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BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	PLF		WDD	IEH	April 96	

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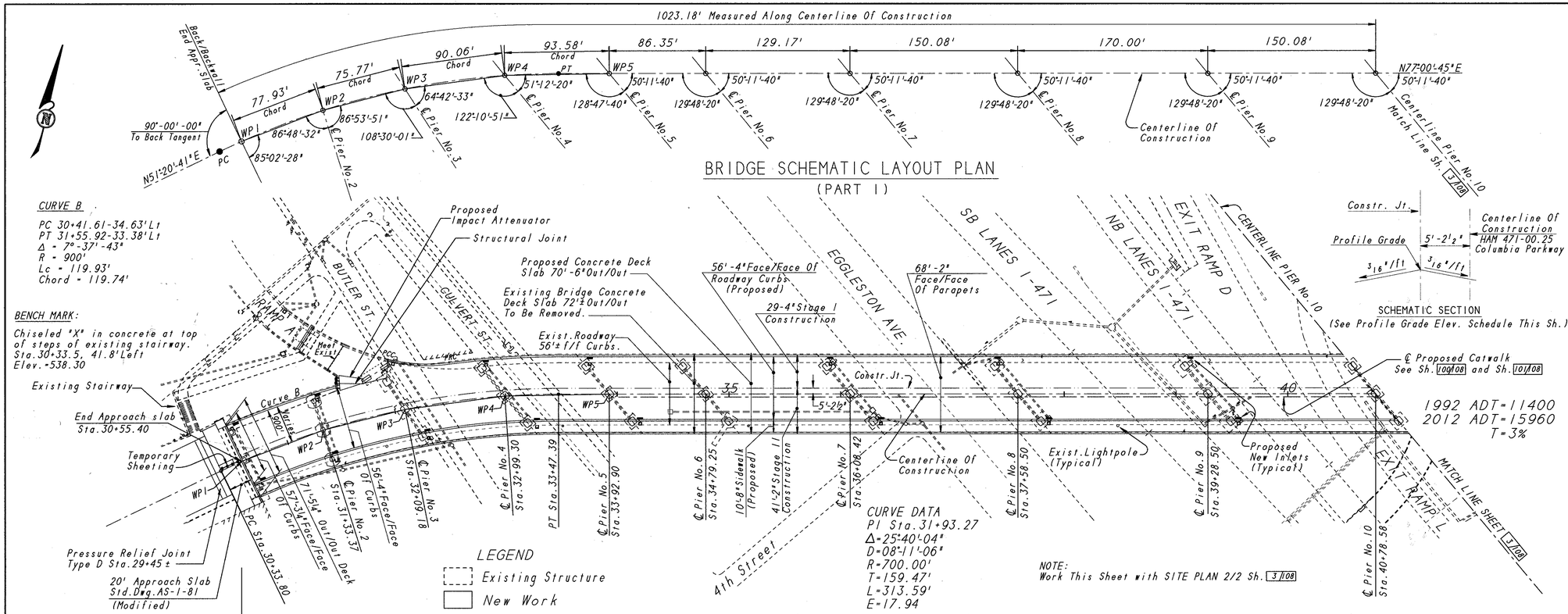
PROFILE GRADE ELEVATIONS SCHEDULE

LOCATION	STATION, OFFSET	ELEVATION
BEGIN BRIDGE	30+55.24,5.21' LT	538.55
PIER NO. 2	31+33.37,5.21' LT	539.39
PIER NO. 3	32+07.13,5.21' LT	540.57
PIER NO. 4	32+95.57,5.21' LT	542.29
PIER NO. 5	33+88.56,5.21' LT	544.60
PIER NO. 6	34+74.91,5.21' LT	547.28
PIER NO. 7	36+04.08,5.21' LT	551.55
PIER NO. 8	37+54.16,5.21' LT	556.52
PIER NO. 9	39+24.16,5.21' LT	562.15
PIER NO. 10	40+74.24,5.21' LT	567.12
PIER NO. 11	42+03.41,5.21' LT	571.39
PIER NO. 12	42+89.91,5.21' LT	574.25
PIER NO. 13	43+54.30,5.21' LT	576.38
PIER NO. 14	44+36.95,5.21' LT	579.12
PIER NO. 15	45+19.60,5.21' LT	581.86
PIER NO. 16	45+84.60,5.21' LT	584.01
PIER NO. 17	46+49.60,5.21' LT	586.16
END BRIDGE	47+16.19,5.21' LT	588.34



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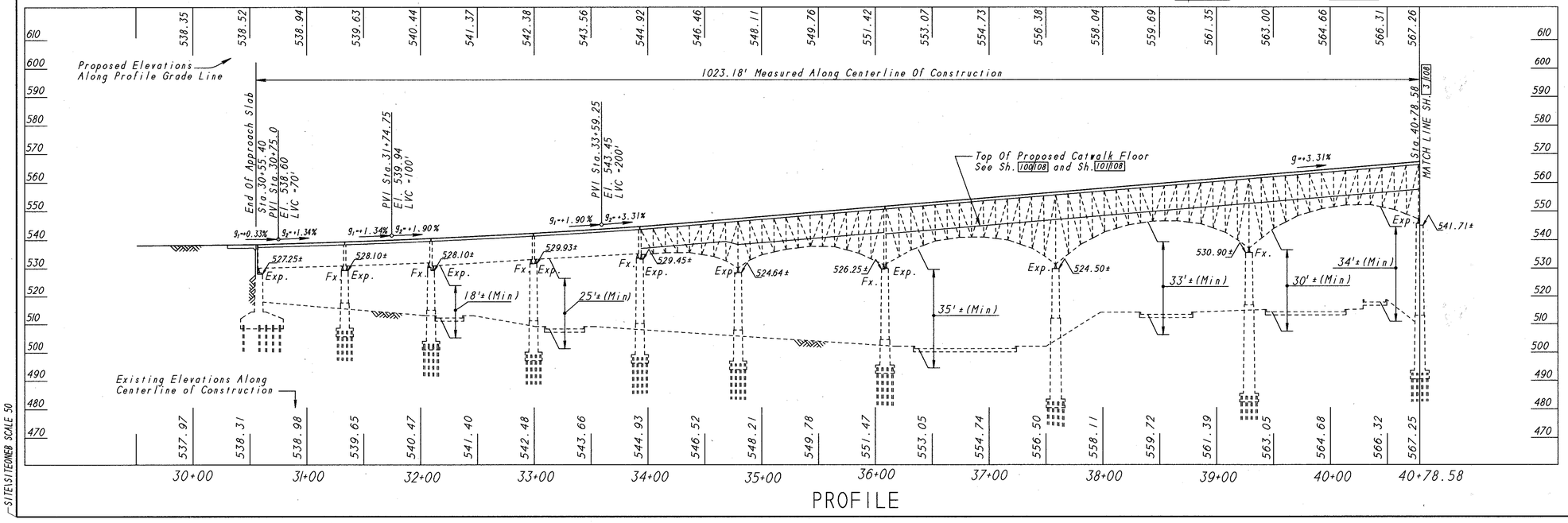
JLG/JCS 9-18-96



EXISTING STRUCTURE

STRUCTURE FILE No.3103390

TYPE: STRUCTURAL STEEL GIRDERS AND TRUSSES AND REINFORCED CONCRETE SUPER-STRUCTURE ON REINFORCED CONCRETE SUBSTRUCTURE.

ROADWAY: 56'± f/f of Curbs.

SIDEWALKS: 8'± R/L

SKEW VARIES

WEARING SURFACE: Concrete.

ALIGNMENT: Curve Right 700'R then Tangent then Curve Left 850'R then Tangent.

SPANS: As Noted On Layout Plan

LOADING: H20-33

DATE BUILT: 1938

PROPOSED STRUCTURE MODIFICATION

TYPE: EXISTING STEEL GIRDERS AND TRUSSES AND NEW REINFORCED CONCRETE DECK SUPERSTRUCTURE ON EXISTING REINFORCED CONCRETE SUBSTRUCTURE.

SPANS: Same As Existing.

ROADWAY: 56'-4" f/f Of Curbs
68'-2" f/f Of Parapets

SIDEWALK: 10'-8" Right Side Only

LOADING: HS20-44 And Alternate Military

SKEW: VARIES

WEARING SURFACE: Monolithic Concrete.

APPROACH SLAB: 20'-0" Long AS-1-81 Modified

ALIGNMENT: Existing

CROWN: 3/16"/Ft.

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SITE PLAN 1/2

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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SITE\SITEONEB SCALE 50

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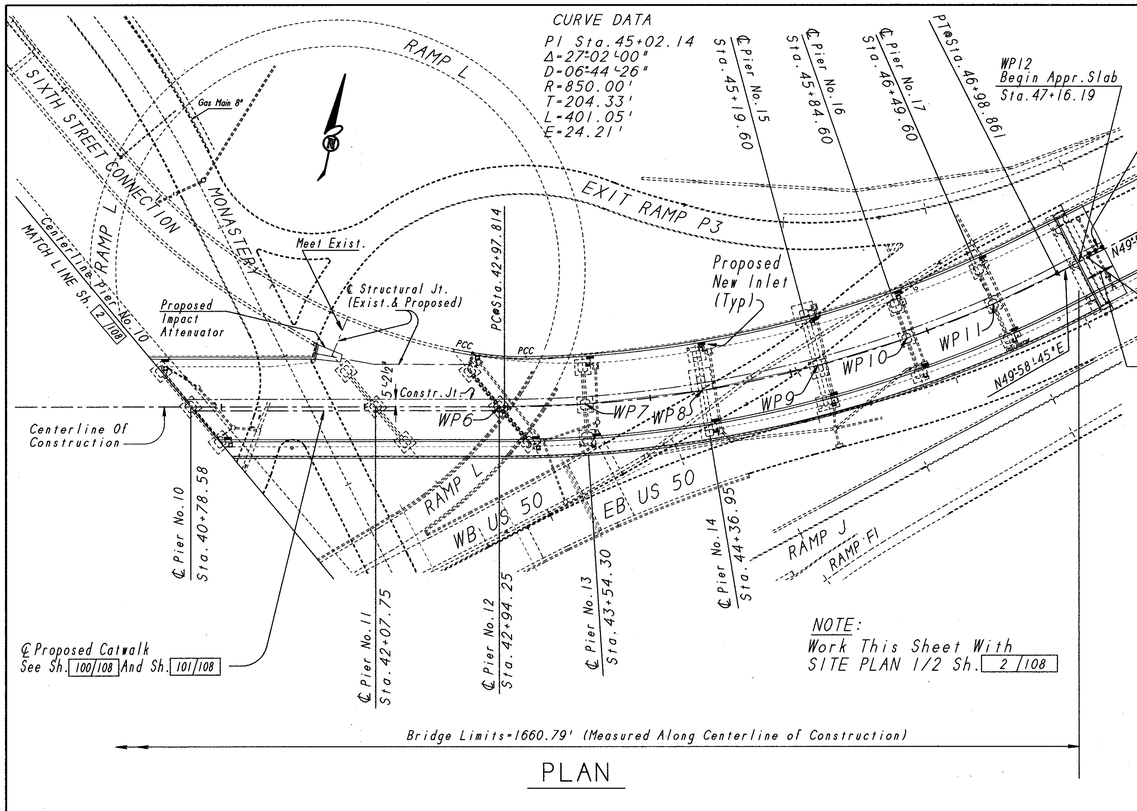
CURVE DATA
PI Sta.45+02.14
Δ=27°02'00"
D=06°44'26"
R=850.00'
T=204.33'
L=401.05'
E=24.21'

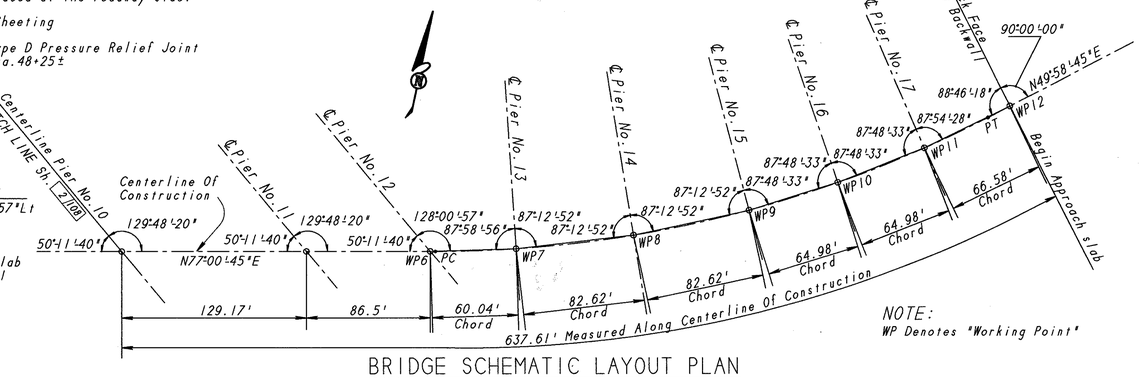
TEMPORARY RAILING: Furnishing, installing, maintaining, and removing temporary railing, including the complete or partial removal of anchor hardware and the filling of the anchor voids with nonshrinking grout, shall be included in Item 614 (Roadway Plans) for payment. Each temporary barrier segment shall be secured by not less than two anchors, one at each end of the segment, placed at the roadway side.

LEGEND
Existing Structure
New Work



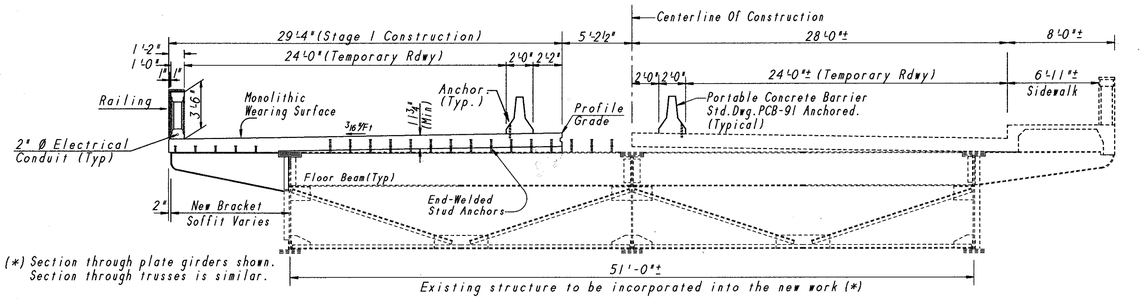
NOTE:
Work This Sheet With SITE PLAN 1/2 Sh. 2 /108

PLAN

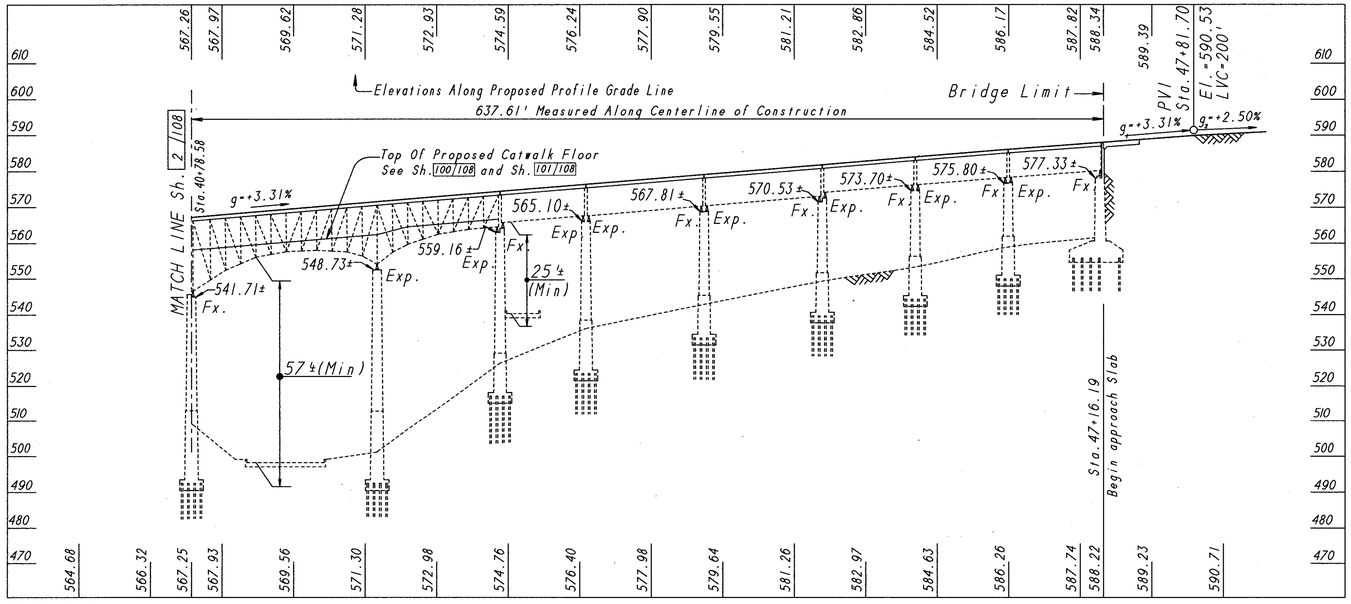


NOTE:
WP Denotes "Working Point"

BRIDGE SCHEMATIC LAYOUT PLAN
(PART II)

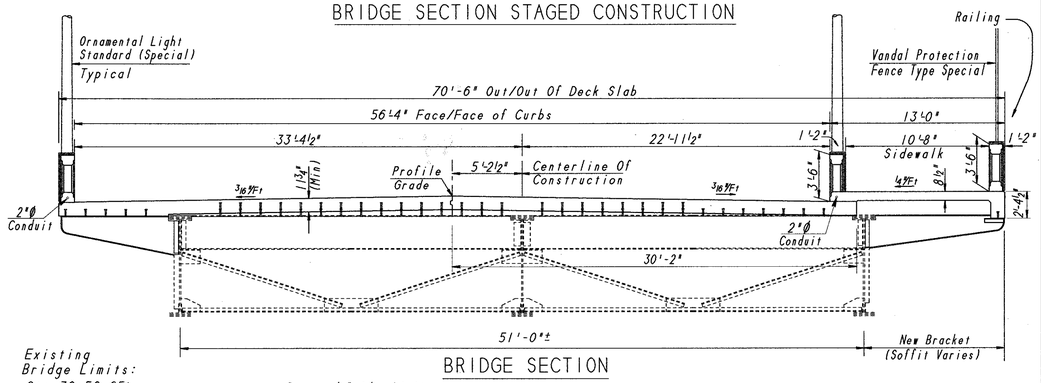


(*) Section through plate girders shown. Section through trusses is similar.

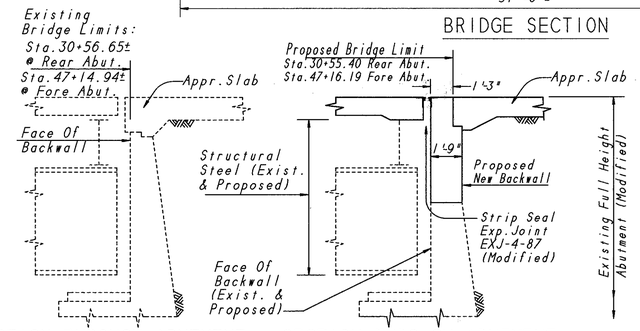


PROFILE

BRIDGE SECTION STAGED CONSTRUCTION



BRIDGE SECTION



SECTION THROUGH ABUTMENT (EXISTING CONSTRUCTION)

SECTION THROUGH ABUTMENT (PROPOSED)

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CINCINNATI OHIO

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SITE PLAN 2/2

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19
HAMILTON COUNTY

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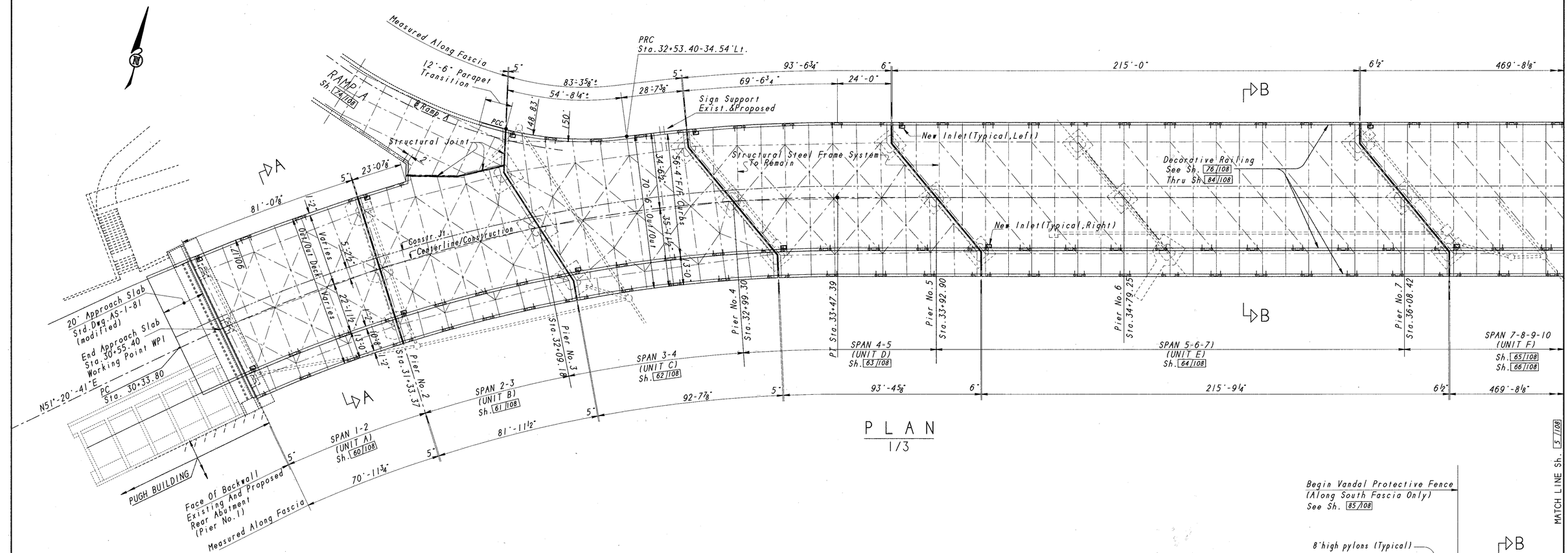

PLAN
1/3

ELEVATION
(LOOKING NORTH)
1/3

LEGEND

- Existing Structure
- New Work

NOTES:

1.- Work this sheet with SITE PLAN 1/2 Sh. 2/108 and SITE PLAN 2/2 Sh. 3/108

2.- Work This Sheet With GENERAL PLAN 2/3 Sh. 5/108 and GENERAL PLAN 3/3 Sh. 6/108

3.- See GENERAL NOTES, Sh. 7/108 Thru Sh. 11/108

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GENERAL PLAN 1/3

BRIDGE No.HAM-471-0025
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Sta.30+55.40
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GENERAL Scale 21.3333

Existing Survey Observation Platform anchored to the pier pylon. These platforms shall not be disturbed before, during, or after construction. Each of these platforms shall be painted (System Ozeu) same as the existing bridge structural steel. The surface area pay quantity is based on the exposed area of these platforms. Items 815 have been increased by 300 Sq.Ft. to account for the area of these platforms and other structural steel incidentals to be cleaned and painted (Typical).
469'-8⅛"
5"
107'-2"
Structural Joint
SIXTH STREET CONNECTION Sh. 75/108
PCC Sta.43+10.36-34.54'Lt.
Measured Along Fascia
12'-6" Parapet Transition
5"
76'-7⅞"±
Sign Support Existing&Proposed Sta.43+41.3±
5"
78'-10½" Extended
41'-9⅞"
Exist. Survey Platform
Sign Support
B
Decorative Railing See Sh. 76/108 Thru Sh. 84/108
Construction Joint
Centerline Of Construction
70'-6" Out/Out Of Slab
5'-2½"
35'-11½"
34'-6½"
29'-4" Stage 1
56'-4" F/F Curbs
1'-2"
10'-8"
1'-2"
Structural Steel Frame System
PCC
PC Sta.42+97.81
Pier No.8 Sta.37+58.50
Pier No.9 Sta.39+28.50
Pier No.10 Sta.40+78.58
Pier No.11 Sta.42+07.75
Pier No.12 Sta.42+94.25
Pier No.13 Sta.43+54.30
Extended
SPAN 7-8-9-10 (UNIT F) Sh. 65/108 Sh. 66/108
SPAN 10-11-12 (UNIT G) Sh. 67/108
SPAN 12-13 (UNIT H) Sh. 68/108
SPAN 13-14 (UNIT I) Sh. 69/108
Extended
469'-8⅛"
5"
215'-7¾"
5"
40'-4½"
5"
85'-8¾" Extended
MATCH LINE Sh. 4/108
MATCH LINE Sh. 6/108

PLAN
2/3

ELEVATION
(LOOKING NORTH)
2/3

LEGEND

- Existing Structure
- New Work

NOTES:

1. -Work this sheet with SITE PLAN 1/2, Sh. 2/108 and SITE PLAN 2/2, Sh. 3/108
2. -Work this sheet with GENERAL PLAN 1/3, Sh. 4/108 and GENERAL PLAN 3/3, Sh. 6/108
3. -See GENERAL NOTES, Sh. 7/108 Thru Sh. 11/108.

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CINCINNATI, OHIO

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GENERAL PLAN
2/3

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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GENBREV Scale 21.3333

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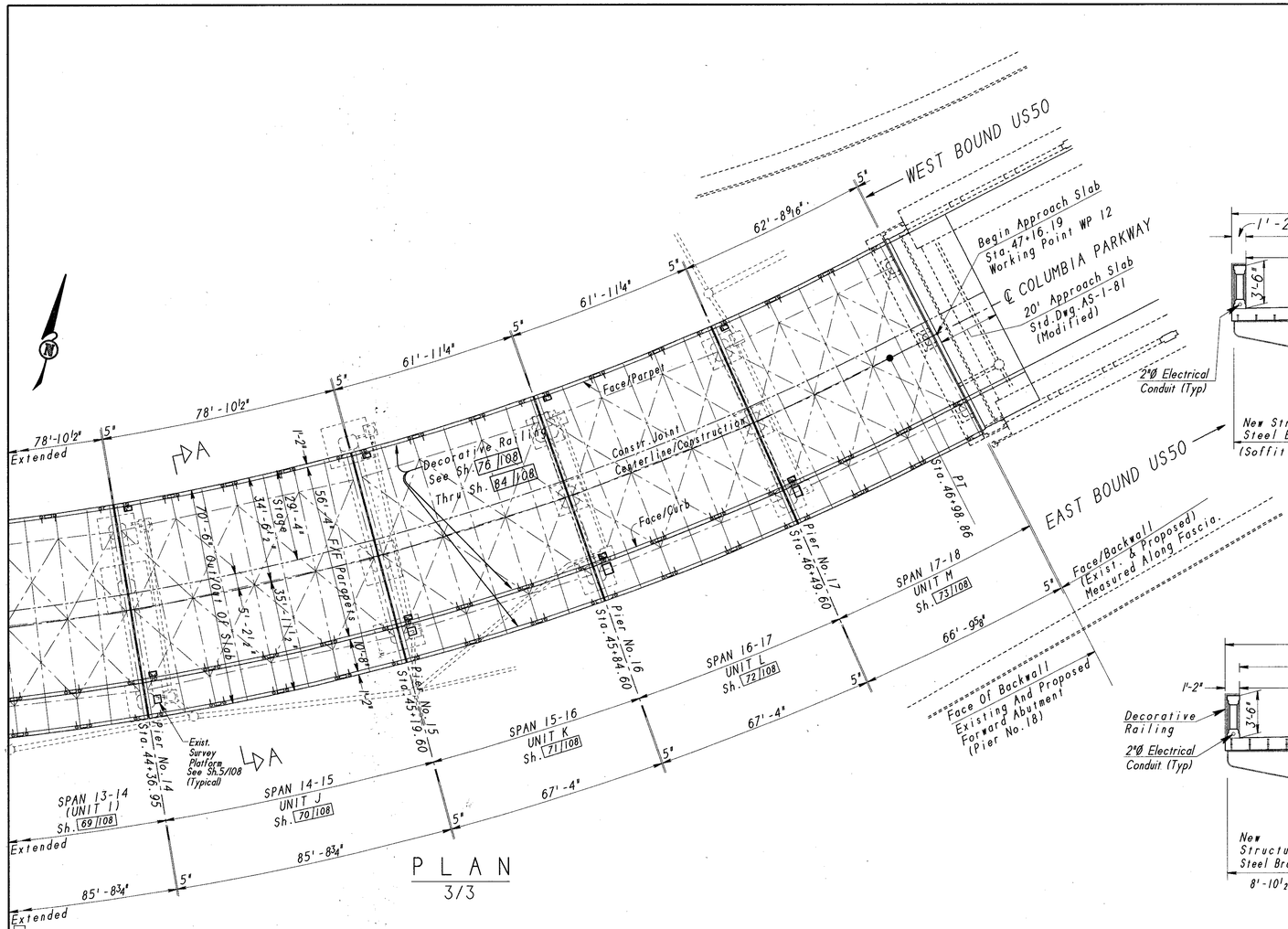
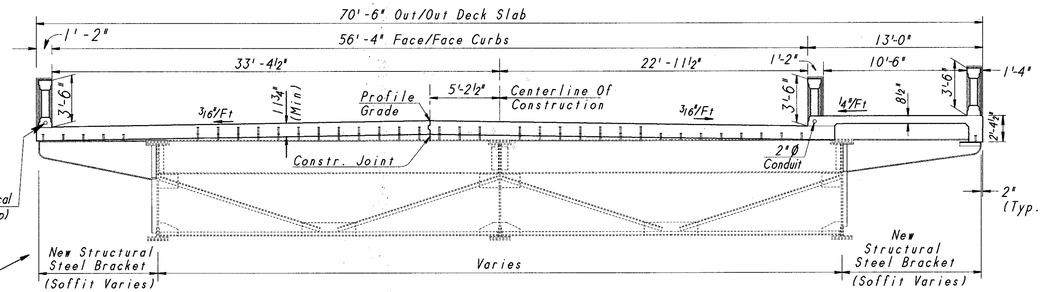
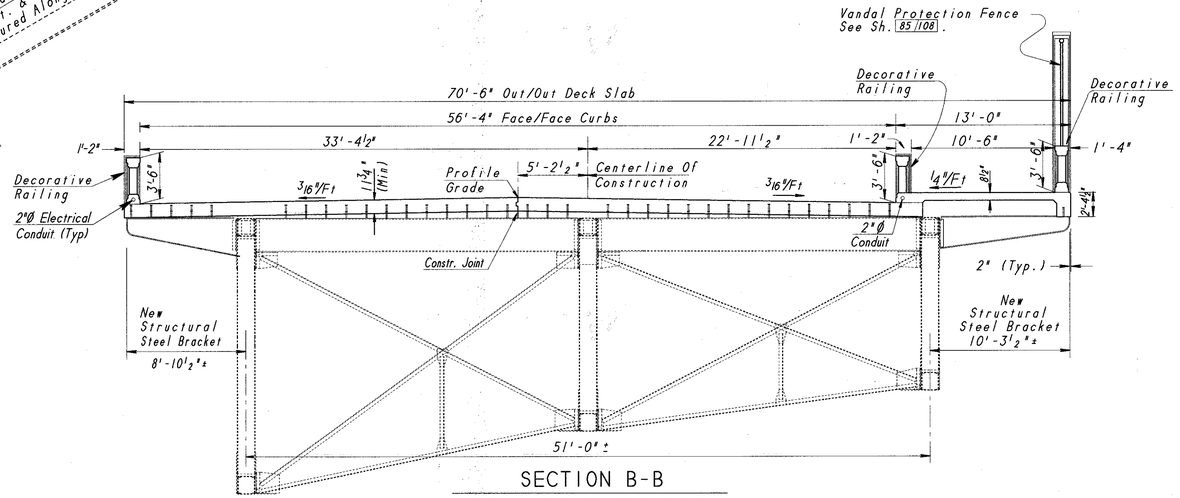


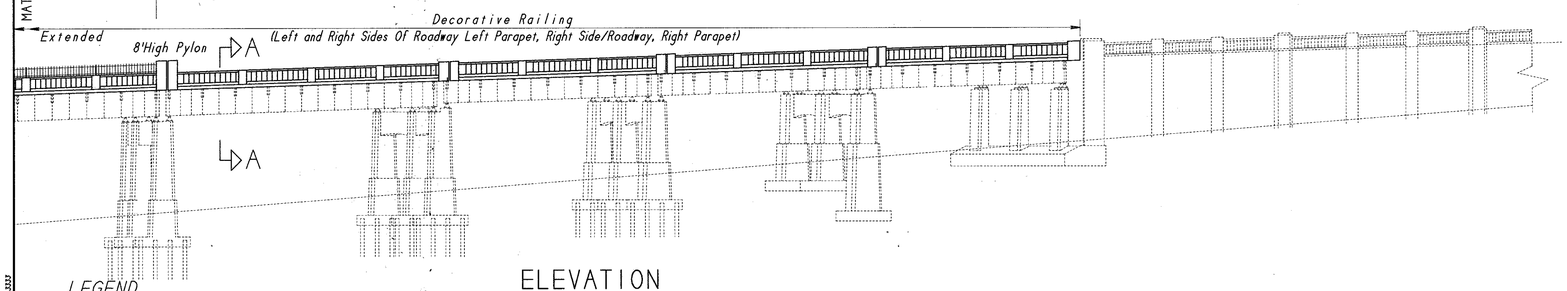
PLAN
3/3



SECTION A-A
(TYPICAL AT PLATE GIRDER BRIDGE SPANS)



SECTION B-B
(TYPICAL AT TRUSS BRIDGE SPANS)



ELEVATION
(LOOKING NORTH)
3/3

LEGEND
- Existing Structure
- New Work

NOTES:

1.- Work this sheet with SITE PLAN 1/2, Sh. 2 /108 and SITE PLAN 2/2, Sh. 3 /108
2.- Work This Sheet With GENERAL PLAN 1/3, Sh. 4 /108 and GENERAL PLAN 2/3, Sh. 5 /108
3.- See GENERAL NOTES, Sh. 7 /108 Thru Sh. 11 /108.

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CINCINNATI OHIO

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GENERAL PLAN 3/3

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta. 30+55.40
Sta. 47+16.19
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

DENSITY: Scale 21.3333

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

81/182

HAM-471-00.25

ESTIMATED QUANTITIES

Calc.: WDD: Date:Sept.95
Chk. : ED : Date:Apr. 96

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUP'R	ABUTS	PIERS	GEN'L
202	11203	Lump	Sum	Portions Of Structures Removed, over 20 foot Span, As Per Plan.				Lump
202	75402	20	Each	Light Pole Removed For Storage	20			
202	75504	20	Each	Luminaire Removed For Storage.	20			
503	11100	Lump	Sum	Cofferdams, Cribs And Sheeting				Lump
503	21300	Lump	Sum	Unclassified Excavation				Lump
509	15840	626686	Pound	Epoxy Coated Reinforcing Steel, Grade 60	617631	8255		800
510	09950	81	Each	Dowel Holes With Cement Grout		27		54
511	31502	26	Cu.Yd.	Class S Concrete, Superstructure,	26			
511	45700	64	Cu.Yd.	Class C Concrete, Abutments, Repair or Reconstruction.		64		
511	71100	4584	Cu.Yd.	Concrete Misc.: Lightweight Concrete Superstructure, As Per Plan.	4584			
512	44400	50	Sq,Yd.	Type B Waterproofing		50		
Special	51267502	6138	Sq.Yd.	Sealing Of Concrete Surfaces (Epoxy) *		618	5520	
Special	51267504	8224	Sq.Yd.	Sealing Of Concrete Surfaces (Non-epoxy)*	8224			
513	11700	329375	Pound	Structural Steel, AISC Category III.	329375			
513	15901	65301	Pound	Structural Steel, Replacement Of Deteriorated End Cross Frames, As Per Plan.	65301			
513	16590	101479	Pound	Structural Steel, Misc: Catwalk Including Ladders.				101479
513	17502	2337	Sq.Ft.	Catwalk Grating				2337
513	20000	22054	Each	Welded Stud Shear Connector	22054			
Special	51400620	38794	Sq.Ft.	Field Painting Of New Steel, System IZEU *	38794			
516	11210	1244	Lin.Ft.	Structural Expansion Joint Including Elastomeric Strip Seal. *	1244			
516	44401	1	Each	Elastomeric Bearing With Internal Laminates And Load Plate(Neoprene), As Per Plan(2'-2 1/2"x2'-1"x6 1/8" Pad & 2'-6 1/2" x 2'-2"x 3" Plate)				
516	44401	29	Each	Elastomeric Bearing With Internal Laminates And Load Plate (Neoprene), As Per Plan (2'-2 1/2" x 2'-1" x 6 1/8" Pad & 2'-3 1/2" x 2'-2" x 3" Plate)				
516	45001	6	Each	Steel Pot Bearing, As Per Plan, 300 kips *	6			
516	45001	6	Each	Steel Pot Bearing, As Per Plan, 500 kips *	6			
516	45001	6	Each	Steel Pot Bearing, As Per Plan, 1000 kips *	6			
516	45001	3	Each	Steel Pot Bearing, As Per Plan, 1200 kips *	3			
Special	51645100	3	Each	Bearing Test, Steel Pot Bearing	3			
Special	51645300	3	Each	Additional Bearing Test, Steel Pot Bearing	3			
516	47001	Lump	Sum	Jacking And Temporary Support Of Superstructure As Per Plan.	Lump			
517	74500	4807	Lin.Ft.	Railing, Concrete (Decorative Type).	4807			
518	21200	63	Cu.Yd.	Porous Backfill With Filter Fabric		63		
518	51100	1250	Lin.Ft.	8" Pipe Downspout Including Specials.*	1250			
518	62200	28	Each	Structure Drainage, Misc.: Inlet, Including Steel Support Beams, Frame And Specials, 8"Downspout And Grating. *	28			
518	63300	Lump	Sum	Structure Drainage, Misc.: Straightening, Adjusting And Cleaning Existing 6" Downspout Including Specials.				Lump
Special	51911502	1312	Sq.Ft.	Patching Concrete Structure With Trowelable Mortar *			1312	
Special	51912610	62	Lin.Ft.	Concrete Repair By Epoxy Injection including Surface Preparation.*			62	
Special	51922100	15	Cu.Yd.	Micro-Silica Modified Concrete Overlay (Variable Thickness)*	15			
Special	53000200	Lump	Sum	Structure Misc.: Bridge Identification Sign				Lump
Special	60740000	268	Lin.Ft.	Vandal Protection Fence (4 Ft. High)	268			
Special	60740000	521	Lin.Ft.	Vandal Protection Fence (8 Ft. High)	521			

* See Proposal Note.

ESTIMATED QUANTITIES

Calc.: WDD: Date:Sept.95
Chk. : ED : Date:Apr. 96

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUP'R	ABUTS	PIERS	GEN'L
815	00050	282000	Sq.Ft.	Surface Preparation Of Existing Steel, System OZEU	282000			
815	00056	282000	Sq.Ft.	Field Painting Of Existing Steel Prime Coat, System OZEU	282000			
815	00060	282000	Sq.Ft.	Field Painting Of Existing Steel Intermediate Coat, System OZEU	282000			
815	00066	282000	Sq.Ft.	Field Painting Of Existing Steel Finish Coat, System OZEU	282000			
815	00500	103700	Lin.Ft.	Caulking	103700			

GENERAL NOTES

REFERENCE shall be made to Standard Drawings:

AS-1-81	9-15-94
EXJ-4-87	11-12-93
PCB-91	4-24-92

And Supplemental Specifications:

No.	Title	Date
815	Field Painting Of Existing Steel, System OZEU	7-17-95
910	OZEU Structural Steel Paint	7-17-95
933	Quick Setting Concrete Mortar	7-17-95

DESIGN SPECIFICATIONS:

This structure conforms to the "Standard Specifications For Highway Bridges" Fifteenth Edition 1992 adopted by the American Association Of State Highway and Transportation Officials.

DESIGN DATA:

DESIGN LOADING:
HS20-44, Case II and the Alternate Military Loading.

DESIGN STRESSES:
Concrete Class C - Unit Stress 1,333 psi., Abutments.
Concrete Class S - Unit Stress 1,500 psi., Superstructure
Lightweight Concrete - Unit Stress 1,500 psi., Superstructure.

Reinforcing Steel - ASTM A615, A616, A617, Grade 60.
Unit Stress 24,000 psi.

Structural Steel-ASTM A709 Grade 36, Unit Stress 20,000 psi., Catwalk And Replacement Of Deteriorated End Cross Frames.
Structural Steel-ASTM A709 Grade 50, Unit Stress 27,000 psi., New Brackets.

Cast Steel For Steel Castings-ASTM A27 Grade 36.

High Strength Bolts ASTM A325

UTILITY LINES:
All expense involved in relocating (installing) the affected utility lines shall be borne by the Utility(ies). The Contractor and Utility(ies) are to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

DECK PROTECTION METHOD: Epoxy Coated Reinforcing Steel and 2-1/2 in. cover.

MONOLITHIC WEARING SURFACE is assumed, for design purposes, to be 1 in. thick.

ALL SURFACES to patched and the exposed reinforcing steel within shall be thoroughly cleaned by abrasive blasting prior to the cleaning specified by 520.05. Cleaning shall precede application of the patching material or erection of the forms by not more than 24 hours.

REINFORCING STEEL: New reinforcing steel may require field cutting or bending to be properly fitted. Payment shall be included in 509.

MAINTENANCE OF TRAFFIC:
Two lanes of traffic within a temporary roadway of 24 feet minimum width shall be maintained at all times as described on the Roadway Plan.

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 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 on a recognition of the uncertainties described above and on 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 verified by the Contractor in the field.

EXISTING STRUCTURE PLANS.-
Existing structure plans may be inspected in the office of the City Engineer, City Hall, Room 445, 801 Plum Street Cincinnati, Ohio.

PROPOSED WORK.-
The major portions of this work include:

1.- Jack Superstructure
2.- Remove existing bearing devices and replace with new at locations designated in the plans.
3.- Remove designated end cross frames of the existing structural steel superstructure and replace with new structural steel of the same configuration.
4.- Remove existing concrete deck, concrete railing and any appurtenances related to the concrete deck.
5.- Remove abutment backwalls, approach slabs, and portions of abutment pylons.
6.- Remove designated brackets of the existing structural steel superstructure and replace with new brackets.
7.- Construct new abutment backwalls, approach slab seat and abutment pylons.
8.- Construct new concrete deck and decorative concrete railing. pedestrian protection fence, and other appurtenances related to the deck.
9.- Patch designated concrete surfaces of the piers.
10.-Install steel catwalk.
11.-Painting of existing structural steel structure to remain.
12.-Painting of new structural steel.
13.-Disposal of removed material away from the bridge site.

STRUCTURE EXCAVATION:
Structure excavation in addition to that necessary to remove portions of the existing structure, and all necessary backfill are included in the lump sum price bid with Item 503 UNCLASSIFIED EXCAVATION for payment.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

7/108

ESTIMATED QUANTITIES AND GENERAL NOTES 1/5

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

GENNOTE1 scale 1

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

82/182

HAM-471-00.25

ITEM 516 - STEEL POT BEARINGS, AS PER PLAN
TYPE GUIDED

DESCRIPTION.-
This item shall consist of furnishing all materials, labor, tools, equipment and incidentals necessary to design, fabricate, test and install pot bearings in accordance with the plans and these specifications. The basic configuration for the bearings shall meet the requirements of these specifications and as shown on Sh. 36/108 thru Sh. 37/108 .

1. THE POT BEARING SHALL CONSIST OF THE FOLLOWING PARTS:

1.1) RECTANGULAR SOLE PLATE.- Top side flat and field welded to the existing cast steel shoe that has been modified with an additional plate as shown on Sh. 36/108 . The sole plate to be added to the existing cast steel shoe shall have both top and bottom faces with flatness Class A tolerance and the face to be welded to the cast steel shoe shall be provided with a groove machined to accept the underside of the shoe. The top plate of the pot bearing shall have integral guide bars. The sliding surface of the plate and guide bars shall be provided with stainless steel sheets. Top plate rides on piston.

1.2) CIRCULAR PISTON.- Faced with Polytetrafluoroethylene (PTFE). Piston sits in steel pot on lubrication and elastomeric discs.

1.3) ELASTOMERIC DISC.- Confined within pot for the purpose of providing rotation and support for the piston. Lubricating compound is to be provided above and below the elastomeric disc. The disc shall be sealed with brass sealing rings.

1.4) SEALING RINGS.- Seal between pot and piston to contain the elastomeric disc.

1.5) GUIDE BARS.- Attached or integral with the bearing top plate to guide bearing and transmit lateral loads to the pot.

1.6) CIRCULAR POT.- Containment for the elastomeric disc and transmission of vertical and lateral loads to masonry plate. Field Welded To Masonry Plate.

1.7) MASONRY PLATE.- Distribute vertical and horizontal forces from the steel pot to the concrete bridge seat. Masonry plate sits on bearing pad and is connected to the concrete with anchor bolts.

2. DESIGN AND MATERIALS REQUIREMENTS:
Schematic drawings indicating basic concepts of pot bearings are shown in the project plans for information only. The bearings shall be designed to be removable and replaceable with a jacking movement not to exceed 1/4 inch. The manufacturer may modify details of his design to meet specific requirements subject to review and approval of the Engineer. The design requirements for load, movements, and rotations are shown in the project plans.

The bearing shall be designed by Service Load Design Method of the AASHTO Standard Specifications For Highway Bridges, 15th Edition. Seismic performance category "B" and acceleration coefficient of 0.10 shall be used for seismic design.

Stresses in the steel plates of the bearings and the stresses imposed on the adjacent concrete surfaces shall be within the allowable stress values of the AASHTO Standard Specifications for Highway Bridges, 15th Edition.

2.1) BEARING HEIGHT.-
The total bearing height shall meet the existing clear distance shown in Table B, Sh. 36/108 . This dimension shall be met by increasing the sole plate thickness or pot bearing sliding plate thickness or the masonry plate thickness or a combination thereof.

2.2) SOLE PLATE WELDED TO THE EXISTING CAST STEEL SHOE.-
ASTM A709 Grade 50 or Grade 50W steel plate.

2.3) BEARING SOLE PLATE.-
(2.3.1) ASTM A709 Grade 50 or Grade 50W steel with stainless steel sliding surface on under side. Top side flat to match the plate described on 2.2 above. Bottom side level.

(2.3.2) Stainless steel sheet surface shall conform to ASTM A167 or A240 Type 304. The minimum thickness shall be 0.06 inch. Stainless steel in contact with PTFE shall have a 20 micro-inch RMS finish or better. The surface shall be mechanically polished. Material and finish shall be such that the requirements of friction test as described in these specifications are met.

(2.3.3) The plate shall be Rectangular or square in plan.

(2.3.4) Plan dimensions shall accommodate the pot diameter, guide bars, design movement as shown on Sh. 36/108 plus 0.25 inch.

(2.3.5) Minimum thickness shall be 0.75 inches.

(2.3.6) Expansion guide bars as described in section 2.7 of these Specifications.

2.4) PISTON.-
(2.4.1) ASTM A709 Grade 50 or Grade 50W steel.

(2.4.2) Diameter of piston shall be 0.03 to 0.05 inch less than the inside diameter of the pot.

(2.4.3) Piston thickness shall be sufficient to provide a clearance of (0.02xPot O.D.+0.12) inches between the top of the pot wall and surface above (guide bar or bottom of sole plate) the pot wall when the piston is in an unrotated position. The piston thickness shall be sufficient to transmit two times the lateral loads shown on Sh. 36/108 from the guide bar to the pot wall without deflection or distortion.

(2.4.4) Piston walls shall be tapered inward, toward the top, to prevent binding against the pot walls during rotation, and the bottom edge shall be rounded with a machined 0.125 inch radius.

(2.4.5) The piston shall be machined from a single piece of structural steel.

(2,4,6) The thickness of the piston shall ensure that the bottom of the piston will be entirely below the top of the pot up to 200 percent of maximum design rotation.

(2.4.7) The top of the piston and the sides of guide bar recess shall be faced with PTFE. The PTFE surface shall consist of finished unfilled PTFE sheet made from virgin PTFE resin OR 100 percent PTFE fabric made from virgin PTFE multifilament fiber. material and finish shall be such that the requirements of Section 2.4.8 are met.

(2.4.8) PTFE fabric fibers shall conform to the following:
A) The resin from which the fibers are produced shall be 100 percent PTFE conforming to ASTM D1457.
B) Tensile Strength ASTM D2256, 24,000 psi (Minimum).
C) Elongation ASTM D2256, 75% (Minimum).
D) The PTFE fabric shall have a minimum thickness of 0.0625 inch (compressed). Maximum thickness shall be 0.125 inch (compressed).

(2.4.9) Finished unfilled PTFE sheet shall be made from 100 percent virgin PTFE resin and shall conform to the following requirements:
A) Tensile strength ASTM D1457, 2800 psi (Minimum).
B) Elongation ASTM D1457, 200 percent (Minimum).
C) Specific Gravity ASTM D1457, 2.13 (Minimum).
D) Melting point ASTM D1457, 327° Centigrade ±10.
E) Minimum thickness shall be 0.187 inch. Sheet shall be recessed one half its thickness into steel substrata.
F) PTFE sheet shall be commercially etched on its bonding side.

2.5) ELASTOMERIC DISC.-
(2.5.1) The elastomeric disc shall meet the following average compressive stress requirements:
(A) Maximum of 3500 psi when the bearing vertical design capacity specified in the plan is applied to the area of the disc.
(B) Minimum of 700 psi when the lesser of the dead load or 20% of the bearing vertical design capacity specified in the plan is applied to the area of the disc.

(2.5.2) Minimum disc thickness shall be 0.067 times Disc Diameter.

(2.5.3) The elastomeric disc shall consist of 100 percent virgin Polychloroprene (Neoprene) meeting the requirements of CMS 711.23 or 100 percent virgin natural Polyisoprene (Natural Rubber) meeting the requirements of the current AASHTO M251.

(2.5.4) Hardness shall be 50 Durometer +/- 5

(2.5.5) The disc shall consist of one solid piece of elastomer.

(2.5.6) The elastomeric disc shall be lubricated with a silicone compound conforming to the requirements of MIL-S-8660 or approved equal.

(2.5.7) Two flat brass sealing rings shall be used to seal the disc. The upper edge of the disc shall be recessed to receive the sealing rings so that they sit flush with the upper surface of the elastomeric disc.

2.6) SEALING RING.-
(2.6.1) Rings shall be flat and made of brass conforming to the requirements of ASTM B36, half hard.

(2.6.2) Minimum width shall be 0.375 inch.

(2.6.3) Minimum thickness shall be 0.050 inch.

(2.6.4) The rings shall have a smooth finish of 64 micro-inch (RMS) or less.

(2.6.5) Two rings are required.

(2.6.6) The rings shall be split and snugly fit the recess in the elastomeric disc as well as the inside diameter of the pot. The ends of the rings at the split shall be cut at 45 degrees to the vertical. The maximum gap shall be 0.050 inch when installed. The rings shall be arranged to have the splits staggered a minimum of 90 degrees relative to one another.

2.7) GUIDE BARS.-
(2.7.1) ASTM A709 Grade 50 or A709 grade 50W faced with stainless steel.

(2.7.2) Guide bars may be integral by machining from a solid sole plate or they may be attached to the sole plate by press fit into recess and welding the ends. The side surfaces of the guide bars shall be faced with stainless steel (Section 2.3.2 of these specifications). Welding of guide bars to the sole plate shall be performed prior to welding of stainless steel to the sole plate or guide bar.

(2.7.3) The total space (both sides) between the guide bars and guided members shall be 0.125 minus 0, plus 0.0625 inch.

(2.7.4) The guide bars shall be designed for no less than two times the lateral horizontal force shown on Sh. 36/108 .

(2.7.5) Guiding arrangements shall be designed so that the guided member is always within the guides at all points of translation and rotation of the bearing.

(2.7.6) The bottom of the recess shall be a minimum of 0.375 inch clear to guide bar in sole plate.

2.8) POT
(2.8.1) ASTM A709 Grade 50 or A709 Grade 50W Structural Steel.

(2.8.2) The pot shall consist of a solid plate into which a circular recess has been machined.

(2.8.3) The depth of the circular recess shall be equal to, or greater than (Pot I.D. times 0.02 plus 0.10 inches plus thickness of the elastomeric discs).

(2.8.4) The pot inside diameter shall be the same as the elastomeric disc, (See Section 2.5).

(2.8.5) The outside of the pot shall be rectangular.

(2.8.6) The thickness of the pot wall shall be sufficient to transmit two times the lateral horizontal force shown on Sh. 36/108 to the pot base with the load applied at a point contact at two times the design rotation and accounting for internal elastomer pressure without causing deflection or distortion to the pot wall or base. In no case shall the wall thickness be less than 3/4 inches.

(2.8.7) The minimum thickness of the pot beneath the elastomer for a bearing directly on a masonry plate shall be not less than the greater of 0.045 times Pot I.D. or 0.50 inch and meet the requirements (2.8.6) above.

(Continued Next Page)

GENNOTE2 Sht 1

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO
8/108

GENERAL NOTES 2/5

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

ITEM 516 - STEEL POT BEARING (Cont..)

2.9) MAKEUP PLATE.-
(2.9.1) ASTM A709 Grade 50 or A709 Grade 50W Structural Steel.

2.10) MASONRY PLATE.-
(2.10.1) ASTM A709 Grade 50 or A709 Grade 50W Structural Steel.

2.11) BEARING PAD SHEET LEAD.-
(2.11.1) Bearing pad sheet lead shall conform to ASTM B-29. Preformed bearing pads shall conform to CMS 711.21.

3.- FABRICATION.-

3.1) ATTACHMENT OF SHEET PTFE TO SUBSTRATE.-
(3.1.1) PTFE sheet shall be recessed into, and bonded to a steel substrate.
(3.1.2) PTFE shall be recessed for one half its thickness.
(3.1.3) The bonding surface of the steel shall be cleaned of rust, scale, oil and grease by blast cleaning and then wiped clean with a cleaning solvent. Blast cleaning shall be performed within a maximum of four hours prior to bonding.
(3.1.4) The adhesive material and the bonding procedures to be used shall be submitted to the Director for approval prior to performance of the bonding operation. The bonding operation shall then be performed under controlled conditions and in accordance with these approved procedures.
(3.1.5) After completion of the bonding operation, the PTFE surface shall be smooth and free from bubbles.

3.2) ATTACHMENT OF PTFE FABRIC TO SUBSTRATE.
(3.2.1) PTFE fabric shall be mechanically interlocked and bonded to the steel substrate.
(3.2.2) The bonding surface of the steel shall be cleaned of rust, scale, oil and grease by blast cleaning and then cleaned with solvent. Blast cleaning shall be performed within a maximum of four hours prior to bonding.
(3.2.3) The mechanical interlock and adhesive bonding material and procedures shall be submitted to the Director for approval prior to performance of the bonding operation. The bonding operation shall then be performed under controlled conditions and in accordance with these approved procedures as approved by the Director.
(3.2.4) Migration of epoxy through the fabric will not be permitted.
(3.2.5) Fabric shall be furnished in one piece. Edges shall be oversewn or recessed so that no cut fabric edges are exposed.

3.3) ATTACHMENT OF SHEET STAINLESS STEEL.
(3.3.1) Stainless steel shall be attached to its steel substrate with an approved epoxy to ensure complete contact, and then seal welded. Seal welds shall be continuous for the entire periphery of the stainless steel overlay. The entire stainless steel surface shall conform to the requirements of section (2.3.2) after welding.

3.4) CORROSION PROTECTION.-
(3.4.1) All steel surfaces (including A709 Grade 50 Steel) exposed to the atmosphere, except stainless steel surfaces, shall be shop prime coated System IZEU.

3.5) WELDING.-
(3.5.1) Welding as a means of attachement shall be done in a controlled manner and shall conform to CMS 513. Welding to a steel plate which has bonded PTFE surface may be permitted providing welding procedures are established which restrict the maximum temperature reached by the bond area to less than 300 degrees Fahrenheit, as determined by temperature indicating pencils, or other suitable means.

3.6) TOLERANCES.-
(3.6.1) General Flatness Criteria:
A.- Flatness tolerances shall be defined as:
A1).- Class A Tolerance = 0.0005 x Nominal Dimension.
A2).- Class B Tolerance = 0.0010 x Nominal Dimension.
A3).- Class C Tolerance = 0.0020 x Nominal Dimension.
A4).- Nominal Dimension shall be defined as the actual dimension of the plate, in inches, spanned by the straightedge.

B.- Flatness shall be determined by placing a straightedge, longer than the nominal dimension to be measured, in contact with the surface to be measured or as parallel to it as possible. Select a feeler gauge having a tolerance of plus or minus 0.001 inch and attempt to insert it under the straightedge. (The smallest number of blades shall be used). Flatness is acceptable if the feeler does not pass under the straightedge. The straightedge may be located at any position on the surface and not necessarily at 90 degrees to the edges.

C.- TOLERANCES - SOLE PLATE.-
C1).- Plan dimensions over 30 inches: -0", +1/4"
C2).- Plan dimensions under 30 inches: -0", +3/16"
C3).- Flatness of surface in contact with beam or girder: Class B.
C4).- Flatness of backing surface for stainless steel: Class A
C5).- Thickness: -1/32", +1/8"

D.- TOLERANCES - PISTON.-
D1).- Diameters greater than 20 inches: +0.007"
D2).- Diameters less than 20 inches: +0.005"
D3).- Expansion bearings where upper side is faced with PTFE, flatness of upper side shall be class A.
D4).- Flatness of lower side: Class B.

E.- TOLERANCE - ELASTOMERIC DISC.-
E1).- Diameters greater than 20 inches: +3/32"
E2).- Diameters less than 20": +1/16"
E3).- Thickness: -0", +1/8"

F.- TOLERANCE - GUIDE BAR.-
F1).- Length (unless integral): +1/8"
F2).- Flatness of backing surface for stainless steel: Class A
F3).- Inside of bar to inside of bar: Nominal dimension +1/32"
F4).- Guide bars shall be not more than 1/32" out of parallel.
F5).- Cross sectional dimensions: +1/16"

G.- TOLERANCE - POT
G1).- The inside diameter shall be machined to a tolerance of +0.005" for inside diameters up to 20 inches, and to a tolerance of +0.007" for inside diameters over 20 inches.
G2).- Pot underside shall be machined parallel to the inside to a Class A tolerance.

H.- TOLERANCE - PTFE SUBSTRATES.-
H1).- PTFE substrate flatness: Class A

I.- TOLERANCE OF STEEL (not stainless), in contact with steel (not stainless): Class B

J.- THE EDGES of all parts shall be broken by grinding so that there are no sharp edges.

K.- TOLERANCE - OVERALL HEIGHT OF BEARINGS: -1/16", +1/8"
L.- TOLERANCE - MAKEUP PLATE.-
L1).- Plan dimensions: -0", +1/4"
L2).- Thickness: -1/32", +1/8"
L3).- Flatness: Class B Top and Bottom.
M.- TOLERANCE - MASONRY PLATE.-
M1).- Plan dimensions: -0", +1/4"
M2).- Thickness: -1/32", +1/8"
M3).- Flatness - Class C for the underside, Class B for the upper side.

4.- TESTING:
4.1) GENERAL.-
(4.1.1) Tests shall be performed by the manufacturer or by an independent testing laboratory. The testing agent chosen by the contractor will be subject to approval by the Director. Approval will be based on: (1) The ability of the testing facility to perform the required test - possession of proper testing equipment and trained personnel, and (2) submittal of a report describing the testing procedures to be used including setup of testing apparatus, steps to be followed in the testing apparatus, steps to be followed in the testing procedures, readings, conversions of readings to final data, and sample calculations showing how final results are obtained from raw data.

(4.1.2) SAMPLING.-
A) One guided expansion bearing shall be chosen, selected at random, from each applicable lot of completed bearings.
B) One lot shall consist of no more than 50 expansion bearings of one load category.
C) One load category shall consist of bearings having vertical load capacity within a range of no more than 500 Kips.

4.2) FRICTION TEST shall be performed on expansion bearings samples chosen as described in section (4.1.2) above.
(4.2.1) The tests shall be conducted at the maximum working stress for the bearing with the load applied continuously for 12 hours prior to measuring the friction. Maximum working stress shall be determined by dividing the maximum vertical force (obtained from the plans) by the areas of PTFE used on top of the piston. Lateral design load to be applied concurrently on guided bearings.
(4.2.2) The static and dynamic coefficient of friction shall be determined. A sliding speed of less than one inch per minute shall be used. The coefficient of friction thus determined shall not exceed 0.04.

4.3) PROOF LOAD TEST shall be performed on one sample chosen as described in 4.1.2 above in accordance with AASHTO 18.3.5.3.1 Division II

4.4) ADHESION between the PTFE and substrate shall be tested on a test specimen in accordance with ASTM D429, Method B. The minimum peel strength shall be 25 Lbs. per inch. This test is in addition to adhesion determined under 4.2 and 4.3.

4.5) TEST RESULTS shall be presented in a report showing raw test data, reduced test data, sample calculations, and final results along with photographs and conclusions.

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4.6) CERTIFIED TEST data for all stainless steel, ASTM A709 structural steel and PTFE shall be furnished to the Director showing compliance with the requirements of this specification.

4.7) THE DIRECTOR may require additional bearings to be tested even though required bearing tests have been acceptable. Such additional tests will be paid for under Item 516, ADDITIONAL BEARING TEST, STEEL POT BEARING.

5.- SHIPPING AND PACKING.-
5.1) Bearings shall be securely banded together as units so that they may be shipped to the job site and stored without relative movement of the bearing parts or disassembly at any time. This requirement does not apply to the masonry plate or 1/8" sheet lead or preformed bearing pad, which shall be shipped for separate installation. Bearings shall be wrapped in moisture proof and dust proof material to protect against shipping and job site conditions.

5.2) Care shall be taken to ensure that bearings at the job site are stored in a dry, sheltered area free from dirt or dust until installation.

5.3) Centerlines shall be marked on appropriate bearing parts for checking alignment in the field and be shown on shop drawings.

5.4) Each bearing, masonry plate and pad shall have a mark number and the mark number and placement location shall be shown on the shop drawings.

6.- INSTALLATION.-
6.1) Field welding of bearing to masonry plate shall meet the requirements of (3.5.1).

6.2) Bearings shall be evenly supported over their upper and lower surfaces under all erection and service conditions.

6.3) Align the centerlines of the bearing assembly with those of the sub-structure and superstructure. Align the bearings to allow for the designated expansion direction of the structure.

6.4) Erection bars shall be fastened to the truss bottom chord or truss end post to accurately position plates. The guide bars must be in parallel with truss or centerline of bearings.
Tolerance in setting the guide bars shall be 1/32" in the length of the bar out of parallel.

6.5) Bearing straps or retaining clamps shall be left in place as long as possible to ensure parts of bearings are not inadvertently displaced relative to each other.

6.6) Set offsets of upper and lower bearing parts to compensate for ambient temperature and as required by plans.

6.7) Field paint exposed steel System IZEU.

7.- METHOD OF MEASUREMENT.-
7.1) A complete and acceptable bearing system furnished and installed including bearing, masonry and sole plates, bearing pad and anchor bolts will be measured on an each basis for each design capacity.
7.2) Additional bearing test if required by the Director will be measured on an each basis for a successfully tested and accepted bearing. Test resulting in a rejected bearing will not be measured and paid for.

8.- BASIS OF PAYMENT.-
8.1) Payment will be made at the unit price bid per EACH for Item 516 "STEEL POT BEARING, AS PER PLAN (____Kips)", for a complete bearing system designed, furnished and installed in accordance with Item 516 and the plans.
8.2) Payment for all work listed under testing and acceptance of this specification will be made at the bid price per EACH for Item Special, "BEARING TEST, STEEL POT BEARING"
8.3) Additional bearing tests required by the Director will be paid for at the price bid per EACH, listed under Item special, "ADDITIONAL BEARING TEST, STEEL POT BEARING".

Pflum, Klausmeier & Gehrum Consultants
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GENERAL NOTES 3/5

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

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GENERAL NOTES Cont...

ITEM 202.- PORTIONS OF STRUCTURES REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
DESCRIPTION: This work shall consist of the removal of concrete deck including sidewalks, parapets, railings, deck joint steel armor and other appurtenances from steel supporting systems (beams, girders, trusses, crossframes, etc.). This work shall also include the removal of tie plates and brackets, bearing devices scheduled to be retrofitted or replaced (roller nests, masonry plates, pins, steel shoes, etc.), and substructure concrete in areas scheduled to be rebuilt, repaired, or patched. Care shall be taken during removals to protect portions of such systems that are to be salvaged and incorporated into the proposed structure. In this respect, the use of explosives, headache balls and/or hoe ram type of equipment is prohibited.
Netting now installed to prevent existing spalled concrete from falling, shall be removed and disposed of. The cost of removal and disposal shall be included as part of this Item.

PROTECTION OF TRAFFIC: Prior to demolition of any portions of the existing superstructure, the contractor shall submit his plans for the protection of traffic (vehicular, pedestrian, etc.) adjacent to and/or under the structure to the Director for approval. These plans shall include provisions for any devices and structures that may be necessary to ensure such protection. Vertical clearances specified on the plans or in the proposal shall be maintained at all times except as otherwise approved by the Director.

PROTECTION OF STEEL SUPPORT SYSTEMS: Before deck slab cutting is permitted, the outline of primary steel members in contact with the bottom of the deck shall be drawn on the surface of deck. Small diameter pilot holes shall be drilled 2 inches outside these lines to confirm the location of flange edges. Deck cuts over or within 2 inches of flange edges shall not extend lower than the bottom layer of deck slab reinforcing steel. Cuts made outside 2 inches of flange edges may extend the full depth of the deck. During cutting of the deck slab, care shall be taken not to damage steel members that are to be incorporated into the proposed structure.

REMOVAL METHODS: Concrete may be removed by cutting and by means of hand operated pneumatic hammers employing pointed or blunted chisel type tools. For removals above steel members, a hammer heavier than 35 pounds but not to exceed 90 pounds may be used at the approval of the Engineer, to ensure adequate depth control and to prevent nicking or gouging the primary steel members.

LOADING LIMITATIONS: No part of the structure shall be subjected to unit stresses that exceed 136.5% of the allowable unit stress given in the AASHTO Standard Specification for Highways Bridges due either to demolition, erection or construction methods, or to the use or movement of demolition or erection equipment on or across the structure. Structural analysis computations, by a Registered Professional Engineer, showing the allowable stresses and the maximum stresses produced by the Contractor's methods or equipment shall be submitted to the Director for review and approval at least two weeks prior to the start of the work.

DAMAGE REPAIR: Any damage to portions of the structure that are to remain and be incorporated into the proposed structure shall be repaired at the Contractor's expense. Proposed repairs shall be developed by a registered Professional Engineer and submitted in writing for review and approval by the Director.

PAYMENT: This work will be paid for at the contract lump sum price bid for Item 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 ' FOOT SPAN ,AS PER PLAN, and payment shall be full compensation for all labor, equipment, material, and incidentals necessary to complete the work in conformace with these requirements, with pertinent provisions of 202, and to the satisfaction of the Engineer.

ITEM 516.- JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.
This item shall consist of furnishing all necessary labor, materials, and equipment to raise or reposition any existing structure to the dimension and requirements defined in the project plans.

The Contractor shall be responsible for the design, installation and operation of an adequate jacking system, including any temporary or permanent supports necessary to perform the work described in the project plans. Three (3) sets of jacking plans, which include the information described in this note, shall be submitted to the Director for approval at least thirty (30) days before actual work is to begin. The plans shall be prepared and stamped by a Registered Professional Engineer.

Jacking submittals shall include at least the following:

1.- The signature and number, or professional seal, of a Registered Professional Engineer who prepared the submittal.

2.- Calculations and analysis of the structure to determine and define the actual loading applied at the Contractors's selection jacking points.

3.- A drawing showing the physical and dimensional position of the jacks with respect to the structure including clearances and center of lift.

4.- A schematic layout of jacks, check valves, pumps with 3 way retractor valve, pressure gages, flow control valves, etc. in accordance with manufacturer's recommendations. All jacks for each abutment or pier shall be connected together. All jacks at each abutment or pier shall be the same size.

5.- Analysis and calculations of the stresses induced or created in the structure and any temporary or permanent supports. Design calculations for any temporary or permanent supports.

6.- Physical dimensions, materials, and fabrication details of any temporary or permanent supports. Horizontal and vertical movement restraint shall be provided.

7. A step by step procedure detailing all steps in the jacking operation.

8.- Method of attachment of structural members. Welding to tension areas will not be permitted.

The entire system including jacks shall have 20% more capacity than required based on calculated loads.

For lifts greater than 1 in., jacks shall have locking nuts to positively lock and support the structure during the lift.

Jacks shall have a swivel load cap, a domed piston head or some other device to protect against the effects of side load on the jack.

Jacks alone shall not be used to support loads except during the actual jacking operation. Temporary supports, blocking or other methods approved by the Director shall be used.

Single acting rams with no over-travel protection system shall not be used.

Spare equipment shall be available on site for the required structure raising to proceed in the event of breakdown. A list of spare equipment shall be provided to the Engineer.

At a minimum, a jacking operation shall lift all beams or trusses at any one abutment or pier simultaneously. The only exception is the situation where the work involves replacing or rehabilitating individual bearings: no permanent shimming is required and the height of the lift shall not exceed 1/4 in.

Maximum differential jacking height between any adjacent abutments of piers shall be 1 in., or less.

All structure jacking must be completed and the superstructure in its final position prior to placing concrete for the deck

The Contractor shall demonstrate to the Engineer that the bridge bearings are fully seated between all contact areas. If full seating is not attained, suitable means of repair, subject to the approval of the Engineer, will be required at the Contractor's expense.

The jacking operation shall be directed by a Professional Engineer employed by the Contractor. Failure to have a Professional Engineer present shall be cause for ceasing jacking operations.

Payment shall be made at the lump sum price bid for Item 516, Jacking and Temporary Support of Superstructure, As Per Plan and shall include all necessary tools, labor, equipment and materials necessary to complete this item of work.

CUT LINE CONSTRUCTION JOINT PREPARATION:
Saw cut boundaries of proposed concrete removals 1" deep. Remove concrete to a rough surface. Where practicable, the existing reinforcing steel where required in the plans shall be left in place. Install dowel bars if specified. Prior to concrete placement abrasively clean joint surface and exposed reinforcement to remove loose and disintegrated concrete and loose rust. The joint surface and exposed reinforcement shall be thoroughly cleaned of all dirt, dust, or other foreign material by the use of water, air under pressure, or other methods that produce satisfactory results. Concrete bonding surfaces shall be wet without free water as concrete is placed.

EXISTING REINFORCING STEEL.-
Existing reinforcing steel exposed by concrete removals and noted to be incorporated into the new work shall be left in place except that it shall be bent as necessary to clear proposed concrete surfaces by at least 2 inches.

REPLACEMENT OF EXISTING REINFORCING STEEL: Any existing reinforcing bars which are to be incorporated into the new work and which are made unusable by concrete removal operations shall be replaced with new steel at the Contractor's cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 800 pounds is included in Item 509 for this purpose, listed in the "General" column of the Estimated Quantities table.

ITEM 513-STRUCTURAL STEEL-REPLACEMENT OF DETERIORATED END CROSS FRAMES, AS PER PLAN.
DESCRIPTION: This item includes all labor, material, equipment, tools, and incidentals necessary to remove deteriorated structural steel end cross frames from the existing main superstructure and replace with new steel end cross frames as decribed in the plans.
Steel members to be fabricated under this item will not require shop drawings prior to fabrication. The Contractor shall make necessary measurements and prepare sketches, drawings, tables, etc. The Engineer shall have authority and responsibility for ensuring that the fabricated steel is acceptable. Technical assistance will be provided on request by the Bureau of Bridges. Mill test reports and shipping documents shall be submitted to the Engineer for review and approval prior to incorporating steel items into the work, as required by CMS 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 to the Bureau of Bridges for information. Pay weights shall be computed in compliance with 513 of the Construction and Material Specifications (CMS), and submitted to the Engineer for his review and approval. The fabricator shall furnish a 35 millimeter microfilm copy of each shop drawing, which shall be mounted on an aperture card as specified in CMS 501.05.
Steel members described in this item include vertical and horizontal gusset plates, steel angles, lacing bars, filler plates, bolts, nuts, washers, etc.

MATERIALS: The new steel shall be structural steel ASTM A709 grade 36 and all fasteners shall be high strength bolts 7/8 in. diameter, ASTM A325
All bolts shall be installed as per CMS 513.15

METHOD OF PAYMENT: The pay quantity will be based on the weight in pounds of each end frame installed, inspected, approved, and accepted by the Engineer.

BASIS OF PAYMENT: Payment will be made at the Contract unit price bid per pound for Item 513-STRUCTURAL STEEL, REPLACEMENT OF DETERIORATED END CROSS FRAMES, AS PER PLAN.

REPLACEMENT OF DETERIORATED STRUCTURAL STEEL :
If the Engineer determines that portions of the existing structural steel are too deteriorated to be reused, the Contractor shall replace such deteriorated steel in kind, with payment at the unit cost bid for Item 513, Structural Steel.

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10/108

GENERAL NOTES 4/5

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

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ITEM 511-CONCRETE, MISC.:LIGHTWEIGHT CONCRETE SUPERSTRUCTURE, AS PER PLAN.
DESCRIPTION.- This item shall consist of furnishing and placing Portland cement lightweight concrete for the bridge superstructure in accordance with these specifications and in reasonably close conformity with the lines, grades, and dimensions shown on the plans. All applicable provisions of the Specifications shall apply.

MATERIALS.-
Materials shall be:

FINE AGGREGATE.- Natural sand in accordance with 703.02.

COARSE AGGREGATE.- Lightweight coarse aggregate shall be only processed aggregates prepared from natural deposits such as shales and clays, produced by a rotary kiln operation meeting the requirements of ASTM C330.
By-products of industries, such as furnace slag or fly ash, are not acceptable.
The coarse aggregate size designation shall be 3/8 inch to No.8.
Damp lightweight aggregates shall be stored and used in a stable, uniform, moist condition. Saturated aggregates, being more vulnerable to freezing and thawing, shall not be used unless the concrete is allowed to lose its excess moisture, after curing, prior to such exposure.

PORTLAND CEMENT.- Portland cement shall be Type I or Type II, ASTM C150.

WATER.- Water shall be free from contaminants such as sewage, oil, acid, strong alkalies or vegetable matter, and also shall be free from clay and loam. Potable water is satisfactory.

AIR ENTRAINING ADMIXTURE.- Air entraining admixture shall be as per CMS 705.10, from approved list on file at the Bureau of Testing.

CHEMICAL ADMIXTURE.- Chemical admixture shall be as per CMS 705.12 from approved list on file at the Bureau of Testing.

PROPORTIONING.-
The Contractor (with the advice of the lightweight aggregate supplier) shall be responsible for designing the lightweight concrete mixture and determining the proportions of cement, fine aggregate, coarse aggregate, water, air-entrainment and chemical admixture, in accordance with the "Recommended Practices for Selecting Proportions for Structural Lightweight Concrete (ACI 211.2)", American Concrete Institute (ACI). The resulting concrete mixture shall meet the following requirements:

28-DAY AIR DRY UNIT WEIGHT:
Design unit weight of 112 pounds per cubic foot with a permissible range of 110 pounds per cubic foot to 115 pounds per cubic foot.

28-DAY AVERAGE COMPRESSIVE STRENGTH:
4,500 psi.

CEMENT CONTENT:
715 pounds per cubic yard (minimum).

SLUMP:
3 inches plus or minus 1 inch.

AIR CONTENT:
6 percent plus or minus 2 percent (entrapped plus entrained).

WATER-CEMENT RATIO:
0.44 maximum, using damp lightweight aggregates.

All lightweight concrete shall have good workability and other properties such that proper placement, consolidation, and finishing are obtained.

The Contractor shall provide certified test data in accordance with CMS 101.061 from a recognized testing laboratory that shows the proposed lightweight concrete mix meets the requirements specified above. The mix shall be tested using the damp loose volumetric method as outlined in ACI 213R-79, Section 3.4.2. A recognized testing laboratory is any laboratory regularly inspected by the Cement and Concrete Reference Laboratory. The proposed mix designs shall be approved by the Director. Any adjustment shall be approved by the Engineer.

FIELD WORK.-
The handling of the lightweight aggregates shall be arranged to provide a thorough sprinkling of the aggregate during the stockpiling to produce damp aggregate.
Sprinkling shall be done in such a way as to obtain uniform distribution of moisture. Aggregates shall then be allowed to drain as long as necessary to produce a uniform moisture content, in excess of an SSD condition, and such moisture content shall be maintained insofar as practical until the aggregate is used. The CMS 705.12 chemical admixture shall be added to the mix in strict accordance with the manufacturer's recommendation.
The same source of aggregate and design mix, once established and checked, shall be used throughout the whole job.

Variations that exist in batching arrangements, ready mix plant layouts, weather and aggregate properties may require daily minor field adjustments to the batch weights of the aggregate. The lightweight aggregate supplier will provide, at no cost to the producer or owner, a qualified technical representative to the producer of the lightweight concrete during the production period. The technical representative furnished by the lightweight aggregate supplier shall remain available at the production site until such time as the performance of the concrete is proven to the satisfaction of the Engineer.
The dosage rate of chemical (water reducing) admixture to be used in the field shall be per manufacturer's recommendation.
Lightweight concrete shall be placed, tested, finished, water cured, and protected as specified in Item 511. Care shall be taken to provide uniform consolidation without over-vibration. The lightweight concrete shall be water-cured in accordance with CMS 511.14 Method (a).

METHOD OF MEASUREMENT:
The yardage shall be the number of cubic yards determined by calculations from plan dimensions, in place, complete and accepted. No deductions will be made for the volume of the reinforcing steel.

BASIS OF PAYMENT:
Payment shall be made at the contract unit price bid per cubic yard for Item 511, CONCRETE, MISC.: LIGHTWEIGHT CONCRETE SUPERSTRUCTURE, AS PER PLAN.

PAINTING OF STRUCTURAL STEEL: New steel shall be cleaned and prime painted in the shop and field painted with an intermediate and finish coat of paint using System 1ZEU. Existing steel shall be field cleaned and painted with a prime, intermediate, and finish coat of paint using System 0ZEU. For pay purposes, cleaning and prime painting new steel is included in 513, intermediate and finish painting of new steel in 514, and field cleaning and painting existing steel in the several 0ZEU items. The surface area pay quantities are based on the surface of main members, including crossframes increased by 5 percent to account for the area of bearings, and other incidentals being cleaned and painted. Paint color shall be subject to approval by the City Of Cincinnati.

SEALING WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN.
After deck slab concrete has been dry air cured for not less than 7 days, and immediately after a minimum 48 hour period without precipitation, vertical construction joints in the deck slab, horizontal joints at and adjacent to the roadway surface (at the base of sidewalks, curbs, barriers, etc.), and cracks in the roadway surface that are visible to the unaided eye, shall be sealed with a HMWM resin as described in the HMWM Proposal Note.
Sealant shall be applied by brush, spray,or other suitable applicator along the surface of joints and cracks. If necessary, multiple applications shall be made until complete penetration has been achieved.
After sealant has been cured, it shall be sanded as specified to roughen the sealant surface and restore its suitability for vehicular traffic.
For overcoating with a concrete surface sealant or as preparation for a concrete overlay, treated surfaces shall be roughened by abrasive blasting and otherwise cleaned as specified for the subsequent application. Sealing construction joints and cracks, as described above, shall be included with the deck slab concrete for payment.
Construction joints and cracks in overlays and butt joints between overlays and abutting concrete or metal deck elements (i.e., scuppers, end dams, etc.) shall also be sealed. Sealant shall be applied to the fresh overlay, but only after a dry air cure of 7 days, and immediately after a minimum 48 hour period without precipitation. Treated areas in the traveled way shall be sanded as required. Sealing joints and cracks in and adjacent to overlays as described above shall be included with Item 511, Conc. Misc.: Lightweight Concrete Superstructure, As Per Plan, for payment.

BRIDGE IDENTIFICATION SIGN: The bridge identification sign shall be carefully removed prior to demolition work and shall be salvaged for reuse. After completion of proposed bridge work, the sign shall be reinstalled outside of the railing at the right rear corner of the bridge with the bridge number facing traffic. It shall be fastened with cast-in-place or grouted-in-place stainless steel or galvanized steel anchor bolts. The price bid for Item Special, Structure Misc.:Bridge Identification Sign, shall be full compensation for all materials, labor, and incidentals necessary to complete this item.

ITEM SPECIAL-VANDAL PROTECTION FENCE.-
DESCRIPTION: This item consist of furnishing all materials, labor, tools, equipment, and incidentals necessary to fabricate and install a steel fence in accordance with the details shown on sheets 78/108, 79/108, and 85/108.
Fence post shall be set plumb in precast sockets and grouted. The grouting shall be finished with 1/4" wash. Support bar inserts on the side of the designated pylons shall be set level. Both, posts and support bars, shall be anchored with non-shrinking epoxy grout 510.
Fence panels shall consist of a stockade of picket and spike steel bars as shown on Sh. 85/108, arranged and spaced as described thereon.
The fabrication of the stockade shall be such, that once installed, pickets and spikes shall be vertical, and the steel channel chord members shall lay parallel to the top of the concrete railing.

Extreme care shall be exercised in the positioning and anchoring of posts and support bars to achieve this objective.
Holes for anchoring posts and support bar inserts shall be satisfactorily protected to prevent water and/or dirt accumulation prior to the erection and installation of the posts and inserts.
The Contractor shall submit shop drawings of the fence to the Engineer for approval prior to fabrication.
Painting of the fence shall conform to Item 514, Painting of New Steel, System 1ZEU, retouched after erection, (see Proposal Note). Color of paint shall be black, as approved by the City Of Cincinnati.

METHOD OF MEASUREMENT: The pay quantity will be based on the linear feet of fence, installed, inspected, approved, and accepted by the Engineer.

BASIS OF PAYMENT: Payment for all the above described work will be made at the contract bid price per linear foot for Item Special, VANDAL PROTECTION FENCE (___ft. high).

ITEM 517-RAILING, CONCRETE (DECORATIVE TYPE).
This item consists of furnishing all materials, labor, tools, equipment and incidentals, necessary to construct and erect the complete railing described on sheets 76/108 thru 84/108.

MATERIALS:
Reinforcing steel ASTM A615, A616, A617, Grade 60, epoxy coated.
Concrete shall be as per 511, Lightweight Concrete, Superstructure, As Per Plan, modified as follows: Concrete shall be buff colored by means of a water-reducing, set-controlling admixture for architectural concrete in conformance to AASHTO Specification M-194, and ASTM C-494. The dosage rate of the color-conditioned concrete admixture used in designing the lightweight concrete mix shall be the dosage rate specified by the admixture supplier.

SURFACE FINISH.- all surfaces of the railing, including posts and pylons shall be provided an exposed aggregate finish. The Contractor shall submit his proposed method for providing the finish to the Engineer for approval.
The Contractor shall submit 12"x12"x2" samples of the colored concrete with exposed aggregate finish for color and texture approval by the Engineer prior to the construction of the railing.

METHOD OF MEASUREMENT: The pay quantity will be based on the length of railing measured along its centerline, inspected, approved, and accepted by the Engineer.

BASIS OF PAYMENT: Payment will be made at the contract unit price bid per linear foot, for Item 517, RAILING, CONCRETE (DECORATIVE TYPE).

ITEM 518.- STRUCTURE DRAINAGE, MISC.: STRAIGHTENING, ADJUSTING, AND CLEANING EXISTING 6" DOWNSPOUT INCLUDING SPECIALS.
DESCRIPTION.- This Item includes all labor, material, equipment, tools, and incidentals necessary to clean and straighten existing downspouts scheduled to be protected during concrete removals, and incorporated into the new work.
The work includes removal and replacement of pipe clamps, welds, cleanouts, hangers, etc., damaged during work operations, or if deemed unusable as directed by the Engineer.
The work shall also include the cleaning of all existing cleanout boxes, and connecting pipes. Any cleanout box damaged during removal and insertion of new pipe downspout shall be repaired. Any cleanout box requiring repair as directed by the Engineer shall also be repaired.
All work described above shall be to the satisfaction of the Engineer.

PAYMENT for all the above described labor and material will be made at the Contract price bid LUMP SUM for Item 518, STRUCTURE DRAINAGE, MISC.: STRAIGHTENING, ADJUSTING, AND CLEANING EXISTING DOWNSPOUT INCLUDING SPECIALS.

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CINCINNATI OHIO

11/108

GENERAL NOTES 5/5

BRIDGE No.HAM-471-0025
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DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

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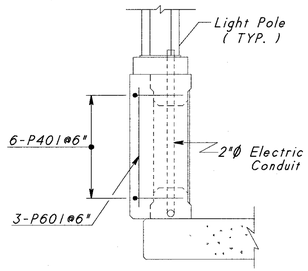
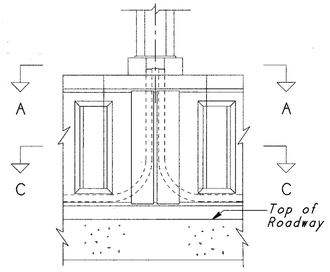
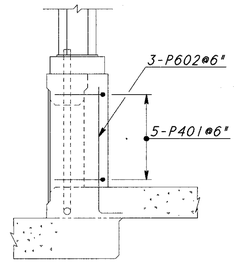


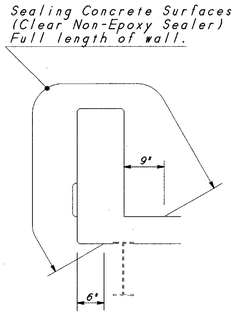
SECTION B-B
(FOR NORTH FASCIA RAILING ONLY)



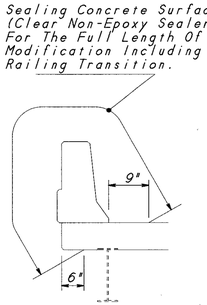
ELEVATION



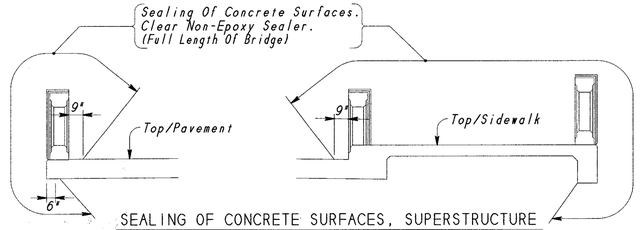
SECTION B'-B'
(FOR SOUTH SIDEWALK CURB RAILING ONLY)



CRASH ATTENUATOR BACK-UP WALL

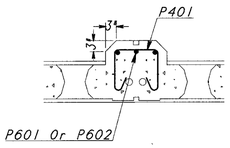


RAILING PARAPET TYPE

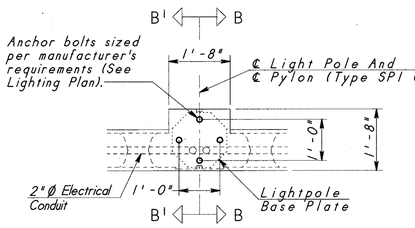


SEALING OF CONCRETE SURFACES, SUPERSTRUCTURE

SEALING CONCRETE SURFACES
RAMP A & SIXTH ST. CONNECTION



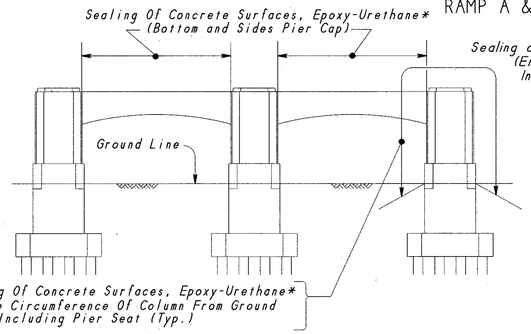
SECTION C-C



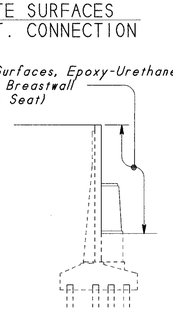
VIEW A-A

RAILING PYLON MODIFICATION *
FOR LIGHTPOLE PEDESTAL

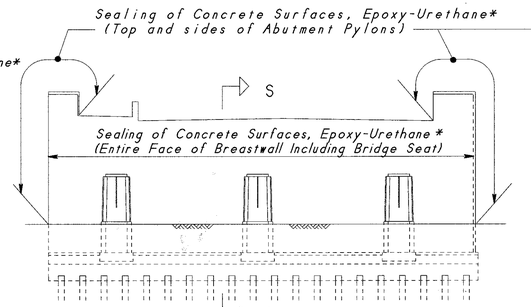
* For Locations See Railing, Sh. 77/108 Thru Sh. 80/108.



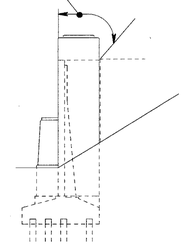
SEALING OF CONCRETE SURFACES, PIERS



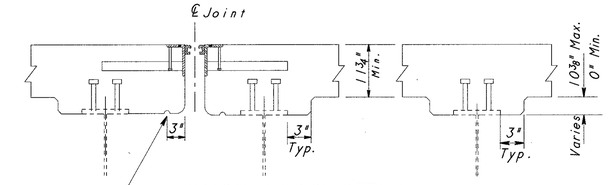
SECTION S-S



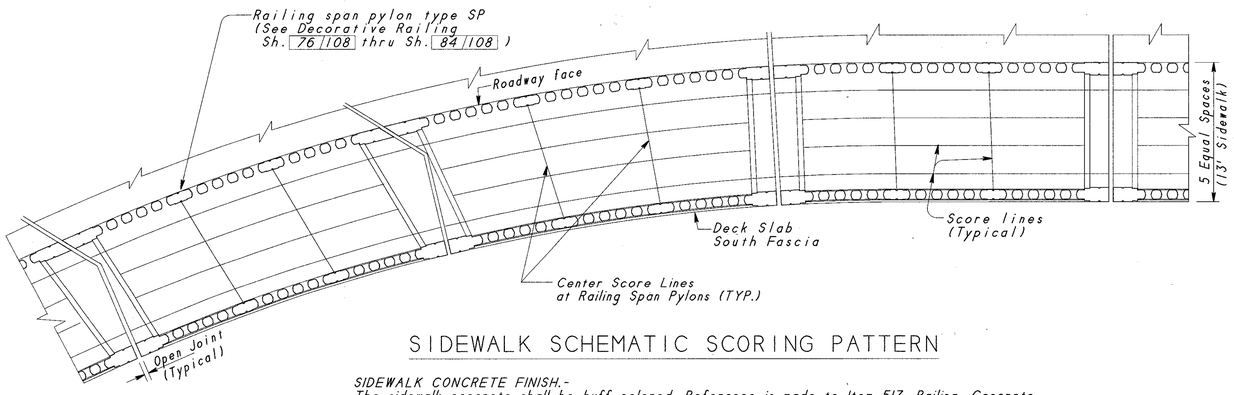
SEALING OF CONCRETE SURFACES, ABUTMENTS
(REAR ABUTMENT ELEVATION SHOWN, FORWARD ABUTMENT IS SIMILAR)



SIDE VIEW



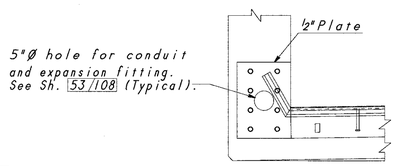
TYPICAL HAUNCH DETAIL
Except Where Noted.



SIDEWALK SCHEMATIC SCORING PATTERN

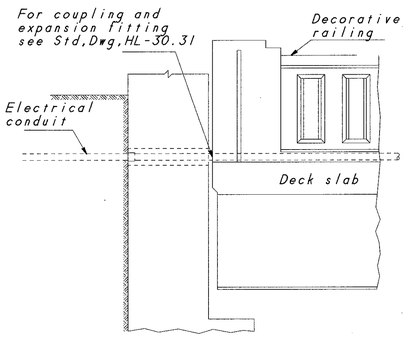
SIDEWALK CONCRETE FINISH.-
The sidewalk concrete shall be buff colored. Reference is made to Item 517, Railing, Concrete, (Decorative Type), Sh. 11/108, concerning material. The color will be selected and approved by the Engineer after the contractor submits 12"x12"x2" samples.
The entire sidewalk wearing surface shall receive an exposed aggregate finish and be provided with 1/2" deep score lines as shown in the schematic scoring pattern plan. The Contractor shall submit his proposed method for providing the finish to the Engineer for approval.
All labor, materials, tools, equipment, and incidentals, necessary to complete the work on sidewalk shall be included with Item 511, Concrete, Misc.: Lightweight Concrete Superstructure, for payment.

* Sealer shall be a two component Epoxy-Urethane Sealer The Contractor shall submit a color chart for the epoxy sealer to the Engineer for color selection and approval.



NORTH FASCIA RAILING LINE SIDEWALK CURB RAILING LINE

CONDITION AT EXPANSION JOINT
See STRIP SEAL EXPANSION JOINT Sh. 53/108 Thru Sh. 59/108



CONDITIONS AT ABUTMENTS

ELECTRICAL CONDUIT LOCATION

MISC Scale 1

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

12/108

MISCELLANEOUS DETAILS

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED PLF		WDD	IEH	April 96	

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

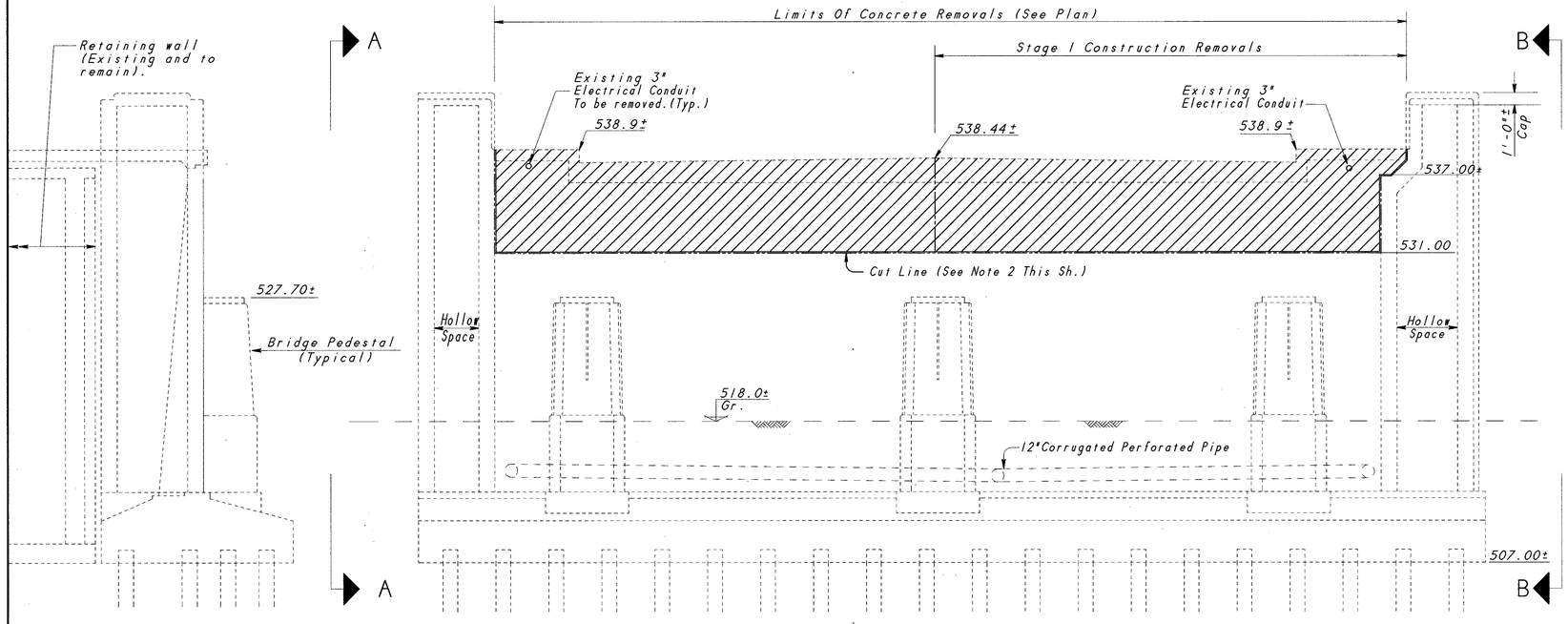
HAM-471-00.25

87
182

LEGEND

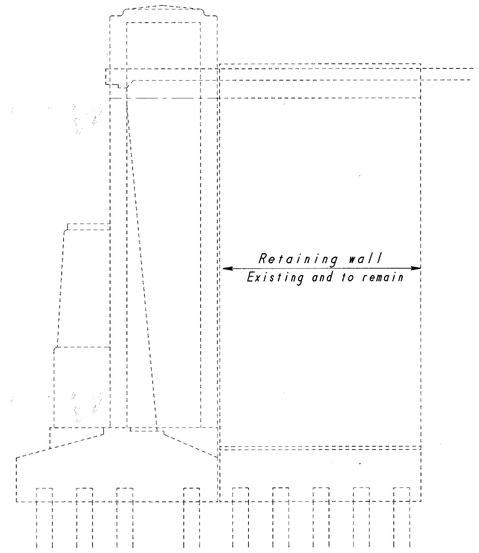
Existing Structure To Remain.

Concrete Removal

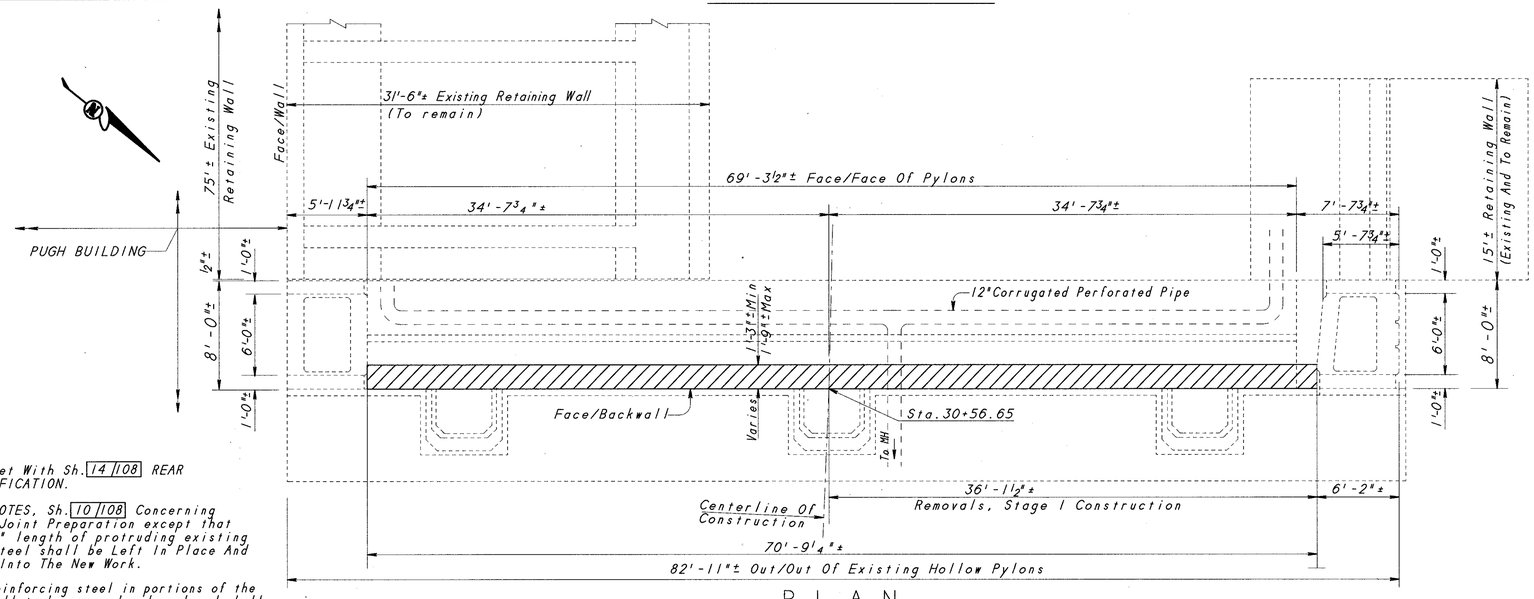


SIDE ELEVATION A-A

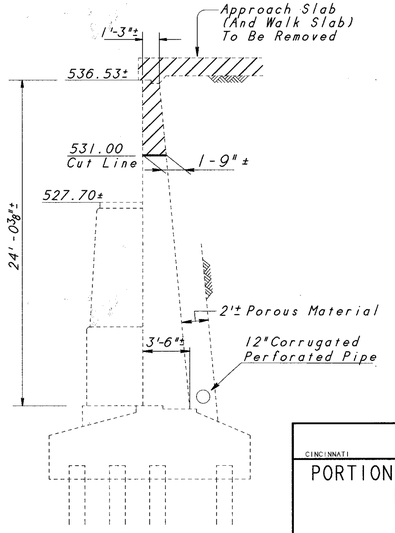
ELEVATION



SIDE ELEVATION B-B



PLAN



TYPICAL SECTION

NOTES:

1.- Work This Sheet With Sh. 14/108 REAR ABUTMENT MODIFICATION.

2.- See GENERAL NOTES, Sh. 10/108 Concerning Construction Joint Preparation except that at least 3'-0" length of protruding existing reinforcing steel shall be Left In Place And Incorporated Into The New Work.

3.-All existing reinforcing steel in portions of the Abutment Backwall to be removed and replaced shall remain and be protected and be incorporated into the new work.

4.-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 removal operations shall be replaced with new steel at his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in Item 509 for this purpose.

ABUTMEN Scale 5.333

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

13/108

PORTIONS OF STRUCTURES REMOVED
REAR ABUTMENT
(ABUTMENT No.1)
BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

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

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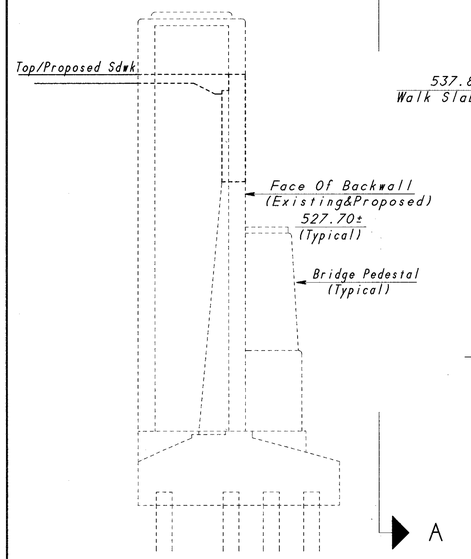
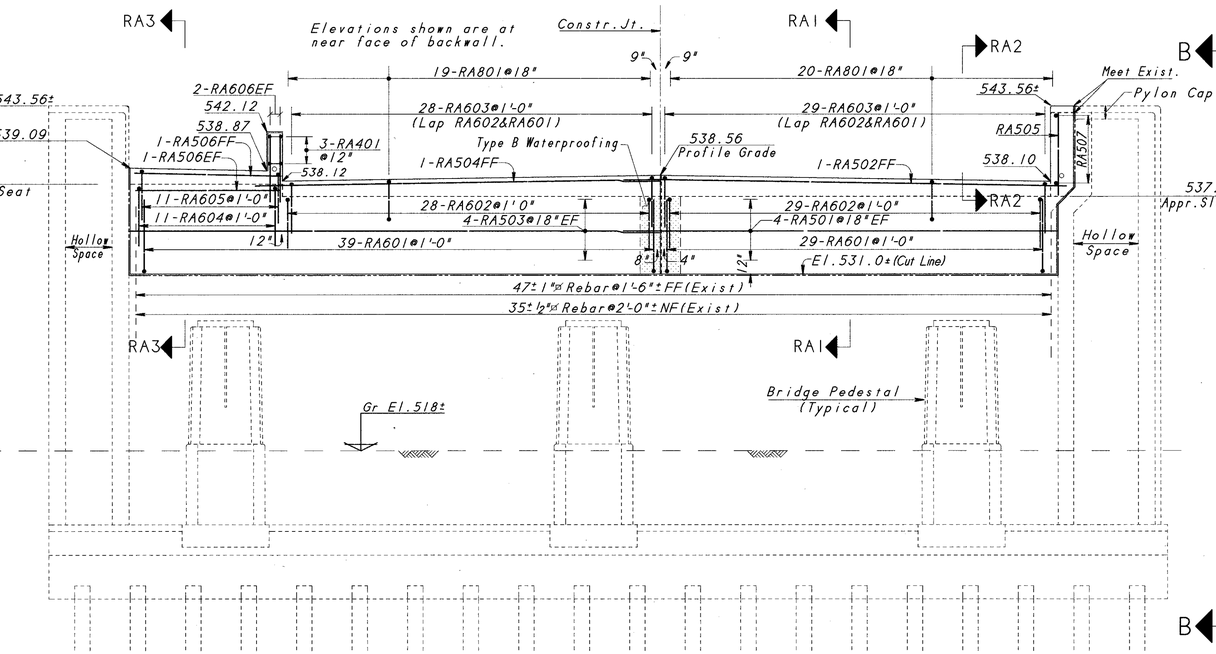
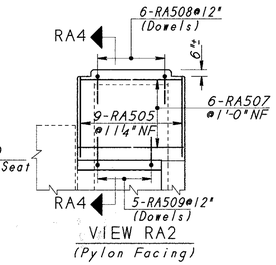
HAM-471-00.25

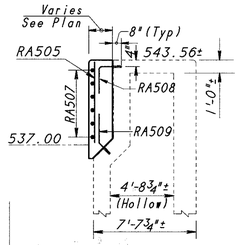


SIDE ELEVATION A-A

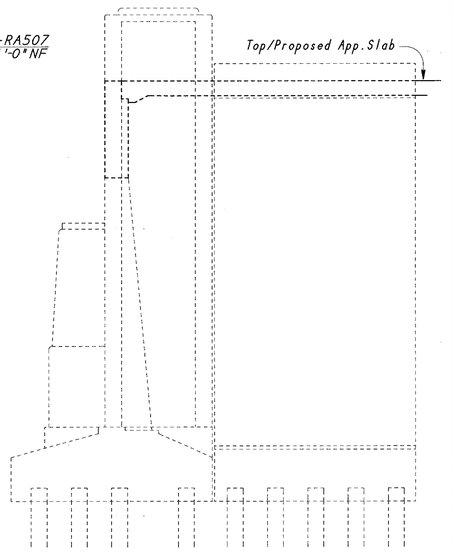




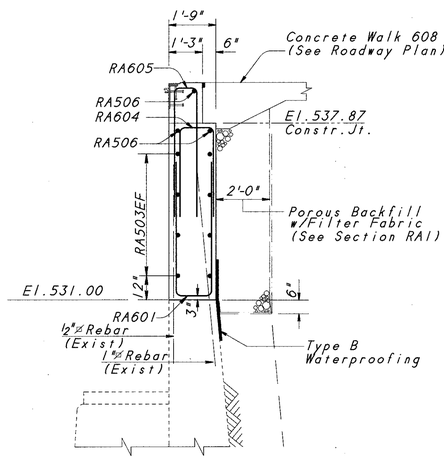
VIEW RA2
(Pylon Facing)



SECTION RA4-RA4
(Pylon Facing)



SIDE ELEVATION B-B



SECTION RA3-RA3

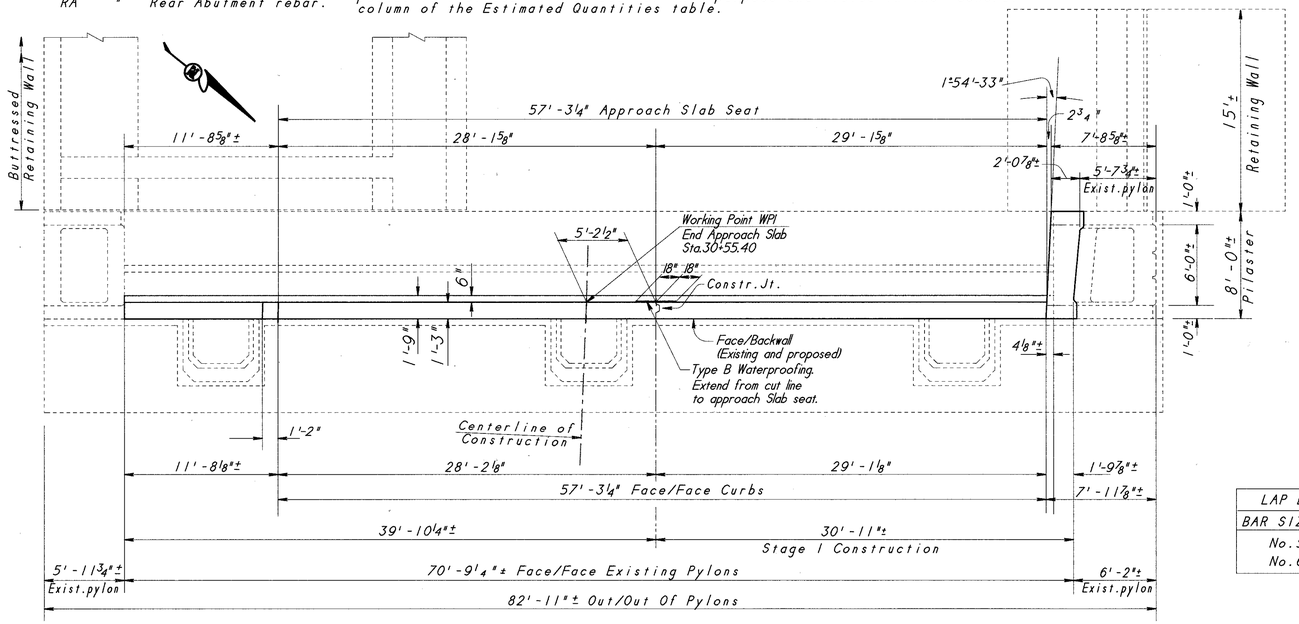
LEGEND

Existing Structure
New Work

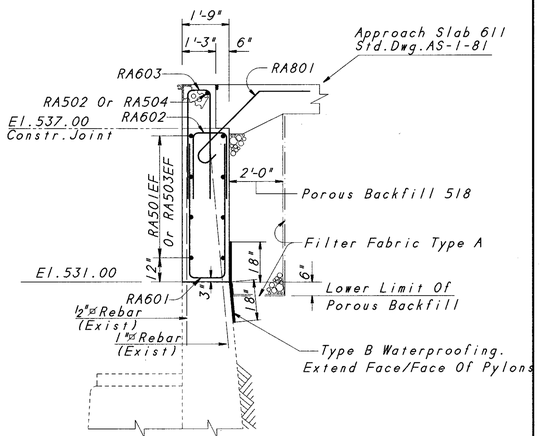
NF Denotes Near Face.
FF " Far Face.
EF " Each Face.
RA " Rear Abutment rebar.

ELEVATION

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 removal operations shall be replaced with new steel at his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in Item 509 for this purpose and listed in the "General" column of the Estimated Quantities table.



PLAN



SECTION RA1-RA1

LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No.5	2'-9"
No.6	3'-4"

NOTES:

1.- See GENERAL NOTES Sh. 10 /108. On Construction Joint Preparation At Least 3'-0" Length Of Protruding Existing Reinforcing Steel Shall Be Left In Place And Incorporated Into The New Work.

2.- Work This Sheet With Sh. 13 /108 PORTIONS OF STRUCTURES REMOVED, REAR ABUTMENT.

3.- See REINFORCING STEEL BAR LIST, Sh. 86 /108

4.- Clearance Between Reinforcing Steel And Surface Of Concrete Shall Be As Per CMS509 Unless Noted Otherwise.

ABUTBW scale 5.333

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

14 /108

REAR ABUTMENT MODIFICATION
(ABUTMENT No.1)

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

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

HAM-471-00.25

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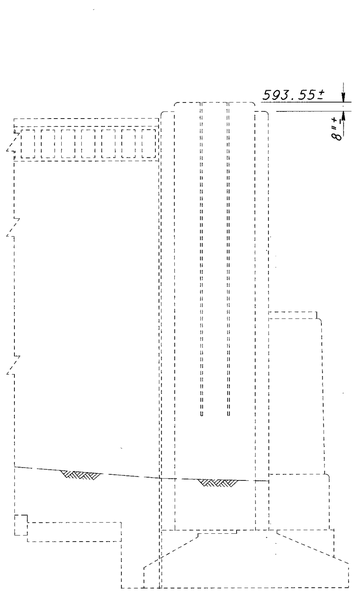
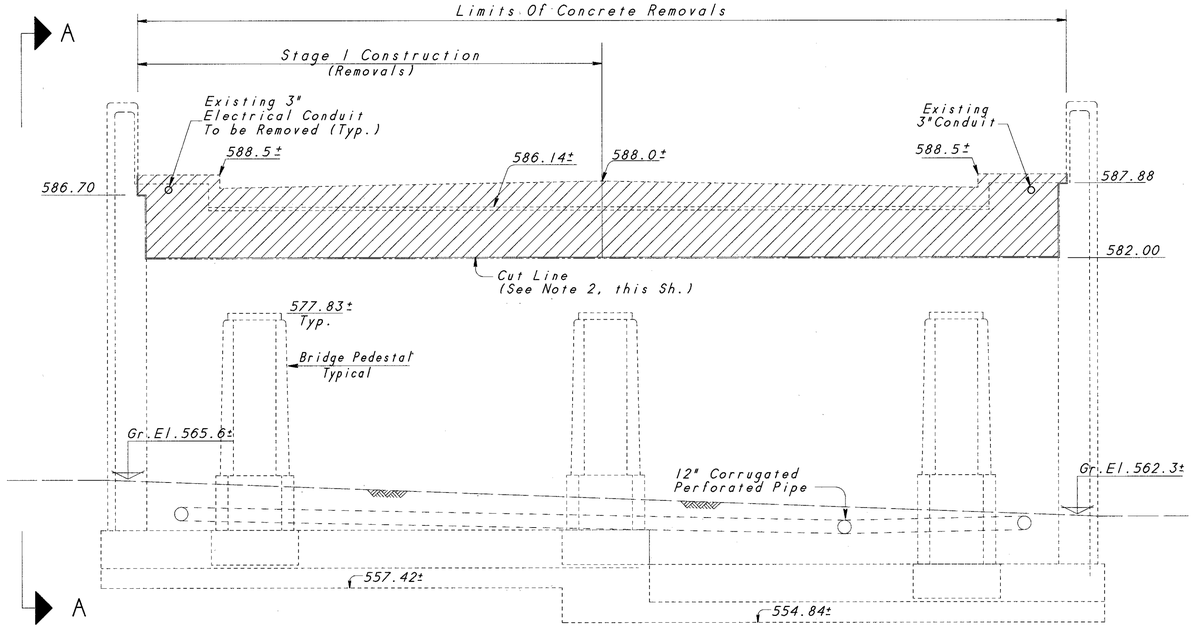
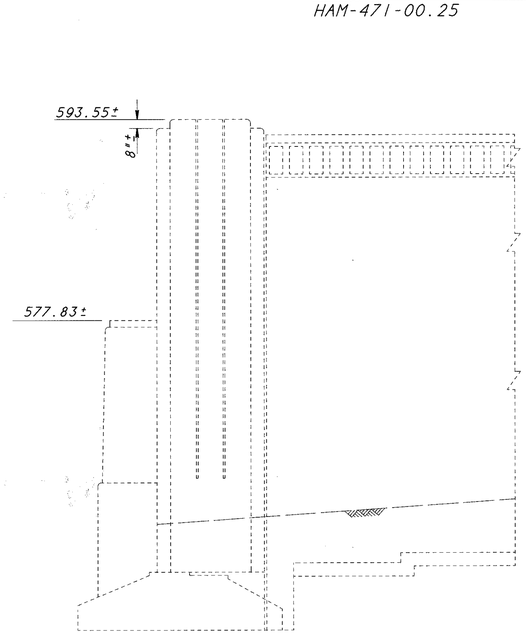
182



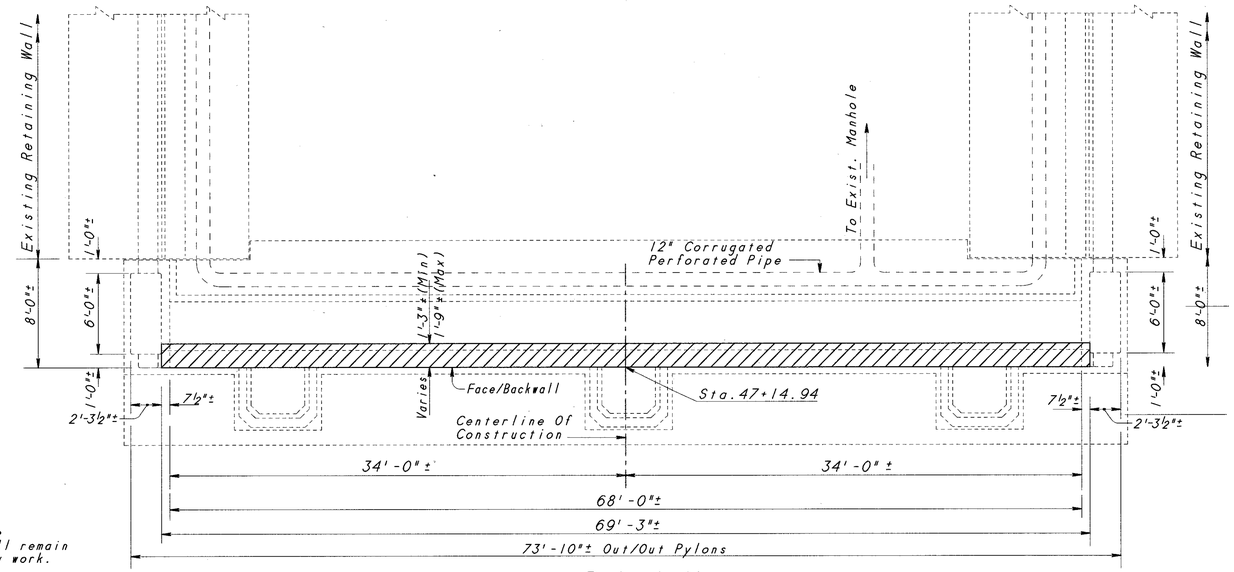
SIDE ELEVATION A-A



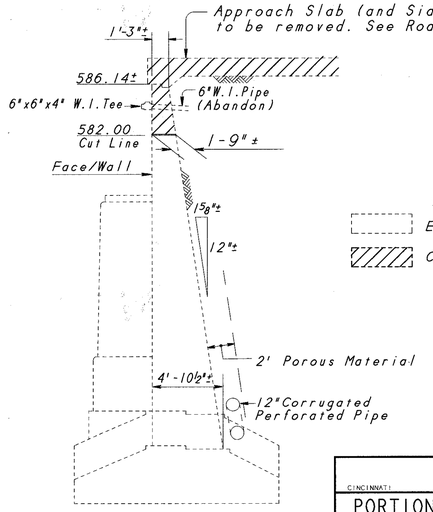
ELEVATION



SIDE ELEVATION B-B



PLAN



TYPICAL SECTION

LEGEND

Existing Structure To Remain.

Concrete Removal.

NOTES:

1.- Work This Sheet With SH. 16 / 108 FORWARD ABUTMENT MODIFICATION.

2.- See GENERAL NOTES, SH. 10 / 108 Concerning Construction Joint Preparation Except That At Least 3'-0" Length Of Protruding Existing Reinforcing Steel Shall Be Left In Place And Incorporated Into The New Work.

3.- All existing reinforcing steel in portions of the Abutment Backwall to be removed and replaced shall remain and be protected and be incorporated into the new work.

4.- 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 removal operations shall be replaced with new steel at his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in Item 509 for this purpose.

ABUT2NEW Scale 5.333

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

15 / 108

PORTIONS OF STRUCTURES REMOVED FORWARD ABUTMENT (ABUTMENT No.18)

BRIDGE No.HAM-471-0025

(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

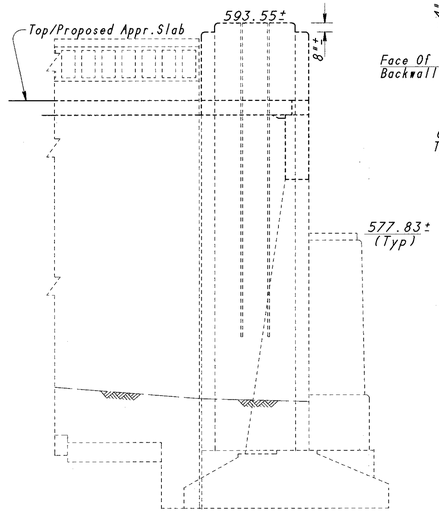
Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

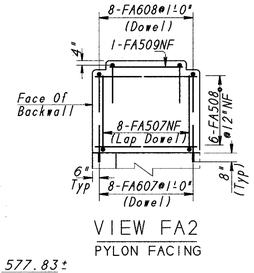
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

HAM-471-00.25

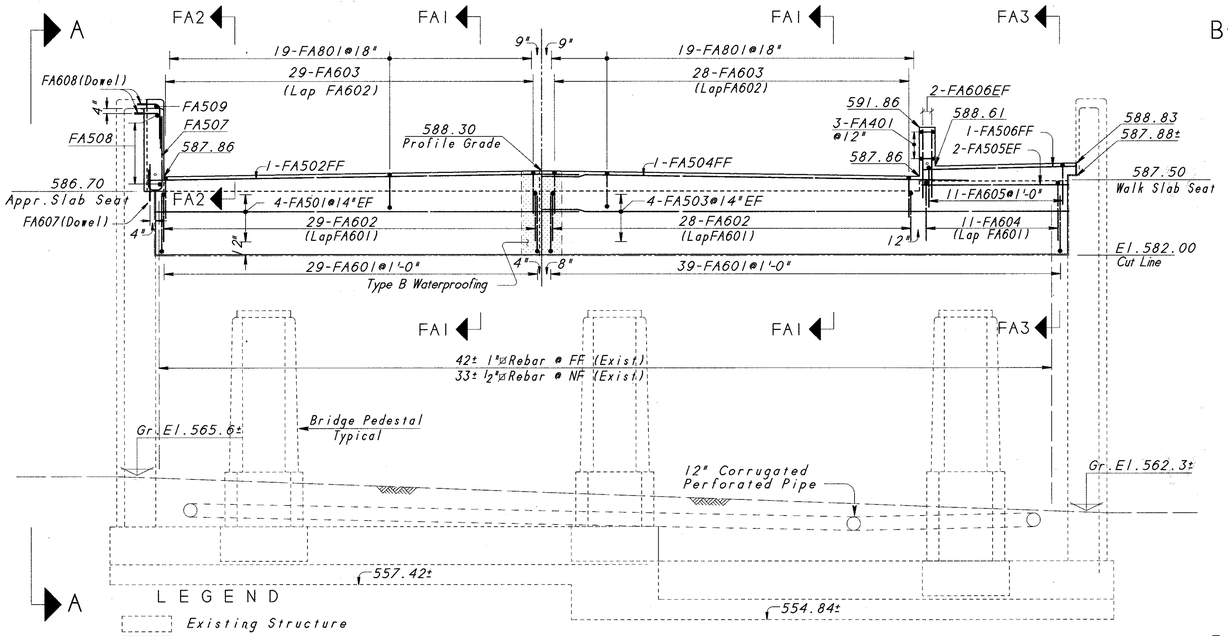
90
182



SIDE ELEVATION A-A



VIEW FA2
PYLON FACING

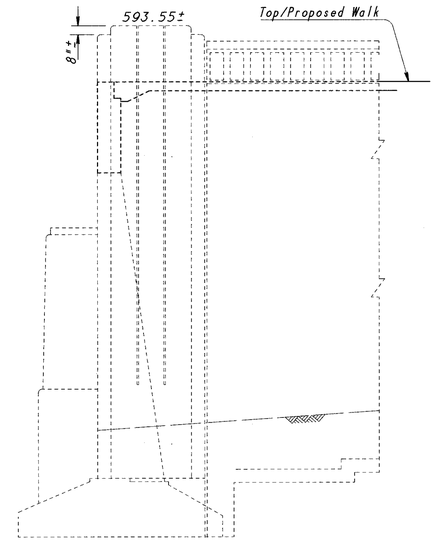


LEGEND

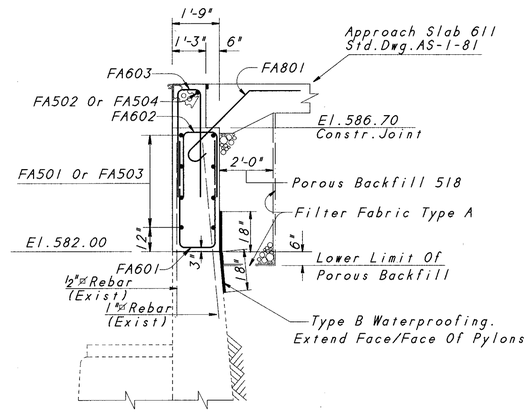
- Existing Structure
- New Work

NF Denotes Near Face.
FF " Far Face.
EF " Each Face.
FA " Forward Abutment Rebar.

ELEVATION

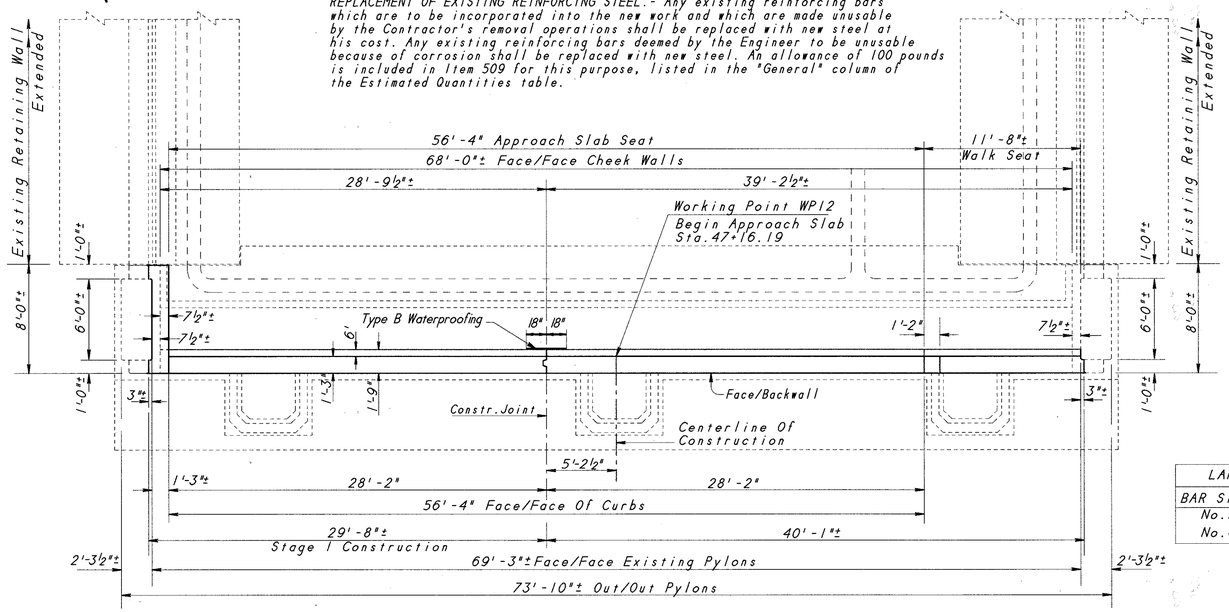


SIDE ELEVATION B-B

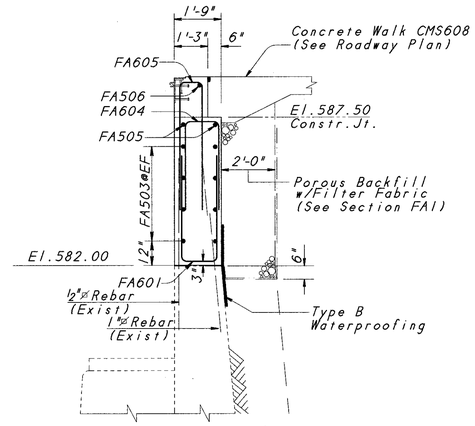


SECTION FA1-FA1

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 removal operations shall be replaced with new steel at his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in Item 509 for this purpose, listed in the "General" column of the Estimated Quantities table.



PLAN



SECTION FA3-FA3

NOTES:

1.- See GENERAL NOTES Sh. 10/108. On Construction Joint Preparation At Least 3'-0" Length Of Protruding Existing Reinforcing Steel Shall Be Left In Place And Incorporated Into The New Work.

2.- Work This Sheet With Sh. 15/108 PORTIONS OF STRUCTURES REMOVED, FORWARD ABUTMENT.

3.- See REINFORCING STEEL BAR LIST, Sh. 86/108

4.- Clearance Between Reinforcing Steel And Surface Of Concrete Shall Be As Per CMS509 Unless Noted Otherwise.

LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No.5	2'-9"
No.6	3'-4"

File:ABUT28M Scale 5.333

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

16/108

FORWARD ABUTMENT MODIFICATION (ABUTMENT No.18)

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

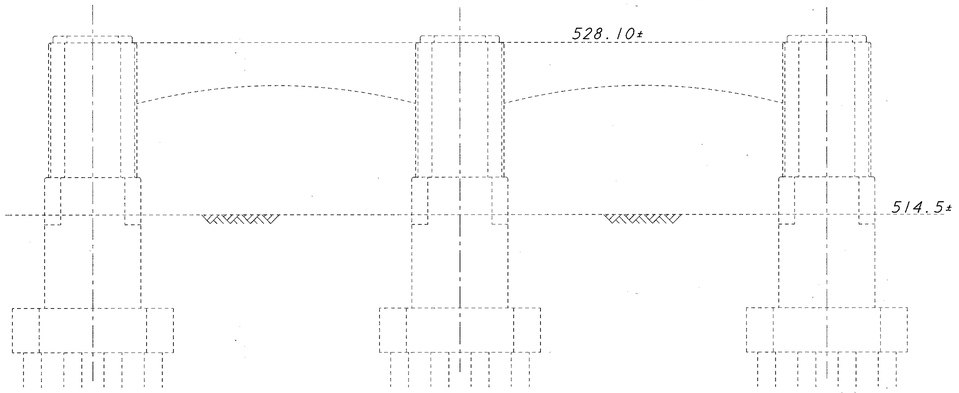
Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

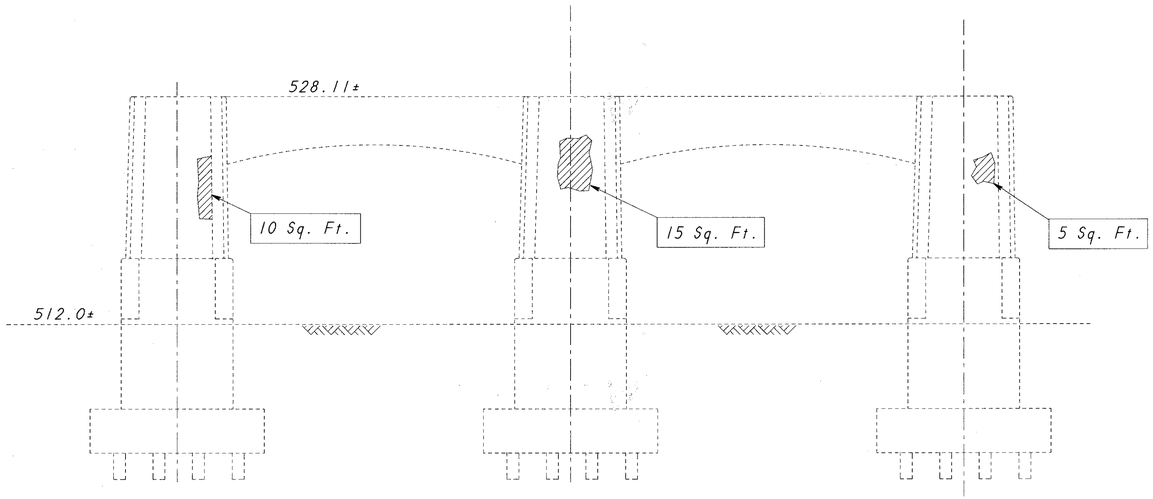
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

HAM -471 -00.25

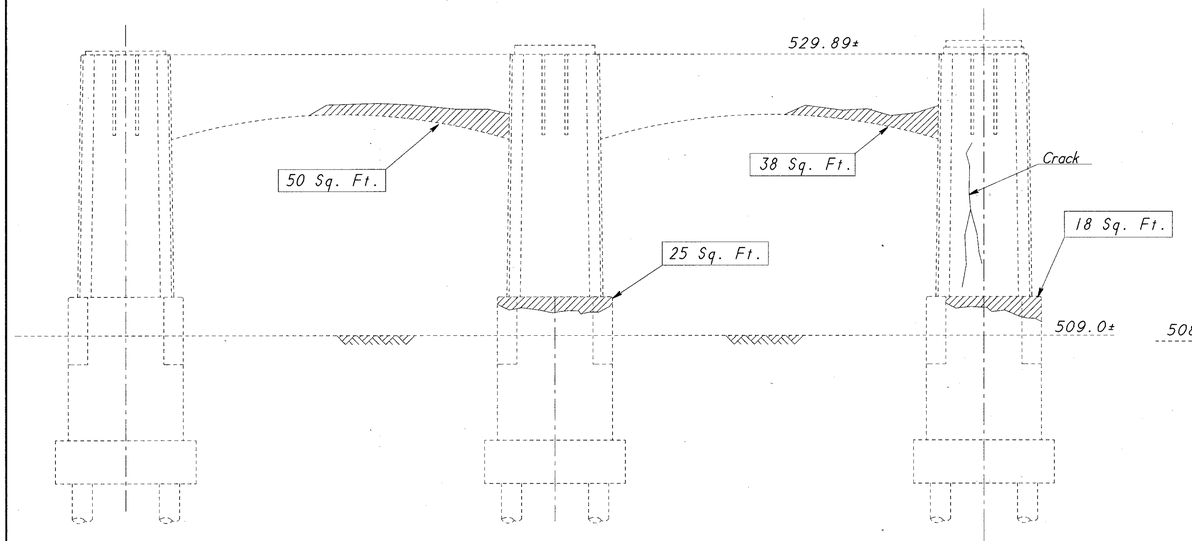
91/182



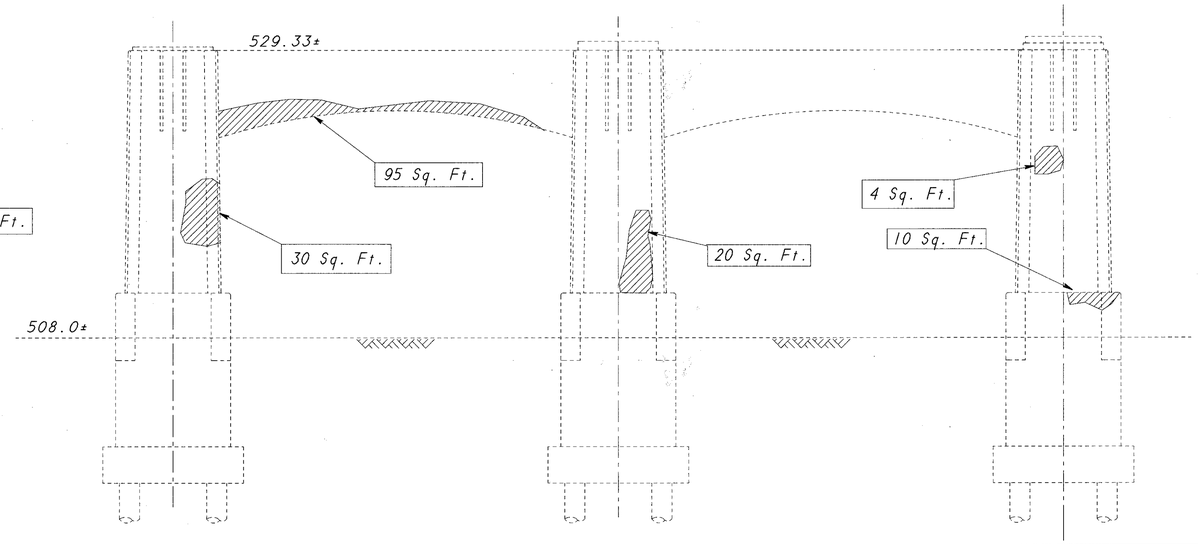
PIER No.2



PIER No.3



PIER No.4



PIER No.5

LEGEND

Denotes Existing Structures

Item Special -Patching Concrete Structures With Trowelable Mortar. (Total This Sh. 320 Sq. Ft.)

Item Special - Concrete Repair By Epoxy Injection, Including Surface Preparation. (Total this sheet: 14 Lin.Ft.)

NOTES.-

1.-Area of patching shown on pier elevation represents the total patching area in pier.

2.-Representation of the existing structure is approximate.

PERSH Scale 5.3333

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

17/108

PATCHING CONCRETE STRUCTURES PIERS

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

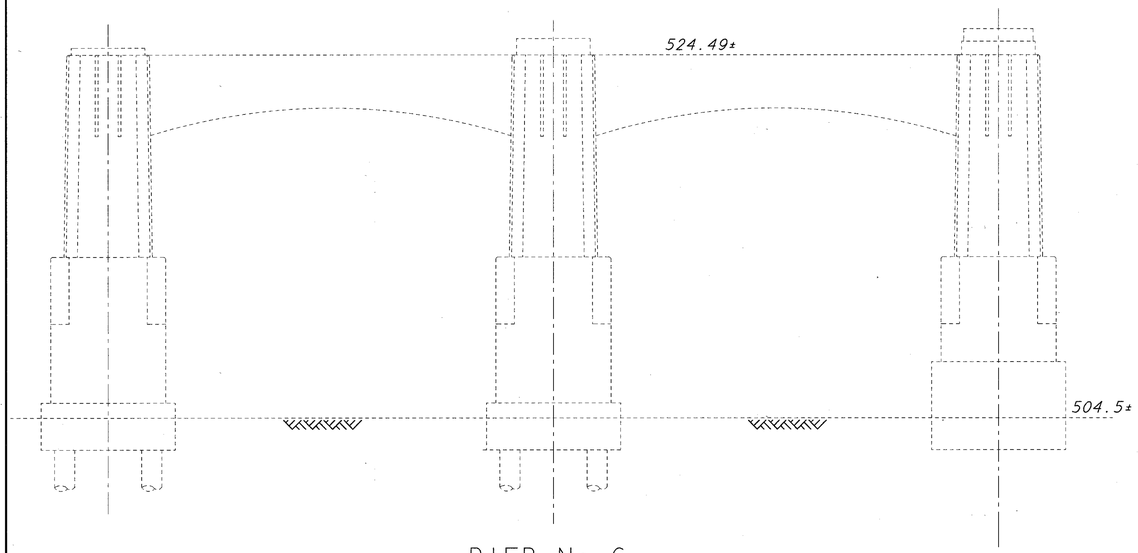
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

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

HAM -471 -00.25

92
182



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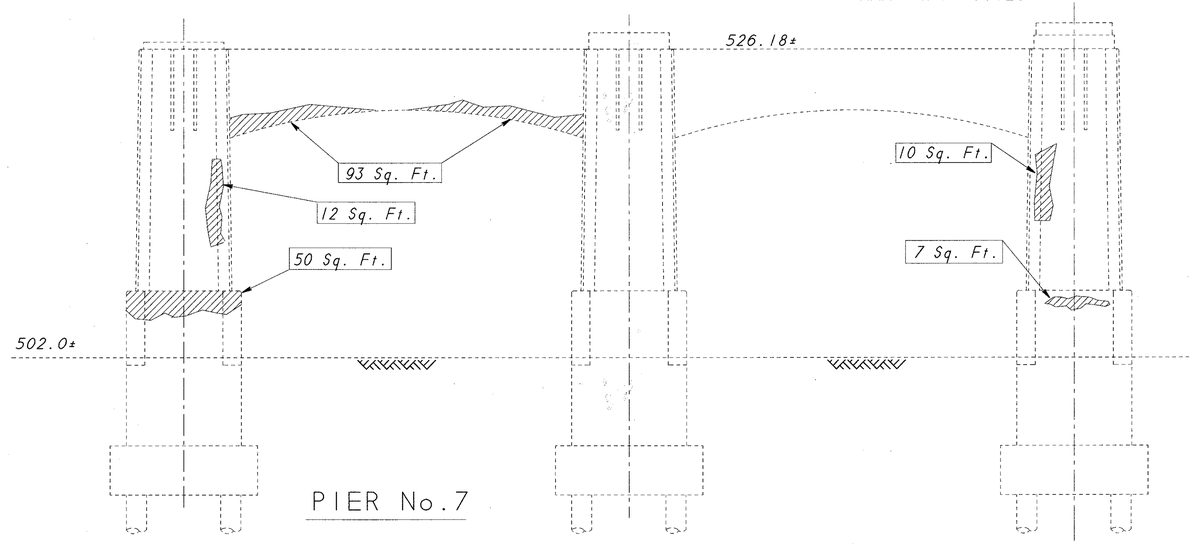

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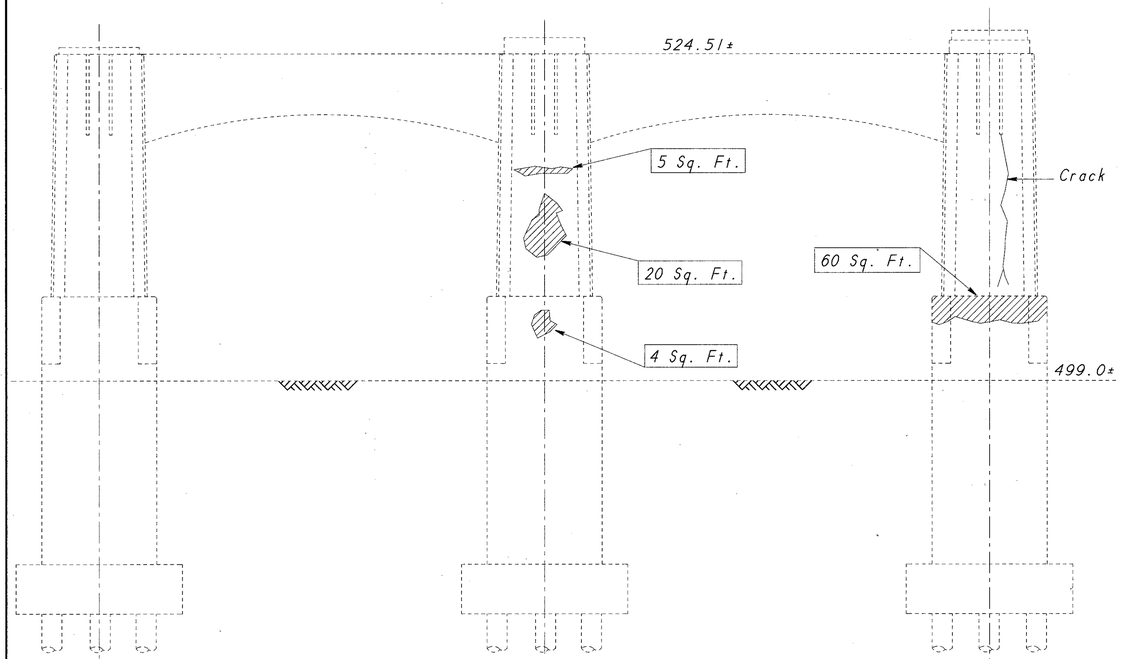
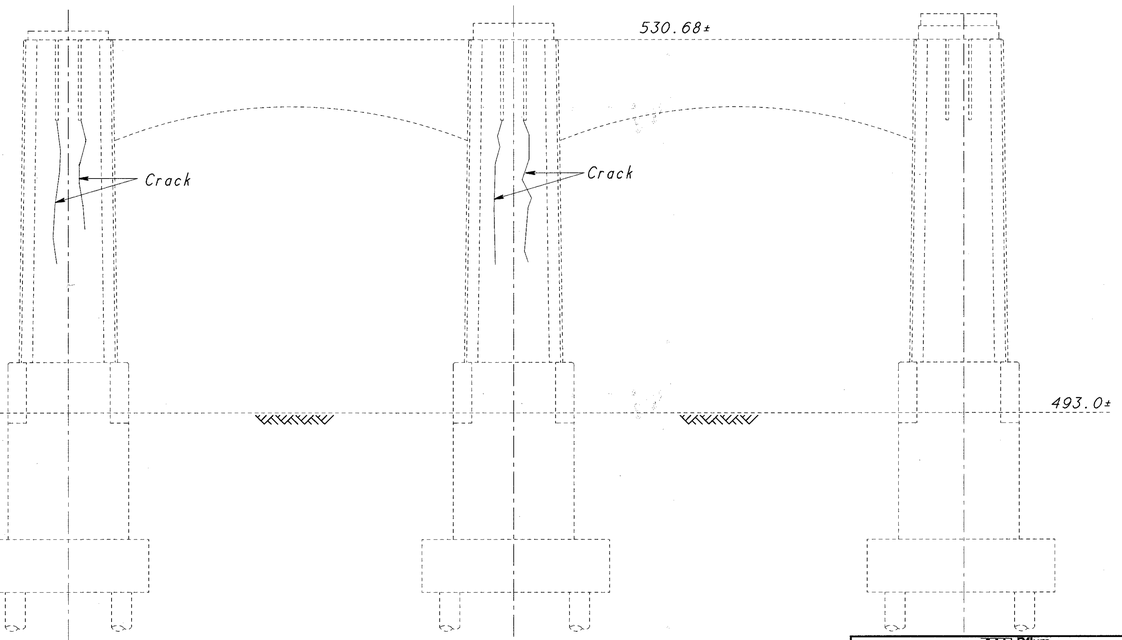


PIER No.8



PIER No.9

LEGEND

Denotes Existing Structures

Item Special -Patching Concrete Structures With Trowelable Mortar. (Total This Sh. 261 Sq. Ft.)

Item Special - Concrete Repair By Epoxy Injection, Including Surface Preparation. (Total this sheet: 48 Lin.Ft.

NOTES

1.-Area of patching shown on pier elevation represents the total patching area in pier.

2.-Representation of the existing structure is approximate.

PIERSH2 Scale 5.333

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

18/108

PATCHING CONCRETE STRUCTURES PIERS

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

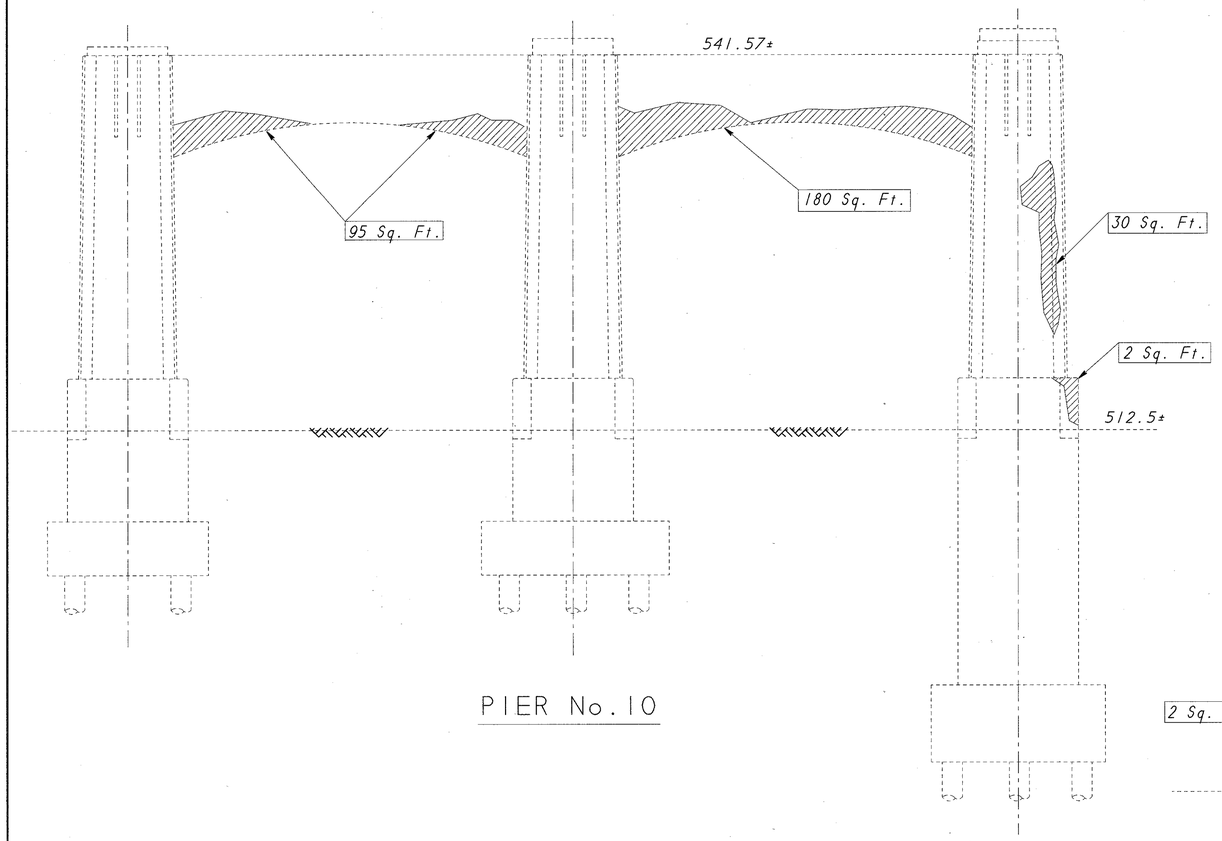
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

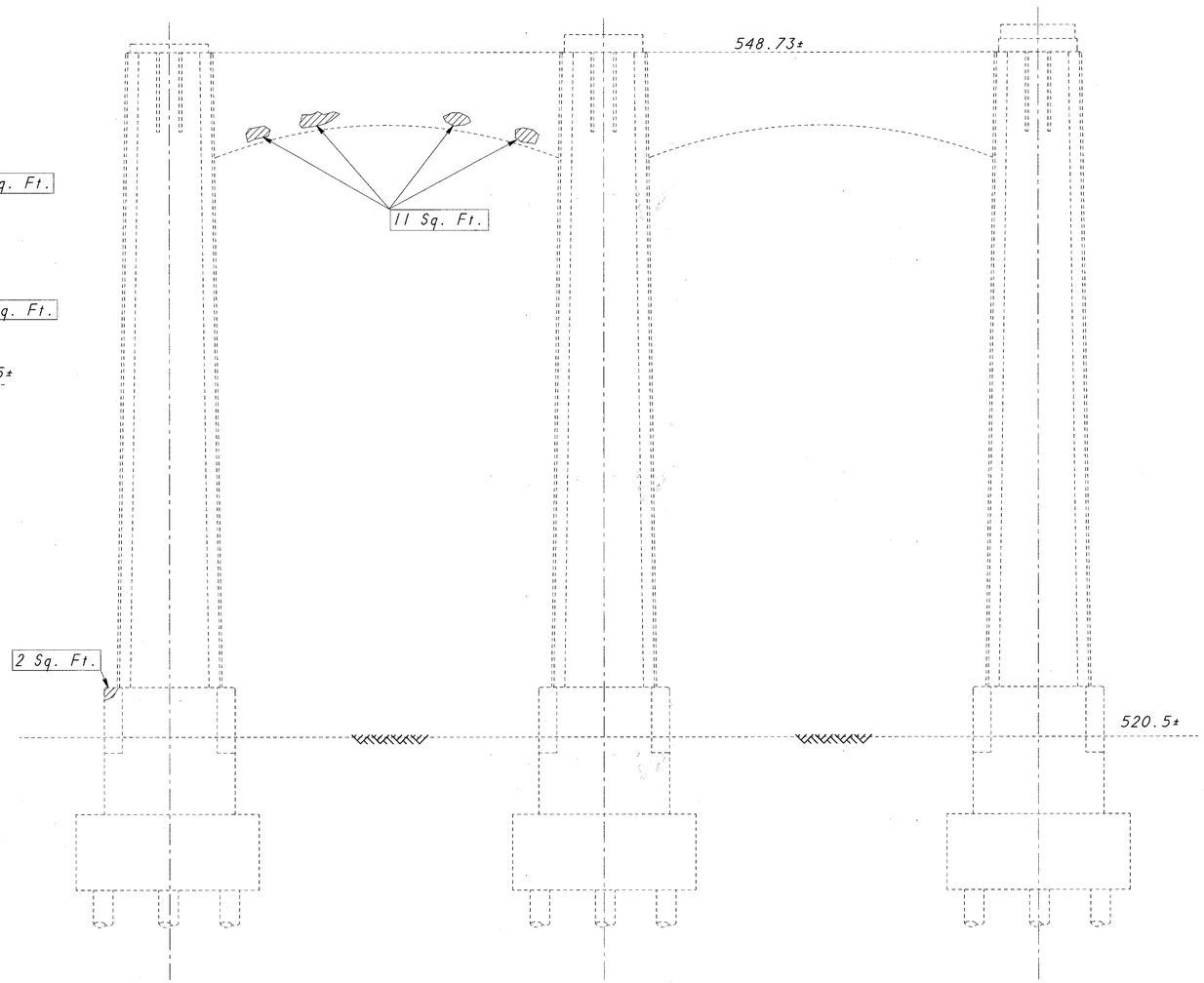
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

HAM -471 -00.25

93
182



PIER No. 10



PIER No. 11

NOTES

1.-Area of patching shown on pier elevation represents the total patching area in pier.

2.-Representation of the existing structure is approximate.

LEGEND

Denotes Existing Structures

Item Special -Patching Concrete Structures With Trowelable Mortar. (Total This Sh. 320 Sq. Ft.)

PIERSH3 Scale 5.333

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

19108

PATCHING CONCRETE STRUCTURES PIERS

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

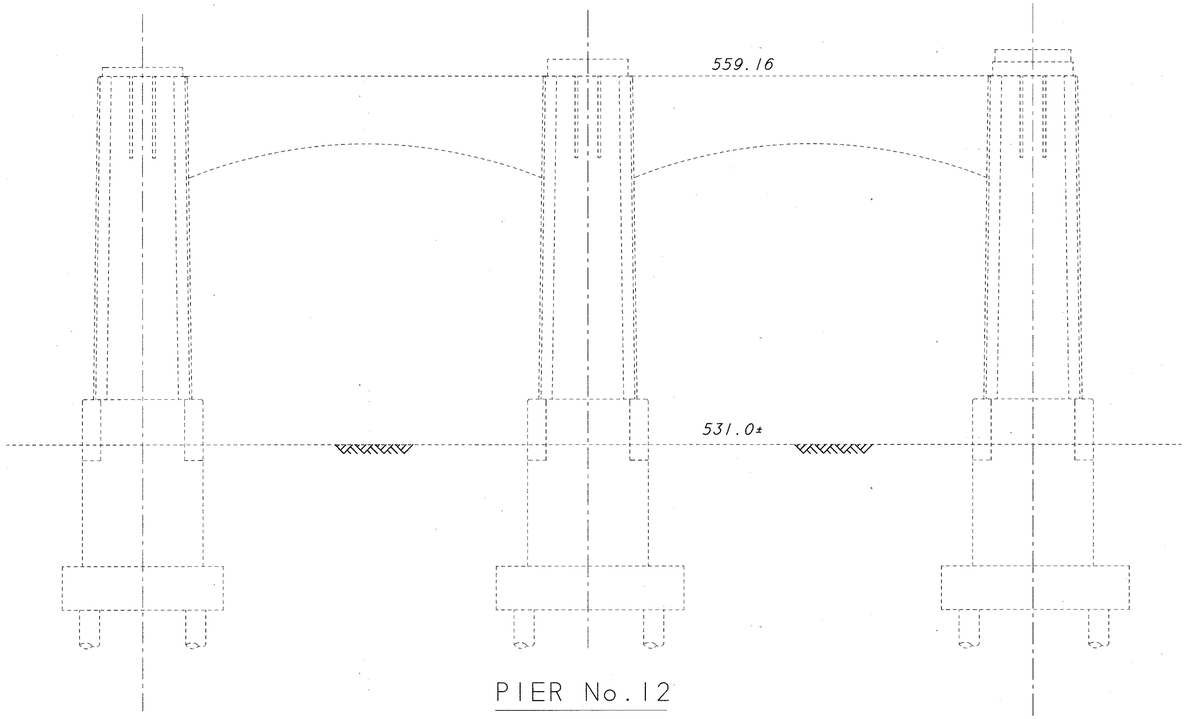
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

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

HAM -471 -00.25

94
182



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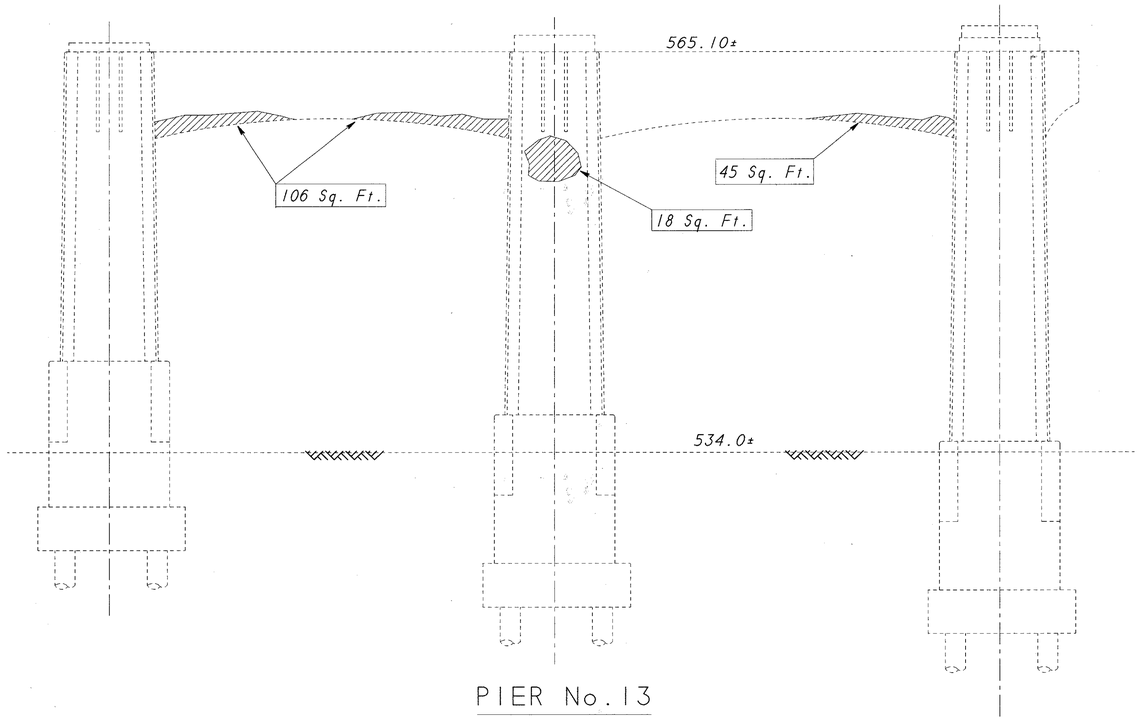
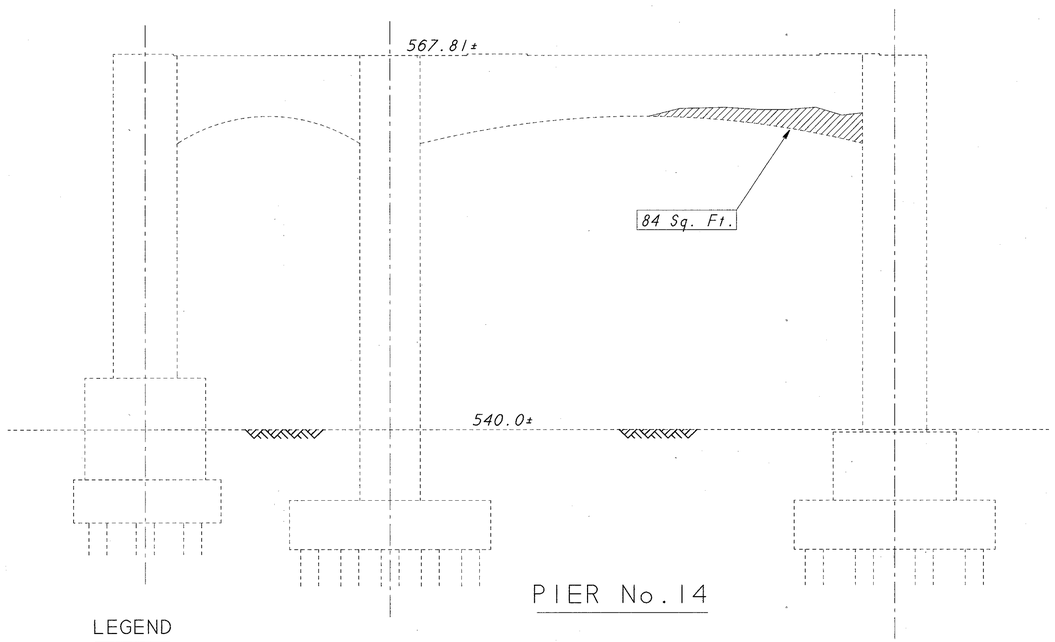


PIER No.13



PIER No.14

LEGEND

Denotes Existing Structures

Item Special -Patching Concrete Structures With Trowelable Mortar. (Total This Sh. 253 Sq. Ft.)

NOTES

1.-Area of patching shown on pier elevation represents the total patching area in pier.

2.-Representation of the existing structure is approximate.

Pfium, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

20/108

PATCHING CONCRETE STRUCTURES
PIERS

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

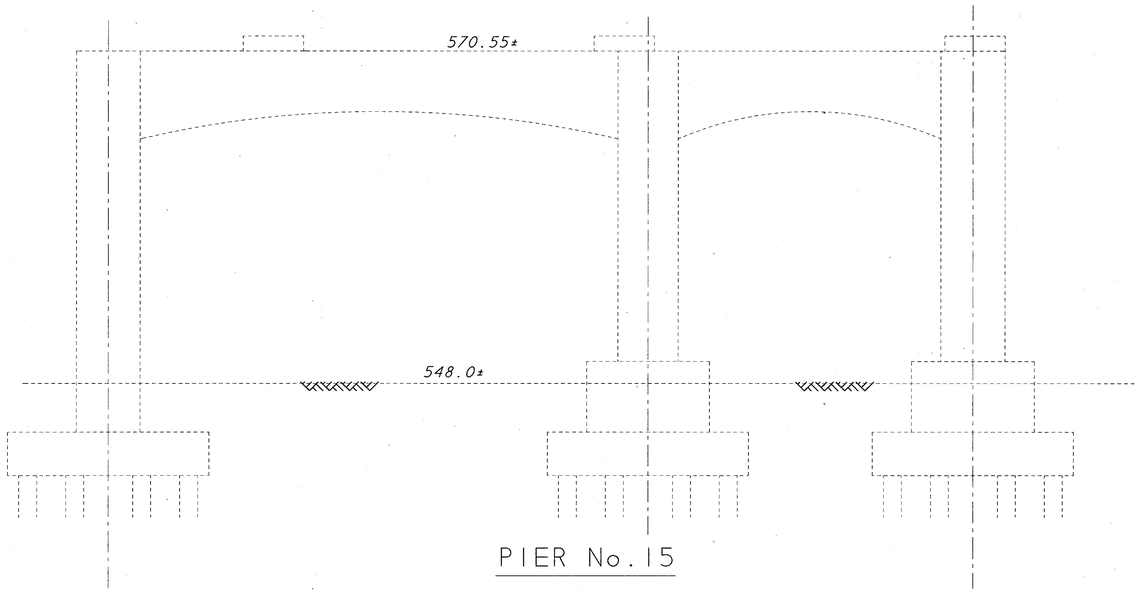
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

PIERSH4 Scale 5.333

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

HAM -471 -00.25

95/182



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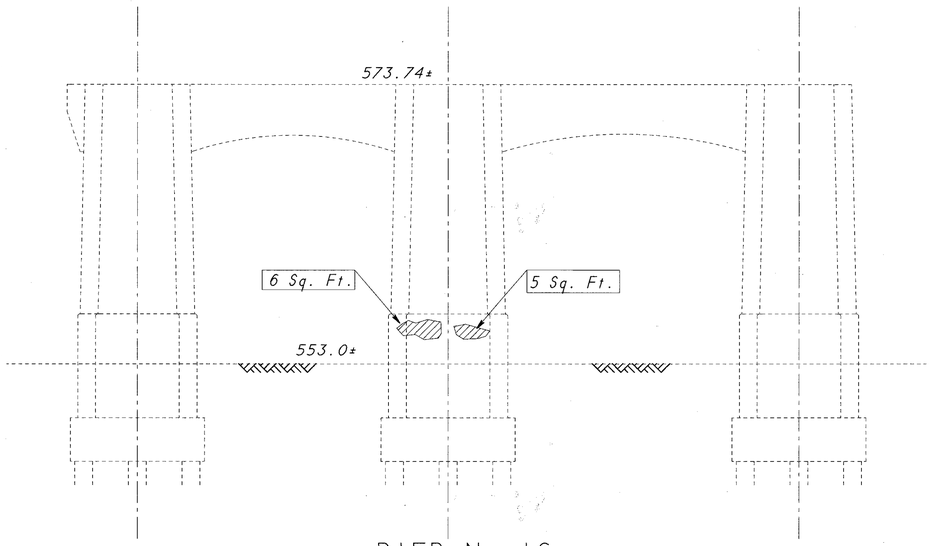

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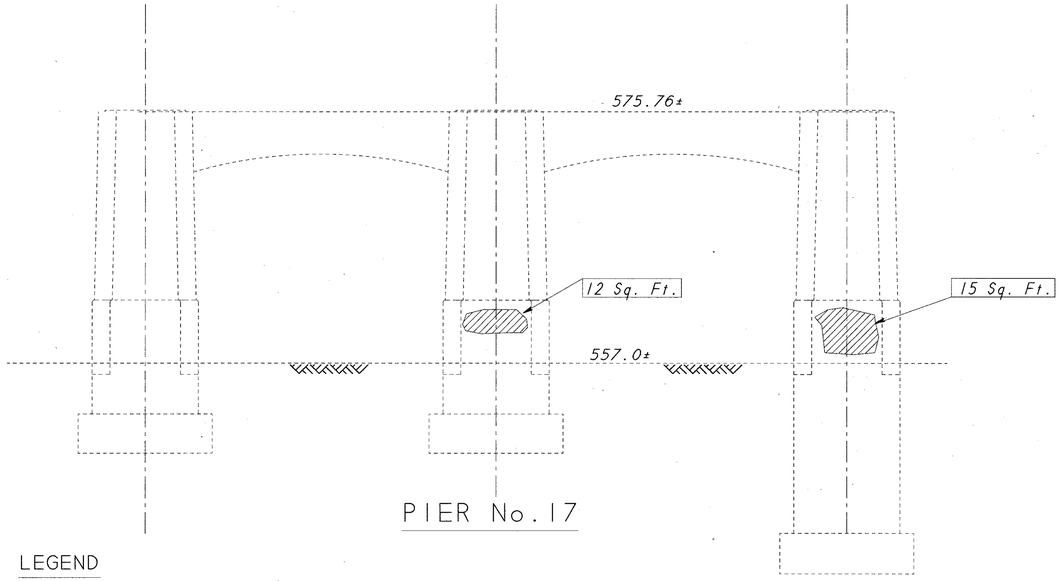


PIER No. 17

LEGEND

Denotes Existing Structures

Item Special -Patching Concrete Structures With Trowelable Mortar. (Total This Sh. 38 Sq. Ft.)

NOTES

1.-Area of patching shown on pier elevation represents the total patching area in pier.

2.-Representation of the existing structure is approximate.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

21/108

PATCHING CONCRETE STRUCTURES PIERS

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

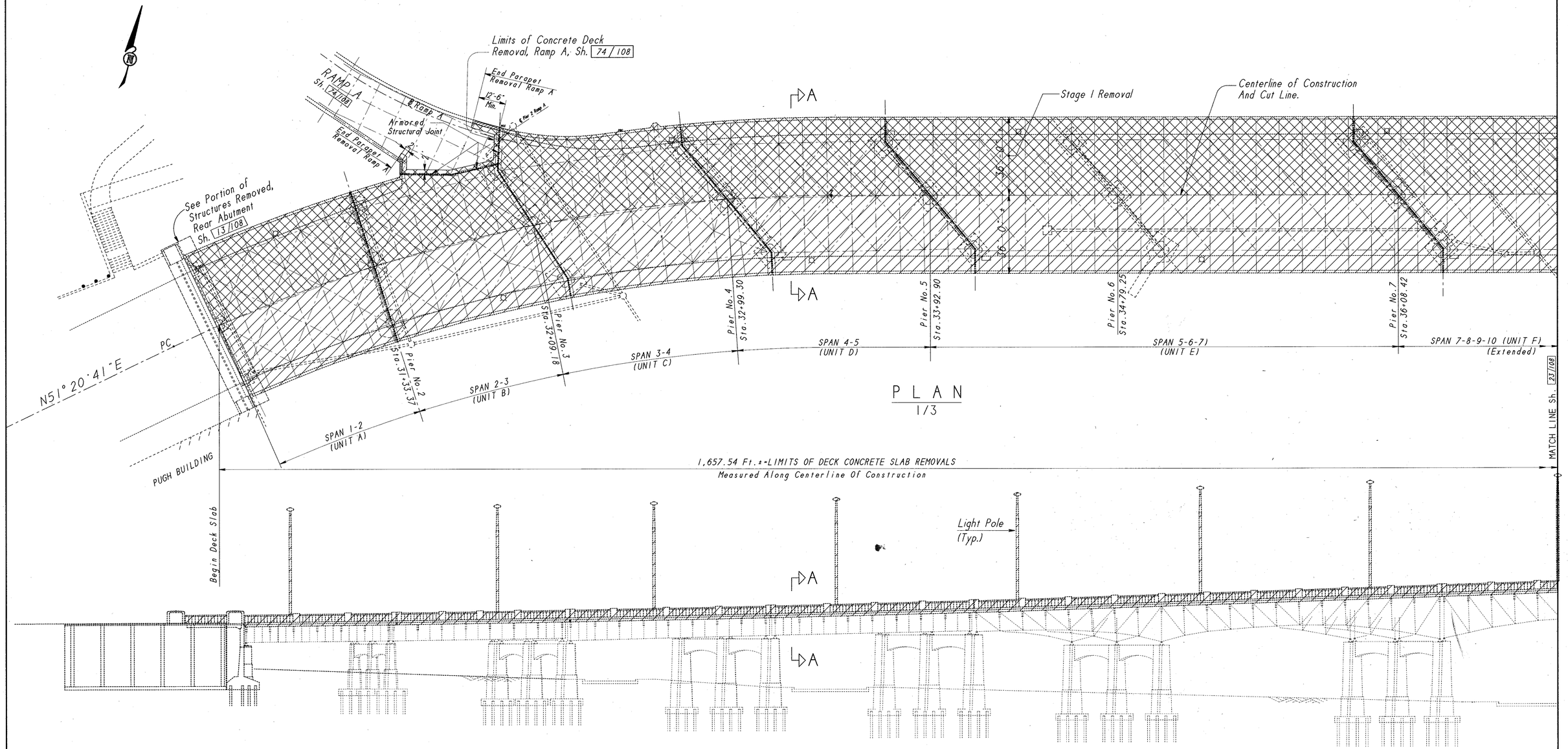
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

PIERSH5 Scale 5.333

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

96
182

HAM-471-00.25



PLAN
1/3

ELEVATION
(LOOKING NORTH)
1/3

LEGEND

- Existing Concrete Structure To Be Removed
- Existing Concrete Structure To Be Removed As Stage I Construction

NOTES:

1 - Work this Sheet with Sh. 23/108 & Sh. 24/108
2 - See General Notes on Removals, Sh. 10/108
3.- Representation Of Existing Structure Is Approximate.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

22/108

PORTIONS OF STRUCTURES REMOVED CONCRETE DECK SLAB I/3 UNITS A THRU F

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta. 30+55.40
HAMILTON COUNTY Sta. 47+16.19

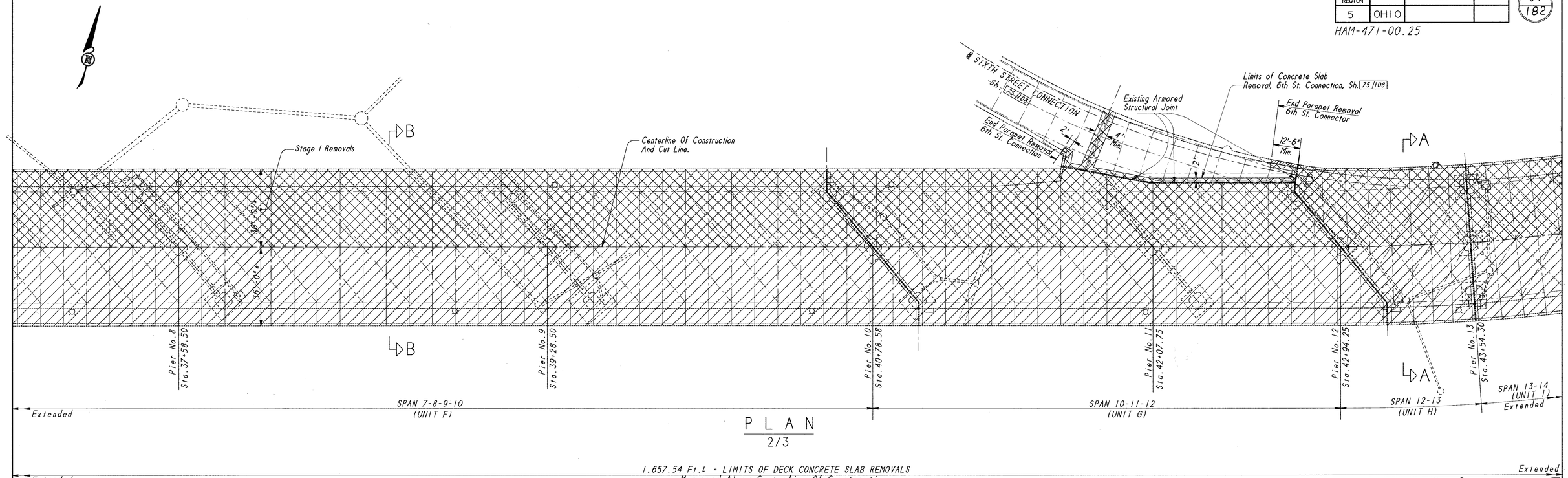
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

DECKREM1 Scale 2_3333

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

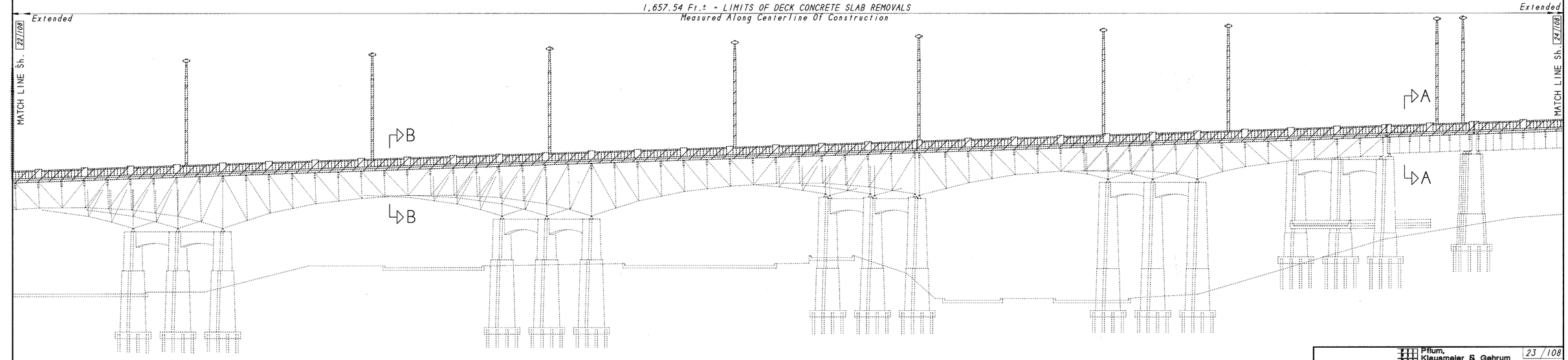
97
182

HAM-471-00.25



PLAN
2/3

1,657.54 Ft.± - LIMITS OF DECK CONCRETE SLAB REMOVALS
Measured Along Centerline Of Construction



ELEVATION
(LOOKING NORTH)
2/3

LEGEND

- Existing Concrete Structure To Be Removed
- Existing Concrete Structure To Be Removed As Stage I Construction

NOTES:

1.- Work this sheet with Sh. 22/108 and Sh. 24/108
2.- See General Notes on Removals, Sh. 10/108
3.- Representation Of Existing Structure Is Approximate.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

23/108

PORTIONS OF STRUCTURES REMOVED CONCRETE DECK SLAB 2/3 UNITS F THRU I

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta. 30+55.40
HAMILTON COUNTY Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

DECREMENT Scale 21.333

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

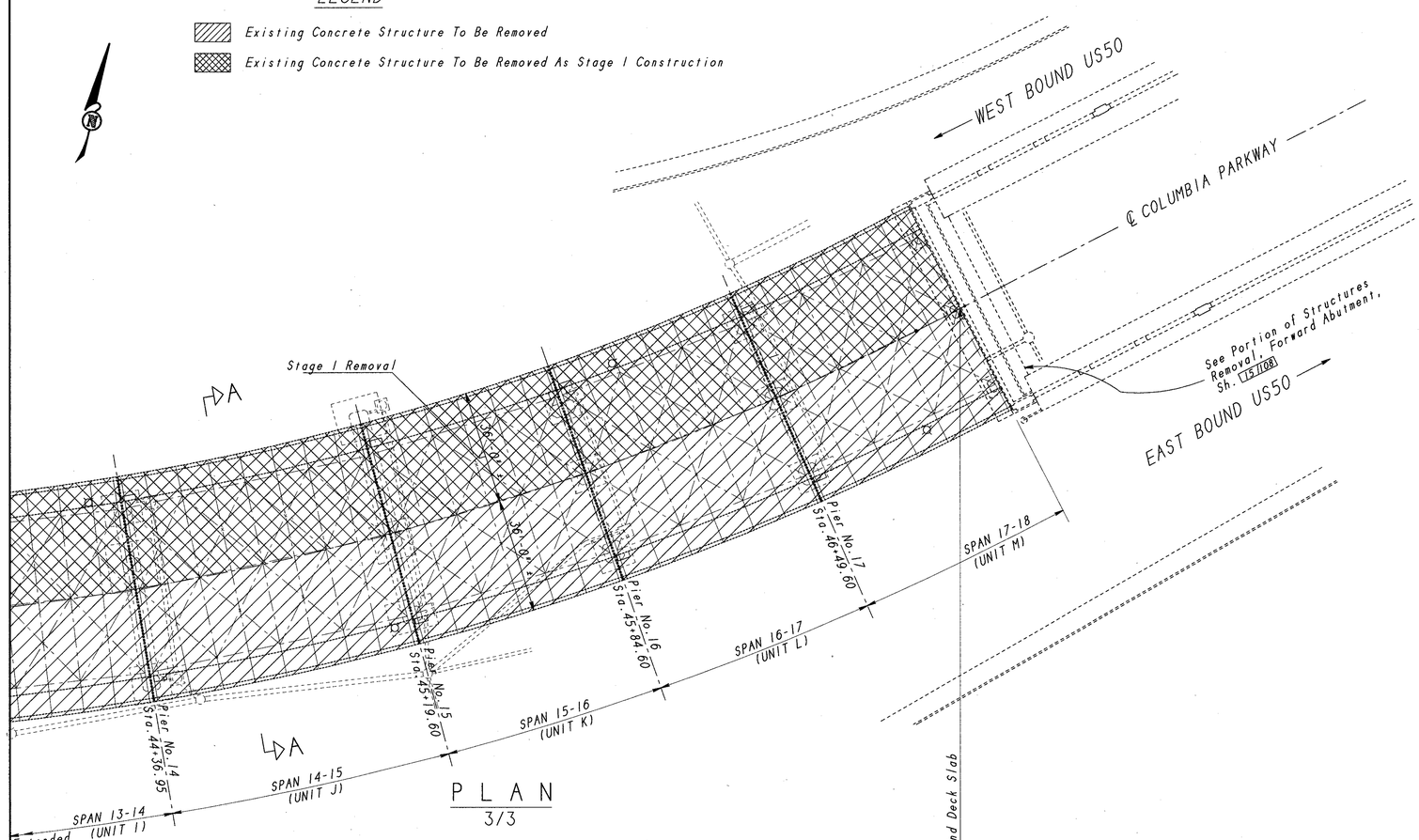
98
182

HAM-471-00.25

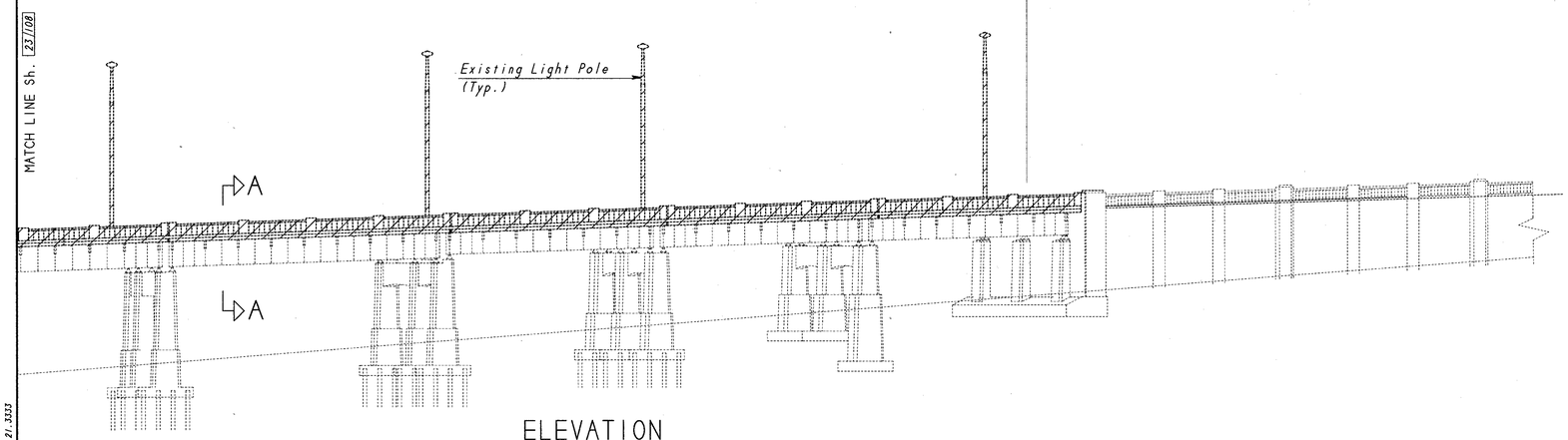
LEGEND

Existing Concrete Structure To Be Removed

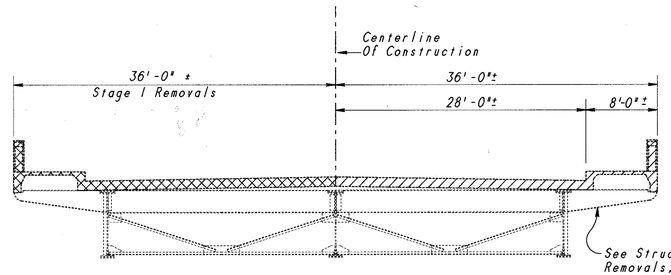
Existing Concrete Structure To Be Removed As Stage I Construction



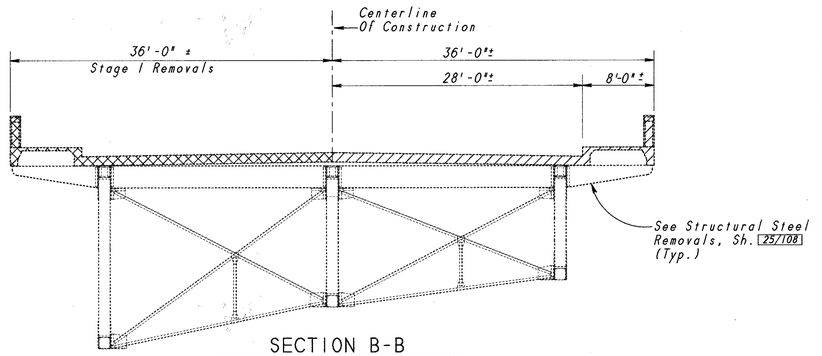
PLAN
3/3



ELEVATION
(LOOKING NORTH)
3/3



SECTION A-A
(TYPICAL AT PLATE GIRDER BRIDGE SPANS)



SECTION B-B
(TYPICAL AT TRUSS BRIDGE SPANS)

NOTES:

1 - Work this Sheet with Sh. 22/108 & Sh. 23/108

2 - See General Notes on Removals, Sh. 10/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

24/108

PORTIONS OF STRUCTURES REMOVED CONCRETE DECK SLAB 3/3 UNITS I THRU M

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

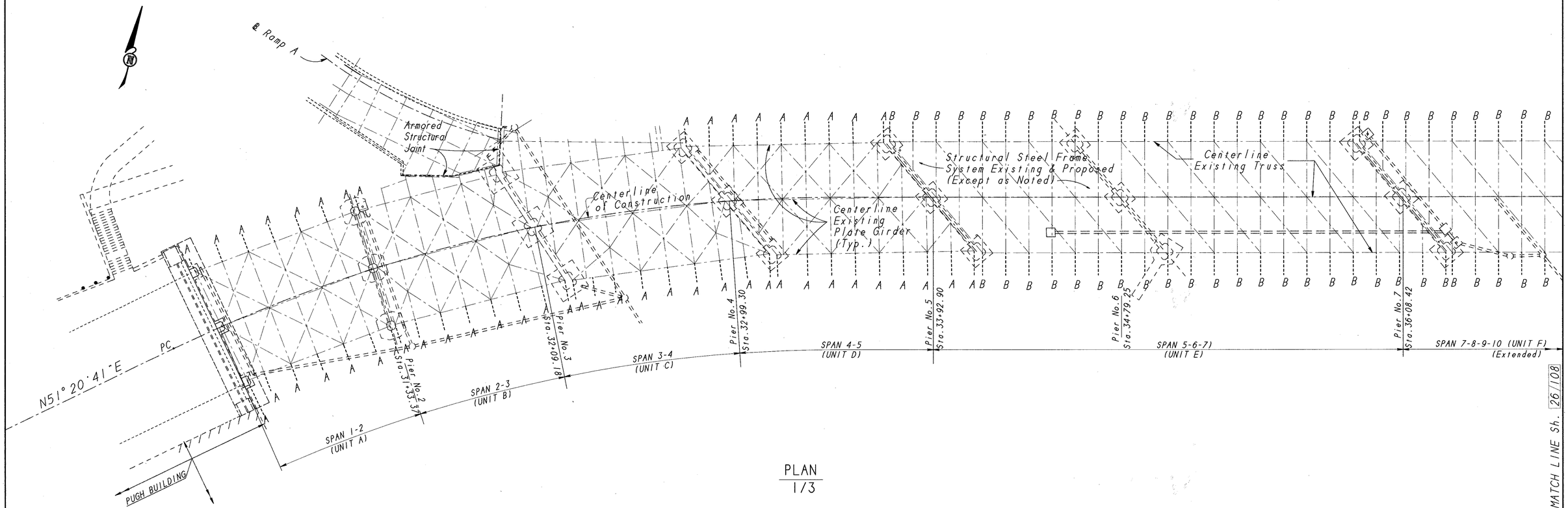
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

DECK845 Scale 21.3333

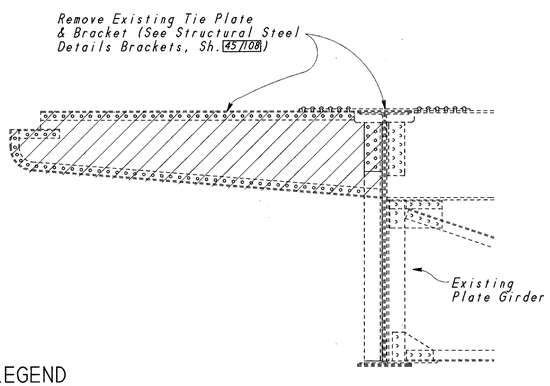
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

99
182

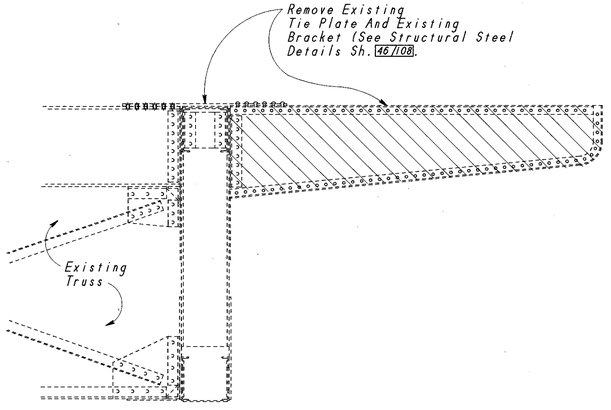
HAM-471-00.25



PLAN
1/3



REMOVAL TYPE A



REMOVAL TYPE B

LEGEND

A Denotes Removal Type A

B Denotes Removal Type B

STRUCTIA Scale 21.333

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

25/108

STRUCTURAL STEEL DETAILS
REMOVALS 1/3
UNITS A THRU F
BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40
Sta.47+16.19

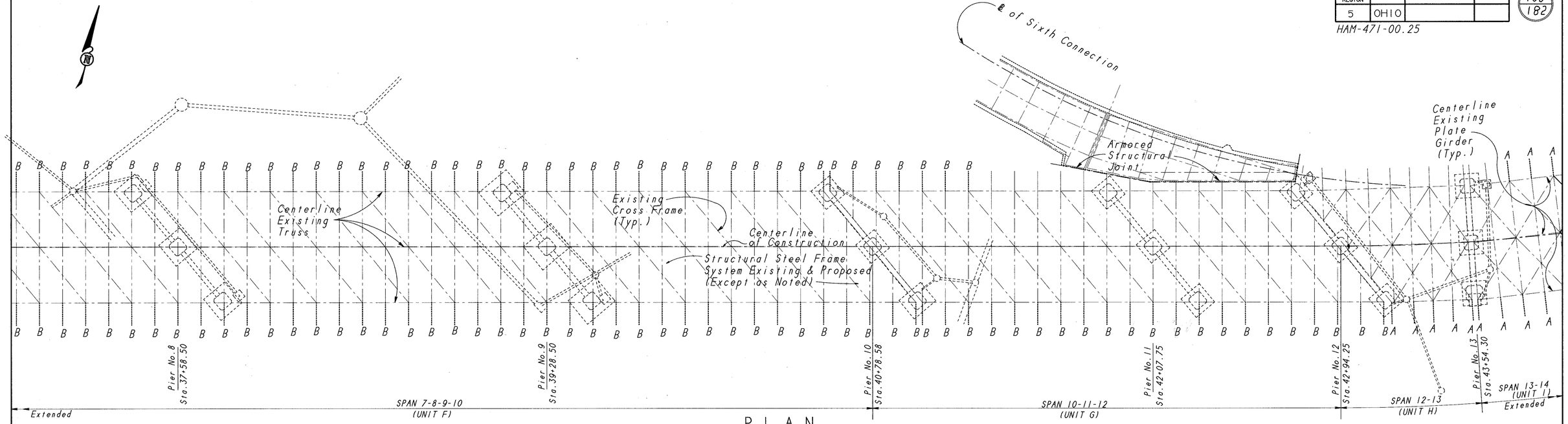
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

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

HAM-471-00.25

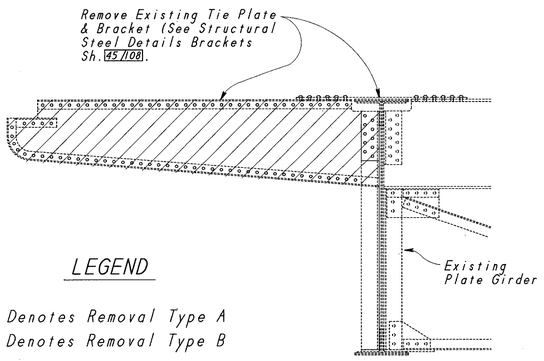
100
182



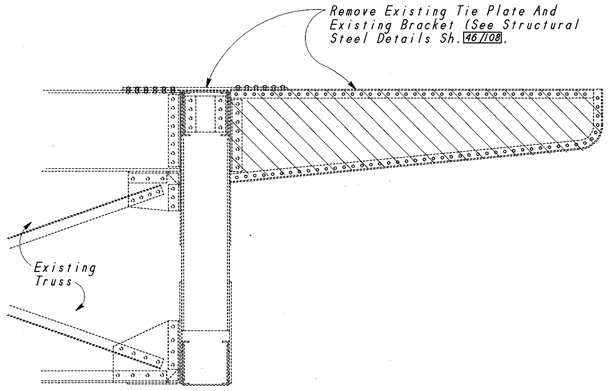
PLAN
2/3

MATCH LINE Sh. 25/108

MATCH LINE Sh. 27/108



REMOVAL TYPE A



REMOVAL TYPE B

LEGEND

A Denotes Removal Type A
B Denotes Removal Type B

STRUCTZA Scale 21.333

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

26/108

STRUCTURAL STEEL DETAILS REMOVALS 2/3 UNITS F THRU I

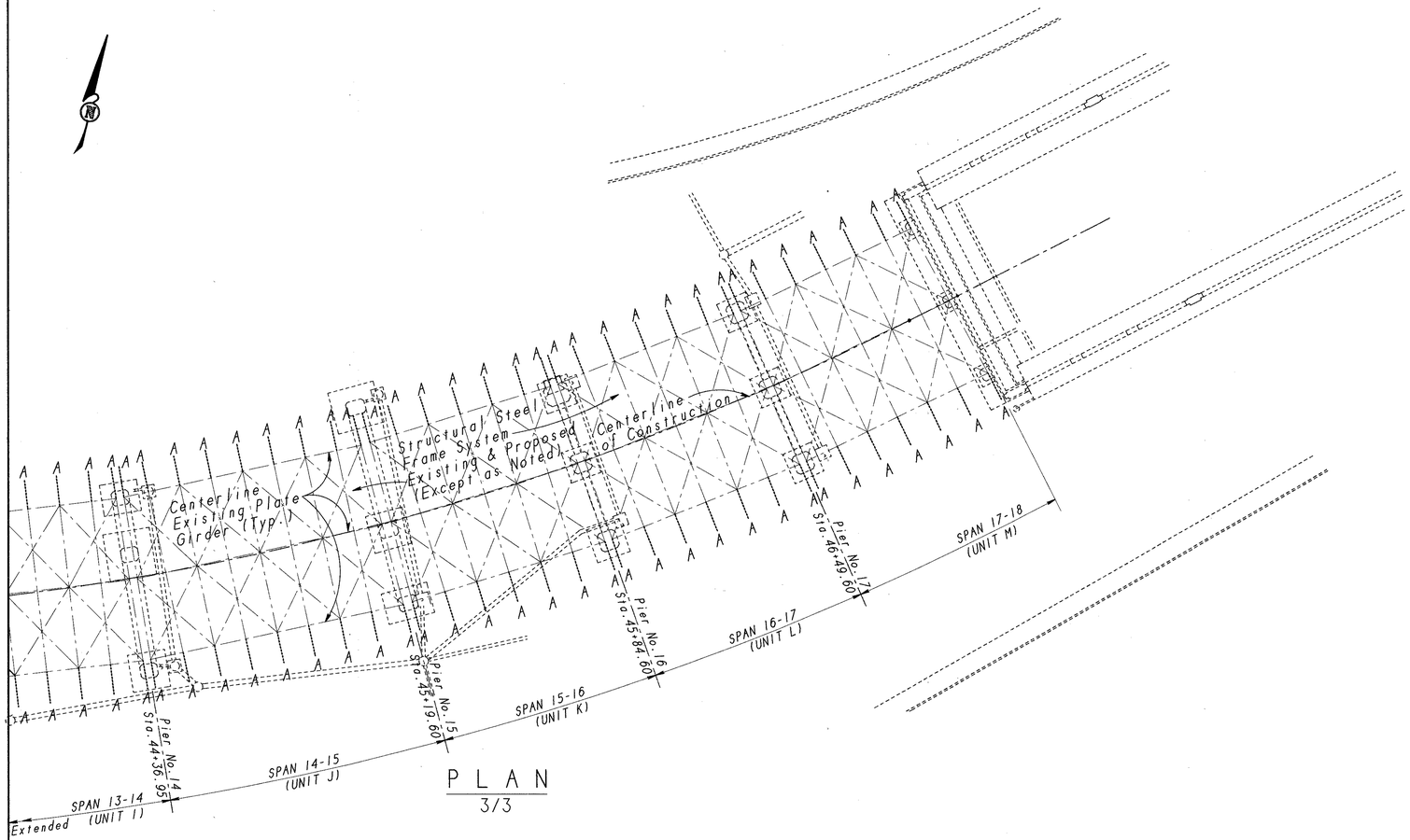
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

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

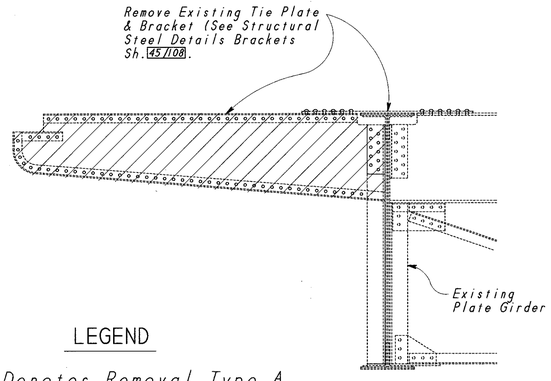
HAM-471-00.25

101
182



PLAN
3/3

MATCH LINE Sh. 26/108



LEGEND

A Denotes Removal Type A

REMOVAL TYPE A

STRUCT3A Scale 21.333

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

27/108

STRUCTURAL STEEL DETAILS
REMOVALS 3/3
UNITS I THRU M

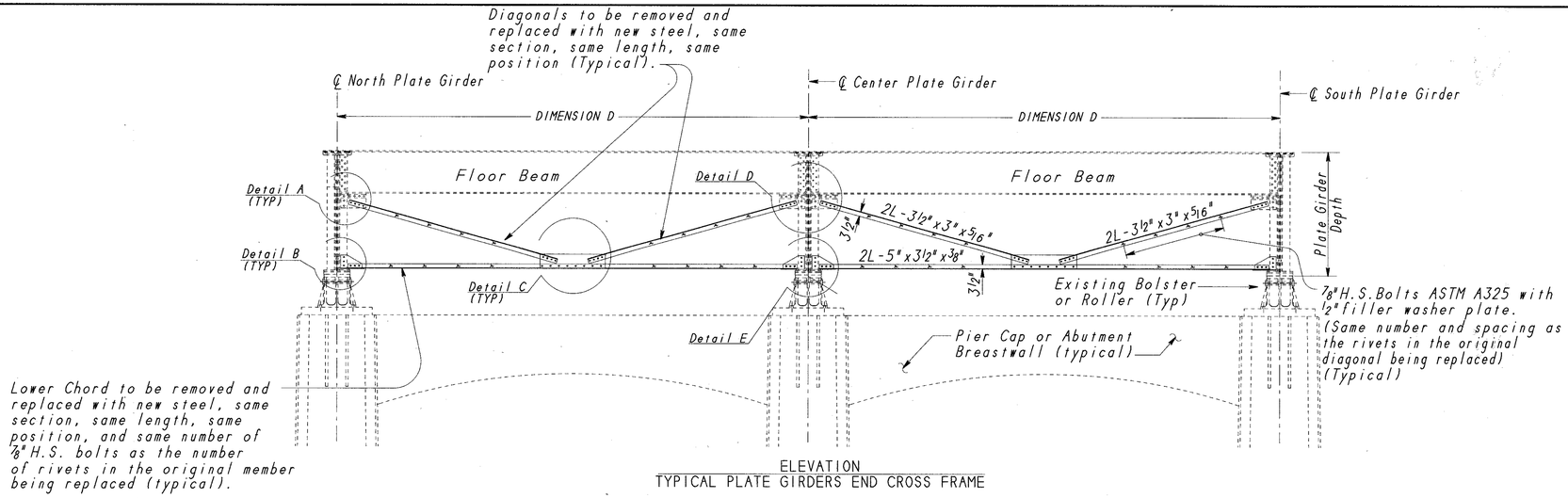
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta. 30+55.40
Sta. 47+16.19
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

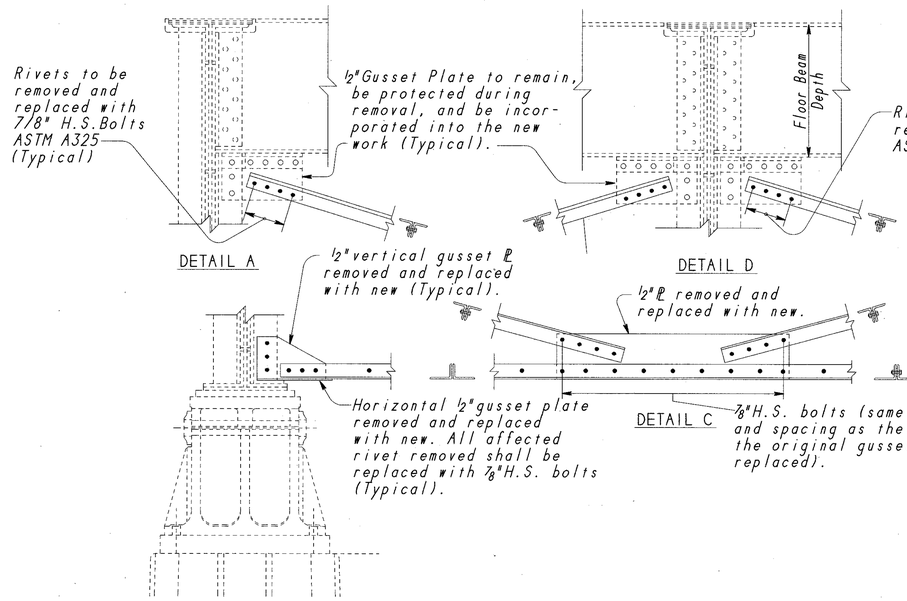
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

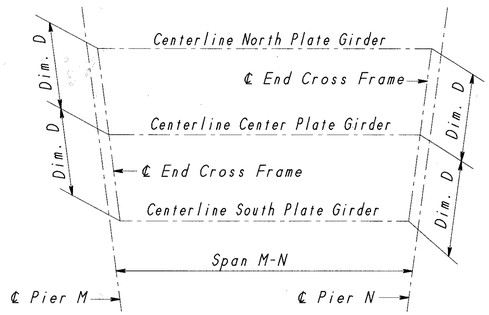
102
182

HAM-471-00.25



ELEVATION
TYPICAL PLATE GIRDERS END CROSS FRAME





SCHEMATIC KEY PLAN

SPAN	DIMENSION D			
	Pier No.	DIM. D	Pier No.	DIM. D
1-2	Rear Abut.	27'-5¼"±	No. 2	27'-4½"±
2-3	No. 2	27'-4 1/2"±	No. 3	28'-9 7/8"±
3-4	No. 3	29'-7"±	No. 4	31'-7 1/4"±
4-5	No. 4	32'-4 3/4"±	No. 5	32'-4¾"±
12-13	No. 12	33'-2 9/16"±	No. 13	26'-2 3/16"±
13-14	No. 13	26'-2 3/8"±	No. 14	26'-2 3/8"±
14-15	No. 14	26'-2 3/8"±	No. 15	26'-2 3/8"±
15-16	No. 15	26'-2 1/4"±	No. 16	26'-2 1/4"±
16-17	No. 16	26'-2 1/4"±	No. 17	26'-2 1/4"±
17-18	No. 17	26'-2 1/4"±	Frwd. Abut.	26'-2 1/4"±

NOTES:

1.- See Note Item 513-Structural Steel Replacement Of Deteriorated End Cross Frames In General Notes.

2.- See GENERAL NOTES, Sh. 7 / 108 Thru Sh. 11 / 108

LEGEND

Existing Structure To Remain.

New Work.

CR0552 Scale 1

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO
28 / 108

STRUCTURAL STEEL REPLACEMENT OF DETERIORATED END CROSS FRAMES (PLATE GIRDER SPANS)

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19

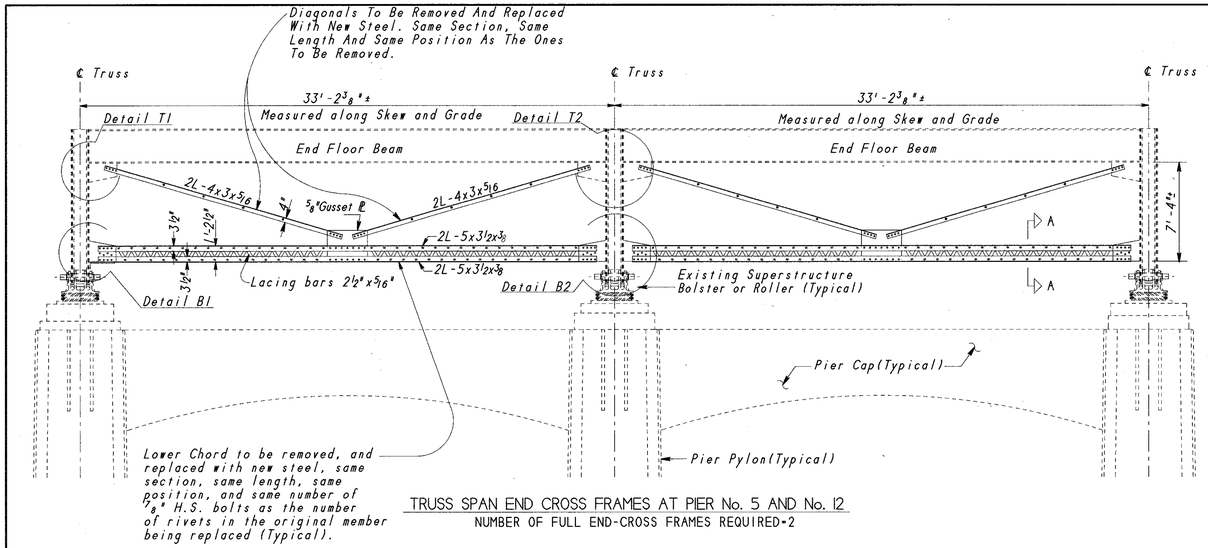
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

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

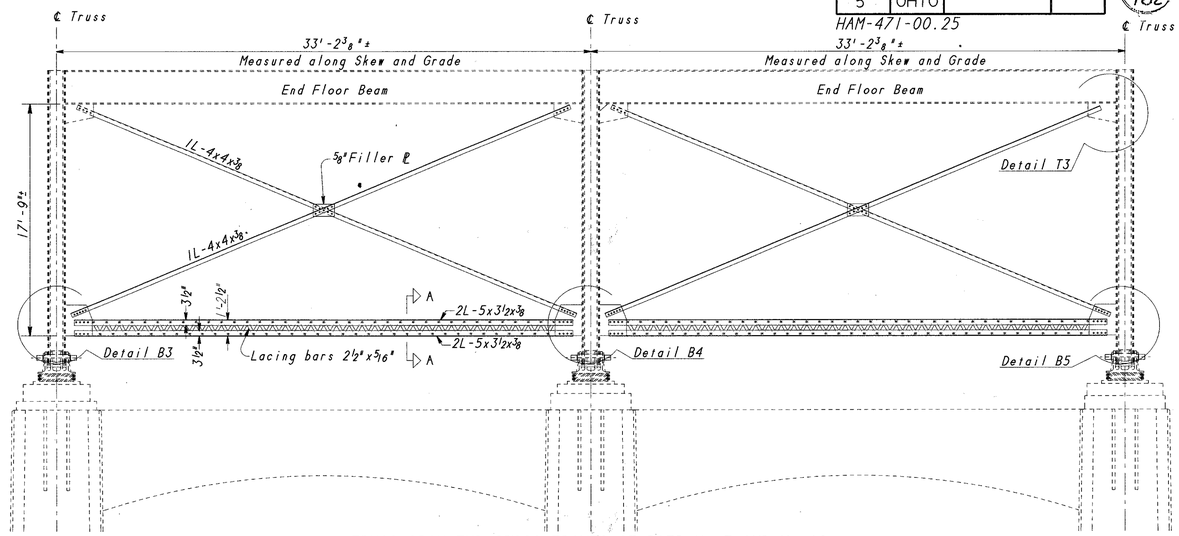
HAM-471-00.25

103
102



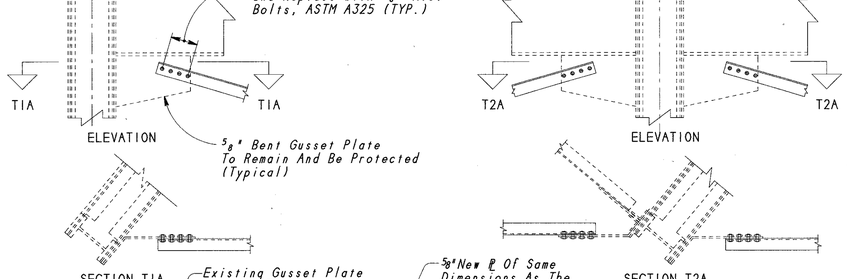
TRUSS SPAN END CROSS FRAMES AT PIER No. 5 AND No. 12

NUMBER OF FULL END-CROSS FRAMES REQUIRED-2



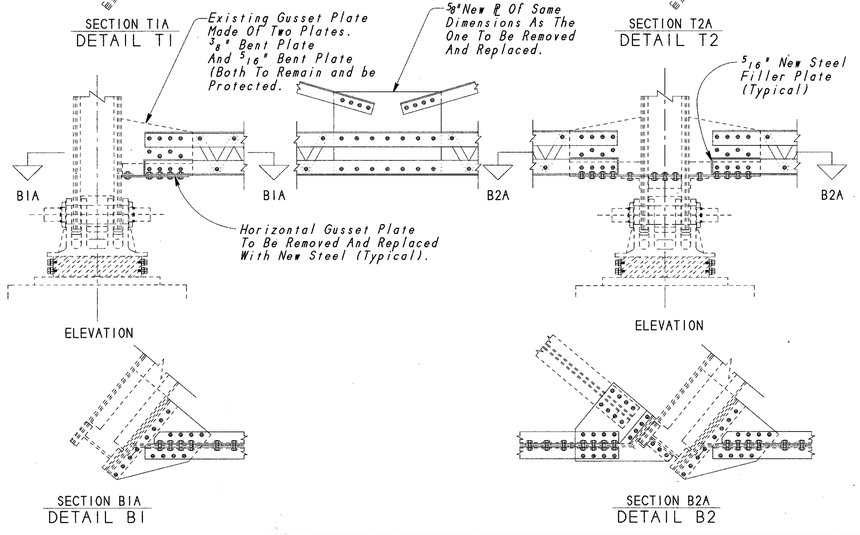
TRUSS SPAN END CROSS FRAMES AT PIER No.7 AND No.10

NUMBER OF FULL END-CROSS FRAMES REQUIRED-4



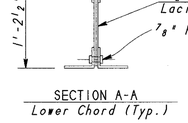
SECTION T1A
DETAIL T1

SECTION T2A
DETAIL T2

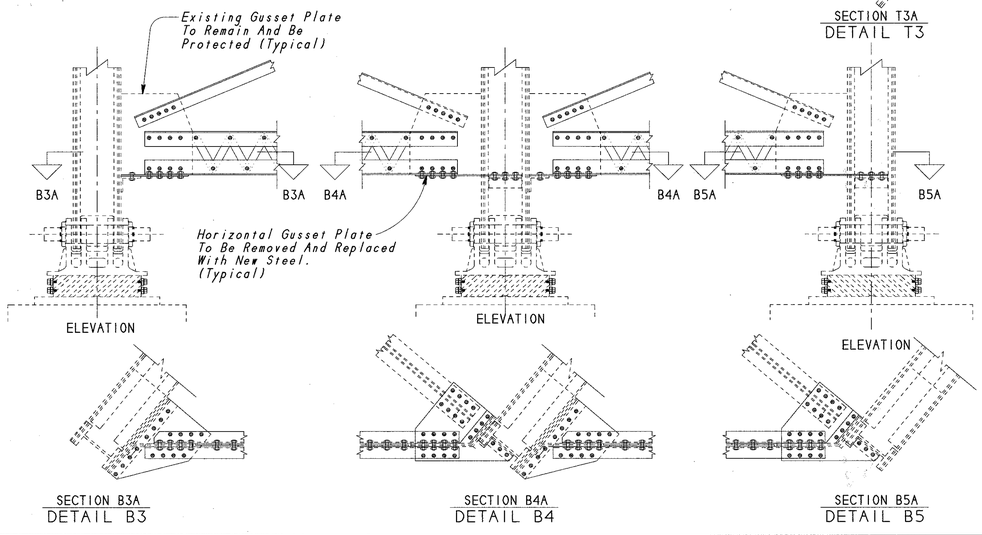


SECTION B1A
DETAIL B1

SECTION B2A
DETAIL B2



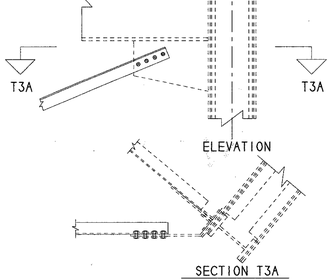
SECTION A-A
Lower Chord (Typ.)



SECTION B3A
DETAIL B3

SECTION B4A
DETAIL B4

SECTION B5A
DETAIL B5



SECTION T3A
DETAIL T3

NOTES:

1. - See Note Item 513-Structural Steel-Replacement Of Deteriorated End Cross Frames, As Per Plan, In General Notes, Sh. 10/108 .

2. - For GENERAL NOTES, See Sh. 7/108 Thru Sh. 11/108

LEGEND

Existing structure to remain.

New work.

CR055 Scale 1

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

29/108

STRUCTURAL STEEL REPLACEMENT OF DETERIORATED END CROSS FRAMES (TRUSS SPANS)

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19

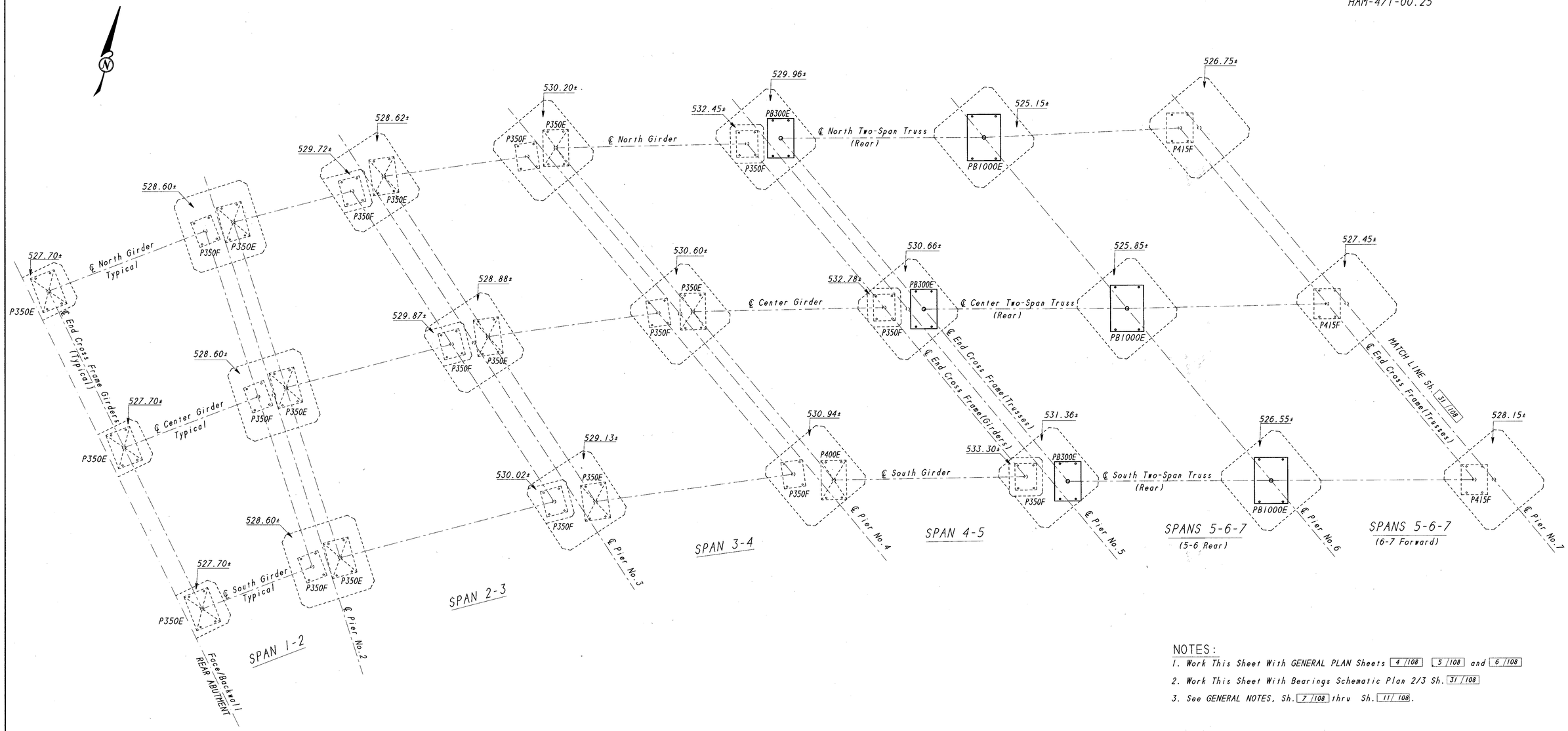
HAMILTON COUNTY

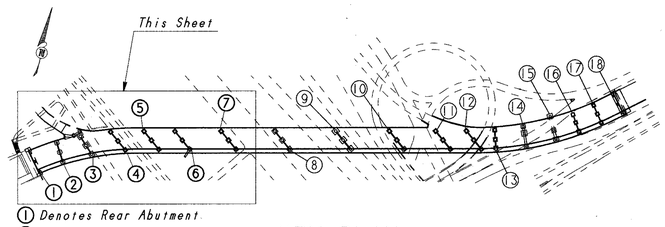
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

HAM-471-00.25

104/182





KEY PLAN

LEGEND

- Denotes Existing Bearing.
- Denotes elastomeric bearing retrofit
- Denotes New Pot Bearing Device.
- 530.94± Denotes Masonry Elevation at top of pier pylon.
- PB Denotes POT BEARING
- P----F Denotes Existing FIXED Bearing
- P----E Denotes Existing EXPANSION Bearing

NOTES:

1. Work This Sheet With GENERAL PLAN Sheets 4/108, 5/108 and 6/108
2. Work This Sheet With Bearings Schematic Plan 2/3 Sh. 31/108
3. See GENERAL NOTES, Sh. 7/108 thru Sh. 11/108.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

30/108

BEARING DEVICES SCHEMATIC PLAN 1/3 REAR ABUTMENT THRU PIER NO. 7

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

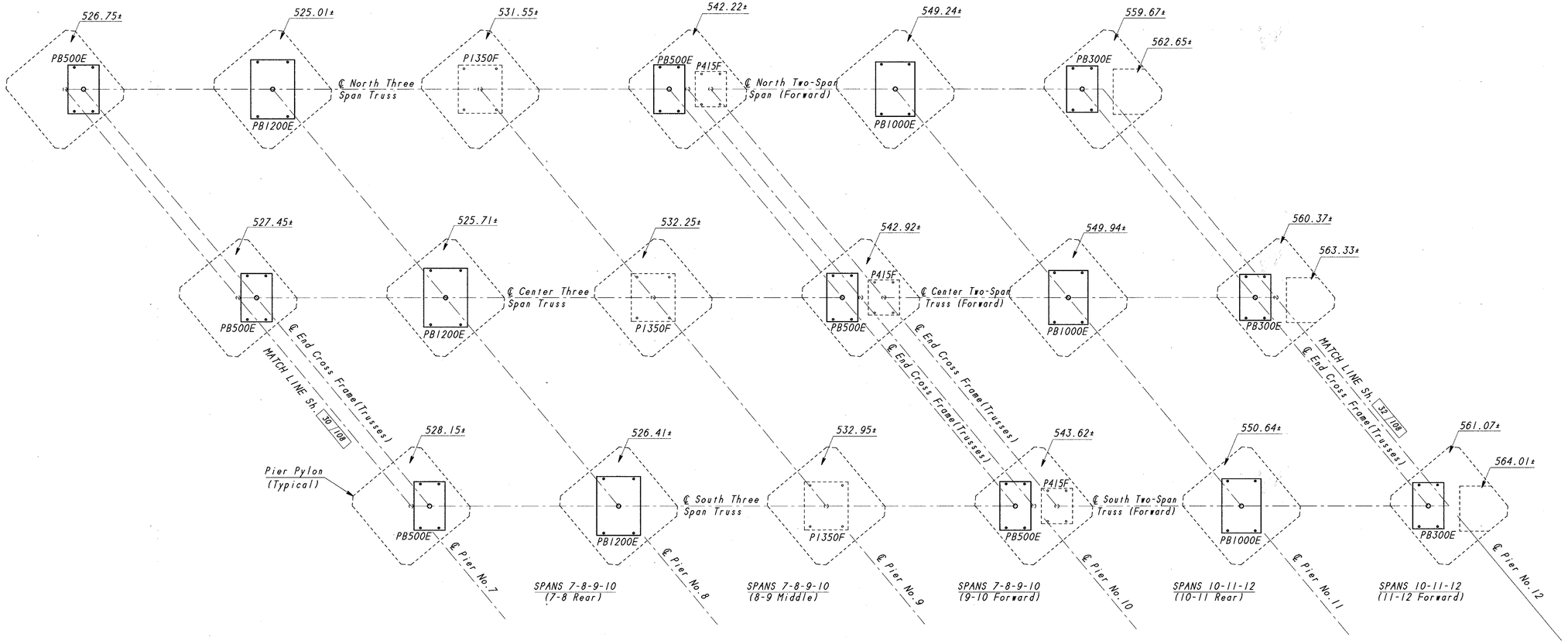
Sta.30+55.40
Sta.47+16.19

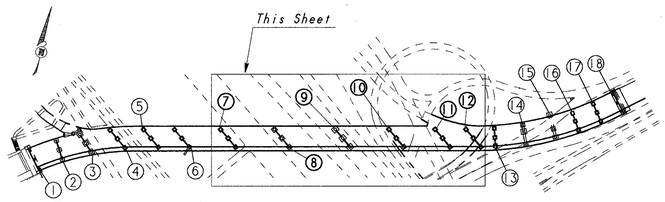
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

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

HAM-471-00.25

105
182





Ⓘ Denotes Rear Abutment
Ⓡ Denotes Forward Abutment
Ⓝ Denotes Pier Number

KEY PLAN

LEGEND

? Denotes Existing Bearing.

Denotes New Pot Bearing Device.

530.94± Denotes Masonry Elevation at top of pier pylon.

PB Denotes POT BEARING.

P----F Denotes Existing FIXED Bearing

P----E Denotes Existing EXPANSION Bearing

NOTES:

1. Work This Sheet With General Plan, Sheets 4 /108 , 5 /108 and 6 /108
2. Work This Sheet With Bearings Schematic Plan 3/3 Sh. 32 /108
3. See General Notes, Sh. 7 /108 thru Sh. 11 /108 .

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

31 /108

BEARING DEVICES SCHEMATIC PLAN 2/3 PIER NO. 7 THRU PIER NO. 12

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40
Sta.47+16.19

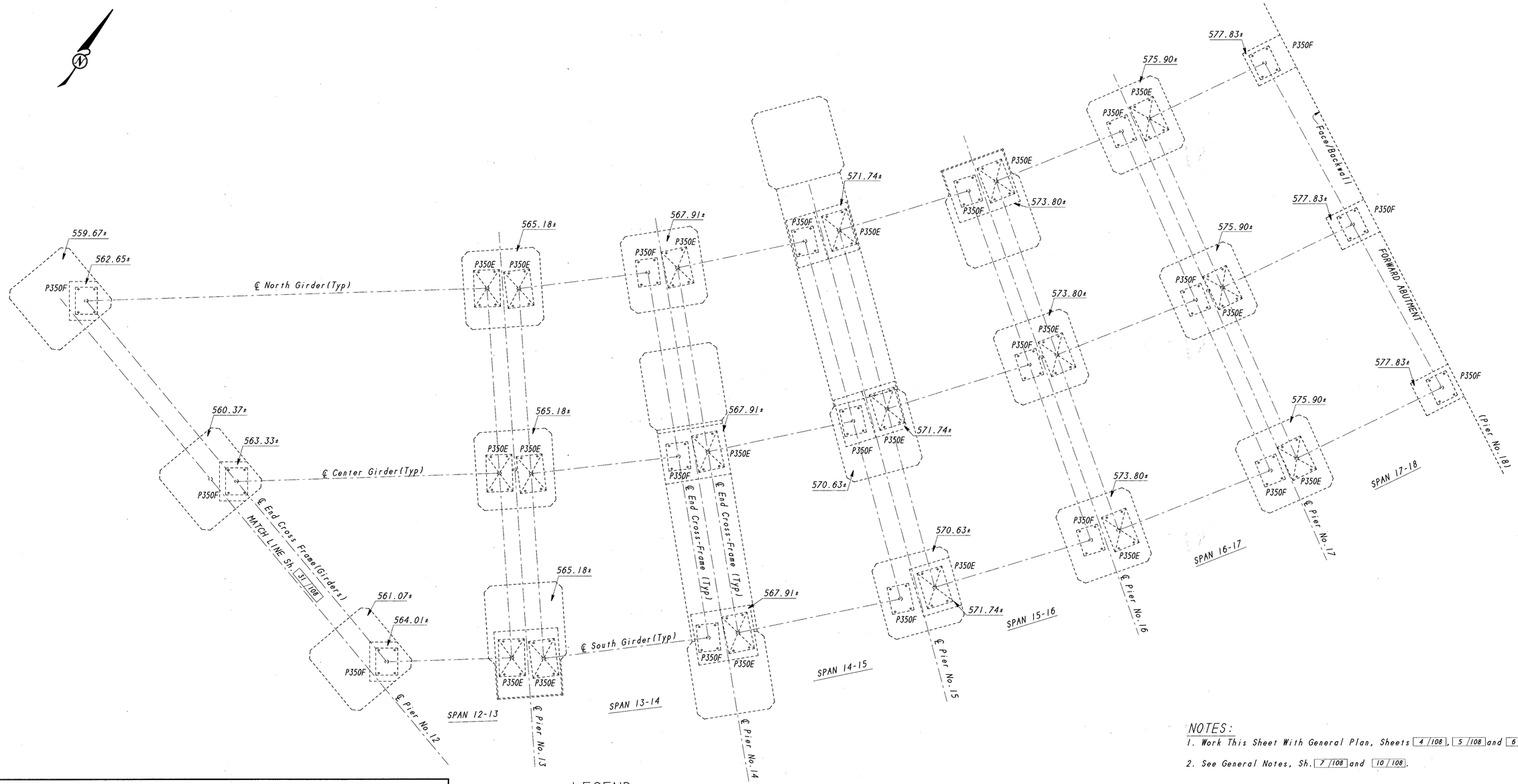
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

ENGLANZ Seal • 4

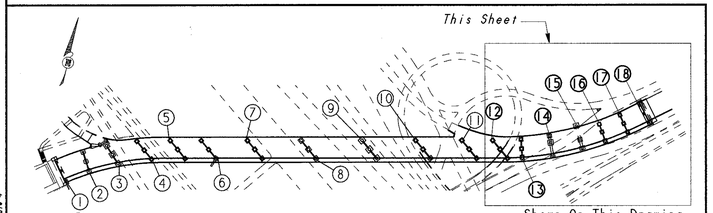
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

106
182



NOTES:

1. Work This Sheet With General Plan, Sheets 4/108, 5/108 and 6/108
2. See General Notes, Sh. 7/108 and 10/108.



(1) Denotes Rear Abutment
(18) Denotes Forward Abutment
(N) Denotes Pier Number

KEY PLAN

LEGEND

Denotes Existing Bearing.

Denotes Elastomeric Bearing Retrofit

530.94± Denotes Masonry Elevation at top of pier pylon.

P Denotes Cast Steel PEDESTAL

P----F Denotes Existing FIXED Bearing

P----E Denotes Existing EXPANSION Bearing

BROKLAND Scale 4

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

32/108

BEARING DEVICES
SCHEMATIC PLAN 3/3
PIER NO. 12 THRU FORWARD ABUTMENT

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

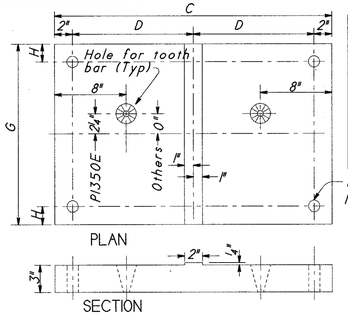
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

107/182

HAM-471-00.25

EXISTING MASONRY PLATE DIMENSIONS *				
BEARING UNIT	C	D	G	H
P350E	3'-1"	1'-4½"	2'-2"	5"
P400E	3'-4"	1'-6"	2'-2"	5"
P415E	3'-4"	1'-6"	2'-3"	5½"
P460E	3'-6"	1'-7"	2'-3"	5½"
PI000E	3'-11"	1'-9½"	2'-10"	5"
PI350E	4'-3"	1'-11½"	3'-2"	6"

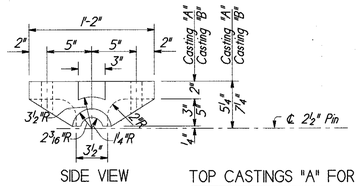


PLAN

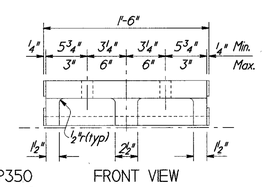
SECTION

* See Sh. 36/108 For Proposed Pot Bearing Masonry Plate Dimensions.

MASONRY PLATE TYPICAL DETAIL



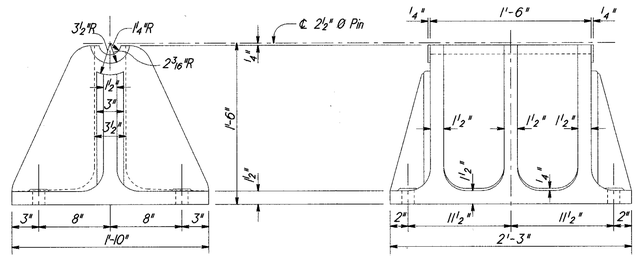
SIDE VIEW



FRONT VIEW

TOP CASTINGS "A" FOR P350

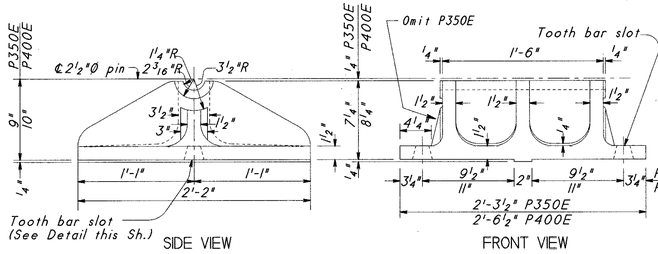
TOP CASTINGS "B" FOR P400



SIDE VIEW

FRONT VIEW

BOTTOM CASTING FOR P350F

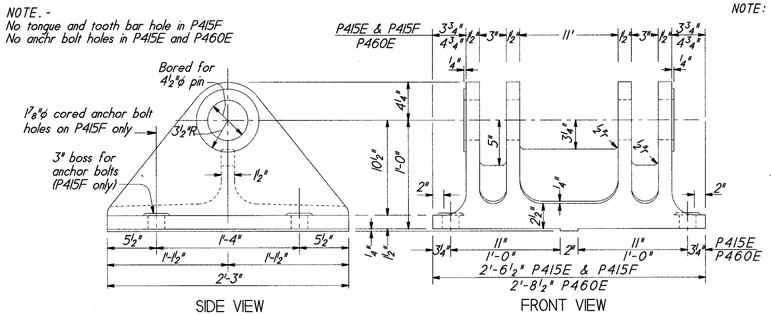


SIDE VIEW

FRONT VIEW

BOTTOM CASTING FOR P350E & P400E

NOTE. -
No tongue and tooth bar hole in P415F
No anchr bolt holes in P415E and P460E

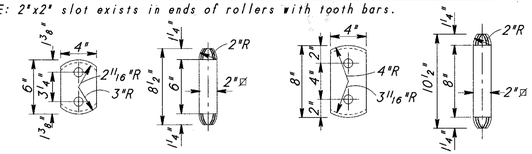


SIDE VIEW

FRONT VIEW

EXPANSION SHOES P415E & P460E & FIXED SHOE P415F

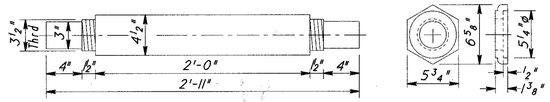
NOTE: 2"x2" slot exists in ends of rollers with tooth bars.



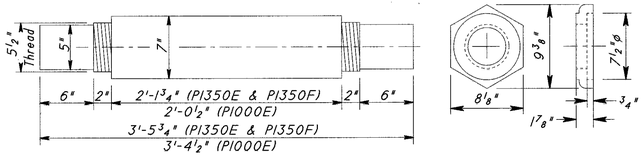
ROLLER & TOOTH BAR DETAIL
P350E, P400E, P415E, & P460E

ROLLER & TOOTH BAR DETAIL
PI000E & PI350E

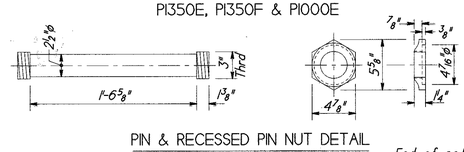
ROLLER SCHEDULE			
BEARING	STOCK DIAMETER	LGTH.	QTY.
P350E	6"	1'-11"	5
P400E	6"	2'-2"	5
P415E	6"	2'-2"	5
P460E	6"	2'-4"	5
PI000E	8"	2'-9"	7
PI350E	8"	3'-1"	8



PIN & RECESSED PIN NUT DETAIL
P415E, P415F, & P460E

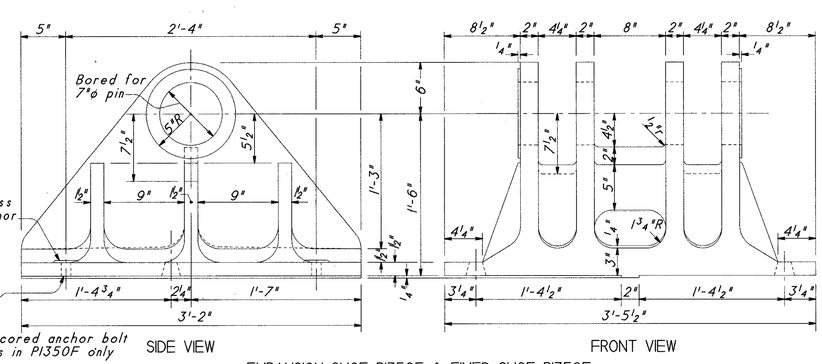


PIN & RECESSED PIN NUT DETAIL
PI350E, PI350F & PI000E



PIN & RECESSED PIN NUT DETAIL
(P350 & P400)

EXPANSION SHOE PI000E

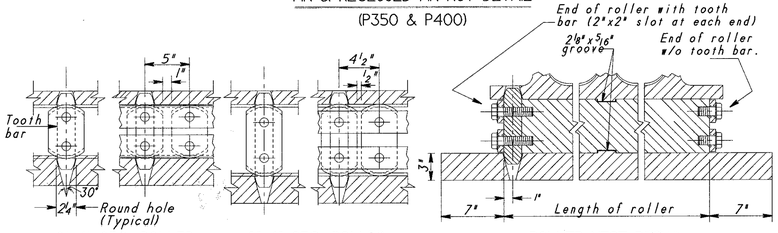


SIDE VIEW

FRONT VIEW

EXPANSION SHOE PI350E & FIXED SHOE PI350F

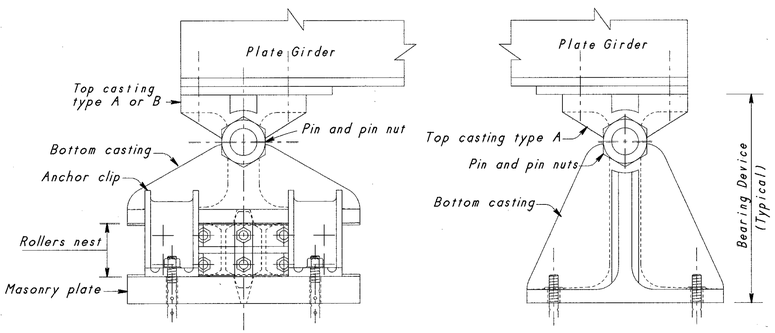
Omit tongue and tooth bar holes from PI350F
Omit anchor bolt holes from PI350E



NOTE. -

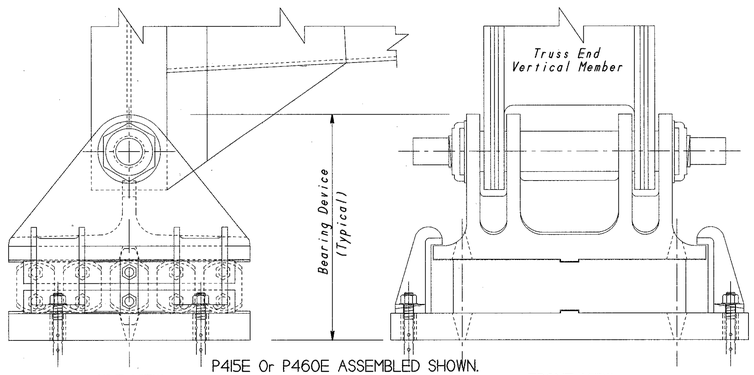
This drawing depicts the original plan dimensions for the bearing devices and is for information only. For additional information, the Contractor shall refer to the original plan. See Sh. 7/108 for Note on Existing Structure Plans.

See Sheet 10/108 For General Note.



P350E Or P400E ASSEMBLED

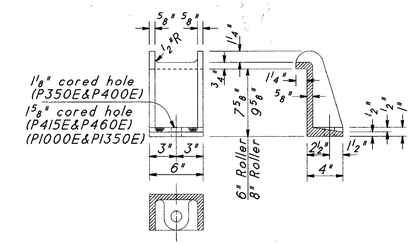
P350F ASSEMBLED



SIDE VIEW

P415E Or P460E ASSEMBLED SHOWN.
PI000E And PI350E, SIMILAR.

FRONT VIEW



CAST STEEL ANCHOR CLIP DETAIL
(4 CLIPS AT EACH EXPANSION PEDESTAL)

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

33/108

EXISTING CAST STEEL BEARING DEVICES

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

CASTBRGI Scale .666

CALC. BY: DATE:	HAM-471-00.25 HAMILTON COUNTY	OHIO FHWA REGION 5	108 182
CHKD. BY: DATE:			

NOTES

1. For bearing locations, see Sheets No. 30/108 and 32/108.

2. Material requirements: Steel load plate: ASTM A36
Steel laminates: ASTM A36
Elastomer: 50 Durometer Neoprene, Grade 3

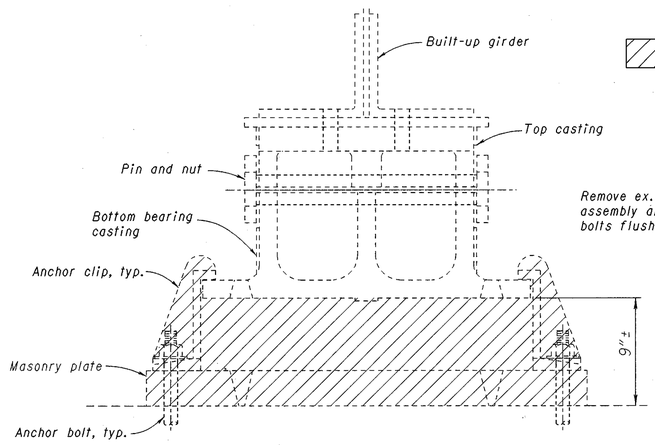
3. Welding shall be controlled so that the plate temperature at the elastomer bonded surface does not exceed 300°F as determined by the use of pyrometric sticks or other temperature monitoring devices.

4. ELASTOMERIC BEARINGS shall comply with CMS 516 and Articles 18.2.5 through 18.2.8 of Section 18, Bearing Devices, Division II, Construction of the AASHTO standard Specification for highway Bridges. Bearings shall be Grade 3, 50 Durometer elastomer, and shall be subjected to the load testing requirements corresponding to Design Method A. Testing shall be included in the unit price bid for the bearings, each.

5. The steel load plate shall be ASTM A36 steel and be cleaned and coated with 1ZEU paint system. Surface preparation and priming shall be done in the shop and included in the price bid for the bearings. Field coats shall be included in the price bid for painting the main structural steel.

6. Proposed work includes: After removal of the existing concrete deck and end dams, jack and support the superstructure in accordance with plan notes. Remove the existing rollers and masonry plate and remove anchor bolts flush with the concrete surface. Repair concrete seat area as necessary to provide a solid and uniform surface using a trowelable epoxy mortar. Grind seat as necessary for a smooth level surface. Install new elastomeric bearings. Lower girders to permanent position.

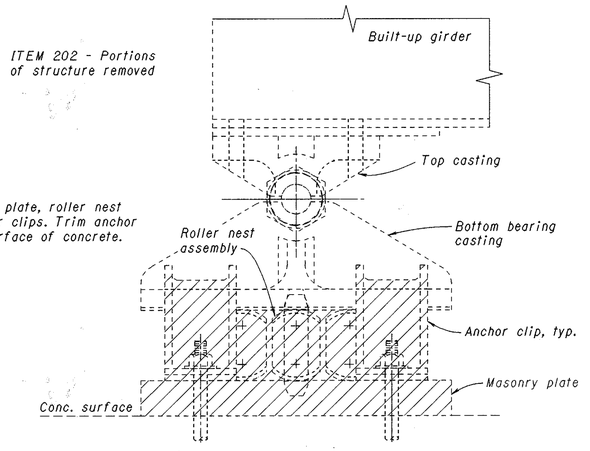
7. BASIS OF PAYMENT: Payment shall be made under Item 516, 29 EACH, "Elastomeric bearing with internal laminates and load plate (Neoprene), 2'-2½"X 2'-1"X 6⅛" laminated elastomeric pad and 2'-3½"X 2'-2"X 3" steel load plate, as per plan" and 1 EACH, "Elastomeric bearing with internal laminates and load plate (Neoprene), 2'-2½"X 2'-1"X 6⅛" laminated elastomeric pad and 2'-6½"X 2'-2"X3" steel load plate, as per plan" and shall include the removal of portions of the existing bearing, cleaning the existing bearing casting, furnishing and installing the new bearing, preparation of the concrete surface and any additional work that is necessary to properly install the bearing.



FRONT VIEW

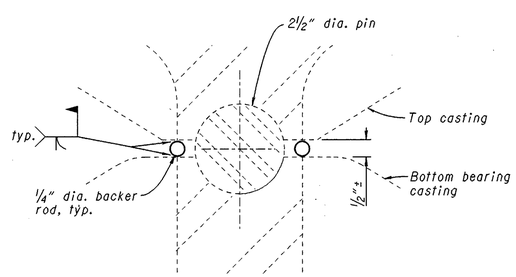
ITEM 202 - Portions of structure removed

Remove ex. masonry plate, roller nest assembly and anchor clips. Trim anchor bolts flush with surface of concrete.

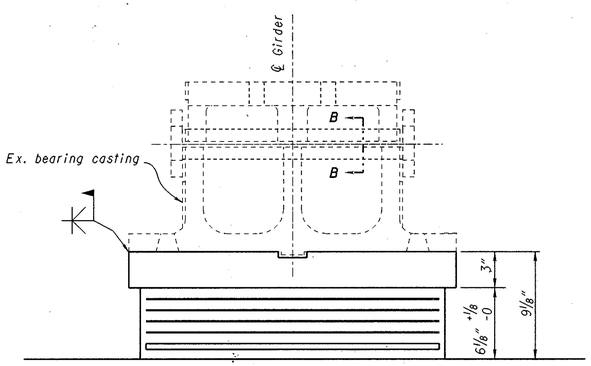


SIDE VIEW

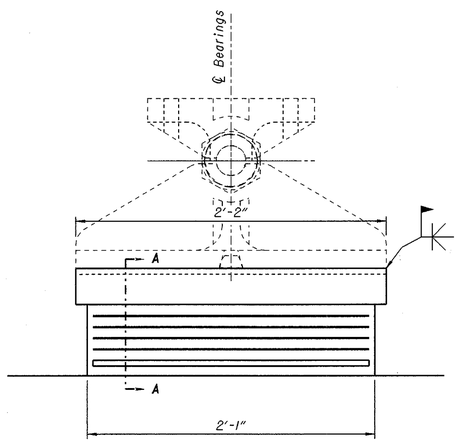
REMOVAL DETAILS



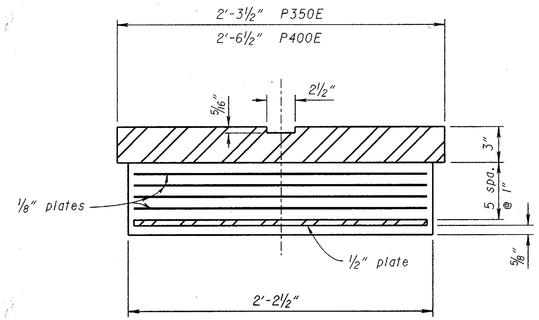
SECTION B-B



FRONT VIEW



SIDE VIEW



SECTION A-A

P350E AND P400E BEARING RETROFIT DETAILS

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 8 PRODUCTION
34/108

ELASTOMERIC BEARING RETROFIT DETAILS

BRIDGE NO. HAM-471-0025
COLUMBIA PARKWAY VIADUCT

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISIONS
MLM	MLM BJF	MLM	RLE	8-27-96	

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

110 / 182

HAM-471-00.25

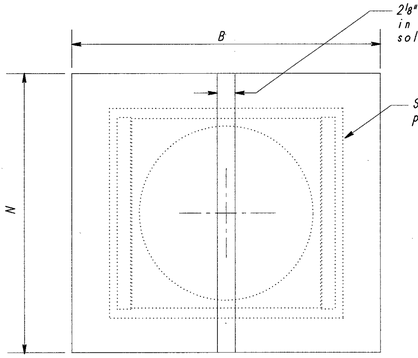


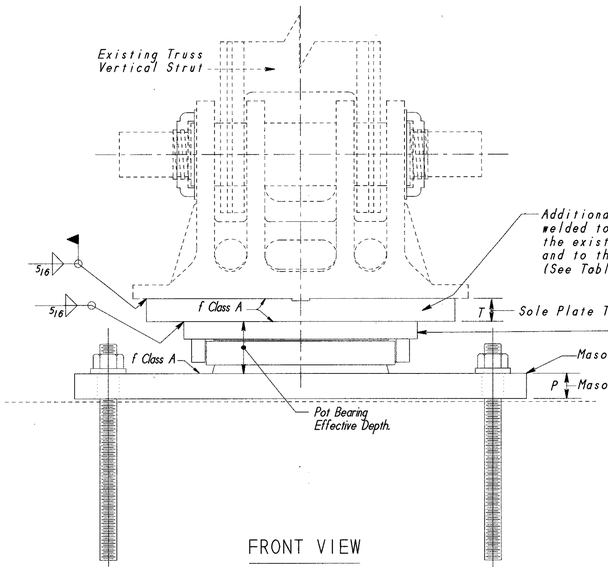
TABLE A - POT BEARING DESIGN PARAMETERS

STRUCTURE DESCRIPTION	PIER	MAXIMUM COMPUTED VERTICAL LOAD (KIP)	MINIMUM COMPUTED VERTICAL LOAD (KIP)	MAXIMUM TRANSVERSE HORIZONTAL LOAD (KIP)	-30°F≤T≤120°F TEMP. RANGE ANTICIPATED TRAVEL DIST. (AASHTO 3.16 COLD CLIMATE)	POT BEARING ANTICIPATED ROTATION (RADIANS)	MASONRY PLATE PROPOSED DIMENSIONS					1½" DIAMETER ANCHOR BOLTS *		PROPOSED SOLE PLATE TO BE WELDED TO EXIST. CAST STEEL SHOE			PROPOSED POT BEARING DESIGNATION	DESIGN VERTICAL FORCE	DESIGN HORIZONTAL FORCE	DESIGN TRAVEL DISTANCE	POT BEARING EFFECTIVE DEPTH #	EXISTING ROLLER BEARING TO BE MODIFIED
							P	A	B	W	L	LENGTH	No.	T	B	N					
TWO SPAN TRUSS (REAR)	No. 5	242	122	25	2½"	0.0044	3"	1'-4"	3'-0"	3'-5"	1'-10"	18"	4	2⅞"	2'-4"	2'-0"	PB300E	300K	30K	3"	3.12"	P415E
	No. 6	974	570	98	1½"	0.0052	3"	2'-0"	3'-7"	4'-0"	2'-6"	21"	4	3⅛"	3'-0"	2'-10"	PB1000E	1000K	100K	2"	4.89"	P1000E
THREE SPAN TRUSS (MAIN)	No. 7	428	197	43	3¾"	0.0049	3"	1'-4"	3'-2"	3'-7"	1'-10"	18"	4	2⅜"	2'-6"	2'-0"	PB500E	500K	50K	4"	3.66"	P460E
	No. 8	1077	753	107	2"	0.0038	3"	2'-2"	3'-11"	4'-4"	2'-8"	21"	4	2¾"	3'-0"	2'-10"	PB1200E	1200K	120K	2"	5.21"	P1350E
	No. 10	428	197	43	1¾"	0.0040	3"	1'-4"	3'-2"	3'-7"	1'-10"	18"	4	2⅜"	2'-6"	2'-0"	PB500E	500K	50K	2"	3.66"	P460E
TWO SPAN TRUSS (FORWARD)	No. 11	974	570	98	1½"	0.0052	3"	2'-0"	3'-7"	4'-0"	2'-6"	21"	4	3⅛"	3'-0"	2'-10"	PB1000E	1000K	100K	2"	4.89"	P1000E
	No. 12	242	122	25	2½"	0.0044	3"	1'-4"	3'-0"	3'-5"	1'-10"	18"	4	2⅞"	2'-4"	2'-0"	PB300E	300K	30K	3"	3.12"	P415E

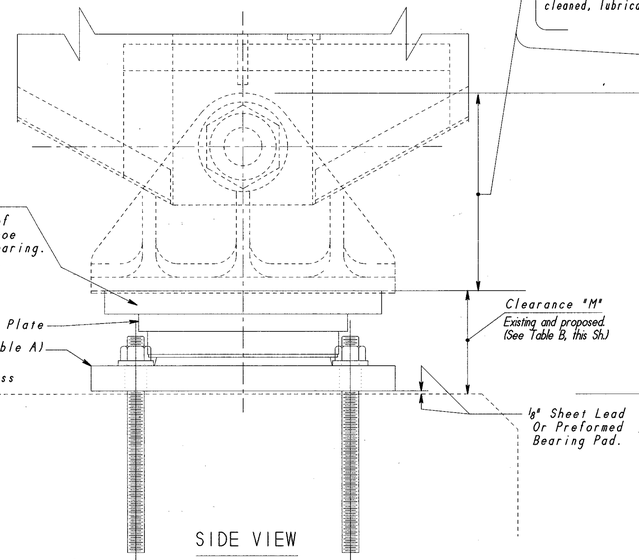
Based On Pot Bearing Series PMG As Manufactured By D.S.Brown Co. (See Note 3, this Sh.)

TYPICAL ADDITIONAL SOLE PLATE

(See Table A this sheet for dimensions)



FRONT VIEW



SIDE VIEW

The existing roller bearing shall be released off the truss main support member by lifting the truss 1/4" maximum off the pier. The roller nest and the masonry plate shall be removed. The pin holding the cast steel shoe shall be released and the cast steel shoe removed. The bored hole in the truss support member shall be cleaned, lubricated (graphite), and protected. The existing pin shall be cleaned,

The cast steel shoe shall be cleaned, the hole to receive the pin shall be lubricated, and the shoe underside face shall be ground to flatness class A. When re-installed, the bottom face of the cast steel shoe and the pin axis shall be parallel w/o tolerance. All labor, material, equipment, tools, and incidentals necessary to complete the work described above, shall be included with Item 516, Steel Pot Bearing, As Per Plan, (___Kips), for payment, except that jacking and temporary support shall be included with Item 516, Jacking And Temporary Support Of Superstructure, As Per Plan, for payment.

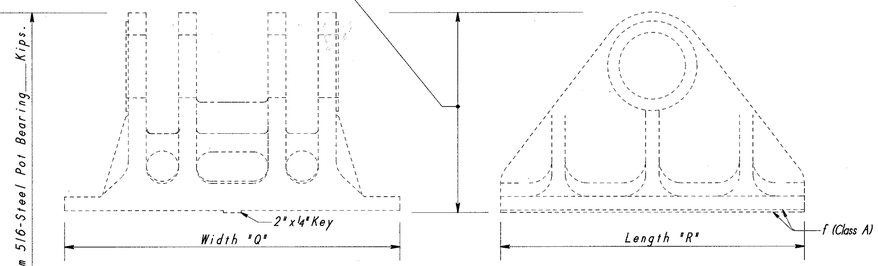
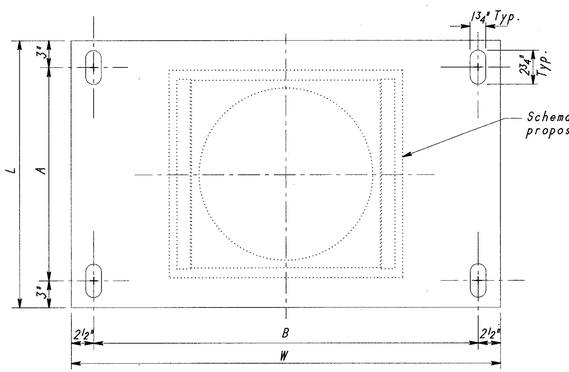


TABLE B			
PIER	WIDTH "Q"	LENGTH "R"	CLEARANCE "M"
No.5	2'-6½"±	2'-3"±	9⅛"±
No.6	3'-1½"±	2'-10"±	11⅛"±
No.7	2'-8½"±	2'-3"±	9⅛"±
No.8	3'-5½"±	3'-2"±	11⅛"±
No.10	2'-8½"±	2'-3"±	9⅛"±
No.11	3'-1½"±	2'-10"±	11⅛"±
No.12	2'-6½"±	2'-3"±	9⅛"±

* The existing anchor bolts shall be protected during bearing device removal, and be incorporated into the new work. If damaged due to the Contractor's removal operation, bolt shall be replaced with new as per table A this sheet at his cost. If deemed unusable by the Engineer due to any reason, bolt shall be removed, and replaced with new as per table A this sheet, and the cost of the work be included with Item 516, Steel Pot Bearing, As Per Plan, (___Kips), for payment.



TYPICAL MASONRY PLATE

(See Table A this sheet for dimensions)

TYPICAL POT BEARING DEVICE

(TYPE GUIDED)

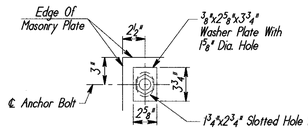
NOTES.-

1.- Work this sheet with Sheets 30 /108 thru Sh. 32 /108 ; and Sh. 37 /108 .

2.- See GENERAL NOTES, Sh. 8 /108 and Sh. 9 /108 for Item 516-STEEL POT BEARINGS, AS PER PLAN, TYPE GUIDED.

3.- Bearing Device Shall Be Of The Uni-Directional Pot Bearing Series PMG As Manufactured By The D.S. BROWN COMPANY, 300 East Cherry St., North Baltimore, Ohio 45872-0158.
Or,
Laterally-Restricted Uni-Ton Pot Bearing Of The Series UBLR As Manufactured By AUGUSTA IRON & STEEL WORKS, INC., 306 11th Street Augusta, Georgia, 30901.
Or Approved Equal.

3.- Masonry Plate Shall Be Provided With Slotted Holes As Shown Below.



5.- Representation of the existing structure is approximate.

Plum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

36 /108

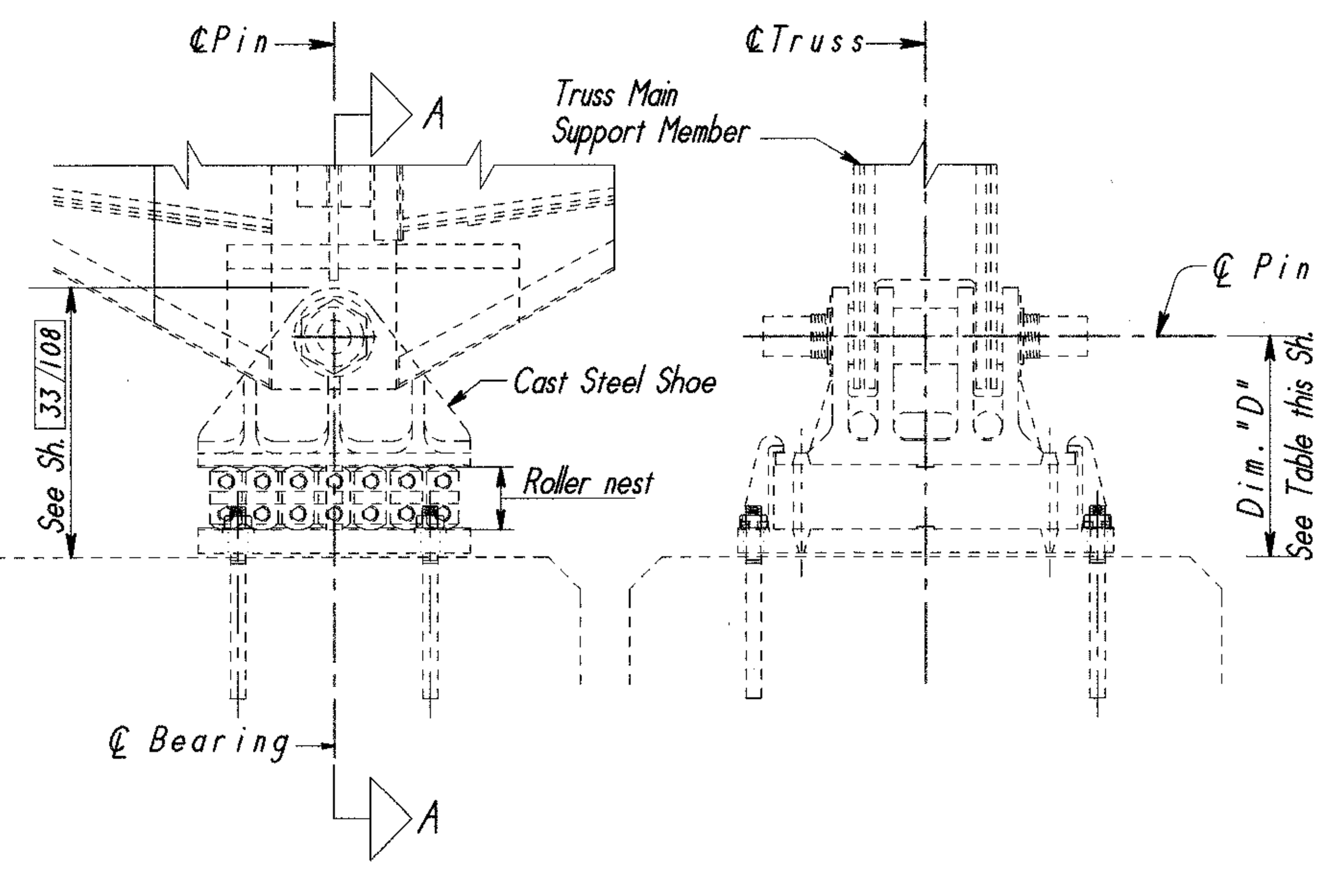
TRUSS BEARING DEVICE
PROPOSED POT BEARING

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19

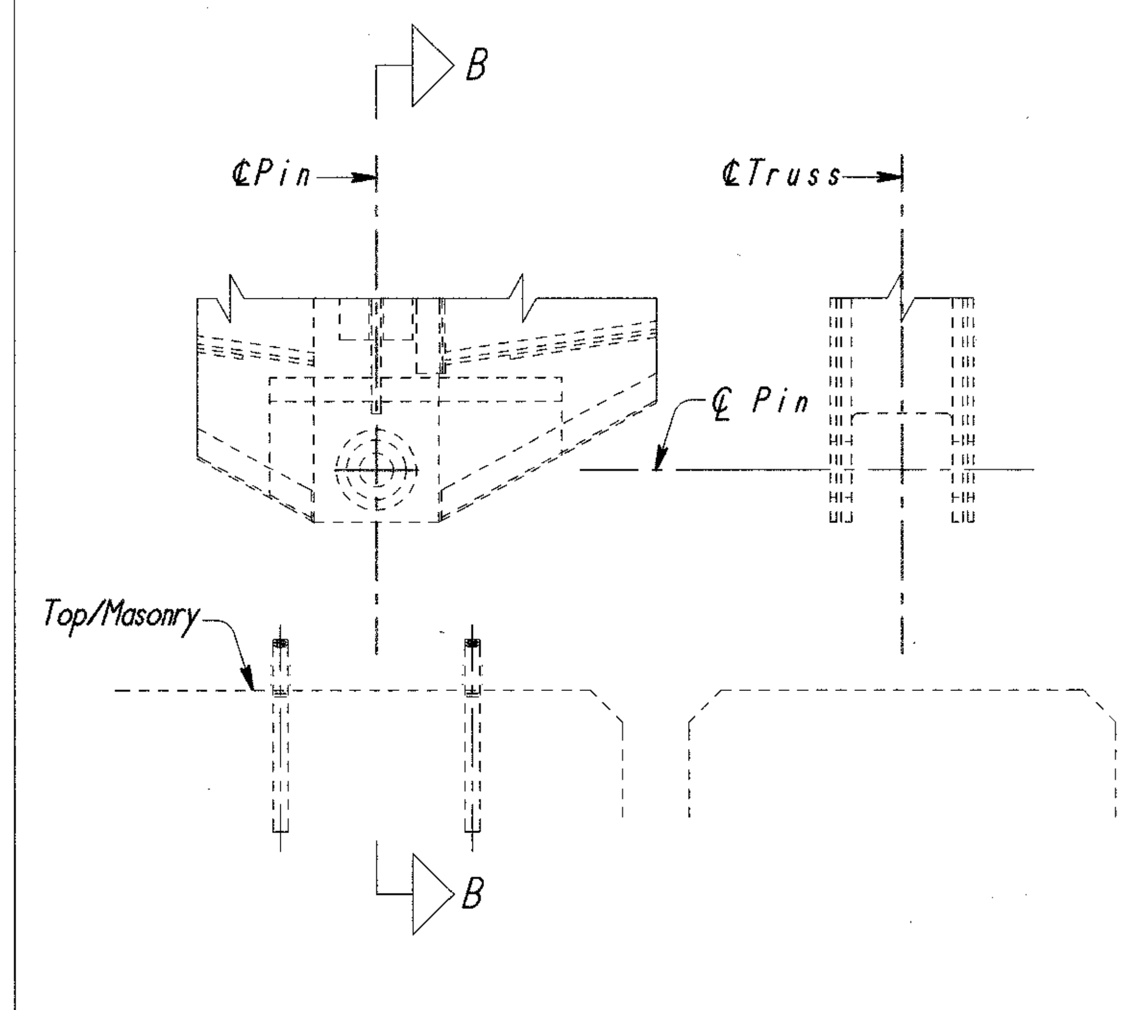
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

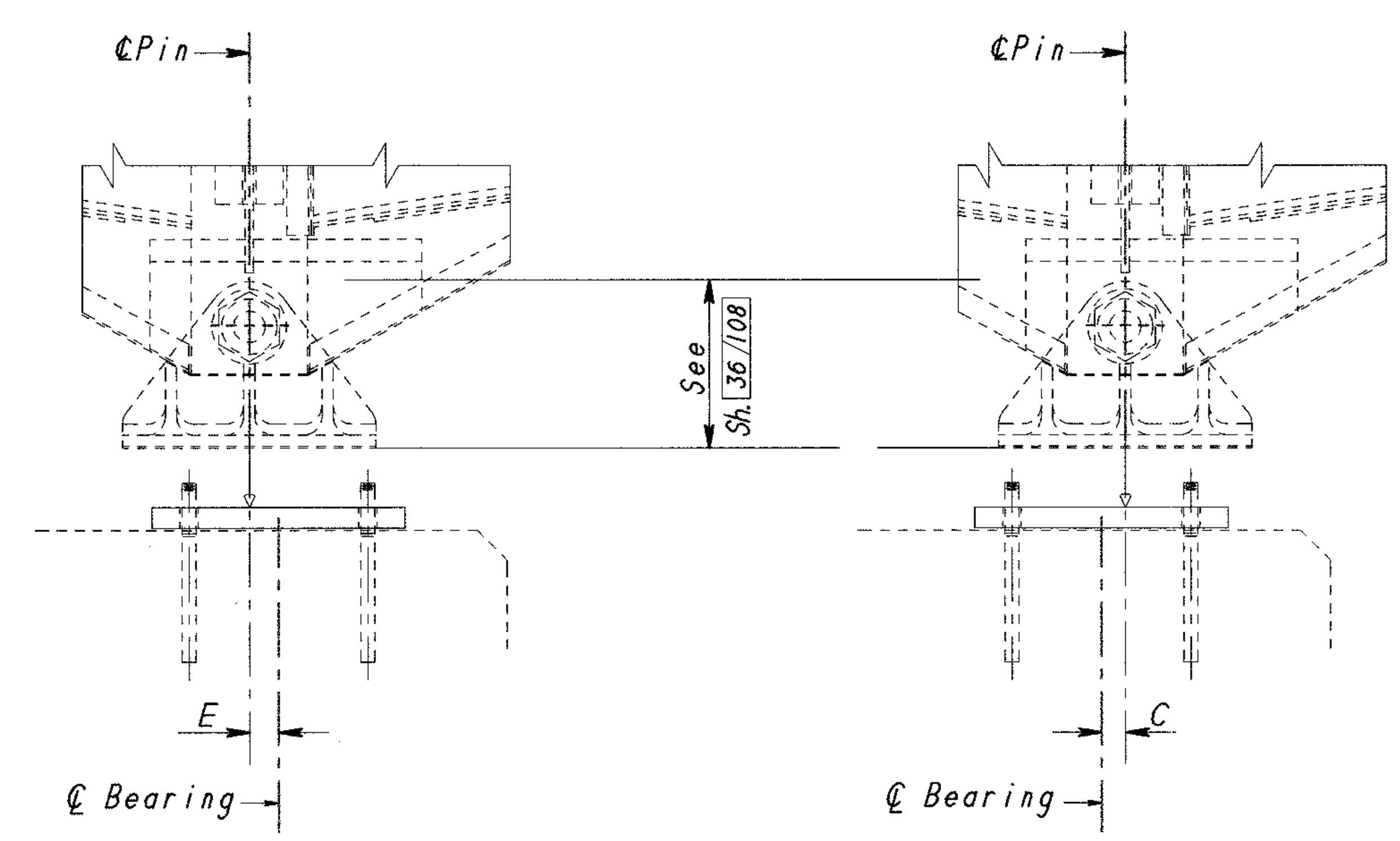
POTBRG Scale .6667



INITIAL CONDITIONS

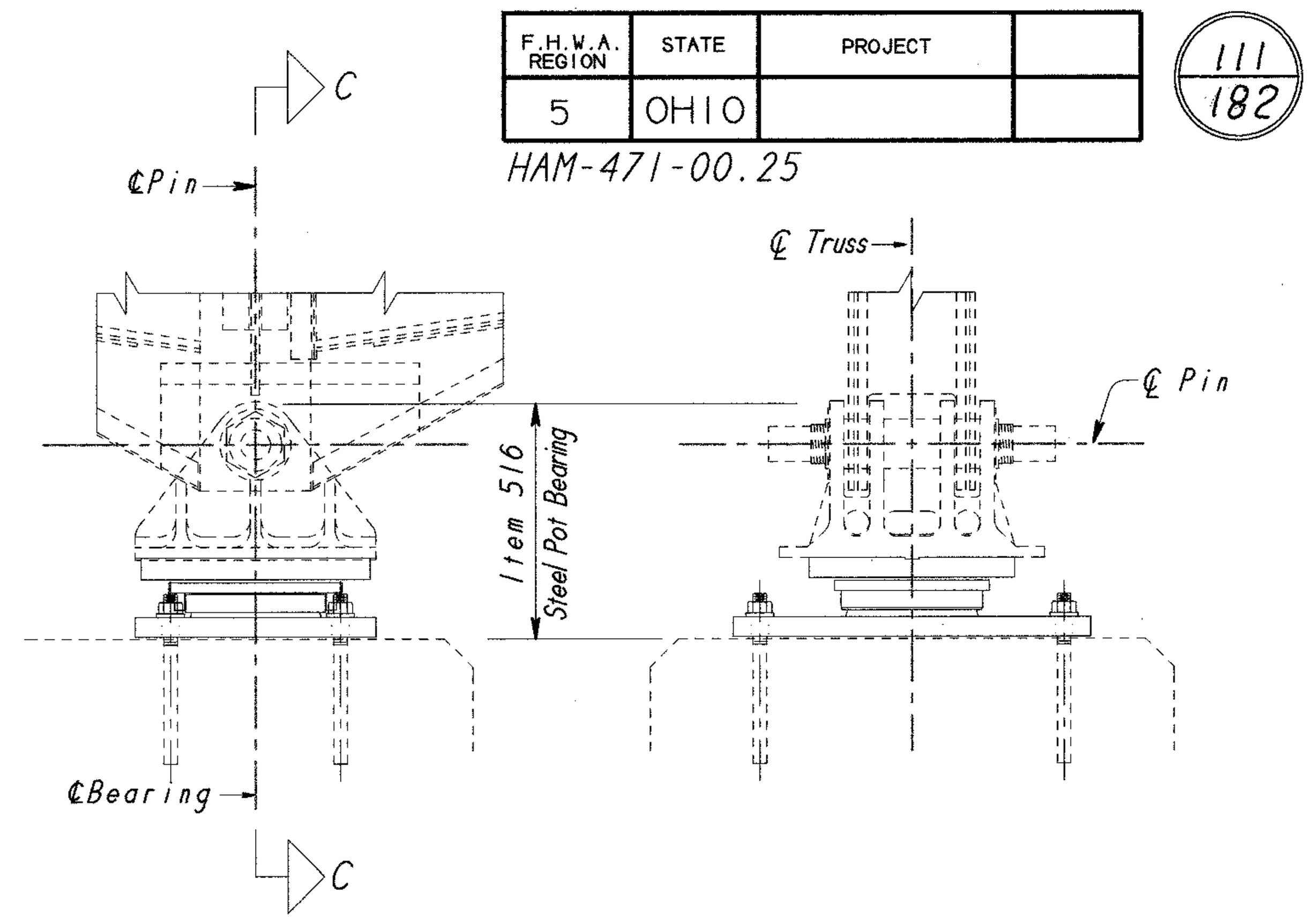


CONDITIONS AFTER REMOVALS



LEGEND:
E Denotes Expansion
C Denotes Contraction

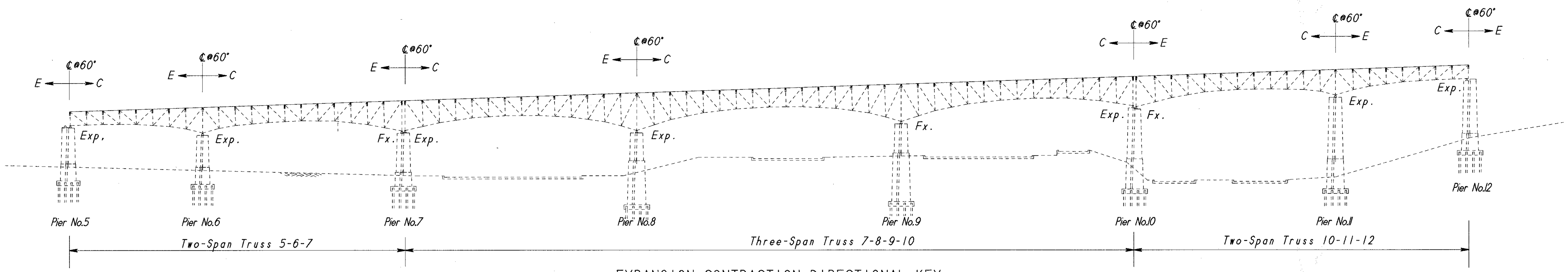
INTERMEDIATE CONDITIONS (PROPOSED)



FINAL CONDITIONS (PROPOSED)

(At 60°F Shown)

LEGEND
Existing Structure
New Work



EXPANSION-CONTRACTION DIRECTIONAL KEY

PROPOSED POT BEARINGS LONGITUDINAL ALIGNMENT SCHEDULE

STRUCTURE	PIER	Guided Pot Bearing Type	Travel	AVERAGE TEMPERATURE OF STEEL STRUCTURE										
				10°	20°	30°	40°	50°	60°	70°	80°	90°	100°	110°
CONTINUOUS TWO-SPAN TRUSS (SPANS 5-6-7)	No.5	PB300E	C	27/32"	21/32"	1/2"	11/32"	5/32"	0					
			E						0	5/32"	11/32"	1/2"	21/32"	27/32"
	No.6	PB1000E	C	1/2"	13/32"	5/16"	3/16"	3/32"	0					
			E						0	3/32"	3/16"	5/16"	13/32"	1/2"
CONTINUOUS THREE-SPAN TRUSS (SPANS 7-8-9-10)	No.7	PB500E	C	1 1/4"	1"	3/4"	1/2"	1/4"	0					
			E						0	1/4"	1/2"	3/4"	1"	1 1/4"
	No.8	PB1200E	C	21/32"	17/32"	13/32"	1/4"	1/8"	0					
			E						0	1/8"	1/4"	13/32"	17/32"	21/32"
	No.10	PB500E	C	19/32"	15/32"	11/32"	7/32"	1/8"	0					
			E						0	1/8"	7/32"	11/32"	15/32"	19/32"
CONTINUOUS TWO-SPAN TRUSS (SPANS 10-11-12)	No.11	PB1000E	C	1/2"	13/32"	5/16"	3/16"	3/32"	0					
			E						0	3/32"	3/16"	5/16"	13/32"	1/2"
	No.12	PB300E	C	27/32"	21/32"	1/2"	11/32"	5/32"	0					
			E						0	5/32"	11/32"	1/2"	21/32"	27/32"

DESCRIPTION	EXISTING PIN HEIGHT DIM. "D"						
	PIER NO.						
	5	6	7	8	10	11	12
Continuous Two-Span Truss (Spans 5-6-7)	1'-9 1/8"±	2'-3 1/8"±					
Continuous Three-Span Truss (Spans 7-8-9-10)			1'-9 1/8"±	2'-5 1/8"±	1'-9 1/8"±		
Continuous Two-Span Truss (Spans 10-11-12)						2'-3 1/8"±	1'-9 1/8"±

NOTES:

1. Work this sheet with Sheets 30/108 thru 32/108, and Sh. 36/108.
2. See GENERAL NOTES, Sh. 7/108 Thru Sh. 11/108.
3. Representation of existing structure is approximate.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO
37/108

TRUSS BEARING DEVICES
POT BEARINGS
SETTING SCHEDULE
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta. 30+55.40
Sta. 47+16.19
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

BRGRR3 Scale 2

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

HAM-471-00.25

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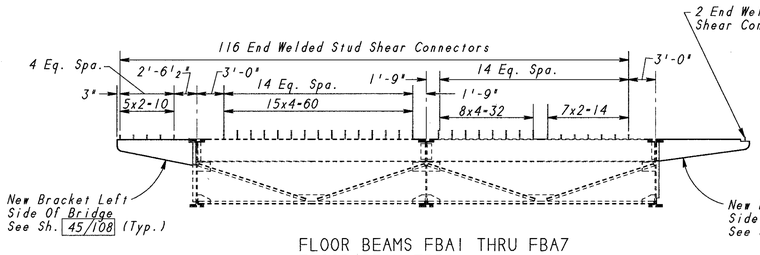
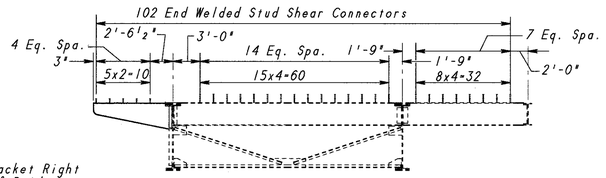
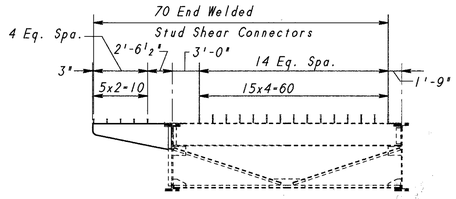
182



FLOOR BEAMS FBA1 THRU FBA7
FLOOR BEAM FBB1
FLOOR BEAMS FBD5 THRU FBD9*
(* No Bracket On Right Side Of FBD5 And Left Side Of FBD9)



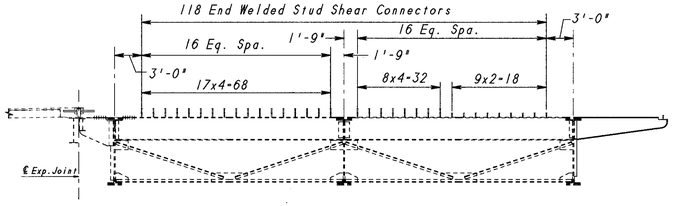
FLOOR BEAM FBD4



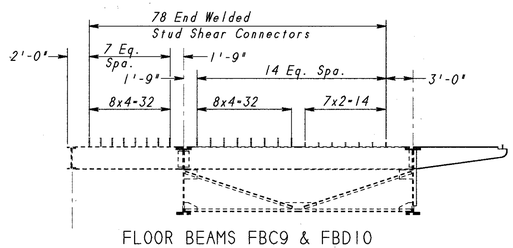
FLOOR BEAM FBD3

NOTES:

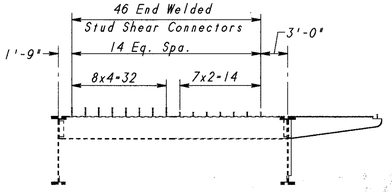
1. - Work this sheet with Sh. 41/108 & 45/108
2. - All views shown are looking Forward.
3. - See General Notes Sh. 7/108 Thru Sh. 11/108.



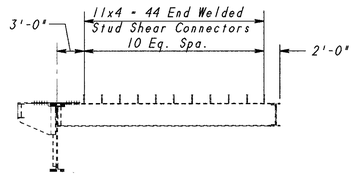
FLOOR BEAMS FBB2 THRU FBB6 & FBB8



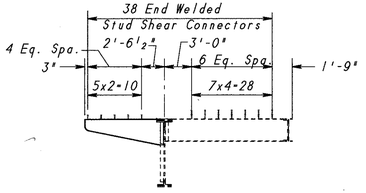
FLOOR BEAMS FBC9 & FBD10



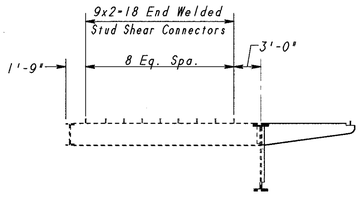
FLOOR BEAM FBB7 & FBD11



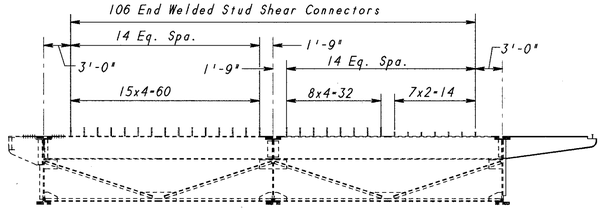
FLOOR BEAM FBC2



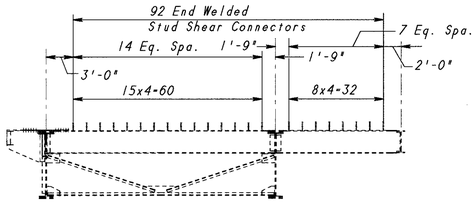
FLOOR BEAMS FBD2



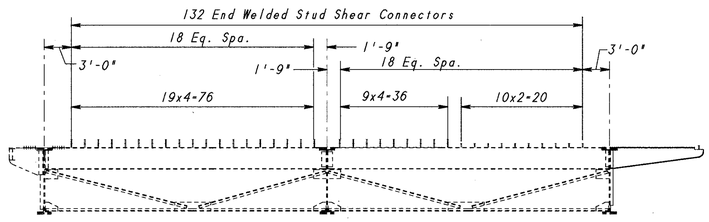
FLOOR BEAMS FBC10 & FBD12



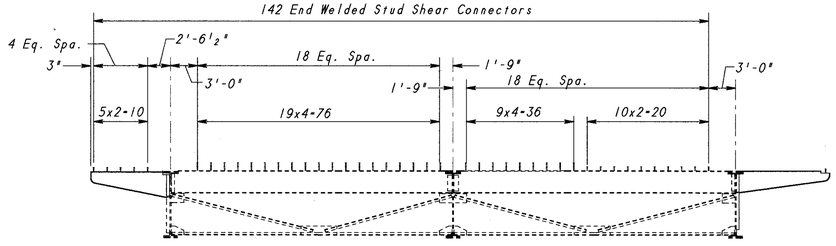
FLOOR BEAMS FBC4 THRU FBC8



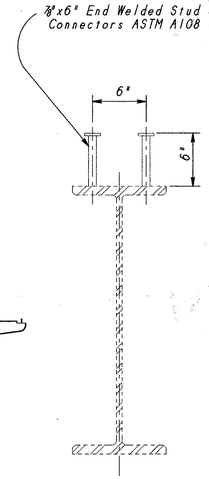
FLOOR BEAM FBC3



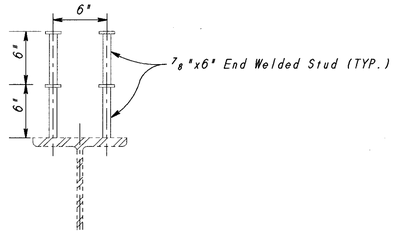
FLOOR BEAMS FBC1 & FBC11



FLOOR BEAM FBD1 & FBD13



2 STUDS TYPICAL SECTION



4 STUDS TYPICAL SECTION

STUD SHEAR CONNECTORS CMS 513.171
TOTAL THIS SHEET - 3964

LEGEND

Existing Structure

New Work

FBA1 Denotes Floor Beam Unit A Number 1

STUDDET1 Scale 16

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

38/108

STRUCTURAL STEEL DETAILS
STUD SHEAR CONNECTORS
SPANS 1-2 THRU 4-5
(UNITS A THRU D)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

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

HAM-471-00.25

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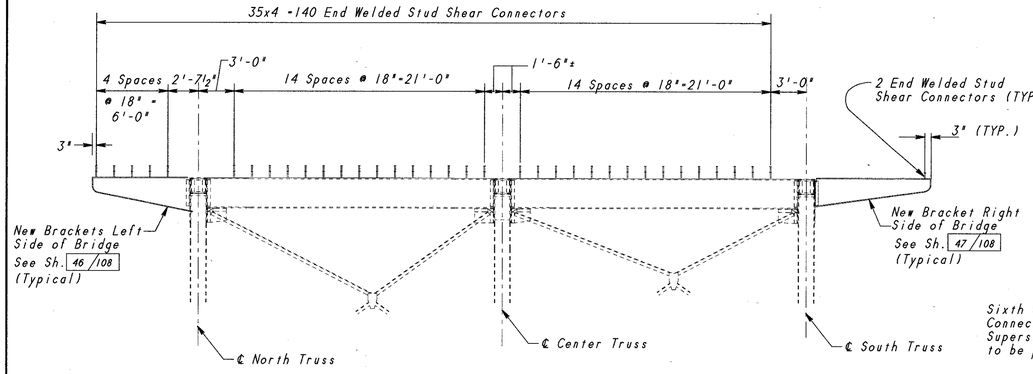
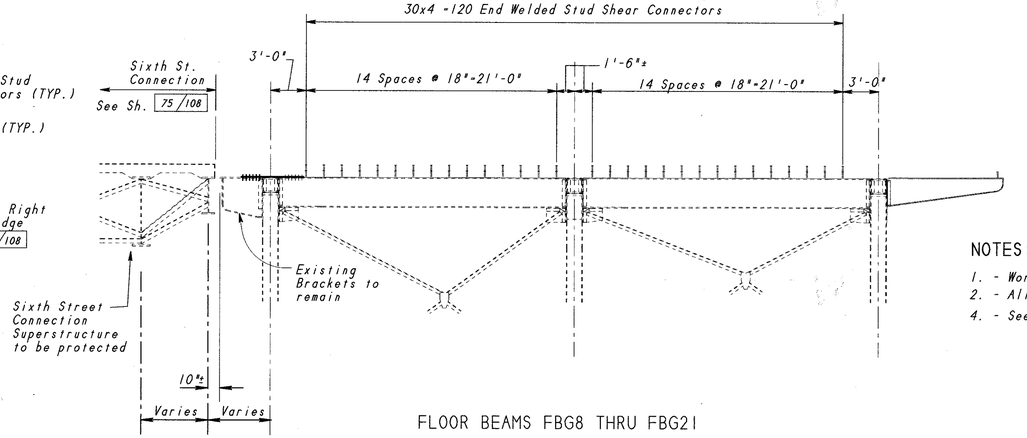
182



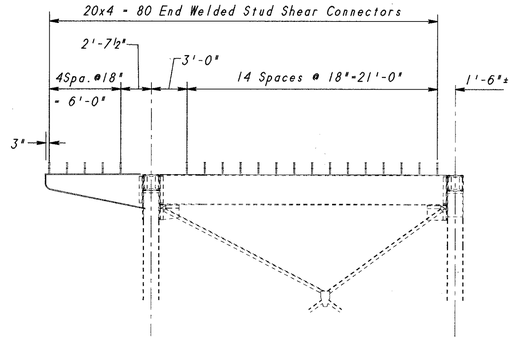
FLOOR BEAMS FBE5 THRU FBE21
FLOOR BEAMS FBF5 THRU FBF45
FLOOR BEAMS FBG5 THRU FBG7



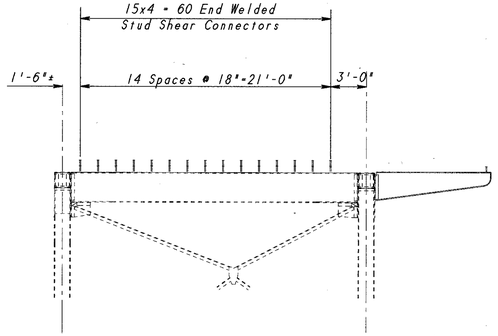
FLOOR BEAMS FBG8 THRU FBG21

NOTES:

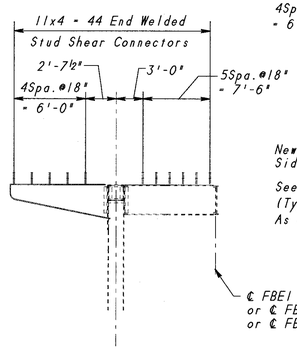
1. - Work this sheet with Sh. 42/108, 46/108 & 47/108.
2. - All views shown are looking Forward.
4. - See General Notes Sh. 7/108 Thru 11/108.



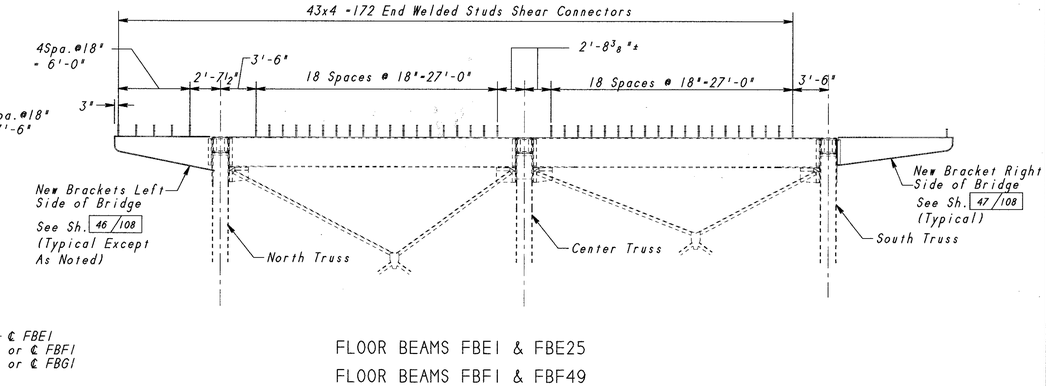
FLOOR BEAM FBE3
FLOOR BEAM FBF3
FLOOR BEAM FBG3



FLOOR BEAM FBE23
FLOOR BEAM FBF47
FLOOR BEAM FBG23

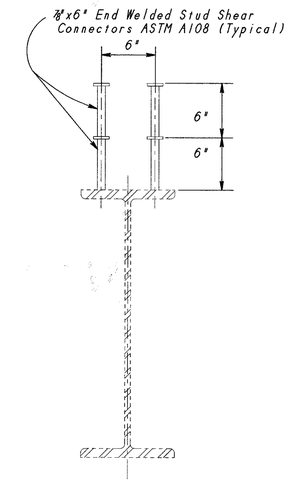


FLOOR BEAM FBE2
FLOOR BEAM FBF2
FLOOR BEAM FBG2

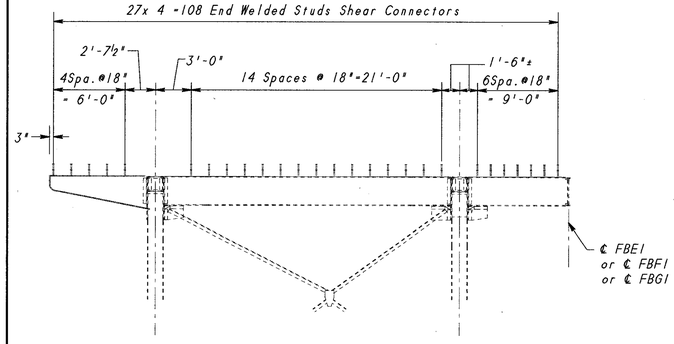


FLOOR BEAMS FBE1 & FBE25
FLOOR BEAMS FBF1 & FBF49
FLOOR BEAMS FBG1 & FBG25*

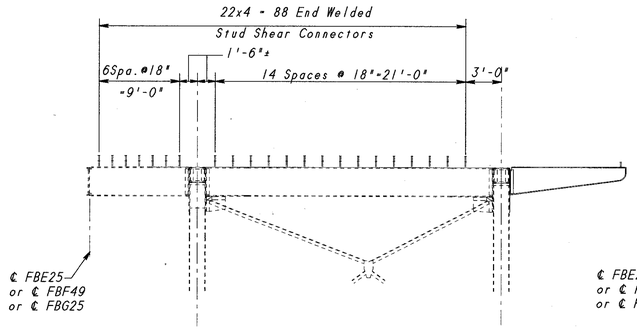
* No New Bracket On Left Side Of FBG25



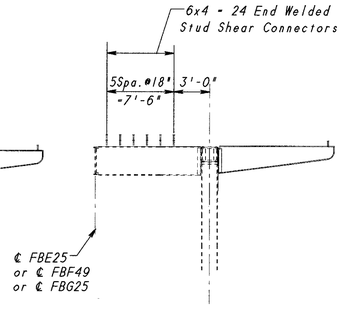
4 STUDS TYPICAL SECTION



FLOOR BEAM FBE4
FLOOR BEAM FBF4
FLOOR BEAM FBG4



FLOOR BEAM FBE22
FLOOR BEAM FBF46
FLOOR BEAM FBG22



FLOOR BEAM FBE24
FLOOR BEAM FBF48
FLOOR BEAM FBG24

LEGEND

- Existing Structure
- New Work

FBE5 Denotes Floor Beam Unit E Number 5

STUD SHEAR CONNECTORS CMS 513.171
TOTAL THIS SHEET-12644

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

39/108

STRUCTURAL STEEL DETAILS
STUD SHEAR CONNECTOR
SPANS 5-6-7, 7-8-9-10 & 10-11-12
(UNITS E, F, & G)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

STUDSHT2 Scale 16

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

114
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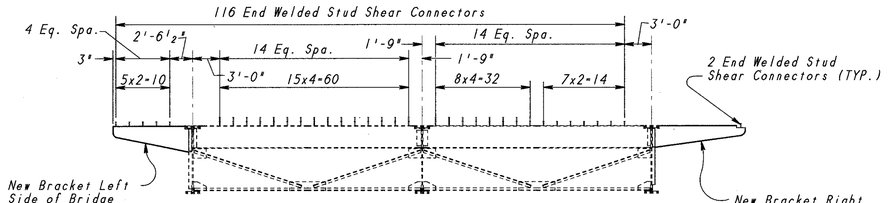
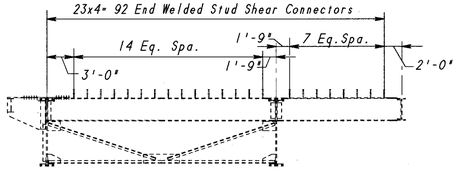
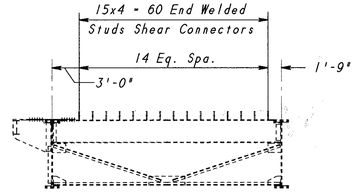
HAM-471-00.25



FLOOR BEAMS FB13 THRU FB19
FLOOR BEAMS FBJ1 THRU FBJ9
FLOOR BEAMS FBK1 THRU FBK7
FLOOR BEAMS FBL1 THRU FBL7
FLOOR BEAMS FBM1 THRU FBM7



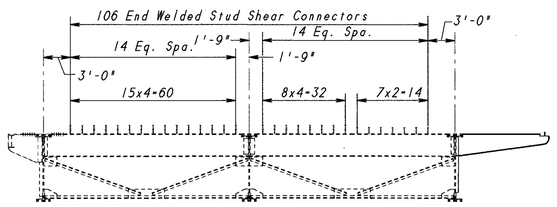
FLOOR BEAM FBH4



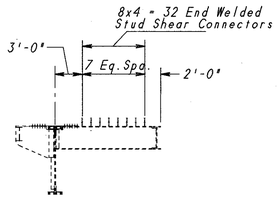
FLOOR BEAM FBH3

NOTES:

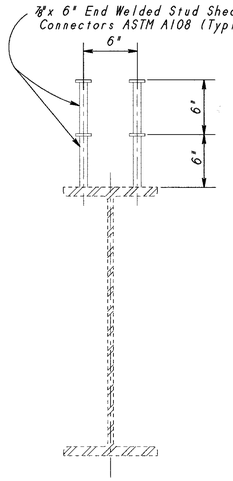
1. - Work this sheet with Sh. 43/108 & 45/108.
2. - All views shown are looking Forward.
3. - See General Notes Sh. 7/108 Thru 11/108.



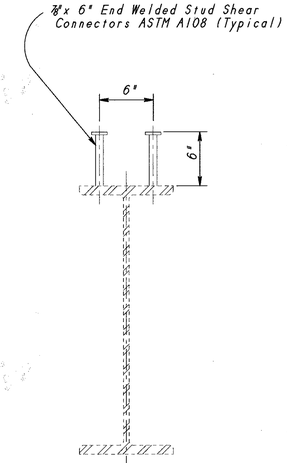
FLOOR BEAMS FBH5 THRU FBH9*
FLOOR BEAMS FB11 THRU FB12
(No Bracket On Right Side Of FBH5)*



FLOOR BEAM FBH2

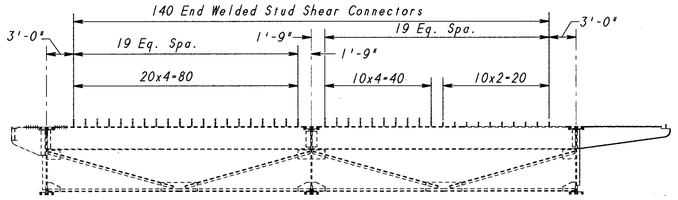


4 STUDS TYPICAL SECTION



2 STUDS TYPICAL SECTION

STUD SHEAR CONNECTORS CMS 513.171
TOTAL THIS SHEET - 5446



FLOOR BEAM FBH1

LEGEND

- Existing Structure
- New Work

FB13 *Denotes Floor Beam Unit 1 number 3*

STUDDET3 Scale 16

Pfium, Klausmeier & Gehrum Consultants
CINCINNATI OHIO
40/108

STRUCTURAL STEEL DETAILS
STUD SHEAR CONNECTORS
SPANS 12-13 THRU SPANS 17-18
(UNITS H THRU M)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19

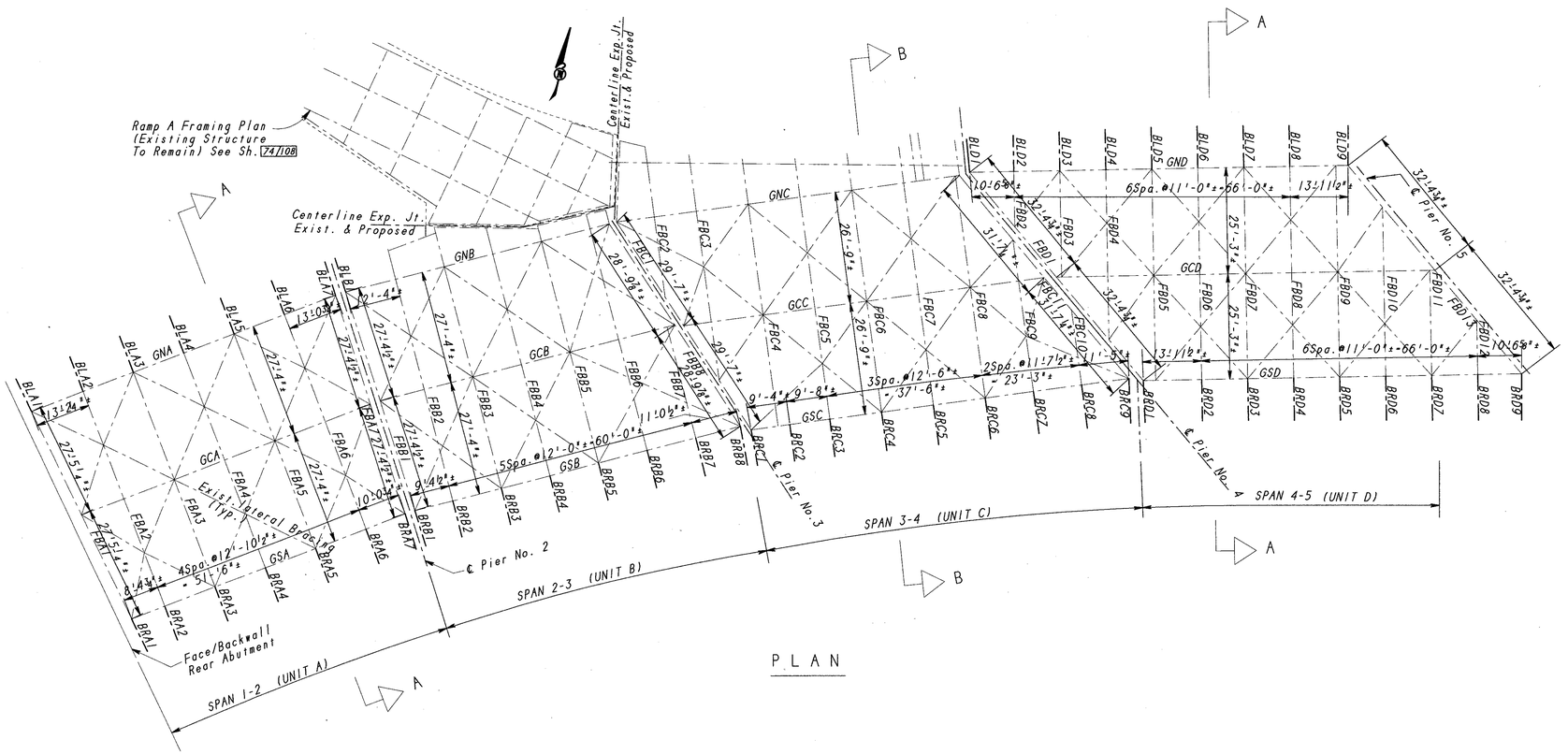
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

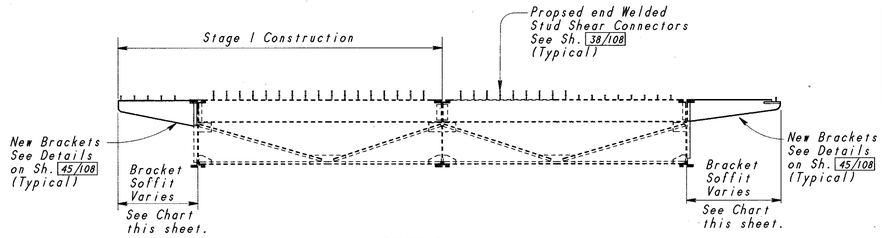
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

115/182

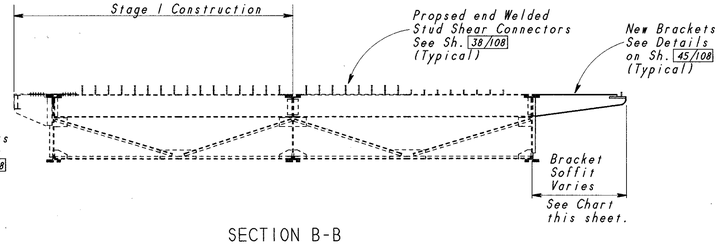
HAM-471-00.25



PLAN



SECTION A-A



SECTION B-B

LEGEND

BLA1 - Bracket Left Unit A Number 1
FBA1 - Floor Beam Unit A Number 1
GNA - Girder North Unit A
GCA - Girder Center Unit A
GSA - Girder South Unit A
BRA1 - Bracket Right Unit A Number 1

Existing Structure

New Work

NOTES:

1. - Work this sheet with Sh. 42/108 & 43/108, and with Sh. 25/108
2. - See General Notes Sh. 7/108 Thru 11/108.

SPAN 1-2 (UNIT A)

BRACKET LEFT SIDE	SOFFIT	BRACKET RIGHT SIDE	SOFFIT
BLA1	7'-6⅜"	BRA1	8'-7¾"
BLA2	7'-10½"	BRA2	8'-3¼"
BLA3	8'-0"	BRA3	7'-10⅜"
BLA4	7'-11½"	BRA4	7'-9"
BLA5	7'-8⅝"	BRA5	7'-10½"
BLA6	7'-3⅜"	BRA6	8'-3"
BLA7	6'-8¼"	BRA7	8'-8⅜"

SPAN 2-3 (UNIT B)

BRACKET LEFT SIDE	SOFFIT	BRACKET RIGHT SIDE	SOFFIT
BLB1	6'-8"	BRB1	8'-8½"
		BRB2	8'-3½"
		BRB3	7'-11¼"
		BRB4	7'-9½"
		BRB5	7'-10⅜"
		BRB6	8'-1⅜"
		BRB7	8'-8"
		BRB8	9'-3⅜"

SPAN 3-4 (UNIT C)

BRACKET LEFT SIDE	SOFFIT	BRACKET RIGHT SIDE	SOFFIT
		BRA1	8'-7¾"
		BRA2	8'-3½"
		BRA3	8'-0½"
		BRA4	7'-11"
		BRA5	8'-0⅝"
		BRA6	8'-5"
		BRA7	8'-11½"
		BRA8	9'-8½"
		BRA9	10'-7¼"

SPAN 4-5 (UNIT D)

BRACKET LEFT SIDE	SOFFIT	BRACKET RIGHT SIDE	SOFFIT
BLD1	7'-9⅜"	BRD1	9'-11½"
BLD2	8'-5⅜"	BRD2	9'-9¾"
BLD3	9'-0"	BRD3	9'-10¾"
BLD4	9'-4⅝"	BRD4	10'-1"
BLD5	9'-7"	BRD5	10'-3⅜"
BLD6	9'-7⅜"	BRD6	10'-5¾"
BLD7	9'-6¼"	BRD7	10'-8"
BLD8	9'-3⅜"	BRD8	10'-10⅜"
BLD9	8'-11⅝"	BRD9	11'-0¾"

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

41/108

STRUCTURAL STEEL DETAILS NEW BRACKETS SPANS 1-2 THRU 4-5 (SLAB UNITS A B C & D)

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

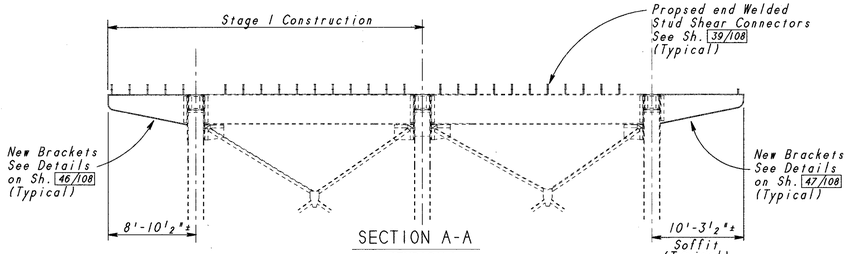
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

STLABCD Scale 16

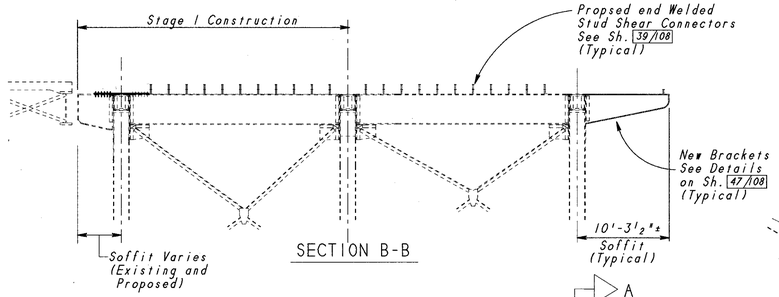
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

HAM-471-00.25

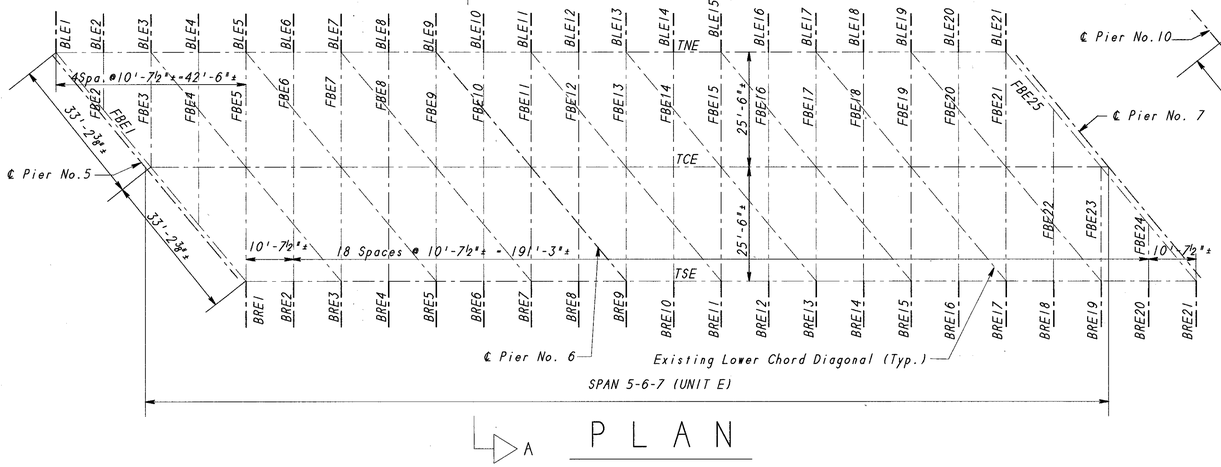
116
182



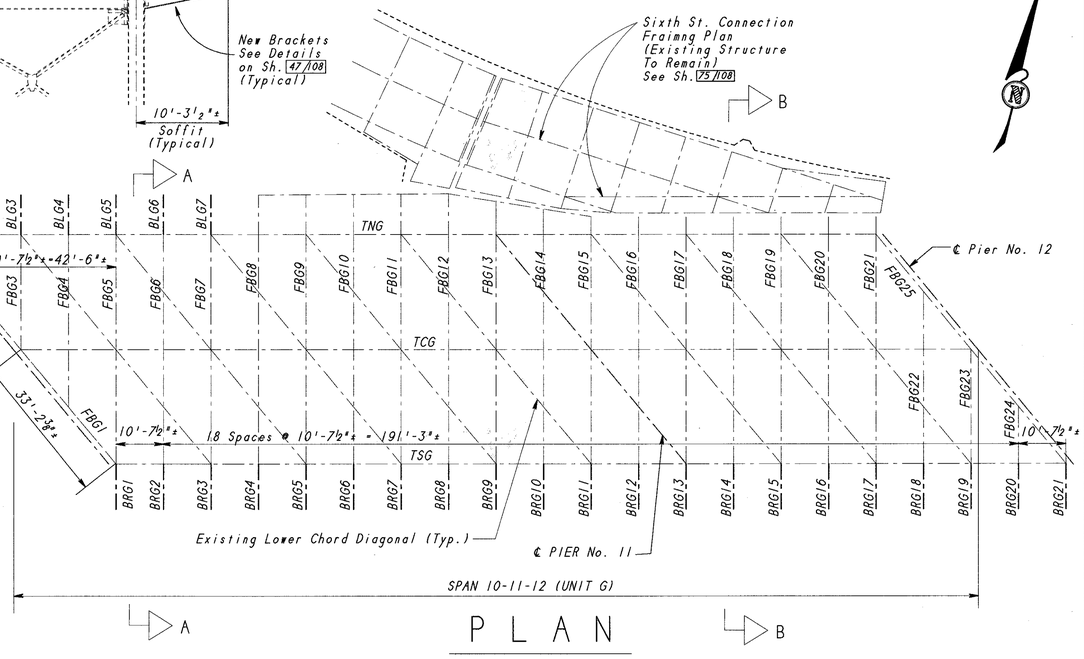
SECTION A-A
(TYPICAL)



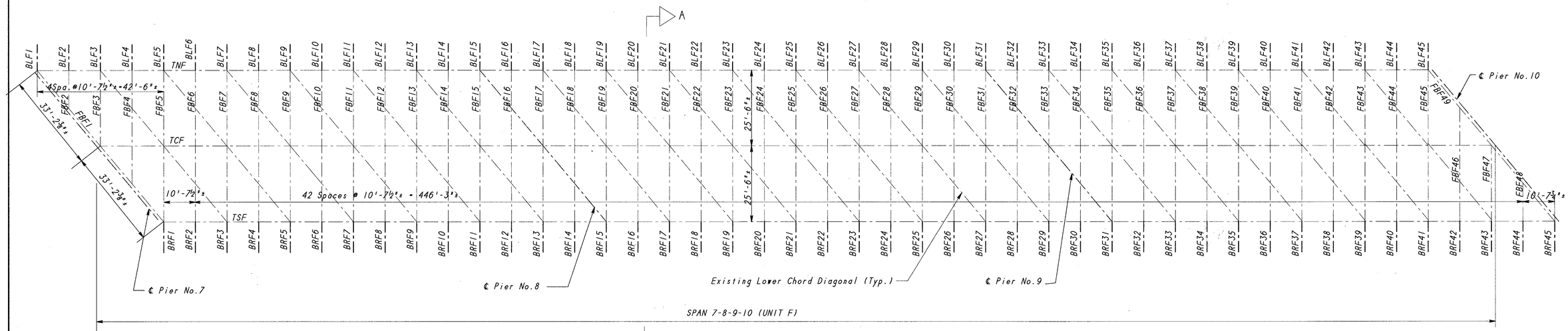
SECTION B-B



PLAN



PLAN



PLAN

LEGEND

BLF1 - Bracket Left Unit F Number 1
FBF1 - Floor Beam Unit F Number 1
TNF - Truss North Unit F
TCF - Truss Center Unit F
TSF - Truss South Unit F
BRF1 - Bracket Right Unit F Number 1

Existing Structure

New Work

NOTES:

1. - Work this sheet with Sh. 41/108 & Sh. 43/108. and with Sh. 25/108 and Sh. 26/108.
2. - See General Notes Sh. 7/108 Thru 11/108.

STLEFG Scale 16

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

42/108

STRUCTURAL STEEL DETAILS
NEW BRACKETS
TRUSS SPANS 5-6-7, 7-8-9-10, & 10-11-12
(SLAB UNITS E F & G)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

SPAN 12-13 (UNIT H)			
BRACKET LEFT SIDE	SOFFIT	BRACKET RIGHT SIDE	SOFFIT
		BRH1	9'-10¼"
		BRH2	9'-10½"
		BRH3	9'-9¾"
		BRH4	9'-7¾"
		BRH5	9'-4⅝"

SPAN 14-15 (UNIT J)			
BRACKET LEFT SIDE	SOFFIT	BRACKET RIGHT SIDE	SOFFIT
BLJ1	8'-7½"	BRJ1	9'-1¾"
BLJ2	8'-3½"	BRJ2	9'-7"
BLJ3	7'-11½"	BRJ3	9'-10⅝"
BLJ4	7'-9¼"	BRJ4	10'-0¾"
BLJ5	7'-8½"	BRJ5	10'-1½"
BLJ6	7'-9¼"	BRJ6	10'-0¾"
BLJ7	7'-11½"	BRJ7	9'-10¾"
BLJ8	8'-3⅜"	BRJ8	9'-7¼"
BLJ9	8'-7¼"	BRJ9	9'-2"

SPAN 16-17 (UNIT L)			
BRACKET LEFT SIDE	SOFFIT	BRACKET RIGHT SIDE	SOFFIT
BLL1	8'-5⅜"	BRL1	9'-4⅛"
BLL2	8'-2"	BRL2	9'-8⅛"
BLL3	7'-11½"	BRL3	9'-10½"
BLL4	7'-10¾"	BRL4	9'-11¼"
BLL5	7'-11⅝"	BRL5	9'-10⅜"
BLL6	8'-2⅛"	BRL6	9'-8"
BLL7	8'-5½"	BRL7	9'-4"

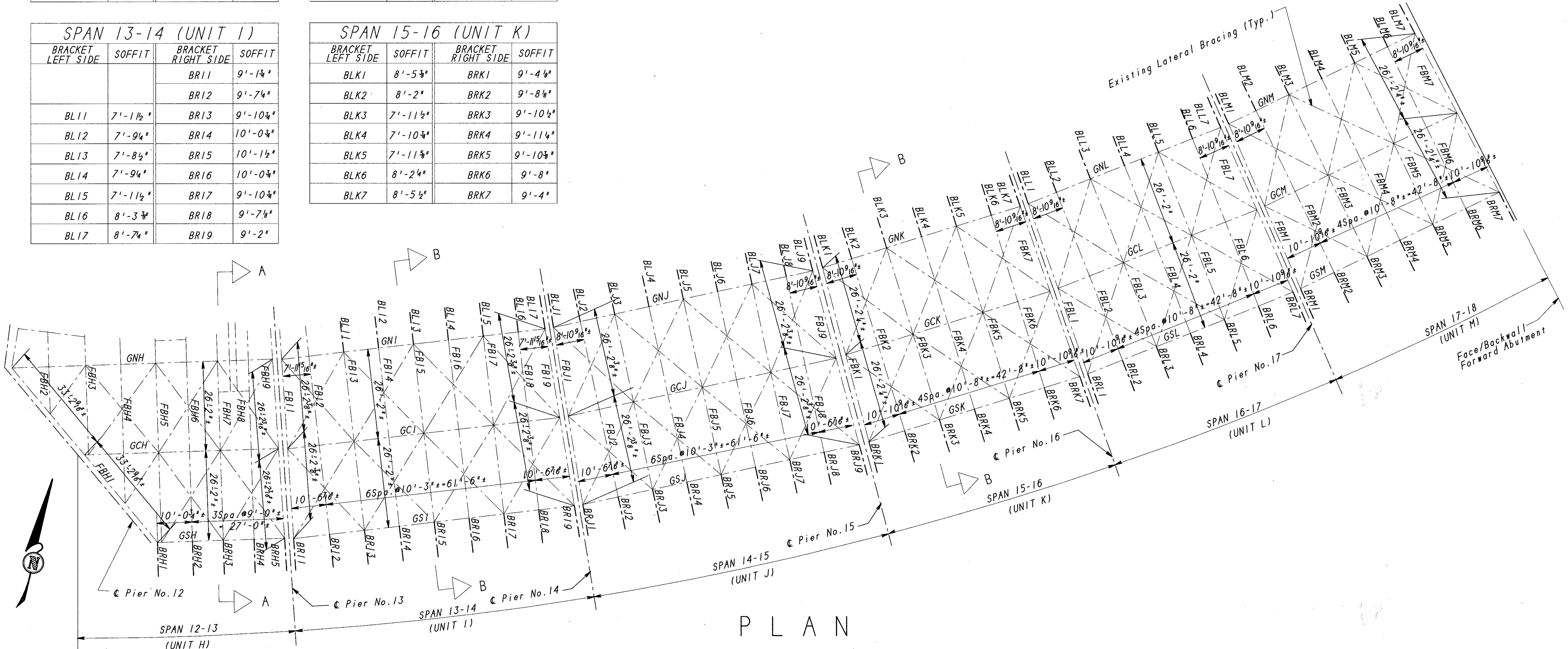
SPAN 17-18 (UNIT M)			
BRACKET LEFT SIDE	SOFFIT	BRACKET RIGHT SIDE	SOFFIT
BLM1	8'-5"	BRM1	9'-4½"
BLM2	8'-2"	BRM2	9'-8¼"
BLM3	7'-11¾"	BRM3	9'-10¼"
BLM4	7'-11⅛"	BRM4	9'-10¾"
BLM5	8'-0¼"	BRM5	9'-9¾"
BLM6	8'-2¾"	BRM6	9'-7¼"
BLM7	8'-5⅛"	BRM7	9'-3"

SPAN 13-14 (UNIT I)			
BRACKET LEFT SIDE	SOFFIT	BRACKET RIGHT SIDE	SOFFIT
		BRI1	9'-1¾"
		BRI2	9'-7¼"
BLI1	7'-11½"	BRI3	9'-10¾"
BLI2	7'-9¼"	BRI4	10'-0¾"
BLI3	7'-8½"	BRI5	10'-1½"
BLI4	7'-9¼"	BRI6	10'-0¾"
BLI5	7'-11½"	BRI7	9'-10¾"
BLI6	8'-3⅜"	BRI8	9'-7⅛"
BLI7	8'-7¼"	BRI9	9'-2"

SPAN 15-16 (UNIT K)			
BRACKET LEFT SIDE	SOFFIT	BRACKET RIGHT SIDE	SOFFIT
BLK1	8'-5⅜"	BRK1	9'-4⅛"
BLK2	8'-2"	BRK2	9'-8⅛"
BLK3	7'-11½"	BRK3	9'-10½"
BLK4	7'-10¾"	BRK4	9'-11¼"
BLK5	7'-11⅝"	BRK5	9'-10⅜"
BLK6	8'-2¼"	BRK6	9'-8"
BLK7	8'-5½"	BRK7	9'-4"

NOTES:

1. - Work this sheet with Sh. 41/108 & Sh. 42/108. With Sh. 26/108 & 27/108.
2. - See General Notes Sh. 7/108 Thru 11/108.



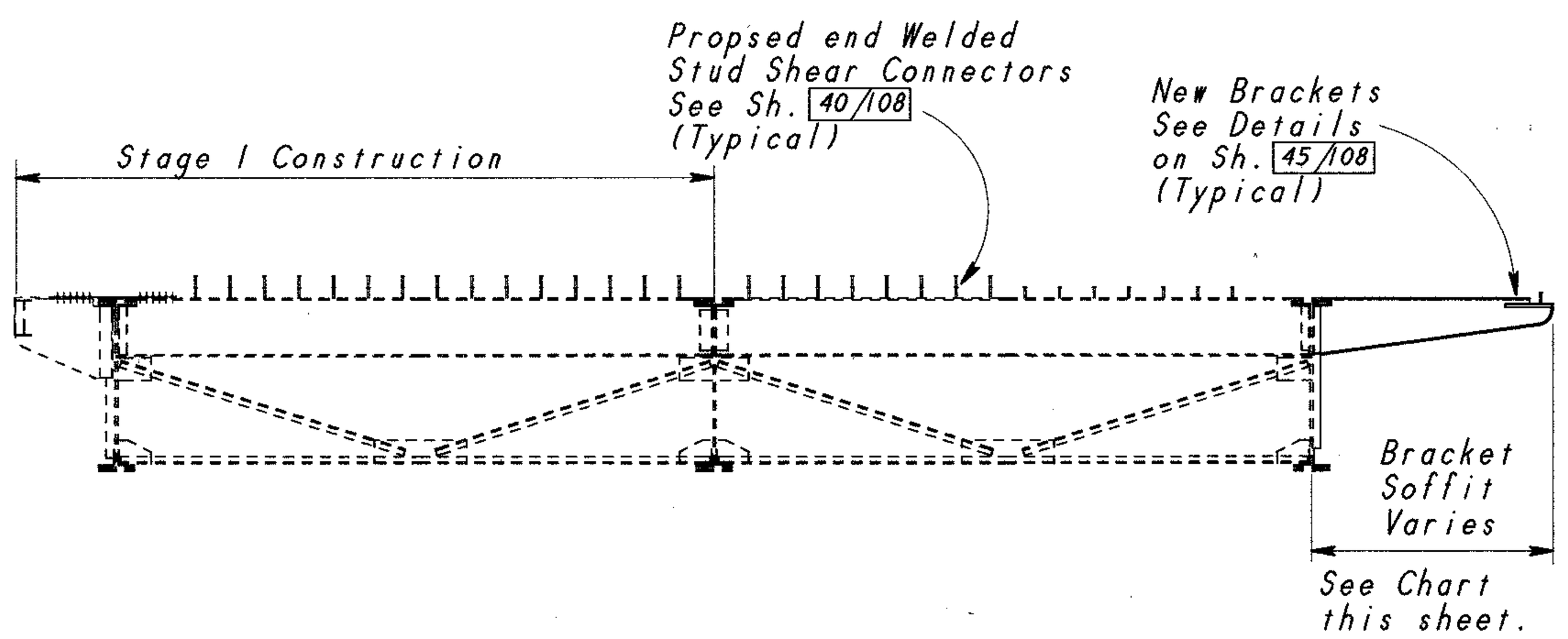
PLAN

LEGEND

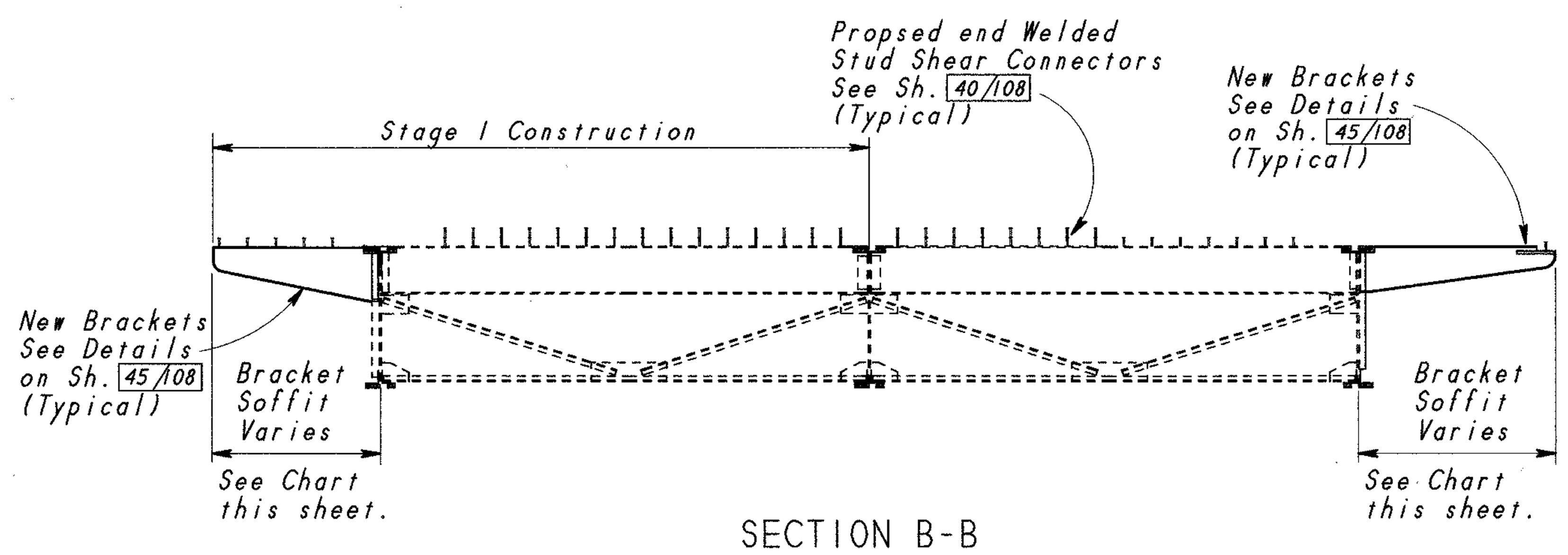
- BLJ1 - Bracket Left Unit J Number 1
- FBH1 - Floor Beam Unit H Number 1
- GNH - Girder North Unit H
- GCH - Girder Center Unit H
- GSH - Girder South Unit H
- BRH1 - Bracket Right Unit H Number 1

Existing Structure

New Work



SECTION A-A



SECTION B-B

(TYPICAL)

STLH-M Scale 16

STRUCTURAL STEEL DETAILS
NEW BRACKETS
SPANS 12-13 THRU 17-18
(SLAB UNITS H, I, J, K, L, & M)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

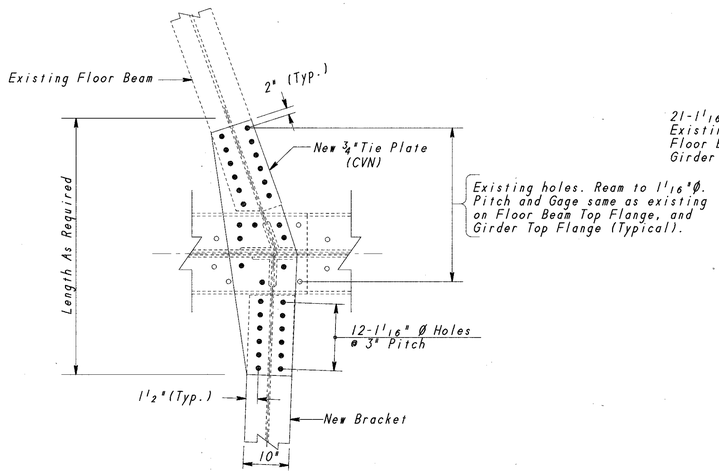
HAMILTON COUNTY — Sta.30+55.40 Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

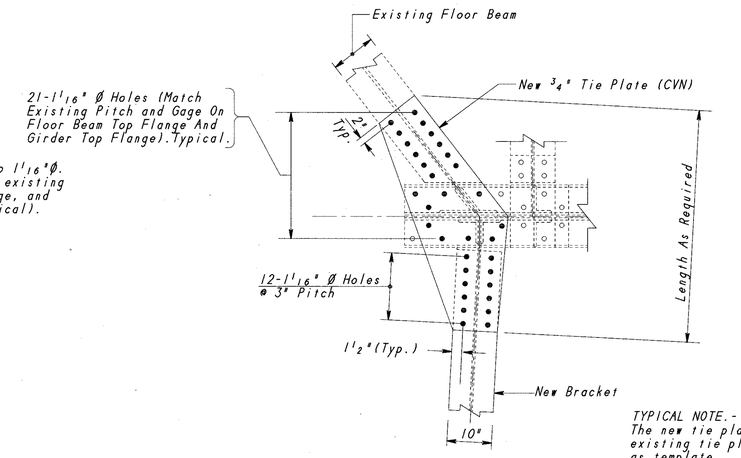
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

118/182

HAM-471-00.25

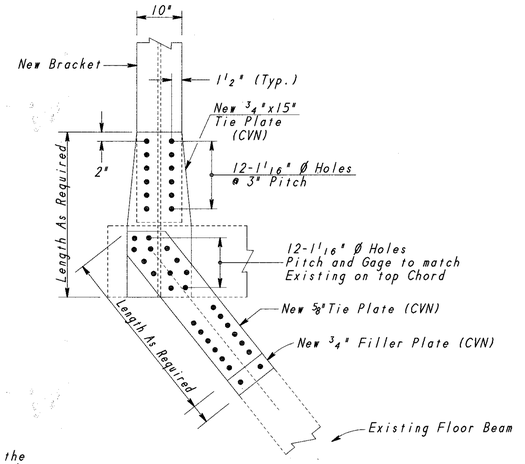


NEW BRACKET BRB8, BRC1, & BRC9
NEW BRACKET BLD1, BRD1, BRD9, & BLD9



NEW BRACKET BRH1

TYPICAL NOTE.-
The new tie plates shown shall be cut using the existing tie plates to be removed and replaced, as template.



NEW BRACKETS BRE1, BRE21, BRF1, BRF45, BRG1, BRG21, BLE1, BLE21, BLF1, BLF45, & BLG1.

NOTES:

1. *Work this sheet with sheets* 41/108, 42/108, 43/108, 45/108 *and* 46/108
2. *Representation Of Existing Structure Is Approximate.*
3. *See Note "A" on Sh.* 45/108.

LEGEND

BLA1 - Bracket Left Unit A Number 1
BRA1 - Bracket Right Unit A Number 1
Existing Structure
New Work
Existing Hole
New Hole Or Reamed Hole

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO
44/108

STRUCTURAL STEEL DETAILS
SPECIAL TIE PLATES ON NEW BRACKETS
SPANS 1 - 2 THRU 17 - 18
(UNITS A THRU M)

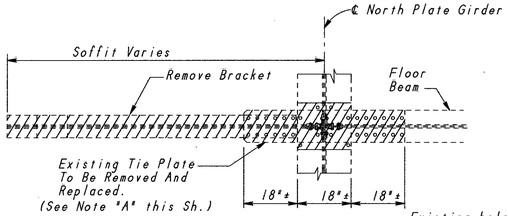
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
HAMILTON COUNTY
Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

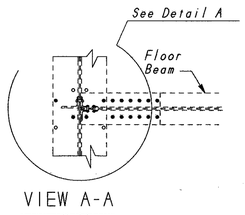
SBRACKS Scale 1.3333

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

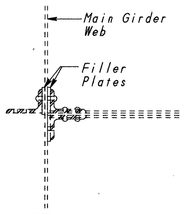
HAM-471-00.25



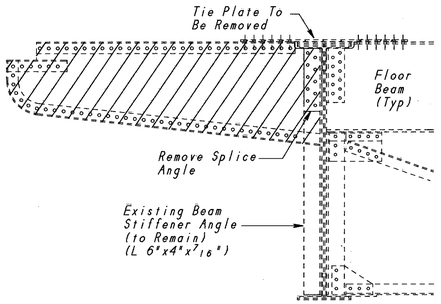
PLAN



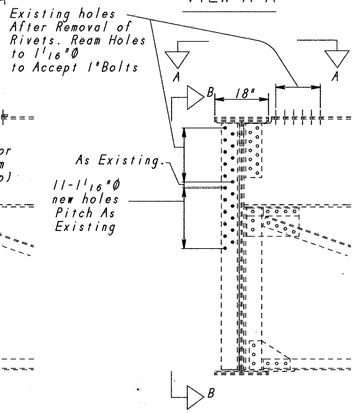
VIEW A-A



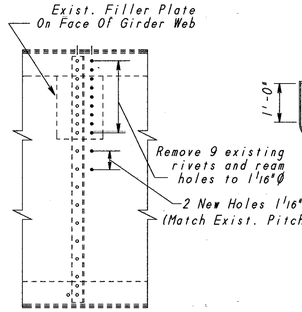
DETAIL A



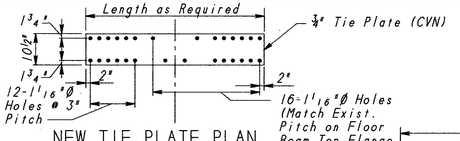
SIDE VIEW
EXISTING CONDITIONS
(SHOWING REMOVALS)



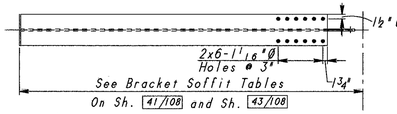
SIDE VIEW
EXISTING CONDITIONS
(AFTER REMOVALS)



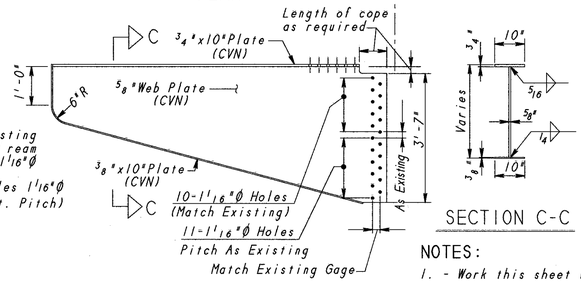
VIEW B-B



NEW TIE PLATE PLAN

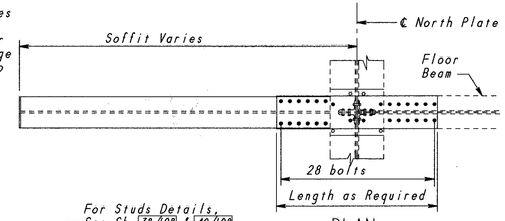


PLAN

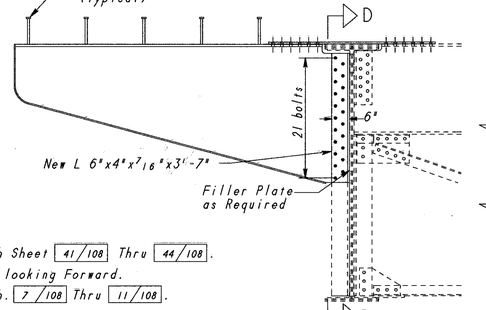


NEW BRACKET DETAIL

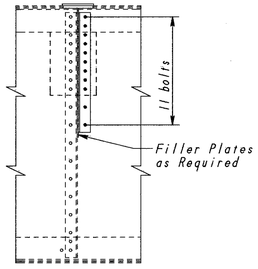
SECTION C-C



PLAN



ELEVATION



SECTION D-D

NOTES:

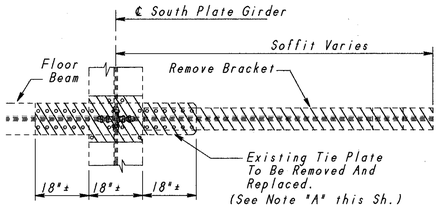
1. - Work this sheet with Sheet 41/108 Thru 44/108.
2. - All views shown are looking Forward.
3. - See General Notes Sh. 7/108 Thru 11/108.
4. - All bolts 1"Ø ASTM A325
5. - Where a shape or plate is designated (CVN) the material shall meet specified minimum notch toughness requirements as specified in CMS 711.01

PROPOSED CONDITIONS
(EXISTING STIFFENER SHOWN AT FAR SIDE. IF EXISTING STIFFENER AT NEAR SIDE, HOLES IN NEW SPLICE ANGLE SHALL BE OPPOSITE HAND)

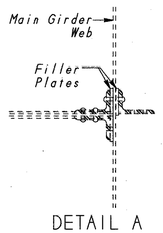
LEGEND

- Existing Structure
- New Work
- New Hole Or Reamed Hole
- Existing Hole

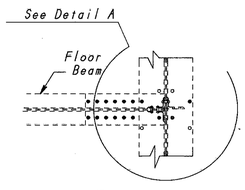
TYPICAL LEFT SIDE BRACKET REPLACEMENT SCHEDULE: SPANS 1-2 THRU SPANS 4-5 AND SPANS 12-13 THRU SPANS 17-18
(Representation Of Existing Structure Is Approximate)



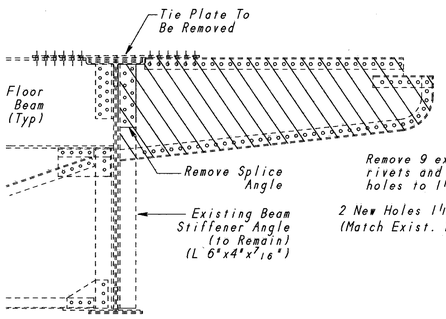
PLAN



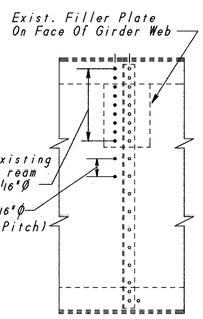
DETAIL A



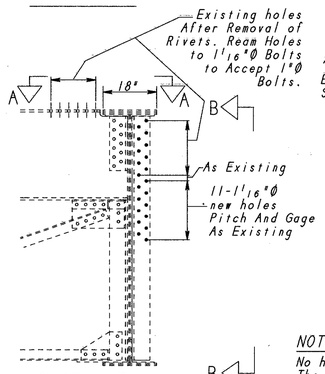
VIEW A-A



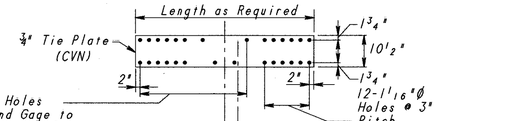
SIDE VIEW
EXISTING CONDITIONS
(SHOWING REMOVALS)



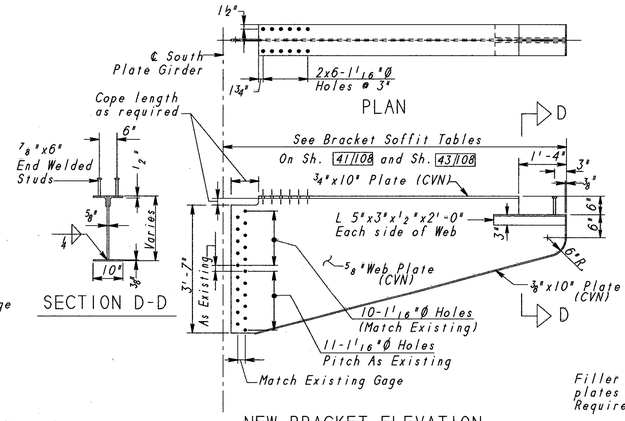
VIEW B-B



SIDE VIEW
EXISTING CONDITIONS
(AFTER REMOVALS)



NEW TIE PLATE PLAN

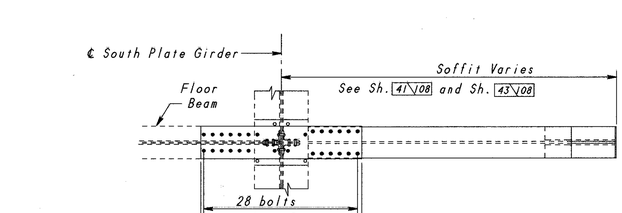


SECTION D-D

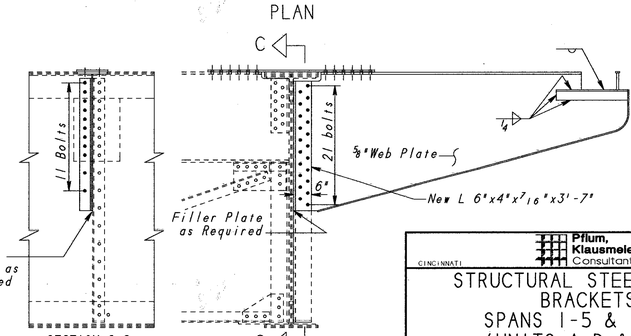
NEW BRACKET ELEVATION

NOTE "A"

No hard hammering will be permitted to remove existing rivets. The method for the removal of the existing rivets shall be such that no damage will take place to the existing steel to remain. The Contractor shall submit his proposed method of removal to the Engineer for approval. The joints shall be kept compact by means of fitting bolts during rivet removal, hole reaming, and abrasive cleaning.



PLAN



SECTION C-C

PROPOSED CONDITIONS
(EXISTING STIFFENER SHOWN AT FAR SIDE. IF EXISTING STIFFENER AT NEAR SIDE, HOLES IN NEW SPLICE ANGLE SHALL BE OPPOSITE HAND)

TYPICAL RIGHT SIDE BRACKET REPLACEMENT SCHEDULE: SPANS 1-2 THRU SPANS 4-5 AND SPANS 12-13 THRU SPANS 17-18
(Representation Of Existing Structure Is Approximate)

EXBRACK Scale 2

Pflum, Klausmeier & Gehrum Consultants
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STRUCTURAL STEEL DETAILS
BRACKETS
SPANS 1-5 & 12-18
(UNITS A-D & H-M)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

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

HAM-471-00.25

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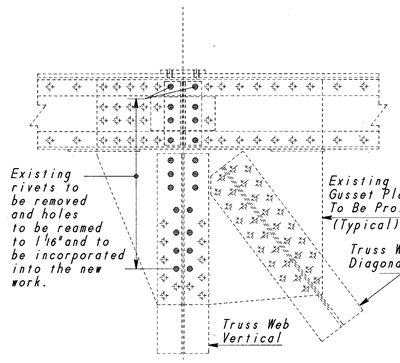
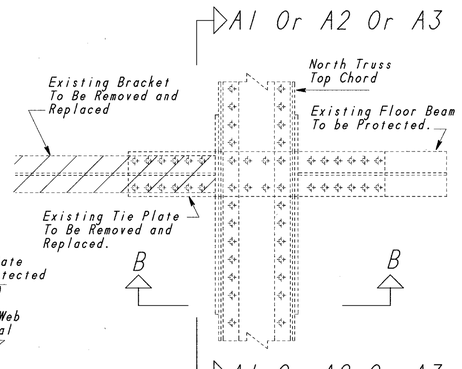
NOTES:

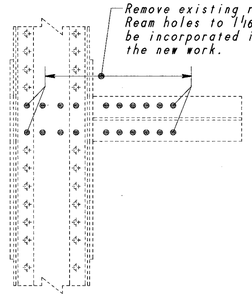
1. - Work This Sheet With Sh. 41/108 Thru 44/108.
2. - All Views Shown Are Looking Forward.
3. - See General Notes Sh. 7/108 Thru 11/108.
4. - All bolts 1"Ø H.S. ASTM A325
5. - Where a shape or plate is designated (CVN) the material shall meet specified minimum notch toughness requirements as specified in CMS 711.01



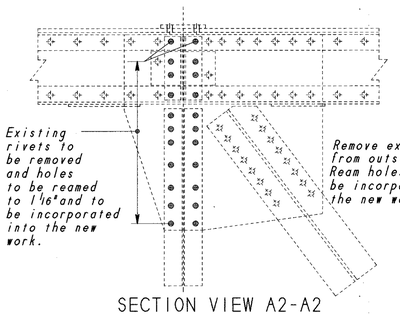
SECTION VIEW A1-A1



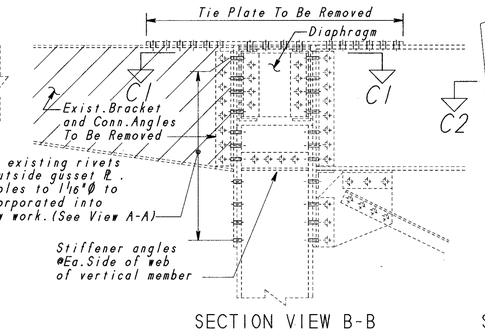
TYPICAL PLAN VIEW
EXISTING BEFORE REMOVALS



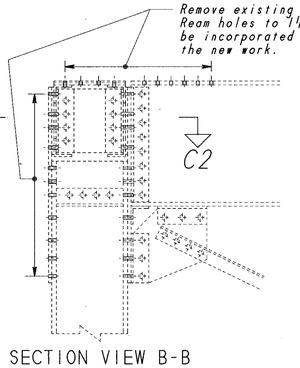
TYPICAL PLAN VIEW
EXISTING AFTER REMOVALS



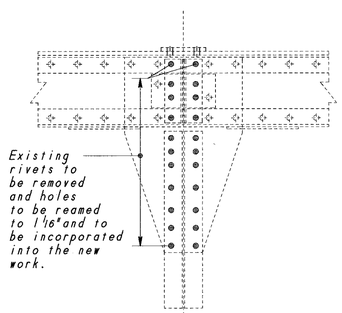
SECTION VIEW A2-A2



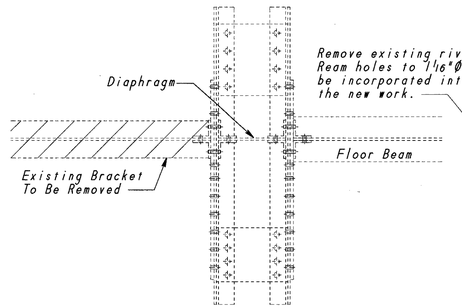
SECTION VIEW B-B
(EXISTING BEFORE REMOVALS)



SECTION VIEW B-B
(EXISTING AFTER REMOVALS)



SECTION VIEW A3-A3



SECTION VIEW C1-C1
(EXISTING BEFORE REMOVALS)

SECTION VIEW C2-C2
(EXISTING AFTER REMOVALS)

LEGEND

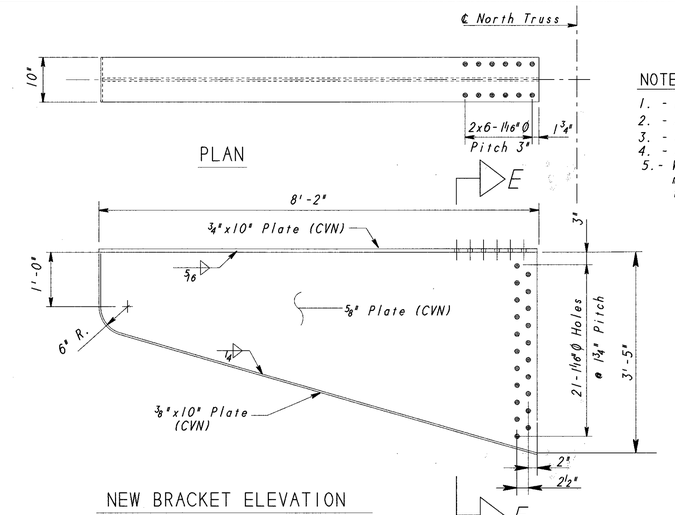
- Existing Structure
- New Work
- Existing hole
- New Hole Or Reamed Hole.

EXISTING CONDITIONS

See NOTE "A" on Sh. 45/108

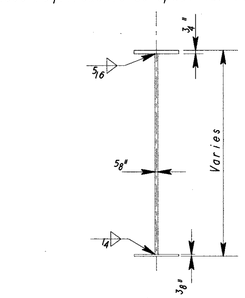
EXISTING BRACKET & TRUSS TOP CHORD CONNECTION

(Representation Of Existing Structure Is Approximate)

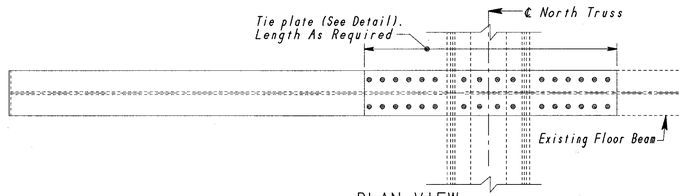


NEW BRACKET ELEVATION

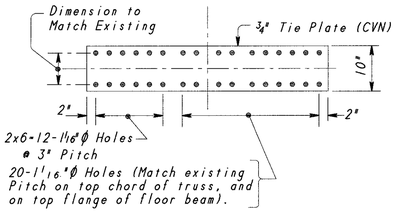
ALL BOLTS 1"Ø HIGH STRENGTH ASTM A325



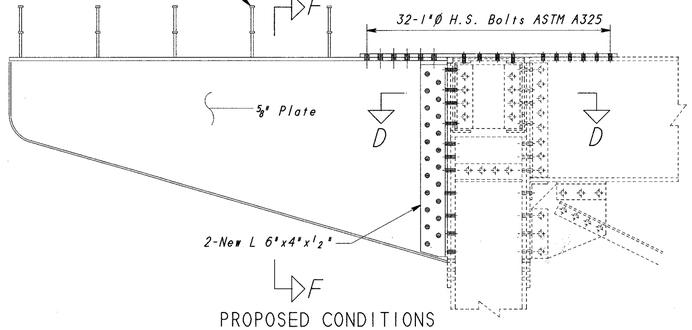
SECTION E-E



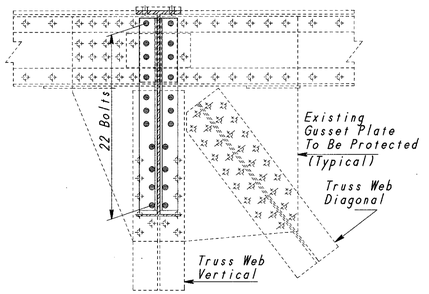
PLAN VIEW



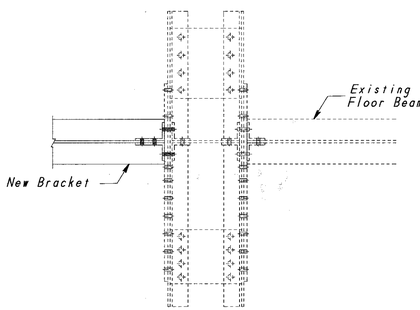
NEW TIE PLATE PLAN



PROPOSED CONDITIONS



SECTION VIEW F-F



SECTION VIEW D-D
(PROPOSED CONDITIONS)

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CINCINNATI OHIO

46/108

STRUCTURAL STEEL DETAILS
BRACKETS
TRUSS SPANS 5-6-7, 7-8-9-10 & 10-11-12
(UNITS E, F, & G LEFT SIDE)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta. 30+55.40
Sta. 47+16.19
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

BRACKETD Scale 1.333

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

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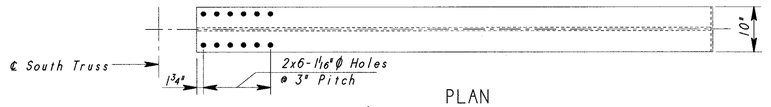
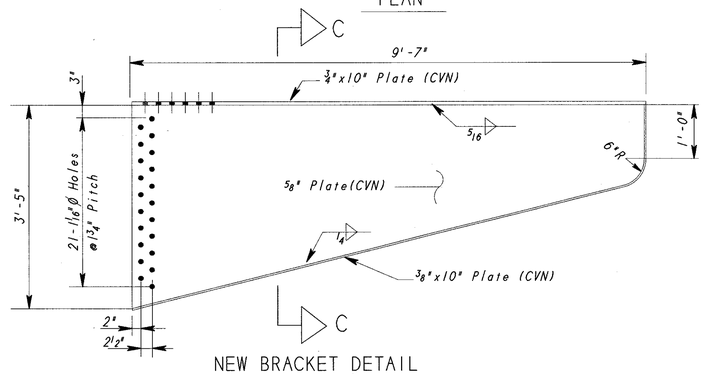
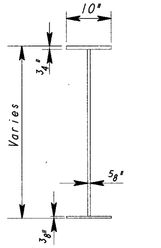
HAM-471-00.25



PLAN



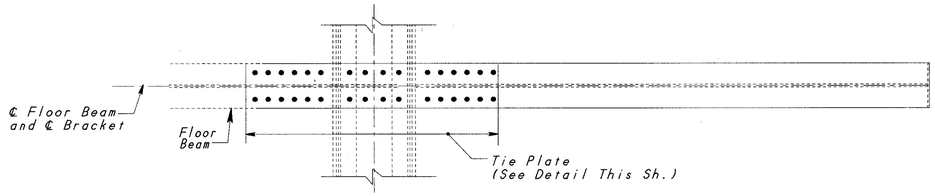
NEW BRACKET DETAIL



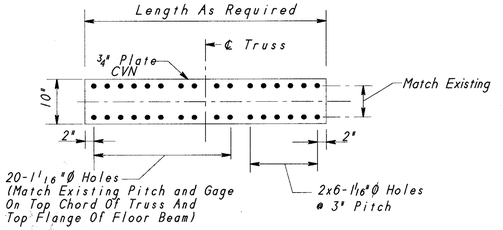
SECTION C-C

NOTES:

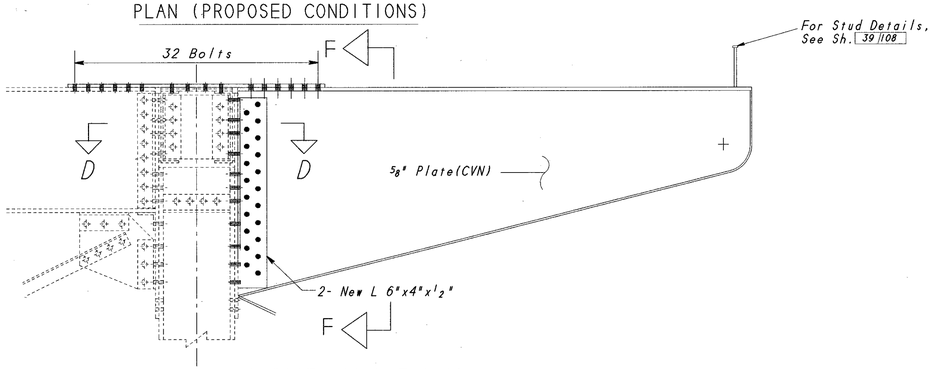
1. - Work This Sheet With Sh. 41/108 Thru 44/108, and Sh. 46/108
2. - Side Views Shown Are Looking Forward.
3. - See General Notes Sh. 7/108 Thru 11/108.
4. - All bolts to be 1"Ø High Strength ASTM A325
5. - Representation Of Existing Structure Is Approximate.
6. - Where a shape or plate is designated (CVN) the material shall meet specified minimum notch toughness requirements as specified in CMS 711.01
7. - See Note "A" on Sh. 45/108



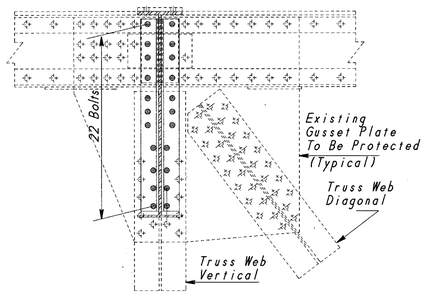
PLAN (PROPOSED CONDITIONS)



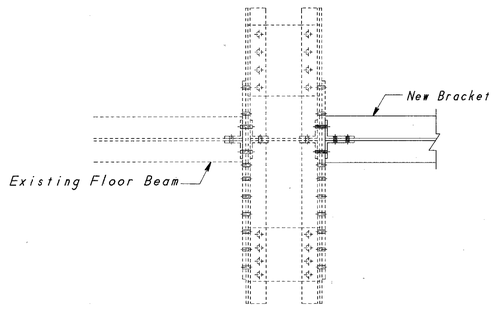
NEW TIE PLATE PLAN



SIDE VIEW (PROPOSED CONDITIONS)



SECTION VIEW F-F



SECTION D-D

LEGEND

- Existing Structure
- New Work
- Existing hole
- New Hole Or Reamed Hole.

BRACKTR Scale 1.3333

Pflum, Klausmeier & Gehrum Consultants — 47/108

CINCINNATI OHIO

STRUCTURAL STEEL DETAILS
BRACKETS
TRUSS SPANS 5-6-7, 7-8-9-10 & 10-11-12
(UNITS E, F, & G RIGHT SIDE)

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

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

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HAM-471-00.25

NOTES.-

1.- Downspout installation depicted on this sheet will not require shop drawings prior to fabrication.
The Contractor shall remove the existing downspout including clamps, shall burn anchor bolts down to a minimum of 1" below the concrete surface, and seal hole with epoxy mortar.
The Contractor shall make the necessary field measurements, and prepare sketches, drawings, tables, etc. The Contractor shall field verify the new downspout location and run, and include this information with the shop drawings. After fabrication and installation, the Contractor shall submit shop drawings to the Engineer for review and approval. The Engineer shall have authority and responsibility for ensuring that the fabricated steel is acceptable.

Anchor bolts for new offset pipe clamps shall be carefully located so not to damage the concrete reinforcing steel.
Pipe, bell housing and hanger, offset pipe clamps, special pipe strap, bolts, etc., shall be galvanized per CMS 711.02.
All the work described above shall be included with Item 518, 8" Pipe Downspout Including Specials, for payment.

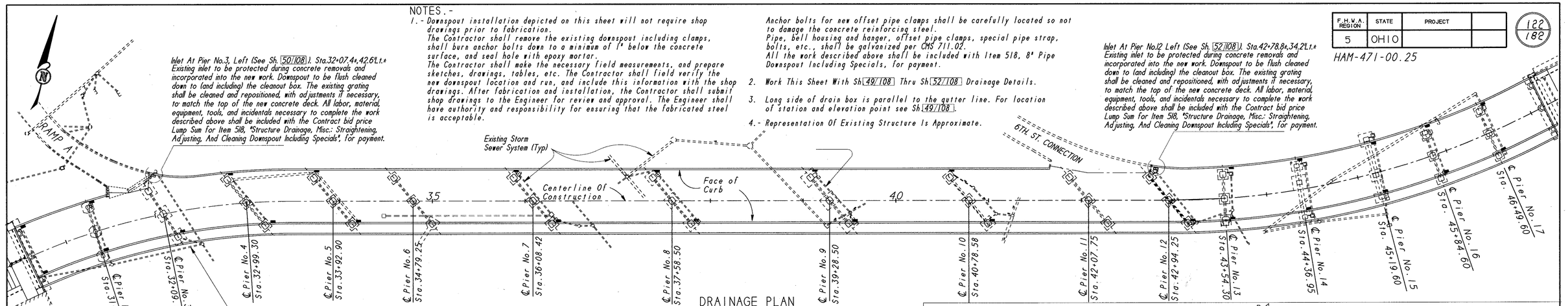
2. Work This Sheet With Sh 49/108 Thru Sh 52/108 Drainage Details.

3. Long side of drain box is parallel to the gutter line. For location of station and elevation point see Sh 49/108.

4.- Representation Of Existing Structure Is Approximate.

Inlet At Pier No.3, Left (See Sh. 50/108). Sta.32+07.4±, 42.6'Lt.± Existing inlet to be protected during concrete removals and incorporated into the new work. Downspout to be flush cleaned down to (and including) the cleanout box. The existing grating shall be cleaned and repositioned, with adjustments if necessary, to match the top of the new concrete deck. All labor, material, equipment, tools, and incidentals necessary to complete the work described above shall be included with the Contract bid price Lump Sum for Item 518, "Structure Drainage, Misc.: Straightening, Adjusting, And Cleaning Downspout Including Specials", for payment.

Inlet At Pier No.12 Left (See Sh. 52/108). Sta.42+78.8±, 34.2'Lt.± Existing inlet to be protected during concrete removals and incorporated into the new work. Downspout to be flush cleaned down to (and including) the cleanout box. The existing grating shall be cleaned and repositioned, with adjustments if necessary, to match the top of the new concrete deck. All labor, material, equipment, tools, and incidentals necessary to complete the work described above shall be included with the Contract bid price Lump Sum for Item 518, "Structure Drainage, Misc.: Straightening, Adjusting, And Cleaning Downspout Including Specials", for payment.



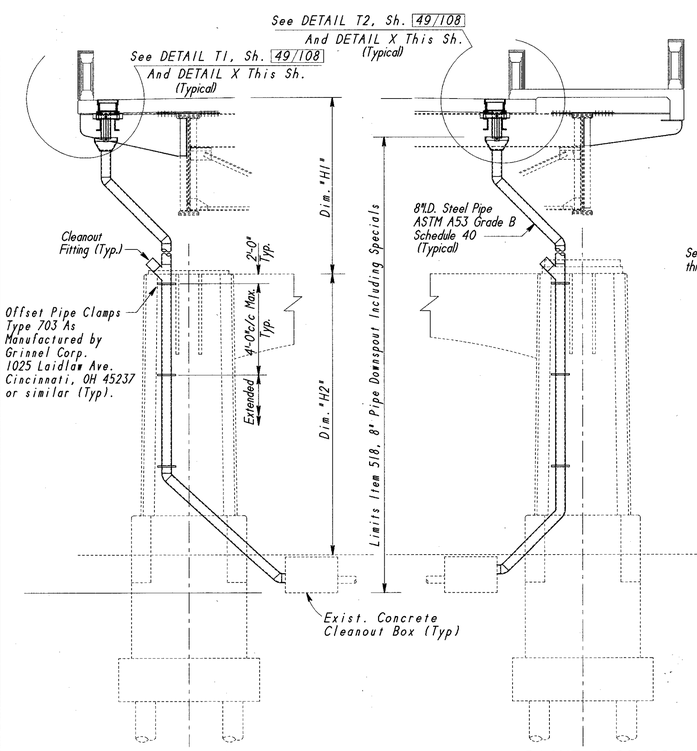
DRAINAGE PLAN

All in-ground cleanout boxes, and connecting pipes shall be flush cleaned to the nearest municipal manhole. All labor, equipment, tools, and incidentals necessary to complete this work shall be included with the Contract bid price Lump Sum for Item 518, "Structure Drainage, Misc.: Straightening, Adjusting, And Cleaning Downspout Including Specials", for payment.

LEGEND

- ▭ Existing Drain Inlet To Be Incorporated Into The New Work.
- ▬ New Drain Inlet

Item 518.- Structure Drainage Misc.: Inlet, Including Steel Support Beams, Frame And Specials, 8" Downspout and Grating. See Sh. 49/108. (Typical).

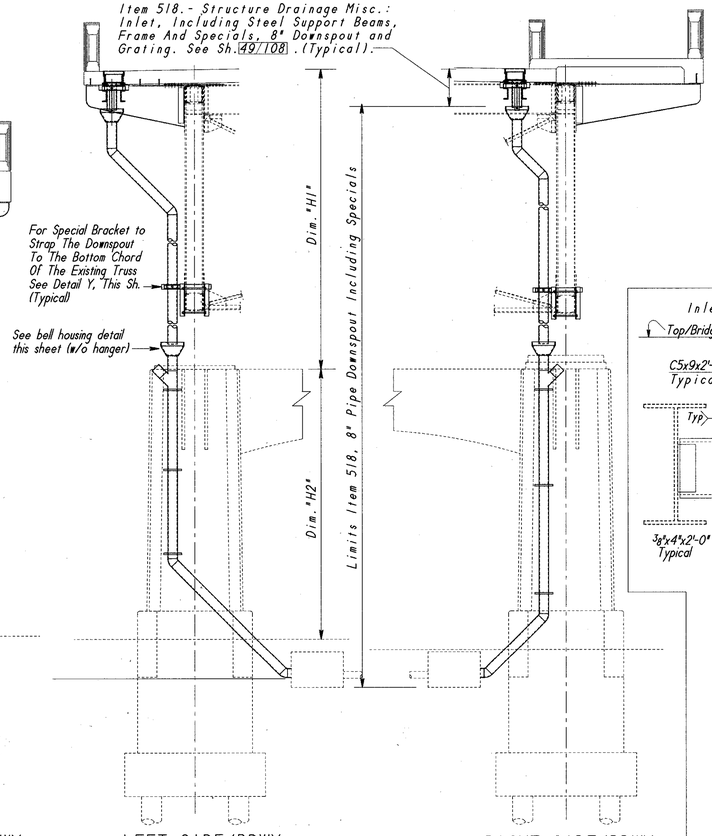


LEFT SIDE/RDWY (TYPICAL)

RIGHT SIDE/RDWY (TYPICAL)

DOWNSPOUT SCHEMATIC INSTALLATION (PLATE GIRDER SPANS)

REAR ABUT. And PIERS No.2,3,4,12,13,14,15,16, And 17.

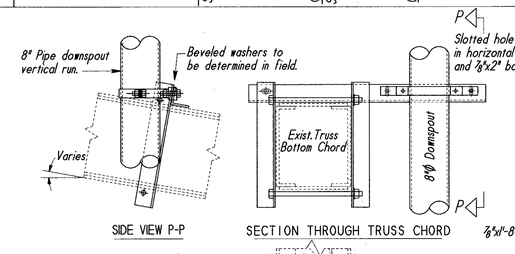


LEFT SIDE/RDWY (TYPICAL)

RIGHT SIDE/RDWY (TYPICAL)

DOWNSPOUT SCHEMATIC INSTALLATION (TRUSS SPANS)

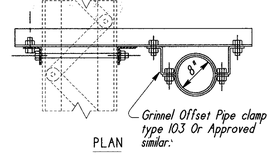
PIERS No.5,7,8,9, And 10.

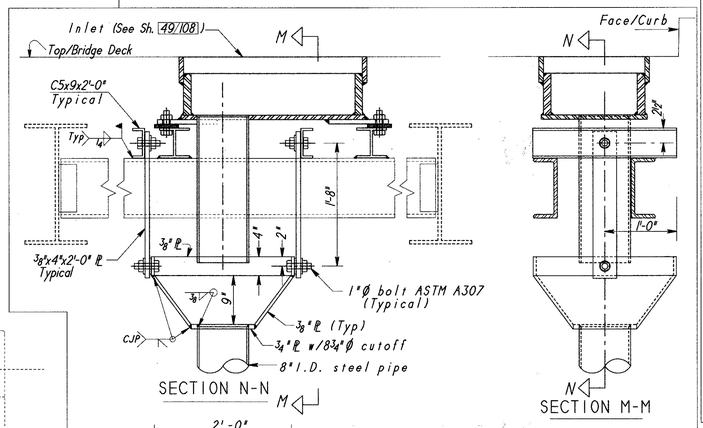


DETAIL Y

DOWNSPOUT STRAP TO TRUSS

All bolts ASTM A307





DETAIL X

BELL HOUSING AND HANGER

DRAINAGE INLET SCHEDULE

	Location	Position Of Inlet Station, Offset	Final Elev. At Top/Frame	Dim. "H1"	Dim. "H2"
	Rear Abutment	30+59.78, 33.88 Lt	538.13	10.9'±	9.2'±
		30+61.75, 22.65 Rt	538.16	11'±	9.2'±
	No.2	31+37.11, 33.02 Lt	539.00	11'±	13.5'±
		31+37.42, 22.65 Rt	539.01	11'±	13.5'±
	No.3	Left Side N/A			
		32+23.18, 22.65 Rt	540.43	12.3'±	16.1'±
	No.4	32+84.68, 33.06 Lt	541.62	11.7'±	20.9'±
		33+21.32, 22.65 Rt	542.43	12.5'±	20.9'±
	No.5	33+75.72, 33.06 Lt	543.81	14.3'±	21.5'±
		34+18.22, 22.65 Rt	545.03	15.5'±	21.5'±
	No.7	35+91.22, 33.06 Lt	550.69	24.5'±	24.2'±
		36+33.71, 22.65 Rt	552.10	25.8'±	24.3'±
	No.8	37+39.96, 33.06 Lt	555.62	31.2'±	25.4'±
		37+82.46, 22.65 Rt	557.02	32.5'±	25.5'±
	No.9	39+09.96, 33.06 Lt	561.24	30.3'±	37.9'±
		39+52.46, 22.65 Rt	562.65	31.8'±	37.9'±
	No.10	40+61.71, 33.06 Lt	566.27	24.5'±	29.3'±
		41+04.21, 22.65 Rt	567.67	26'±	29.2'±
	No.12	Left Side N/A			
		43+20.75, 22.65 Rt	574.84	15.8'±	28.0'±
	No.13	43+58.51, 33.06 Lt	576.09	11'±	31.1'±
		43+58.24, 22.65 Rt	576.08	11'±	31.1'±
	No.14	44+40.96, 33.06 Lt	578.82	11'±	27.8'±
		44+40.71, 22.65 Rt	578.81	11'±	27.8'±
	No.15	45+23.94, 33.06 Lt	581.56	11'±	22.6'±
		45+23.69, 22.65 Rt	581.56	11'±	22.6'±
	No.16	45+88.79, 33.06 Lt	583.71	10'±	20.7'±
		45+88.56, 22.65 Rt	583.70	10'±	20.7'±
	No.17	46+53.71, 33.06 Lt	585.86	10'±	18.9'±
		46+53.39, 22.65 Rt	585.85	10'±	18.9'±

PIER

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CINCINNATI OHIO

48 / 108

DECK DRAINAGE PLAN AND DOWNSPOUT DETAILS

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

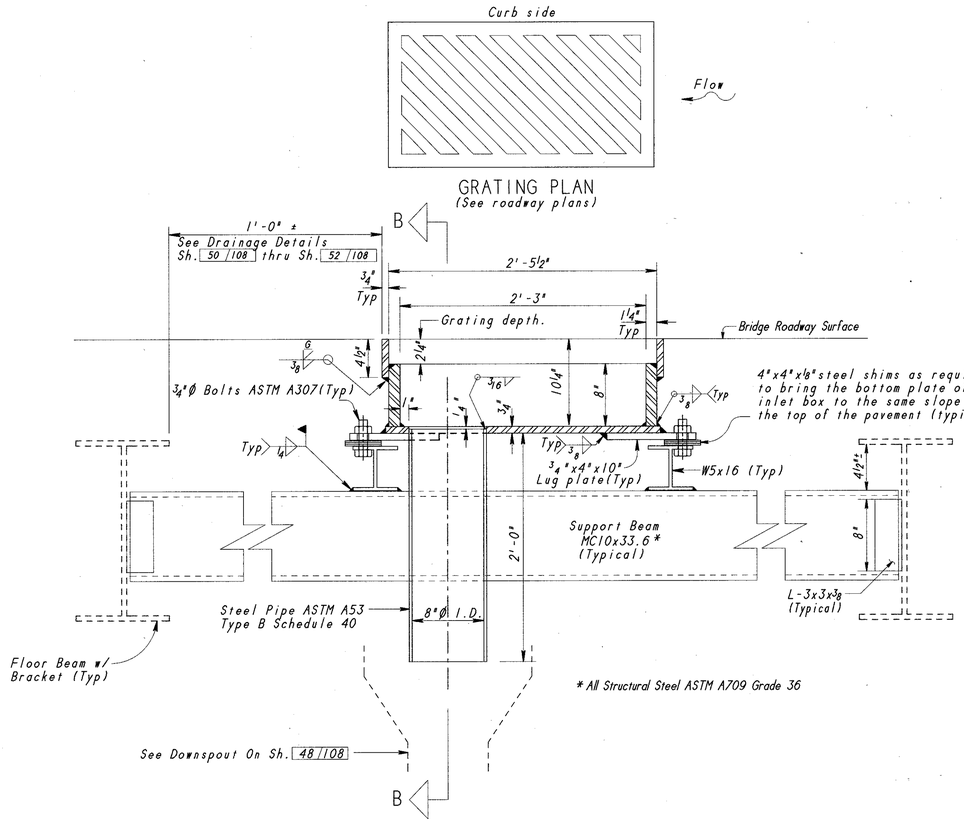
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

DRAINAGE Scale 50

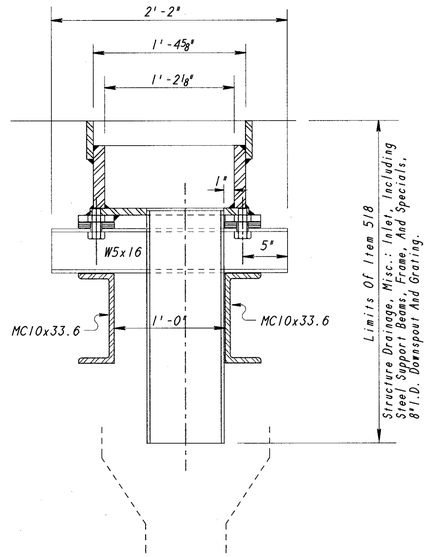
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

123
182

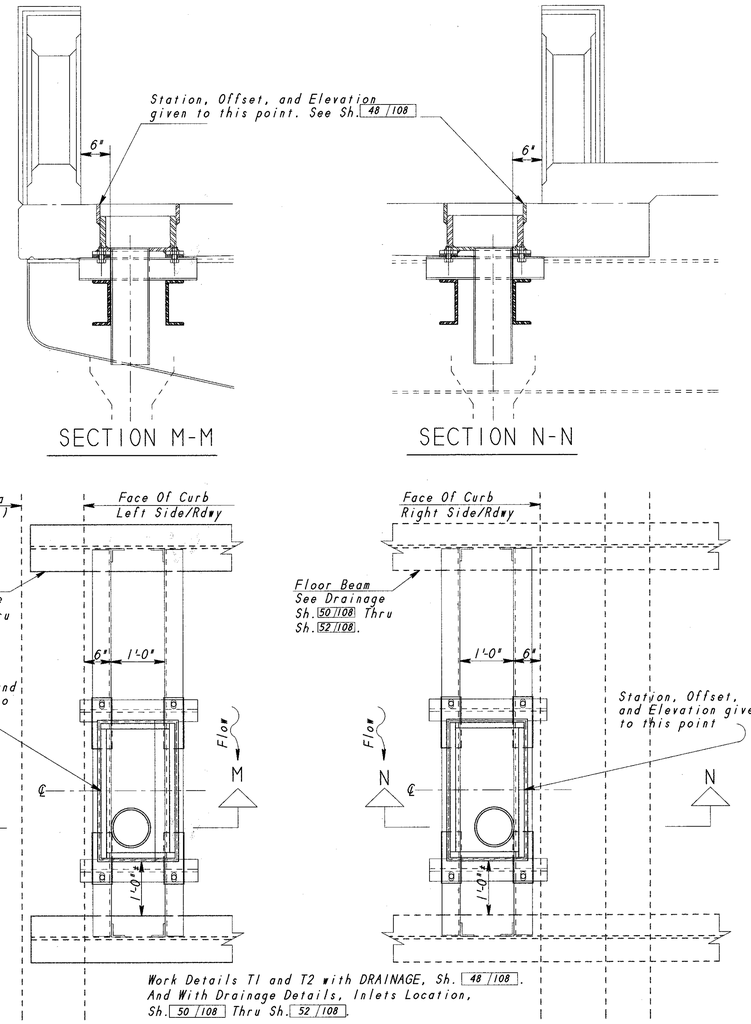
HAM-471-00.25



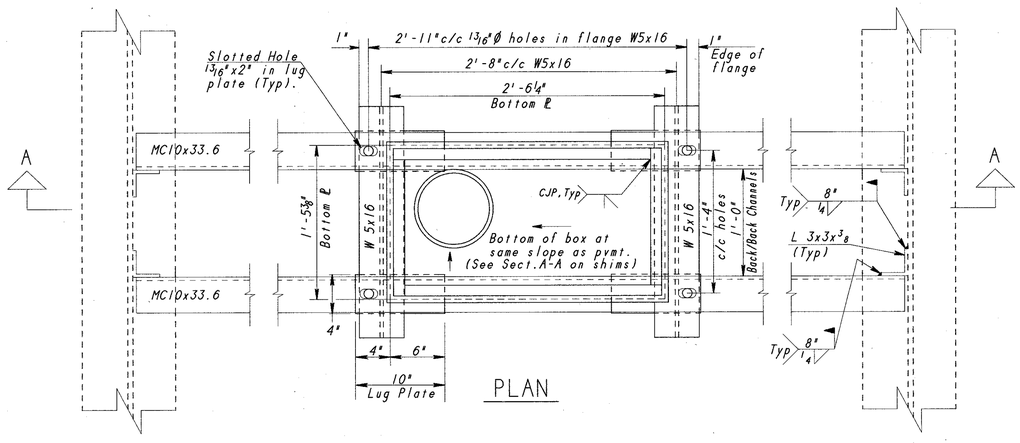
SECTION A-A
(GRATING NOT SHOWN)



SECTION B-B
(GRATING NOT SHOWN)



Work Details T1 and T2 with DRAINAGE, Sh. 48 /108. And With Drainage Details, Inlets Location, Sh. 50 /108 Thru Sh. 52 /108.



TYPICAL INLET
(AND INLET INSTALLATION)

NOTE.-
The typical drainage inlet described on this sheet will not require shop drawings prior to fabrication. The Contractor shall make the necessary field measurements, and prepare sketches, drawings, tables, etc. The Engineer shall have authority and responsibility for ensuring that the fabricated steel is acceptable. The Contractor shall field verify the inlet location, and include this information with the shop drawings. After fabrication and installation the Contractor shall submit shop drawings to the Engineer for review, and approval.
The steel support beams shall be installed such that once the inlet installation is completed, the top of the inlet frame and grating will rest flush with, and on the same plane and slope as the bridge roadway surface.
Support beams, strap angles, shims, etc., shall be painted per CMS 514 System 1ZEU, retouched after erection. Color of paint shall be black, or as approved by the City Of Cincinnati.
Inlet frame, bolts, pipe downspout, grating, etc., shall be galvanized per CMS 711.02.
All work described above shall be included with Item 518, STRUCTURE DRAINAGE, MISC.: INLET, INCLUDING STEEL SUPPORT BEAMS, FRAME, AND SPECIALS, 8" DOWNSPOUT, AND GRATING, for payment.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

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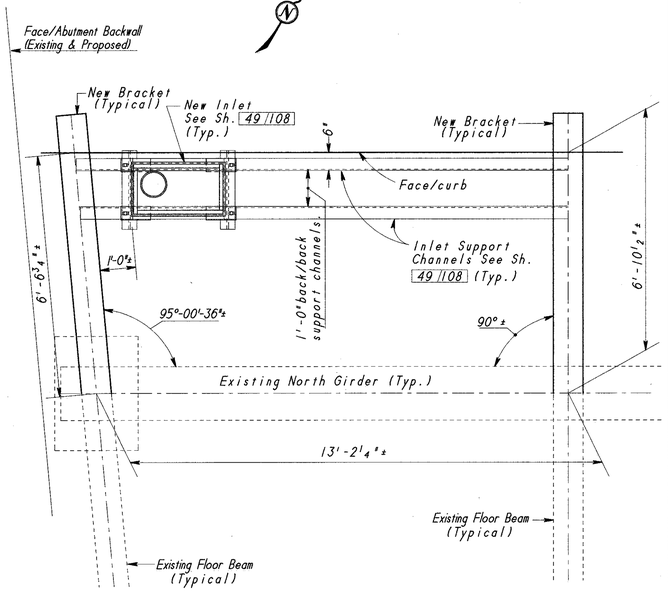
DRAINAGE DETAILS TYPICAL INLET

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
Sta.47+16.19

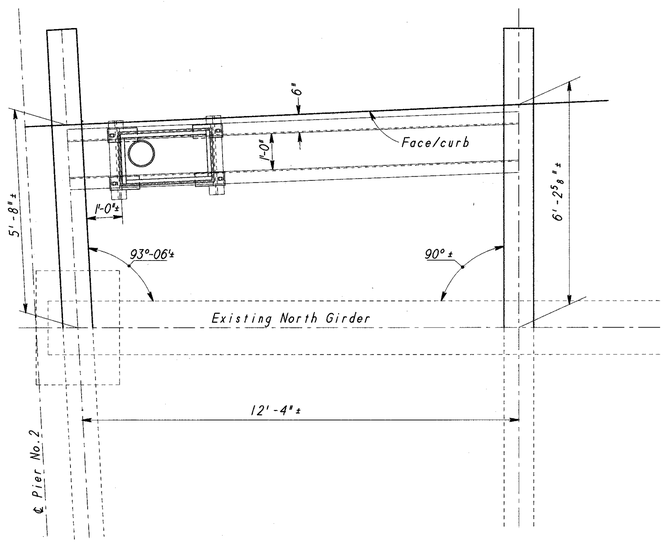
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/JDR		WDD	IEH	April 96	

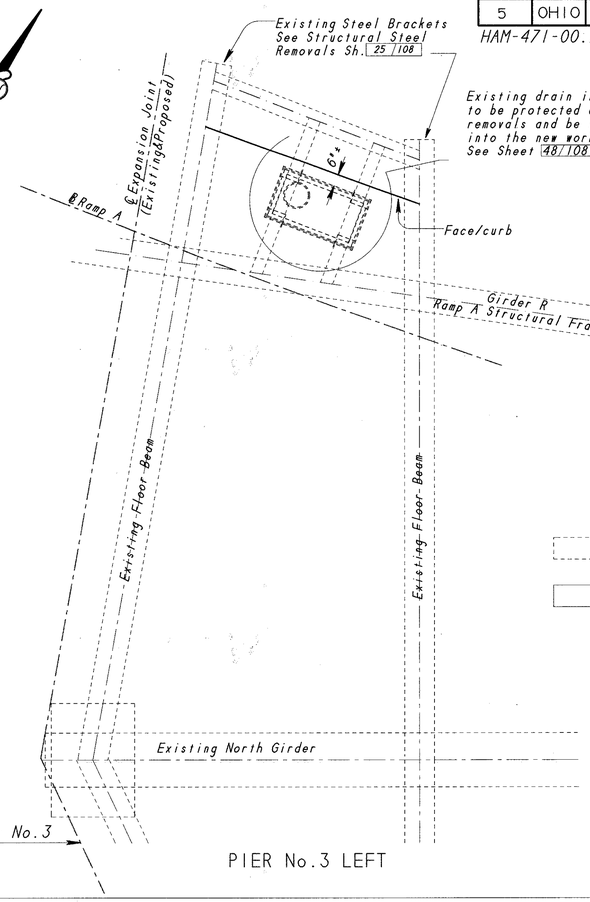
DRAINDTI Scale .6666



REAR ABUTMENT LEFT



PIER No.2 LEFT



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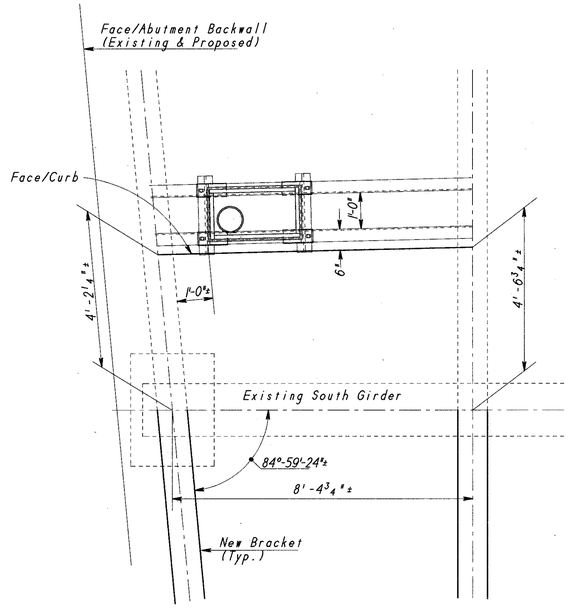

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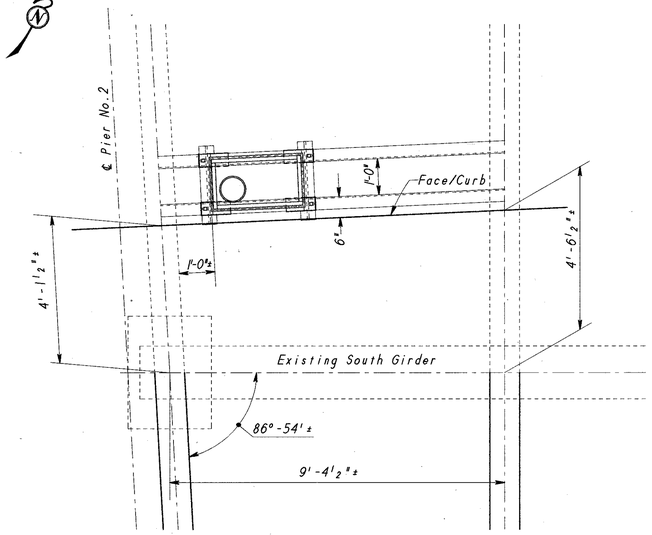

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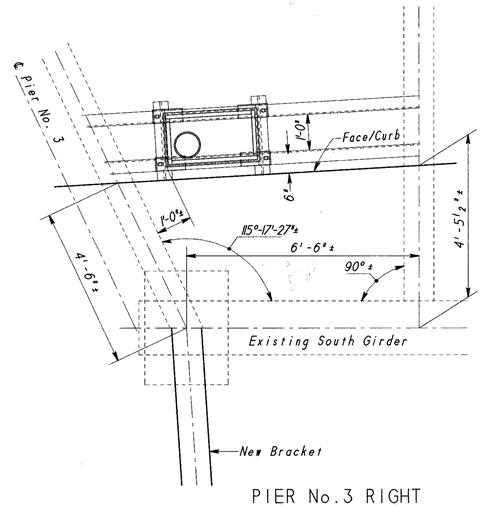


PIER No.3 RIGHT

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

HAM-471-00.25

124
182

LEGEND

Existing Structure

New Work

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

50 /108

DRAINAGE DETAILS
INLET LOCATIONS

REAR ABUT. & PIER NO. 2 AND 3

BRIDGE No.HAM-471-0025

(COLUMBIA PARKWAY VIADUCT OVER I-471)

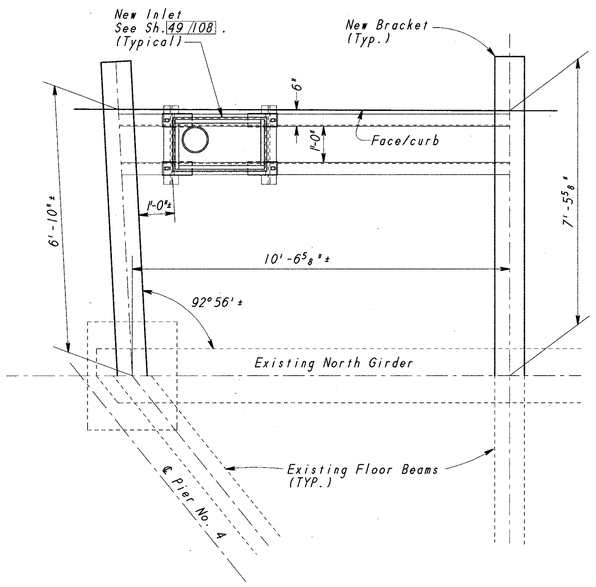
Sta.30+55.40

Sta.47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

DRAINDT2 Scale 2

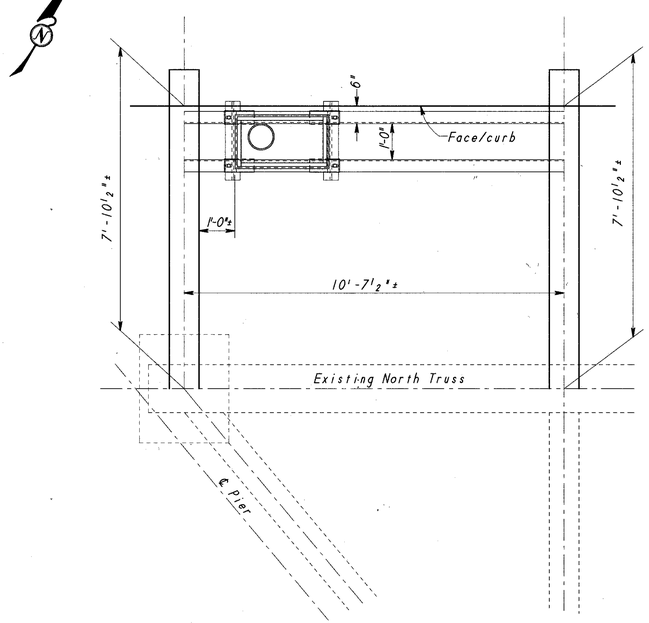


LEGEND

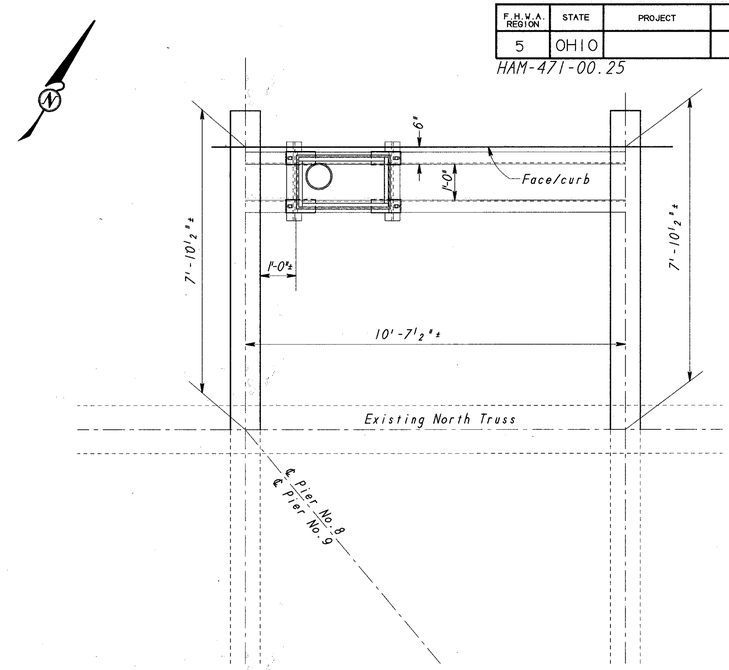
Existing Structure

New Work

PIER No.4 LEFT



PIER No.5 LEFT
PIER No.7 LEFT
PIER No.10 LEFT

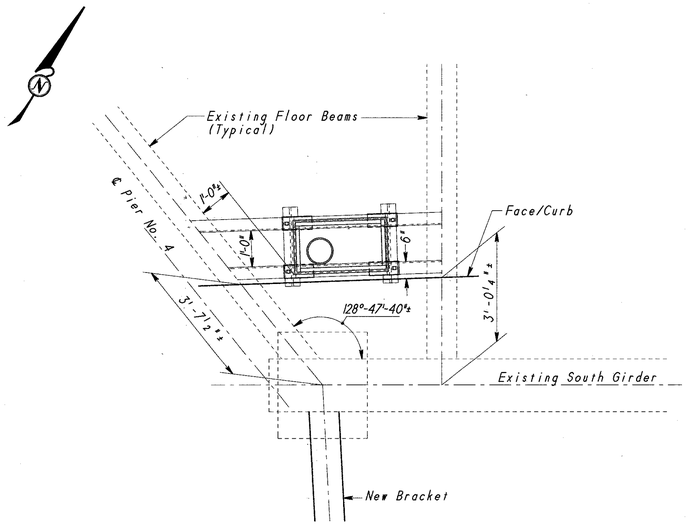


PIER No.8 LEFT
PIER No.9 LEFT

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

HAM-471-00.25

125 / 182



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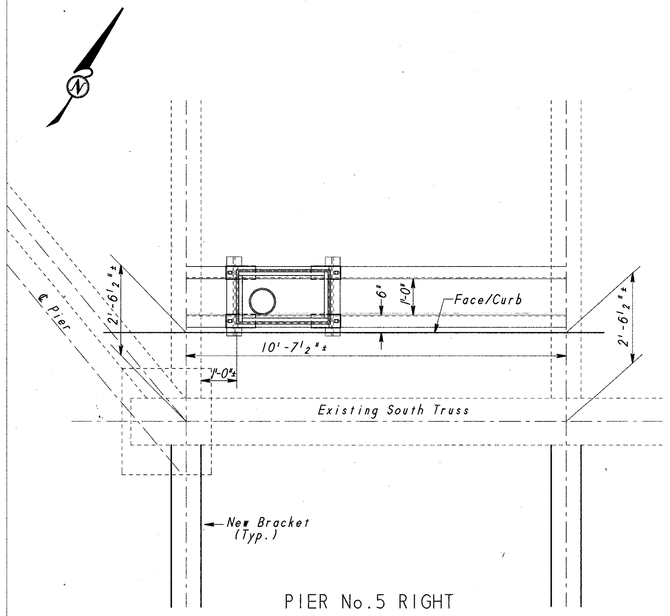
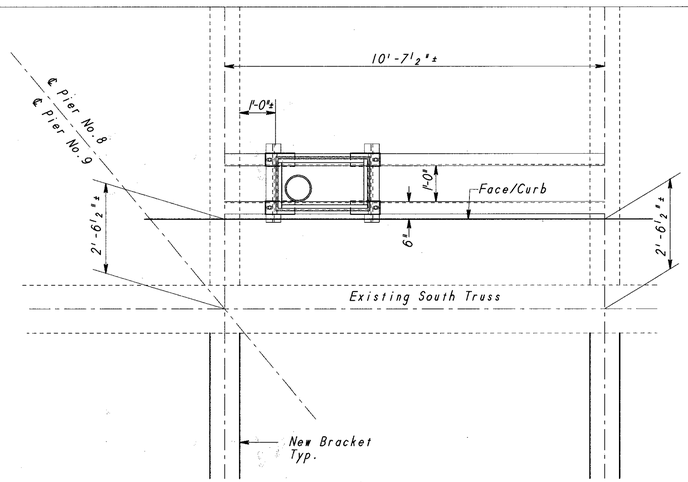


PIER No.5 RIGHT
PIER No.7 RIGHT
PIER No.10 RIGHT



PIER No.8 RIGHT
PIER No.9 RIGHT

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CINCINNATI OHIO

51 / 108

DRAINAGE DETAILS
INLET LOCATIONS
(PIER No. 4 Thru PIER No. 10)
BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

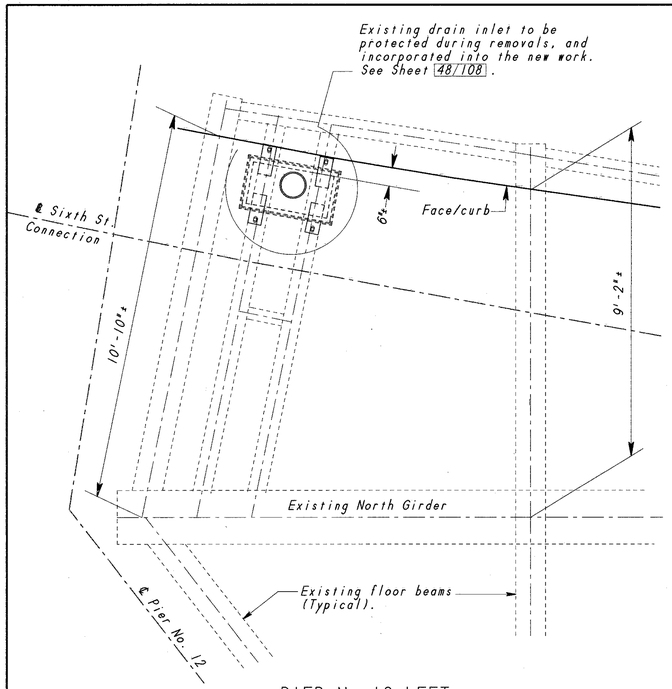
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

DRAINDT3 Scale 2.0

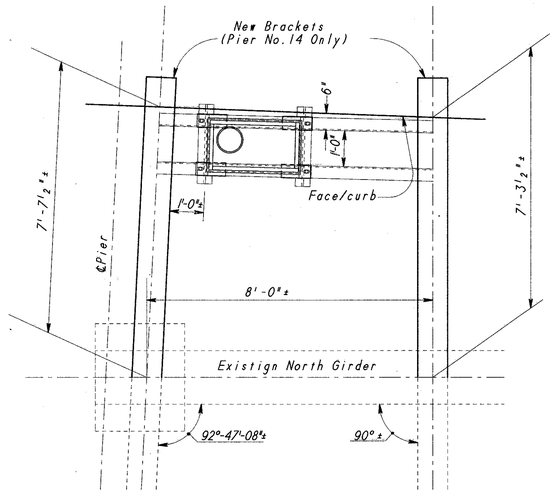
F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

126/182

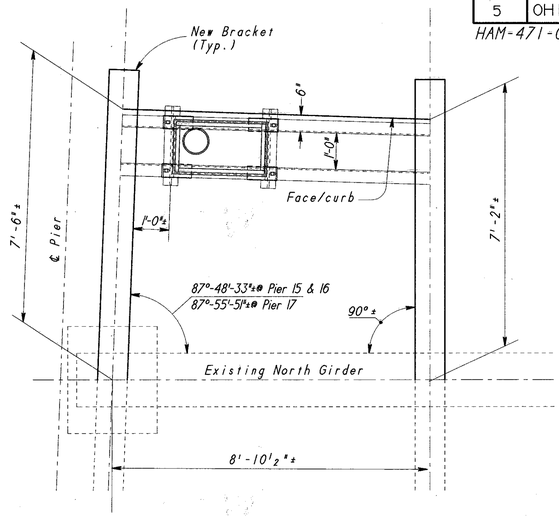
HAM-471-00.25



PIER No.12 LEFT



PIER No.13 LEFT
PIER No.14 LEFT

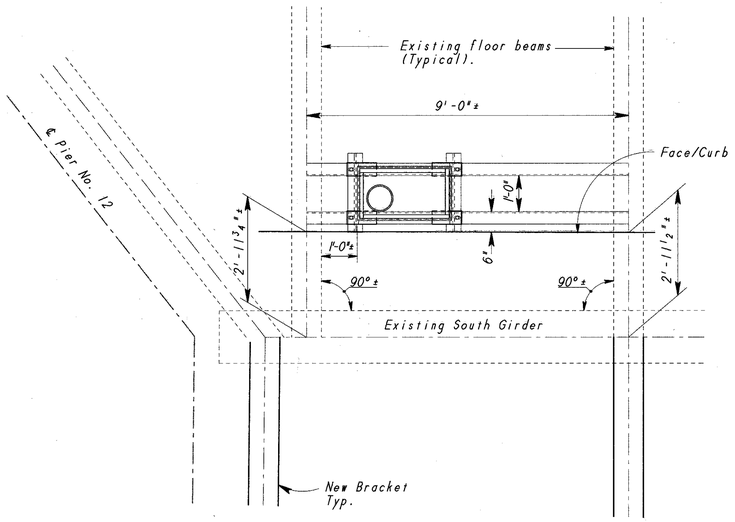


PIER No.15 LEFT
PIER No.16 LEFT
PIER No.17 LEFT

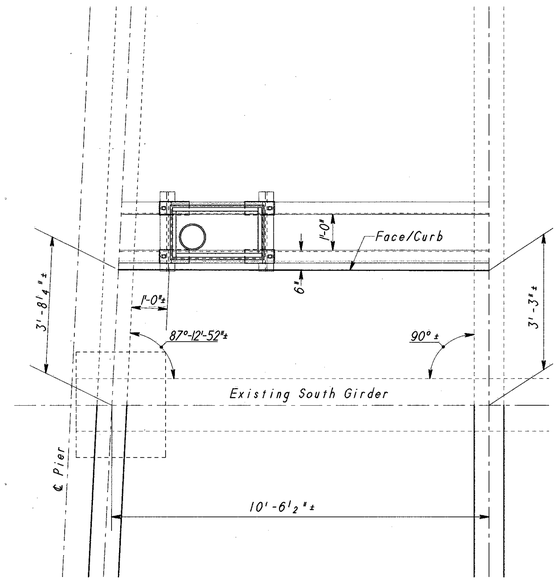
LEGEND

Existing Structure

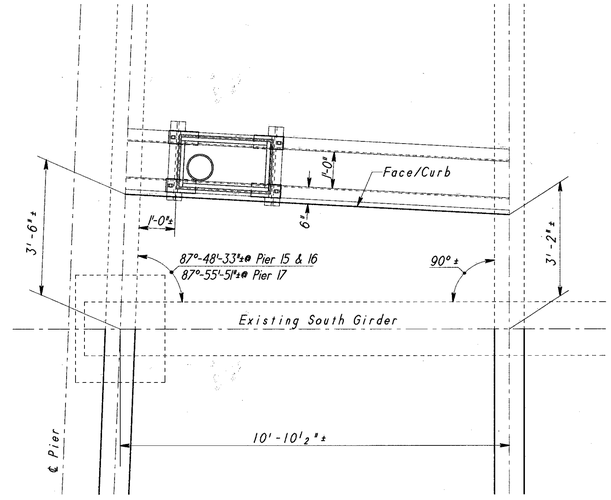
New Work



PIER No.12 RIGHT



PIER No.13 RIGHT
PIER No.14 RIGHT



PIER No.15 RIGHT
PIER No.16 RIGHT
PIER No.17 RIGHT

Pflum, Klausmeier & Gehrum Consultants

CINCINNATI OHIO

52/108

DRAINAGE DETAILS
INLET LOCATIONS

(PIER No. 12 THRU PIER No. 17)
BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

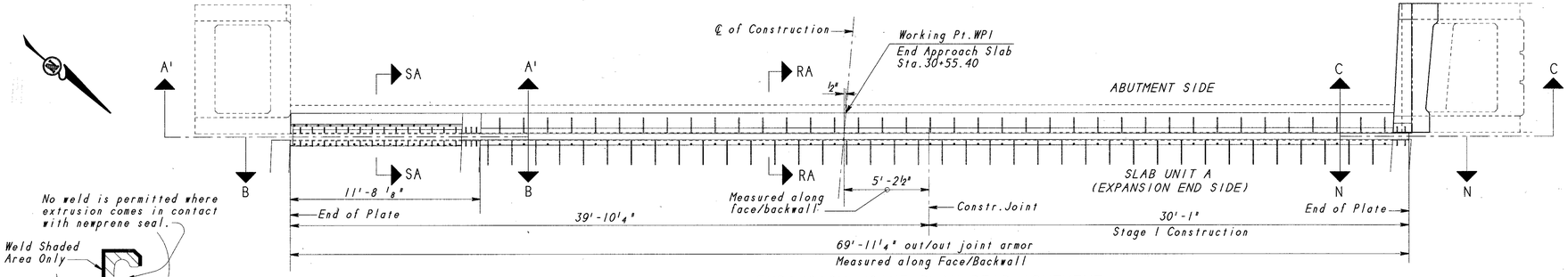
DRAINDT4 Scale 2

127-182 449 BLACK

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

127/182

HAM-471-00.25



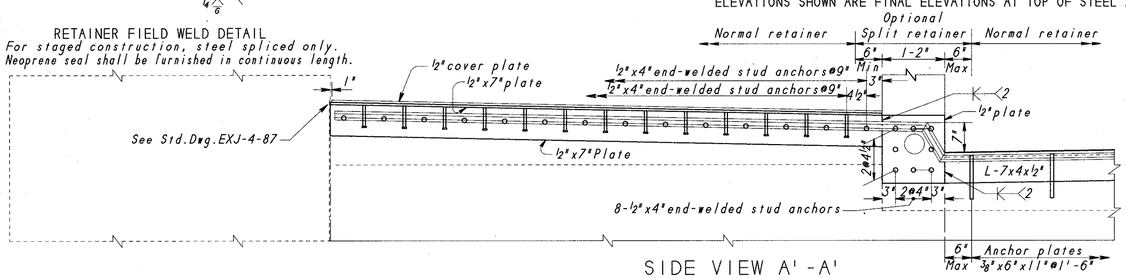
EXPANSION JOINT PLAN-REAR ABUTMENT

RETAINER FIELD WELD DETAIL

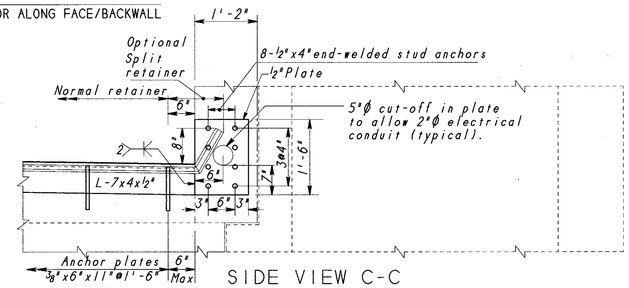
For staged construction, steel spliced only. Neoprene seal shall be furnished in continuous length.

CROSS-SLOPE ELEVATIONS AT TOP OF JOINT STEEL ARMOR

ELEVATIONS SHOWN ARE FINAL ELEVATIONS AT TOP OF STEEL ARMOR ALONG FACE/BACKWALL



SIDE VIEW A'-A'



SIDE VIEW C-C

NOTES:

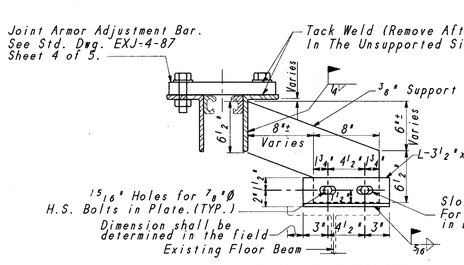
1.- Work this sheet with REAR ABUTMENT (Abutment No.1) Sh. 14/108, with SPAN 1-2 DECK SLAB UNIT A, Sh. 60/108 with SPAN 2-3 DECK SLAB UNIT B, Sh. 61/108 and with DECORATIVE RAILING, Sh. 76/108 thru Sh. 84/108.

2.- Joint armor butt welds in contact with the steel retainer shall be ground flush.

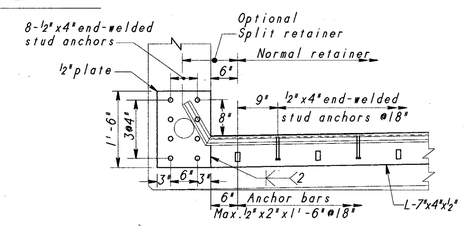
3.- Section B'-B' is similar to Section A'-A', this sheet. For Section B-B and Section S-S see Sh. 54/108.

4.- SHOP DRAWINGS WILL BE REQUIRED for all and every expansion joint. Prior to fabrication the Contractor shall submit the shop drawings to the Engineer for approval. Location and method of field welds for the steel armor and the steel retainer shall appear on the shop drawings.

5.- ELASTOMERIC SEALS: The joint seal for each deck joint shall be furnished and installed in one continuous piece for the full bridge width after both stages of deck joint armor installation is complete.

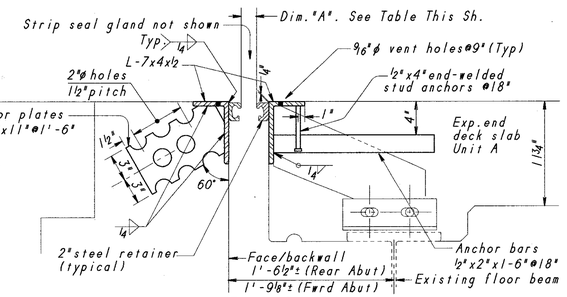


JOINT ARMOR SUPPORT AND ADJUSTMENT DETAIL (TYPICAL)

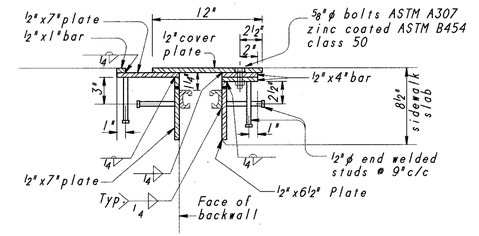


SIDE VIEW N-N

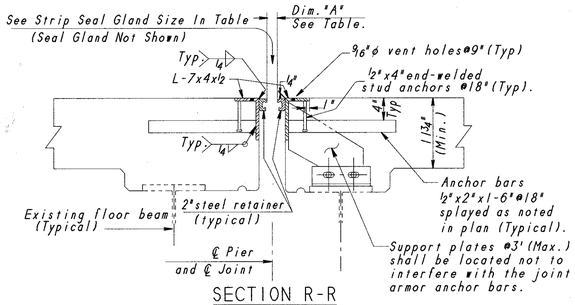
(N'-N' Opposite Hand)



SECTION RA-RA

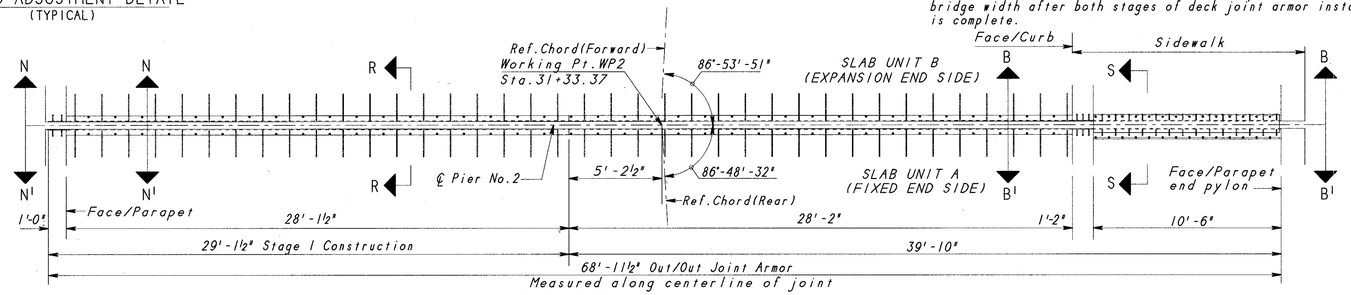


SECTION SA-SA

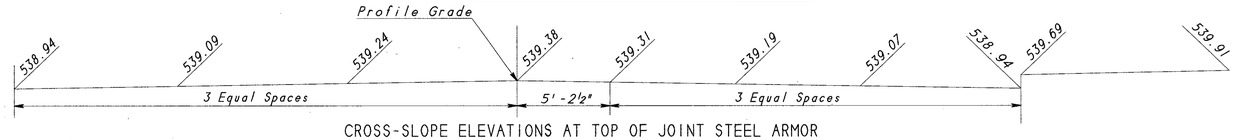


SECTION R-R

LOCATION	STRIP SEAL GLAND MOVEMENT RATING.	DIMENSION "A"						
		30°F	40°F	50°F	60°F	70°F	80°F	90°F
Rear Abut.	3"	1 15/16"	1 7/8"	1 13/16"	1¾"	1 11/16"	1⅝"	1 9/16"
Pier No.2	3"	1 15/16"	1 7/8"	1 13/16"	1¾"	1 11/16"	1⅝"	1 9/16"
Pier No.3	3"	1 15/16"	1 7/8"	1 13/16"	1¾"	1 11/16"	1⅝"	1 9/16"
Pier No.4	3"	1 15/16"	1 7/8"	1 13/16"	1¾"	1 11/16"	1⅝"	1 9/16"
Pier No.5	4"	2⅜"	2¼"	2⅛"	2"	1⅞"	1¾"	1⅝"
Pier No.7	5"	2 1/16"	2⅛"	2 1/16"	2¼"	2 1/16"	2⅛"	2 1/16"
Pier No.10	3"	1⅞"	1 13/16"	1 11/16"	1⅝"	1 9/16"	1 7/16"	1⅜"
Pier No.12	4"	2⅜"	2¼"	2⅛"	2"	1⅞"	1¾"	1⅝"
Pier No.13	3"	1 15/16"	1⅞"	1¾"	1⅝"	1½"	1⅜"	1 5/16"
Pier No.14	3"	1 13/16"	1¾"	1 11/16"	1⅝"	1 9/16"	1½"	1 7/16"
Pier No.15	3"	1¾"	1¾"	1 11/16"	1⅝"	1 9/16"	1½"	1½"
Pier No.16	3"	1¾"	1¾"	1 11/16"	1⅝"	1 9/16"	1½"	1½"
Pier No.17	3"	1¾"	1¾"	1 11/16"	1⅝"	1 9/16"	1½"	1½"
Fwrd Abut.	3"	1½" @ Any Temp.						



EXPANSION JOINT PLAN-PIER No.2



CROSS-SLOPE ELEVATIONS AT TOP OF JOINT STEEL ARMOR

ELEVATIONS SHOWN ARE FINAL ELEVATIONS AT TOP OF STEEL ARMOR ALONG CENTERLINE OF JOINT

NOTES:

6.- For additional details and notes see Std. Drg. EXJ-4-87.

Pflum, Klausmeier & Gehrum Consultants

CINCINNATI OHIO

53/108

SUPERSTRUCTURE DETAILS STRIP SEAL EXPANSION JOINT AT REAR ABUTMENT (No. 1) AND AT PIER No.2

BRIDGE No.HAM-471-0025

(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40

HAMILTON COUNTY Sta.47+16.19

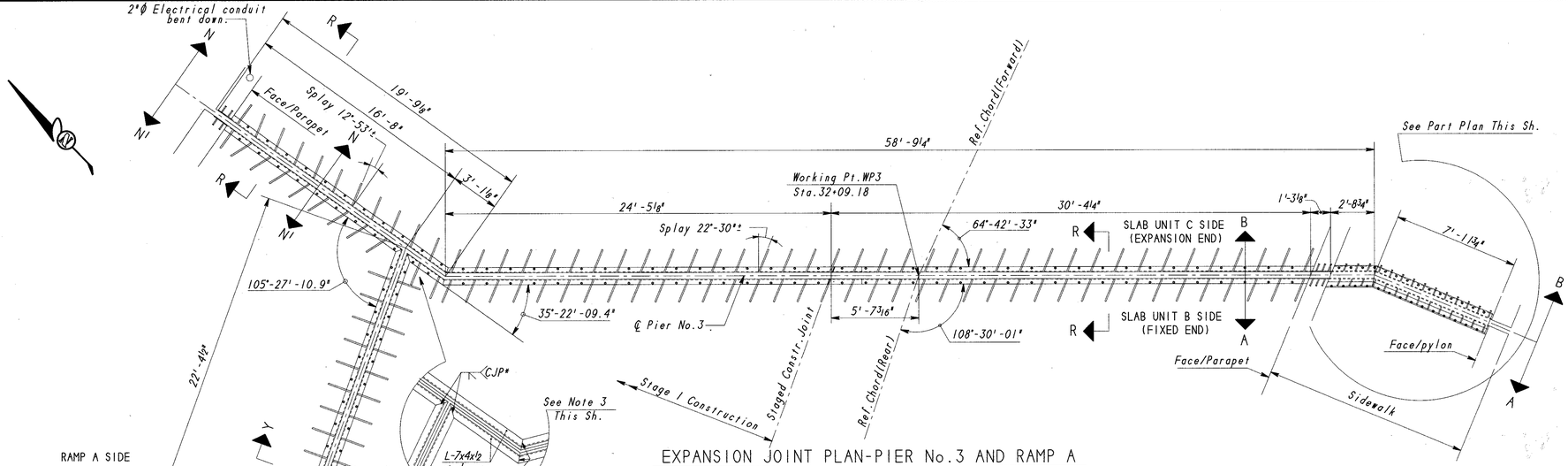
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

JOINTRA Scale 4

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

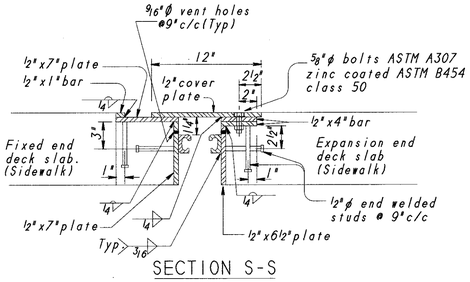
128/182

HAM-471-00.25

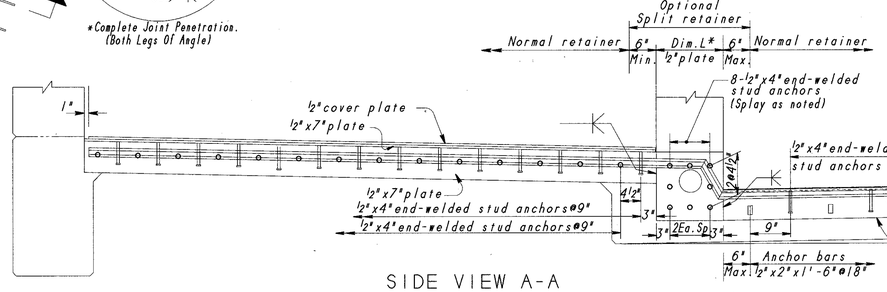


EXPANSION JOINT PLAN-PIER No.3 AND RAMP A

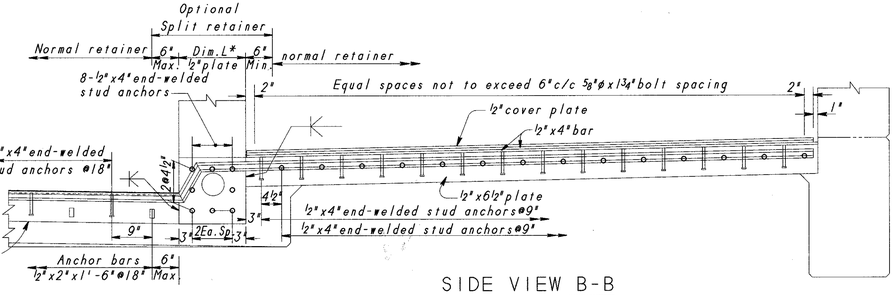
(All Dimensions Shown Are Measured Along Centerline Of Joint)



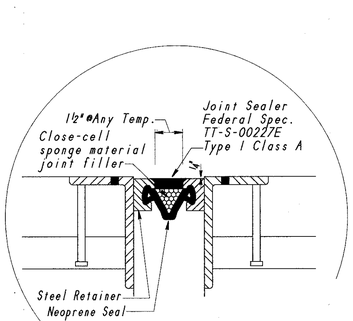
SECTION S-S

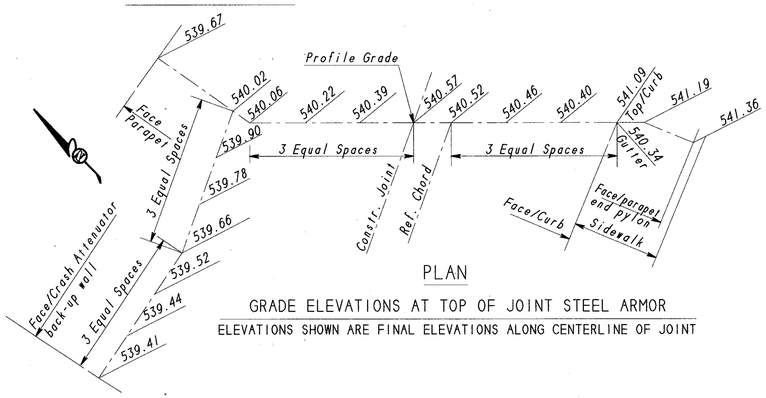


SIDE VIEW A-A



SIDE VIEW B-B

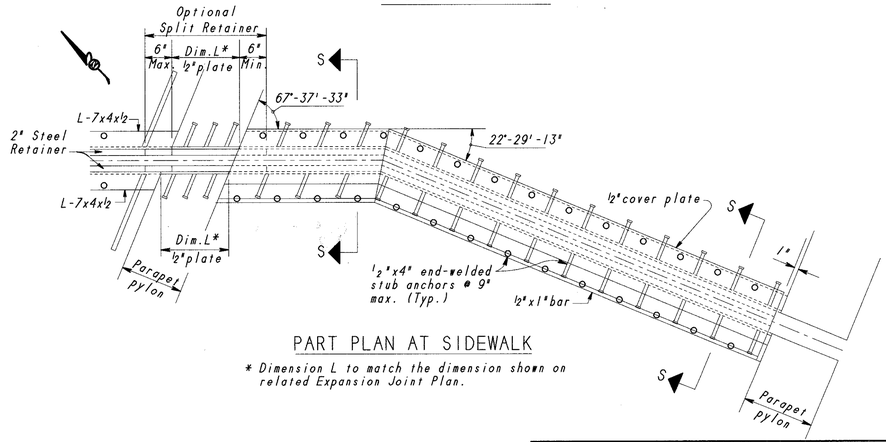




PLAN

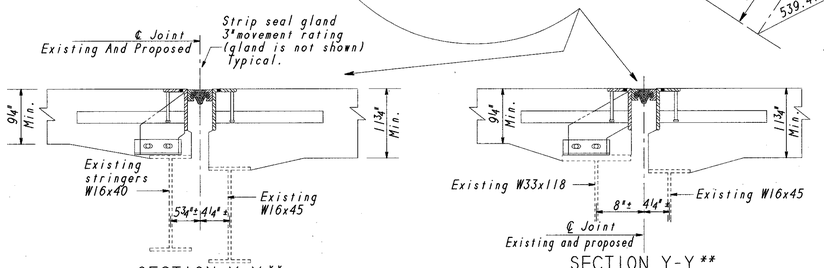
GRADE ELEVATIONS AT TOP OF JOINT STEEL ARMOR

ELEVATIONS SHOWN ARE FINAL ELEVATIONS ALONG CENTERLINE OF JOINT



PART PLAN AT SIDEWALK

* Dimension L to match the dimension shown on related Expansion Joint Plan.



SECTION X-X**

SECTION Y-Y**

** For details not shown, see Section R-R, Sh. 53/108

NOTES:

1.- Work the expansion joint plan at pier No.3 with Deck Slab Unit B, Sh. 61/108 with Deck Slab Unit C, Sh. 62/108 and with Ramp A Off Columbia Viaduct Sh. 74/108

2.- For Sections N-N, N'-N', R-R, R'-R', And Additional Notes See Sh. 53/108

3.- At "T" intersections and at directional change the structural steel armor shall be shop welded with full penetration groove weld. The steel retainer shall also be shop welded and the strip seal gland shall be shop vulcanized. The fabricator shall indicate on the shop drawings the location and method of field splices. The neoprene seal shall be fabricated and installed in a single continuous piece for the full length of joint after both stages of deck joint armor installation is complete. Seal installation shall begin at points of directional change and intersections.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

54/108

SUPERSTRUCTURE DETAILS STRIP SEAL EXPANSION JOINT AT PIER No.3 AND RAMP A

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

JOINTBC Scale 4

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

HAM-471-00.25

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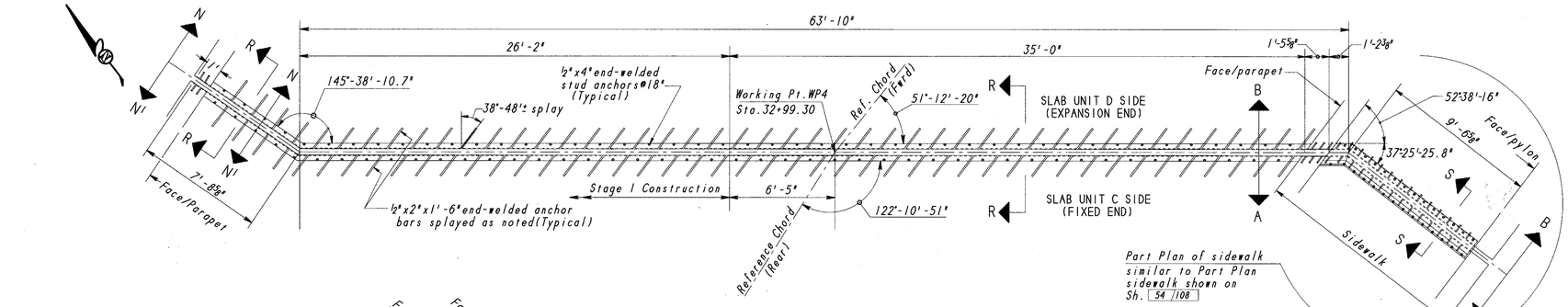
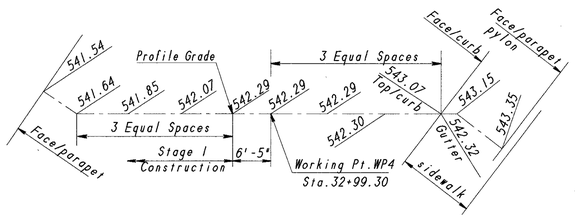


EXPANSION JOINT PLAN-PIER No.4

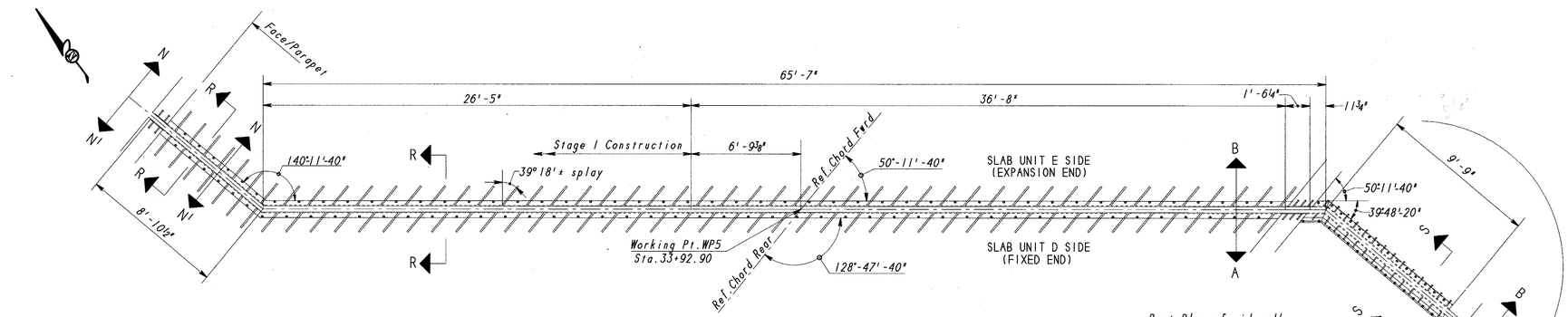
(All Dimensions Shown Are Measured Along Centerline Of Joint)

NOTE:
Work the expansion joint plan at pier No.4 with Deck Slab Unit C, Sh. 62/108 and with Deck Slab Unit D Sh. 63/108 and with Decorative Railing Plan Sh. 76/108 thru Sh. 84/108



GRADE ELEVATIONS AT TOP OF JOINT ARMOR-PIER No.4

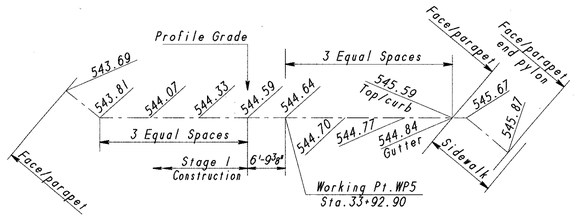
(ELEVATIONS SHOWN ARE FINAL ELEVATIONS ALONG CENTERLINE OF JOINT)



EXPANSION JOINT PLAN-PIER No.5

(All Dimensions Shown Are Measured Along Centerline Of Joint)

NOTE:
Work the expansion joint plan at pier No.5 with Deck Slab Unit D, Sh. 63/108 and with Deck Slab Unit E Sh. 64/108 and with Decorative Railing Plan Sh. 76/108 thru Sh. 84/108



GRADE ELEVATIONS AT TOP OF JOINT ARMOR-PIER No.5

(ELEVATIONS SHOWN ARE FINAL ELEVATIONS ALONG CENTERLINE OF JOINT)

NOTES:

1.- At directional change, the strip seal gland shall be shop vulcanized, and the steel retainer shall be shop welded.

2.- For Sections N-N, N'-N', and R-R, see Sh. 53/108
For Sections A-A, B-B, and S-S. see Sh. 54/108

3.- See additional notes on sheets 53/108 and 54/108

JOINTCD Scale 4

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CINCINNATI OHIO

55/108

SUPERSTRUCTURE DETAILS STRIP SEAL EXPANSION JOINT PIER No.4 AND PIER No.5

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

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

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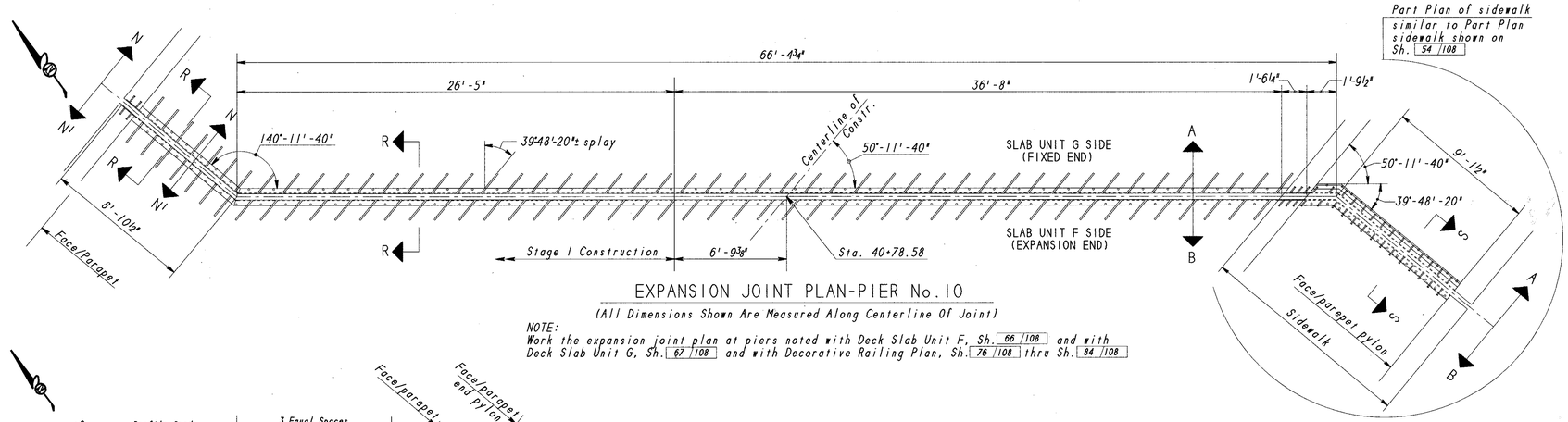
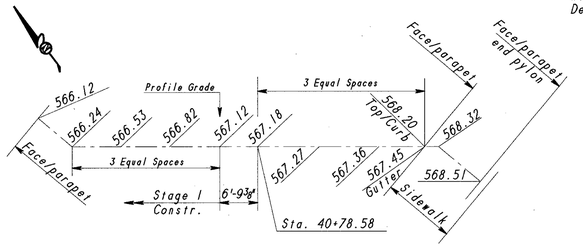


EXPANSION JOINT PLAN-PIER No.10

(All Dimensions Shown Are Measured Along Centerline Of Joint)

NOTE:
Work the expansion joint plan at piers noted with Deck Slab Unit F, Sh. 66/108 and with Deck Slab Unit G, Sh. 67/108 and with Decorative Railing Plan, Sh. 76/108 thru Sh. 84/108

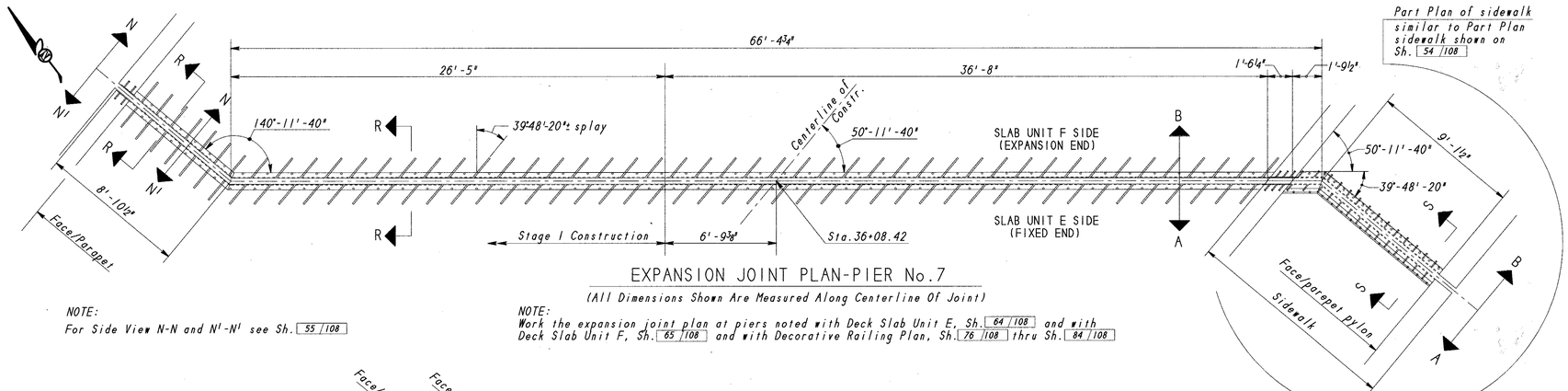


GRADE ELEVATIONS AT TOP OF JOINT ARMOR-PIER No.10

(ELEVATIONS SHOWN ARE FINAL ELEVATIONS ALONG CENTERLINE OF JOINT)

NOTES:

1. - At directional change, the strip seal gland shall be shop vulcanized, and the steel retainer shall be shop welded.
2. - For Sections N-N, N'-N', and R-R, see Sh. 53/108
   For Sections A-A, B-B, and S-S, see Sh. 54/108
3. - See additional notes on sheets 53/108 and 54/108

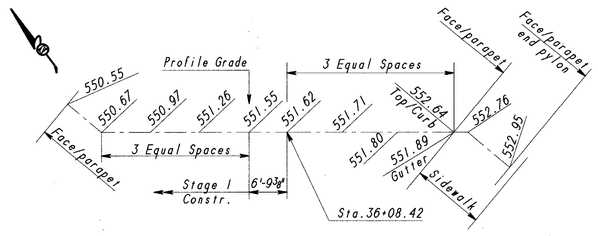


NOTE:
For Side View N-N and N'-N' see Sh. 55/108

EXPANSION JOINT PLAN-PIER No.7

(All Dimensions Shown Are Measured Along Centerline Of Joint)

NOTE:
Work the expansion joint plan at piers noted with Deck Slab Unit E, Sh. 64/108 and with Deck Slab Unit F, Sh. 65/108 and with Decorative Railing Plan, Sh. 76/108 thru Sh. 84/108



GRADE ELEVATIONS AT TOP OF JOINT ARMOR-PIER No.7

(ELEVATIONS SHOWN ARE FINAL ELEVATIONS ALONG CENTERLINE OF JOINT)

JOINTEG5 Scale 4

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CINCINNATI OHIO

56/108

SUPERSTRUCTURE DETAILS
STRIP SEAL EXPANSION JOINT
PIER No.7 AND PIER No.10

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

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

HAM-471-00.25

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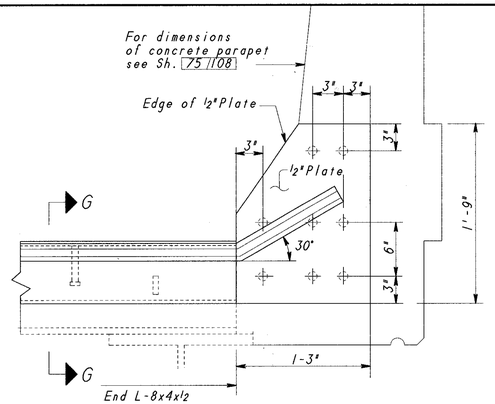
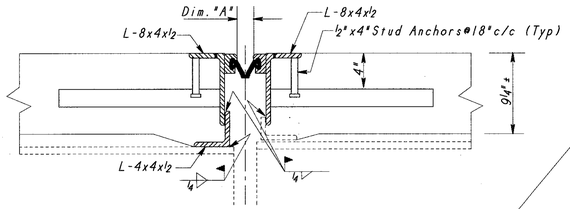


SIDE VIEW H'-H'

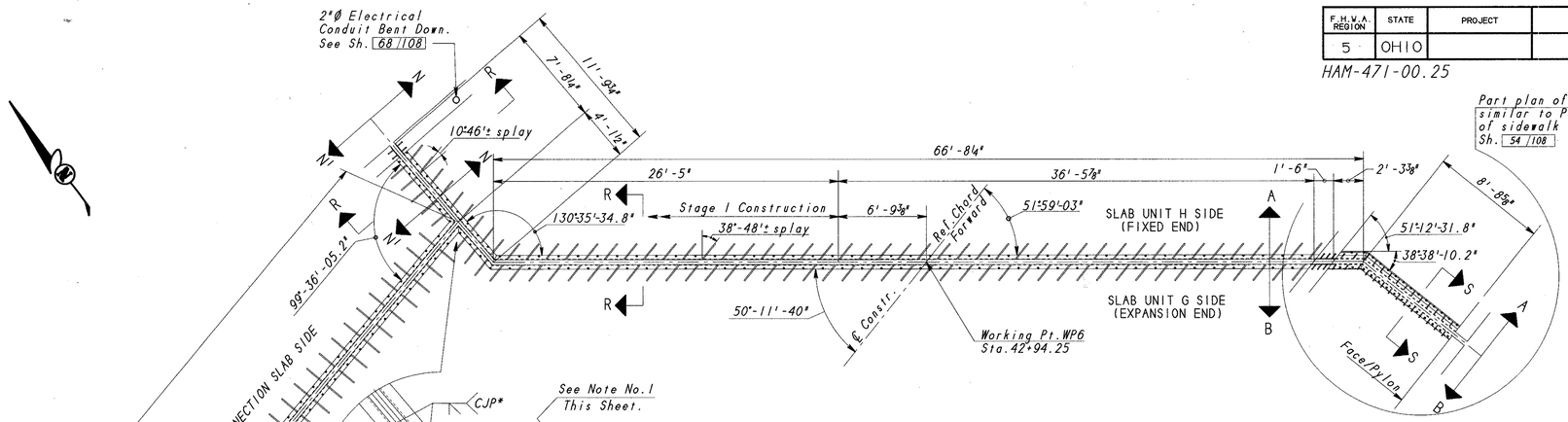
(SIDE VIEW H-H OPPOSITE)

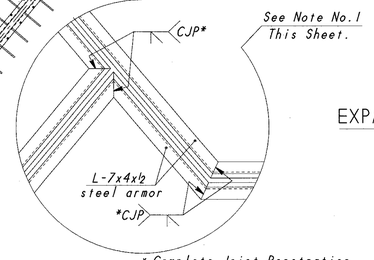
Strip seal gland movement rating: 4"							
Temp. F°	30	40	50	60	70	80	90
Dim. "A"	1 3/16"	1¼"	1⅜"	1½"	1 9/16"	1 11/16"	1¾"



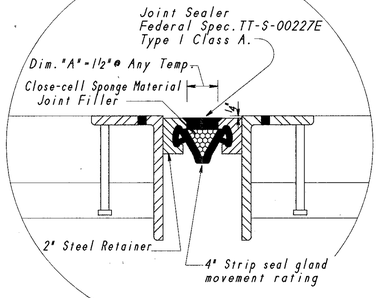
SECTION G-G

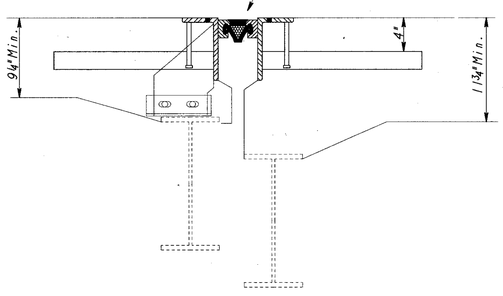
(Work this section with Section R-R, Sh. 53 /108 And with Sh. 75 /108)





* Complete Joint Penetration (Both Legs Of Angle)





SECTION R'-R'

(Work this section with Section R-R, Sh. 53 /108 And with Sh. 75 /108)

EXPANSION JOINT PLAN-PIER No.12 AND 6Th.STREET CONNECTION

(All Dimensions Shown Are Measured Along Centerline Of Joint)

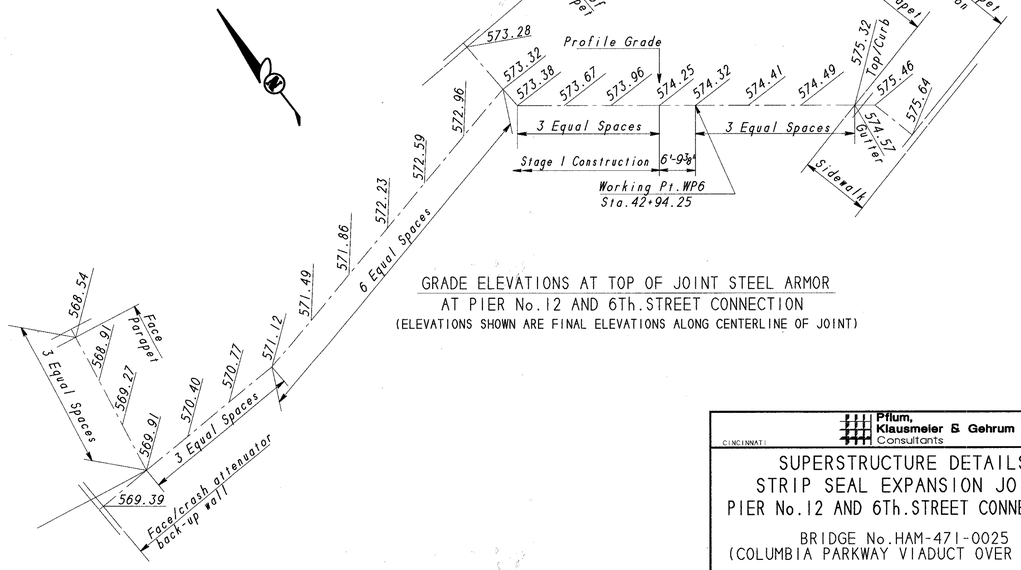
NOTES:

1.- At "T" intersections and at directional change the structural steel armor shall be shop welded with full penetration groove weld. The steel retainer shall also be shop welded and the strip seal gland shall be shop vulcanized. The fabricator shall indicato on the shop drawings the location and method of field splices. The neoprene seal shall be fabricated and installed in a single continuous piece for the full length of joint after both stages of deck joint armor installation is complete.
Seal installation shall begin at points of directional change and intersections.

2.- Work the expansion joint plan shown on this sheet with Deck Slab Unit G, Sh. 67 /108 and with Deck Slab Unit H, Sh. 68 /108 and with Decorative Railing Plan, Sh. 76 /108 thru Sh. 84 /108

3.- For sections N-N, N'-N', and R-R, see Sh. 53 /108
For Sections A-A, B-B, and S-S. see Sh. 54 /108

4.- See additional notes on Sh. 53 /108



GRADE ELEVATIONS AT TOP OF JOINT STEEL ARMOR
AT PIER No.12 AND 6Th.STREET CONNECTION
(ELEVATIONS SHOWN ARE FINAL ELEVATIONS ALONG CENTERLINE OF JOINT)

JOINTGH Scale 5.3333

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57 /108

SUPERSTRUCTURE DETAILS
STRIP SEAL EXPANSION JOINT
PIER No.12 AND 6Th.STREET CONNECTION

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

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

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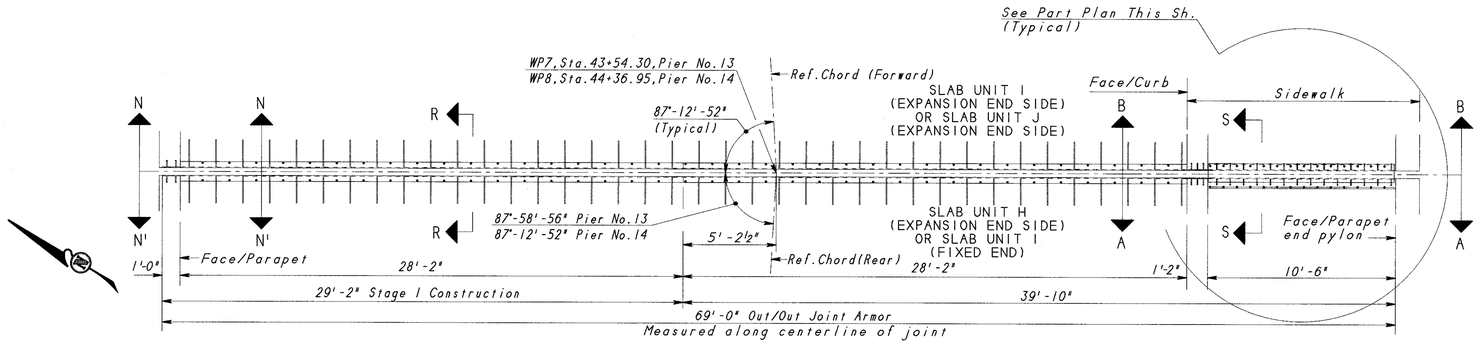
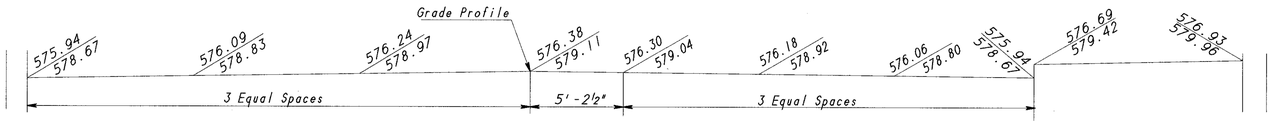


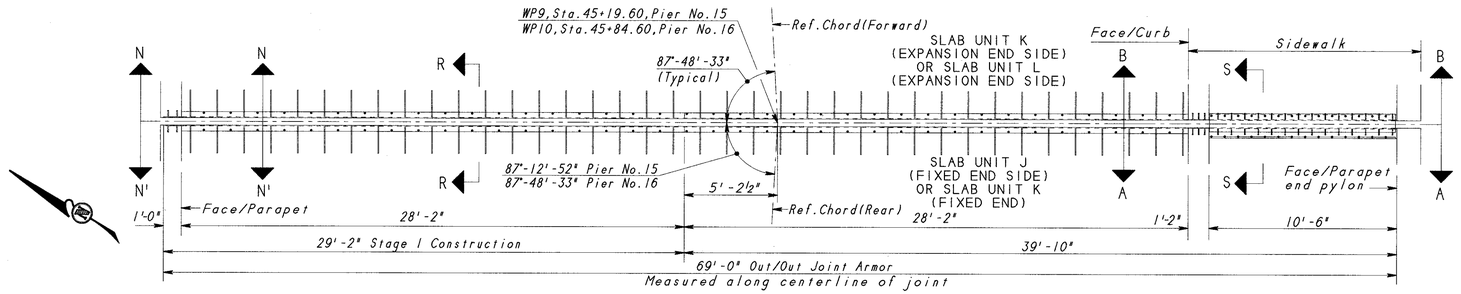
EXPANSION JOINT PLAN-PIER No.13 & No.14

(All Dimensions Shown Are Measured Along Centerline Of Joint)

NOTE:
Work the expansion joint plan at piers noted with Deck Slab Unit H, Sh. 68/108 with Deck Slab Unit I, Sh. 69/108, with Deck Slab Unit J, Sh. 70/108, and with Decorative Railing Plan, Sh. 76/108 thru Sh. 84/108.



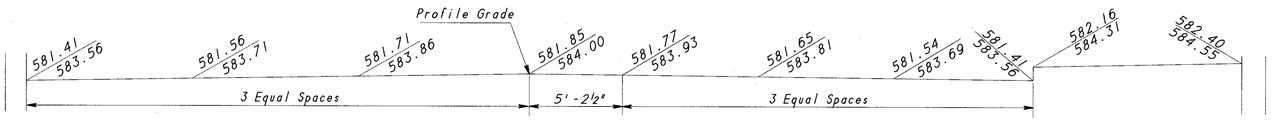
CROSS-SLOPE ELEVATIONS AT TOP OF JOINT STEEL ARMOR
PIER NO. 13
PIER NO. 14
(ELEVATIONS SHOWN ARE FINAL ELEVATIONS AT TOP OF STEEL ARMOR ALONG CENTERLINE OF JOINT)



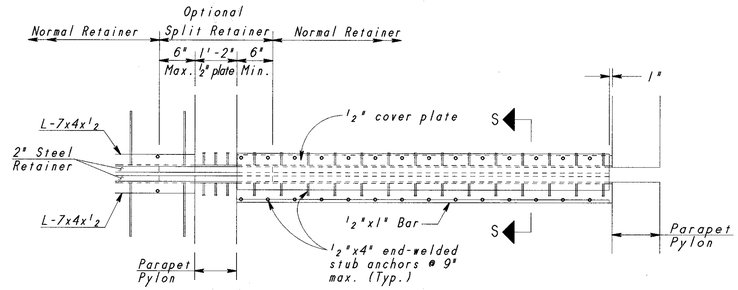
EXPANSION JOINT PLAN-PIER No.15 & No.16

(All Dimensions Shown Are Measured Along Centerline Of Joint)

NOTE:
Work the expansion joint plan at piers noted with Deck Slab Unit J, Sh. 70/108 with Deck Slab Unit K, Sh. 71/108, with Deck Slab Unit L, Sh. 72/108, and with Decorative Railing Plan, Sh. 76/108 thru Sh. 84/108.



CROSS-SLOPE ELEVATIONS AT TOP OF JOINT STEEL ARMOR
PIER NO. 15
PIER NO. 16
(ELEVATIONS SHOWN ARE FINAL ELEVATIONS AT TOP OF STEEL ARMOR ALONG CENTERLINE OF JOINT)



PART PLAN AT SIDEWALK

NOTES:
1.- For Sections N-N, N'-N', and R-R, see Sh. 53/108
2.- For Sections A-A, B-B, and S-S. see Sh. 54/108
3.- See Additional Notes On Sh. 53/108

JT13-16 Scale 4

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CINCINNATI OHIO

58/108

SUPERSTRUCTURE DETAILS
STRIP SEAL EXPANSION JOINT
AT PIER NO.13 THRU 16

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta.30+55.40
HAMILTON COUNTY Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

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

HAM-471-00.25

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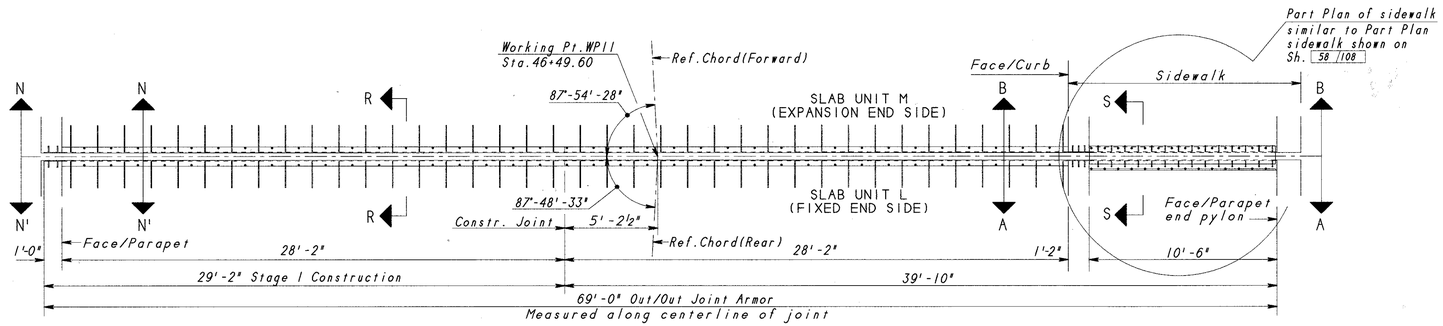


EXPANSION JOINT PLAN-PIER No. 17

(All Dimensions Shown Are Measured Along Centerline Of Joint)

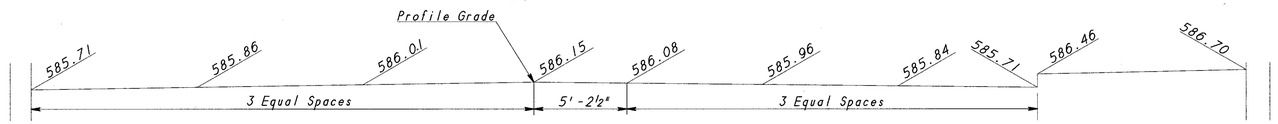
NOTE:
Work the expansion joint plan at piers noted with Deck Slab Unit L, Sh. 72/108 and with Deck Slab Unit M, Sh. 73/108 and with Decorative Railing Plan, Sh. 76/108 thru Sh. 84/108

NOTES:

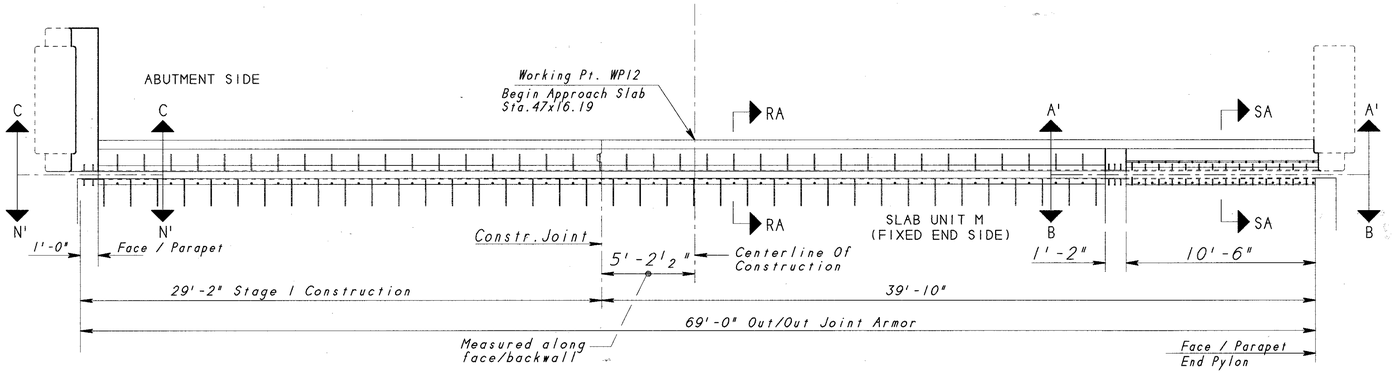
1.-For Sections A'-A', C-C, N-N, N'-N', R-R, RA-RA, and SA-SA, see Sh. 53/108

2.- For Sections A-A, B-B, and S-S. see Sh. 54/108

3.- See Additional Notes On Sh. 53/108

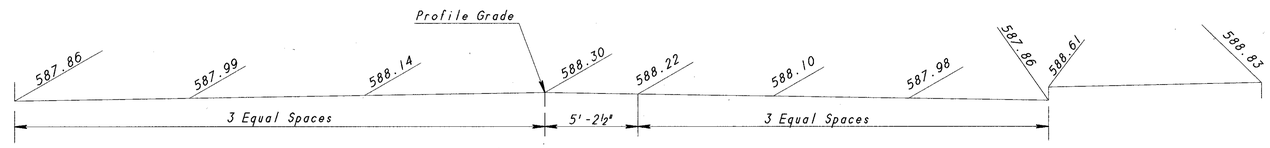


CROSS-SLOPE ELEVATIONS AT TOP OF JOINT STEEL ARMOR
PIER NO. 17
(ELEVATIONS SHOWN ARE FINAL ELEVATIONS AT TOP OF STEEL ARMOR ALONG CENTERLINE OF JOINT)



JOINT PLAN-FORWARD ABUTMENT

NOTE:
Work the joint plan at forward abutment with FORWARD ABUTMENT (Abutment No. 18), Sh. 16/108 and with Deck Slab Unit M, Sh. 73/108 and with Decorative Railing Plan, Sh. 76/108 thru Sh. 84/108



CROSS-SLOPE ELEVATIONS AT TOP OF JOINT STEEL ARMOR-FORWARD ABUTMENT
(ELEVATIONS SHOWN ARE FINAL ELEVATIONS AT TOP OF STEEL ARMOR ALONG FACE/BACKWALL)

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CINCINNATI OHIO

59/108

SUPERSTRUCTURE DETAILS
STRIP SEAL EXPANSION JOINT AT PIER NO. 17 AND AT FORWARD ABUTMENT (NO. 18)

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
Sta. 30+55.40
HAMILTON COUNTY Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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JT17-FA Scale 4

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

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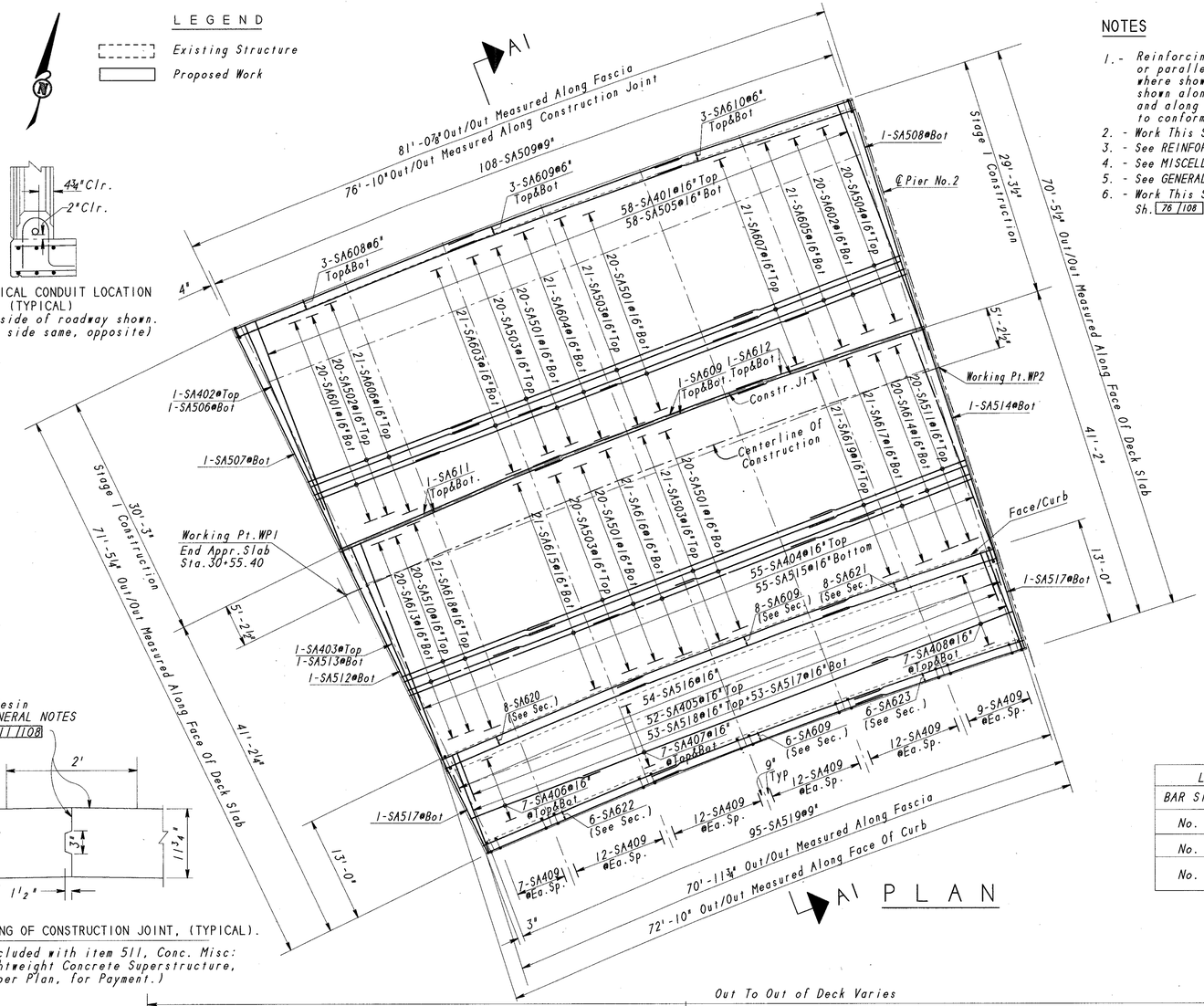
182

HAM-471-00.25

LEGEND

Existing Structure

Proposed Work



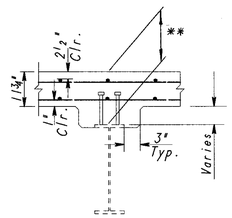
A1 PLAN

ELECTRICAL CONDUIT LOCATION (TYPICAL)
(Left side of roadway shown. Right side same, opposite)

SEALING OF CONSTRUCTION JOINT, (TYPICAL).
(Included with item 511, Conc. Misc: Lightweight Concrete Superstructure, As per Plan, for Payment.)

NOTES

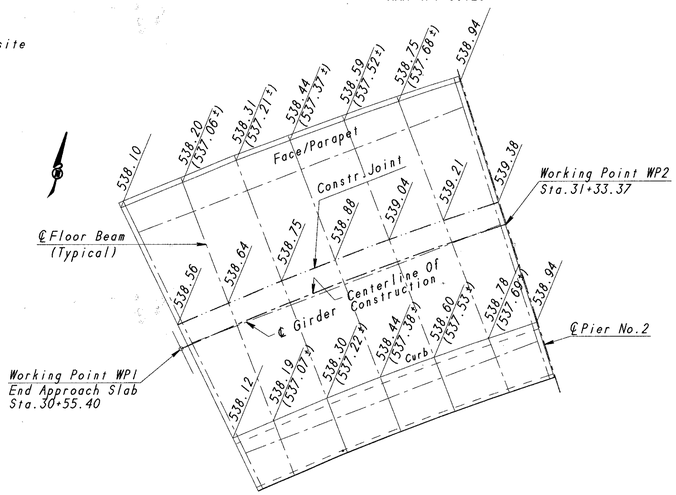
1. - *Reinforcing bars will be placed perpendicular to or parallel to the interior floor beam except where shown otherwise. Reinforcing bars shown along fasciae, along construction joint and along sidewalk curb face shall be bent on site to conform to the horizontal alignment.*
2. - *Work This Sheet With General Plan Sh. 4 /108.*
3. - *See REINFORCING STEEL BAR LIST, Sh. 88 /108.*
4. - *See MISCELLANEOUS DETAILS, Sh. 12 /108.*
5. - *See GENERAL NOTES, Sh. 7 /108 Thru 11 /108.*
6. - *Work This Sheet With DECORATIVE RAILING Sh. 76 /108 & 77 /108.*



SECTION THRU FLOOR BEAM (TYPICAL)

** *This is the design dimension. The quantity of concrete to be paid for will be based upon this dimension taking into account the variable haunch depth plus the nominal slab depth of 11-3/4".*

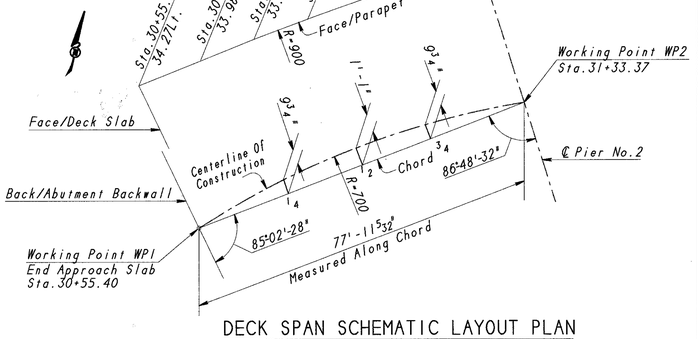
LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"



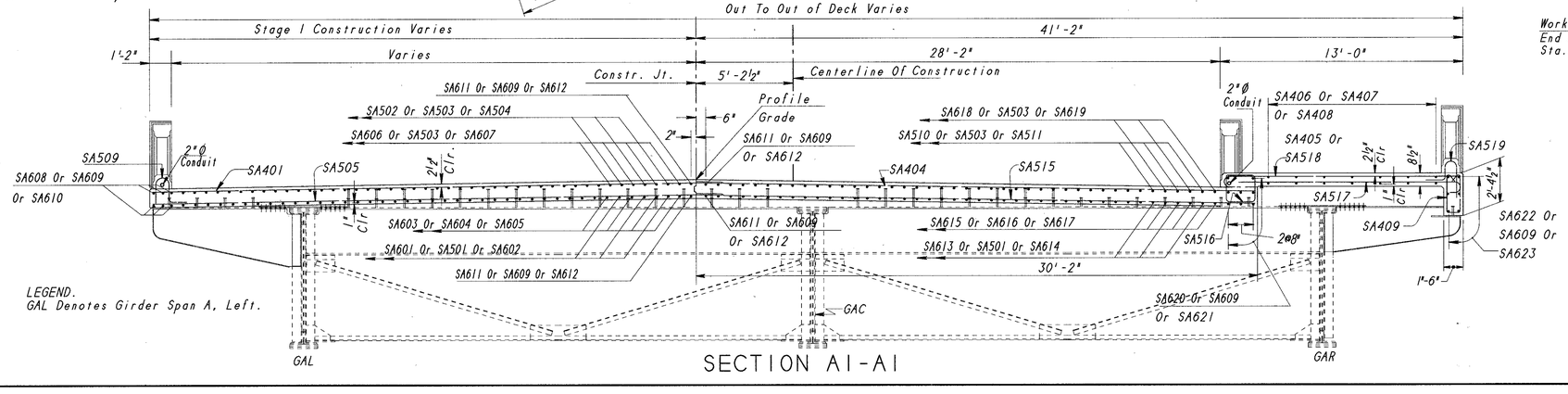
SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

LEGEND
123.45.....Denotes Top Of Slab Elevation.
(123.45±).....Denotes Top Of Existing Steel Elevation.



DECK SPAN SCHEMATIC LAYOUT PLAN



LEGEND.
GAL Denotes Girder Span A, Left.

SECTION A1-A1

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

60 /108

SPAN 1-2
DECK SLAB UNIT A

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

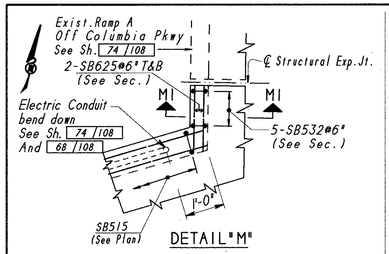
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

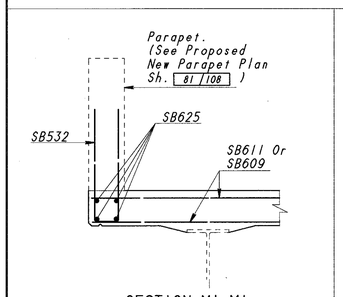
File SPN12 Scale 8

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

135
182

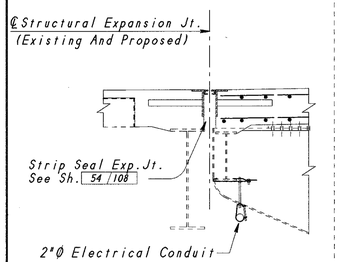
HAM-471-00.25

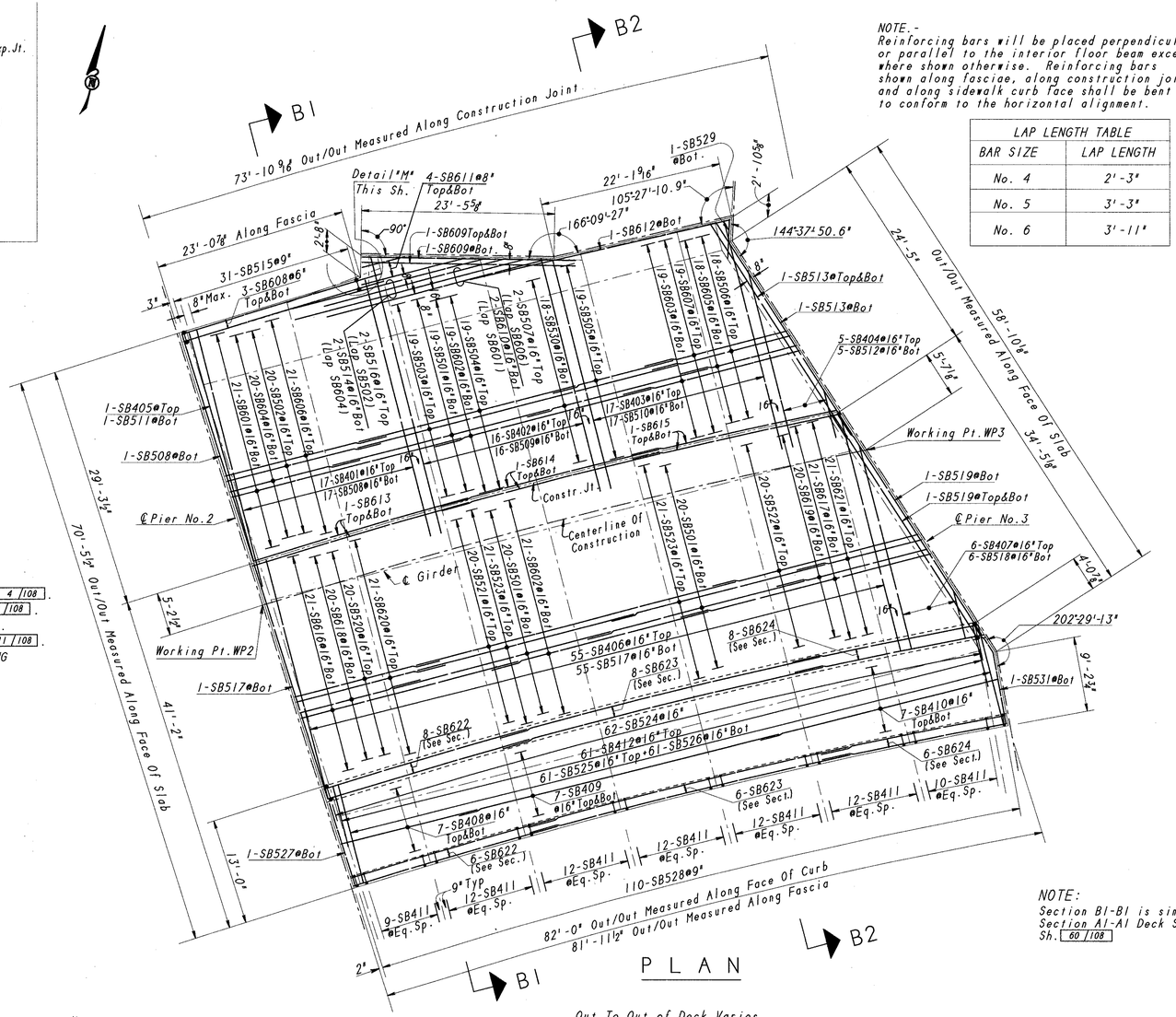




NOTES

1. - Work This Sheet With General Plan Sh. 4 /108 .
2. - See REINFORCING STEEL BAR LIST, Sh. 89 /108 .
3. - See MISCELLANEOUS DETAILS, Sh. 12 /108 .
4. - See GENERAL NOTES, Sh. 7 /108 Thru 11 /108 .
5. - Work This Sheet With DECORATIVE RAILING Sh. 76 /108 & 77 /108 .
6. - See Additional Details Sh. 60 /108

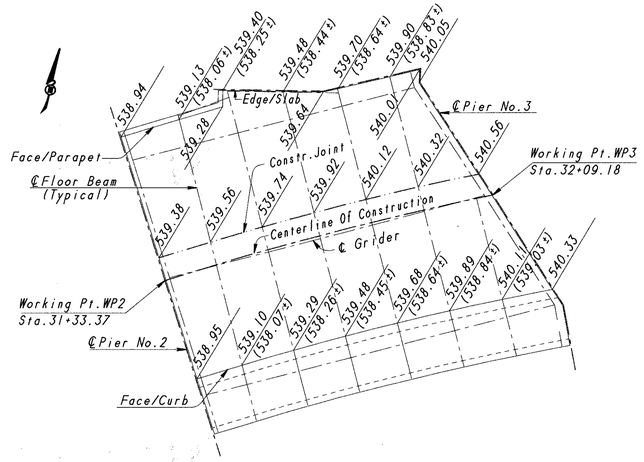




NOTE.-
Reinforcing bars will be placed perpendicular to or parallel to the interior floor beam except where shown otherwise. Reinforcing bars shown along fasciae, along construction joint and along sidewalk curb face shall be bent on site to conform to the horizontal alignment.

LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"

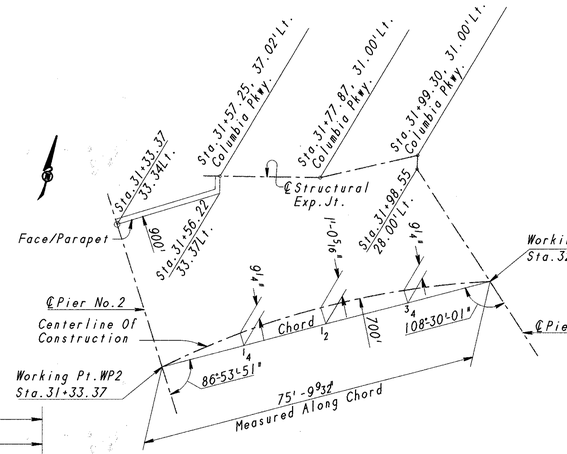
NOTE:
Section B1-B1 is similar to Section A1-A1 Deck Span 1-2 Sh. 60 /108



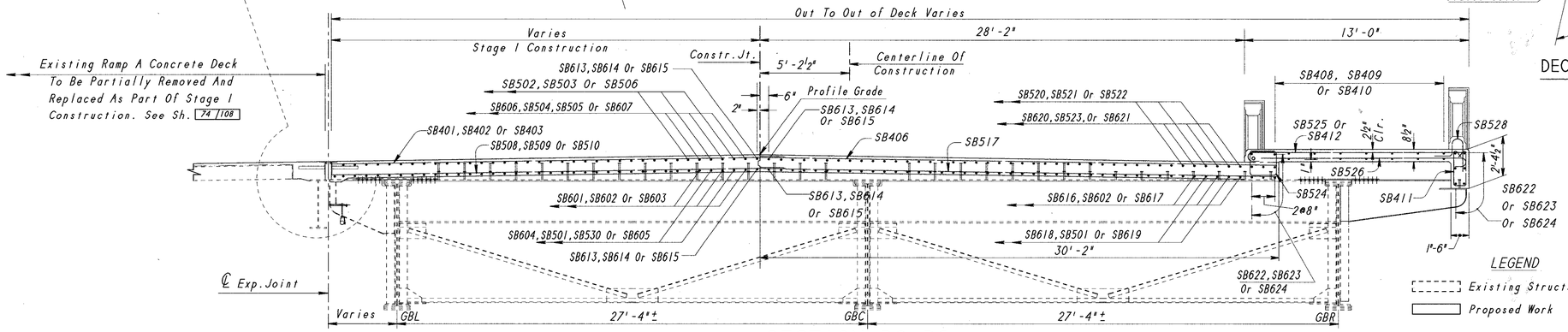
SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

LEGEND
123.45.....Denotes Top Of Slab Elevation.
(123.45±).....Denotes Top Of Existing Steel Elevation.



DECK SPAN SCHEMATIC LAYOUT PLAN



SECTION B2-B2

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

61 /108

SPAN 2-3
DECK SLAB UNIT B

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

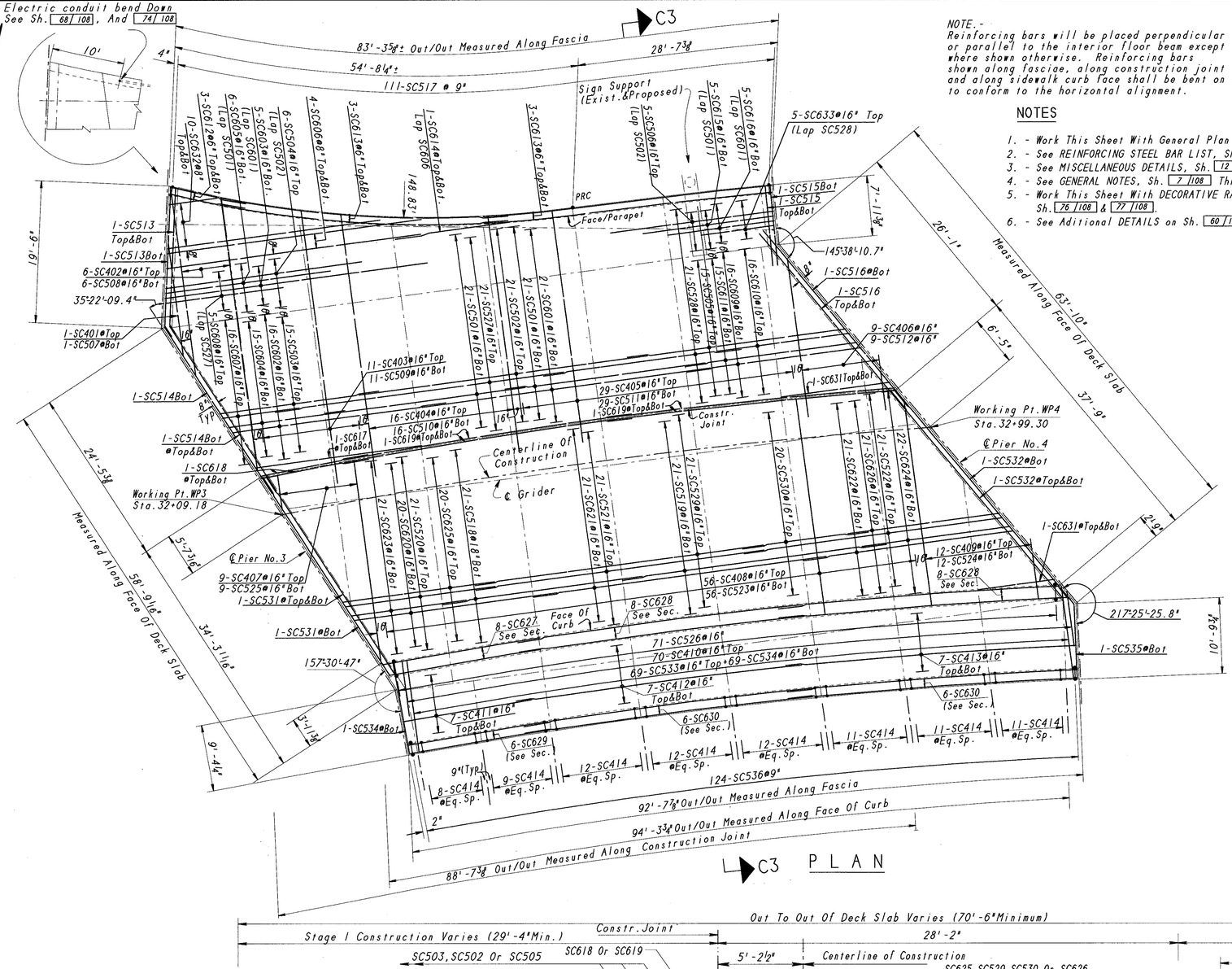
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

SPAN_SDW23 Scale 8

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

136 / 182

HAM-471-00.25



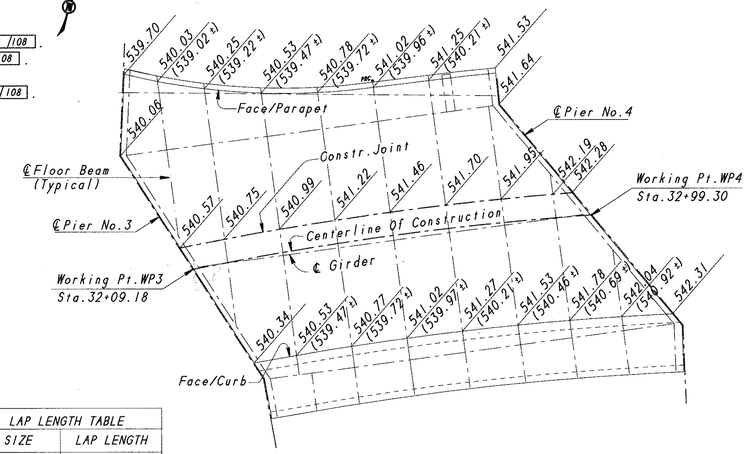
C3 PLAN

NOTE.-
Reinforcing bars will be placed perpendicular to or parallel to the interior floor beam except where shown otherwise. Reinforcing bars shown along fasciae, along construction joint and along sidewalk curb face shall be bent on site to conform to the horizontal alignment.

NOTES

1. - Work This Sheet With General Plan Sh. 4 / 108 .
2. - See REINFORCING STEEL BAR LIST, Sh. 90 / 108 .
3. - See MISCELLANEOUS DETAILS, Sh. 12 / 108 .
4. - See GENERAL NOTES, Sh. 7 / 108 Thru 11 / 108 .
5. - Work This Sheet With DECORATIVE RAILING Sh. 76 / 108 & 77 / 108 .
6. - See Aditional DETAILS on Sh. 60 / 108

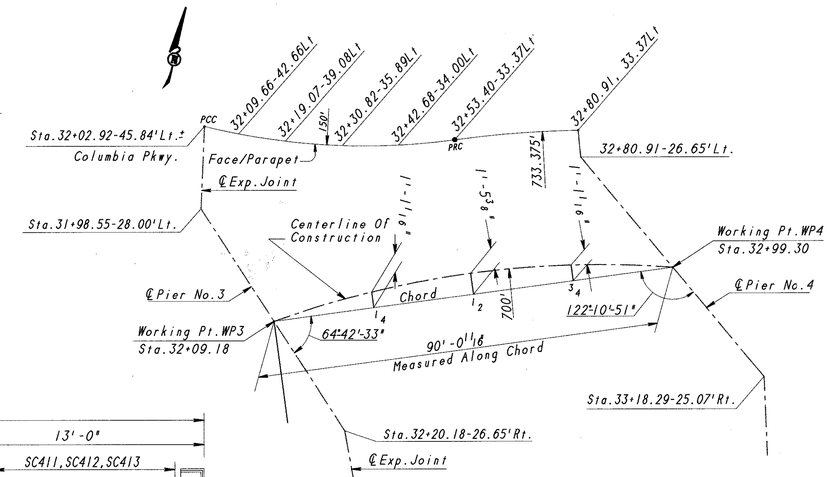
LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"



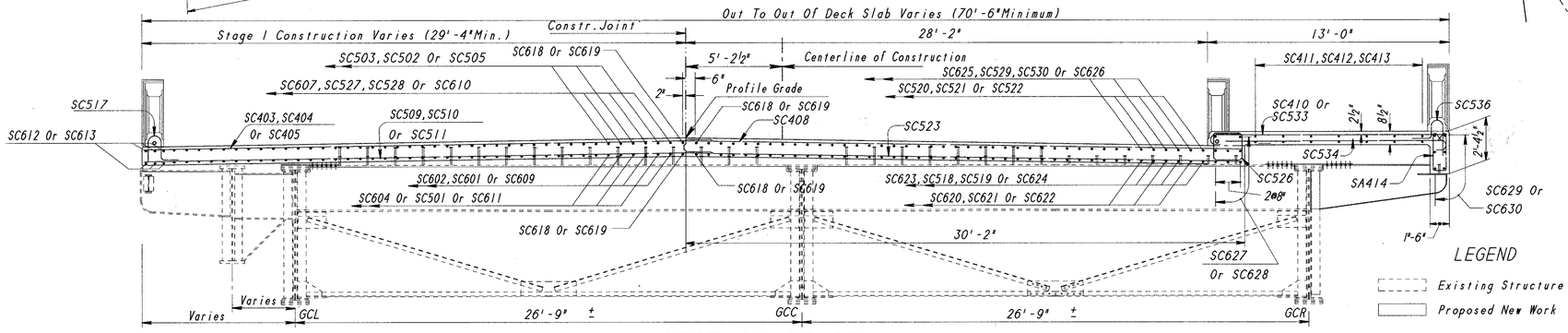
SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

LEGEND
123.45.....Denotes Top Of Slab Elevation.
(123.45±).....Denotes Top Of Existing Steel Elevation.



DECK SPAN SCHEMATIC LAYOUT PLAN



SECTION C3-C3

LEGEND
Existing Structure
Proposed New Work

Pflum, Klausmeier & Gehrum Consultants — CINCINNATI — OHIO

62 / 108

SPAN 3-4
DECK SLAB UNIT C

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

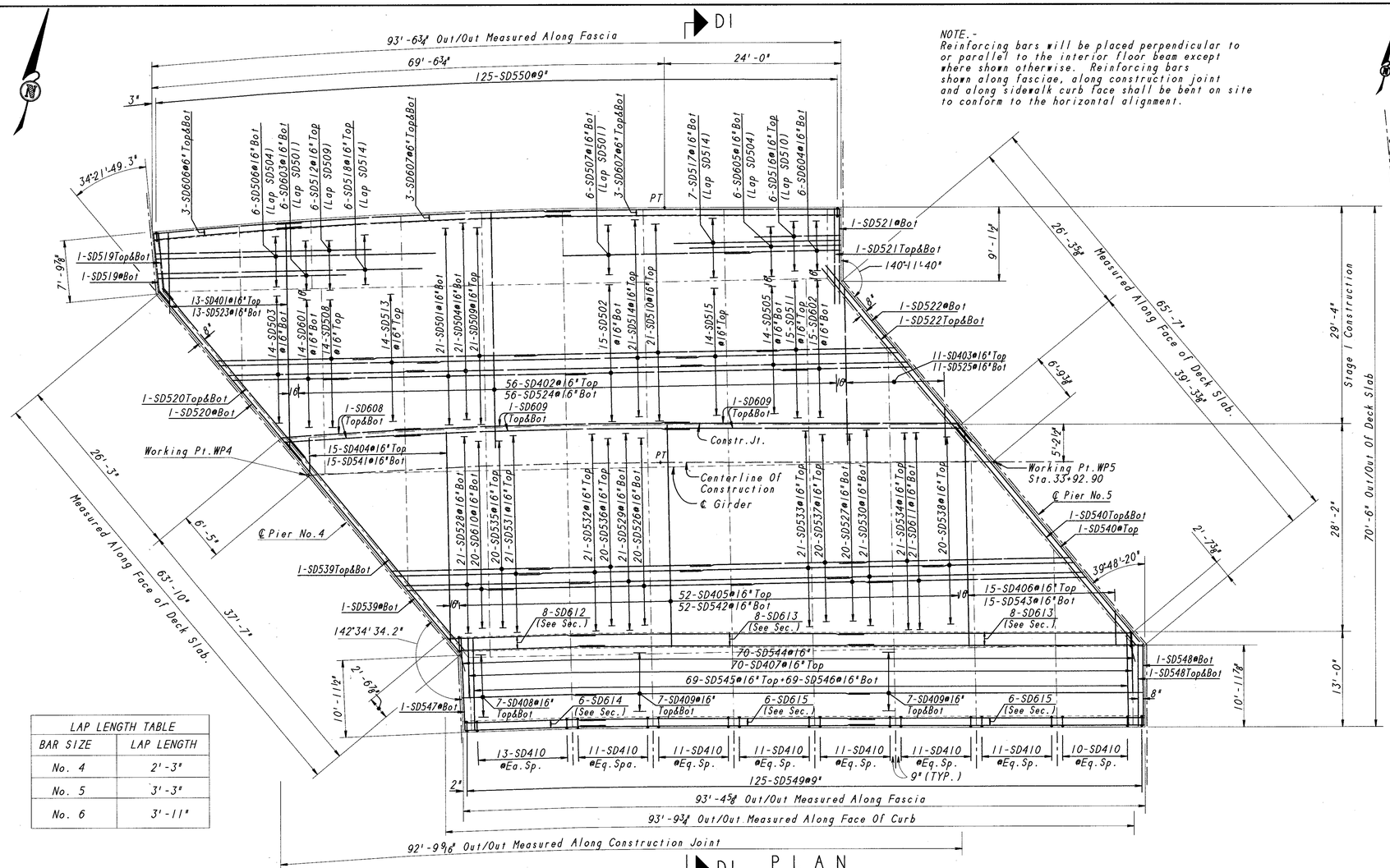
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

SPAN SPAN4 Scale 8

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

HAM-471-00.25

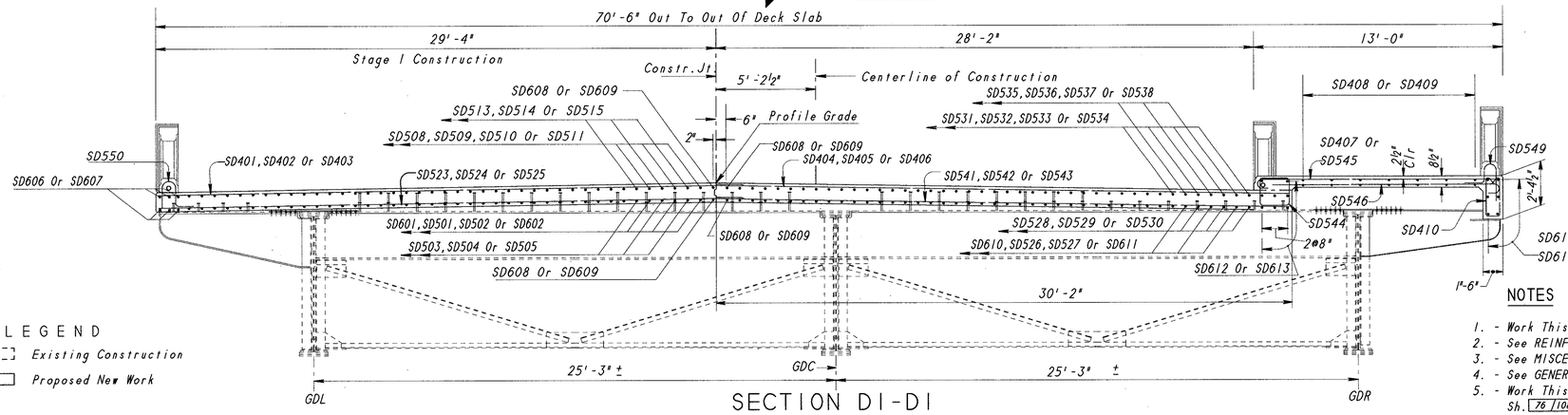
137
182



DI PLAN

NOTE.-
Reinforcing bars will be placed perpendicular to or parallel to the interior floor beam except where shown otherwise. Reinforcing bars shown along fasciae, along construction joint and along sidewalk curb face shall be bent on site to conform to the horizontal alignment.

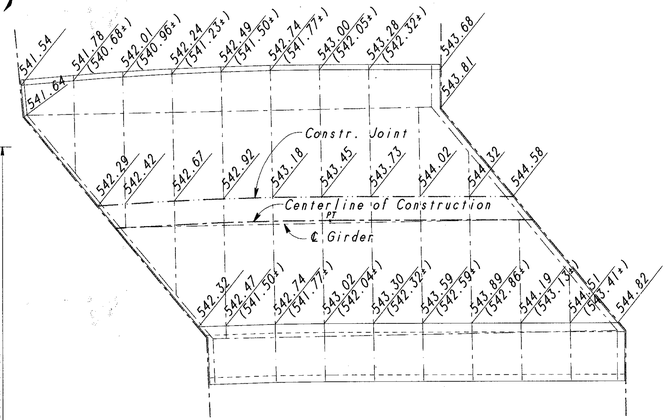
LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"



SECTION DI-DI

LEGEND
- Existing Construction
- Proposed New Work

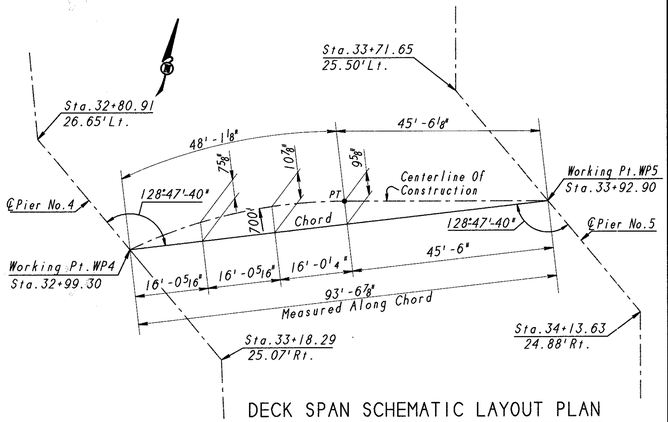
NOTES
1. - Work This Sheet With General Plan Sh. 4 /108 .
2. - See REINFORCING STEEL BAR LIST, Sh. 91 /108 .
3. - See MISCELLANEOUS DETAILS, Sh. 12 /108 .
4. - See GENERAL NOTES, Sh. 7 /108 Thru 11 /108 .
5. - Work This Sheet With DECORATIVE RAILING Sh. 76 /108 & 77 /108 .



SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

LEGEND
(123.45.....Denotes Top Of Slab Elevation.
(123.45±).....Denotes Top Of Existing Steel Elevation.



DECK SPAN SCHEMATIC LAYOUT PLAN

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

63 /108

SPAN 4-5
DECK SLAB UNIT D

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

SPNLSPN45 Scale 8

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

HAM 471-00.25

138/182

215'-0" Out/Out Measured Along Fascia

284-SE527 (283 Spa. @ 9"± = 211'-9")

4-SE551@8"

3-SE605@6" Top&Bot (See Sec.)

3-SE606@6" Top&Bot (See Sec.)

6-SE603@16" Bot (Lap SE501)

6-SE514@16" Bot (Lap SE504)

6-SE515@16" Top (Lap SE508)

6-SE516@16" Top (Lap SE512)

6-SE604@16" Bot (Lap SE502)

6-SE517@16" Bot (Lap SE505)

6-SE518@16" Top (Lap SE512)

6-SE519@16" Top (Lap SE509)

1-SE520@Bot

1-SE521@Top&Bot

1-SE521@Bot

1-SE522@Bot

1-SE524@Top&Bot

1-SE525@Top&Bot

13-SE401@16" Top

13-SE524@16" Bot

15-SE601@16" Bot

15-SE502@16" Top

14-SE503@16" Bot

14-SE511@16" Top

21-SE501@16" Bot

20-SE504@16" Bot

21-SE508@16" Top

20-SE512@16" Top

20-SE505@16" Bot

21-SE509@16" Top

14-SE513@16" Bot

14-SE506@16" Bot

15-SE602@16" Bot

15-SE510@16" Top

Face/Parapet

℄ Pier No.7

℄ Pier No.6

℄ Pier No.5

℄ Constr. Jt.

Centerline Of Construction

147-SE402@16" Top

147-SE525@16" Bot

1-SE607 Top&Bot

1-SE608 Top&Bot

12-SE403@16" Top

12-SE526@16" Bot

17-SE404@16" Top

17-SE542@16" Bot

1-SE540@Top&Bot

1-SE540@Bot

1-SE541@Bot

1-SE541@Top&Bot

21-SE609@16" Bot

21-SE533@16" Top

20-SE530@16" Bot

21-SE528@16" Bot

20-SE537@16" Top

20-SE531@16" Bot

21-SE534@16" Top

20-SE538@16" Top

21-SE535@16" Top

20-SE539@16" Top

21-SE610@16" Bot

143-SE405@16" Top

143-SE543@16" Bot

16-SE406@16" Top

16-SE544@16" Bot

Face/Sidewalk Curb

8-SE611 (See Sec.)

8-SE612 (See Sec.)

161-SE545@16"

161-SE407@16" Top

161-SE546@16" Top+161-SE547@16" Bot

1-SE548@Bot

1-SE549@Bot

6-SE613 (See Sec.)

6-SE614 (See Sec.)

7-SE408@16" Top&Bot

7-SE409@16" Top&Bot

9" (Typ)

10-SE410 @Eq. Spa.

LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"

NOTES

1. - Work This Sheet With General Plan Sh. 4 /108 .
2. - See REINFORCING STEEL BAR LIST, Sh. 92 /108 .
3. - See MISCELLANEOUS DETAILS, Sh. 12 /108 .
4. - See GENERAL NOTES, Sh. 7 /108 Thru 11 /108 .
5. - Work This Sheet With DECORATIVE RAILING Sh. 76 /108 & 77 /108 .

PLAN

SECTION EI-EI

70'-6" Out/Out Of Deck Slab

29'-4" Stage I Construction

28'-2"

13'-0"

Constr. Jt.

5'-2½"

Centerline Of Construction

Profile Grade

SE607 Or SE608

SE511, SE512 Or SE513

SE507, SE508, SE509 Or SE510

SE527 Or SE551 *

SE401, SE402 Or SE403

SE524, SE525 Or SE526

SE605 Or SE606

SE601, SE501, SE502 Or SE602

SE503, SE504, SE505 Or SE506

SE607 Or SE608

SE607 Or SE608

SE537, SE538 Or SE539

SE533, SE534, SE535 Or SE536

SE404, SE405 Or SE406

SE542, SE543 Or SE544

SE609, SE528, SE529 Or SE610

SE530, SE531 Or SE532

SE408 Or SE409

SE407 Or SE546

SE550 Or SE552 *

SE547

SE545

SE410

SE613 Or SE614

SE611 Or SE612

9'-0½"±

30'-2"

10'-5½"±

Proposed Inspection Catwalk Sh. 100/108

LEGEND

Existing Structure

New Work

* Longer Bent Bars SE551 and SE552 Will Be Placed Typically Under All 8' Or 12' High Pylons.

SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed).

LEGEND

123.34.....Denotes Top Of Slab Elevation

(123.34±).... Denotes Top Of Steel Existing Elevation

543.70 544.32 (542.78±) 544.94 (543.48±) 545.59 (544.18±) 546.28 (544.88±) 546.98 (545.58±) 547.68 (546.28±) 548.39 (546.98±) 549.09 (547.68±) 549.79 (548.39±) 550.55

544.60 544.76 545.38 546.03 546.72 547.42 548.12 548.83 549.53 550.23 550.94 551.54 Sta.36+08.42 ℄ Pier No.7

544.84 545.59 (544.18±) 546.28 (544.88±) 546.98 (545.58±) 547.68 (546.28±) 548.39 (546.98±) 549.09 (547.68±) 549.79 (548.39±) 550.49 (549.08±) 551.18 551.88

℄ Floor Beam (Typical)

Working Pt.WP5

℄ Pier No.5

Face Of Parapet

Construction Joint

Face/Curb

℄ Pier No.6

Centerline Of Construction

DECK SPAN SCHEMATIC LAYOUT PLAN

Sta.33+71.65 25.50'Lt

Sta.35+87.17 25.50'Lt

215'-6¼"

86'-4³⁄₁₆"

129'-2¹⁵⁄₁₆"

Working Pt.WP5

Sta.33+92.90

Sta.34+79.25

Sta.36+08.42

℄ Construction

50'-11'-40" (Typical)

℄ Pier No.5

℄ Pier No.6

℄ Pier No.7

140'-11'-40" (Typical)

Sta.34+13.63 24.88'Rt

Sta.36+29.67 25.50'Rt

Pflum, Klausmeier & Gehrum Consultants

CINCINNATI OHIO

64 /108

SPAN 5-6-7 DECK SLAB UNIT E

BRIDGE No.HAM-471-0025

(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40

Sta.47+16.19

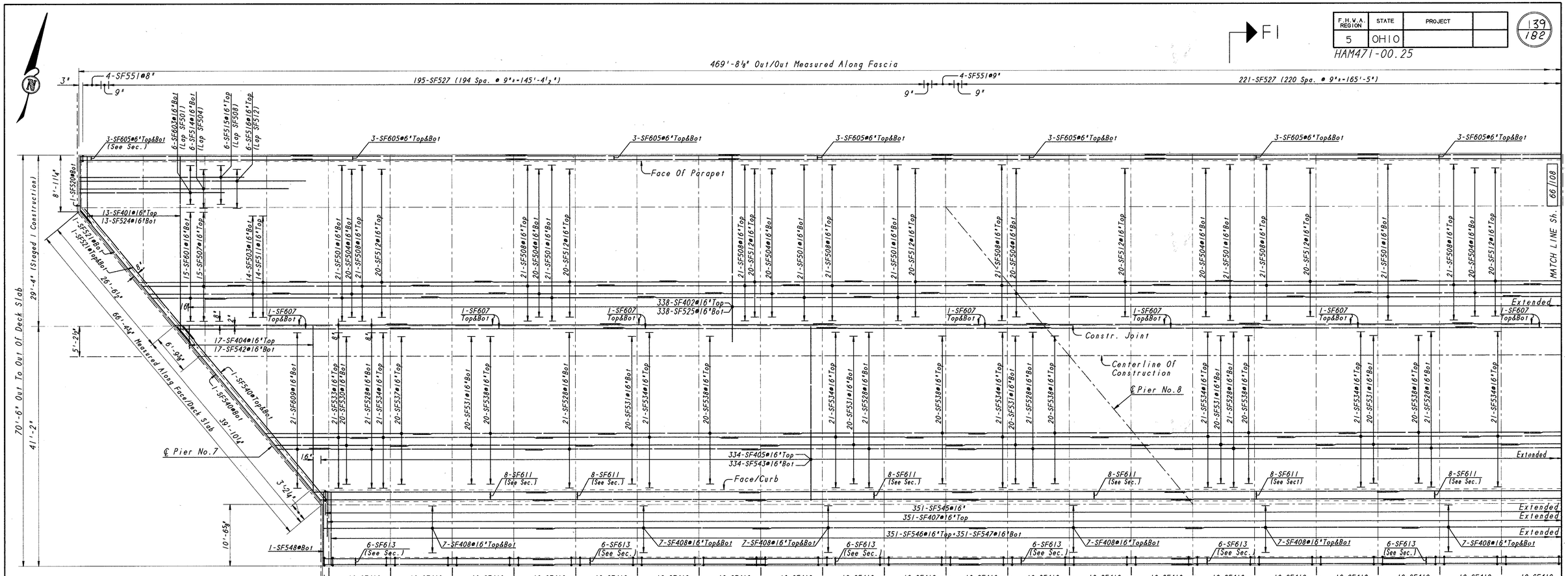
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

File: SPN507 Sht# 8

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

HAM471-00.25

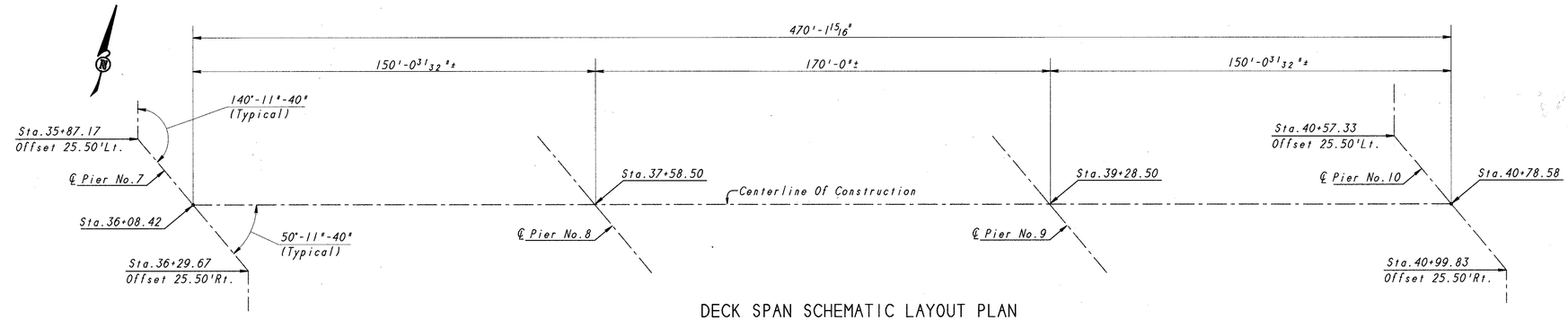
139/182



PLAN (PART 1/2)

F1

LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"



DECK SPAN SCHEMATIC LAYOUT PLAN

NOTES

1. - Work This Sheet With General Plan Sh. 4/108 & Sh. 5/108.
2. - Work This Sheet With Sh. 67/108
3. - See REINFORCING STEEL BAR LIST, Sh. 93/108.
4. - See MISCELLANEOUS DETAILS, Sh. 12/108.
5. - See GENERAL NOTES, Sh. 7/108 Thru 11/108.
6. - Work This Sheet With DECORATIVE RAILING, Sh. 76/108 and Sh. 78/108
7. - For Section F1-F1 see similar section E1-E1 on Sh. 64/108 DECK SLAB SPAN 5-6-7

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OH10

65/108

SPAN 7-8-9-10
DECK SLAB UNIT F 1/2
BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

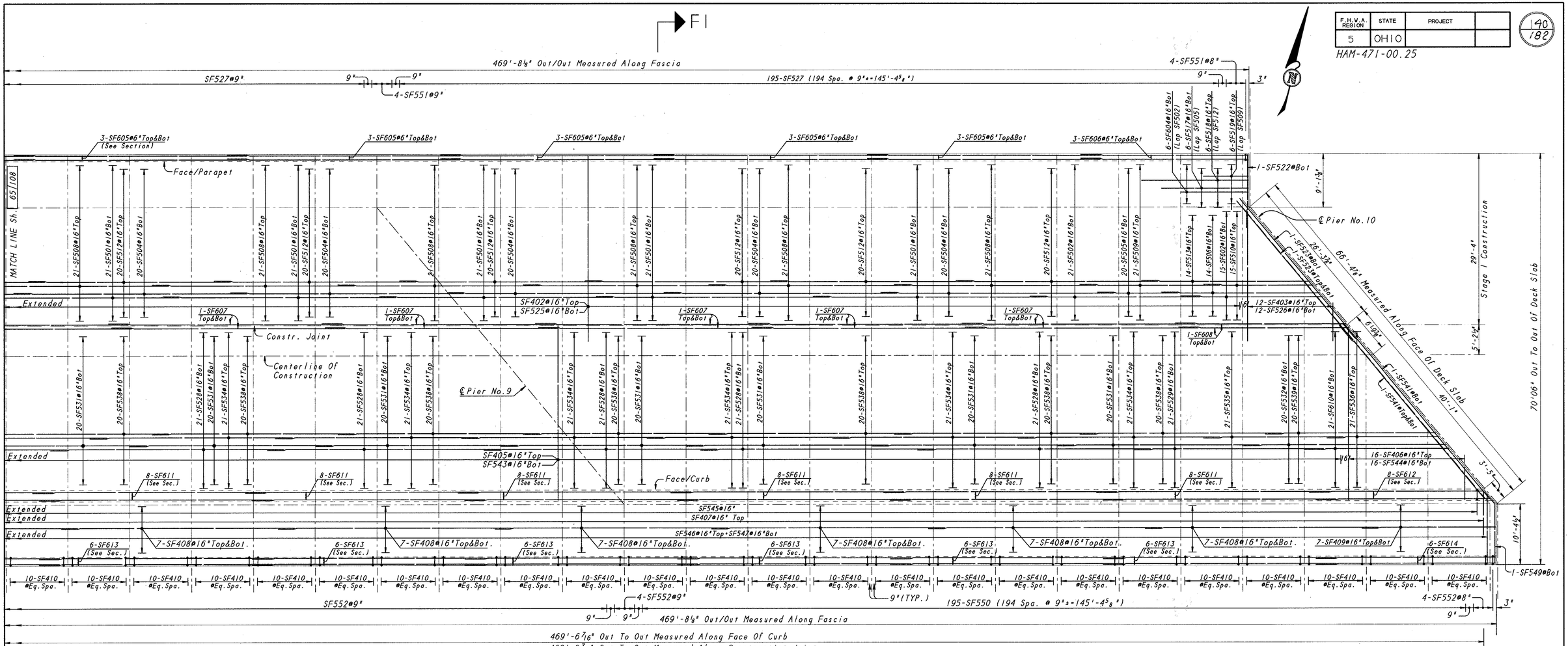
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

I:\DECK\SP7891OA SCALE 8

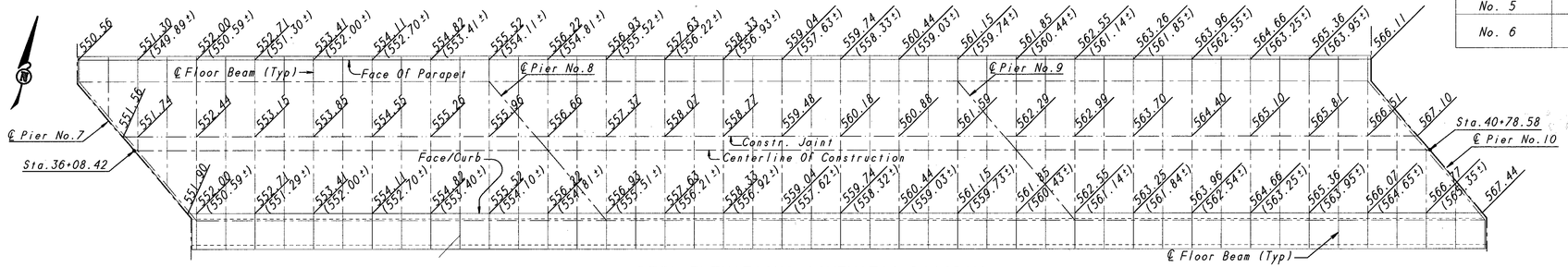
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

HAM-471-00.25

140/182



F1



SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

LEGEND
123.45.....Denotes Top Of Slab Elevation.
(123.45±).....Denotes Top Of Existing Steel Elevation.

LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"

NOTES

1. - Work This Sheet With General Plan Sh. 4/108 & 5/108.
2. - Work This Sheet With Sh. 65/108
3. - See REINFORCING STEEL BAR LIST, Sh. 93/108.
4. - See MISCELLANEOUS DETAILS, Sh. 12/108.
5. - See GENERAL NOTES, Sh. 7/108 Thru 11/108.
6. - Work This Sheet With DECORATIVE RAILING Sh. 76/108 & 78/108.
7. - For Section F1-F1 see similar section E1-E1 on Sh. 64/108 DECK SLAB SPAN 5-6-7

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

66/108

SPAN 7-8-9-10
DECK SLAB UNIT F
2/2

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

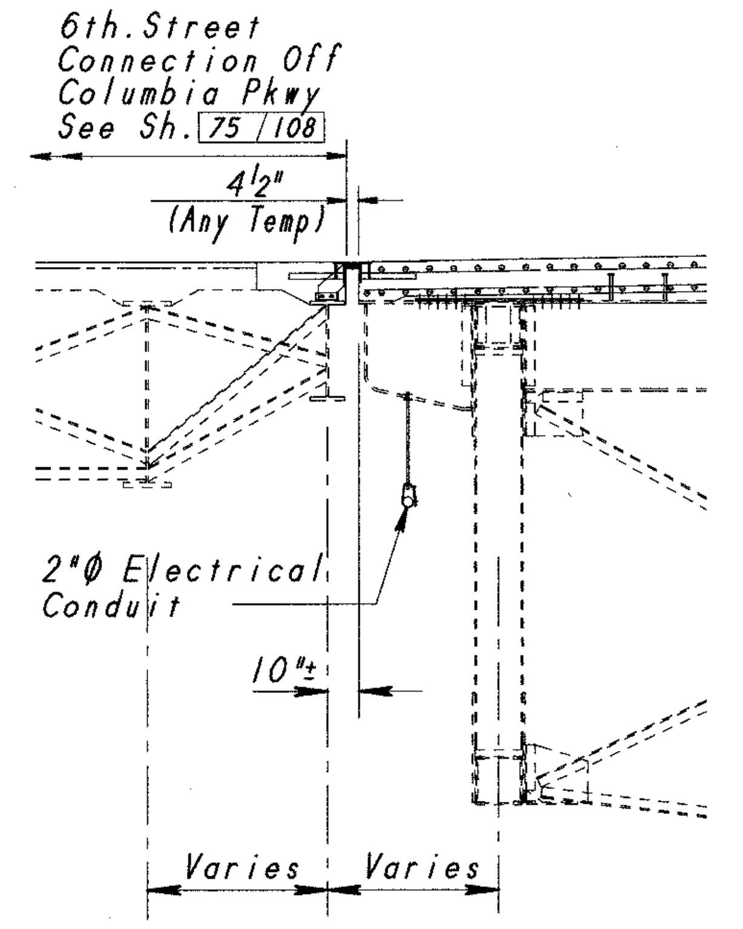
I:\3DECK\SP7891OB SCALE 8

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

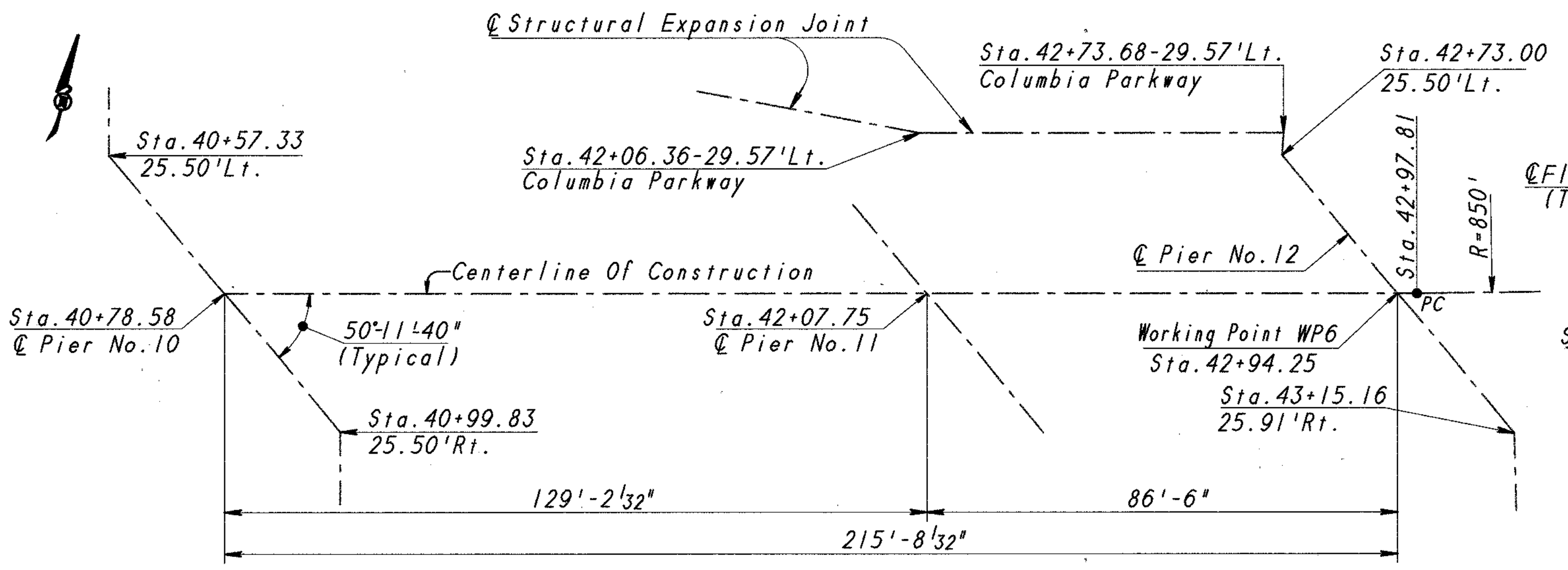
HAM 471-00.25

141/182

PLAN



SECTION G2-G2

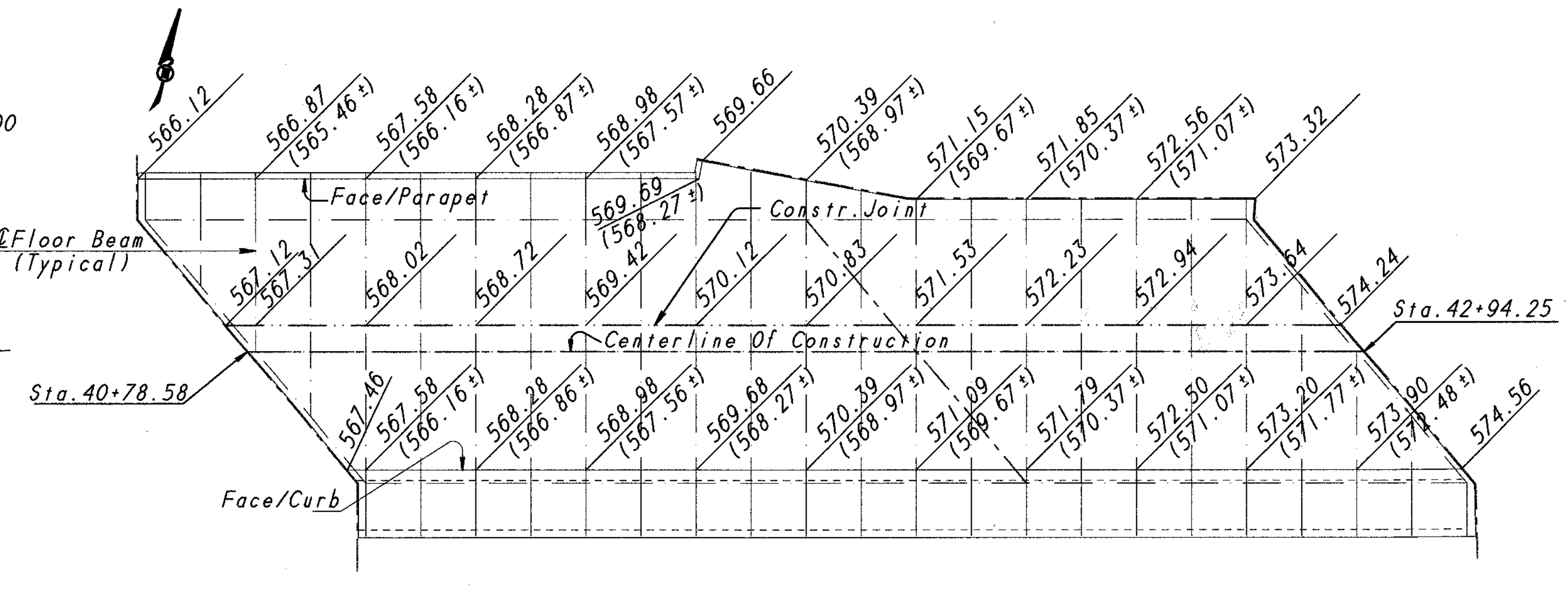


DECK SPAN SCHEMATIC LAYOUT PLAN

LEGEND

Existing Structure

New Work



SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

LEGEND
123.45.........Denotes Top Of Slab Elevation.
(123.45±)......Denotes Top Of Existing Steel Elevation

NOTES

1. - Work This Sheet With General Plan Sh. 5/108.
2. - See REINFORCING STEEL BAR LIST, Sh. 94/108.
3. - See MISCELLANEOUS DETAILS, Sh. 12/108.
4. - See GENERAL NOTES, Sh. 7/108 Thru 11/108.
5. - Work This Sheet With DECORATIVE RAILING Sh. 76/108 & 79/108.
6. - For Section G1-G1 See Similar Section E1-E1 On Sh. 64/108 DECK SLAB SPAN 5-6-7

CINCINNATI — Pflum, Klausmeier & Gehrum Consultants — OHIO

67/108

SPAN 10-11-12
DECK SLAB UNIT G

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

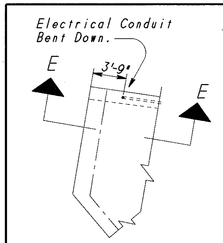
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

File SP101112 Scale 8

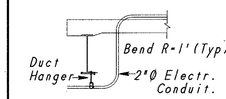
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

142
182

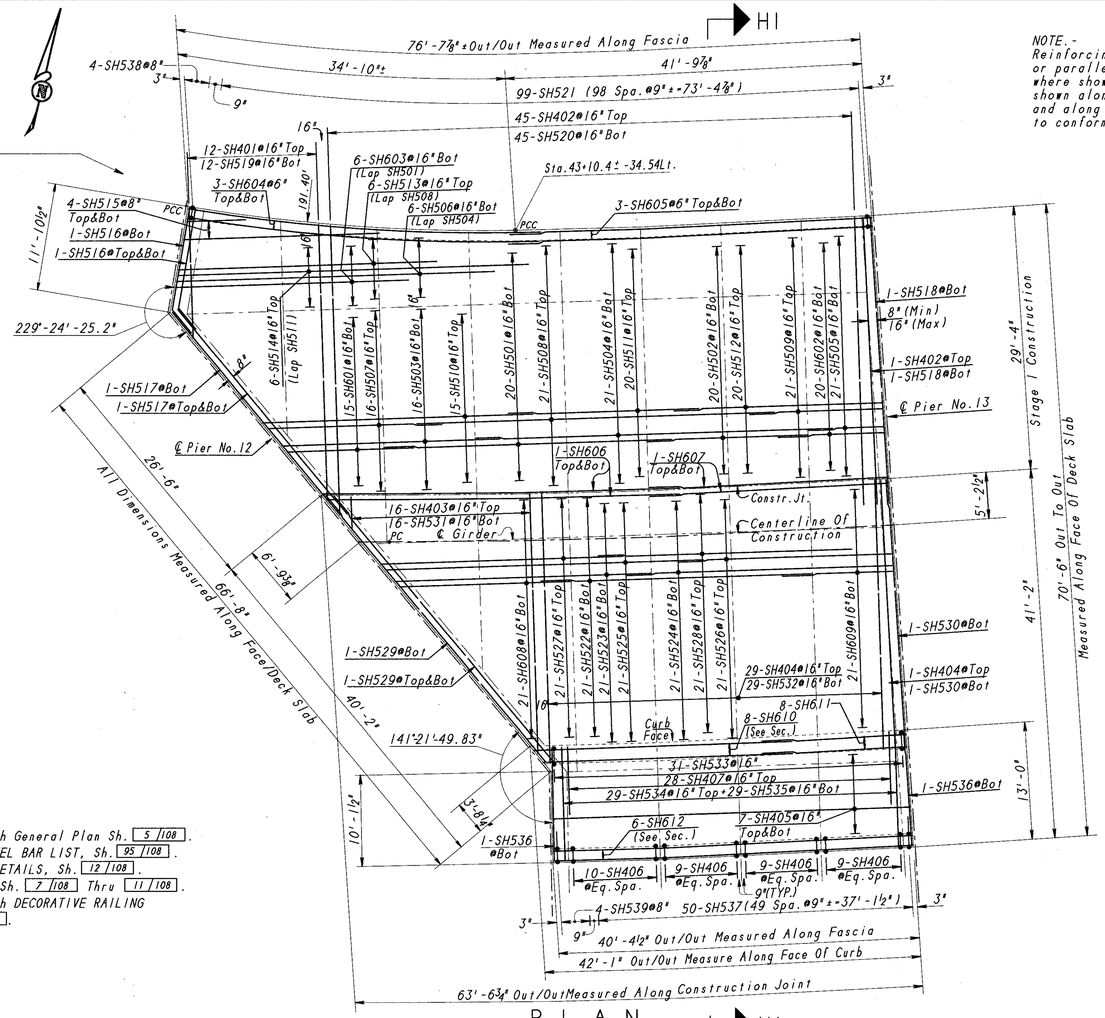
HAM-471-00.25



SLAB PARTIAL PLAN



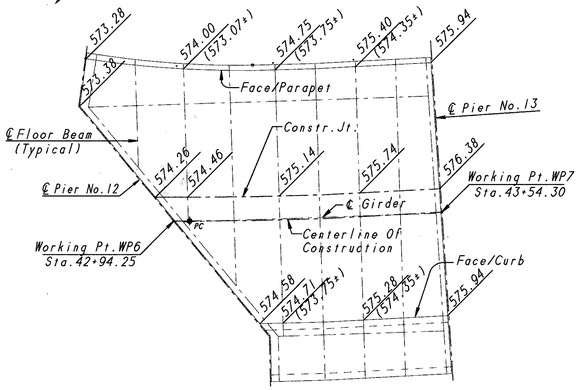
SECTION E-E



PLAN HI

NOTE.-
Reinforcing bars will be placed perpendicular to or parallel to the interior floor beam except where shown otherwise. Reinforcing bars shown along fascias, along construction joint and along sidewalk curb face shall be bent on site to conform to the horizontal alignment.

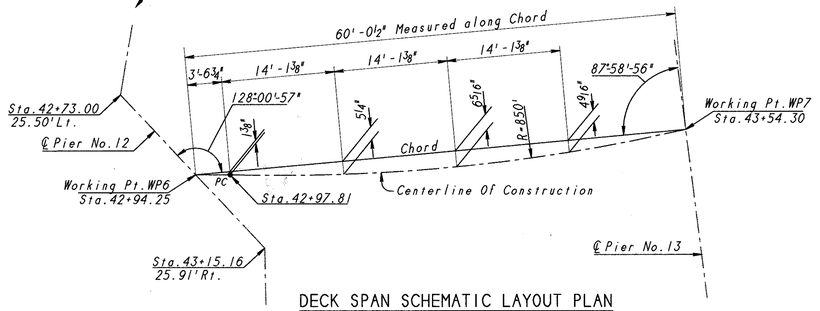
LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"



SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

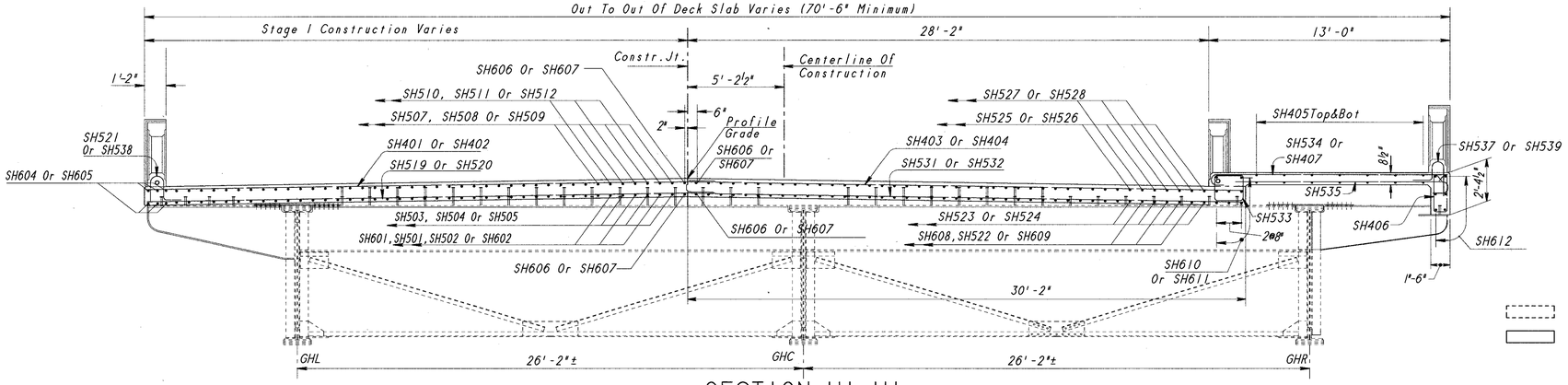
LEGEND
123.34.....Denotes Top Of Slab Elevation
(123.34±).... Denotes Top Of Existing Steel Elevation



DECK SPAN SCHEMATIC LAYOUT PLAN

NOTES

1. - *Work This Sheet With General Plan Sh.* 5 /108 .
2. - *See REINFORCING STEEL BAR LIST, Sh.* 95 /108 .
3. - *See MISCELLANEOUS DETAILS, Sh.* 12 /108 .
4. - *See GENERAL NOTES, Sh.* 7 /108 *Thru* 11 /108 .
5. - *Work This Sheet With DECORATIVE RAILING Sh.* 76 /108 *&* 79 /108 .



SECTION HI-HI

LEGEND
Existing Structure
New Work

Pflum, Klausmeier & Gehrum Consultants — CINCINNATI — 68 /108 — OH10

SPAN 12-13
DECK SLAB UNIT H

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

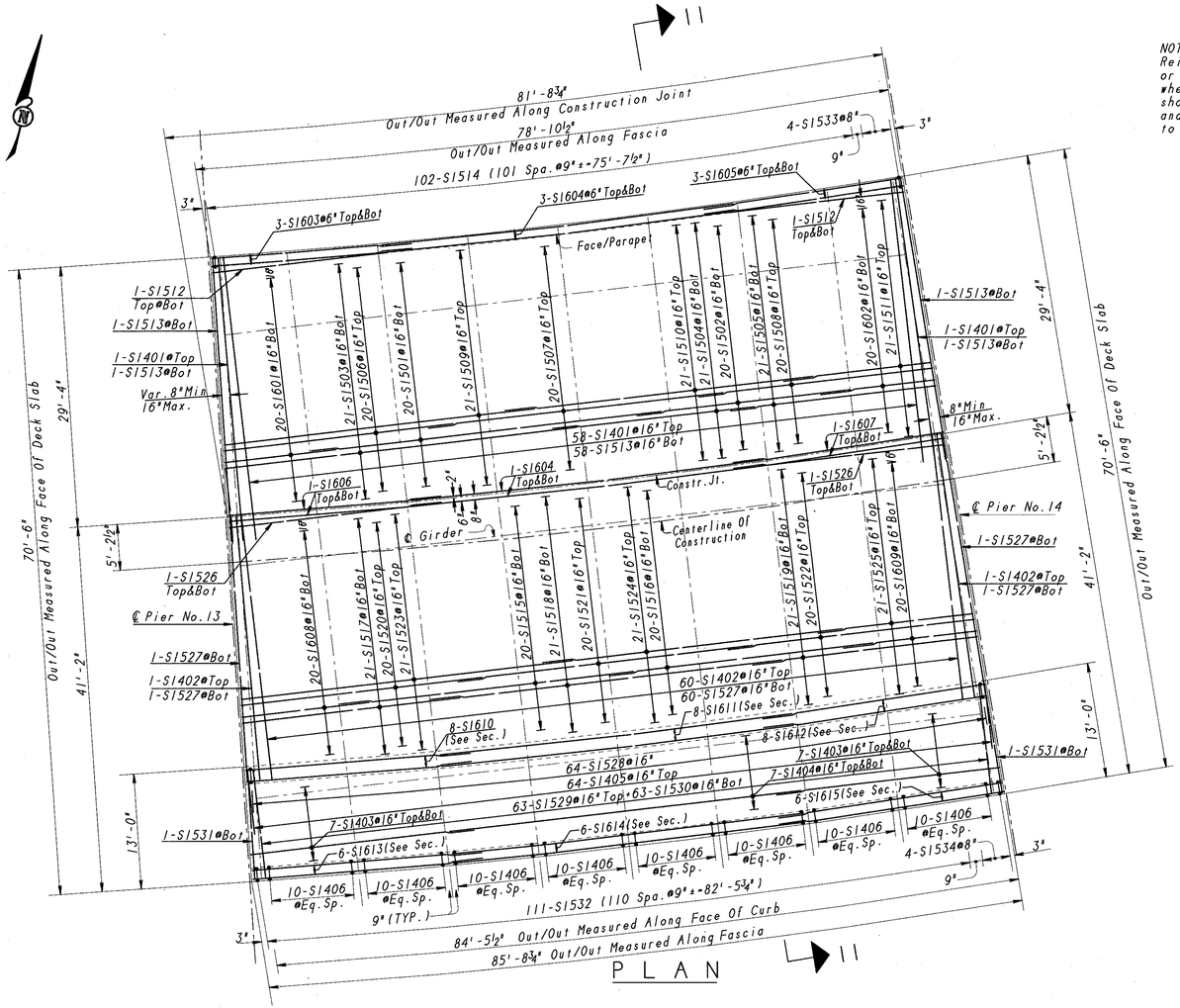
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
ED	ED		WDD	IEH April 96	

Filenam SPN213 Scale 8

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

143 / 182

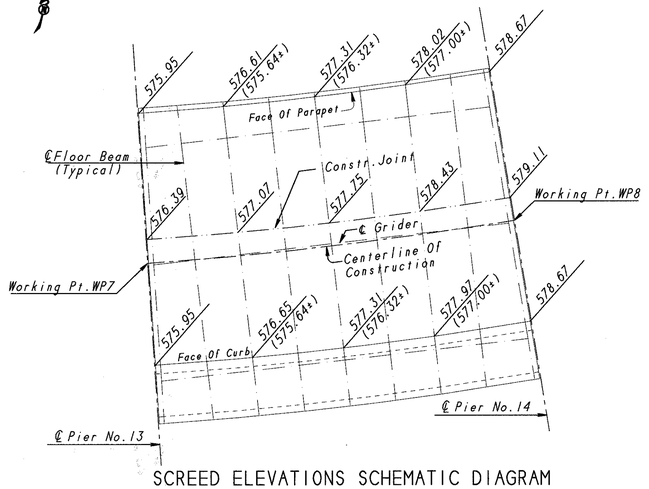
HAM-471-00.25



PLAN

NOTE.-
Reinforcing bars will be placed perpendicular to or parallel to the interior floor beam except where shown otherwise. Reinforcing bars shown along fasciae, along construction joint and along sidewalk curb face shall be bent on site to conform to the horizontal alignment.

LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"



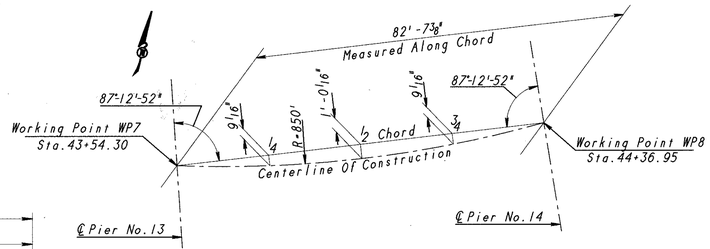
SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

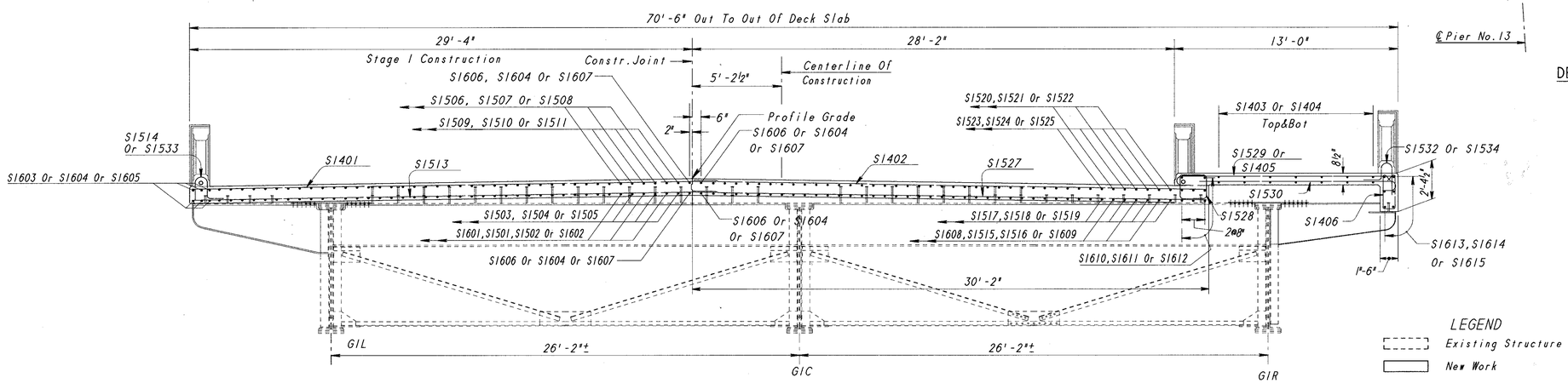
LEGEND
123.45.....Denotes Top Of Slab Elevation.
(123.45±).....Denotes Top Of Existing Steel Elevation.

NOTES

1. - Work This Sheet With General Plan Sh. 5 /108 & 6 /108.
2. - See REINFORCING STEEL BAR LIST, Sh. 96 /108.
3. - See MISCELLANEOUS DETAILS, Sh. 12 /108.
4. - See GENERAL NOTES, Sh. 7 /108 Thru 11 /108.
5. - Work This Sheet With DECORATIVE RAILING Sh. 76 /108 & 79 /108.



DECK SPAN SCHEMATIC LAYOUT PLAN



SECTION II-II

LEGEND
Existing Structure
New Work

Prum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

69 / 108

SPAN 13-14
DECK SLAB UNIT 1

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

SPN13SPN14 Scale 8

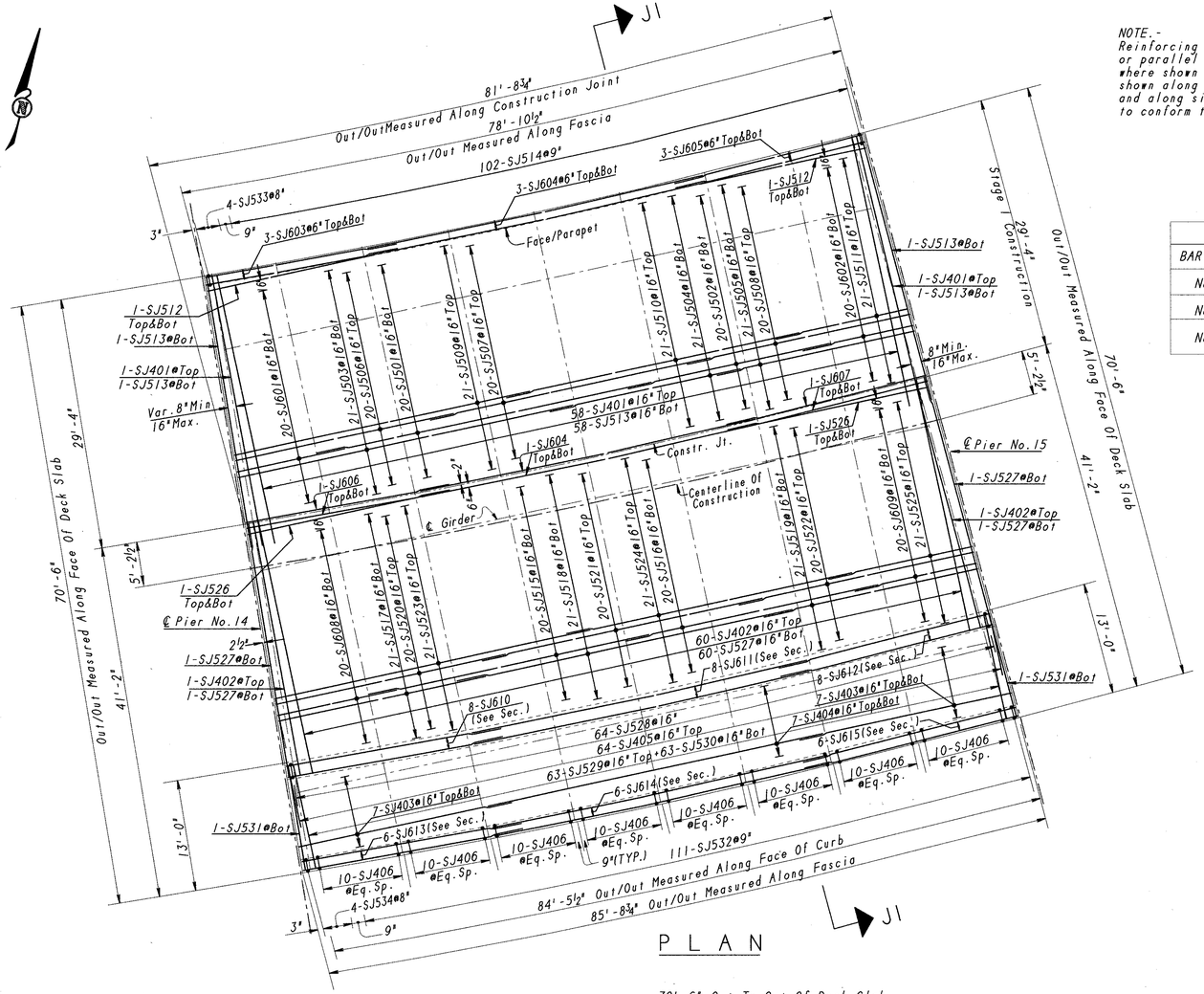
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

144 / 182

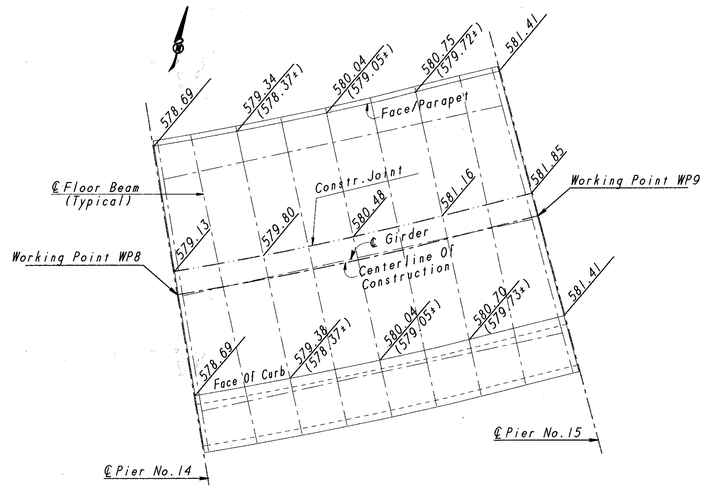
HAM-471-00.25

NOTE.-
Reinforcing bars will be placed perpendicular to or parallel to the interior floor beam except where shown otherwise. Reinforcing bars shown along fasciae, along construction joint and along sidewalk curb face shall be bent on site to conform to the horizontal alignment.

LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"



PLAN



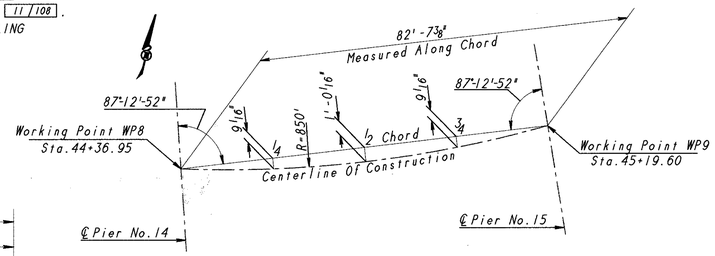
SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

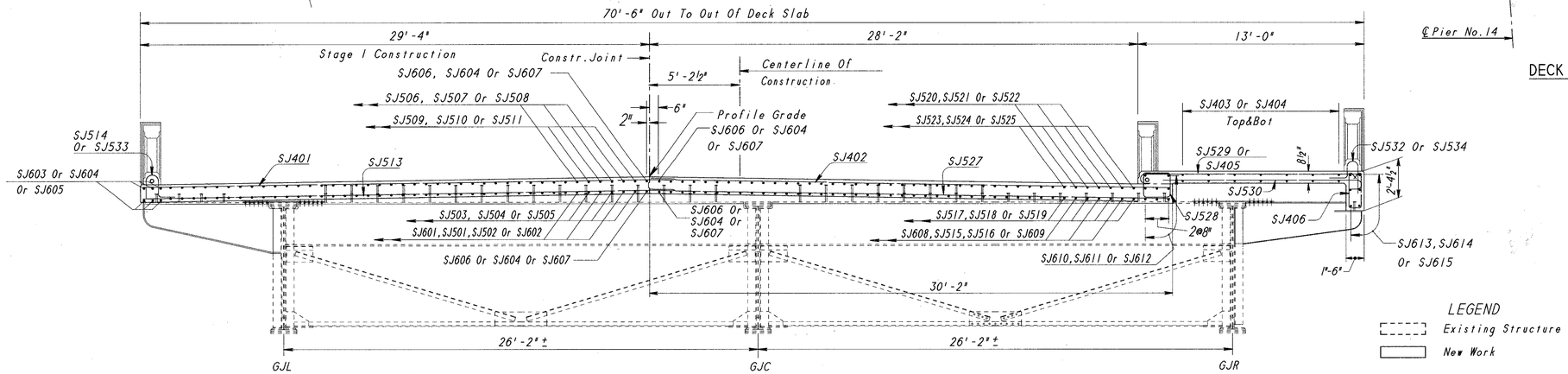
LEGEND
123.45.....Denotes Top Of Slab Elevation.
(123.45±).....Denotes Top Of Existing Steel Elevation.

NOTES

1. - Work This Sheet With General Plan Sh. 6 /108 .
2. - See REINFORCING STEEL BAR LIST, Sh. 96 /108 .
3. - See MISCELLANEOUS DETAILS, Sh. 12 /108 .
4. - See GENERAL NOTES, Sh. 7 /108 Thru 11 /108 .
5. - Work This Sheet With DECORATIVE RAILING Sh. 76 /108 & 79 /108 .



DECK SPAN SCHEMATIC LAYOUT PLAN



SECTION J1-J1

LEGEND
Existing Structure
New Work

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

70 / 108

SPAN 14-15
DECK SLAB UNIT J

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

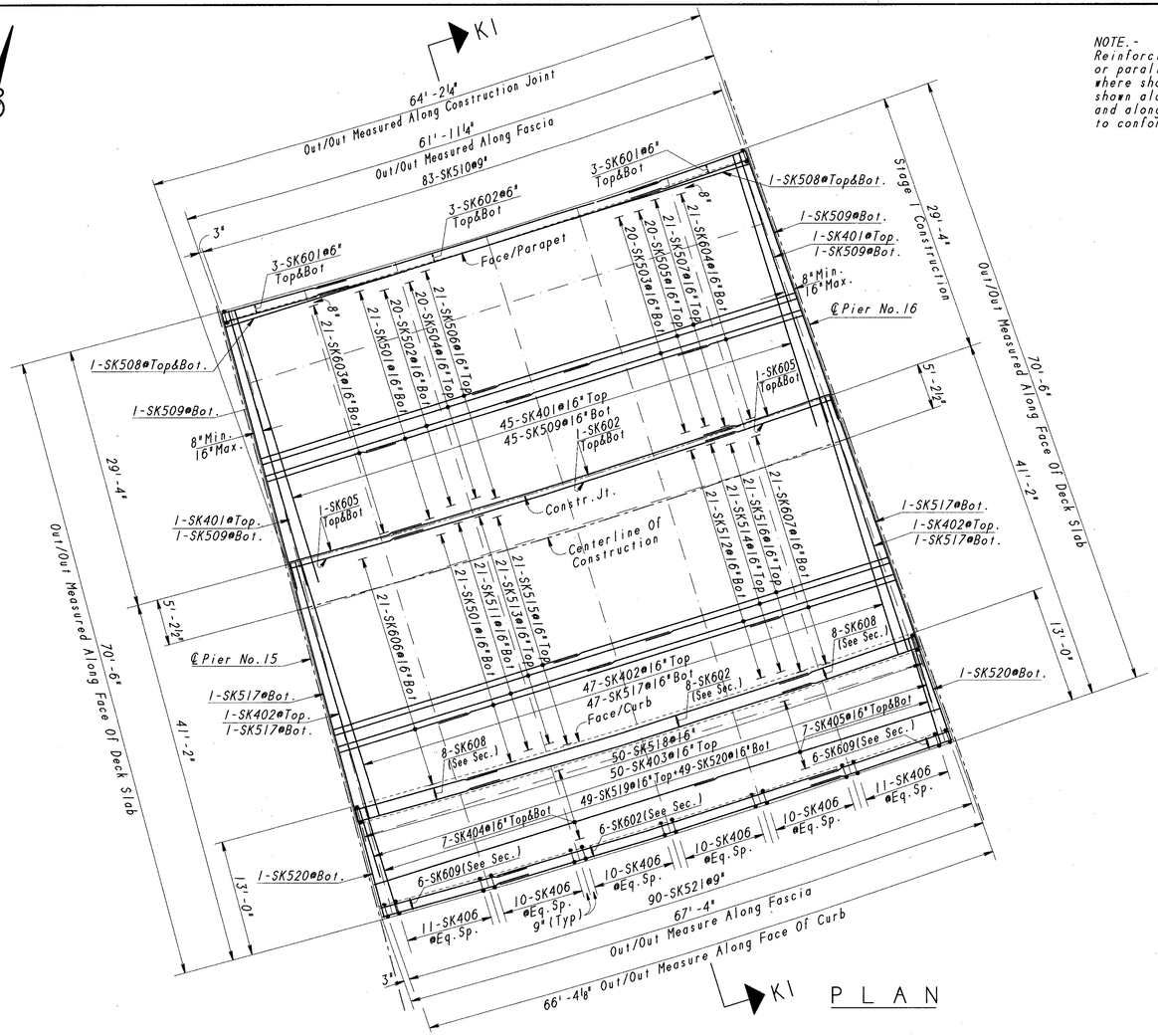
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
ED	ED		WDD	IEH April 96	

SPAN SPAN 1415 Scale 8

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

145 / 182

HAM-471-00.25

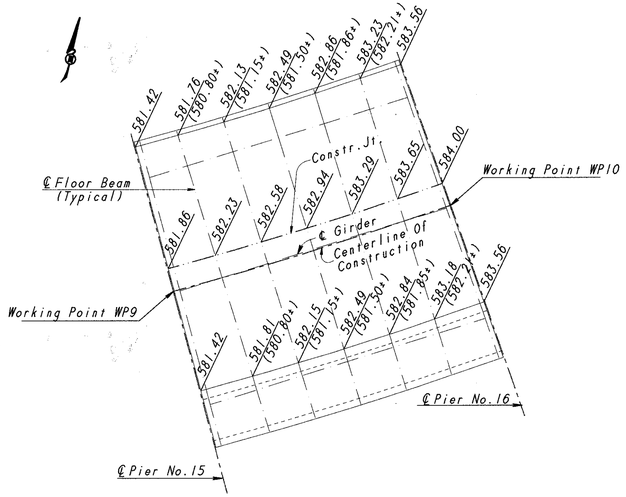


NOTE.- Reinforcing bars will be placed perpendicular to or parallel to the interior floor beam except where shown otherwise. Reinforcing bars shown along fascias, along construction joint and along sidewalk curb face shall be bent on site to conform to the horizontal alignment.

LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"

NOTES

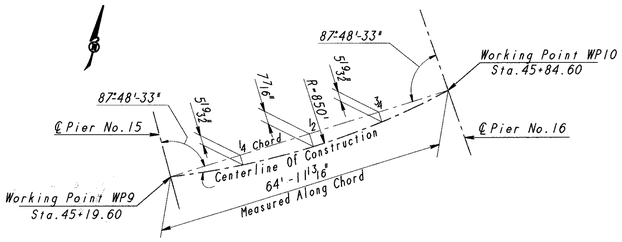
1. - Work This Sheet With General Plan Sh. 6 /108 .
2. - See REINFORCING STEEL BAR LIST, Sh. 97 /108 .
3. - See MISCELLANEOUS DETAILS, Sh. 12 /108 .
4. - See GENERAL NOTES, Sh. 7 /108 Thru 11 /108 .
5. - Work This Sheet With DECORATIVE RAILING Sh. 76 /108 & 80 /108 .



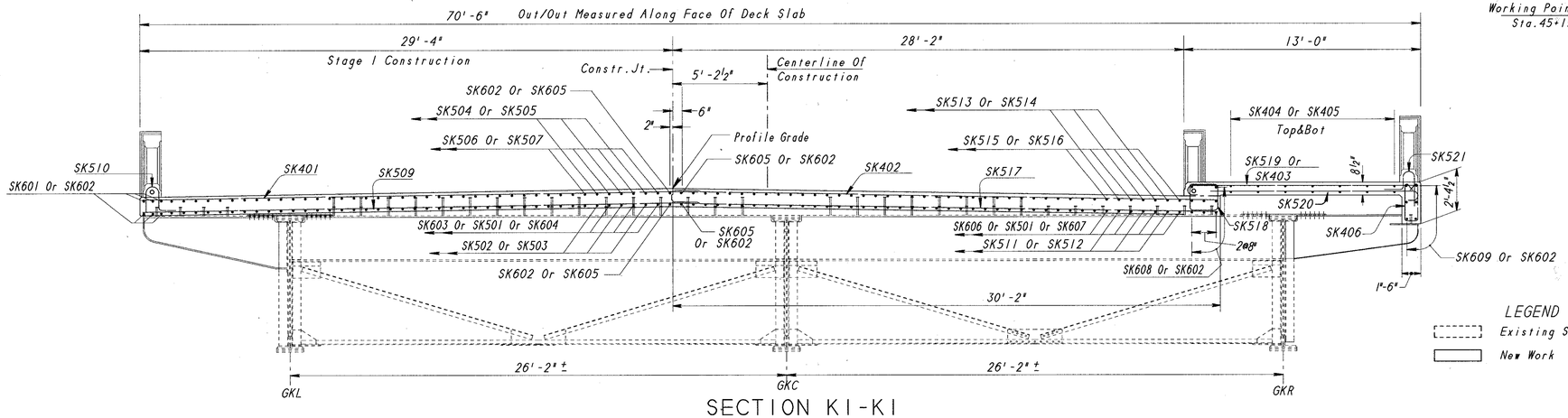
SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

LEGEND
123.45.....Denotes Top Of Slab Elevation.
(123.45±).....Denotes Top Of Existing Steel Elevation.



DECK SPAN SCHEMATIC LAYOUT PLAN



SECTION K1-K1

LEGEND
Existing Structure
New Work

Pflum, Klausmeier & Gehrum Consultants — CINCINNATI — OH10

71 / 108

SPAN 15-16
DECK SLAB UNIT K

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

SPANSPAN516 Sheet 8

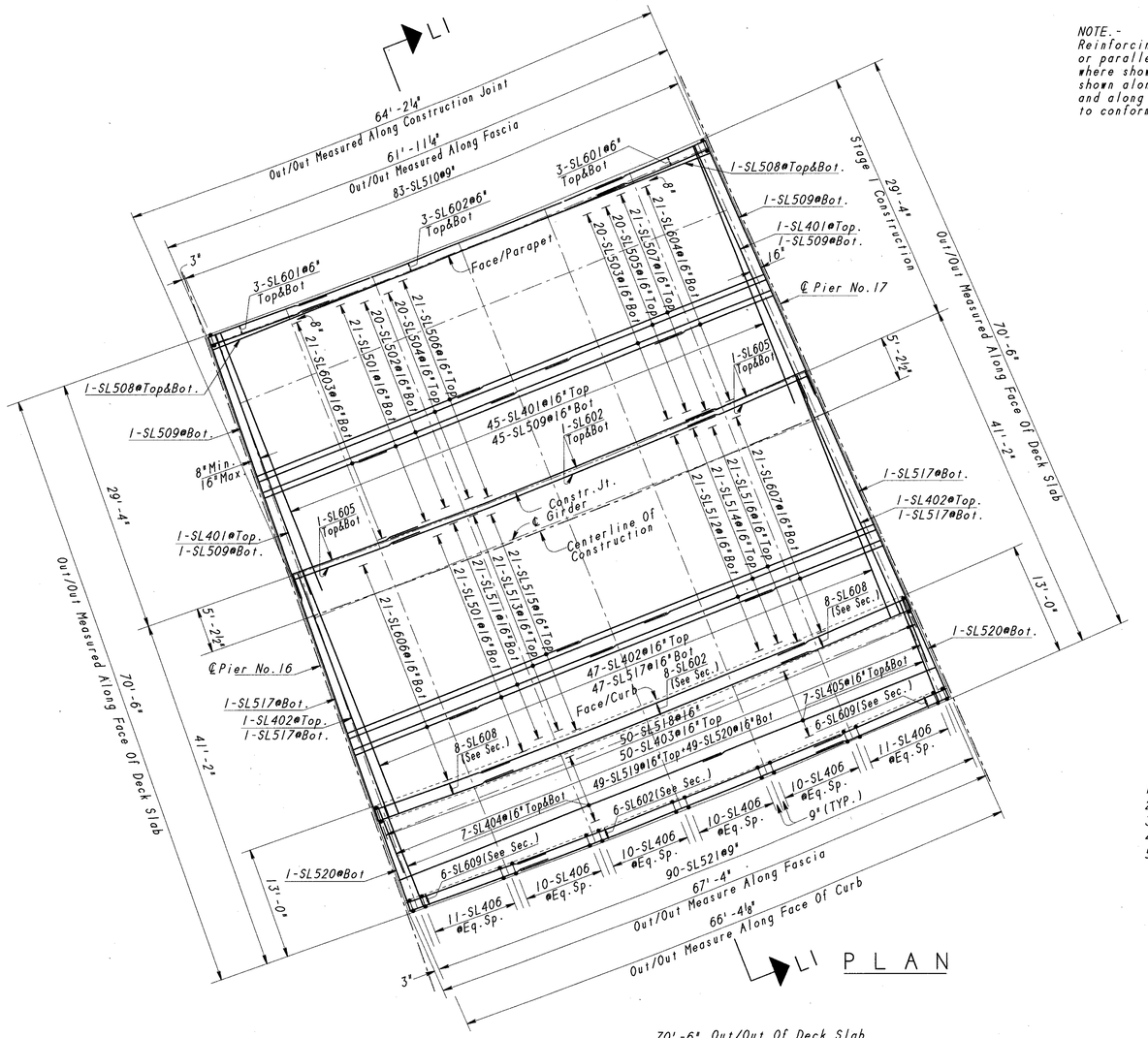
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

146 / 182

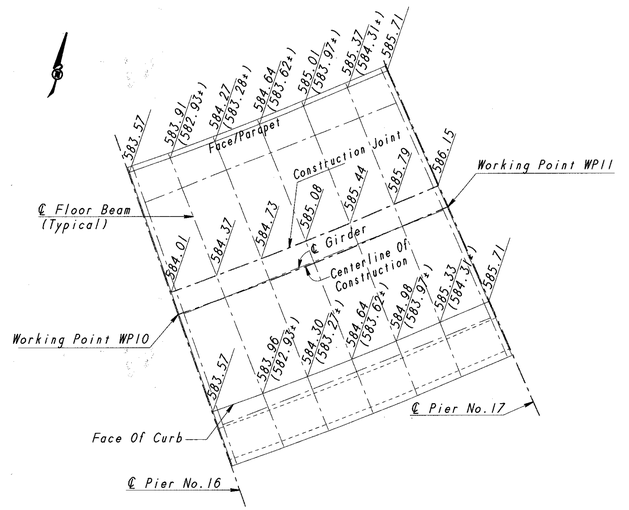
HAM-471-00.25

NOTE.-
Reinforcing bars will be placed perpendicular to or parallel to the interior floor beam except where shown otherwise. Reinforcing bars shown along fasciae, along construction joint and along sidewalk curb face shall be bent on site to conform to the horizontal alignment.

LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"



LI PLAN



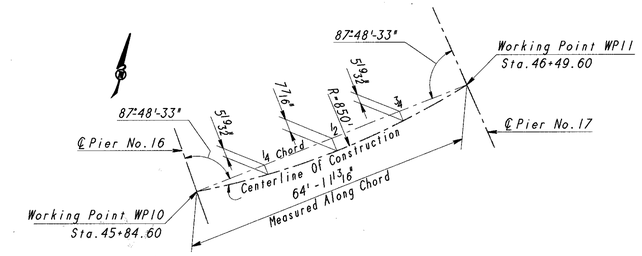
SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

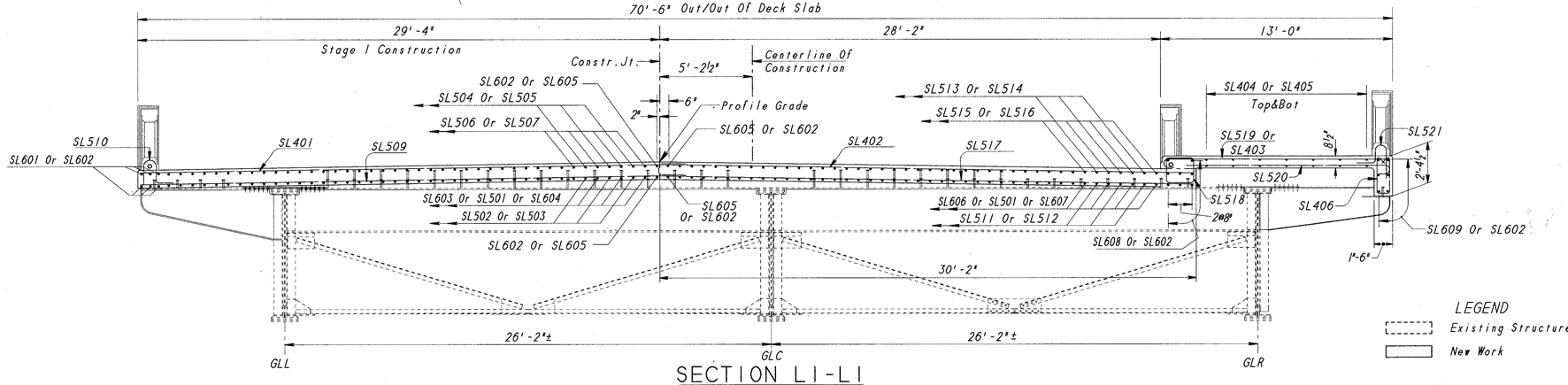
LEGEND
123.34.....Denotes Top Of Slab Elevation
(123.34±).... Denotes Top Of Existing Steel Elevation

NOTES

1. - Work This Sheet With General Plan Sh. 6 /108 .
2. - See REINFORCING STEEL BAR LIST, Sh. 97 /108 .
3. - See MISCELLANEOUS DETAILS, Sh. 12 /108 .
4. - See GENERAL NOTES, Sh. 7 /108 Thru 11 /108 .
5. - Work This Sheet With DECORATIVE RAILING Sh. 76 /108 & 80 /108 .



DECK SPAN SCHEMATIC LAYOUT PLAN



SECTION L1-L1

LEGEND
Existing Structure
New Work

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI
72 / 108
OHIO

SPAN 16-17
DECK SLAB UNIT L

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY
Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

SPN1617 SCALE 8

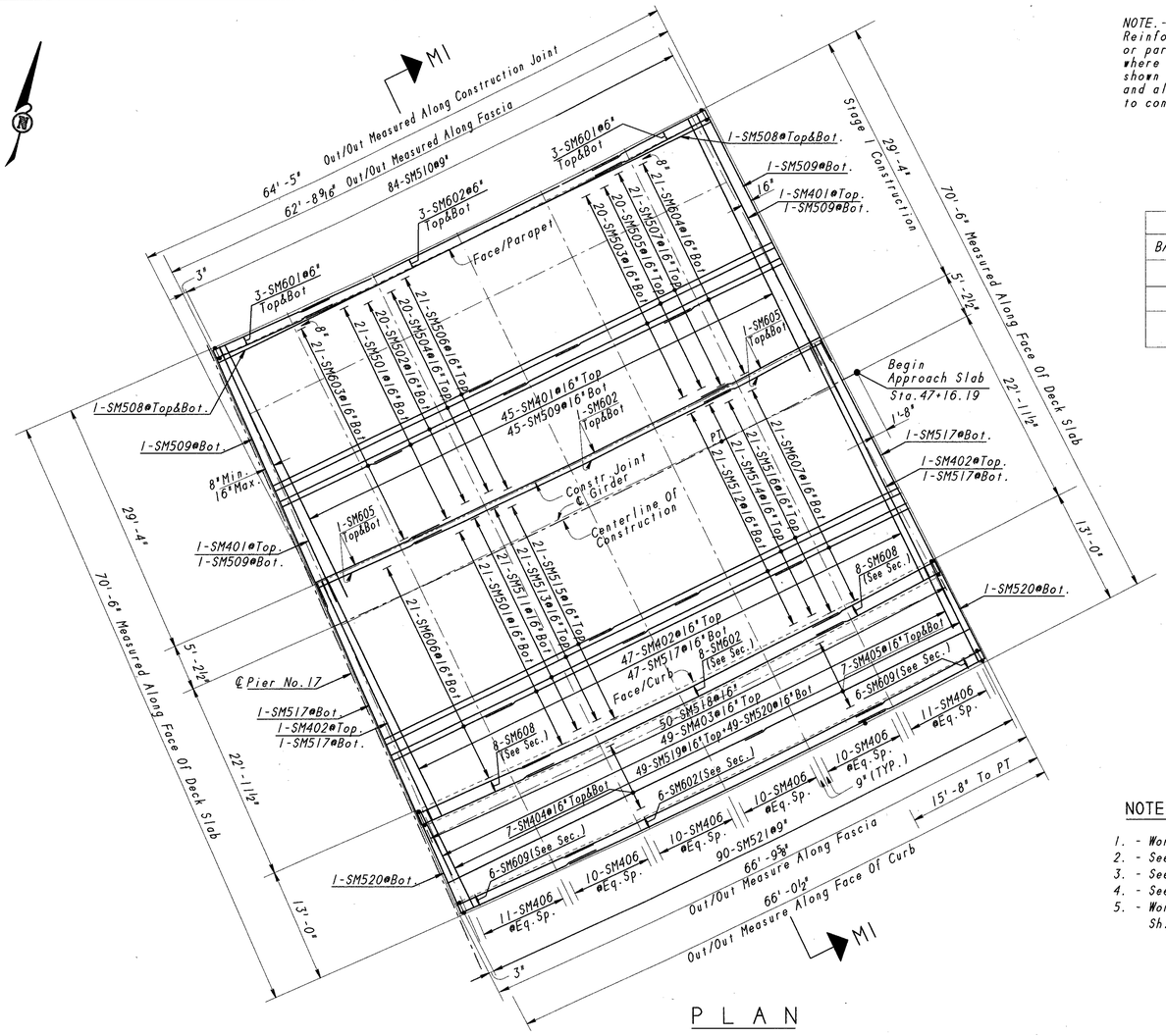
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

147 / 182

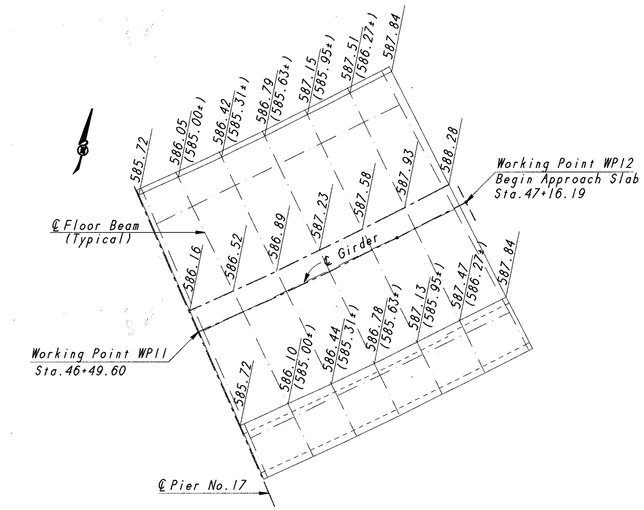
HAM-471-00.25

NOTE.-
Reinforcing bars will be placed perpendicular to or parallel to the interior floor beam except where shown otherwise. Reinforcing bars shown along fasciae, along construction joint and along sidewalk curb face shall be bent on site to conform to the horizontal alignment.

LAP LENGTH TABLE	
BAR SIZE	LAP LENGTH
No. 4	2'-3"
No. 5	3'-3"
No. 6	3'-11"



PLAN



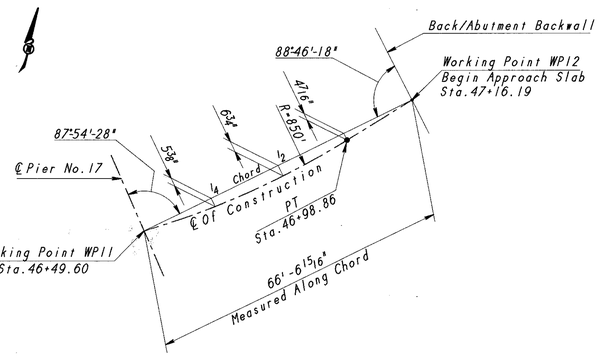
SCREED ELEVATIONS SCHEMATIC DIAGRAM

(Top Of Slab At Gutters, At Construction Joint, And Above Floor Beams As Shown, Before Concrete Is Placed.)

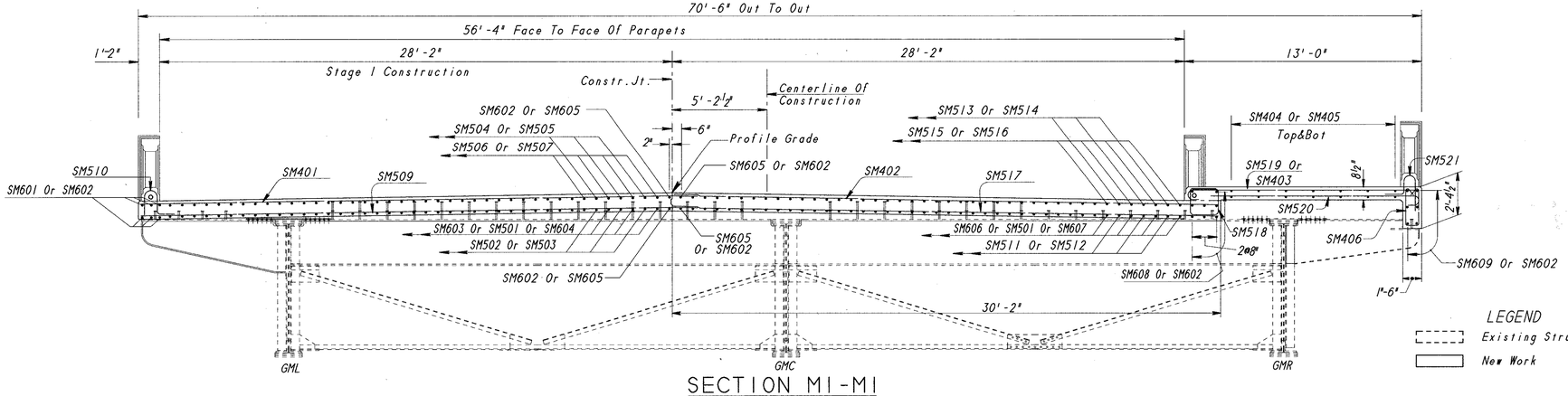
LEGEND
123.34.....Denotes Top Of Slab Elevation
(123.34±).... Denotes Top Of Existing Steel Elevation

NOTES

1. - Work This Sheet With General Plan Sh. 6 /108 .
2. - See REINFORCING STEEL BAR LIST, Sh. 88 /108 .
3. - See MISCELLANEOUS DETAILS, Sh. 12 /108 .
4. - See GENERAL NOTES, Sh. 7 /108 Thru 11 /108 .
5. - Work This Sheet With DECORATIVE RAILING Sh. 76 /108 & 80 /108 .



DECK SPAN SCHEMATIC LAYOUT PLAN



SECTION M1-M1

LEGEND
Existing Structure
New Work

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO
73 / 108

SPAN 17-18
DECK SLAB UNIT M

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY
Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

Filename SM1718 SCALE 8

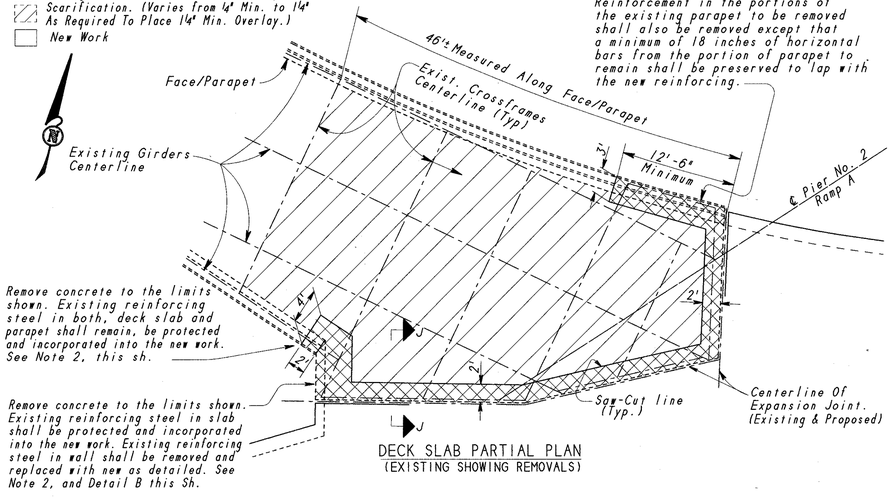
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

148 / 182

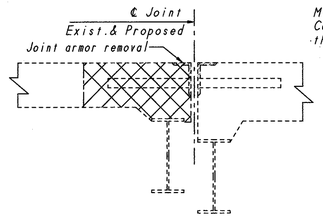
HAM-471-00.25

LEGEND

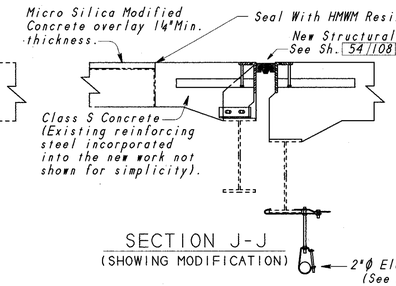
- Existing Structure
- Existing Concrete To Be Removed And Replaced. Scarification. (Varies from 4" Min. to 14" As Required To Place 14" Min. Overlay.)
- New Work



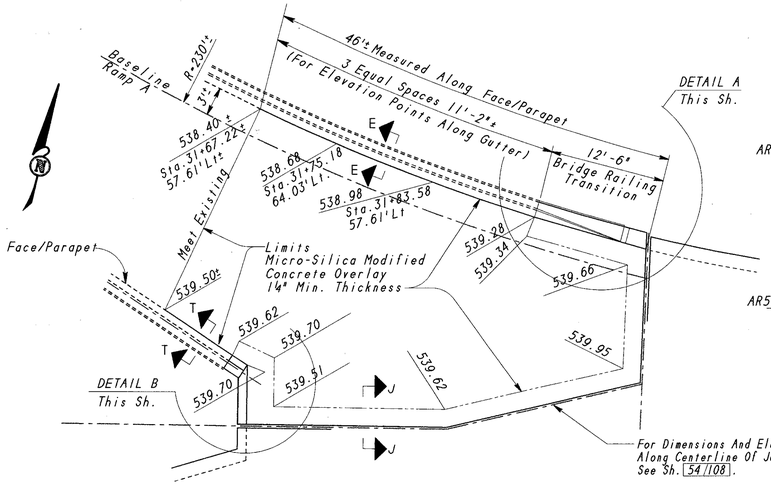
DECK SLAB PARTIAL PLAN
(EXISTING SHOWING REMOVALS)



SECTION J-J
SHOWING REMOVALS



SECTION J-J
(SHOWING MODIFICATION)



DECK SLAB PARTIAL PLAN (MODIFIED)
(ELEVATIONS SHOWN ARE FINAL TOP OF SLAB ELEVATIONS)

NOTES:

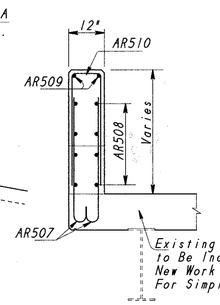
1.- All existing reinforcing steel in portions of the concrete slab to be removed and replaced shall remain, and be protected, and be incorporated into the new work.

2.- 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 removal operations shall be replaced with new steel at his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 300 pounds is included in Item 509 for this purpose, listed in the "General" column of the Estimated Quantities table.

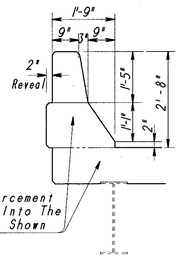
3.- Work this sheet with Deck Slab Unit B, Sh. 61/108 and with Deck Slab Unit C, Sh. 62/108.

4.- See Reinforcing Steel Bar List, Sh. 87/108

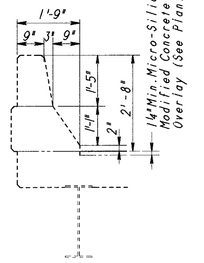
5.- See GENERAL NOTES, Sh. 7/108 Thru 11/108



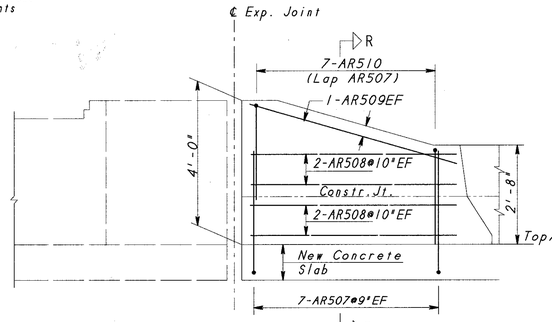
SECTION R-R



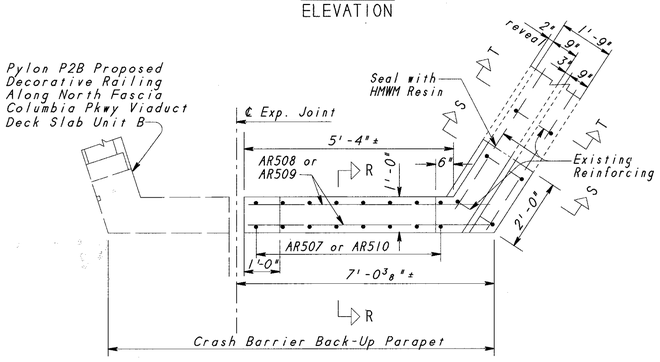
SECTION S-S



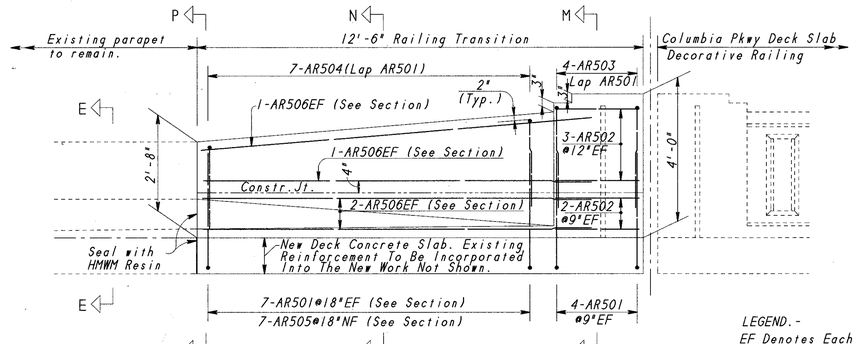
SECTION T-T



DETAIL B
ELEVATION

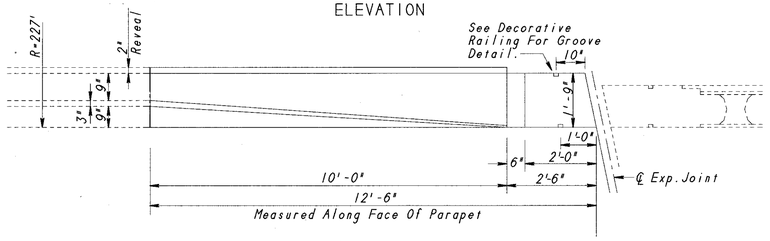


DETAIL B
PLAN

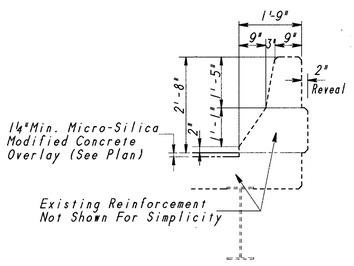


DETAIL A
ELEVATION

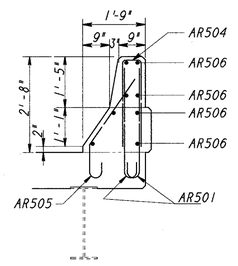
LEGEND.-
EF Denotes Each Face
AR Denotes "A" Ramp



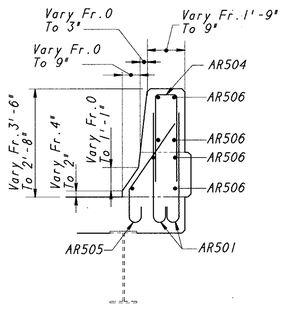
DETAIL A
PLAN



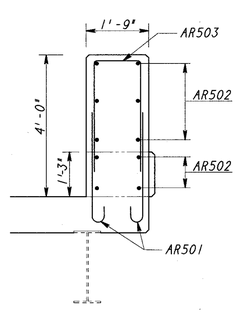
SECTION E-E



SECTION P-P



SECTION N-N



SECTION M-M

MODRAMPA Scale 8

CINCINNATI	Pflum, Klausmeier & Gehrum Consultants	74 / 108

RAMP A
DECK SLAB MODIFICATION

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

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

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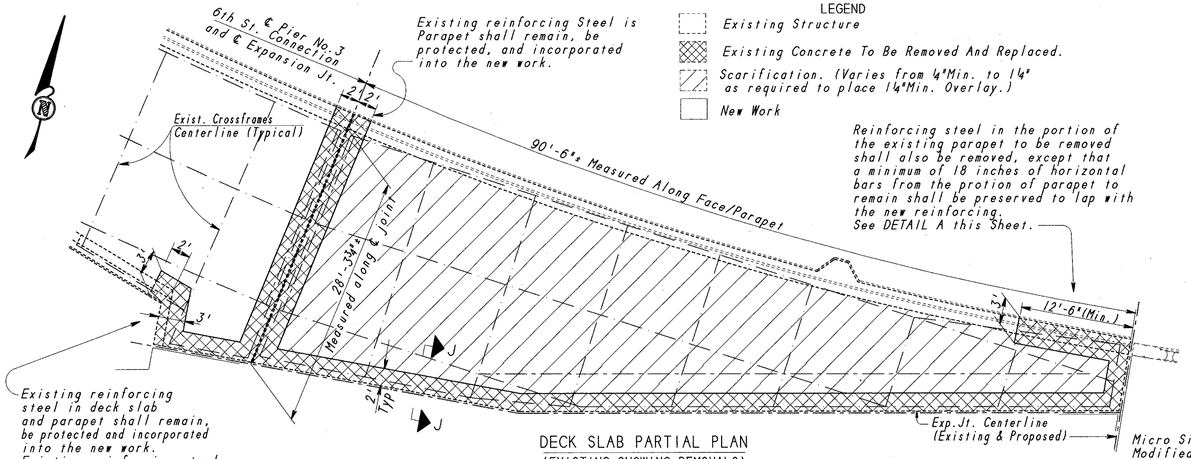
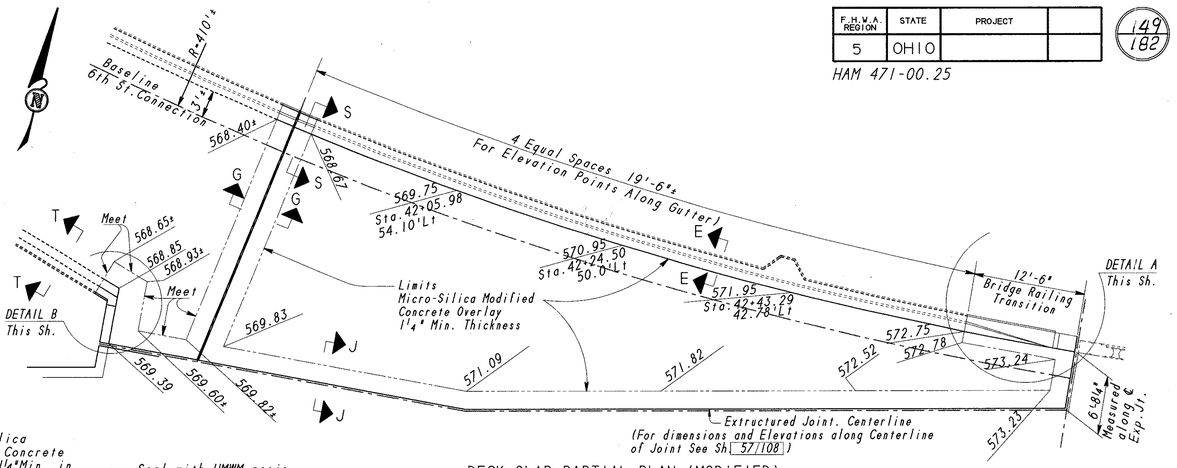
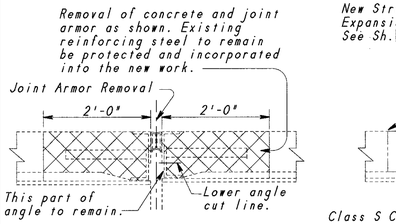
LEGEND
- Existing Structure
- Existing Concrete To Be Removed And Replaced.
- Scarification. (Varies from 1/4" Min. to 1 1/4" as required to place 1 1/4" Min. Overlay.)
- New Work



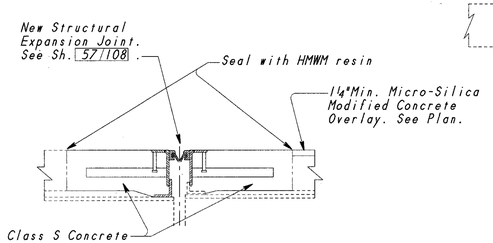
DECK SLAB PARTIAL PLAN
(EXISTING SHOWING REMOVALS)



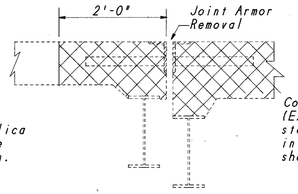
DECK SLAB PARTIAL PLAN (MODIFIED)
(ELEVATIONS SHOWN ARE FINAL TOP OF SLAB ELEVATIONS)



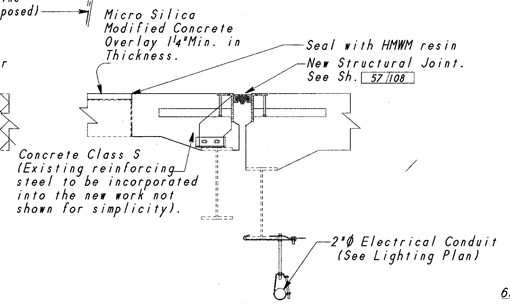
SECTION G-G
(SHOWING REMOVALS)



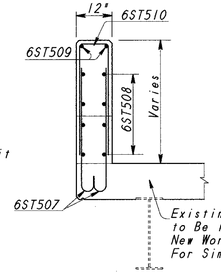
SECTION G-G
(SHOWING MODIFICATION)



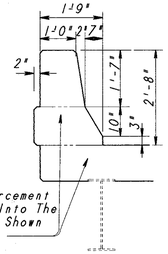
SECTION J-J
(SHOWING REMOVALS)



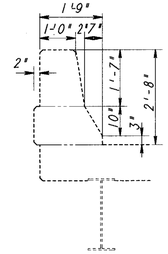
SECTION J-J
(SHOWING MODIFICATION)



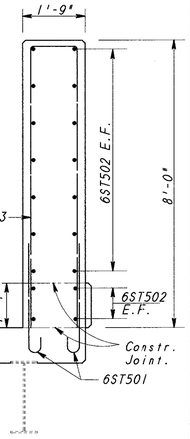
SECTION R-R



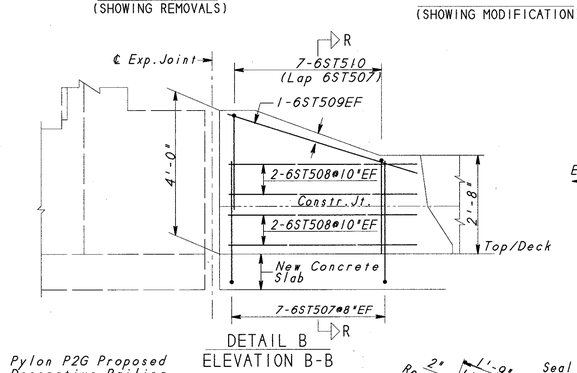
SECTION S-S



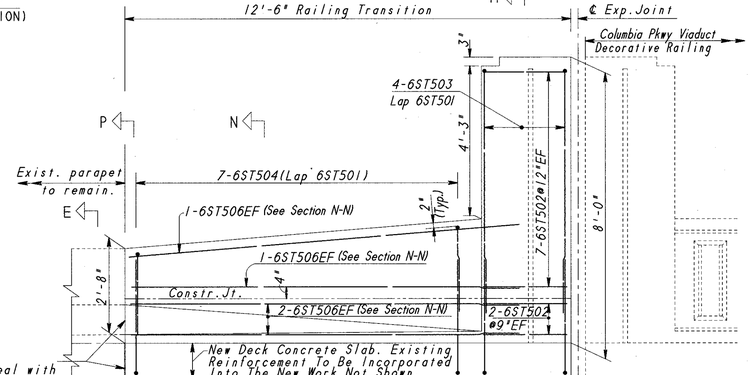
SECTION T-T
(All dimensions ±)



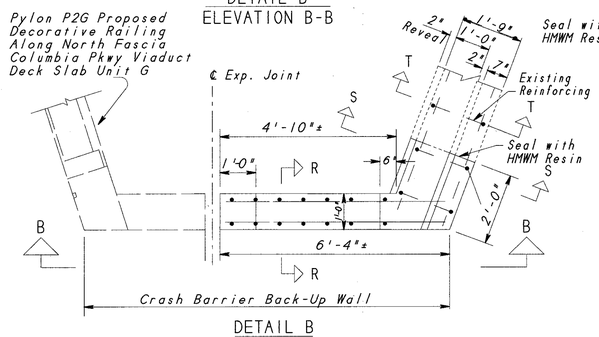
SECTION M-M



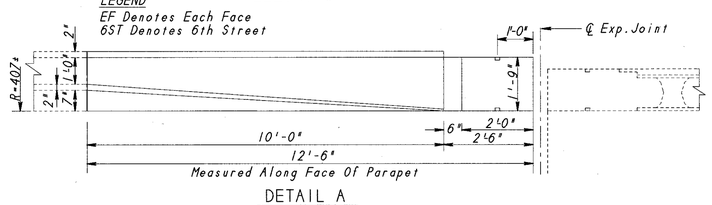
DETAIL B
ELEVATION B-B



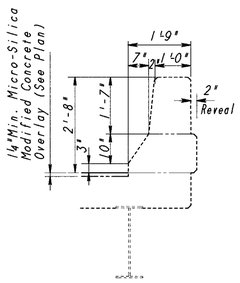
DETAIL A
ELEVATION



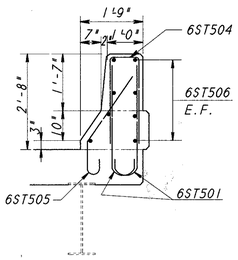
DETAIL B
PLAN



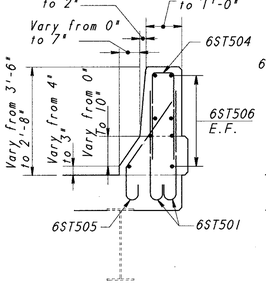
DETAIL A
PLAN



SECTION E-E
(All dimensions ±)



SECTION P-P



SECTION N-N

NOTES:

1.-All existing reinforcing steel in portions of the concrete slab to be removed and replaced shall remain, protected, and be incorporated into the new work.

2.-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 removal operations shall be replaced with new steel at his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 300 pounds is included in Item 509 for this purpose, listed in the "General" column of the Estimated Quantities table.

3.-Partial plan of existing structural steel frame shown is for reference only.

4.-Work this sheet with Deck Slab Unit G Sh. 67/108 and Deck Slab Unit H Sh. 68/108

5.-See Reinforcing Steel Bar List, Sh. 87/108

6.-See GENERAL NOTES, Sh. 7/108 thru 11/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

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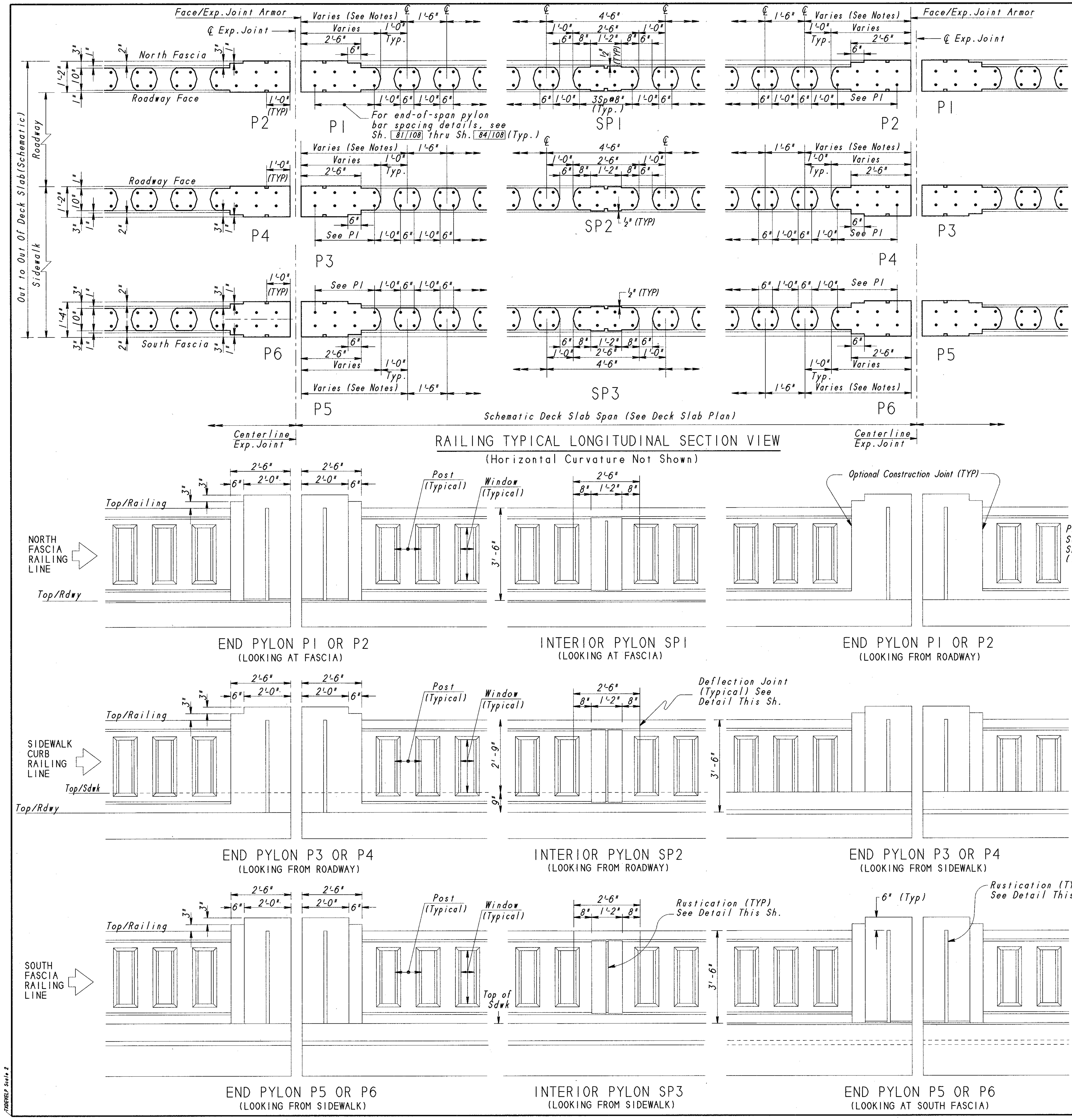
SIXTH STREET CONNECTION
DECK SLAB MODIFICATION
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED/PLF		WDD	IEH	April 96	

MOD SIXTH Scale 8



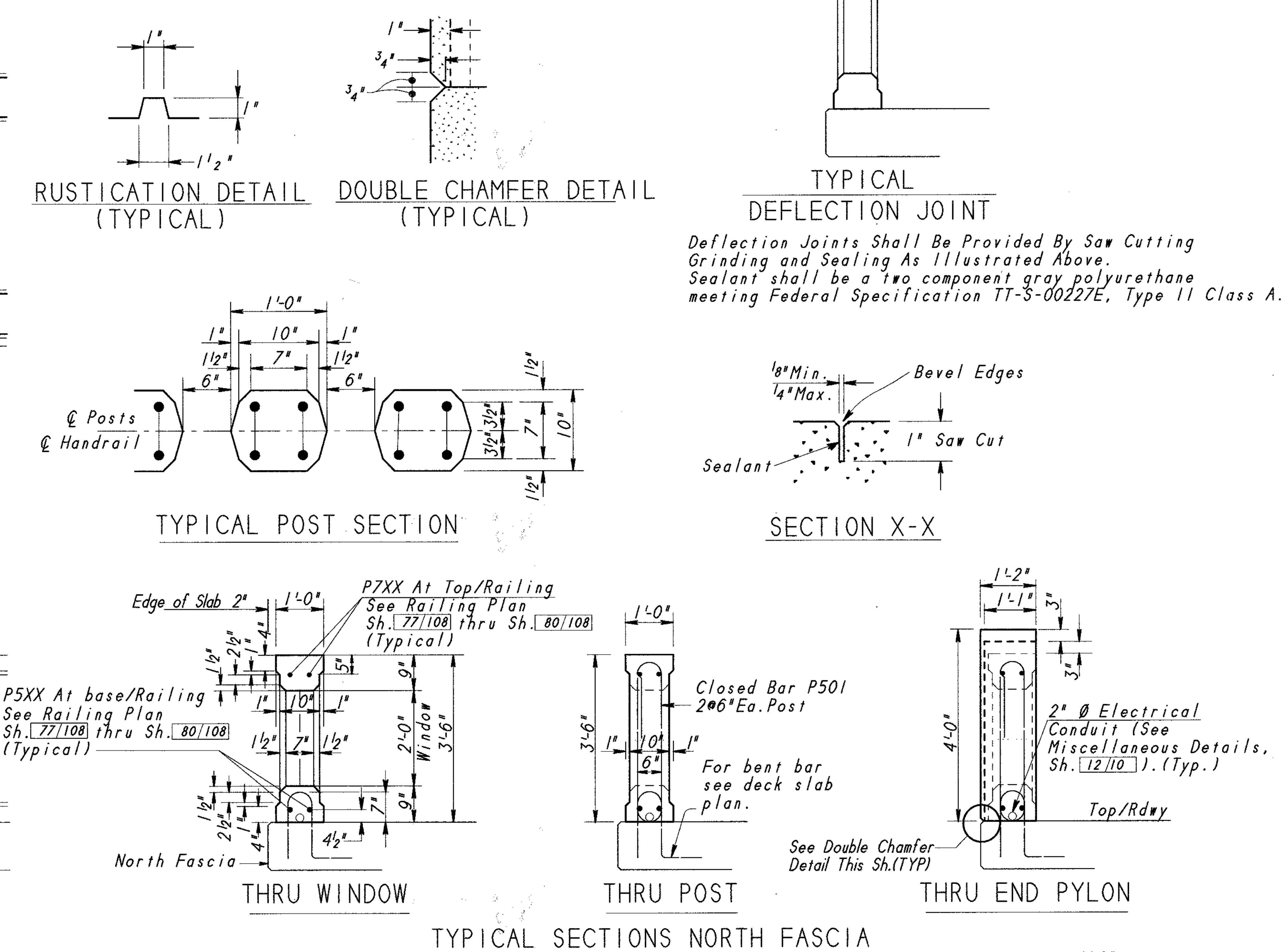
NOTES.-

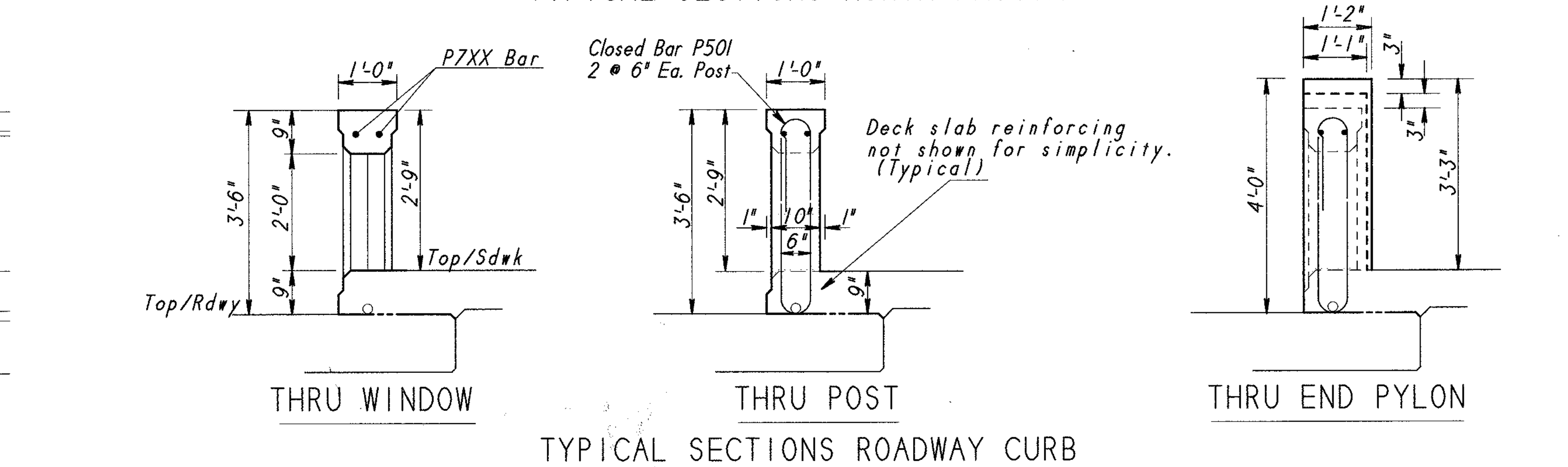
1.-Work this sheet with GENERAL PLAN sheets 4/108, 5/108, 6/108, and with DECORATIVE RAILING PLAN Sheet 77/108 thru Sh. 84/108, and Sh. 85/108 With VANDAL PROTECTION FENCE

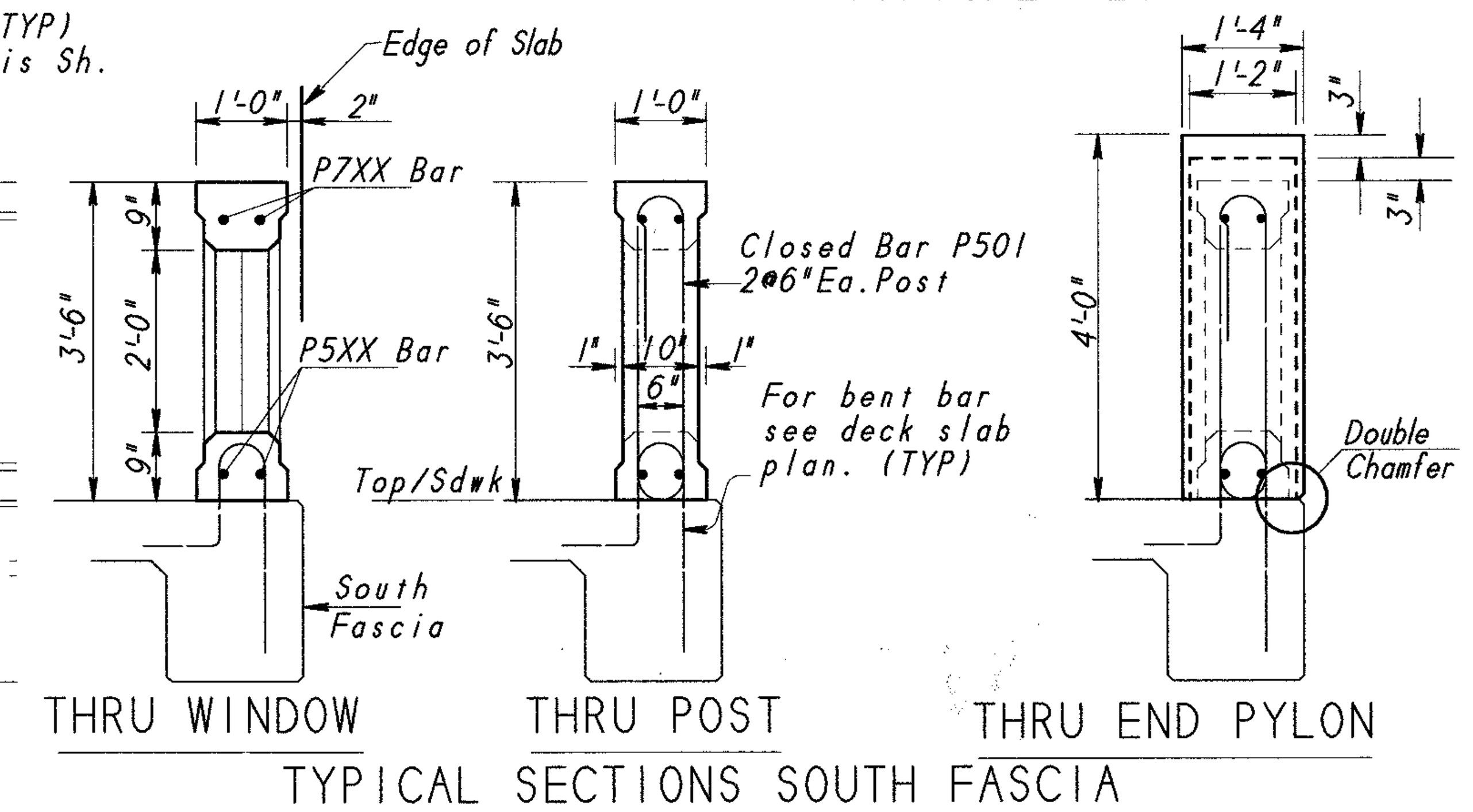
2.-See GENERAL NOTES 5/5, Sh. 11/108.

3.-See REINFORCING STEEL BAR LIST, Sh. 99/108

4.-VANDAL PROTECTION FENCE ON RAILING and in Windows Not Shown See Sh. 85/108 For Details, Sh. 78/108 and Sh. 79/108 For Location.







LEGEND

P7XX Denotes No.7 bar

P5XX " No.5 bar

F.H.W.A. REGION	STATE	PROJECT
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HAM-471-00.25

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Pflum, Klausmeier & Gehrum Consultants — CINCINNATI, OHIO — 76/108

DECORATIVE RAILING
MISCELLANEOUS DETAILS

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY — Sta. 30+55.40, Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

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

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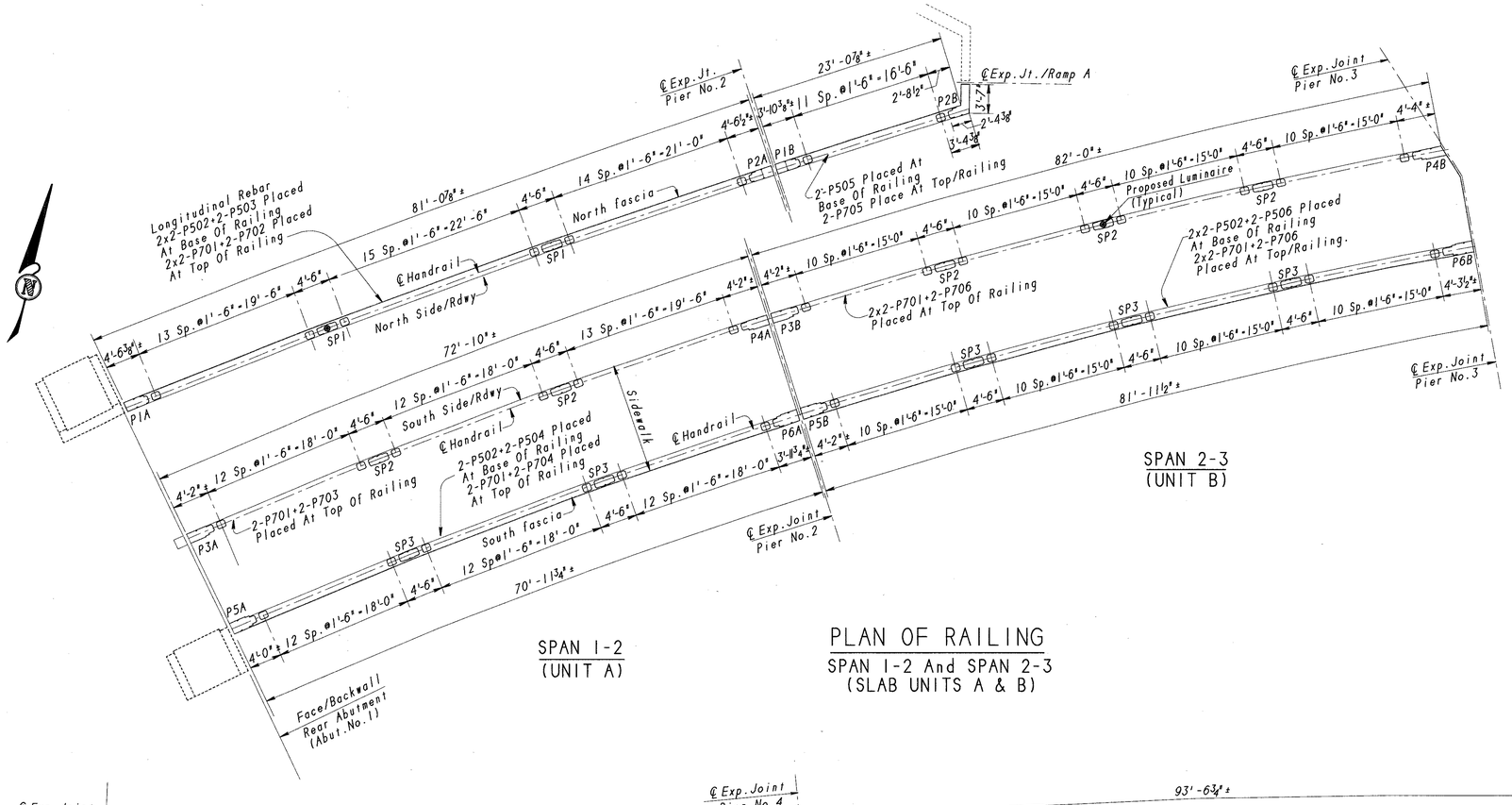
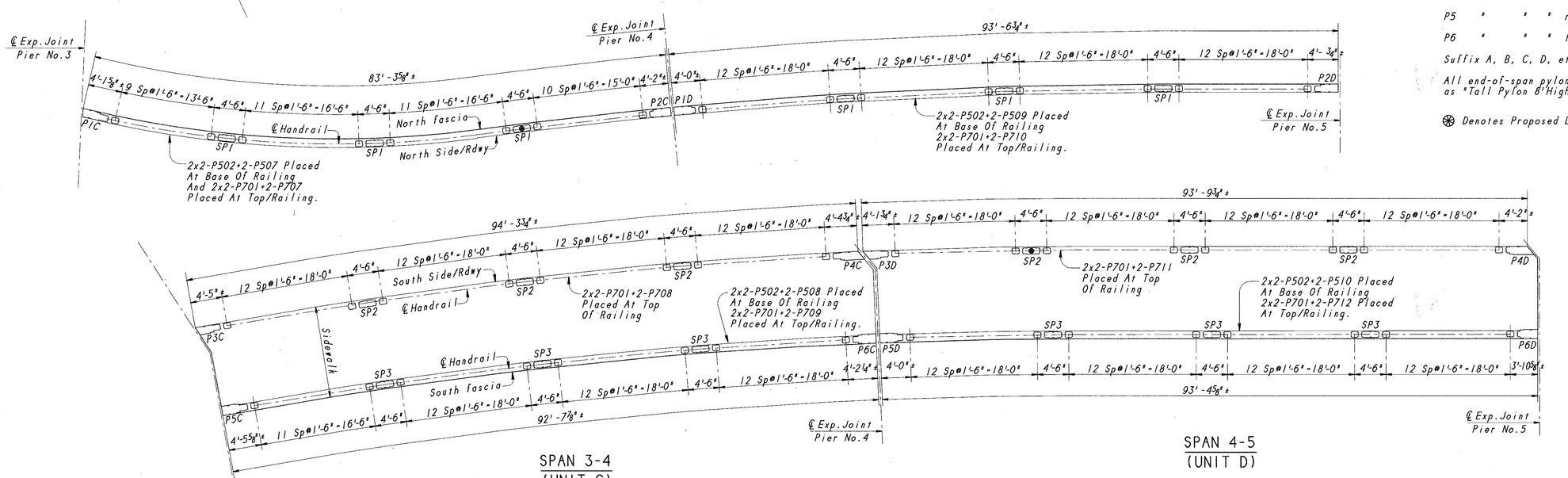


PLAN OF RAILING
SPAN 1-2 And SPAN 2-3
(SLAB UNITS A & B)



PLAN OF RAILING
SPAN 3-4 And SPAN 4-5
(SLAB UNITS C & D)

NOTES.-

1. -Work this sheet with GENERAL PLAN sheets 4 /108, 5 /108, 6 /108, with END OF SPAN PYLONS (SPAN 1-2 THRU 4-5), Sh. 81 /108 and with DECORATIVE RAILING MISCELLANEOUS DETAILS Sh. 76 /108
2. -Work this sheet with SPAN 1-2 DECK SLAB UNIT A, Sh. 60 /108 with SPAN 2-3 DECK SLAB UNIT B, Sh. 61 /108 with SPAN 3-4 DECK SLAB UNIT C, Sh. 62 /108 and with SPAN 4-5 DECK SLAB UNIT D, Sh. 63 /108
3. -Longitudinal rebars P502 thru P510 along lower end of railing and P701 thru P712 along upper end, shall be bent on site to conform with the roadway alignment.
4. -See GENERAL NOTES 5/5, Sh. 11 /108.
5. -See REINFORCING STEEL BAR LIST, Sh. 99 /108
6. - Bar lap length as follows:
   No.5 Bar lap length = 24"
   No.7 Bar " " = 42"
7. - For railing deflection joints location and type, see DECORATIVE RAILING MISCELLANEOUS DETAILS, Sh. 76 /108
8. - Interior Span Pylons (SP) that are to receive the proposed luminares shall be modified as shown on MISCELLANEOUS DETAILS, Sh. 12 /108
9. - Cost of furnishing and installing all reinforcing steel in railing shall be included in the Contract price bid per lin.ft. for Item 517, Railing, Concrete. (Decorative Type)

LEGEND

SP1 Denotes Typical Interior Pylon at North Fascia.
SP2 " " " " " Curb Line.
SP3 " " " " " South Fascia.
P1 Denotes pylon at rear end of span at North Fascia.
P2 " " " forward end of span at North Fascia.
P3 " " " rear and of span at Curb side.
P4 " " " forward end of span at Curb side.
P5 " " " rear end of span at South Fascia.
P6 " " " forward end of span at South Fascia.

Suffix A, B, C, D, etc., denotes corresponding deck slab unit.

All end-of-span pylons are 4' high typically, except those noted as "Tall Pylon 8'High", or "Tall Pylon 12'High" on Railing Plan.

⊛ Denotes Proposed Luminaire

TEXBCD Scale 8

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

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DECORATIVE RAILING
SPANS 1-2, 2-3, 3-4 & 4-5
(DECK SLAB UNITS A, B, C & D)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

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

HAM-471-00.25

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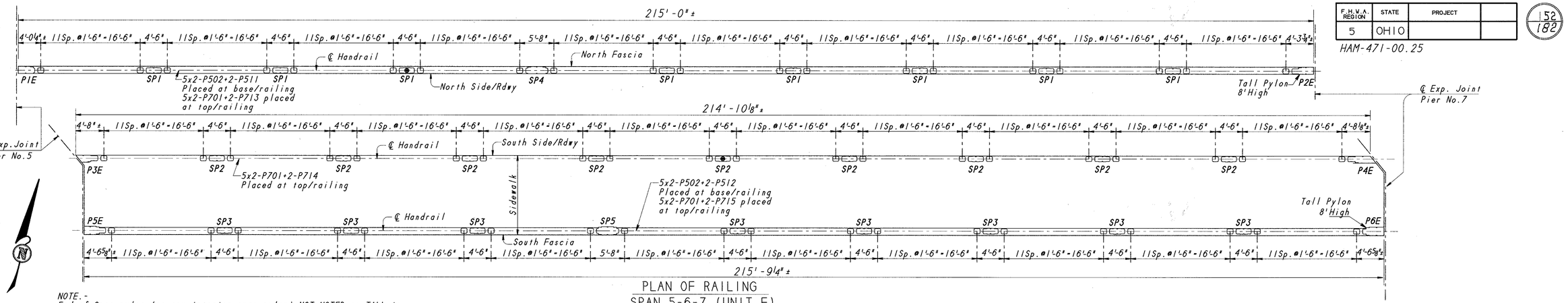
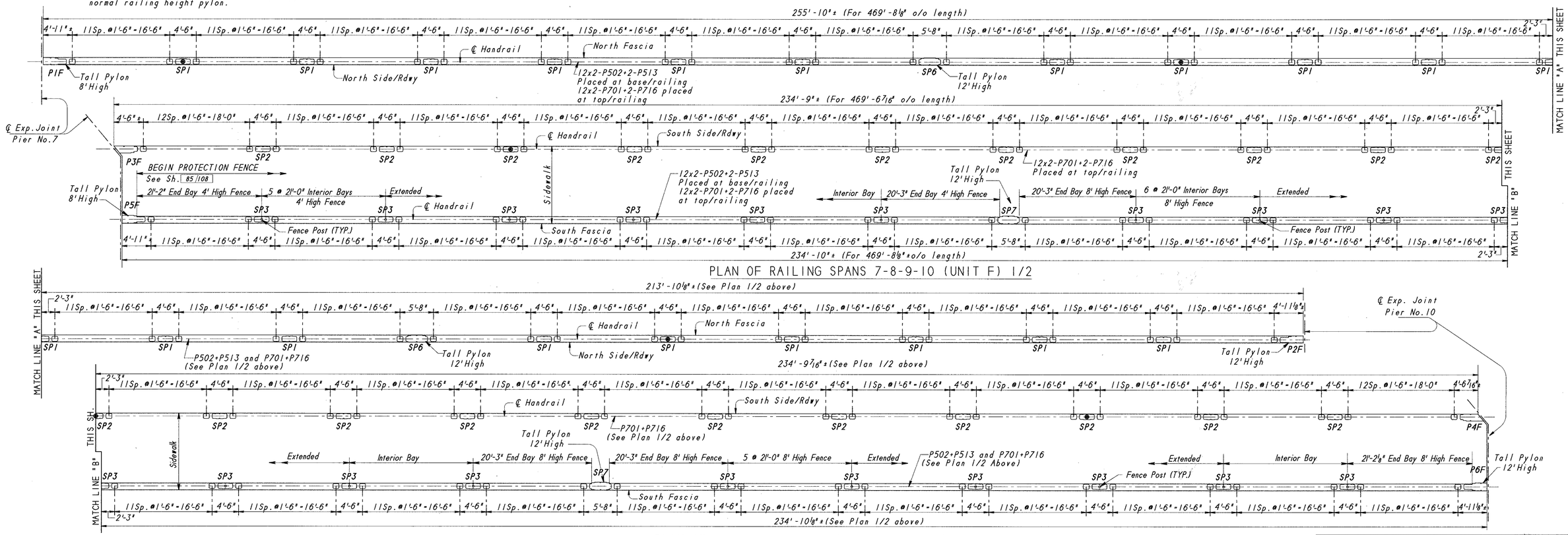


PLAN OF RAILING
SPAN 5-6-7 (UNIT E)

NOTE.-
End of Span pylon (or any interior span pylon) NOT NOTED as TALL is normal railing height pylon.



PLAN OF RAILING SPANS 7-8-9-10 (UNIT F) 1/2

PLAN OF RAILING SPANS 7-8-9-10 (UNIT F) 2/2

NOTES.-

1.- Work this sheet with DECORATIVE RAILING END OF SPAN PYLONS (Span 5-6-7 and 7-8-9-10), Sh. 82/108 And With Decorative Railing Miscellaneous Details Sh. 76/108 .

2.- Work this sheet with GENERAL PLAN 1/3 Sh. 4/108 and with GENERAL PLAN 2/3 Sh. 5/108 with SPAN 5-6-7, DECK SLAB UNIT E, Sh. 64/108 with SPAN 7-8-9-10 DECK SLAB UNIT F 1/2 Sh. 65/108 and with SPAN 7-8-9-10 DECK SLAB UNIT F 2/2 Sh. 66/108 .

3.- See GENERAL NOTES 5/5 Sh. 11/108 .

4.- See REINFORCING STEEL LIST on Sh. 99/108

5.- For additional Notes and Legend See Sh. 77/108 .

TEKEF Scale 8

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

78/108

DECORATIVE RAILING
SPANS 5-6-7 & 7-8-9-10
(UNIT E & UNIT F)
BRIDGE No.HAM471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

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

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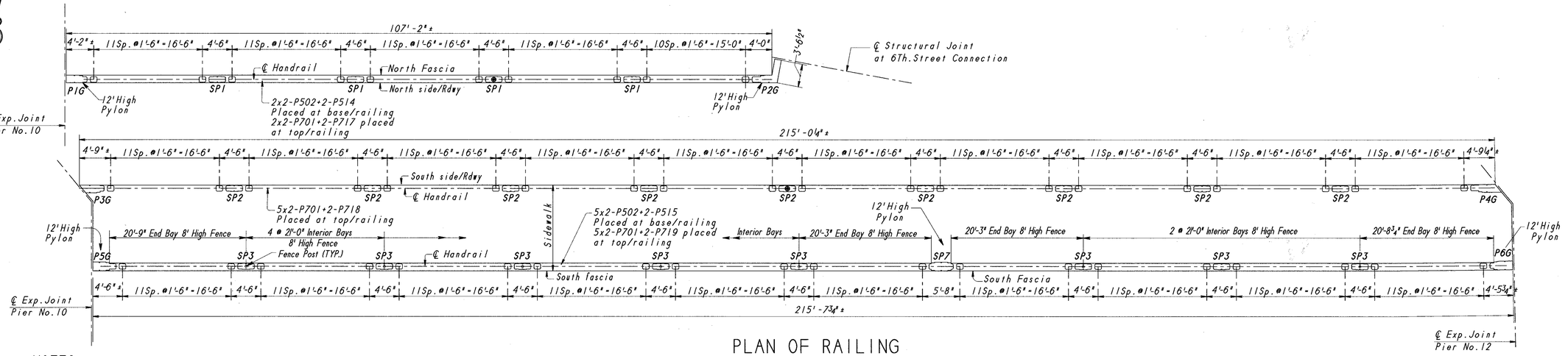
NOTE.-
End of Span pylon (or any interior span pylon) NOT NOTED as TALL is normal railing height pylon.



PLAN OF RAILING
SPAN 10-11-12
(SLAB UNIT G)

NOTES.-

1.- Work this sheet with DECORATIVE RAILING END OF SPAN PYLONS (SPANS 10-11-12, 12-13, 13-14 & 14-15), Sh. 83/108.

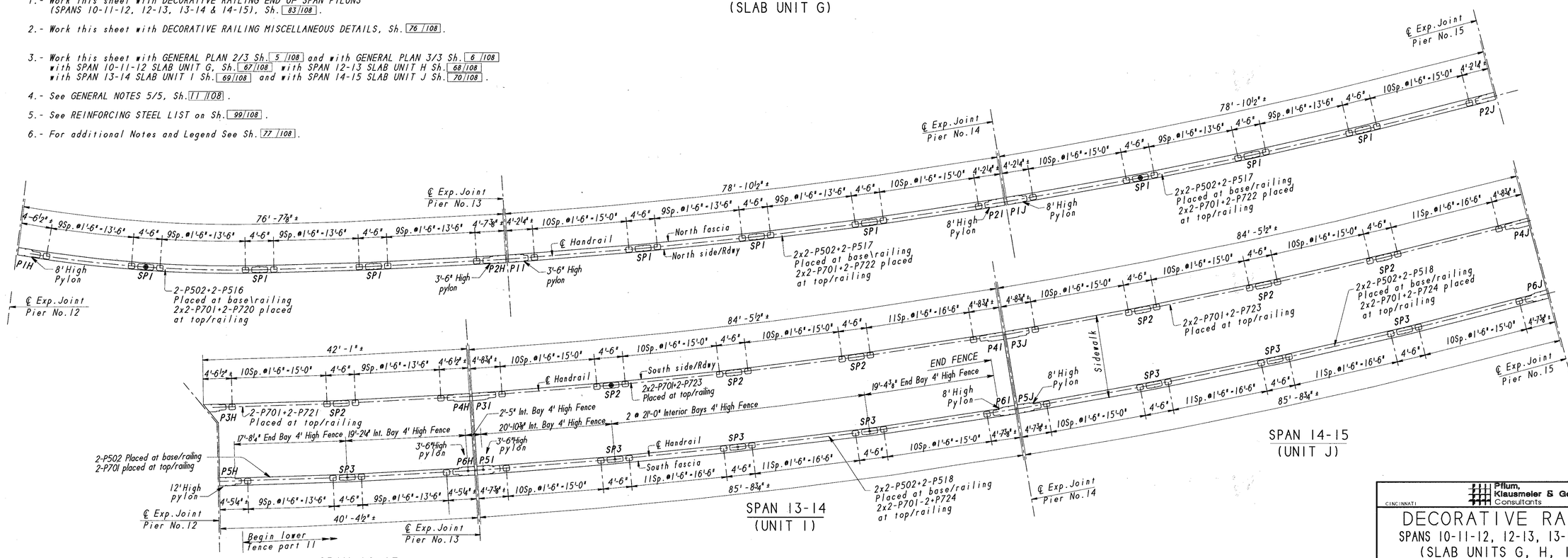
2.- Work this sheet with DECORATIVE RAILING MISCELLANEOUS DETAILS, Sh. 76/108.

3.- Work this sheet with GENERAL PLAN 2/3 Sh. 5/108 and with GENERAL PLAN 3/3 Sh. 6/108 with SPAN 10-11-12 SLAB UNIT G, Sh. 67/108 with SPAN 12-13 SLAB UNIT H Sh. 68/108 with SPAN 13-14 SLAB UNIT I Sh. 69/108 and with SPAN 14-15 SLAB UNIT J Sh. 70/108.

4.- See GENERAL NOTES 5/5, Sh. 11/108.

5.- See REINFORCING STEEL LIST on Sh. 99/108.

6.- For additional Notes and Legend See Sh. 77/108.



SPAN 12-13
(UNIT H)

SPAN 13-14
(UNIT I)

SPAN 14-15
(UNIT J)

PLAN OF RAILING
SPAN 12-13, SPAN 13-14, SPAN 14-15
(SLAB UNITS H, I & J)

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CINCINNATI OHIO

79/108

DECORATIVE RAILING
SPANS 10-11-12, 12-13, 13-14 & 14-15
(SLAB UNITS G, H, I & J)
BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

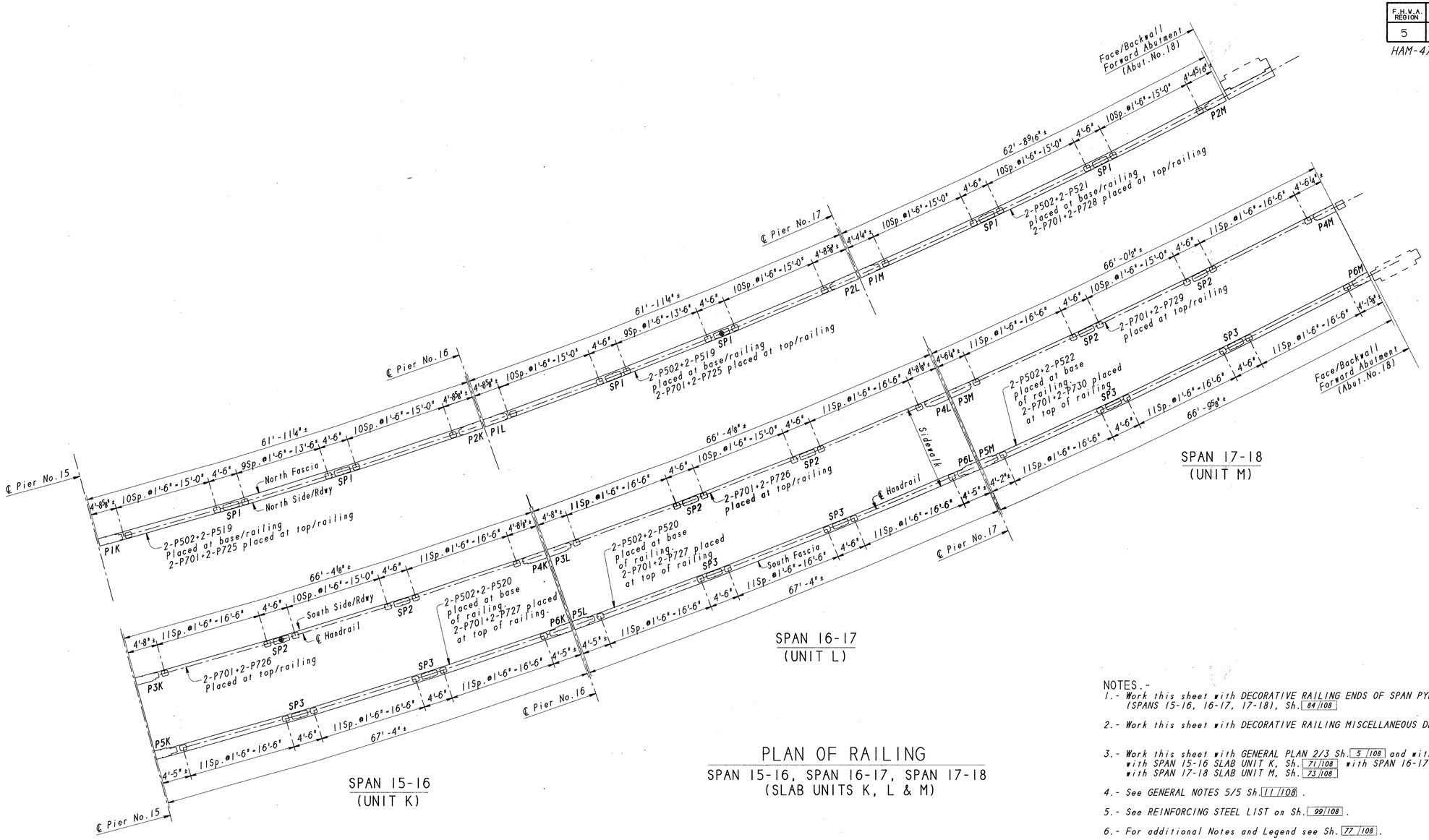
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

TEXGH1J Scale 8

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

154
182

HAM-471-00.25



SPAN 15-16
(UNIT K)

SPAN 16-17
(UNIT L)

SPAN 17-18
(UNIT M)

PLAN OF RAILING
SPAN 15-16, SPAN 16-17, SPAN 17-18
(SLAB UNITS K, L & M)

NOTES.-

1.- *Work this sheet with DECORATIVE RAILING ENDS OF SPAN PYLONS SCHEDULE (SPANS 15-16, 16-17, 17-18), Sh. 84/108*

2.- *Work this sheet with DECORATIVE RAILING MISCELLANEOUS DETAILS, Sh. 76/108.*

3.- *Work this sheet with GENERAL PLAN 2/3 Sh. 5/108 and with GENERAL PLAN 3/3 Sh. 6/108 with SPAN 15-16 SLAB UNIT K, Sh. 71/108 with SPAN 16-17 SLAB UNIT L, Sh. 72/108 with SPAN 17-18 SLAB UNIT M, Sh. 73/108*

4.- *See GENERAL NOTES 5/5 Sh. 11/108.*

5.- *See REINFORCING STEEL LIST on Sh. 99/108.*

6.- *For additional Notes and Legend see Sh. 77/108.*

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

80/108

DECORATIVE RAILING
SPANS 15-16, 16-17 & 17-18
(SLAB UNITS K, L & M)
BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

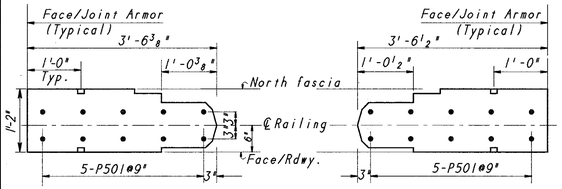
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

TEKLA Scale 8

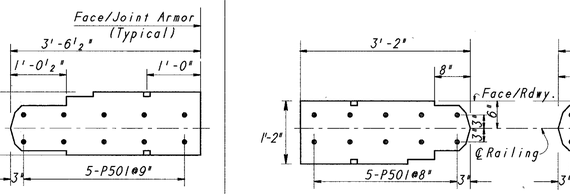
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

155/182

HAM-471-00.25



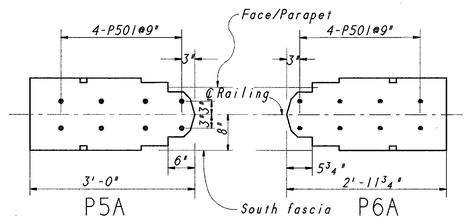
P1A



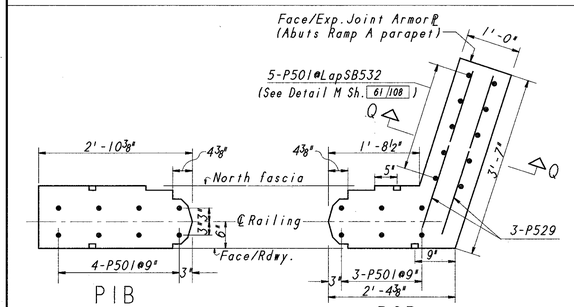
P2A

P3A

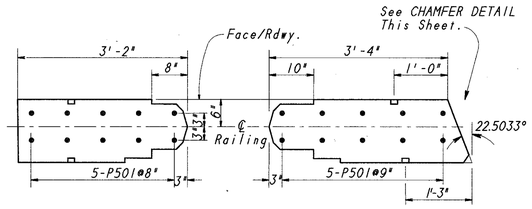
P4A



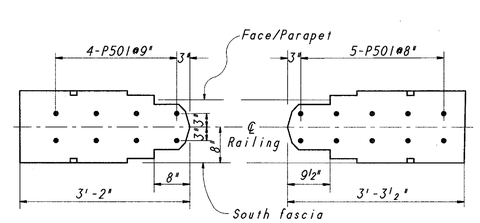
P5A P6A



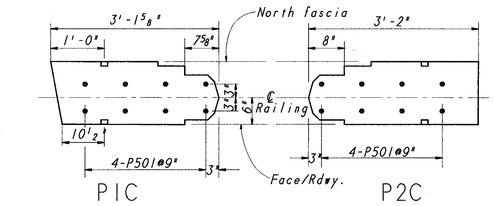
P1B P2B



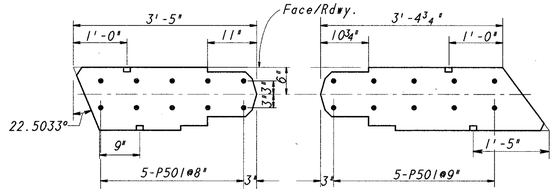
P3B P4B



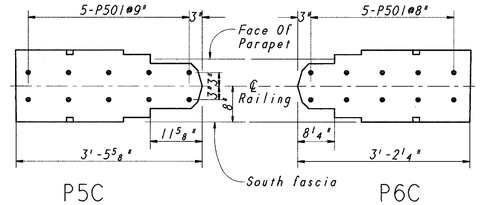
P5B P6B



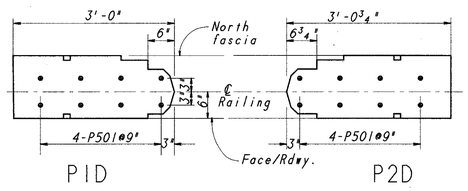
P1C P2C



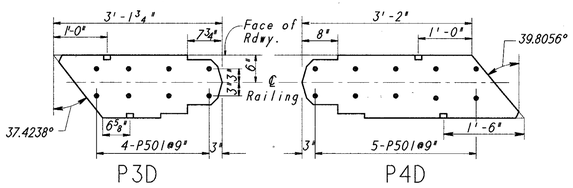
P3C P4C



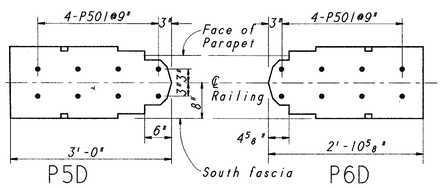
P5C P6C



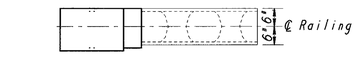
P1D P2D



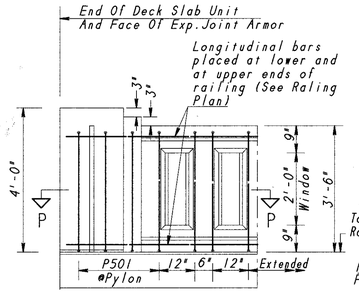
P3D P4D



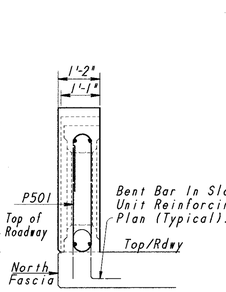
P5D P6D



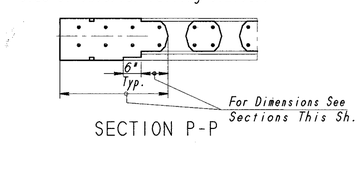
TOP VIEW



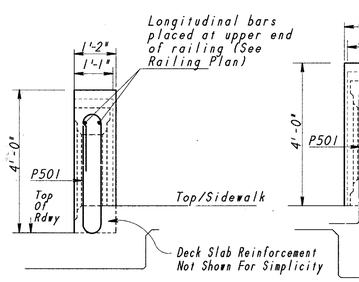
PYLON SIDE ELEVATION (TYPICAL)
(LOOKING AT NORTH FASCIA)
(Looking at South Fascia or at curb side of interior railing similar)



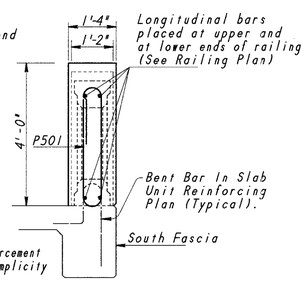
SECTION THRU PYLON
TYPE P1 Or P2



SECTION P-P



SECTION THRU PYLON
TYPE P3 Or P4



SECTION THRU PYLON
TYPE P5 Or P6

NOTES:

1.-Work this sheet with DECORATIVE RAILING SPANS 1-2 THRU 4-5 (DECK SLAB UNITS A,B,C & D), Sh. 77/108

2.-Work this sheet with GENERAL PLAN 1/3 Sh. 4/108
with SPAN 1-2 DECK SLAB UNIT A, Sh. 60/108
with SPAN 2-3 DECK SLAB UNIT B, Sh. 61/108
with SPAN 3-4 DECK SLAB UNIT C, Sh. 62/108
with SPAN 3-5 DECK SLAB UNIT D, Sh. 63/108

3.-Length of pylons are measured along the same lines as shown on Deck Slab Plans.

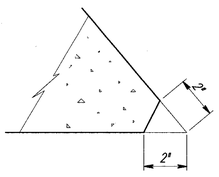
4.-Placement of bar P501 within End Pylons shall be as detailed herein. Spacing for bars P501 between End Pylons shall be as detailed on Pylon Side Elevation, this sheet.

5.-For additional railing details not shown or referred to on this sheet, see DECORATIVE RAILING MISCELLANEOUS DETAILS, Sh. 76/108

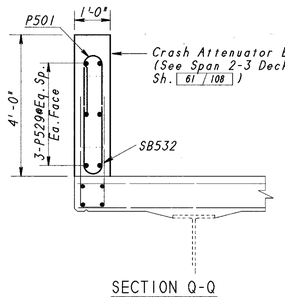
6.-For additional Notes and Legend, see Sh. 77/108

7.-Pylons acute corner shall be Chamfered as Shown.

8.- See GENERAL NOTES 5/5 Sh. 111/108 .



CHAMFER DETAIL (TYPICAL)



SECTION Q-Q

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CINCINNATI DAYTON

81/108

DECORATIVE RAILING
END OF SPAN PYLONS
(SPAN 1-2 THRU 4-5)
(SLAB UNITS A,B,C & D)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

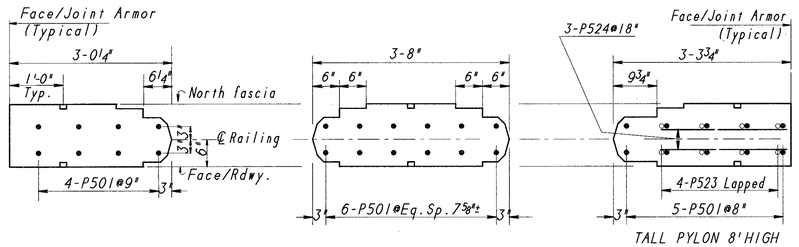
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

TKEPABDD Scale 1.3333

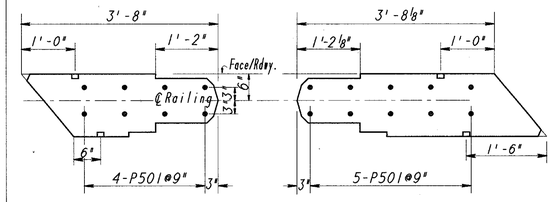
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

HAM-471-00.25

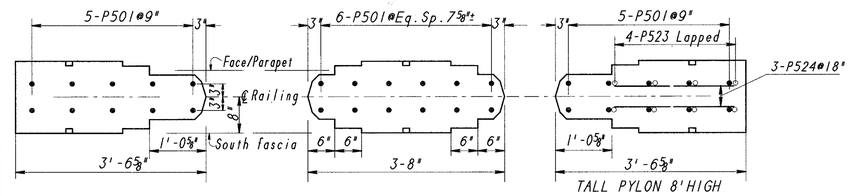
156
182



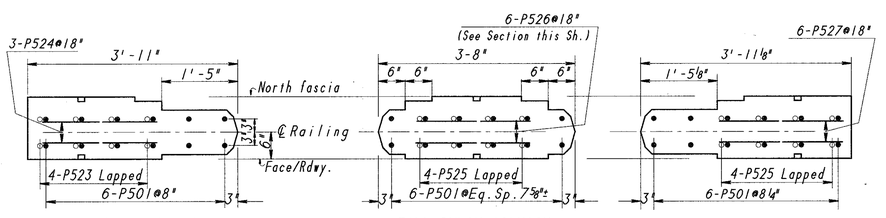
P1E SP4 P2E



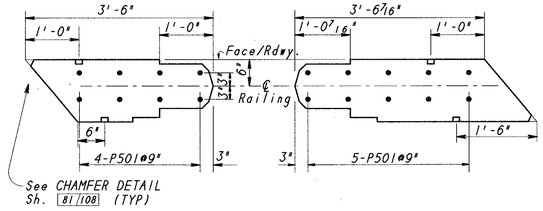
P3E P4E



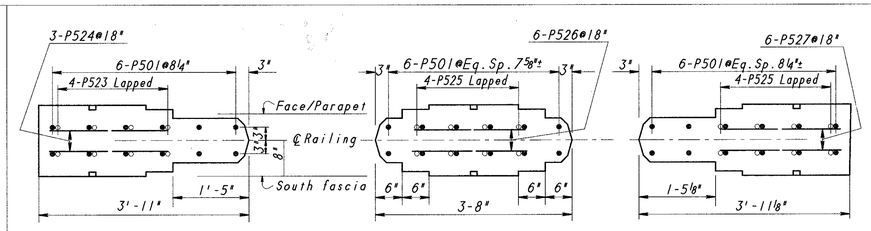
P5E SP5 P6E



P1F SP6 (2 of Ea.) P2F

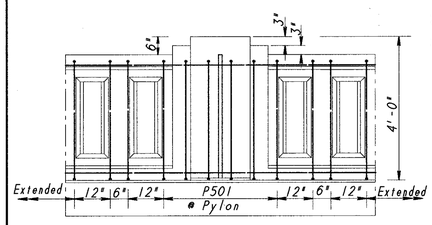


P3F P4F

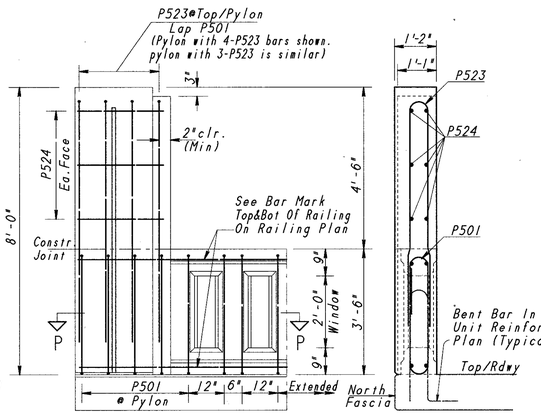


P5F SP7 (2 of Ea.) P6F

NOTE :
Pylons not noted as TALL are normal railing height pylons.

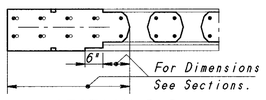


SIDE ELEVATION INSIDE PYLON TYPE SP4 or SP5
(LOOKING AT NORTH FASCIA)
(LOOKING AT SOUTH FASCIA IS SIMILAR)

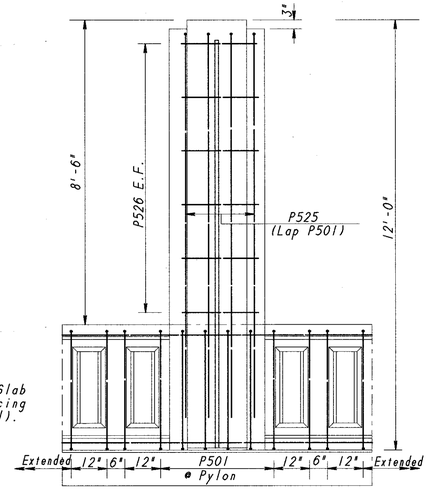


TYPICAL SIDE ELEVATION
END OF SPAN PYLON 8'TALL
(LOOKING AT NORTH FASCIA)
(LOOKING AT SOUTH FASCIA IS SIMILAR)

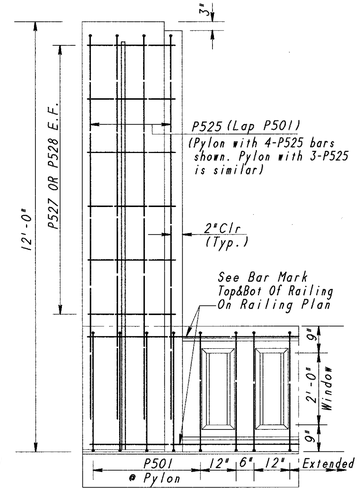
SECTION THRU 8'TALL PYLON
TYPE P1 Or P2
(TYPE P5 OR P6 IS SIMILAR)



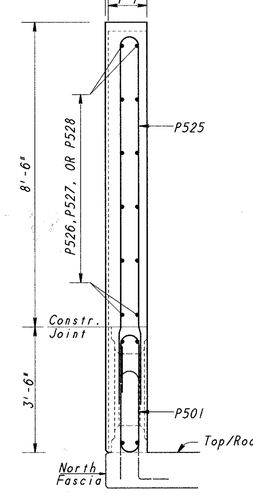
SECTION P-P



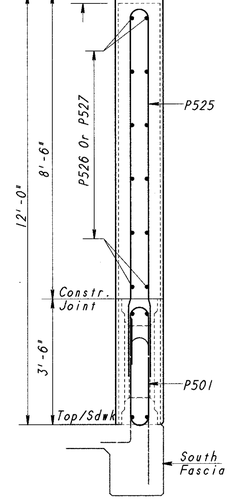
SIDE ELEVATION
INSIDE PYLON TYPE SP6 or SP7
(LOOKING AT NORTH FASCIA)
(LOOKING AT SOUTH FASCIA IS SIMILAR)



TYPICAL SIDE ELEVATION
END OF SPAN PYLON 12' TALL
(LOOKING AT NORTH FASCIA)
(LOOKING AT SOUTH FASCIA IS SIMILAR)



SECTION THRU 12'TALL PYLON
TYPE SP6, P1 OR P2



SECTION THRU 12'TALL PYLON
TYPE SP7, P5 OR P6

NOTES:

1.-*Work this sheet with DECORATIVE RAILING SPANS 5-6-7 & 7-8-9-10 (UNIT E & UNIT F) Sh.* 78/108

2.-*Work this sheet with GENERAL PLAN 1/3 to 3/3 Sh.* 4/108, *Sh.* 5/108 *and Sh.* 6/108 *with DECK SLAB UNIT E, Sh.* 64/108 *with DECK SLAB UNIT F, Sh.* 65/108 *and Sh.* 66/108 *with DECK SLAB UNIT G Sh.* 67/108

3.-*Length of railing elements are measured along the same lines as shown in Deck Slab Plans.*

4.-*For additional Notes and Legend, see Sh.* 77/108

5.-*For additional details not shown or referred to on this sheet, see DECORATIVE RAILING MISCELLANEOUS DETAILS, Sh.* 76/108.

6.- *See GENERAL NOTES 5/5 Sh.* 11/108.

TYEREF Scale 1.3333

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CINCINNATI OHIO

82/108

DECORATIVE RAILING END OF SPAN PYLONS (SPANS 5-6-7 & 7-8-9-10)

(SLAB UNITS E & F)

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

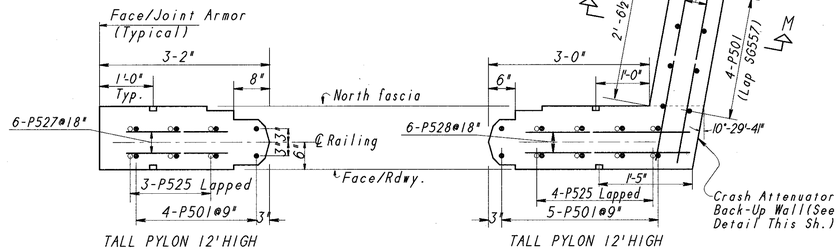
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

157 / 182

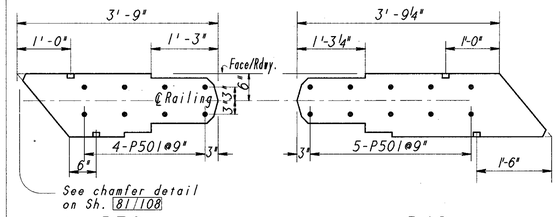
HAM-471-00.25

NOTE.-
Pylons Not Noted are normal railing height pylons.



P1G

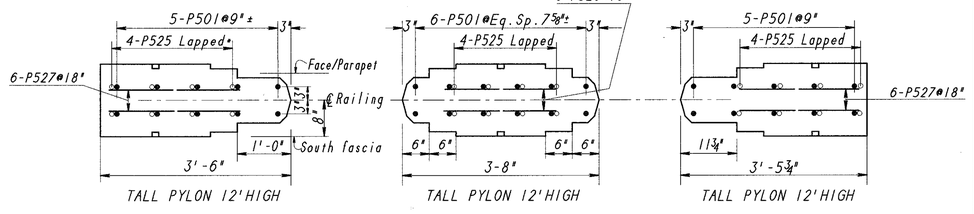
P2G



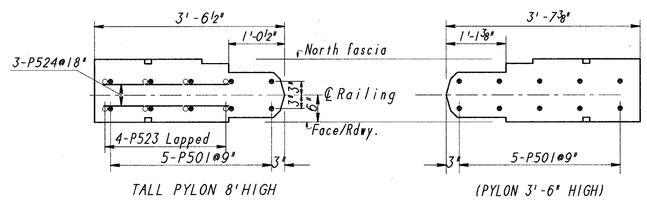
P3G

P4G

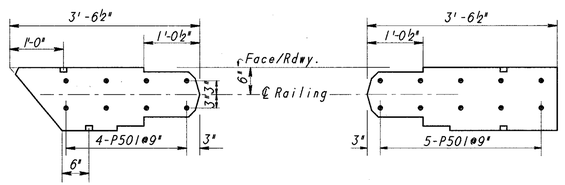
*Provide 2" Clear Cover At Pylon.



P5G SP7 P6G

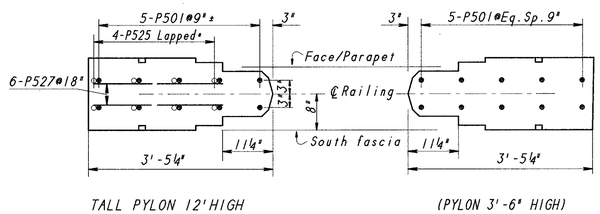


P1H P2H

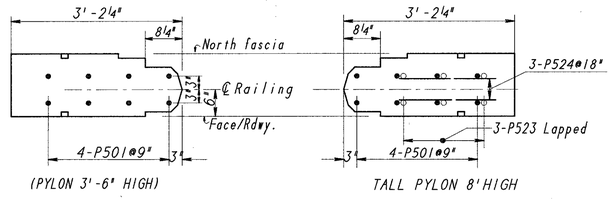


P3H P4H

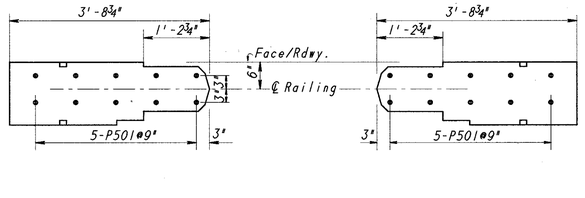
*Provide 2" Clear Cover At Pylon.



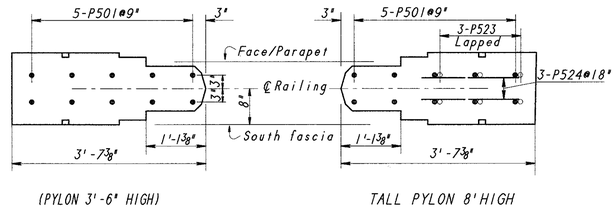
P5H P6H



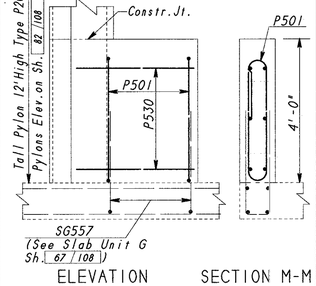
P1I P2I

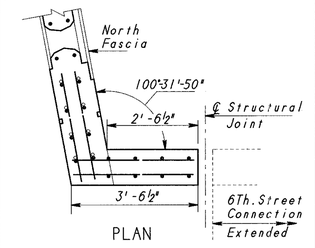


P3I P4I

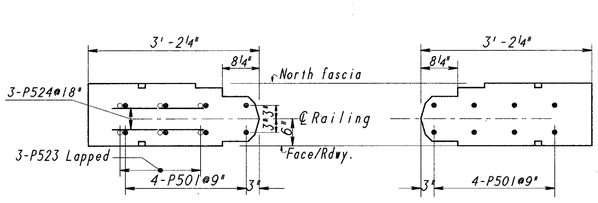


P5I P6I

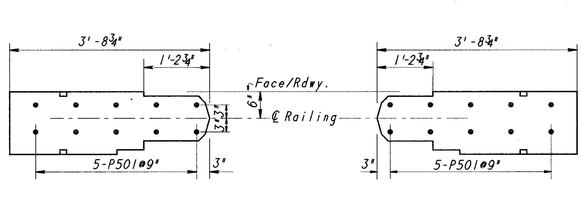




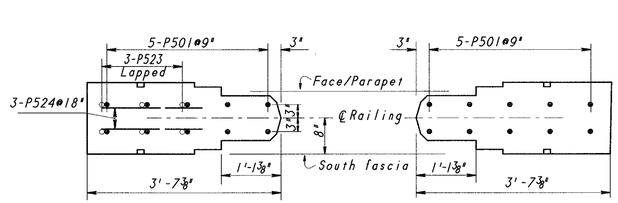
CRASH ATTENUATOR BACK-UP WALL



P1J P2J



P3J P4J



P5J P6J

NOTES:

1.-Work this sheet with DECORATIVE RAILING, SPANS 10-11-12, 12-13, 13-14 and 14-15 (Slab Units G, H, I & J), Sh. 79/108

2.-Work this sheet with GENERAL PLAN 1/3 to 3/3, Sh. 4/108, Sh. 5/108 and Sh. 6/108
with DECK SLAB UNIT G, Sh. 67/108
with DECK SLAB UNIT H, Sh. 68/108
with DECK SLAB UNIT I, Sh. 69/108
with DECK SLAB UNIT J, Sh. 70/108

3.-For additional Notes and Legend, see Sh. 77/108 and Sh. 81/108

4.-See GENERAL NOTES 5/5, Sh. 11/108.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

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DECORATIVE RAILING END OF SPAN PYLONS

(SPANS 10-11-12, 12-13, 13-14 & 14-15)
(SLAB UNITS G, H, I & J)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

TXEPGHJ Scale 1:3333

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

HAM-471-00.25

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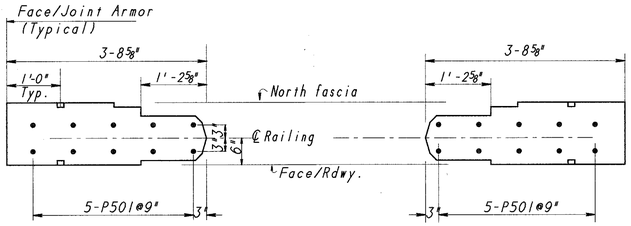
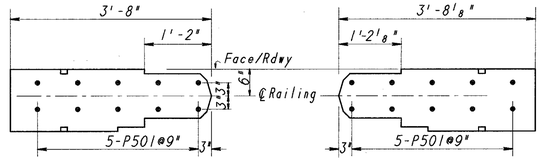
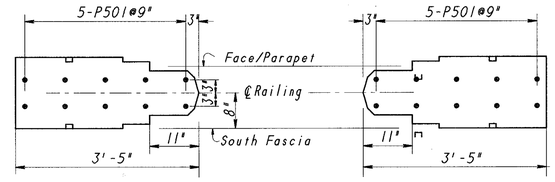


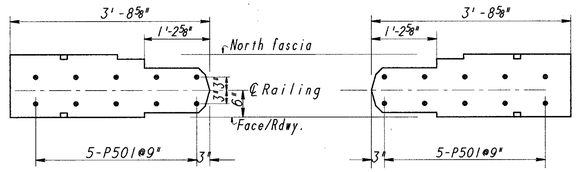
P1K P2K



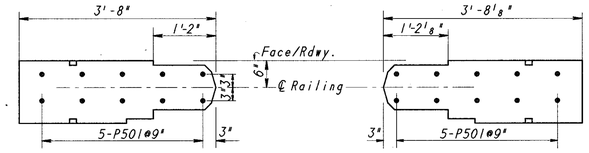
P3K P4K



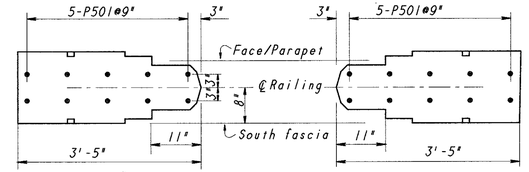
P5K P6K



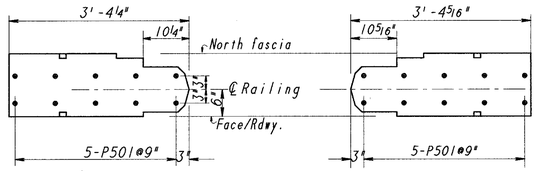
P1L P2L



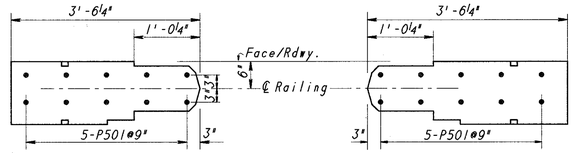
P3L P4L



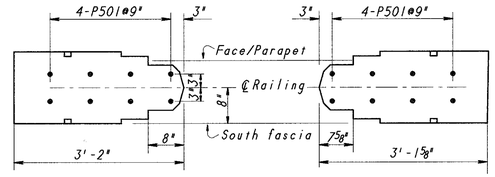
P5L P6L



P1M P2M



P3M P4M



P5M P6M

NOTES:

1.-Work this sheet with DECORATIVE RAILING, SPANS 15-16, 16-17, and 17-18 (Slab Units K, L & M), Sh. 80/108

2.-Work this sheet with GENERAL PLAN 1/3 to 3/3 Sh. 4/108, Sh. 5/108 and Sh. 6/108
with DECK SLAB UNIT K, Sh. 71/108
with DECK SLAB UNIT L, Sh. 72/108
with DECK SLAB UNIT M, Sh. 73/108

3.-For additionals Notes and Legend, see Sh. 77/108 and Sh. 81/108

4.- See GENERAL NOTES 5/5, Sh. 11/108.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

84/108

DECORATIVE RAILING
END OF SPAN PYLONS
(SPANS 15-16, 16-17 & 17-18)
(SLAB UNITS K, L, & M)
BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

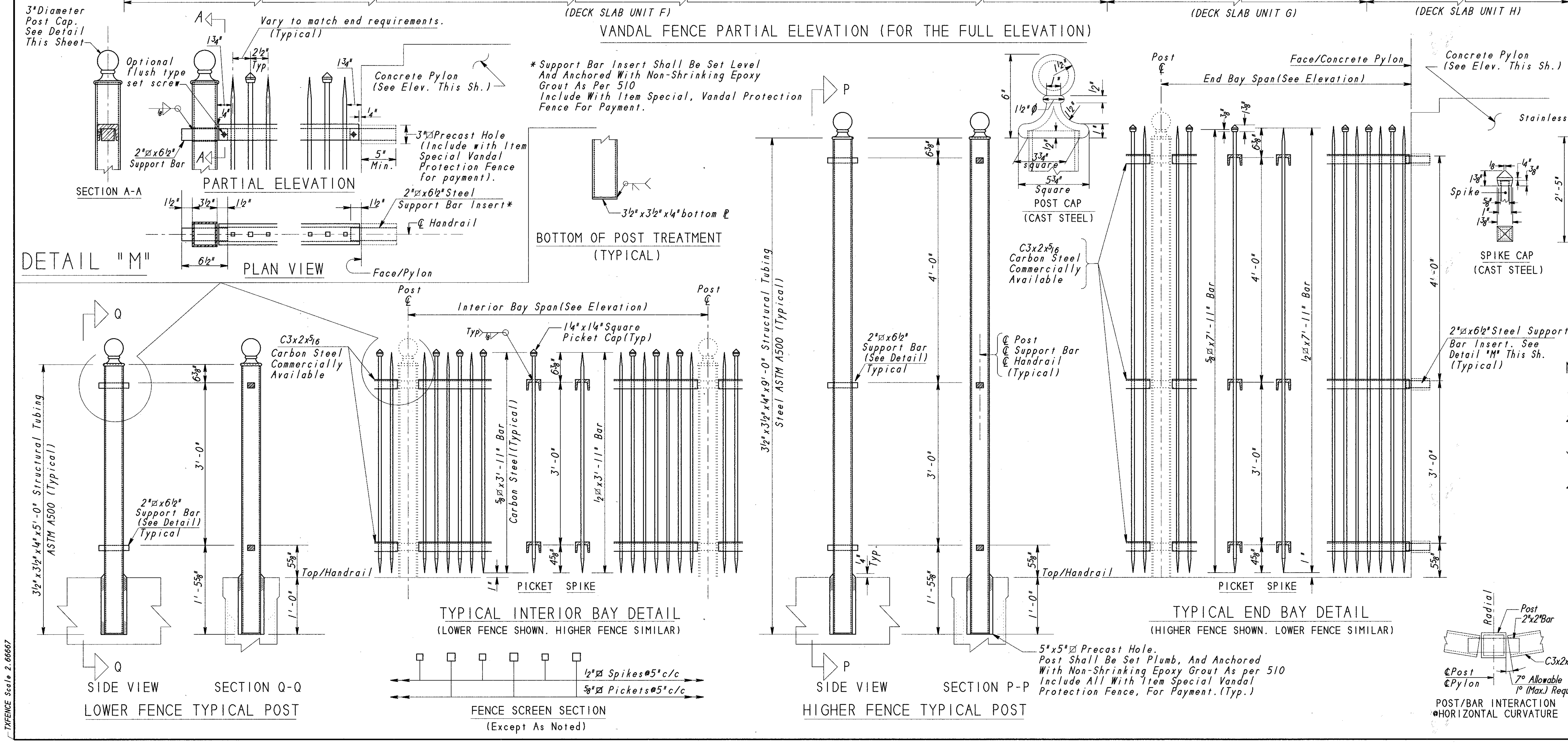
Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

TXEPKLN Scale 1.3333

VANDAL FENCE PARTIAL ELEVATION (FOR THE FULL ELEVATION)



FENCE SCREEN AT RAILING WINDOW

(SOUTH FASCIA ONLY)

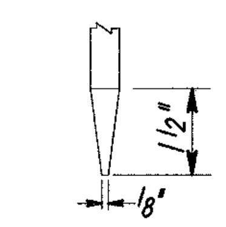
NOTES:

1.- Fencing and window fence screen to be constructed along South Fascia only.

2.- See GENERAL NOTES 5/5, Sh. 11/108 on Item Special VANDAL PROTECTION FENCE.

3.- Fence screen at railing windows is included in Unit Price Bid for Item Special, VANDAL PROTECTION FENCE, for payment.

4.- Screen Spike And Picket Bars Tapering End Detail:



Pflum, Klausmeier & Gehrum Consultants — CINCINNATI, OHIO — 85/108

VANDAL PROTECTION FENCE

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY — Sta.30+55.40 Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

TXFENCE Scale 2.66667

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

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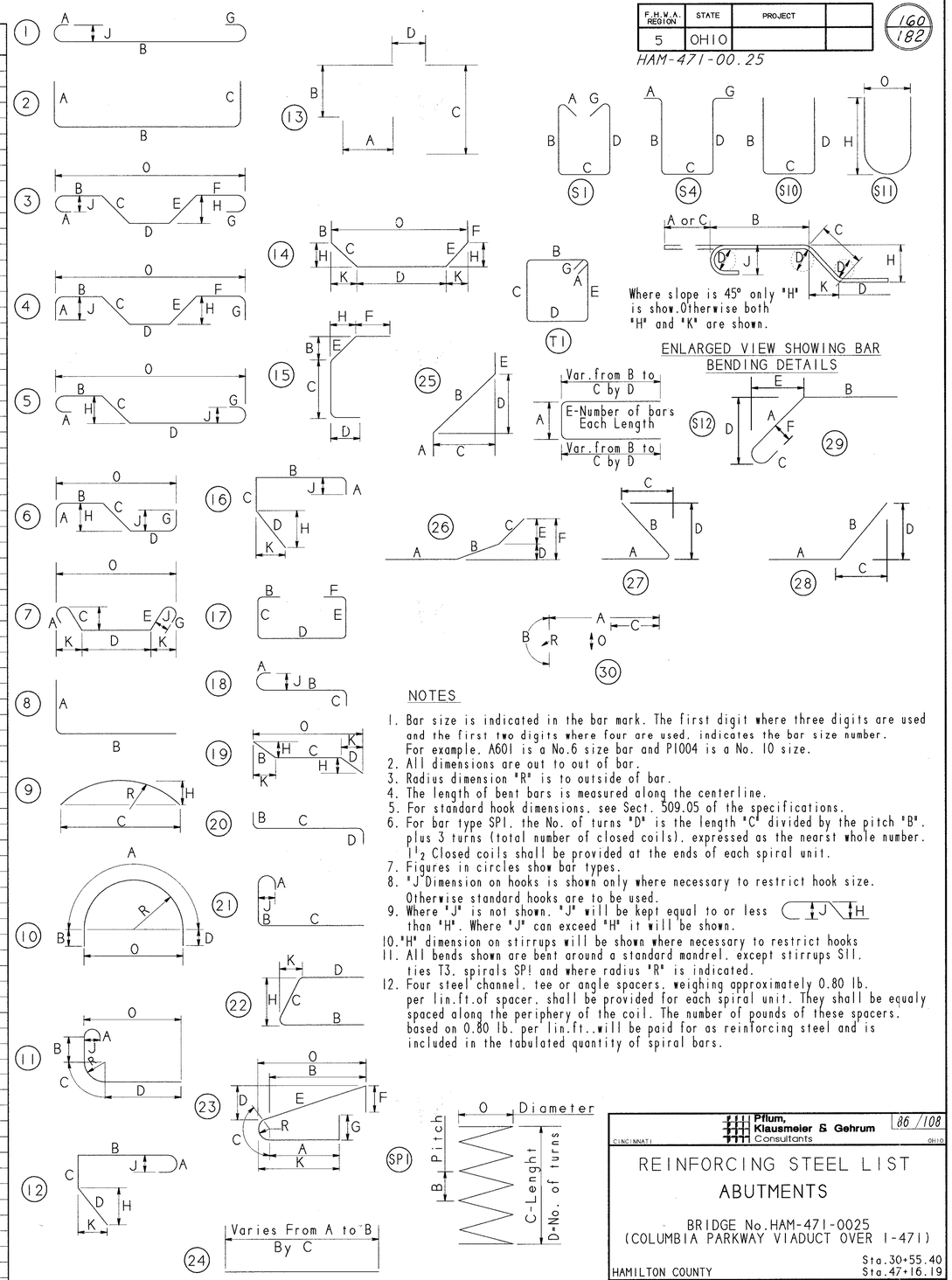
HAM-471-00.25

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
						REAR ABUTMENT (ABUTMENT No. 1)											
RA401	3	3'-11"	8	T1	0'-4½"	0'-10"	0'-11"	0'-10"	0'-11"		0'-4½"						
RA501	8	32'-0"	267	Str.													
RA502	1	33'-0"	34	Str.													
RA503	8	39'-10"	332	Str.													
RA504	1	31'-0"	32	Str.													
RA505	9	6'-2"	58	Str.													
RA506	3	11'-6"	36	Str.													
RA507	6	7'-8"	48	Str.													
RA508	6	4'-7"	29	8	1'-2"	3'-6½"											Dowels
RA509	5	4'-7"	24	28	1'-2"	3'-6"	2'-5¾"	2'-5¾"									Dowels
RA601	68	11'-1"	1132	2	5'-0"	1'-5"	5'-0"										
RA602	57	9'-1"	778	2	4'-0"	1'-5"	4'-0"										
RA603	57	6'-5"	549	2	2'-11"	0'-11"	2'-11"										
RA604	11	10'-10"	179	2	4'-10½"	1'-5"	4'-10½"										
RA605	11	5'-9"	95	2	2'-7"	0'-11"	2'-7"										
RA606	4	5'-2"	31	Str.													
RA801	39	5'-5"	564	29	3'-1"	1'-5"	0'-11"	2'-2"	2'-2"	0'-6"							
		Sub-Total= 4196 Lb. Epoxy Coated Reinforcing Steel Grade 60															
						FORWARD ABUTMENT (ABUTMENT No. 18)											
FA401	3	3'-11"	8	T1	0'-4½"	0'-10"	0'-11"	0'-10"	0'-11"		0'-4½"						
FA501	8	31'-6"	263	Str.													
FA502	1	32'-2"	34	Str.													
FA503	8	39'-8"	331	Str.													
FA504	1	31'-0"	32	Str.													
FA505	2	11'-0"	23	Str.													
FA506	1	11'-6"	12	Str.													
FA507	8	8'-0"	67	2	1'-7"	1'-0"	5'-8"										
FA508	6	7'-8"	48	Str.													
FA509	1	5'-8"	6	Str.													
FA601	68	9'-7"	979	2	4'-3"	1'-5"	4'-3"										
FA602	57	9'-1"	778	2	4'-0"	1'-5"	4'-0"										
FA603	57	6'-5"	549	2	2'-11"	0'-11"	2'-11"										
FA604	11	10'-10"	179	2	4'-10½"	1'-5"	4'-10½"										
FA605	11	5'-9"	95	2	2'-7"	0'-11"	2'-7"										
FA606	4	5'-2"	31	Str.													
FA607	8	2'-8"	32	Str.													Dowels
FA608	8	3'-6"	42	8	1'-8"	2'-0"											Dowels
FA801	38	5'-5"	550	29	3'-1"	1'-5"	0'-11"	2'-2"	2'-2"	0'-6"							
		Sub-Total= 4059 Lb. Epoxy Coated Reinforcing Steel Grade 60															

TOTAL = 8255 Lb. EPOXY COATED REINFORCING STEEL GRADE 60 - ABUTMENTS.

ABUTMENTBARS SCALE 1



NOTES

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicates the bar size number. For example, A601 is a No.6 size bar and P1004 is a No. 10 size.
2. All dimensions are out to out of bar.
3. Radius dimension "R" is to outside of bar.
4. The length of bent bars is measured along the centerline.
5. For standard hook dimensions, see Sect. 509.05 of the specifications.
6. For bar type SP1, the No. of turns "D" is the length "C" divided by the pitch "B", plus 3 turns (total number of closed coils), expressed as the nearst whole number. 1½ Closed coils shall be provided at the ends of each spiral unit.
7. Figures in circles show bar types.
8. "J" Dimension on hooks is shown only where necessary to restrict hook size. Otherwise standard hooks are to be used.
9. Where "J" is not shown, "J" will be kept equal to or less than "H". Where "J" can exceed "H" it will be shown.
10. "H" dimension on stirrups will be shown where necessary to restrict hooks
11. All bends shown are bent around a standard mandrel, except stirrups S11, ties T3, spirals SP1 and where radius "R" is indicated.
12. Four steel channel, tee or angle spacers, weighing approximately 0.80 lb. per lin.ft.of spacer, shall be provided for each spiral unit. They shall be equaly spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.80 lb. per lin.ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO
86/108

REINFORCING STEEL LIST
ABUTMENTS

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	PLF		WDD	IEH	April 96	

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

HAM-471-00.25

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REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
				RAMP A OFF COLUMBIA PARKWAY DECK SLAB MODIFICATION													
AR501	22	3'-9"	86	1	0'-7"	3'-2"					0		0'-3 3/4"				
AR502	10	2'-2"	23	Str.													
AR503	4	8'-6"	35	S10		3'-8"	1'-5"	3'-8"									
AR504	1 Series of 7	Varies 7'-6" To 4'-10" By 5 1/4"	45	S10		Varies 3'-2" To 2'-4" By 1 5/8"	Varies 1'-5" To 5" By 2"	Varies 3'-2" To 2'-4" By 1 5/8"									
AR505	7	3'-9"	27	29	0'-11"	2'-3"	0'-7"	0'-6"	0'-9"	0'-3 3/4"							
AR506	8	11'-3"	94	Str.													
AR507	14	3'-9"	55	1	0'-7"	3'-2"					0		0'-3 3/4"				
AR508	8	6'-6"	54	Str.													
AR509	2	6'-6"	14	Bent													Bent On Site
AR510	1 Series of 7	Varies 7'-9" To 5'-1" By 5 1/4"	47	S10		Varies 3'-8" To 2'-4" By 2 5/8"	0'-8"	Varies 3'-8" To 2'-4" By 2 5/8"									
			300														
		Sub-Total =	780	lb Epoxy Coated Reinforcing Steel Grade 60													
				RELOCATED 6TH STREET OFF COLUMBIA PKWY DECK SLAB MODIFICATION													
6ST501	22	3'-9"	86	1	0'-7"	3'-2"					0		0'-3 3/4"				
6ST502	18	2'-2"	41	Str.													
6ST503	4	16'-6"	67	S10		7'-8"	1'-5"	7'-8"									
6ST504	1 Series of 7	Varies 7'-4" To 4'-11" By 4 3/4"	45	S10		Varies 3'-1" To 2'-3" By 1 5/8"	Varies 1'-5" To 8" By 1 1/2"	Varies 3'-1" To 2'-3" By 1 5/8"									
6ST505	7	3'-9"	27	29	0'-11"	2'-3"	0'-7"	0'-6"	0'-9"	0'-3 3/4"							
6ST506	8	11'-3"	94	Str.													
6ST507	14	3'-9"	55	1	0'-7"	3'-2"					0		0'-3 3/4"				
6ST508	8	5'-10"	49	Str.													
6ST509	2	5'-10"	12	Bent													Bent On Site
6ST510	1 Series of 7	Varies 7'-9" To 5'-1" By 5 1/4"	47	S10		Varies 3'-8" To 2'-4" By 2 5/8"	0'-8"	Varies 3'-8" To 2'-4" By 2 5/8"									
			300														
		Sub-Total =	823	lb Epoxy Coated Reinforcing Steel Grade 60													

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	NOTES

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size numbers. For example. A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants — CINCINNATI OHIO — 87/108

REINFORCING STEEL LIST
RAMP A & 6TH STREET CONNECTOR
DECK SLAB
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY — Sta. 30+55.40 Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	P.L.F.		WDD	IEH	April 96	

File: RAMPLIST

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

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HAM-471-00.25

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SA401	58	31'-6"	1220	Str.													
SA402	1	24'-8"	16	Str.													
SA403	1	21'-6"	14	Str.													
SA404	55	30'-0"	1102	Str.													
SA405	52	7'-6"	261	1	0'-6"	7'-0"					0		0'-3"				
SA406	14	17'-0"	159	Str.													
SA407	14	40'-0"	374	Str.													
SA408	14	1 Series	177	24	18'-0"	19'-9"	0'-1 5/8"										
SA409	64	5'-0"	214	S1	0'-4 1/2"	1'-11"	0'-8"	1'-11"			0'-4 1/2"						
SA501	80	28'-2"	2351	Str.													
SA502	20	22'-6"	469	Str.													
SA503	82	40'-0"	3421	Str.													
SA504	20	1 Series	475	24	20'-10"	24'-8"	0'-2 1/2"										
SA505	58	32'-0"	1936	Str.													
SA506	1	24'-8"	26	Str.													
SA507	1	32'-6"	34	Str.													
SA508	1	32'-0"	33	Str.													
SA509	108	4'-7"	516	13	1'-9"	1'-4"	1'-4"	0'-7"									
SA510	20	20'-3"	422	Str.													
SA511	20	1 Series	438	24	19'-0"	23'-0"	0'-2 1/2"										
SA512	1	29'-10"	31	Str.													
SA513	1	21'-6"	22	Str.													
SA514	1	29'-10"	31	Str.													
SA515	55	29'-10"	1711	Str.													
SA516	54	5'-3"	296	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
SA517	55	12'-7"	722	1	0'-7"	12'-0"					0		0'-3 3/4"				
SA518	53	13'-3"	732	1	0'-7"	12'-8"					0		0'-3 3/4"				
SA519	95	6'-0"	594	13	1'-9"	1'-1"	2'-10"	0'-7"									
SA601	20	18'-2"	546	Str.													
SA602	20	1 Series	519	24	15'-4"	19'-3"	0'-2 1/2"										
SA603	21	30'-0"	946	Str.													
SA604	21	30'-4"	957	Str.													
SA605	21	1 Series	822	24	24'-0"	28'-2"	0'-2 1/2"										
SA606	21	23'-2"	731	Str.													
SA607	21	1 Series	744	24	21'-6"	25'-8"	0'-2 1/2"										
SA608	6	31'-6"	284	Bent													Bent on Site
SA609	24	31'-2"	1124	Bent													Bent on Site
SA610	6	26'-0"	234	Str.													
SA611	4	29'-0"	174	Bent													Bent on Site
SA612	4	24'-2"	145	Str.													
SA613	20	12'-6"	376	Str.													
SA614	20	1 Series	499	24	14'-9"	18'-6"	0'-2 3/8"										
SA615	21	27'-6"	867	Str.													
SA616	21	30'-2"	952	Str.													
SA617	21	1 Series	768	24	22'-4"	26'-4"	0'-2 1/2"										
SA618	21	21'-0"	662	Str.													
SA619	21	1 Series	676	24	19'-6"	23'-4"	0'-2 3/8"										
SA620	8	26'-6"	318	Bent													Bent on Site
SA621	8	22'-8"	272	Bent													Bent on Site
SA622	6	25'-8"	231	Bent													Bent on Site
SA623	6	21'-8"	195	Bent													Bent on Site
		Sub-Total =	30,839	Lbs. Epoxy Coated Reinforcing Steel Grade 60													

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	NOTES

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size numbers. For example, A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

88/108

REINFORCING STEEL LIST
DECK SPAN 1-2
(UNIT A)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

UNIT UNIT A

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

HAM-471-00.25

163/182

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SB401	17	31'-6"	358	Str.													
SB402	16	1 Series	335	24	28'-2"	34-6"	0'-5 1/16"										
SB403	17	28'-0"	318	Str.													
SB404	5	1 Series	44	24	5'-3"	21'-3"	4'-0"										
SB405	1	29'-0"	19	Str.													
SB406	55	30'-0"	1102	Str.													
SB407	6	1 Series	63	24	5'-9"	25'-9"	4'-0"										
SB408	14	17'-0"	159	Str.													
SB409	14	40'-0"	374	Str.													
SB410	14	30'-0"	281	Str.													
SB411	79	5'-0"	264	S1	0'-4 1/2"	1'-11"	0'-8"	1'-11"			0'-4 1/2"						
SB412	61	7'-6"	306	1	0'-6"	7'-0"					0		0'-3"				
SB501	59	27'-2"	1672	Str.													
SB502	20	20'-3"	423	Str.													
SB503	19	40'-0"	793	Str.													
SB504	19	27'-6"	545	Str.													
SB505	19	16'-8"	330	Str.													
SB506	18	1 Series	309	24	13'-3"	19-8"	0'-4 1/2"										
SB507	2	1 Series	52	24	22'-9"	27'-6"	4'-9"										
SB508	18	32'-0"	601	Str.													
SB509	16	1 Series	531	24	28'-8"	35'-0"	0'-5 1/16"										
SB510	17	28'-6"	505	Str.													
SB511	1	29'-0"	30	Str.													
SB512	5	1 Series	72	24	5'-9"	21'-9"	4'-0"										
SB513	3	30'-4"	95	Str.													
SB514	2	1 Series	55	24	24'-2"	28'-8"	4'-6"										
SB515	31	4'-7"	148	13	1'-9"	1'-4"	1'-4"	0'-7"									
SB516	2	1 Series	48	24	20'-8"	25'-2"	4'-6"										
SB517	56	30'-0"	1752	Str.													
SB518	6	1 Series	100	24	6'-0"	26'-0"	4'-0"										
SB519	3	32'-0"	100	Str.													
SB520	20	19'-0"	396	Str.													
SB521	20	40'-0"	834	Str.													
SB522	20	1 Series	519	24	21'-4"	28'-6"	0'-4 1/2"										
SB523	42	27'-10"	1219	Str.													
SB524	62	5'-3"	340	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
SB525	61	13'-3"	843	1	0'-7"	12'-8"					0		0'-3 3/4"				
SB526	61	12'-7"	801	1	0'-7"	12'-0"					0		0'-3 3/4"				
SB527	1	12'-0"	13	Str.													
SB528	110	6'-0"	688	13	1'-9"	1'-1"	2'-10"	0'-7"									
SB529	1	6'-0"	6	Str.													
SB530	18	24'-4"	457	Str.													
SB531	1	12'-9"	13	28	9'-0"	3'-9"	3'-6"	1'-5"									
SB532	5	5'-9"	30	S10		2'-8"	0'-8"	2'-8"									

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SB601	21	28'-9"	907	Str.													
SB602	40	28'-4"	1702	Str.													
SB603	19	1 Series	592	24	17'-4"	24'-2"	0'-4 1/2"										
SB604	20	16'-2"	486	Str.													
SB605	18	1 Series	360	24	10'-2"	16'-6"	0'-4 1/2"										
SB606	21	20'-2"	636	Str.													
SB607	19	1 Series	496	24	14'-0"	20'-9"	0'-4 1/2"										
SB608	6	25'-4"	228	Str.													
SB609	3	26'-0"	117	Str.													
SB610	2	1 Series	53	24	15'-0"	20'-0"	5'-0"										
SB611	8	2 Series of 4	109	24	5'-4"	12'-9"	2'-5 1/2"										
SB612	1	32'-4"	49	Str.													
SB613	4	27'-0"	162	Str.													
SB614	4	28'-6"	171	Str.													
SB615	4	26'-0"	156	Str.													
SB616	21	27'-2"	857	Str.													
SB617	21	1 Series	938	24	26'-0"	33'-6"	0'-4 1/2"										
SB618	20	16'-10"	506	Str.													
SB619	20	1 Series	520	24	13'-9"	20'-10"	0'-4 1/2"										
SB620	21	18'-6"	584	Str.													
SB621	21	1 Series	460	24	10'-10"	18'-4"	0'-4 1/2"										
SB622	14	26'-10"	564	Str.													
SB623	14	40'-0"	841	Str.													
SB624	14	23'-0"	484	Str.													
SB625	4	5'-6"	33	Str.													
		Sub-Total - 29.954 Lbs. Epoxy Coated Reinforcing Steel Grade 60															

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size numbers. For example. A601 is a No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

89/108

REINFORCING STEEL LIST
DECK SPAN 2-3
(UNIT B)

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

UNIT-UNIT-B

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

HAM-471-00.25

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SC401	1	15'-6"	10	Str.													
SC402	6	1 Series	128	24	26'-0"	37'-10"	2'-4 1/2"										
SC403	11	1 Series	279	24	36'-0"	40'-0"	0'-4 3/4"										
SC404	16	1 Series	362	24	32'-0"	35'-9"	0'-3"										
SC405	29	31'-8"	613	Str.													
SC406	9	1 Series	78	24	4'-10"	21'-3"	2'-0 5/8"										
SC407	9	1 Series	96	24	4'-4"	27'-6"	2'-10 3/4"										
SC408	56	29'-10"	1117	Str.													
SC409	12	1 Series	132	24	4'-4"	28'-6"	2'-2 3/8"										
SC410	70	7'-6"	351	1	0'-6"	7'-0"					0		0'-3"				
SC411	14	18'-0"	168	Str.													
SC412	14	40'-0"	374	Str.													
SC413	14	38'-10"	363	Str.													
SC414	86	5'-0"	287	51	0'-4 1/2"	1'-11"	0'-8"	1'-11"			0'-4 1/2"						
SC501	42	29'-3"	1281	Str.													
SC502	21	40'-0"	876	Str.													
SC503	15	1 Series	381	24	20'-0"	28'-9"	0'-7 1/2"										
SC504	6	1 Series	178	24	27'-9"	29'-0"	0'-3"										
SC505	15	1 Series	448	24	22'-9"	34'-6"	0'-10"										
SC506	5	22'-8"	118	Str.													
SC507	1	14'-6"	15	Str.													
SC508	6	1 Series	200	24	26'-0"	37'-10"	2'-4 1/2"										
SC509	11	1 Series	438	24	36'-3"	40'-0"	0'-4 1/2"										
SC510	16	1 Series	574	24	32'-6"	36'-3"	0'-3"										
SC511	29	32'-3"	975	Str.													
SC512	9	1 Series	127	24	5'-4"	21'-9"	2'-0 5/8"										
SC513	3	22'-0"	68	28	19'-3"	2'-9"	2'-3"	1'-7"									
SC514	3	27'-3"	85	Str.													
SC515	3	11'-3"	35	Str.													
SC516	3	31'-0"	97	Str.													
SC517	111	4'-7"	531	13	1'-9"	1'-4"	1'-4"	0'-7"									
SC518	21	27'-9"	608	Str.													
SC519	21	36'-8"	803	Str.													
SC520	21	1 Series	572	24	20'-6"	31'-9"	0-6 3/4"										
SC521	21	40'-0"	876	Str.													
SC522	21	1 Series	694	24	23'-4"	40'-0"	0'-10"										
SC523	56	29'-10"	1742	Str.													
SC524	12	1 Series	205	24	4'-4"	28'-6"	2'-2 3/8"										
SC525	9	1 Series	154	24	4'-10"	28'-0"	2'-10 3/4"										
SC526	71	5'-3"	389	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
SC527	21	40'-0"	876	Str.													
SC528	21	29'-0"	635	Str.													
SC529	21	40'-0"	876	Str.													
SC530	20	17'-6"	365	Str.													
SC531	3	32'-4"	101	Str.													
SC532	3	36'-10"	115	Str.													
SC533	69	13'-3"	954	1	0'-7"	12'-8"					0		0'-3 3/4"				
SC534	70	12'-7"	919	1	0'-7"	12'-0"					0		0'-3 3/4"				
SC535	1	13'-2"	14	28	10'-8"	2'-6"	2'-0"	1'-6"									
SC536	124	6'-0"	776	13	1'-9"	1'-1"	2'-10"	0'-7"									

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SC601	21	40'-0"	1262	Str.													
SC602	16	1 Series	777	24	27'-6"	37'-2"	0'-7 3/4"										
SC603	5	1 Series	272	24	35'-9"	36'-9"	0'-3"										
SC604	15	1 Series	414	24	14'-0"	22'-9"	0'-7 1/2"										
SC605	6	1 Series	207	24	22'-4"	23'-6"	0'-3"										
SC606	8	35'-6"	427	Str.													
SC607	16	1 Series	296	24	7'-6"	17'-2"	0'-7 3/4"										
SC608	5	1 Series	122	24	15'-9"	16'-9"	0'-3"										
SC609	16	1 Series	529	24	15'-6"	28'-6"	0'-10 3/8"										
SC610	16	1 Series	390	24	10'-0"	22'-6"	0'-10"										
SC611	15	1 Series	470	24	15'-0"	26'-9"	0'-10"										
SC612	6	11'-0"	99	Bent													Bent on Site
SC613	12	40'-0"	721	Bent													Bent on Site
SC614	2	16'-0"	48	Str.													
SC615	5	18'-2"	136	Str.													
SC616	5	16'-0"	120	Str.													
SC617	2	23'-0"	69	Str.													
SC618	4	16'-3"	98	Bent													Bent on Site
SC619	8	40'-0"	481	Bent													Bent on Site
SC620	20	1 Series	1035	24	28'-11"	40'-0"	0'-7"										
SC621	21	40'-0"	1262	Str.													
SC622	21	1 Series	777	24	16'-3"	33'-0"	0'-10"										
SC623	21	1 Series	678	24	15'-3"	27'-9"	0'-7 1/2"										
SC624	22	1 Series	540	24	7'-6"	25'-2"	0'-10"										
SC625	20	1 Series	807	24	21'-3"	32'-6"	0'-7 1/8"										
SC626	21	1 Series	568	24	9'-8"	26'-4"	0'-10"										
SC627	8	22'-0"	264	Bent													Bent on Site
SC628	16	40'-0"	961	Bent													Bent on Site
SC629	6	20'-3"	183	Bent													Bent on Site
SC630	12	40'-0"	721	Bent													Bent on Site
SC631	4	15'-0"	90	Str.													
SC632	20	2 Series of 10	544	24	6'-9"	29'-6"	2'-6"										
SC633	5	10'-3"	77	Str.													
		Sub-Total = 37,904 Lbs. Epoxy Coated Reinforcing Steel Grade 60															

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size numbers. For example, A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants — CINCINNATI — 90/108 — OHIO

REINFORCING STEEL LIST
DECK SPAN 3-4
(UNIT C)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

UNIT\UNITC

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

HAM-471-00.25

165/182

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SD401	13	1 Series	176	24	9'-9"	30'-9"	1'-9"										
SD402	56	31'-5"	1175	Str.													
SD403	11	1 Series	94	24	4'-8"	21'-0"	1'-7 5/8"										
SD404	15	1 Series	167	24	4'-9"	28'-6"	1'-8 3/8"										
SD405	52	30'-0"	1042	Str.													
SD406	15	1 Series	170	24	4'-8"	29'-2"	1'-9"										
SD407	70	7'-6"	351	1	0'-6"	7'-0"					0		0'-3"				Bent on Site
SD408	14	17'-6"	164	Str.													
SD409	28	40'-0"	748	Str.													
SD410	89	5'-0"	297	S1	0'-4 1/2"	1'-11"	0'-8"	1'-11"			0'-4 1/2"						
SD501	21	38'-0"	832	Str.													
SD502	15	33'-0"	516	Str.													
SD503	14	1 Series	414	24	21'-5"	35'-3"	1'-0 3/4"										
SD504	21	40'-0"	876	Str.													
SD505	14	1 Series	456	24	24'-3"	38'-2"	1'-0 7/8"										
SD506	6	36'-4"	227	Str.													
SD507	6	25'-4"	159	Str.													
SD508	14	1 Series	304	24	13'-10"	27'-10"	1'-1"										
SD509	21	27'-3"	597	Str.													
SD510	21	35'-9"	783	Str.													
SD511	15	1 Series	295	24	11'-4"	26'-4"	1'-0 7/8"										
SD512	6	29'-6"	185	Str.													
SD513	14	1 Series	440	24	23'-2"	37'-1"	1'-0 7/8"										
SD514	21	39'-6"	865	Str.													
SD515	14	1 Series	437	24	23'-0"	36'-10"	1'-0 3/4"										
SD516	6	11'-8"	73	Str.													
SD517	7	22'-6"	164	Str.													
SD518	6	38'-3"	239	Str.													
SD519	3	10'-3"	32	28	7'-6"	2'-9"	2'-3"	1'-6"									
SD520	3	29'-0"	91	Str.													
SD521	3	12'-10"	40	Str.													
SD522	3	31'-10"	100	Str.													
SD523	13	1 Series	275	24	9'-9"	30'-9"	1'-9"										
SD524	56	32'-0"	1869	Str.													
SD525	11	1 Series	153	24	5'-2"	21'-6"	1'-7 5/8"										
SD526	20	35'-9"	746	Str.													
SD527	20	23'-6"	490	Str.													
SD528	21	1 Series	657	24	20'-0"	40'-0"	1'-0"										
SD529	21	40'-0"	876	Str.													
SD530	21	1 Series	642	24	18'-7"	40'-0"	1'-0"										
SD531	21	1 Series	524	24	13'-2"	34'-8"	1'-0 7/8"										
SD532	21	24'-9"	542	Str.													
SD533	21	37'-0"	810	Str.													
SD534	21	1 Series	370	24	6'-8"	27'-1"	1'-0 1/4"										
SD535	20	1 Series	528	24	15'-1"	35'-6"	1'-0 7/8"										
SD536	20	26'-3"	548	Str.													
SD537	20	23'-8"	494	Str.													
SD538	20	1 Series	578	24	17'-6"	37'-11"	1'-0 7/8"										
SD539	3	37'-2"	116	Str.													
SD540	3	39'-0"	122	Str.													
SD541	15	1 Series	260	24	4'-9"	28'-6"	1'-8 3/8"										
SD542	52	30'-0"	1627	Str.													
SD543	15	1 Series	265	24	4'-8"	29'-2"	1'-9"										
SD544	70	5'-3"	383	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
SD545	69	13'-3"	954	1	0'-7"	12'-8"					0		0'-3 3/4"				
SD546	69	12'-7"	906	1	0'-7"	12'-0"					0		0'-3 3/4"				
SD547	1	12'-8"	13	Str.													
SD548	3	13'-2"	41	28	10'-9"	2'-5"	1'-10"	1'-6"									
SD549	125	6'-0"	782	13	1'-9"	1'-1"	2'-10"	0'-7"									
SD550	125	4'-7"	598	13	1'-9"	1'-4"	1'-4"	0'-7"									

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SD601	14	1 Series	366	24	10'-5"	24'-4"	1'-0 7/8"										
SD602	15	1 Series	344	24	7'-9"	22'-9"	1'-0 7/8"										
SD603	6	26'-0"	234	Str.													
SD604	6	15'-9"	142	Str.													
SD605	6	24'-0"	216	Str.													
SD606	6	21'-3"	192	Bent													Bent on Site
SD607	12	40'-0"	721	Bent													Bent on Site
SD608	4	20'-6"	123	Bent													Bent on Site
SD609	8	40'-0"	481	Bent													Bent on Site
SD610	20	1 Series	611	24	10'-2"	30'-6"	1'-0 7/8"										
SD611	21	1 Series	769	24	13'-8"	35'-1"	1'-0 7/8"										
SD612	8	21'-6"	258	Bent													Bent on Site
SD613	16	40'-0"	961	Bent													Bent on Site
SD614	6	21'-0"	189	Bent													Bent on Site
SD615	12	40'-0"	721	Bent													Bent on Site
		Sub-Total = 35,006 Lbs. Epoxy Coated Reinforcing Steel Grade 60															

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size numbers. For example, A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

91/108

REINFORCING STEEL LIST
DECK SPAN 4-5
(UNIT D)

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

UNIT1UNITD

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

HAM-471-00.25

166
182

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SE401	13	1 Series	179	24	11'-0"	30'-2"	1'-7 1/8"										
SE402	147	31'-6"	3093	Str.													
SE403	12	1 Series	104	24	4'-2"	21'-9"	1'-7 1/8"										
SE404	17	1 Series	179	24	3'-0"	28'-6"	1'-7 1/8"										
SE405	143	30'-0"	2866	Str.													
SE406	16	1 Series	179	24	4'-9"	28'-8"	1'-7 1/8"										
SE407	161	7'-6"	807	1	0'-6"	7'-0"					0		0'-3"				
SE408	70	40'-0"	1870	Str.													
SE409	14	26'-8"	249	Str.													
SE410	200	5'-0"	668	S1	0'-4 1/2"	1'-11"	0'-8"	1'-11"			0'-4 1/2"						
SE501	84	40'-0"	3504	Str.													
SE502	21	38'-3"	838	Str.													
SE503	14	1 Series	409	24	20'-9"	35'-3"	1'-1 3/8"										
SE504	80	40'-0"	3338	Str.													
SE505	20	22'-3"	464	Str.													
SE506	14	1 Series	347	24	16'-6"	31'-0"	1'-1 3/8"										
SE507	15	1 Series	317	24	12'-6"	28'-1"	1'-1 3/8"										
SE508	105	34'-8"	3797	Str.													
SE509	21	27'-6"	602	Str.													
SE510	15	1 Series	250	24	8'-2"	23'-9"	1'-1 3/8"										
SE511	14	1 Series	452	24	23'-9"	38'-2"	1'-1 1/4"										
SE512	100	35'-3"	3677	Str.													
SE513	14	1 Series	392	24	19'-8"	34'-1"	1'-1 1/4"										
SE514	6	36'-0"	225	Str.													
SE515	6	28'-3"	177	Str.													
SE516	6	38'-10"	243	Str.													
SE517	6	16'-0"	100	Str.													
SE518	6	19'-3"	120	Str.													
SE519	6	8'-6"	53	Str.													
SE520	1	11'-5"	12	28	8'-8"	2'-9"	2'-2"	1'-9"									
SE521	3	29'-3"	92	Str.													
SE522	1	12'-6"	13	Str.													
SE523	3	31'-9"	99	Str.													
SE524	13	1 Series	279	24	11'-0"	30'-2"	1'-7 1/8"										
SE525	147	32'-0"	4906	Str.													
SE526	12	1 Series	168	24	4'-8"	22'-3"	1'-7 1/8"										
SE527	284	4'-7"	1358	13	1'-9"	1'-4"	1'-4"	0'-7"									
SE528	84	40'-0"	3505	Str.													
SE529	21	37'-8"	825	Str.													
SE530	20	1 Series	587	24	18'-0"	38'-3"	1'-3/4"										
SE531	100	35'-3"	3677	Str.													
SE532	20	1 Series	621	24	19'-6"	40'-0"	1'-1"										
SE533	21	1 Series	462	24	10'-0"	32'-2"	1'-1 3/8"										
SE534	105	34'-8"	3796	Str.													
SE535	21	27'-6"	602	Str.													
SE536	21	1 Series	341	24	4'-6"	26'-8"	1'-1 3/8"										
SE537	20	1 Series	636	24	21'-0"	40'-0"	1'-0"										
SE538	100	35'-3"	3677	Str.													
SE539	20	1 Series	574	24	18'-0"	37'-0"	1'-0"										
SE540	3	38'-4"	120	Str.													
SE541	3	38'-9"	121	Str.													
SE542	17	1 Series	277	24	2'-9"	28'-6"	1'-7 3/8"										
SE543	143	30'-0"	4474	Str.													
SE544	16	1 Series	279	24	4'-9"	28'-8"	1'-7 1/8"										
SE545	161	5'-3"	882	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
SE546	161	13'-3"	2225	1	0'-7"	12'-8"					0		0'-3 3/4"				
SE547	161	12'-7"	2113	1	0'-7"	12'-0"					0		0'-3 3/4"				
SE548	1	12'-8"	13	Str.													
SE549	1	13'-2"	14	28	10'-2"	3'-0"	2'-4"	1'-11"									
SE550	284	6'-0"	1777	13	1'-9"	1'-1"	2'-10"	0'-7"									
SE551	4	8'-2"	34	13	1'-9"	3'-1"	3'-1"	0'-7"									
SE552	4	9'-6"	40	13	1'-9"	2'-10"	4'-8"	0'-7"									

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SE601	15	1 Series	382	24	9'-2"	24'-9"	1'-1 3/8"										
SE602	15	1 Series	455	24	12'-5"	28'-0"	1'-1 3/8"										
SE603	6	24'-10"	224	Str.													
SE604	6	12'-6"	113	Str.													
SE605	30	40'-0"	1802	Str.													
SE606	6	34'-3"	309	Str.													
SE607	20	40'-0"	1202	Str.													
SE608	4	35'-0"	210	Str.													
SE609	21	1 Series	572	24	7'-0"	29'-3"	1'-1 3/8"										
SE610	21	1 Series	615	24	8'-4"	30'-8"	1'-1 3/8"										
SE611	40	40'-0"	2403	Str.													
SE612	8	34'-3"	412	Str.													
SE613	30	40'-0"	1802	Str.													
SE614	6	35'-3"	318	Str.													

Sub-Total - 78,917 Lbs. Epoxy Coated Reinforcing Steel Grade 60

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used. indicate the bar size numbers. For example, A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI

92/108

OHIO

REINFORCING STEEL LIST
DECK SPAN 5-6-7
(UNIT E)

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

FILE: UNITE

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

HAM-471-00.25

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SF401	13	1 Series	179	24	11'-0"	30'-2"	1'-7 1/8"										
SF402	338	31'-6"	7112	Str.													
SF403	12	1 Series	104	24	4'-2"	21'-9"	1'-7 1/8"										
SF404	17	1 Series	177	24	2'-9"	28'-6"	1'-7 1/8"										
SF405	334	30'-0"	6693	Str.													
SF406	16	1 Series	179	24	4'-9"	28'-8"	1'-7 1/8"										
SF407	351	7'-6"	1759	1	0'-6"	7'-0"					0		0'-3"				
SF408	168	40'-0"	4489	Str.													
SF409	14	16'-4"	153	Str.													
SF410	440	5'-0"	1470	S1	0'-4 1/2"	1'-11"	0'-8"	1'-11"			0'-4 1/2"						
SF501	231	40'-0"	9637	Str.													
SF502	21	36'-0"	789	Str.													
SF503	14	1 Series	408	24	20'-9"	35'-2"	1'-1 3/8"										
SF504	220	40'-0"	9178	Str.													
SF505	20	20'-3"	422	Str.													
SF506	14	1 Series	340	24	16'-0"	30'-6"	1'-1 3/8"										
SF507	15	1 Series	317	24	12'-6"	28'-1"	1'-1 3/8"										
SF508	273	35'-2"	10014	Str.													
SF509	21	31'-6"	690	Str.													
SF510	15	1 Series	250	24	8'-2"	23'-9"	1'-1 3/8"										
SF511	14	1 Series	451	24	23'-8"	38'-2"	1'-1 3/8"										
SF512	260	35'-2"	9537	Str.													
SF513	14	1 Series	388	24	19'-4"	33'-10"	1'-1 3/8"										
SF514	6	36'-0"	225	Str.													
SF515	6	28'-3"	177	Str.													
SF516	6	38'-10"	243	Str.													
SF517	6	14'-10"	93	Str.													
SF518	6	18'-3"	114	Str.													
SF519	6	7'-8"	48	Str.													
SF520	1	11'-6"	12	28	8'-9"	2'-9"	2'-2"	1'-9"									
SF521	3	29'-3"	92	Str.													
SF522	1	12'-6"	13	Str.													
SF523	3	31'-9"	99	Str.													
SF524	13	1 Series	279	24	11'-0"	30'-2"	1'-7 1/8"										
SF525	338	32'-0"	11281	Str.													
SF526	12	1 Series	168	24	4'-8"	22'-3"	1'-7 1/8"										
SF527	611	4'-7"	2920	13	1'-9"	1'-4"	1'-4"	0'-7"									
SF528	231	40'-0"	9637	Str.													
SF529	21	39'-0"	854	Str.													
SF530	20	1 Series	578	24	17'-2"	38'-3"	1'-1 3/8"										
SF531	260	35'-3"	9559	Str.													
SF532	20	1 Series	615	24	19'-0"	40'-0"	1'-1 3/8"										
SF533	21	1 Series	460	24	9'-10"	32'-2"	1'-1 3/8"										
SF534	273	34'-8"	9871	Str.													
SF535	21	31'-6"	690	Str.													
SF536	21	1 Series	335	24	4'-2"	26'-5"	1'-1 3/8"										
SF537	20	1 Series	636	24	21'-0"	40'-0"	1'-0"										
SF538	260	35'-2"	9537	Str.													
SF539	20	1 Series	564	24	17'-6"	36'-6"	1'-0"										
SF540	3	38'-4"	120	Str.													
SF541	3	38'-9"	121	Str.													
SF542	17	1 Series	277	24	2'-9"	28'-6"	1'-7 3/8"										
SF543	334	30'-0"	10450	Str.													
SF544	16	1 Series	279	24	4'-9"	28'-8"	1'-7 1/8"										
SF545	351	5'-3"	1922	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
SF546	351	13'-3"	4851	1	0'-7"	12'-8"					0		0'-3 3/4"				
SF547	351	12'-7"	4607	1	0'-7"	12'-0"					0		0'-3 3/4"				
SF548	1	12'-8"	13	Str.													
SF549	1	13'-2"	14	28	10'-2"	3'-0"	2'-4"	1'-11"									
SF550	611	6'-0"	3824	13	1'-9"	1'-1"	2'-10"	0'-7"									
SF551	16	8'-2"	136	13	1'-9"	3'-1"	3'-1"	0'-7"									
SF552	16	9'-6"	159	13	1'-9"	2'-10"	4'-8"	0'-7"									

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SF601	15	1 Series	382	24	9'-2"	24'-9"	1'-1 3/8"										
SF602	15	1 Series	448	24	12'-2"	27'-8"	1'-1 3/8"										
SF603	6	24'-10"	224	Str.													
SF604	6	11'-6"	104	Str.													
SF605	72	40'-0"	4326	Str.													
SF606	6	36'-4"	327	Str.													
SF607	48	40'-0"	2884	Str.													
SF608	4	36'-6"	219	Str.													
SF609	21	1 Series	469	24	3'-9"	26'-0"	1'-1 3/8"										
SF610	21	1 Series	615	24	8'-4"	30'-8"	1'-1 3/8"										
SF611	96	40'-0"	5768	Str.													
SF612	8	36'-3"	436	Str.													
SF613	72	40'-0"	4326	Str.													
SF614	6	36'-6"	329	Str.													

Sub-Total = 171,446 Lbs. Epoxy Coated Reinforcing Steel Grade 60

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size numbers. For example. A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI 93/108 OHIO

REINFORCING STEEL LIST
DECK SPAN 7-8-9-10
(UNIT F)

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

UNIT UNIT F

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

HAM-471-00.25

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REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SG401	13	1 Series	179	24	11'-0"	30'-2"	1'-7 1/8"										
SG402	67	31'-6"	1410	Str.													
SG403	11	1 Series	89	24	4'-2"	20'-1"	1'-7 1/8"										
SG404	17	1 Series	177	24	2'-9"	28'-6"	1'-7 1/8"										
SG405	143	30'-0"	2866	Str.													
SG406	16	1 Series	179	24	4'-9"	28'-8"	1'-7 1/8"										
SG407	161	7'-6"	807	1	0'-6"	7'-0"					0		0'-3"				
SG408	70	40'-0"	1870	Str.													
SG409	14	26'-6"	248	Str.													
SG410	200	5'-0"	668	S1	0'-4 1/2"	1'-11"	0'-8"	1'-11"			0'-4 1/2"						
SG411	31	1 Series	622	24	26'-4"	33'-9"	0'-3"										
SG412	50	26'-4"	880	Str.													
SG501	78	40'-0"	3254	Str.													
SG502	18	28'-0"	526	Str.													
SG503	14	1 Series	456	24	24'-0"	38'-6"	1'-1 3/8"										
SG504	75	40'-0"	3129	Str.													
SG505	17	19'-3"	341	Str.													
SG506	14	1 Series	347	24	16'-6"	31'-0"	1'-1 3/8"										
SG507	15	1 Series	317	24	12'-6"	28'-1"	1'-1 3/8"										
SG508	99	35'-6"	3666	Str.													
SG509	18	24'-0"	451	Str.													
SG510	15	1 Series	250	24	8'-2"	23'-9"	1'-1 3/8"										
SG511	14	1 Series	452	24	23'-9"	38'-2"	1'-1 1/4"										
SG512	92	35'-4"	3390	Str.													
SG513	14	1 Series	392	24	19'-8"	34'-1"	1'-1 1/4"										
SG514	6	38'-0"	238	Str.													
SG515	6	28'-3"	177	Str.													
SG516	6	38'-10"	243	Str.													
SG517	3	16'-0"	50	Str.													
SG518	3	19'-3"	60	Str.													
SG519	3	8'-6"	27	Str.													
SG520	1	11'-5"	12	28	8'-8"	2'-9"	2'-2"	1'-9"									
SG521	3	29'-3"	92	Str.													
SG522	1	7'-0"	7	Str.													
SG523	3	31'-9"	99	Str.													
SG524	13	1 Series	279	24	11'-0"	30'-2"	1'-7 1/8"										
SG525	67	32'-0"	2236	Str.													
SG526	11	1 Series	145	24	4'-8"	20'-7"	1'-7 1/8"										
SG527	135	4'-7"	645	13	1'-9"	1'-4"	1'-4"	0'-7"									
SG528	84	40'-0"	3504	Str.													
SG529	21	38'-3"	838	Str.													
SG530	20	1 Series	589	24	18'-0"	38'-6"	1'-1"										
SG531	100	35'-4"	3685	Str.													
SG532	20	1 Series	621	24	19'-6"	40'-0"	1'-1"										
SG533	21	1 Series	462	24	10'-0"	32'-2"	1'-1 3/8"										
SG534	105	35'-5"	3879	Str.													
SG535	21	24'-0"	526	Str.													
SG536	21	1 Series	341	24	4'-6"	26'-8"	1'-1 3/8"										
SG537	20	1 Series	636	24	21'-0"	40'-0"	1'-0"										
SG538	100	35'-4"	3685	Str.													
SG539	20	1 Series	574	24	18'-0"	37'-0"	1'-0"										
SG540	3	38'-4"	120	Str.													
SG541	3	38'-9"	121	Str.													
SG542	17	1 Series	277	24	2'-9"	28'-6"	1'-7 3/8"										
SG543	143	30'-0"	4474	Str.													
SG544	16	1 Series	279	24	4'-9"	28'-8"	1'-7 1/8"										
SG545	161	5'-3"	882	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
SG546	161	13'-3"	2225	1	0'-7"	12'-8"					0		0'-3 3/4"				
SG547	161	12'-7"	2113	1	0'-7"	12'-0"					0		0'-3 3/4"				
SG548	1	12'-8"	13	Str.													
SG549	1	13'-4"	14	28	9'-8"	3'-8"	2'-10"	2'-3"									
SG550	276	6'-0"	1727	13	1'-9"	1'-1"	2'-10"	0'-7"									
SG551	2	1 Series	75	24	32'-6"	39'-8"	7'-2"										
SG552	2	1 Series	60	24	25'-0"	32'-3"	7'-3"										
SG553	3	1 Series	46	24	7'-8"	22'-0"	7'-2"										
SG554	3	1 Series	99	24	24'-6"	39'-0"	7'-3"										
SG555	31	1 Series	988	24	26'-10"	34'-3"	0'-3"										

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SG556	50	26'-10"	1400	Str.													
SG557	4	6'-1"	25	S10		2'-10"	0'-8"	2'-10"									
SG558	8	8'-2"	68	13	1'-9"	3'-1"	3'-1"	0'-7"									
SG559	12	9'-6"	119	13	1'-9"	2'-10"	4'-8"	0'-7"									
SG601	15	1 Series	608	24	20'-0"	34'-0"	1'-0"										
SG602	15	1 Series	455	24	12'-5"	28'-0"	1'-1 3/8"										
SG603	6	34'-6"	311	Str.													
SG604	3	12'-6"	56	Str.													
SG605	13	40'-0"	781	Str.													
SG606	6	37'-0"	333	Str.													
SG607	20	40'-0"	1202	Str.													
SG608	4	34'-6"	207	Str.													
SG609	21	1 Series	573	24	7'-0"	29'-4"	1'-1 3/8"										
SG610	21	1 Series	615	24	8'-4"	30'-8"	1'-1 3/8"										
SG611	40	40'-0"	2403	Str.													
SG612	8	34'-6"	415	Str.													
SG613	30	40'-0"	1802	Str.													
SG614	6	35'-0"	315	Str.													
SG615	4	5'-8"	34	Str.													
SG616	6	24'-3"	219	Str.													
SG617	6	2 Series of 3	106	24	6'-4"	17'-3"	5'-5 1/2"										
SG618	1	33'-3"	51	Str.													

Sub-Total = 76,227 Lbs. Epoxy Coated Reinforcing Steel Grade 60

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size numbers. For example. A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO
94/108

REINFORCING STEEL LIST
DECK SPAN 10-11-12
(UNIT G)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY
Sta. 30+55.40
Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

UNIT\UNITG

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

HAM-471-00.25

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REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SH401	12	1 Series	181	24	14'-5"	30'-8"	1'-5 3/4"										
SH402	46	32'-0"	983	Str.													
SH403	16	1 Series	175	24	3'-8"	29'-0"	1'-8 1/4"										
SH404	30	30'-0"	601	Str.													
SH405	14	40'-0"	374	Str.													
SH406	37	5'-0"	124	S1	0'-4 1/2"	1'-11"	0'-8"	1'-11"			0'-4 1/2"						
SH407	28	7'-6"	140	1	0'-6"	7'-0"					0		0'-3"				
SH501	20	32'-3"	673	Str.													
SH502	20	20'-0"	417	Str.													
SH503	16	1 Series	466	24	20'-1"	35'-9"	1'-0 1/2"										
SH504	21	40'-0"	876	Str.													
SH505	21	9'-9"	214	Str.													
SH506	6	1 Series	222	24	34'-9"	36'-1"	0'-3 1/4"										
SH507	16	1 Series	358	24	13'-8"	29'-3"	1'-0 1/2"										
SH508	21	40'-0"	876	Str.													
SH509	21	16'-2"	354	Str.													
SH510	15	1 Series	496	24	24'-5"	39'-0"	1'-0 1/2"										
SH511	20	22'-9"	475	Str.													
SH512	20	23'-8"	494	Str.													
SH513	6	1 Series	181	24	28'-3"	29'-8"	0'-3 1/4"										
SH514	6	1 Series	246	24	38'-8"	40'-0"	0'-3 1/4"										
SH515	8	2 Series of 4	118	24	6'-6"	21'-10"	5'-1 3/8"										
SH516	3	14'-8"	46	28	11'-8"	3'-0"	2'-0"	2'-3"									
SH517	3	29'-3"	91	Str.													
SH518	2	32'-0"	67	Str.													
SH519	12	1 Series	282	24	14'-5"	30'-8"	1'-5 3/4"										
SH520	45	32'-6"	1525	Str.													
SH521	99	4'-7"	473	13	1'-9"	1'-4"	1'-4"	0'-7"									
SH522	21	31'-6"	690	Str.													
SH523	21	1 Series	535	24	14'-0"	34'-10"	1'-0 1/2"										
SH524	21	31'-0"	679	Str.													
SH525	21	1 Series	650	24	19'-4"	40'-0"	1'-0 1/2"										
SH526	21	25'-0"	548	Str.													
SH527	21	1 Series	477	24	11'-4"	32'-3"	1'-0 1/2"										
SH528	21	34'-0"	745	Str.													
SH529	3	38'-8"	121	Str.													
SH530	2	29'-10"	62	Str.													
SH531	16	1 Series	273	24	3'-8"	29'-0"	1'-8 1/4"										
SH532	29	30'-0"	907	Str.													
SH533	31	5'-3"	170	17		0'-10"	1-4"	1'-5"	1'-4"	0'-10"							
SH534	29	13'-3"	401	1	0'-7"	12'-8"					0		0'-3 3/4"				
SH535	29	12'-7"	381	1	0'-7"	12'-0"					0		0'-3 3/4"				
SH536	2	12'-8"	26	Str.													
SH537	50	6'-0"	313	13	1'-9"	1'-1"	2'-10"	0'-7"									
SH538	4	8'-2"	34	13	1'-9"	3'-1"	3'-1"	0'-7"									
SH539	4	9'-6"	40	13	1'-9"	2'-10"	4'-8"	0'-7"									
SH601	15	1 Series	411	24	11'-0"	25'-6"	1'-0 3/8"										
SH602	20	12'-1"	363	Str.													
SH603	6	1 Series	233	24	25'-2"	26'-6"	0'-3 1/4"										
SH604	6	40'-0"	360	Bent													Bent on Site
SH605	6	40'-0"	360	Str.													
SH606	4	40'-0"	240	Bent													Bent on Site
SH607	4	27'-0"	162	Str.													
SH608	21	1 Series	502	24	5'-6"	26'-4"	1'-0 1/2"										
SH609	21	13'-0"	410	Str.													
SH610	8	29'-0"	348	Bent													Bent on Site
SH611	8	16'-6"	198	Bent													Bent on Site
SH612	6	40'-0"	360	Bent													Bent on Site
		Sub-Total = 22,527 Lbs. Epoxy Coated Reinforcing Steel Grade 60															

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used. indicate the bar size numbers. For example. A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

95/108

REINFORCING STEEL LIST
DECK SPAN 12-13
(UNIT H)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

UNITH Scale 1

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

HAM-471-00.25

170/182

DECK SPAN 13-14 (UNIT "I")

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
S1401	60	31'-6"	1263	Str.													
S1402	62	30'-0"	1242	Str.													
S1403	28	24'-9"	463	Str.													
S1404	14	40'-0"	374	Str.													
S1405	64	7'-6"	321	1	0'-6"	7'-0"					0		0'-3"				
S1406	80	5'-0"	267	S1	0'-4½"	1'-11"	0'-8"	1'-11"			0'-4½"						
S1501	20	40'-0"	834	Str.													
S1502	20	26'-0"	542	Str.													
S1503	21	40'-0"	876	Str.													
S1504	21	24'-0"	526	Str.													
S1505	21	1 Series	492	24	21'-2"	23'-9"	0'-1½"										
S1506	20	26'-0"	542	Str.													
S1507	20	34'-6"	720	Str.													
S1508	20	1 Series	542	24	24'-9"	27'-3"	0'-1⅝"										
S1509	21	35'-3"	772	Str.													
S1510	21	35'-0"	767	Str.													
S1511	21	1 Series	358	24	15'-0"	17'-8"	0'-1⅝"										
S1512	4	20'-0"	83	Str.													
S1513	62	31'-11"	2064	Str.													
S1514	102	4'-7"	488	13	1'-9"	1'-4"	1'-4"	0'-7"									
S1515	20	33'-6"	699	Str.													
S1516	20	32'-0"	668	Str.													
S1517	21	24'-9"	542	Str.													
S1518	21	40'-0"	876	Str.													
S1519	21	1 Series	543	24	23'-6"	26'-1"	0'-1½"										
S1520	20	28'-6"	595	Str.													
S1521	20	33'-6"	699	Str.													
S1522	20	1 Series	571	24	26'-3"	28'-6"	0'-1⅜"										
S1523	21	37'-8"	825	Str.													
S1524	21	35'-0"	767	Str.													
S1525	21	1 Series	378	24	16'-0"	18'-6"	0'-1½"										
S1526	4	21'-2"	88	Str.													
S1527	64	30'-0"	2003	Str.													
S1528	64	5'-3"	350	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
S1529	63	13'-3"	871	1	0'-7"	12'-8"					0		0'-3¾"				
S1530	63	12'-7"	827	1	0'-7"	12'-0"					0		0'-3¾"				
S1531	2	12'-8"	26	Str.													
S1532	111	6'-0"	695	13	1'-9"	1'-1"	2'-10"	0'-7"									
S1533	4	8'-2"	34	13	1'-9"	3'-1"	3'-1"	0'-7"									
S1534	4	9'-6"	40	13	1'-9"	2'-10"	4'-8"	0'-7"									
S1601	20	12'-8"	381	Str.													
S1602	20	1 Series	366	24	11'-0"	13'-4"	0'-1½"										
S1603	6	23'-9"	214	Bent													Bent on Site
S1604	10	40'-0"	601	Bent													Bent on Site
S1605	6	23'-9"	214	Bent													Bent on Site
S1606	4	24'-0"	144	Bent													Bent on Site
S1607	4	25'-3"	152	Bent													Bent on Site
S1608	20	14'-4"	431	Str.													
S1609	20	1 Series	428	24	13'-0"	15'-6"	0'-1½"										
S1610	8	27'-0"	324	Bent													Bent on Site
S1611	8	40'-0"	481	Bent													Bent on Site
S1612	8	25'-0"	300	Bent													Bent on Site
S1613	6	27'-3"	246	Bent													Bent on Site
S1614	6	40'-0"	360	Bent													Bent on Site
S1615	6	26'-0"	234	Bent													Bent on Site

Sub-Total = 30,500 Lbs. Epoxy Coated Reinforcing Steel Grade 60

DECK SPAN 14-15 (UNIT "J")

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SJ401	60	31'-6"	1263	Str.													
SJ402	62	30'-0"	1242	Str.													
SJ403	28	24'-9"	463	Str.													
SJ404	14	40'-0"	374	Str.													
SJ405	64	7'-6"	321	1	0'-6"	7'-0"					0		0'-3"				
SJ406	80	5'-0"	267	S1	0'-4½"	1'-11"	0'-8"	1'-11"			0'-4½"						
SJ501	20	40'-0"	834	Str.													
SJ502	20	26'-0"	542	Str.													
SJ503	21	40'-0"	876	Str.													
SJ504	21	24'-0"	526	Str.													
SJ505	21	1 Series	492	24	21'-2"	23'-9"	0'-1½"										
SJ506	20	26'-0"	542	Str.													
SJ507	20	34'-6"	720	Str.													
SJ508	20	1 Series	542	24	24'-9"	27'-3"	0'-1⅝"										
SJ509	21	35'-3"	772	Str.													
SJ510	21	35'-0"	767	Str.													
SJ511	21	1 Series	358	24	15'-0"	17'-8"	0'-1⅝"										
SJ512	4	20'-0"	83	Str.													
SJ513	62	31'-11"	2064	Str.													
SJ514	102	4'-7"	488	13	1'-9"	1'-4"	1'-4"	0'-7"									
SJ515	20	33'-6"	699	Str.													
SJ516	20	32'-0"	668	Str.													
SJ517	21	24'-9"	542	Str.													
SJ518	21	40'-0"	876	Str.													
SJ519	21	1 Series	543	24	23'-6"	26'-1"	0'-1½"										
SJ520	20	28'-6"	595	Str.													
SJ521	20	33'-6"	699	Str.													
SJ522	20	1 Series	571	24	26'-3"	28'-6"	0'-1⅜"										
SJ523	21	37'-8"	825	Str.													
SJ524	21	35'-0"	767	Str.													
SJ525	21	1 Series	378	24	16'-0"	18'-6"	0'-1½"										
SJ526	4	21'-2"	88	Str.													
SJ527	64	30'-0"	2003	Str.													
SJ528	64	5'-3"	350	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
SJ529	63	13'-3"	871	1	0'-7"	12'-8"					0		0'-3¾"				
SJ530	63	12'-7"	827	1	0'-7"	12'-0"					0		0'-3¾"				
SJ531	2	12'-8"	26	Str.													
SJ532	111	6'-0"	695	13	1'-9"	1'-1"	2'-10"	0'-7"									
SJ533	4	8'-2"	34	13	1'-9"	3'-1"	3'-1"	0'-7"									
SJ534	4	9'-6"	40	13	1'-9"	2'-10"	4'-8"	0'-7"									
SJ601	20	12'-8"	381	Str.													
SJ602	20	1 Series	366	24	11'-0"	13'-4"	0'-1½"										
SJ603	6	22'-9"	205	Bent													Bent on Site
SJ604	10	40'-0"	601	Bent													Bent on Site
SJ605	6	23'-9"	214	Bent													Bent on Site
SJ606	4	24'-0"	144	Bent													Bent on Site
SJ607	4	25'-3"	152	Bent													Bent on Site
SJ608	20	14'-4"	431	Str.													
SJ609	20	1 Series	428	24	13'-0"	15'-6"	0'-1½"										
SJ610	8	27'-0"	324	Bent													Bent on Site
SJ611	8	40'-0"	481	Bent													Bent on Site
SJ612	8	25'-0"	300	Bent													Bent on Site
SJ613	6	27'-3"	246	Bent													Bent on Site
SJ614	6	40'-0"	360	Bent													Bent on Site
SJ615	6	26'-0"	234	Bent													Bent on Site

Sub-Total = 30,500 Lbs. Epoxy Coated Reinforcing Steel Grade 60

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size numbers. For example. A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

UNIT I,J Scale 1

Pflum, Klausmeier & Gehrum Consultants — CINCINNATI OHIO — 96/108

REINFORCING STEEL LIST
DECK SPAN 13-14 (UNIT I) & DECK SPAN 14-15 (UNIT J)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

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

171/182

HAM-471-00.25

DECK SPAN 15-16 (UNIT "K")

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SK401	47	31'-6"	989	Str.													
SK402	49	29'-10"	977	Str.													
SK403	50	7'-6"	251	1	0'-6"	7'-0"					0		0'-3"				
SK404	14	40'-0"	374	Str.													
SK405	14	29'-3"	274	Str.													
SK406	62	5'-0"	207	S1	0'-4½"	1'-11"	0'-8"	1'-11"			0'-4½"						
SK501	42	40'-0"	1752	Str.													
SK502	20	32'-0"	668	Str.													
SK503	20	1 Series	720	24	33'-6"	35'-6"	0'-1¼"										
SK504	20	39'-0"	814	Str.													
SK505	20	1 Series	569	24	26'-4"	28'-3"	0'-1¼"										
SK506	21	28'-4"	621	Str.													
SK507	21	1 Series	833	24	37'-0"	39'-1"	0'-1¼"										
SK508	4	21'-4"	89	Str.													
SK509	49	32'-0"	1635	Str.													
SK510	83	4'-7"	397	13	1'-9"	1'-4"	1'-4"	0'-7"									
SK511	21	32'-2"	705	Str.													
SK512	21	1 Series	778	24	34'-6"	36'-6"	0'-1¼"										
SK513	21	40'-0"	876	Str.													
SK514	21	1 Series	621	24	27'-4"	29'-5"	0'-1¼"										
SK515	21	29'-6"	646	Str.													
SK516	21	1 Series	854	24	38'-0"	40'-0"	0'-1¼"										
SK517	51	30'-0"	1596	Str.													
SK518	50	5'-3"	274	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
SK519	49	13'-3"	677	1	0'-7"	12'-8"					0		0'-3¾"				
SK520	51	12'-7"	669	1	0'-7"	12'-0"					0		0'-3¾"				
SK521	90	6'-0"	563	13	1'-9"	1'-1"	2'-10"	0'-7"									
SK601	12	15'-0"	270	Bent													Bent On Site
SK602	24	40'-0"	1442	Bent													Bent On Site
SK603	21	16'-6"	520	Str.													
SK604	21	1 Series	456	24	13'-5"	15'-6"	0'-1¼"										
SK605	8	16'-2"	194	Bent													Bent On Site
SK606	21	16'-3"	513	Str.													
SK607	21	1 Series	524	24	15'-7"	17'-8"	0'-1¼"										
SK608	16	17'-0"	409	Bent													Bent On Site
SK609	12	17'-5"	314	Bent													Bent On Site
		Sub-Total = 24.071 Lbs. Epoxy Coated Reinforcing Steel Grade 60															

DECK SPAN 16-17 (UNIT "L")

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SL401	47	31'-6"	989	Str.													
SL402	49	29'-10"	977	Str.													
SL403	50	7'-6"	251	1	0'-6"	7'-0"					0		0'-3"				
SL404	14	40'-0"	374	Str.													
SL405	14	29'-3"	274	Str.													
SL406	62	5'-0"	207	S1	0'-4½"	1'-11"	0'-8"	1'-11"			0'-4½"						
SL501	42	40'-0"	1752	Str.													
SL502	20	32'-0"	668	Str.													
SL503	20	1 Series	720	24	33'-6"	35'-6"	0'-1¼"										
SL504	20	39'-0"	814	Str.													
SL505	20	1 Series	569	24	26'-4"	28'-3"	0'-1¼"										
SL506	21	28'-4"	621	Str.													
SL507	21	1 Series	833	24	37'-0"	39'-1"	0'-1¼"										
SL508	4	21'-4"	89	Str.													
SL509	49	32'-0"	1635	Str.													
SL510	83	4'-7"	397	13	1'-9"	1'-4"	1'-4"	0'-7"									
SL511	21	32'-2"	705	Str.													
SL512	21	1 Series	778	24	34'-6"	36'-6"	0'-1¼"										
SL513	21	40'-0"	876	Str.													
SL514	21	1 Series	621	24	27'-4"	29'-5"	0'-1¼"										
SL515	21	29'-6"	646	Str.													
SL516	21	1 Series	854	24	38'-0"	40'-0"	0'-1¼"										
SL517	51	30'-0"	1596	Str.													
SL518	50	5'-3"	274	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
SL519	49	13'-3"	677	1	0'-7"	12'-8"					0		0'-3¾"				
SL520	51	12'-7"	669	1	0'-7"	12'-0"					0		0'-3¾"				
SL521	90	6'-0"	563	13	1'-9"	1'-1"	2'-10"	0'-7"									
SL601	12	15'-0"	270	Bent													Bent On Site
SL602	24	40'-0"	1442	Bent													Bent On Site
SL603	21	16'-6"	520	Str.													
SL604	21	1 Series	456	24	13'-5"	15'-6"	0'-1¼"										
SL605	8	16'-2"	194	Bent													Bent On Site
SL606	21	16'-3"	513	Str.													
SL607	21	1 Series	524	24	15'-7"	17'-8"	0'-1¼"										
SL608	16	17'-0"	409	Bent													Bent On Site
SL609	12	17'-5"	314	Bent													Bent On Site
		Sub-Total = 24.071 Lbs. Epoxy Coated Reinforcing Steel Grade 60															

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used. indicate the bar size numbers. For example. A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

97/108

REINFORCING STEEL LIST
DECK SPAN 15-16 (UNIT K) & DECK SPAN 16-17 (UNIT L)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	IEH	April 96	

UNIT\UNITKL

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

HAM-471-00.25

172
182

DECK SPAN 17-18 (UNIT "M")

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
SM401	47	31'-6"	989	Str.													
SM402	49	29'-10"	977	Str.													
SM403	49	7'-6"	246	1	0'-6"	7'-0"					0		0'-3"				
SM404	14	40'-0"	374	Str.													
SM405	14	29'-3"	274	Str.													
SM406	62	5'-0"	207	51	0'-4½"	1'-11"	0'-8"	1'-11"			0'-4½"						
SM501	42	40'-0"	1752	Str.													
SM502	20	32'-0"	668	Str.													
SM503	20	1 Series	720	24	33'-6"	35'-6"	0'-1¼"										
SM504	20	39'-0"	814	Str.													
SM505	20	1 Series	569	24	26'-4"	28'-3"	0'-1¼"										
SM506	21	28'-4"	621	Str.													
SM507	21	1 Series	833	24	37'-0"	39'-1"	0'-1¼"										
SM508	4	21'-4"	89	Str.													
SM509	49	32'-0"	1635	Str.													
SM510	83	4'-7"	397	13	1'-9"	1'-4"	1'-4"	0'-7"									
SM511	21	32'-2"	705	Str.													
SM512	21	1 Series	778	24	34'-6"	36'-6"	0'-1¼"										
SM513	21	40'-0"	876	Str.													
SM514	21	1 Series	621	24	27'-4"	29'-5"	0'-1¼"										
SM515	21	29'-6"	646	Str.													
SM516	21	1 Series	854	24	38'-0"	40'-0"	0'-1¼"										
SM517	51	30'-0"	1596	Str.													
SM518	50	5'-3"	274	17		0'-10"	1'-4"	1'-5"	1'-4"	0'-10"							
SM519	49	13'-3"	677	1	0'-7"	12'-8"					0		0'-3¾"				
SM520	51	12'-7"	669	1	0'-7"	12'-0"					0		0'-3¾"				
SM521	90	6'-0"	563	13	1'-9"	1'-1"	2'-10"	0'-7"									
SM601	12	15'-0"	270	Bent													Bent On Site
SM602	24	40'-0"	1442	Bent													Bent On Site
SM603	21	16'-6"	520	Str.													
SM604	21	1 Series	456	24	13'-5"	15'-6"	0'-1¼"										
SM605	8	16'-2"	194	Bent													Bent On Site
SM606	21	16'-3"	513	Str.													
SM607	21	1 Series	524	24	15'-7"	17'-8"	0'-1¼"										
SM608	16	17'-0"	409	Bent													Bent On Site
SM609	12	17'-5"	314	Bent													Bent On Site
		Sub-Total = 24.066 Lbs. Epoxy Coated Reinforcing Steel Grade 60															

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used. indicate the bar size numbers. For example. A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

98/108

REINFORCING STEEL LIST
DECK SPAN 17-18
(UNIT M)
BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY
Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	EH	April 96	

\UNIT\UNITM

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

HAM-471-00.25

173/182

REINFORCING STEEL BAR LIST

MARK	No.	LENGTH	WT.(LB)	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	NOTES
P401	99	3'-9"	248	S1	4 1/2"	1'-0"	1'-2"	1'-0"			4 1/2"	3"			* For Lightpole	Pedestal	
P501	6376	8'-6"	56526	30	2'-10"	9 1/2"	1'-3"								6"	3"	
P502	140	40'-0"	5841	Str.													
P503	2	4'-9"	10	Str.													
P504	2	32'-8"	68	Str.													
P505	2	23'-5"	49	Str.													
P506	2	5'-8"	12	Str.													
P507	2	7'-0"	15	Str.													
P508	2	16'-4"	34	Str.													
P509	2	17'-3"	36	Str.													
P510	2	17'-1"	36	Str.													
P511	2	24'-8"	51	Str.													
P512	2	25'-5"	53	Str.													
P513	4	13'-4"	56	Str.													
P514	2	31'-7"	66	Str.													
P515	2	25'-4"	53	Str.													
P516	2	38'-4"	80	Str.													
P517	4	2'-7"	11	Str.													
P518	4	9'-5"	39	Str.													
P519	4	23'-7"	98	Str.													
P520	4	29'-0"	121	Str.													
P521	2	24'-5"	51	Str.													
P522	2	28'-6"	59	Str.													
P523	32	13'-9 1/2"	460	10	9 1/2"	6'-6"		6'-6"							6"	3"	
P524	54	2'-2"	122	Str.													
P525	47	21'-9 1/2"	1068	10	9 1/2"	10'-6"		10'-6"							6"	3"	
P526	60	2'-4"	146	Str.													
P527	72	2'-2"	163	Str.													
P528	12	3'-1"	39	Str.													
P529	6	3'-4"	21	Str.													
P530	6	3'-3"	20	Str.													
P601	27	3'-0"	122	Str.											* For Lightpole	Pedestal	
P602	27	3'-5"	139	2	0'-10"	2'-9"									* For Lightpole	Pedestal	
P701	216	40'-0"	17660	Str.													
P702	2	8'-9"	36	Str.													
P703	2	36'-6"	149	Str.													
P704	2	34'-8"	142	Str.													
P705	2	23'-5"	96	Str.													
P706	4	9'-8"	79	Str.													
P707	2	11'-0"	45	Str.													
P708	2	22'-0"	90	Str.													
P709	2	20'-4"	83	Str.													
P710	2	21'-3"	87	Str.													
P711	2	21'-6"	88	Str.													
P712	2	21'-1"	86	Str.													
P713	2	34'-8"	142	Str.													
P714	2	34'-6"	141	Str.													
P715	2	35'-5"	145	Str.													
P716	6	37'-4"	458	Str.													
P717	2	35'-7"	145	Str.													
P718	2	34'-9"	142	Str.													
P719	2	35'-4"	144	Str.													
P720	2	4'-4"	18	Str.													
P721	2	5'-9"	24	Str.													
P722	4	6'-7"	54	Str.													
P723	4	12'-2"	99	Str.													
P724	4	13'-5"	110	Str.													
P725	4	25'-7"	209	Str.													
P726	4	30'-0"	245	Str.													
P727	4	31'-0"	253	Str.													
P728	2	26'-5"	108	Str.													
P729	2	29'-9"	122	Str.													
P730	2	30'-6"	125	Str.													

TOTAL WEIGHT = 87238 LB EPOXY COATED REINFORCING STEEL GRADE 60*

*INCLUDE WITH ITEM 517. RAILING. CONCRETE. (DECORATIVE TYPE) FOR PAYMENT

MARK	No.	LENGTH	WT.	TYPE	A	B	C	D	E	F	G	H	J	K	NOTES

NOTES:

1. Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size numbers. For example, A601 is A No. 6 size bar and P1004 is a No. 10 size.
2. For bar types see sheet. 86/108
3. All dimensions are out to out of bar.
4. Radius dimension "R" is to outside of bar.
5. The length of bent bars is measured along the centerline.
6. For additional notes see sheet. 86/108

Pflum, Klausmeier & Gehrum Consultants — CINCINNATI OHIO — 99/108

REINFORCING STEEL LIST
DECORATIVE RAILING

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

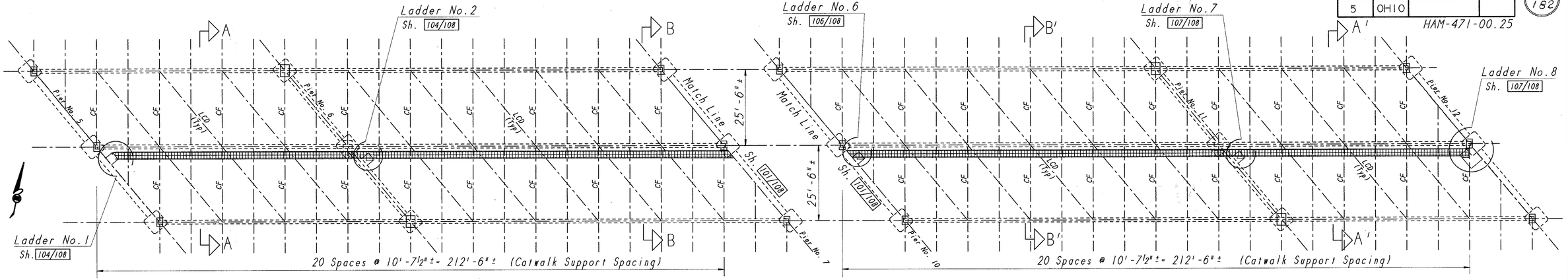
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	JDR		WDD	JEH	April 96	

UNITTXBARLST

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

174/182

HAM-471-00.25



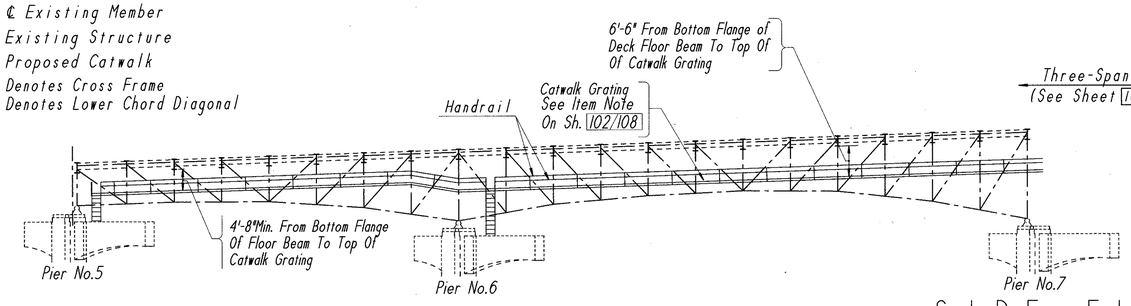
TWO SPAN TRUSS (REAR)

PLAN

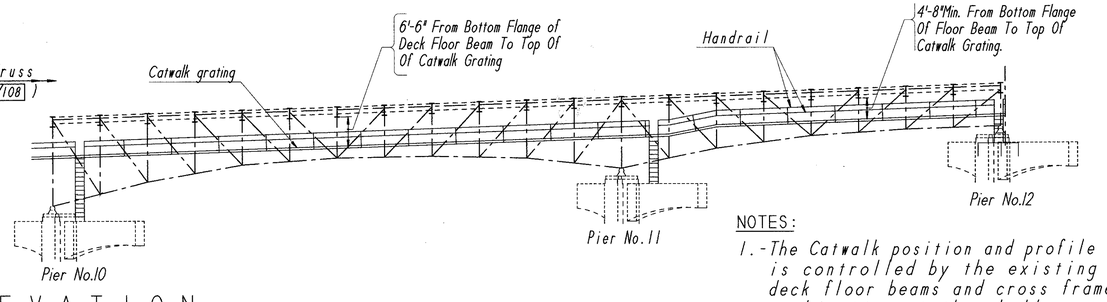
TWO SPAN TRUSS (FORWARD)

LEGEND

- ℄ Existing Member
- Existing Structure
- Proposed Catwalk
- CF Denotes Cross Frame
- LCD Denotes Lower Chord Diagonal



Three-Span Truss (See Sheet 101/108)



SIDE ELEVATION

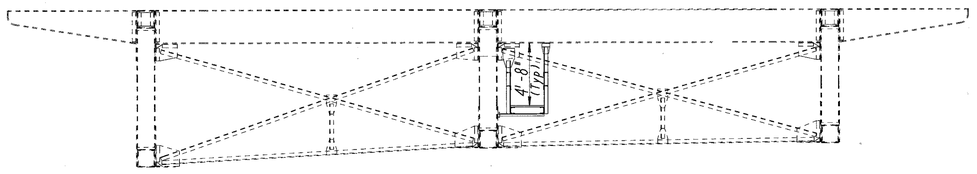
(Looking North)

NOTES:

1.-The Catwalk position and profile is controlled by the existing deck floor beams and cross frame combination at the shallowest depth of the truss.

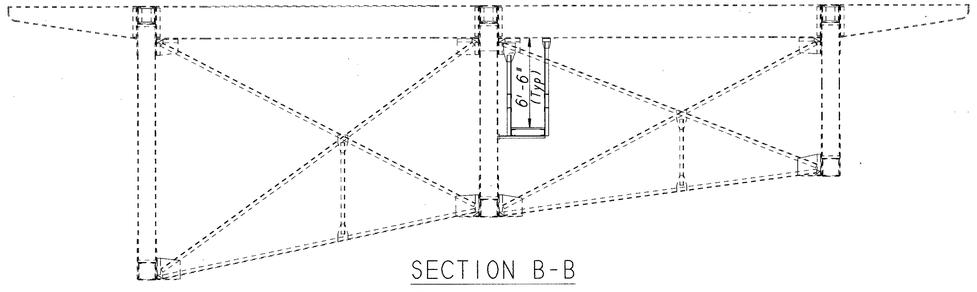
2.-Representation of the existing structure is approximate.

3.-Work this sheet with sh. 101/108



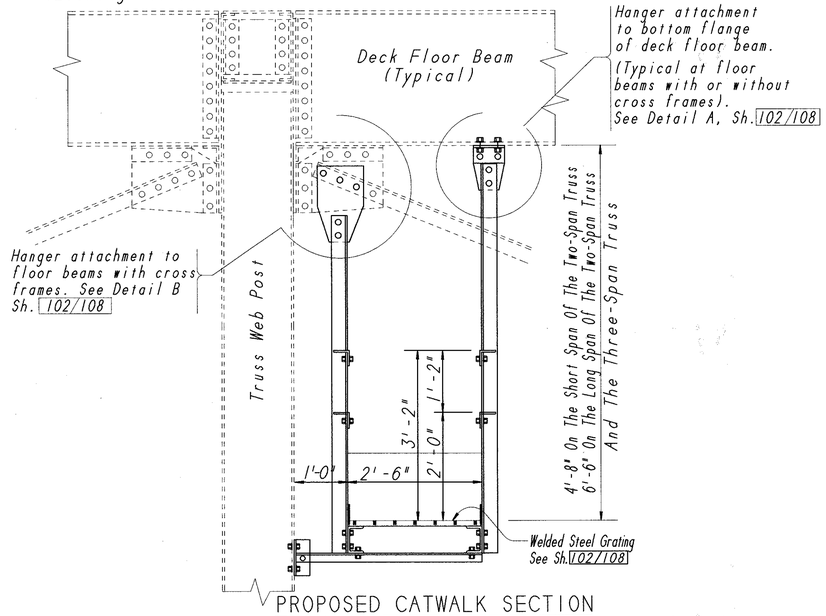
SECTION A-A

(SECTION A'-A' IS SIMILAR)



SECTION B-B

(SECTION B'-B' IS SIMILAR)



PROPOSED CATWALK SECTION

(See Details On Sh 102/108)

PROPOSED CATWALK STRUCTURE

TYPE: Rolled Sections Of Structural Steel On Bolted Connections Supported On Existing Steel Structure.

SPANS: Multi-Span @ 10'-7½"± Center To Center Of Supports.

WIDTH: 2'-6" Face To Face Of Handrails

WEARING SURFACE: Welded Steel Grating

LOADING: 85 Pounds Per Square Foot.

Pflum, Klausmeier & Gehrum Consultants — CINCINNATI — OHIO

100/108

CATWALK PLAN AND ELEVATION 1/2

BRIDGE No. HAM-471-0025
(Columbia Parkway Viaduct Over I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

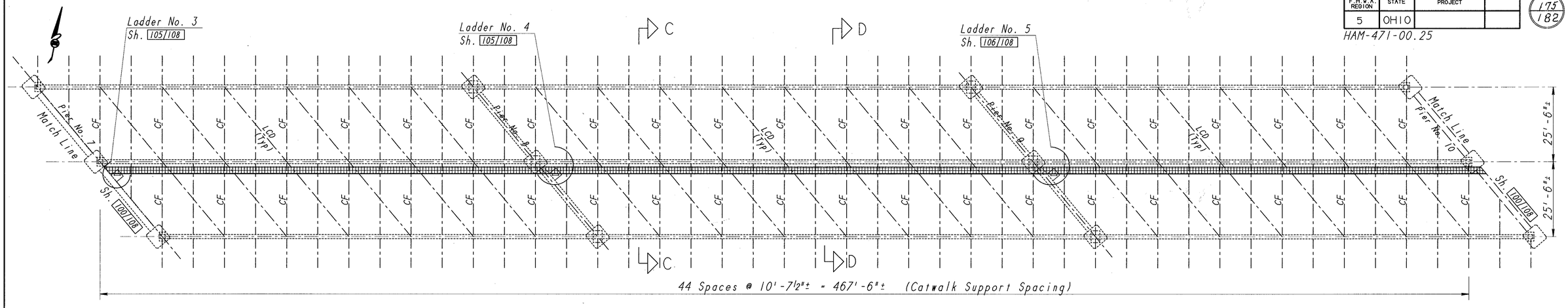
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

WLKY Scale 16

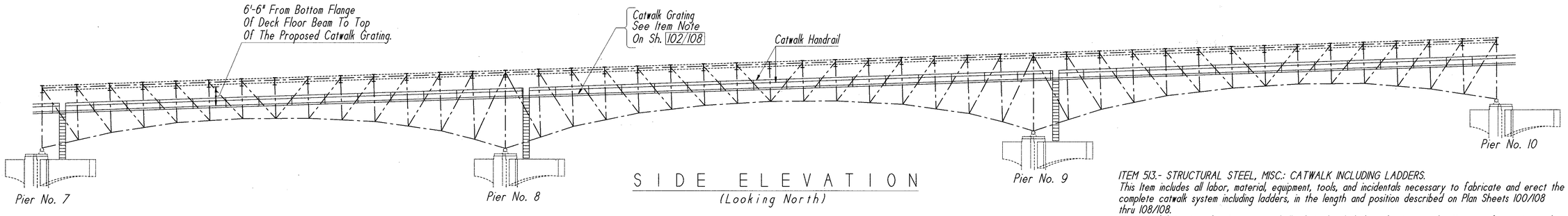
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

HAM-471-00.25

175/182



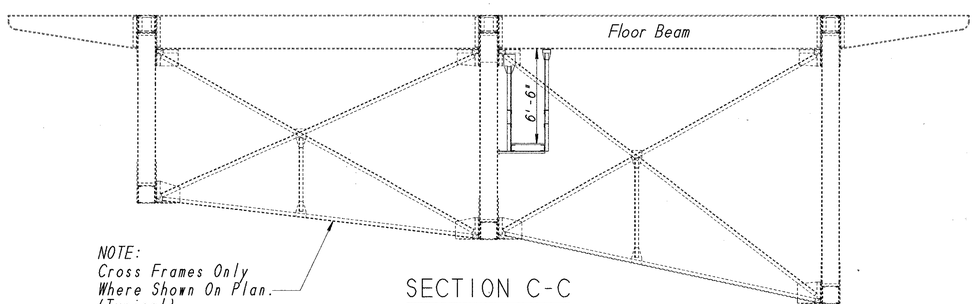
PLAN



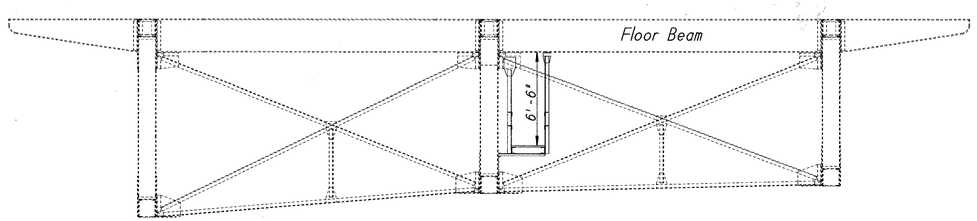
SIDE ELEVATION
(Looking North)

LEGEND

—·—·— ℄ Existing Member
▭ Existing Structure
▦ Proposed Catwalk
CF Denotes Cross Frame
LCD Denotes Lower Chord Diagonal



SECTION C-C



SECTION D-D

ITEM 513.- STRUCTURAL STEEL, MISC.: CATWALK INCLUDING LADDERS.
This Item includes all labor, material, equipment, tools, and incidentals necessary to fabricate and erect the complete catwalk system including ladders, in the length and position described on Plan Sheets 100/108 thru 108/108.
Prior to fabrication, the Contractor shall submit detailed shop drawings to the Engineer for review and approval. After installation, the Contractor shall submit as-built drawings to the Engineer to ensure that the drawings depict the steel as actually incorporated into the work. Pay weights will be computed in accordance with CMS513. The Contractor shall furnish a 35mm. microfilm copy of each shop drawing, which shall be mounted on an aperture card as per CMS501.05. Steel members described in this Item include longitudinal channels, main hangers (including drilling of the existing steel members designated to receive the hangers), railing, ladders, and ladder landings (including doweled anchor bolts, etc.), and ladder cages.
PAINTING: Painting of the catwalk including ladders, ladder cages and landings shall conform to Item 514 System IZEU, retouched after erection (See Proposal Note). Color of paint shall be black, or as approved by the City of Cincinnati. Painting is included with Item 514, PAINTING OF NEW STEEL, SYSTEM IZEU, for payment.
METHOD OF PAYMENT.- The pay quantity for catwalk (including ladders, ladder cages, and landings) will be based on the weight in pounds of the structure installed, inspected, approved, and accepted by the Engineer.
BASIS OF PAYMENT: Payment will be made at the Contract unit price bid per pound for Item 513, STRUCTURAL STEEL MISC.: CATWALK INCLUDING LADDERS.

NOTE:
Work this sheet with CATWALK PLAN AND ELEVATION 1/2, Sh. 100/108

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

101/108

CATWALK PLAN AND ELEVATION 2/2

BRIDGE No. HAM-471-0025
(Columbia Parkway Viaduct Over I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	ED		WDD	IEH	April 96	

WALKY2 Scale 16

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

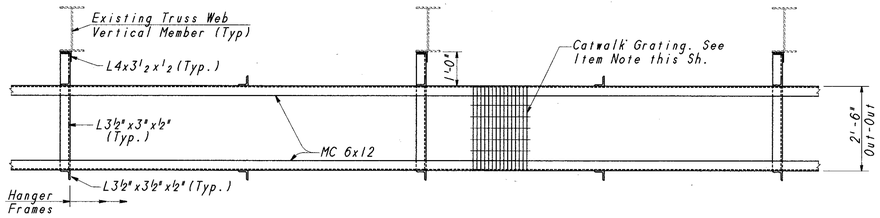
HAM-471-00.25

176
182

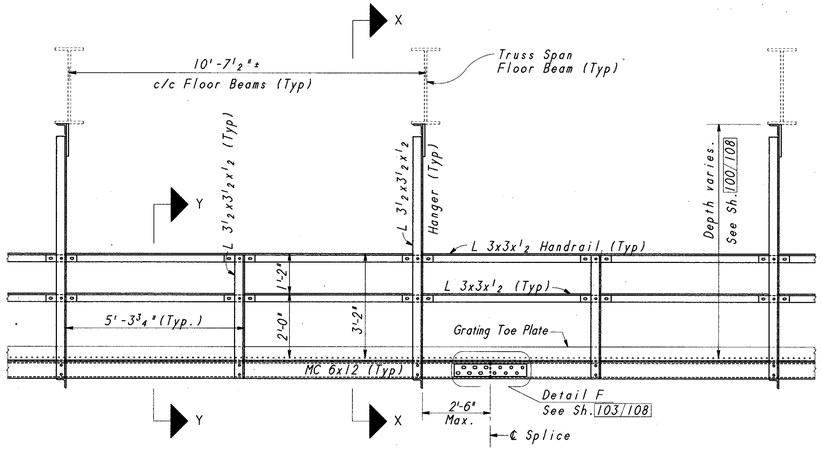
LEGEND

Existing Structure

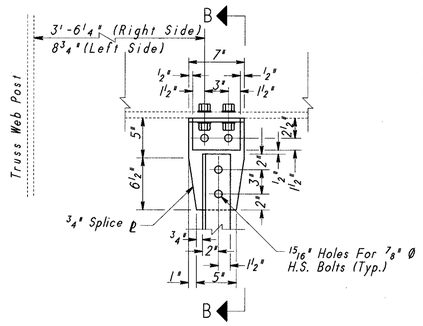
New Work



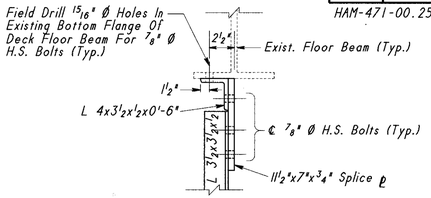
CATWALK PARTIAL PLAN
(FOR THE FULL PLAN)



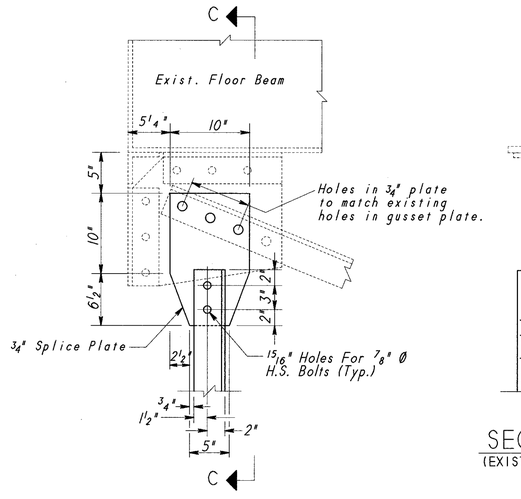
CATWALK PARTIAL ELEVATION
(FOR THE FULL ELEVATION)



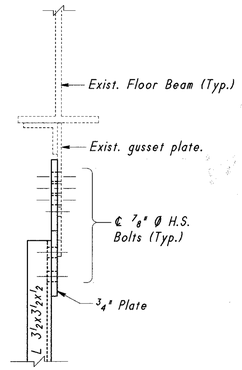
DETAIL A
(Right Side Shown. Left Side Similar)



SECTION B-B



DETAIL B



SECTION C-C
(EXIST ANGLES NOT SHOWN)

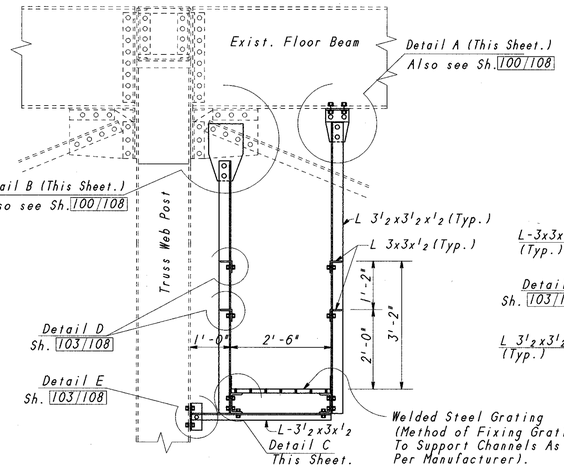
ITEM 513.- CATWALK GRATING.
This Item includes all labor, material, equipment, tools, and incidentals necessary to fabricate and install a welded steel grating system in the areas and on the length and position described on Structural Steel Catwalk Plan Sheets 100/108 thru 108/108.
Prior to grating installation, the Contractor shall inspect supports for correct size, layout and alignment, and take field measurements prior to preparation of the required shop drawings. Prior to grating installation the Contractor shall submit detailed shop drawings to the Engineer for review and approval. After installation, the Contractor shall submit as-built drawings to the Engineer to ensure that the drawings depict the steel grating as actually incorporated into the work. The steel grating described in this Item shall be capable of a load bearing capacity of 85 pounds per square foot on a span indicated on the catwalk plan, and shall not exceed a depth of 1 inch, and a maximum deflection of 0.112 inches on a 2'-6" span.
The shop drawings prepared by the Contractor shall include plans, elevations, and details of sections and connections, as well as type and location of all fasteners. The Contractor shall submit the grating manufacturer's specifications, load tables, anchor details and standard installation details. The grating installation shall be in accordance with the approved shop drawings and the standard installation clearances as recommended by the National Association Of Architectural Metal Manufacturers (NAAMM) Metal Bar Grating Manual. The Contractor shall perform all cutting and fitting required for installation. The Item includes the use of anchorage devices (saddle clips, grating clamps, anchor blocks, plank clips, Z clips, countersunk land) toe plates and fasteners to secure grating to the supporting members. Grating shall be placed such that cross bars align.

TYPE AND MATERIAL: The grating shall be type 19W4 light duty welded steel grating 1"x1/8"bar, 5.15psf as manufactured by Ohio Gratings Inc., 5299 Southway, S.W., Canton, Ohio 44706 or type GW-100A 1"x1/8"bar, 5.2psf as manufactured by McNichols Co., 489 NEO Parkway, Cleveland, Ohio 44128-3195, and shall comply with the applicable provisions of NAAMM Metal Bar Grating Manual and the American National Standard Institute (ANSI) MGB 531 Light Duty Steel Grating. The material shall be Light Duty Steel ASTM A569 hot rolled carbon steel sheet and strip.

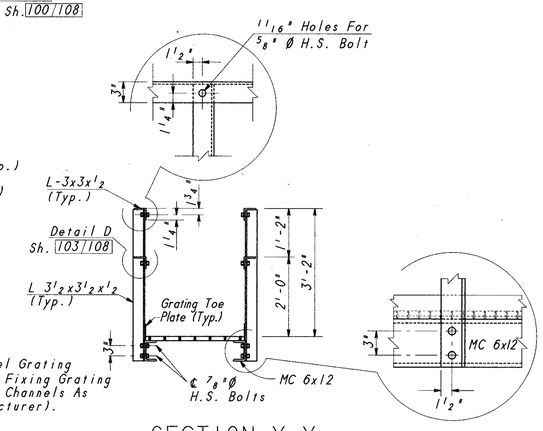
FINISH: Galvanized

METHOD OF PAYMENT: The pay quantity for grating will be based on the actual area out-to-out of grating installed, inspected, approved, and accepted by the Engineer.

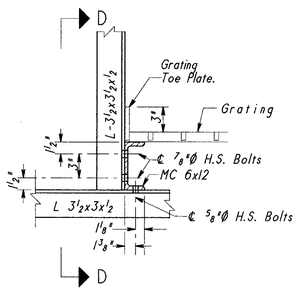
BASIS OF PAYMENT: Payment will be made at the Contract unit price bid per square foot for Item 513, CATWALK GRATING.



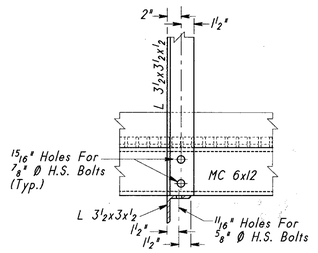
SECTION X-X



SECTION Y-Y



DETAIL C
(OTHER SIDE SIMILAR)



SECTION D-D

NOTES:

1.- See General Notes, Sh. 7/108 Thru Sh. 11/108.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

102/108

CATWALK DETAILS 1/2

BRIDGE No. HAM-471-0025
(Columbia Parkway Viaduct Over I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	PLF		WDD	IEH	April 96	

WALKYSEC Scale 1.333

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

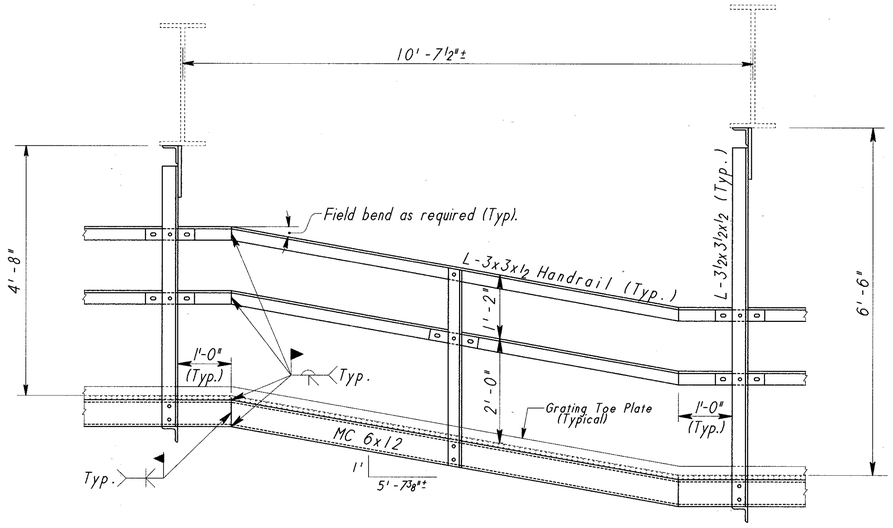
HAM-471-00.25

177
182

LEGEND

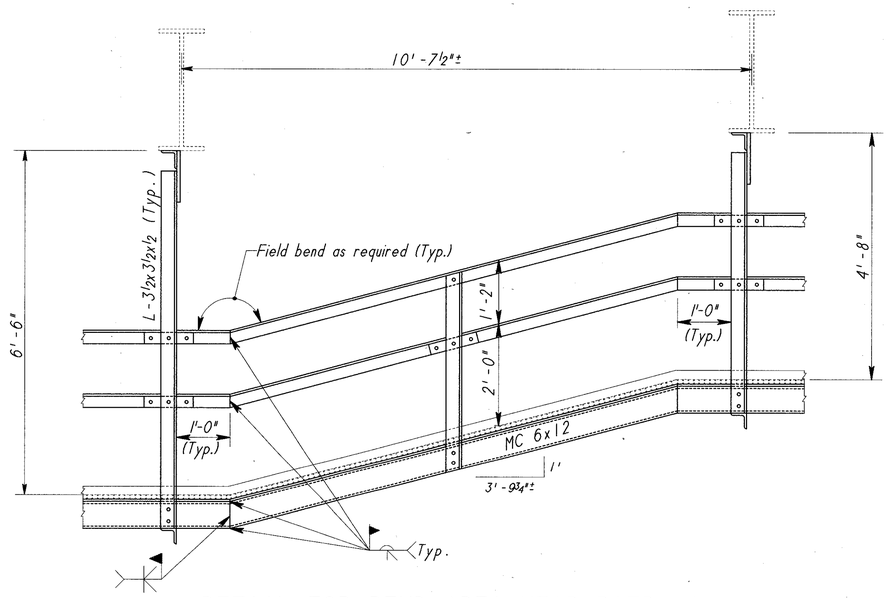
Existing Structure

New Work



DETAIL FOR BEND AREA NEAR PIER 6

The Contractor shall field verify the required bend configuration, and incorporate the proper detail with the catwalk required shop drawings for approval by the Engineer (Typical).

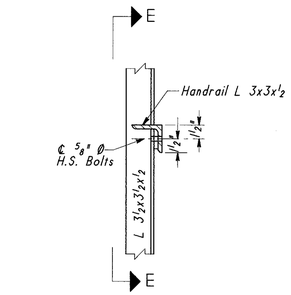


DETAIL FOR BEND AREA NEAR PIER 11

NOTES:

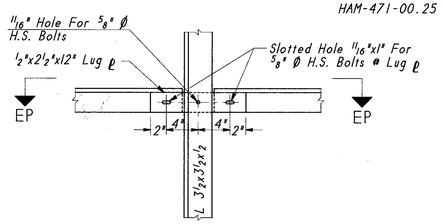
1.-Work this sheet with Sh. 102/108

2.-See GENERAL NOTES, Sh. 7/108 Thru Sh. 11/108

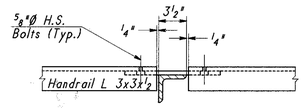


DETAIL D

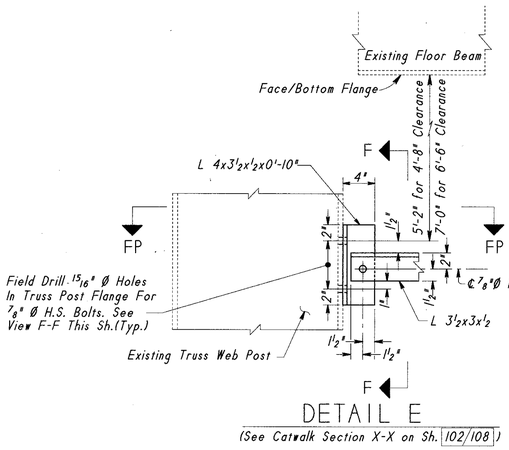
(See Catwalk Section X-X on Sh. 102/108)



SIDE VIEW E-E

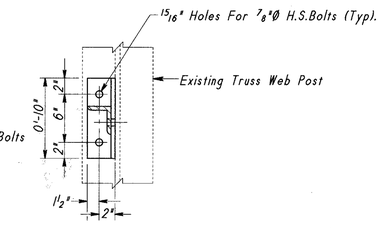


PLAN VIEW EP-EP

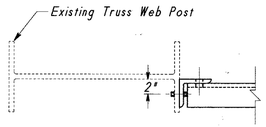


DETAIL E

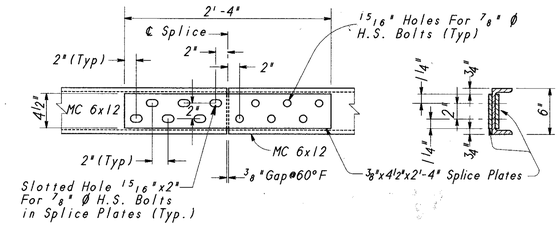
(See Catwalk Section X-X on Sh. 102/108)



VIEW F-F



VIEW FP-FP



DETAIL F

OPTIONAL SPLICE DETAIL*

(See Catwalk Partial Elevation on Sh. 102/108)

* *The splicing method shown is optional. The Contractor may consider alternate methods of splicing the catwalk main channel, and submit details which shall be included with the catwalk shop drawing, to the Engineer, for approval.*

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

103/108

CATWALK DETAILS 2/2

BRIDGE No. HAM-471-0025
(Columbia Parkway Viaduct Over I-471)

Sta.30+55.40
Sta.47+16.19

HAMILTON COUNTY

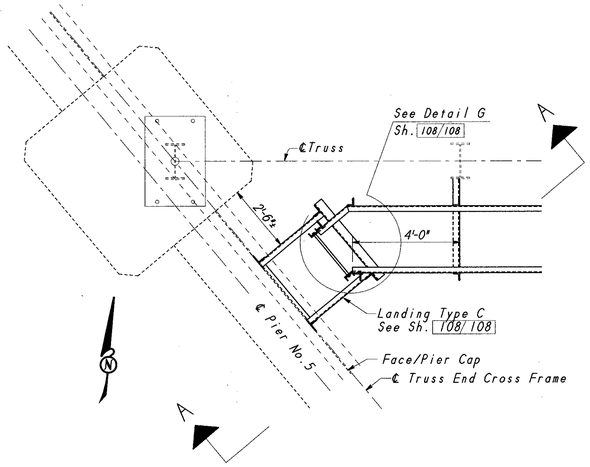
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	PLF		WDD	IEH	April 96	

MALKYSE2 Scale 1.3333

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

178
182

HAM-471-00.25



PLAN

VIEW A-A

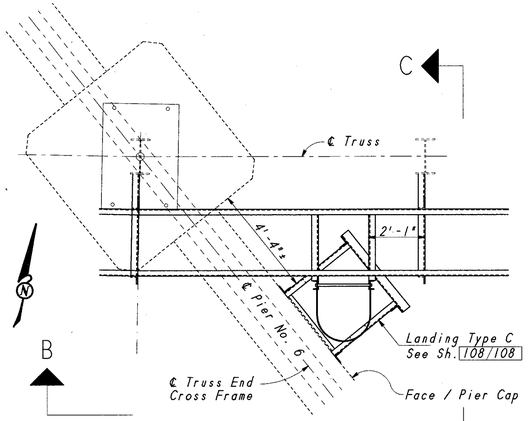
SERVICE LADDER NO. 1

NOTE: Service Ladder No.1 Does Not Require Safety Hoops.

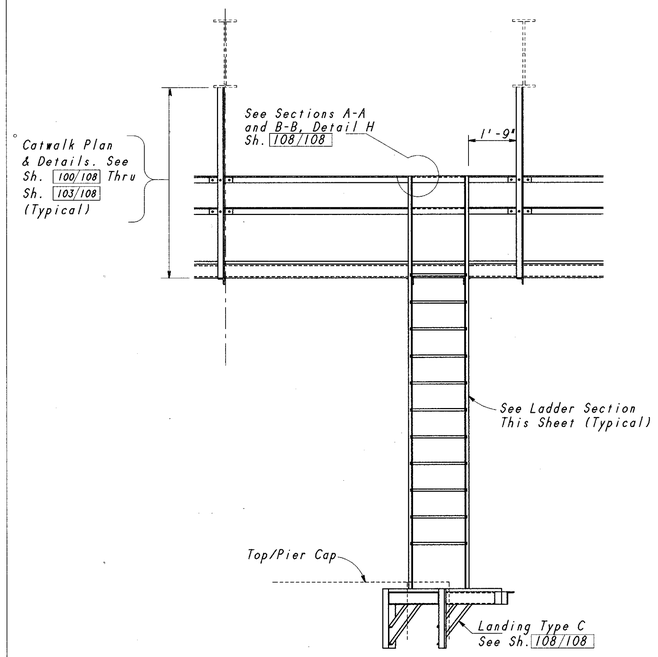
LEGEND

Existing Structure

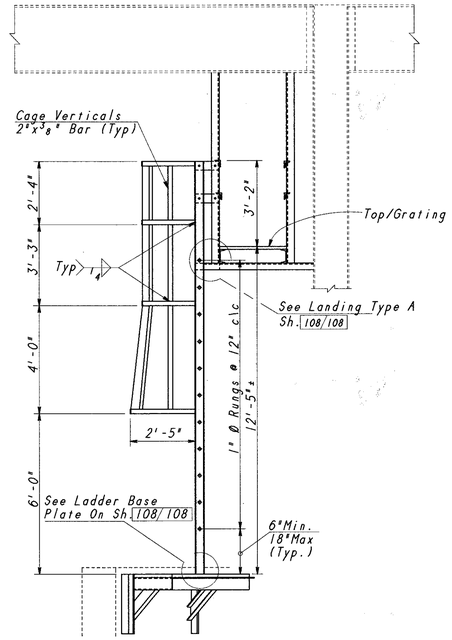
New Work



PLAN

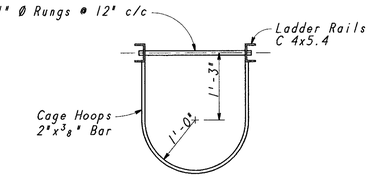


VIEW B-B



VIEW C-C

SERVICE LADDER NO. 2



LADDER TYPICAL SECTION

NOTES:

1.- Work this sheet with Sheets 100/108, 101/108 and 108/108.

2.- Landing Platforms Safety Rails not shown for simplicity. See Sh. 108/108.

Plum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

104/108

CATWALK SERVICE LADDER
No. 1 (PIER NO. 5)
No. 2 (PIER NO. 6)

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	PLF		WDD	IEH	April 96	

LS142 Scale 2.666

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

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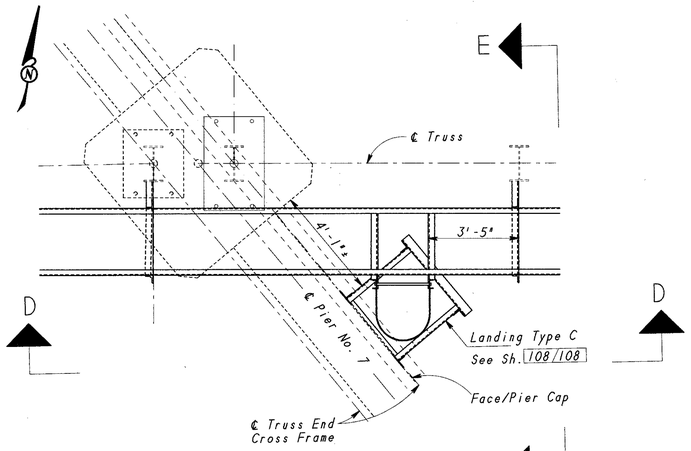
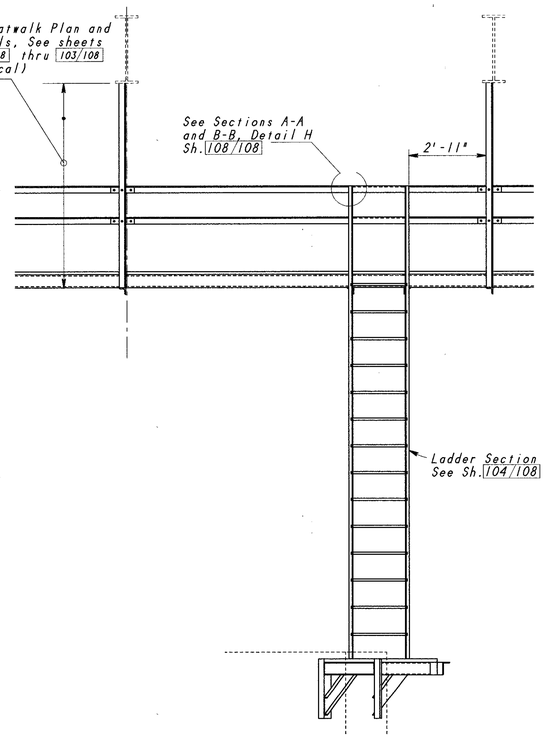
182

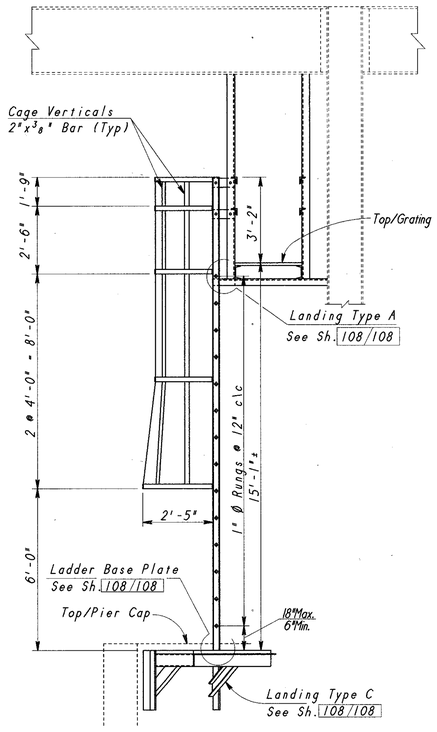
HAM-471-00.25



PLAN



VIEW D-D



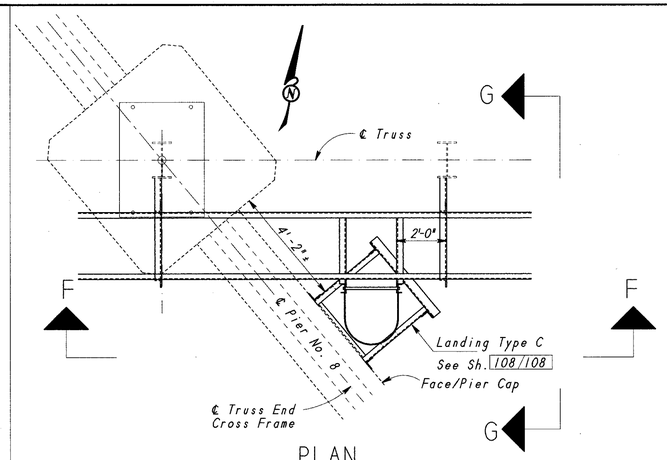
VIEW E-E

LEGEND

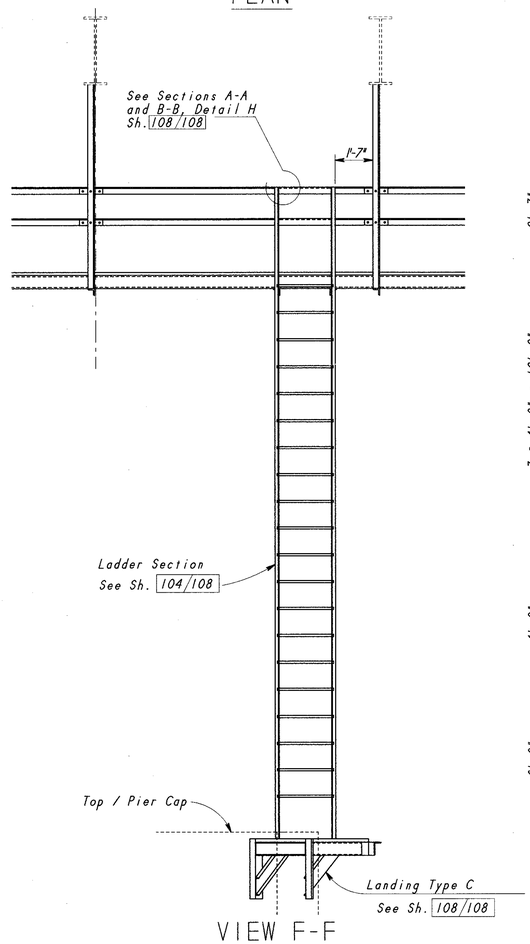
Existing Structure

New Work

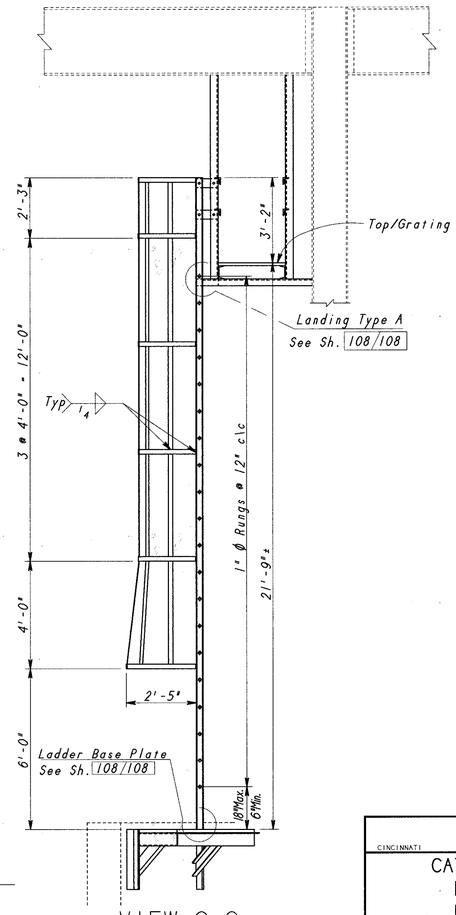
SERVICE LADDER NO. 3



PLAN



VIEW F-F



VIEW G-G

SERVICE LADDER NO. 4

NOTES:

1.- Work this sheet with Sheets 100/108, 101/108, and 108/108.

2.- Landing Platform Safety Rails not shown for simplicity. See Sh. 108/108 (Typ.)

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

105/108

CATWALK SERVICE LADDER
No. 3 (PIER NO. 7)
No. 4 (PIER NO. 8)

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30-55.40
Sta.47-16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	PLF		WDD	IEH	April 96	

WALKLS3&4.GCD 2.666

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

HAM-471-00.25

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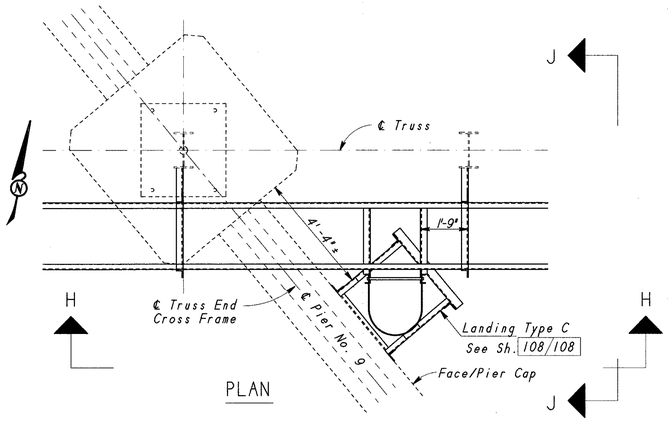
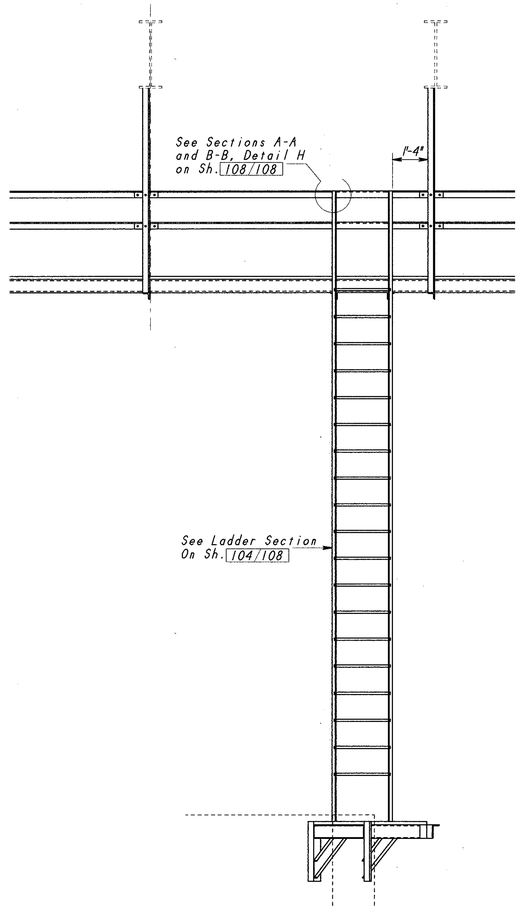
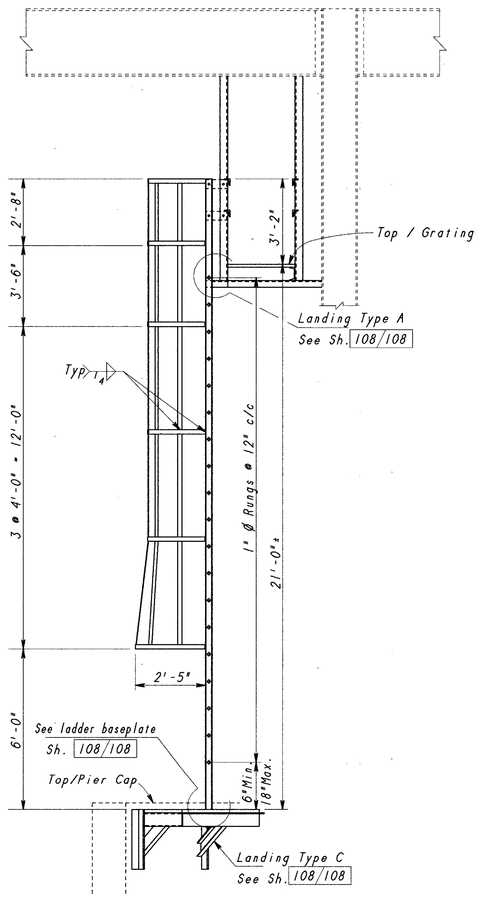


PLAN





VIEW H-H

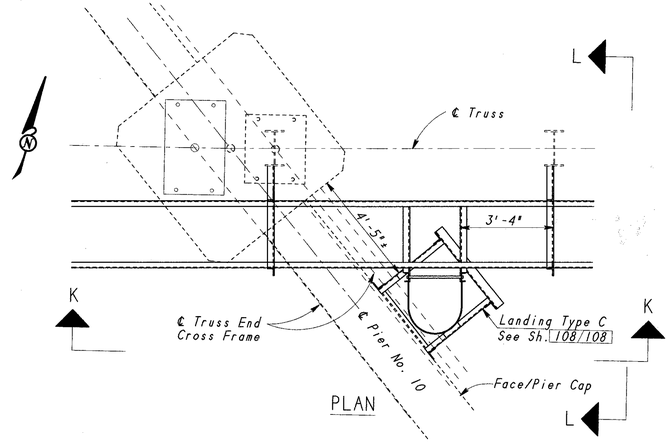
VIEW J-J

LEGEND

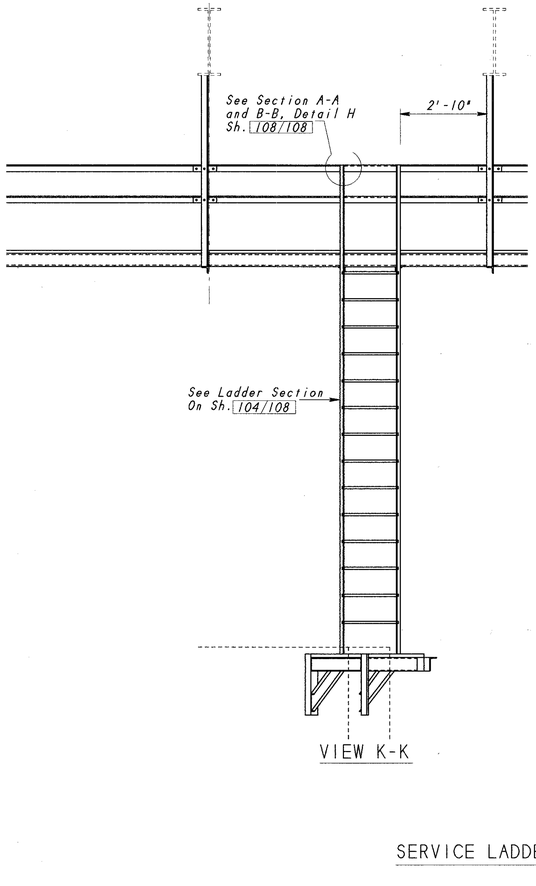
Existing Structure

New Work

SERVICE LADDER NO. 5



PLAN



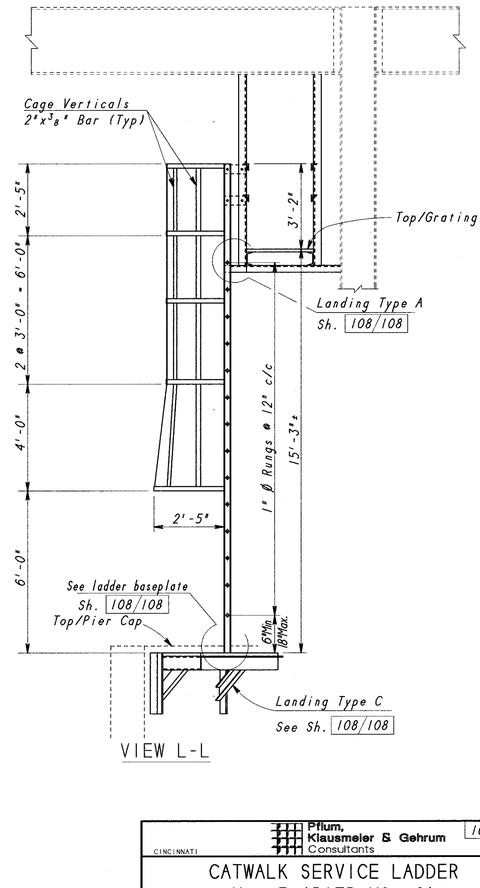
VIEW K-K

SERVICE LADDER NO. 6

NOTES:

1.- Work this sheet with Sheets 100/108, 101/108, and 108/108.

2.- Landing Platform Safety Rails not shown for simplicity. See Sh. 108/108 (Typ.)



VIEW L-L

106/108

Pflum, Klausmeier & Gehrum Consultants

CINCINNATI OHIO

CATWALK SERVICE LADDER
No. 5 (PIER NO. 9)
No. 6 (PIER NO. 10)

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

Sta. 30+55.40
Sta. 47+16.19

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	PLF		WDD	IEH	April 96	

LS566 Scale 2.6666

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

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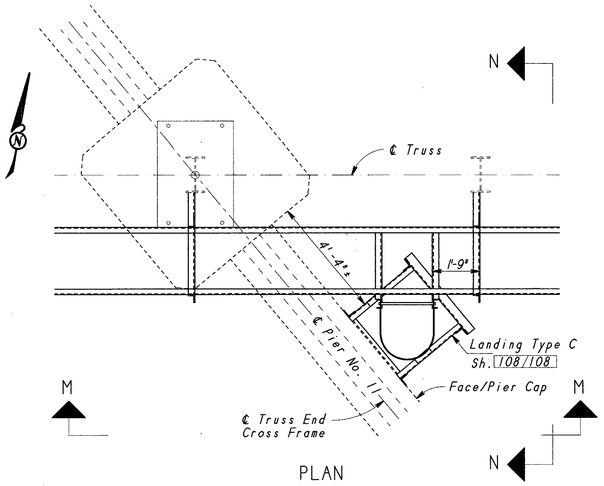
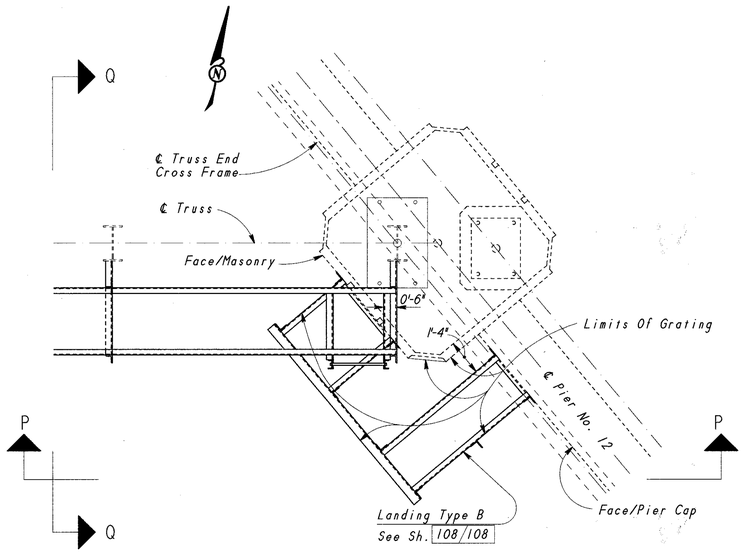


PLAN

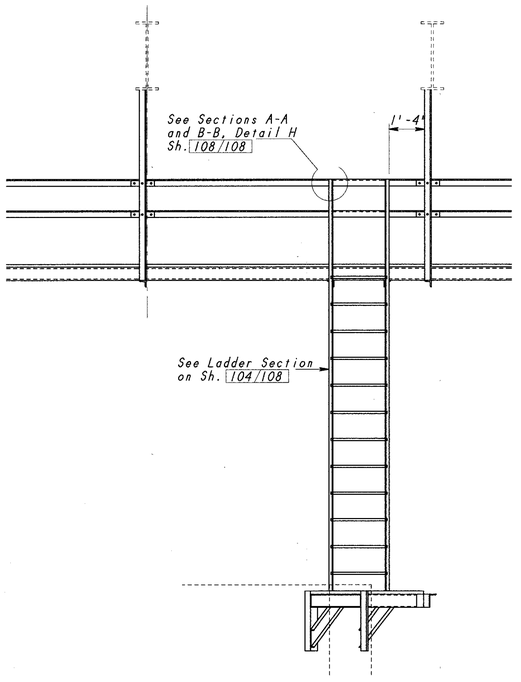


PLAN

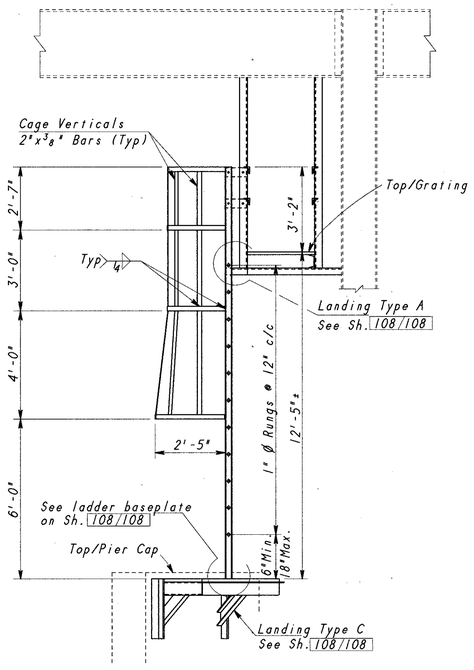
NOTES:

1.- Work this sheet with Sheets 100/108, 101/108, and 108/108.

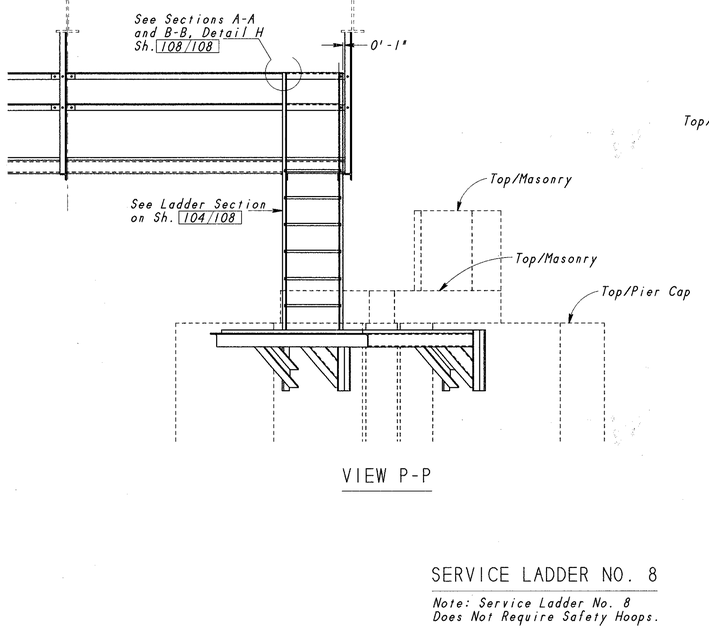
2.- Landing Platform Safety Rails not shown for simplicity. See Sh. 108/108 (Typ.)



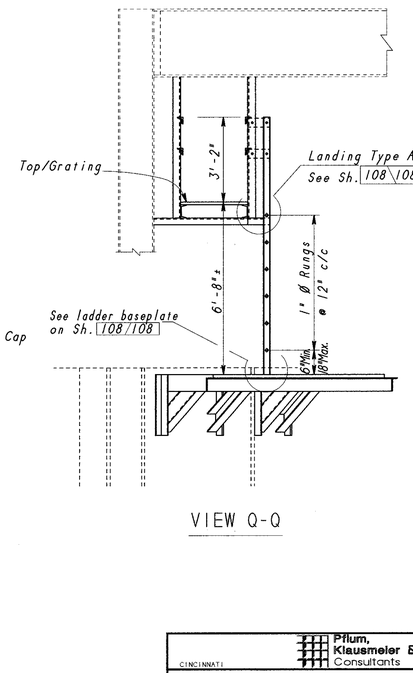
VIEW M-M



VIEW N-N



VIEW P-P



VIEW Q-Q

LEGEND

Existing Structure

New Work

SERVICE LADDER NO. 7

SERVICE LADDER NO. 8

Note: Service Ladder No. 8
Does Not Require Safety Hoops.

Pflum, Klausmeier & Gehrum Consultants
CINCINNATI OHIO

107/108

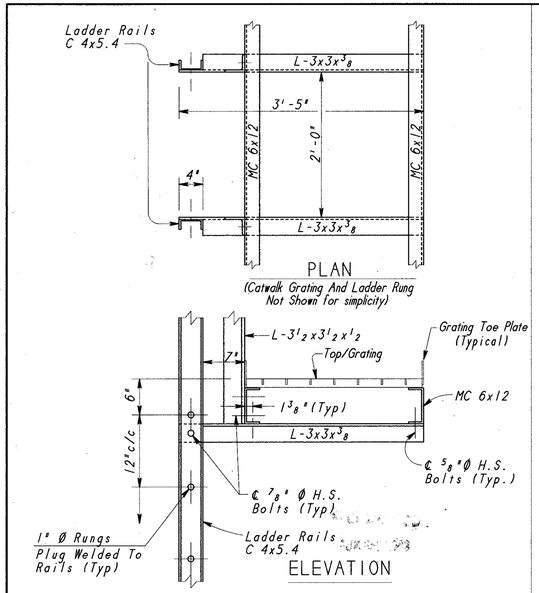
CATWALK SERVICE LADDER
No. 7 (PIER NO. 11)
No. 8 (PIER NO. 12)

BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta. 30+55.40
Sta. 47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	PLF		WDD	IEH	April 96	

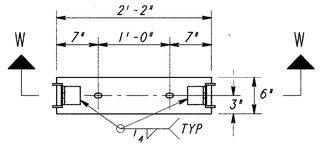


PLAN

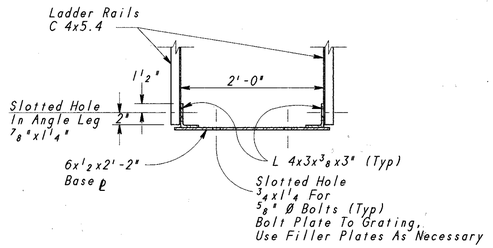
(Catwalk Grating And Ladder Rung Not Shown for simplicity)

ELEVATION

LANDING TYPE A



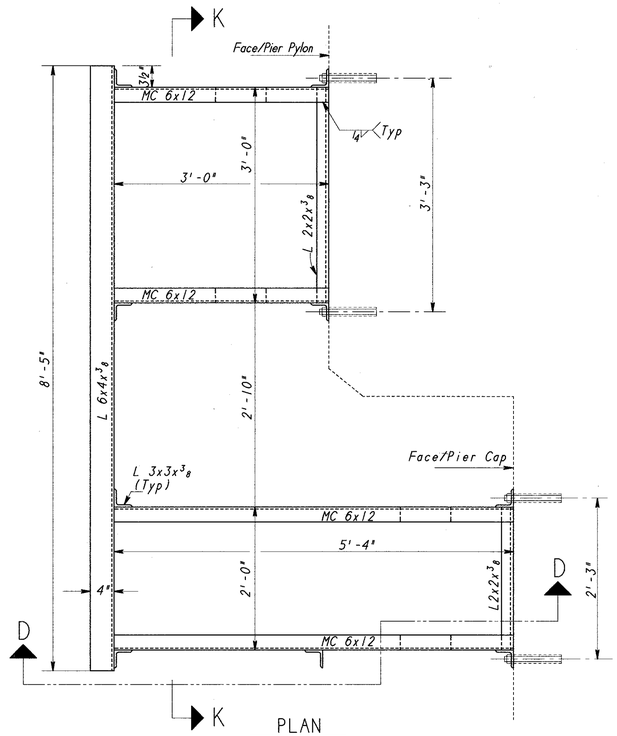
PLAN



SECTION W-W

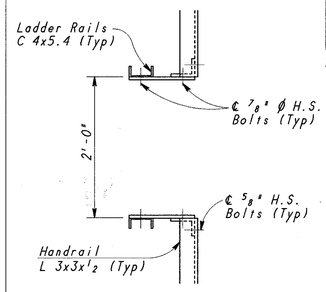
LADDER BASE PLATE

(TYPICAL)

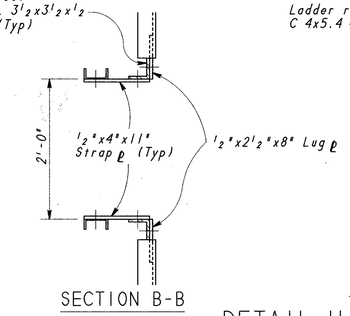


PLAN

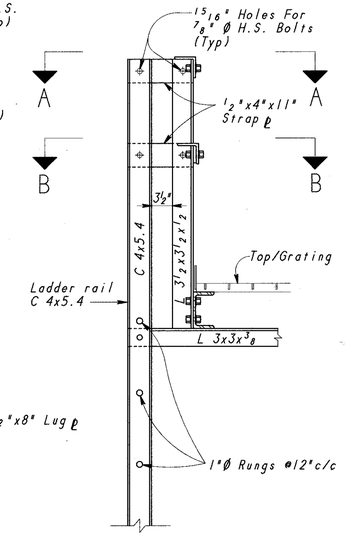
(Grating Not Shown)



SECTION A-A



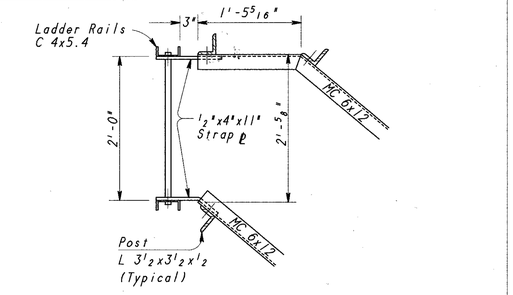
SECTION B-B



ELEVATION

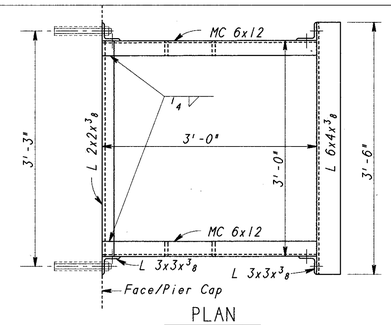
DETAIL H

TYPICAL UPPER END OF ACCESS LADDERS



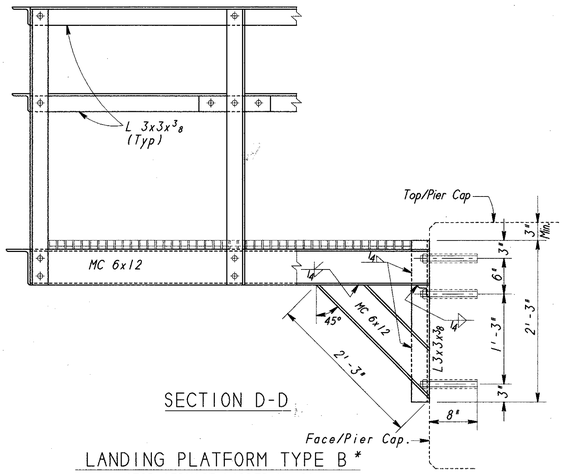
DETAIL G

(See Service Ladder No.1, Sh. 104/108)



PLAN

(Grating Not Shown)

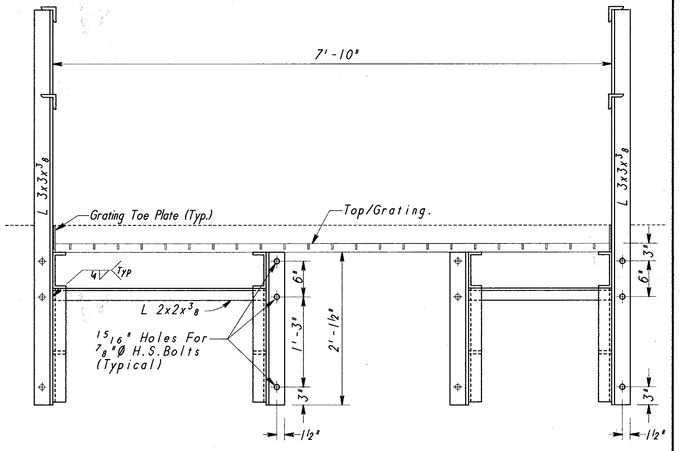


SECTION D-D

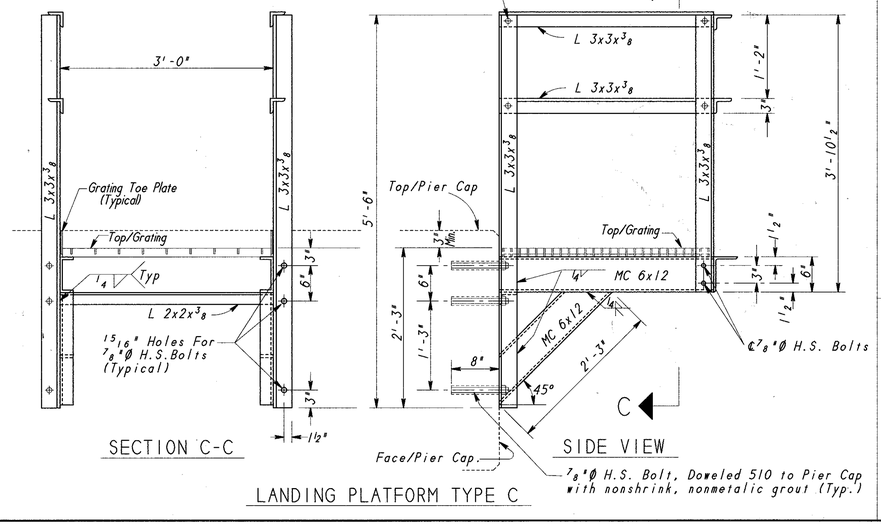
LANDING PLATFORM TYPE B *

(FOR SERVICE LADDER No.8)

* For additional details, refer to Landing Platform Type C, this sheet.



SECTION K-K



SECTION C-C

SIDE VIEW

LANDING PLATFORM TYPE C

(DETAIL Scale 1

NOTES:

1.- Work this sheet with sheets 104/108 thru 107/108 .

2.- The Contractor shall field verify the landing platform configuration, and incorporate the proper detail with the catwalk shop drawings for approval by the Engineer (Typical).

3.- For bolt details which are not shown on this sheet, refer to CATWALK DETAILS, Sh. 102/108 and 103/108 .

4.- See description of Item 513, STRUCTURAL STEEL, MISC.: CATWALK INCLUDING LADDERS, and Item 513, CATWALK GRATING, on Sheets 101/108 , and 102/108 respectively.

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

HAM-471-00.25

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Pflum, Klausmeier & Gehrum Consultants

CINCINNATI OHIO

108/108

CATWALK SERVICE LADDER DETAILS

BRIDGE No.HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)

HAMILTON COUNTY

Sta.30+55.40
Sta.47+16.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ED	PLF		WDD	IEH	April 96	