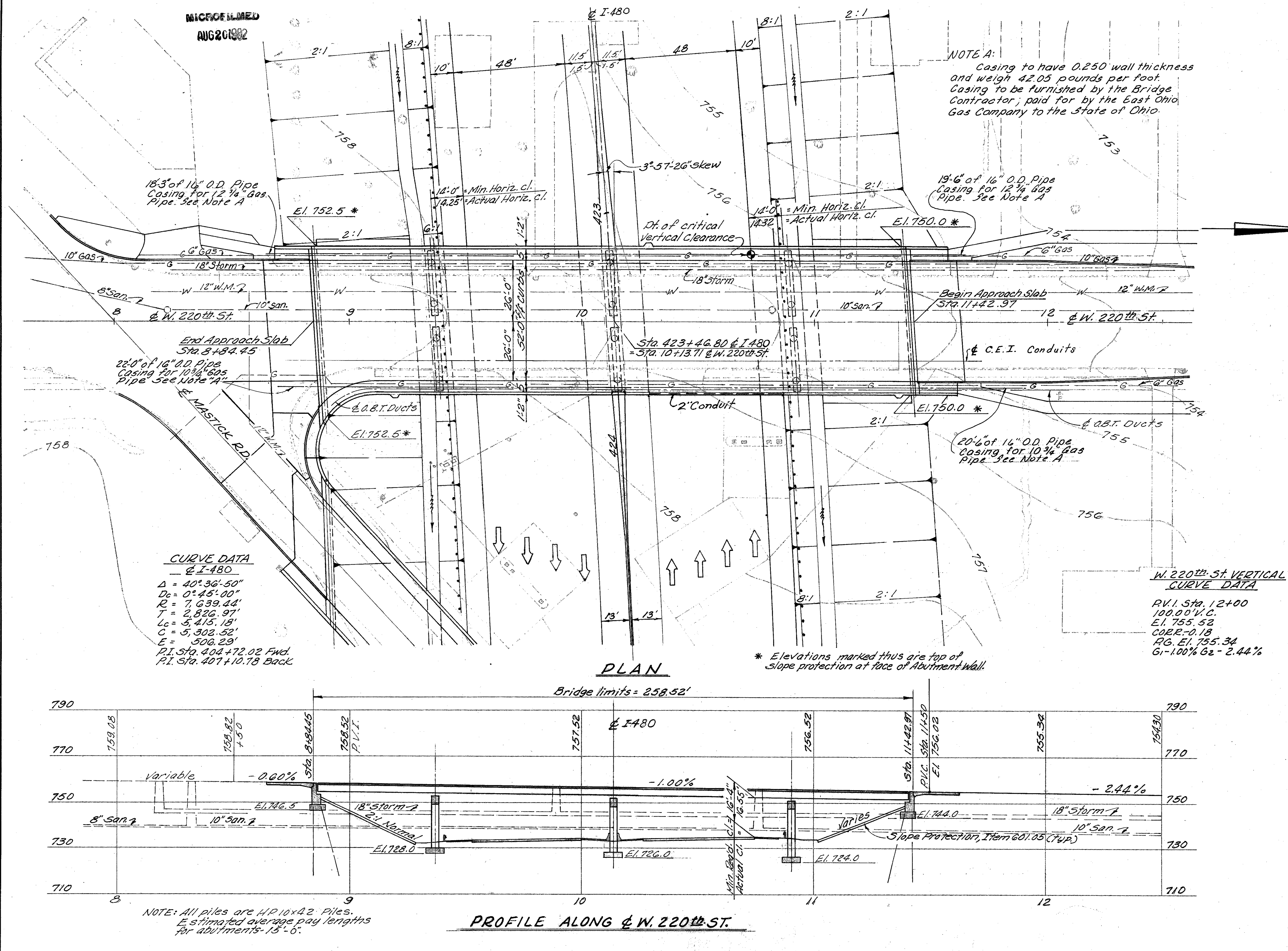


NOTE:
For disposition of existing utilities see Shts Nº 52 & 53
For additional General Notes see sheet 231A/347

PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and substructure.
SPANS: 50'-0", 77'-0", 77'-0", 50'-0" c/c Brgs.
ROADWAY: 52'-0" f/f curbs, 5'-0" sidewalks with concrete parapets and 4' chain link fence.
LOADING: HS 20-44 and the alternate Military Loading
WEARING SURFACE: Monolithic Concrete
SKEW: 3°57'-26" Rt. forward
ALIGNMENT: Tangent
APPROACH SLABS: AS-1-72 (20' Long) (Modified)

TRAFFIC ESTIMATE

Design Year - 1987
Total A.D.T. - 15,900

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

SITE PLAN
BRIDGE Nº CUY-480-0612
WEST 220th ST. OVER I-480
CUYAHOGA COUNTY STA. 8+84.45 STA. 11+42.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	R.T.		R.J. P.	G.W.M.	7/29/68	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

303
347

CUYAHOGA COUNTY
CUY.-480-4.86

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	DATE
STANDARD CONSTRUCTION DRAWING	HL-3	REV. 7-27-73
" " "	HL-4	REV. 1-21-76
" " "	HL-5	REV. 9-6-73
STANDARD CONSTRUCTION DRAWING	HL-7	REV. 1-21-76
" " "	HL-17A	REV. 4-6-73
" " "	HL-17B	REV. 4-6-73

SUPPLEMENTAL SPECIFICATION REFERENCES (CONTINUED)

DESCRIPTION	NO.	DATE
PAINTING FOR NEW STRUCTURAL STEEL	846	4-25-77
INORGANIC ZINC SILICATE PAINT	950	4-25-77
BLUE-GREEN VINYL PAINT	951	4-25-77

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
CURB PLATES	SD-1-69	2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
MOMENT PLATES	SD-1-69	3	6-12-69
BOLTED SPLICES	SD-1-69	4	6-12-69
ROCKERS AND BOLSTERS	RB-1-55		2- 2-59 R
APPROACH SLABS	AS-1-72		6-30-72 R

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1- 1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	3-12-75

COMMON DETAIL REFERENCES

CONTRACTION JOINTS	SHEET	328
BRIDGE SIDEWALK FENCE	SHEET	328

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 'STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES' ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1969, INCLUDING THE OHIO 'SUPPLEMENT' TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS20-44 and the Alternate Military Loading
CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE
STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI. SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82 OR A615.

PILES

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF-
35 TONS PER PILE FOR THE ABUTMENTS AND WINGWALLS

FOUNDATION BEARING PRESSURE

PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 5.0 TONS PER SQ. FT.

FOOTINGS

FOOTINGS SHALL EXTEND A MINIMUM OF 3 INCHES INTO SOUND SHALE OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

FOR ADDITIONAL GENERAL NOTES SEE SHEET 231A / 347

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP
503	654	C.Y.	UNCLASSIFIED EXCAVATION	351	303		
503	12	C.Y.	SHALE EXCAVATION		12		
505	LUMP	SUM	TEST PILE				LUMP
507	525	L.F.	STEEL PILES, HP10X42	525			
SPEC	80777	LB	EPOXY COATED REINFORCING STEEL (SEE PROPOSAL NOTE)	282		80495	
509	121690	LB	REINFORCING STEEL	18823	36723	66144	
511	553	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE (SEE PROPOSAL NOTE)			553	
511	140	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	140			
511	131	C.Y.	CLASS C CONCRETE, PIER CAPS AND COLUMNS		131		
511	182	C.Y.	CLASS C CONCRETE, FOOTINGS	119	63		
512	15	L.F.	PREMOLDED SEALING STRIP	15			
513	439800	LB	STRUCTURAL STEEL*, PRIMER AS PER 846 (SEE PROPOSAL NOTE)			439800	
846	439800	LB	FIELD PAINTING OF STRUCTURAL STEEL *			439800	
517	580.83	L.F.	BRIDGE RAILING (CONCRETE PARAPET WITH 4FT.-0 INCH CHAIN-LINK FENCE AS PER PLAN	67.04		513.79	
518	67	C.Y.	POROUS BACKFILL	67			
518	14	EA	SCUPPERS INCLUDING SUPPORTS			14	
518	145	L.F.	6 INCH PERFORATED, HELICAL CSP, 707.01	145			
518	88	L.F.	6 INCH NON-PERFORATED, HELICAL CSP, INCLUDING SPECIALS, 707.01	88			
601	817	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION				817
S625			SEE SHEET 213 FOR LIGHTING SUMMARY				
808	553	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			553	
SPEC	81	L.F.	16 INCH O.D. STEEL PIPE 0.25 INCH WALL THICKNESS**				81
		*	2830 LBS. TO BE PAID FOR BY THE CLEVELAND ELECTRIC ILLUMINATING COMPANY.				
		*	450 LBS. TO BE PAID FOR BY THE EAST OHIO GAS COMPANY.				
		**	TO BE PAID FOR BY THE EAST OHIO GAS COMPANY.				

APPROACH SLABS: MODIFY AS-1-72 BY INCREASING THE COVER OVER THE TOP BARS TO 3" AND OMITTING THE JACKING HOLES.

2/12

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

GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. CUY 480-0612
WEST 220th. ST. OVER I-480
CUYAHOGA COUNTY STA. 8+84.45
STA. 11+42.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.B.C.			R.S.S.	G.W.M.	7/24/68	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

304
347

CUYAHOGA COUNTY
CUY-480-4.86

N

Bridge Limits 258'-6¼"
50'-0" c/c Brg. | 77'-0" c/c Brg. | 77'-0" c/c Brg | 50'-0" c/c Brg.
6'-0" 2 spa. @ 15'-0" c/c Standard Scuppers
3°57'26" Skew
Sta. 10+29 Light Standard
3 spa. @ 11'-6" Standard Scuppers 4'-0"
face of curb
12" SW 5'-0"
26'-0" Curbs
52'-0" Rdwy
64'-4"
5'-0" SW 1'-2"
℄ Brg South Abutment Sta. 8+86.71
℄ Brg Pier No. 1 Sta. 9+36.71
Sta. 423+46.80 ℄ I-480 Sta. 10+13.71 ℄ West 220th St.
℄ Brg Pier No. 3 Sta. 10+90.71
℄ Brg North Abutment Sta. 11+40.71
End Approach Slab Sta. 8+84.45
Begin Approach Slab Sta. 11+42.97
Along Tan. 6'-0" 2 spa. @ 15'-0" c/c Standard Scuppers
3 Spa. @ 11'-6" c/c Standard Scuppers 4'-0"
face of curb
2" Conduit
Sta. 11+36 Light Standard
Limits of slope protection (Typ.)
42°5" PC Sta. 9+11.32
Match Line for Fence Post Spacing
Sta. 9+20 Light Standard

Note:
Top rail of fence shall be curved to match the parapet

GENERAL PLAN

Note:
Scupper spacing shall be adjusted to clear intermediate crossfromes by a minimum of six inches.

289'-4" ℄ West parapet
36 Spaces @ 8'-0" ℄ Fence posts = 288'-0" (West parapet)
32 Spaces @ 8'-0" ℄ Fence posts = 256'-0" (East parapet)
292'-8" (From match line to end of East parapet)
8" | 1'-1" | 2 spa. @ 8'-0" c/c = 16'-0" | 3 spa. @ 6'-4" c/c = 19'-0" | 8" | 7"
Match Line
15'-8 5/16" | 12'-4 9/16" | 16'-0" | 7 equal spaces = 40'-0" | 2 spa. @ 16'-0" c/c = 32'-0" | 7 equal spaces = 48'-0" | 2 spa. @ 16'-0" c/c = 32'-0" | 7 equal spaces = 48'-0" | 16'-0" | 10'-7 7/16" | 17'-7 1/4" | West parapet def'lec. Joint spc'g.
3 1/2" open Joint | 15'-0" | 16'-0" | 16'-0" | 7 equal spaces = 40'-0" | 2 spa. @ 16'-0" c/c = 32'-0" | 7 equal spaces = 48'-0" | 2 spa. @ 16'-0" c/c = 32'-0" | 7 equal spaces = 48'-0" | 16'-0" | 11'-4 3/8" | 17'-8 5/8" | East parapet def'lec. Joint spc'g.
RE-5011 F.F. RE-5012 N.F. | RE5013 F.F. RE-5014 N.F. | RE-5004 | RE-5003 | RE-5005 | RE5003 | RE-5005 | RE5003 | RE5010 | 1" open joint
Exp. Brgs. | Fixed Brgs. | Exp. Brgs.
El. 746.5 South abutment
Slope protection Item 601.05 (Typ.)
El. 728.0 Pier No. 1
El. 726.0 Pier No. 2
El. 724.0 Pier No. 3
El. 744.0 North abutment

ELEVATION

3/12

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

GENERAL PLAN
BRIDGE No. CUY-480-0612
WEST 220th ST. OVER I-480
CUYAHOGA COUNTY
STA. 8+84.45
STA. 11+42.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R S S	R.V.		R.J.P.	G.W.M.	7/24/68	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

305
347

CUYAHOGA COUNTY
CUY-480-4.86

6" min. sidewalk slab reinforced with 6×6-W5×W5 Welded wire fabric sec. 709.10. Welded wire fabric shall be included for payment with Item 608, 6" Reinforced Concrete Sidewalk.

N

1½" preformed expansion joint filler & joint sealer See Detail A, Sht. No. 7 | 12

6" Curb
3"-S.W. Seat
6'-2"
5'-0"
2"
R=30'-0" to face of curb
24°-00'-00"
15'-0" along ℄ Parapet
12'-4"
2'-0"
A4

See South Abutment Details, Cuy-480-0614, Sheet 6 | 14

Match Line see Sht. 5 | 12

℄ W. 220th St.

3°-57'-26"

36'-10 3/8"

14'-0"

27'-44'-38"

3°-57'-26" ℄ Rocker ℄ beam

44-D8001 43 SPA. @ 1'-6"

64'-6"

5-A5003 @ 6" c/c Typ each beam seat

6" ℄ 4" I.D. Pipe Sleeve

23'-3"

Abutment Ref. Line

1'-6" 1'-6" Typ.

3½"

2'-0" 1'-0" 1'-3"

9'-6" c/c beams

3°-57'-26"

29'-1 11/16"

43'-5 3/4"

43'-0"

75'-8½"

PLAN

5-AG002 @ 1'-0" c/c 4'-0"

10-AG001 @ 1'-0" c/c = 15'-0"

6-4" PVC Conduits

2-A5001

El. 758.17 *

Approach Slab Seat

A5032 N.F. A5029 F.F.

El. 757.03

Constr. Jt.

2-A5004

El. 755.59

El. 753.65 ③

El. 753.67 ①

4-A5032 N.F. A5029 F.F.

A5032 N.F. A5029 F.F.

A5002, to lap F5002

5-A5004

2-A5004

5-A5002, to lap FG001 & F5002

5-FG001 F.F.

5-F5002 N.F.

6-A5002, to lap FG001 & F3002

6-FG001 F.F.

6-F5002 N.F.

1/2" Preformed expansion Joint

3-F8004

4-F8004

5-F5001, to lap FG001

6-F5001 to lap FG001

3-F8001

4-F8001

El. 746.5

Vert. bars @ 1'-2" ℄ c/c

Vert. bars @ 1'-4" ± c/c

2 spa. @ 5'-10" c/c piles, Front row = 12'-0"

11'-8" c/c piles, Back row

7'-9" c/c piles, Front row

23'-3"

ELEVATION

* Elevations marked with an asterisk are roadway elevations at the face of backwall and face of curb and at high point.

15'-0"

2'-0"

10 - AE5014 @ 1'-6" c/c

9 - A-5015 @ 1'-10" ± c/c

RE5008, N.F.
RE5009, F.F.
A7

A5008 N.F. A5027 F.F.

A5008, N.F. A5033, F.F.

A5033

A5027 F.F. & A5008 N.F.

10 3/8"

El. 757.45

10 3/8"

A5016 N.F. & A5017 F.F. @ 2'-0" c/c

2'-0"

5-A5016, N.F. & 5-A5017, F.F. to lap FG004

El. 753.6 ③

A5026 N.F. & A5010 F.F.

3-A5012, N.F.
3-A5030 F.F.
2 eq. spa.

FG003

5-FG004 @ 1'-6" c/c

2-F8003

El. 746.5

A7

4 F8003

2'-0" ±

9-F5004 @ 1'-0"

VIEW A4-A4

RE5008 or RE5009

2" 1'-0" 8"

AE5014

A5027

6" Conc. S.W.

A5015

2" Conduit

A5033

A5017

A5008, 2" 2"

A5033

A5008, A5016 A5008,

A5012

1'-0" Min. 1'-6" 1'-0" Min.

FG004

6"

3"

A5030

3'-3"

F8003

2'-0"

3'-0"

2'-0" ±

4'-9"

F5004

SECTION A7-A7

4 | 12

In reinforcing callouts:
N.F. indicates near face
F.F. indicates far face

For additional notes see Sht. 5 | 12

For details of electrical expansion fittings & Coupling and conduit details in wingwall, see Std. Dwg. HL-5

231A
347

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

SOUTH ABUTMENT DETAILS

BRIDGE Nº CUY-480-0612

WEST 220th ST. OVER I-480

CUYAHOGA COUNTY STA. 8+84.45 STA. 11+42.97

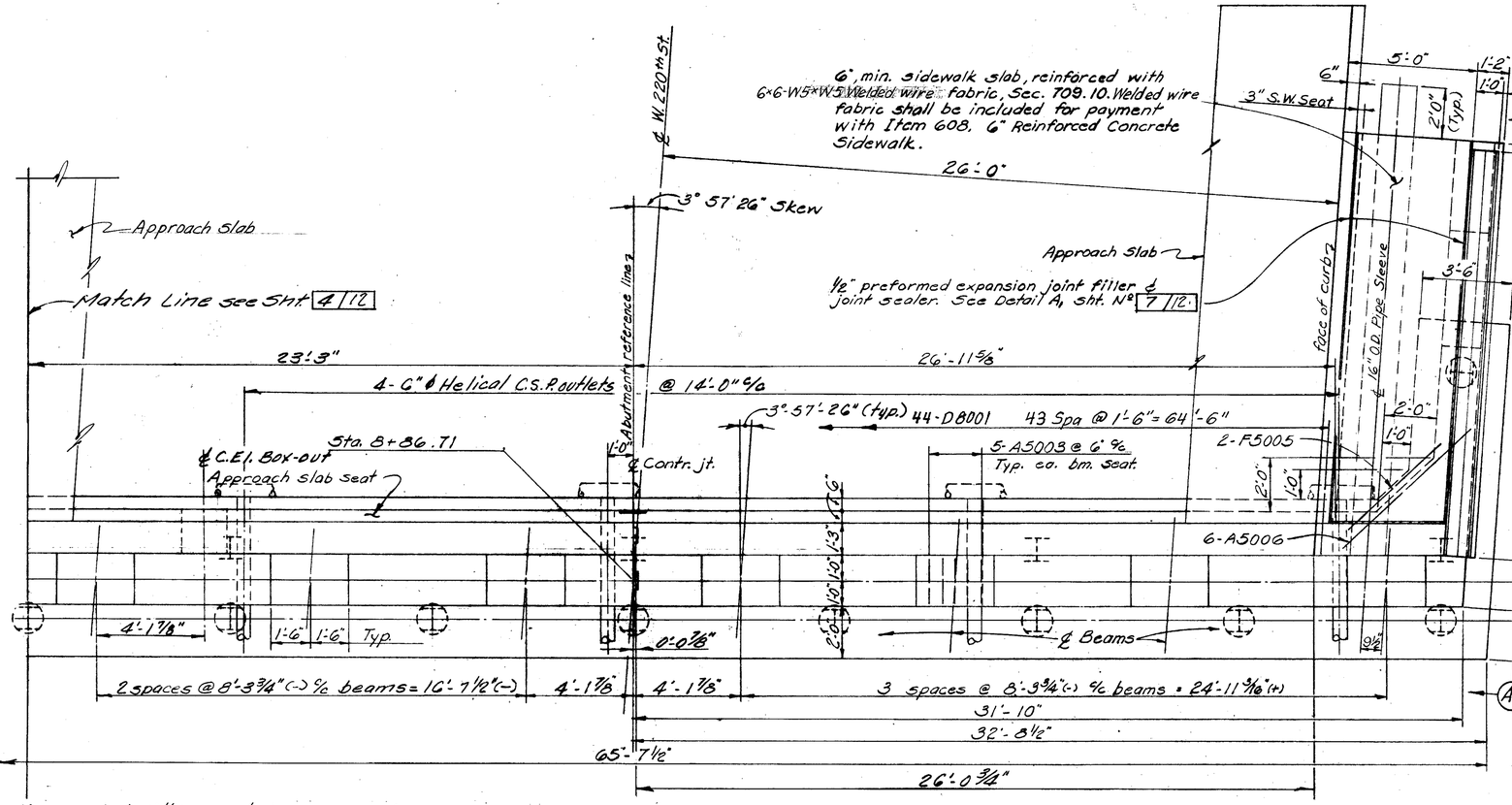
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M. 7/29/68		10-24-79

REV. 10-12-78

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

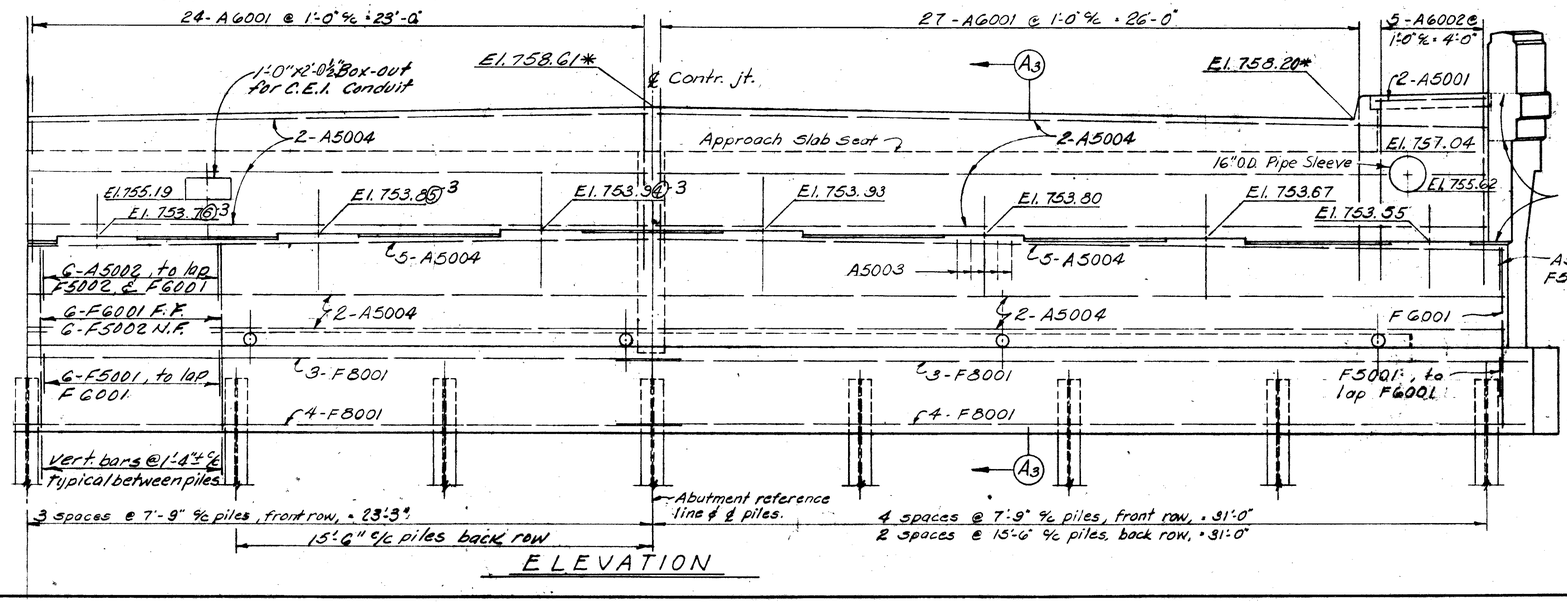
306
347

CUYAHOGA COUNTY
CUY-480-4.86



PLAN

Elevations marked with an asterisk are roadway elevations at the face of backwall and face of curb and at high point.



ELEVATION

N

NOTES:

Porous backfill 1'-6" thick, shall extend up to the plane of the subgrade and laterally to the end of the wing walls.

A joint shall be provided in the abutment portion of the end dam at the contraction joint.

For details of contraction joint see Common Detail Sheet No. 328 347

In reinforcing steel callouts:
N.F. indicates near side
F.F. indicates far side

For additional notes see sht. 6 12.

5 12

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

SOUTH ABUTMENT DETAILS

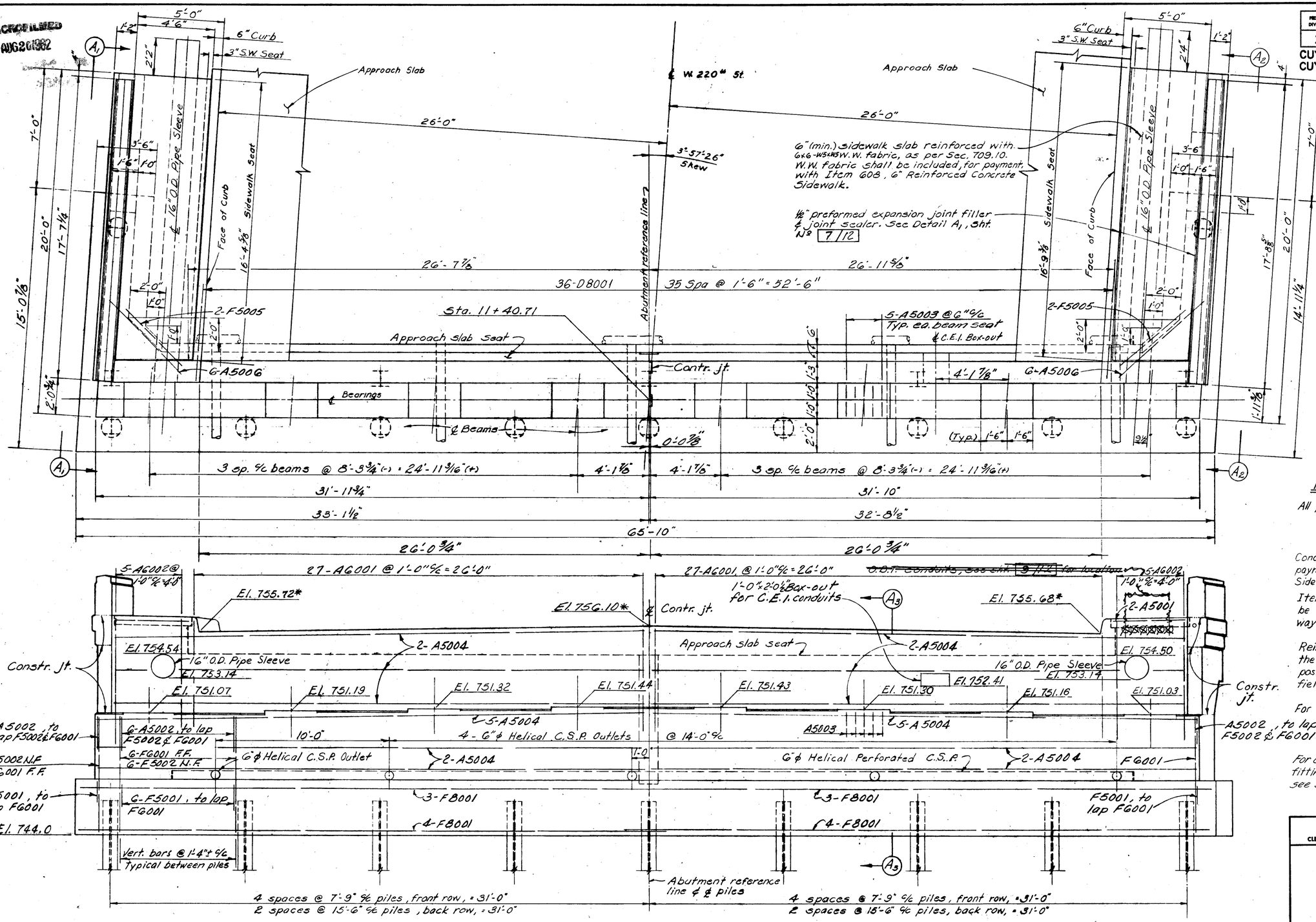
BRIDGE № CUY-480-0612
WEST 220th. ST. OVER I-480
CUYAHOGA COUNTY STA. 8+84.45
STA. 11+42.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	G.W.M.		R.S.S.	G.W.M.	7/20/62	10-24-79

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUYAHOGA COUNTY
CUY-480-4.86

307
347



* Elevations marked with an asterisk are roadway elevations at the face of backwall and face of curb and at high point.

ELEVATION

N

NOTES:

All piles shall be HP 10x42
I Vertical piles

⊕ Batter piles 1:4

Concrete parapet shall be included for payment with Item Spec., Bridge Sidewalk Fence.

Item 608, 6" concrete sidewalk shall be included for payment with roadway items.

Reinforcing steel in the vicinity of the 16" O.D. pipe sleeve shall be positioned, or cut as necessary, in the field to clear.

For sections & elevations see sht. 7/12

For details of electrical expansion fitting and coupling of abutment see Std Dwg. HL-5.

6/12

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

NORTH ABUTMENT DETAILS

BRIDGE Nº CUY-480-0612
WEST 220th ST. OVER I-480
CUYAHOGA COUNTY STA. 8+84.45 STA. 11+42.67

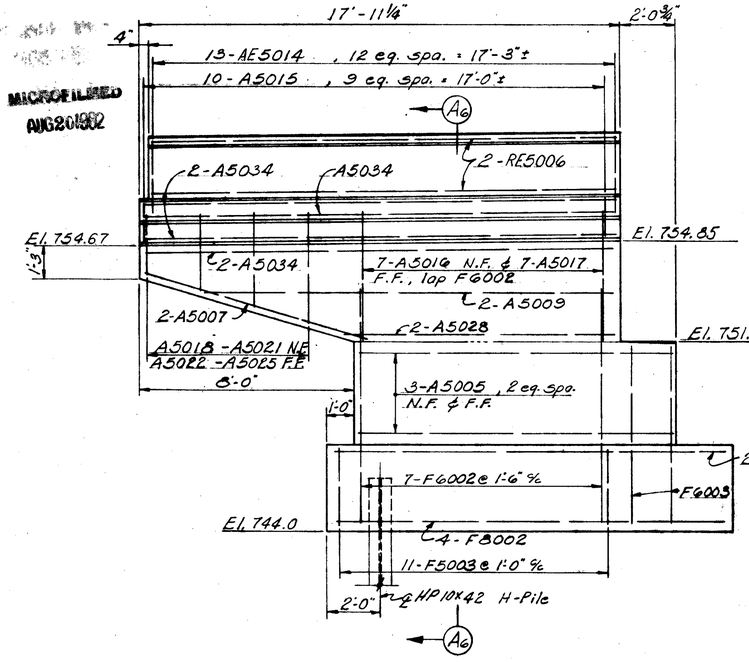
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	G.W.M.		R.S.S.	G.W.M.	7/30/63	

REV. 10-12-78

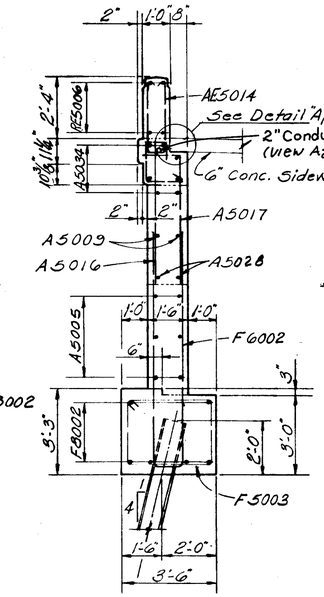
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

308
347

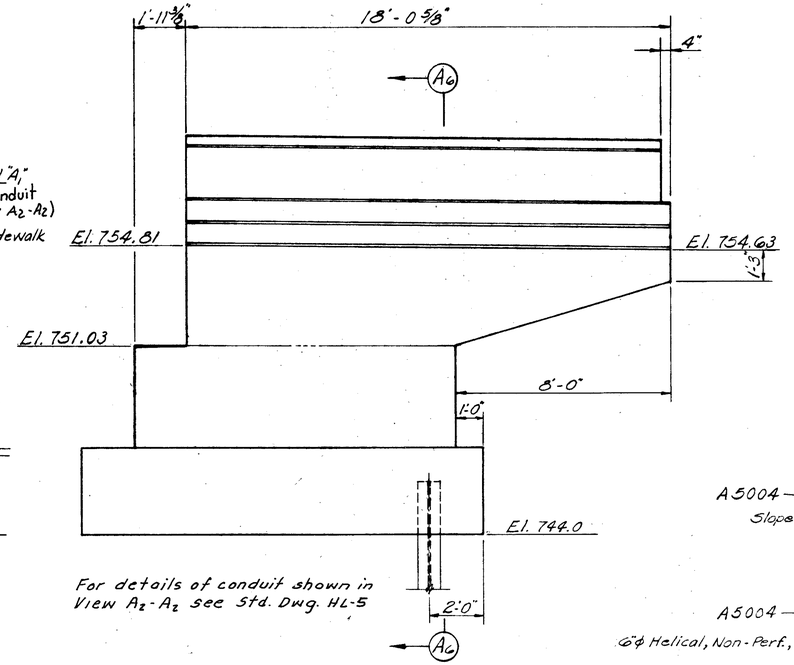
CUYAHOGA COUNTY
CUY-480-4.86



VIEW A_1-A_1



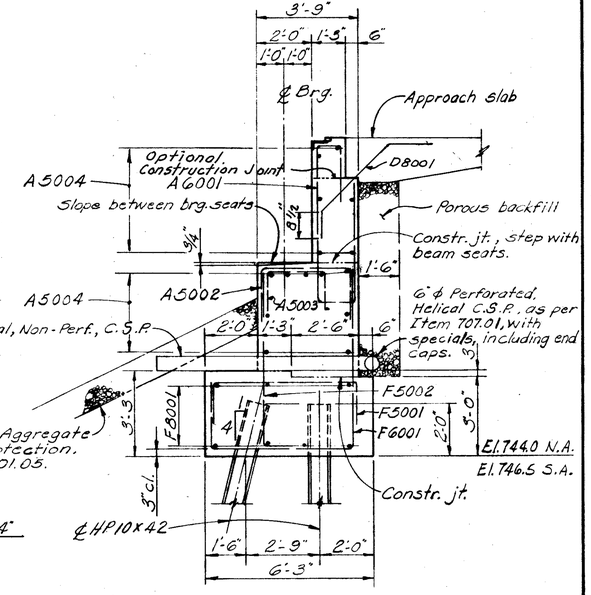
SECTION A_6-A_6



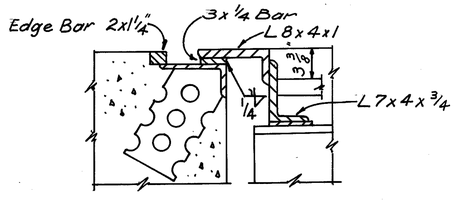
For details of conduit shown in View A_2-A_2 see Std. Dwg. HL-5

VIEW A_2-A_2

Reinforcing steel same as that shown in View A_1-A_1.

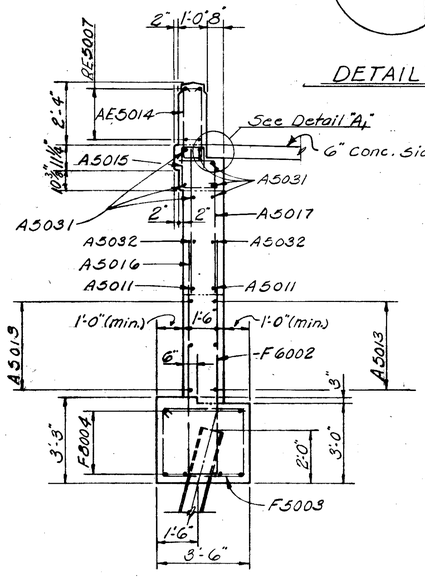


SECTION A_3-A_3

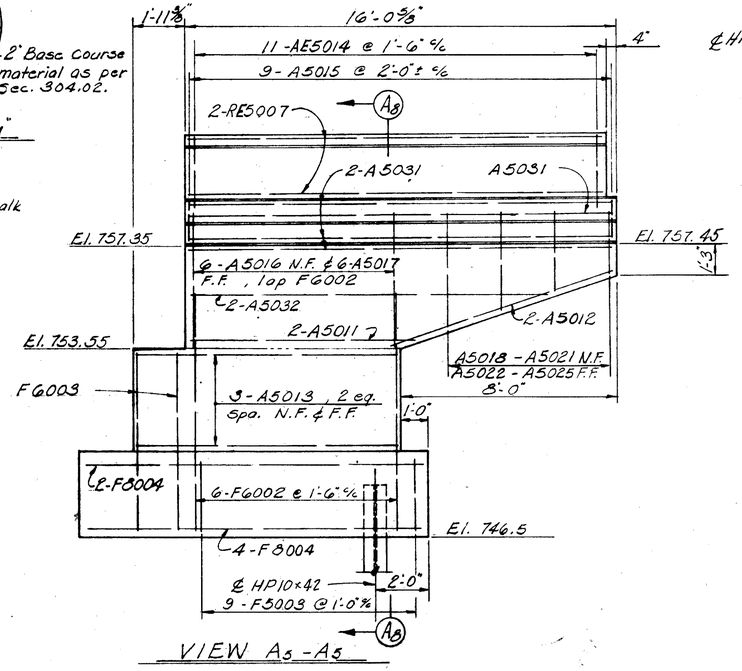


TYPICAL ROADWAY END DAM DETAIL
For additional details see Std. Dwg. BD-1-69, sh. 1 of 4.

DETAIL "A_1"



SECTION A_8-A_8



VIEW A_5-A_5

NOTES:

Items listed on Detail "A_1" are included, for payment, with Item 608, 6" Concrete Sidewalk.

For additional notes see sht. 5/12, sht. 6/12 & sht. 231A (347)

7/12

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

ABUTMENT DETAILS

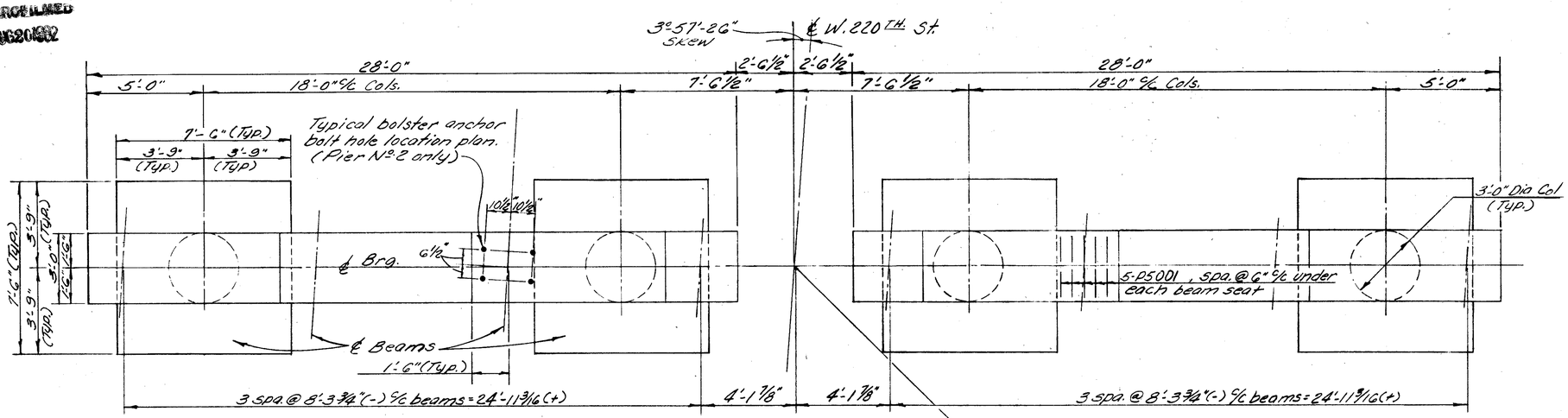
BRIDGE Nº CUY-480-0612
WEST 220th ST OVER I-480
CUYAHOGA COUNTY STA. 8+84.45
STA. 11+42.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	G.W.M.		R.S.S.	G.W.M.	7/30/68	

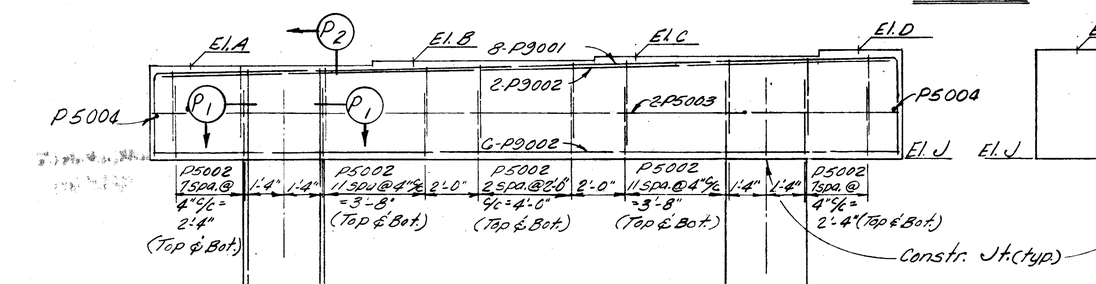
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

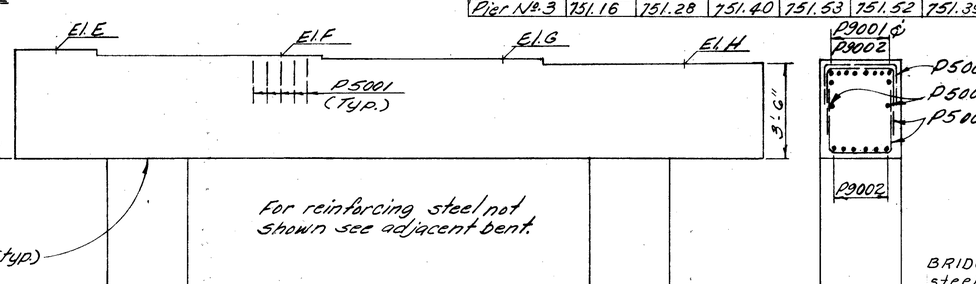
CUYAHOGA COUNTY
CUY-480-4.86

309
347

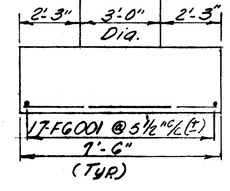


PLAN





ELEVATION



SECTION P2-P2

All vertical column steel - P10001, Pier No. 1
P10002, Pier No. 2
P10003, Pier No. 3

SECTION P1-P1

TABLE OF BEAM SEAT ELEVATIONS										
LOCATION	A	B	C	D	E	F	G	H	J	K
Pier No. 1	752.10	752.82	752.94	753.07	753.06	752.93	752.79	752.66	749.16	728.00
Pier No. 2	751.70	751.82	751.95	752.07	752.07	751.93	751.80	751.66	748.16	726.00
Pier No. 3	751.16	751.28	751.40	751.53	751.52	751.39	751.25	751.12	747.62	724.00

BRIDGE SEAT REINFORCING: Reinforcing steel in the vicinity of the bridge seat of Pier No. 2 shall be accurately placed to avoid interference with the drilling of bearing anchor holes or the presetting of bearing anchors.

For Grounding Details, see Std. Dwg. HL-7

For additional General Notes, see Sh. 231A / 347

8/12

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

PIER DETAILS

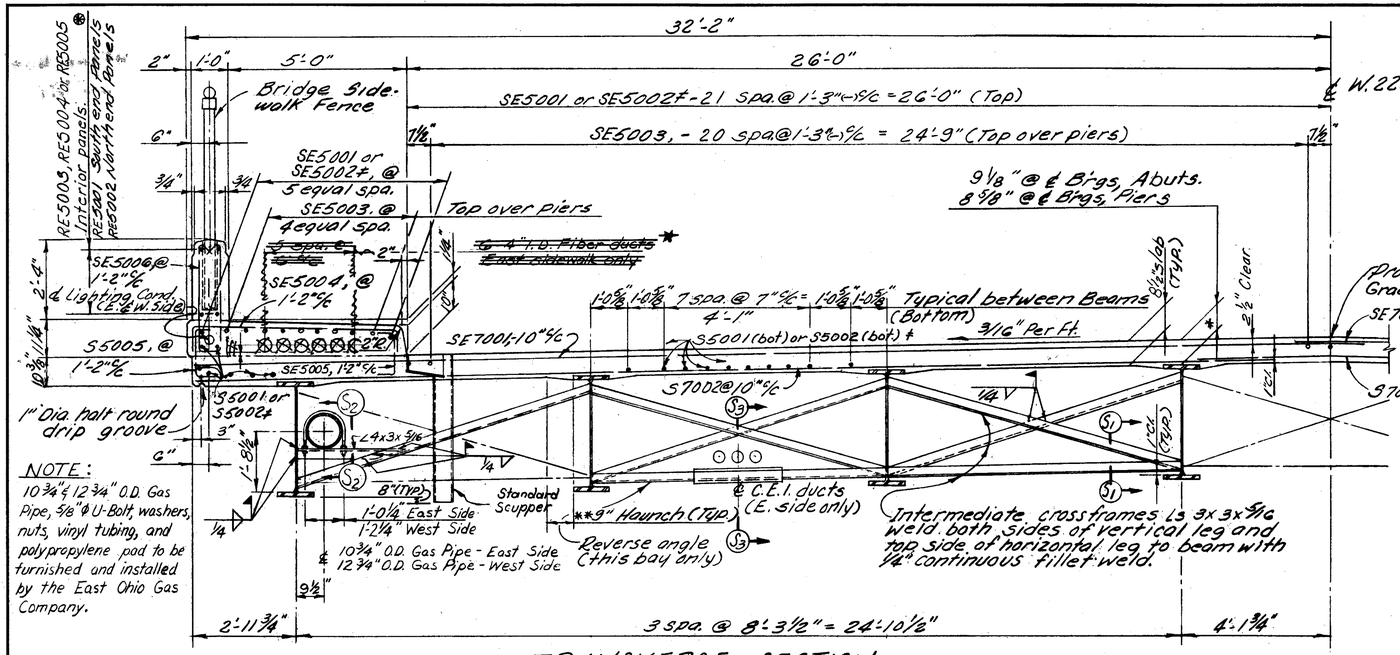
BRIDGE NO CUY-480-0612
WEST 220th ST OVER I-480
STA. 8+84.45
CUYAHOGA COUNTY STA. 11+42.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	R.T.		R.J.P.	G.W.M.	7/26/68	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUYAHOGA COUNTY
CUY-480-4.86

310
347



NOTE:
10¾"℄ 12¾" O.D. Gas Pipe, 5/8"ϕ U-Bolt, washers, nuts, vinyl tubing, and polypropylene pad to be furnished and installed by the East Ohio Gas Company.

TRANSVERSE SECTION

(Note: This Section is typical except for S.E. corner. For Deck Slab Reinforcing Details see Sht. 11/12)

~~* Ducts to be furnished and installed by the Ohio Bell Telephone Co.~~

℄ W. 220TH St. (Symmetrical about ℄ except bottom transverse reinf. steel & parapet longitudinal reinf. steel.)

NOTES:

#Each longitudinal run of deck reinforcing, excluding SE5003 bars over the piers, shall be comprised of 8-S5001 or SE5001 and 1-S5002 or SE5002 bars lapped a minimum of 1'-7".

For Additional Fence Details see sheet 328/347

~~For Additional General Notes see sheet~~ 23/A 347

* This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

* * A typical haunch width of 9" shall be used for all beams in computing quantity of concrete. However the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less then 9" in width.

For scupper details see Standard Dwg. SD-1-69

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers. Also epoxy coated bars that are field cut shall be treated as per approved manufacturers recommendations. Transverse slab reinforcing steel shall be placed parallel to the abutments.

Concrete parapet is included, for payment, with Item 517 Bridge Railing

For fence post spacing see sheet 3/12

Field bend transverse bars to fit crown. Bending to be included in Item 509 for payment. Epoxy coated bars damaged by field bending shall be repaired as per approved manufacturer's recommendations.

⊛ For longitudinal reinforcing steel in E. side parapet see Sht. 11/12

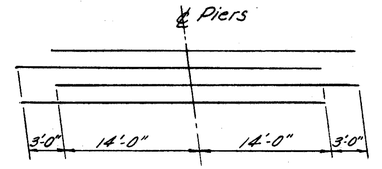
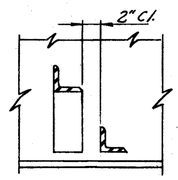
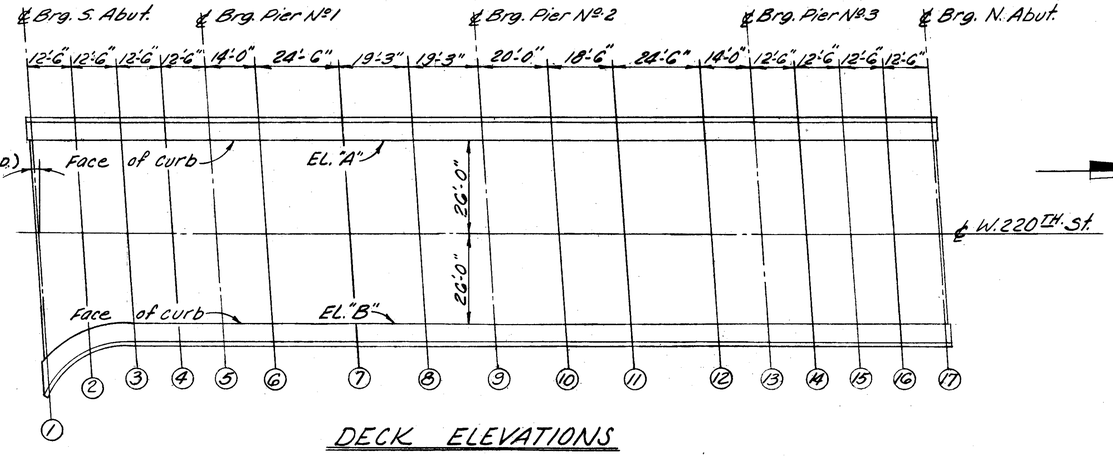


DIAGRAM SHOWING STAGGER SE5003 BARS OVER PIERS

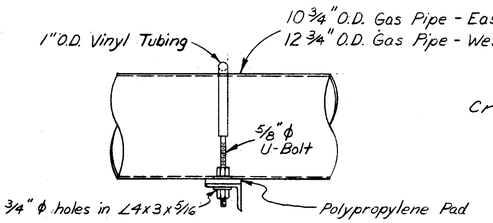


SECTION S-S

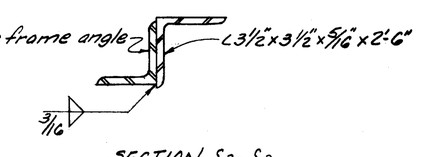


DECK ELEVATIONS

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



SECTION S_2-S_2



SECTION S3-S3

TABLE OF DECK ELEVATIONS																	
LINE	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰
ELEV. "A"	758.20	758.14	758.03	757.89	757.71	757.65	757.43	757.21	757.00	756.82	756.66	756.38	756.23	756.10	755.99	755.86	755.73
ELEV. "B"	758.17	758.07	757.99	757.86	757.73	757.61	757.39	757.17	756.96	756.78	756.62	756.35	756.19	756.07	755.95	755.83	755.69

9/12

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

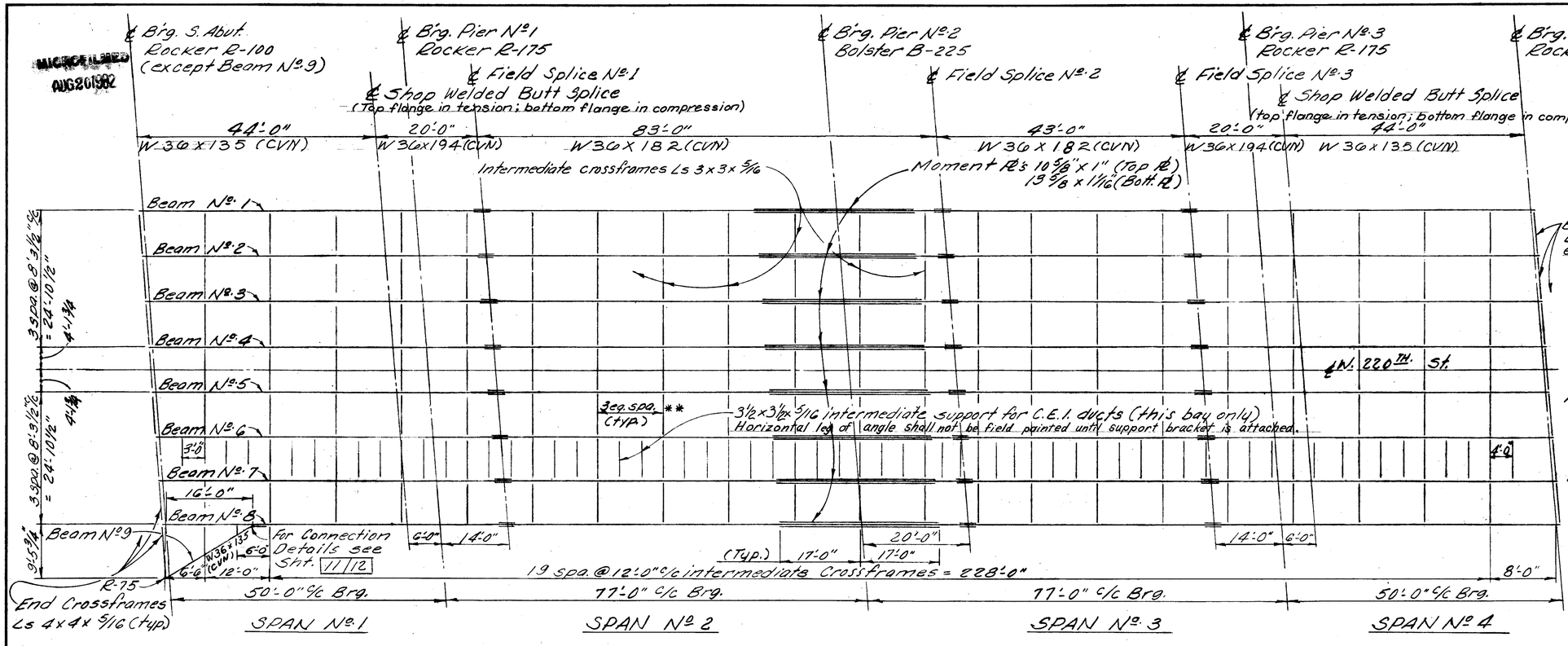
SUPERSTRUCTURE DETAILS
BRIDGE № CUY-480-0612
WEST 220th ST. OVER I-480
CUYHOGA COUNTY STA. 8+84.45
STA. 11+42.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		R.J.P.	G.W.M.	7/29/60	

REV. 10-12-78

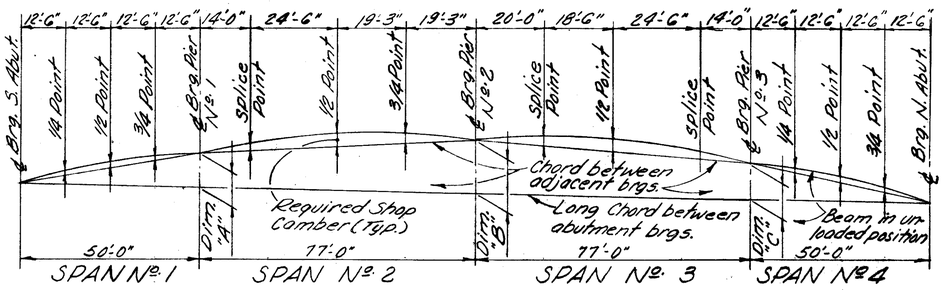
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUYAHOGA COUNTY
CUY-480-4.86



FRAMING PLAN

FIELD SPLICE No. 1 & No. 3 DETAILS



CAMBER & BLOCKING DIAGRAM

* End Crossframes in exterior bays shall have one panel point, located 4'-0" from the ℄ of the first interior stringer, to allow for passage of gas pipes. Crossframes in interior bays shall have panel points located in accordance with Std. Dwg. SD-1-69, Sheet No. 1.

** Support angles may be shifted if necessary to avoid field splices. Maintain max. spacing of 5'-0".

TABLE OF BLOCKING DIMENSIONS								
BEAM No.	1	2	3	4	5	6	7	8
Dim. "A"	3/16	3/16	3/16	1/2	1/4	-1/4	-5/8	-3/8
Dim. "B"	3/8	3/8	5/16	5/16	1/8	-1/8	-3/8	-1/2
Dim. "C"	1/8	1/8	1/8	1/8	0	0	-1/8	-1/4

DEFLECTION AND CAMBER

BEAM	SPAN No. 1															SPAN No. 2						SPAN No. 3						SPAN No. 4					
	No. 1 thru 4			No. 5			No. 6			No. 7			No. 8			INT.			EXT.			INT.			EXT.			INT.			EXT.		
LOCATION	1/4 Pt.	1/2 Pt.	3/4 Pt.	1/4 Pt.	1/2 Pt.	3/4 Pt.	1/4 Pt.	1/2 Pt.	3/4 Pt.	1/4 Pt.	1/2 Pt.	3/4 Pt.	1/4 Pt.	1/2 Pt.	3/4 Pt.	SP. Pt.	1/2 Pt.	3/4 Pt.	SP. Pt.	1/2 Pt.	3/4 Pt.	SP. Pt.	1/2 Pt.	SP. Pt.	SP. Pt.	1/2 Pt.	SP. Pt.	1/4 Pt.	1/2 Pt.	3/4 Pt.	1/4 Pt.	1/2 Pt.	3/4 Pt.
Deflection due to weight of steel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1/16	1/8	3/16	1/16	1/8	1/16	1/16	1/8	1/16	1/16	1/8	1/16	0	0	0	0	0	0
Deflection due to remaining dead load	3/16	3/16	0	3/16	3/16	0	3/16	3/16	0	3/16	3/16	0	1/4	5/16	1/16	1/4	3/16	1/4	1/4	3/16	1/4	1/4	3/16	1/4	5/16	3/16	1/4	0	3/16	3/16	0	3/16	3/16
Adjustment due to Vertical Curve	1/16	3/8	3/16	1/8	1/8	1/8	0	-3/8	0	-1/2	-3/8	-1/8	-5/8	1/8	3/8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Required Shop Camber	5/8	9/16	3/16	5/16	5/16	1/8	3/16	-3/16	0	-5/16	-3/16	-1/8	-3/8	7/16	7/16	5/16	11/16	5/16	5/16	11/16	5/16	5/16	11/16	5/16	3/8	11/16	5/16	0	3/16	3/16	0	3/16	3/16

NOTE: Beam No. 9 to be detailed with natural camber turned up.

NOTES:

1" ℄ high strength bolts shall be used at the field splices. Bolt heads shall be placed on fascia side of exterior beam web and bottom side of bottom flange. Holes shall be 1 1/16" ℄. Bolts shall conform to A-325 steel. For details of Field Splice No. 2 see Std. Dwg. SD-1-69 Sht. No. 4.

For Shop welded butt splice detail see Common Details Sht. 328

For additional notes see sheet 23A/347

All bottom flange shop welds are subject to compressive stress only.

End Crossframe Alternation: Diagonals in end crossframe bays through which Cleveland Electric Illuminating Co. conduits pass shall be as shown on Standard Dwg. SD-1-69 for a beam spacing of 8'-0" except that they shall be Ls 4x4x3/8". The horizontal member shall be L 4x4x3/8".

10/12

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

SUPERSTRUCTURE DETAILS

BRIDGE No. CUY-480-0612
WEST 220th ST. OVER I-480
CUYAHOGA COUNTY STA. 8+84.45 STA. 11+42.97

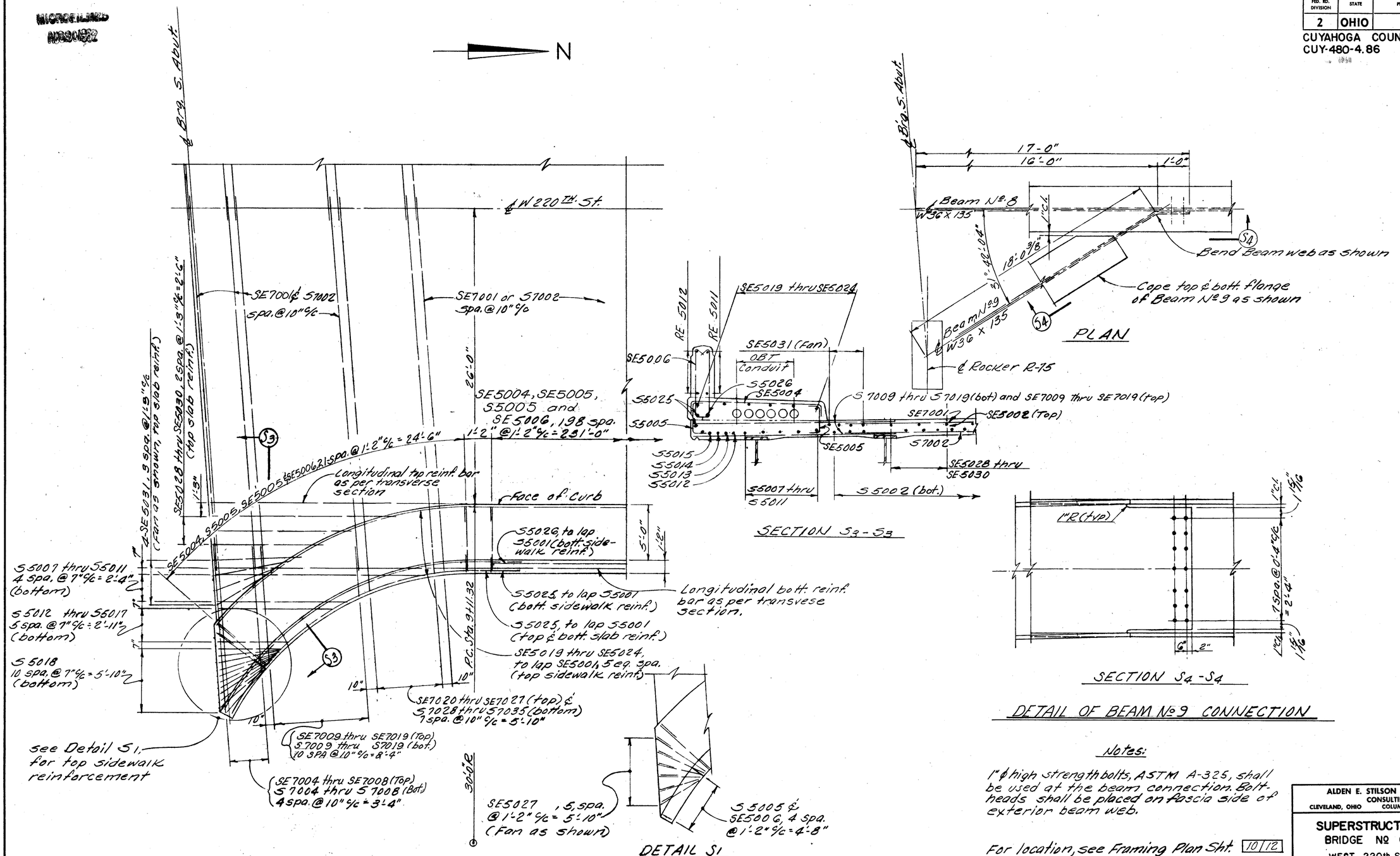
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		R.J.P.	G.W.M.	7/29/83	

MICROFILMED
AUG 01 1992

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

312
347

CUYAHOGA COUNTY
CUY-480-4.86



DECK REINFORCING DETAILS

DETAIL OF BEAM No. 9 CONNECTION

Notes:

1" ø high strength bolts, ASTM A-325, shall be used at the beam connection. Bolt heads shall be placed on fascia side of exterior beam web.

For location, see Framing Plan Sht. 10/12

ALDEN E. STILSON & ASSOCIATES, LIMITED 11/12
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS
BRIDGE No. CUY-480-0612
WEST 220th ST. OVER I-480
STA. 8+84.45
CUYAHOGA COUNTY STA. 11+42.97

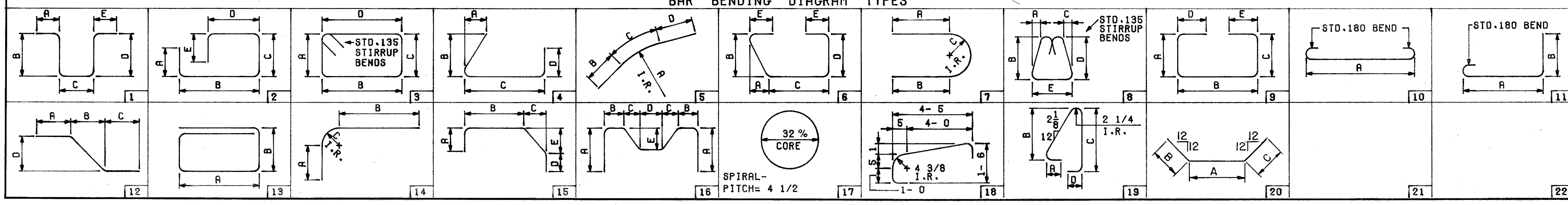
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	7/24/92	

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS						
A 5001	8	4- 3	35	ST						
A 5002	110	7- 2	822	1		2- 0	3- 5	2- 0		
A 5003	85	4-11	436	1		1- 6	2- 2	1- 6		
A 5004	60	31- 5	1966	ST						
A 5005	12	11- 6	144	ST						
A 5006	18	6- 3	117	ST						
A 5007	4	8- 8	36	ST						
A 5008	5	14- 5	75	5	24- 4		14- 5			
A 5009	4	15- 9	66	ST						
A 5010	4	10- 8	45	1	5- 9	3-11	1- 3			
A 5011	2	8- 4	17	ST						
A 5012	3	16- 6	52	5	24- 4		16- 6			
A 5013	6	9- 8	60	ST						
A 5015	38	4- 6	178	2	0-11	1- 4	1- 5	0- 8	0- 8	
A 5016	29	5- 3	159	ST						
A 5017	29	5-10	176	1		4- 9	1- 3			
A 5018	2	4- 7		ST						1
THRU			30		VARY	LENGTH	BY	0- 7	5/ 8	
A 5021	2	2- 8		ST						1
A 5022	3	5- 3		1		4- 2	1- 3			1
THRU			54		VARY	LENGTH	BY	0- 7	5/ 8	
					VARY	DIM. B	BY	0- 7	5/ 8	
A 5025	3	3- 4		1		2- 3	1- 3			1
A 5026	4	5- 6	23	ST						
A 5027	1	14-10	15	5	24-10		14-10			
A 5028	4	9- 9	41	ST						
A 5029	6	16- 6	103	ST						
A 5030	3	17- 0	53	5	25- 6		17- 0			
A 5031	7	15- 8	114	ST						
A 5032	11	14- 5	165	ST						
A 5033	5	15- 3	80	5	25- 6		15- 3			
A 5034	14	17- 7	257	ST						
A 6001	121	15- 0	2726	2	4- 2	1- 5	6- 0	0-11	3- 2	
A 6002	20	16-10	506	2	6- 4	1- 5	6-10	0-11	2- 0	
D 8001	80	5- 6	1175	20	3- 4	1-6½	0-8½			
F 5001	109	8- 3	938	1		1- 7	5- 4	1- 7		
F 5002	110	7- 1	813	1		6- 7	0- 8			
F 5003	31	11- 9	380	3	2- 7	3- 0	2- 7	3- 0		
F 5004	9	14- 3	134	3	2- 7	4- 3	2- 7	4- 3		
F 5005	8	4- 9	40	ST						
F 6001	109	14- 2	2319	1		6- 7	5- 4	2- 7		
F 6002	20	18- 2	546	1		8- 8	1- 2	8- 8		
F 6003	8	14- 2	170	1		6- 8	1- 2	6- 8		
F 6004	5	18- 6	139	1		8-10	1- 2	8-10		
F 8001	28	33-10	2529	ST						
F 8002	12	14- 4	459	ST						
F 8003	6	11-10	190	ST						
F 8004	13	12- 8	440	ST						
				PIERS						
P 4001	4	18- 8	1408	17	NO.TURNS= 53			NO.SPACERS= 16		6
P 4002	4	19- 8	1465	17	NO.TURNS= 55			NO.SPACERS= 16		6
P 4003	4	21- 2	1572	17	NO.TURNS= 59			NO.SPACERS= 16		6
P 5001	120	5- 5	678	1		1- 6	2- 8	1- 6		
P 5002	516	8- 9	4709	1		3- 2	2- 8	3- 2		
P 5003	12	27- 8	346	ST						
P 5004	12	2- 8	33	ST						
P 9001	48	33- 5	5454	1		3- 2	27- 8	3- 2		
P 9002	48	27- 8	4515	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				PIERS					(CONTINUED)	
P10001	32	21- 8	2983	ST						
P10002	32	22- 8	3121	ST						
P10003	32	24- 2	3328	ST						
F 6001	408	7- 2	4392	ST						
F10001	96	6- 7	2719	1	1- 5	5- 6				
				SUPERSTRUCTURE						
S 5001	640	30- 0	20026	ST						
S 5002		27- 8	2424	ST						
S 5005	449	2- 4	1093	1		0- 8	1- 3	0- 8		
S 5007	1	18- 6		ST						1
THRU			78		VARY	LENGTH	BY	1- 9	3/ 4	
S 5011	1	11- 3		ST						1
S 5012	1	10- 3		ST						1
THRU			52		VARY	LENGTH	BY	0- 9	5/ 8	
S 5017	1	6- 3		ST						1
S 5018	11	5- 3	60	ST						
S 5025	3	31- 0	97	5	24- 2	4- 1	26-11			
S 5026	1	31- 4	33	5	24-10	4- 1	27- 3			
S 7002	307	30- 0	18825	ST						
S 7003	299	36- 0	22002	ST						
S 7004	1	11- 0		ST						1
THRU			133		VARY	LENGTH	BY	1- 0		
S 7008	1	15- 0		ST						1
S 7009	1	4- 2		ST						1
THRU			162		VARY	LENGTH	BY	0- 7	1/ 4	
S 7019	1	10- 3		ST						1
S 7020	1	33- 3		ST						1
THRU			555		VARY	LENGTH	BY	0- 2	3/ 8	
S 7027	1	34- 8		ST						1
S 7028	1	36- 3		ST						1
THRU			604		VARY	LENGTH	BY	0- 2	3/ 8	
S 7035	1	37- 8		ST						1
		EPOXY COATED RAILING BARS								
RE5001	4	12- 5		ST						2
RE5002	4	10- 3		ST						2
RE5003	44	15- 8		ST						2
RE5004	56	5- 4		ST						2
RE5005	112	6- 6		ST						2
RE5006	8	17- 3		ST						2
RE5007	4	15- 4		ST						2
RE5008	2	14- 5		5	24- 2		14- 5			2
RE5009	2	14-10		5	24-10		14-10			2
RE5010	4	11- 0		ST						2
RE5011	2	15-10		5	24-10		15-10			2
RE5012	2	15- 5		5	24- 2		15- 5			2

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
		EPOXY COATED RAILING BARS							(CONTINUED)	
RE5013	2	15-10		5	24-10	4- 9	11- 1			2
RE5014	2	15- 6		5	24- 2	4- 9	10- 9			2
				LIGHT POLE SUPPORTS - EPOXY COATED						
LE501	12	3-1	39	1		0-7½	2-1	0-7½		4,5
LE502	12	9-4	117	1		3-9	2-1	3-9		4,5
LE503	21	8-0	174	16		0-6	2-1	1-4	2-1	4,5
LE505	12	3-9	48	ST						4,5
		EPOXY COATED REINFORCING STEEL - SUPERSTRUCTURE								
SE5001	440	30-0	13768	ST						5
SE5002	55	27-8	1587	ST						5
SE5003	156	31-0	5044	ST						5
SE5004	440	6-9	3098	1		0-8	5-8	0-8		5
SE5005	443	2-4	1078	1		0-8	1-3	0-8		5
SE5019	1	29-1		5	29-10	4-1	25-0			1,5
					VARY	LENGTH	BY	0-4⅝		
THRU			188		VARY	DIM. A	BY	1-1⅝		
					VARY	DIM. C	BY	0-4⅝		
SE5024	1	31-0		5	24-2	4-1	26-11			1,5
SE5027	6	5-0	31	1		0-8	3-11	0-8		5
SE5028	1	16-6		ST						1,5
THRU			42		VARY	LENGTH	BY	3-0		
SE5030	1	10-6		ST						1,5
SE5031	4	6-6	27	ST						5
SE7001	606	33-0	40876	ST						5
SE 7004	1	11-0		ST						1,5
THRU			133		VARY	LENGTH	BY	1-0		
SE 7008	1	15-0		ST						1,5
SE 7009	1	4-2		ST						1,5
THRU			162		VARY	LENGTH	BY	0-7¼		
SE 7019	1	10-3		ST						1,5
SE 7020	1	33-3		ST						1,5
THRU			555		VARY	LENGTH	BY	0-2⅜		
SE 7027	1	34-8		ST						1,5
SE 5006	446	29-0	13528	8	3'-0	0'-6	3'-0			
		EPOXY COATED REINFORCING STEEL- ABUTMENTS								
AE 5014	47	5'-9	282	8		2-2		2-2	0-8	

BAR BENDING DIAGRAM TYPES



FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

313/347

CUYAHOGA COUNTY
CUY-480-4.86

NOTES

1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
2. BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
3. COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
4. LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
5. BARS ARE TO BE EPOXY COATED AS PER PROPOSAL NOTE
6. 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP.
'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.
SPIRAL BARS MAY HAVE DEFORMATIONS AND SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. 1 1/2 CLOSED COILS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. 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 EQUALLY SPACED ALONG PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT. OTHER DETAILS SHALL BE IN ACCORDANCE WITH CRSI STANDARD PRACTICE.

FOR ADDITIONAL GENERAL NOTES SEE SHEET 231A/347

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

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

REINFORCING STEEL LIST
BRIDGE Nº CUY-480-0612
WEST 220th. ST. OVER I-480

CUYAHOGA COUNTY STA. 8+84.45 STA. 11+42.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.			B.I.P.	G.W.M.	7/29/68	