY SHALL CLOSELY MATCH THE COLOR OF THE EXISTING COATING.

THE HIGH SOLIDS EPOXY SHALL BE ONE OF THE FOLLOWING PRODUCTS:

1) AMERON AMERLOCK 400
2) VALSPAR HIGH SOLIDS EPOXY 76 SERIES
3) TNEMEC CHEMBUILD SERIES 135
4) SHERWIN WILLIAMS - EPOXY-MASTIC COATING

COST FOR FURNISHING ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR THIS ITEM:

ITEM	UNIT	DESCRIPTION
514	LUMP	FIELD PAINTING MISC.: FIELD PAINTING OF TESTED AND/OR RETROFITTED AREAS

CALCULATED GLC
CHECKED MJM

STRUCTURE RETROFIT NOTES
BR. NO. CUY-90-1524 AND CUY-90-1599

CUYAHOGA COUNTY
CUY-90-15.24

9J/89

70J/151

ESTIMATED QUANTITY SUMMARY

CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	GENERAL	SUB-STRUCTURE	SUPER-STRUCTURE	AS-BUILT
• SPECIAL	10000300	LUMP	LUMP	PREMIUM ON RAILROAD'S PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE	LUMP			
202	11200	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED	LUMP			
202	38500	3,060	LIN FT	BRIDGE RAILING REMOVED			3,060	
202	98200	615	LIN FT	REMOVAL MISC.: REMOVAL OF COPPER WATERSTOP AT CONTRACTION JOINT			615	
202	98200	565	LIN FT	REMOVAL MISC.: REMOVAL OF COPPER WATERSTOP AT CROSS DRAIN			565	
203	11000	36	CU YD	EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION		36		
SPECIAL	20302000	1,125	CU YD	ENGINEERED FILL, CLASS II		1,125		
509	15840	1,402,747	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60		11,810	1,390,937	
• SPECIAL	51148000	5,593	CU YD	HIGH PERFORMANCE CONCRETE SUPERSTRUCTURE (DECK)			5,593	
• SPECIAL	51148040	64	CU YD	HIGH PERFORMANCE CONCRETE (SUBSTRUCTURE)		64		
• SPECIAL	51149000	LUMP	LUMP	HIGH PERFORMANCE CONCRETE (TRIAL MIX)			LUMP	
511	71200	2,730	SQ FT	CONCRETE, MISC.: CLASS C CONCRETE CAP		2,730		
513	00100	18,600	POUND	STRUCTURAL STEEL (AISC CERTIFICATION NOT REQUIRED)			18,600	
513	16700	3	EACH	STRUCTURAL STEEL, MISC.: PIN AND HANGER ASSEMBLY REFURBISHED, AS PER PLAN			3	
513	16700	26	LIN FT	STRUCTURAL STEEL, MISC.: BARRIER CURB REPAIRED, AS PER PLAN			26	
513	16700	2	LIN FT	STRUCTURAL STEEL, MISC.: CATWALK ACCESS LADDER, AS PER PLAN			2	
513	16700	176	LIN FT	STRUCTURAL STEEL, MISC.: HANDHOLD BAR AND FOOTHOLD ANGLE, AS PER PLAN			176	
513	16800	16	EACH	STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NDT., AS PER PLAN			16	
513	16800	10	EACH	STRUCTURAL STEEL, MISC.: DRILLING STRUCTURAL STEEL, GRINDING, AND NDT., AS PER PLAN			10	
513	16800	51	EACH	STRUCTURAL STEEL, MISC.: GIRDER BEND POINT FLANGE SPLICE RETROFIT., AS PER PLAN			51	
513	16800	51	EACH	STRUCTURAL STEEL, MISC.: GIRDER BEND POINT WEB RETROFIT., AS PER PLAN			51	
513	16800	5	EACH	STRUCTURAL STEEL, MISC.: STRINGER BOTTOM FLANGE RETROFIT., AS PER PLAN			5	
513	20000	1,944	EACH	WELDED STUD SHEAR CONNECTOR			1,944	
815	00100	LUMP	LUMP	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU			LUMP	
815	00200	LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU			LUMP	
815	00300	LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU			LUMP	
815	00400	LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU			LUMP	
815	00500	72	LIN FT	CAULKING			72	
• SPECIAL	51400610	22158	POUND	FIELD PAINTING OF NEW STEEL, SYSTEM IZEU			22158	
514	27704		LUMP	FIELD PAINTING MISC.: FIELD PAINTING OF TESTED AND OR RETROFITTED AREAS			LUMP	
514	27710	22,885	LIN FT	FIELD PAINTING MISC.: PACK RUST REPAIR AND CAULKING, AS PER PLAN			22,885	
516	11211	159.19	LIN FT	STRUCTURAL EXPANSION JOINT INCLUDING 4" ELASTOMERIC STRIP SEAL, AS PER PLAN			159.19	
516	11211	78.18	LIN FT	STRUCTURAL EXPANSION JOINT INCLUDING 3" ELASTOMERIC STRIP SEAL, AS PER PLAN			78.18	
516	11801	565	LIN FT	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED B, AS PER PLAN			565	
516	11801	615	LIN FT	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED A, AS PER PLAN			615	
516	12201	66.78	LIN FT	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN			66.78	
516	13200	8	SQ FT	½" PREFORMED EXPANSION JOINT FILLER		8		
516	13600	12	SQ FT	1" PREFORMED EXPANSION JOINT FILLER		12		
SPECIAL	51614010	1,600	LIN FT	POURED POLYURETHANE JOINT SEAL			1,600	
516	14600	23.31	LIN FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: EXISTING FINGER JOINT REMOVED AND RESET, AS PER PLAN			23.31	
516	14600	1,200	LIN FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: PRECOMPRESSED SELF ADHESIVE JOINT SEAL			1,200	
516	15000	112	EACH	STRUCTURAL JOINT OR JOINT SEALER, MISC.: LONGITUDINAL TROUGH JOINT SEALER, AS PER PLAN			112	
516	47001	LUMP	LUMP	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LUMP	
516	47000	LUMP	LUMP	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE			LUMP	
517	76300	3863	LIN. FT.	RAILING MISC.: (42"), AS PER PLAN			3863	
517	76300	2272	LIN. FT.	RAILING MISC.: (50"), AS PER PLAN			2272	
517	76300	3060	LIN. FT.	RAILING MISC.: (RETROFIT, 42"), AS PER PLAN			3060	
518	21200	63	CU YD	POROUS BACKFILL WITH FILTER FABRIC		63		
518	51101	380	LIN FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN	380			
518	62200	6	EACH	STRUCTURE DRAINAGE, MISC.: DRAINAGE COLLECTOR, AS PER PLAN	6			
518	63300	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: DOWNSPOUT REPAIRS, AS PER PLAN	LUMP			
518	63300	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: CLEANING BRIDGE DRAINAGE SYSTEM, AS PER PLAN	LUMP			
▲ •• SPECIAL	51911550	100	SQ YD	PATCHING CONCRETE BRIDGE DECKS WITH QSC			100	
▲ 519	11600	200	SQ FT	PATCHING OF CONCRETE STRUCTURE, MISC. (WITH TROWELABLE MORTAR), AS PER PLAN			200	
•• SPECIAL	51912602	39,000	SQ FT	LOW PRESSURE EPOXY INJECTING OF DELAMINATED CONCRETE, (BRIDGE DECK BOTTOM SURFACE)			39,000	
•• SPECIAL	51912602	8,800	SQ FT	LOW PRESSURE EPOXY INJECTING OF DELAMINATED CONCRETE, (BRIDGE DECK TOP SURFACE)			8,800	
SPECIAL	52030000	24,356	SQ FT	SHOTCRETING CONCRETE STRUCTURES		16,496	8,160	
▲ SPECIAL	53000200	LUMP	LUMP	STRUCTURE, MISC.: TEMPORARY BENT			LUMP	
* SPECIAL	53000400	16	EACH	STRUCTURE, MISC.: ACCESS DOOR REPLACED		16		
* SPECIAL	53000400	21	EACH	STRUCTURE, MISC.: CLEANING OF EXISTING PIER INTERIORS		21		
▲ * SPECIAL	53000400	216	EACH	STRUCTURE, MISC.: ADHESIVE ANCHORS			216	
* SPECIAL	53000800	25,219	SQ YD	STRUCTURE MISC.: SEALING OF CONCRETE SURFACES WITH EPOXY-URETHANE, AS PER PLAN		9,254	15,965	
* SPECIAL	53000800	1,682	SQ YD	STRUCTURE MISC.: SEALING OF CONCRETE SURFACES WITH NON-EPOXY, AS PER PLAN			1,682	
•• * SPECIAL	53000800	48,794	SQ YD	STRUCTURE MISC.: PREPARATION OF CONCRETE WEARING SURFACE FOR SEALING, AS PER PLAN			48,794	
•• * SPECIAL	53001300	91,000	LN. FT.	STRUCTURE MISC.: SEALING CONCRETE WEARING SURFACE CRACKS WITH HMWM RESIN, AS PER PLAN			91,000	
•• * SPECIAL	53000800	48,794	SQ YD	STRUCTURE MISC.: SEALING CONCRETE WEARING SURFACES (NON-EPOXY), AS PER PLAN			48,794	
* SPECIAL	53001300	8	LIN FT	STRUCTURE, MISC.: REPAIR JOINT ARMOR			8	

ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	GENERAL	SUB-STRUCTURE	SUPER-STRUCTURE	AS-BUILT
601	12000	20	SQ YD	RIPRAP, GROUTED	20			
601	28100	50	CU YD	DUMPED ROCK FILL	50			
604	32500	4	EACH	MANHOLE, MISC.: MANHOLE REPLACED		4		
604	32500	179	EACH	MANHOLE , MISC.: MANHOLE STEPS REPLACED		179		
607	20001	1,803	LIN FT	FENCE, TYPE CL, WITH 6'-0" FABRIC, AS PER PLAN			1,803	
607	20001	1,267	LIN FT	FENCE, TYPE CL, WITH 7'-0" FABRIC, AS PER PLAN			1,267	
607	98000	3,938	LIN FT	FENCE, MISC.: TYPE CL, TOP PARAPET VERTICAL, WITH 8'-0" FABRIC			3,938	
SPECIAL	69010400	2	EACH	IMPACT ATTENUATOR, HEX FOAM SANDWICH SYSTEM			2	
• SPECIAL	85050070	49,330	SQ YD	BRIDGE DECK GROOVING			48,794	

THIS SHEET IS FOR INFORMATION ONLY.

▲ QUANTITIES ARE TO BE USED AS NECESSARY AND AS DIRECTED BY THE ENGINEER.

• SEE PROPOSAL NOTE

•• 100% STATE FUNDED

D-12 REVISED 8-96 | 10 / 89

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ESTIMATED QUANTITY SUMMARY
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.J.W.	D.S.	DARKO	J.R.C.	2/94	

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CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

ESTIMATED QUANTITY (CUY-90-1524)

	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	GENERAL	SUB-STRUCTURE	SUPER-STRUCTURE	AS-BUILT
	202	11200	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED	LUMP			
	202	38500	1,720	LIN FT	BRIDGE RAILING REMOVED			1,720	
	516	12201	10.5	LIN FT	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN			10.5	
	517	76300	1720	LIN. FT.	RAILING MISC.: (RETROFIT, 42"), AS PER PLAN			1720	
	518	63300	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: DOWNSPOUT REPAIRS, AS PER PLAN	LUMP			
	518	63300	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: CLEANING BRIDGE DRAINAGE SYSTEM, AS PER PLAN	LUMP			
▲	** SPECIAL	51911550	40	SQ YD	PATCHING CONCRETE BRIDGE DECKS WITH OSC			40	
▲	519	11600	100	SQ FT	PATCHING OF CONCRETE STRUCTURE, MISC. (WITH TROWELABLE MORTAR), AS PER PLAN			100	
	** SPECIAL	51912602	24,960	SQ FT	LOW PRESSURE EPOXY INJECTING OF DELAMINATED CONCRETE, (BRIDGE DECK BOTTOM SURFACE)			24960	
	** SPECIAL	51912602	2400	SQ FT	LOW PRESSURE EPOXY INJECTING OF DELAMINATED CONCRETE, (BRIDGE DECK TOP SURFACE)			2400	
	SPECIAL	52030000	4,176	SQ FT	SHOTCRETING CONCRETE STRUCTURES		2,400	1,776	
▲	* SPECIAL	53000400	116	EACH	STRUCTURE, MISC.: ADHESIVE ANCHORS			116	
	* SPECIAL	53000800	3,740	SQ YD	STRUCTURE MISC.: SEALING OF CONCRETE SURFACES WITH EPOXY-URETHANE, AS PER PLAN		215	3,525	
	* SPECIAL	53000800	363	SQ YD	STRUCTURE MISC.: SEALING OF CONCRETE SURFACES WITH NON-EPOXY, AS PER PLAN			363	
	** *SPECIAL	53000800	10,040	SQ YD	STRUCTURE MISC.: PREPARATION OF CONCRETE WEARING SURFACE FOR SEALING, AS PER PLAN			10,040	
	** *SPECIAL	53001300	18,725	LN. FT.	STRUCTURE MISC.: SEALING CONCRETE WEARING SURFACE CRACKS WITH HMWM RESIN, AS PER PLAN			18,725	
	** *SPECIAL	53000800	10,040	SQ YD	STRUCTURE MISC.: SEALING CONCRETE WEARING SURFACES (NON-EPOXY), AS PER PLAN			10,040	
	607	20001	1,720	LIN FT	FENCE, TYPE CL. WITH 6'-0" FABRIC, AS PER PLAN			1,720	
	* SPECIAL	85050070	10,040	SQ YD	BRIDGE DECK GROOVING			10,040	

▲ QUANTITIES ARE TO BE USED AS NECESSARY AND AS DIRECTED BY THE ENGINEER.

* SEE PROPOSAL NOTE

** 100% STATE FUNDED

NOTES:

FOR ESTIMATED QUANTITIY SUMMARY, SEE SHEET 10/89

D-12 REVISED 8-96 | 11 / 89

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ESTIMATED QUANTITY SUMMARY
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.J.W.	D.S.	DARKO	J.R.C.	2/94	

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CALC. DATE	CUYAHOGA COUNTY CUY - 90 - 15.24 INNERBELT FREEWAY	OHIO
CHKD. DATE		F.H.W.A. REGION 5

ESTIMATED QUANTITY (CUY-90-1540)

	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	GENERAL	SUB-STRUCTURE	SUPER-STRUCTURE	AS-BUILT
	202	11200	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED	LUMP			
	202	38500	1,340	LIN FT	BRIDGE RAILING REMOVED			1,340	
	513	00100	2,300	POUND	STRUCTURAL STEEL (AISC CERTIFICATION NOT REQUIRED)			2,300	
•	514	00610	2,300	POUND	FIELD PAINTING OF NEW STEEL, SYSTEM IZEU			2,300	
	516	12201	12	LIN FT	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN			12	
	517	76300	1,340	LIN. FT.	RAILING MISC.: (RETROFIT, 42"), AS PER PLAN			1,340	
	518	63300	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: DOWNSPOUT REPAIRS, AS PER PLAN	LUMP			
	518	63300	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: CLEANING BRIDGE DRAINAGE SYSTEM, AS PER PLAN	LUMP			
▲	** SPECIAL	51911550	30	SQ YD	PATCHING CONCRETE BRIDGE DECKS WITH QSC			30	
▲	SPECIAL	51911600	100	SQ FT	PATCHING OF CONCRETE STRUCTURE, MISC. (WITH TROWELABLE MORTAR), AS PER PLAN			100	
	** SPECIAL	51912602	14,040	SQ FT	LOW PRESSURE EPOXY INJECTING OF DELAMINATED CONCRETE, (BRIDGE DECK BOTTOM SURFACE)			14,040	
	** SPECIAL	51912602	2400	SQ FT	LOW PRESSURE EPOXY INJECTING OF DELAMINATED CONCRETE, (BRIDGE DECK TOP SURFACE)			2400	
	SPECIAL	52030000	1,668	SQ FT	SHOTCRETING CONCRETE STRUCTURES		900	768	
▲	▸ SPECIAL	53000400	100	EACH	STRUCTURE, MISC.: ADHESIVE ANCHORS			100	
	◂SPECIAL	53000800	4,236	SQ YD	STRUCTURE MISC.: SEALING OF CONCRETE SURFACES WITH EPOXY-URETHANE, AS PER PLAN		1,543	2,693	
	◂SPECIAL	53000800	295	SQ YD	STRUCTURE MISC.: SEALING OF CONCRETE SURFACES WITH NON-EPOXY, AS PER PLAN			295	
	** ◂SPECIAL	53000800	6,300	SQ YD	STRUCTURE MISC.: PREPARATION OF CONCRETE WEARING SURFACE FOR SEALING, AS PER PLAN			6,300	
	** ◂SPECIAL	53001300	11,750	LIN. FT.	STRUCTURE MISC.: SEALING CONCRETE WEARING SURFACE CRACKS WITH HMWM RESIN, AS PER PLAN			11,750	
	** ◂SPECIAL	53000800	6,300	SQ YD	STRUCTURE MISC.: SEALING CONCRETE WEARING SURFACES (NON-EPOXY), AS PER PLAN			6,300	
	601	28100	50	CU YD	DUMPED ROCK FILL	50			
	607	20001	73	LIN FT	FENCE, TYPE CL, WITH 6'-0" FABRIC, AS PER PLAN			73	
	607	20001	1,267	LIN FT	FENCE, TYPE CL, WITH 7'-0" FABRIC, AS PER PLAN			1,267	
	SPECIAL	69010400	1	EACH	IMPACT ATTENUATOR, HEX FOAM SANDWICH SYSTEM			1	
	• SPECIAL	85050070	6,300	SQ YD	BRIDGE DECK GROOVING			6,300	

▲ QUANTITIES ARE TO BE USED AS NECESSARY AND AS DIRECTED BY THE ENGINEER.

• SEE PROPOSAL NOTE

•• 100% STATE FUNDED

NOTES:

FOR ESTIMATED QUANTITIY SUMMARY, SEE SHEET 10/89

D-12 REVISED 8-96 | 12/89

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ESTIMATED QUANTITY SUMMARY
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.J.W.	D.S.	DARKO	J.R.C.	2/94	

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CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

ESTIMATED QUANTITY (CUY-90-1547)

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	GENERAL	SUB-STRUCTURE	SUPER-STRUCTURE	AS-BUILT
202	11200	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED	LUMP			
202	98200	615	LIN FT	REMOVAL MISC.: REMOVAL OF COPPER WATERSTOP AT CONTRACTION JOINT			615	
202	98200	565	LIN FT	REMOVAL MISC.: REMOVAL OF COPPER WATERSTOP AT CROSS DRAIN			565	
SPECIAL	20302000	1,125	CU YD	ENGINEERED FILL, CLASS II		1,125		
511	71200	2,730	SQ FT	CONCRETE, MISC.: CLASS C CONCRETE CAP		2,730		
513	16700	26	LIN FT	STRUCTURAL STEEL, MISC.: BARRIER CURB REPAIRED, AS PER PLAN			26	
513	16700	2	LIN FT	STRUCTURAL STEEL, MISC.: CATWALK ACCESS LADDER, AS PER PLAN			2	
513	16700	176	LIN FT	STRUCTURAL STEEL, MISC.: HANDHOLD BAR AND FOOTHOLD ANGLE, AS PER PLAN			176	
513	16800	5	EACH	STRUCTURAL STEEL, MISC.: STRINGER BOTTOM FLANGE RETROFIT., AS PER PLAN			5	
815	00100	LUMP	LUMP	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU			LUMP	
815	00200	LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU			LUMP	
815	00300	LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU			LUMP	
815	00400	LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU			LUMP	
514	27704	LUMP	LUMP	FIELD PAINTING MISC.: FIELD PAINTING OF TESTED AND OR RETROFITTED AREAS			LUMP	
514	27710	22,885	LIN FT	FIELD PAINTING MISC.: PACK RUST REPAIR AND CAULKING, AS PER PLAN			22,885	
516	11801	565	LIN FT	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED B, AS PER PLAN			565	
516	11801	615	LIN FT	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED A, AS PER PLAN			615	
SPECIAL	51614010	1,600	LIN FT	POURED POLYURETHANE JOINT SEAL			1,600	
							23.31	
516	14600	1,200	LIN FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: PRECOMPRESSED SELF ADHESIVE JOINT SEAL			1,200	
516	15000	112	EACH	STRUCTURAL JOINT OR JOINT SEALER, MISC.: LONGITUDINAL TROUGH JOINT SEALER, AS PER PLAN			112	
517	76300	10	LIN. FT.	RAILING MISC.: (50"), AS PER PLAN			10	
518	63300	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: CLEANING BRIDGE DRAINAGE SYSTEM, AS PER PLAN	LUMP			
▲ •• SPECIAL	51911550	30	SQ YD	PATCHING CONCRETE BRIDGE DECKS WITH OSC			30	
•• SPECIAL	51912602	4,000	SQ FT	LOW PRESSURE EPOXY INJECTING OF DELAMINATED CONCRETE, (BRIDGE DECK TOP SURFACE)			4,000	
SPECIAL	52030000	5616	SQ FT	SHOTCRETING CONCRETE STRUCTURES			5,616	
*SPECIAL	53000400	16	EACH	STRUCTURE, MISC.: ACCESS DOOR REPLACED		16		
*SPECIAL	53000400	21	EACH	STRUCTURE, MISC.: CLEANING OF EXISTING PIER INTERIORS		21		
*SPECIAL	53000800	1,914	SQ YD	STRUCTURE MISC.: SEALING OF CONCRETE SURFACES WITH EPOXY-URETHANE, AS PER PLAN			1,914	
** *SPECIAL	53000800	32,454	SQ YD	STRUCTURE MISC.: PREPARATION OF CONCRETE WEARING SURFACE FOR SEALING, AS PER PLAN			32,454	
** *SPECIAL	53001300	60,525	LN. FT.	STRUCTURE MISC.: SEALING CONCRETE WEARING SURFACE CRACKS WITH HMWM RESIN, AS PER PLAN			60,525	
** *SPECIAL	53000800	32,454	SQ YD	STRUCTURE MISC.: SEALING CONCRETE WEARING SURFACES (NON-EPOXY), AS PER PLAN			32,454	
*SPECIAL	53001300	8	LIN FT	STRUCTURE, MISC.: REPAIR JOINT ARMOR			8	
604	32500	4	EACH	MANHOLE, MISC.: MANHOLE REPLACED		4		
604	32500	179	EACH	MANHOLE , MISC.: MANHOLE STEPS REPLACED		179		
* SPECIAL	85050070	32.454	SQ YD	BRIDGE DECK GROOVING			32.454	

▲ QUANTITIES ARE TO BE USED AS NECESSARY AND AS DIRECTED BY THE ENGINEER.

* SEE PROPOSAL NOTE

** 100% STATE FUNDED

NOTES:

FOR ESTIMATED QUANTITIY SUMMARY, SEE SHEET 10/89

D-12 REVISED 8-96 | 13 / 89

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ESTIMATED QUANTITY SUMMARY
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.J.W.	D.S.	DARKO	J.R.C.	2/94	

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CALC. DATE	CUYAHOGA COUNTY CUY - 90 - 15.24 INNERBELT FREEWAY	OHIO F.H.W.A. REGION 5
CHK'D. DATE		

ESTIMATED QUANTITY (CUY-90-1599)

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	GENERAL	SUB-STRUCTURE	SUPER-STRUCTURE	AS-BUILT
202	11200	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED	LUMP			
203	11000	36	CU YD	EXCAVATION INCUDING EMBANKMENT CONSTRUCTION		36		
509	15840	1,402,747	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60		11,810	1,390,937	
* SPECIAL	51148000	5,593	CU YD	HIGH PERFORMANCE CONCRETE SUPERSTRUCTURE (DECK)			5,593	
* SPECIAL	51148040	64	CU YD	HIGH PERFORMANCE CONCRETE (SUBSTRUCTURE)		64		
* SPECIAL	51149000	LUMP	LUMP	HIGH PERFORMANCE CONCRETE (TRIAL MIX)			LUMP	
513	00100	16,300	POUND	STRUCTURAL STEEL (AISC CERTIFICATION NOT REQUIRED)			16,300	
513	16800	3	EACH	STRUCTURAL STEEL, MISC.: PIN AND HANGER ASSEMBLY REFURBISHED, AS PER PLAN			3	
513	16800	16	EACH	STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NDT., AS PER PLAN			16	
513	16800	10	EACH	STRUCTURAL STEEL, MISC.: DRILLING STRUCTURAL STEEL, GRINDING, AND NDT., AS PER PLAN			10	
513	16800	51	EACH	STRUCTURAL STEEL, MISC.: GIRDER BEND POINT FLANGE SPLICE RETROFIT., AS PER PLAN			51	
513	16800	51	EACH	STRUCTURAL STEEL, MISC.: GIRDER BEND POINT WEB RETROFIT., AS PER PLAN			51	
513	20000	1,944	EACH	WELDED STUD SHEAR CONNECTOR			1,944	
815	00100	LUMP	LUMP	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU			LUMP	
815	00200	LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU			LUMP	
815	00300	LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU			LUMP	
815	00400	LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU			LUMP	
815	00500	72	LIN FT	CAULKING			72	
* 514	00610	19,858	POUND	FIELD PAINTING OF NEW STEEL, SYSTEM IZEU			19,858	
514	27710	22,885	LIN FT	FIELD PAINTING MISC.: PACK RUST REPAIR AND CAULKING, AS PER PLAN				
516	11211	159.19	LIN FT	STRUCTURAL EXPANSION JOINT INCLUDING 4" ELASTOMERIC STRIP SEAL, AS PER PLAN			159.19	
516	11211	78.18	LIN FT	STRUCTURAL EXPANSION JOINT INCLUDING 3" ELASTOMERIC STRIP SEAL, AS PER PLAN			78.18	
516	12201	44.28	LIN FT	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN			44.28	
516	13200	8	SQ FT	½" PREFORMED EXPANSION JOINT FILLER		8		
516	13600	12	SQ FT	1" PREFORMED EXPANSION JOINT FILLER		12		
516	14600	23.31	LIN FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: EXISTING FINGER JOINT REMOVED AND RESET, AS PER PLAN			23.31	
516	47001	LUMP	LUMP	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LUMP	
516	47000	LUMP	LUMP	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE			LUMP	
517	76300	3,863	LIN. FT.	RAILING MISC.: (42"), AS PER PLAN			3,863	
517	76300	2,262	LIN. FT.	RAILING MISC.: (50"), AS PER PLAN			2,262	
518	21200	63	CU YD	POROUS BACKFILL WITH FILTER FABRIC		63		
518	51101	380	LIN FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN	380			
518	62200	6	EACH	STRUCTURE DRAINAGE, MISC.: DRAINAGE COLLECTOR, AS PER PLAN	6			
518	63300	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: DOWNSPOUT REPAIRS, AS PER PLAN	LUMP			
518	63300	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: CLEANING BRIDGE DRAINAGE SYSTEM, AS PER PLAN	LUMP			
SPECIAL	52030000	13,196	SQ FT	SHOTCRETING CONCRETE STRUCTURES		13,196		
** SPECIAL	53000200	LUMP	LUMP	STRUCTURE, MISC.: TEMPORARY BENT			LUMP	
** SPECIAL	53000800	15,329	SQ YD	STRUCTURE MISC.: SEALING OF CONCRETE SURFACES WITH EPOXY-URETHANE, AS PER PLAN		7,496	7,833	
* SPECIAL	53000800	1,024	SQ YD	STRUCTURE MISC.: SEALING OF CONCRETE SURFACES WITH NON-EPOXY, AS PER PLAN			1,024	
601	12000	20	SQ YD	RIPRAP, GROUTED	20			
607	20001	10	LIN FT	FENCE, TYPE CL, WITH 6'-0" FABRIC, AS PER PLAN			10	
607	98000	3,938	LIN FT	FENCE, MISC.: TYPE CL, TOP PARAPET VERTICAL, WITH 8'-0" FABRIC			3,938	
SPECIAL	69010400	1	EACH	IMPACT ATTENUATOR, HEX FOAM SANDWICH SYSTEM			1	

* SEE PROPOSAL NOTE

** 100% STATE FUNDED

NOTES:

FOR ESTIMATED QUANTITIY SUMMARY, SEE SHEET 10/89

D-12 REVISED 8-96

adache-cluni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ESTIMATED QUANTITY SUMMARY
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.J.W.	D.S.	DARKO	J.R.C.	2/94	

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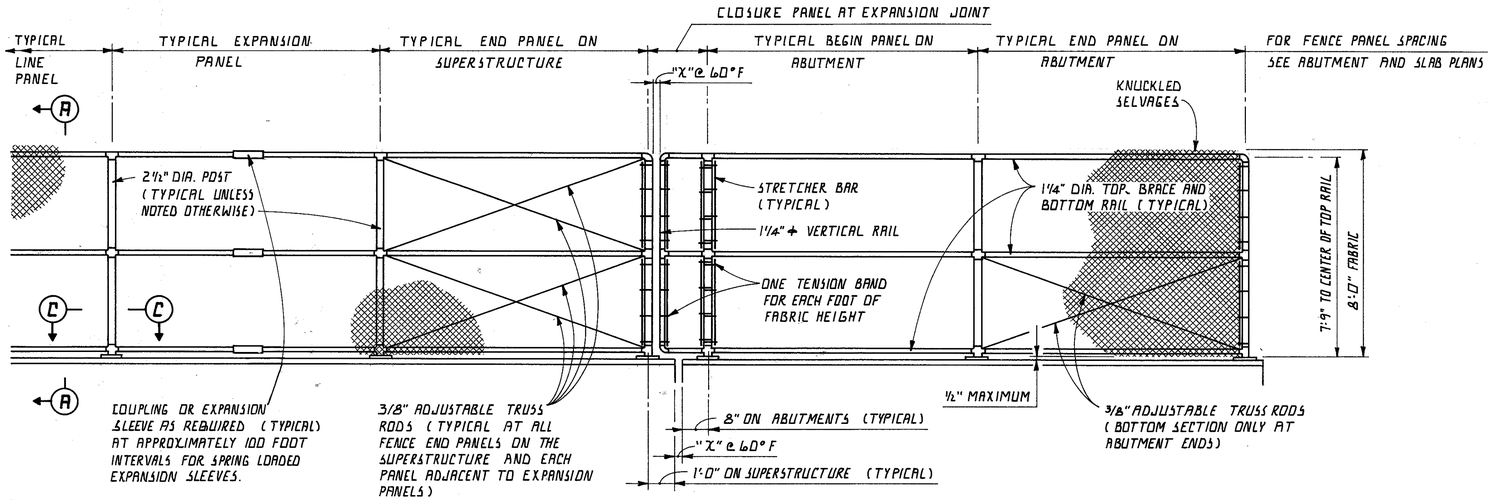
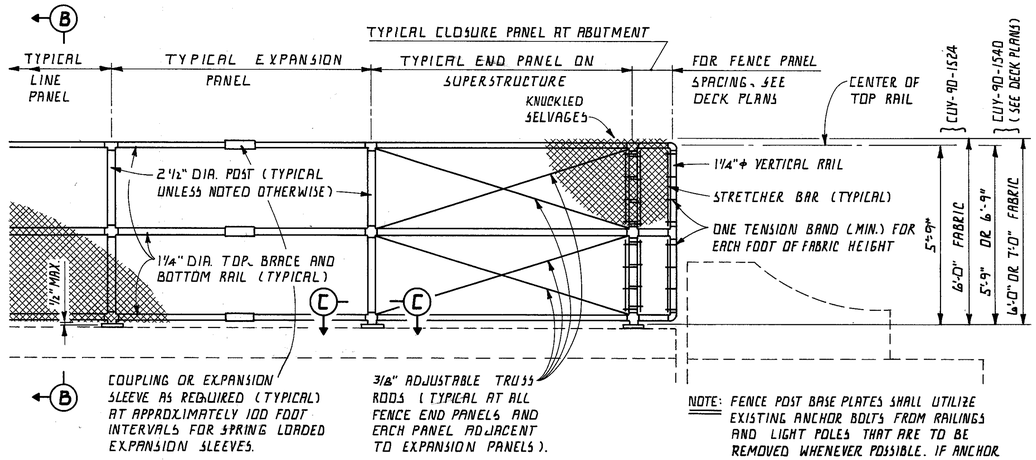
CALC.		CUYAHOGA COUNTY	OHIO
DATE		CUY-90-15.24	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE			

16 / 151



FENCE ELEVATION

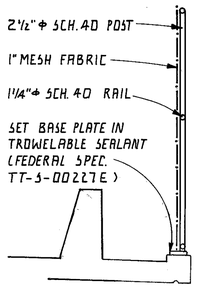
BRIDGE NUMBER CUY-90-1599
EXPANSION JOINT AT ABUTMENT SHOWN. EXPANSION JOINT AT ROLLERS AND LINK JOINT SIMILAR. TRUSS RODS REQUIRED ON BOTH SIDES OF ROLLER AND LINK JOINT.



FENCE ELEVATION

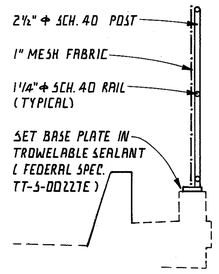
BRIDGE NUMBER CUY-90-1524 AND CUY-90-1540
EXPANSION JOINT AT ABUTMENT SHOWN. EXPANSION JOINT AT WEST END PIER AND BR. NO. CUY-90-1540 IS SIMILAR. FENCE ON BR. NO. CUY-90-1524 IS SIMILAR TO THAT SHOWN.
FOR ADDITIONAL DETAILS, SEE FENCE ELEVATION FOR BR. NO. CUY-90-1599.

NOTE: FENCE POST BASE PLATES SHALL UTILIZE EXISTING ANCHOR BOLTS FROM RAILINGS AND LIGHT POLES THAT ARE TO BE REMOVED WHENEVER POSSIBLE. IF ANCHOR BOLTS ARE UNUSEABLE, THEY SHALL BE REMOVED FLUSH WITH THE CONCRETE, THE BASE PLATE SHIFTED AS REQUIRED AND 3/4" DIAMETER ADHESIVE ANCHORS INSTALLED.



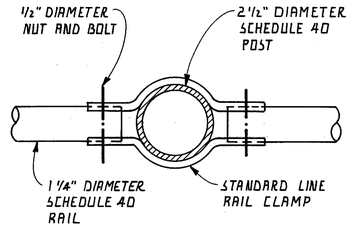
SECTION A-A

BRIDGE NUMBER CUY-90-1599



SECTION B-B

BRIDGE NUMBER CUY-90-1524 AND BRIDGE NUMBER CUY-90-1540

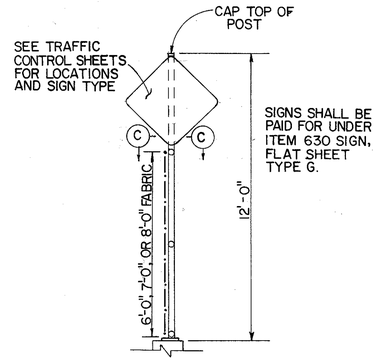


SECTION C-C

NOTES CONTINUED:

A CONTINGENT QUANTITY OF 215 EACH, 3/4"ϕ ADHESIVE ANCHORS FOR USE BY THE ENGINEER HAS BEEN INCLUDED WITH ITEM SPECIAL - "STRUCTURE, MISC.: ADHESIVE ANCHORS"

ALL FENCE SHALL BE COATED WITH POLYVINYL-CHLORIDE IN ACCORDANCE WITH ASTM F668-84, CLASS 2B. REFER TO STANDARD DRAWING VPF-1-90, SHEET 1 OF 6 FOR DETAILS NOT SHOWN.



12'-0" HIGH FENCE POST FOR SIGN MOUNTING
SHALL BE PAID FOR UNDER ITEM 607 FENCE, MISC PER LN. FT.

BRIDGE NUMBERS CUY-90-1524, CUY-90-1540, AND CUY-90-1599

NOTES:

FENCE POST BASE PLATES ON BRIDGES CUY-90-1524 AND CUY-90-1540 SHALL BE INSTALLED USING THE EXISTING ANCHOR BOLTS FROM THE RAILING POSTS AND LIGHT POLES, WITH NEW NUTS AND WASHERS. ANY UNUSABLE BOLTS SHALL BE REMOVED FLUSH WITH THE TOP OF CONCRETE, BASE PLATE SHIFTED AS NECESSARY AND 3/4"ϕ ADHESIVE ANCHORS INSTALLED, INCLUDED WITH ITEM SPECIAL - "STRUCTURE, MISC.: ADHESIVE ANCHORS" FOR PAYMENT.

FENCE POST BASE PLATES ON BRIDGE CUY-90-1599 SHALL BE INSTALLED USING PRESET ANCHORS WITH 3/4" CLOSED FERRULES, UNC THREADS AND 6.69 K. WORKING LOAD PER FERRULE. TWO ANCHORAGE STRUTS PER FERRULE, SET LEVEL. IN LIEU OF FERRULES, 3/4"ϕ ADHESIVE ANCHORS MAY BE USED.

ITEM 607 - "FENCE": THIS ITEM OF WORK INCLUDES THE FURNISHING OF ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE FENCING. TENSION BANDS SHALL BE A MINIMUM OF 12 GAUGE STEEL BY 7/8" WIDE ASSEMBLED WITH 5/16"ϕ x 1¼" LONG GALVANIZED BOLTS. ONE TENSION BAND SHALL BE REQUIRED FOR EACH FOOT OF FABRIC HEIGHT. FENCE POSTS AND ANCHOR BOLTS SHALL BE PERPENDICULAR TO GRADE ON CUY-90-1524 AND CUY-90-1540, VERTICAL ON CUY-90-1599. RAILS SHALL BE PARALLEL TO GRADE. THE FABRIC AND RAILS SHALL BE FREE TO EXPAND OR CONTRACT ACCROSS BRIDGE EXPANSION JOINTS. MATERIAL AND WORKMANSHIP SHALL MEET THE REQUIREMENTS OF ITEM 607 EXCEPT THAT ALL COMPONENTS SHALL BE GALVANIZED STEEL. ALUMINUM OR ALUMINUM ALLOYS SHALL NOT BE USED. FABRIC TIES SHALL BE SPACED AT 14" CENTER TO CENTER MAXIMUM ON LINE POSTS AND AT 24" CENTER TO CENTER MAXIMUM ON ALL RAILS. ALL POST AND RAIL SIZES ARE NOTED IN TERMS OF THE NOMINAL INSIDE DIAMETER OF STANDARD WEIGHT PIPE, SCHEDULE 40. STRETCHER BARS AND MISCELLANEOUS HARDWARE SHALL BE THAT OF THE CHAIN LINK FENCE INDUSTRY STANDARD. BASE PLATES AND MISCELLANEOUS BRACKETS MAY BE OF ANY COMMERCIALLY WELDABLE STEEL HAVING A YIELD STRENGTH OF NOT LESS THAN 33,000 P.S.I. POST STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 30,000 P.S.I. PAYMENT FOR THE ABOVE SHALL BE MADE AT THE UNIT BID PRICE, PER LIN. FT. OF ITEM 607 - "FENCE, TYPE CL, WITH 6'-0" FABRIC" FOR BRIDGE NUMBER CUY-90-1524 AND A PORTION OF BRIDGE NUMBER CUY-90-1540; ITEM 607 - "FENCE, TYPE CL, WITH 7'-0" FABRIC FOR A PORTION OF BRIDGE NUMBER CUY-90-1540; AND ITEM 607 "FENCE, TYPE CL, TOP PARAPET VERTICAL, WITH 8'-0" FABRIC" FOR BRIDGE NUMBER CUY-90-1599.

FOR FENCE POST BASE PLATES AND ACCESS HOLE DETAILS, SEE SHEET 16 / 89 .

D-12 REVISED 8-96

15 / 89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

FENCE DETAILS
INNERBELT FREEWAY

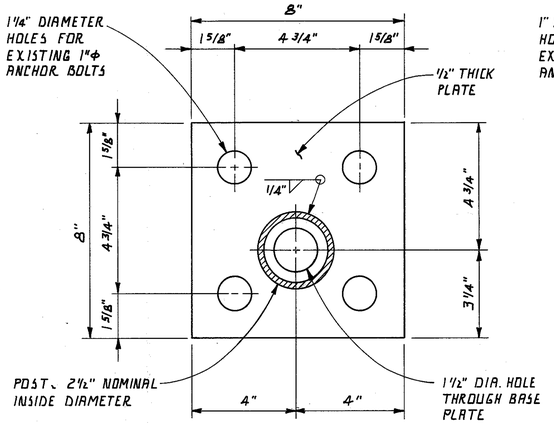
BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	DEC. 30, 1991	

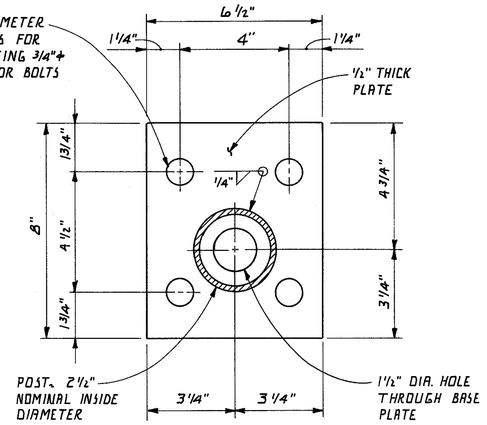
BRUNING 44-232-67195

A-C-L form no. B-1



* FENCE POST BASE PLATE

BRIDGE NUMBER CUY-90-1524 AND
BRIDGE NUMBER CUY-90-1540.
USE AT EXISTING LIGHT POLE LOCATIONS.



* FENCE POST BASE PLATE

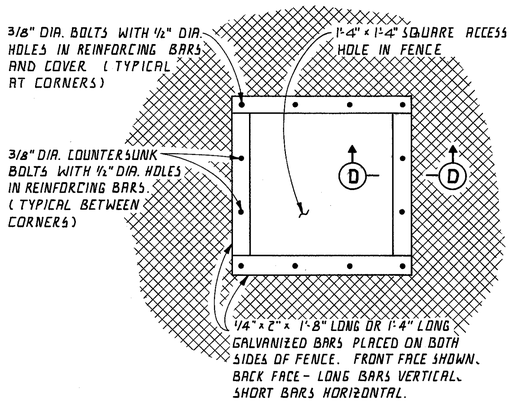
BRIDGE NUMBER CUY-90-1524 AND
BRIDGE NUMBER CUY-90-1540.
USE AT EXISTING RAILING POST LOCATIONS
AND NEW FENCE POST LOCATIONS.

* CONTRACTOR TO FIELD VARIFY PRIOR TO FABRICATION.

(USE BP-1 FROM STD. DRAWING
NO. VPF-1-90).

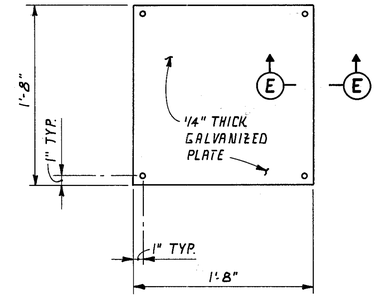
FENCE POST BASE PLATE

BRIDGE NUMBER CUY-90-1599



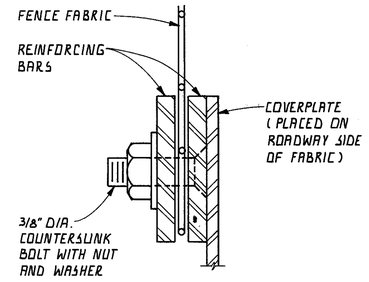
ACCESS HOLE DETAIL

TWO (2) ACCESS HOLES SHALL BE PROVIDED TO ACCESS THE ELECTRICAL DISCONNECT BOX TO THE LIGHTED SIGN AT THE NOSE OF RAMP W-2. THE EXACT LOCATION OF THE HOLES SHALL BE DETERMINED BY THE ENGINEER AT TIME OF CONSTRUCTION.

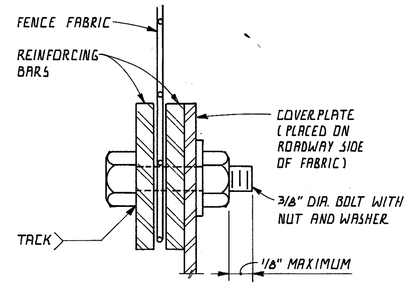


COVERPLATE DETAIL

TWO (2) REQUIRED



SECTION D-D



SECTION E-E

NOTE:

FOR NOTES AND ADDITIONAL DETAILS, SEE SHEET 15/89.

D-12 REVISED 8-96

16/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

FENCE DETAILS
INNERBELT FREEWAY

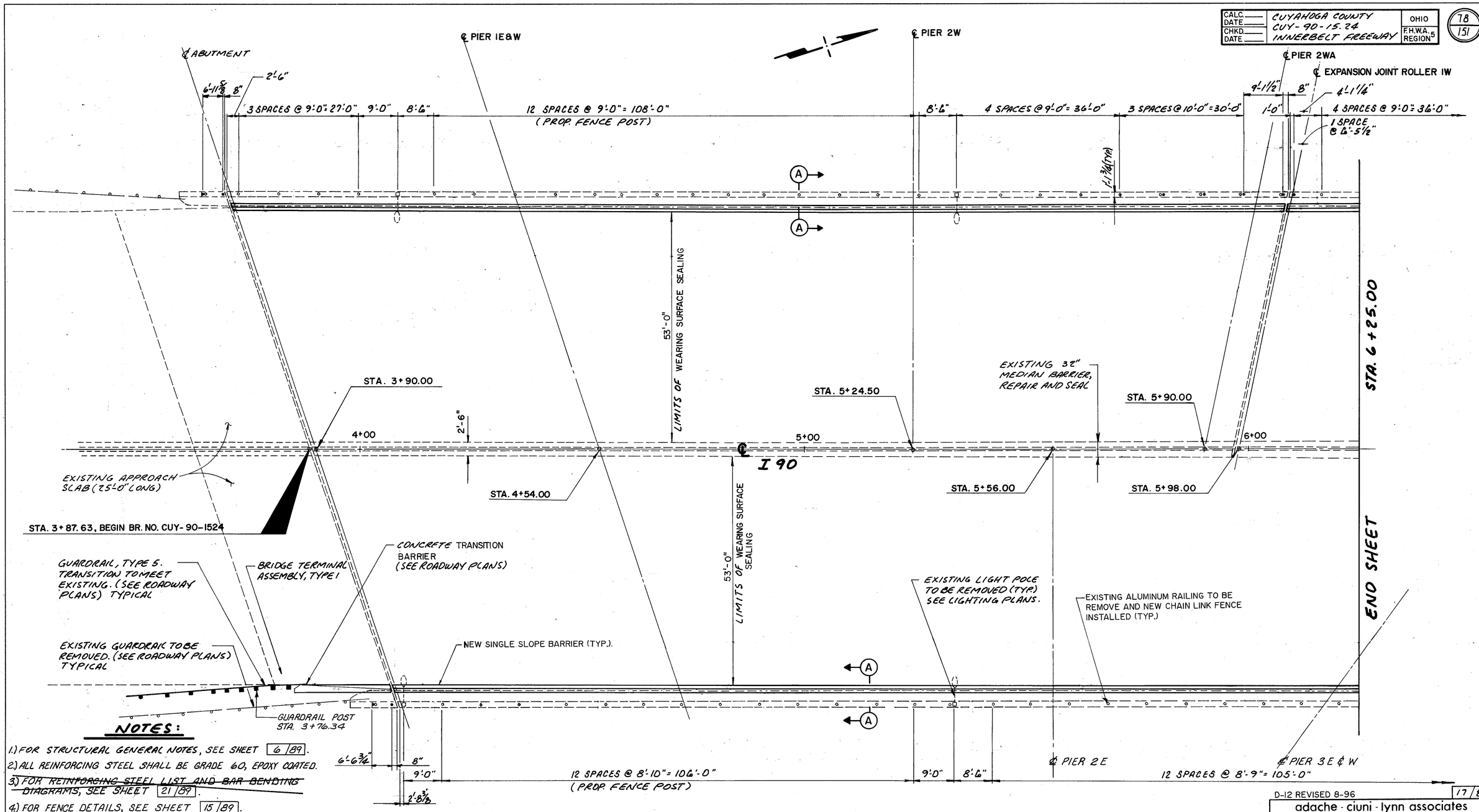
BR. NO. { CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DAR.KD	J.R.C.	DEC. 30, 1991	

BRUNING 44-232 67195

A-C-L form no. B-1



NOTES:

1.) FOR STRUCTURAL GENERAL NOTES, SEE SHEET 6/89.

2.) ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

3.) ~~FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEET 21/89.~~

4.) FOR FENCE DETAILS, SEE SHEET 15/89.

5.) FOR SECTION "A-A", SEE SHEET 25A/89.

6.) THE INTENT OF THE PROPOSED FENCE POST SPACING IS TO UTILIZE THE ANCHOR BOLTS FROM THE EXISTING LIGHT POLES AND RAIL POSTS WHEREVER POSSIBLE. ALL SPACINGS ARE APPROXIMATE.

7.) ~~ALL REINFORCING BAR MARKS IN THE SUPERSTRUCTURE SHALL BE PREFIXED AS SHOWN IN THE REINFORCING STEEL LIST.~~

8.) ALL EXISTING DOUBLE PIPE RAILING, INCLUDING POSTS, SHALL BE CAREFULLY REMOVED TO PRESERVE EXISTING ANCHOR BOLTS FOR RE-USE ON THE INNERBELT EXTENSION AND WEST APPROACH. PAYMENT FOR ALL LABOR AND EQUIPMENT SHALL BE MADE PER LINEAR FOOT FOR ITEM 202, BRIDGE RAILING REMOVED.

BRUNING 44232 67195-01

A-C-L form no. B-1

D-12 REVISED 8-96

17/89

adache · ciuni · lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DECK PLAN

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
A.J.M.	C.A.G.	M.J.L.	J.R.C.	DEC. 30, 1991	

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

79
151

℄ PIER 3 E & W

℄ PIER 4 E & W

℄ PIER 5 E & W

℄ EXPANSION JOINT ROLLER 2E & W

℄ PIER 6 E & W

4'-5 1/4"

1'-0"

8"

4'-0"

4 SPACES @ 9'-0" = 36'-0" | 9'-0" | 8'-6" | 11 SPACES @ 9'-0" = 99'-0" | 8'-6" | 9'-0" | 12 SPACES @ 9'-0" = 108'-0" (PROP. FENCE POST) | 9'-0" | 10 SPACES @ 9'-0" = 90'-0"

1'-3" (TYP.)

A

A

EXISTING LIGHT POLE TO BE REMOVED (TYP.) SEE LIGHTING PLANS.

STA. 6+25.00

BEGIN SHEET

53'-0" LIMITS OF WEARING SURFACE SEALING

58'-3 3/4"

STA. 9+25.00

END SHEET

STA. 8+98.50

STA. 8+28.50

EXISTING 32" MEDIAN BARRIER, REPAIR AND SEAL

1'-3"

1'-3"

STA. 7+49.00

7+00

2'-6"

8+00

℄ I 90

STA. 6+59.00

STA. 8+92.50

53'-0" LIMITS OF WEARING SURFACE SEALING

58'-3 3/4"

NEW SINGLE SLOPE BARRIER (TYP.)

EXISTING ALUMINUM RAILING TO BE REMOVED AND NEW CHAIN LINK FENCE INSTALLED (TYP.)

A

A

12 SPACES @ 8'-9" = 105'-0" | 8'-6" | 8'-6" | 12 SPACES @ 8'-9" = 105'-0" | 8'-6" | 9'-0" | 12 SPACES @ 8'-9" = 105'-0" (PROP. FENCE POST)

4'-11 1/4"

8"

3"

38 SPACES @ 9'-0" = 342'-0"

D-12 REVISED 8-96

18/89

NOTES

1.) FOR SECTION "A-A", SEE SHEET 25A/89

2.) FOR ADDITIONAL NOTES SEE SHEET 17/89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DECK PLAN

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

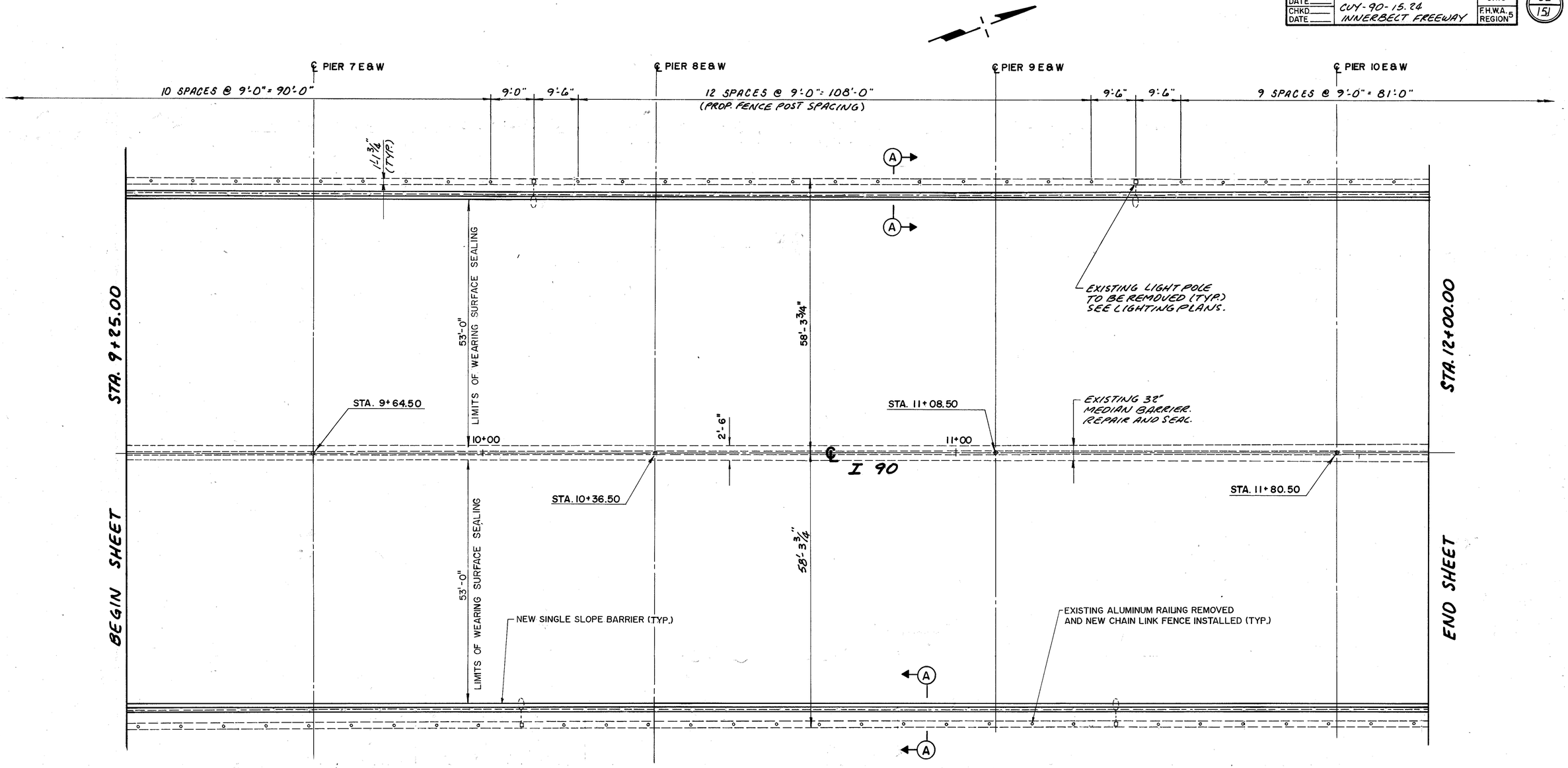
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
A.J.M.	C.A.G.	M.J.L.	J.R.C.	DEC. 30, 1991	

BRUNING 44-232-87195-01

A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

80
151



NOTES

1.) FOR SECTION A-A, SEE SHEET 25A/89
2.) FOR NOTES, SEE SHEET 17/89

D-12 REVISED 8-96 — 19/89

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DECK PLAN

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

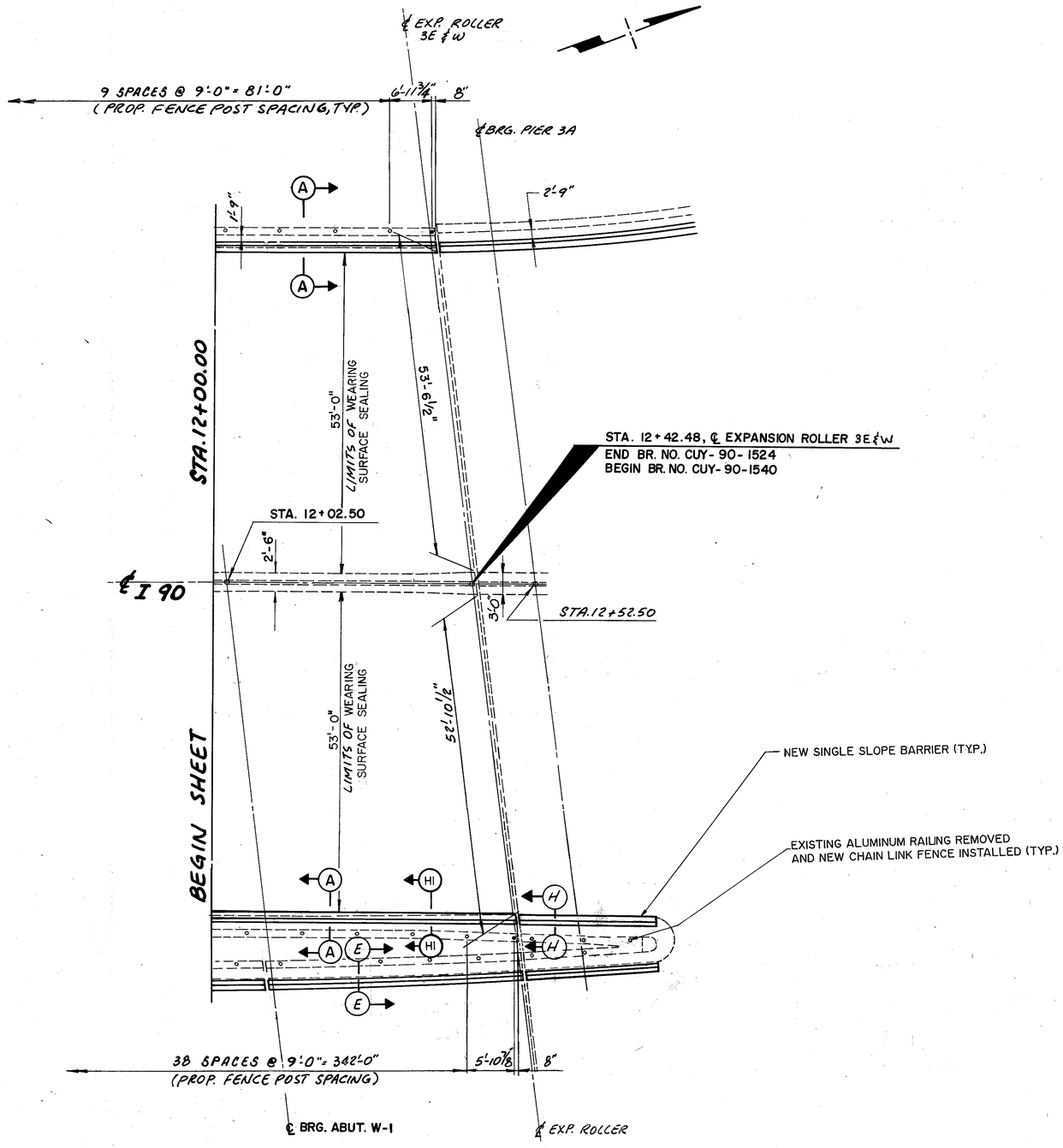
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
A.J.M.	C.A.G.	M.J.L.	J.R.C.	DEC.30,1991	

BRUNING 44-232-67195-01

A-C-L form no. B-1



NOTES:

1.) FOR FENCE DETAILS SEE SHEET 15/89

2.) FOR SECTIONS "A-A", "B-B", "E-E", "H-H" & "HI-HI" SEE SHEET 25A/89

3.) FOR ADDITIONAL NOTES SEE SHEET 17/89

D-12 REVISED 8-96 — 20/89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DECK PLAN
INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

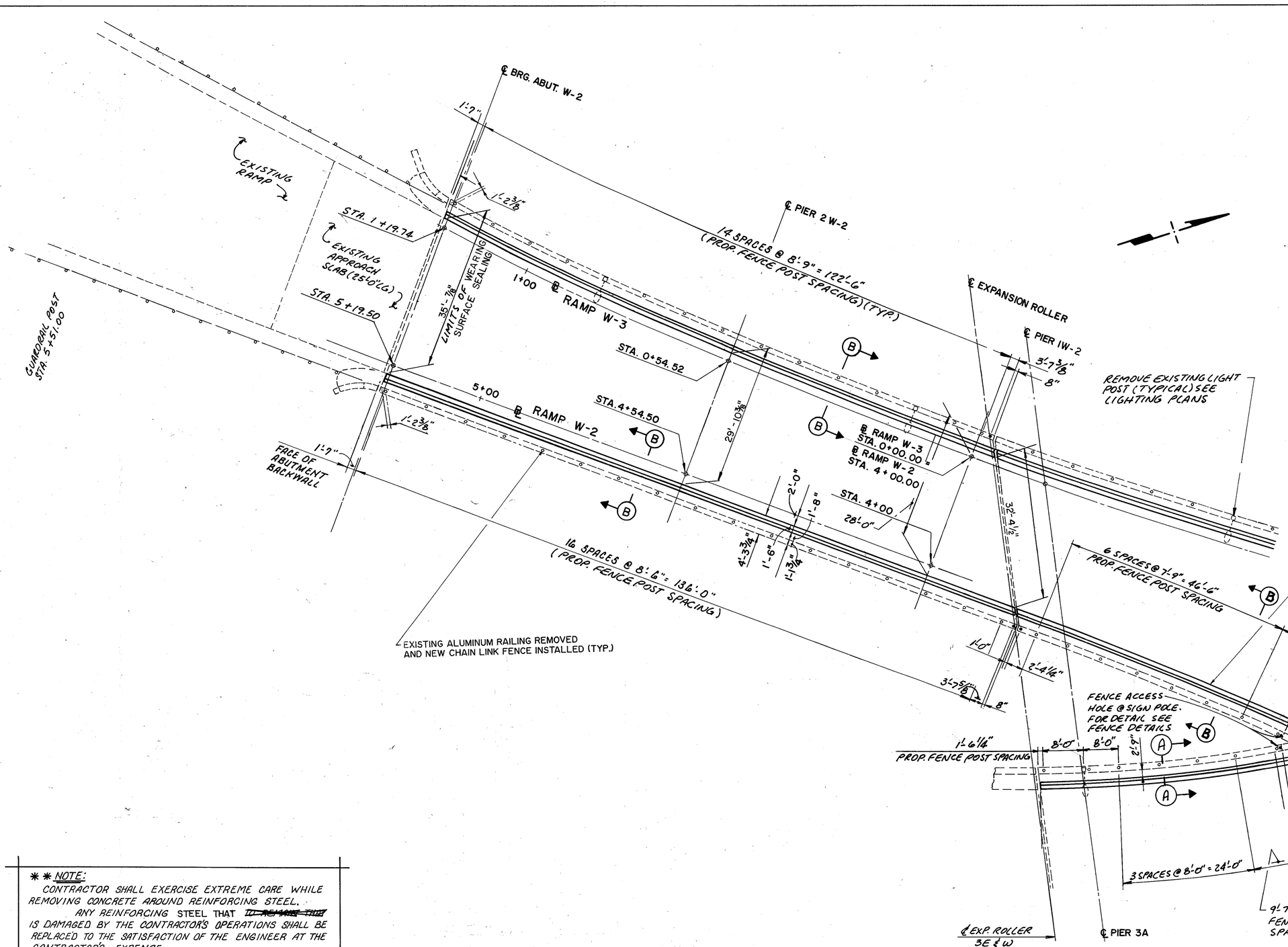
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
A.J.M.	C.A.G.	M.J.L.	J.R.C.	DEC. 30, 1991	

BRUNING 44-232 67195-01

A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

83/151



NOTES:

1.) FOR STRUCTURAL GENERAL NOTES, SEE SHEET 6/89

2.) ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

3.) ~~FOR REINFORCING STEEL BAR BENDING DIAGRAMS, SEE SHEET~~ 25A/89

4.) FOR FENCE DETAILS, SEE SHEET 15/89

5.) FOR SECTIONS "A-A" AND "B-B" SEE SHEET 25A/89

6.) ~~THE CONTRACTOR SHALL STORE NO CONSTRUCTION EQUIPMENT OR MATERIALS ON WALKWAYS IN SECTION "B-B" AREAS DURING CURB REMOVAL AND UNTIL CONCRETE BARRIER CONCRETE HAS REACHED FULL STRENGTH.~~

7.) THE INTENT OF THE PROPOSED FENCE POST SPACING IS TO UTILIZE THE ANCHOR BOLTS FROM THE EXISTING LIGHT POLES AND RAIL POSTS, WHEREVER POSSIBLE. (ALL SPACINGS ARE APPROXIMATE.

8.) ALL EXISTING DOUBLE PIPE RAILING, INCLUDING POSTS, SHALL BE CAREFULLY REMOVED TO PRESERVE EXISTING ANCHOR BOLTS FOR RE-USE ON THE INNERBELT EXTENSION AND WEST APPROACH. PAYMENT FOR ALL LABOR AND EQUIPMENT SHALL BE MADE PER LINEAR FOOT FOR ITEM 202, BRIDGE RAILING REMOVED.

**** NOTE:**

CONTRACTOR SHALL EXERCISE EXTREME CARE WHILE REMOVING CONCRETE AROUND REINFORCING STEEL.

ANY REINFORCING STEEL THAT ~~IS TO REMAIN THAT~~ IS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

D-12 REVISED 8-96 — 22/89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DECK PLAN
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
DARKO	C.A.G.	M.J.L.	J.R.C.	DEC. 30, 1991	

BRUNING 44-232-67195-01

A-C-L form no. B-1

CALC. ____ DATE ____	CUYAHOGA COUNTY	OHIO
CHKD. ____ DATE ____	CUY-90-15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

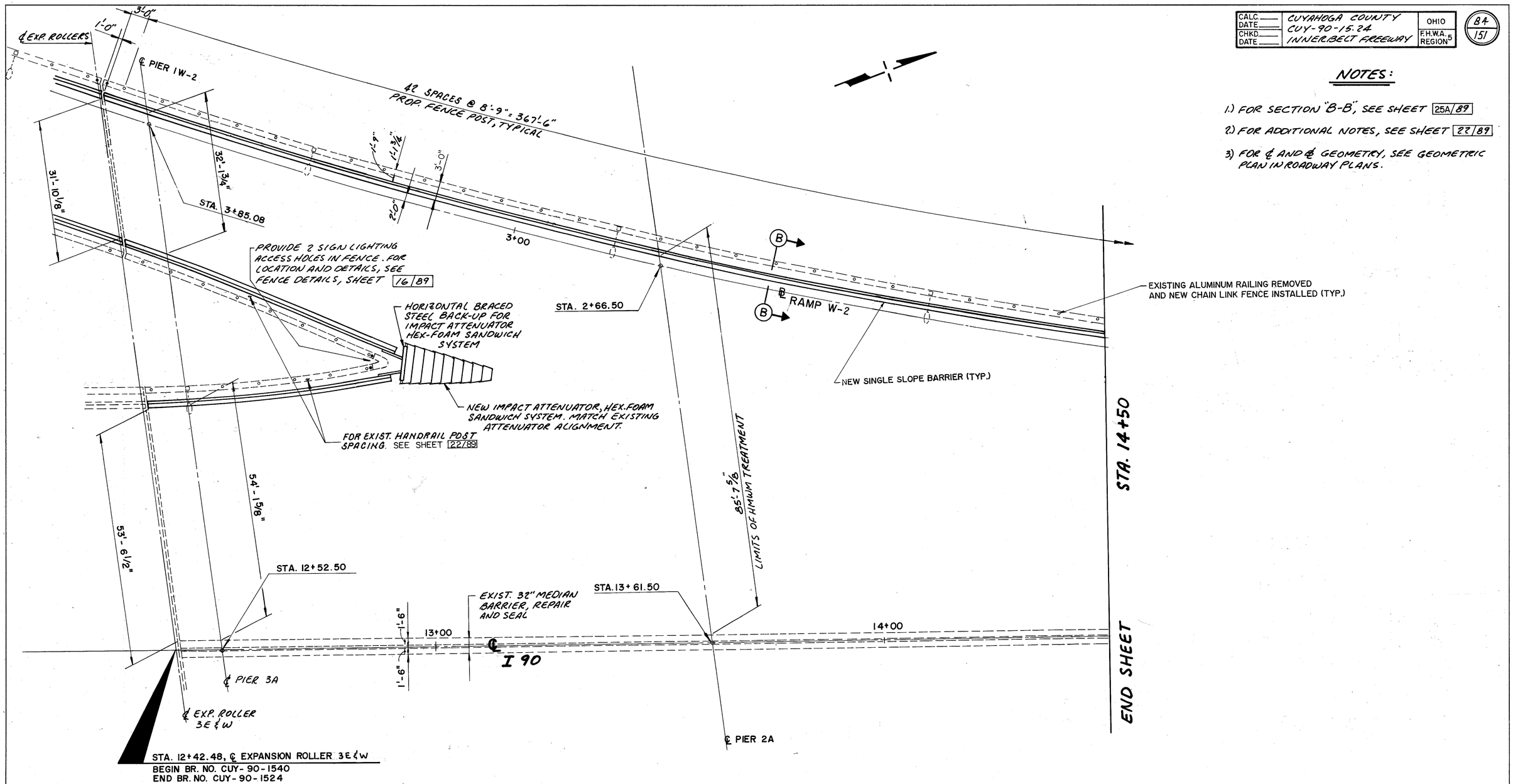
84/151

NOTES:

1.) FOR SECTION "B-B", SEE SHEET 25A/89

2.) FOR ADDITIONAL NOTES, SEE SHEET 22/89

3) FOR ℄ AND ℄ GEOMETRY, SEE GEOMETRIC PLAN IN ROADWAY PLANS.



D-12 REVISED 8-96

23/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DECK PLAN
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
DARKO	C.A.G.	M.J.L.	J.R.C.	DEC. 30, 1991	

BRUNING 44.232.67195.01

A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

85/151

℄ PIER 3A

℄ EXP. ROLLER 3E & W

EXISTING 32" MEDIAN BARRIER REPAIR AND SEAL.

℄ PIER 2A

2'-6"

3'-0"

12+00

13+00

14+00

℄ I 90

STA. 12+02.50

STA. 12+52.50

STA. 13+61.50

STA. 12+42.48, ℄ EXPANSION ROLLER 3E & W
END BR. NO. CUY-90-1524
BEGIN BR. NO. CUY-90-1540

9'-7" PROP. FENCE POST SPACING

PROP. FENCE POST SPACING

2'-2 7/8"

8'-0"

STA. 12+71.47

FENCE FABRIC CONFIGURATION @ RAMP NOSE.

EXISTING ALUMINUM RAILING REMOVED AND NEW CHAIN LINK FENCE INSTALLED (TYP.)

NEW SINGLE SLOPE BARRIER (TYP.)

VARIES

LIMITS OF WEARING SURFACE SEALING (TYP.)

END SHEET STA. 14+50

18'-6 3/4"

APPROACH SLAB ℄

7+00

℄ RAMP W-1

8+00

9+00

EXISTING WALKWAY AREA ℄

12'-0" VARIES

LIMITS OF WEARING SURFACE SEALING

℄ PIER 1W-1

1'-7"

4 SPACES @ 8'-9" = 35'-0"

4'-6"

2'-1"

8"

1'-0"

℄ BRG. ABUT. W-1

℄ EXP. ROLLERS

39 SPACES @ 8'-9" = 341'-3"
(PROP. FENCE POST SPACING)

PLAN

8"

2'-8"

4 SPACES @ 8'-0" = 32'-0"

5'-8"

8"

9'-10"

1'-0"

9'-7" PROP. FENCE POST SPACING

FENCE FABRIC CONFIGURATION @ RAMP NOSE.

18'-6 3/4"

1'-7"

10 SPACES @ 8'-3" = 82'-6"
(PROP. FENCE POST SPACING)

GUARDRAIL POST STA. 5+83.12

EXISTING GUARDRAIL TO BE REMOVED (SEE ROADWAY PLANS)

BRIDGE TERMINAL ASSEMBLY, TYPE I

EXISTING APPROACH SLAB (25'-0" LG)

CONTRACTION JOINT TO MATCH JOINTS IN PAVEMENT

GUARDRAIL TYPE 5 TRANSITION TO MEET EXISTING. (SEE ROADWAY PLANS)

EXISTING RAMP

TO BE PAID FOR WITH BRIDGE QUANTITIES

℄ RAMP W-1 7+00

℄ PIER 1W-1

ANCHOR ASSEMBLY TYPE E. (SEE ROADWAY PLANS)

℄ BEARING ABUT. W-1

CONCRETE TRANSITION BARRIER (SEE ROADWAY PLAN)

GUARDRAIL POST STA. 6+48.56

BRIDGE TERMINAL ASSEMBLY, TYPE I

14'-0" CONCRETE TRANSITION BARRIER (SEE ROADWAY PLAN)

℄ EXP. ROLLERS

PART PLAN

FOR CALL OUTS AND INFORMATION NOT SHOWN, SEE PART PLAN, THIS SHEET

NOTES:

1.) FOR SECTIONS "C-C", "E-E", "H-H", SEE SHEET 25A/89

3.) FOR ADDITIONAL NOTES SEE SHEET 22/89

D-12 REVISED 8-96 — 24/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DECK PLAN
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

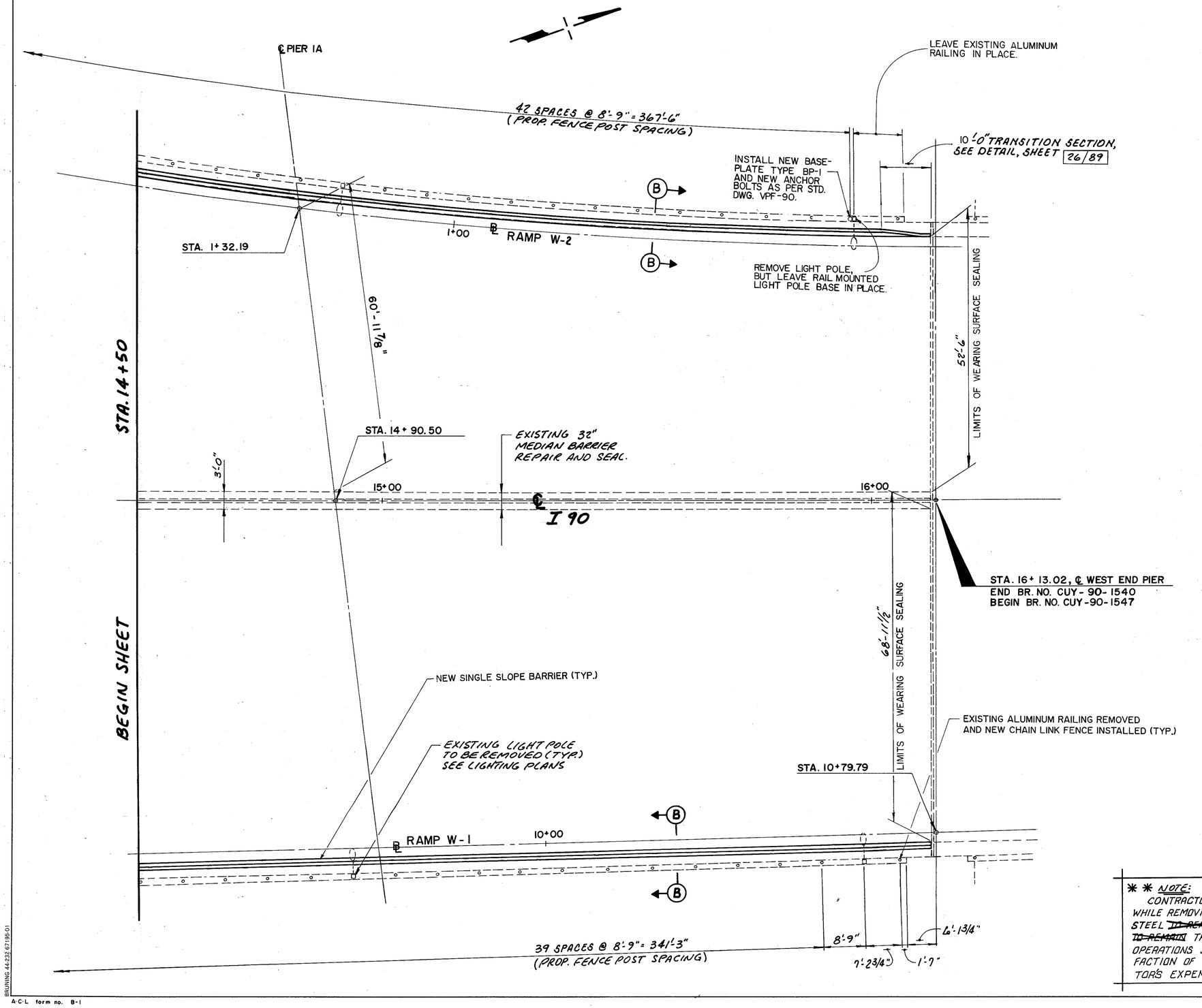
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
DARKO	C.A.G.	M.J.L.	J.R.C.	DEC. 30, 1991	

BRUNING 44-232 67195-01

A-C-L form no. B-1



NOTES

1.) FOR SECTION "B-B", SEE SHEET 25A/89

2.) FOR ADDITIONAL NOTES SEE SHEET 22/89

* * NOTE:
CONTRACTOR SHALL EXERCISE EXTREME CARE WHILE REMOVING CONCRETE AROUND REINFORCING STEEL ~~TO REMAIN~~. ANY REINFORCING STEEL ~~TO REMAIN~~ THAT IS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

D-12 REVISED 8-96

25/89

adache · ciuni · lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DECK PLAN
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
DARKO	C.A.G.	M.J.L.	J.R.C.	DEC. 30, 1991	

BRUNING 44-232 67195-01

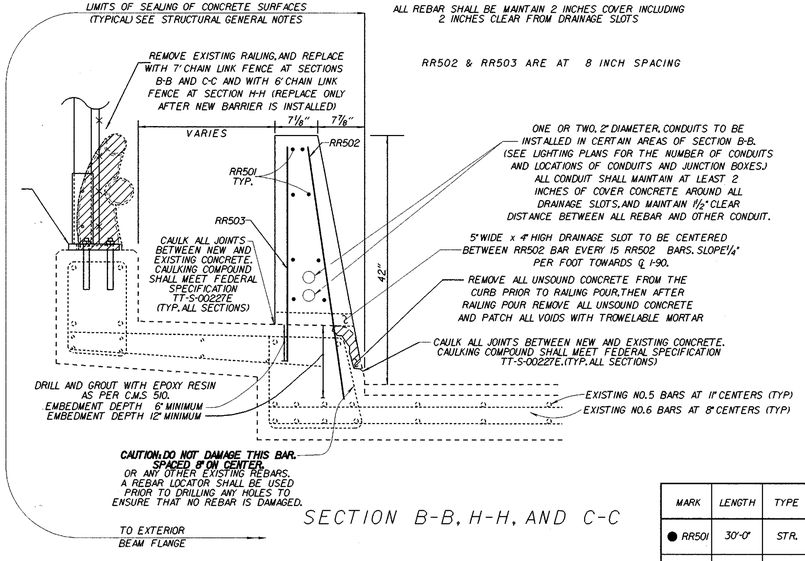
A·C·L form no. B-1

CUYAHOGA COUNTY CUY-90-15.24 INNERBELT FREEWAY	OHIO FHWA REGION 5 FEDERAL PROJECT	86A 151

NOTE: THAT THE EXISTING RAILING TO BE REMOVED IS A SINGLE RAIL TYPE IN SOME LOCATIONS.

SAWCUT 1" DEEP CRACK CONTROL JOINTS. CENTER ABOVE DRAINAGE SLOTS AND FILL WITH CAULKING MATERIAL THAT MEETS FEDERAL SPECIFICATION TT-S-00227E. (TYP.)

SEE FENCE DETAIL SHEET: 15/89, FOR BASE PLATE.



SECTION B-B, H-H, AND C-C

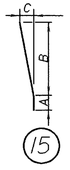
MARK	LENGTH	TYPE	DIM A	DIM B	DIM C	INCREMENT
● RR501	30'-0"	STR.				
▲ RR502	3'-6¾"	STR.				
▲ RR503	3'-0"	STR.				
▲ RR504	3'-11¾"	15	0'-7¾"	3'-3⅜"	0'-7⅞"	
▲ RR505	3'-11¼"	STR.				
▲ RR506	1'-9½" 3'-6½"	STR.				1½" 1 SER. OF 15 BARS
▲ RR507	1'-3½" 3'-½"	STR.				1½" 1 SER. OF 15 BARS
● RR508	11'-11"	15	1'-11⅛"	9'-10"	1'-8⅝"	

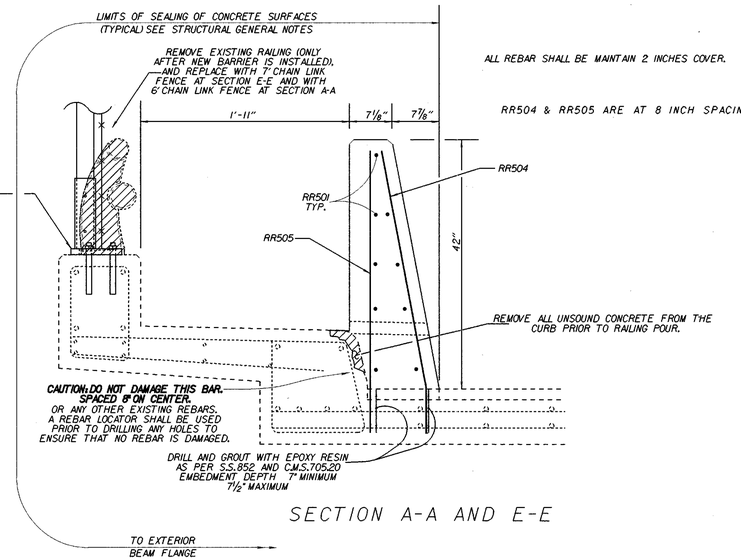
● ALL LONGITUDINAL REINFORCING STEEL SHALL BE CONTINUOUS. NO.5 BARS SHALL HAVE A MINIMUM LAP LENGTH OF 23" NO.4 BARS SHALL HAVE A MINIMUM LAP LENGTH OF 19"

▲ ALL VERTICAL NO.5 BARS SHALL BE SPACED AT 8" INTERVALS LONGITUDINALLY.

NOTE: ALL VERTICAL NO.5 BARS MAY BE FIELD BENT TO MAINTAIN MINIMUM COVER.

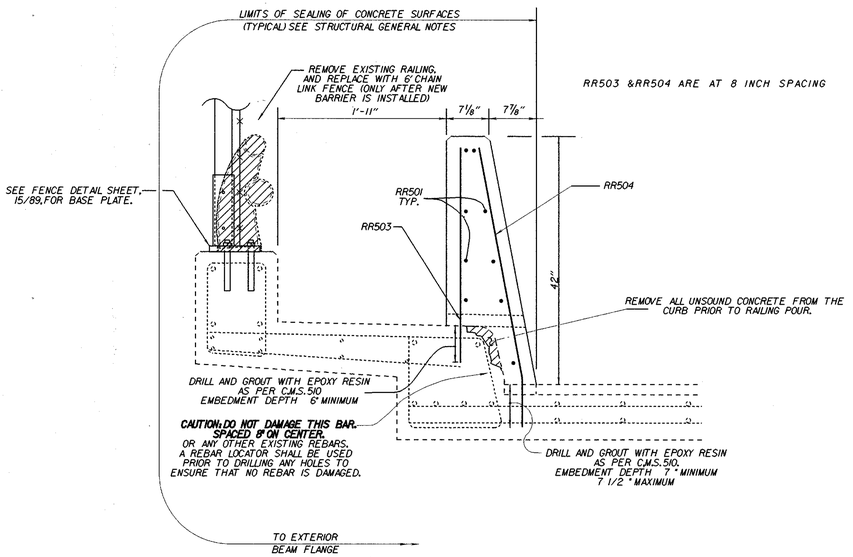
ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.



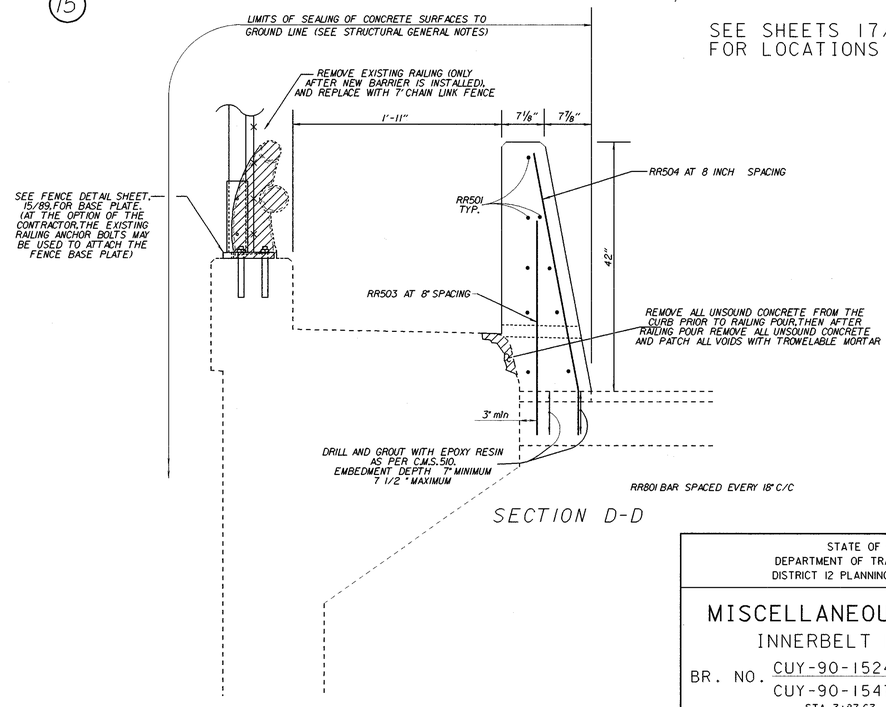


SECTION A-A AND E-E

SEE SHEETS 17/89 TO 25/89 FOR LOCATIONS OF SECTIONS



SECTION HI-HI



SECTION D-D

SHEET 25A / 89

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

MISCELLANEOUS DETAILS
INNERBELT FREEWAY

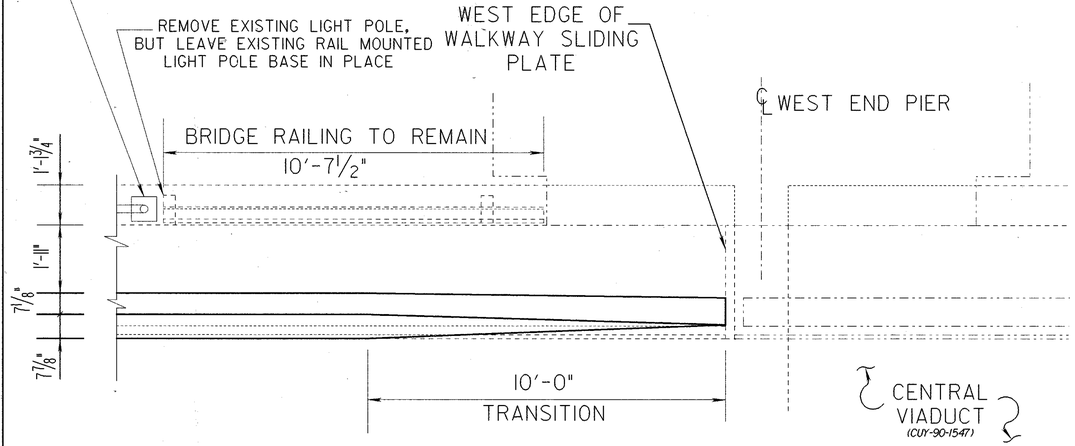
BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM	GLC	DWL	
			DATE 8/96	SHEET /

C:\DGN\JNC8952A\JEFF.DGN

END FENCE. DRILL AND EPOXY GROUT ANCHOR BOLTS TO ATTACH FENCE BASE PLATE TO RAILING AS PER C.M.S. 510 AND AS PER STD. DWG. VPF-1-90. USE BASE PLATE BP-1



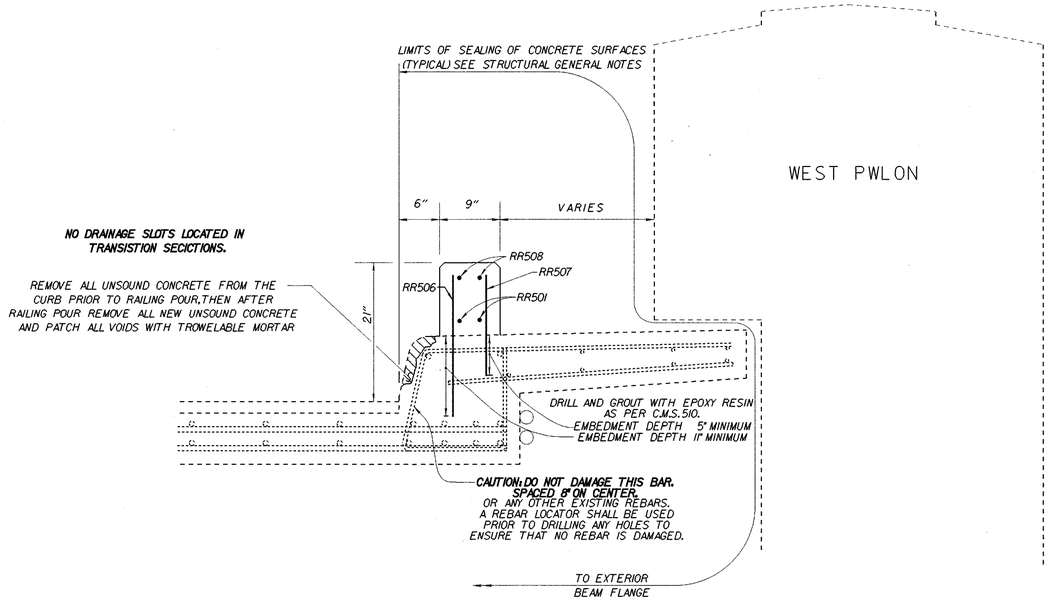
PLAN

WEST BOUND TRAFFIC

AREA TO BE REMOVED

ALL REBAR SHALL BE MAINTAIN 2 INCHES COVER

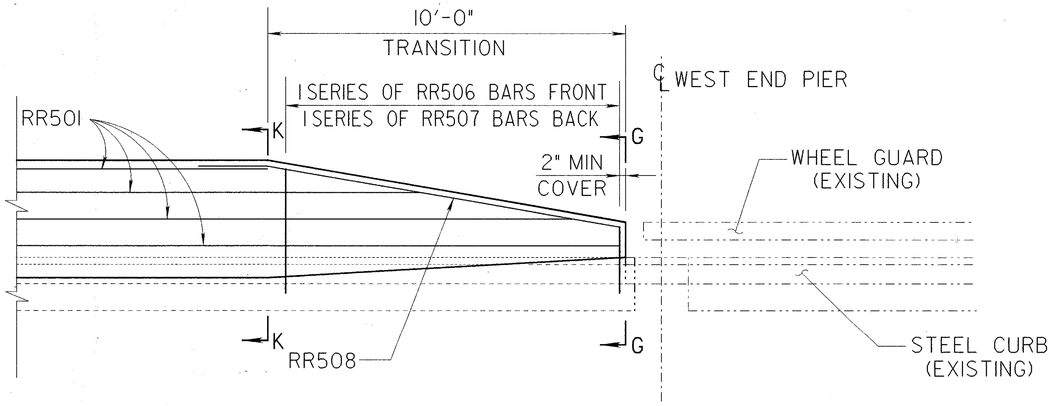
RR506 AND RR507 BARS SHALL BE SPACED AT 8 INCH INTERVALS LONGITUDINALLY



SECTION G-G

NOTES

1. FOR NOTES SEE SHEET 22/89
2. FOR DECK PLAN SEE SHEET 25/89
3. FOR REBAR BENDING DIAGRAM SEE SHEET 25A/89

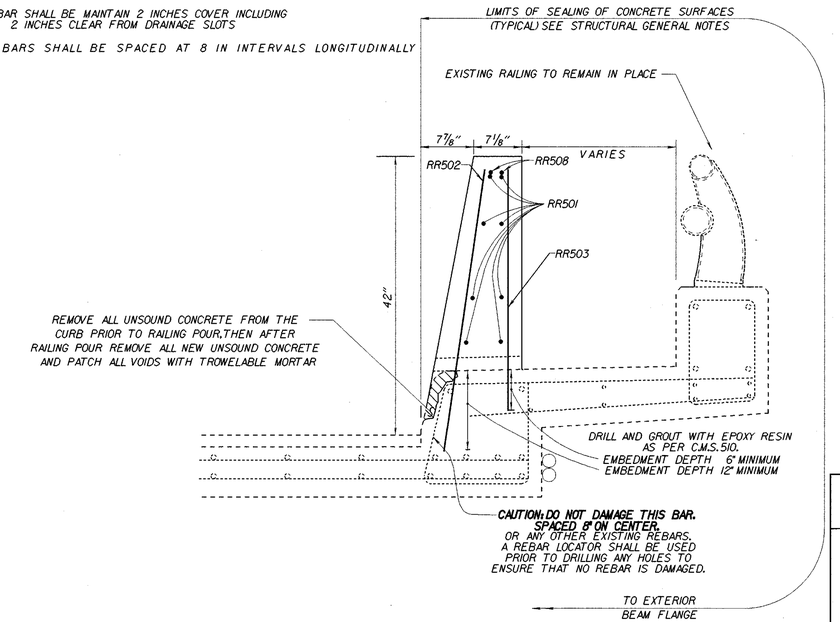


ELEVATION

BARRIER TRANSISTION AT WEST END PIER

ALL REBAR SHALL BE MAINTAIN 2 INCHES COVER INCLUDING 2 INCHES CLEAR FROM DRAINAGE SLOTS

RR502 AND RR503 BARS SHALL BE SPACED AT 8 IN INTERVALS LONGITUDINALLY



SECTION K-K

SHEET 26 / 89

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

MISCELLANEOUS DETAILS
INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM	GLC	DWL DATE 8/96	SHEET

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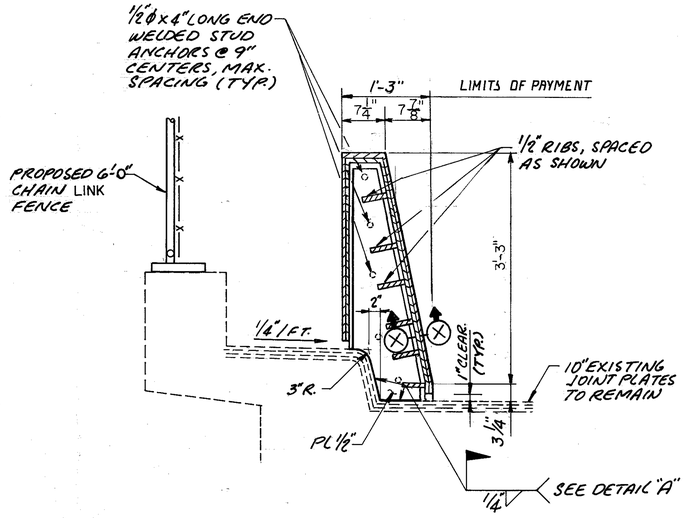
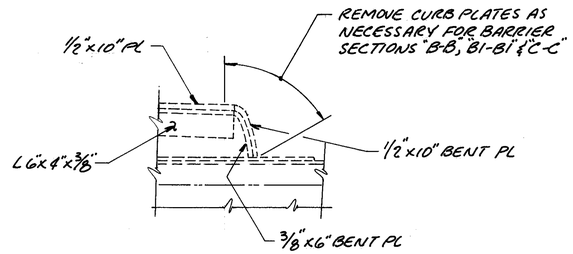


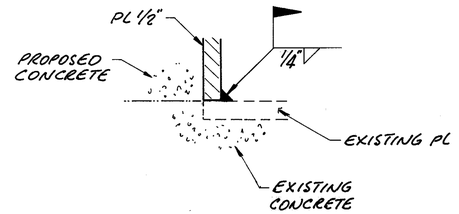
SECTION THRU EXPANSION JOINT 2E & W

- BARRIER SECTION "A-A" SHOWN, SECTIONS B-B, C-C, D-D, E-E & H-H SIMILAR
- FOR BARRIER AND CURB DIMENSIONS NOT SHOWN, SEE BARRIER SECTIONS

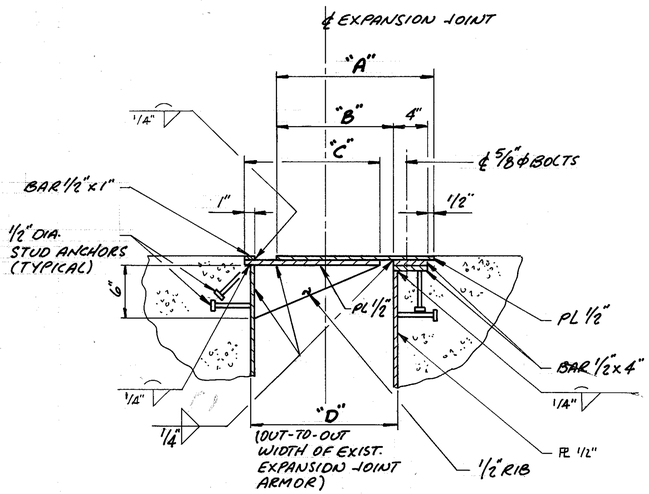


EXISTING CURB SECTION

CURB AT ABUTMENT W-1 JOINT SHOWN, RAMP W-1 EXPANSION ROLLER JOINT, RAMP W-2 EXPANSION ROLLER JOINT, & ABUTMENT W-2 JOINT SIMILAR



DETAIL "A"



SECTION "X-X"

	JOINT LOCATIONS	DIMENSIONS "A"	"B"	"C"	D@60°	SKEW ANGLE
MAINLINE	ABUTMENT	17 1/2"	13"	14"	16"	18°-19'-32" RIGHT FORWARD
	EXP. ROLLER 1W	17 1/2"	13"	14"	16"	12°-00'-00" LEFT FORWARD
	EXP. ROLLER 2E & W	16 1/2"	12"	13"	15 3/8"	0°
	EXP. ROLLER 3E & W	20"	15 1/2"	16 1/2"	18 9/16"	7°-00'-00" RIGHT FORWARD
RAMP W-1	ABUTMENT W-1	15 1/2"	11"	12"	14"	5°-39'-05" RIGHT FORWARD
	EXP. ROLLER	20"	15 1/2"	16 1/2"	19 1/2"	3°-28'-35" RIGHT FORWARD
RAMP W-2	ABUTMENT W-2	13 1/2"	9"	10"	12"	0°
	EXP. ROLLER	20"	15 1/2"	16 1/2"	19 1/2"	28°-00'-00" RIGHT FORWARD

NOTE: DIMENSION "D" AND SKEW ANGLE WERE TAKEN FROM EXISTING PLANS AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR. DIMENSIONS "A" THRU "D" ARE NORMAL TO THE JOINT REGARDLESS OF SKEW ANGLE.

NOTES:

1. FOR SECTIONS "A-A" & "E-E" SEE SHEET 25A/89
2. FOR SECTION B-B AND SECTION H-H SEE SHEET 25A/89
3. FOR SECTION "C-C" SEE SHEET 25A/89
4. FOR SECTION "D-D" SEE SHEET 25A/89
5. PAYMENT FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE ALL EXPANSION JOINT WORK ON THE INNERBELT EXTENSION (CUY-90-15.24) AND WEST APPROACH (CUY-90-15.40) SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 516 - STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN."
6. BARRIER REINFORCING STEEL SHALL BE FIELD CUT AS REQUIRED. COST FOR FIELD CUTTING SHALL BE INCLUDED IN ITEM 622, 42" RETROFIT CONCRETE BARRIER, AS PER PLAN. PER LINEAR FOOT.

D-12 REVISED 8-96 | 27/89

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EXPANSION JOINT DETAILS

INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

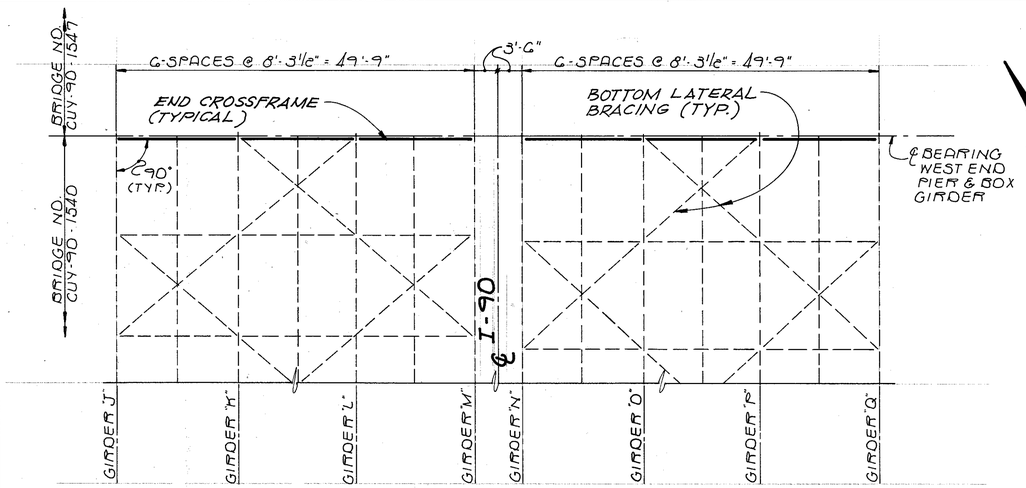
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
M.J.L	O.S.C.	T.M.J.	J.R.C.	DEC. 30, 1991	

BRUNING 44-232-67195

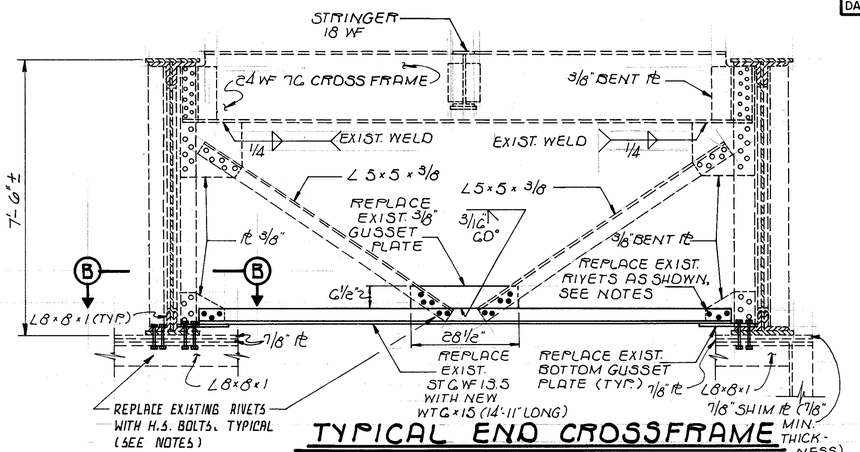
A-C-L form no. B-1

CALC		CUYAHOGA COUNTY	OHIO
DATE		CUY-90-15.24	F.H.W.A.
CHKD		INNERBELT FREEWAY	REGION 5
DATE			

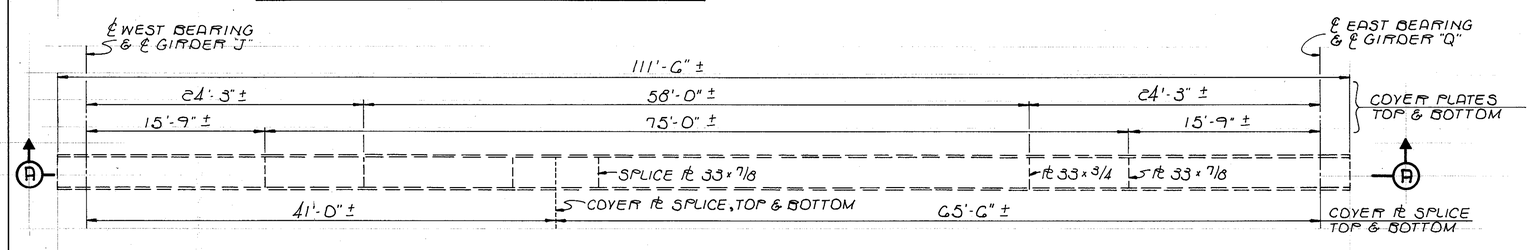
89A / 151



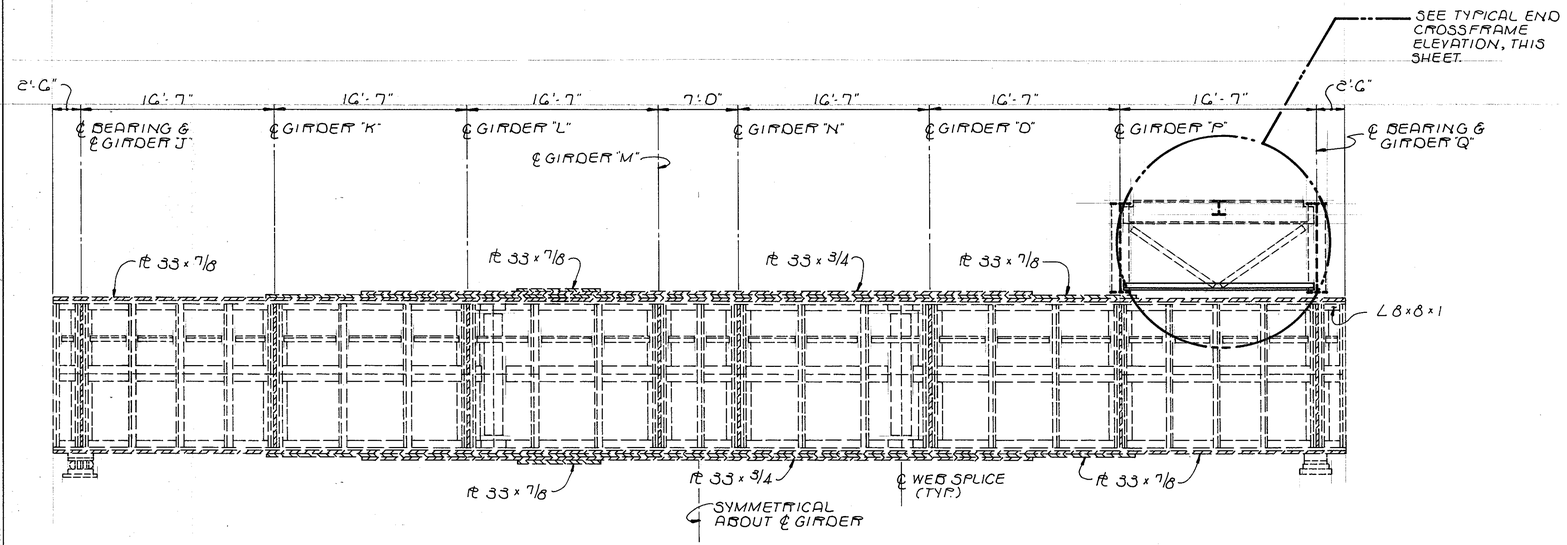
PARTIAL FRAMING PLAN



TYPICAL END CROSSFRAME ELEVATION



BOX GIRDER PLAN



SECTION A-A

NOTES:

ONLY THE BOTTOM HORIZONTAL CROSSFRAMES MEMBERS (EXISTING STG WF 13.5), BOTTOM GUSSET PLATES AND GUSSET PLATES CONNECTING THE BOTTOM HORIZONTAL CROSSFRAME MEMBERS TO THE DIAGONAL CROSSFRAME MEMBERS SHALL BE CAREFULLY REMOVED AND REPLACED AS SHOWN IN THE PLANS.

REPLACEMENT OF THE CROSSFRAME MEMBERS INCLUDING THE RIVET REPLACEMENT THROUGH THE BOX GIRDER SHALL NOT BE PREFORMED SIMULTANEOUSLY IN ADJACENT GIRDER BAYS.

THE CONTRACTOR SHALL CAREFULLY REMOVE ONLY THOSE RIVETS CALLED FOR REPLACEMENT IN THE PLANS. THE EXISTING 7/8" DIA. RIVET HEADS SHALL BE REMOVED BY GRINDING OR BY PROPER BURNING TECHNIQUES, SUBJECT TO THE ENGINEER'S APPROVAL. THE REMAINING STEM SHALL BE REMOVED BY PUNCHING OR DRIVING THE STEM THROUGH. HOLES IN THE EXISTING ELEMENTS TO REMAIN OR TO BE RELIED SHALL BE REAMED TO 1 1/16" DIA. TO ALLOW FOR THE USE OF 1" DIA. A325 BOLTS IN THE NEW CONNECTIONS.

PAYMENT FOR THE REMOVAL OF EXISTING RIVETS AND CROSSFRAME MEMBERS, AND INSTALLATION OF NEW CROSSFRAME MEMBERS AND HIGH STRENGTH BOLTS, INCLUDING ALL INCIDENTALS SHALL BE INCLUDED IN ITEM 513 - "STRUCTURAL STEEL (A/S/D CERTIFICATION NOT REQUIRED)".

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 6/89.

FOR SECTION B-B, SEE SHEET 28B/89.

28A/89

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STRUCTURAL DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

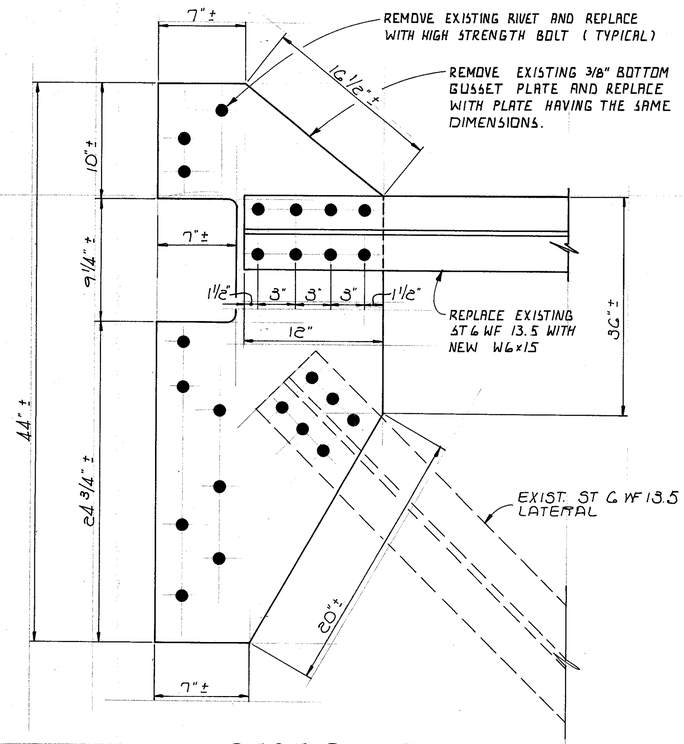
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

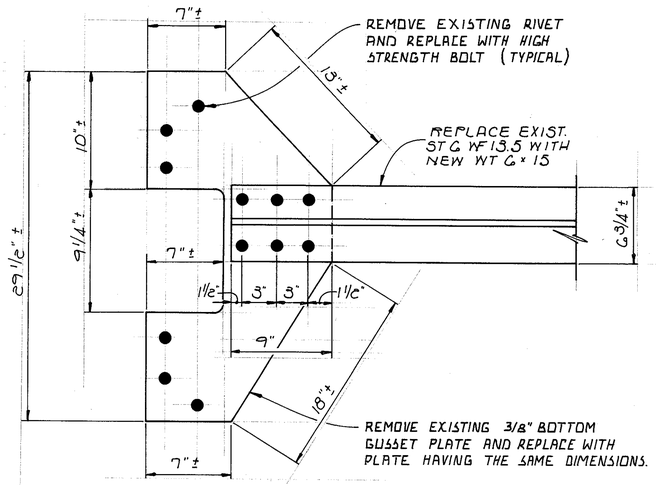
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
M.J.L.	T.E.S.	D.P.	A.J.M.	9/94	

BRUNING 44-232-67195

A-C-L form no. B-1



SECTION B-B
(WITH CROSS LATERAL)



SECTION B-B
(WITHOUT CROSS LATERAL)

NOTE:

FOR NOTES, SEE SHEET 28A/89.

CALC ____ DATE ____ CHKD ____ DATE ____	CUYAHOGA COUNTY CUY-90-15.24 INNERBELT FREEWAY	OHIO FHWA REGION 5	89B 151

28B/89

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STRUCTURAL DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

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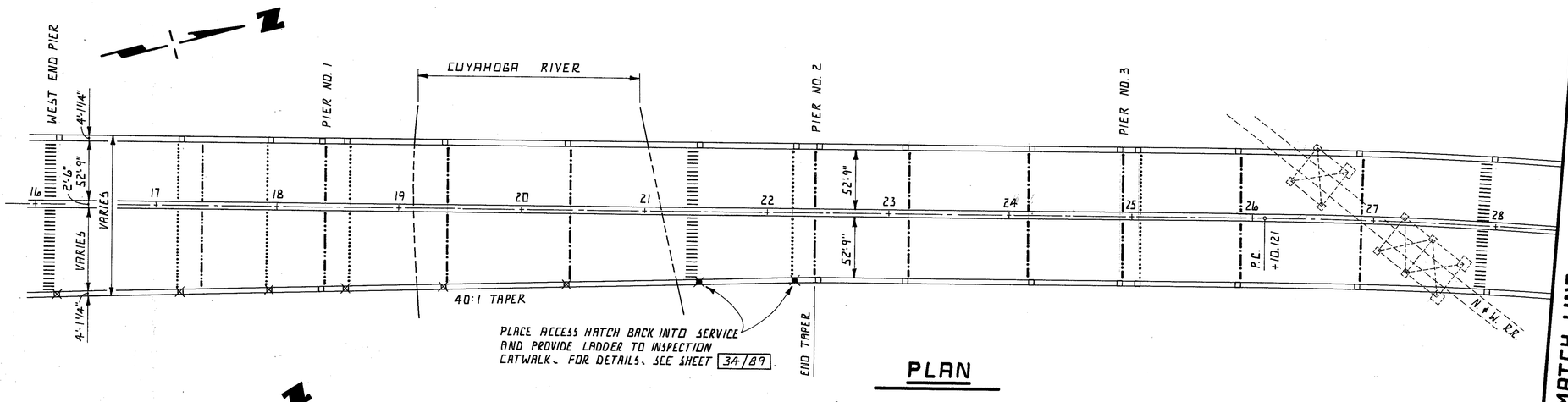
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
M.J.L.	T.E.S.	D.P.	A.J.M.	9/94	

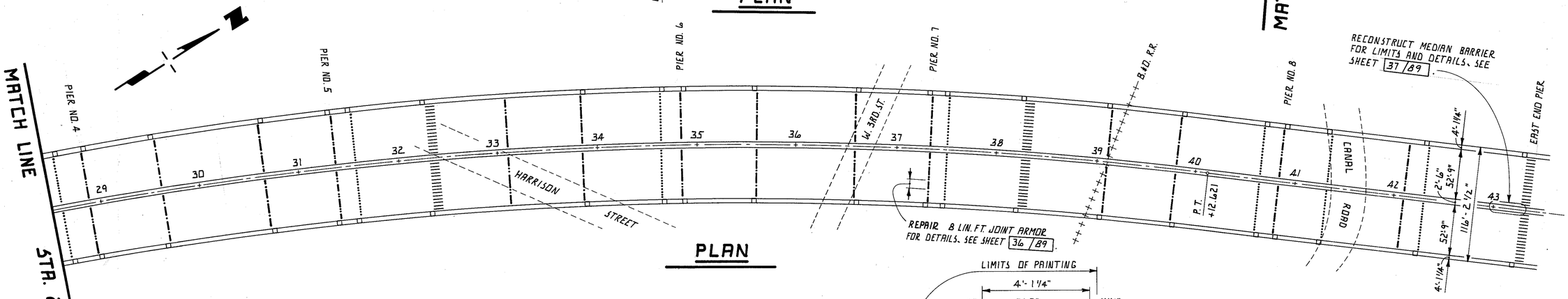
BRUNING 44 232 67195

A-C-L form no. B-1

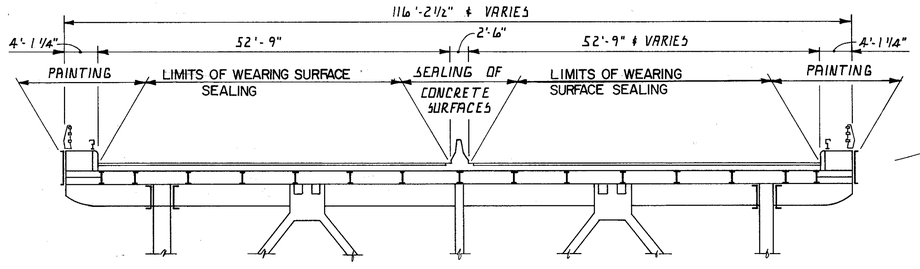
CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		



PLAN

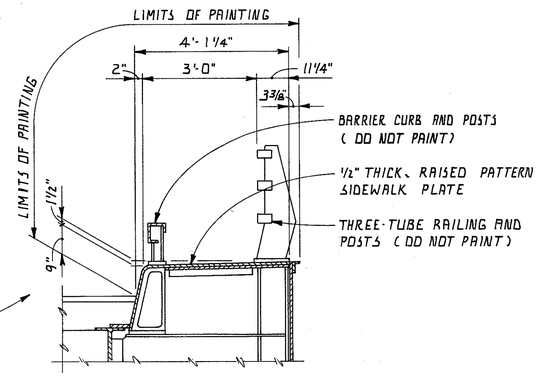


PLAN



EXISTING DECK SECTION

DETAIL



LIMITS OF PAINTING

TYPICAL EACH WALKWAY

LEGEND:

- CONTRACTION JOINT
- CONTRACTION JOINT AT CROSS DRAIN
- CROSS DRAIN
- FINGER TYPE, EXPANSION JOINT
- ACCESS HATCH THROUGH SIDEWALK
- ACCESS HATCH OUT OF SERVICE
- ACCESS HATCH TO BE PLACED BACK INTO SERVICE AND CATWALK EXTENDED.

NOTES:

FOR JOINT MODIFICATION NOTES, SEE SHEET 35/89.

FOR JOINT MODIFICATION DETAILS, SEE SHEET 36/89.

ALL EXISTING COPPER JOINT SEALS AT CONTRACTION JOINTS SHALL BE REMOVED AND REPLACED IN RECORDANCE WITH THE JOINT MODIFICATION NOTES AND DETAILS. (THIS ITEM OF WORK WAS PREFORMED BY A PREVIOUS CONTRACT TO ONLY A PORTION OF THE CONTRACTION JOINTS SHOWN, THEREFORE NOT ALL OF THE CONTRACTION JOINTS SHOWN HAVE EXISTING COPPER JOINT SEALS.)

D-12 REVISED 8-96

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PLAN AND SECTION
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	DEC. 30, 1991	

PIER REPAIR NOTES

THE INTERIOR OF THE CENTRAL VIADUCT PIERS SHALL BE CLEANED, REPAIRED AND FILLED WITH ENGINEERED FILL, CLASS II TO THE LIMITS SHOWN ON THE PLAN. THE FILL MATERIAL SHALL BE CAPPED WITH CONCRETE. MANHOLE STEPS, ACCESS DOORS AND MANHOLE COVERS SHALL BE REPLACED AS REQUIRED.

ITEM 530 - STRUCTURE MISC.; CLEANING OF EXISTING PIER INTERIORS

THE CONTRACTOR SHALL PUMP-OUT AND/OR CLEAN-OUT THE EXISTING PIERS OF WATER, MUD, SILT AND DEBRIS. PIER NO. 2 NORTH IS FILLED WITH AGGREGATE UP TO THE LEVEL OF THE ACCESS DOORWAY. THE AGGREGATE SHALL BE REMOVED IN A MANNER ACCEPTABLE TO THE ENGINEER. THE EXISTING ABANDONED DRAIN PIPES AND BRACKETS ATTACHED TO THE INTERIOR OF THE PIER WALLS SHALL BE REMOVED IN ACCORDANCE WITH THE PLANS. ALL WATER, MUD, SILT, DEBRIS, AGGREGATE, DRAIN PIPES AND BRACKETS SHALL BE PROMPTLY DISPOSED OF, OFF SITE, IN A MANNER ACCEPTABLE TO THE ENGINEER.

THE ABOVE SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH, ITEM SPECIAL - "CLEANING OF EXISTING PIER INTERIORS" AND SHALL INCLUDE ALL LABOR AND EQUIPMENT NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM SPECIAL - ENGINEERED FILL, CLASS II

1.0 DESCRIPTION: THIS WORK CONSISTS OF FURNISHING AND PLACING A LOW DENSITY CEMENTITOUS FILL MATERIAL, HEREINAFTER REFERED TO AS ENGINEERED FILL, IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLY CLOSE COMFORMITY WITH DETAILS SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER.

2.0 CONTRACTOR QUALIFICATIONS: THE CONTRACTOR'S PERSONNEL WHO ARE TO PREFORM THE WORK FOR THE PLACEMENT OF THE ENGINEERED FILL SHALL BE EXPERIENCED IN THE PLACEMENT OF ENGINEERED FILL MATERIAL AND SHALL HAVE COMPLETED MASS FILLS HAVING A MINIMUM QUANTITY OF 10,000 TOTAL CUBIC YARDS IN THE PAST THREE YEARS. THE ENGINEERED FILL MATERIAL SHALL HAVE BEEN SUCCESSFULLY PLACED AT THREE PROJECT SITES AND THE MATERIAL SHALL HAVE PREFORMED SATISFACTORILY FOR AT LEAST THREE YEARS.

THE SUBCONTRACTOR'S RESUME AND A LIST OF HIS COMPLETED PROJECTS SHALL BE SUBMITTED TO THE PROJECT ENGINEER IN A TYPED REPORT. THE NAMES, ADDRESSES AND TELEPHONE NUMBERS OF THE OWNERS OF THESE COMPLETED PROJECTS MUST BE INCLUDED. THE REPORT SHALL BE SUBMITTED AT THE PRECONSTRUCTION CONFERENCE. THE SUBCONTRACTOR WILL BE APPROVED OR REJECTED BY THE DIRECTOR FOR PARTICIPATION IN THIS PROJECT WITHIN 21 WORK DAYS AFTER THE PRECONSTRUCTION CONFERENCE.

2.1 QUALIFIED PRODUCT: THE PRIME CONTRACTOR IS REQUIRED TO DECLARE WHICH ENGINEERED FILL PRODUCT HE HAS CHOSEN BY BIDDING ON THE APPROPRIATE SET OF QUANTITIES SHOWN IN THE PROPOSAL. THE ENGINEERED FILL MATERIAL SHALL BE SUPPLIED BY THE FOLLOWING APPROVED MANUFACTURERS:

2.1.1 ELASTIZELL
ELASTIZELL CORPORATION OF AMERICA
P.O. BOX 1462
ANN ARBOR, MICHIGAN 48106
TELEPHONE 313-761-6900

2.1.2 MEARLCRETE
THE MEARL CORPORATION
220 WESTFIELD AVENUE WEST
ROSELLE PARK, NEW JERSEY 07204
TELEPHONE 201-245-9500

3.0 MATERIALS: THE MATERIALS USED TO PRODUCE THE ENGINEERED FILL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

3.1 CEMENT: THE PORTLAND CEMENT SHALL COMPLY WITH ASTM C150. POZZOLANS AND OTHER CEMENTIOUS MATERIALS MAY BE USED WHEN SPECIFICALLY APPROVED BY THE MANUFACTURER OF THE ENGINEERED FILL.

3.2 WATER: THE WATER SHALL BE POTABLE AND FREE FROM DELETERIOUS AMOUNTS OF ALKALI, ACID, AND ORGANIC MATERIALS WHICH WOULD ADVERSELY AFFECT THE SETTING TIME OR STRENGTH OF THE ENGINEERED FILL.

3.3 ADMIXTURES: ADMIXTURES MAY BE USED WHEN SPECIFICALLY APPROVED BY THE MANUFACTURER OF THE ENGINEERED FILL.

3.4 PROPERTIES: THE ENGINEERED FILL SHALL HAVE THE FOLLOWING PROPERTIES WHICH SHALL BE VERIFIED BY SUBMISSION OF CERTIFIED TEST DATA:

	CLASS II
3.4.1 MAXIMUM CAST DENSITY	30 PCF
3.4.2 MINIMUM COMPRESSIVE STRENGTH	40 PSI
3.4.3 FREEZE-THAW RESISTANCE (MIN. CYCLES @ RELATIVE E EQUAL TO OR GREATER THAN 70% PER ASTM C666 - AND BIDWELL REPORT MODIFIED DATED APRIL, 1975)	N/A

3.4.4 COEFFICIENT OF PREMEABILITY (CM/SEC) PER ASTM D2434

	CLASS II
AT 2.5 PSI	1.3 X 10 (-3)

	CLASS II
3.4.5 WATER ABSORPTION -LONG TERM IMMERSION AS % OF MAX. ALLOW. CAST DENSITY (120 DAYS) PER ASTM C796	20%

3.4.6 AT CONFINING PRESSURE OF 3 PSI - ASTM D4015

	CLASS II
SHEAR MODULUS, G	25,000 PSI
YOUNGS MODULUS, E	68,000 PSI

4.0 TESTING: ALTHOUGH TESTING IS TO BE PREFORMED BY A PRIVATE TESTING COMPANY, SAMPLING MAY BE DONE BY THE SUBCONTRACTOR. TESTING AND SAMPLING SHALL BE IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:

4.1 CAST DENSITY: DURING PLACEMENT OF THE INITIAL BATCHES, THE SUBCONTRACTOR SHALL CHECK THE DENSITY AND ADJUST THE MIX AS REQUIRED TO OBTAIN THE SPECIFIED CAST DENSITY AT THE POINT OF PLACEMENT. AT HOURLY INTERVALS DURING PLACING, MONITOR THE DENSITY AND ADJUST AS NECESSARY TO MAINTAIN THE SPECIFIED CAST DENSITY.

4.2 SAMPLING: TAKE AT LEAST FOUR (4) TEST SPECIMENS FOR EACH 300 CUBIC YARDS OF ENGINEERED FILL PLACED OR FOR EACH FOUR (4) HOURS OF PLACING. TEST THE SPECIMENS IN ACCORDANCE WITH ASTM C495 EXCEPT AS FOLLOWS:

4.2.1 THE SPECIMENS SHALL BE 3" X 6" CYLINDERS UNLESS OTHERWISE APPROVED BY THE ENGINEER. TO PREVENT DAMAGE AND LOSS OF MOISTURE, COVER AND PROTECT SPECIMENS IMMEDIATELY AFTER CASTING.

4.2.2 MOIST CURE THE SPECIMENS FOR A PERIOD OF UP TO SEVEN (7) DAYS PRIOR TO THE 28-DAY COMPRESSIVE STRENGTH TEST. DO NOT OVEN DRY THE SPECIMENS THAT ARE TO BE LOAD TESTED.

4.2.3 SPECIMENS MAY BE TESTED AT ANY AGE TO MONITOR THE COMPRESSIVE STRENGTH OF THE ENGINEERED FILL. PLEASE NOTE THAT CLASSES II AND III MATERIAL MAY REQUIRE SPECIAL HANDLING AND TESTING TECHNIQUES ACCORDING TO THE INSTRUCTIONS FROM THE MANUFACTURER OF THE ENGINEERED FILL.

5.0 INSTALLATION: INSTALLATION OF THE ENGINEERED FILL SHALL BE IN ACCORDANCE WITH THE INSTALLATION PROCEDURES PROVIDED BY THE MANUFACTURER'S REPRESENTATIVE.

5.1 BEFORE PLACING THE ENGINEERED FILL, EXAMINE THE PLACEMENT AREAS AND CONDITIONS AT LOCATIONS WHERE THE ENGINEERED FILL IS TO BE PLACED. DO NOT PLACE THE ENGINEERED FILL UNTILL UNSATISFACTORY CONDITIONS ARE CORRECTED.

5.2 IMMEDIATELY PRIOR TO PLACEMENT OF THE ENGINEERED FILL, THE AREA TO BE COVERED WITH THE ENGINEERED FILL SHALL BE FREE OF STANDING WATER.

5.3 ITEMS TO BE ENCASED IN THE FILL SHALL BE PROPERLY FIXED IN PLAN POSITION PRIOR TO THE INSTALLATION OF THE ENGINEERED FILL.

5.4 INSTALLATIONS RESTRICTIONS WITH REGARD TO WEATHER CONDITIONS ARE AS FOLLOWS:

5.4.1 THE ENGINEERED FILL SHALL NOT BE PLACED WHEN THE AMBIENT TEMPERATURE IS LESS THAN 32 DEGREES F INSIDE OR OUTSIDE THE PIER PYLON.

5.4.2 THE INSTALLATION PROCEDURES SHALL NOT BEGIN IF THE WEATHER FORCASTS PREDICT THAT TEMPERATURES WHICH ARE LESS THAN 32 DEGREES F MAY OCCUR WITHIN THE FIRST 8 HOUR TIME PERIOD STARTING AFTER THE COMPLETION OF THE PLACEMENT OF THE ENGINEERED FILL.

5.4.3 THE MANUFACTURER SHALL TAKE PRECAUTIONS AS HE DEEMS APPROPRIATE TO AVOID SUBJECTING THE FRESHLY PLACED ENGINEERED FILL MATERIAL TO FREEZING TEMPERATURES. AT THE PROJECT ENGINEERS REQUEST, THE MANUFACTURER SHALL SAMPLE THE IN-PLACE ENGINEERED FILL MATERIAL FOR LABORATORY TESTING TO VERIFY THAT FREEZING TEMPERATURES HAVE NOT DAMAGED THE QUALITY OF THE PRODUCT.

5.5 MIXING AND CONVEYING SHALL BE CONDUCTED ACCORDING THE FOLLOWING:

5.5.1 THE EQUIPMENT ON THE JOB SITE FOR PROPORTIONING, MIXING AND PLACING THE ENGINEERED FILL SHALL BE AUTOMATED AND APPROVED BY THE MANUFACTURER.

5.5.2 MIXING OF THE MATERIALS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS MIX DESIGN PROCEDURES AND PROMPTLY AFTER MIXING THE MATERIALS THE ENGINEERED FILL SHALL BE CONVEYED TO IT'S FINAL POSITION.

5.5.3 THE CONTRACTOR SHALL AVOID EXCESSIVE HANDLING OF THE ENGINEERED FILL.

5.5.4 THE ENGINEER FILL SHALL BE PLACED IN LIFTS AS RECOMMENDED BY THE MANUFACTURER.

5.6 THE FINAL SURFACE FINISH SHALL BE WITHIN (+/-) 0.1FOOT OF PLAN ELEVATION.

5.7 LOADINGS TO BE APPLIED TO THE ENGINEERED FILL SHALL NOT BE PERMITTED UNTIL THE ENGINEERED FILL HAS ATTAINED A COMPRESSIVE STRENGTH OF AT LEAST 20 PSI.

D-12 REVISED 8-96 30/89

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

PIER REPAIR NOTES
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	10/91	

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PIER REPAIR NOTES CONTINUED

6.0 SECTION OMITTED

7.0 METHOD OF MEASUREMENT:

THE QUANTITY OF ENGINEERED FILL MATERIAL TO BE PAID FOR SHALL BE THE SATISFACTORILY INSTALLED CUBIC YARD VOLUME MEASURED IN PLACE AS DEFINED BY THE PLAN LIMITS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

8.0 BASIS OF PAYMENT

ITEM SPECIAL: ENGINEERED FILL SHALL BE PAID FOR AT THE CONTRACT UNIT BID PRICE PER CUBIC YARD FOR ENGINEERED FILL, CLASS II. THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NOT ITEMIZED AS SEPARATE ITEMS, AS NECESSARY TO COMPLETE THE INSTALLATION OF THE ENGINEERED FILL AS SPECIFIED.

ITEM	UNIT	DESCRIPTION
SPECIAL	CUBIC YARDS	ENGINEERED FILL, CLASS II

ITEM 511 - CONCRETE MISC.; CLASS "C" CONCRETE CAP

THE ENGINEERED FILL SHALL BE CAPPED WITH CLASS "C" CONCRETE (4" MINIMUM THICKNES) AND SLOPED TO DRAIN TO THE LOWEST WEEPHOLE(S) OF EACH PIER IN ACCORDANCE WITH ALL APPLICABLE ITEMS OF THE ITEM 608 AND AS DETAILED ON THE PLAN. THE CONCRETE CAP SHALL BE PAID FOR AT THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM SPECIAL - "CLASS "C" CONCRETE CAP" AND SHALL INCLUDE ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 604 - MANHOLE MISC.; MANHOLE STEPS REPLACED

EXISTING MANHOLE STEPS DESIGNATED FOR REPLACEMENT SHALL BE REMOVED FLUSH WITH THE PIER WALLS. REPLACEMENT STEPS SHALL CONFORM TO 711.13 OF C.M.S. REPLACEMENT STEPS SHALL BE DRILLED AND GROUTED IN PLACE WITH EXPANSIVE HYDRAULIC CEMENT MIXED AND PLACED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. PLACED CLOSELY TO THE EXISTING STEP LOCATION. THE MANHOLE IN THE EAST END AND WEST END PIERS SHALL BE REPLACED ABOVE THE CONCRETE CAP. THE MANHOLE STEPS INSIDE AND OUTSIDE OF PIERS NO. 1 THROUGH NO. 8 SHALL BE REPLACED WHERE DIRECTED BY THE ENGINEER. A CONTINGENT QUANTITY OF FIVE STEPS FOR EACH PIER PYLON IS INCLUDED FOR USE AS AND IF DIRECTED BY THE ENGINEER. MANHOLE STEP REPLACEMENT SHALL BE PAID FOR AT THE UNIT BID PRICE BID PER EACH FOR ITEM SPECIAL - "MANHOLE STEPS REPLACED" AND SHALL INCLUDE ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THIS ITEM OF WORK. MATERIALS FOR THE MANHOLE STEPS SHALL BE AS CALLED FOR ON THE DRAWINGS.

ITEM 530 - STRUCTURE MISC.; ACCESS DOOR REPLACED

PIERS NO. 1 THROUGH NO. 8 OF THE CENTRAL VIADUCT HAVE ACCESS HATCHES IN THE SHAFTS. THE WORK INCLUDED UNDER THIS ITEM IS THE INSTALLATION OF NEW DOORS ON THE ACCESS HATCHES. ANY EXISTING ACCESS DOORS AND HINGES SHALL BE CAREFUFFY REMOVED SO AS TO LEAVE THE EXISTING DOOR JAMB INTACT. ANY 1" DIAMETER HANDRAIL PIPES LOCATED IN OR NEAR THE HATCH OPENING SHALL BE REMOVED FLUSH WITH THE FACE OF WALL. NEW DOORS SHALL BE VENTED USING 16 GAUGE MINIMUM INVERTED STEEL LOUVERS WITH HEMMED EDGES TO PROVIDE EXTRA STRENGTH AND ELIMINATE RAW METAL EDGES. LOUVER BLADES SHALL BE ON 7/16" CENTERS AND OFFER APPROXIMATELY 80% FREE AREA. LOUVERS SHALL BE INSTALLED SO AS ANY PROTRUSION FROM THE DOOR SHALL BE TO THE INSIDE AND UNSEEN WHEN THE DOOR IS IN THE CLOSED POSITION. NEW DOORS SHALL BE FABRICATED AND INSTALLED AS SHOWN ON THE PLANS.

THE EXISTING DOOR JAMBS SHALL BE REPAIRED IF NECESSARY, SANDBLASTED, PRIMED AND PAINTED WITH TWO COATS OF A TWO PART EPOXY PAINT WITH THE FINISH COAT TINTED TO MATCH THE EXISTING CONCRETE. THE NEW DOORS SHALL BE PAINTED IN A LIKE MANNER, EITHER SHOP OR FIELD PAINTED, ALL IN ACCORDANCE WITH APPLICABLE SECTIONS OF ITEM 514 - PAINTING. ALL WORK INCLUDING ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO REPLACE THE ACCESS DOORS AS OUTLINED ABOVE SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR ITEM SPECIAL - "ACCESS DOOR REPLACED".

ITEM 604- MANHOLE MISC.; MANHOLE REPLACED

THE EXISTING MANHOLE COVERS ON THE EAST END AND WEST END PIERS SHALL BE COMPLETELY REMOVED AND PROPERLY DISPOSED OF. IT WILL BE NECESSARY TO REMOVE CONCRETE AROUND THE COVER IN ORDER TO ACCOMPLISH THE REMOVAL. SUFFICIENT CONCRETE SHALL BE REMOVED TO PERMIT INSTALLATION OF THE NEW MANHOLE COVER. SEE DETAILS IN THE PLANS. THE NEW COVER SHALL BE A BILCO TYPE "J-A" 3' X 3' STEEL, FLOOR ACCESS DOOR, AS FABRICATED BY THE BILCO COMPANY, P.O. BOX 1203, NEW HAVEN CT. 06505, A DUR-RED MODEL SLA 3' X 3' STEEL FLOOR DOOR AS FABRICATED BY RED PLASTIC COMPANY, INC., 4900 CECELIA STREET, CUDANY, CA. 90201 OR AN APPROVED EQUAL. THE DOOR ANGLE FRAME SHALL BE 1/4" STEEL WITH ANCHORS WELDED TO THE EXTERIOR. THE DOOR LEAF SHALL BE OF GRATED TYPE WITH HOLES OR SLOTS OF 1/2" MAXIMUM WIDTH TO PROVIDE VENTILATION TO THE PIER SHAFT. HINGES SHALL BE BOLTED TO THE UNDERSIDE OF THE DOOR AND SHALL PIVOT ON TORSION BARS OR HAVE SPRINGS FOR EASE OF OPERATION. THE DOOR SHALL OPEN 90^ AND LOCK AUTOMATICALLY IN THAT POSITION AND BE EQUIPED WITH NON-REMOVAL HANDLES, LOCKING HASP AND CHAIN. THE DOOR AND FRAME SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH C.M.S. 711.02. DOOR HARDWARE SHALL BE FULLY WEATHER RESISTANT COMFORMING TO 730.10 OF C.M.S. THE MANUFACTURER SHALL GUARANTEE AGAINST DEFECTS IN MATERIAL OR WORKMANSHIP FOR A PERIOD OF FIVE YEARS FROM THE DATE OF FINAL ACCEPTANCE OF THIS WORK. CLASS "C" CONCRETE SHALL BE USED TO RESTORE THE TOP OF THE PIER CAP AROUND THE NEW MANHOLE COVER. THE COST OF ALL CONCRETE REMOVAL AND NEW CONCRETE REQUIRED TO INSTALL THE NEW COVER SHALL BE INCLUDED IN THE COST OF THIS ITEM. ALL WORK INCLUDING ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO REPLACE THE MANHOLE COVERS AS DESCRIBED ABOVE SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR ITEM SPECIAL - "MANHOLE REPLACED".

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PIER REPAIR NOTES
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	10/91	

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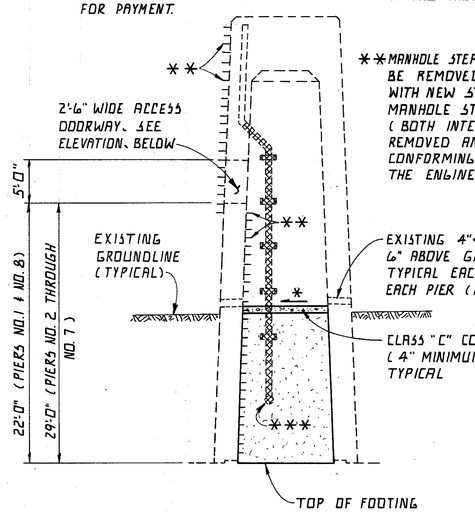
CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

93/151

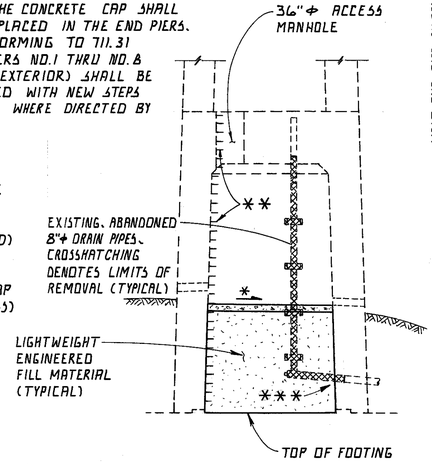
*** SEAL EXISTING DRAINAGE OUTLET THROUGH PIER WALL WITH PRECAST VITRIFIED OR CONCRETE STOPPER OR WITH MASONRY OF A TYPE AND THICKNESS ACCEPTABLE TO THE ENGINEER, PRIOR TO INSTALLING THE LIGHTWEIGHT ENGINEERED FILL MATERIAL. INCLUDE WITH LIGHTWEIGHT ENGINEERED FILL FOR PAYMENT.

* 1/2"/FT. SLOPE (DESIRABLE) 1/8"/FT. SLOPE (MINIMUM). SLOPE CONCRETE CAP TO THE LOW (EST) WEEPHOLE(S). PROVIDE 1/2" EXPANSION JOINT FILLER BETWEEN THE CONCRETE CAP AND THE PIER WALL(S) AT THE HIGH SIDE(S) OF THE CONCRETE CAP. PROVIDE CONTRACTION JOINTS IN ACCORDANCE WITH 608.03. CONTRACTION JOINTS AND THE JOINT BETWEEN THE CONCRETE CAP AND THE PIER WALLS ON ALL SIDES OF THE CAP SHALL BE SEALED WITH A TWO-PART POURED POLYURETHANE JOINT SEALER.



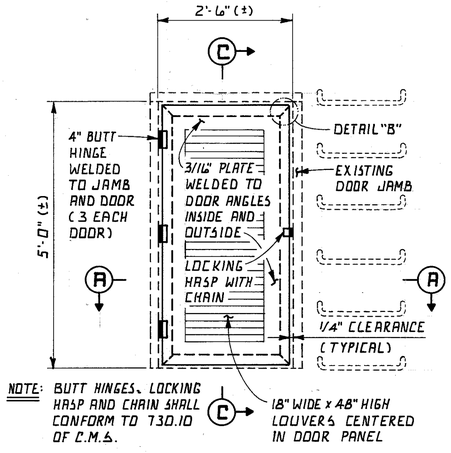
PIERS NO.1 THRU NO.8

** MANHOLE STEPS ABOVE THE CONCRETE CAP SHALL BE REMOVED AND REPLACED IN THE END PIERS. WITH NEW STEPS CONFORMING TO 711.31 MANHOLE STEPS IN PIERS NO.1 THRU NO.8 (BOTH INTERIOR AND EXTERIOR) SHALL BE REMOVED AND REPLACED WITH NEW STEPS CONFORMING TO 711.13 WHERE DIRECTED BY THE ENGINEER.

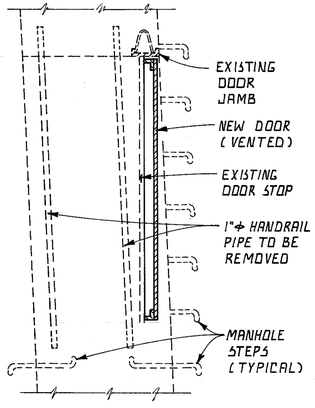


END PIERS

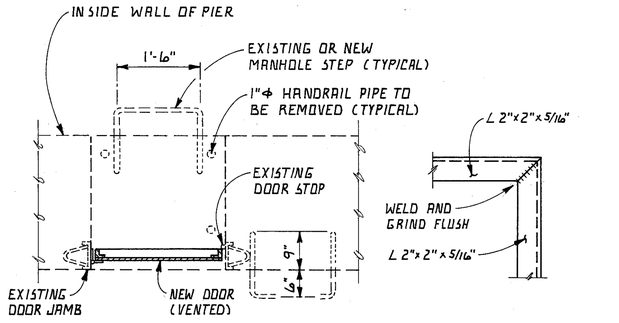
SECTIONS THRU PIERS



ELEVATION



SECTION C-C
DOOR LOUVER NOT SHOWN

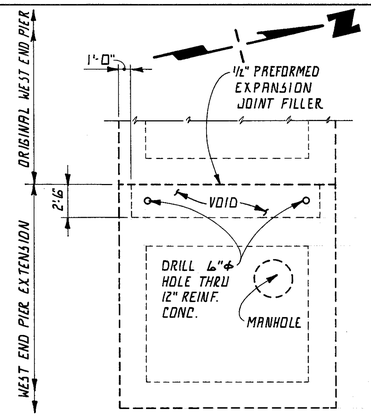


SECTION A-A
DOOR LOUVER NOT SHOWN

DETAIL "B"
3/16" STEEL DOOR PANEL NOT SHOWN

ACCESS DOOR DETAILS

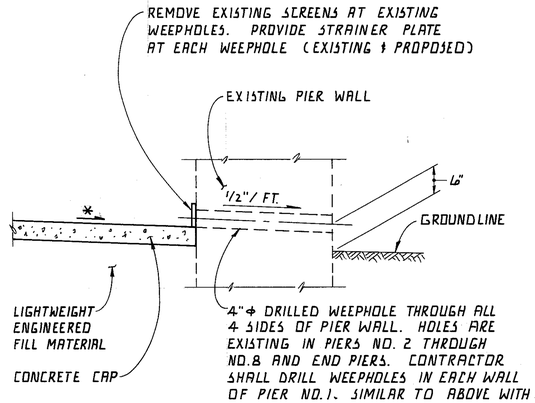
NOTE: CONTRACTOR SHALL VERIFY DIMENSIONS AND SQUARENESS OF EXISTING DOOR OPENING AND ADJUST SIZE OF NEW DOOR ACCORDINGLY.



PLAN VIEW

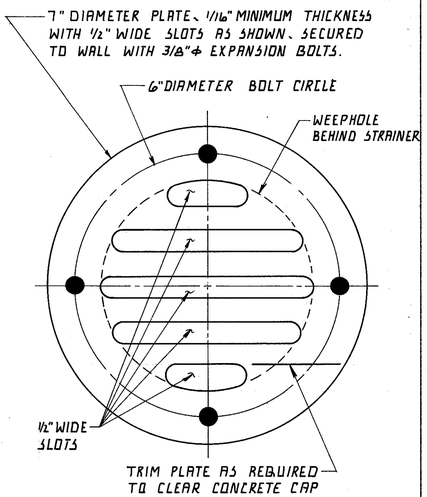
EAST SIDE OF WEST END PIER.

IN ADDITION TO FILLING THE PIER SHAFTS AS SHOWN, THE VOID BETWEEN THE WEST END PIER AND ITS EXTENSION SHALL BE COMPLETELY FILLED WITH LIGHTWEIGHT ENGINEERED FILL MATERIAL. VOID SHALL BE PUMPED OUT IF NECESSARY, AND FILLED THROUGH 6" DIA. HOLES DRILLED APPROXIMATELY WHERE SHOWN. AFTER FILLING, HOLES SHALL BE PLUGGED WITH CLASS "C" CONCRETE, FULL DEPTH. EXISTING FORM WORK MAY BE PRESENT IN THE VOID AND NEED NOT BE REMOVED.



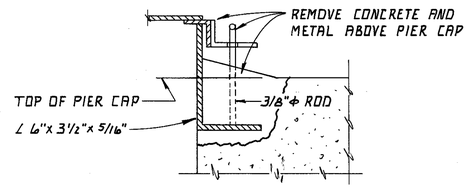
WEEPHOLE DETAIL

INCLUDE WITH ITEM SPECIAL - "CLEANING OF EXISTING PIER INTERIORS" FOR PAYMENT.



STRAINER PLATE

STRAINER PLATE SHALL BE OF CORROSION-RESISTANT METAL. COMMERCIALLY AVAILABLE STRAINERS OF SIMILAR DESIGN MAY BE USED WITH THE APPROVAL OF THE ENGINEER. INCLUDE WITH ITEM SPECIAL - "CLEANING OF EXISTING PIER INTERIORS" FOR PAYMENT.



SECTION @ 36" ϕ ACCESS MANHOLE

EXISTING MANHOLE COVER SHOWN.

NOTE:

EACH ACCESS DOOR AND MANHOLE COVER SHALL BE EQUIPED WITH AN APPROVED PADLOCK WITH DOUBLE LOCKING BOLT, FIVE-PIN TUMBLER, LAMINATED STEEL CASE, BRASS CYLINDER, RUST-PROOF. TUMBLERS SHALL BE IDENTICALLY SET IN EACH LOCK SO THAT THE SAME KEY WILL OPEN EACH LOCK. TWO KEYS SHALL BE FURNISHED WITH EACH PADLOCK. LOCKS SHALL BE WELDED TO CHAINS, ATTACHED TO DOORS AND COVERS TO PREVENT LOSS.

FOR ADDITIONAL NOTES, SEE SHEET 30/89 AND SHEET 31/89.

32/89

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PIER REPAIR DETAILS
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DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	OCT. 19, 1991	

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151

NOTES:

ITEM 514 -FIELD PAINTING MISC.: PACK RUST REPAIR AND CAULKING

DESCRIPTION
THIS ITEM SHALL INCLUDE THE REPAIR OF PACK-RUSTED AREAS AND THE CAULKING OF JOINTS BETWEEN ADJACENT STEEL PIECES OF BUILT-UP MEMBERS AS SHOWN IN THE PLANS AND DIRECTED BY THE ENGINEER. PACK-RUSTED AREAS ARE WHERE THE ADJACENT STEEL PLATES ARE FORCED APART MORE THAN 1/8"(ONE-EIGHTH INCH).

PACK RUST REMOVAL, ABRASIVE BLASTING OF THE JOINT AND APPLICATION OF THE PRIME COAT ACCORDING TO THE OZEU SPECIFICATION SHALL BE COMPLETED BEFORE CAULKING OF THE JOINT IS PERFORMED. THE OZEU INTERMEDIATE COAT SHALL BE APPLIED AFTER THE CAULKING MATERIAL HAS INITIALLY CURED AND BEFORE IT IS FULLY CURED ACCORDING TO THE CAULKING SPECIFICATIONS.

SURFACE PREPARATION
PORTIONS OF JOINTS THAT HAVE PACK-RUST SHALL RECEIVE PREPARATION IN ADDITION TO THE ABRASIVE BLAST REQUIRED BY THE OZEU SPECIFICATION. PACK RUST SHALL BE REMOVED FROM JOINTS FORCED APART MORE THAN 1/4" (ONE-QUARTER INCH) BY CHIPPING, HAMMERING, PUNCHING, CHISELING OR BY OTHER SUITABLE MEANS TO A DEPTH AT LEAST EQUAL TO THE WIDTH OF THE GAP PRIOR TO ANY ABRASIVE BLASTING. ALL AREAS RECEIVING PACK RUST REPAIR SHALL BE CLEANED BY ABRASIVE BLASTING TO THE NEAR-WHITE SURFACE PREPARATION GRADE (SA 2 1/2, SSPC - SP10), MAKING SURE THAT THE AREAS WITH GAPS FROM 1/8" TO 1/4" ARE CLEANED TO A DEPTH AT LEAST EQUAL TO THE GAP WIDTH. THE JOINTS SHALL THEN BE CLEANED OF ALL DUST AND DEBRIS TO THE SATISFACTION OF THE ENGINEER. THE PRIME COAT SHALL BE APPLIED TO THE JOINT ACCORDING TO THE OZEU SPECIFICATION. THE PRIME COAT SHALL BE FREE OF SOLVENT BUT NOT FULLY CURED, ACCORDING TO THE COATING SPECIFICATIONS, WHEN THE CAULKING IS APPLIED.

MATERIALS:
THE CAULKING MATERIAL SHALL BE A TWO-COMPONENT, 100% SOLIDS, NON-SAG, NON-SHRINK, EPOXY BASED SYSTEM, CAPABLE OF FILLING THE GAPS CREATED BY THE PACK RUST REMOVAL. THE CAULKING MATERIAL SHALL HAVE A GEL OR PASTE CONSISTENCY, HAVE AN EXCELLENT ADHESION TO THE OZEU PRIME COAT, AND BE SUITABLE FOR APPLICATION TO VERTICAL AND OVERHEAD AREAS. THE EPOXY SYSTEM SHALL BE TESTED PRIOR TO USE.

WHEN MANUFACTURED, THE FORMULATIONS SHALL CONTAIN NO UNREACTIVE DILUENTS, SOLVENTS, OR OTHER FILLERS. THE CAULKING MATERIAL SHALL CONFORM TO THE FOLLOWING PERFORMANCE REQUIREMENTS:

A. TENSILE PROPERTIES (ASTM D-638)
   1. TENSILE ULTIMATE STRENGTH(14 DAY)....4000 psi(min)
   2. TENSILE ELONGATION AT BREAK.....1.3% - 2.5%
   3. TENSILE MODULUS OF ELASTICITY.....250,000 psi(min)

B. BOND STRENGTH (ASTM C-882)
   1. 2- DAY DRY CURE CAULKING TO STEEL...2600 psi (min)

C. HEAT DEFLECTION TEMPERATURE (ASTM D-648)
   1. 7-DAY, FIBER STRESS LOADING = 264 psi.....120F

D. WATER ABSORPTION (ASTM D-570)
   1. 7 DAY, 24 HOUR IMMERSION.....0.6% (max)

E. FLEXURAL PROPERTIES (ASTM D-790)
   1. FLEXURAL STRENGTH (14 DAY).....6500 psi (min)
   2. TANGENT MODULUS OF ELASTICITY IN BENDING.....700,000 psi

THE CAULKING MATERIAL PROPOSED FOR USE SHALL BE PREQUALIFIED. PRIOR TO APPROVAL, COPIES OF THE MANUFACTURER'S CERTIFIED TEST DATA SHOWING THAT THE EPOXY SYSTEM COMPLIES WITH THE PERFORMANCE REQUIREMENTS OF THIS SPECIFICATION SHALL BE SUBMITTED TO THE OFFICE OF MATERIAL MANAGEMENT, 160 W. BROAD ST., COLUMBUS, OHIO 44223. THE CERTIFIED TEST DATA SHALL ALSO STATE THE FOLLOWING PHYSICAL PROPERTIES FOR COMPONENT A, COMPONENT B, AND THE MIXTURE:

1. COLOR
2. PERCENT SOLIDS
3. SHELF LIFE
4. VISCOSITY (CPS)
5. MIXING RATIO
6. POT LIFE
7. GEL TIME
8. CONSISTENCY

THE TEST DATA SHALL BE DEVELOPED BY AN INDEPENDENT TESTING LABORATORY APPROVED BY THE OFFICE OF MATERIAL MANAGEMENT AND SHALL INCLUDE THE BRAND NAME OF MANUFACTURER, NUMBER OF LOTS TESTED, AND DATE OF MANUFACTURE.

THE FOLLOWING ITEMS SHALL ALSO BE SUBMITTED TO THE OFFICE OF MATERIAL MANAGEMENT PRIOR TO APPROVAL:

1. MANUFACTURER'S TECHNICAL DATA SHEET FOR EACH COMPONENT.
2. MATERIAL SAFETY DATA SHEET FOR EACH COMPONENT.
3. ENOUGH COMPONENTS TO PRODUCE A QUART SAMPLE OF CAULKING.
4. A ONE QUART SAMPLE OF THE SOLVENT TO BE USED FOR CLEANUP.

WHEN THE CAULKING MATERIAL HAS BEEN APPROVED BY THE OFFICE OF MATERIAL MANAGEMENT, FURTHER PERFORMANCE TESTING BY THE MANUFACTURER WILL NOT BE REQUIRED UNLESS THE FORMULATION OR MANUFACTURING PROCESS HAS BEEN CHANGED, IN WHICH CASE NEW CERTIFIED TEST RESULTS WILL BE REQUIRED. ACCEPTANCE VARIANCES SHALL BE ESTABLISHED BY THE OFFICE OF MATERIAL MANAGEMENT.

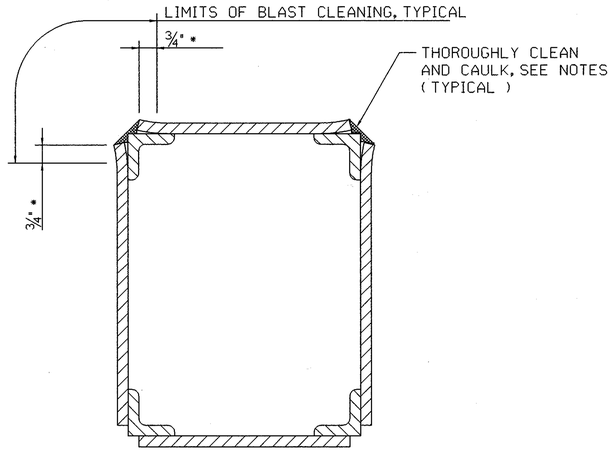
THE CONTRACTOR SHALL FURNISH THE ENGINEER A COPY OF THE MANUFACTURER'S COMPREHENSIVE JOB SPECIFIC PREPARATION, MIXING AND APPLICATION INSTRUCTIONS. ANY SIGNIFICANT CHANGES TO THESE INSTRUCTIONS WHICH ARE RECOMMENDED BY THE REPRESENTATIVE FOR AN UNANTICIPATED SITUATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE ADOPTION OF SUCH CHANGES.

APPLICATION
THE CAULKING SHALL BE APPLIED EVENLY TO THE JOINTS AND GAPS AS DEPICTED IN TYPICAL PLAN DETAILS. VOIDS SHALL BE COMPLETELY FILLED WITH CAULKING WHICH SHALL BE APPLIED BY TROWEL OR CAULKING GUN AND SHALL BE SPREAD SMOOTHLY USING PRESSURE SUFFICIENT TO DISPLACE AIR BUBBLES. EXCESS MATERIAL SHALL BE REMOVED IMMEDIATELY. ALL PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF THE CAULKING MANUFACTURER WHO SHALL PROVIDE A TECHNICAL REPRESENTATIVE AT THE SITE AS REQUIRED BY THE PROJECT ENGINEER.

PAYMENT
THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE REMOVAL OF THE PACK RUST, SURFACE PREPARATION AND THE FURNISHING & INSTALLATION OF THE CAULKING SHALL BE INCLUDED FOR PAYMENT IN THE BID PRICE PER LINEAR FOOT FOR PACK RUST REPAIR AND CAULKING.

PAYMENT FOR COMPLETE IN PLACE & ACCEPTED QUANTITIES OF PACK RUST REPAIR & CAULKING SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
514	LIN. FT.	FIELD PAINTING MISC.: PACK RUST REPAIR AND CAULKING, AS PER PLAN



TYPICAL BOTTOM CHORD SECTION

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PACK RUST REPAIR AND CAULKING
INNERBELT FREEWAY
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STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
D.P.	T.M.J.	M.J.L	A.J.M.	9/94	

CALC		CUYAHOGA COUNTY	OHIO
DATE		CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE			

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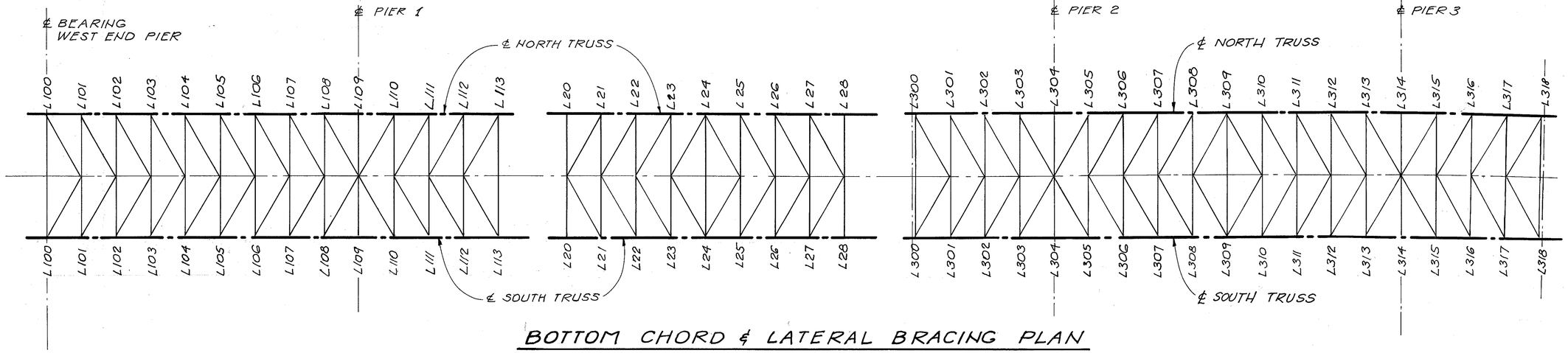
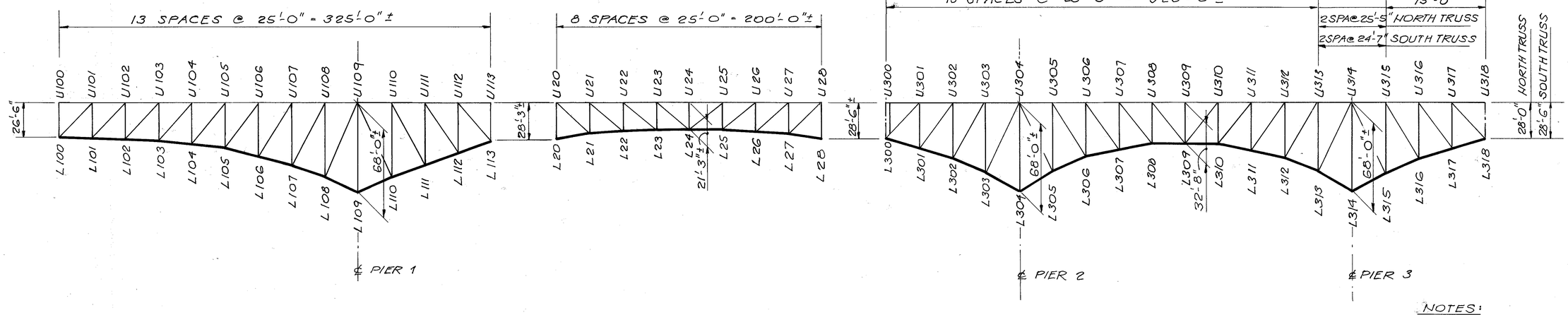


BOTTOM CHORD & LATERAL BRACING PLAN



SCHEMATIC TRUSS ELEVATION

UNIT NO. 1.

UNIT NO. 2.

UNIT NO. 3.

NOTES:

FOR BOTTOM CHORD SEALING NOTES & DETAILS, SEE SHEET 32A/89

32B/89

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PACK RUST REPAIR AND CAULKING

INNERBELT FREEWAY

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CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
E.K.	E.K.	M.J.L.	A.J.M	9/94	

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DATE		CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE			

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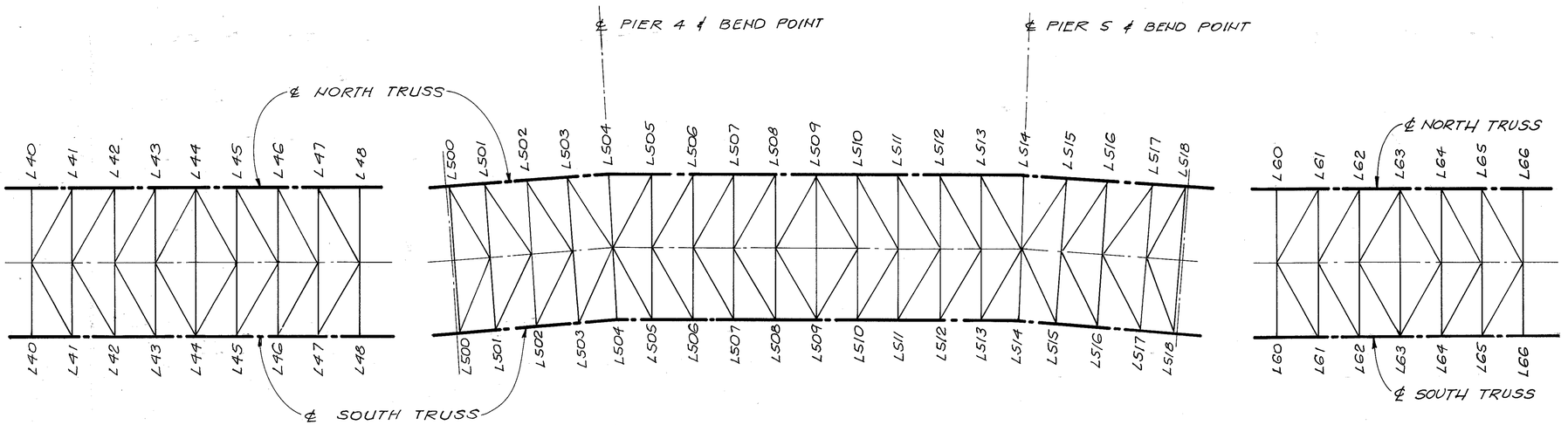
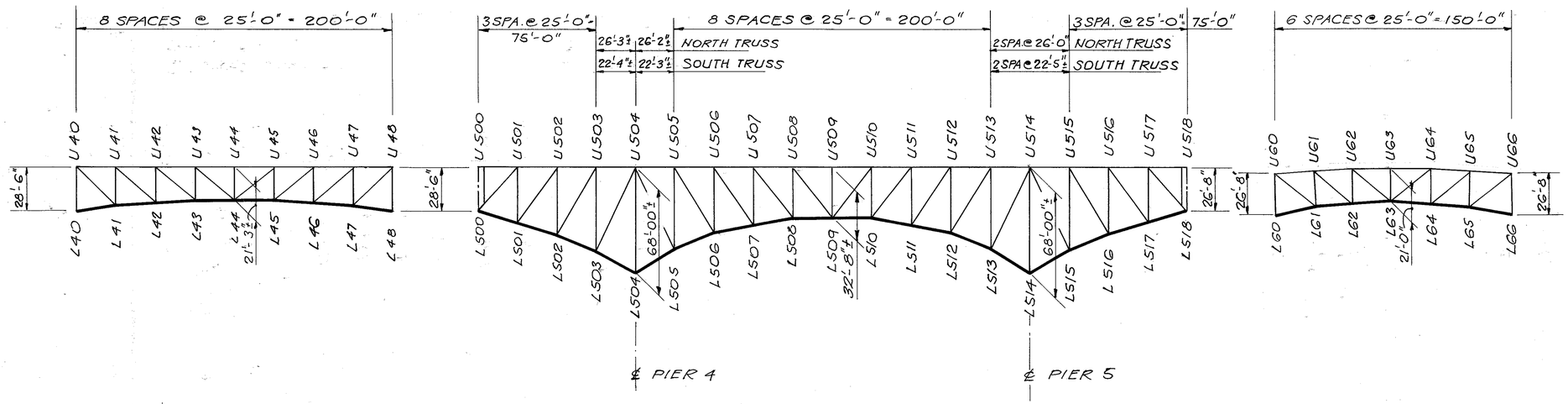


BOTTOM CHORD & LATERAL BRACING PLAN



SCHEMATIC TRUSS ELEVATION

UNIT NO. 4. UNIT NO. 5. UNIT No. 6.

NOTES:

FOR BOTTOM CHORD SEALING NOTES & DETAILS, SEE SHEET 32A/89

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PACK RUST REPAIR AND CAULKING

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CUYAHOGA COUNTY OHIO

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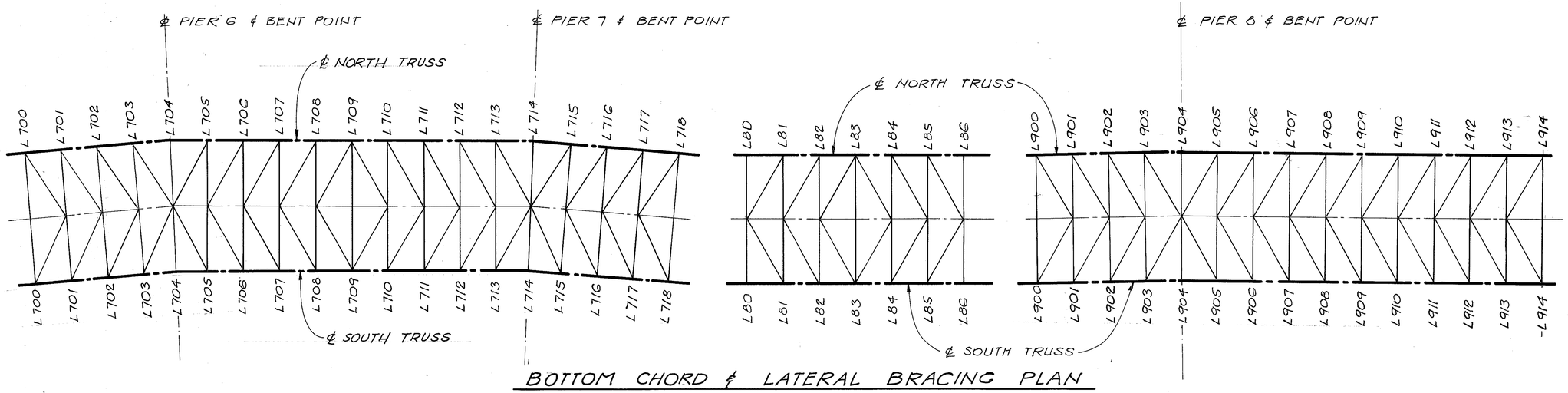
E.K.	E.K.	M.J.L.	A.J.M.	9/94	

BRUNING 44-232 67195

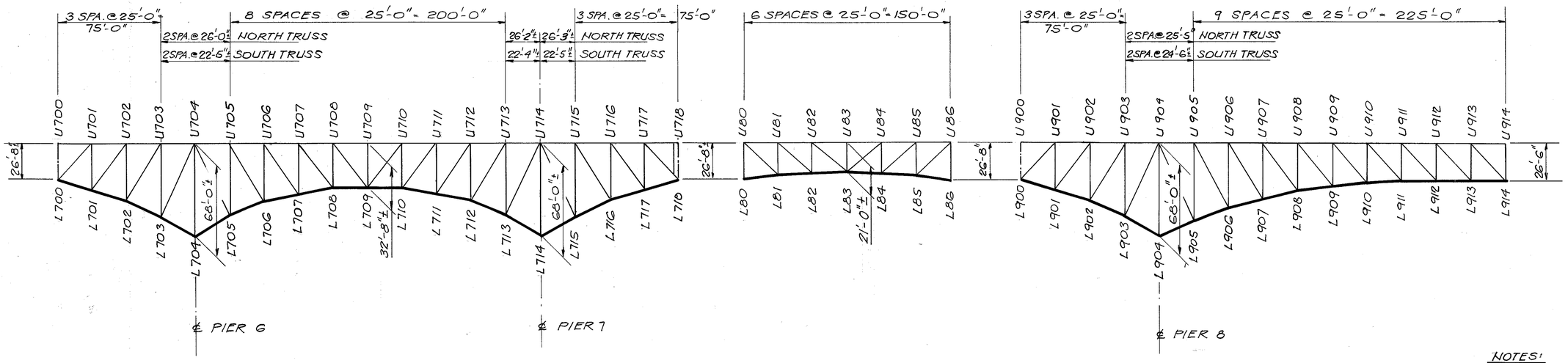
A-C-L form no. B-1

CALC		CUYAHOGA COUNTY	OHIO
DATE		CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD		INNERBELT FREEWAY	
DATE			

93D / 151



BOTTOM CHORD & LATERAL BRACING PLAN



SCHEMATIC TRUSS ELEVATION

UNIT NO. 7. UNIT NO. 8. UNIT NO. 9.

NOTES:

FOR BOTTOM CHORD SEALING NOTES & DETAILS, SEE SHEET 32A/89

32D/89

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PACK RUST REPAIR AND CAULKING

INNERBELT FREEWAY

BR. NO { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

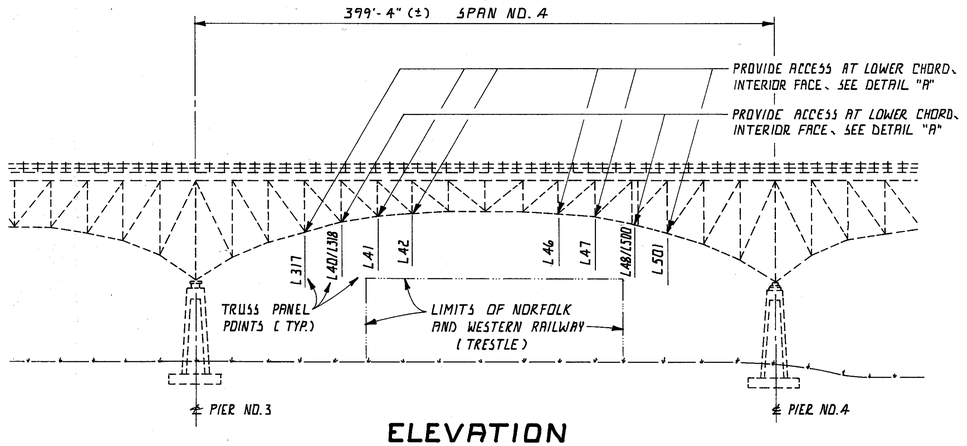
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
E.K.	E.K.	M.J.L.	A.J.M.	9/94	

BRUNING 44-232 67195

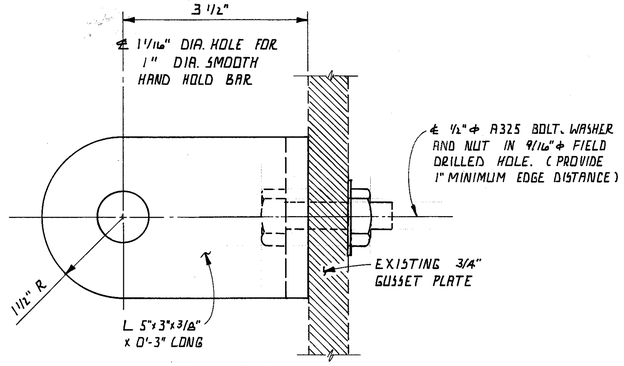
A·C·L form no. B-1

CALC. ____ DATE ____ CHKD. ____ DATE ____	CUYAHOGA COUNTY CUY-90-1524 INNERBELT FREEWAY	OHIO F.H.W.A. REGION 5	94 / 151



ELEVATION

SOUTH TRUSS SHOWN, NORTH TRUSS SIMILAR



VIEW C-C

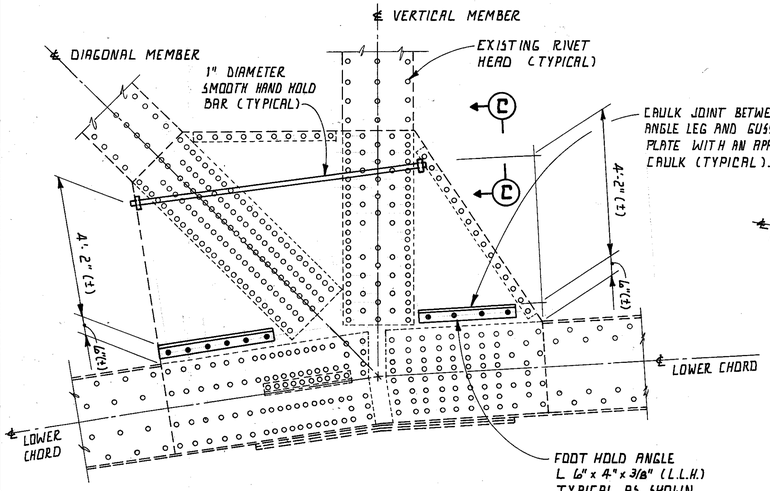
HAND-HOLD SUPPORT PLATE DETAIL
(FOOT HOLD ANGLE BOLTED CONNECTION SIMILAR)

NOTES:

HAND HOLD BARS AND FOOT-HOLD ANGLES SHALL BE AS LONG AS PRACTICAL. EXACT LENGTHS SHALL BE DETERMINED BY FIELD CONDITIONS. EXACT LOCATIONS MAY BE ADJUSTED BY THE ENGINEER TO PROVIDE MAXIMUM EASE OF ACCESS FOR BRIDGE INSPECTION.

PAYMENT FOR ALL LABOR, MATERIAL (INCLUDING SUPPORT PLATES), EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETELY FURNISH AND INSTALL THE HAND HOLD BARS AND FOOT HOLD ANGLES, AS SHOWN ON THE PLANS, SHALL BE INCLUDED IN THE UNIT PRICE BID, PER LINEAL FOOT OF ITEM 513 - "STRUCTURAL STEEL, MISCELLANEOUS: (HAND HOLD BARS AND FOOTHOLD ANGLES) AS PER PLAN".

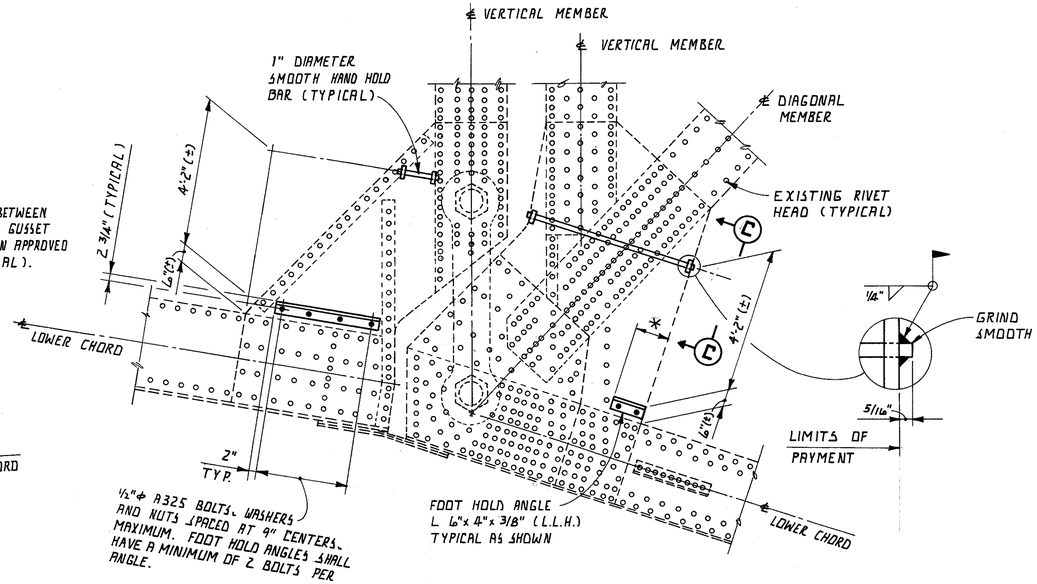
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 6 / 89 THRU 9 / 89.



DETAIL "A"

L41, NORTH TRUSS, SHOWN. L41 SOUTH TRUSS, L317, L42, L46, L47 AND L501 NORTH AND SOUTH TRUSS SIMILAR.
FOR DETAILS AND CALL-OUTS NOT SHOWN, SEE DETAIL "B", THIS SHEET.

* MINIMUM LENGTH OF FOOT HOLD ANGLE IS 1'-0", TYPICAL.



DETAIL "B"

L48/L500, NORTH TRUSS, SHOWN. L48/L500, SOUTH TRUSS AND L318/L40 NORTH AND SOUTH TRUSS SIMILAR.

33 / 89

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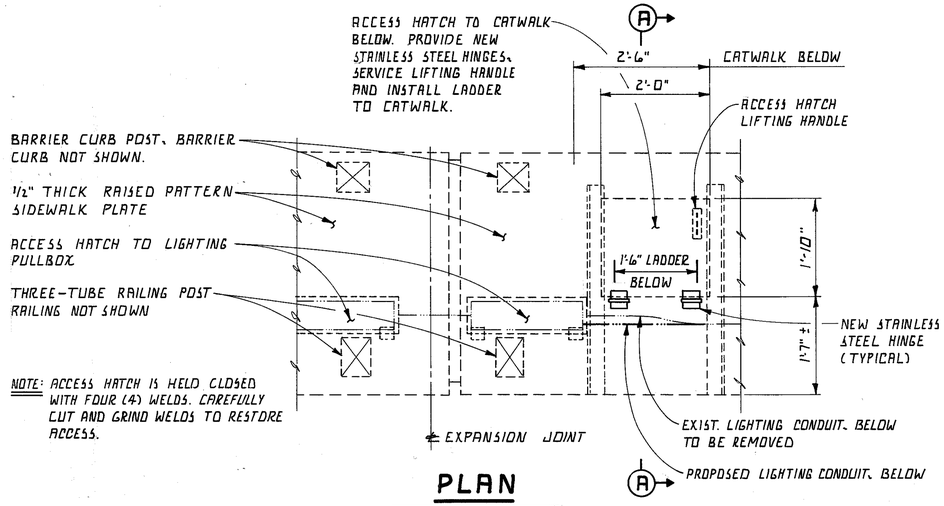
LOWER CHORD ACCESS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
M.J.L.	T.M.J.	M.J.L.	J.R.L.	DEC. 30, 1991	

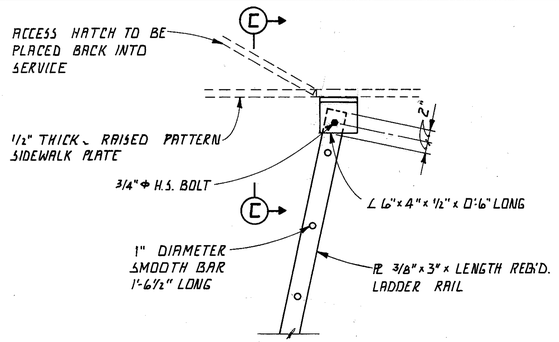
CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

95/151

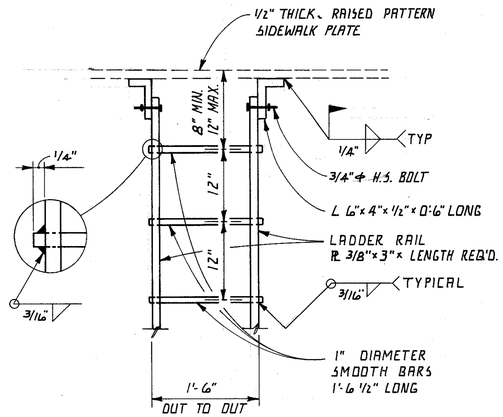


PLAN

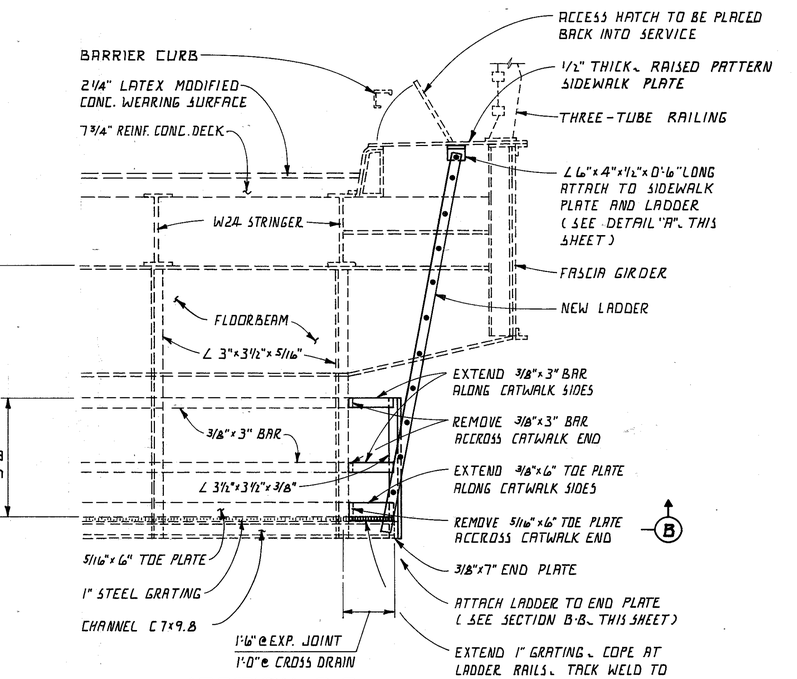
AT ACCESS HATCH TO BE PLACED BACK INTO SERVICE. HATCH AT EXPANSION JOINT SHOWN, HATCH AT CROSS DRAIN SIMILAR.



DETAIL A

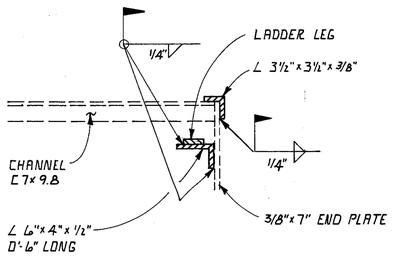


VIEW C-C



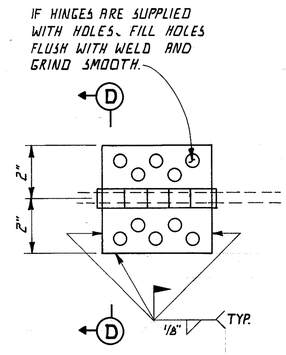
SECTION A-A

CATWALK AT EXPANSION JOINT SHOWN, CATWALK AT CROSS DRAIN SIMILAR. CONTRACTOR TO VERIFY DIMENSIONS SHOWN PRIOR TO FABRICATION
LIGHTING CONDUIT NOT SHOWN.

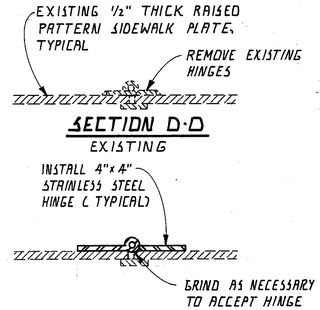


ACTUAL CONNECTIONS MAY VARY SLIGHTLY TO SUIT FIELD CONDITIONS.

SECTION B-B



PLAN



SECTION D-D
PROPOSED

HINGE REPLACEMENT DETAILS

NOTES:

ALL NECESSARY WELDS NOT SHOWN ON THESE DETAILS, SHALL BE 1/4" FILLET WELDS OR AS DIRECTED BY THE ENGINEER, ALL IN ACCORDANCE WITH 513.17 OF C.M.S.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND OTHER RELATED ITEMS REQUIRED TO PROVIDE ACCESS AS SHOWN, OR AS DIRECTED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICE BID, PER EACH, OF ITEM 513- "STRUCTURAL STEEL, MISCELLANEOUS, (CATWALK ACCESS LADDER), AS PER PLAN.

34/89

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CATWALK ACCESS LADDER
INNERBELT FREEWAY

B.R. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

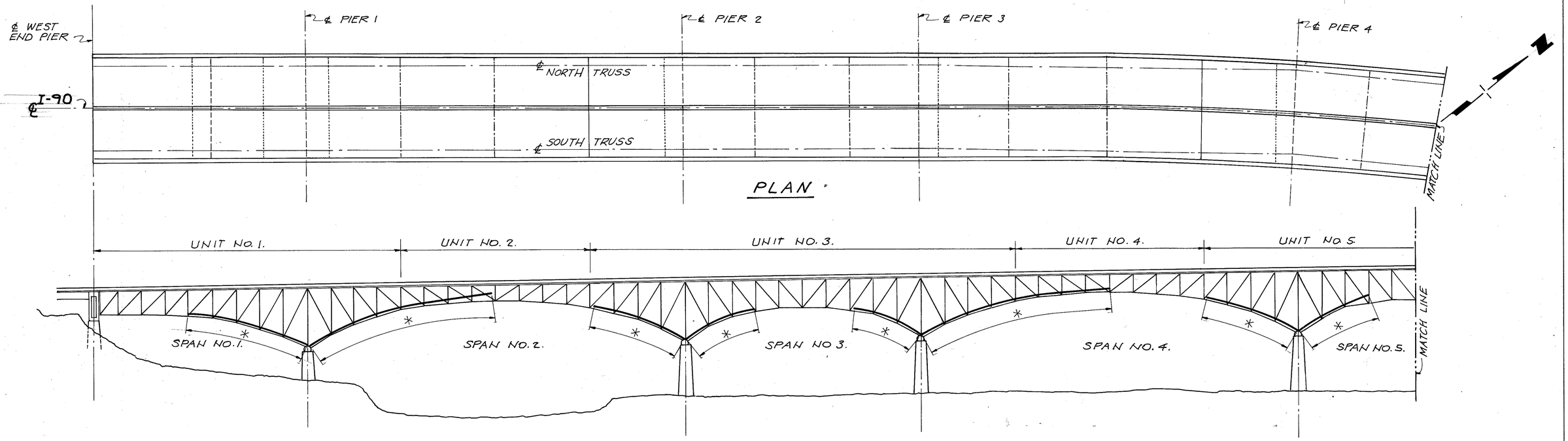
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.D.	DEC. 30, 1991	

BRUNING 44-232, 67195

A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

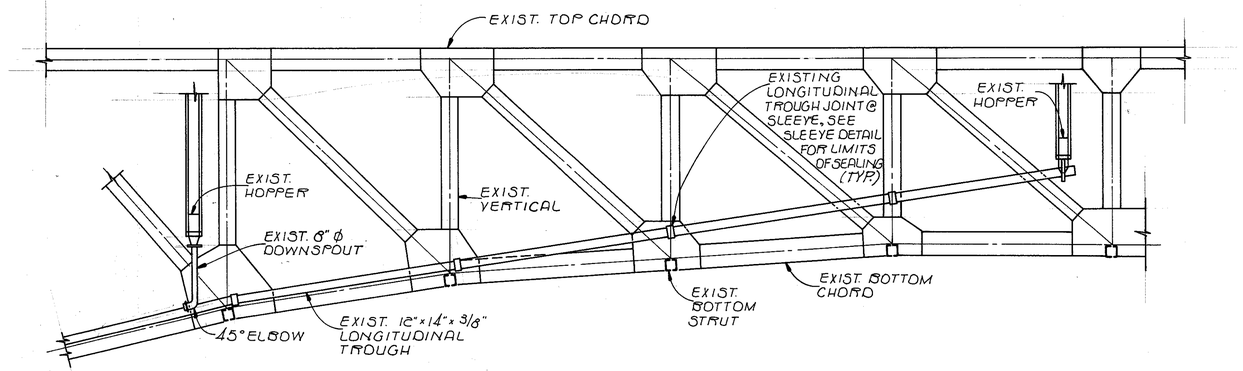
95A
151



PLAN

SOUTH ELEVATION

(NORTH TRUSS SHOWN, SOUTH TRUSS SIMILAR)
*-LOCATION OF LONGITUDINAL TROUGH



TYPICAL LONGITUDINAL TROUGH ELEVATION

(NORTH TRUSS SHOWN, SOUTH TRUSS SIMILAR

NOTES:

ALL LONGITUDINAL TROUGH JOINTS SHALL BE SEALED WITH A FLEXIBLE SEALANT TO STOP LEAKING. THE JOINTS ARE LOCATED AT EACH PANEL POINT.

IMMEDIATELY PRIOR TO SEALING, THE VERTICAL AND HORIZONTAL FACES OF THE TROUGH ENDS TO WHICH THE SEALER MUST BOND SHALL BE THOROUGHLY CLEANED OF ALL PAINT, RUST, AND DEBRIS BY VACUUM ABRASIVE BLASTING TO SURFACE PREPARATION GRADE SA 2 1/2, SSPC-SP10. THESE SURFACES SHALL BE CLEAN, DRY, SOUND AND ABOVE 40 DEGREES FAHRENHEIT WHEN THE SEALER AND/OR PRIMER ARE APPLIED.

THE MATERIAL FOR THIS ITEM IS A TWO-PART, COLD APPLIED, CHEMICALLY CURING, NON-SAG, ELASTOMERIC, POLYURETHANE JOINT SEALANT MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION TT-S-00227E AND ASTM C 920. ALL MATERIALS SHALL BE STORED AND INCORPORATED IN THE WORK AS SPECIFIED BY THE MANUFACTUREE.

ONCE THE SEALANT HAS COMPLETELY CURED, THE EXISTING PAINT COAT ON THE LONGITUDINAL TROUGHS AND TROUGH SLEEVES DAMAGED BY THE CLEANING PROCESS SHALL BE PAINTED WITH (THREE COATS) IN ACCORDANCE WITH SECTION B OF THE "PAINTING" NOTE IN THE STRUCTURAL GENERAL NOTES. SEE SHEET 7/89.

THE COST FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK INCLUDING CLEANING AND PAINTING SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH LONGITUDINAL TROUGH JOINT LOCATION UNDER ITEM 516 - "STRUCTURAL JOINT OR JOINT SEALER, MISC.: LONGITUDINAL TROUGH JOINT SEALER AS PER PLAN:".

FOR SLEEVE DETAIL, SEE SHEET 34B/89.

34A/89

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DRAINAGE REPAIRS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524, CUY-90-1540, CUY-90-1541, CUY-90-1599

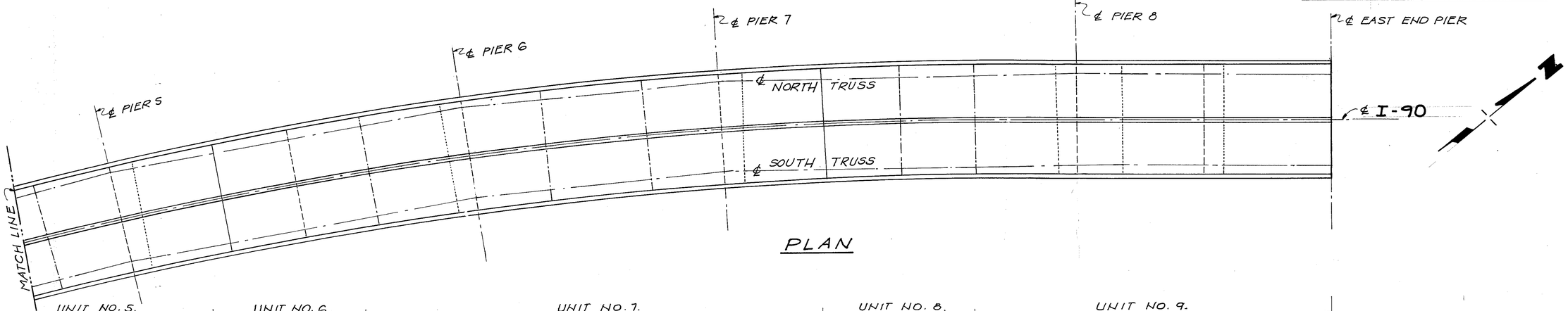
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
M.J.L.	E.K.	D.P.	A.J.M.	9/94	

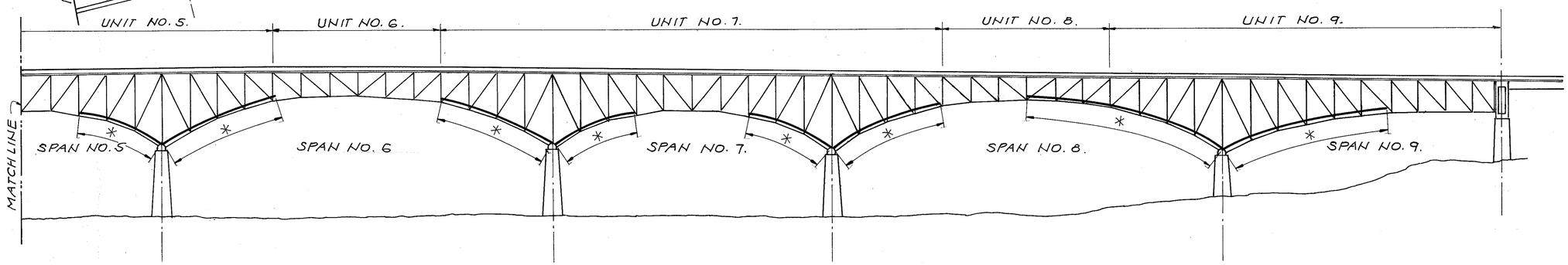
BRUNING 44-232-67195

A-C-L form no. B-1

CALC. —— DATE ——	CUYAHOGA COUNTY	OHIO	95B
CHKD. —— DATE ——	CUY-90-15.24 INNERBELT FREEWAY	F.H.WA. REGION 5	151



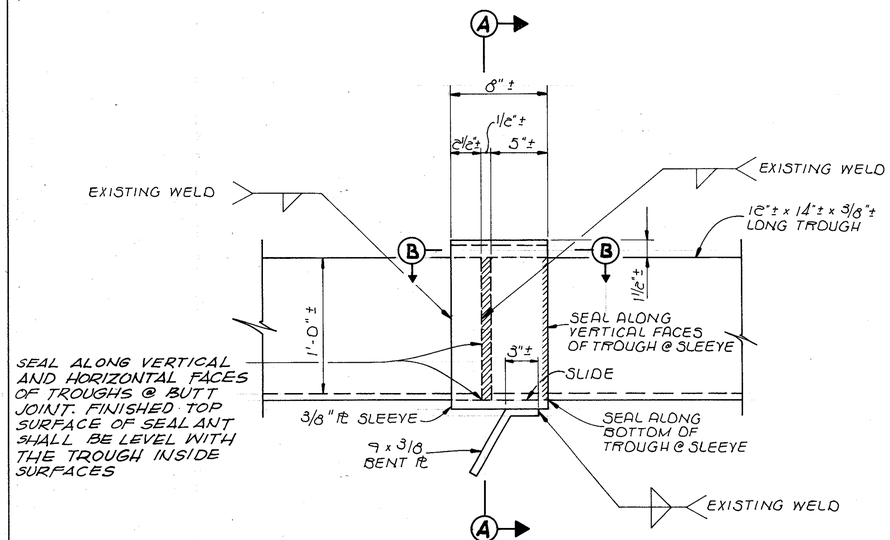
PLAN



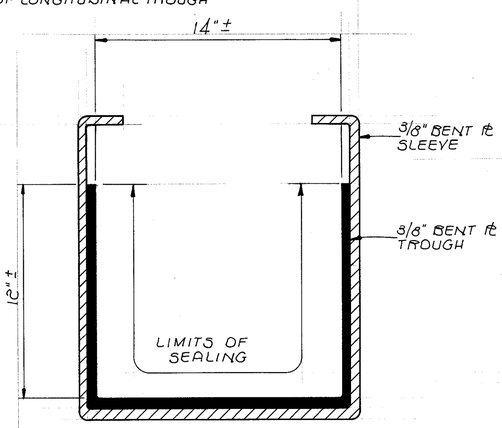
SOUTH ELEVATION

(NORTH TRUSS SHOWN, SOUTH TRUSS SIMILAR)

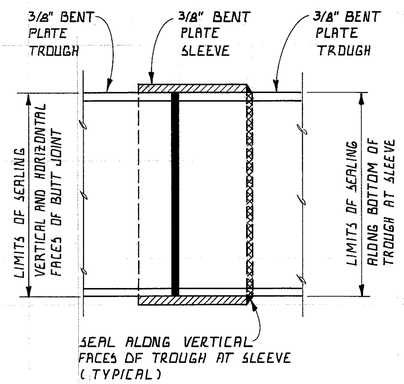
*-LOCATION OF LONGITUDINAL TROUGH



SLEEVE DETAIL



SECTION A-A



SECTION B-B

NOTE:

FOR LONGITUDINAL TROUGH JOINT SEALING NOTES AND DETAILS NOT SHOWN SEE SHEET 34A/89.

34B/89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DRAINAGE REPAIRS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524, CUY-90-1540, CUY-90-1547, CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
M.J.L.	E.K.	D.P.	A.J.M.	9/94	

BRUNING 44-232-87185

A-C-L form no. B-1

CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

96/151

JOINT MODIFICATION NOTES

DESCRIPTION OF WORK

1. TO REPLACE ALL EXISTING COPPER JOINT SEALS AT CONTRACTION JOINTS AND AT CONTRACTION JOINTS AT CROSS DRAINS BY MODIFYING THE JOINTS AS DETAILED.
2. TO RESEAL THE SIDEWALK JOINTS WHICH ALIGN WITH THE CONTRACTION JOINTS.

REPAIR LIMITS

1. THE JOINTS SHALL BE MODIFIED WHEREVER JOINTS HAVE NOT BEEN MODIFIED BY PREVIOUS CONTRACT. WHEREVER THESE REPAIRS ARE MADE THEY SHALL BE DONE TO EITHER THE CURB OR TO A POINT SIX INCHES FROM THE BARRIER MEDIANS.
2. ALL CONTRACTION JOINTS IN THE SIDEWALK SHALL BE RESEALED. REMOVAL OF EXISTING POLYURETHANE JOINT SEAL SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTERE REMOVED.

GENERAL

ANY MISCELLANEOUS REMOVALS OR NECESSARY PREPARATIONS WHICH ARE NOT SPECIFICALLY MENTIONED IN THESE NOTES SHALL BE CONSIDERED INCIDENTAL TO THE PERTINENT REMOVAL OR INSTALLATION ITEMS.

PREPARATION OF DAMAGED CONTRACTION JOINT

1. REMOVE BOTH 4" X ½" BAR RAISINGS BY DRILLING OR BURNING THE CAP SCREWS OFF AND BY CUTTING THE BARS, IF REQUIRED. SOME BAR RAISINGS ARE WELDED DOWN AND SHALL BE REMOVED IN A MANNER WHICH WILL NOT DAMAGE THE REMAINING STEEL.
2. REMOVE THE COPPER WATERSTOP, JOINT FILLER AND DEBRIS.
3. GRIND THE REMAINING STEEL SURFACE SMOOTH.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCLUDED UNDER ITEM 202 - REMOVAL OF COPPER WATERSTOP AT CONTRACTION JOINT.

4. INSTALL TWO 3" X ½" BAR RAISINGS AS DETAILED.

PAYMENT FOR ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF BOTH BAR RAISINGS SHALL BE INCLUDED UNDER ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED A, AS PER PLAN.

PREPARATION OF DAMAGED CONTRACTION JOINT AT CROSS DRAIN

1. REMOVE THE 4" X ½" BAR RAISINGS AS NOTED ABOVE.
2. REMOVE THE 2" X ⅜" RETAINING PLATE AND CAP SCREWS FLUSH WITH THE SIDE OF THE CROSS DRAIN. EXTREME CARE SHALL BE TAKEN NOT TO DAMAGE THE CROSS DRAIN.
3. REMOVE THE COPPER WATERSTOP, JOINT FILLER AND DEBRIS.
4. GRIND THE REMAINING STEEL SURFACES SMOOTH.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCLUDED UNDER ITEM 202 - REMOVAL OF COPPER WATERSTOP AT CROSS DRAIN.

5. INSTALL ONE 3" X ½" BAR RAISINGS AS DETAILED.

PAYMENT FOR ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF ONE BAR RAISING SHALL BE INCLUDED UNDER ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED B, AS PER PLAN.

PREPARATION FOR INSTALLATION OF JOINT SEALS

ALL AREAS WHICH ARE TO BE IN CONTACT WITH THE NEW JOINT SEALS SHALL BE SANDBLASTED CLEAN JUST PRIOR TO THE INSTALLATION OF THE JOINTS SEALS. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PERTINENT JOINT SEAL ITEM.

ITEM SPECIAL - PRECOMPRESSED SELF-ADHESIVE JOINT SEAL

1. THE MATERIAL FOR THIS ITEM IS AN OPEN CELL BITUMEN IMPREGNATED FOAM SEAL OF THE SIZES SPECIFIED. IT SHALL BE "EMSEAL" AS MANUFACTURED BY EMSEAL CORPORATION, "COMPRIBAND V" AS MANUFACTURED BY SECOA CORPORATION OR AN APPROVED EQUAL. THE SEAL SHALL BE SUPPLIED WITH A SELF-ADHESIVE BACKING AND THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. SPLICES SHALL BE MITERED. BUTT JOINTS SHALL NOT BE PERMITTED.
3. BACKER ROD SHALL BE PLACED BELOW THE SEAL TO INSURE INSTALLATION AT THE PROPER DEPTH.

PAYMENT FOR ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE UNIT COST PER LINEAR FOOT OF ITEM SPECIAL - PRECOMPRESSED SELF-ADHESIVE JOINT SEAL. MEASUREMEN SHALL BE BASED ON THE NUMBER OF LINEAR FEET OF SEAL INSTALLED REGARDLESS OF THE SIZE USED.

ITEM SPECIAL - POURED POLYURETHANE JOINT SEAL

I. DESCRIPTION: THIS WORK SHALL CONSIST OF SEALING JOINTS WITH POURED POLYURETHANE JOINT SEAL IN ACCORDANCE WITH THESE SPECIFICATIONS, IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS AND AS DIRECTED BY THE ENGINEER.

II. MATERIAL: THE MATERIAL FOR THIS ITEM IS A TWO-PART, COLD APPLIED, CHEMICALLLY CURING, SELF LEVELING, ELASTOMERIC, POLYURETHANE JOINT SEALANT MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION TT-S-00227E AND ASTM 0-920. ALL MATERIALS SHALL BE STORED AND INCORPORATED IN THE WORK AS SPECIFIED BY THE MANUFACTURER.

III. APPLICATION: THE SURFACES TO WHICH THE SEALER IS TO ADHERE SHALL FIRST BE THOROUGHLY CLEANED BY ABRASIVE BLASTING. POLYURETHANE JOINT SEAL SHALL BE POURED OVER THE FULL LENGTH OF THE BITUMEN IMPREGNATED FOAM SEAL PREVIOUSLY INSTALLED IN THE OPEN JOINT AND IN THE FULL LENGHT OF THE SIDEWALK JOINTS AND SHALL BE APPLIED ONLY WHEN THE SURFACE IS DRY AND ITS TEMPERATURE IS ABOVE 50 DEGREES F. THE POURED JOINT SEALER SHALL ACT AS A SECOND SEAL WHEN POURED ON TOP OF THE BITUMEN IMPREGNATED FOAM JOINT SEAL. THE INSTALLED AND CURED MATERIAL SHALL BE THE DEPTH AS SHOWN IN THE PLANS AND SHALL BE BONDED TO THE CONCRETE SIDES OF THE JOINT. ANY UNBONDED SECTION SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. DAMS AS REQUIRED TO CONTAIN THE POURED SEALER SHALL BE INDIDENTAL TO THIS ITEM OF WORK.

IV. METHOD OF MEASUREMENT: FOOTAGE UNDER THIS ITEM SHALL BE THE LINEAR FEET OF POURED URETHANE JOINT SEALTHAT ARE COMPLETE, IN PLACE AND ACCEPTED. ANY EXISTING UNBONDED UNBONDED SEALER SHALL BE REPLACED AS DIRECTED BY THE ENGINEER.

V. BASIS OF PAYMENT: THE ACCEPTED QUANTITIES OF POURED POLYURETHANE JOINT SEAL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT, WHICH PRICE AND PAYMENT SHALL BE IN FULL COMPENSATION FOR PREPARING THE SURFACES, FURNISHING AND PLACING ALL MATERIALS AND ALL OTHER MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE JOINT SEAL ACCORDING TO SPECIFICATIONS. PAYMENT WILL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
SPECIAL	LINEAR FOOT	POURED POLYURETHANE JOINT SEAL

ESTIMATED QUANTITIES

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS OUTLINED ABOVE AS DIRECTED BY THE ENGINEER:

ITEM 202 - REMOVAL OF COPPER WATERSTOP AT CONTRACTION JOINT	615 LIN. FT.
ITEM 202 - REMOVAL OF COPPER WATERSTOP AT CROSS DRAIN	565 LIN. FT.
ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED A, AS PER PLAN	615 LIN. FT.
ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED B, AS PER PLAN	565 LIN. FT.
ITEM SPECIAL - PRECOMPRESSED SELF-ADHESIVE JOINT SEAL	1200 LIN. FT.
ITEM SPECIAL - POURED POLYURETHANE JOINT SEAL	1600 LIN. FT.

SEE DETAILS ON SHEET 36/89

D-12 REVISED 10-96 35/89

adache-ciuni-lynn associates
CONSULTING ENGINEERS — CLEVELAND, OHIO 44131

JOINT MODIFICATION NOTES
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	D.S.	M.J.L.	J.R.C.	2/94	

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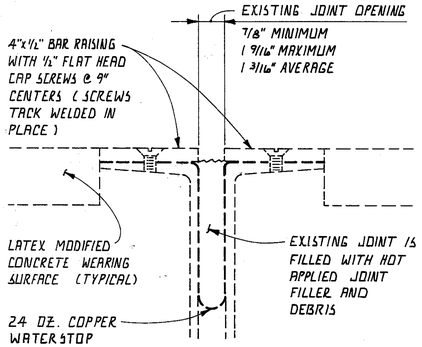
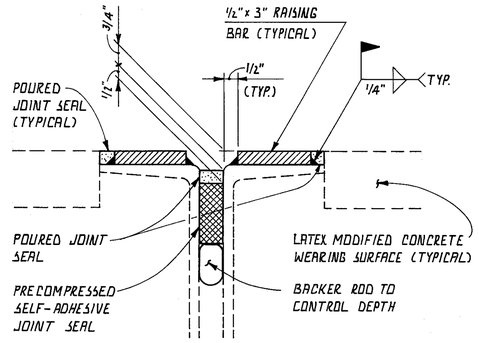
CALC	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD	INNERBELT FREEWAY	
DATE		



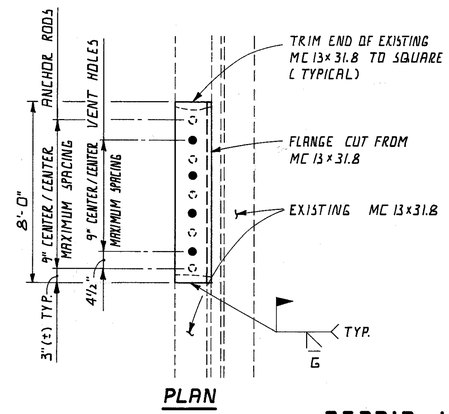
EXISTING CONTRACTION JOINT

REMOVE 4"x1/2" BAR RAISINGS, JOINT FILLER, DEBRIS, AND COPPER WATERSTOP.

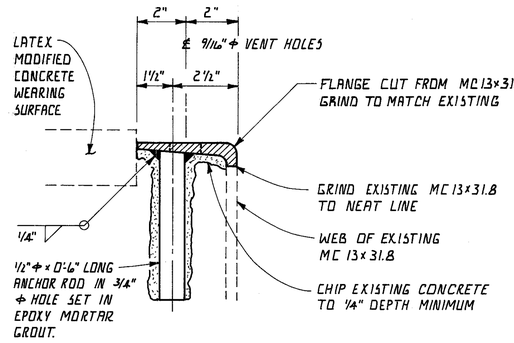


MODIFIED CONTRACTION JOINT

CLEAN JOINT BY SANDBLASTING, INSTALL BACKER ROD, PRECOMPRESSED SELF-ADHESIVE JOINT SEAL, RAISING BARS AND POURED JOINT SEAL.
JOINTS IN PROPOSED BAR RAISING SHALL OVERLAP JOINTS IN MC13x31.8 FLANGE BY 6" MINIMUM.



PLAN



SECTION

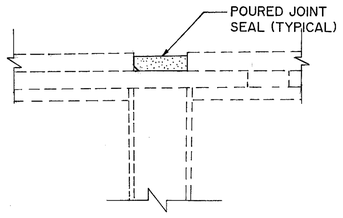
REPAIR JOINT ARMOR

CONTRACTION JOINT AT STA. 37+30, EASTBOUND LANES.

EXISTING & PROPOSED BAR RAISINGS, NOT SHOWN.

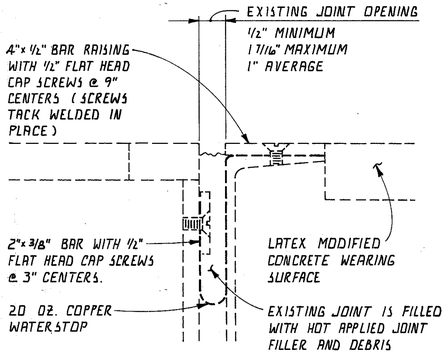
JOINTS IN PROPOSED BAR RAISINGS SHALL OVERLAP JOINT IN MC13x31.8 FLANGE BY 6" MINIMUM.

PAYMENT FOR ALL NECESSARY EQUIPMENT, LABOR, MATERIAL AND INCIDENTALS REQUIRED TO PERFORM THIS ITEM OF WORK AS SHOWN ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID, PER LINEAL FOOT OF ITEM SPECIAL - "REPAIR JOINT ARMOR".



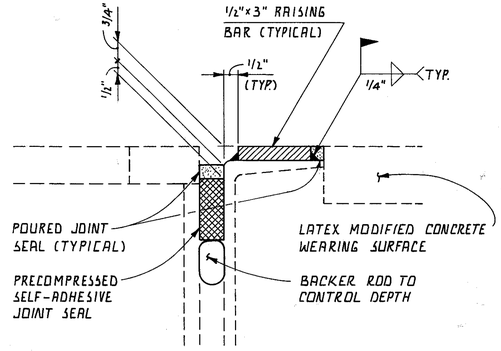
EXPANSION JOINT AT SIDEWALK SEAL JOINT

SEE NOTES ON SHEET 35/89



EXISTING CONTRACTION JOINT AT CROSS DRAIN

REMOVE 4"x1/2" BAR RAISING, 2"x 3/8" BAR, JOINT FILLER, DEBRIS AND COPPER WATERSTOP.



MODIFIED CONTRACTION JOINT AT CROSS DRAIN

CLEAN JOINT BY SANDBLASTING, INSTALL BACKER ROD, PRECOMPRESSED SELF ADHESIVE JOINT SEAL, RAISING BAR AND POURED JOINT SEAL.
JOINTS IN PROPOSED BAR RAISING SHALL OVERLAP JOINTS IN MC13x31.8 FLANGE BY 6" MINIMUM.

PRECOMPRESSED SELF-ADHESIVE JOINT SEAL SIZE			
EXISTING JOINT WIDTH	UNCOMPRESSED WIDTH x DEPTH		
WIDTH ≤ 13/16"	3"x2"	(10%)	120 LIN. FT.
13/16" < WIDTH ≤ 1"	4"x2"	(30%)	360 LIN. FT.
WIDTH > 1"	5"x2"	(60%)	720 LIN. FT.

(%) – APPROXIMATE LENGTH REQUIRED AS PERCENTAGE OF TOTAL BID LENGTH (FOR INFORMATION ONLY)

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

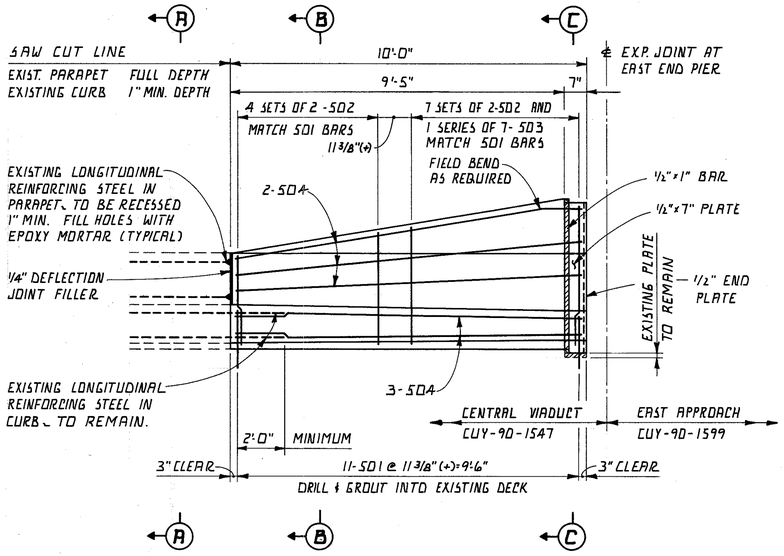
JOINT MODIFICATION DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
A.J.M.	T.M.J.	M.J.L.	J.R.C.	DEC. 30, 1991	

BRUNING 44.232.67195

A-C-L form no. B-1



ELEVATION

RECONSTRUCT MEDIAN BARRIER.
(TRANSITION FROM 32" TO 50")
ELEVATION LOOKING WEST

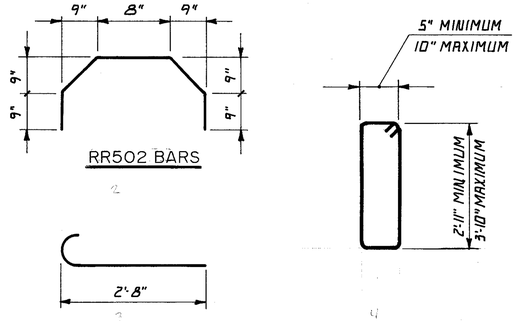
PAID FOR PER LINEAR FOOT OF RAILING UNDER ITEM 517 RAILING MISC.;(50"), AS PER PLAN

PAID FOR PER LINEAR FOOT OF RAILING UNDER ITEM 517 RAILING MISC.;(50"), AS PER PLAN

REINFORCING SCHEDULE

MARK	NUMBER	LENGTH	INC.	SHAPE	WEIGHT
RR502	11	4'-1"		BENT	47
RR503	22	3'-3"		BENT	75
RR504	1 SERIES OF 7	7'-3" TO 9'-11"	5 5/16"	BENT	63
RR505	12	9'-6"		STR.	119
			TOTAL WEIGHT		304

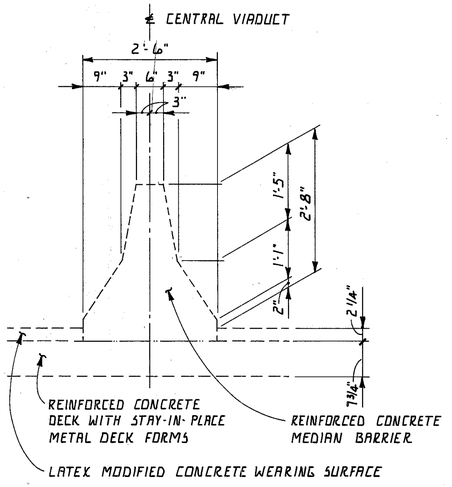
REINFORCING STEEL SAMPLES: REFER TO CMS SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08, EXCEPT LAP SPLICE LENGTH SHALL BE 23" FOR NO. 5 BARS.



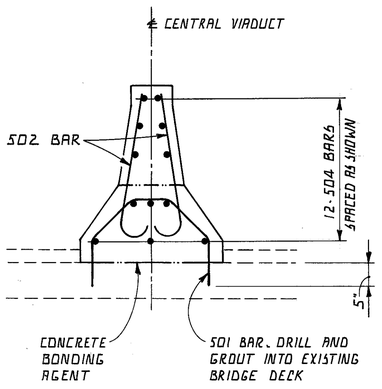
BAR BENDING DIAGRAMS

CALC	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD	INNERBELT FREEWAY	
DATE		

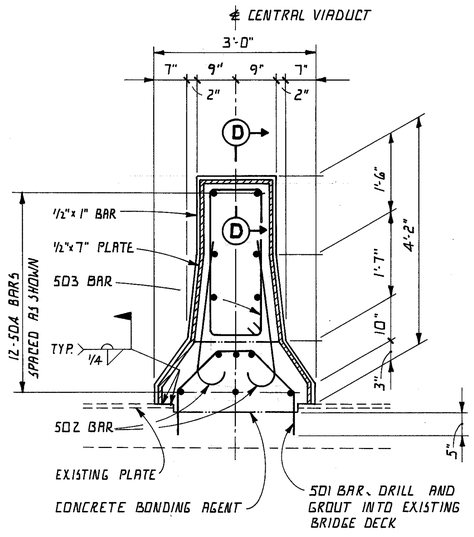
98
151



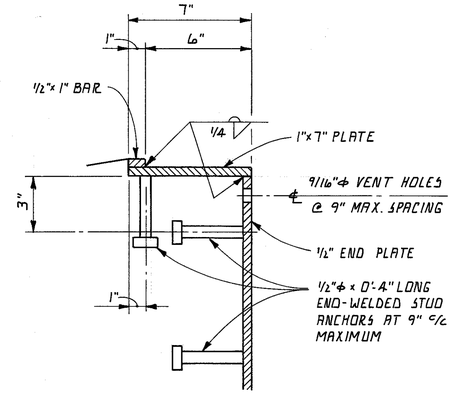
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

PLATE ASSEMBLY SHOWN IS INCLUDED WITH EXPANSION JOINT AT EAST END PIER. SEE STD. DWG. EXJ-4-87 AND SHEET 79/89.

NOTE:

FOR NOTES, DETAILS AND CALL-OUTS, NOT SHOWN SEE EXPANSION JOINT AT EAST END PIER, SHEET 79/89 AND STANDARD DRAWING EXJ-4-87.

PAYMENT FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE ALL EXPANSION JOINT WORK AT THE EAST END PIER SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAL FOOT FOR ITEM 516 – "STRUCTURAL STEEL EXPANSION JOINT MODIFIED, AS PER PLAN".

DRILLING AND GROUTING OF 501 BARS INTO EXISTING DECK SHALL BE PAID FOR UNDER ITEM 510 - "DOWEL HOLES, AS PER PLAN".

D-12 REVISED 8-96

37/89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

MEDIAN BARRIER DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

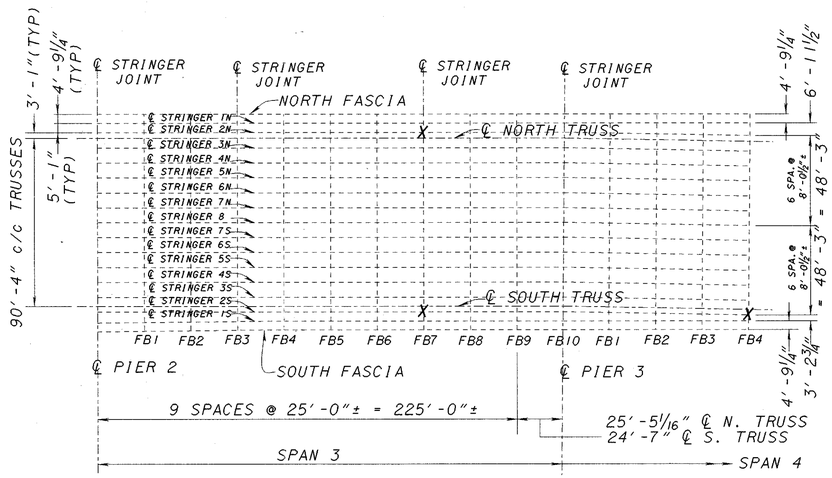
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

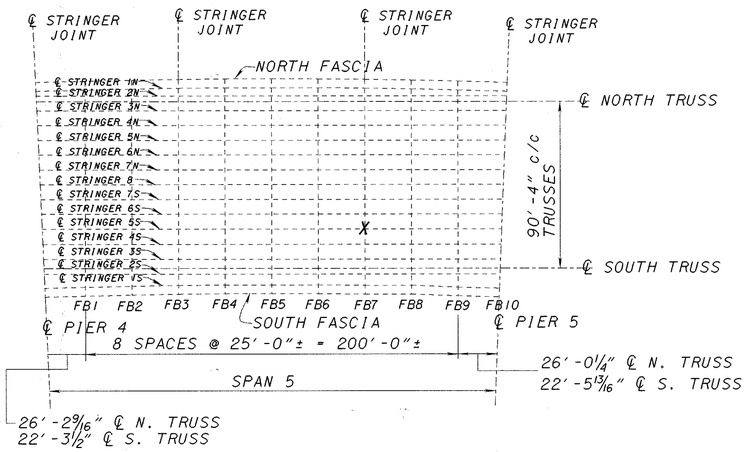
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.P.	DEC. 30, 1991	

BRUNING 44-232-67195

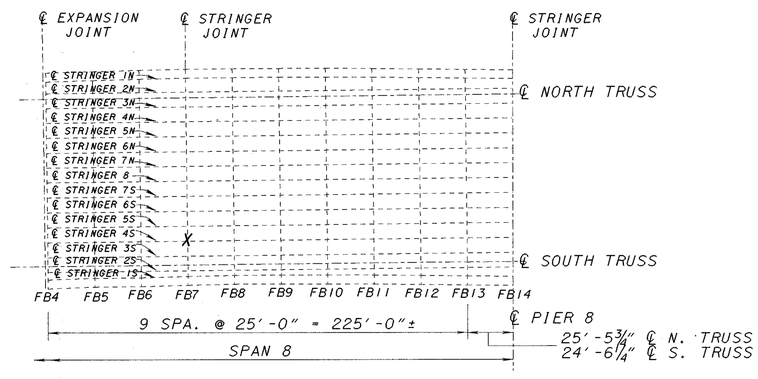
A-C-L form no. B-1



PARTIAL FRAMING PLAN TRUSS SPAN 3 & 4

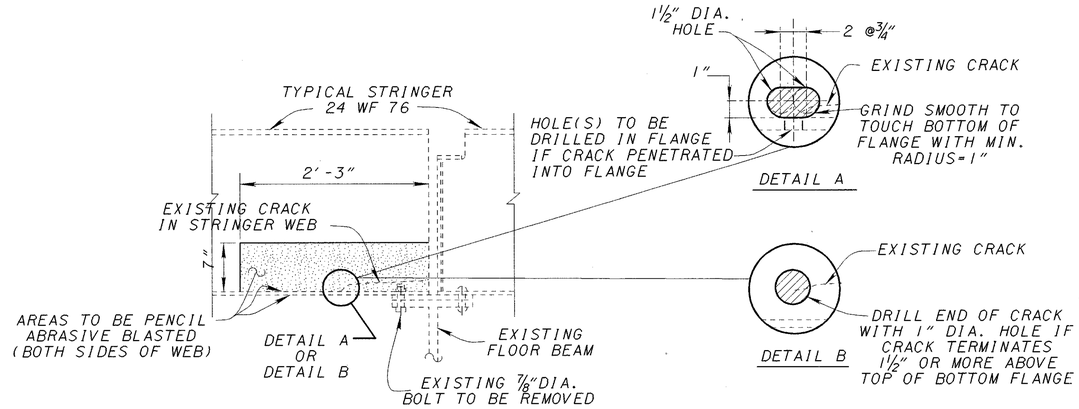


PARTIAL FRAMING PLAN TRUSS SPAN 5

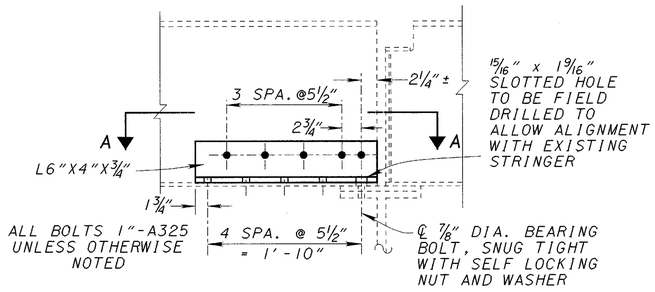


PARTIAL FRAMING PLAN TRUSS SPAN 8

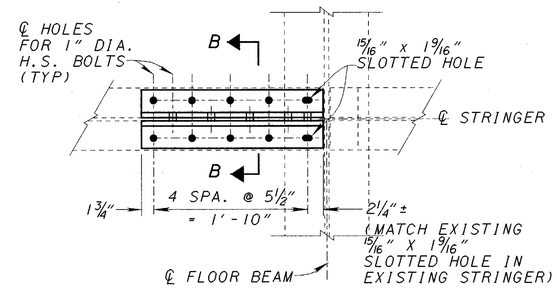
X - STRINGER BOTTOM FLANGE RETROFIT LOCATION



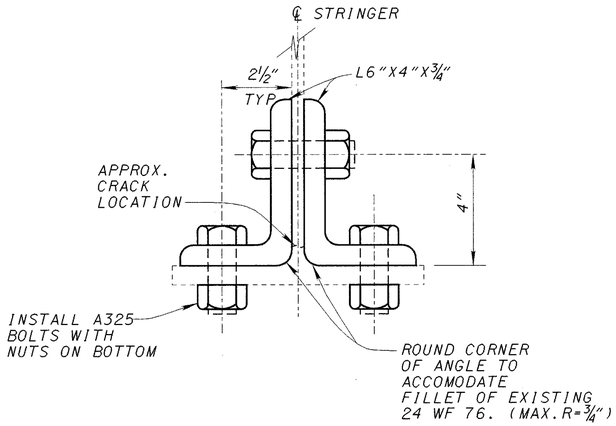
EXISTING STRINGER ELEVATION AT RETROFIT LOCATION



TYPICAL STRINGER BOTTOM FLANGE RETROFIT



SECTION A-A



SECTION B-B

SEQUENCE OF OPERATIONS FOR STRINGER BOTTOM FLANGE RETROFIT

1. REMOVE EXISTING 7/8" DIA. BEARING BOLTS AT FLOOR BEAM CONNECTION.
2. CLEAN STRINGER WEB AND TOP AND BOTTOM OF BOTTOM FLANGE BY PENCIL ABRASIVE BLASTING TO THE LIMITS SHOWN IN THE PLANS
3. NON-DESTRUCTIVELY TEST (NDT) CRACK AREA TO DEFINE END OF CRACK.
4. FIELD DRILL HOLES IN CRACK ENDS IN STRINGER WEB AND FLANGE AS REQUIRED. CUT AND GRIND COPE PER DETAIL "A " IF REQUIRED.
5. REPEAT NDT TO ENSURE INTERCEPTION OF CRACK ENDS OR CRACK REMOVAL.
6. PLACE MATCHED, PREDRILLED ANGLES IN PLACE AND MARK HOLES ON STRINGER.
7. FIELD DRILL SLOTTED BEARING BOLT HOLE IN ANGLES TO MATCH EXISTING SLOTTED HOLES IN STRINGER.
8. BOLT ANGLES TO STRINGER .
9. BOLT ANGLES AND STRINGER TO FLOOR BEAM.
10. PREPARE AND PAINT RETROFITTED AREA.

DESIGN AGENCY
O.D.O.T.
DISTRICT TWELVE
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVISED	DATE
GLC	GLC	DWL	06/96
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJM		1809393	

STRINGER RETROFIT PLAN AND DETAILS
BRIDGE NO. CUY-90-1547
IR 90 OVER CUYAHOGA RIVER VALLEY

CUYAHOGA COUNTY
CUY-90-15.24

37A/89

98A/151

PLOTTED BY: gcox
PLOTTED FROM: i:\pd\fkonopka\stringer.dgn
filename.dgn
PLOT SUBMITTED: 7-OCT-1996 16:21

DEMOLITION NOTES

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS AND/OR FIELD MEASUREMENTS. CONSEQUENTLY THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C.M.S. SECTIONS 102.05 AND 105.02.

IT IS NOT THE INTENT OF THE DEMOLITION PLANS TO SHOW EVERY DETAIL OF THE EXISTING STRUCTURE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT THE STRUCTURE AND VERIFY THE EXISTING CONDITIONS TO HIS OWN SATISFACTION. THE PLANS OF THE EXISTING STRUCTURE ARE AVAILABLE FOR EXAMINATION AT THE OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 12.

CONTRACT BID PRICES SHALL BE BASED ON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED ON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFEID BY THE CONTRACTOR IN THE FIELD.

ITEM 202 - 'PORTIONS OF STRUCTURE REMOVED'

A TEMPORARY BENT SHALL BE INSTALLED APPROXIMATELY 85' WEST OF PIER 2E2 TO SUPPORT THE SUPERSTRUCTURE GIRDERS FOR RAMP E-2 AFTER THE CONCRETE DECK HAS BEEN REMOVED. THE BENT SHALL PROVIDE FULL SUPPORT FOR THE GIRDERS AND SHALL REMAIN IN PLACE UNTIL THE NEW DECK CONCRETE HAS ATTAINED ITS DESIGN STRENGTH. A BENT WAS PROVIDED IN THIS POSITION IN THE ORIGINAL CONSTRUCTION AND IS REQUIRED NOW IN AN ATTEMPT TO DUPLICATE THE STRESS HISTORY OF THE GIRDERS. PLANS FOR THE BENT SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER AND SUBMITTED BY THE CONTRACTOR FOR REVIEW AND APPROVAL BY THE ENGINEER. THE COST OF THE TEMPORARY BENT SHALL BE INCLUDED IN ITEM SPECIAL - 'STRUCTURE MISCELLANEOUS: TEMPORARY BENT'.

REMOVAL OF PORTIONS OF THE EXISTING STRUCTURE INCLUDES DEMOLITION, REMOVAL AND DISPOSAL OF THE SUPERSTRUCTURE AND THE SUBSTRUCTURE TO THE LIMITS SHOWN OR AS DIRECTED BY THE ENGINEER. ANY PORTION OF THE EXISTING STRUCTURE, INCLUDING THE FOOTINGS, WHICH IS FOUND TO INTERFERE WITH THE NEW CONSTRUCTION SHALL BE REMOVED AS DIRECTED BY THE ENGINEER TO ALLOW FOR THE NEW CONSTRUCTION.

ALL MATERIALS TO BE DEMOLISHED SHALL BECOME PROPERTY OF THE CONTRACTOR UNLESS NOTED OTHERWISE IN THE PLAN, SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER. ALL THESE MATERIALS SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF BY THE CONTRACTOR. THE EXISTING 'IMPACT ATTENUATORS' SHALL BE CAREFULLY REMOVED, DISASSEMBLED AND CLEANED FOR INSPECTION BY THE ENGINEER. THE HEX-FOAM IMPACT ATTENUATORS SHALL BE DELIVERED TO THE O.D.O.T. DISTRICT 12 **WARRENSVILLE MAINTENACE** YARD AT I-271 AND SR-175 AS DIRECTED BY THE ENGINEER. UNLOADING THE COMPONENTS AT THE DISTRICT STORAGE YARD SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. UN-USEABLE COMPONENTS SHALL BECOME PROPERTY OF THE CONTRACTOR AND BE REMOVED FROM THE SITE.

CONCRETE REMOVAL: DURING REMOVAL OPERATIONS, THE CONTRACTOR SHALL MAKE FULL PROVISIONS FOR MAINTENANCE AND PROTECTION OF VEHICULAR AND RAILROAD TRAFFIC UNDER THE BRIDGE. FOR SPECIAL PROVISIONS AT RAILROADS (GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY AND CONRAIL) SEE STRUCTURAL GENERAL NOTES. FOR SPECIAL PROVISIONS AT PAVEMENTS AND BUILDINGS, SEE MAINTAINANCE OF TRAFFIC NOTES IN THE ROADWAY PLANS.

THE CONCRETE DECK SLAB SHALL BE SAW CUT AND REMOVED IN SECTIONS WITH THE FOLLOWING RESTRICTIONS:

1. BEFORE ANY SAWING IS COMMENCED, THE OUTLINE OF THE TOP FLANGES AND COVER PLATES OF ALL STRINGERS ARE TO BE DRAWN ON THE BRIDGE DECK AND (1) INCH +/- DIAMETER PILOT HOLES MADE OUTSIDE THESE LINES TO CONFIRM THE WIDTH OF THE FLANGES. PILOT HOLES SHALL BE DRILLED ON BOTH SIDES OF THE STRINGERS AT EACH SAW CUT LOCATION. IN NO CASE WILL PILOT HOLES BE DRILLED OVER THE STRINGER FLANGES.
2. ALL SAWING, EXCEPT AS SHOWN ON 'MAINLINE SECTION', SHEET MUST BE CONFINED TO AREAS BETWEEN FLANGE EDGES MINUS 4 INCHES (2 INCHES +/- EACH SIDE). SAWING OUTSIDE THE FASCIA STRINGER (SAWING OF THE PARAPETS AND WALKS) SHALL BE STOPPED 2 INCHES +/- OUTSIDE THE CONFIRMED LIMITS OF THE STRINGER FLANGES OR COVER PLATES.
3. THE GENERAL SAWING PATTERN SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
4. HAND SAWS OR PNEUMATIC HAMMERS MAY BE USED IN THE FLANGE (COVER PLATE) AREAS IF THE OPERATION IS OBSERVED AND APPROVED BY THE ENGINEER, AND ONLY THEN TO A DEPTH NOT PENETRATING THE LOWER REINFORCING STEEL MAT. THE ENGINEER HAS THE RIGHT TO TERMINATE HAND SAWING OR HAMMERING OVER THE FLANGES ANY TIME HE FEELS THE BRIDGE INTEGRITY IS IN JEOPARDY OR FLANGE (COVER PLATE) DAMAGE IS IMMINENT. PNEUMATIC HAMMERS USED FOR THIS OPERATION SHALL NOT BE HEAVIER THAN 35 POUNDS.

   AS AN ALTERNATE TO USING HAND SAWS OR HAMMERS, THE LARGE CUTTING SAWS MAY BE USED FOR THE TRANSVERSE CUTS ACROSS THE FLANGES WITH THE CUT RESTRICTED TO A MAXIMUM DEPTH OF 6-1/2 INCHES (2-1/2 WEARING SURFACE AND 4 INCHES STRUCTURAL DECK SLAB) OVER THE FLANGES. THIS SHALL BE ACCOMPLISHED BY MAKING AN INITIAL TRANSVERSE PRECUT OF 6-1/2 INCHES IN DEPTH, CONTINUOUSLY ACROSS THE ENTIRE DECK (PHASE LINE TO FASCIA). THE SECOND CUT SHALL BE RESTRICTED TO THE AREAS SPECIFIED IN ITEM 2, ABOVE. THE PRATICE OF SAW CUTTING FULL DEPTH BETWEEN STRINGERS, THEN LIFTING THE SAW TO THE 6-1/2 INCH DEPTH OVER THE FLANGE, THEN DROPPING THE SAW FULL DEPTH AGAIN, AS THE SAW MAKES THE TRANSVERSE CUT IS PROHIBITED.
5. THE USE OF HYDRAULIC OR PNEUMATIC HOE-RAMS TO LINE PUNCH A A SECTION OF THE DECK IN LIEU OF, OR IN COMBINATION WITH, A SAW CUTTING OPERATION IS PROHIBITED.

CERTAIN CONDITIONS MAY WARRANT THE USE OF HYDRAULIC OR PNEUMATIC HOE-RAMS AND WILL BE PERMITTED WITH SPECIFIC APPROVAL OF THE PROJECT ENGINEER. THESE CONDITIONS ARE AS FOLLOWS:

1. PUNCHING THROUGH THE DECK TO PROVIDE LIFTING HOLES FOR SLAB REMOVAL.
2. LIMITED LOCALIZED AREAS ON THE CONCRETE DECK WHERE SAWING, INCLUDING THE VERMIER SAW, CANNOT PRACTICALLY MAKE THE COMPLETE CUT.
3. OTHER AREAS APPROVED BY THE ENGINEER.

ANY DAMAGE THAT RESULTS FROM THE CONTRACTOR'S OPERATIONS TO THE COVER PLATES, AND/OR FLANGES, SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, ALL AT THE CONTRACTOR'S SOLE COST AND EXPENSE.

OTHER CONCRETE SHALL ALSO BE REMOVED BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AMD BLUNT CHISEL EDGED TOOLS. THE WEIGHT OF THE HAMMERS SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT MORE THAN 95 POUNDS, MAY BE USED SUBJECT TO APPROVAL OF THE ENGINEER.

PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. WHERE BOND BETWEEN EXISTING CONCRETE AND REINFORCING STEEL THAT IS TO BE RETAINED HAS BEEN DESTROYED, THE UNBONDED CONCRETE ADJACENT TO THE BAR SHALL BE REMOVED TO A DEPTH WHICH WILL PERMIT NEW CONCRETE TO BOND TO THE ENTIRE PERIPHERY OF THE BAR SO DEBONDED. A MINIMUM OF 1-1/2 INCH CLEARANCE AROUND THE PERIMETER OF THE STEEL SHALL BE PROVIDED.

EXISTING REINFORCING STEEL, WHICH IS CUT FLUSH TO A CONCRETE REMOVAL SURFACE AND IS NOT TO BE COVERED WITH NEW CONCRETE, SHALL BE RECESSED A MINIMUM OF 1 INCH BELOW THE SURFACE OF THE CONCRETE. THE RESULTING HOLE SHALL BE FILLED WITH A NONSHRINKING EPOXY MORTAR. OTHER EXISTING REINFORCING STEEL SHALL BE CUT AND/OR RETAINED AS INDICATED IN THE PLANS OR AS DIRECTED BY THE ENGINEER, TO SERVE AS DOWELS IN THE REBUILT STRUCTURE. THESE BARS SHALL BE CLEANED OF ALL CONCRETE FRAGMENTS AND FOREIGN MATTER. NECESSARY LABOR, EQUIPMENT AND MATERIAL REQUIRED TO CUT AND CLEAN EXISTING REINFORCING STEEL AND TO RECESS EXISTING REINFORCING STEEL BELOW THE SURFACE OF CONCRETE AND TO GROUT FILL THE RESULTING HOLE SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE INCLUDED WITH ITEM 202 - 'PORTIONS OF STRUCTURES REMOVED' FOR PAYMENT.

CARE SHALL BE USED IN WORKING AROUND REINFORCING STEEL. ANY REINFORCING STEEL DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED AT NO COST TO THE **STATE OF OHIO** SPECIAL CARE SHALL ALSO BE USED IN WORKING ADJACENT TO SUPERSTRUCTURE STEELWORK. ANY STRUCTURAL STEEL OR PAINT DAMAGE SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE **STATE OF OHIO.**

WHEN SO DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL WET DOWN CONCRETE THOROUGHLY DURING REMOVAL OPERATIONS TO PREVENT SPREAD OF DUST. ALL NECESSARY LABOR, EQUIPMENT AND MATERIALS SHALL BE PROVIDED BY THE CONTRACTOR AND INCLUDED WITH ITEM 202 - 'PORTIONS OF STRUCTURES REMOVED', FOR PAYMENT.

THE USE OF EXPLOSIVES AND HEADACHE BALLS ARE NOT PERMITTED.

FOR QUANTITY LISTING, SEE SHEET 14 / 89

PHASE IA, IB, II AND IV DEMOLITION IS SHOWN HATCHED.

PHASE III AND V DEMOLITION IS SHOWN CROSS-HATCHED.

FOR TEMPORARY BARRIER LOCATION, SEE SHEET 39 / 89

FOR ADDITIONAL NOTES, SEE SHEET 39 / 89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

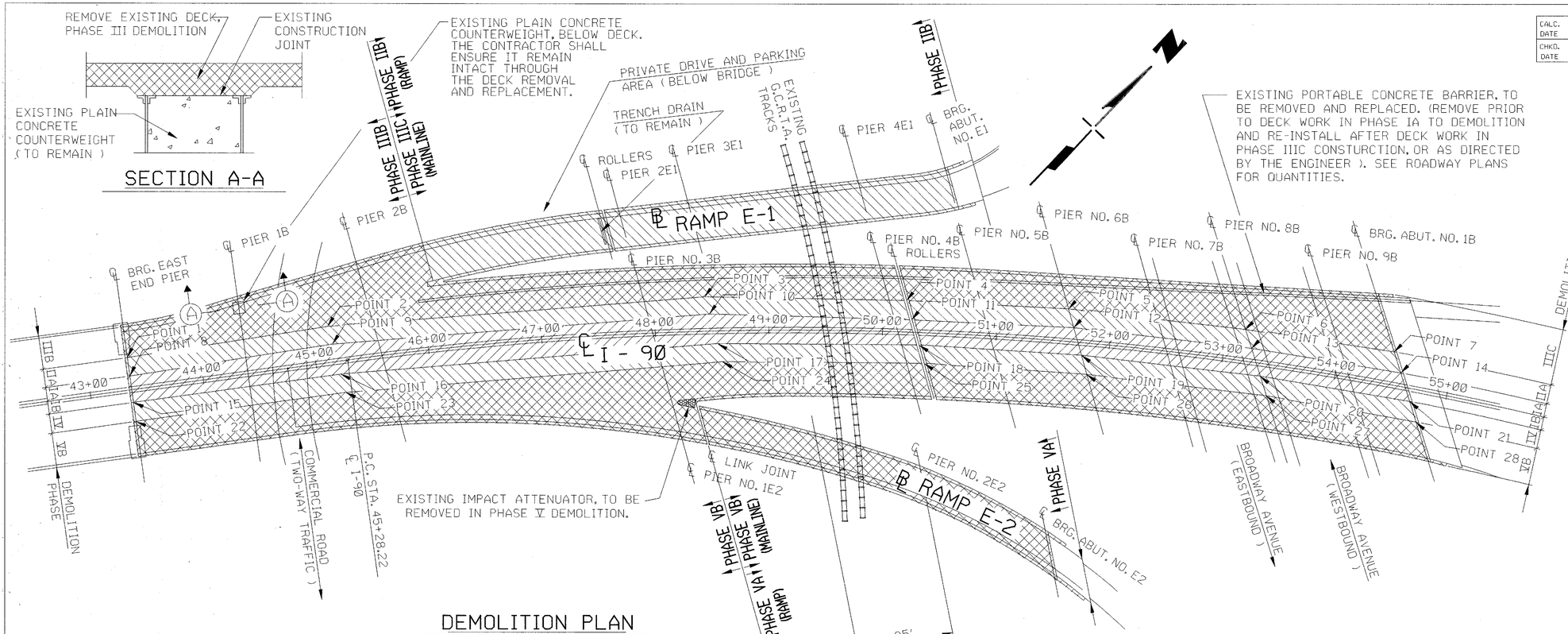
DEMOLITION NOTES
INNERBELT FREEWAY
{CUY-90-1524 CUY-90-1540
{CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	10/91	

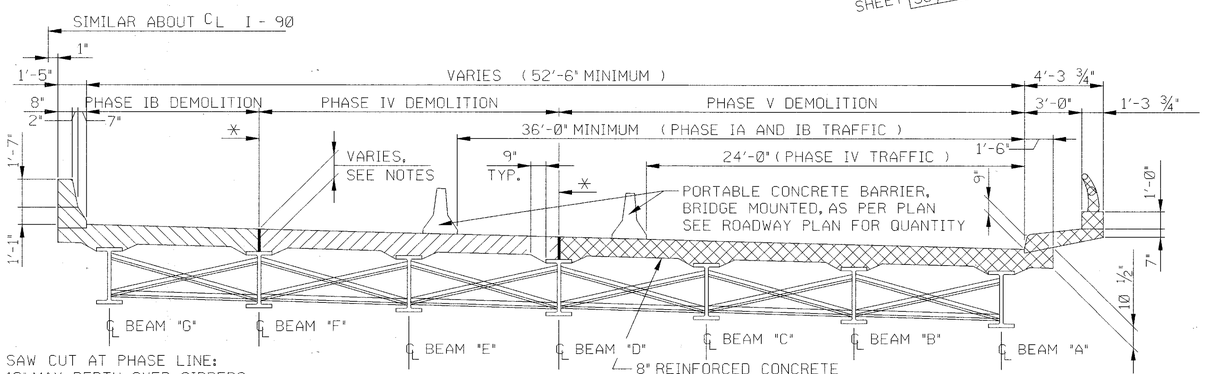
CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

100 / 151

SECTION A-A



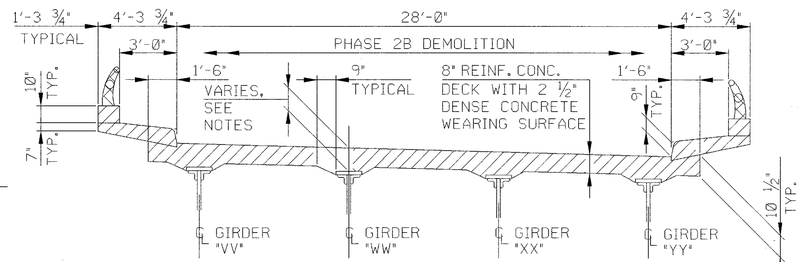
DEMOLITION PLAN



✳ SAW CUT AT PHASE LINE:
12" MAX. DEPTH OVER GIRDERS
10" MAX. DEPTH OVER BEAMS

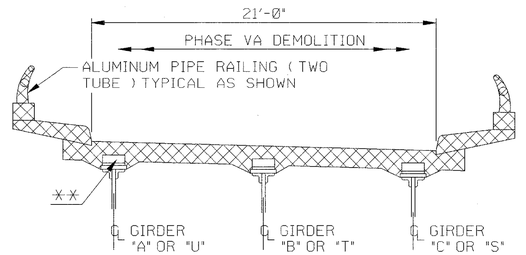
MAINLINE SECTION

BEAM SECTION SHOWN, GIRDER SECTION SIMILAR



RAMP E-1 SECTION

CROSS FRAMING NOT SHOWN.



✳✳

RAMP E-2 SECTION

FOR CALLOUTS NOT SHOWN, SEE "RAMP E-1 SECTION" CROSS FRAMING NOT SHOWN.

NOTE:

EXISTING STRINGERS AND INTERMEDIATE CROSSFRAMES SHALL REMAIN. THE EXISTING END DAMS AT ABUTMENTS SHALL BE REMOVED. THE EXISTING END CROSSFRAMES SHALL BE REMOVED AT ABUTMENT 1B, ONLY. HOWEVER THEY SHALL NOT BE REMOVED UNTIL NECESSARY TO INSTALL THE NEW END CROSSFRAMES AND THE EXPANSION JOINT STRIP SEAL OR AS DIRECTED BY THE ENGINEER.

✳✳ EXISTING SHEAR ANGLE CONNECTORS AT 20" CENTERS, MAXIMUM, SHALL BE REMOVED AND REPLACED WITH SHEAR STUDS. FOR CONNECTOR DETAIL, AND SHEAR STUD DETAILS, SEE SHEET 55A/89

NOTES

FOR DEMOLITION NOTES, SEE SHEET 38/89 .

EXISTING FRAMING:

MAINLINE — EAST END PIER TO PIER 1B, GIRDERS ARE 5'-6 ½" BACK TO BACK OF ANGLES. PIER 1B TO CENTERLINE OF ROLLERS, GIRDERS ARE 8'-0 ½" BACK TO BACK OF ANGLES. CENTERLINE OF ROLLERS TO ABUTMENT 1B, ROLLED BEAMS ARE 36" WIDE FLANGE BEAMS.

RAMP E-1 — MAINLINE TO CENTERLINE OF ROLLERS, GIRDERS ARE 8'-0 ½" BACK TO BACK OF ANGLES. CENTERLINE OF ROLLERS TO ABUTMENT E-1, GIRDERS ARE 6'-0 ½" BACK TO BACK OF ANGLES.

RAMP E-2 — MAINLINE TO ABUTMENT E-2, GIRDERS ARE 8'-0 ½" BACK TO BACK OF ANGLES.

(ALL GIRDERS ARE RIVETED CONSTRUCTION)

DECK THICKNESS OVER STRINGERS: TOP OF DECK TO BACK OF TOP FLANGE ANGLED FOR ALL GIRDERS VARIES FROM 14" TO 16".
TOP OF DECK TO TOP FLANGE FOR ROLLED BEAMS IS 12" EXCEPT AT THE ROLLERS NEAR PIER 4B WHERE THE DIMENSION VARIES (15" TO 16").

PHASE LINE CONTROL POINTS

POINT	℄ STATION	OFFSET
1	STA. 43+36.45	28.50' LEFT
2	STA. 45+14.83	32.27' LEFT
3	STA. 48+44.28	30.41' LEFT
4	STA. 50+20.19	27.95' LEFT
5	STA. 51+61.36	29.11' LEFT
6	STA. 53+16.59	28.17' LEFT
7	STA. 54+47.61	29.08' LEFT
8	STA. 43+36.45	12.17' LEFT
9	STA. 45+16.99	15.98' LEFT
10	STA. 48+47.98	15.36' LEFT
11	STA. 50+25.40	11.30' LEFT
12	STA. 51+67.32	12.87' LEFT
13	STA. 53+24.09	12.16' LEFT
14	STA. 54+56.60	11.97' LEFT
15	STA. 43+36.45	11.33' RIGHT
16	STA. 45+20.62	11.33' RIGHT
17	STA. 48+54.60	11.16' RIGHT
18	STA. 50+32.49	11.09' RIGHT
19	STA. 51+76.27	11.15' RIGHT
20	STA. 53+35.17	11.15' RIGHT
21	STA. 54+69.00	11.28' RIGHT
22	STA. 43+36.45	28.00' RIGHT
23	STA. 45+22.83	28.00' RIGHT
24	STA. 48+58.73	27.46' RIGHT
25	STA. 50+37.63	27.09' RIGHT
26	STA. 51+82.42	27.43' RIGHT
27	STA. 53+43.03	27.44' RIGHT
28	STA. 54+77.98	27.83' RIGHT

D-12 REVISED 8-96 — 39/89

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DEMOLITION PLAN
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

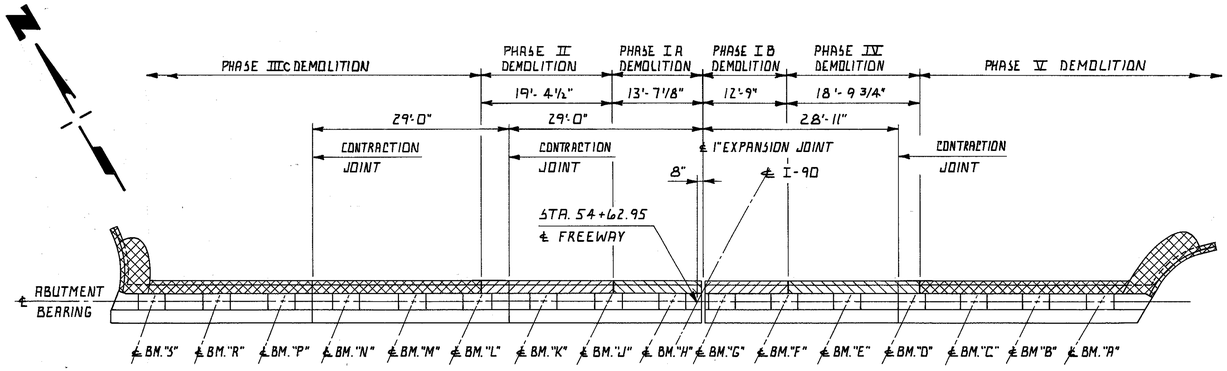
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	2/94	

C:\DGN\J\C901524\J\DEMOPLAN.DGN

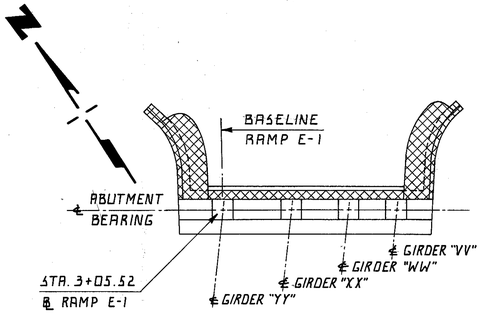
CALC		CUYAHOGA COUNTY	OHIO
DATE		CUY-90-15.24	F.H.W.A. REGION 5
CHKD		INNERBELT FREEWAY	
DATE			

101 / 151



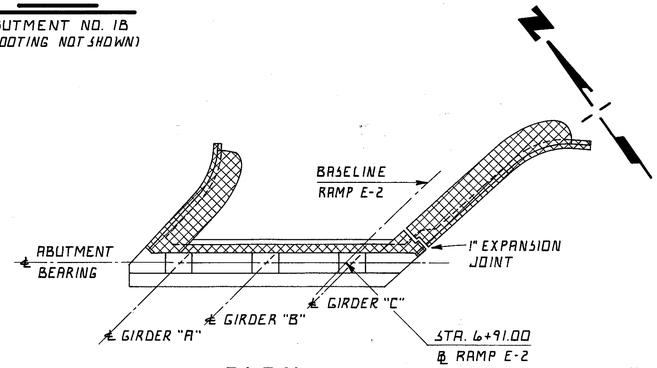
PLAN

ABUTMENT NO. 1B
(FOOTING NOT SHOWN)



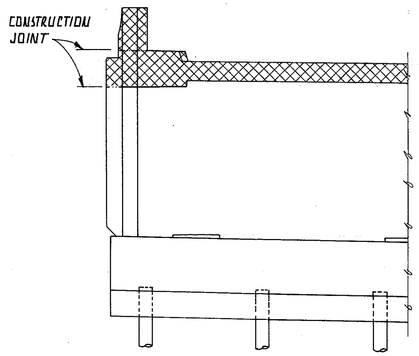
PLAN

ABUTMENT NO. E-1
(FOOTING NOT SHOWN)



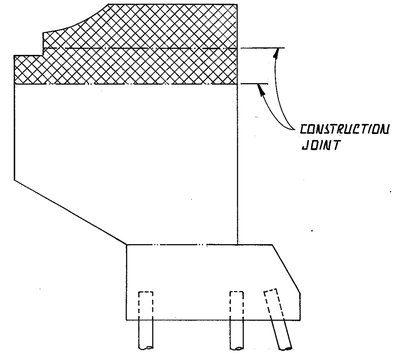
PLAN

ABUTMENT NO. E-2
(FOOTING NOT SHOWN)



ELEVATION

ABUTMENTS NO. E-1 AND E-2



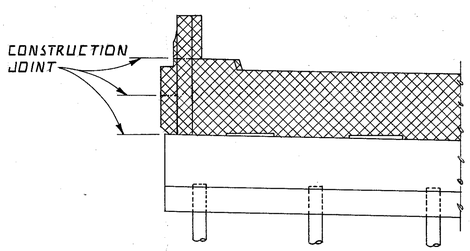
ELEVATION

WINGWALLS AT ABUTS. NO. E-1 AND E-2

NOTES:

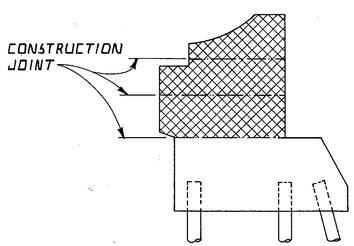
FOR DEMOLITION NOTES, SEE SHEET 38/89.

SEE ABUTMENT DETAILS, SHEETS 41/89 THRU 48/89.



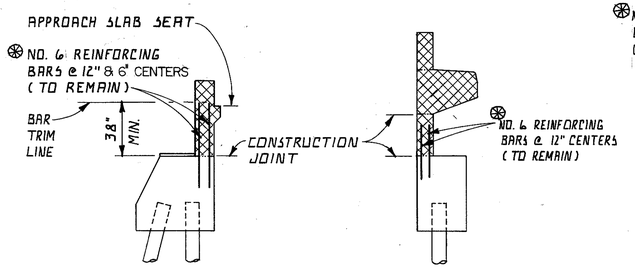
ELEVATION

ABUTMENT NO. 1B



ELEVATION

WINGWALLS AT ABUTMENT NO. 1B

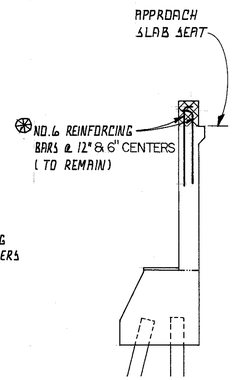


SECTION

ABUTMENT NO. 1B

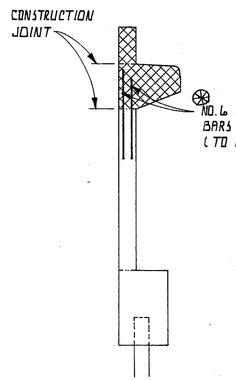
SECTION

WINGWALLS AT ABUT. NO. 1B



SECTION

ABUTMENTS NO. E-1 AND E-2



SECTION

WINGWALLS AT ABUTMENTS NO. E-1 AND E-2.

℄ AT THE CONTRACTORS OPTION, THE EXISTING NO. 6 BARS MAY BE CUT AND REMOVED PROVIDED THEY ARE REPLACED AND GROUTED WITH EPOXY RESIN AS PER CMS 510 WITH A MINIMUM 8" EMBEDMENT BELOW THE CONSTRUCTION JOINT.

40/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DEMOLITION DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

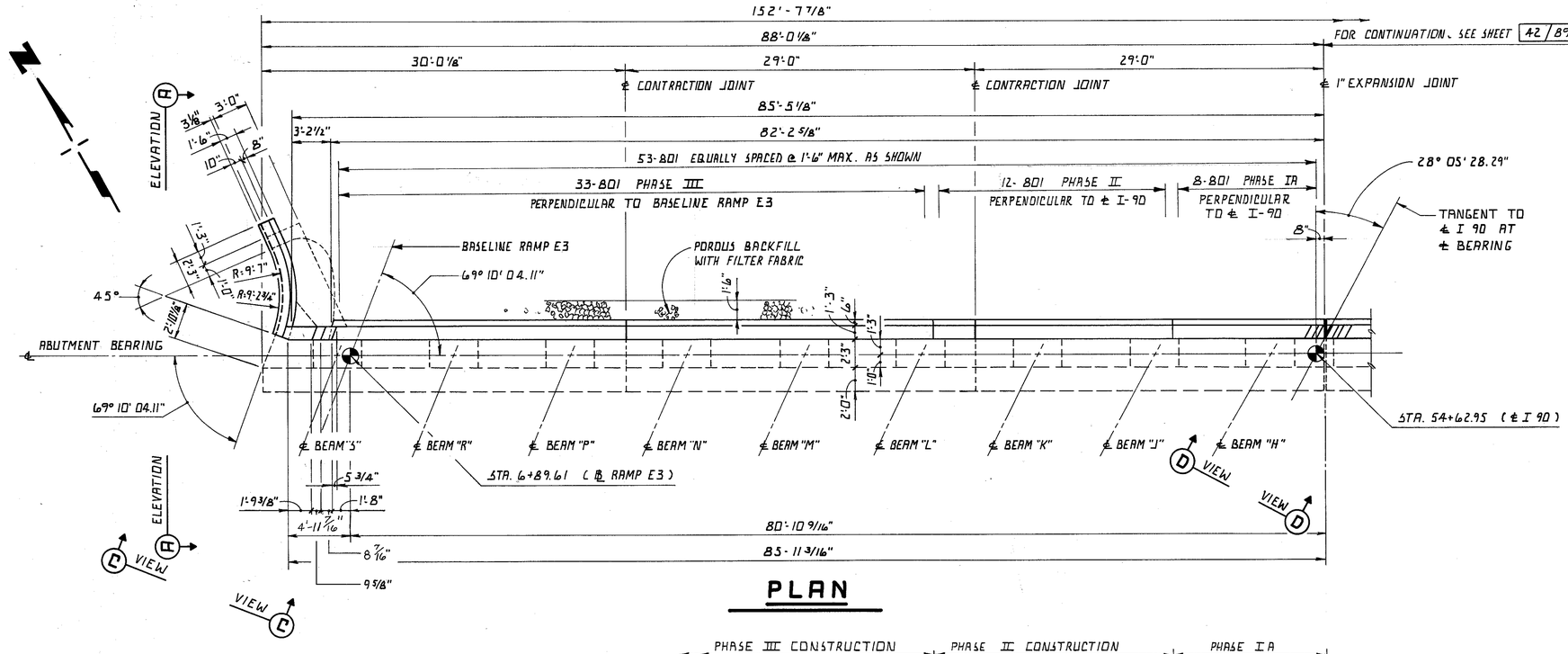
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

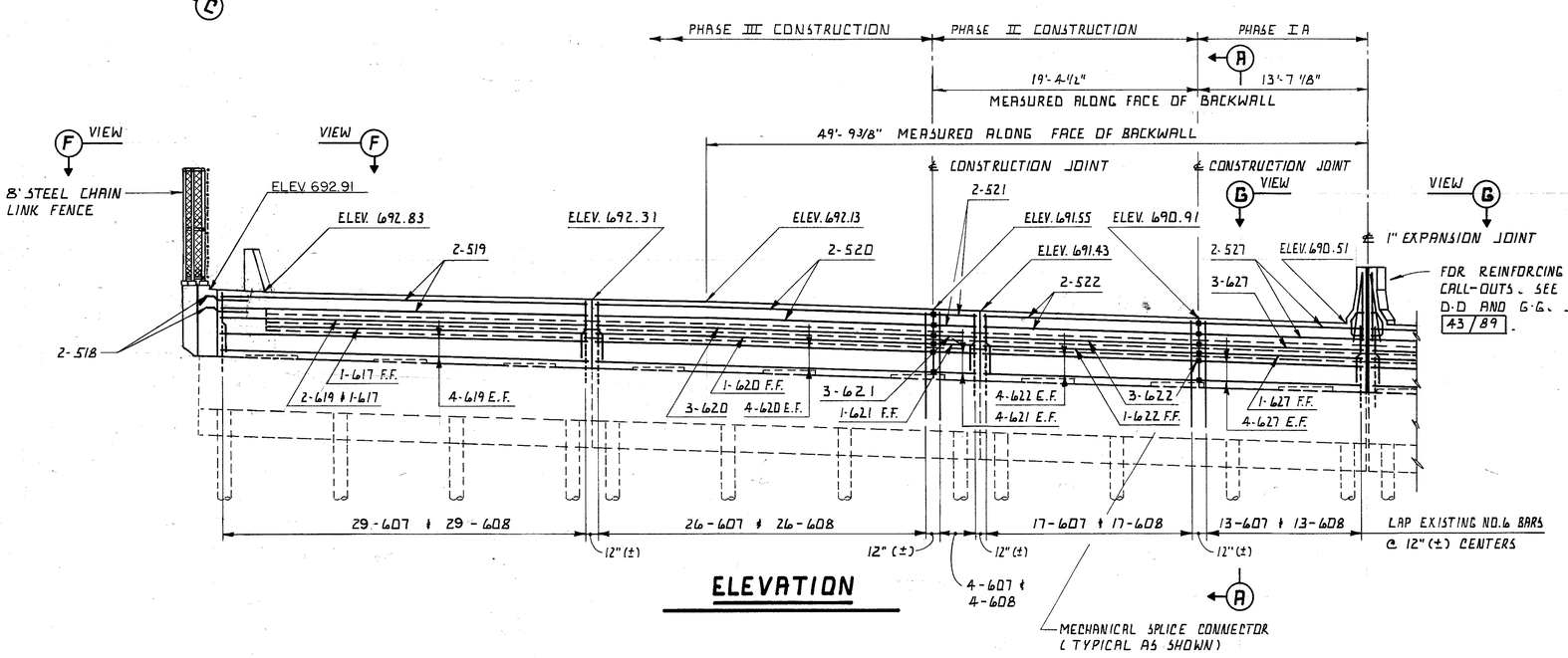
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	OCT. 15, 1991	

BRUNING 44.232.67195-01

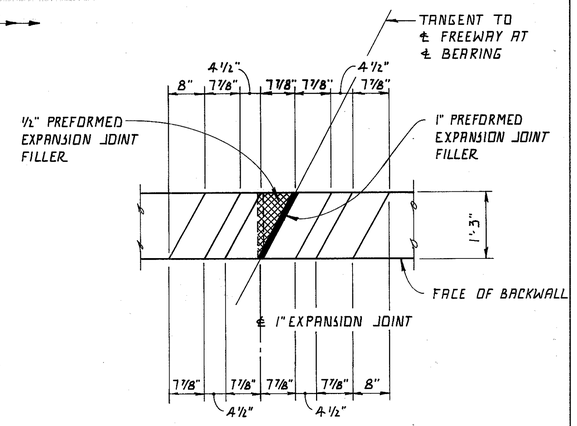
A-C-L form no. B-1



PLAN



ELEVATION



DETAIL

MEDIAN BARRIER ON BACKWALL

NOTES:

FOR ELEVATION A-A, SEE SHEET 43/89.

FOR VIEWS C-C, D-D, F-F AND G-G, SEE SHEET 43/89.

IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.

THE PREFIX "A1B" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN ABUTMENT 1B.

ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

FOR REINFORCING STEEL LIST AND REINFORCING BAR BENDING DIAGRAMS, SEE SHEET 84/89.

FOR 3" STRIP SEAL EXPANSION JOINT DETAILS, SEE STANDARD DRAWING EXJ-4-87, SHEETS 1 THRU 5 OF 5 AND SHEET 83/89.

FOR SECTION "A-A", SEE SHEET 42/89.

ABBREVIATIONS USED: E.F. = EACH FACE
F.F. = FAR FACE

FOR TRANSITION BARRIER (TYPE X)
SEE SHEET 338/151.

D-12 REVISED 8-96

41/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ABUTMENT 1B
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

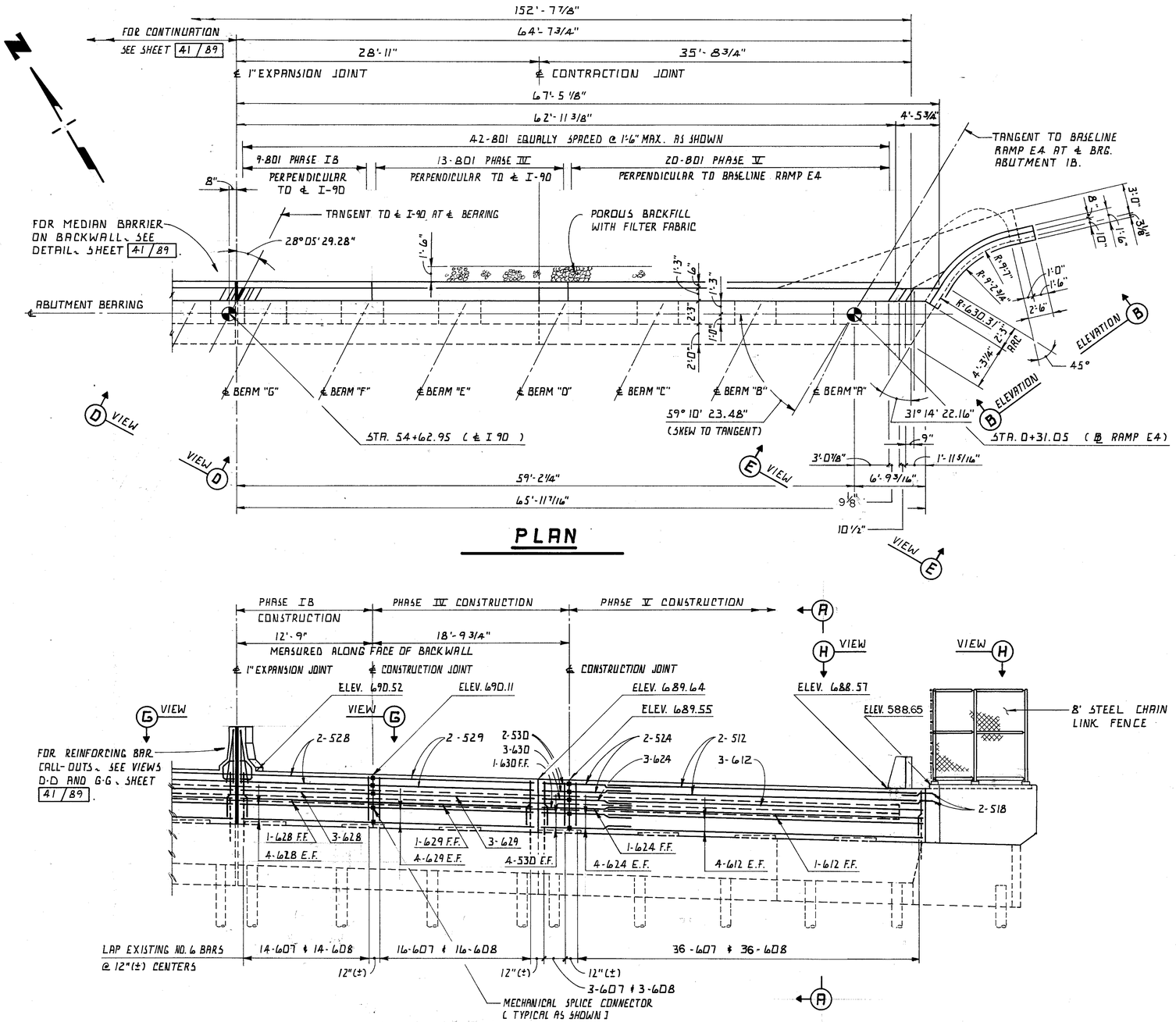
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.P.C.	OCT. 15, 1991	

BRINNING 44.232.67195-01

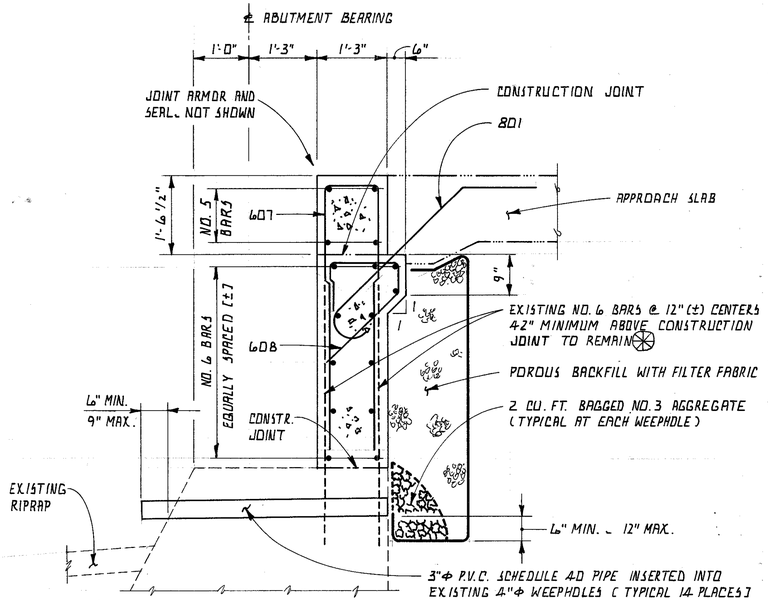
A-C-L form no. B-1

CALC.		CUYAHOGA COUNTY	OHIO
DATE		CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE			



PLAN

ELEVATION



SECTION A-A

WEEPHOLES IN THE EXISTING ABUTMENT SHALL BE EXTENDED AS SHOWN. THE CONTRACTOR SHALL CLEAN THE EXISTING WEEPHOLES BY ANY METHOD SATISFACTORY TO THE ENGINEER, INSERT 3"Φ P.V.C. PIPE AS SHOWN AND FILL THE ANNULAR SPACE BETWEEN THE PIPE AND EXISTING WEEPHOLE WITH AN APPROVED GROUT, SEALANT OR CAULK.
LABOR, MATERIAL AND EQUIPMENT, INCLUDING THE BAGGED AGGREGATE AND REMOVAL OF THE EXISTING POROUS BACKFILL SHALL BE CONSIDERED INCIDENTAL TO POROUS BACKFILL WITH FILTER FABRIC. COST SHALL BE INCLUDED WITH ITEM 518 – "POROUS BACKFILL WITH FILTER FABRIC" FOR PAYMENT.

℗ AT THE CONTRACTORS OPTION THE EXISTING NO. 6 BARS MAY BE CUT AND REMOVED PROVIDED THEY ARE REPLACED AND GROUTED WITH EPOXY RESIN AS PER **CMS 510** WITH A MINIMUM 8" EMBEDMENT BELOW THE CONSTRUCTION JOINT.

NOTES:

FOR ELEVATION "B-B", VIEWS "D-D", "E-E", "G-G" AND "H-H", SEE SHEET 43/89.

LAP SPLICES SHALL BE 23" MINIMUM FOR NO. 5 BARS AND 28" MINIMUM FOR NO. 6 BARS.

ABBREVIATIONS USED: E.F. = EACH FACE
F.F. = FAR FACE

FOR ADDITIONAL NOTES, SEE SHEET 41/89.

D-12 REVISED 8-96

42/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ABUTMENT 1B
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

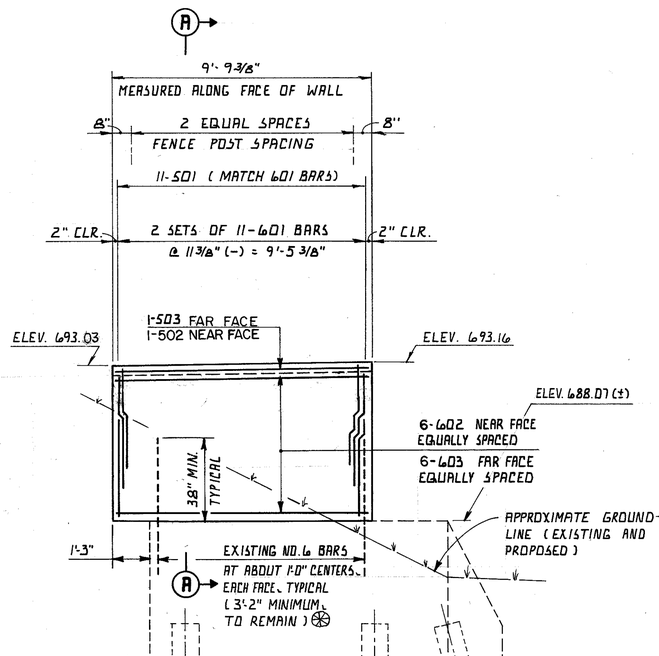
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	OCT. 16, 1991	

BRUNING 44.232 67195-01

A-C-L form no. 8-1

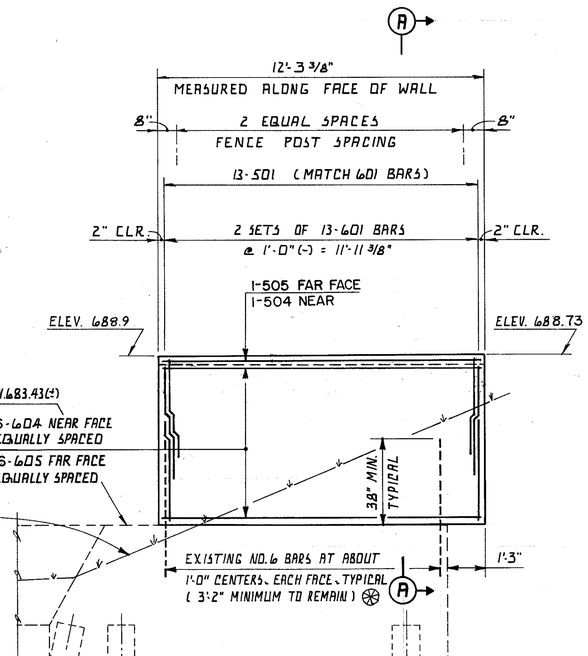
CALC		CUYAHOGA COUNTY	OHIO
DATE		CUY-90-15.24	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE			

104
151



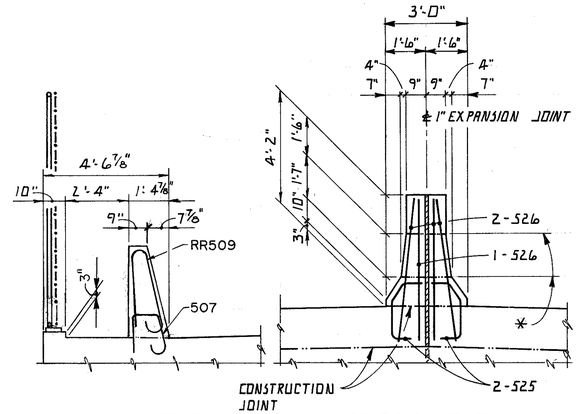
ELEVATION A-A

FENCE NOT SHOWN



ELEVATION B-B

FENCE NOT SHOWN



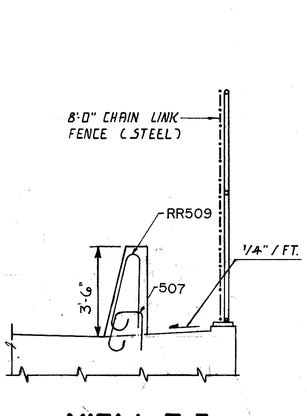
VIEW C-C

NOTE: ALL DIMENSIONS AND CALL-OUTS SHOWN ARE TYPICAL.

FOR BARRIER REINFORCING DETAILS SEE SHT. 69A/89

VIEW D-D

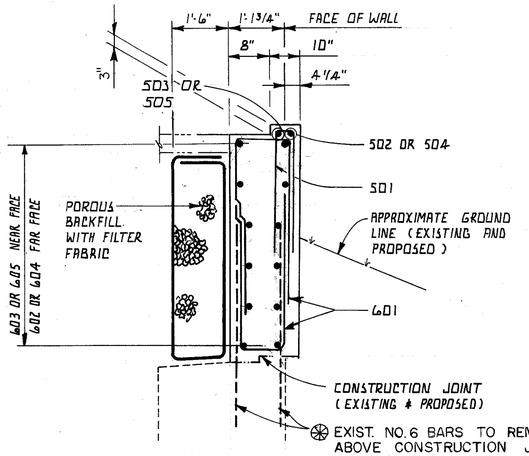
* OPTIONAL CONSTRUCTION JOINT



VIEW E-E

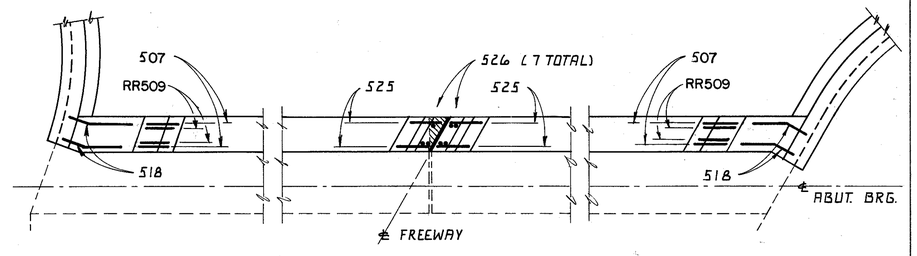
NOTE: ALL DIMENSIONS AND CALL-OUTS SHOWN ARE TYPICAL.

FOR BARRIER REINFORCING DETAILS SEE SHT. 69A/89



SECTION A-A

FENCE NOT SHOWN



VIEW F-F

VIEW G-G

1/2" PREFORMED EXPANSION JOINT FILLER SHOWN HATCHED, PLACED AT TOP OF BACKWALL FROM EXP. JOINT IN ABUTMENT TO EXP. JOINT IN MEDIAN BARRIER.

VIEW H-H

NOTES:

FOR LOCATION OF ELEVATIONS A-A AND B-B AND VIEWS C-C THRU H-H, SEE SHEETS 41/89 AND 42/89.

FOR ADDITIONAL NOTES, SEE SHEET 41/89.

D-12 REVISED 8-96

43/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ABUTMENT 1B DETAILS

INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18

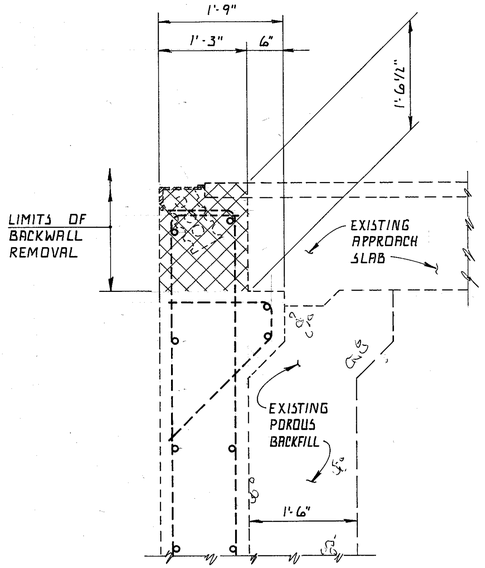
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	OCT. 16, 1997	

BRUNING 44-232 67195-01

A-C-L form no. B-1

CALC. DATE	CUYAHOGA COUNTY	OHIO	105 / 151
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5	



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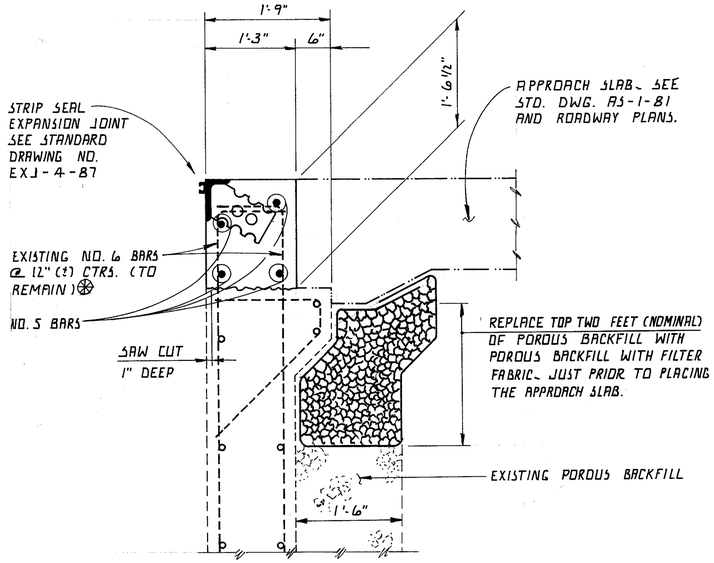
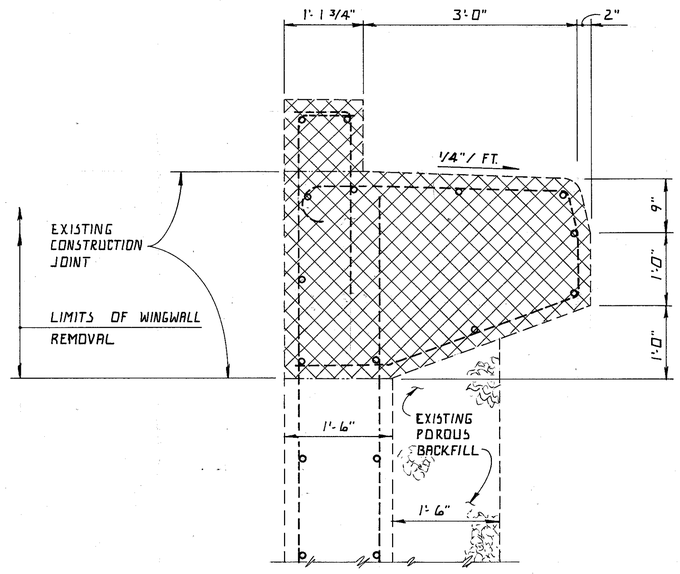


PROPOSED

SECTION THROUGH BACKWALL



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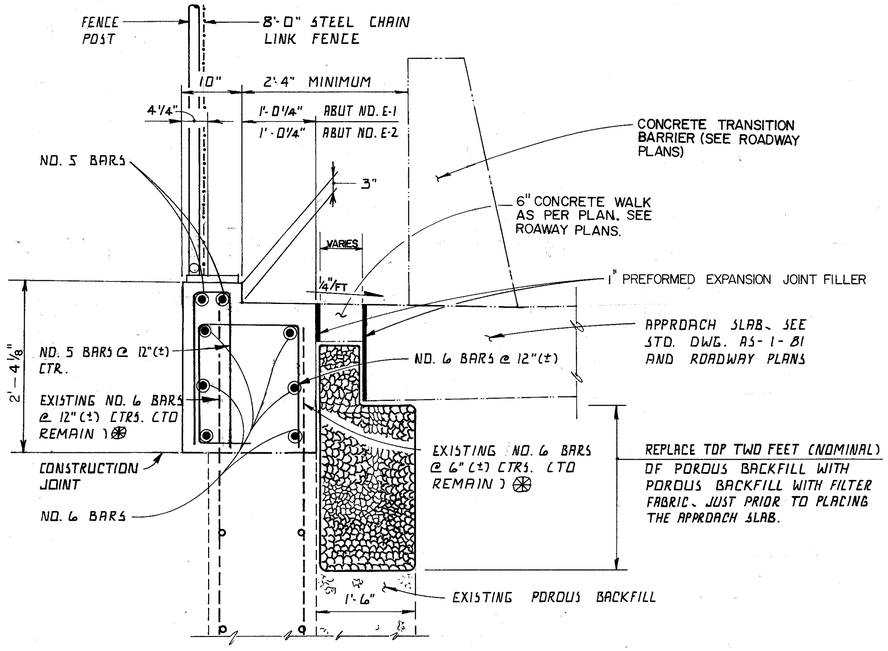


PROPOSED

SECTION THROUGH WINGWALL

NOTES:

FOR FENCE DETAILS, SEE SHEET 15/89.

FOR FENCE POST SPACING, SEE ABUTMENT WINGWALL ELEVATIONS.

FOR ABUTMENTS NO. E-1 AND NO. E-2, SEE SHEETS 45/89 THRU 48/89.

FOR TRANSITION BARRIERS (TYPE X & W) SEE SHEETS 33A & 33B OF 151.

⊛ AT THE CONTRACTORS OPTION, THE EXISTING NO. 6 BARS MAY BE CUT AND REMOVED PROVIDED THEY ARE REPLACED AND GROUTED WITH EPOXY RESIN AS PER **CMS 510**. WITH A MINIMUM 8" EMBEDMENT BELOW THE CONSTRUCTION JOINT.

D-12 REVISED 8-96 — 44/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ABUTMENT NO.E1 AND NO.E2 DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

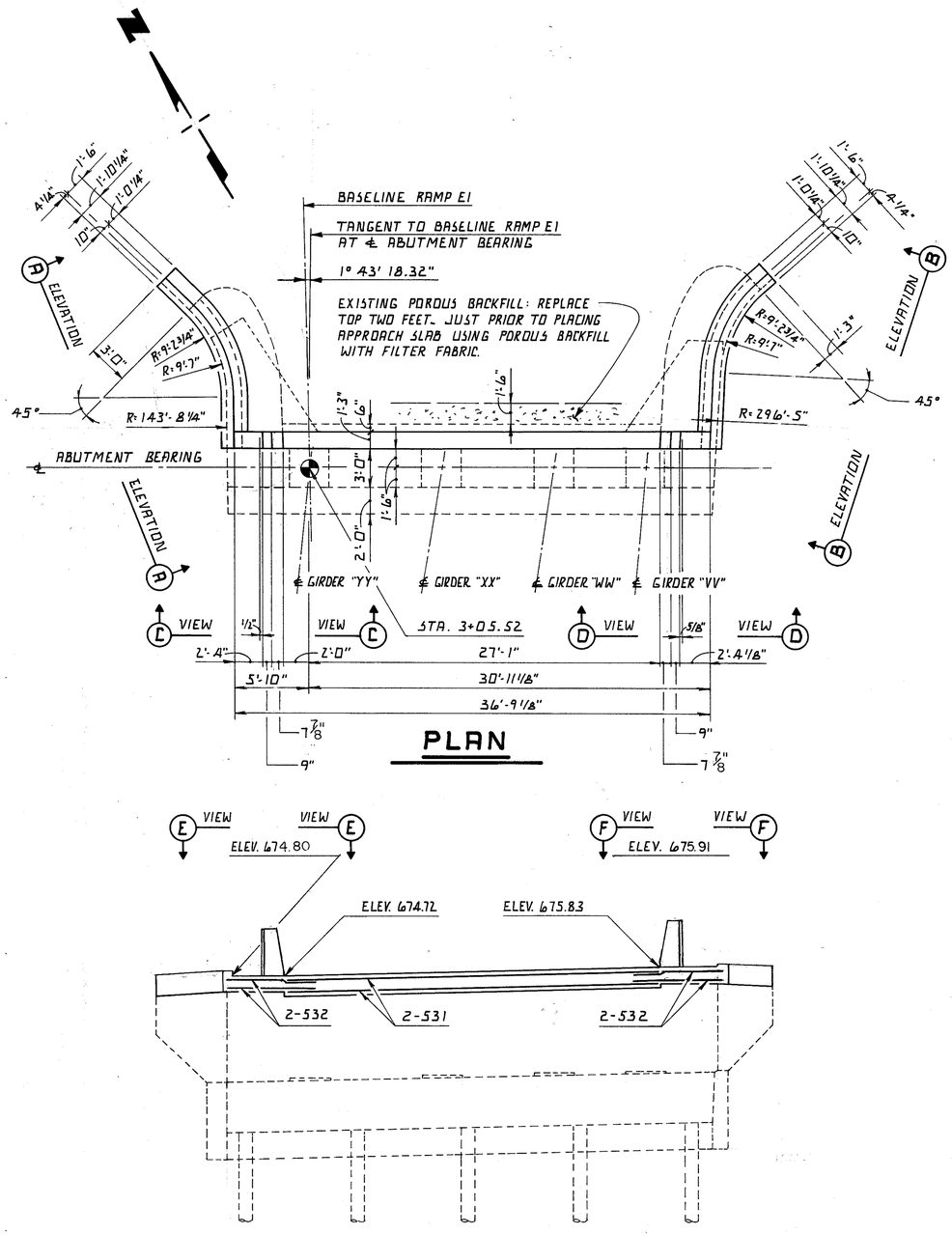
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	OCT. 15, 1991	

BRUNING 44-232-67195-01

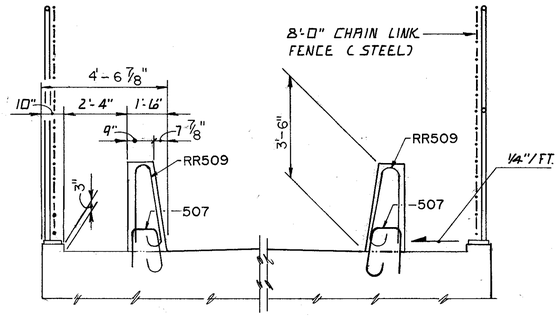
A-C-L form no. B-1

CALC. / DATE / CHKD. / DATE	CUYAHOGA COUNTY CUY - 90 - 13.24 INNERBELT FREEWAY	OHIO F.H.W.A. REGION 5	106 / 151



PLAN

ELEVATION



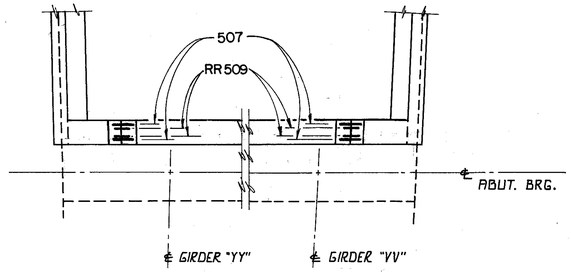
NOTE: ALL DIMENSIONS AND CALL-OUTS SHOWN ARE TYPICAL.

VIEW C-C

FOR BARRIER REINFORCING DETAILS SEE SHT. 69A/89

VIEW D-D

FOR BARRIER REINFORCING DETAILS SEE SHT. 69A/89



NOTE: FOR WINGWALL REINFORCING STEEL SEE SHEET 46/89.

VIEW E-E

VIEW F-F

NOTES:

FOR ELEVATIONS A-A AND B-B, SEE SHEET 46/89.

IN ADDITION TO THE PROVISION OF 511.08, BACKWALL CONCRETE ABOVE THE CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.

THE PREFIX "RE1" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN ABUTMENT E1.

ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEET 84/89.

FOR 3" STRIP SEAL EXPANSION JOINT DETAILS, SEE STANDARD DRAWING EXJ-4-87, SHEETS 1 THRU 5 OF 5 AND SHEET 83/89.

FOR ADDITIONAL DETAILS, SEE SHEET 44/89.

D-12 REVISED 8-96

45/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ABUTMENT E1
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

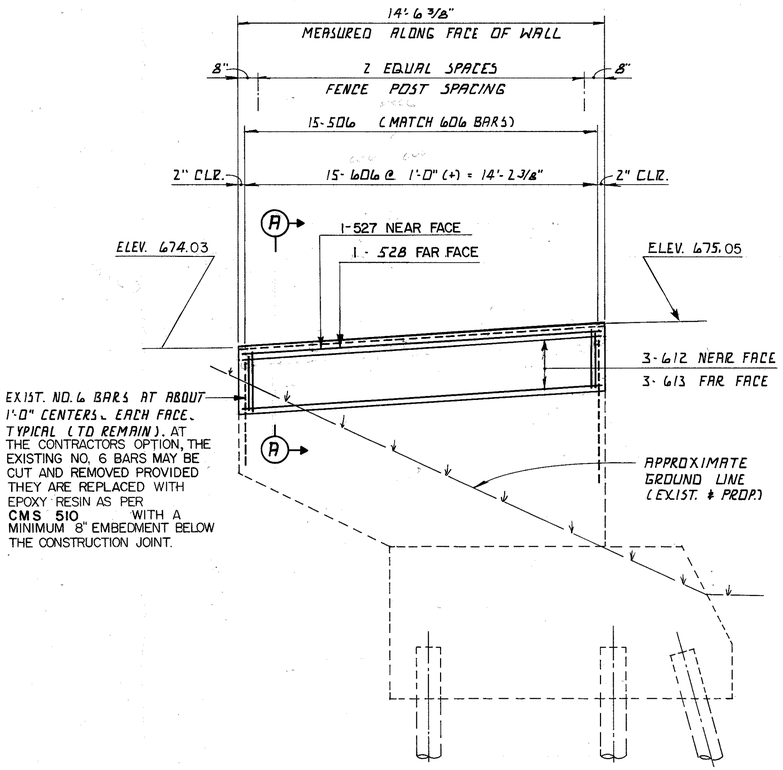
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	OCT. 16, 1991	

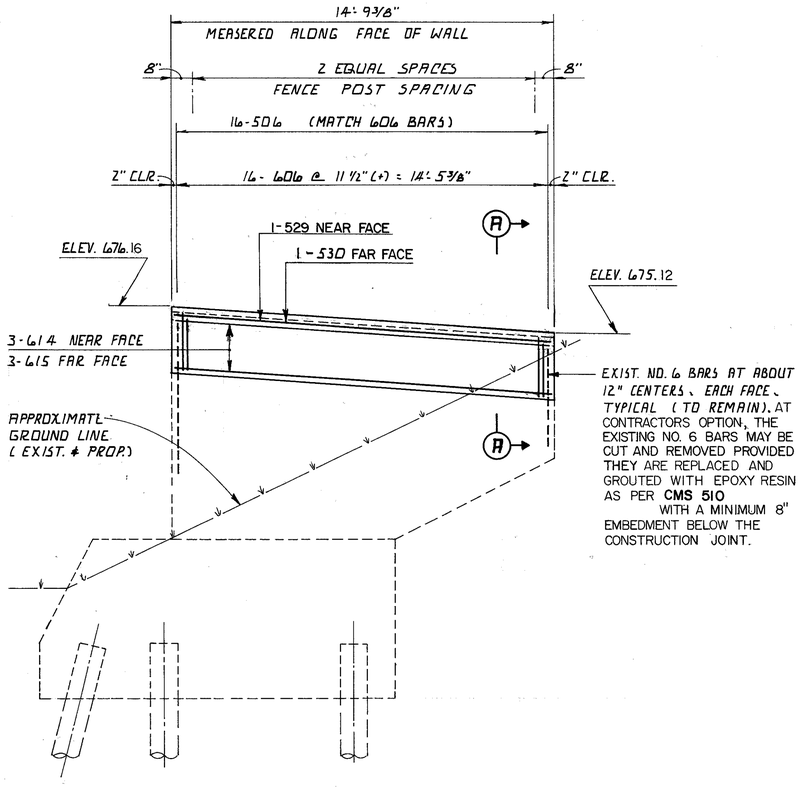
BRUNING 44-232-67195-01

A-C-L form no. B-1



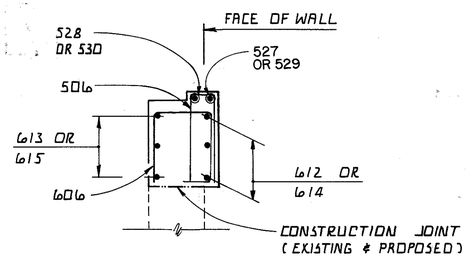
ELEVATION A-A

FENCE NOT SHOWN



ELEVATION B-B

FENCE NOT SHOWN



SECTION A-A

FOR EXISTING REINFORCING STEEL ABOVE CONSTRUCTION JOINT, SEE ELEVATION A-A, THIS SHEET AND SHEET 44/89.

NOTES:

FOR LOCATION OF ELEVATIONS A-A AND B-B, SEE SHEET 45/89.

FOR ADDITIONAL NOTES, SEE SHEET 45/89.

FOR ADDITIONAL DETAILS, SEE SHEET 44/89.

CALC.	CUYAHOGA COUNTY	OHIO	107/151
DATE	CUY-90-15.24	F.H.W.A. REGION 5	
CHKD.	INNERBELT FREEWAY		
DATE			

D-12 REVISED 8-96

46/89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ABUTMENT E1 DETAILS

INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

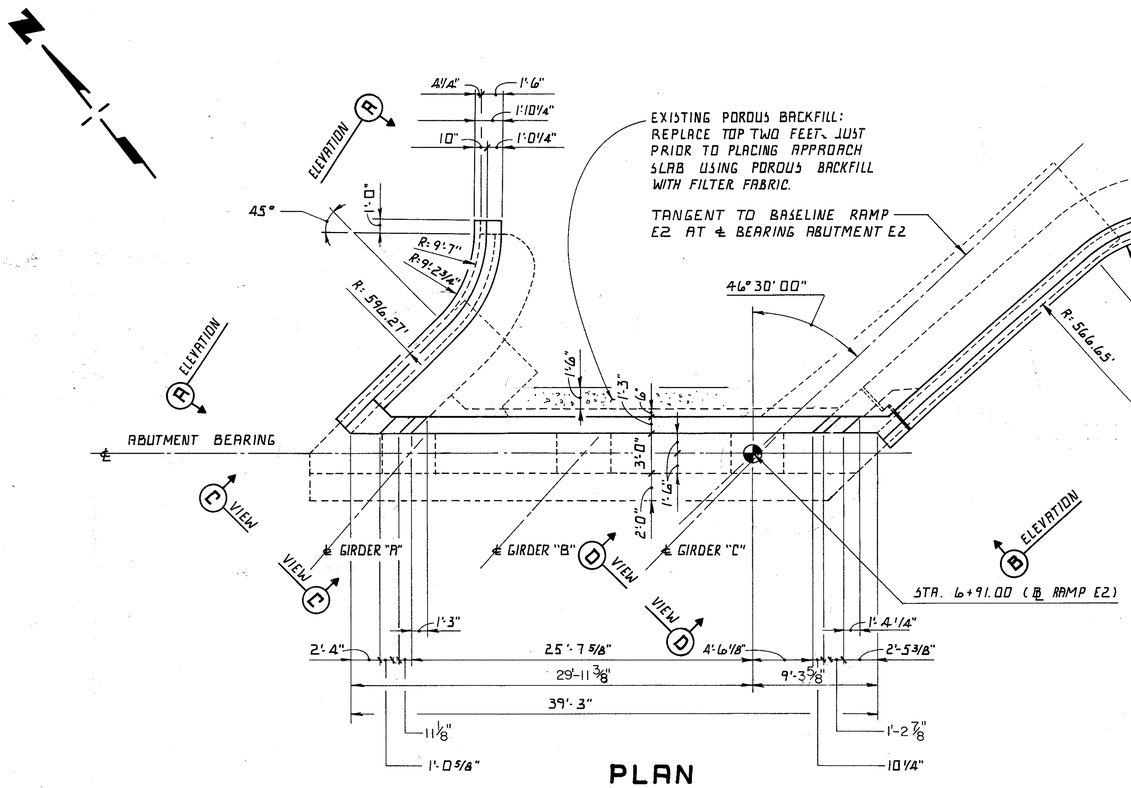
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.L.	OCT. 18, 1991	

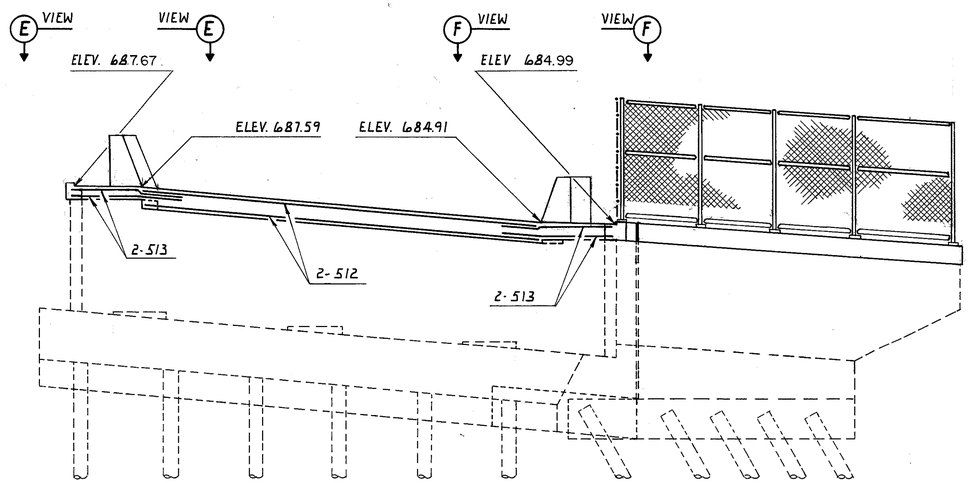
SBRUNING 44-232-671195-01

A-C-L form no. B-1

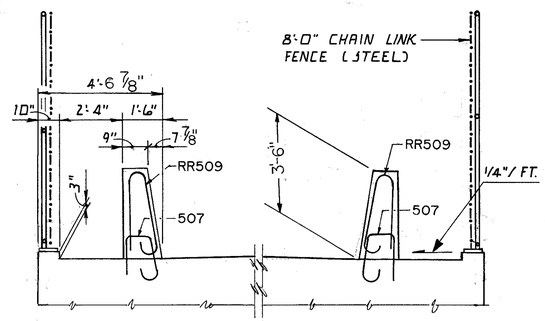
CALC.	CUYAHOGA COUNTY	OHIO	108
DATE	CUY-90-15.24	F.H.W.A. REGION 5	151
CHKD.	INNERBELT FREEWAY		
DATE			



PLAN



ELEVATION



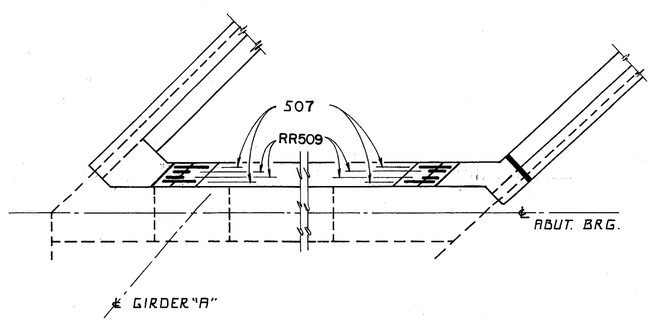
NOTE: ALL DIMENSIONS AND CALL-OUTS SHOWN ARE TYPICAL.

VIEW C-C

FOR BARRIER REINFORCING DETAILS SEE SHT. 69A/89

VIEW D-D

FOR BARRIER REINFORCING DETAILS SEE SHT. 69A/89



NOTE: FOR WINGWALL REINFORCING STEEL SEE SHEET 48/89.

VIEW E-E

VIEW F-F

NOTES:

FOR ELEVATIONS A-A AND B-B, SEE SHEET 48/89.

IN ADDITION TO THE PROVISIONS OF SII.08, BACKWALL CONCRETE ABOVE THE CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.

THE PREFIX "RE2" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN ABUTMENT E2.

ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEET 84/89.

FOR 3" STRIP SEAL EXPANSION JOINT DETAILS, SEE STANDARD DRAWING EXJ-4-87, SHEETS 1 THRU 5 OF 5 AND SHEET 83/89.

FOR ADDITIONAL DETAILS, SEE SHEET 44/89.

D-12 REVISED 8-96 — 47/89

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ABUTMENT E2
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

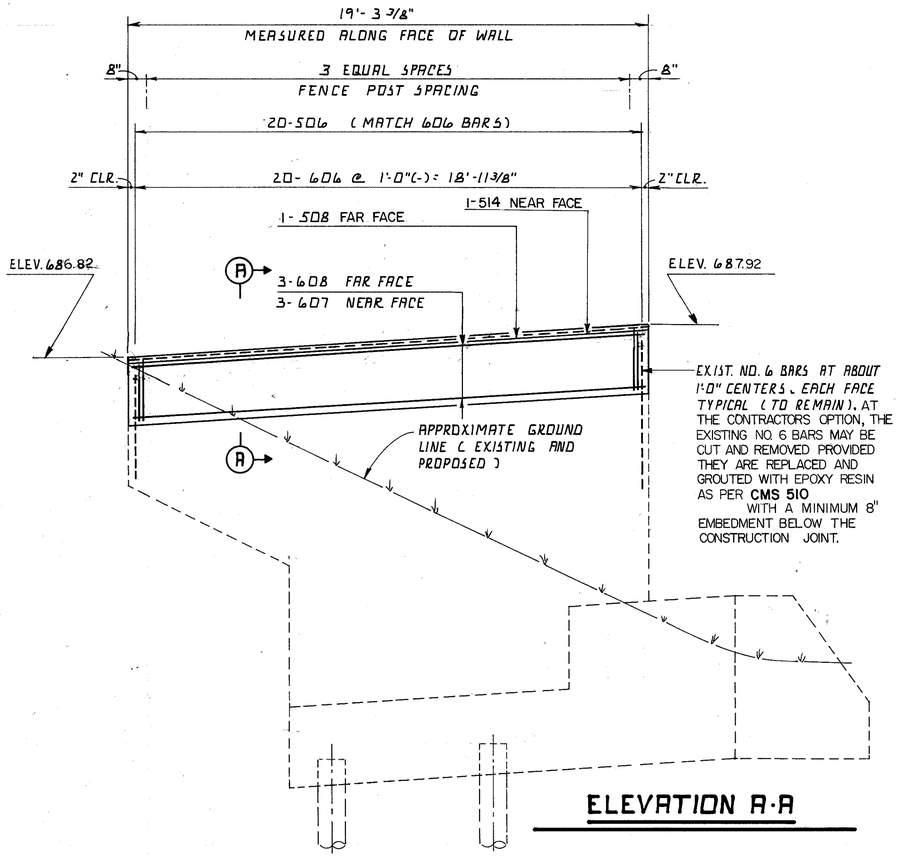
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	OCT. 19, 1991	

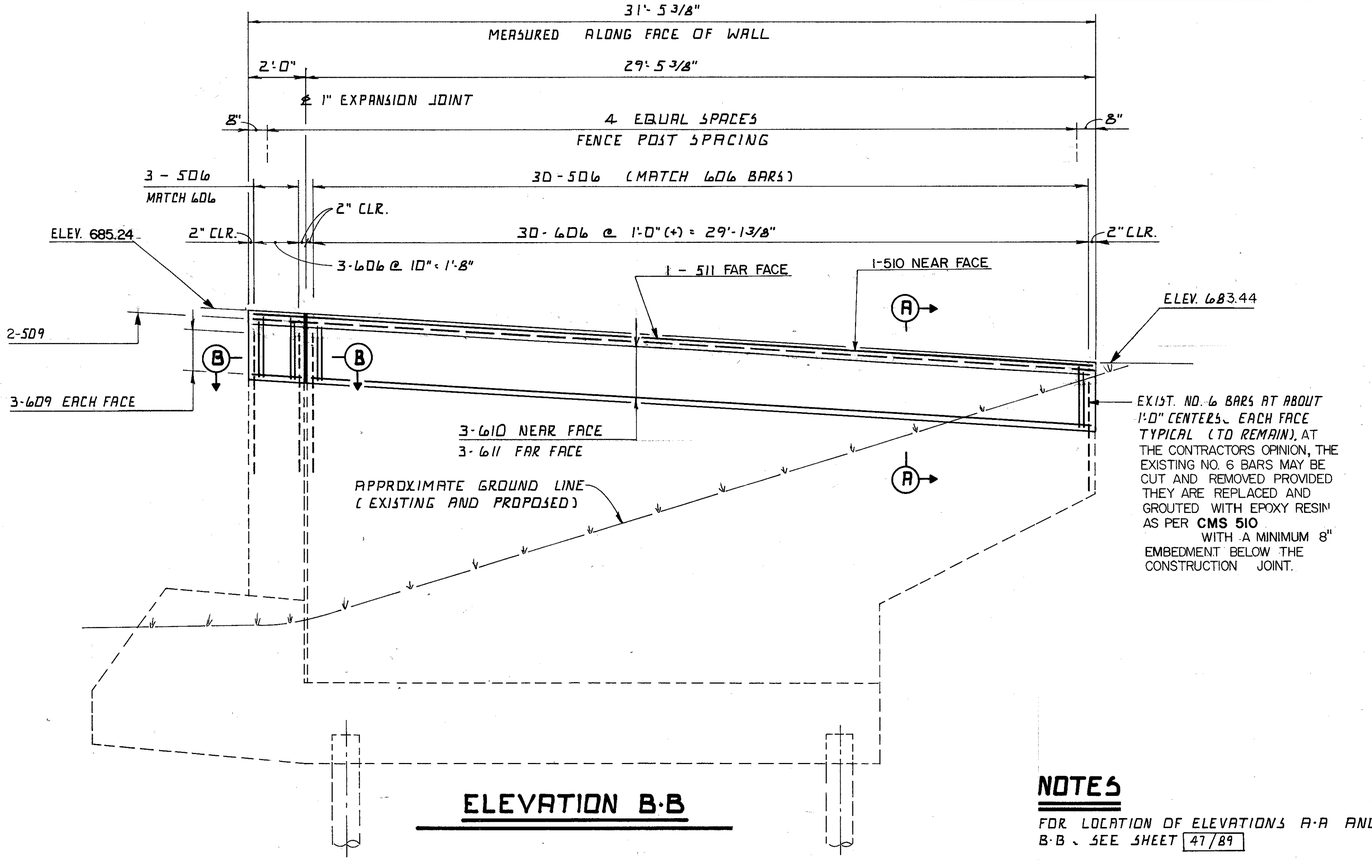
BRUNING 44-232-67195-01

A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. 5
CHKD.	INNERBELT FREEWAY	REGION
DATE		



ELEVATION A-A



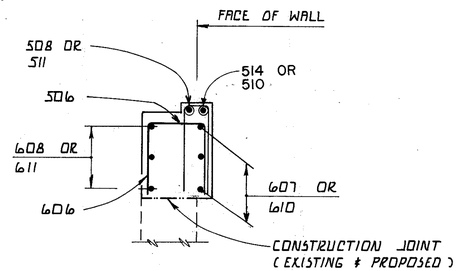
ELEVATION B-B

NOTES

FOR LOCATION OF ELEVATIONS A-A AND B-B, SEE SHEET 47/89

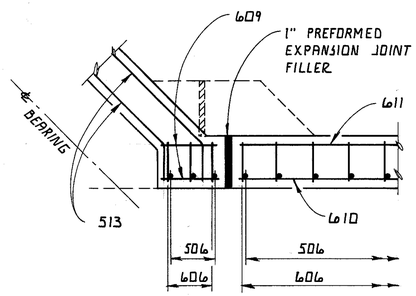
FOR ADDITIONAL DETAILS, SEE SHEET 44/89.

FOR ADDITIONAL NOTES, SEE SHEET 47/89.



SECTION A-A

FOR EXISTING REINFORCING STEEL ABOVE CONSTRUCTION JOINT, SEE ELEVATION A-A THIS SHEET AND SHEET 44/89.



SECTION B-B

D-12 REVISED 8-96

48/89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

ABUTMENT E2 DETAILS

INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

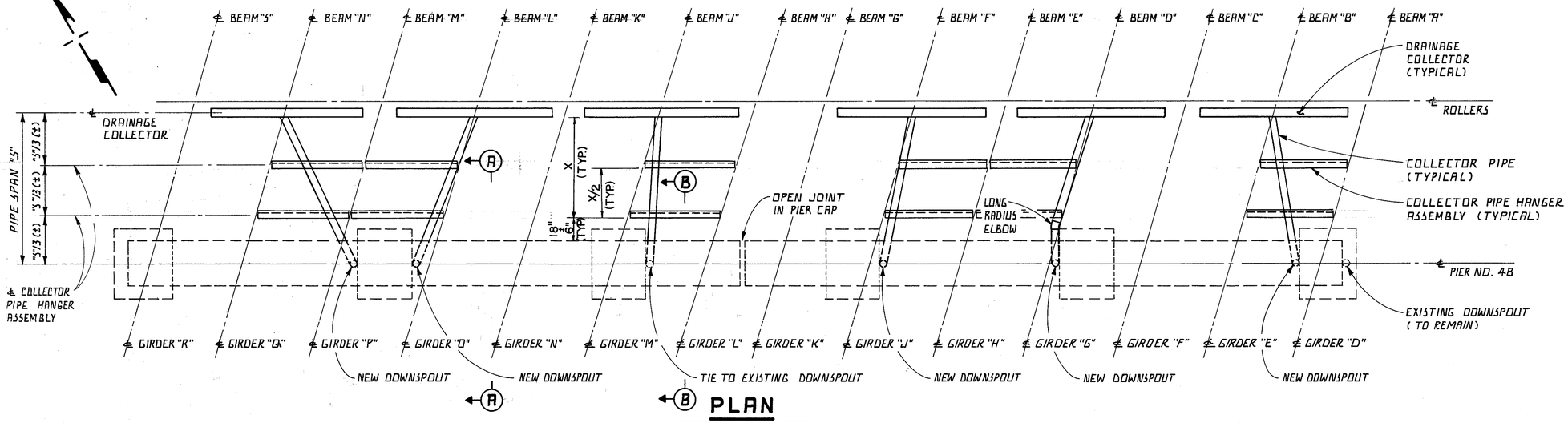
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	OCT. 18. 1991	

DRAWING 44-232-671195-01

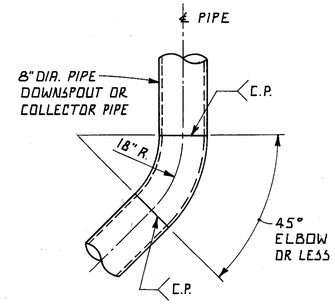
A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

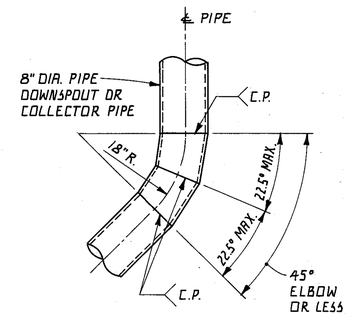
110
151



PLAN



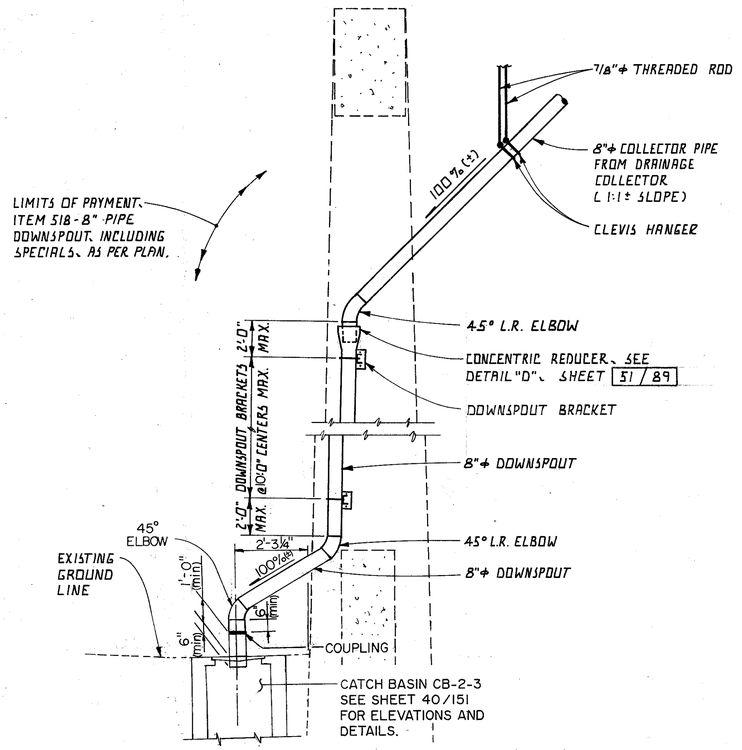
SMOOTH RADIUS BEND



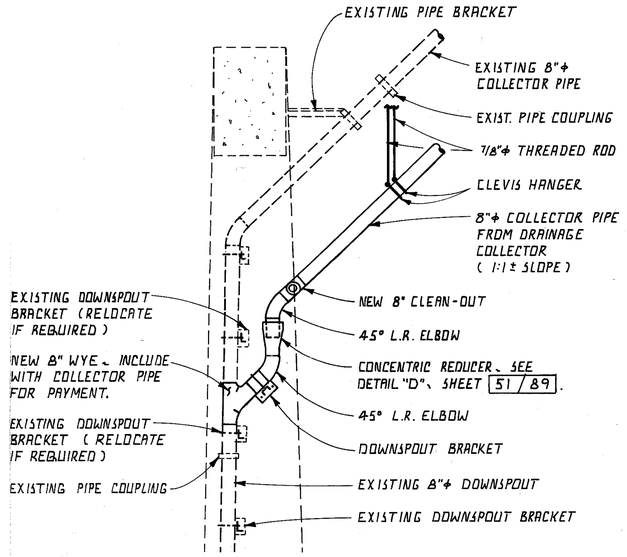
MITERED BEND

PIPE BEND DETAILS

C.P. - COMPLETE PENETRATION



SECTION A-A

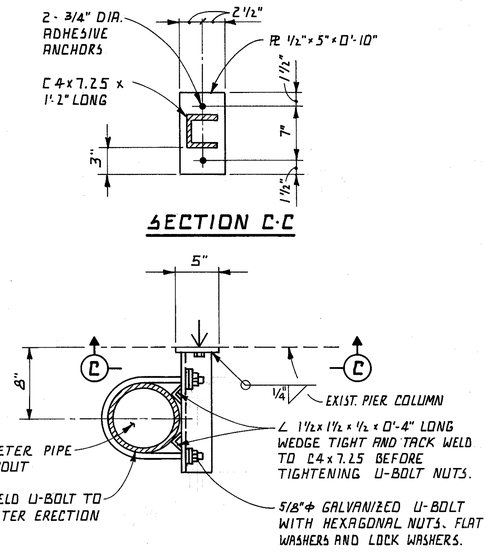


PROCEDURE:

REMOVE EXISTING PIPE BETWEEN PIPE COUPLINGS, SUPPORT REMAINING PIPE AS REQUIRED.
MEASURE AND CUT REMOVED PIPE AS REQUIRED. INSTALL NEW WYE AND COLLECTOR PIPE.
RE-INSTALL PIPE USING EXISTING BRACKETS AND PIPE COUPLINGS. (PROVIDE NEW INKIND GASKETS AT PIPE COUPLINGS)

INCLUDE REMOVAL AND RE-INSTALLATION OF PIPE WITH ITEM 518 - 8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN, FOR PAYMENT.

SECTION B-B



PLAN

DOWNSPOUT BRACKET DETAIL

NOTES:

GALVANIZED STEEL PIPE SHALL BE USED, SEE 518.05 OF C.M.S. PLASTIC PIPE IS PROHIBITED.

ALL CLAMPS, BRACKETS, HANGERS, ANGLES, COUPLINGS, ETC. SHALL BE GALVANIZED STEEL IN ACCORDANCE WITH 711.02 OF C.M.S.

FOR ADDITIONAL DETAILS, SEE SHEETS 50/89 AND 51/89.

D-12 REVISED 8-96

49/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DRAINAGE SYSTEM AT MAINLINE ROLLERS INNERBELT FREEWAY

BR. NO. { CUY-90-1524, CUY-90-1540, CUY-90-1547, CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

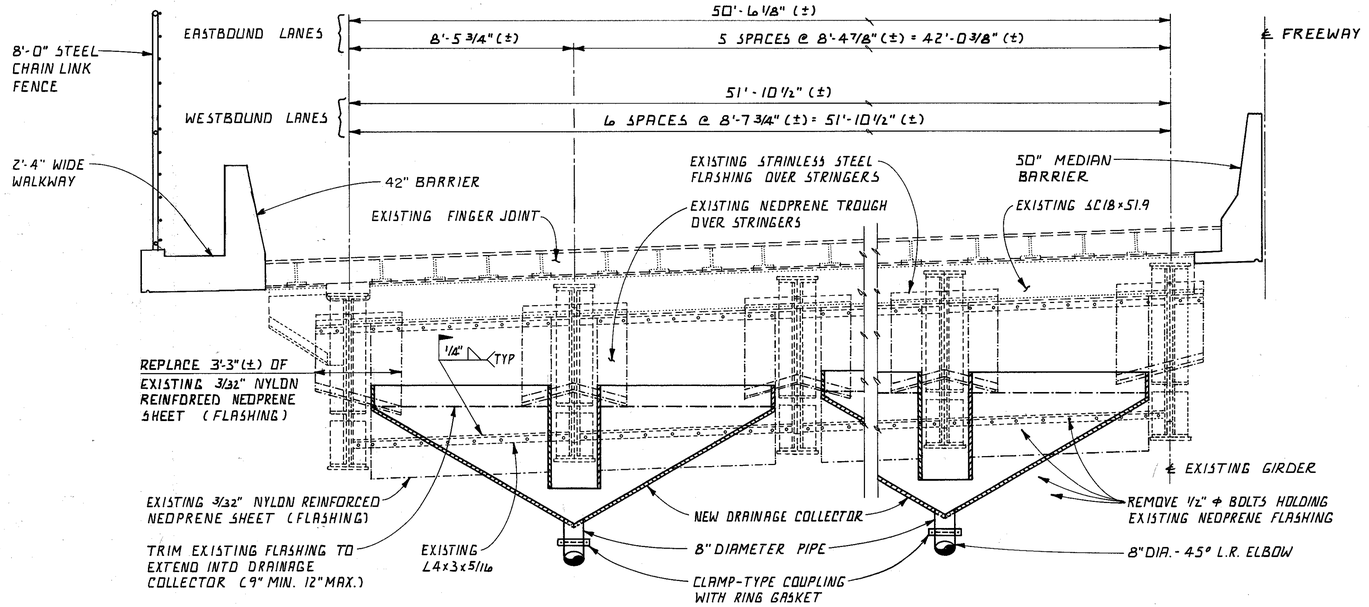
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT. 19,1991	

BRUNING 44-232 67195-01

A-C-L form no. B-1

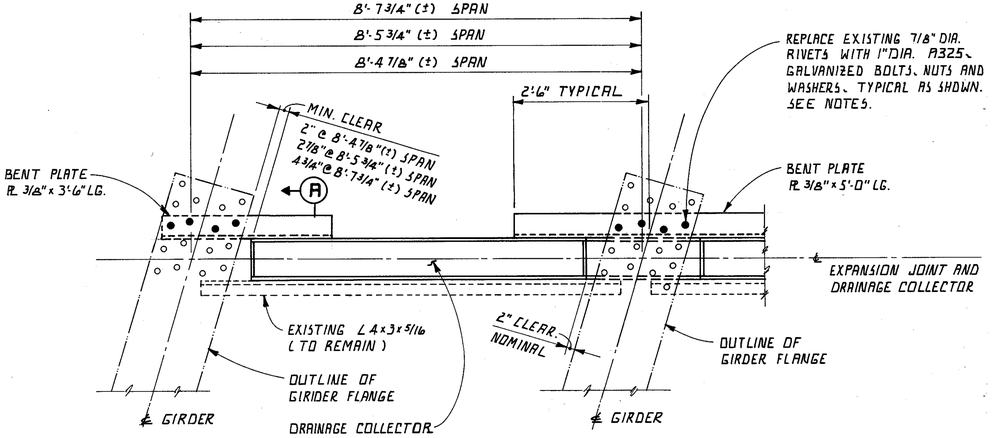
CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

111
151



TYPICAL SECTION LOOKING THRU JOINT

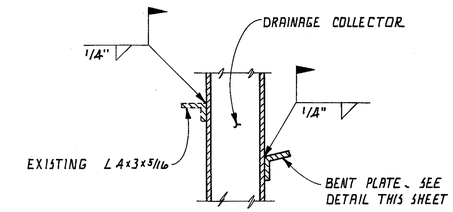
LOOKING AWAY FROM EXPANSION ROLLERS (DOWN STATION)
EASTBOUND LANES SHOWN, WESTBOUND LANES SIMILAR



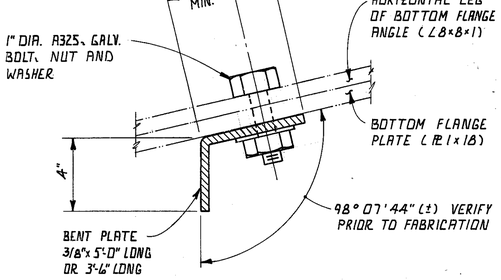
A

PARTIAL PLAN

FOR DETAILS OF DRAINAGE COLLECTOR, SEE SHEET 51/89.



SECTION A-A



BENT PLATE DETAIL

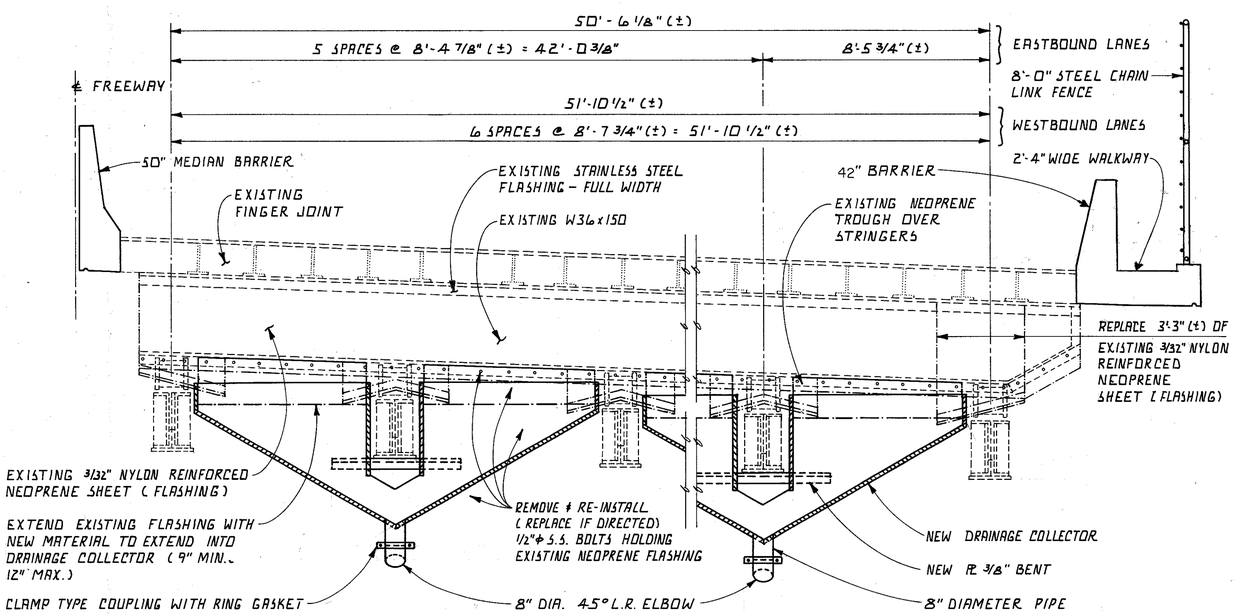
NOTES:

THE CONTRACTOR SHALL CAREFULLY REMOVE ONLY THOSE RIVETS CALLED FOR REPLACEMENT IN THE PLANS. THE EXISTING 7/8" ϕ RIVETS SHALL BE REMOVED BY GRINDING OR BY PROPER BURNING TECHNIQUES, SUBJECT TO THE ENGINEERS APPROVAL. AND. CMS 202 03.

HOLES IN THE EXISTING ELEMENTS TO REMAIN OR TO BE REUSED SHALL BE REAMED TO 1 1/16" ϕ TO ALLOW FOR THE USE OF 1" ϕ BOLTS IN THE NEW CONNECTIONS. INCLUDE WITH ITEM 518 - "STRUCTURE DRAINAGE, MISCELLANEOUS: (DRAINAGE COLLECTOR), AS PER PLAN" FOR PAYMENT.

FOR ADDITIONAL DETAILS, SEE SHEET 51/89.

* HORIZONTAL BENT PLATE LEG SHALL BE LONG ENOUGH TO ALLOW FOR CONNECTION OF ALL FOUR BOLTS AS SHOWN IN THE PARTIAL PLAN. THE EXACT LOCATION OF THE EXISTING BOTTOM FLANGE RIVETS AND THE SUBSEQUENT LENGTH OF THE HORIZONTAL BENT PLATE LEG SHALL BE VERIFIED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.



TYPICAL SECTION LOOKING THRU JOINT

LOOKING TOWARD EXPANSION ROLLERS (UPSTATION)
EASTBOUND LANES SHOWN, WESTBOUND LANES SIMILAR

D-12 REVISED 8-96

50/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

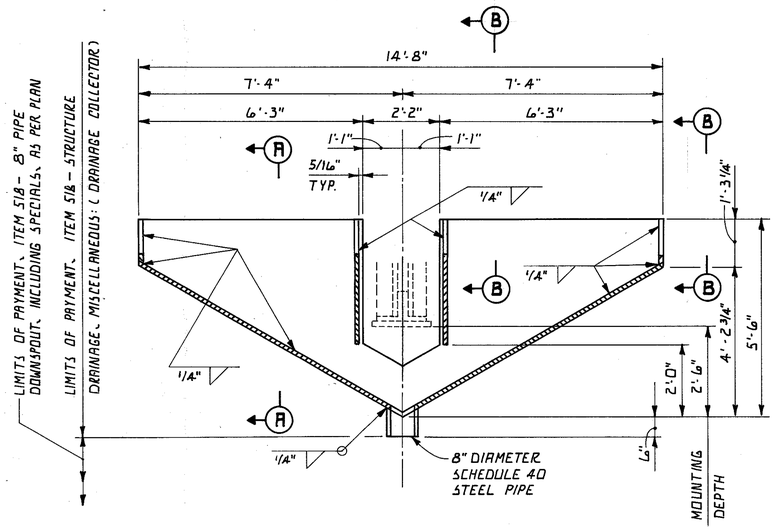
DRAINAGE COLLECTOR AT MAINLINE ROLLERS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT. 19, 1997	

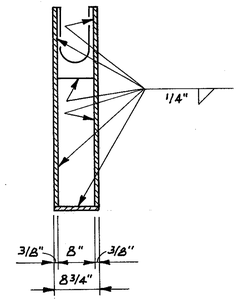
BRUNING 44-232-67195-01
A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

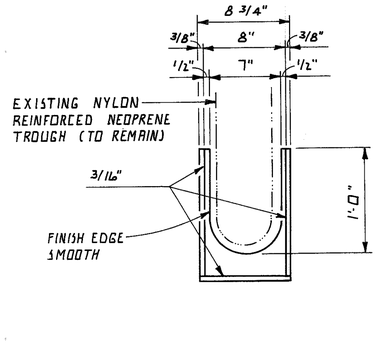


TYPICAL SECTION THRU DRAINAGE COLLECTOR

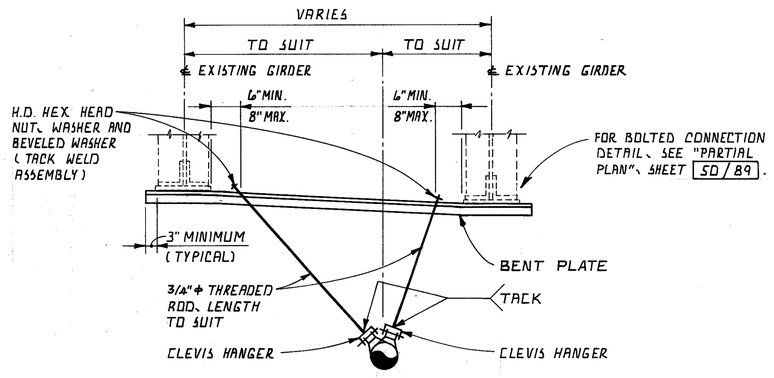
THE DRAINAGE COLLECTORS SHALL BE FABRICATED 3/8" THICK PLATE CONFORMING TO ASTM A36. THE DRAINAGE COLLECTOR AND 8" DIA. PIPE SHALL BE GALVANIZED IN ACCORDANCE WITH 711.02 OF CMS.



SECTION A-A

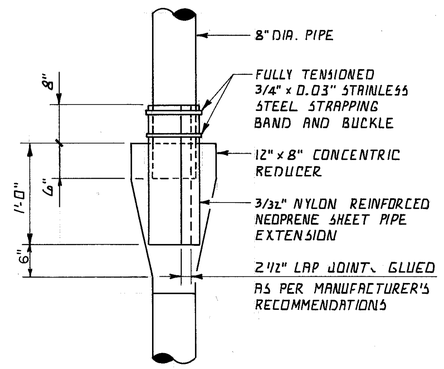


VIEW B-B



COLLECTOR PIPE HANGER ASSEMBLY

INCLUDE COLLECTOR PIPE HANGER ASSEMBLY WITH ITEM 518 - "8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN" FOR PAYMENT.
THE COLLECTOR PIPE HANGER ASSEMBLY SHALL BE GALVANIZED IN ACCORDANCE WITH 711.02 OF CMS.



DETAIL "D"

FOR LOCATION OF DETAIL "D", SEE SHEET 49 / 89 .

51 / 89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

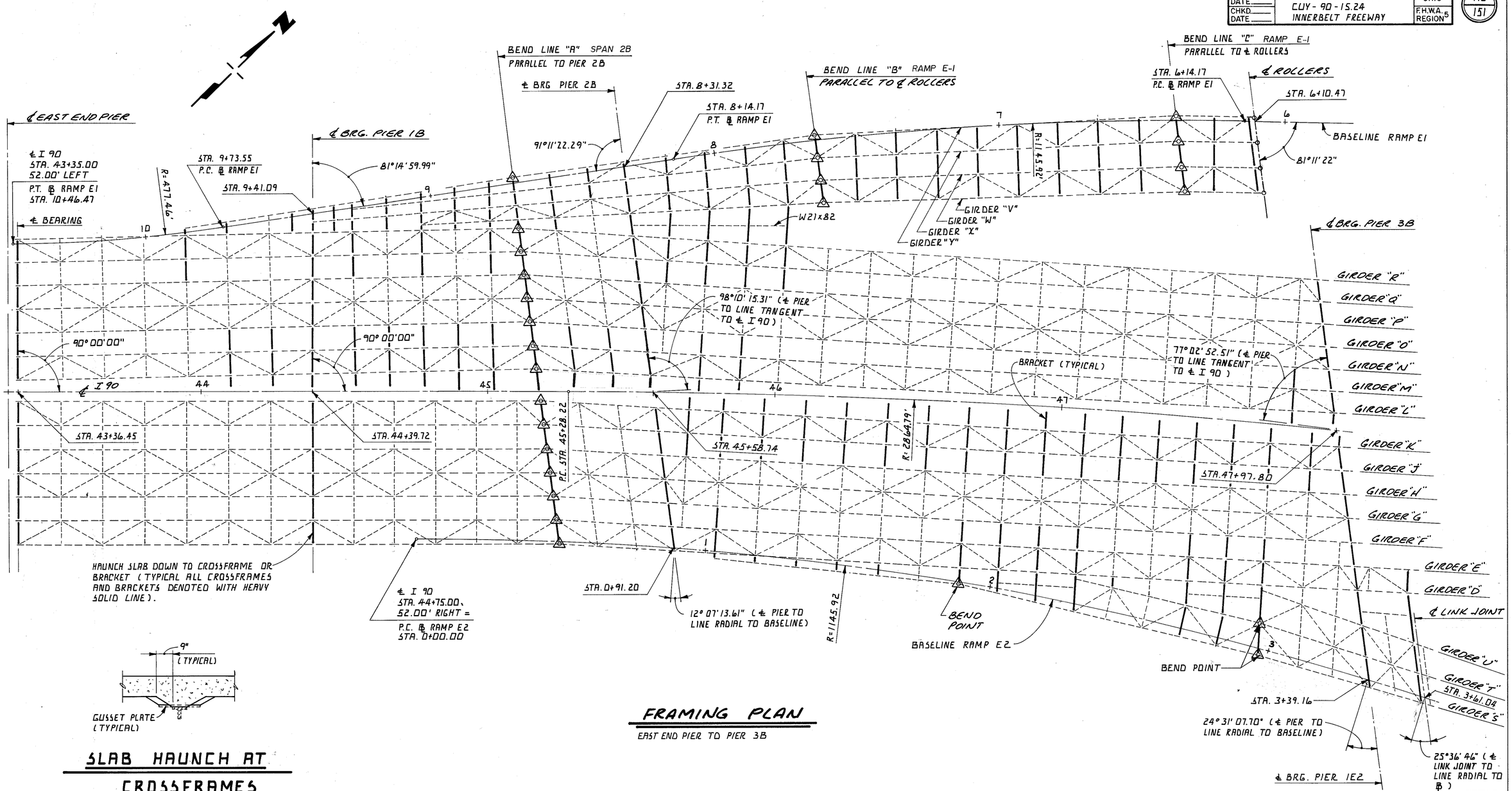
DRAINAGE COLLECTOR DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT. 19, 1991	

CALC		CUYAHOGA COUNTY	OHIO
DATE		CUY-90-15.24	F.H.W.A. REGION 5
CHKD		INNERBELT FREEWAY	
DATE			



FRAMING PLAN

EAST END PIER TO PIER 3B

SLAB HAUNCH AT CROSSFRAMES

HAUNCH SLAB DOWN AT ONLY THOSE CROSSFRAMES OR BRACKETS DENOTED IN THE FRAMING PLANS WITH A HEAVY SOLID LINE.

△—LOCATION FOR GIRDER BEND POINT FLANGE SPLICE RETROFIT AND GIRDER BEND POINT WEB RETROFIT. (SEE DETAILS SHEETS 55B, 55C, 55D, OF 89)

NOTES:

ALL STRUCTURAL STEEL SHOWN IS EXISTING UNLESS NOTED OTHERWISE.

ORIGINAL CONSTRUCTION PLANS ARE AVAILABLE FOR INSPECTION AT O.D.O.T. DISTRICT 12 OFFICE.

D-12 REVISED 8-96

52 / 89

adache · ciuni · lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

FRAMING PLAN
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

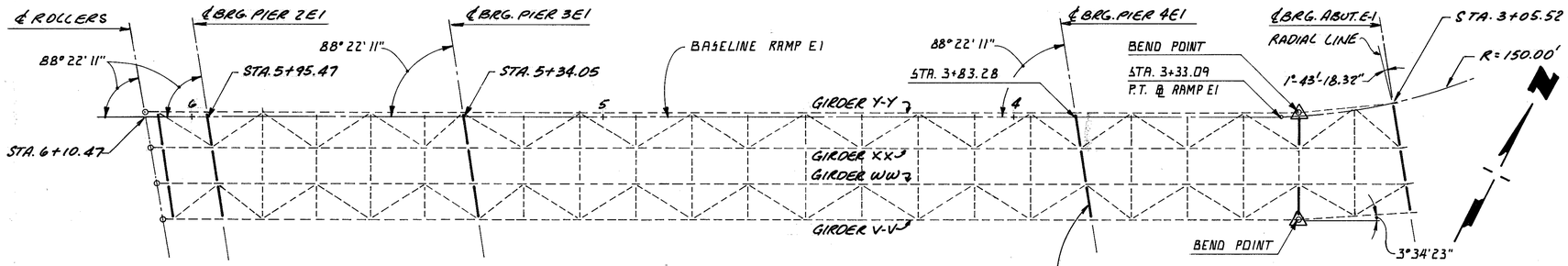
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
D.S.C.	D.S.C.	T.M.J.	J.R.C.	DEC. 31, 1991	

BRUNING 44-222-67195

A-C-L form no. B-1

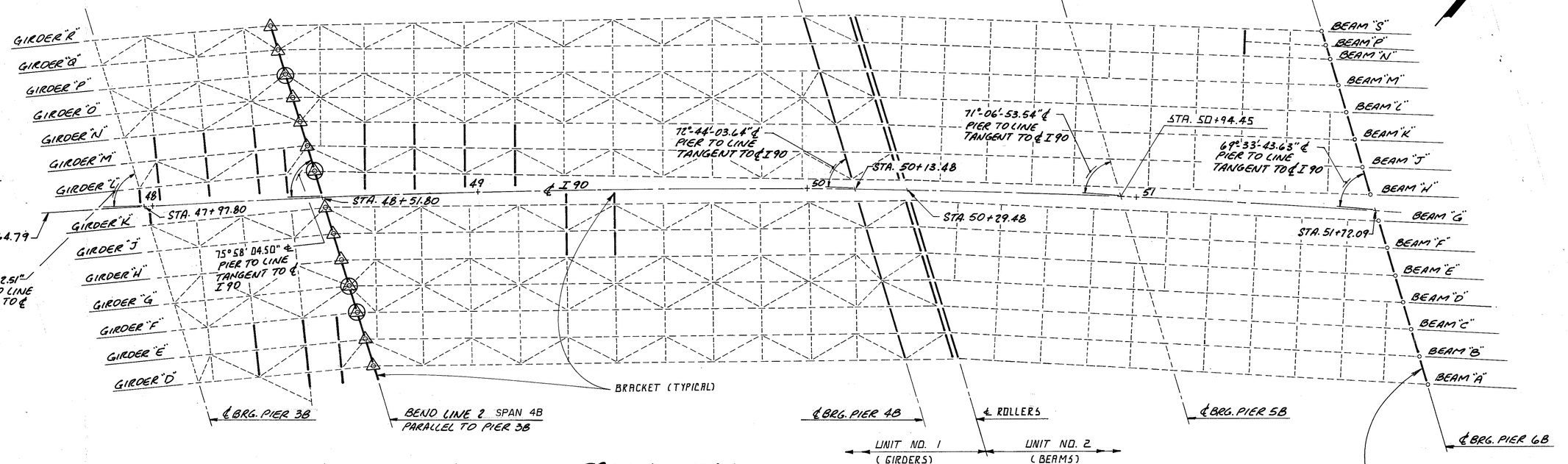
CALC.		CUYAHOGA COUNTY	OHIO
DATE		CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE			



FRAMING PLAN - RAMP E1

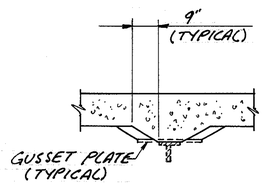
(℄ ROLLERS TO ℄ BRG. ABUTMENT E1)

HAUNCH SLAB DOWN TO CROSSFRAME OR BRACKET. (TYPICAL AT CROSSFRAME AND BRACKET DENOTED WITH SOLID HEAVY LINE.



FRAMING PLAN

(PIERS 3B TO 6B)



SLAB HAUNCH AT CROSSFRAMES

HAUNCH SLAB DOWN AT ONLY THOSE CROSSFRAMES AND BRACKETS DENOTED IN THE FRAMING PLANS WITH A HEAVY SOLID LINE.

△—LOCATION FOR GIRDER BEND POINT FLANGE SPLICE RETROFIT AND GIRDER BEND POINT WEB RETROFIT. (SEE DETAILS SHEETS 55B, 55C, 55D, OF 89)

◯—KNOWN CRACKED WELD LOCATIONS.

NOTES:

ALL STRUCTURAL STEEL SHOWN IS EXISTING UNLESS NOTED OTHERWISE.

ORIGINAL CONSTRUCTION PLANS ARE AVAILABLE FOR INSPECTION AT O.D.O.T. DISTRICT 12 OFFICE.

D-12 REVISED 8-96

53 / 89

adache · ciuni · lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

FRAMING PLAN
INNERBELT FREEWAY

BR. NO. {CUY-90-1524 CUY-90-1540
{CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

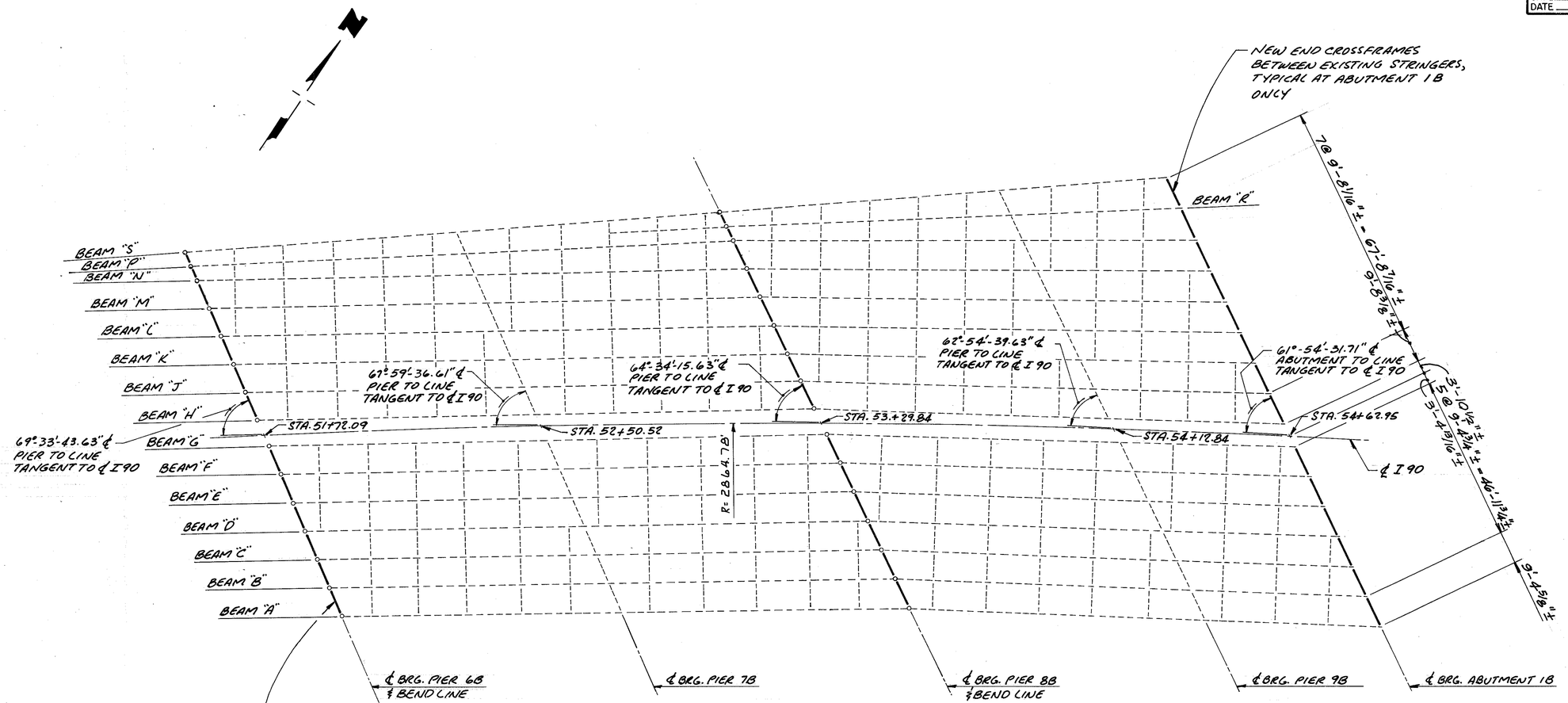
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
D.S.C.	D.S.C.	T.M.J.	J.R.C.	DEC. 31, 1991	

BRUNING 44-232-67195

A-C-L form no. B-1

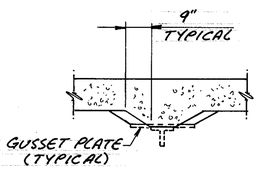
CALC.	CUYAHOGA COUNTY	OHIO	115 / 151
DATE	CUY-90-15.24	F.H.W.A. REGION 5	
CHKD.	INNERBELT FREEWAY		
DATE			



HAUNCH SLAB DOWN TO CROSSFRAME OR BRACKET. (TYPICAL AT CROSSFRAME AND BRACKET DENOTED WITH SOLID HEAVY LINE.

FRAMING PLAN

(PIER 6B TO ABUTMENT 1B)



SLAB HAUNCH AT CROSSFRAMES

HAUNCH SLAB DOWN AT ONLY THOSE CROSSFRAMES DENOTED IN THE FRAMING PLANS WITH A HEAVY SOLID LINE.

NOTES:

END CROSSFRAMES AT ABUTMENT 1B SHALL BE REPLACED. THE EXISTING END CROSSFRAMES SHALL NOT BE REMOVED UNTIL NECESSARY TO INSTALL THE NEW CROSSFRAMES AND STRIP SEAL EXPANSION JOINT OR AS DIRECTED BY THE ENGINEER.

END CROSSFRAMES SHALL BE CONSTRUCTED USING 4" x 4" x 3/8" ANGLES. FOR ADDITIONAL DETAILS SEE SHEET 83/89 AND STANDARD DRAWINGS EXJ-4-87 AND SD-1-69.

ALL STRUCTURAL STEEL SHOWN IS EXISTING UNLESS SHOWN OTHERWISE.

ORIGINAL CONSTRUCTION PLANS ARE AVAILABLE FOR INSPECTION AT O.D.O.T. DISTRICT 12 OFFICE.

54/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

FRAMING PLAN
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

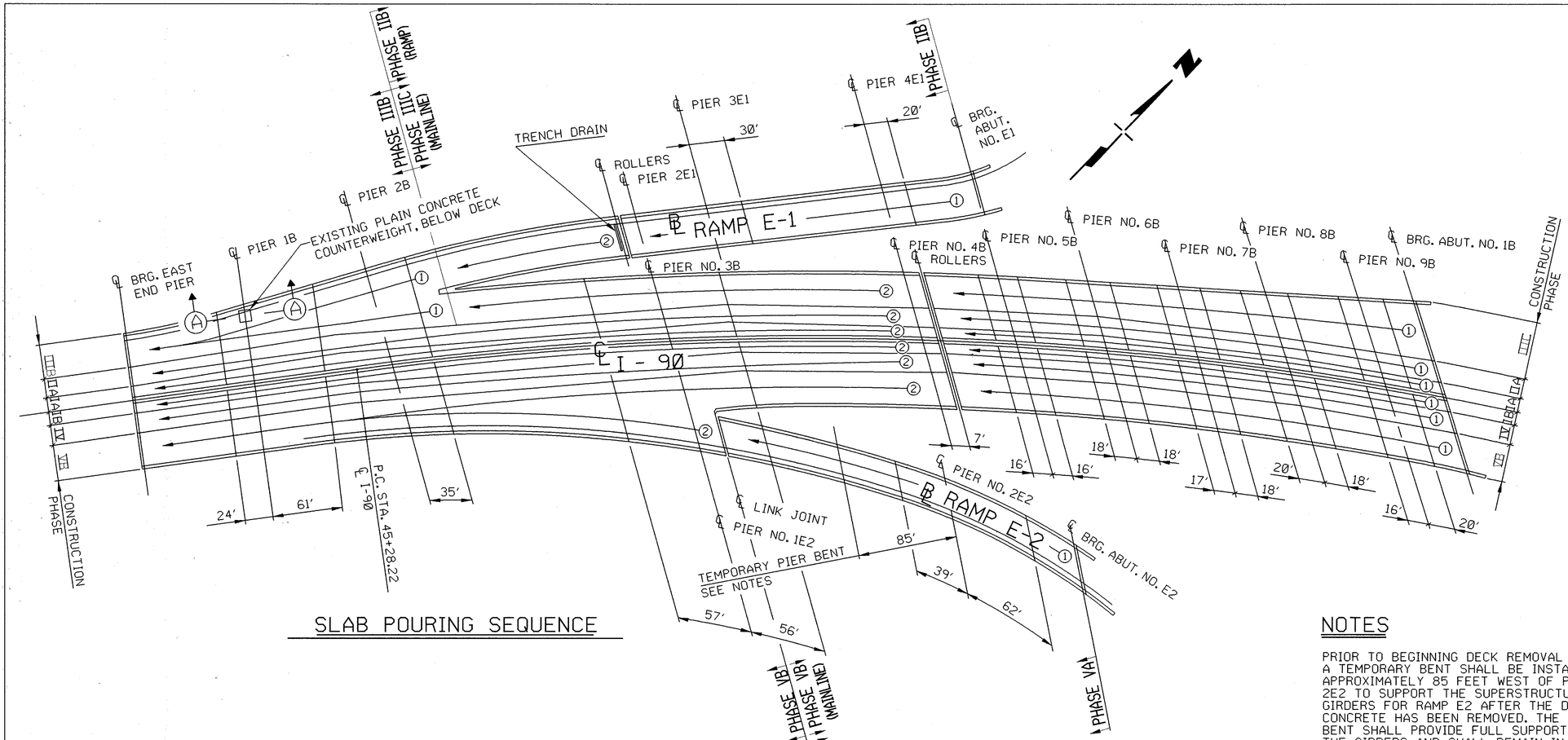
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
D.S.C.	D.S.C.	T.M.J.	J.R.D.	DEC. 31, 1991	

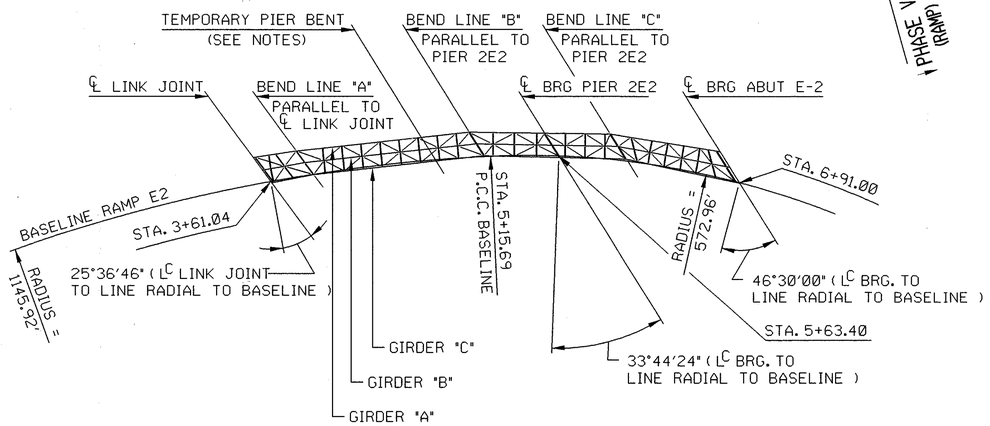
RRUNNING 44-232.67195

A-C-L form no. B-1

CALC. DATE	CUYAHOGA COUNTY	OHIO
CHK'D. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5



SLAB POURING SEQUENCE



FRAMING PLAN - RAMP E2

HAUNCH SLAB DOWN TO CROSSFRAME. (TYPICAL AT CROSSFRAMES DENOTED WITH HEAVY SOLID LINE)

FOR "SLAB HAUNCH AT CROSSFRAME" DETAIL, SEE SHEET 55A/89 .

NOTES

PRIOR TO BEGINNING DECK REMOVAL A TEMPORARY BENT SHALL BE INSTALLED APPROXIMATELY 85 FEET WEST OF PIER 2E2 TO SUPPORT THE SUPERSTRUCTURE GIRDERS FOR RAMP E2 AFTER THE DECK CONCRETE HAS BEEN REMOVED. THE BENT SHALL PROVIDE FULL SUPPORT FOR THE GIRDERS AND SHALL REMAIN IN PLACE UNTILL THE NEW DECK CONCRETE HAS REACHED ITS DESIGN STRENGTH. A BENT WAS PROVIDED IN THIS LOCATION IN THE ORIGINAL CONSTRUCTION AND IS NOW REQUIRED IN AN ATTEMPT TO DUPLICATE THE STRESS HISTORY OF THE GIRDERS. PLANS FOR THE BENT SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER AND SUBMITTED BY THE CONTRACTOR FOR REVIEW AND APPROVAL BY THE DIRECTOR. THE COST OF THE TEMPORARY BENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR, ITEM 530 "STRUCTURE MISC.; TEMPORARY BENT".

THE LINK JOINT ASSEMBLIES SHALL BE REPLACED PRIOR TO PLACING THE NEW CONCRETE DECK. FOR LINK JOINT DETAILL, SEE SHEET 56/89 .

ALL SLAB POURS SHALL BE COMPLETE FOR EACH SEQUENCE OF EACH PHASE PRIOR TO POURING ANY MEDIAN BARRIER OR BARRIER AND WALKWAY SECTION.

IF THE TEMPORAARY BENT WILL BE CONTEMPORANEOUS WITH TEMPORARY SUPPORT AT THE LINK JOINT, BOTH SYSTEMS SHOULD BE SUBMITTED AT THE SAME TIME.

NOTES CONTINUED

AT THE OPTION OF THE CONTRACTOR, AN ALTERNATE DECK POURING SEQUENCE MAY BE USED, SUBJECT TO APPROVAL OF THE ENGINEER AND IN ACCORDANCE WITH THE FOLLOWING CONSTRAINTS REGARDING CONCRETE POURS NEAR INTERMEDIATE EXPANSION JOINTS:

GENERALLY, THE CONCRETE SHALL BE PLACED ON THE LONG CANTILEVER BEFORE CONCRETE IS PLACED ON THE SHORT CANTILEVER; PARTICULARLY BEFORE PLACEMENT IN THE SPAN CONTIGUOUS WITH THE SHORT CANTILEVER. THE MOST UNSATISFACTORY SEQUENCE IS TO FIRST PLACE CONCRETE IN THE SPAN CONTIGUOUS WITH THE CANTILEVER, ESPECIALLY IF CONCRETE IS FIRST PLACED IN THE HALF OF THE SPAN IMMEDIATELY ADJOINING THE SHORT CANTILEVER. THIS SEQUENCE PRODUCES THE MAXIMUM ANGLE CHANGE BETWEEN THE JOINT ELEMENTS. WHERE CONTROLLED DECK PLACEMENT SEQUENCE ALONE WILL NOT PROVIDE ADEQUATE PROTECTION AGAINST DAMAGE TO THE JOINT, PROVISIONS SHALL BE MADE FOR ATTACHING PART OR ALL OF THE JOINT TO THE MAIN STRUCTURAL ELEMENTS AFTER THE MAJOR PORTION OF THE CONCRETE IS PLACED.

DECK POURS SHALL EXTEND THE FULL WIDTH OF THE PHASE. LONGITUDINAL CONSTRUCTION JOINTS ARE PROHIBITED EXCEPT WHERE SHOWN IN THE PLAN (ie: ALONG PHASE LINES).

SIZE OF CONCRETE POURS SHOWN ARE MAXIMUM AND INDICATE SEQUENCE ONLY. ACTUAL LIMITS OF CONCRETE POURS SHALL BE OF A CONVIENENT SIZE, DETERMINED BY THE CONTRACTOR, SUBJECT TO THE ENGINEER'S APPROVAL.

→ INDICATES SEQUENCE AND DIRECTION OF DECK POURS.

THE PLACING OF ANY CONCRETE DECK IN ANY SPAN SHALL NOT BE STARTED UNTIL AFTER THE EXISTING CONCRETE DECK HAS BEEN REMOVED AT LEAST TWO PIERS BEYOND THE PIER OR PIERS SUPPORTING THE SPAN IN QUESTION.

FOR SECTION "A-A", SEE SHEET 55A/89 .

FOR ADDITIONAL DETAILS, SEE SHT 55A/89 .

FOR DECK SCREED ELEVATIONS, SEE SHEETS 77/89 AND 78/89 .

D-12 REVISED 9-96 — 55/89

adache-cluni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

STRUCTURAL DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

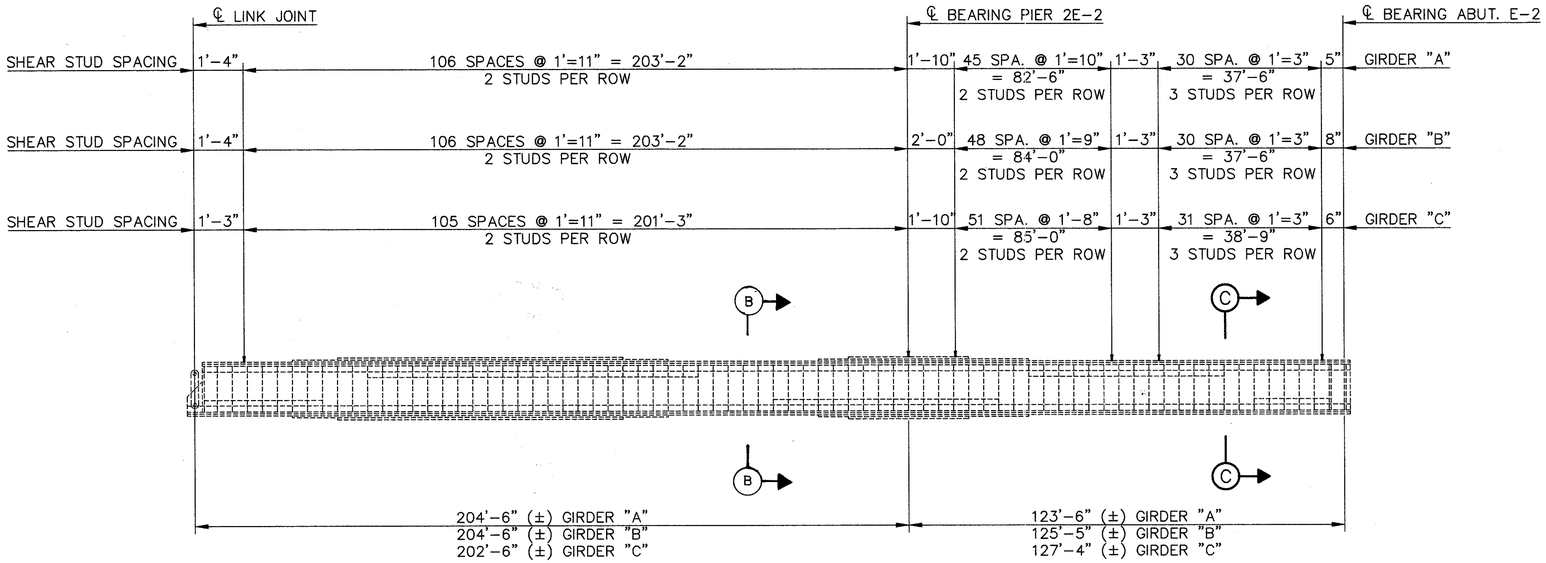
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
A.J.M.	T.M.J.	M.J.L.	J.R.C.	2/94	

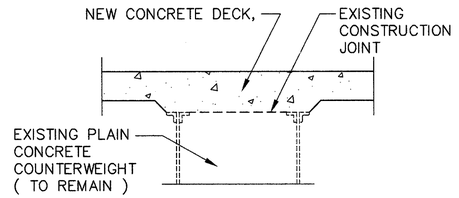
C:\DGN\J\C901524\ADACHE\STRUDET.DGN

CALC. DATE	CUYAHOGA COUNTY CUY – 90 – 15.24 INNERBELT FREEWAY	OHIO F.H.W.A. REGION 5
CHKD. DATE		

116A
151

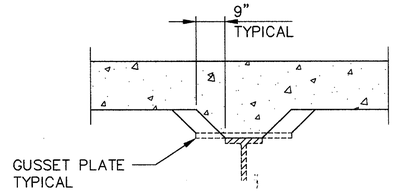


GIRDER ELEVATION



SECTION A–A

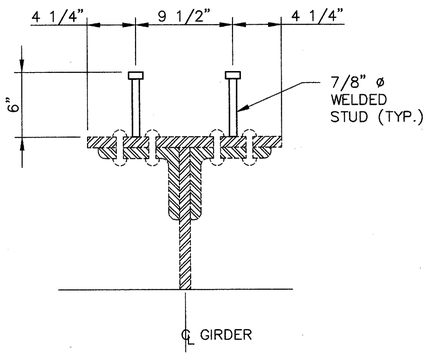
FOR LOCATION OF SECTION "A–A", SEE SHEET 55/89 .



SLAB HAUNCH AT CROSSFRAMES

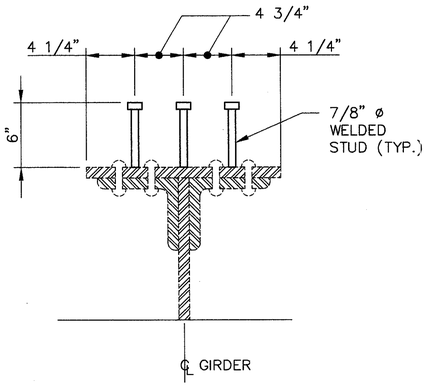
HAUNCH SLAB DOWN AT ONLY THOSE CROSSFRAMES DENOTED IN THE FRAMING PLAN WITH A HEAVY SOLID LINE.

FOR SHEAR STUD DETAILS FOR MAINLINE SEE SHEET 57/89



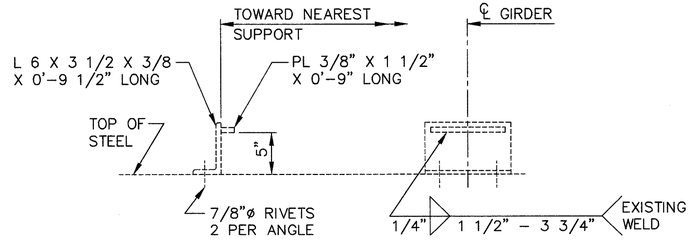
SECTION "B–B"

2 STUDS PER ROW



SECTION "C–C"

3 STUDS PER ROW



EXISTING SHEAR CONNECTOR DETAIL

DETAIL OF EXISTING SHEAR CONNECTOR. USED ONLY ON RAMP E–2, GIRDERS "A", "B" AND "C" AT 20" CENTERS, MAXIMUM. REMOVE EXISTING SHEAR ANGLES. REPLACE THE EXISTING 7/8"ø RIVETS WITH 7/8"ø HIGH STRENGTH BOLTS. PAYMENT FOR REMOVAL OF EXISTING RIVETS AND SHEAR ANGLES, AND INSTALLATION OF HIGH STRENGTH BOLTS, INCLUDING ALL INCIDENTALS, SHALL BE INCLUDED IN ITEM 513 – "STRUCTURAL STEEL (AISC CERTIFICATION NOT REQUIRED)".

FOR NOTES ON RIVET REMOVAL, SEE SHEET 50/89.

D-12 REVISED 9-96 — 55A/89

adache–ciuni–lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

STRUCTURAL DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
A.J.M.	T.M.J.	M.J.L.	J.R.C.	2/94	

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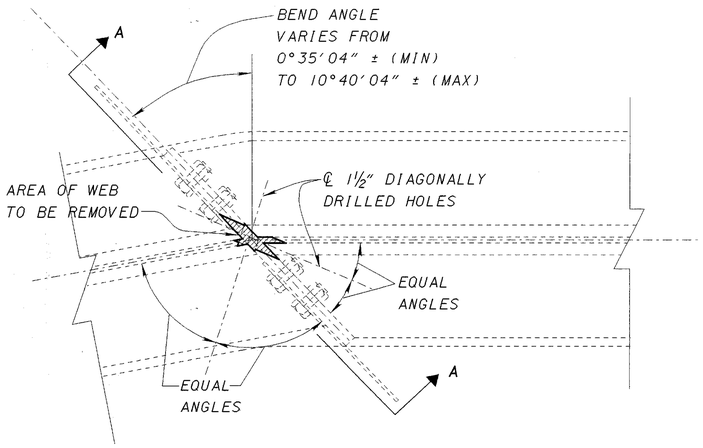
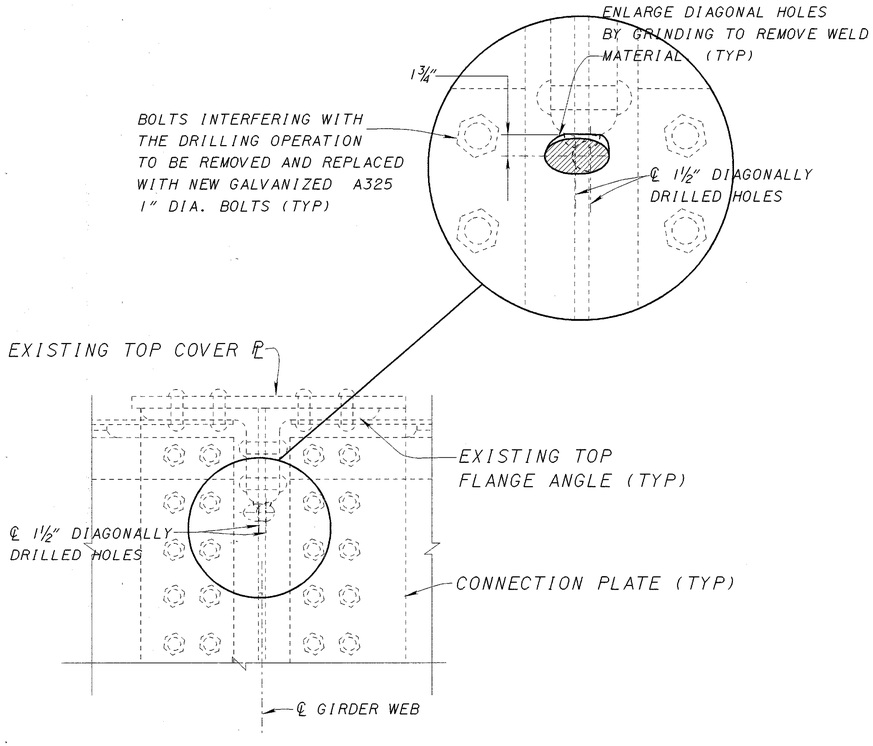


GIRDER BEND POINT WEB RETROFIT DETAIL

LOOKING DOWN AT BOTTOM FLANGE OR UP AT TOP FLANGE
(ONE-HALF RETROFIT SHOWN)



SECTION A-A

TOP GIRDER BEND POINT WEB RETROFIT SHOWN

ITEM 513 - STRUCTURAL STEEL MISC.: GIRDER BEND POINT WEB RETROFIT

THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY FOR PERFORMING THE RETROFITS AS DETAILED IN THE PLANS AND THIS NOTE.

THE GIRDER BEND POINT WEB RETROFIT SHALL CONSIST OF DRILLING CROSSING DIAGONAL HOLES AS SHOWN IN THE DETAILS. THESE HOLES SHALL BE FURTHER ENLARGED BY GRINDING TO REMOVE ANY WELD MATERIAL NOT INTERCEPTED BY DRILLING. FOUR DIAGONAL HOLES (TWO FOR THE TOP FLANGE ANGLES, TWO FOR THE BOTTOM FLANGE ANGLES) WILL BE REQUIRED PER "EACH" RETROFIT LOCATION.

THE PURPOSE OF THIS RETROFIT IS TO ISOLATE ANY PRESENT OR FUTURE FLANGE CRACK DEVELOPMENT FROM PROPAGATING INTO THE WEB PLATE; THEREFORE, IT IS IMPERATIVE THAT ANY EXISTING CRACK ENDS BE INTERCEPTED BY THE DIAGONAL DRILLING. BEFORE PERFORMING THE RETROFIT, THE CONTRACTOR AND ENGINEER SHALL VISUALLY INSPECT THE WELD CONNECTING THE FLANGE ANGLE TO THE CONNECTION PLATE (EIGHT TOTAL AREAS PER LOCATION). THE CONTRACTOR SHALL PERFORM ITEM 513-STRUCTURAL STEEL MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NDT, AS DIRECTED BY THE ENGINEER, IN LOCATIONS WHERE A CRACK IS SUSPECTED, TO ENSURE THAT THE CRACK END HAS NOT ALREADY PROPAGATED INTO THE WEB. ANY CRACK ENDS THAT EXTEND PAST THE PROPOSED RETROFIT HOLES SHALL BE DRILLED OUT, AS DIRECTED BY THE ENGINEER, ACCORDING TO AND PAID FOR UNDER ITEM 513-STRUCTURAL STEEL MISC.: DRILLING STRUCTURAL STEEL, GRINDING, AND NDT.

THE ACCEPTED NUMBER OF RETROFITS WILL BE PAID FOR AT THE CONTRACT PRICE PER EACH LOCATION. PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY FOR DRILLING THE DIAGONAL HOLES, ENLARGING HOLES BY GRINDING AND REMOVING AND REPLACING GUSSET PLATE BOLTS WHERE INTERFERENCE IS ENCOUNTERED.

PAYMENTS WILL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL MISC.: GIRDER BEND POINT WEB RETROFIT

SEE GENERAL NOTES SHEETS 9H & 9J OF 89 FOR ADDITIONAL INFORMATION.

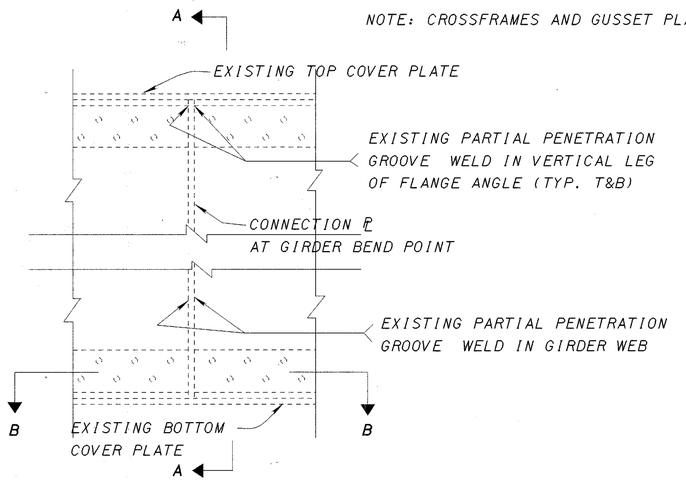
DESIGN AGENCY
O.D.O.T.
DISTRICT TWELVE
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVISED	DATE
GLC	GLC	DWL	07/96
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJM		1809393	

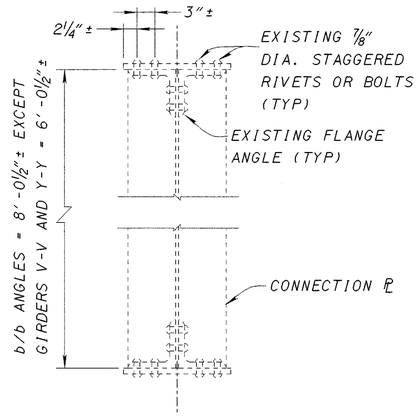
GIRDER BEND POINT WEB RETROFIT DETAILS
BRIDGE NO. CUY-90-1599
I-90 OVER THE CUYAHOGA RIVER VALLEY

CUYAHOGA COUNTY
CUY-90-15.24

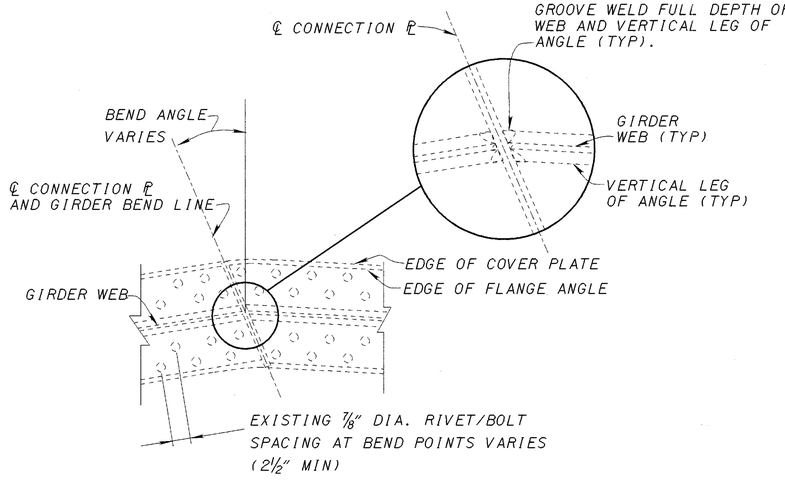
NOTE: CROSSFRAMES AND GUSSET PLATES NOT SHOWN.



TYPICAL EXISTING GIRDER ELEVATION AT BEND POINT

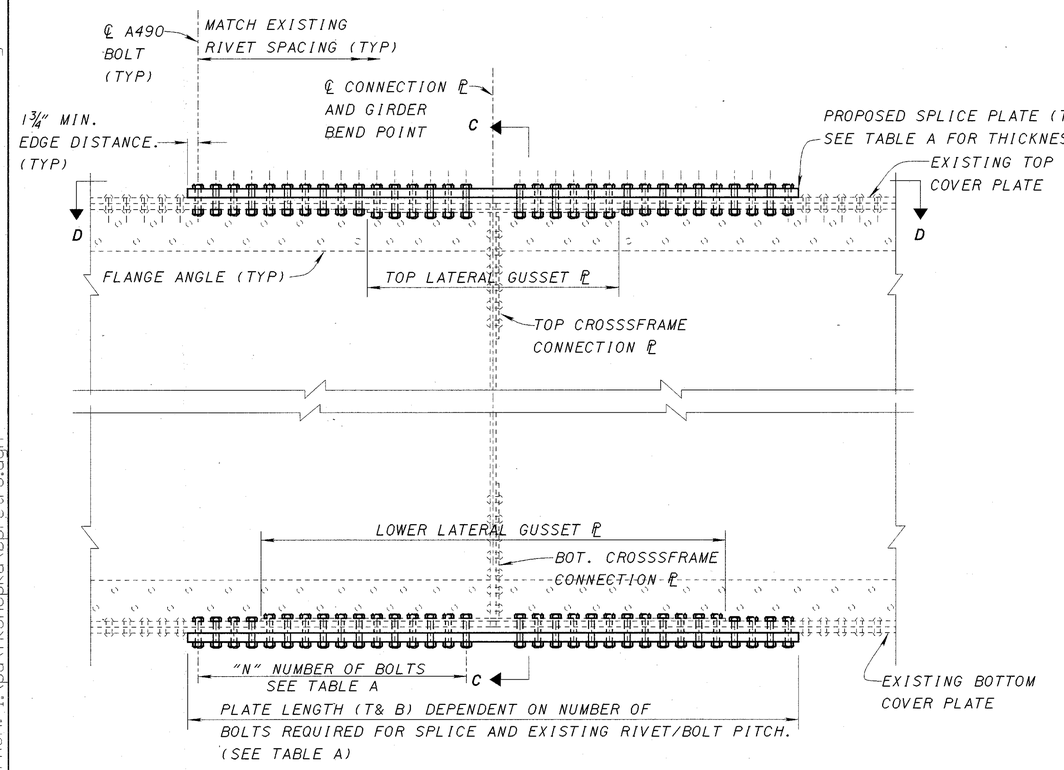


SECTION A-A

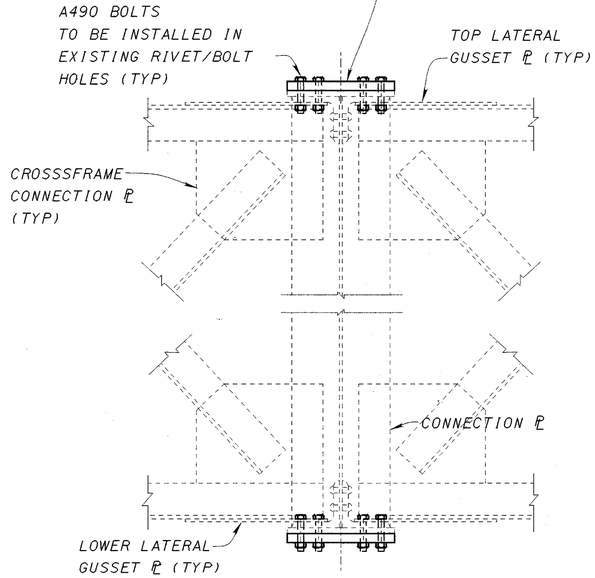


SECTION B-B

EXISTING GIRDER BEND POINT DETAILS



PROPOSED GIRDER ELEVATION AT BEND POINT



SECTION C-C

NOTES:

- SEE FRAMING PLAN SHEETS 52-55 OF 89 FOR LOCATION OF BEND POINT FLANGE SPLICE RETROFITS
- SEE SHEET 55D OF 89 FOR CRACK REPAIR DETAILS.
- SEE SHEET 55F OF 89 FOR VIEW D-D, TABLE 'A', AND SPLICE DETAIL AT PHASE CONSTRUCTION JOINT.
- RIVET PITCH AND BENDLINE ANGLES VARY AND MUST BE FIELD MEASURED TO DETERMINE SPLICE PLATE LENGTH AND CONFIGURATION.
- FILL PLATE LENGTHS AND CONFIGURATION MUST BE FIELD DETERMINED.
- NEW STRUCTURAL STEEL SHALL CONFORM TO ASTM A572 GRADE 50.
- ALL BOLTS SHALL BE A490, CLASS B, 1" DIA.
- SEE SHEET 55F OF 89 FOR SEQUENCE OF OPERATIONS.
- SEE GENERAL NOTES SHEETS 55B, 55C OF 89 FOR ADDITIONAL INFORMATION.
- VERTICAL BEND NOT SHOWN IN DETAILS.

PROPOSED GIRDER BEND POINT FLANGE SPLICE RETROFIT DETAILS

(ONE RETROFIT SHOWN)

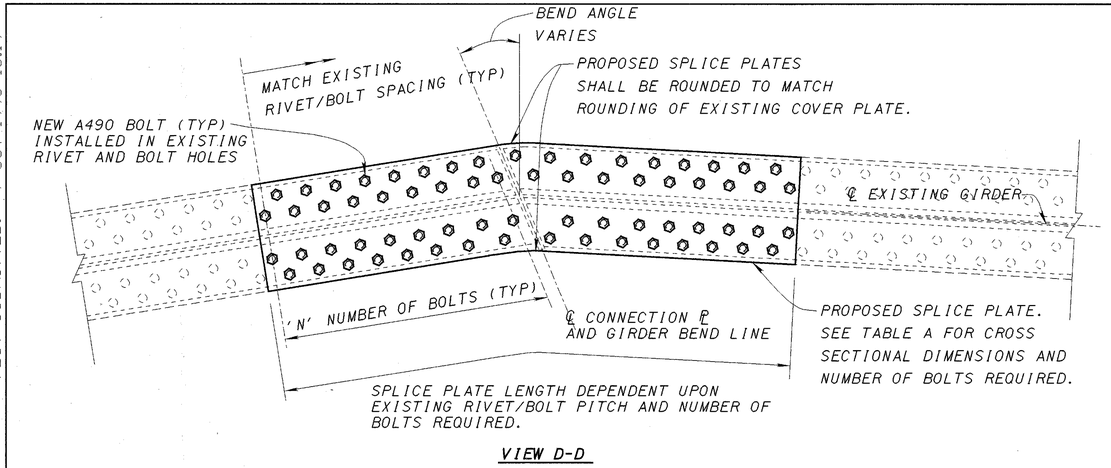
DESIGN AGENCY: O.D.O.T. DISTRICT TWELVE PRODUCTION DEPARTMENT
DESIGNED GLC | DRAWN GLC | REVISED | CHECKED MJM
REVIEWED DWL | DATE 07/96 | STRUCTURE FILE NUMBER 1809393

GIRDER BEND POINT FLANGE SPLICE RETROFIT DETAILS
BRIDGE NO.. CUY-90-1599
I-90 OVER THE CUYAHOGA RIVER VALLEY

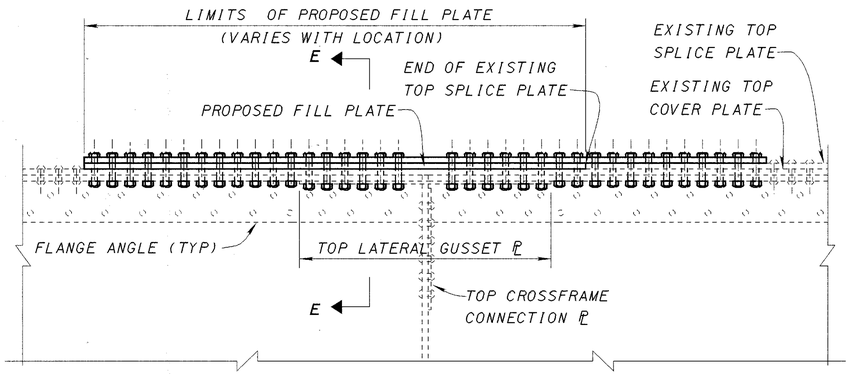
CUYAHOGA COUNTY
CUY-90-15.24

55C / 89

116C / 151

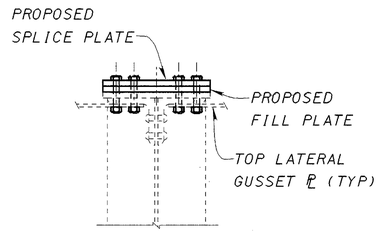


VIEW D-D

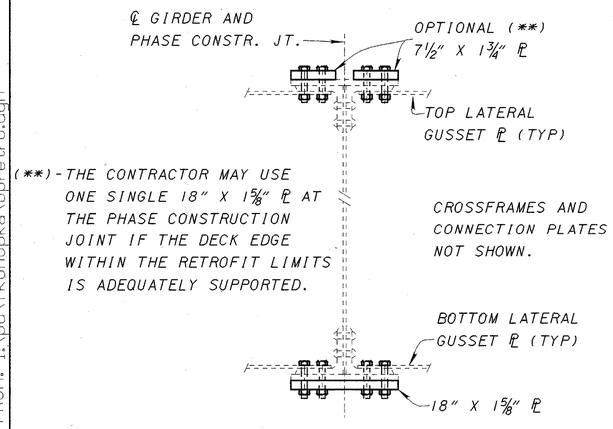


PROPOSED GIRDER ELEVATION NEAR EXISTING SPLICE

TOP SPLICE SHOWN, BOTTOM SPLICE SIMILIAR



SECTION E-E



TYPICAL SECTION AT MAINLINE PHASE CONSTRUCTION JOINTS

TABLE 'A'

LOCATION	BEND LINE	GIRDER	EXISTING WEB ℄	EXISTING FLANGE L's	EXISTING COVER ℄	PROPOSED SPLICE ℄ (*)	'N' NUMBER OF BOLTS PER SIDE	FILL ℄ SIZE (*)
SPAN 2B	A	D	96"X ½"	8"X 8"X1"	18"X1"	18"X1⅝"	34	18"X1" ±
		E,F,H	96"X ½"	8"X 8"X1"	18"X1"	18"X1⅝"	34	NONE
		K	96"X ½"	8"X 8"X1"	18"X1"	18"X1⅝"	34	18"X1" ±
		L,N,P,Q	96"X ½"	8"X 8"X1"	18"X1"	18"X1⅝"	34	NONE
		R	96"X ½"	8"X 8"X1"	18"X1"	18"X1⅝"	34	18"X1" ±
		G,J,M,O	96"X ½"	8"X 8"X1"	18"X1"	TOP: 2 ℄'s 7½" X 1¾" BOTTOM ℄: 18"X1⅝"	34	NONE
								NONE
		Y	96"X ⅝"	8"X 8"X1"	18"X1"	18"X1⅝"	34	NONE
SPAN 4B	2	D THRU R	96"X ½"	8"X 8"X1"	18"X1"	18"X1⅝"	34	NONE
		G,J,M,O	96"X ½"	8"X 8"X1"	18"X1"	TOP: 2 ℄'s 7½" X 1¾" BOTTOM ℄: 18"X1⅝"	34	NONE
								NONE
RAMP E-1	B	V	96"X ⅝"	8"X 8"X1⅛"	18"X1⅛"	18"X1⅝"	34	18"X1⅛" ±
		W,X		8"X 8"X ¾"	18"X ¾"	18"X1⅝"	34	NONE
		Y		8"X 8"X1"	18"X1"	18"X1⅝"	34	NONE
	D	V-V, Y-Y	72"X ⅞"	6"X 6"X ⅞"	14"X ⅞"	14"X1"	18	NONE
RAMP E-2	A	A	96"X ½"	8"X 8"X1"	18"X1"	18"X1⅝"	34	18"X1" ±
		B,C						NONE
	B	A	96"X ½"	8"X 8"X1"	18"X1"	18"X1⅝"	34	18"X1" ±
		B,C						NONE
	C	A,B,C	96"X ½"	8"X 8"X1"	18"X1"	18"X1⅝"	34	NONE
	1	S	96"X ½"	8"X 8"X1"	18"X1"	18"X1⅝"	34	NONE
	2	S, T	96"X ½"	8"X 8"X1"	18"X1"	18"X1⅝"	34	NONE

NOTE: ALL EXISTING DIMENSIONS ARE TO BE CONSIDERED ±.
(*) - PROPOSED PLATE WIDTH SHALL MATCH EXISTING. DATA SHOWN IS FROM ORIGINAL PLANS.

SEQUENCE OF OPERATIONS:

THIS SEQUENCE OF OPERATIONS IS TO COMMENCE ONLY AFTER DECK REMOVAL IN THE SPAN WHERE THE RETROFIT IS LOCATED HAS OCCURED, NDT AND CRACK REPAIR HAVE BEEN COMPLETED, AND SPLICE PLATES AND FILL PLATES ARE READY TO INSTALL. SPLICE PLATES AND FILL PLATES READY TO INSTALL ARE PLATES THAT HAVE BEEN CUT AND BENT TO FIT THE EXISTING GIRDER AND HAVE BEEN BLAST CLEANED TO Sa 2½ (NEAR WHITE) ON THE FAYING SURFACES SO THAT A SLIP COEFFICIENT OF 0.50 OR MORE WILL BE ACHIEVED.

1. REMOVE EXISTING ⅞ INCH DIAMETER RIVETS AND/OR BOLTS FROM EITHER THE TOP OR BOTTOM FLANGE AT THE LOCATIONS WHERE THE NEW BOLTS ARE TO BE INSTALLLED. EXISTING STEEL TO REMAIN SHALL NOT BE DAMAGED BY RIVET REMOVAL. RIVET REMOVAL METHOD SHALL BE APPROVED BY THE ENGINEER AND COMPLY WITH CMS 202.03.
2. BLAST CLEAN THE EXISTING STEEL SURFACES AS SHOWN IN THE PLANS AND ACCORDING TO THE GENERAL NOTES.
3. POSITION THE NEW FILL PLATE (IF REQUIRED) AND NEW SPLICE PLATE AND TEMPORARILY SECURE BY CLAMPING TO THE EXISTING GIRDER.
4. DRILL AND REAM HOLES FOR NEW 1-INCH DIAMETER BOLTS AT AT THE LOCATION OF THE EXISTING HOLES.
5. INSTALL THE NEW BOLTS AND TORQUE TO THE REQUIRED TENSION.
6. REPEAT STEPS 1 THRU 5 ON THE OTHER FLANGE.
7. FIELD PAINT RETROFITTED AREA TO THE LIMITS SHOWN IN THE PLAN DETAILS.

DESIGN AGENCY O.D.O.T. DISTRICT TWELVE PRODUCTION DEPARTMENT

DESIGNED GLC | DRAWN GLC | CHECKED MJM | REVISED | REVISED DWL | DATE 07/96 | STRUCTURE FILE NUMBER 1809393

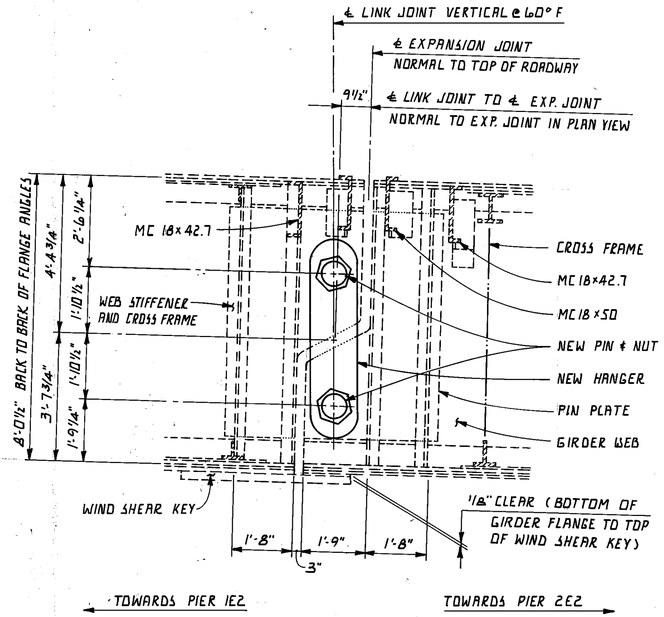
GIRDER BEND POINT FLANGE SPLICE RETROFIT DETAILS
BRIDGE NO. CUY-90-1599
I-90 OVER THE CUYAHOGA RIVER VALLEY

CUYAHOGA COUNTY
CUY-7 I-15.24

55D/89

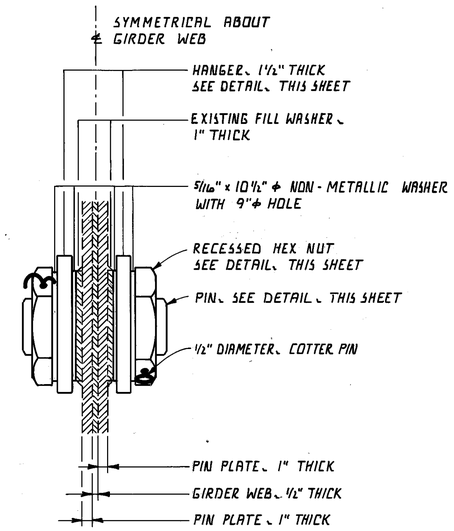
116D/151

PLOTTED BY: fkonopka
PLOTTED FROM: i:\pd\fkonopka\bpretro.dgn
filename.dgn PLOT SUBMITTED: 7-OCT-1996 15:19



ELEVATION - LINK JOINT

DIMENSIONS SHOWN ARE TAKEN FROM RECORD INFORMATION AND ARE MEASURED AT 60°F.



PIN ASSEMBLY

PROPOSED

PRE-BID NOTE:

THE CONTRACTOR SHALL PAY SPECIAL ATTENTION DURING HIS PRE-BID INSPECTION OF THE BRIDGE, TO THE LINK JOINT AREA.
DEPENDENT UPON THE CONTRACTORS PROPOSED PROCEDURES, METHODS AND EQUIPMENT THE DRAINAGE COLLECTION SYSTEM AT THE LINK JOINT MAY REQUIRE CAREFUL REMOVAL AND RE-INSTALLATION TO ACCESS THE LINK JOINT. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THIS REMOVAL AND SUBSEQUENT RE-INSTALLATION. PLANS FOR THE EXISTING DRAINAGE COLLECTION SYSTEM ARE AVAILABLE FOR EXAMINATION AT THE DISTRICT 12 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION.

TESTING REQUIREMENTS:

THE PINS SHALL BE REQUIRED TO HAVE A CHARPY V-NOTCH IMPACT VALUE OF 25 FT.-LBS. @ 20 DEGREES F. THE FINISHED PINS SHALL BE 100% ULTRASONICALLY TESTED IN ACCORDANCE WITH ASTM A388 AND 100% MAGNETIC PARTICLE TESTED IN ACCORDANCE WITH ASTM A275. NON-DESTRUCTIVE TESTING (NDT) ACCEPTANCE CRITERIA SHALL BE BASED ON SECTIONS 9.25.2 AND 9.25.3 OF ANSI/AASHTO/AWS BRIDGE WELDING CODE, D1.5. ANY CRACKS FOUND SHALL BE CAUSE FOR AUTOMATIC REJECTION OF THE PINS. ANY ITEM FAILING THE NDT SHALL BE REPLACED.

THE HANGER PLATES SHALL BE REQUIRED TO HAVE A CHARPY V-NOTCH IMPACT VALUE OF 25 FT-LBS. @ 20 DEGREES F. THE FINISHED HANGER PLATES SHALL BE 100% NON-DESTRUCTIVELY TESTED (NDT) BY THE ULTRASONIC, MAGNETIC PARTICLE AND DYE PENETRANT METHODS IN ACCORDANCE WITH THE ANSI/AASHTO/AWS BRIDGE WELDING CODE, D1.5. NDT ACCEPTANCE CRITERIA SHALL BE BASED ON SECTIONS 3.2.3.7, 9.25.2 AND 9.25.3. ANY CRACKS FOUND SHALL BE CAUSE FOR AUTOMATIC REJECTION OF THE HANGER PLATES. ANY ITEMS FAILING THE NDT SHALL BE REPLACED.

THE CONTRACTOR SHALL HAVE ALL NDT PREFORMED BY PERSONNEL QUALIFIED AT LEVEL II OR III IN ACCORDANCE WITH THE AMERICAN SOCIETY OF NON-DESTRUCTIVE TESTING (ASNT) RECCOMMENDED PRACTICE NO. SNT-TC-1A. THE DIRECTOR OR HIS REPRESENTATIVE SHALL BE PRESENT DURING TESTING TO WITNESS BOTH THE PROCEDURE AND AND THE RESULTS OF THE TESTING. A WRITTEN PROCEDURE FOR THE NDT OF THE HANGER PLATES AND PINS SHALL BE DEVELOPED AND SUBMITTED TO THE DIRECTOR FOR APPROVAL.

NOTES:

THE FOLLOWING ITEMS SHALL BE REMOVED FROM EACH EXISTING GIRDER LINK JOINT AT RAMP E-2:
- 4 - HEX NUTS, SECURED WITH COTTER PINS OR SET SCREWS.
- 2 - HANGER PLATES, 1½" THICK
- 2 - 8 ½" DIAMETER PINS

THE FOLLOWING NEW ITEMS SHALL BE FURNISHED AND INSTALLED ON EACH EXISTING GIRDER LINK JOINT AT RAMP-E 2:
- 2 - PINS
- 4 - RECESSED HEX NUTS WITH ½" DIA. COTTER PINS.
- 8 - NON-METALLIC WASHERS
- 2 - HANGER PLATES, 1½" THICK, WITH TWO (2) BUSHINGS EACH

BUSHINGS SHALL BE SELF-LUBRICATING FILAMENT WOUND EPOXY MATRIX BACKED DURALON BEARINGS MANUFACTURED BY REXNORD BEARING DIVISION OR GAR-MAX MANUFACTURED BY GARLOCK BEARINGS, INC., OR AN APPROVED EQUAL. BUSHINGS SHALL HAVE A NOMINAL THICKNESS OF ½".

HANGER BUSHINGS SHALL HAVE AN INTERFERENCE FIT OF 0.002" MINIMUM. THE INSIDE DIAMETER OF THE BUSHING SHALL PROVIDE A CLEARANCE OF 0.005" MINIMUM TO 0.010" MAXIMUM OVER THE FINISHED DIAMETER OF THE PIN.
THE INNER FACE OF THE HANGER PLATES, PIN NUTS AND PORTIONS OF THE GIRDERS COVERED BY HANGER PLATES, INCLUDING FACE OF FILL WASHERS SHALL BE SANDBLASTED AND PRINTED WITH THE SPECIFIED PAINT SYSTEM (ALL COATS) AS DESCRIBED IN THE STRUCTURAL GENERAL NOTES, PRIOR TO INSTALLING. THE PINS SHALL NOT BE PAINTED UNTIL THE LINK JOINT HAS BEEN FULLY ASSEMBLED.

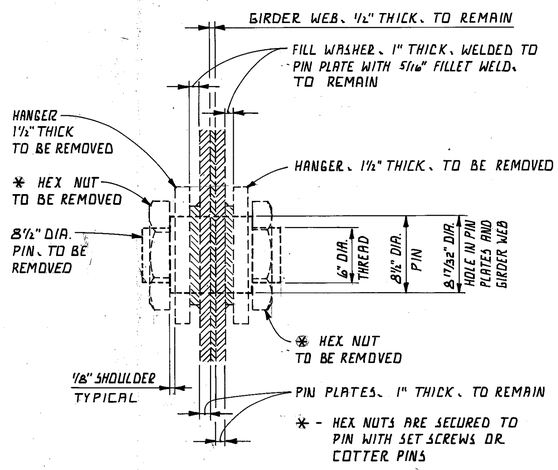
NON METALLIC WASHERS REQUIRED AGAINST THE HANGERS SHALL BE PRODUCED FROM POLYETHYLENE, HIGH DENSITY BLACK, ASTM D1248, TYPE III, CLASS "B" OR TEFLON, TFE, MIL-P-22241A.

THE CONTRACTOR SHALL SUBMIT DETAILED PROCEDURES, CALCULATIONS AND PLANS OF TEMPORARY SUPPORTS FOR REVIEW AND APPROVAL BY THE DIRECTOR. PROCEDURES, CALCULATIONS AND PLANS SHALL BE PREPARED BY A REGISTERED ENGINEER AND SHALL BEAR HIS SIGNATURE AND REGISTRATION OR HIS P.E. SEAL. IN ADDITION TO THE ABOVE, ALL APPLICABLE PROVISIONS OF SDI.05 AND SDI.06 OF C.M.S. SHALL APPLY. ALL MATERIAL, LABOR, EQUIPMENT, FALSEWORK, SUBSEQUENT REMOVAL THEREOF AND INCIDENTALS NECESSARY FOR SUPPORTING THE LINK JOINTS SHALL BE INCLUDED WITH THE LUMP SUM PRICE BID FOR ITEM 516 - "JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE".

ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK AS DETAILED ON THIS LINK JOINT DETAIL SHEET, SHALL BE PAID FOR AT THE UNIT PRICE BID, PER EACH OF ITEM 513 - "STRUCTURAL STEEL, MISCELLANEOUS: PIN AND HANGER ASSEMBLY REFURBISHED, AS PER PLAN".

THE CONTRACTOR SHALL **MEASURE** THE PIN AND HANGER ASSEMBLIES AND VERIFY PIN DIMENSIONS, AND GIRDER, FILL WASHER AND PIN PLATE CONDITIONS PRIOR TO FABRICATION OF NEW PINS, HANGER PLATES AND OTHER ASSOCIATED MATERIALS SHOWN ON THIS DRAWING. IF FIELD INSPECTION EVIDENCES EXCESSIVE WEAR OF THE PIN APERTURE IN THE GIRDER WEB, FILL WASHERS AND PIN PLATES, AS DETERMINED BY THE ENGINEER, THE ENGINEER SHALL THEN INSTRUCT THE CONTRACTOR AS TO THE CORRECTIVE MEASURES TO BE UNDERTAKEN.

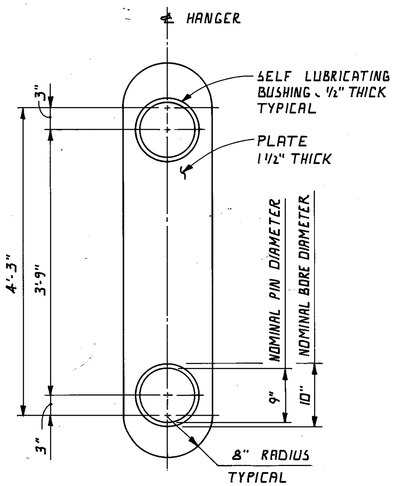
THE PIN AND HANGER ASSEMBLY REFURBISHMENT SHALL TAKE PLACE WITHIN THE RAMP E-2 DECK REPLACEMENT TIME FRAME DURING CONSTRUCTION PHASE IV.



PIN ASSEMBLY

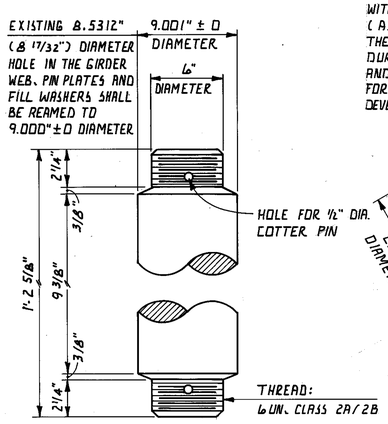
EXISTING PIN

ALL ITEMS TO BE REMOVED, SHALL BECOME PROPERTY OF THE CONTRACTOR AND DISPOSED OF.



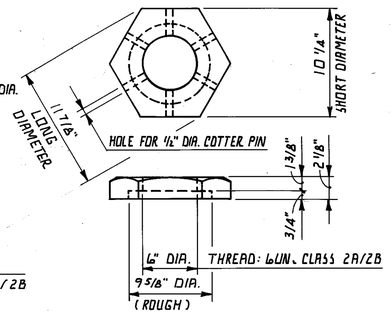
HANGER DETAIL

TOLERANCE AND FINISH OF 10" NOMINAL DIAMETER BORE HOLES SHALL BE AS RECOMMENDED BY THE BUSHING MANUFACTURER.
HANGER PLATE STEEL SHALL CONFORM TO ASTM A572, F_y = 50 KSI.



PIN DETAIL

PIN STEEL SHALL CONFORM TO M102, F_y = 50 KSI (ASTM A668-90, CLASS "F", F_y = 50 KSI)
FINISHED BEARING SURFACES OF THE PINS SHALL BE 125 MICRODINCH RMS AND OTHER SURFACES SHALL BE 250 MICRODINCH RMS FINISH.
THE PIN SHALL HAVE AN INTERFERENCE FIT OF 0.001" WITH THE GIRDER WEB AND THE PIN PLATES.



RECESSED NUT DETAIL

RECESSED NUT STEEL SHALL CONFORM TO ASTM A108, GRADE 1018 OR GRADE 1020. PROVIDE HOLES FOR ½" DIAMETER COTTER PINS.

56 / 89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

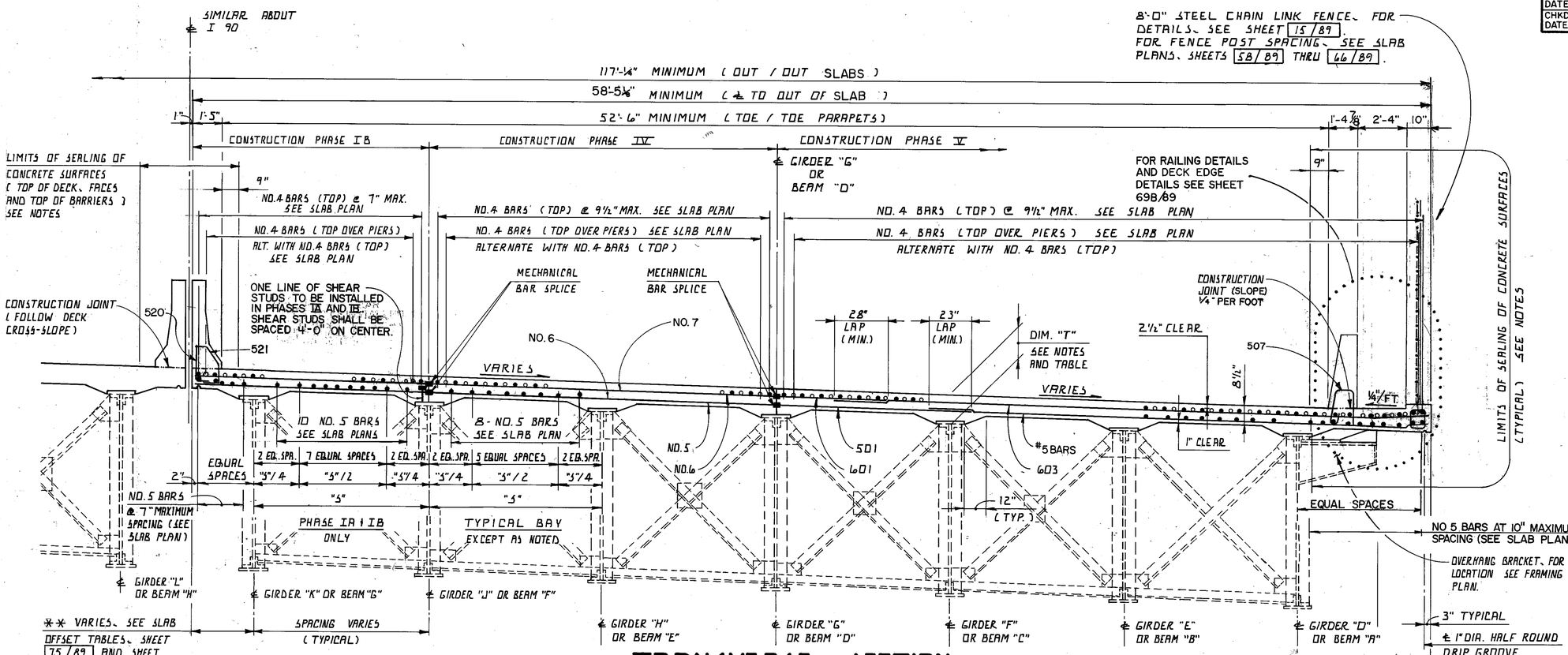
LINK JOINT DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
M.J.L.	T.M.J.	R.R.B.	J.R.C.	DEC. 31, 1991	

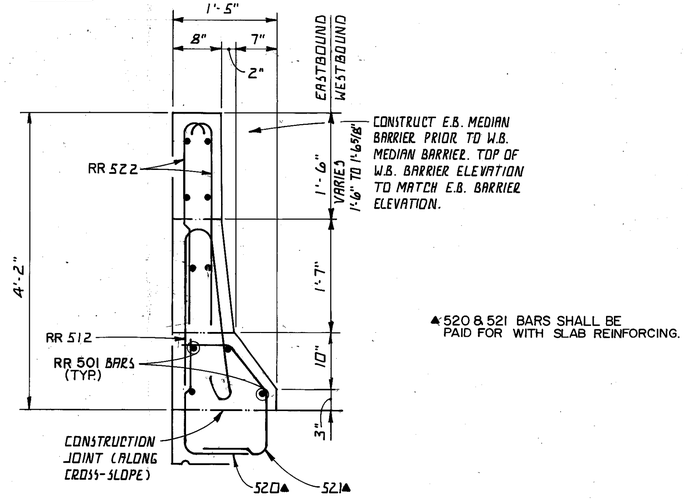
BRUNING 44-232-67195
A-C-L form no. 8-1

CALC.		CUYAHOGA COUNTY	OHIO
DATE.		CUY-90-15.24	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE.			



TRANSVERSE SECTION

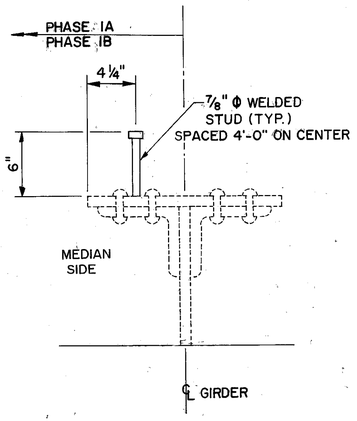
UNIT NO.1 SHOWN, UNIT NO.2 SIMILAR. EASTBOUND LANES SHOWN, WESTBOUND LANES SIMILAR.



▲520 & 521 BARS SHALL BE PAID FOR WITH SLAB REINFORCING.

MEDIAN BARRIER DETAIL

SHALL BE PAID FOR UNDER ITEM 517 RAILING (50"), AS PER PLAN PER LN.FT (SEE SHEET 69B/89. FOR BENDING DIAGRAM.)



DETAIL SIMILAR FOR BEAM SECTION

SHEAR STUD DETAIL

(FOR RAMP E-2 SHEAR STUD DETAILS SEE SHEET 55A/89)

NOTE:

THE CONTRACTOR SHALL LEAVE THE CONCRETE DECK FORMS IN PLACE UNDER THE DECK SLAB OVERHANGS OF PHASE IA AND PHASE IB TO SUPPORT THE SLAB DEAD LOAD UNTIL THE DESIGN STRENGTH IS REACHED IN THE SLAB CONCRETE OF PHASE II AND PHASE III, RESPECTIVELY. STOCK PILING OF CONSTRUCTION MATERIAL ON THE PHASE IA AND PHASE IB SLAB OVERHANGS IS STRICTLY PROHIBITED.

** WHERE THERE ARE NO OVERHANG BRACKETS AND SLAB OFFSET EXCEEDS 7'-0" ADDITIONAL REINFORCING STEEL IS REQUIRED SEE SHEET 71/89

NOTES:

FOR SLAB PLANS, SEE SHEET 58/89 THRU SHEET 66/89.

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 6/89 THRU 9/89.

ALL REINFORCING BAR MARKS IN THE SUPERSTRUCTURE SHALL BE PREFIXED AS SHOWN ON THE SLAB PLANS.

ALL REINFORCING STEEL IN THE SUPERSTRUCTURE SHALL BE GRADE 60, EPOXY COATED.

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEETS 85/89 THRU 89/89.

WELDED ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINES OR ANY OTHER PURPOSE IS PROHIBITED, EXCEPT AS SPECIFICALLY CALLED FOR ON THE PLANS.

FOR DECK SCREED ELEVATIONS, SEE SHEET 77/89 AND SHEET 78/89.

FOR DIMENSION "T" TABLE, SEE SHEET 74/89.

DECK SLAB DEPTH: THE DISTANCE FROM THE TOP OF THE DECK SLAB TO THE BACK OF TOP FLANGE ANGLES AT GIRDERS (UNIT NO.1) AND TO THE TOP OF THE STEEL BEAM (UNIT NO.2) IS THE DESIGN DIMENSION, DIMENSION "T". 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 OR BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO FINISH GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 511.18.

FOR ADDITIONAL TRANSVERSE REINFORCING BARS IN SLAB OVERHANGS, SEE SLAB DETAILS, SHEET 71/89.

THE HAUNCH WIDTH IS 12" AND SHALL NOT BE VARIED REGARDLESS OF HAUNCH SLOPE. THE 12" WIDTH SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE.

FOR SLAB POURING SEQUENCE, SEE SHEET 55/89.

FOR FRAMING PLAN, SEE SHEET 52/89 THRU SHEET 54/89.

D-12 REVISED 9-96

51/89

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TRANS. SECTION - MAINLINE
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	2/94	

BRUNING 44-232-6719-01

A-C-L form no. B-1

NOTES:

FOR BARRIER AND FENCE PEDISTAL REINFORCING LOCATIONS SEE TRANSVERSE SECTION SHEET 57/89.

REINFORCING BAR LAP SPLICES:
NO. 4 BAR = 19" MINIMUM
NO. 5 BAR = 23" MINIMUM
NO. 6 BAR = 28" MINIMUM

NOTES CONT.

THE PREFIX "S1EB" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN UNIT NO.1 EASTBOUND SUPERSTRUCTURE

ALL TRANSVERSE BARS SPACING IN THE DECK IS MEASURED ALONG ℄ I 90.

ALL TRANSVERSE BARS IN THE DECK SHALL BE PLACED NORMAL / RADIAL TO ℄ I 90, UNLESS NOTED.

FOR SLAB POURING SEQUENCE, SEE SHEET 55/89.

NOTES CONT.

FOR LOCATIONS OF PERMISSIBLE CONSTRUCTION JOINTS (POINTS OF DECK COUNTERFLEXURE), SEE SHEET 55/89.

CALC. DATE	CUYAHOGA COUNTY CUY-90-15.24 INNERBELT FREEWAY	OHIO F.H.W.A. REGION 5
CHKD. DATE		

119/151

595 EACH 520, AND 521 AT 14"(±) SEE TRANSVERSE SECTION FOR POSITIONING

℄ BEARING EAST END PIER

STA. 43+36.45

℄ I 90

℄ PIER 1B

STA. 44+39.72

STA. 45+28.22 PC. ℄ FRWY.

℄ PIER 2B

STA. 45+58.74

END SHEET

PHASE I B CONSTRUCTION

PHASE II CONSTRUCTION

PHASE III B CONSTRUCTION

28 - 401 (TOP) 24 SETS REQUIRED
24 - 540 (BOTTOM) 24 SETS REQUIRED

319 - 703 (TOP)
319 - 603 (BOTTOM)
@ 7" = 185'-6"

27 - 401 BARS ALT W/ 401 BARS TOP OVER PIER

27 - 403 BARS LAP 401 BARS TOP OVER PIER

1 SERIES OF 284-704 (TOP)
1 SERIES OF 284-604 (BOTTOM)
@ 7" = 165'-1"

7"

27 - 401 BARS 3 SETS REQUIRED ALT W/ 401 BARS TOP OVER PIER

PHASE LINE

22 - 401 (TOP) 24 SETS REQUIRED
16 - 540 (BOTTOM) 24 SETS REQUIRED

320 - 662 (TOP)
320 - 562 (BOTTOM)
@ 7" = 186'-1"

21 - 401 BARS ALT W/ 401 BARS TOP OVER PIER

21 - 403 BARS LAP 401 BARS TOP OVER PIER

3 - 663 (TOP)
3 - 563 (BOTTOM)
@ 7" = 1'-2"

568 - 664 (TOP)
568 - 564 (BOTTOM)
@ 7" = 330'-9"

7"

21 - 401 BARS 3 SETS REQUIRED ALT W/ 401 BARS TOP OVER PIER

PHASE LINE

SEE SPLICE DETAIL, BELOW

42 - 401 (TOP) 1 SETS REQUIRED
32 - 540 (BOTTOM) 1 SETS REQUIRED

43 - 401 BARS 1 SET REQUIRED ALT. W/ 401 BARS TOP OVER PIER

43 - 403 BARS 1 SET REQUIRED LAP 401 BARS TOP OVER PIER

53 - 401 BARS 3 SETS REQUIRED ALT. W/ 401 BARS TOP OVER PIER

231 - 601 AND 231 - 602 (TOP)
231 - 501 AND 231 - 502 (BOTTOM)
@ 7" = 139'-5"

164 - 601 AND 1 SERIES OF 164 - 623 (TOP)
164 - 501 AND 1 SERIES OF 164 - 523 (BOTTOM)
@ 7" = 95'-1"

7"

9 - 601 AND 9 - 698
9 - 501 AND 9 - 598
AT 7" = 5'-3"

2 - 499 (TOP) 1 SET REQUIRED
2 - 599 (BOTTOM) 1 SET REQUIRED

44 - 401 (TOP) 7 SETS REQUIRED
34 - 540 (BOTTOM) 7 SETS REQUIRED

STA. 44+75.00, 52.00' RIGHT (℄ FRWY.) = STA. 0+00.00 (℄ RAMP E-2)

BASELINE RAMP E-2

STA. 0+00.00 PC. ℄ RAMP E-2

STA. 0+91.20 ℄ RAMP E-2

STA. 45+58.74

FOR SLAB DETAILS AND REINFORCING NOT SHOWN SEE SHEET 72A/89.

℄ BEARING EAST END PIER

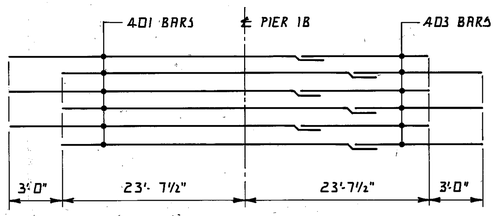
℄ PIER 1B

424 EACH 507, AND 450 AT 14"(±) SEE TRANSVERSE SECTION FOR POSITIONING

℄ PIER 2B

FENCE POST SPACING: 6'-3 3/8", 7'-0", 6", 8'-6", 8'-6"

46 SPACES @ 10'-0" = 460'-0"

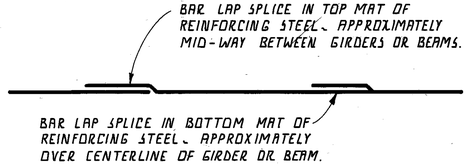


STAGGER DIAGRAM

BARS TOP OVER PIER 1B

SLAB PLAN

UNIT NO. 1 - EASTBOUND



SPLICE DETAIL

SHOWING LOCATION OF LAP SPLICES IN TRANSVERSE REINFORCING STEEL.

D-12 REVISED 9-96

58/89

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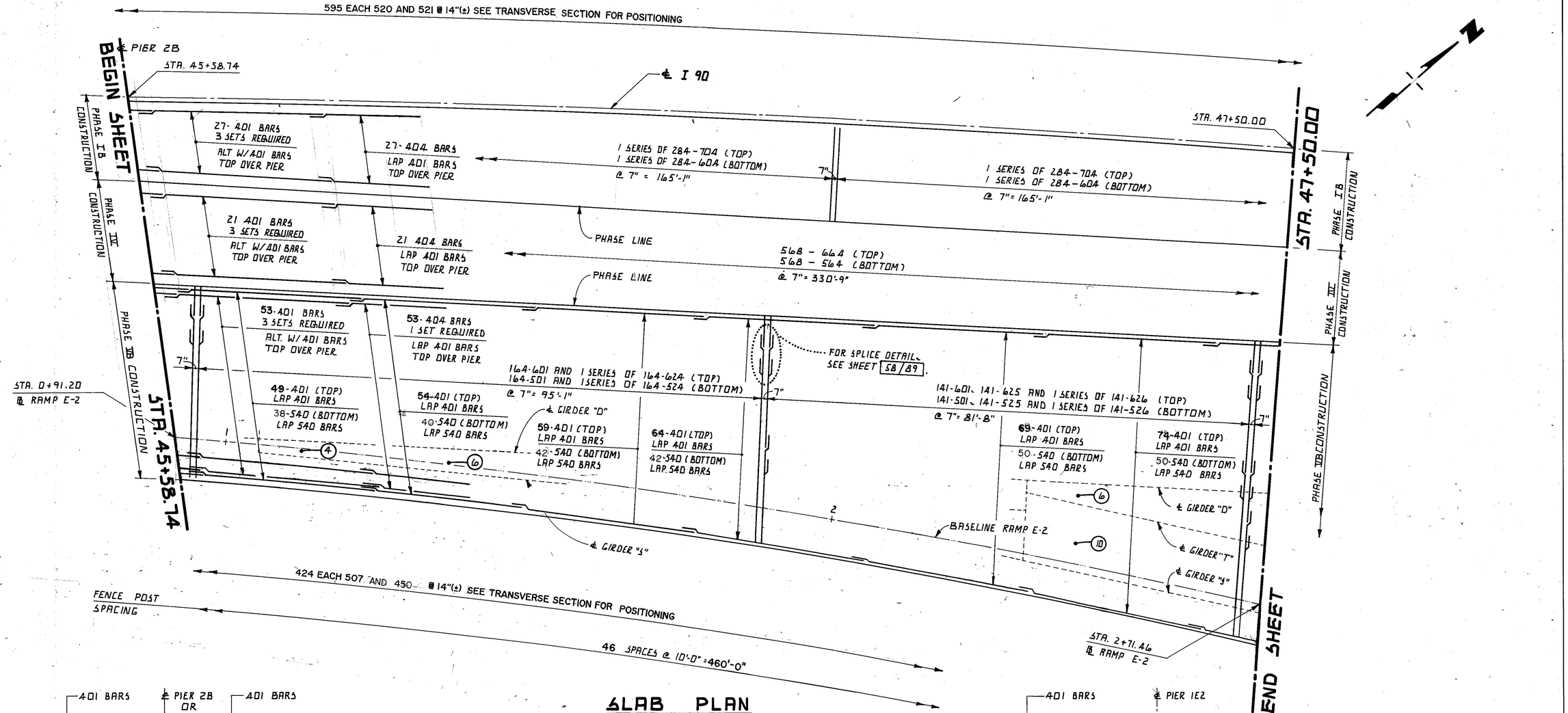
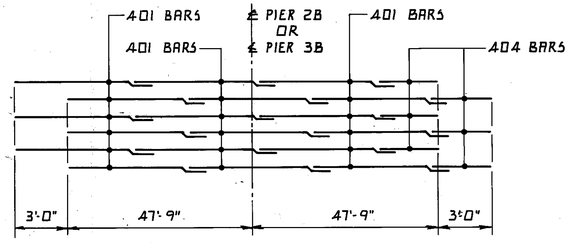
SLAB PLAN - UNIT 1 - EASTBOUND
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.18
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	2/94	

BRUNING 44-232-67195-01

A-C-L form no. B-1





STAGGER DIAGRAM

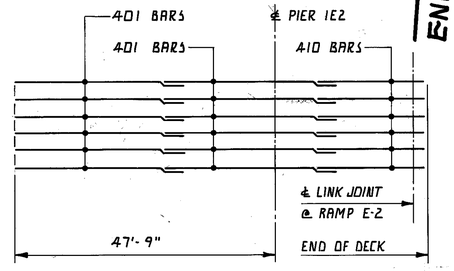
BARS TOP OVER PIER NO.2B AND PIER NO.3B ALONG THE MAINLINE PORTION OF THE DECK. FOR LOCATION OF PIER NO. 3B, SEE SHEET 60/89.

SLAB PLAN
UNIT NO. 1 - EASTBOUND

NOTES:

CIRCLED NUMBERS THUS (X), DENOTES THE NUMBER OF 540 BARS IN THAT PARTICULAR BAY AT THAT LOCATION. WHERE NO NUMBER IS SHOWN, THE NUMBER OF 540 BARS SHALL BE AS SHOWN ON THE TRANSVERSE SECTION, SEE SHEET 57/89.

FOR ADDITIONAL NOTES, SEE SHEET 58/89.



STAGGER DIAGRAM

BARS TOP OVER PIER NO. 1E2. FOR LOCATION OF PIER NO. 1E2, SEE SHEET 58/89.

D-12 REVISED 9-96 — 59/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB PLAN-UNIT 1-EASTBOUND
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	2/94	

DRUNING 44-232-671505-91

A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

121/151

595 EACH - 520 AND 521 @ (14"±) SEE TRANSVERSE SECTION FOR POSITIONING

BEGIN SHEET

STA. 47+50.00

℄ PIER 3B

STA. 47+97.80

℄ I 90

PHASE IB CONSTRUCTION

PHASE III CONSTRUCTION

PHASE IIB CONSTRUCTION

27 - 401 BARS
3 SETS REQUIRED
ALT. W/ 401 BARS
TOP OVER PIER

1 SERIES OF 284 - 704 (TOP)
1 SERIES OF 284 - 604 (BOTTOM)
@ 7" = 165'- 1"

27 - 404 BARS
LAP 401 BARS
TOP OVER PIER

4 703 (TOP)
4 603 (BOTTOM)
@ 7" = 1'-9"

1 SERIES OF 149 - 705 (TOP)
1 SERIES OF 149 - 605 (BOTTOM)
@ 7" = 86'-4"

PHASE LINE

1 SERIES OF 149 - 705 (TOP)
1 SERIES OF 149 - 605 (BOTTOM)
@ 7" = 86'-4"

28 - 401 BARS
2 SETS REQUIRED
ALT. W/ 401 BARS
TOP OVER PIER

21 - 401 BARS
3 SETS REQUIRED
ALT. W/ 401 BARS
TOP OVER PIER

568 - 664 BARS (TOP)
568 - 564 BARS (BOTTOM)
@ 7" = 330'-9"

21 - 404 BARS
LAP 401 BARS
TOP OVER PIER

EXTEND REINF. BARS BEYOND RADIAL LINE

LINE RADIAL TO CORNER OF SLAB

2'-6" (NO. 4 BARS)
3'-0" (NO. 5 BARS)

1 SERIES OF 7 - 665 (TOP)
1 SERIES OF 7 - 565 (BOTTOM)
@ 7" = 3'-6"

297 - 666 (TOP)
297 - 566 (BOTTOM)
@ 7" = 178'-6"

PHASE LINE

45 401 BARS, 1 SET REQUIRED
LAP 401 BARS TOP OVER PIER

141 - 601, 141 - 625, 1 SERIES OF 141 - 627 AND 141 - 628 (TOP)
141 - 501, 141 - 525, 1 SERIES OF 141 - 527 AND 141 - 528 (BOTTOM)
@ 7" = 81'-8"

43 - 401 (TOP)
7 SETS REQUIRED
38 - 540 (BOTTOM)
LAP 540 BARS

36 - 540 (BOTTOM)
LAP 540 BARS

33 - 540 (BOTTOM)
LAP 540 BARS

127 - 601 AND 1 SERIES OF 127 - 629 (TOP)
127 - 501 AND 1 SERIES OF 127 - 529 (BOTTOM)
@ 7" = 73'-6"

FOR SPLICE DETAIL SEE SHEET 58/89

46 - 412 (TOP)
LAP 401 BARS
33 - 543 (BOTTOM)
LAP 540 BARS

3 - 601 AND 3 - 646 (TOP)
3 - 501 AND 3 - 546 (BOTTOM)
@ 7" = 1'-2"

45 - 404 BARS
1 SET REQUIRED
LAP 401 BARS
TOP OVER PIER

34 - 540 (BOTTOM)
LAP 540 BARS

℄ GIRDER "D"

79 - 401 (TOP)
LAP 401 BARS
54 - 540 (BOTTOM)
LAP 540 BARS

1 - 647 (TOP)
1 - 547 (BOTTOM)

88 - 401 BARS
2 SET REQUIRED
ALT. W/ 401 BARS
TOP OVER PIER

℄ GIRDER "U"

℄ GIRDER "T"

℄ GIRDER "S"

84 - 401 (TOP)
LAP 401 BARS
58 - 540 (BOTTOM)
LAP 540 BARS

89 - 401 (TOP)
LAP 401 BARS
70 - 540 (BOTTOM)
LAP 540 BARS

1 SERIES OF 47 - 407 (TOP)
LAP 401 BARS
1 SERIES OF 41 - 544 (BOTTOM)
LAP 540 BARS

47 - 410 BARS
1 SET REQUIRED
LAP 401 BARS
TOP OVER PIER

1 - 645 (TOP)
1 - 545 (BOTTOM)

P.I. EDGE OF SLAB STA. 49+07.15, 56.17' RIGHT ℄ FREEWAY

183 EACH - 507, AND 450 AT (14"±) SEE TRANSVERSE SECTION FOR POSITIONING

21 SPACES @ 9'-9 7/8" (-) = 206'-3"

1 SERIES OF 14 - 632 (TOP)
1 SERIES OF 14 - 532 (BOTTOM)
@ 7" (-) = 7'-6 3/8"

STA. 3+61.04
℄ RAMP E-2

STA. 3+39.16
℄ RAMP E-2

STA. 2+71.46
℄ RAMP E-2

424 EACH - 507, AND 450 AT (14"±) SEE TRANSVERSE SECTION FOR POSITIONING

46 SPACES @ 10'-0" = 460'-0"

1'-0" FENCE POST SPACING

℄ PIER 1E2

℄ LINK JOINT

BASELINE RAMP E-2

1 - 430 (TOP)
1 - 540 (BOTTOM)

FOR SLAB DETAILS AND REINFORCING NOT SHOWN SEE SHEET 73/89.

SLAB PLAN
UNIT NO. 1 - EASTBOUND

UNIT NO. 1
BUILT-UP GIRDERS
℄ PIER 4B
℄ ROLLERS

UNIT NO. 2
ROLLED BEAMS

STA. 50+29.48

STA. 50+13.48

1 SER. OF 5-706 (TOP)
1 SER. OF 5-606 (BOTTOM)
@ 7" = 2'-4"

1 - 768 (TOP)
1 - 668 (BOTTOM)

1 SER. OF 28-402 (TOP)
LAP 401 BARS
1 SER OF 24-541 (BOTT.)
LAP 540 BARS

27 - 405 BARS
LAP 401 BARS
TOP OVER PIER

1 SER. OF 22-416 (TOP)
LAP 401 BARS
1 SER. OF 16-561 (BOTTOM)
LAP 540 BARS

21 401 BARS
2 SETS REQUIRED
ALT. W/ 401 BARS
TOP OVER PIER

1 SER. OF 8-667 (TOP)
1 SER. OF 8-567 (BOTTOM)
@ 7" = 4'-1"

21 - 405 BARS
LAP 401 BARS
TOP OVER PIER

33 - 540 (BOTTOM)
3 SETS REQUIRED

1 - 669 (TOP)
1 - 569 (BOTT.)

223 - 601 AND 223 - 630 (TOP)
223 - 501 AND 223 - 530 (BOTTOM)
@ 7" = 129'-6"

1 SER. OF 15 - 631 (TOP)
1 SER. OF 15 - 531 (BOTT.)
@ 7" (+) = 8'-2 5/8"

42 - 401 BARS
2 SETS REQUIRED
ALT. W/ 401 BARS
TOP OVER PIERS

1 - 633 (TOP)
1 - 533 (BOTTOM)

℄ PIER 4B

℄ ROLLERS

1'-0" FENCE POST SPACING

42 - 405 BARS
1 SET REQUIRED
LAP 401 BARS
TOP OVER PIERS

1 SERIES OF 43 - 411 (TOP)
LAP 401 BARS
1 SERIES OF 34 - 542 (BOTTOM)
LAP 540 BARS

401 BARS | 401 BARS | ℄ PIER 4B | 405 BARS | ℄ ROLLERS

43'-5" | 15'-0" | 1'-0"

STAGGER DIAGRAM

BARS TOP OVER PIER NO. 4B

NOTE:

FOR NOTES, SEE SHEET 58/89.

D-12 REVISED 9-96

60/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB PLAN - UNIT 1 - EASTBOUND
INNERBELT FREEWAY

BR. NO. { CUY - 90 - 1524 CUY - 90 - 1540
CUY - 90 - 1547 CUY - 90 - 1599

STA. 3+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.L.	2/94	

BRUNING 44-232-67195-01

A-C-L form no. B-1

NOTES:

FOR BARRIER PANEL REINFORCING BAR LOCATIONS SEE TRANSVERSE SECTION, SHEET 57/89.

FOR LOCATIONS OF PERMISSIBLE CONSTRUCTION JOINTS (POINTS OF DECK COUNTERFLEXURE), SEE SHEET 55/89.

FOR SLAB POURING SEQUENCE, SEE SHEET 55/89.

NOTES CONT.

THE PREFIX "S1WB" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN UNIT NO.1 WESTBOUND SUPERSTRUCTURE.

ALL TRANSVERSE BAR SPACING IN THE DECK IS MEASURED ALONG ℄ I 90.

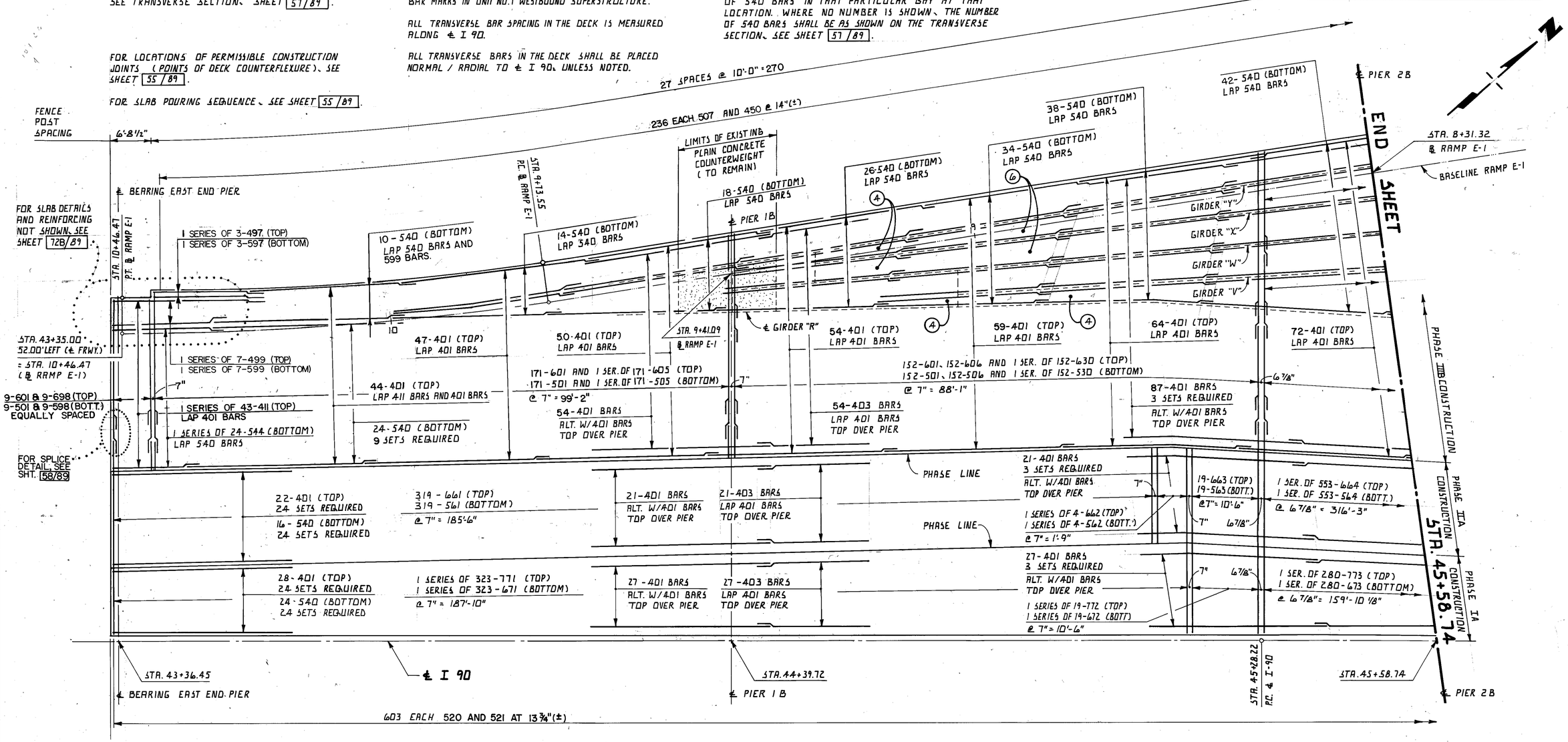
ALL TRANSVERSE BARS IN THE DECK SHALL BE PLACED NORMAL / RADIAL TO ℄ I 90, UNLESS NOTED.

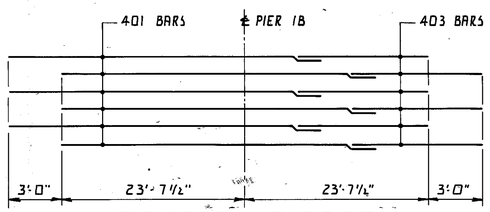
NOTES CONT.

CIRCLED NUMBERS THUS (X), DENOTE THE NUMBER OF 540 BARS IN THAT PARTICULAR BAY AT THAT LOCATION. WHERE NO NUMBER IS SHOWN, THE NUMBER OF 540 BARS SHALL BE AS SHOWN ON THE TRANSVERSE SECTION, SEE SHEET 57/89.

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

122/151





STAGGER DIAGRAM

BARS TOP OVER PIER 1B

SLAB PLAN

UNIT NO. 1 - WESTBOUND

** FIELD BEND AS REQUIRED, INCLUDE WITH ITEM 509 "EPOXY COATED REINFORCING STEEL, GRADE 60" FOR PAYMENT.

REINFORCING BAR LAP SPLICES:

NO. 4 BAR = 19" MINIMUM
NO. 5 BAR = 23" MINIMUM
NO. 6 BAR = 28" MINIMUM

D-12 REVISED 9-96

61/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB PLAN-UNIT 1-WESTBOUND
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	2/94	

BRUNING 44-232 67195-01

A-C-L form no. B-1

CALC. | DATE | CHKD. | DATE

CUYAHOGA COUNTY
CUY-90-15.24
INNERBELT FREEWAY

OHIO
F.H.W.A.-5
REGION

123
151

N

PIER 2B

27 SPACES AT 10'-0" = 270'-0"

9'-3"

9"

15 SPACES @ 10'-0" = 150'-0"

236 EACH 507 AND 450 AT 14" (±)

FENCE POST SPACING

9'-1/4"

134 EACH 507 AND 450 AT 13½"(±)

15 SPACES @ 9'-5 1/4"(-) = 141'-6¾"

6¾"(±)

20 EACH 507 AT 13½"(±)

134 EACH 507 @ 13 1/2" (±)

134 EACH 450 @ 13 1/2" (±)

* ALONG OTHER SIDE OF SLAB

1'-0" FENCE POST SPACING

4"(MIN)

* ALONG OTHER SIDE OF SLAB

4"(MIN)

ROLLERS

PIER 2E1

STA. 8+14.17
P.T. ℄ RAMP E-1

7-646 (TOP) EQUALLY SPACED
7-546 (BOTTOM) EQUALLY SPACED

15'-0"

BASELINE RAMP E-1

STA. 5+95.47
(℄ RAMP E-1)

STA. 6+10.47
(℄ RAMP E-1)

50-401 (TOP)
4 SETS REQUIRED
46-540 (BOTTOM)
4 SETS REQUIRED

243-637 (TOP) AND 243-537 (BOTTOM) @ 6 3/4" (±) = 136'-8 1/4"
(MEASURED ALONG AND PLACED RADIAL TO SOUTH EDGE OF DECK)
FAN BARS @ ENDS AS REQUIRED

1 SERIES OF 157-632 (TOP)
LAP 631 SERIES
1 SERIES OF 157-532 (BOTTOM)
LAP 531 SERIES

50-486 (TOP)
1 SET REQ.
46-586 (BOT)
1 SET REQ.

6¾"(±)

50-486 (TOP)
1 SET REQUIRED
46-586 (BOTTOM)
1 SET REQUIRED

1 SERIES OF 50-407 (TOP)
LAP 401 BARS
1 SERIES OF 46-542 (BOTTOM)
LAP 540 BARS

2"

1-638 (TOP)
1-538 (BOTT.)

56-447 (TOP) & 56-547 (BOTT.)
@ 4" = 27'-6", MEASURED
NORMAL TO TOE OF PARAPETS

8-638 (TOP)
8-538 (BOTTOM)
EQUALLY SPACED

87-401 BARS
3 SETS REQUIRED
ALT. W/401 BARS
TOP OVER PIER

50-540 (BOTTOM)
2 SETS REQUIRED

1 SERIES OF 157-631 (TOP)
LAP 606 BARS
1 SERIES OF 157-531 (BOTTOM)
LAP 506 BARS

STA. 8+31.32
(℄ RAMP E-1)

CONSTRUCTION

PHASE IIB CONSTRUCTION

7-646 (TOP) EQUALLY SPACED
7-546 (BOTTOM) EQUALLY SPACED

FOR SLAB INTERSECT DETAIL
SEE SHEET 73/89.

* FOR FENCE POST SPACING FOR AND VERTICLE REBAR SPACING FOR FENCE PADS AND BARRIERS, SEE OUTSIDE EDGE OF SLAB PLAN ON THIS SHEET.

87-404 BARS, 1 SET REQUIRED
LAP 401 BARS TOP OVER PIER

80-401 (TOP)
LAP 401 BARS

88-401 (TOP)
LAP 401 BARS

157-601 AND 157-606 (TOP)
157-501 AND 157-506 (BOTTOM)
@ 6 7/8" (-) = 89'-11⅜"

6¾"(±)

PHASE IIIB CONSTRUCTION

PHASE IIIC CONSTRUCTION

45-486 (TOP)
1 SET REQUIRED
39-586 (BOTTOM)
1 SET REQUIRED

686-601 AND 686-633 (TOP)
686-501 AND 686-533 (BOTTOM)
@ 6 7/8" (-) = 393'-1/8"

24-540 (BOTTOM)
9 SETS REQUIRED

42-401 (TOP)
13 SETS REQUIRED
36-540 (BOTTOM)
13 SETS REQUIRED

FOR SPLICE DETAIL
SEE SHEET 58/89.

PHASE LINE

41-401 BARS
3 SETS REQUIRED
ALT. W/401 BARS
TOP OVER PIER

21-401 BARS, 3 SET REQUIRED
ALT. W/401 BARS TOP OVER PIER

21-404 BARS
LAP 401 BARS TOP OVER PIER

27-401 BARS, 3 SETS REQUIRED
ALT. W/401 BARS TOP OVER PIER

27-404 BARS
LAP 401 BARS TOP OVER PIER

22-401 (TOP) 24 SETS REQUIRED
16-540 (BOTTOM) 24 SETS REQUIRED

28-401 (TOP) 24 SETS REQUIRED
24-540 (BOTTOM) 24 SETS REQUIRED

1 SERIES OF 553-664 (TOP)
1 SERIES OF 553-564 (BOTTOM)
@ 6 7/8" = 316'-3"

PHASE LINE

1 SERIES OF 280-773 (TOP)
1 SERIES OF 280-673 (BOTTOM)
@ 6 7/8" = 159'-10 1/8"

1 SERIES OF 280-773 (TOP)
1 SERIES OF 280-673 (BOTTOM)
@ 6 7/8" = 159'-10 1/8"

6 7/8"

21-401 BARS
3 SETS REQUIRED
ALT. W/401 BARS
TOP OVER PIER

27-401 BARS
3 SETS REQUIRED
ALT. W/401 BARS
TOP OVER PIER

BEGIN SHEET

PHASE IIB CONSTRUCTION

PHASE IIA CONSTRUCTION

PHASE IA CONSTRUCTION

STA. 45+58.74

STA. 45+58.74

℄ I 90

℄ PIER 2B

* ALONG OTHER SIDE OF SLAB

6¾"(±)

20-507 AT 13½"(±)

344 EACH 450 AT 13¾"(±)

344 EACH 507 AT 13¾"(±)

FENCE POST SPACING

7"

603 EACH 520 AND 521 AT 13¾"(±)

40 SPACES @ 9'-11 5/8"(-) = 398'-7½"

* ALONG OTHER SIDE OF SLAB

STA. 6+14.17
P.T. ℄ RAMP E-1

ROLLERS

PIER 2E1

CROSS DRAIN
(DECK DRAINAGE COLLECTOR)

PIER 3B

END SHEET

PHASE IIB CONSTRUCTION

PHASE IIIC CONSTRUCTION

PHASE IIA CONSTRUCTION

PHASE IA CONSTRUCTION

STA. 47+97.80

STA. 47+97.80

℄ PIER 3B

NOTES:

FOR NOTES, SEE SHEET 61/89.

FOR STAGGER DIAGRAM OF BARS℄ TOP OVER PIERS NO.2B AND NO.3B, SEE SHEET 63/89.

MECHANICAL CONNECTORS SHALL BE USED TO CONNECT THE 486 AND 586 BARS IN PHASE IIIC TO THE 486 AND 586 BARS IN PHASE IIIB.

SLAB PLAN

UNIT NO. 1 - WESTBOUND

D-12 REVISED 9-96

62/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB PLAN-UNIT1-WESTBOUND
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

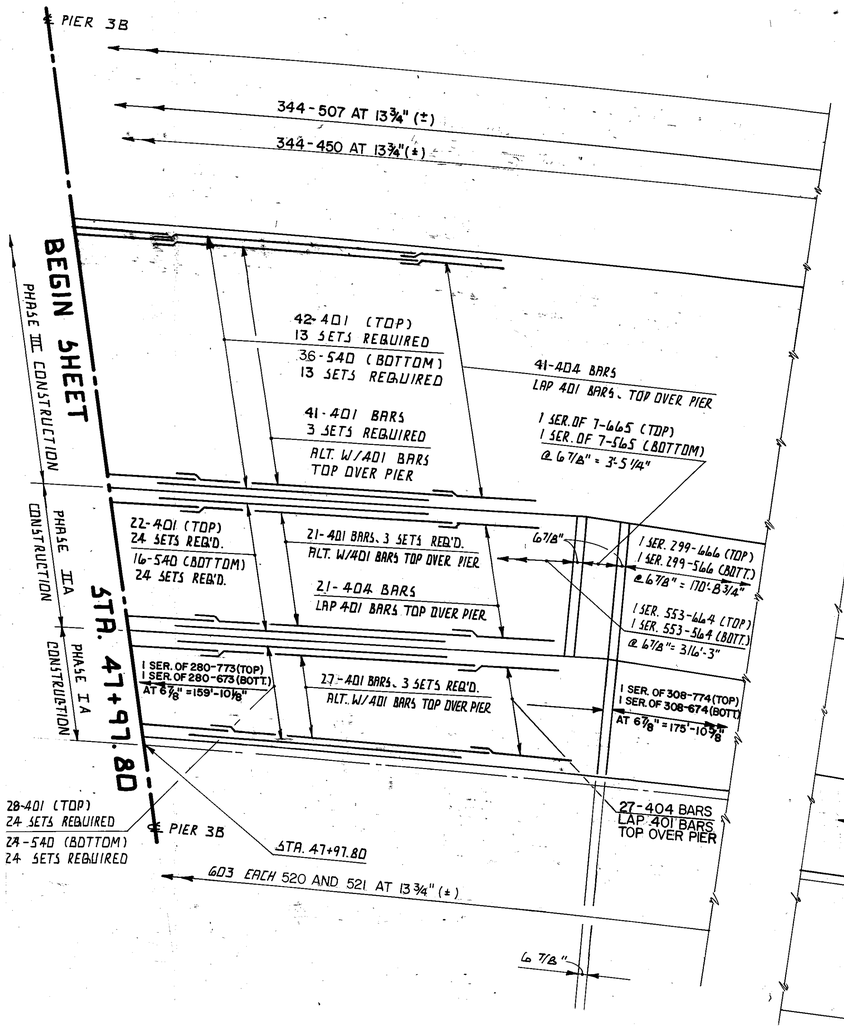
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	2/94	

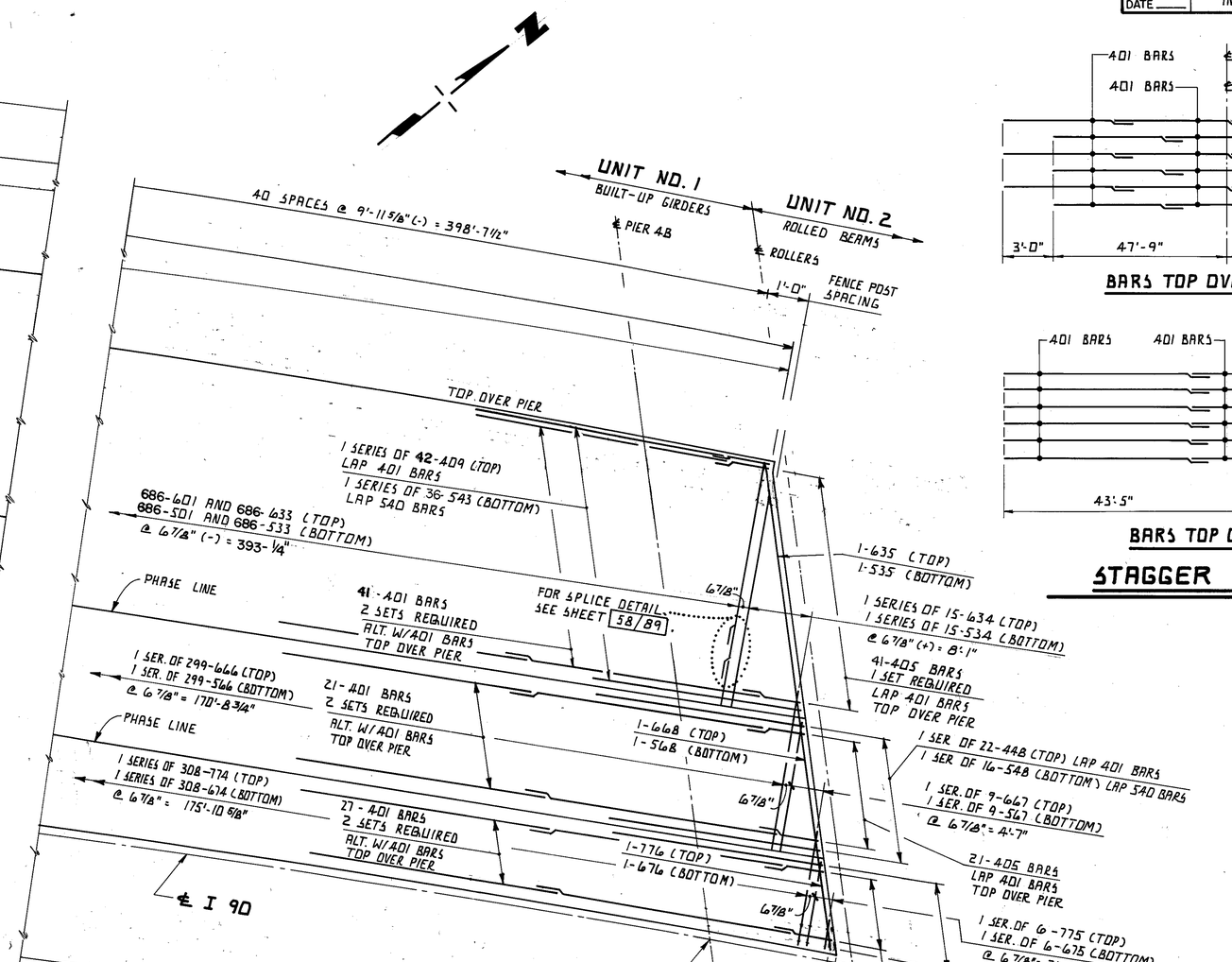
BRUNING 44232 67195-01

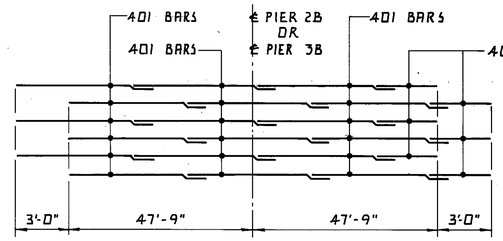
A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

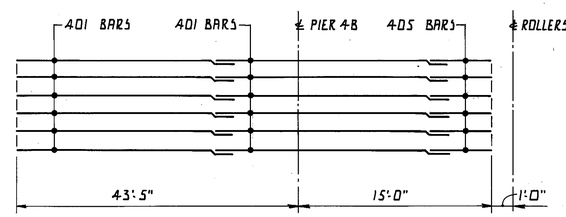
124
151







BARS TOP OVER PIERS 2B & 3B



BARS TOP OVER PIER 4B

STAGGER DIAGRAM

SLAB PLAN
UNIT NO. 1 - WESTBOUND

NOTE:

FOR NOTES, SEE SHEET 61/89.

D-12 REVISED 9-96

63/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB PLAN UNIT 1 WESTBOUND
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

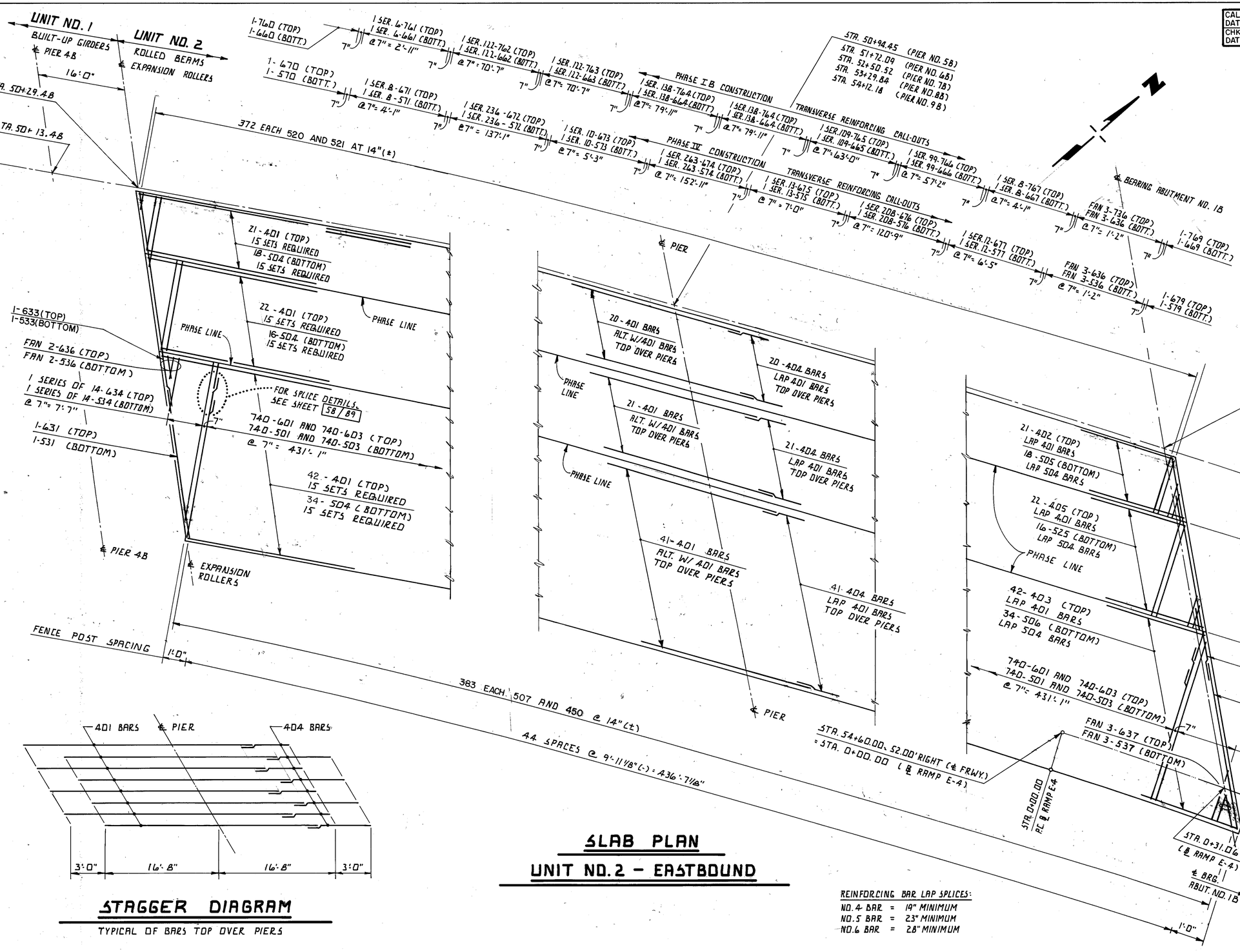
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	2/94	

BRUNING 44-232.67195-01

A-C-L form no. B-1

CALC.		CUYAHOGA COUNTY	OHIO
DATE		CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE			

125 / 151



STAGGER DIAGRAM

TYPICAL OF BARS TOP OVER PIERS

SLAB PLAN

UNIT NO. 2 - EASTBOUND

REINFORCING BAR LAP SPLICES:

NO. 4 BAR = 19" MINIMUM
NO. 5 BAR = 23" MINIMUM
NO. 6 BAR = 28" MINIMUM

NOTES:

FOR BARRIER PANEL REINFORCING BAR LOCATIONS, SEE TRANSVERSE SECTION, SHEET 57/89.

THE PREFIX "SEB" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN UNIT NO.2 EASTBOUND SUPERSTRUCTURE.

ALL TRANSVERSE BAR SPACING IS MEASURED ALONG ℄ I 90.

ALL TRANSVERSE BARS SHALL BE PLACED RADIAL TO ℄ I 90.

FOR SLAB POURING SEQUENCE, SEE SHEET 55/89.

FOR LOCATIONS OF PERMISSIBLE CONSTRUCTION JOINTS (POINTS OF DECK COUNTERFLEXURE), SEE SHEET 55/89.

64/89

D-12 REVISED 9-96

adache · ciuni · lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB PLAN - UNIT 2 - EASTBOUND
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

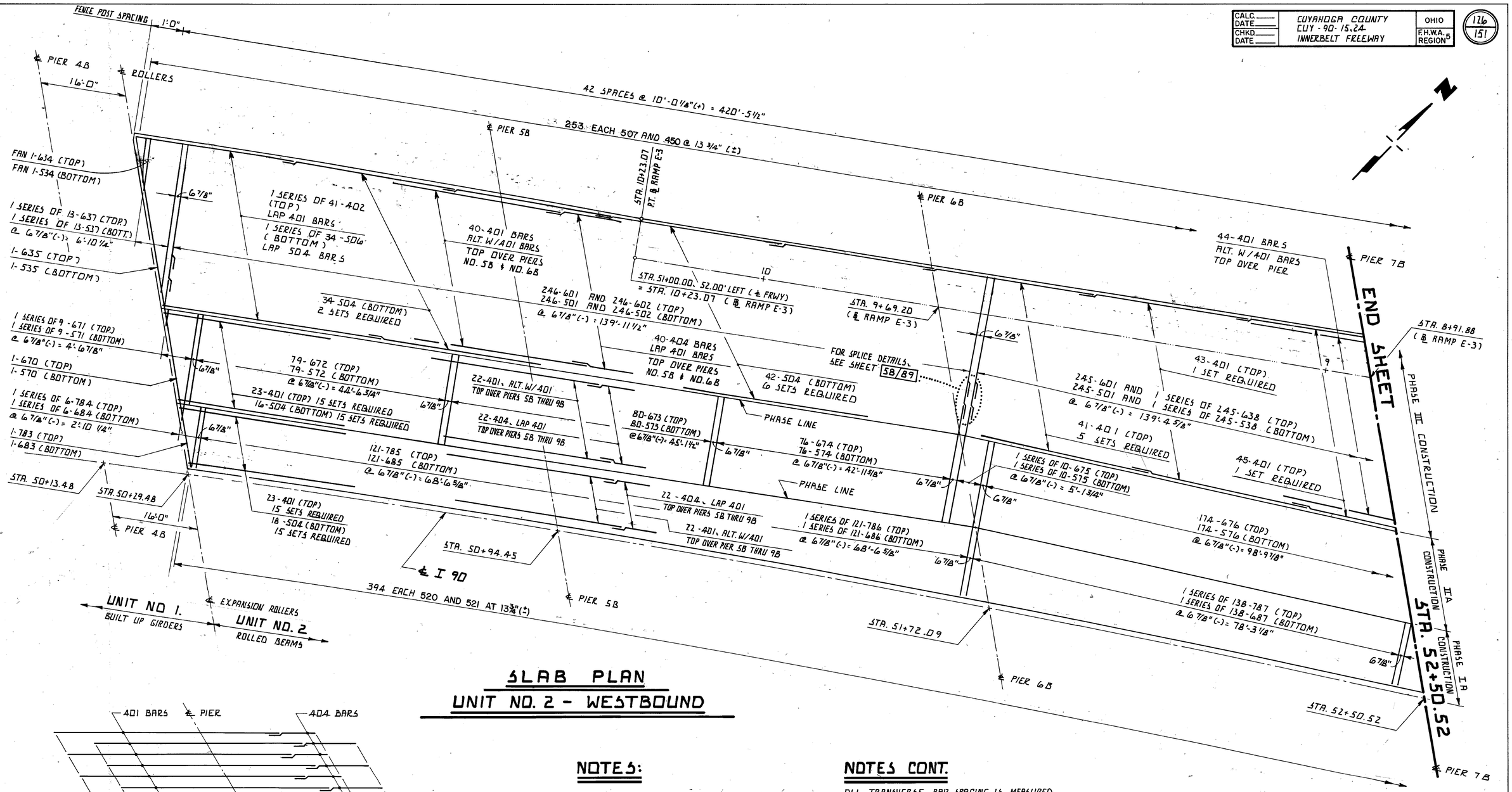
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	2/94	

BRUNING 44-232.67195-01

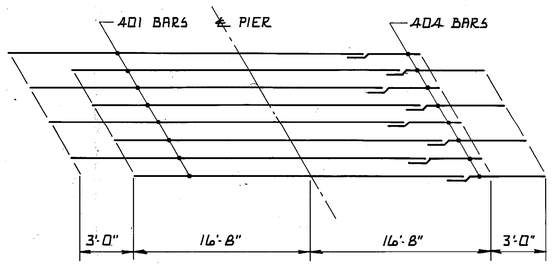
A-C-L form no. B-1

CALC.		CUYAHOGA COUNTY	OHIO
DATE		CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE			

126 / 151



SLAB PLAN
UNIT NO. 2 - WESTBOUND



STAGGER DIAGRAM

TYPICAL OF BARS TOP OVER PIERS

NOTES:

FOR SLAB POURING SEQUENCE, SEE SHEET 55/89.

FOR LOCATIONS OF PERMISSIBLE CONSTRUCTION JOINTS (POINTS OF DECK COUNTERFLEXURE), SEE SHEET 55/89.

NOTES CONT.

ALL TRANSVERSE BAR SPACING IS MEASURED ALONG ℄ I 90.

ALL TRANSVERSE BARS SHALL BE PLACED RADIAL TO ℄ I 90.

THE PREFIX "52WB" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN UNIT NO. 2, WESTBOUND SUPERSTRUCTURE.

REINFORCING BAR LAP SPLICES:

NO. 4 BAR = 19" MINIMUM
NO. 5 BAR = 23" MINIMUM
NO. 6 BAR = 28" MINIMUM

D-12 REVISED 9-96

45/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB PLAN - UNIT 2 - WESTBOUND
INNERBELT FREEWAY

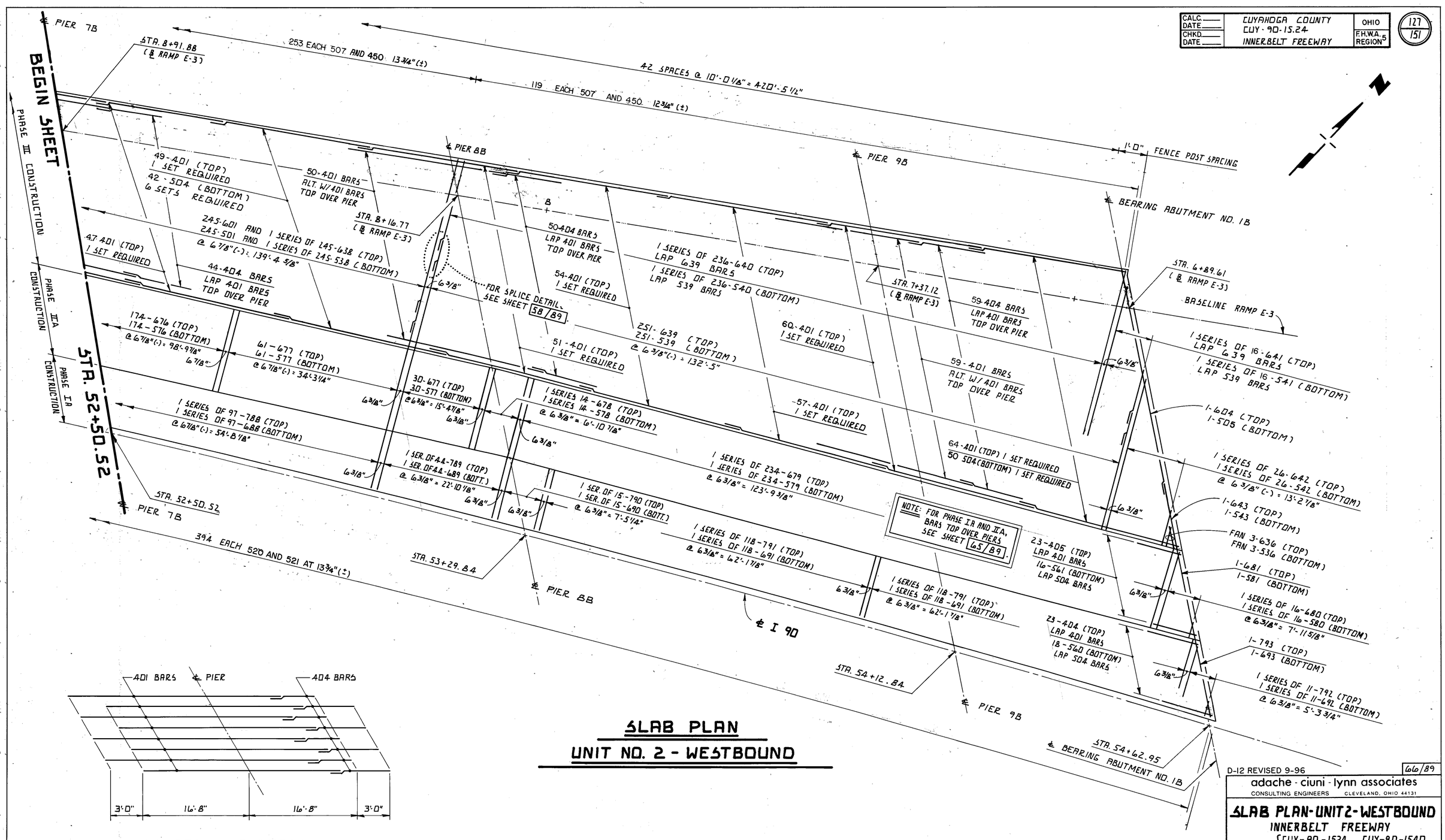
BR. NO. { CUY-90-1524, CUY-90-1540, CUY-90-1547, CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKD	J.R.C.	2/94	

BRUNING 44-232-67195-01

A-C-L form no. B-1



SLAB PLAN
UNIT NO. 2 - WESTBOUND

STAGGER DIAGRAM
TYPICAL OF BARS TOP OVER PIERS

NOTE:
FOR NOTES, SEE SHEET 65/89.

D-12 REVISED 9-96 — 66/89

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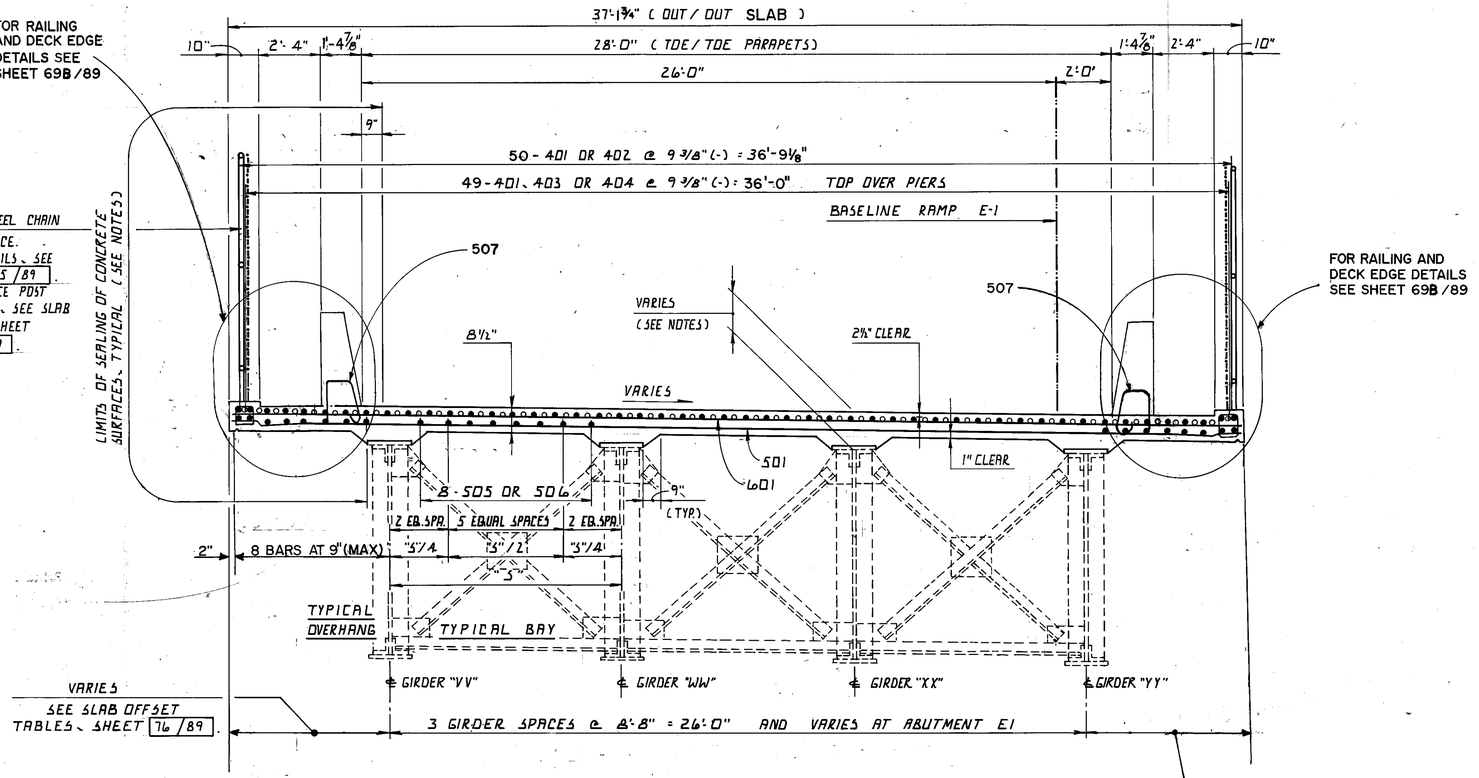
SLAB PLAN-UNIT 2-WESTBOUND
INNERBELT FREEWAY
BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.18
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKD	J.R.C.	2/94	

BRUNING 44-232.67195-01
A-C-L form no. B-1

CALC. ____ DATE ____ CHKD. ____ DATE ____	CUYAHOGA COUNTY CUY - 90 - 15.24 INNERBELT FREEWAY	OHIO F.H.W.A. REGION 5	128 / 151



TRANSVERSE SECTION

NOTES:

FOR SLAB PLAN, SEE SHEET 68/89.

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 6/89 THRU 9/89.

FOR ESTIMATED QUANTITIES, SEE SHEET 14/89.

THE PREFIX "E1" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN RAMP E1 SUPERSTRUCTURE.

ALL REINFORCING STEEL IN THE SUPERSTRUCTURE SHALL BE GRADE 60, EPOXY COATED.

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEETS 88/89 AND 89/89.

WELDED ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINES OR ANY OTHER PURPOSE IS PROHIBITED, EXCEPT AS SPECIFICALLY CALLED FOR ON THE PLANS.

DECK SLAB DEPTH: THE DISTANCE FROM THE TOP OF THE DECK SLAB TO THE BACK OF TOP FLANGE ANGLES (15" @ GIRDERS "WW" AND "XX" AND 16" @ GIRDERS "VV" AND "YY") 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.

FOR DECK SCREED ELEVATIONS, SEE SHEET 77/89.

FOR ADDITIONAL TRANSVERSE REINFORCING BARS IN SLAB OVERHANGS, SEE SLAB DETAILS, SHEET 71/89.

THE HAUNCH WIDTH IS 9" AND SHALL NOT BE VARIED REGARDLESS OF HAUNCH SLOPE. THE 9" WIDTH SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE.

FOR SLAB POURING SEQUENCE, SEE SHEET 55/89.

D-12 REVISED 9-96 — 47/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

TRANS. SECTION - RAMP E1
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

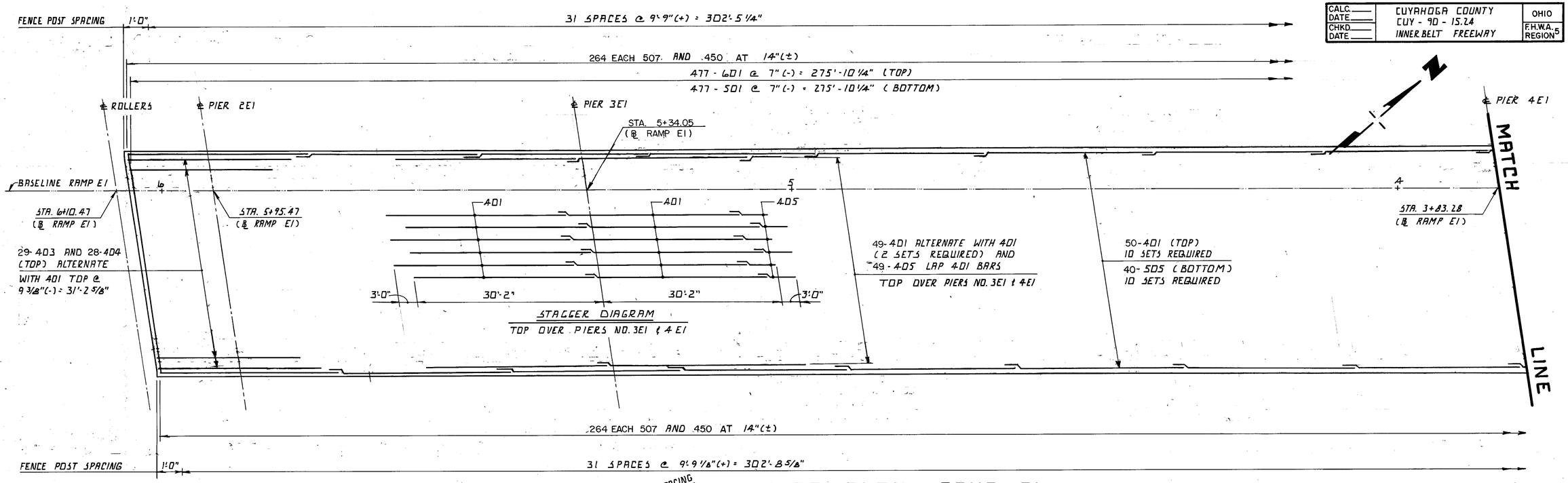
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT. 22, 1991	

BRUNING 44-232 67195-01

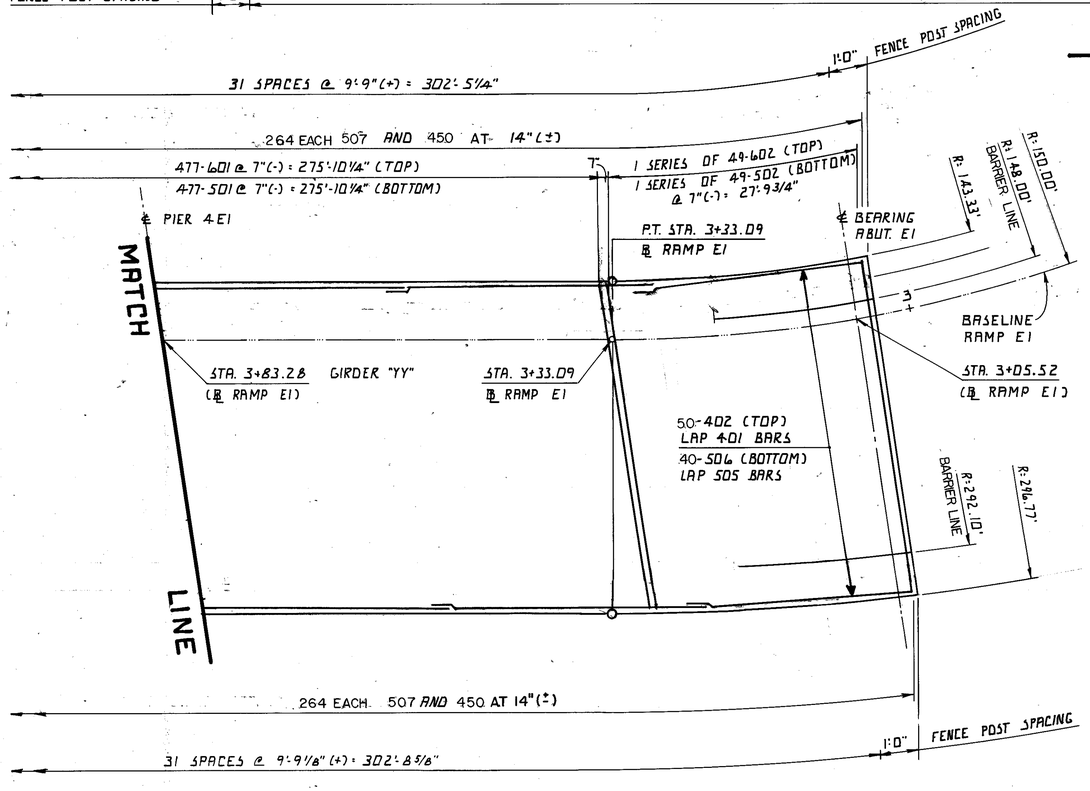
A-C-L form no. B-1

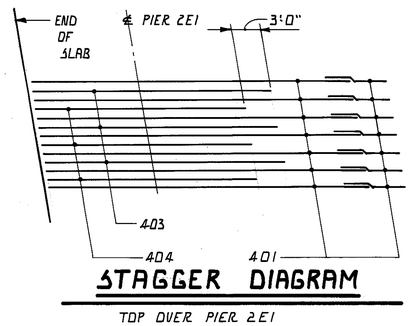
CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.	INNER BELT FREEWAY	
DATE		

129
151



SLAB PLAN - RAMP E1





STAGGER DIAGRAM

TOP OVER PIER 2E1

REINFORCING BAR LAP SPLICES:
NO. 4 BAR = 19" MINIMUM
NO. 5 BAR = 23" MINIMUM

NOTES:

THE PREFIX "5E1" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN RAMP E1 SUPERSTRUCTURE.

FOR SLAB POURING SEQUENCE, SEE SHEET 55/89.

FOR LOCATIONS OF PERMISSIBLE CONSTRUCTION JOINTS (POINTS OF DECK COUNTERFLEXURE), SEE SHEET 55/89.

D-12 REVISED 9-96

48/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB PLAN - RAMP E1
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.18
CUYAHOGA COUNTY OHIO

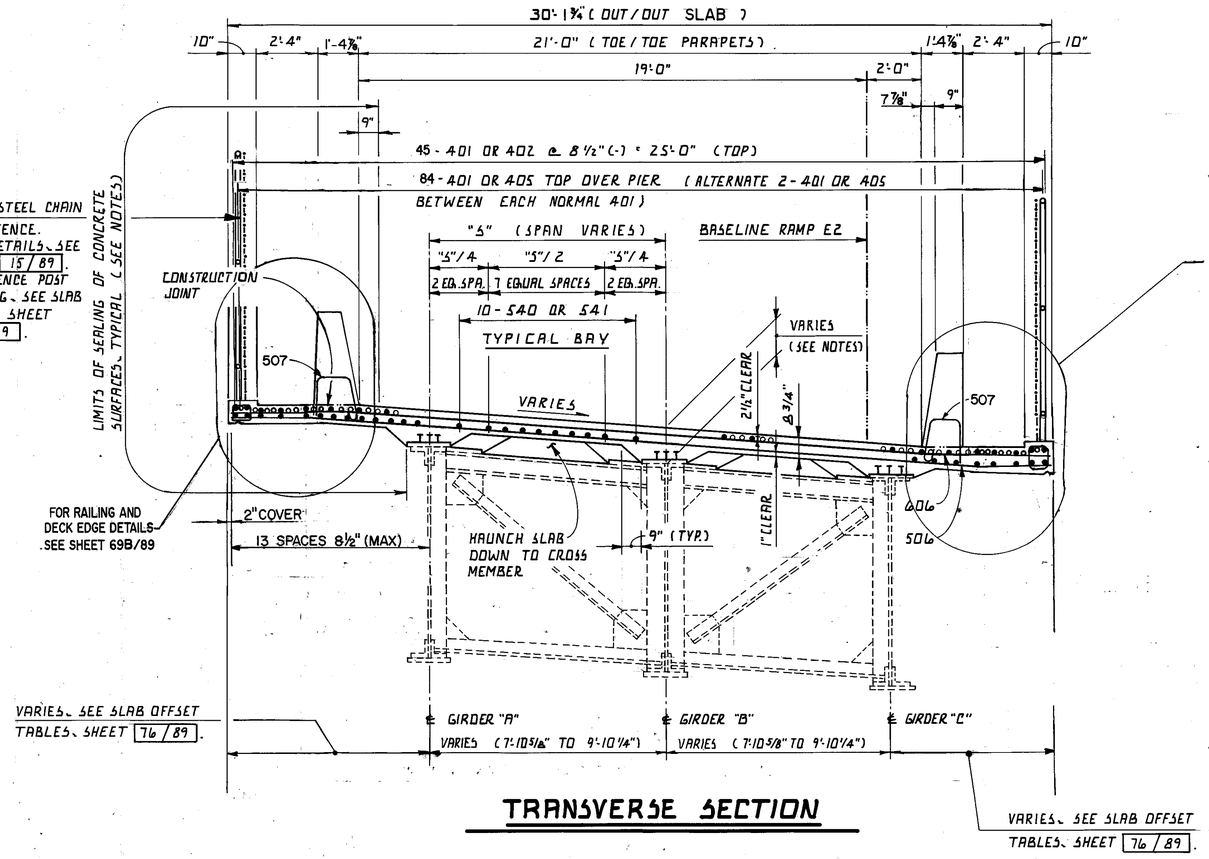
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT. 22, 1991	

SKINNING 44232.67195-01

A-C-L form no. B-1

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

130A
151



TRANSVERSE SECTION

NOTES:

FOR SLAB PLAN, SEE SHEET 70/89.

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 6/89 THRU 9/89.

FOR ESTIMATED QUANTITIES, SEE SHEET 14/89.

THE PREFIX "SE2" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN RAMP E2 SUPERSTRUCTURE.

ALL REINFORCING STEEL IN THE SUPERSTRUCTURE SHALL BE GRADE 60, EPOXY COATED.

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEET 89/89.

WELDED ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINES OR ANY OTHER PURPOSE IS PROHIBITED, EXCEPT AS SPECIFICALLY CALLED FOR ON THE PLANS.

DECK SLAB DEPTH: THE DISTANCE FROM THE TOP OF THE DECK SLAB TO THE BACK OF TOP FLANGE ANGLES (16" @ GIRDER "A", 15" @ GIRDER "B" AND 14" @ GIRDER "C") 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.

FOR DECK SCREED ELEVATIONS, SEE SHEETS 77/89 AND 78/89.

FOR ADDITIONAL TRANSVERSE REINFORCING BARS IN SLAB OVERHANGS, SEE SLAB DETAILS, SHEET 71/89.

THE HAUNCH WIDTH IS 9" AND SHALL NOT BE VARIED, REGARDLESS OF HAUNCH WIDTH. THE 9" WIDTH SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE.

FOR SLAB POURING SEQUENCE, SEE SHEET 55/89.

D-12 REVISED 9-96

49/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

TRANS. SECTION - RAMP E2
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

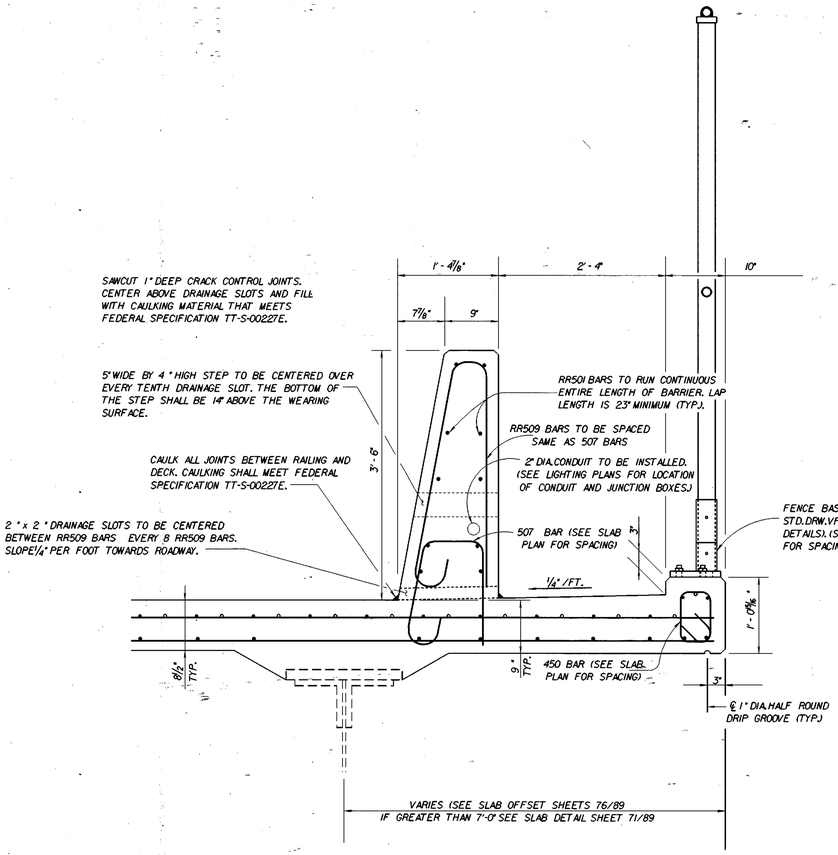
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT 21, 1991	

BRUNING 44-232 67195-01

A-C-L form no. B-1

CUYAHOGA COUNTY CUY-90-15.24 INNERBELT FREEWAY	OHIO FHWA REGION 5 FEDERAL PROJECT	130B 151

CONCRETE RAILING AND DECK EDGE DETAIL



NOTES:

ON THE EAST APPROACH (CUY-90-1599), RAILING SHALL BE PAID FOR UNDER ITEM 517, RAILING MISC.; (42"), AS PER PLAN" OR ITEM 517 RAILING MISC.; (50"), AS PER PLAN".

ALL MATERIALS, INCLUDING ALL REINFORCING STEEL WITH THE PREFIX "RR", AND LABOR SHALL BE PAID FOR UNDER THE ABOVE ITEMS AND SHALL BE PAID FOR PER LINEAR FOOT OF RAILING INSTALLED.

REINFORCING BARS 496, 507, 520, AND 521 SHALL BE PAID FOR UNDER ITEM 509 "EPOXY COATED REINFORCING STEEL, GRADE 60" AND SHALL BE PAID FOR PER POUND. SEE SLAB DETAILS FOR PLACEMENT. THESE BARS SHALL BE PLACED WHEN THE SLAB REINFORCING IS PLACED.

FOR 50" RAILING DETAILS SEE SHEET 57/89.

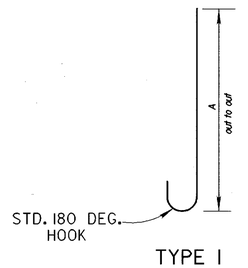
ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

SEE GENERAL NOTES FOR MORE INFORMATION.

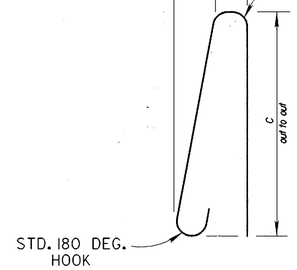
REINFORCING BAR BENDING DIAGRAM

MARK	LENGTH	TYPE	A	B	C	INCREMENT
RR402	10'-11"	15	7'-0"	0'-7"	3'-10 1/2"	
● RR501	30'-0"	STR.				
RR508	11'-11"	15	1'-11"	1'-8 3/4"	9'-10"	
RR509	7'-1"	34	7"	5 3/8"	3'-1 5/8"	TO MATCH 507 BARS SEE SLAB PLANS
RR512	5'-7 3/8"	34	3"	5 1/2"	2'-5"	TO MATCH 520 BARS SEE SLAB PLANS
RR522	3'-5"	1	2'-10"			TO MATCH 520 BARS SEE SLAB PLANS
RR530	7'-2"	STR.				
RR531	8'-8"	STR.				

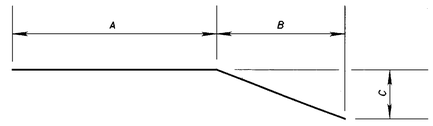
● ALL LONGITUDINAL REINFORCING STEEL SHALL BE CONTINUOUS. NO. 5 BARS SHALL HAVE A MINIMUM LAB LENGTH OF 23"



TYPE 1



TYPE 34



TYPE 15

SHEET 69B / 89

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

Railing and Deck Edge Detail

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78

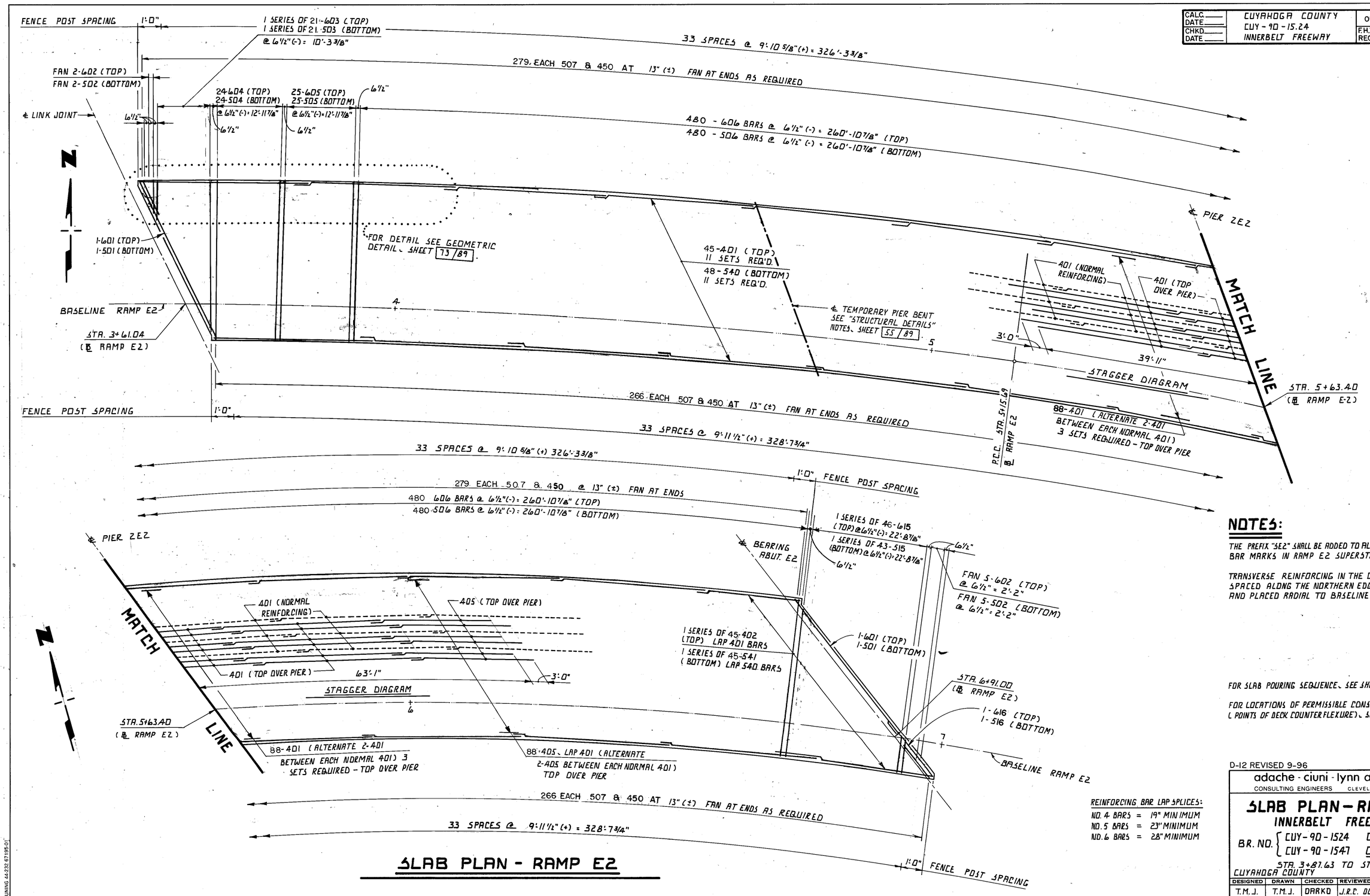
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM	GLC	DWL DATE 9/96	SHEET

C:\DGN\J\C90I524\TONY.DGN

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

131
151



SLAB PLAN - RAMP E2

NOTES:

THE PREFIX "E2" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN RAMP E2 SUPERSTRUCTURE.

TRANSVERSE REINFORCING IN THE DECK IS SPACED ALONG THE NORTHERN EDGE OF DECK AND PLACED RADIAL TO BASELINE RAMP E2.

FOR SLAB POURING SEQUENCE, SEE SHEET 55/89.

FOR LOCATIONS OF PERMISSIBLE CONSTRUCTION JOINTS (POINTS OF DECK COUNTERFLEXURE), SEE SHEET 55/89.

REINFORCING BAR LAP SPLICES:

NO. 4 BARS = 19" MINIMUM
NO. 5 BARS = 23" MINIMUM
NO. 6 BARS = 28" MINIMUM

D-12 REVISED 9-96

70/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB PLAN - RAMP E2
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

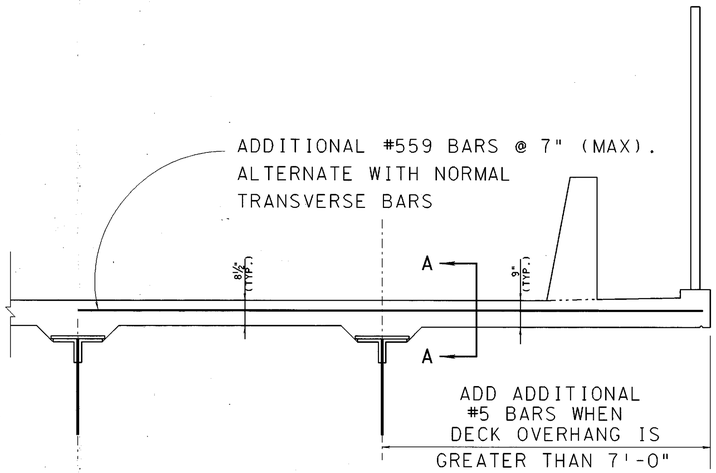
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT. 21, 1991	

BRUNING 44-232-67195-01

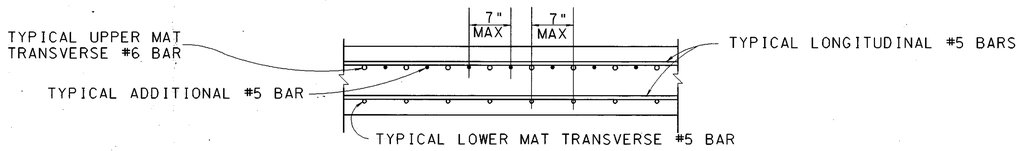
A-C-L form no. B-1

ADDITIONAL TRANSVERSE SLAB REINFORCEMENT IS REQUIRED AT ALL DECK EDGE OVERHANGS GREATER THAN 7'-0", UNLESS PERMANENTLY SUPPORTED. THE TABLE TO THE RIGHT LISTS THE LOCATIONS WHERE ADDITIONAL REINFORCING IS REQUIRED. THE ADDITIONAL REINFORCEMENT SHALL BE #5 BARS SPACED AT 7"(MAX) SPACING, ALTERNATING WITH THE STANDARD #6 TRANSVERSE BARS IN THE TOP MAT OF STEEL.

NOTE: NO ADDITIONAL BARS REQUIRED AT MEDIAN



TYPICAL FASCIA CROSS SECTION
WITH ADDITIONAL REINFORCEMENT
(ONLY ADDITIONAL REINFORCEMENT IS SHOWN IN THIS VIEW)



SECTION A-A
(SCALE 2X TYPICAL FASCIA CROSS SECTION)

ADDITIONAL TRANSVERSE SLAB REINFORCING			
LOCATION STATION TO STATION	SIDE	CONSTR. PHASE	NUMBER OF ADDITIONAL #559 BARS
UNIT NO. 1 EASTBOUND			
48+38 TO 49+00	FASCIA	V	106
UNIT NO. 1 WESTBOUND			
44+75 TO 48+00	FASCIA	III	557
UNIT NO. 2 EASTBOUND			
50+00 TO 50+50	FASCIA	V	86
53+25 TO 53+50	FASCIA	V	43
UNIT NO. 2 WESTBOUND			
NONE			
RAMP E-1			
6+75 TO 7+25	RIGHT	III	86
RAMP E-2			
1+75 TO 2+00	RIGHT	V	43
5+00 TO 5+25	RIGHT	V	43
5+75 TO 6+25	RIGHT	V	86
6+75 TO 6+91	RIGHT	V	28
4+00 TO 4+50	LEFT	V	86
5+25 TO 5+75	LEFT	V	86
RAMP E-4			
0+25 TO 0+31.05	RIGHT	III	6

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

SLAB DETAILS
INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM	GLC	DWL	
			DATE 9-96	SHEET

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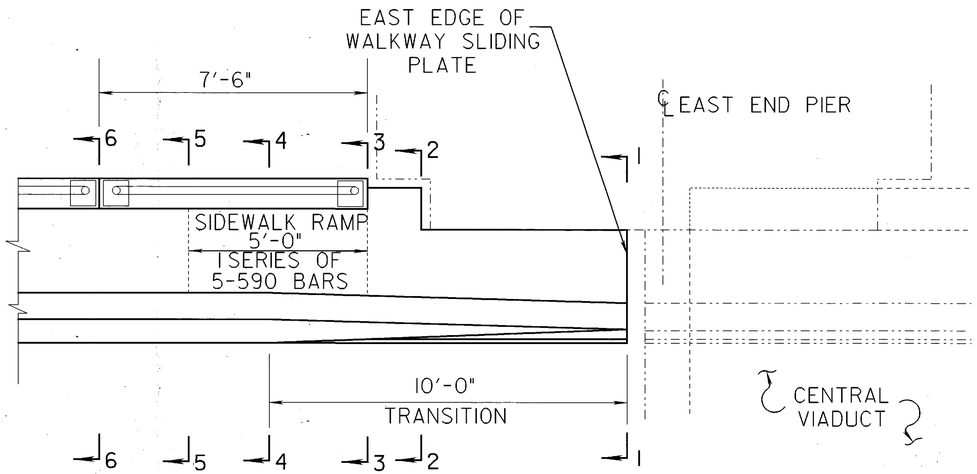
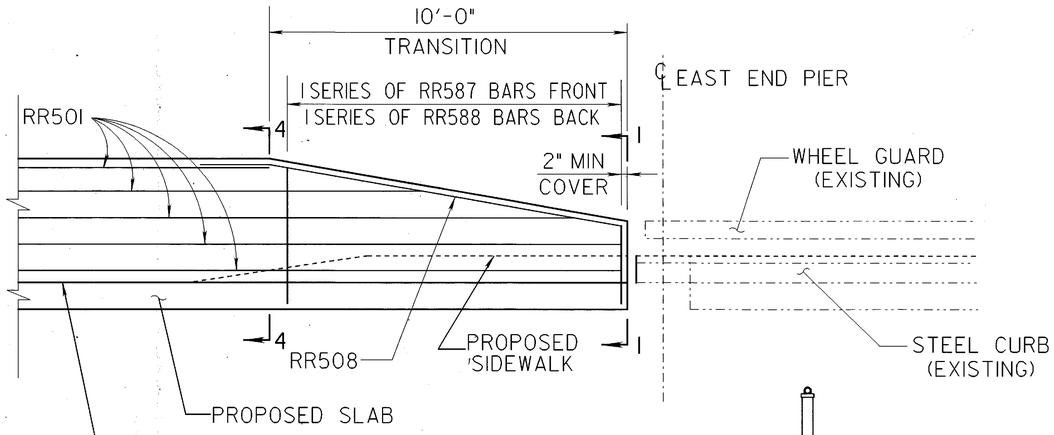
CUYAHOGA COUNTY CUY-90-15.24 INNERBELT FREEWAY	OHIO FHWA REGION 5 FEDERAL PROJECT	133A 151

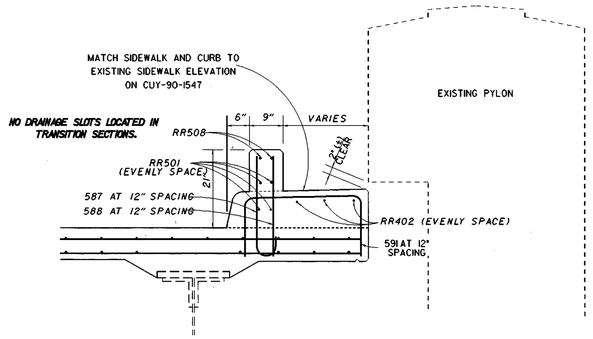


PLAN

EAST BOUND TRAFFIC



ELEVATION



SECTION 1-1

SEE SHEET 69B/89 FOR REINFORCING STEEL BENDING DIAGRAM FOR ALL REINFORCING STEEL WITH THE PREFIX RR.

SEE SLAB PLAN AND REINFORCING SCHEDULE FOR ALL OTHER REINFORCING STEEL.

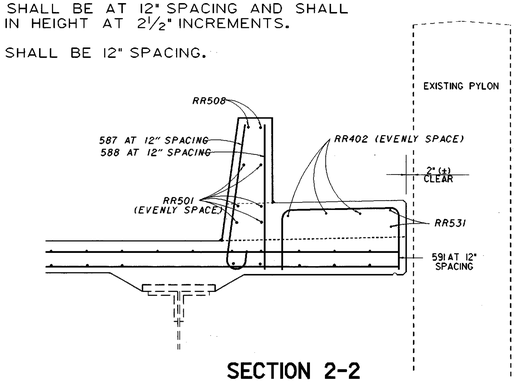
SIDEWALK WILL BE PAID FOR UNDER SLAB QUANTITIES

SINGLE SLOPE BARRIER, TRANSISTION BARRIER, AND VERTICAL FACE BARRIER WILL BE PAID FOR PER LINEAR FOOT UNDER ITEM 517 "RAILING MISC.; RAILING (42"), AS PER PLAN".

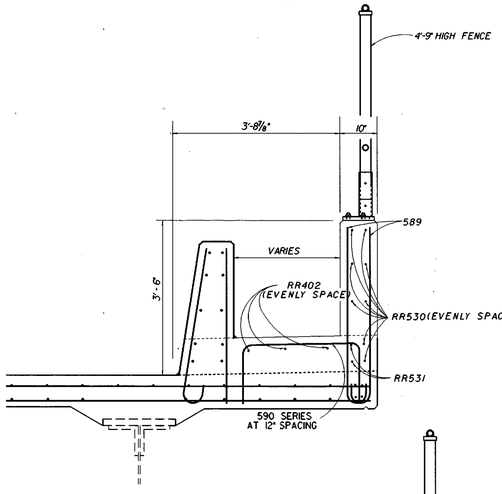
587 AND 588 BARS SHALL BE AT 12" SPACING AND SHALL INCREASE INCREMENTS OF 2". SEE SLAB REINFORCING STEEL SCHEDULE.

590 BARS SHALL BE AT 12" SPACING AND SHALL DECREASE IN HEIGHT AT 2½" INCREMENTS.

589 BARS SHALL BE 12" SPACING.



SECTION 2-2



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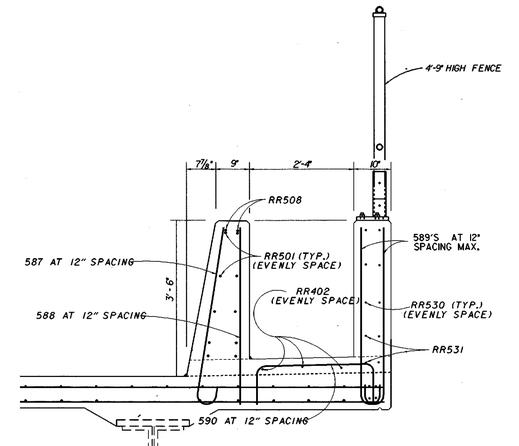

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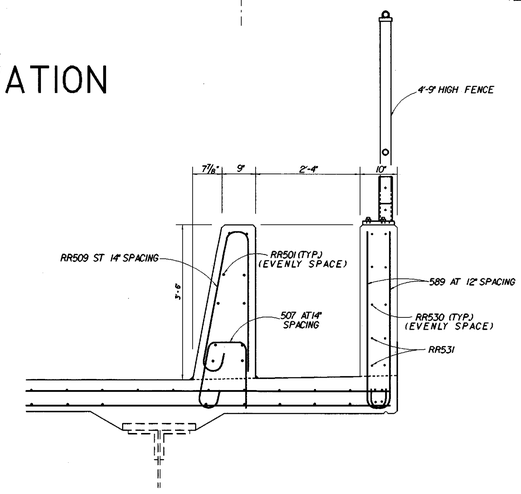
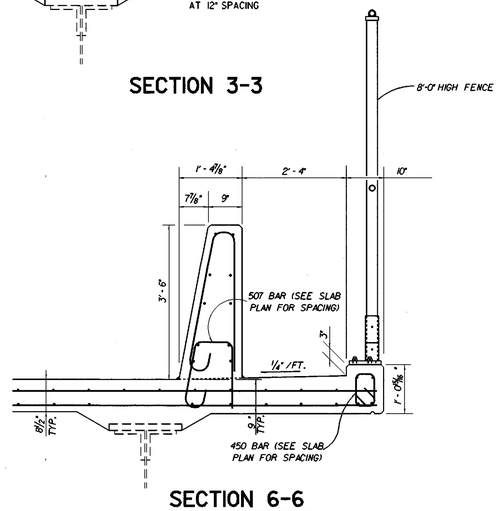


SECTION 5-5



SECTION 6-6

SEE SHEET 69B/89 FOR ADDITIONAL RAILING DETAILS

SHEET 72A / 89

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

MISCELLANEOUS DETAILS

INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM	GLC	DWL	
			DATE 9-96	SHEET

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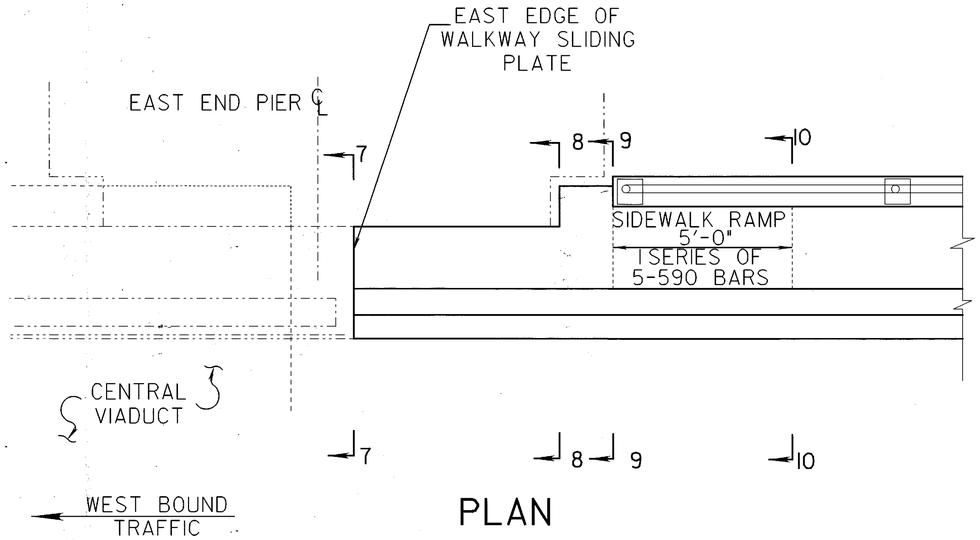
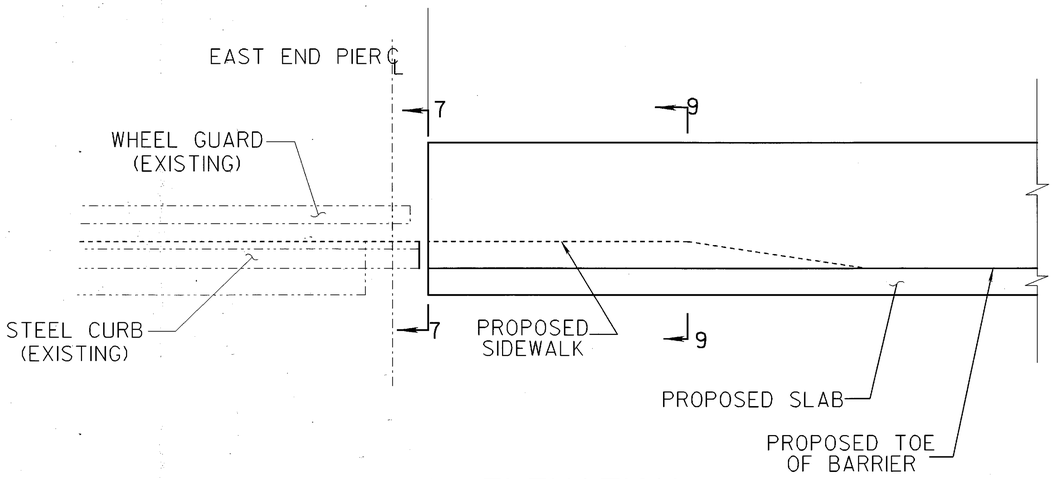
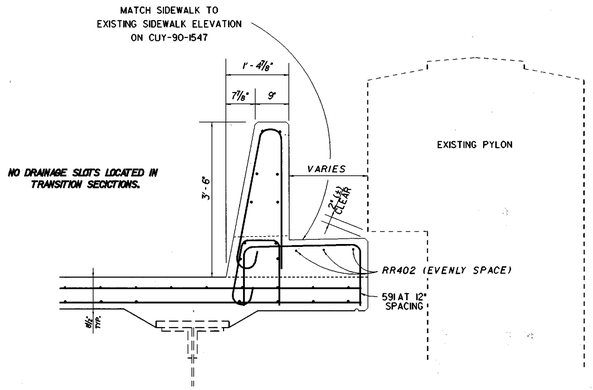
CUYAHOGA COUNTY CUY-90-15.24 INNERBELT FREEWAY	OHIO FHWA REGION 5 FEDERAL PROJECT	133B 151



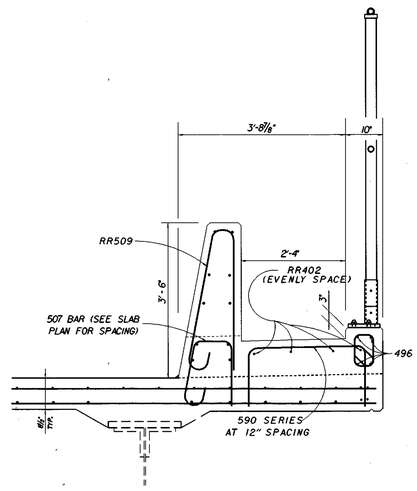
PLAN



ELEVATION



SECTION 7-7



SECTION 9-9

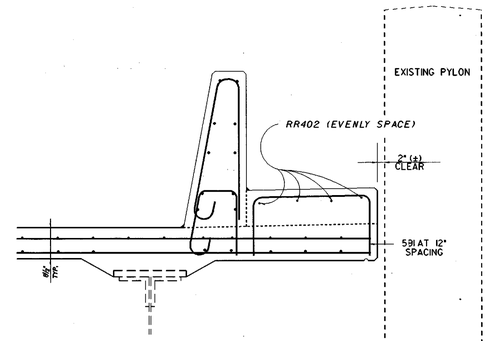
SEE SHEET 69B/89 FOR REINFORCING STEEL BENDING DIAGRAM FOR ALL REINFORCING STEEL WITH THE PREFIX RR.

SEE SLAB PLAN AND REINFORCING SCHEDULE FOR ALL OTHER REINFORCING STEEL.

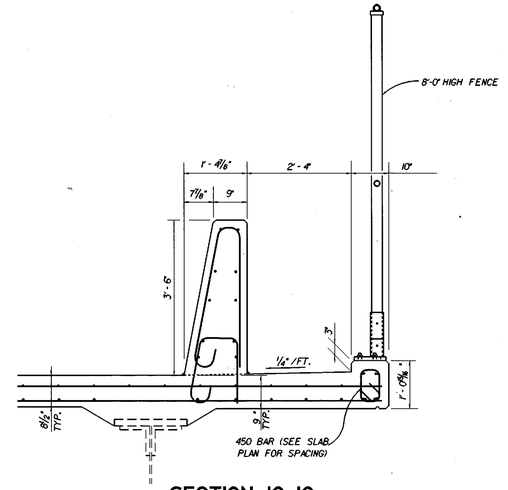
SIDEWALK WILL BE PAID FOR UNDER SLAB QUANTITIES

SINGLE SLOPE BARRIER WILL BE PAID FOR PER LINEAR FOOT UNDER ITEM 517 RAILING 42", AS PER PLAN.

590 BARS SHALL BE AT 12" SPACING AND SHALL DECREASE IN HEIGHT AT 2½" INCREMENTS



SECTION 8-8



SECTION 10-10

SEE SHEET 69B/89 FOR ADDITIONAL RAILING DETAILS

SHEET 72B / 89

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 PLANNING DEPARTMENT

MISCELLANEOUS DETAILS
INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

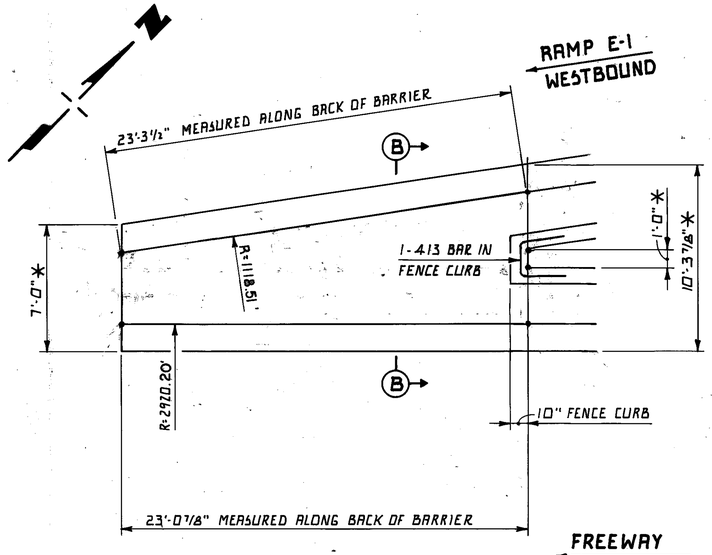
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	REVISED
MJM	MJM	GLC	DWL DATE 9-96	SHEET

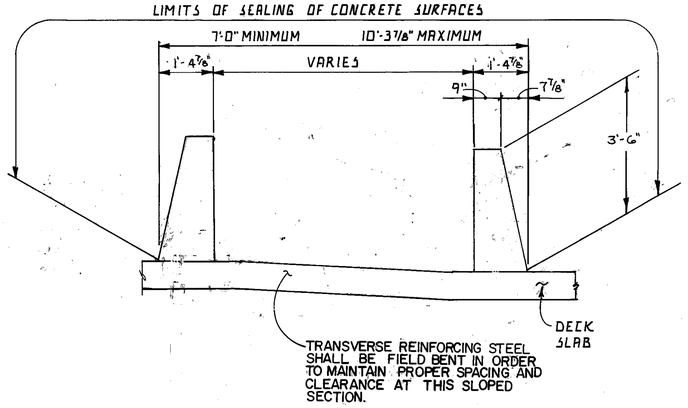
C:\DGN\J\C90524\JEFF.DGN

CALC.		CUYAHOGA COUNTY	OHIO
DATE		CUY-90-15.24	F.H.W.A. REGION 5
CHKD.		INNERBELT FREEWAY	
DATE			



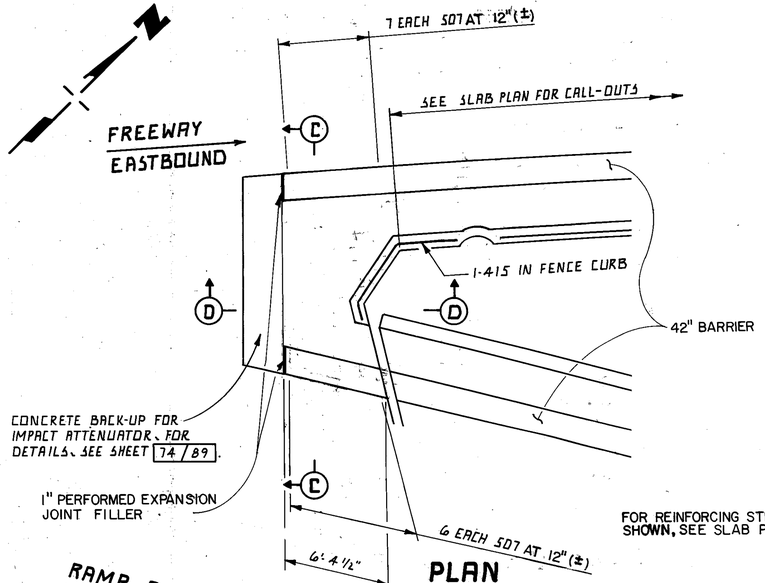
PLAN

DETAIL OF SLAB INTERSECT AT RAMP E-1. FOR LOCATION SEE UNIT NO.1 WESTBOUND SLAB PLAN, SHEET 62/89.



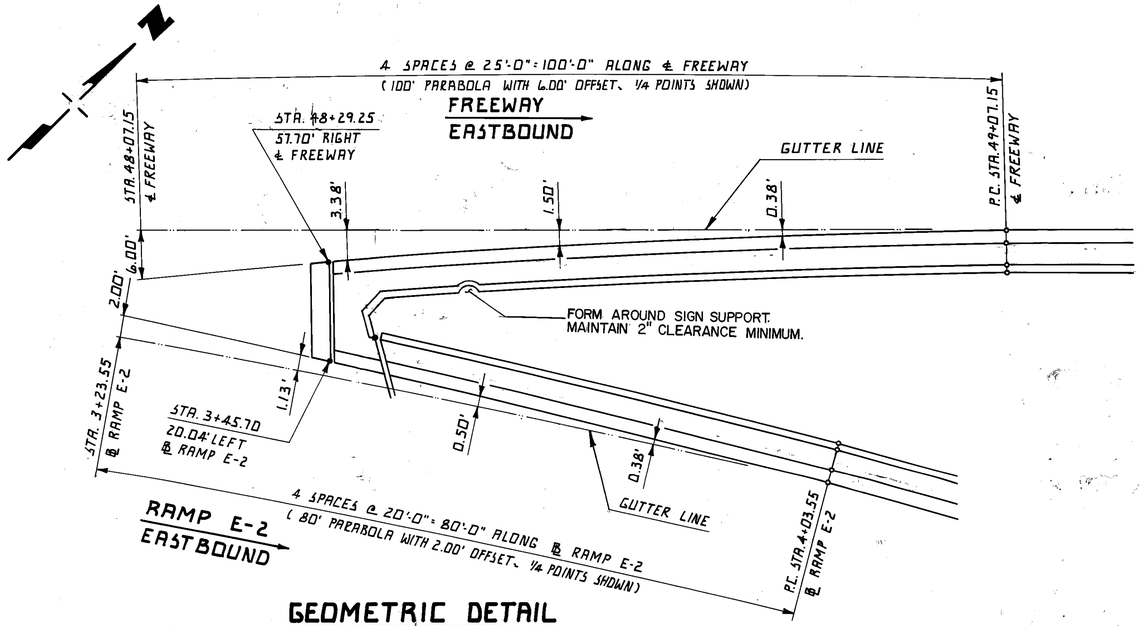
SECTION B-B

FOR DECK SLAB REINFORCING STEEL, SEE SLAB PLAN, SHEET 62/89.



PLAN

DETAIL OF SLAB INTERSECT AT RAMP E-2, FOR LOCATION SEE UNIT NO.1 EASTBOUND SLAB PLAN, SHEET 60/89.



GEOMETRIC DETAIL

DETAIL OF SLAB INTERSECT AT RAMP E-2, FOR LOCATION SEE UNIT NO.1 EASTBOUND SLAB PLAN, SHEET 60/89.

NOTES:

FOR SECTION C-C, SEE SHEET 74/89.

FOR SECTION D-D, SEE SHEET 74/89.

FOR NOTES SEE UNIT NO.1 EASTBOUND AND WESTBOUND SLAB PLANS, SHEETS 58/89 AND 61/89 RESPECTIVELY.

D-12 REVISED 9-96

73 / 89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

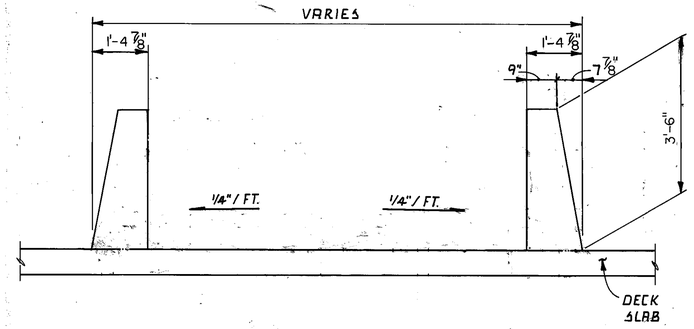
STA. 3+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.L.	OCT. 21, 1991	

BRUNING 44-232 67195-01

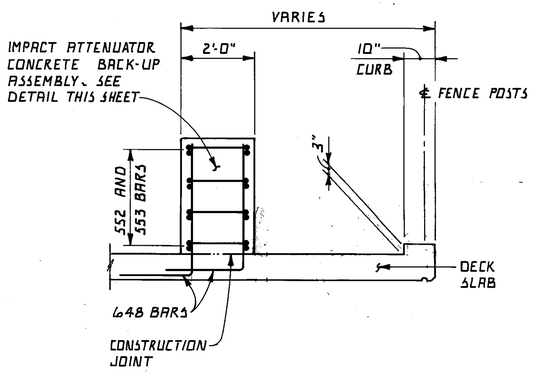
A-C-L form no. B-1



SECTION C-C

FOR LOCATION OF SECTION C-C, SEE SHEET 73/89.

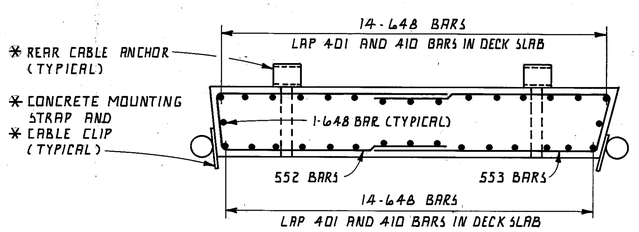
FOR DECK SLAB REINFORCING, SEE SLAB PLAN SHEET 62/89.



SECTION D-D

FOR LOCATION OF SECTION D-D, SEE SHEET 73/89.

FOR DECK SLAB REINFORCING, SEE SLAB PLAN SHEET 60/89.



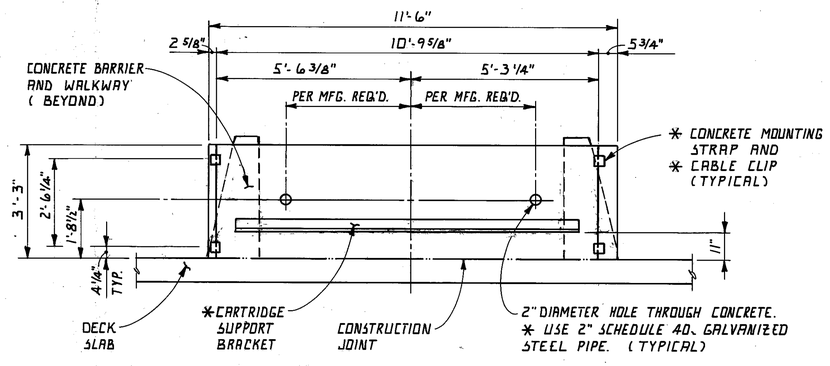
TOP VIEW

NOTES:

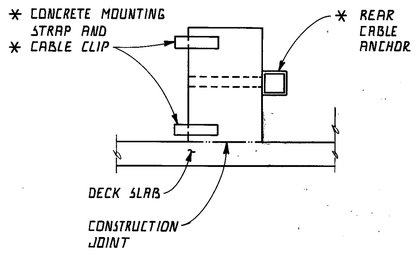
CONCRETE BACK UP ASSEMBLY:

DETAILS SHOWN ARE FROM "ENERGY ABSORBTION SYSTEMS, INC." HEX-FORM SANDWICH SYSTEM DESIGN MANUAL AND MAY BE MODIFIED IN ACCORDANCE WITH E.A.S., INC'S RECOMMENDATIONS.

ITEMS DENOTED WITH AN ASTERISK (*) ALONG WITH ALL HARDWARE, ETC. REQUIRED SHALL BE INCLUDED IN THE UNIT BID FOR ITEM SPECIAL- " IMPACT ATTENUATOR, HEX-FOAM SANDWICH SYSTEM" FOR PAYMENT. CONCRETE AND REINFORCING STEEL SHALL BE PAID FOR SEPARATELY UNDER THE APPROPRIATE 511 AND 509 ITEMS.



FRONT VIEW



SIDE VIEW

IMPACT ATTENUATOR CONCRETE BACK UP ASSEMBLY

DIMENSION "T" TABLE

GIRDER OR BEAM / LOCATION	℄ BEARING ON BOX GIRDER	℄ BEARING PIER NO. 1B	℄ BEARING PIER NO. 2B	℄ BEARING PIER NO. 3B	℄ BEARING PIER NO. 4B	℄ LINK JOINT - ROLLERS	℄ BEARING PIER NO. 1E2			℄ ROLLERS	℄ BEARING PIER NO. 5B	℄ BEARING PIER NO. 6B	℄ BEARING PIER NO. 7B	℄ BEARING PIER NO. 8B	℄ BEARING PIER NO. 9B	℄ BEARING ABUT. NO. 1B		
GIRDERS "E" THRU "J"	15"	15"	15"	15"	15"	15"	—											
GIRDERS "M" THRU "Q"	15"	15"	15"	15"	15"	15"	—											
GIRDERS "D", "K", "L" & "R"	16"	16"	16"	16"	16"	16"	—											
GIRDER "S"	—	—	—	14"	—	14"	14"											
GIRDER "T"	—	—	—	15"	—	15"	15"											
GIRDER "U"	—	—	—	16"	—	16"	16"											
GIRDER "W"	—	15"	15"	—	—	15"	—											
GIRDER "X"	—	—	15"	—	—	15"	—											
GIRDER "Y"	—	16"	16"	—	—	16"	—											
GIRDER "V"	—	—	16"	—	—	16"	—											
BEAMS "B" THRU "F"										15"	12"	12"	12"	12"	12"	12"		
BEAMS "J" THRU "N"										15"	12"	12"	12"	12"	12"	12"		
BEAM "P"										—	—	12"	12"	12"	12"	12"		
BEAM "R"										—	—	—	—	12"	12"	12"		
BEAMS "A", "G", "H" & "S"										16"	12"	12"	12"	12"	12"	12"		

FOR LOCATION OF DIMENSION "T", SEE TRANSVERSE SECTION - MAINLINE, SHEET 57/89.
FOR LOCATION OF GIRDERS AND BEAMS, SEE FRAMING PLANS, SHEETS 52/89 THRU 54/89.

D-12 REVISED 9-96

74/89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB DETAILS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 34+87.63 TO STA. 54+65.18

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT 21, 1991	

BRUNING 44232 67195-01

A-C-L form no. B-1

SLAB OFFSETS

PHASE IA & IB SLAB OFFSETS
STATIONED ALONG CENTERLINE OF I-90

STATION	DESCRIPTION	WESTBOUND	EASRBOUND
43+36.45	CL BRG. EAST END PIER	3'-11"	2'-11"
43+50.00		4'-2⅜"	2'-11"
43+75.00		4'-8¾"	2'-11"
44+00.00		5'-3⅛"	2'-11"
44+25.00		5'-9⅜"	2'-11"
44+39.72	CL BRG. PIER NO. 1B	6'-1⅛"	2'-11"
44+50.00		6'-3¾"	2'-11"
44+75.00		6'-10⅛"	2'-11"
45+00.00		7'-4⅜"	2'-11"
45+18.07	< POINT IN GIRDER	7'-9"	------
45+19.51	< POINT IN GIRDER	------	2'-11"
45+25.00		7'-4½"	3'-2⅝"
45+50.00		6'-1⅛"	4'-6⅛"
45+58.74	CL BRG. PIER NO. 2B	5'-9⅜"	5'-0"
45+75.00		5'-0⅜"	5'-7⅛"
46+00.00		4'-2⅛"	6'-5⅜"
46+25.00		3'-6⅝"	7'-1⅛"
46+50.00		3'-1¾"	7'-6¼"
46+75.00		2'-11½"	7'-8⅝"
47+00.00		2'-11⅞"	7'-8½"
47+25.00		3'-2⅞"	7'-5¾"
47+50.00		3'-8⅜"	7'-0⅜"
47+75.00		4'-4⅝"	6'-4⅜"
47+97.80	CL BRG. PIER NO. 3B	5'-3½"	5'-8"
48+00.00		5'-3½"	5'-5⅞"
48+25.00		6'-5"	4'-4⅝"
48+49.84	< POINT IN GIRDER	7'-9"	-------
48+50.00		7'-9⅛"	3'-0¾"
48+52.55	< POINT IN GIRDER	------	2'-11"
48+75.00		6'-4¾"	3'-6⅜"
49+00.00		5'-3⅛"	4'-0"
49+25.00		4'-4¼"	4'-3"
49+50.00		3'-8"	4'-3⅜"
49+75.00		3'-2¼"	4'-1¼"

PHASE IA & IB SLAB OFFSETS CONTINUED
STATIONED ALONG CENTERLINE OF I-90

STATION	DESCRIPTION	WESTBOUND	EASRBOUND
50+00.00		2'-11¼"	3'-8⅜"
50+13.48	CL BRG. PIER NO. 4B	3'-0⅜"	3'-6¼"
50+25.00		2'-10⅞"	3'-1"
50+29.48	CL ROLLERS	3'-0¾"	3'-0¾"
50+50.00		2'-8¾"	3'-4"
50+75.00		2'-8⅝"	3'-8⅛"
50+94.45	CL BRG. PIER NO. 5B	3'-0⅛"	4'-0¼"
51+00.00		2'-11"	3'-9⅝"
51+25.00		3'-4⅛"	3'-8½"
51+50.00		3'-11¾"	3'-4⅞"
50+72.09	CL BRG. PIER NO. 6B	4'-11¾"	3'-1⅜"
51+75.00		4'-6¼"	2'-11⅝"
52+00.00		3'-10¾"	3'-6⅜"
52+25.00		3'-5¾"	3'-10½"
52+50.00		3'-3½"	4'-0⅛"
52+50.52	CL BRG. PIER NO. 7B	3'-6⅝"	4'-3⅞"
52+75.00		3'-3¾"	3'-11"
53+00.00		3'-6⅝"	3'-7¼"
53+25.00		4'-0¼"	3'-1"
53+29.84	CL BRG. PIER NO. 8B	4'-6¼"	3'-2¾"
53+50.00		3'-6⅜"	3'-3½"
53+75.00		3'-1⅜"	3'-7¼"
54+00.00		2'-10⅞"	3'-8¼"
54+12.84	CL BRG. PIER NO. 9B	3'-3"	4'-1⅛"
54+25.00		2'-11⅛"	3'-6¾"
54+50.00		3'-1⅞"	3'-2⅝"
54+62.95	CL BRG. ABLT. NO. 1B	3'-9⅜"	3'-3⅝"

PHASE III & V SLAB OFFSETS
STATIONED ALONG CENTERLINE OF I-90

STATION	DESCRIPTION	WESTBOUND	EASTBOUND
43+36.45	CL BRG. EAST END PIER	5'-6⅞"	5'-6⅞"
43+50.00		*	5'-6⅞"
43+75.00		*	5'-6⅞"
44+00.00		*	5'-6⅞"
44+25.00		*	5'-6⅞"
44+39.72	CL BRG. PIER NO. 1B	*	5'-6⅞"
44+50.00		*	5'-6⅞"
44+75.00		*	5'-6⅞"
46+25.00		7'-5⅛"	**
46+50.00		8'-0⅝"	**
46+75.00		8'-5⅜"	**
47+00.00		8'-7½"	**
47+25.00		8'-7 "	**
47+50.00		8'-3¾"	**
47+75.00		7'-9⅞"	**
47+97.80	CL BRG. PIER NO. 3B	7'-7⅞"	**
48+00.00		6'-3¼"	**
48+25.00		6'-2¼"	**
48+38.80	< POINT IN GIRDER	5'-8 "	**
48+50.00		5'-10¾"	7'-11⅜"
48+64.99	< POINT IN GIRDER	------	8'-0¾"
48+75.00		6'-5½"	7'-2⅞"
49+00.00		6'-9⅝"	6'-1⅞"
49+25.00		6'-11⅛"	5'-9⅛"
49+50.00		6'-9⅞"	5'-8⅜"
49+75.00		6'-5⅞"	5'-10¼"
50+13.48	CL BRG. PIER NO. 4B	6'-2⅛"	------

PHASE III & V SLAB OFFSETS
STATIONED ALONG CENTERLINE OF I-90

STATION	DESCRIPTION	WESTBOUND	EASTBOUND
50+00.00		5'-11⅜"	6'-2⅝"
50+13.48	CL BRG.PIER NO. 4B	6'-2⅛"	7'-1⅞"
50+25.00		5'-9⅝"	5'-9⅝"
50+29.48	CL ROLLERS	5'-8⅝"	7'-8⅝"
50+50.00		6'-1⅜"	6'-4⅛"
50+75.00		6'-2½"	6'-8¾"
50+94.45	CL BRG. PIER NO. 5B	6'-5 "	6'-5⅜"
51+00.00		6'-1 "	6'-4⅛"
51+25.00		***	6'-2 "
51+50.00		***	6'-2⅜"
51+72.09	CL BRG. PIER NO. 6B	***	7'-0½"
51+75.00		***	6'-5⅜"
52+00.00		***	6'-6¼"
52+25.00		***	6'-0 "
52+50.00		***	5'-8¼"
52+50.52	CL BRG. PIER NO. 7B	***	5'-10⅜"
52+75.00		***	5'-7⅛"
53+00.00		***	5'-8⅝"
53+25.00		***	6'-0⅝"
53+29.84	CL BRG. PIER NO. 8B	***	7'-2⅝"
53+50.00		***	6'-7¼"
53+75.00		***	6'-2¾"
54+00.00		***	5'-9⅜"
54+12.84	CL BRG. PIER NO. 9B	***	5'-11⅛"
54+25.00		***	5'-6⅝"
54+50.00		------	5'-6½"

* SEE RAMP E1 FOR OFFSETS, SHEET 76/89

** SEE RAMP E2 FOR OFFSETS, SHEET 76/89

*** SEE RAMP E3 FOR OFFSETS, SHEET 76/89

NOTES:

FOR NOTES, SEE SHEET 76/89

D-12 REVISED 8-96 75/89

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

SLAB OFFSETS
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	10/91	

C:\DGN\JC90524\JOFFSETS.DGN

CUYAHOGA COUNTY CUY-90-15.24 INNERBELT FREEWAY	OHIO	137/151
	FHWA REGION 5	
	FEDERAL PROJECT	

SLAB OFFSETS

PHASE III SLAB OFFSETS

STATIONED ALONG BASELINE RAMP E-1

STATION	DESCRIPTION	LEFT	RIGHT
3+05.52	CL BRG. ABUT. NO. E1	5'-6 7/8"	6'-6 7/8"
3+25.00		5'-9"	5'-6 1/2"
3+28.88	< POINT IN GIRDER	------	5'-7 5/8"
3+29.51	< POINT IN GIRDER	5'-6 1/4"	------
3+50.00		5'-6 7/8"	5'-6 7/8"
3+75.00		5'-6 7/8"	5'-6 7/8"
3+83.28	CL BRG. PIER NO. 4E1	5'-7 1/4"	5'-6 7/8"
4+00.00		5'-6 7/8"	5'-6 7/8"
4+25.00		5'-6 7/8"	5'-6 7/8"
4+50.00		5'-6 7/8"	5'-6 7/8"
4+75.00		5'-6 7/8"	5'-6 7/8"
5+00.00		5'-6 7/8"	5'-6 7/8"
5+25.00		5'-6 7/8"	5'-6 7/8"
5+34.05	CL BRG. PIER NO. 3E1	5'-7 1/4"	5'-7 3/8"
5+50.00		5'-6 7/8"	5'-6 7/8"
5+75.00		5'-6 7/8"	5'-6 7/8"
5+95.47	CL BRG. PIER NO. 2E1	5'-7 1/4"	5'-7 3/8"
6+00.00		5'-6 7/8"	5'-6 7/8"
6+10.47	CL ROLLERS	5'-7 1/4"	5'-7 3/8"
6+25.00		5'-5 1/2"	5'-7 3/4"
6+33.89	< POINT IN GIRDER	5'-6"	------
6+37.47	< POINT IN GIRDER	------	5'-6 7/8"
6+50.00		6'-0 1/2"	5'-2 3/8"
6+75.00		4'-9 1/8"	6'-0 3/8"
7+00.00		5'-0 1/8"	7'-3 7/8"
7+25.00		5'-9 1/2"	7'-0 7/8"
7+50.00		6'-1 3/8"	6'-3 3/8"
7+63.78	< POINT IN GIRDER	6'-0 7/8"	------
7+64.32	< POINT IN GIRDER	------	5'-6 7/8"
7+75.00		6'-8 3/8"	5'-10 1/2"
8+00.00		------	5'-2 1/2"
8+25.00		------	6'-0 1/2"
8+31.32	CL BRG. PIER NO. 2B	------	5'-11 3/4"
8+50.00		------	5'-9 3/8"
8+70.58	< POINT IN GIRDER	------	5'-6 7/8"
8+75.00		------	5'-6 7/8"
9+00.00		------	5'-6 3/4"
9+25.00		------	5'-6 5/8"
9+41.09	CL BRG. PIER NO. 1B	------	5'-7 3/8"
9+50.00		------	5'-6 1/2"
9+75.00		------	5'-6 3/8"
9+86.22	END RAMP GIRDER	------	5'-8 3/8"
10+00.00		------	6'-10 1/2"
10+25.00		------	5'-7 1/2"

PHASE V SLAB OFFSETS

STATIONED ALONG BASELINE RAMP E-2

STATION	DESCRIPTION	LEFT	RIGHT
0+00.00	BEGIN BASELINE	-------	5'-6 7/8"
0+25.00		------	5'-10 1/8"
0+50.00		------	6'-8"
0+51.16	< POINT IN GIRDER	------	6'-8 5/8"
0+75.00		------	6'-8 5/8"
0+91.20	CL BRG. PIER NO. 2B	------	7'-1 1/4"
1+00.00		------	6'-0 1/2"
1+05.72	BEGIN RAMP GIRDER	------	5'-5 1/2"
1+25.00		------	5'-4 1/2"
1+50.00		------	5'-9"
1+75.00		------	6'-8 1/8"
1+91.32	< POINT IN GIRDER	------	7'-6 7/8"
2+00.00		------	7'-1 1/8"
2+25.00		------	6'-1 1/4"
2+50.00		------	5'-7 3/4"
2+75.00		------	5'-8 7/8"
2+98.36	< POINT IN GIRDER	------	6'-9 7/8"
3+00.00		------	6'-3 1/8"
3+25.00		------	5'-7 3/8"
3+39.16	CL BRG. PIER NO. 1E2	------	5'-9 1/2"
3+50.00		------	5'-6"
3+61.05	CL LINK JOINT	------	5'-11 7/8"
3+75.00		5'-5 3/8"	5'-11 1/4"
3+82.19	< POINT IN GIRDER	5'-4 7/8"	------
3+91.36	< POINT IN GIRDER	------	6'-6 1/4"
4+00.00		6'-2 7/8"	6'-1 7/8"
4+25.00		7'-2 1/4"	5'-5 3/4"
4+50.00		7'-0 3/4"	5'-4 1/4"
4+75.00		6'-7 5/8"	5'-9 1/8"
5+00.00		5'-8"	6'-8 3/4"
5+01.79	< POINT IN GIRDER	5'-6 7/8"	------
5+11.08	< POINT IN GIRDER	------	7'-3 7/8"
5+25.00		7'-0 1/8"	6'-4 7/8"
5+50.00		7'-7 1/8"	5'-7"
5+63.39	CL BRG. PIER NO. 2E2	8'-6 1/2"	6'-3"
5+75.00		7'-0 1/2"	5'-10 1/8"
5+97.61	< POINT IN GIRDER	5'-6 7/8"	------
6+00.00		5'-4 3/8"	7'-2 1/2"
6+10.19	< POINT IN GIRDER	------	8'-0 7/8"
6+25.00		6'-9"	6'-10 3/4"
6+50.00		6'-7 7/8"	5'-9 3/8"
6+75.00		5'-5 1/8"	5'-9"
6+91.00	CL BRG. ABUT. NO. E2	6'-10 5/8"	8'-0 3/8"

PHASE III SLAB OFFSETS

STATIONED ALONG BASELINE RAMP E-3

STATION	DESCRIPTION	LEFT	RIGHT
6+89.61	CL BRG. ABUT. NO. 1B	------	5'-9 1/2"
7+00.00		------	5'-6 7/8"
7+25.00		------	5'-6 7/8"
7+37.12	CL BRG. PIER NO. 9B	------	5'-9 1/2"
7+50.00		------	5'-6 7/8"
7+75.00		------	5'-6 7/8"
8+00.00		------	5'-6 7/8"
8+16.77	CL BRG. PIER NO. 8B	------	5'-9 1/2"
8+25.00		------	5'-6 7/8"
8+50.00		------	5'-6 7/8"
8+75.00		------	5'-6 7/8"
8+91.88	CL BRG. PIER NO. 7B	------	5'-9"
9+00.00		------	5'-6 7/8"
9+25.00		------	5'-6 7/8"
9+50.00		------	5'-6 7/8"
9+69.20	CL BRG. PIER NO. 6B	------	5'-9 1/8"
9+75.00		------	5'-7 1/2"
10+00.00		------	5'-10 3/8"
10+23.07	END RAMP BASELINE	------	6'-1"

PHASE V SLAB OFFSETS

STATIONED ALONG BASELINE RAMP E-4

STATION	DESCRIPTION	LEFT	RIGHT
0+00.00	BEGIN BASELINE	------	5'-7 1/8"
0+25.00		------	6'-4 1/8"
0+31.05	CL BRG. ABUT. NO. 1B	------	7'-3 1/4"

NOTES:

STATIONING SHOWN IS ALONG CENTERLINE I-90 OR ALONG RAMP BASELINES, AS NOTED.

OFFSETS ARE MEASURED NORMAL/RADIAL TO CENTERLINES AND BASELINES EXCEPT THOSE DESCRIBED AS CENTERLINE BEARINGS, CENTERLINE ROLLERS OR CENTERLINE LINK JOINT ARE MEASURED ALONG THEIR RESPECTIVE CENTERLINES.

FOR OFFSET LOCATIONS, SEE TRANSVERSE SECTIONS, SHEETS 57/89, 67/89 AND 69/89.

FOR BASELINE LOCATIONS, SEE GEOMETRIC PLAN SHEET IN ROADWAY PLANS.

D-12 REVISED 8-96

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

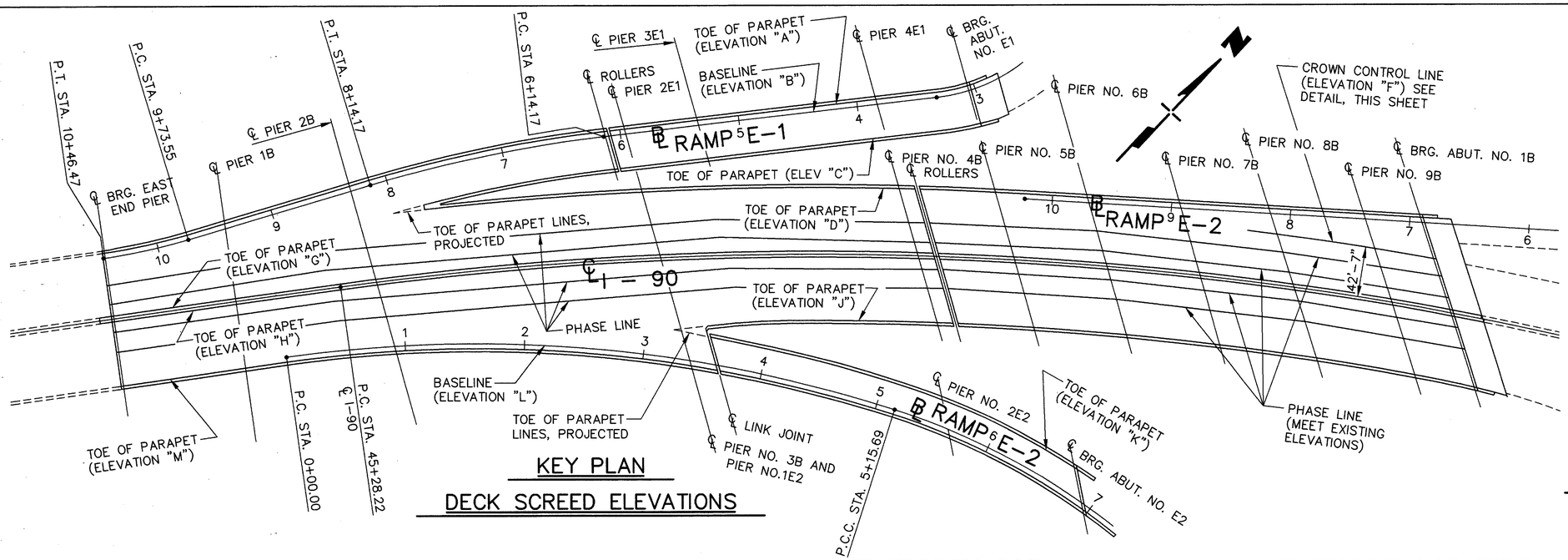
SLAB OFFSETS
INNERBELT FREEWAY
BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599
STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	10/91	

C:\DGN\J\C901524\J\OFFSET2.DGN

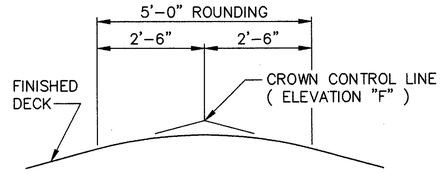
CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY – 90 – 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

138
151



KEY PLAN

DECK SCREED ELEVATIONS



CROWN CONTROL LINE DETAIL

DECK SCREED ELEVATIONS - RAMP E1

DESCRIPTION	BASELINE STATION	ELEVATION 'C'	ELEVATION 'B'	ELEVATION 'A'
CL BRG.ABUT.E1	3+06.30	675.58	-----	-----
CL BRG.ABUT.E1	3+05.52	-----	674.89	-----
CL BRG.ABUT.E1	3+05.46	-----	-----	674.83
	3+25	676.84	676.25	676.20
	3+50	678.53	677.99	677.95
	3+75	680.24	679.74	679.70
CL BRG.PIER 4E1	3+79.25	680.54	-----	-----
CL BRG.PIER 4E1	3+83.28	-----	680.33	-----
CL BRG.PIER 4E1	3+83.59	-----	-----	680.31
	4+00	682.01	681.54	681.51
	4+25	683.79	683.37	683.34
	4+50	685.53	685.12	685.09
	4+75	687.27	686.87	686.84
	5+00	688.98	688.59	688.56
	5+25	690.45	690.27	690.26
CL BRG.PIER 3E1	5+30.02	690.74	-----	-----
CL BRG.PIER 3E1	5+34.05	-----	690.88	-----
CL BRG.PIER 3E1	5+34.36	-----	-----	690.90
	5+50	691.95	691.98	691.98
	5+75	693.48	693.73	693.75
CL BRG.PIER 2E1	5+91.44	694.50	-----	-----
CL BRG.PIER 2E1	5+95.47	-----	695.18	-----
CL BRG.PIER 2E1	5+95.78	-----	-----	695.24
	6+00	695.05	695.51	695.55

DECK SCREED ELEVATIONS - RAMP E1 - CONTINUED

DESCRIPTION	BASELINE STATION	ELEVATION 'C'	ELEVATION 'B'	ELEVATION 'A'
CL ROLLERS	6+06.44	695.46	-----	-----
CL ROLLERS	6+10.47	-----	696.27	-----
CL ROLLERS	6+10.78	-----	-----	696.34
	6+25	696.72	697.40	697.45
	6+50	698.36	699.26	699.33
	6+75	700.03	700.94	701.01
	7+00	701.38	702.29	702.36
	7+25	702.42	703.33	703.40
	7+50	703.15	704.07	704.14
	7+75	703.84	704.28	704.29
	8+00	704.21	704.33	704.34
	8+25	704.09	704.26	704.27
CL BRG.PIER 2B	8+31.32	-----	704.02	-----
CL BRG.PIER 2B	8+31.32	-----	-----	704.21
	8+50	-----	703.95	703.97
	8+75	-----	703.65	703.67
	9+00	-----	703.46	703.47
	9+25	-----	703.35	703.36
CL BRG.PIER 1B	9+41.09	-----	703.35	-----
CL BRG.PIER 1B	9+41.40	-----	-----	703.36
	9+50	-----	703.36	703.37
	9+75	-----	703.40	703.41
	10+00	-----	703.42	703.43
	10+25	-----	703.54	703.55
P.T. BASELINE	10+46.47	-----	703.72	703.73

DECK SCEED ELEVATIONS - RAMP E3

DESCRIPTION	BASELINE STATION	ELEVATION 'F'	ELEVATION 'E'	ELEVATION 'D'
CL BRG.ABUT.1B	6+80.10	692.12	-----	-----
CL BRG.ABUT.1B	6+89.61		692.78	-----
CL BRG.ABUT.1B	6+90.37		-----	692.82
	7+00	692.54	693.01	693.06
	7+25	693.05	693.55	693.59
CL BRG.PIER 9B	7+27.62	693.10	-----	-----
CL BRG.PIER 9B	7+37.13		693.80	-----
CL BRG.PIER 9B	7+37.89		-----	693.85
	7+50	693.65	694.20	694.14
	7+75	694.18	694.66	694.71
	8+00	694.71	695.16	695.21
CL BRG.PIER 8B	8+11.05	694.90		
	8+16.76		695.48	-----
CL BRG.PIER 8B	8+17.52		-----	695.55
	8+25	695.22	695.65	695.70
	8+50		696.20	696.26
	8+75		696.71	696.76

DECK SCEED ELEVATIONS - RAMP E3 - CONTINUED

DESCRIPTION	BASELINE STATION	ELEVATION 'F'	ELEVATION 'E'	ELEVATION 'D'
CL BRG.PIER 7B	8+91.88		697.04	
CL BRG.PIER 7B	8+92.57		-----	697.10
	9+00		697.21	697.26
	9+25		697.75	697.81
	9+50		698.25	698.31
CL BRG.PIER 6B	9+69.20		698.62	-----
CL BRG.PIER 6B	9+69.89		-----	698.70
	9+75		698.75	698.80
	10+00		699.20	699.26
	10+23.07		699.65	699.71

NOTES:

FOR COMPLETE PROJECT GEOMETRIC LAYOUT, SEE GEOMETRIC PLAN SHEET IN ROADWAY PLANS.

THE ELEVATIONS SHOWN ARE TOP OF CONCRETE SLAB ELEVATIONS WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR THE DEADLOAD DEFLECTIONS CAUSED BY THE WEIGHT OF THE CONCRETE SLAB.

FOR MAINLINE AND RAMP E2 DECK SCREED ELEVATIONS, SEE SHEET 78/89 .

77/89

adache–ciuni–lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DECK SCREED ELEVATIONS

INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540
{ CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
DARKO	T.M.J.	M.J.L.	J.R.C.	10/91	

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CALC. DATE	CUYAHOGA COUNTY CUY – 90 – 15.24 INNERBELT FREEWAY	OHIO
CHKD. DATE		F.H.W.A. REGION 5

DECK SCEED ELEVATIONS - MAINLINE

DESCRIPTION	CENTERLINE STATION	ELEVATION 'D'	ELEVATION 'G'	ELEVATION 'H'	ELEVATION 'J'	ELEVATION 'M'
CL BRG. EAST END PIER	43+36.45	-----	703.67	703.72	-----	703.67
	43+50	-----	703.54	703.59	-----	703.55
	43+75	-----	703.29	703.35	-----	703.19
	44+00	-----	703.07	703.07	-----	702.79
	44+25	-----	702.89	702.89	-----	702.50
CL BRG. PIER 1B	44+39.72	-----	702.80	702.80	-----	702.34
	44+50	-----	702.76	702.76	-----	702.26
	44+75	-----	702.70	702.70	-----	702.10
	45+00	-----	702.70	702.70	-----	-----
	45+25	-----	702.77	702.77	-----	-----
	45+50	-----	702.91	702.92	-----	-----
CL BRG. PIER 2B	45+50.99	703.98	-----	-----	-----	-----
CL BRG. PIER 2B	45+58.52	-----	702.99	-----	-----	-----
CL BRG. PIER 2B	45+58.96	-----	-----	702.99	-----	-----
	45+75	704.32	703.15	703.15	-----	-----
	46+00	704.67	703.41	703.41	-----	-----
	46+25	705.02	703.64	703.64	-----	-----
	46+50	705.34	703.85	703.86	-----	-----
	46+75	705.62	704.04	704.04	-----	-----
	47+00	705.70	704.18	704.18	-----	-----
	47+25	705.80	704.28	704.28	-----	-----
	47+50	705.80	704.26	704.26	-----	-----
	47+75	705.73	704.16	704.16	702.58	-----
CL BRG. PIER 3B	47+85.38	705.67	-----	-----	-----	-----
CL BRG. PIER 3B	47+97.46	-----	704.02	-----	-----	-----
CL BRG. PIER 3B	47+98.14	-----	-----	704.02	-----	-----
CL BRG. PIER 3B	48+10.22	-----	-----	-----	702.34	-----
	48+00	705.62	704.00	704.00	702.44	-----
	48+25	705.47	703.81	703.78	702.22	-----
	48+50	705.23	703.55	703.49	701.90	-----
	48+75	704.89	703.19	703.11	701.59	-----
	49+00	704.40	702.72	702.63	701.16	-----
	49+25	703.78	702.17	702.08	700.61	-----
	49+50	703.14	701.56	701.50	700.01	-----
	49+75	702.45	700.92	700.88	699.45	-----
	50+00	701.73	700.22	700.24	698.73	-----
CL BRG. PIER 4B	49+96.70	701.85	-----	-----	-----	-----
CL BRG. PIER 4B	50+13.01	-----	699.85	-----	-----	-----
CL BRG. PIER 4B	50+13.95	-----	-----	699.87	-----	-----
CL BRG. PIER 4B	50+30.26	-----	-----	-----	698.02	-----
	50+25	701.09	699.52	699.57	698.06	-----
CL ROLLERS	50+12.36	701.56	-----	-----	-----	-----
CL ROLLERS	50+29.00	-----	699.37	-----	-----	-----
CL ROLLERS	50+29.96	-----	-----	699.50	-----	-----
CL ROLLERS	50+46.60	-----	-----	-----	697.65	-----

DECK SCEED ELEVATIONS - MAINLINE - CONTINUED

DESCRIPTION	CENTERLINE STATION	ELEVATION 'D'	ELEVATION 'G'	ELEVATION 'H'	ELEVATION 'J'
	50+50	700.63	699.05	699.10	697.59
	50+75	700.14	698.58	698.58	697.06
CL BRG. PIER 5B	50+75.98	700.12	-----	-----	-----
CL BRG. PIER 5B	50+93.94	-----	698.21	-----	-----
CL BRG. PIER 5B	50+94.96	-----	-----	698.19	-----
CL BRG. PIER 5B	51+12.92	-----	-----	-----	696.30
	51+00	-----	698.11	698.11	696.54
	51+25	-----	697.69	697.69	696.08
	51+50	-----	697.18	697.18	695.61
CL BRG. PIER 6B	51+71.53	-----	696.70	-----	-----
CL BRG. PIER 6B	51+72.65	-----	-----	696.68	-----
CL BRG. PIER 6B	51+92.21	-----	-----	-----	694.68
	51+75	-----	696.63	696.63	695.07
	52+00	-----	696.12	696.12	694.50
	52+25	-----	695.56	695.56	693.98
	52+50	-----	694.98	694.98	693.44
CL BRG. PIER 7B	52+49.91	-----	694.98	-----	-----
CL BRG. PIER 7B	52+51.13	-----	-----	694.96	-----
CL BRG. PIER 7B	52+72.34	-----	-----	-----	692.91
	52+75	-----	694.45	694.45	692.85
	53+00	-----	693.91	693.91	692.33
	53+25	-----	693.33	693.33	691.78
CL BRG. PIER 8B	53+29.13	-----	693.24	-----	-----
CL BRG. PIER 8B	53+30.55	-----	-----	693.21	-----
CL BRG. PIER 8B	53+55.51	-----	-----	-----	691.08
	53+50	-----	692.82	692.82	691.20
	53+75	-----	692.30	692.30	690.68
	54+00	-----	691.71	691.71	690.16
CL BRG. PIER 9B	54+12.07	-----	691.42	-----	-----
CL BRG. PIER 9B	54+13.61	-----	-----	691.39	-----
CL BRG. PIER 9B	54+40.46	-----	-----	-----	689.31
	54+25	-----	691.17	691.17	689.62
	54+50	-----	690.73	690.73	689.16
CL BRG. ABUT. 1B	54+62.15	-----	690.55	-----	-----
CL BRG. ABUT. 1B	54+63.75	-----	-----	690.53	-----
CL BRG. ABUT. 1B	54+91.77	-----	-----	-----	688.60

DECK SCEED ELEVATIONS - RAMP E2

DESCRIPTION	BASELINE STATION	ELEVATION 'K'	ELEVATION 'L'	ELEVATION 'M'
	0+00	-----	-----	702.11
	0+25	-----	-----	701.99
	0+50	-----	-----	701.94
	0+75	-----	701.97	701.94
CL BRG.PIER 2B	0+91.20	-----	702.00	-----
CL BRG.PIER 2B	0+91.63	-----	-----	701.97
	1+00	-----	702.04	702.00
	1+25	-----	702.12	702.08
	1+50	-----	702.23	702.21
	1+75	-----	702.31	702.29
	2+00	-----	702.32	702.29
	2+25	-----	702.30	702.26
	2+50	-----	702.20	702.14
	2+75	702.47	702.07	702.02
	3+00	702.28	701.93	701.90
	3+25	702.11	701.68	701.62
CL BRG.PIER 1E2	3+30.49	701.98	-----	-----
CL BRG.PIER 1E2	3+39.16	-----	701.43	-----
CL BRG.PIER 1E2	3+40.07	-----	-----	701.33
	3+50	701.85	701.27	701.17
LINK JOINT	3+51.93	701.83	-----	-----
LINK JOINT	3+61.04	-----	701.00	-----
LINK JOINT	3+62	-----	-----	700.85
	3+75	701.61	700.83	700.75
	4+00	701.08	700.27	700.19
	4+25	700.37	699.58	699.50
	4+50	699.45	698.69	698.61
	4+75	698.35	697.61	697.53
	5+00	697.24	696.33	696.23
	5+25	695.99	694.89	694.77
	5+50	694.66	693.36	693.22
CL BRG.PIER 2E2	5+50.71	694.61	-----	-----
CL BRG.PIER 2E2	5+63.40	-----	692.56	-----
CL BRG.PIER 2E2	5+64.74	-----	-----	692.34
	5+75	693.21	691.89	691.75
	6+00	691.79	690.45	690.31
	6+25	690.37	689.03	688.89
	6+50	688.96	687.63	687.49
	6+75	687.53	686.20	686.06
CL BRG.ABUT.E2	6+70.98	687.76	-----	-----
CL BRG.ABUT.E2	6+91	-----	685.29	-----
CL BRG.ABUT.E2	6+93.11	-----	-----	685.03

NOTE:

FOR DECK SCREED ELEVATION KEY PLAN, SEE SHEET 77/89 .

adache–ciuni–lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

DECK SCREED ELEVATIONS

INNERBELT FREEWAY

BR. NO. { CUY–90–1524 CUY–90–1540
{ CUY–90–1547 CUY–90–1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
DARKO	T.M.J.	M.J.L.	J.R.C.	10/91	

CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY - 90 - 15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

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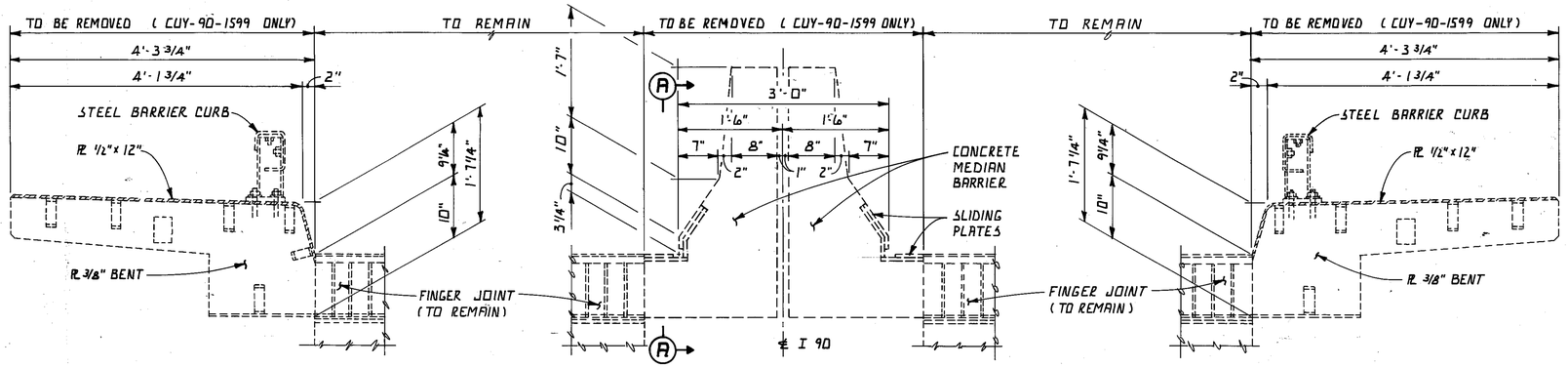
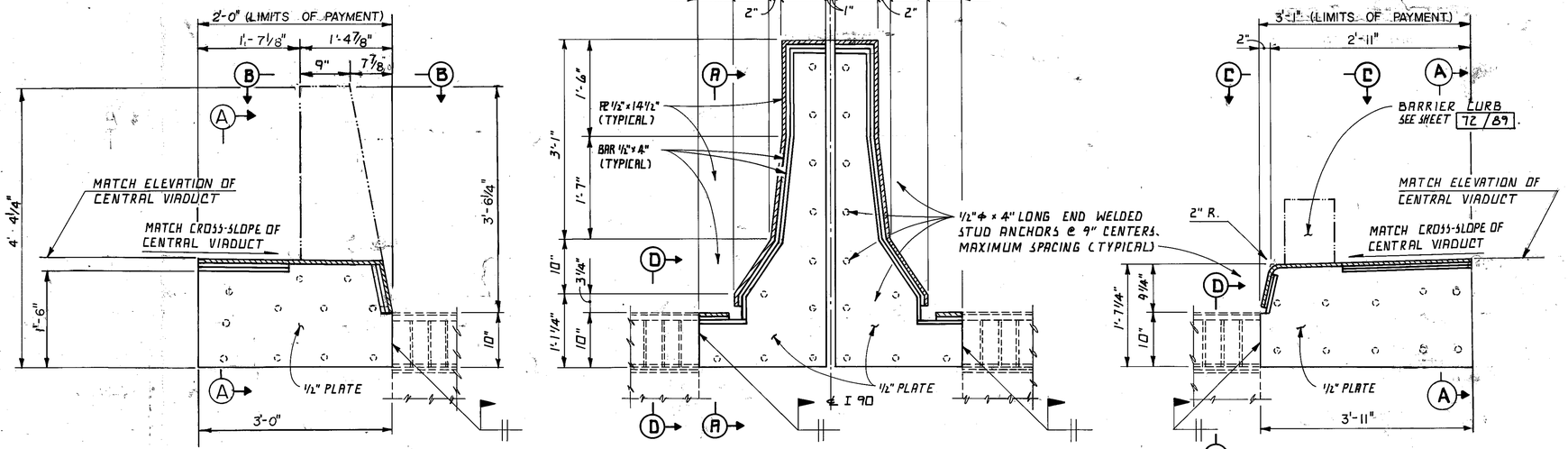


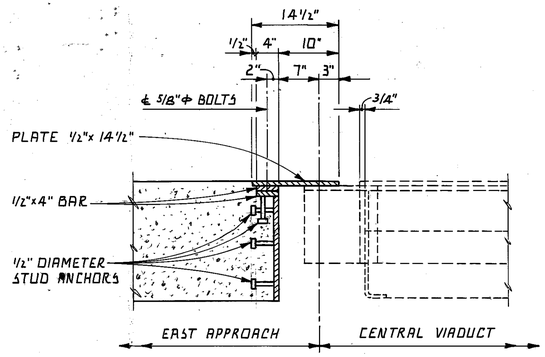
SECTION THROUGH EXPANSION JOINT @ EAST END PIER

EXISTING JOINT LOOKING UPSTATION

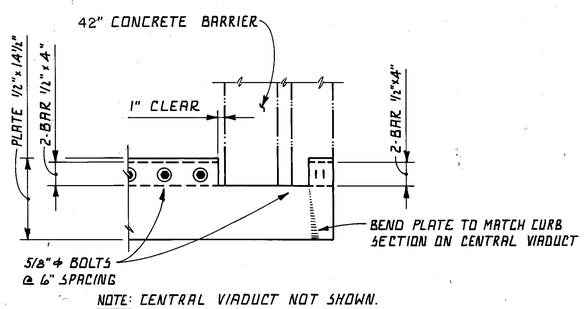


SECTION THROUGH EXPANSION JOINT @ EAST END PIER

PROPOSED JOINT LOOKING UPSTATION

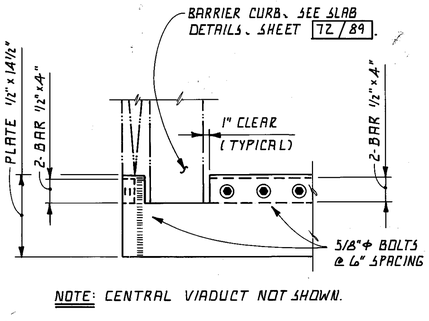


SECTION A-A



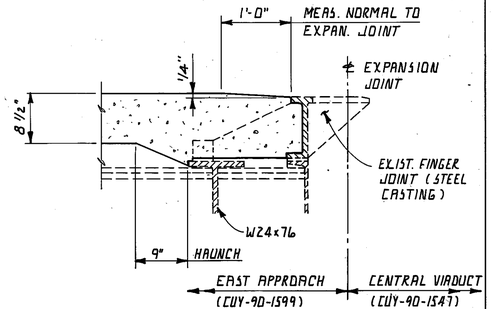
NOTE: CENTRAL VIADUCT NOT SHOWN.

VIEW B-B



NOTE: CENTRAL VIADUCT NOT SHOWN.

VIEW C-C



SECTION D-D

NOTES:

THE EXISTING JOINT IN THE WALKWAY AND MEDIAN AREAS ON THE EAST APPROACH (CUY-90-1599) SHALL BE REMOVED TO THE LIMITS SHOWN. THE FINGER JOINTS IN THE ROADWAY AREAS AND THE JOINT IN THE CENTRAL VIADUCT (CUY-90-1547) WALKWAYS SHALL REMAIN INTACT. THE PROPOSED JOINT SHALL BE INSTALLED TO FUNCTION WITH THE EXISTING.

FOR ADDITIONAL NOTES, SLIDING PLATE DETAILS, OTHER DETAILS AND CALL-OUTS NOT SHOWN, SEE STANDARD DRAWING EXJ-4-87.

FOR MODIFICATIONS TO THE MEDIAN BARRIER ON THE CENTRAL VIADUCT (CUY-90-1547), SEE SHEET 37/89.

THE SKEW FOR THE EXISTING JOINT AND THE PROPOSED MODIFIED JOINT IS 0°00'00.00".

PAYMENT FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE ALL EXPANSION JOINT WORK AT THE EAST END PIER SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAL FOOT FOR ITEM 516-"STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN".

D-12 REVISED 9-96

79 / 89

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

EXP. JOINT AT EAST END PIER
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540
{ CUY-90-1547 CUY-90-1599

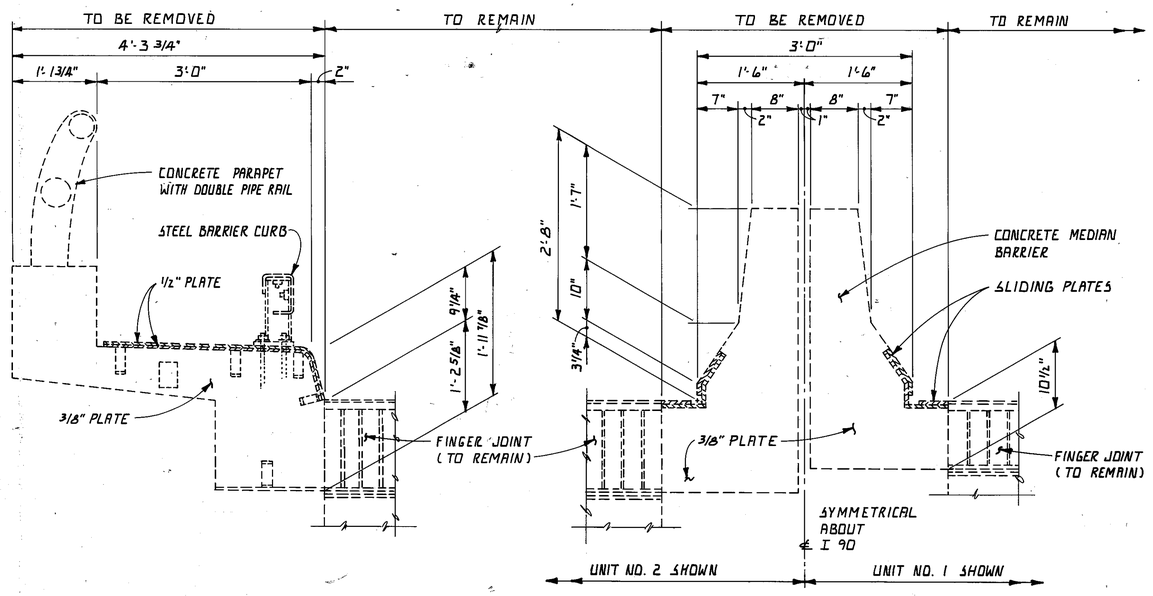
STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	OCT. 21, 1991	

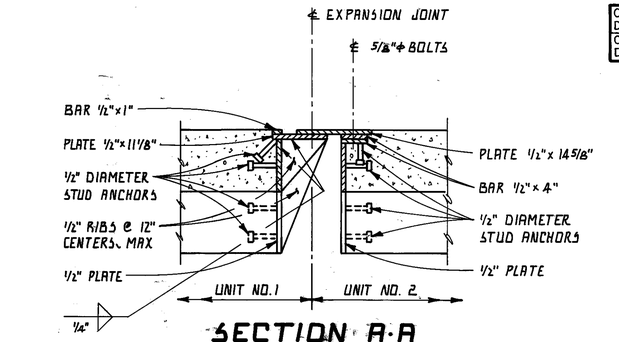
BRUNING 44-232 67195-01

A-C-L form no. B-1

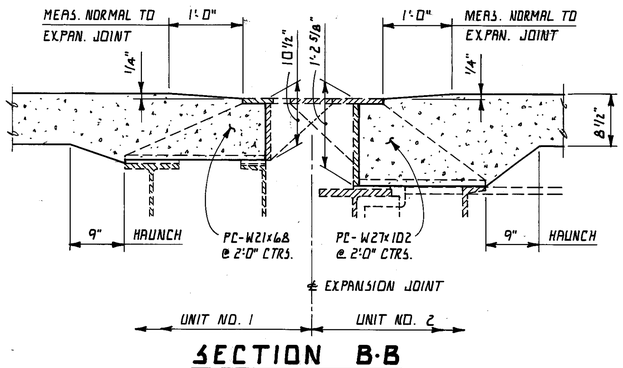


SECTION THROUGH EXPANSION JOINT AT MAINLINE ROLLERS

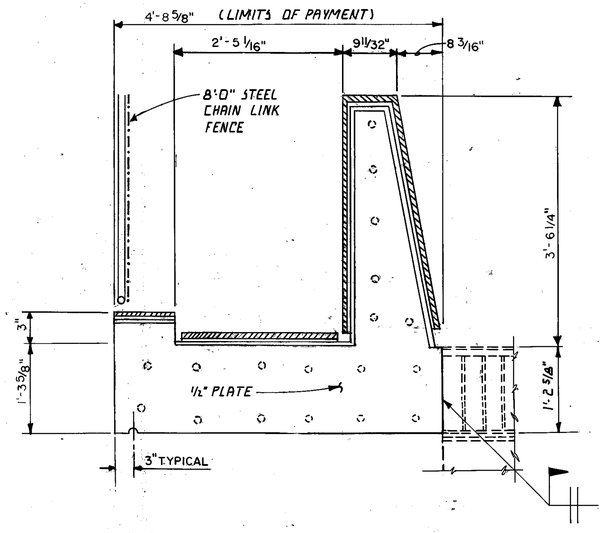
(EXISTING JOINT)

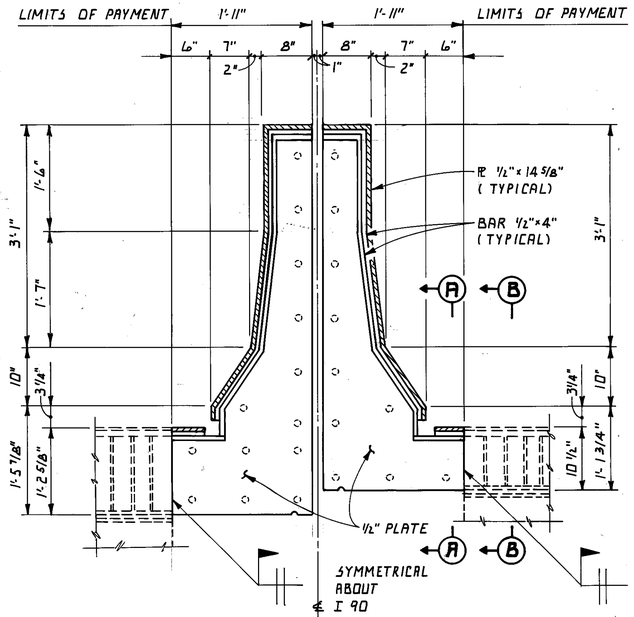


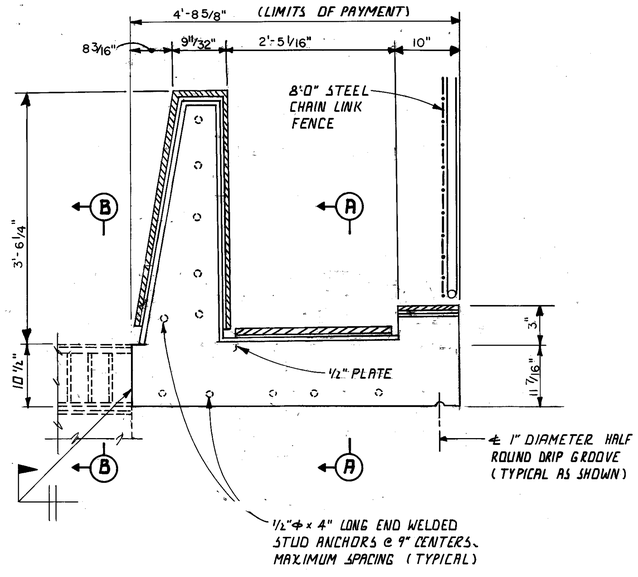
SECTION A-A



SECTION B-B







SECTION THROUGH EXPANSION JOINT AT MAINLINE ROLLERS

(PROPOSED JOINT)

NOTES:

THE EXISTING JOINT IN THE WALKWAY AND MEDIAN AREAS SHALL BE REMOVED TO THE LIMITS SHOWN. THE FINGER JOINT IN THE ROADWAY AREAS SHALL REMAIN. THE PROPOSED MODIFIED JOINT SHALL BE INSTALLED TO FUNCTION WITH THE EXISTING FINGER JOINT.

FOR ADDITIONAL NOTES, SLIDING PLATE DETAILS, OTHER DETAILS, AND CALL-OUTS NOT SHOWN, SEE STANDARD DRAWING EXJ-4-87.

THE SKEW FOR THE EXISTING JOINT AND PROPOSED MODIFIED JOINT IS 17° 35' 08.70" RIGHT FORWARD MEASURED FROM TANGENT TO ℄ I 90 AT ℄ ROLLERS.

PAYMENT FOR ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE ALL EXPANSION JOINT WORK AT THE MAINLINE ROLLERS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAL FOOT FOR ITEM 516-" STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN".

CALC.	CUYAHOGA COUNTY	OHIO	141
DATE	CUY-90-15.24	F.H.W.A. REGION 5	151
CHKD.	INNERBELT FREEWAY		
DATE			

D-12 REVISED 9-96 — 80/89

adache · ciuni · lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

EXP. JOINT AT MAINLINE ROLLERS
INNERBELT FREEWAY

BR. NO. CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

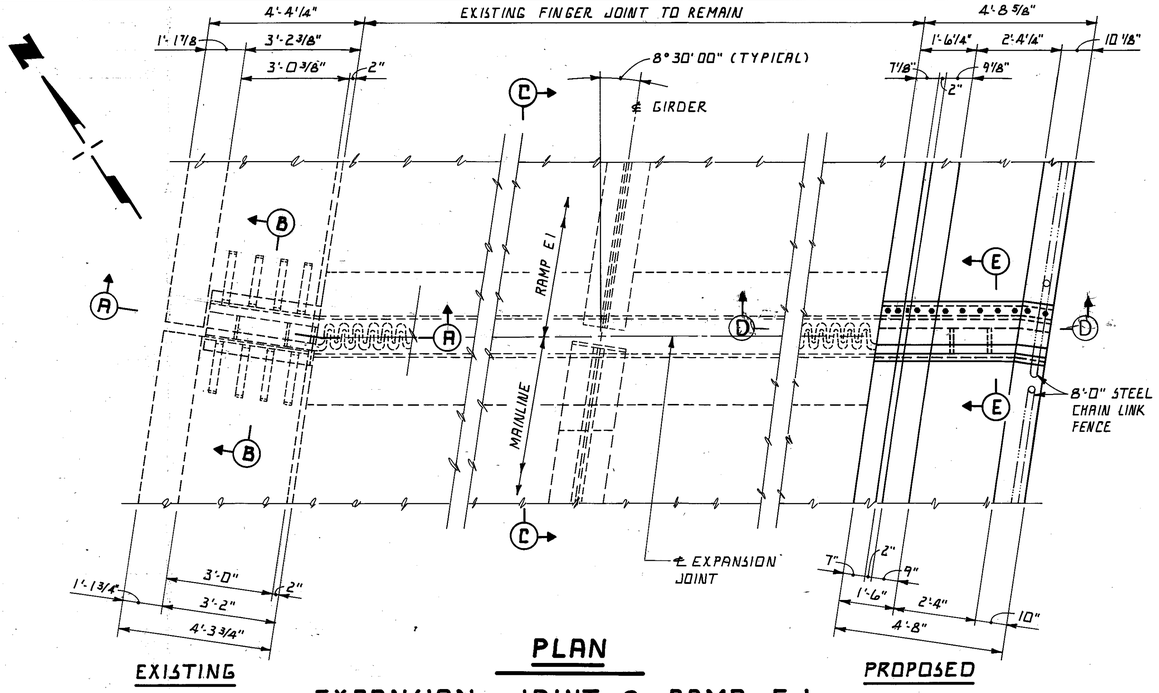
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	OCT. 21, 1991	

BRUNING 44-232-67195

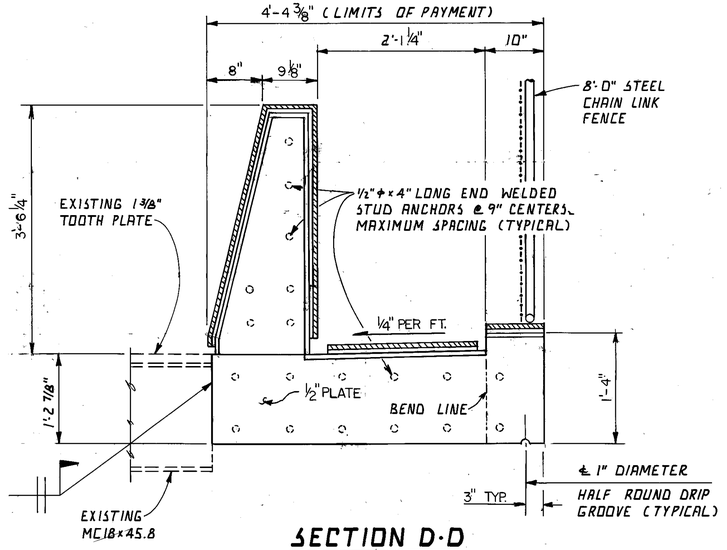
A-C-L form no. B-1

CALC.		CUYAHOGA COUNTY	OHIO	142
DATE		CUY-90-15.24	F.H.W.A. REGION 5	151
CHKD.		INNERBELT FREEWAY		
DATE				

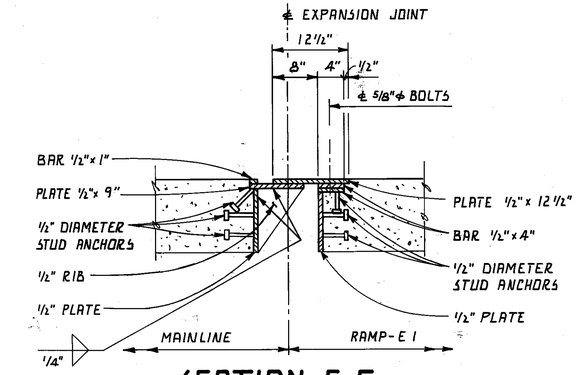


PLAN

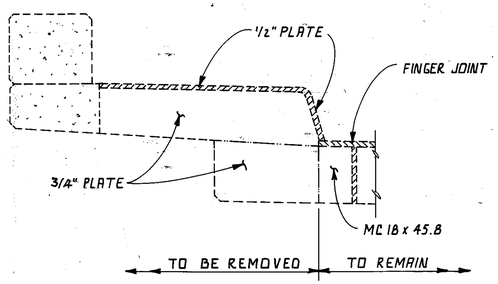
EXPANSION JOINT @ RAMP E 1



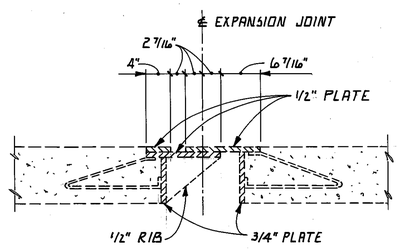
SECTION D·D



SECTION E·E



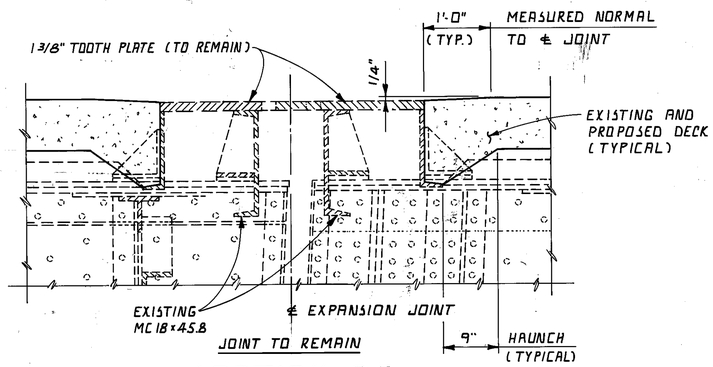
SECTION A·A



TO BE REMOVED

SECTION B·B

DIMENSIONS SHOWN ARE AT 60°F AND ARE TAKEN FROM RECORDS.



SECTION C·C

FOR INFORMATION ONLY

NOTES:

THE EXISTING JOINT IN THE WALKWAY BEERS SHALL BE REMOVED TO THE LIMITS SHOWN. THE PROPOSED MODIFIED JOINT SHALL BE INSTALLED TO FUNCTION WITH THE EXISTING FINGER JOINT.

FOR ADDITIONAL NOTES, SLIDING PLATE DETAILS AND OTHER DETAILS AND CALL-OUTS NOT SHOWN, SEE STANDARD DRAWING EXJ-4-87.

PAYMENT FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE ALL EXPANSION JOINT WORK AT RAMP E1 ROLLERS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAL FOOT FOR ITEM 516 - "STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN".

D-12 REVISED 9-96

81 / 89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

EXP. JOINT AT RAMP E1 ROLLERS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

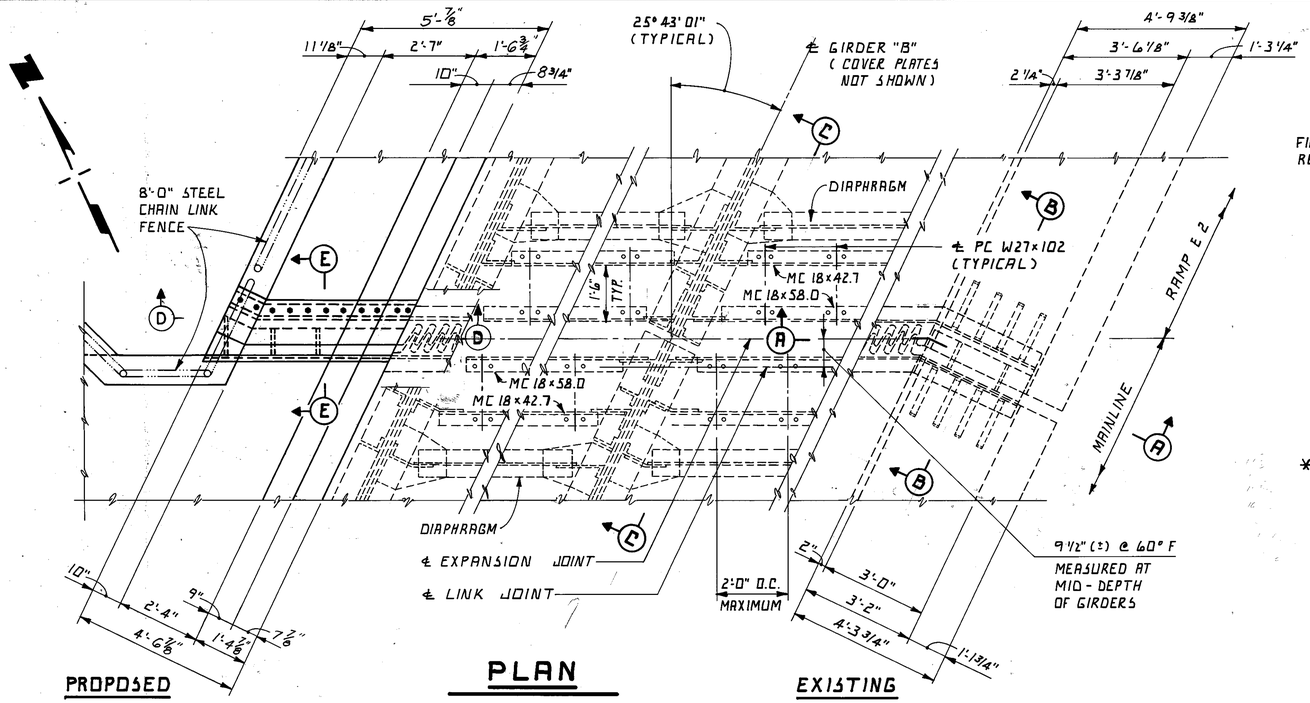
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.D.	OCT. 22, 1991	

BRUNING 44-232 67195-01

A-C-L form no. B-1

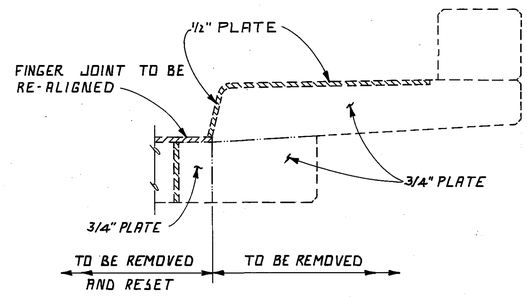
CALC.	CUYAHOGA COUNTY	OHIO
DATE	CUY-90-15.24	F.H.W.A. REGION 5
CHKD.	INNERBELT FREEWAY	
DATE		

143
151

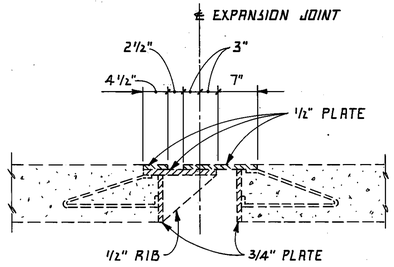


PLAN

EXPANSION JOINT @ RAMP E 2



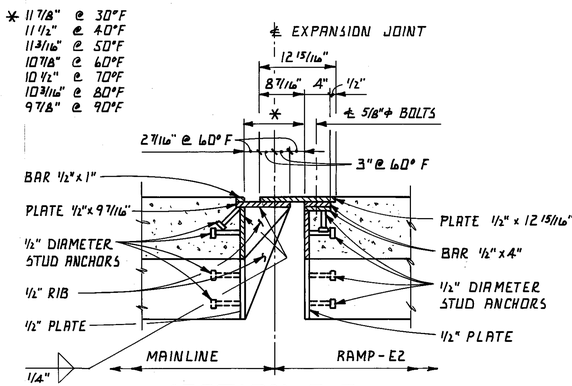
SECTION A-A



TO BE REMOVED

SECTION B-B

DIMENSIONS SHOWN ARE AT 60° F AND TAKEN FROM RECORDS.



SECTION E-E

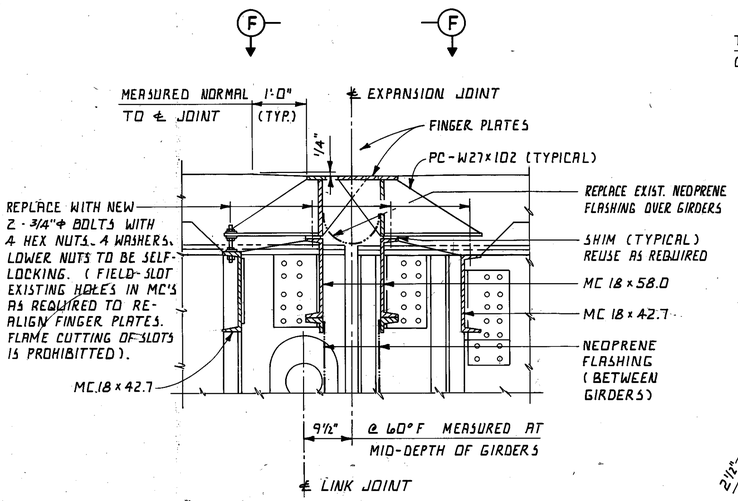
NOTES:

THE EXISTING JOINT IN THE WALKWAY AREAS SHALL BE REMOVED TO THE LIMITS SHOWN. THE PROPOSED MODIFIED JOINT SHALL BE INSTALLED TO FUNCTION WITH THE EXISTING FINGER JOINT.

THE EXISTING JOINT IN THE ROADWAY AREA SHALL BE CAREFULLY REMOVED, CLEANED AND FIELD PAINTED. THE EXISTING MOUNTING HOLES IN THE MC 18x58.0 AND MC 18x42.7 CHANNELS SHALL BE SLOTTED TO FACILITATE JOINT RE-ALIGNMENT. (SLOTTING SHALL EMPLOY DRILLING METHODS; FLAME CUTTING IS PROHIBITED). THE JOINT SHALL BE RE-INSTALLED, TRUE TO LINE AND GRADE, USING THE EXISTING AND/OR NEW SHIMS OF APPROPRIATE SIZE AND THICKNESS, AND NEW HIGH-STRENGTH STEEL BOLTS, NUTS AND WASHERS MEETING THE REQUIREMENTS OF 711.09 OF CMS.

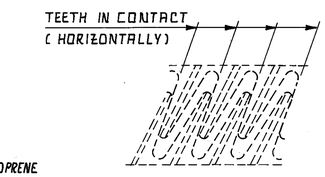
FOR ADDITIONAL NOTES, SLIDING PLATE DETAILS, OTHER DETAILS, AND CALL-OUTS NOT SHOWN, SEE STANDARD DRAWING EXJ-4-87.

PAYMENT FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE ALL EXPANSION JOINT WORK AT RAMP E2 LINK JOINT SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAL FOOT FOR THE FOLLOWING ITEMS, ITEM 516 - "STRUCTURAL STEEL EXPANSION JOINT AS PER PLAN" AND ITEM 516 "STRUCTURAL STEEL EXPANSION JOINT (EXISTING FINGER JOINT REMOVED AND RESET), AS PER PLAN.

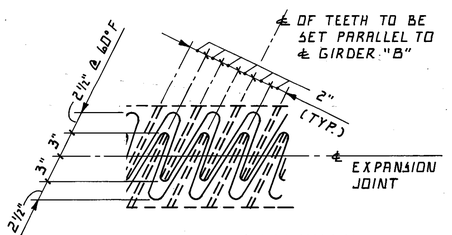


SECTION C-C

INCLUDE NEOPRENE FLASHING OVER GIRDERS WITH JOINT FOR PAYMENT.

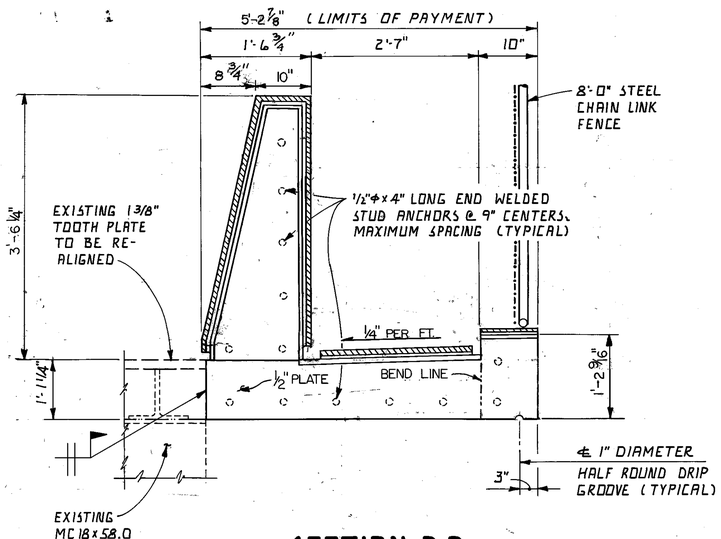


PRIOR TO RE-ALIGNMENT



AFTER RE-ALIGNMENT

VIEW F-F



SECTION D-D

SHOWN OPPOSITE HAND

D-12 REVISED 9-96

82/89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

EXP. JOINT AT RAMP E2 LINK JOINT
INNERBELT FREEWAY

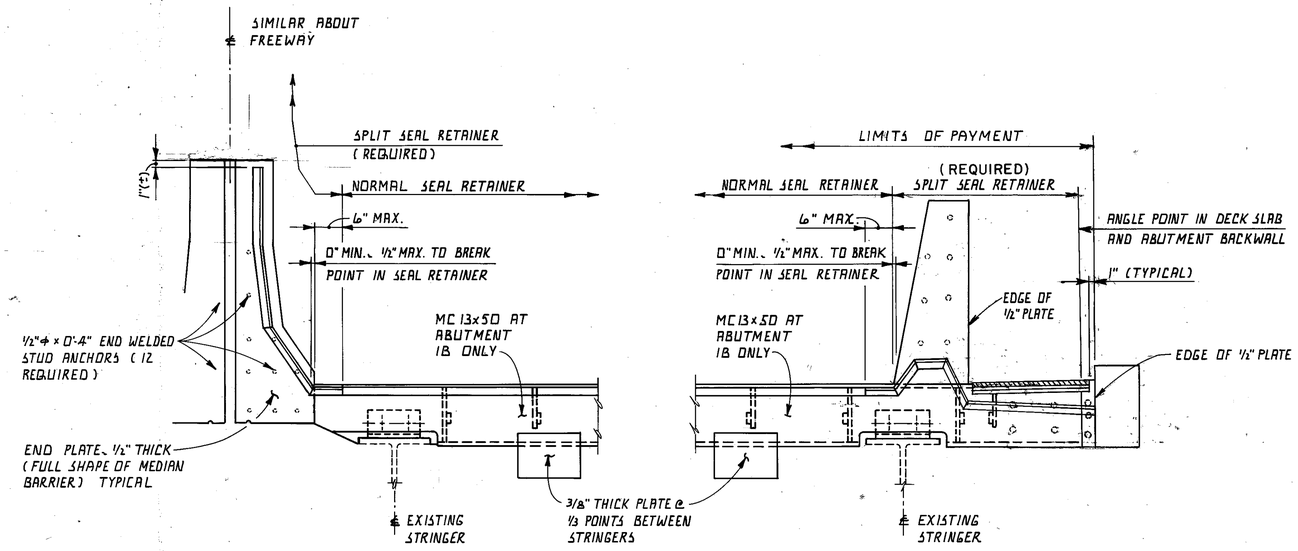
BR.NO. { CUY-90-1524 CUY-90-1540
CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.P.L.	OCT 22, 1991	

BRUNING 44-232 67195-01

A-C-L form no. B-1

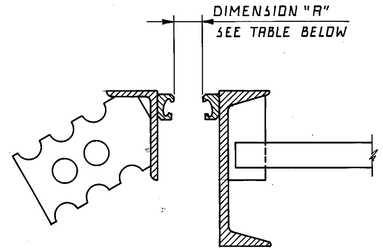


AT MEDIAN BARRIER

AT WALKWAY BARRIER

EXPANSION JOINT AT ABUTMENT 1B

FOR CALL-OUTS, DETAILS AND DIMENSIONS NOT SHOWN, SEE STD. DWG. EXJ-4-87.



JOINT OPENING DETAIL

DIMENSION "A"			
TEMPERATURE	ABUT. 1B	ABUT. E-1	ABUT. E-2
30°	2 1/2"	1 7/8"	1 7/8"
40°	2 5/16"	1 13/16"	1 13/16"
50°	2 3/16"	1 3/4"	1 11/16"
60°	2"	1 11/16"	1 5/8"
70°	1 13/16"	1 5/8"	** 1 1/2"
80°	1 11/16"	1 9/16"	** 1 3/8"
90°	** 1 1/2"	** 1 1/2"	** 1 5/16"

** MINIMUM JOINT OPENING (DIMENSION "A") AT TIME OF INSTALLATION OF SEAL GLAND SHALL NOT BE LESS THAN 1 1/2". IF JOINT OPENING IS LESS, THE INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW THE MINIMUM 1 1/2" OPENING.

NOTES:

EXPANSION JOINTS AT ABUTMENTS SHALL BE IN ACCORDANCE WITH STANDARD DRAWING EXJ-4-87, EXCEPT AS MODIFIED HEREIN.

ABUTMENT 1B SHALL USE A STANDARD 4" STRIP SEAL GLAND.

THE EXPANSION JOINT AT ABUTMENT 1B (MAINLINE ABUTMENT) SHALL BE INSTALLED IN PHASES. A TEMPORARY 4" STRIP SEAL GLAND SHALL BE INSTALLED IN PHASE IA, 1B, II & IV, USING A LUBRICANT ONLY (NO ADHESIVE). THE LUBRICANT SHALL BE SPECIFIED BY THE SEAL MANUFACTURER AND SHALL BE FULLY COMPATIBLE WITH THE LUBRICANT-ADHESIVE USED FOR THE PERMANENT SEAL.
UPON COMPLETION OF PHASE III & V, THE TEMPORARY SEAL SHALL BE REMOVED, THE SEAL RETAINER BE CLEANED AND PREPARED IN ACCORDANCE WITH STANDARD DRAWING EXJ-4-87. A FULL-WIDTH CONTINUOUS 4" STRIP SEAL SHALL BE INSTALLED. THE TEMPORARY SEAL SHALL BECOME PROPERTY OF THE CONTRACTOR, DISCARDED OR REMOVED FROM THE PROJECT SITE AND NOT BE INCORPORATED INTO ANY PART OF THE FINISHED PROJECT. THE RAMP ABUTMENTS (ABUTMENTS E1 AND E2) REQUIRE NEW STRIP SEAL GLANDS.

ALL COST FOR THE TEMPORARY 4" STRIP SEAL GLAND INCLUDING INSTALLATION, REMOVAL, MATERIAL, LABOR, AND EQUIPMENT SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAL FOOT. ITEM 516 - "STRUCTURAL STEEL EXPANSION JOINT INCLUDING 4" ELASTOMERIC STRIP SEAL, AS PER PLAN". NO ADDITIONAL COMPENSATION SHALL BE ALLOWED THEREOF.

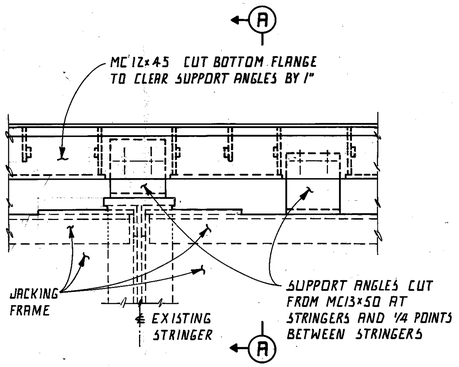
ABUTMENT E-1 SHALL USE A STANDARD 3" STRIP SEAL GLAND.

ABUTMENT E-2 SHALL USE A STANDARD 3" STRIP SEAL GLAND.

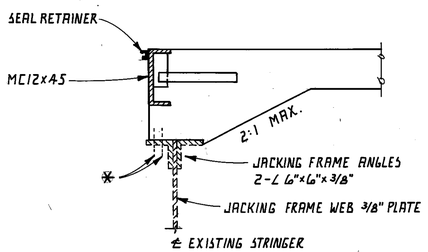
ALL COST FOR THE 1"x4 3/8" BAR, FIELD DRILLING, 1"ϕ HIGH STRENGTH BOLTS, NUTS, AND WASHERS, AND SHIMS ASSOCIATED WITH ABUTMENT E-2, INCLUDING LABOR AND EQUIPMENT, SHALL BE INCLUDED IN THE UNIT BID PRICE PER LINEAL FOOT. ITEM 516 - "STRUCTURAL STEEL EXPANSION JOINT INCLUDING 3" ELASTOMERIC STRIP SEAL, AS PER PLAN". NO ADDITIONAL COMPENSATION SHALL BE ALLOWED THEREOF.

END CROSSFRAMES AT ABUTMENT 1B SHALL BE AS SHOWN ON STANDARD DRAWINGS SD-1-69 AND EXJ-4-87, EXCEPT THE SIZE OF THE ANGLES SHALL BE L 4"x 4"x 3/8".

FOR ABUTMENT DETAILS AND SKEW ANGLES FOR ABUTMENTS 1B, E1 AND E2, SEE SHEETS 42/89, 43/89, 45/89 AND 47/89, RESPECTIVELY.



AT EXISTING STRINGER



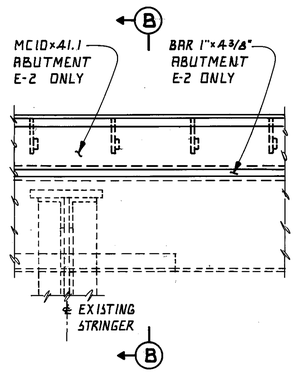
* REMOVE EXISTING RIVETS IF LOOSENED DURING DECK REMOVAL OR WHERE THEY INTERFER WITH NEW SUPPORT ANGLES, PLUG OR CHAULK HOLES PRIOR TO POURING DECK, AS DIRECTED BY THE ENGINEER.

SECTION A-A

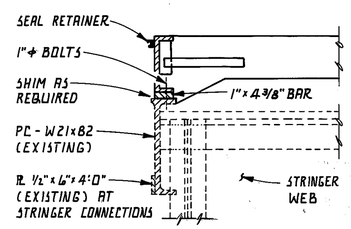
EXPANSION JOINT AT ABUTMENT E 1

FOR CALL-OUTS, DETAILS AND DIMENSIONS NOT SHOWN, SEE STD.DWG. EXJ-4 87.

EXPANSION JOINT AT WALKWAYS TO BE SIMILAR TO ABUTMENT 1B. STRIP SEAL SHALL END 3" FROM FACE OF FENCE CURB.



AT EXISTING STRINGER



NOTE: THE EXISTING END DAM IS CONNECTED TO THE PC W21x82 BY 1"ϕ BOLTS @ 6" CENTERS. THE MC10x41.1 AND 1" BAR SHALL BE FIELD DRILLED TO MATCH THE EXISTING BOLT SPACING @ 12" CENTERS AND INSTALLED WITH NEW 1"ϕ HIGH STRENGTH BOLTS AND SHIMS (1/16" MINIMUM) AS REQUIRED.

SECTION B-B

EXPANSION JOINT AT ABUTMENT E 2

FOR CALL-OUTS, DETAILS AND DIMENSIONS NOT SHOWN, SEE STD. DWG. EXJ-4-87.

EXPANSION JOINT AT WALKWAYS TO BE SIMILAR TO ABUTMENT 1B.

D-12 REVISED 9-96

83/89

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CONSULTING ENGINEERS CLEVELAND, OHIO 44131

EXPANSION JOINTS AT ABUTMENTS
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78

CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	DARKO	J.R.C.	OCT. 22, 1991	

BRUNING 44-232-67195-01

A-C-L form no. B-1

CALC. DATE	CUYAHOGA COUNTY CUY - 90 - 15.24 INNERBELT FREEWAY	OHIO F.H.W.A. REGION 5
CHKD. DATE		

ABUTMENT NO. 1B

MARK	NUMBER REQUIRED	LENGTH FT IN	TYPE	DIM. A FT IN	DIM. B FT IN	DIM. C FT IN	DIM. D FT IN	INCREMENT FT IN	WEIGHT LBS.
A1B 501	24	6 8¾	5	0 6	3 3				168
A1B 502	1	9 6	18	7 5	9 5	2 1			10
A1B 503	1	9 10	18	7 9	9 11	2 1			10
A1B 504	1	11 10	36	7 4¾	9 5	2 1	2 4		12
A1B 505	1	12 2	36	7 9½	9 11	2 1	2 4		13
A1B 507	4	4 5¼	40	0 3⅜	0 10⅞	1 6			19
A1B 512	4	30 0	STR						125
A1B 518	8	3 4	15	2 3	0 6	1 0			28
A1B 519	4	27 5	STR						114
A1B 520	4	25 2	STR						105
A1B 521	4	3 10	STR						16
A1B 522	4	15 2	STR						63
A1B 524	4	7 10	STR						33
A1B 525	4	3 8	24	0 7	0 7	0 8	1 6		15
A1B 526	7	5 4	STR						39
A1B 527	4	13 4	STR						56
A1B 528	4	12 6	STR						52
A1B 529	4	14 4	STR						60
A1B 530	4	4 8	STR						19
A1B 601	48	8 10	5	0 9	4 2				637
A1B 602	6	9 10	18	7 9	9 10	2 1			89
A1B 603	6	10 4	18	8 3	10 6	2 1			93
A1B 604	6	11 11⅛	36	7 5⅛	9 5½	2 1	2 5		107
A1B 605	6	12 1¾	36	7 7¾	9 8¾	2 1	2 5		109
A1B 607	158	9 7	5	0 11	4 6				2274
A1B 608	158	4 8	38						1107
A1B 612	12	30 0	STR						541
A1B 617	2	24 0	STR						72
A1B 619	10	27 6	STR						413
A1B 620	12	25 2	STR						454
A1B 621	12	3 10	STR						69
A1B 622	12	15 2	STR						273
A1B 624	12	8 3	STR						149
A1B 627	12	13 4	STR						240
A1B 628	12	12 6	STR						225
A1B 629	12	14 4	STR						258
A1B 630	12	4 8	STR						84
A1B 801	95	5 3	13	3 0	1 5	1 0			1332
							TOTAL WEIGHT		9483

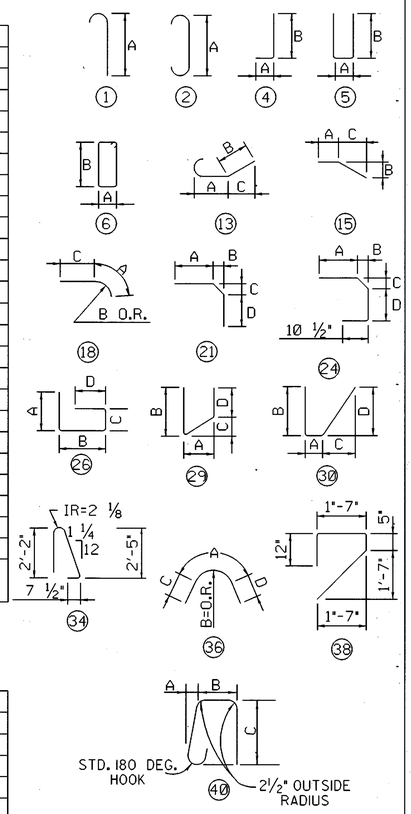
ABUTMENT NO. E1

MARK	NUMBER REQUIRED	LENGTH FT IN	TYPE	DIM. A FT IN	DIM. B FT IN	DIM. C FT IN	DIM. D FT IN	INCREMENT FT IN	WEIGHT LBS.
AE1 506	31	5 0	5	0 6	2 2				162
AE1 507	4	4 5¼	40	0 3⅜	0 10⅞	1 6			19
AE1 527	1	14 2	36	7 6	9 6	2 10	3 10		15
AE1 528	1	14 5	36	7 9	9 10	2 10	3 10		15
AE1 529	1	14 5	36	7 6	9 6	1 1	5 10		15
AE1 530	1	14 8	36	7 9	9 10	1 1	5 10		15
AE1 531	4	26 10	STR						112
AE1 532	8	6 2	STR						51
AE1 606	31	4 10	5	1 2	2 0				225
AE1 612	3	14 5	36	7 9	9 10	2 10	3 10		65
AE1 613	3	15 2	36	8 6	10 10	2 10	3 10		68
AE1 614	3	14 8	36	7 9	9 10	1 1	5 10		66
AE1 615	3	15 5	36	8 6	10 10	1 1	5 10		69
							TOTAL WEIGHT		897

ABUTMENT NO. E2

MARK	NUMBER REQUIRED	LENGTH FT IN	TYPE	DIM. A FT IN	DIM. B FT IN	DIM. C FT IN	DIM. D FT IN	INCREMENT FT IN	WEIGHT LBS.
AE2 506	53	5 0	5	0 6	2 3				276
AE2 507	4	4 5¼	40	0 3⅜	0 10⅞	1 6			19
AE2 508	1	19 2	36	7 9	9 11	0 10	10 7		20
AE2 509	2	1 8	STR						3
AE2 510	1	29 0	36	7 5	9 5	18 10	2 9		30
AE2 511	1	29 4	36	7 9	9 11	18 10	2 9		31
AE2 512	4	30 0	STR						125
AE2 513	8	7 5	15	6 6	0 8	0 8			62
AE2 514	1	18 10	36	7 5	9 5	0 10	10 7		20
AE2 606	53	4 10	5	1 2	2 0				385
AE2 607	3	19 1	36	7 8	9 9	0 10	10 7		86
AE2 608	3	20 0	36	8 7	10 11	0 10	10 7		90
AE2 609	6	1 8	STR						15
AE2 610	3	29 3	36	7 8	9 9	18 10	2 9		132
AE2 611	3	30 2	36	8 7	10 11	18 10	2 9		136
							TOTAL WEIGHT		1430

BENDING DIAGRAMS



NOTES:

REINFORCING STEEL SAMPLES: REFER TO SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLES. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

D-12 REVISED 9-96 | 84/89

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

REINFORCING SCHEDULE
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	2/94	

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SUPERSTRUCTURE - UNIT NO. 1 - EASTBOUND

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S1EB 401	3413	30	0	STR											68397
S1EB 402	1 SER.	8	9	STR									0	0⅝	177
	28 BARS	10	2												
S1EB 403	92	21	10	STR											1343
S1EB 404	194	14	10	STR											1922
S1EB 405	90	7	2	STR											431
S1EB 407	1 SER.	11	2	STR									0	2⅜16	483
	47 BARS	19	7¾												
S1EB 410	47	15	11	STR											500
S1EB 411	1 SER.	2	8	STR									0	2⅜16	196
	43 BARS	10	11¾												
S1EB 412	46	14	7	STR											448
S1EB 415	1	7	8	21	2	6	3	0	3	0	1	0			5
S1EB 416	1 SER.	10	2	STR									0	1⅝16	166
	22 BARS	12	5												
S1EB 450	611	3	0⅛	6	0	6	0	9⅜							1221
S1EB 499	2	7	3	STR											10
S1EB 501	1203	9	6	STR											11920
S1EB 502	231	23	1	STR											5562
S1EB 507	620	4	5¼	40	0	3⅜	0	10⅞	1	6					2870
S1EB 520	595	2	2	4	0	10.5	1	5							1345
S1EB 521	595	2	10	24	0	7	0	6	0	8.5	0	8.5			1758
S1EB 523	1 SER.	22	10	STR									0	0⅛	4020
	164 BARS	24	2												
S1EB 524	1 SER.	24	2	STR									0	0½	4690
	164 BARS	30	8												
S1EB 525	282	18	7	STR											5466
S1EB 526	1 SER.	14	7	STR									0	1	3009
	141 BARS	26	4												
S1EB 527	1 SER.	9	11	STR									0	1⅞16	2788
	141 BARS	28	0												
S1EB 528	141	17	9	STR											2610
S1EB 529	1 SER.	22	5	STR									0	0¼	3245
	127 BARS	25	3												
S1EB 530	223	23	9	STR											5524
S1EB 531	1 SER.	4	2	STR									1	11⅝16	278
	15 BARS	31	4												
S1EB 532	1 SER.	4	5	STR									2	2⅝	275
	14 BARS	33	3												
S1EB 533	1	32	10	STR											34
S1EB 540	1915	30	0	STR											59920
S1EB 541	1 SER.	16	10	STR									0	0¾	439
	24	18	3												
S1EB 542	1 SER.	5	3	STR									0	3	332
	34 BARS	13	6												
S1EB 543	33	20	9	STR											714
S1EB 544	1 SER.	16	10	STR									0	2⅝	906
	41 BARS	25	6½												

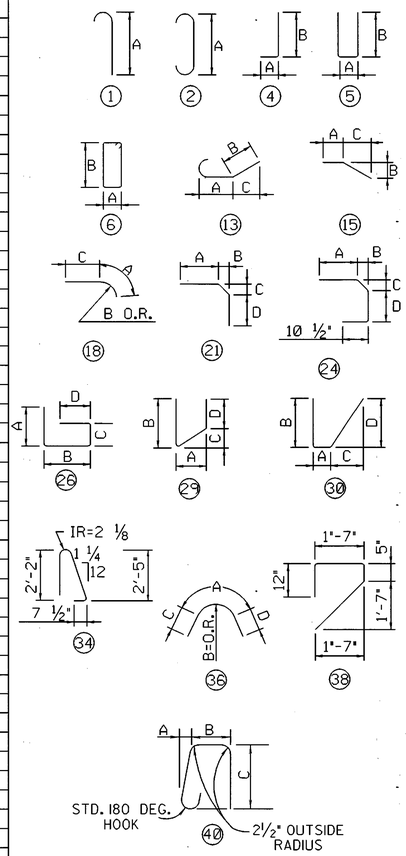
SUPERSTRUCTURE - UNIT NO. 1 - EASTBOUND (CONTINUED)

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S1EB 545	1	13	2	STR											14
S1EB 546	3	27	4	STR											86
S1EB 547	1	7	0	STR											7
S1EB 552	4	14	4	29	6	7	1	8	0	3	6	4			60
S1EB 553	4	14	1	29	6	7	1	8	0	6	6	1			59
S1EB 559	106	18	0	STR											1990
S1EB 561	1 SER.	18	3	STR									0	1⅝16	323
	16 BARS	20	6												
S1EB 562	320	16	8	STR											5563
S1EB 563	3	16	7	STR											52
S1EB 564	568	16	6	STR											9775
S1EB 565	1 SER.	16	3	STR									0	0½	120
	7 BARS	16	6												
S1EB 566	297	16	2	STR											5008
S1EB 567	1 SER.	2	2	STR									1	10	72
	8 BARS	15	0												
S1EB 569	1	16	10	STR											18
S1EB 587	1 SER.	2	10¼	1	2	2½							1	0	40
	10 BARS	4	7⅜		3	11⅝									
S1EB 588	1 SER.	2	2½	STR									1	0	32
	10 BARS	3	11½												
S1EB 589	8	4	7⅜	1	3	11½									39
S1EB 590	1 SER.	3	2¾	5	2	6	0	5½					0	2½	21
	5 BARS	4	10¾		2	6	1	3½							
S1EB 591	7	4	10¾	5	2	6	1	3½							36
S1EB 598	9	22	7½	STR											212
S1EB 599	2	7	3	STR											15
S1EB 601	1203	5	6	STR											9938
S1EB 602	231	27	6	STR											9541
S1EB 603	323	11	0	STR											5337
S1EB 604	2 SER.	11	10	STR									0	0⅜16	11802
	284 BARS	15	10												
S1EB 605	2 SER.	10	11	STR									0	0⅛	5166
	149 BARS	12	2												
S1EB 606	1 SER.	2	6	STR									1	10¼	47
	5 BARS	9	11												
S1EB 623	1 SER.	27	3	STR									0	0⅛	6900
	164 BARS	28	7												
S1EB 624	1 SER.	28	7	STR									0	0½	7744
	164 BARS	35	1												
S1EB 625	282	19	0	STR											8048
S1EB 626	1 SER.	18	5	STR									0	1	5162
	141 BARS	30	2												
S1EB 627	1 SER.	9	1	STR									0	1⅞16	3847
	141 BARS	27	3												
S1EB 628	141	23	5	STR											4959
S1EB 629	1 SER.	26	10	STR									0	0¼	5389
	127 BARS	29	8												
S1EB 630	224	28	3	STR											9505
S1EB 631	1 SER.	4	2	STR									1	11⅝16	400
	15 BARS	31	4												
S1EB 632	1 SER.	4	5	STR									2	2⅝	396
	14 BARS	33	3												
S1EB 633	1	32	10	STR											49
S1EB 645	1	15	6	STR											23
S1EB 646	3	32	2	STR											145
S1EB 647	1	7	0	STR											11
S1EB 648	30	5	6	4	2	0	3	8							248
S1EB 662	320	16	8	STR											8011
S1EB 663	3	16	7	STR											75
S1EB 664	568	16	6	STR											14077
S1EB 665	1 SER.	16	3	STR									0	0½	172
	7 BARS	16	6												
S1EB 666	297	16	2	STR											7212

CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

146
151

BENDING DIAGRAMS



NOTES:

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D-12 REVISED 9-96 | 85/89

adache-cluni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

REINFORCING SCHEDULE
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	2/94	

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CALC. DATE	CUYAHOGA COUNTY CUY - 90 - 15.24 INNERBELT FREEWAY	OHIO F.H.W.A. REGION 5
CHKD. DATE		

SUPERSTRUCTURE - UNIT NO. 1 - EASTBOUND (CONTINUED)

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S1EB 667	1 SER.	2	2	STR									1	10	103
	8 BARS	15	0												
S1EB 668	1	11	4	STR											17
S1EB 669	1	16	10	STR											25
S1EB 698	9	27	0½	STR											366
S1EB 703	323	11	0	STR											7262
S1EB 704	2 SER.	11	0	STR									0	0 3/16	15577
	284 BARS	15	10												
S1EB 705	2 SER.	10	11	STR									0	0⅛	7030
	149 BARS	12	2												
S1EB 706	1 SER.	2	6	STR									1	10¼	63
	5 BARS	9	11												
S1EB 768	1	11	4	STR											23
												TOTAL WEIGHT			371216

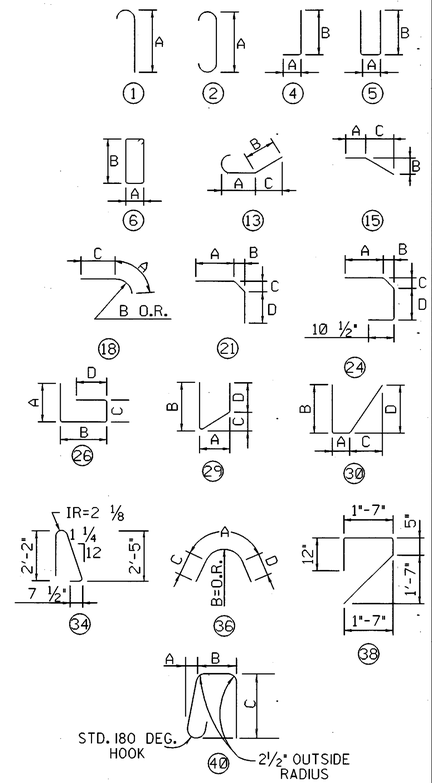
SUPERSTRUCTURE - UNIT NO. 1 - WESTBOUND

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S1WB 401	3456	30	0	STR											69258
S1WB 402	1 SER.	5	6	STR									0	0⅝	117
	28 BARS	7	0												
S1WB 403	102	21	10	STR											1488
S1WB 404	224	14	10	STR											2220
S1WB 405	89	3	2	STR											188
S1WB 407	1 SER.	12	6	STR									0	3½	657
	42 BARS	26	10												
S1WB 409	1 SER.	18	1	STR									0	2 1/16	607
	42 BARS	25	2¼												
S1WB 411	1 SER.	13	10	STR									0	0 3/16	440
	43 BARS	16	9¼												
S1WB 414	1	6	9	30	1	10	2	6	0	6	2	6			5
S1WB 447	56	4	8	2	3	8									175
S1WB 448	1 SER.	3	1	STR									0	1⅜	63
	22 BARS	5	6												
S1WB 450	848	3	0⅛	6	0	6	0	9⅜							1705
S1WB 486	190	22	0												2792
S1WB 496	4	9	10	15	5	0	0	8½	4	9⅜					26
S1WB 497	1 SER.	20	5½	STR									0	1	41
	3 BARS	20	8½												
S1WB 499	1 SER.	26	7	STR									0	1	126
	7 BARS	27	2												
S1WB 501	1175	9	6	STR											11642
S1WB 505	1 SER.	22	10 1/16	STR									0	0 3/16	4559
	171 BARS	30	8												
S1WB 506	309	17	11	STR											5774
S1WB 507	888	4	5¼	40	0	3⅜	0	10⅞	1	6					4110
S1WB 520	603	2	2	4	0	10.5	1	5							1363
S1WB 521	603	2	10	24	0	7	0	6	0	8.5	0	8.5			1782
S1WB 530	1 SER.	14	8	STR									0	1	3342
	152 BARS	27	6												
S1WB 531	1 SER.	13	2	STR									0	0 15/16	3182
	157 BARS	25	8 7/16												
S1WB 532	1 SER.	16	5	STR									0	0 7/16	3172
	157 BARS	22	3 15/16												
S1WB 533	686	24	2	STR											17291
S1WB 534	1 SER.	1	10	STR									1	10 3/16	235
	15 BARS	28	2												
S1WB 535	1	31	9	STR											33

SUPERSTRUCTURE - UNIT NO. 1 - WESTBOUND (CONTINUED)

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S1WB 537	243	36	10	STR											9335
S1WB 538	9	37	2	STR											349
S1WB 540	2110	30	0	STR											66022
S1WB 541	1 SER.	15	2	STR									0	0 3/16	400
	24 BARS	16	9												
S1WB 542	1 SER.	12	11½	STR									0	2⅝	912
	46 BARS	26	8½												
S1WB 543	1 SER.	23	3	STR									0	2½	1009
	36 BARS	30	6												
S1WB 544	1 SER.	16	10	STR									0	1⅜	455
	24 BARS	19	6												
S1WB 546	14	8	6	STR											124
S1WB 547	56	4	10	2	3	8									282
S1WB 548	1 SER.	12	10	STR									0	1⅞	234
	16 BARS	15	2												
S1WB 559	557	18	0	STR											10457
S1WB 561	319	16	4	STR											5434
S1WB 562	1 SER.	16	2	STR									0	0 1/16	68
	4 BARS	16	4												
S1WB 563	19	16	2	STR											320
S1WB 564	1 SER.	15	3	STR									0	0 1/16	9060
	553 BARS	16	2												
S1WB 565	1 SER.	14	11	STR									0	0 1/16	110
	7 BARS	15	3												
S1WB 566	1 SER.	14	11	STR									0	0 1/16	4925
	299 BARS	16	8												
S1WB 567	1 SER.	2	0	STR									1	10	88
	9 BARS	16	8												
S1WB 568	1	17	5	STR											18
S1WB 586	170	22	0	STR											3901
S1WB 590	1 SER.	3	2¾	5	2	6	0	5½					0	2½	21
	5 BARS	4	10¾		2	6	1	3½							
S1WB 591	7	4	10¾	5	2	6	1	3½							36
S1WB 597	1 SER.	20	5½	STR									0	1	64
	3 BARS	20	8½												
S1WB 598	9	20	11												196
S1WB 599	1 SER.	26	7												196
	7 BARS	27	2												
S1WB 601	1175	5	6	STR											9707
S1WB 605	1 SER.	27	3 1/16	STR									0	0 3/16	8006
	171 BARS	35	1												
S1WB 606	309	18	5	STR											8548
S1WB 630	1 SER.	19	0	STR									0	1	5802
	152 BARS	31	10												
S1WB 631	1 SER.	14	11	STR									0	0 15/16	4937
	157 BARS	26	11 7/16												
S1WB 632	1 SER.	19	5	STR									0	0½	5350
	157 BARS	25	11½												
S1WB 633	686	26	2	STR											26961
S1WB 634	1 SER.	1	10	STR									1	10 3/16	338
	15 BARS	28	2												
S1WB 635	1	31	9	STR											48
S1WB 637	243	36	10	STR											15823
S1WB 638	9	37	2	STR											502
S1WB 646	14	8	6	STR											179

BENDING DIAGRAMS



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D-12 REVISED 9-96 | 86/89

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

REINFORCING SCHEDULE
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	2/94	

C:\DGN\J\C901524\ADACHE\REBAR.DGN

CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

SUPERSTRUCTURE - UNIT NO. 1 - WESTBOUND (CONTINUED)

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S1WB 661	319	16	4	STR											7826
S1WB 662	1 SER.	16	2	STR									0	0 11/16	98
	4 BARS	16	4												
S1WB 663	19	16	2	STR											461
S1WB 664	1 SER.	15	3	STR									0	0 1/16	13047
	553 BARS	16	2												
S1WB 665	1 SER.	14	11	STR									0	0 11/16	159
	7 BARS	15	3												
S1WB 666	1 SER.	14	11	STR									0	0 1/16	7092
	299 BARS	16	8												
S1WB 667	1 SER.	2	0	STR									1	10	126
	9 BARS	16	8												
S1WB 668	1	17	5	STR											26
S1WB 671	1 SER.	11	11	STR									0	0 1/8	6711
	323 BARS	15	9												
S1WB 672	1 SER.	15	1	STR									0	0 7/16	440
	19 BARS	15	9												
S1WB 673	2 SER.	10	7	STR									0	0 3/16	10794
	280 BARS	15	1												
S1WB 674	1 SER.	11	1	STR									0	0 3/16	6053
	308 BARS	15	1												
S1WB 675	1 SER.	2	0	STR									1	9 13/16	59
	6 BARS	11	1												
S1WB 676	1	11	7	STR											17
S1WB 698	9	24	11	STR											337
S1WB 771	1 SER.	11	11	STR									0	0 1/8	9133
	323 BARS	15	9												
S1WB 772	1 SER.	15	1	STR									0	0 7/16	599
	19 BARS	15	9												
S1WB 773	2 SER.	10	7	STR									0	0 3/16	14690
	280 BARS	15	1												
S1WB 774	1 SER.	11	1	STR									0	0 3/16	8237
	308 BARS	15	1												
S1WB 775	1 SER.	2	0	STR									1	9 13/16	80
	6 BARS	11	1												
S1WB 776	1	11	7	STR											24
													TOTAL WEIGHT		422619

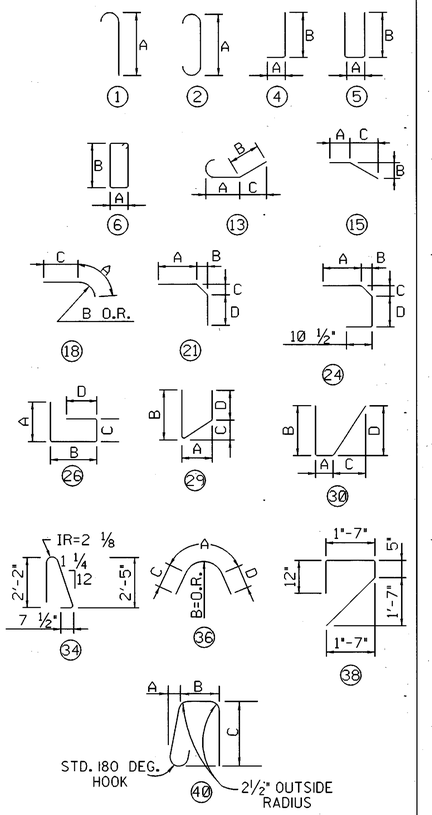
SUPERSTRUCTURE - UNIT NO. 2 - EASTBOUND

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S2EB 401	1685	30	0	STR											33767
S2EB 402	21	8	8	STR											122
S2EB 403	42	11	8	STR											327
S2EB 404	410	7	11	STR											2168
S2EB 405	22	10	0	STR											147
S2EB 450	383	3	0 1/8	6	0	6	0	9 3/8							770
S2EB 501	740	9	6	STR											7332
S2EB 503	740	24	0	STR											18524
S2EB 504	1020	30	0	STR											31916
S2EB 505	18	11	9	STR											220
S2EB 506	34	17	4	STR											615
S2EB 507	383	4	5 1/4	40	0	3 3/8	0	10 7/8	1	6					1781

SUPERSTRUCTURE - UNIT NO. 2 - EASTBOUND (CONTINUED)

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S2EB 520	372	2	2	4	0	10.5	1	5							841
S2EB 521	372	2	10	24	0	7	0	6	0	8.5	0	8.5			1099
S2EB 525	16	14	0	STR											234
S2EB 531	2	30	5	STR											63
S2EB 533	2	6	1	STR											13
S2EB 534	1 SER.	3	6	STR									1	9 1/4	219
	14 BARS	26	6												
S2EB 535	1 SER.	5	8	STR									1	1 1/16	398
	23 BARS	29	7												
S2EB 536	5	3	0	STR											16
S2EB 537	3	5	5	STR											17
S2EB 559	129	18	0	STR											2422
S2EB 570	1	16	10	STR											18
S2EB 571	1 SER.	1	11	STR									1	9 9/16	68
	8 BARS	14	6												
S2EB 572	1 SER.	15	11	STR									0	0 1/16	3979
	236 BARS	16	5												
S2EB 573	1 SER.	16	2	STR									0	0 5/16	85
	10 BARS	16	5												
S2EB 574	1 SER.	16	2	STR									0	0 1/16	4480
	263 BARS	16	6												
S2EB 575	1 SER.	16	2	STR									0	0 5/16	221
	13 BARS	16	6												
S2EB 576	1 SER.	16	1	STR									0	0 1/16	3543
	208 BARS	16	7												
S2EB 577	1 SER.	3	9	STR									1	1 1/16	122
	12 BARS	15	9												
S2EB 579	1	18	8	STR											19
S2EB 601	740	5	6	STR											6113
S2EB 603	740	28	5	STR											31585
S2EB 631	2	30	5	STR											91
S2EB 633	2	6	6	STR											20
S2EB 634	1 SER.	3	6	STR									1	9 1/4	315
	14 BARS	26	6												
S2EB 635	1 SER.	5	8	STR									1	1 1/16	609
	23 BARS	29	7												
S2EB 636	8	3	0	STR											36
S2EB 637	3	5	5	STR											24
S2EB 660	1	11	3	STR											17
S2EB 661	1 SER.	1	9	STR									1	9 5/8	56
	6 BARS	10	9												
S2EB 662	1 SER.	10	9	STR									0	0 1/16	2061
	122 BARS	11	9												
S2EB 663	1 SER.	10	11	STR									0	0 1/16	2077
	122 BARS	11	9												
S2EB 664	2 SER.	10	11	STR									0	0 1/8	4750
	138 BARS	12	0												
S2EB 665	1 SER.	10	11	STR									0	0 1/16	1855
	109 BARS	11	9												
S2EB 666	1 SER.	11	2	STR									0	0 1/16	1704
	99 BARS	11	9												
S2EB 667	1 SER.	3	5	STR									1	1 1/8	87
	8 BARS	11	1												
S2EB 669	1	12	6	STR											19
S2EB 670	1	16	10	STR											25
S2EB 671	1 SER.	1	11	STR									1	9 9/16	99
	8 BARS	14	6												
S2EB 672	1 SER.	15	11	STR									0	0 1/16	5730
	236 BARS	16	5												
S2EB 673	1 SER.	16	2	STR									0	0 5/16	245
	10 BARS	16	5												
S2EB 674	1 SER.	16	2	STR									0	0 1/16	6452
	263 BARS	16	6												

BENDING DIAGRAMS



NOTES:

REINFORCING STEEL SAMPLES: REFER TO SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLES. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

D-12 REVISED 9-96 | 87/89

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

REINFORCING SCHEDULE
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 CUY-90-1547 CUY-90-1599

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CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
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CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

SUPERSTRUCTURE - UNIT NO. 2 - EASTBOUND (CONTINUED)

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S2EB 675	1 SER.	16	2	STR									Ø	0 5/16	319
	13 BARS	16	6												
S2EB 676	1 SER.	16	1	STR									Ø	0 1/16	5103
	208 BARS	16	7												
S2EB 677	1 SER.	3	9	STR									1	1 1/16	176
	12 BARS	15	9												
S2EB 679	1	18	8	STR											28
S2EB 736	3	3	Ø	STR											18
S2EB 760	1	11	3	STR											23
S2EB 761	1 SER.	1	9	STR									1	9 5/8	77
	6 BARS	10	9												
S2EB 762	1 SER.	10	9	STR									Ø	0 1/16	2805
	122 BARS	11	9												
S2EB 763	1 SER.	10	11	STR									Ø	0 1/16	2826
	122 BARS	11	9												
S2EB 764	2 SER.	10	11	STR									Ø	0 1/8	6464
	138 BARS	12	Ø												
S2EB 765	1 SER	10	11	STR									Ø	0 1/16	2525
	109 BARS	11	9												
S2EB 766	1 SER.	11	2	STR									Ø	0 1/16	2319
	99 BARS	11	9												
S2EB 767	1 SER.	3	5	STR									1	1 1/8	119
	8 BARS	11	1												
S2EB 769	1	12	6	STR											26
												TOTAL WEIGHT			202344

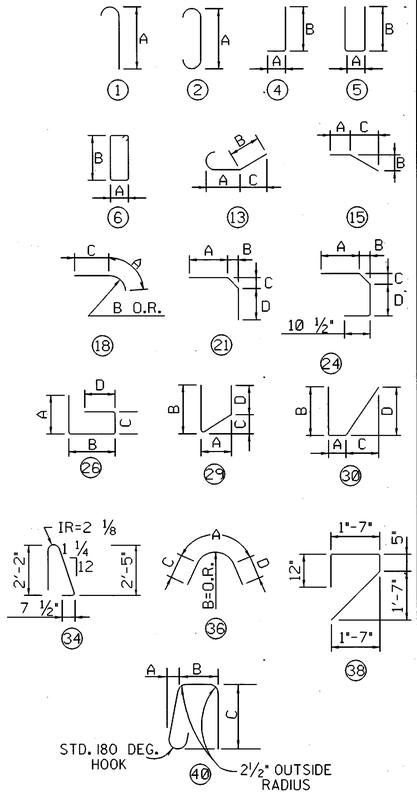
SUPERSTRUCTURE - UNIT NO. 2 - WESTBOUND

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S2WB 401	1818	30	Ø	STR											36433
S2WB 402	1 SER.	23	3 1/4	STR									Ø	3 3/16	783
	41 BARS	33	11												
S2WB 404	476	7	11	STR											2517
S2WB 405	23	6	10	STR											105
S2WB 450	372	3	0 1/8	6	Ø	6	Ø	9 3/8							748
S2WB 501	491	9	6	STR											4865
S2WB 502	246	23	9	STR											6094
S2WB 504	1132	30	Ø	STR											35420
S2WB 505	1	32	5	STR											34
S2WB 506	1 SER.	27	8	STR									Ø	4	1176
	34 BARS	38	8												
S2WB 507	372	4	5 1/4	40	Ø	3 3/8	Ø	10 7/8	1	6					1722
S2WB 520	394	2	2	4	Ø	10.5	1	5							890
S2WB 521	394	2	10	24	Ø	7	Ø	6	Ø	8.5	Ø	8.5			1164
S2WB 534	1	5	5												6
S2WB 535	1	31	10	STR											33
S2WB 536	3	3	Ø	STR											9
S2WB 537	1 SER.	6	2	STR									1	10½	236
	13 BARS	28	8												
S2WB 538	1 SER.	22	5	STR									Ø	Ø 3/8	6718
	245 BARS	30	2												
S2WB 539	251	18	Ø	STR											4712

SUPERSTRUCTURE - UNIT NO. 2 - WESTBOUND (CONTINUED)

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S2WB 540	1 SER.	21	8	STR									Ø	Ø 5/16	6697
	236 BARS	32	9												
S2WB 541	1 SER.	14	10	STR									1	Ø 7/16	377
	16 BARS	30	4½												
S2WB 542	1 SER.	3	10	STR									1	Ø½	456
	26 BARS	29	10												
S2WB 543	1	20	2	STR											21
S2WB 559	6	18	Ø	STR											113
S2WB 560	18	12	10	STR											241
S2WB 561	16	11	10	STR											197
S2WB 570	1	17	6	STR											18
S2WB 571	1 SER.	1	6	STR									1	9¾	82
	9 BARS	16	Ø												
S2WB 572	79	16	7	STR											1366
S2WB 573	80	16	6	STR											1377
S2WB 574	76	16	5	STR											1302
S2WB 575	1 SER.	16	1	STR									Ø	Ø 7/16	169
	10 BARS	16	5												
S2WB 576	174	16	1	STR											2919
S2WB 577	91	16	2	STR											1534
S2WB 578	1 SER.	15	11	STR									Ø	Ø 1/4	235
	14 BARS	16	2												
S2WB 579	1 SER.	15	11	STR									Ø	Ø 1/16	4058
	234 BARS	17	4												
S2WB 580	1 SER.	1	3	STR									1	Ø 1/4	149
	16 BARS	16	7												
S2WB 581	1	19	4	STR											20
S2WB 601	491	5	6	STR											4056
S2WB 602	246	28	2	STR											10407
S2WB 604	1	32	5	STR											49
S2WB 634	1	5	5	STR											8
S2WB 635	1	31	5	STR											47
S2WB 636	3	3	Ø	STR											14
S2WB 637	1 SER.	6	2	STR									1	10½	340
	13 BARS	28	8												
S2WB 638	1 SER.	26	8	STR									Ø	Ø 3/8	11239
	245 BARS	34	5												
S2WB 639	251	22	6	STR											8483
S2WB 640	1 SER.	17	5	STR									Ø	Ø 7/16	8138
	236 BARS	28	6												
S2WB 641	1 SER.	10	7	STR									1	Ø 7/16	441
	16 BARS	26	1½												
S2WB 642	1 SER.	3	10	STR									1	Ø½	657
	26 BARS	29	10												
S2WB 643	1	20	5	STR											31
S2WB 670	1	17	6	STR											26
S2WB 671	1 SER.	1	6	STR									1	9¾	118
	9 BARS	16	Ø												
S2WB 672	79	16	7	STR											1968
S2WB 673	80	16	6	STR											1983
S2WB 674	76	16	5	STR											1874
S2WB 675	1 SER.	16	1	STR									Ø	Ø 7/16	244
	10 BARS	16	5												
S2WB 676	174	16	1	STR											4203
S2WB 677	91	16	2	STR											2210
S2WB 678	1 SER.	15	11	STR									Ø	Ø 1/4	337
	14 BARS	16	2												
S2WB 679	1 SER.	15	11	STR									Ø	Ø 1/16	5843
	234 BARS	17	4												
S2WB 680	1 SER.	1	3	STR									1	Ø 1/4	214
	16 BARS	16	7												
S2WB 681	1	19	4	STR											29
S2WB 683	1	11	7	STR											17

BENDING DIAGRAMS



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CALC. DATE	CUYAHOGA COUNTY	OHIO
CHKD. DATE	CUY - 90 - 15.24 INNERBELT FREEWAY	F.H.W.A. REGION 5

150
151

SUPERSTRUCTURE - UNIT NO. 2 - WESTBOUND (CONTINUED)

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
S2WB 684	1 SER.	1	3	STR									1	9 3/8	51
	6 BARS	10	2												
S2WB 685	121	11	0	STR											1999
S2WB 686	1 SER.	11	0	STR									0	0 3/16	2143
	121 BARS	12	7												
S2WB 687	1 SER.	11	2	STR									0	0 1/8	2461
	138 BARS	12	7												
S2WB 688	1 SER.	11	2	STR									0	0 1/16	1651
	97 BARS	11	6												
S2WB 689	1 SER.	11	6	STR									0	0 1/8	774
	44 BARS	11	11												
S2WB 690	1 SER.	11	9	STR									0	0 1/8	267
	15 BARS	11	11												
S2WB 691	2 SER.	11	0	STR									0	0 1/16	4032
	118 BARS	11	9												
S2WB 692	1 SER.	1	0	STR									1	0	99
	11 BARS	11	0												
S2WB 693	1	13	3	STR											20
S2WB 783	1	11	7	STR											24
S2WB 784	1 SER.	1	3	STR									1	9 3/8	70
	6 BARS	10	2												
S2WB 785	121	11	0	STR											2721
S2WB 786	1 SER.	11	0	STR									0	0 3/16	2916
	121 BARS	12	7												
S2WB 787	1 SER.	11	2	STR									0	0 1/8	3350
	138 BARS	12	7												
S2WB 788	1 SER	11	2	STR									0	0 1/16	2247
	97 BARS	11	6												
S2WB 789	1 SER.	11	6	STR									0	0 1/8	1053
	44BARS	11	11												
S2WB 790	1 SER.	11	9	STR									0	0 1/8	363
	15 BARS	11	11												
S2WB 791	2 SER.	11	0	STR									0	0 1/16	5488
	118 BARS	11	9												
S2WB 792	1 SER.	1	0	STR									1	0	135
	11 BARS	11	0												
S2WB 793	1	13	3	STR											27
												TOTAL WEIGHT			219863

SUPERSTRUCTURE - RAMP NO. E1

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
SE1 401	696	30	0	STR											13948
SE1 402	50	20	1	STR											670
SE1 403	29	28	8	STR											555
SE1 404	28	25	8	STR											480
SE1 405	98	6	6	STR											426
S1E 450	528	3	0 1/8	6	0	6	0	9 3/8							1062
SE1 501	477	37	2	STR											18491
SE1 502	1 SER.	37	2	STR									0	0 1/4	1923
	49 BARS	38	1												
SE1 505	400	30	0	STR											12516
SE1 506	40	23	5	STR											977
SE1 507	528	4	5 1/4	40	0	3 3/8	0	10 7/8	1	6					2444

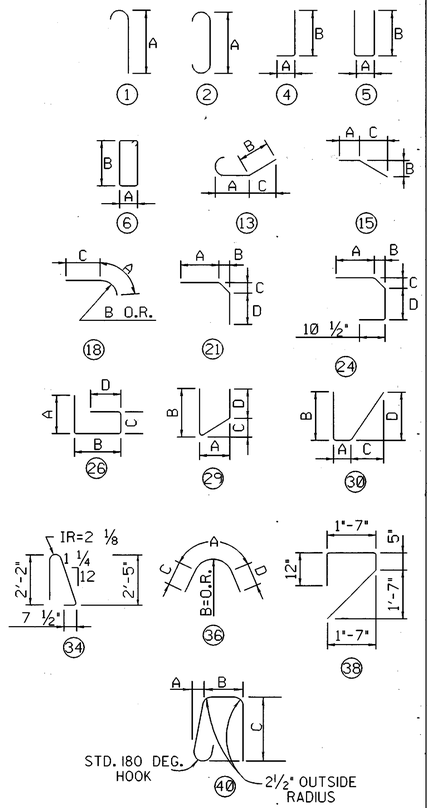
SUPERSTRUCTURE - RAMP NO. E1 (CONTINUED)

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
SE1 559	86	18	0	STR											1615
SE1 601	477	37	2	STR											26628
SE1 602	1 SER.	37	2	STR									0	0 1/4	2769
	49 BARS	38	1												
												TOTAL WEIGHT			84504

SUPERSTRUCTURE - RAMP NO. E2

MARK	NUMBER REQUIRED	LENGTH FT	LENGTH IN	TYPE	DIM. A FT	DIM. A IN	DIM. B FT	DIM. B IN	DIM. C FT	DIM. C IN	DIM. D FT	DIM. D IN	INCREMENT FT	INCREMENT IN	WEIGHT LBS.
SE2 401	759	30	0	STR											15210
SE2 402	1 SER.	14	0 1/4	STR									0	0 13/16	467
	45 BARS	17	0 1/4												
SE2 405	88	20	9	STR											1220
SE2 450	545	3	0 1/8	6	0	6	0	9 3/8							1096
SE2 501	2	30	2	STR											63
SE2 502	7	5	5	STR											40
SE2 503	1 SER.	5	11	STR									1	1 7/16	377
	21 BARS	28	6 7/16												
SE2 504	24	30	2	STR											755
SE2 505	25	30	0	STR											782
SE2 506	480	29	10	STR											14936
SE2 507	545	4	5 1/4	40	0	3 3/8	0	10 7/8	1	6					2522
SE2 515	1 SER.	6	0	STR									0	5 15/16	1670
	46 BARS	28	9 13/16												
SE2 516	1	11	9	STR											12
SE2 540	528	30	0	STR											16521
SE2 541	1 SER.	17	9	STR									0	0 3/4	902
	45 BARS	20	8												
SE2 559	372	18	0	STR											6984
SE2 601	2	31	0	STR											93
SE2 602	7	5	5	STR											57
SE2 603	1 SER.	5	5	STR									1	1 7/16	535
	21 BARS	28	6 7/16												
SE2 604	24	30	2	STR											1087
SE2 605	25	30	0	STR											1127
SE2 606	480	29	10	STR											21509
SE2 615	1 SER.	6	0	STR									0	5 5/16	2406
	46 BARS	28	9 13/16												
SE2 616	1	12	2	STR											18
												TOTAL WEIGHT			90389

BENDING DIAGRAMS



NOTES:

REINFORCING STEEL SAMPLES: REFER TO SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLES. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

D-12 REVISED 9-96 | 89/89

adache-ciuni-lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44131

REINFORCING SCHEDULE
INNERBELT FREEWAY

BR. NO. { CUY-90-1524 CUY-90-1540 / CUY-90-1547 CUY-90-1599

STA. 3+87.63 TO STA. 54+65.78
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
T.M.J.	T.M.J.	M.J.L.	J.R.C.	2/94	

C:\DGN\JC901524\ADACHE\REBAR.DGN

BROOKLYN TOWNSHIP
O.L. 125, 126, 127 & 487
CITY OF CLEVELAND
CUYAHOGA COUNTY, OHIO

CALC. TMJ DATE 4-97 | CHKD. S.L. DATE 6/94 | CUYAHOGA COUNTY CUY. - 90 - 15.99 | OHIO F.H.W.A. REGION 5 | 151 / 151

O.L. 125
122-16-15

CONSTRUCTION LIMITS

EX. CRIBWALL (DO NOT DISTURB)

EX. R/W

AERIAL R.O.W.

℄ PIER 3E1
STA. 48+56.95
FREEWAY TANGENT=
+88.07, 97.84'
℄ G.C.R.T.A.

+54.45, 135.53'
℄ I-90
+97.73, 29.07'
℄ G.C.R.T.A.

+89.19, 146.28'
℄ I-90 =
+97.69, 67.07'
℄ G.C.R.T.A.

+07.29, 152.09'
℄ I-90 =
+97.67, 86.99'
℄ G.C.R.T.A.

ABUT. E-1

CONSTRUCTION LIMITS

℄ PIER 4E1
STA. 50+07.24
FREEWAY TANGENT =
+01.28, 51.89'
℄ G.C.R.T.A.

STA. 50+24.89
FREEWAY TANGENT=
STA. 50+20.00, 42.74' LT.
℄ I-90 =
+02.70, 69.48'
℄ G.C.R.T.A.

STA. 50+44.98
FREEWAY TANGENT =
STA. 50+39.48, 46.24' LT.
℄ I-90 =
+04.29, 89.50'
℄ G.C.R.T.A.

+33.40, ℄ I-90 =
+45.84, 72.19'
℄ G.C.R.T.A.

+54.33, ℄ I-90 =
+50.59, 92.52'
℄ G.C.R.T.A.

N 20 0 20 40
SCALE IN FEET

N31°-13'-02"E 38.00'
192.2' N31°-13'-02"E

N58°-46'-58"W SL 2197#

N58°-46'-58"E 88.00'

(1SL-1)

℄ PIER 4E1

CONSTRUCTION LIMITS

189.56'

132.69'

(1C) 8,212#

N34°-44'-40"W 48.89'

(2SL) 4933#

20.50'

51

50

℄ PIER 5B

CENTER LINE INNERBELT FREEWAY CURVE DATA

P.I. STA. 52+70.16
Δ = 29°02'23"
D = 2°00'00"
R = 2824.79'
T = 744.94'
L = 1451.98'
P.C. = 45+28.22
P.T. = 59+80.20

BASELINE G.C.R.T.A. CURVE DATA

P.I. STA. = 29+89.48
Δ = 4°43'50"
Dc = 3°00'00"
R = 1909.86'
T = 78.90'
L = 157.69'
P.C. STA. = 29+10.58
P.T. STA. = 30+68.31

+14.00, 120.74'
℄ I-90 =
+74.99, 116.62
℄ G.C.R.T.A.

+87.17, 124.08'
℄ I-90 =
+65.46, 143.14'
℄ G.C.R.T.A.

+44.73, 129.20'
℄ I-90 =
+74.77, 81.43'
℄ G.C.R.T.A.

S 58°-46'-58"E 57.23'

S 1°-26'-01"W 6.41'

30.36'

℄ PIER 3-E1

EX. R/W

S 39°-50'-25"W 62.40'

℄ PIER 2-E1

S 35°-40'-01"W

(1B) 1,980#

N 31°-13'-02"E 34.00'

S 31°-13'-02"W 36.00'

EX. R/W

S 58°-46'-58"E 55.00'

N 58°-46'-58"W 55.00'

N 31°-13'-02"E 34.00'

S 58°-46'-58"E 329.20'

103.50'

C.B.

110.60'

N 58°-46'-58"W 229.20'

(1A) 7,793#

N 58°-46'-40"E 229.20'

12"

M.H.

48

122-16-16A

+47.14, 118.30'
℄ I-90 =
+62.23, 185.13'
℄ G.C.R.T.A.

+55.31, 116.76'
℄ I-90 =
+65.50, 177.13'
℄ G.C.R.T.A.

+25.53, 67.24'
℄ I-90 =
+31.05, 117.27'
℄ G.C.R.T.A.

+59.63, 75.85'
℄ I-90 =
+30.62, 81.28'
℄ G.C.R.T.A.

C.L. 487

℄ INNERBELT FREEWAY (I-90)

47

27"

EX. WOOD POSTS

CURB TYPE 6

EX. R/W

12"

D

C.B.

STATION EQUATION:
PC ℄ INNERBELT FREEWAY
STA. 45+28.22 = STA. 45+28.22
FREEWAY TANGENT

℄ PIER 3B
STA. 47+95.72
FREEWAY TANG.=
+82.04' 158.80'
℄ G.C.R.T.A.

OUTLINE OF OVERHEAD STRUCTURE (TYPICAL)

S 58°04'44"W
AERIAL R.O.W.

+05.23, 106.92'
℄ I-90 =
+08.84, 167.63'
℄ G.C.R.T.A.

49

℄ EXIST. GRAVEL DR.

+37.5, 75'
℄ I-90 =
+00, 33.5'
℄ G.C.R.T.A.

PT. STA. 30+68.31

EASTBOUND

WESTBOUND

FREEWAY (TANGENT)

50+00

℄ PIER 4B
STA. 50+05.72
FREEWAY TANGENT
+01.16, 50.38'
℄ G.C.R.T.A.

216.10'

PIER 4B

62.96'
85.46'

115.96'

℄ PIER 5B

275.52'

157.53'

G.C.R.T.A.

ANDES COURT 16.5'

N 34°-24'-24"W 5.54'

N 31°-13'-02"E 30.00'

+52.92, 59.93'
℄ I-90 =
+07.73, 77.30'
℄ G.C.R.T.A.

+54.03, 104.81'
℄ I-90 =
+51.66, 68.05'
℄ G.C.R.T.A.

CONSTRUCTION LIMITS

+15.86, 71.47'
℄ I-90 =
+10.90, 39.44'
℄ G.C.R.T.A.

+28.57, 110.66'
℄ I-90

+51.84, 42.87'
℄ G.C.R.T.A.

+16.60, 113.34'
℄ I-90

+51.93, 31.05'
℄ G.C.R.T.A.

+91.76, 110.00'
℄ I-90 =
+65.29, 102.11
℄ G.C.R.T.A.

N 58°-46'-58"W SL 41.09'

35.02'
S 49°-41'-04"W
SL

25.18'
S 35°-35'-36"W 31.00'

+55.34, 110.00'
℄ I-90
+57.00, 68.09'
℄ G.C.R.T.A.

55.00'
S 58°-24'-24"E
PIER 2E2

(1D) 2,035#

N 34°-24'-24"W 55.00'

EX. R/W

S 35°-35'-36"W 37.00'

EX. R/W

O.L. 127
122-16-27
+67.81, 158.21'
℄ I-90 =
+06.66, 68.44'
℄ G.C.R.T.A.

240.00'
S 58°-46'-58"E
EX. R/W

+39.53, 99.02'
℄ I-90
+06.01, 133.75'
℄ G.C.R.T.A.

STA. 48+98.17 118'
FRWY TANGENT =
+08.82.5'
℄ I-90 =
+02.5, 63.5'
℄ G.C.R.T.A.

N 31°13'02" E 29.88'

EASEMENT

G.C.R.T.A.

S 58°46'58" E 66.00'

+28.46, 119.87'
℄ I-90
+41.24, 53.07'
℄ G.C.R.T.A.

(1T) 1972 ⊕

10.10'

RAMP E-2

S 58°46'58" E 66.00'

+54.53, 132.47'
℄ I-90
+58.37, 31.02'
℄ G.C.R.T.A.

N 73°51'30" E 27.93'

+29.69, 166.91'
℄ I-90
+06.92, 31.45'
℄ G.C.R.T.A.

S 31°13'02" W 34.00'

S 51°47'39" W 108.95'

+17.96, 118.97'
℄ I-90
+38.49, 62.79'
℄ G.C.R.T.A.

℄ PIER 1-E2

C.B.

D

+54.5, 132.5'
℄ I-90 =
+65, 28'
℄ G.C.R.T.A.

+24.75, 145'
℄ I-90 =
+67, 57'
℄ G.C.R.T.A.

CONSTRUCTION LIMITS

NOTES:

G.C.R.T.A. DENOTES "GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY".

G.C.R.T.A. EASEMENT LINE AND ORIGINAL LOT LINES ARE APPROXIMATE.

G.C.R.T.A. BASELINE INFORMATION IS TAKEN FROM RED LINE TRACKWORK AND RIGHT-OF-WAY REHABILITATION PLANS PREPARED BY RALPH C. TYLER, RE., P.S., INC., DATED DECEMBER 1989.

PARCEL No.	EASEMENT REQUIRED	TOTAL AREA		AREAS OF OVERLAP (SQUARE FEET)	REVISION	DATE	DESCRIPTION
		S.F.	EX. HIGHWAY	EX. AERIAL			
1A	EX. HIGHWAY	7,793		7,793			
1B	EX. HIGHWAY	1,980		1,980			
1C	EX. HIGHWAY	8,212		8,212			
1D	EX. HIGHWAY	2,035		2,035			
~~1SL~~ 2SL	~~SLOPE~~	~~39,819~~	~~9,773~~	~~26,866~~ 4,933	1SL	8/19/96	DELETED
1SL-1	SLOPE	2197					
1T	TEMPORARY	1,972		1,410	1T	8/19/96	REDUCED AREA

PID 55384 SUMMARY OF ADDITIONAL RIGHT-OF-WAY

PARCEL No.	OWNER	PERMANENT PARCEL No.	RECORDED BOOK	RECORDED PAGE	RECORD AREA (S.F.)	GROSS TAKE	TOTAL P.R.O.	NET TAKE LAND	NET TAKE BLDG.	TYPE FUNDS	REMARKS
1SL-1	WHEELING & LAKE ERIE RAILWAY COMPANY, A DELAWARE CORPORATION.	122-16-14, 15, 16A.	91-1003	28		2197		30,046	NO	STATE	TO RECONSTRUCT EMBANKMENT AND PROVIDE SLOPE PROTECTION
1T						1,972		1,972	NO	STATE	CONSTRUCTION TEMP. BENT.
2SL	G.C.R.T.A.	122-16-27	88-5651	70		4933		4933	NO		

INNERBELT FREEWAY

NORFOLK & WESTERN RAILWAY PLAT