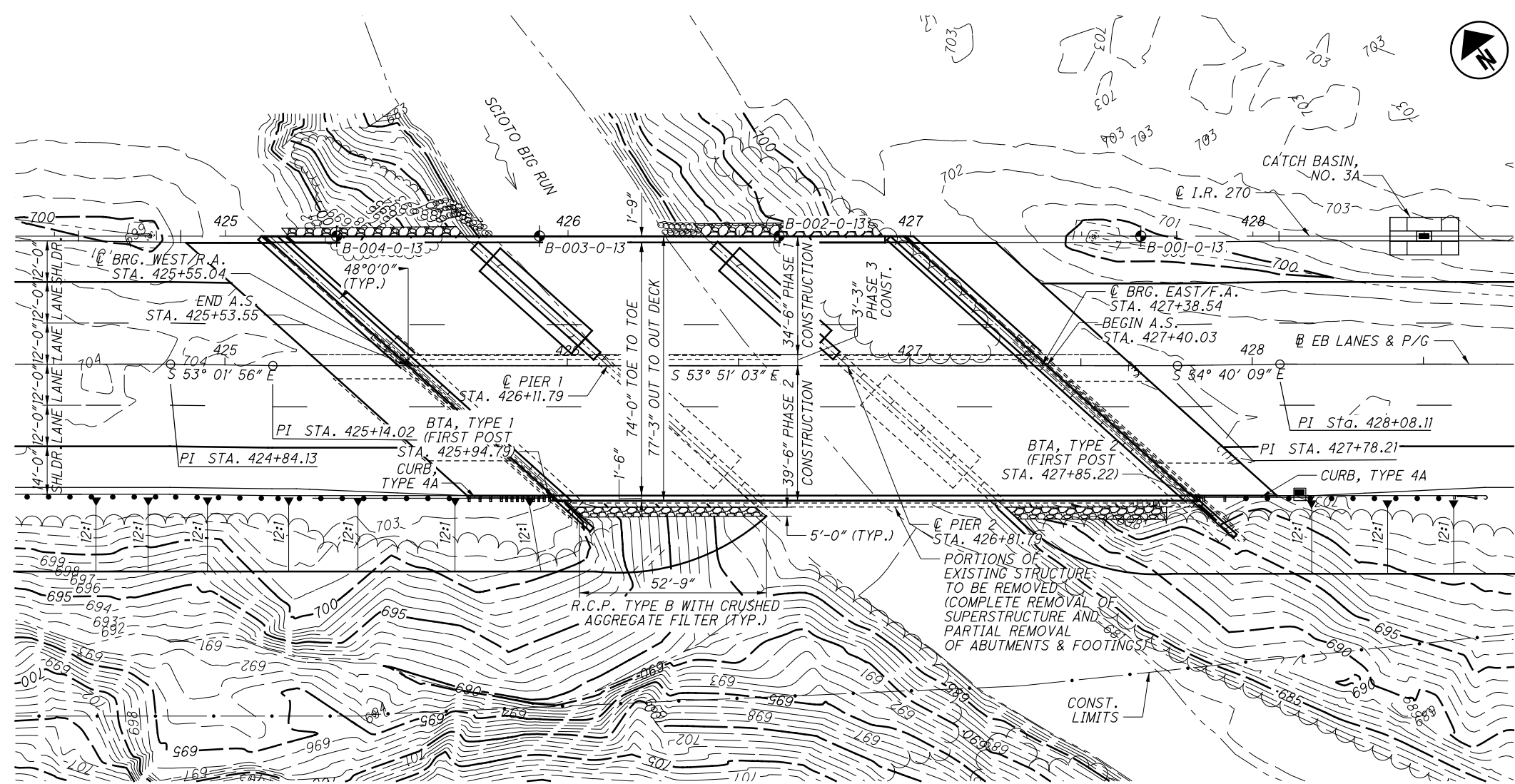
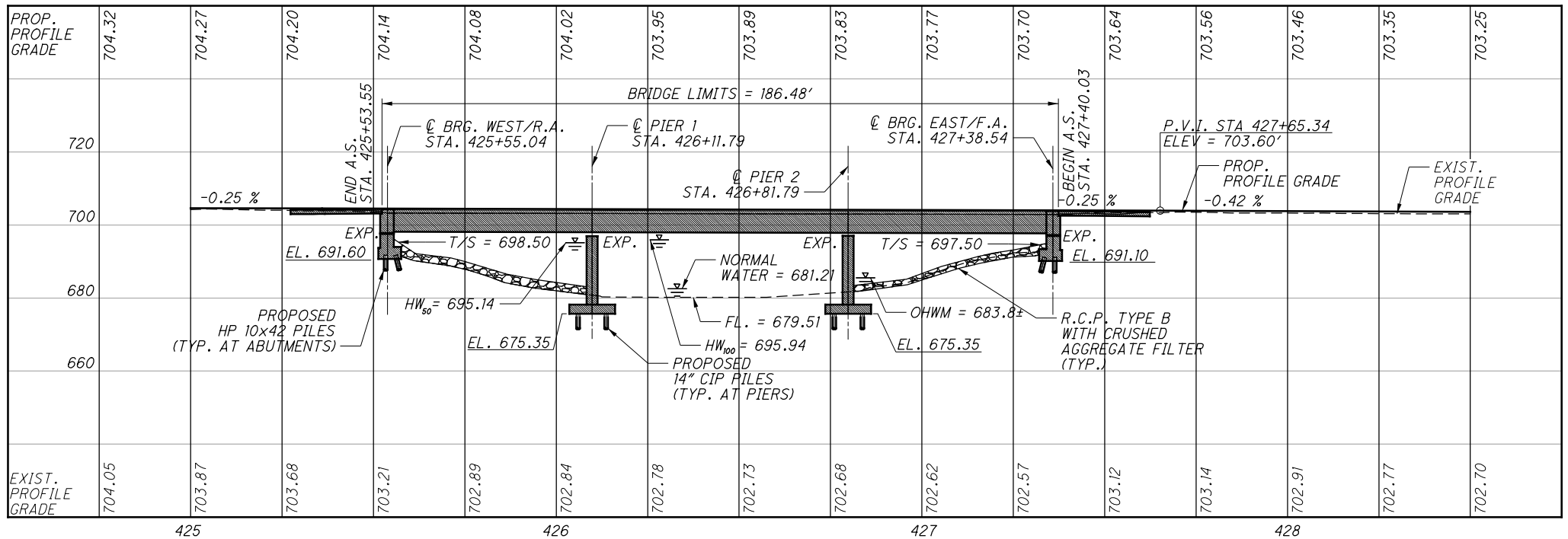


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PLAN



PROFILE ALONG EB LANES & P/G

BENCHMARK DATA			
BM #1 STA. 498+64.23	ELEV. 696.27	OFFSET 433.17' RT.	
BM #2 STA. 499+11.46	ELEV. 694.52	OFFSET 85.07' RT.	
BM #3 STA. 499+23.96	ELEV. 696.90	OFFSET 208.14' LT.	
BM #4 STA. 499+33.39	ELEV. 696.29	OFFSET 63.28' LT.	

* - ALL OFFSETS OFF @ I.R. 270

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- RIGHT BRIDGE NOT SHOWN FOR CLARITY.

DESIGN TRAFFIC:

2012 ADT = 83,310 2012 ADTT = 15,829
 2032 ADT = 109,160 2032 ADTT = 20,741
 DIRECTIONAL DISTRIBUTION = 53%

LEGEND

◆ BORING LOCATION

ESTIMATED PILE LENGTHS:

ABUTMENTS: 40'-0"
 PIERS 1 & 2: 25'-0"

HYDRAULIC DATA

DRAINAGE AREA = 25.1 SQ. MILES
 Q (50) = 3870 CFS V (50) = 2.81 FT/S
 Q (100) = 4440 CFS V (100) = 2.98 FT/S
 STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 3.95 FEET.

EXISTING STRUCTURE

TYPE: 3 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
 SPANS: 56'-0", 70'-0", 56'-0" @ BRG. TO @ BRG.
 ROADWAY: 42'-0" F/F OF PARAPETS
 LOADING: CF- 2000 (1957)
 SKEW: 48°00'00" R.F.
 APPROACH SLABS: 25'-0" LONG (AS-1-54)
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 ALIGNMENT: TANGENT
 CROWN: 3/16" PER FOOT
 STRUCTURE FILE NUMBER: 2513293
 DATE BUILT: 1962
 DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

PROPOSED WORK: REHABILITATE SUPERSTRUCTURE AND SUBSTRUCTURE, WIDEN PIER & ABUTMENT SUBSTRUCTURE AND CHANGE ABUTMENTS TO SEMI-INTEGRAL
 TYPE: 3 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SEMI-INTEGRAL ABUTMENTS
 SPANS: 56'-9", 70'-0", 56'-9" @ BRG. TO @ BRG.
 ROADWAY: 74'-0" TOE/TOE PARAPET
 LOADING: HS20 CASE I AND ALTERNATE MILITARY
 SKEW: 48°00'00" R.F.
 FWS LOADING: 60 PSF
 APPROACH SLABS: 25'-0" LONG (AS-1-81)
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 ALIGNMENT: TANGENT
 CROWN: 0.016 FT/FT
 COORDINATES: LATITUDE N 39°53'13"
 LONGITUDE W 83°01'45"

BUO BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

DESIGN AGENCY
 BARR & PREVOST
 2800 CORPORATE EXCHANGE DR., STE 240
 COLUMBUS, OH 43231
 (614) 714-0270 FAX (614) 714-0333

DATE
 10/2013

REVIEWED
 NCM
 STRUCTURE FILE NUMBER
 2513293

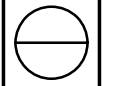
DRAWN
 PPA
 CHECKED
 JEP

DESIGNED
 PPA
 FRANKLIN COUNTY
 STA. 425+53.55
 STA. 427+40.03

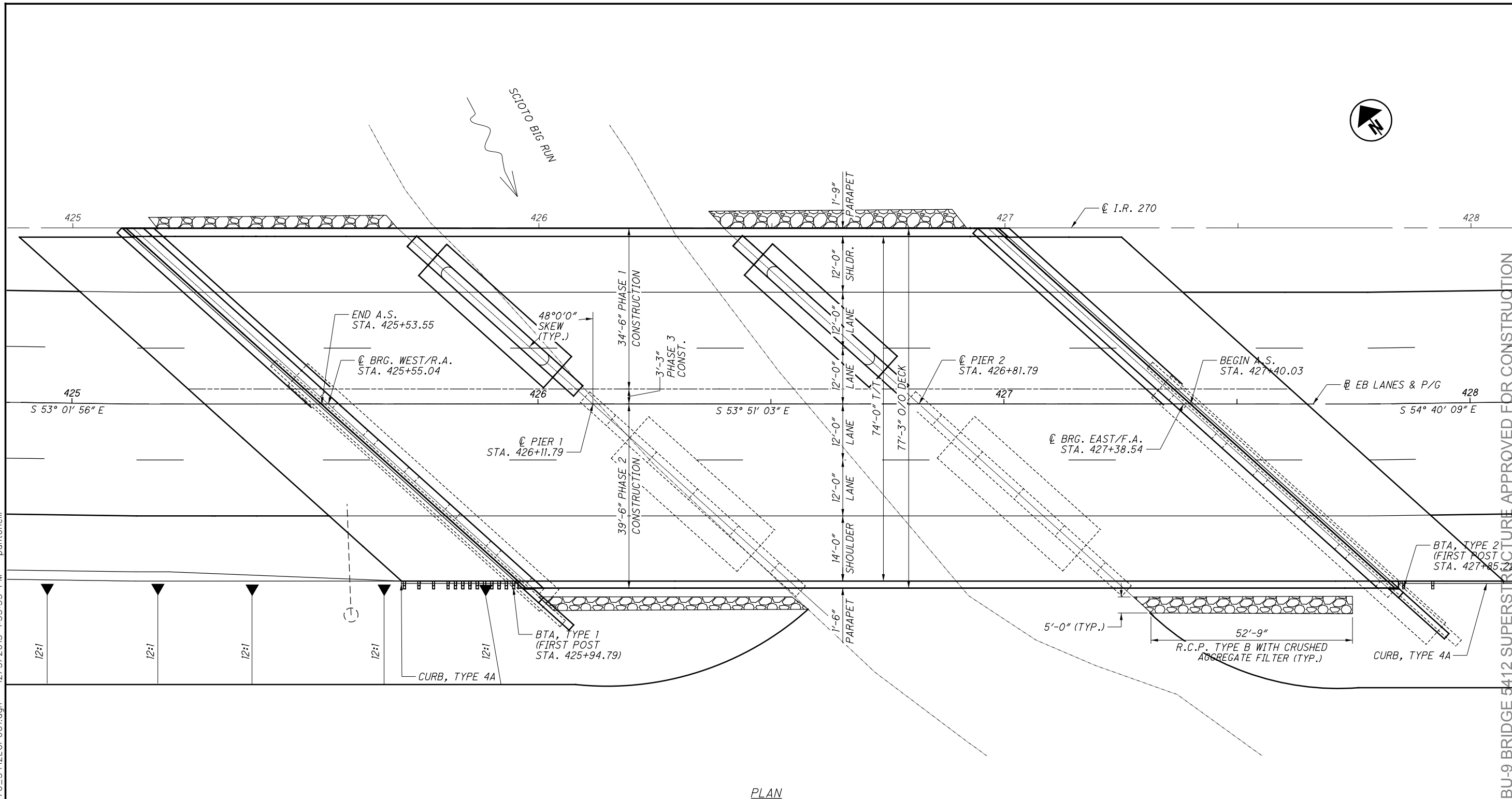
SITE PLAN

BRIDGE NO. FRA-270-5412 L
 OVER SCIOTO BIG RUN

FRA-270-52.72
 PID No. 92610



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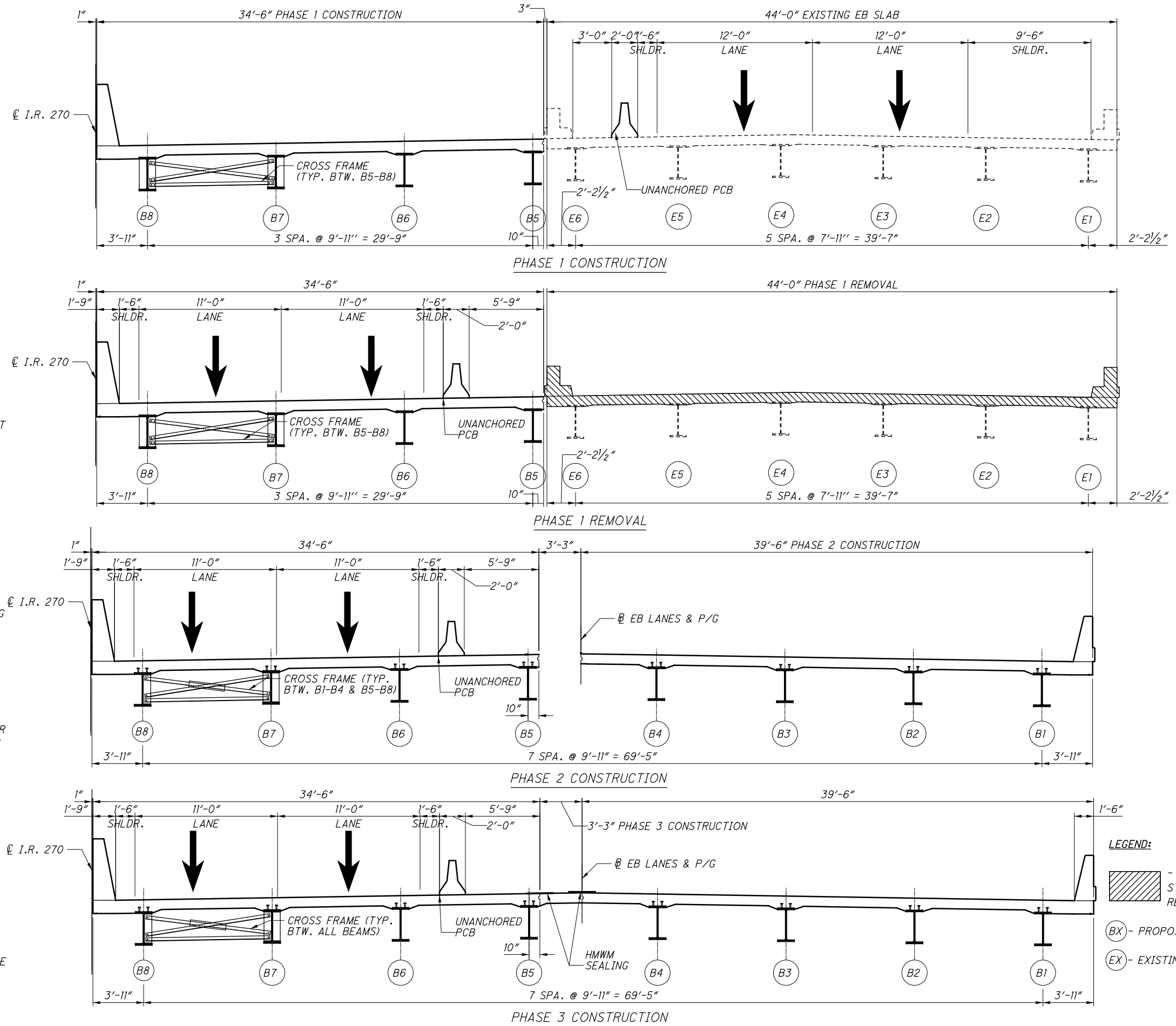
PLAN

NOTES:
1. SEE SHEET 2/41 FOR SITE PLAN.

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

FRA-270-52.72 PID No. 92610	GENERAL PLAN BRIDGE NO. FRA-270-5412 L OVER SCIOTO BIG RUN		DESIGNED RTF	DRAWN CSW	REVIEWED JEP	DATE 11/2013	DESIGN AGENCY BARR & PREVOST 2800 CORPORATE EXCHANGE DR., STE 240 COLUMBUS, OH 4321 (614) 714-0270 FAX (614) 714-0323
	3 / 41	CHECKED NCM	REVISED	STRUCTURE FILE NUMBER 2513293	STRUCTURE FILE NUMBER 2513293	STRUCTURE FILE NUMBER 2513293	STRUCTURE FILE NUMBER 2513293

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CONSTRUCTION SEQUENCE:

PHASE 1 CONSTRUCTION:

SET UNANCHORED PCB 3'-0" OFF EXISTING TOE OF PARAPET. CONSTRUCT NEW BEAMS 5-8 ON PROPOSED SEMI-INTEGRAL ABUTMENT AND NEW PIERS, INSTALL CROSSFRAMES BETWEEN BEAMS 5-8, POUR DECK AND RAILING TO LIMITS SHOWN IN THE DIAGRAM WHILE MAINTAINING 2 - 12'-0" LANES OF EASTBOUND TRAFFIC ON THE EXISTING STRUCTURE.

PHASE 1 REMOVAL:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED PORTION OF EASTBOUND BRIDGE WITH 2-11'-0" LANES AND AN UNANCHORED BARRIER 5'-9" OFF PHASE 1 LIMITS. REMOVE EXISTING EASTBOUND BEAMS 1-6 DECK AND PORTIONS OF SUBSTRUCTURE.

PHASE 2 CONSTRUCTION:

CONSTRUCT NEW BEAMS 1-4 ON PROPOSED SEMI-INTEGRAL ABUTMENT, INSTALL CROSSFRAMES BETWEEN BEAMS 1-4 AND POUR DECK AND RAILING TO LIMITS SHOWN IN THE DIAGRAM WHILE MAINTAINING THE 2 - 11'-0" LANES OF EASTBOUND TRAFFIC ON THE NEWLY CONSTRUCTED PORTION OF THE EB BRIDGE.

PHASE 3 CONSTRUCTION:

AFTER THE BRIDGE DECK IS CURED, CONSTRUCT THE 3'-3" CLOSURE POUR AND SEAL PHASE CONSTRUCTION JOINTS WITH 2'-0" HMWM RESIN, CENTERED ON EACH JOINT AND CONSTRUCT CROSSFRAME BETWEEN BEAMS 4 AND 5 BEFORE OPENING TO TRAFFIC. REMOVE UNANCHORED BARRIER INSTALLED DURING PHASE 1 REMOVAL BEFORE OPENING TO TRAFFIC. SEE SHEET 9/41, TRANSVERSE SECTION, FOR FINAL LAYOUT.

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

PHASE CONSTRUCTION DETAILS

BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

FRA-270-52.72

PID No. 92610

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DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

DATE
11/2013

DESIGNED
PPA

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CSW

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NCM

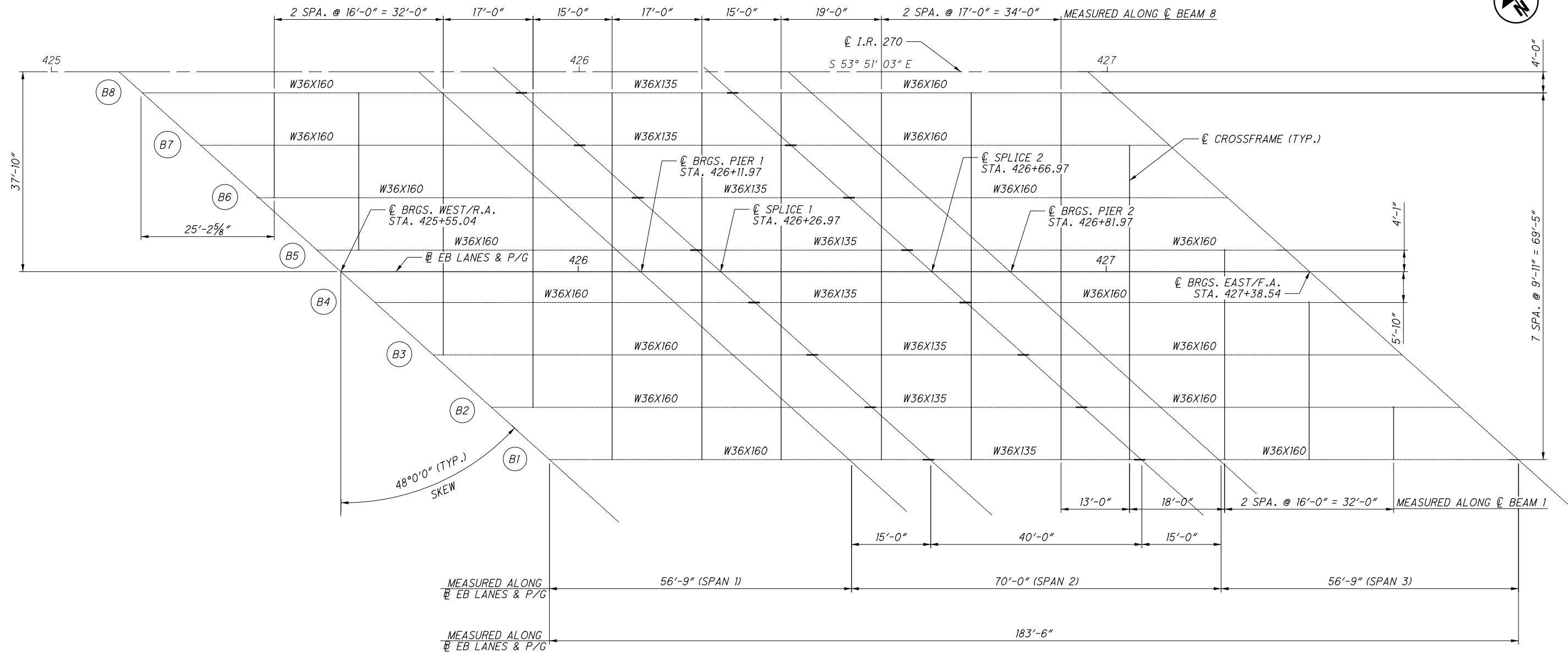
REVIEWED
JEP

STRUCTURE FILE NUMBER
2513293

2513293

LEGEND:
- PORTION OF EXISTING STRUCTURE TO BE REMOVED
(BX) - PROPOSED BEAM NUMBER
(EX) - EXISTING BEAM NUMBER

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FRAMING PLAN

LEGEND:

(BX) PROPOSED BEAM DESIGNATION

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

FRAMING PLAN

BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

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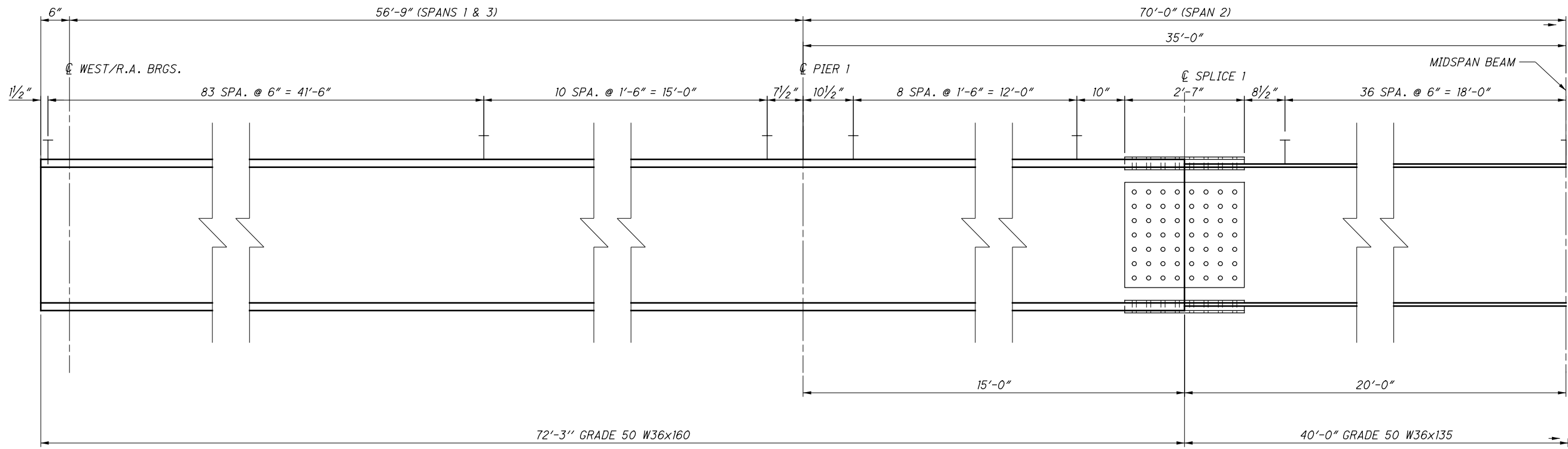
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2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
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STRUCTURE FILE NUMBER
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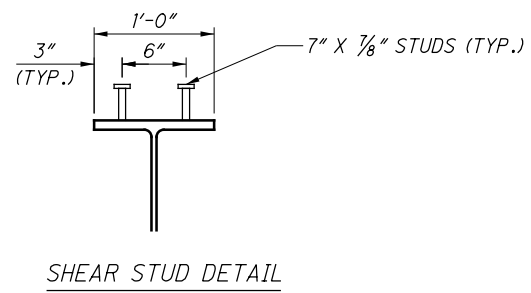
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REVISED
JEP



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TYPICAL BEAM ELEVATION
(MIRRORED ABOUT MIDSPAN BEAM)



SHEAR STUD DETAIL

NOTES:

1. SEE SHEET 7/41 FOR FIELD SPLICE DETAILS.

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

SUPERSTRUCTURE DETAILS

BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

FRA-270-52.72

PID No. 92610

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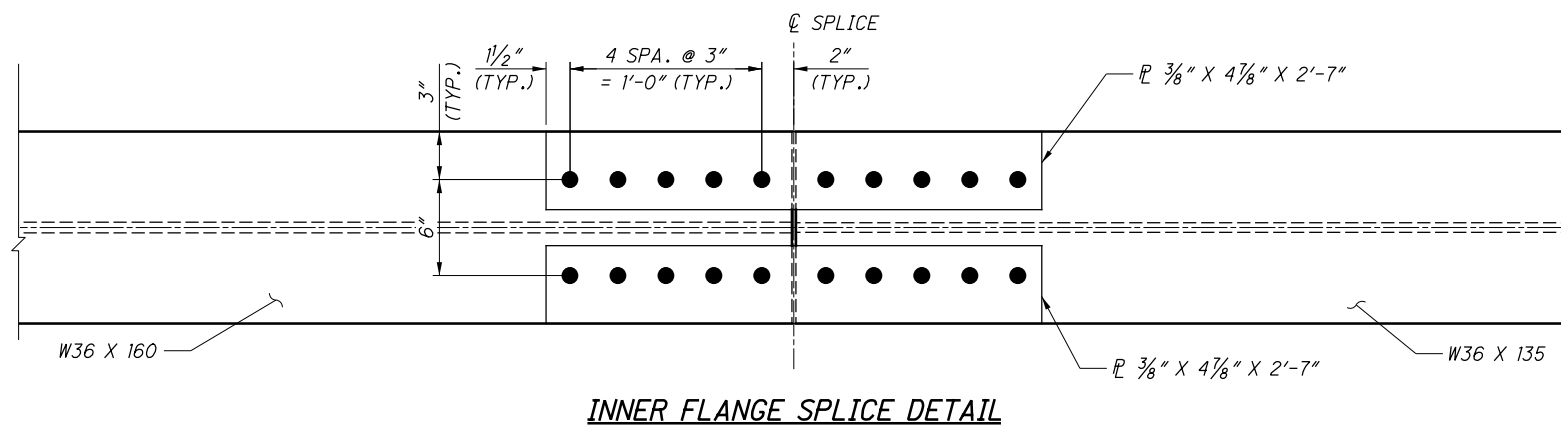
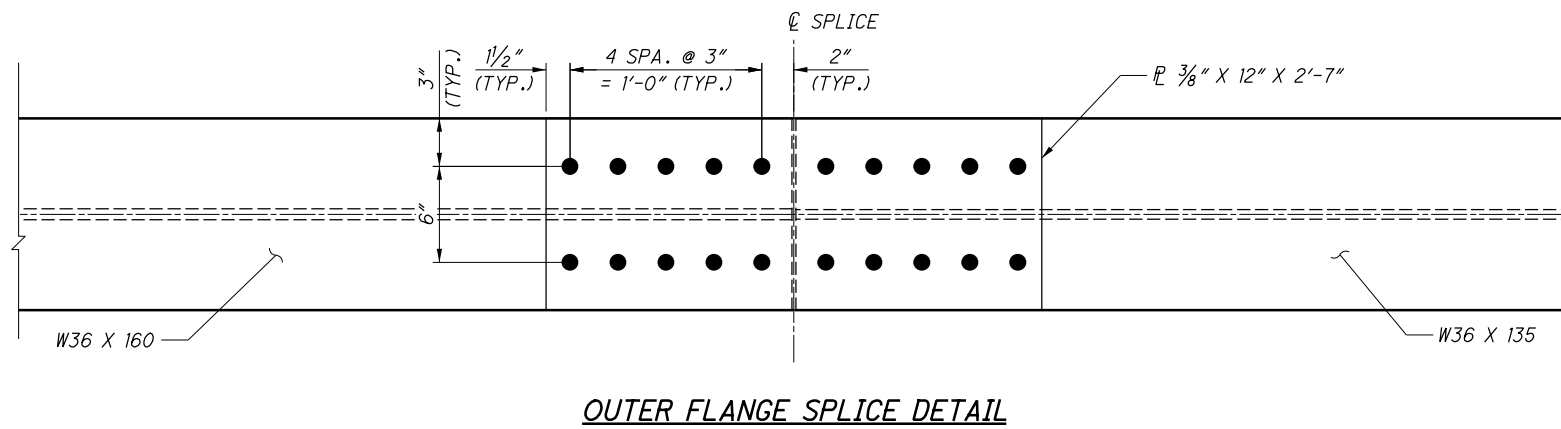
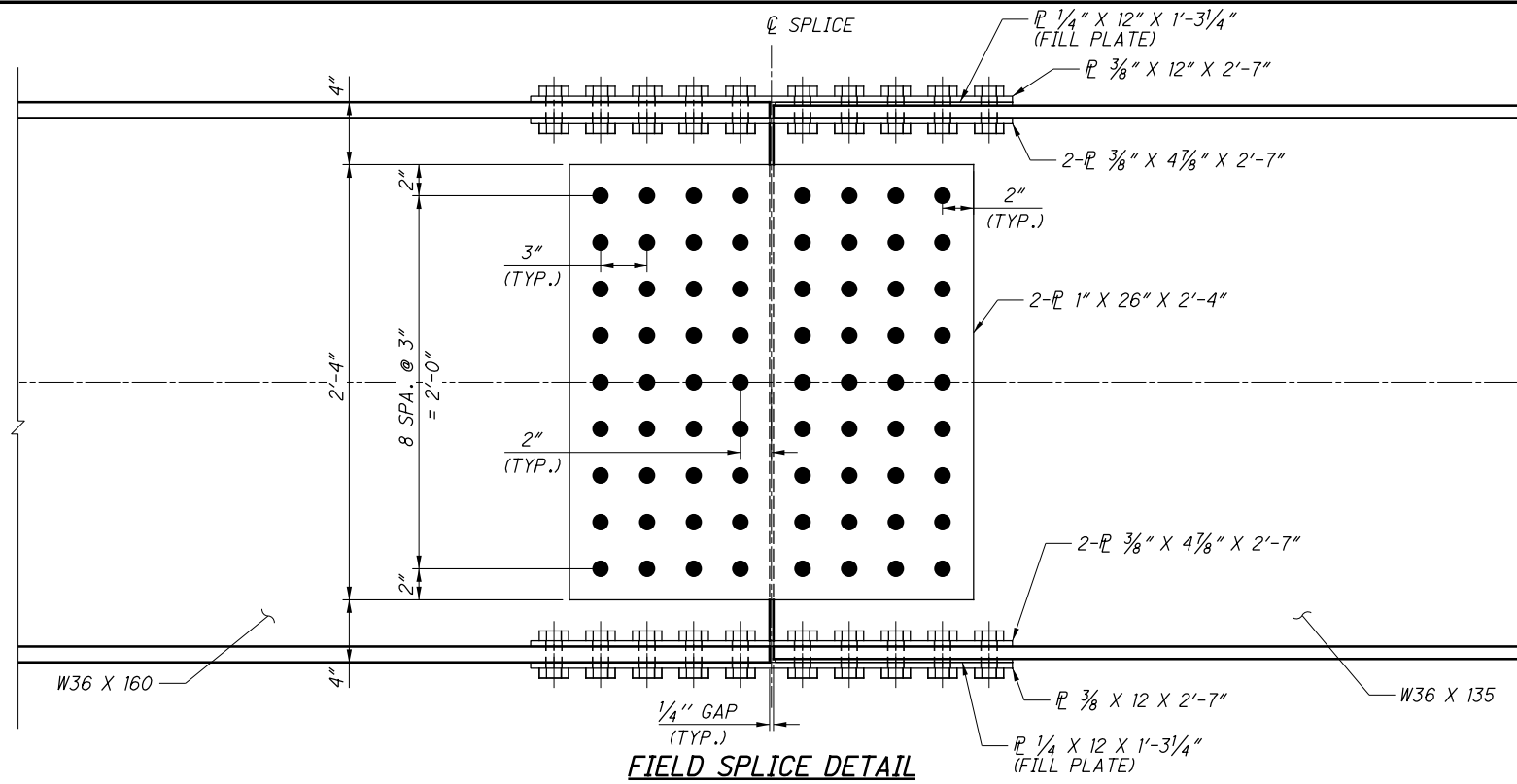
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PPA/JAD

STRUCTURE FILE NUMBER
2513293

REVISED

REVISOR



NOTES:

1. ALL MATERIAL IN FIELD SPLICES SHALL BE "CVN." FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01. ALL PLATES SHALL BE ASTM A709 GRADE 50W UNLESS OTHERWISE NOTED.
2. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER A325 TYPE III UNLESS OTHERWISE NOTED.

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

FIELD SPLICE DETAILS
BRIDGE. NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

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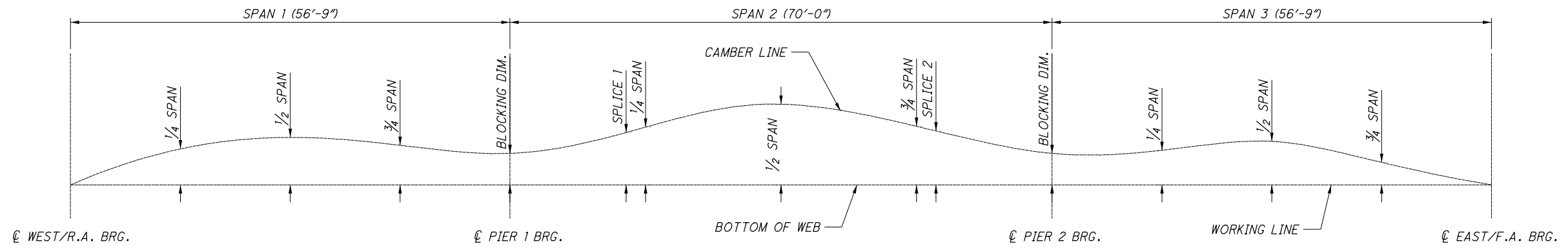


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COLUMBUS, OH 43231
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REVISOR

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JAD



CAMBER & BLOCKING DIAGRAM

BEAMS 1 & 8 (EXTERIOR) - DEFLECTION & CAMBER															
	CL R.A. BRG.	SPAN 1			CL PIER 1 BRG.	SPAN 2					CL PIER 2 BRG.	SPAN 3			CL F.A. BRG.
		1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/16 "	1/16 "	1/16 "	0"	1/16 "	1/16 "	1/16 "	1/16 "	1/16 "	0"	1/16 "	1/16 "	1/16 "	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	0"	5/16 "	3/8 "	3/16 "	0"	1/4 "	5/16 "	9/16 "	5/16 "	1/4 "	0"	3/16 "	3/8 "	5/16 "	0"
TOTAL REQUIRED SHOP CAMBER	0"	3/8 "	7/16 "	1/4 "	0"	5/16 "	3/8 "	5/8 "	3/8 "	5/16 "	0"	1/4 "	7/16 "	3/8 "	0"

BEAMS 2 THRU 7 (INTERIOR) - DEFLECTION & CAMBER															
	CL R.A. BRG.	SPAN 1			CL PIER 1 BRG.	SPAN 2					CL PIER 2 BRG.	SPAN 3			CL F.A. BRG.
		1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/16 "	1/16 "	1/16 "	0"	1/16 "	1/16 "	1/16 "	1/16 "	1/16 "	0"	1/16 "	1/16 "	1/16 "	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	0"	3/8 "	7/16 "	3/16 "	0"	5/16 "	3/8 "	5/8 "	3/8 "	5/16 "	0"	3/16 "	7/16 "	3/8 "	0"
TOTAL REQUIRED SHOP CAMBER	0"	7/16 "	1/2 "	1/4 "	0"	3/8 "	7/16 "	11/16 "	7/16 "	3/8 "	0"	1/4 "	1/2 "	7/16 "	0"

BEAMS 1 & 8 (EXTERIOR) BLOCKING DIAGRAM															
	CL R.A. BRG. BLOCKING DIM.	SPAN 1			CL PIER 1 BRG. BLOCKING DIM.	SPAN 2					CL PIER 2 BRG. BLOCKING DIM.	SPAN 3			CL F.A. BRG. BLOCKING DIM.
		1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
OFFSET FROM WORKING LINE	0"	3/8 "	7/16 "	1/4 "	0"	5/16 "	3/8 "	5/8 "	3/8 "	5/16 "	0"	1/4 "	7/16 "	3/8 "	0"

BEAMS 2 THRU 7 (INTERIOR) BLOCKING DIAGRAM															
	CL R.A. BRG. BLOCKING DIM.	SPAN 1			CL PIER 1 BRG. BLOCKING DIM.	SPAN 2					CL PIER 2 BRG. BLOCKING DIM.	SPAN 3			CL F.A. BRG. BLOCKING DIM.
		1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
OFFSET FROM WORKING LINE	0"	7/16 "	1/2 "	1/4 "	0"	3/8 "	7/16 "	11/16 "	7/16 "	3/8 "	0"	1/4 "	1/2 "	7/16 "	0"

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

SUPERSTRUCTURE DETAILS - CAMBER & BLOCKING DIAGRAM

BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

FRA - 270-52.72

PID No. 92610

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DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

DATE
11/2013

REVIEWED
PPA

DESIGNED
PPA

DRAWN
PPA

CHECKED
JEP

STRUCTURE FILE NUMBER
2513293

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JEP

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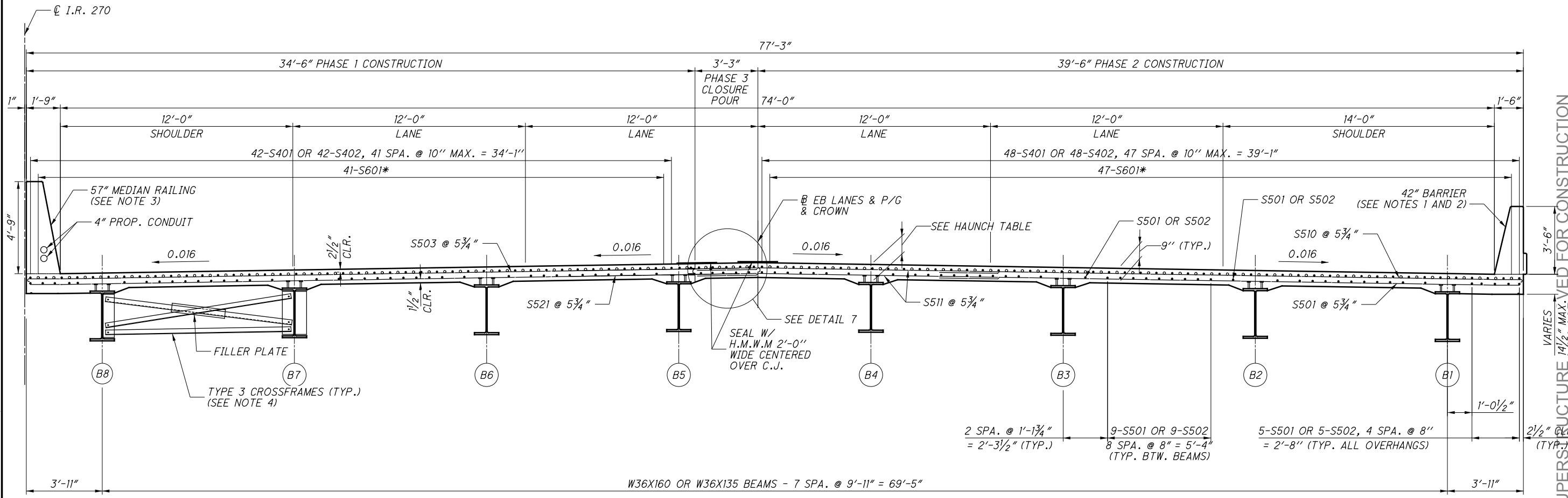
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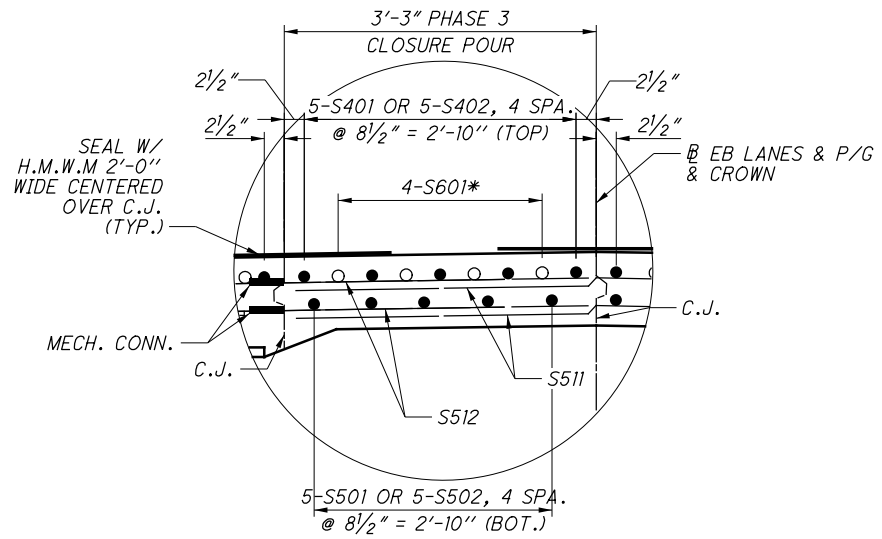
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TRANSVERSE SECTION



DETAIL 7

HAUNCH TABLE		
BEAM	PIER 1	PIER 2
1	4 1/8"	4"
2	2 3/4"	2 3/8"
3	3 3/8"	3 1/4"
4	4"	5 1/2"

ALL HAUNCHES 2" UNLESS NOTED IN THIS TABLE

NOTES:

1. SEE STD. DWG. SBR-1-99 FOR ADDITIONAL INFORMATION.
2. SEE SHEET 16/41 AND FOR 42" BARRIER DETAILS & SEALING OF SURFACES.
3. SEE SHEET 17/41 AND 57" MEDIAN DETAILS & SEALING OF SURFACES.
4. SEE STD. DWG. GSD-1-19 FOR ADDITIONAL INFORMATION.
5. SEE SHEET 10/41 AND 11/41 FOR DECK PLANS.
6. SEE SHEET 20/41 FOR REINFORCING SCHEDULE.
7. MINIMUM LAP LENGTHS: #4 BAR = 1'-11"; #5 BAR = 3'-2".

LEGEND:

- (BX) PROPOSED BEAM DESIGNATION
- * - #6 BARS TO BE SPACED EQUALLY BETWEEN S401 BARS OVER PIERS

BU-9 BRIDGE 5412 SUPERSTRUCTURE 14 1/2" MAX. VED FOR CONSTRUCTION

TRANSVERSE SECTION
BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

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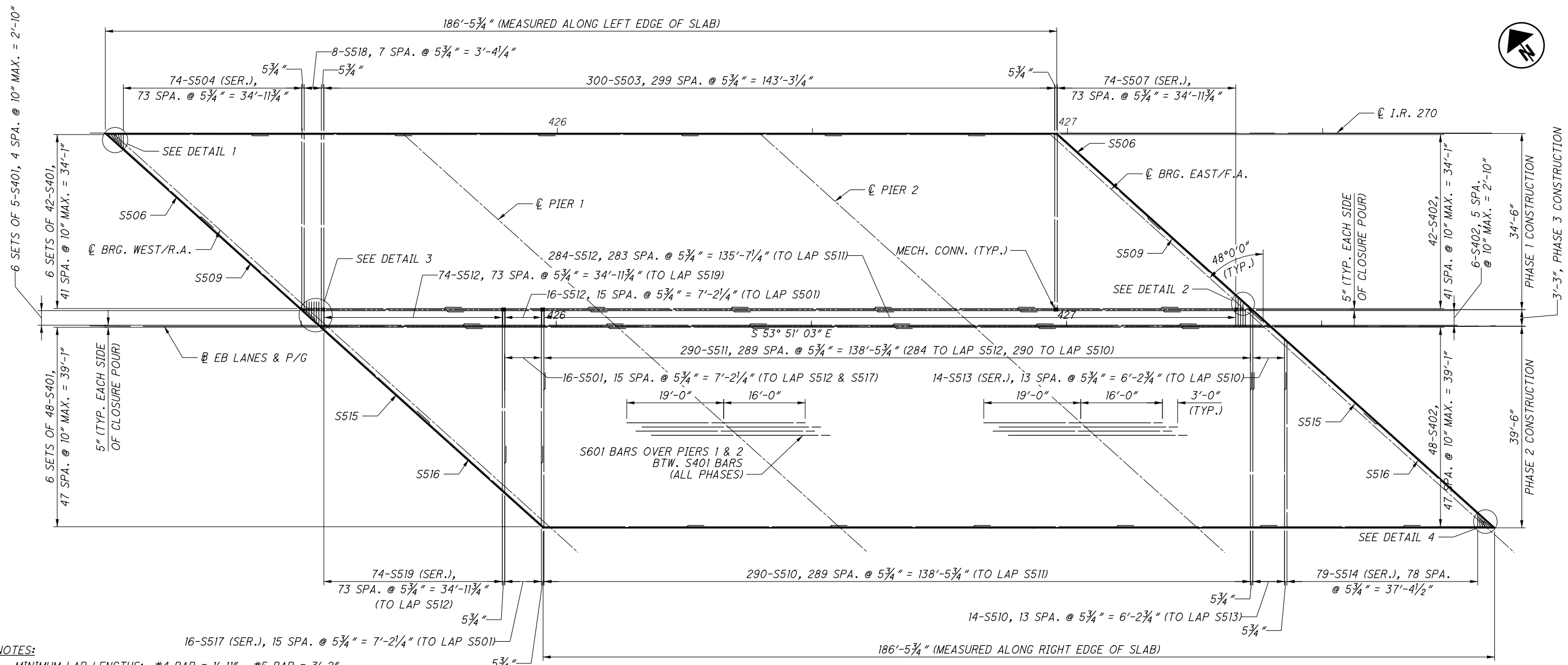
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BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
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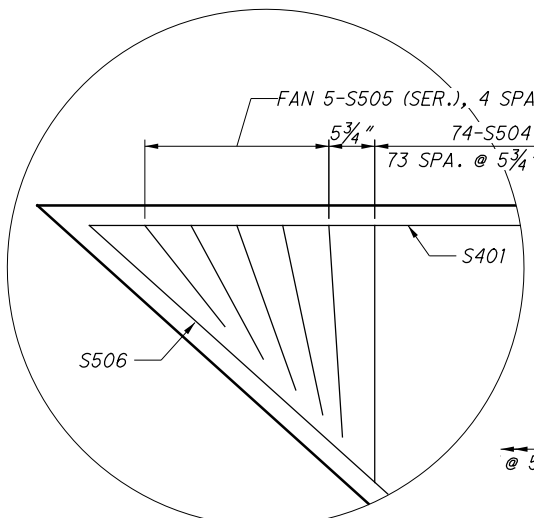
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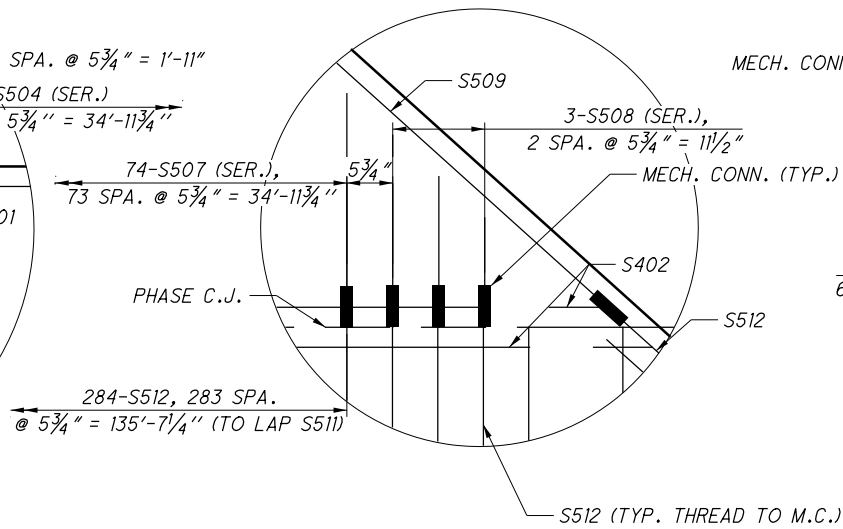
NOTES:

1. MINIMUM LAP LENGTHS: #4 BAR = 1'-11" #5 BAR = 3'-2"
2. SEE SHEET 11/41 FOR BOTTOM REINFORCING STEEL LAYOUT.
3. SEE SHEET 9/41 FOR TRANSVERSE SECTION.
4. SEE SHEET 20/41 FOR REINFORCING SCHEDULE.
5. S503, S507, S508, S509, S518, S521 & S523 HAVE MECHANICAL CONNECTORS. S512 AND S520 THREAD TO MECHANICAL CONNECTORS. (MECHANICALLY CONNECTED BAR LENGTHS MEASURED TO PHASE CONSTRUCTION LINE)

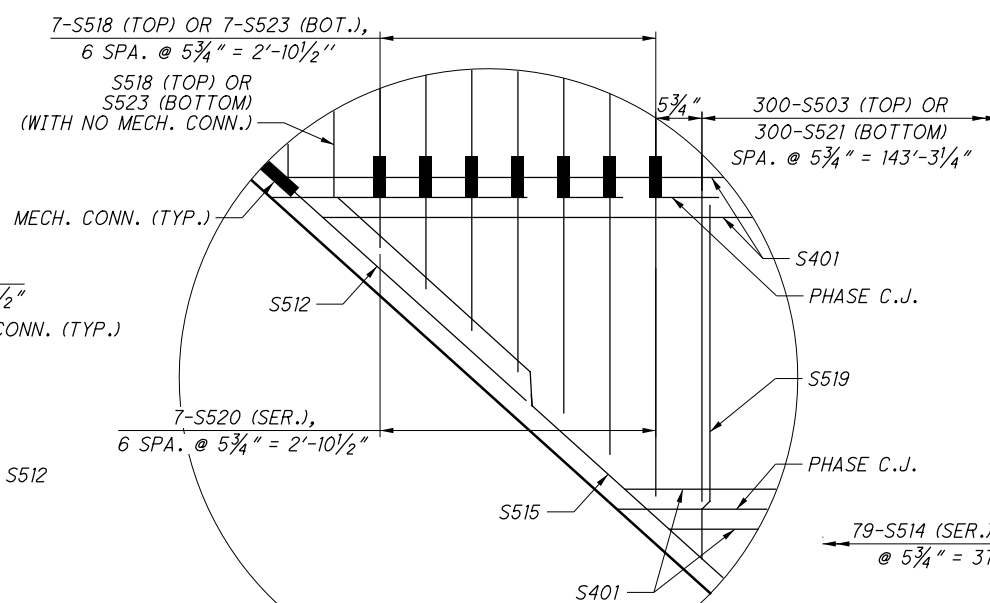
DECK PLAN - TOP REINFORCING STEEL



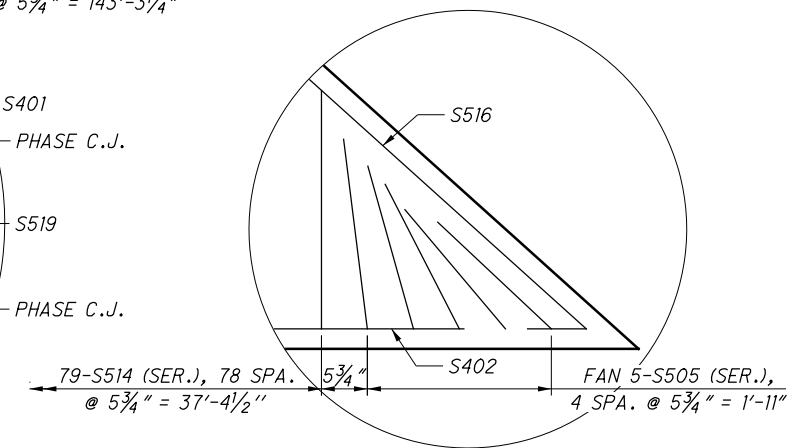
DETAIL 1



DETAIL 2



DETAIL 3



DETAIL 4

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

DECK PLAN TOP REINFORCING

BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

FRA-270-52.72

PID No. 92610

10/41

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
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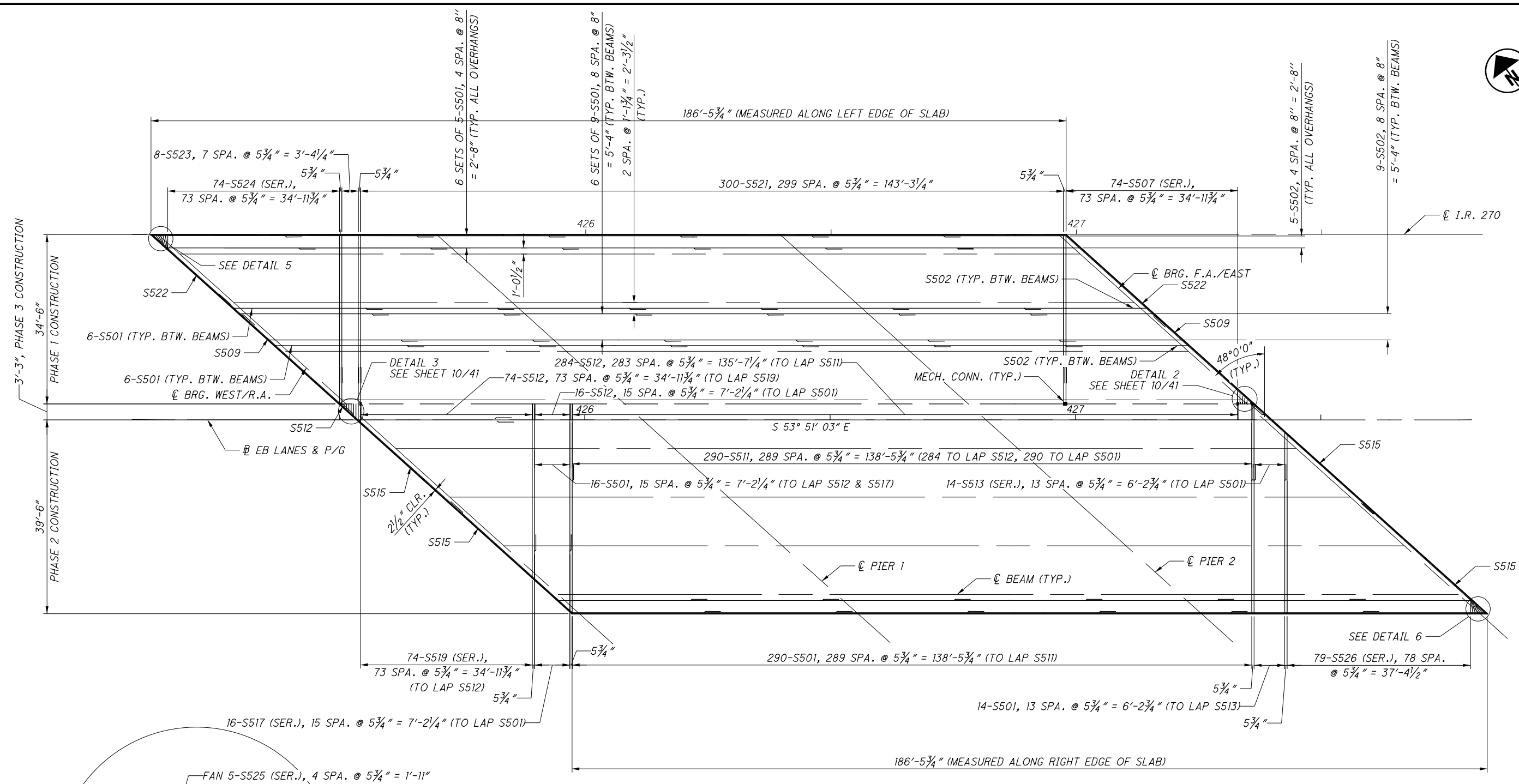
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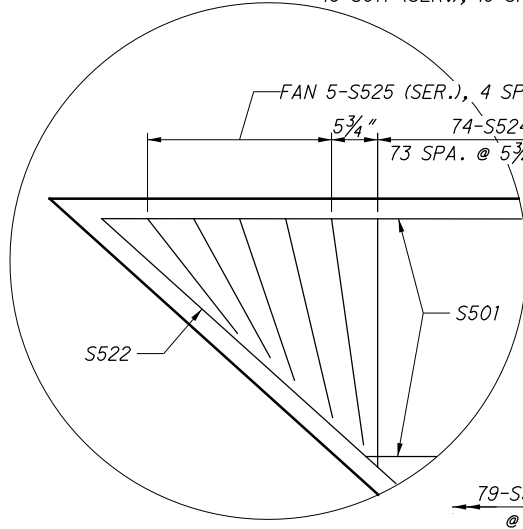
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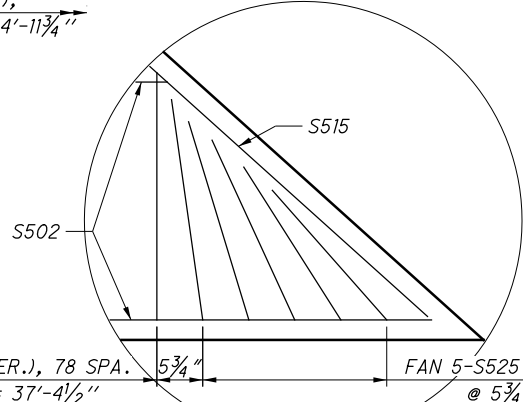
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DECK PLAN - BOTTOM REINFORCING STEEL



DETAIL 5



DETAIL 6

- NOTES:
1. MINIMUM LAP LENGTHS: #4 BAR = 1'-11" #5 BAR = 3'-2"
 2. SEE SHEET 10/41 FOR TOP REINFORCING STEEL LAYOUT.
 3. SEE SHEET 9/41 FOR TRANSVERSE SECTION.
 4. SEE SHEET 20/41 FOR REINFORCING SCHEDULE.
 5. S503, S507, S508, S509, S518, S521 & S523 HAVE MECHANICAL CONNECTORS. S512 AND S520 THREAD TO MECHANICAL CONNECTORS. (MECHANICALLY CONNECTED BAR LENGTHS MEASURED TO PHASE CONSTRUCTION LINE)

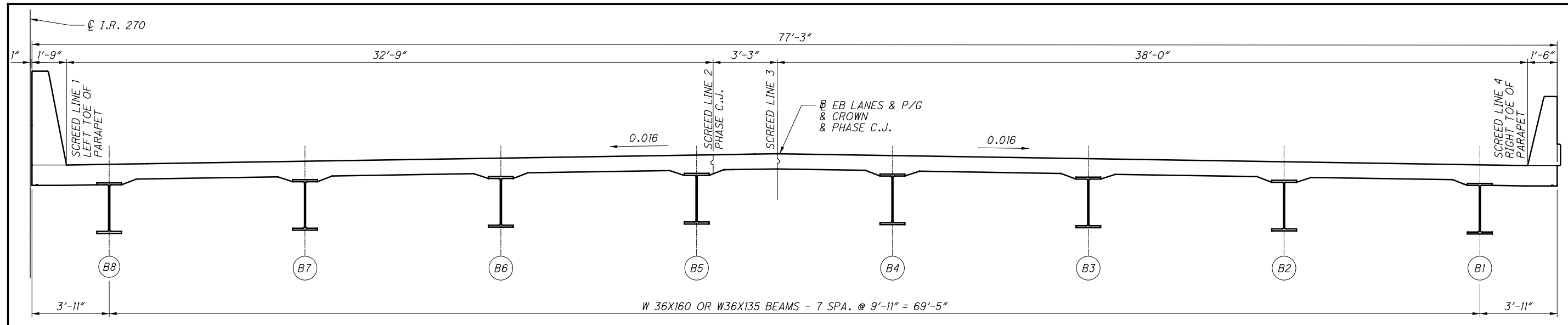
BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION
 DECK PLAN BOTTOM REINFORCING
 BRIDGE NO. FRA-270-5412 L
 OVER SCIOTO BIG RUN

DESIGNED	RT	CHECKED	NCM/PPA	DATE	11/2013
DRAWN	RTF	REVISED		REVIEWED	JEP
STRUCTURE FILE NUMBER			2513293		
DESIGN AGENCY			BARR & PREVOST		
2800 CORPORATE EXCHANGE DR., STE 240			COLUMBUS, OH 43231		
(614) 714-0270			FAX (614) 714-0323		

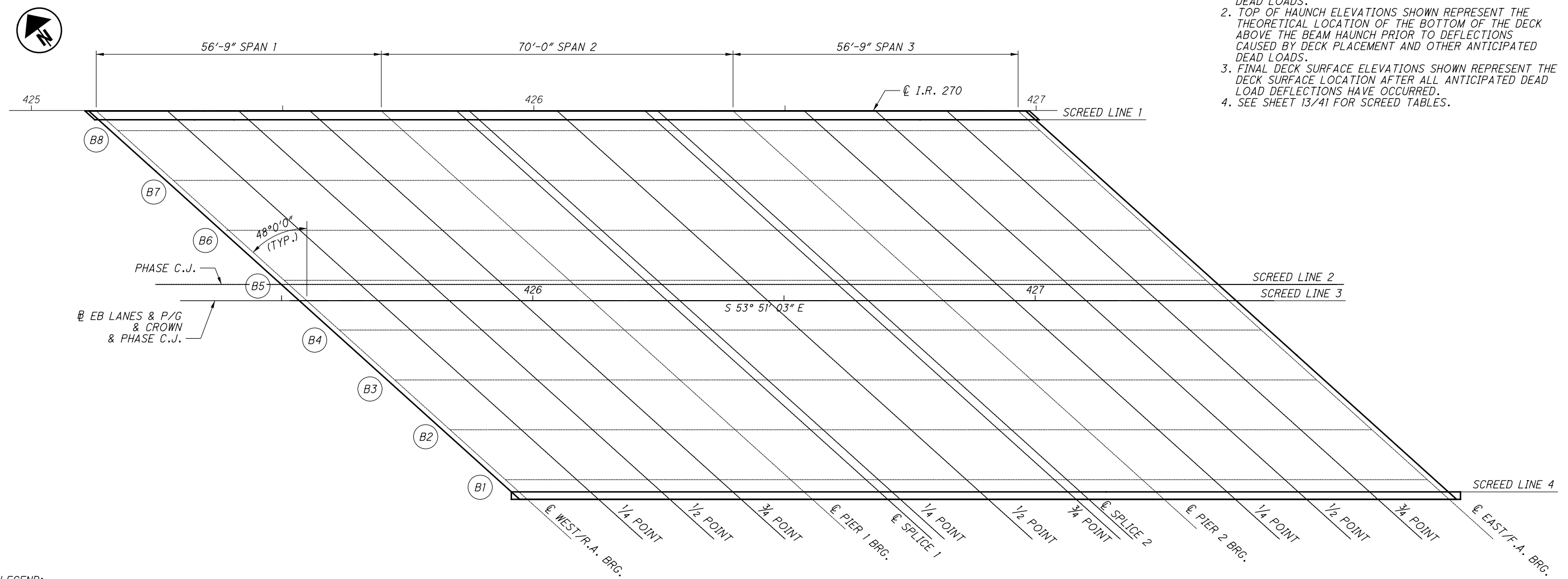
FRA-270-52.72
 PID No. 92610

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TRANSVERSE SECTION



PLAN VIEW

NOTES:

1. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. SEE SHEET 13/41 FOR SCREED TABLES.

LEGEND:
 (BX) PROPOSED BEAM DESIGNATION

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION
 SCREED, TOP OF HAUNCH & FINAL DECK ELEVATIONS
 BRIDGE NO. FRA-270-5412 L
 OVER SCIOTO BIG RUN

DESIGNED	PPA	CHECKED	NCM
DRAWN	CSW	REVISED	
REVIEWED	JEP	STRUCTURE FILE NUMBER	2513293
DATE	11/2013		

DESIGN AGENCY
 BARR & PREVOST
 2800 CORPORATE EXCHANGE DR., STE 240
 COLUMBUS, OH 43231
 (614) 714-0270 FAX (614) 714-0323

FRA-270-52.72
 PID No. 92610

12 / 41

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LEFT BRIDGE SCREED & FINAL DECK ELEVATION TABLE																
SCREED LINE	DESCRIPTION	C R.A. BRGS.	SPAN 1			C BRGS. PIER 1	SPAN 2					C BRGS. PIER 2	SPAN 3			C F.A. BRGS.
			1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
LEFT TOE OF PARAPET	STATION	425+15.06	425+29.25	425+43.44	425+57.62	425+71.81	425+86.81	425+89.31	426+06.81	426+24.31	426+26.81	426+41.81	426+56.00	426+70.19	426+84.37	426+98.56
SCREED LINE 1	FINAL DECK EL.	703.66	703.62	703.59	703.55	703.51	703.48	703.47	703.43	703.38	703.38	703.34	703.30	703.27	703.23	703.20
	SCREED EL.	703.66	703.65	703.62	703.57	703.51	703.50	703.50	703.48	703.41	703.40	703.34	703.32	703.30	703.26	703.20
PHASE C.J. 1	STATION	425+51.43	425+65.62	425+79.81	425+93.99	426+08.18	426+23.18	426+25.68	426+43.18	426+60.68	426+63.18	426+78.18	426+92.37	427+06.56	427+20.74	427+34.93
SCREED LINE 2	FINAL DECK EL.	704.07	704.04	704.00	703.97	703.93	703.89	703.89	703.84	703.80	703.79	703.76	703.72	703.69	703.65	703.61
	SCREED EL.	704.07	704.07	704.04	703.98	703.93	703.92	703.92	703.90	703.83	703.82	703.76	703.74	703.72	703.68	703.61
BL EB LANES & P/G & CROWN	STATION	425+55.04	425+69.23	425+83.42	425+97.60	426+11.79	426+26.79	426+29.29	426+46.79	426+64.29	426+66.79	426+81.79	426+95.98	427+10.17	427+24.35	427+38.54
& PHASE C.J. 2	FINAL DECK EL.	704.13	704.10	704.06	704.03	703.99	703.95	703.95	703.90	703.86	703.85	703.82	703.78	703.74	703.71	703.67
SCREED LINE 3	SCREED EL.	704.13	704.13	704.10	704.04	703.99	703.98	703.98	703.96	703.89	703.88	703.82	703.80	703.78	703.74	703.67
RIGHT TOE OF PARAPET	STATION	425+97.25	426+11.44	426+25.63	426+39.81	426+54.00	426+69.00	426+71.50	426+89.00	427+06.50	427+09.00	427+24.00	427+38.18	427+52.37	427+66.56	427+80.20
SCREED LINE 4	FINAL DECK EL.	703.42	703.38	703.35	703.31	703.28	703.24	703.23	703.19	703.15	703.14	703.10	703.07	703.03	703.00	702.96
	SCREED EL.	703.42	703.41	703.38	703.33	703.28	703.26	703.26	703.24	703.17	703.16	703.10	703.08	703.07	703.02	702.96

LEFT BRIDGE TOP OF HAUNCH & FINAL DECK ELEVATION TABLE																
LOCATION	DESCRIPTION	C R.A. BRGS.	SPAN 1			C BRGS. PIER 1	SPAN 2					C BRGS. PIER 2	SPAN 3			C F.A. BRGS.
			1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
BEAM 1	STATION	425+94.56	426+08.75	426+22.94	426+37.12	426+51.31	426+66.31	426+68.81	426+86.31	427+03.81	427+06.31	427+21.31	427+35.50	427+49.69	427+63.87	427+78.06
	FINAL DECK EL.	703.46	703.43	703.39	703.36	703.32	703.28	703.28	703.23	703.19	703.18	703.15	703.11	703.08	703.04	703.01
	TOP HAUNCH	702.71	702.71	702.68	702.62	702.57	702.56	702.56	702.53	702.47	702.46	702.40	702.38	702.36	702.32	702.26
BEAM 2	STATION	425+83.55	425+97.74	426+11.93	426+26.11	426+40.30	426+55.30	426+57.80	426+75.30	426+92.80	426+95.30	427+10.30	427+24.49	427+38.67	427+52.86	427+67.04
	FINAL DECK EL.	703.65	703.61	703.58	703.54	703.51	703.47	703.46	703.42	703.38	703.37	703.33	703.30	703.26	703.23	703.19
	TOP HAUNCH	702.90	702.90	702.87	702.81	702.76	702.74	702.74	702.72	702.66	702.65	702.58	702.57	702.55	702.51	702.44
BEAM 3	STATION	425+72.54	425+86.73	426+00.92	426+15.10	426+29.29	426+44.29	426+46.79	426+64.29	426+81.79	426+84.29	426+99.29	427+13.48	427+27.66	427+41.85	427+56.03
	FINAL DECK EL.	703.84	703.80	703.77	703.73	703.69	703.66	703.65	703.61	703.56	703.56	703.52	703.48	703.45	703.41	703.38
	TOP HAUNCH	703.09	703.08	703.05	703.00	702.94	702.93	702.93	702.91	702.84	702.83	702.77	702.75	702.74	702.70	702.63
BEAM 4	STATION	425+61.52	425+75.71	425+89.90	426+04.08	426+18.27	426+33.27	426+35.77	426+53.27	426+70.77	426+73.27	426+88.27	427+02.46	427+16.65	427+30.83	427+45.02
	FINAL DECK EL.	704.02	703.99	703.95	703.92	703.88	703.84	703.84	703.79	703.75	703.74	703.71	703.67	703.64	703.60	703.56
	TOP HAUNCH	703.27	703.27	703.24	703.18	703.13	703.12	703.12	703.10	703.03	703.02	702.96	702.94	702.92	702.88	702.81
BEAM 5	STATION	425+50.51	425+64.70	425+78.89	425+93.07	426+07.26	426+22.26	426+24.76	426+42.26	426+59.76	426+62.26	426+77.26	426+91.45	427+05.63	427+19.82	427+34.00
	FINAL DECK EL.	704.08	704.04	704.01	703.97	703.94	703.90	703.89	703.85	703.81	703.80	703.76	703.73	703.69	703.66	703.62
	TOP HAUNCH	703.33	703.33	703.30	703.24	703.19	703.17	703.17	703.15	703.09	703.07	703.01	702.99	702.98	702.94	702.87
BEAM 6	STATION	425+39.50	425+53.69	425+67.88	425+82.06	425+96.25	426+11.25	426+13.75	426+31.25	426+48.75	426+51.25	426+66.25	426+80.44	426+94.62	427+08.81	427+22.99
	FINAL DECK EL.	704.40	704.36	704.32	704.29	704.25	704.22	704.21	704.17	704.12	704.12	704.08	704.04	704.01	703.97	703.94
	TOP HAUNCH	703.65	703.64	703.61	703.56	703.50	703.49	703.49	703.47	703.40	703.39	703.33	703.31	703.30	703.25	703.19
BEAM 7	STATION	425+28.48	425+42.67	425+56.86	425+71.04	425+85.23	426+00.23	426+02.73	426+20.23	426+37.73	426+40.23	426+55.23	426+69.42	426+83.61	426+97.79	427+11.98
	FINAL DECK EL.	703.82	703.78	703.75	703.71	703.67	703.64	703.63	703.59	703.54	703.54	703.50	703.46	703.43	703.39	703.36
	TOP HAUNCH	703.07	703.06	703.03	702.98	702.92	702.91	702.91	702.89	702.82	702.81	702.75	702.73	702.72	702.67	702.61
BEAM 8	STATION	425+17.47	425+31.66	425+45.85	425+60.03	425+74.22	425+89.22	425+91.72	426+09.22	426+26.72	426+29.22	426+44.22	426+58.41	426+72.59	426+86.78	427+00.96
	FINAL DECK EL.	703.69	703.65	703.61	703.58	703.54	703.51	703.50	703.46	703.41	703.41	703.37	703.33	703.30	703.26	703.23
	TOP HAUNCH	702.94	702.93	702.90	702.84	702.79	702.78	702.78	702.75	702.69	702.68	702.62	702.60	702.58	702.54	702.48

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

SCREED, TOP OF HAUNCH & FINAL DECK ELEVATIONS

BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

13/41



DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

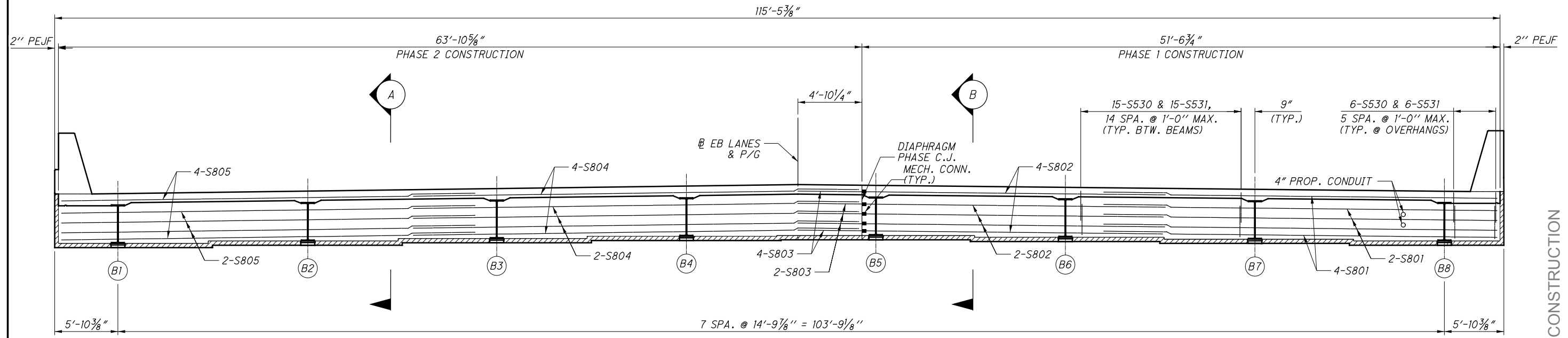
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STRUCTURE FILE NUMBER
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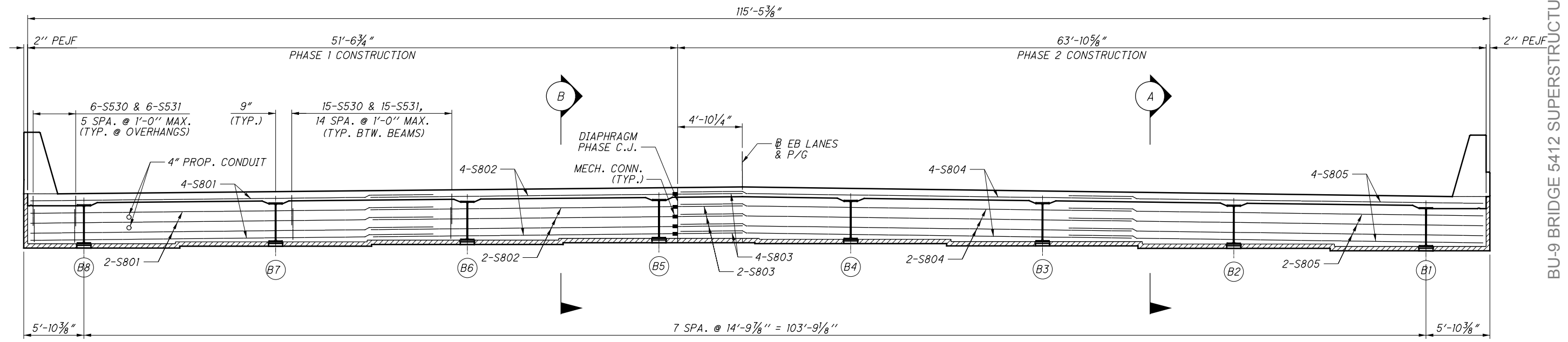
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REAR/WEST DIAPHRAGM ELEVATION
(DIMENSIONS MEASURED ALONG C. BRG. WEST/R.A.)
(NEOPRENE SHEETING NOT SHOWN FOR CLARITY)



FORWARD/EAST DIAPHRAGM ELEVATION
(DIMENSIONS MEASURED ALONG C. BRG. EAST/F.A.)
(NEOPRENE SHEETING NOT SHOWN FOR CLARITY)

LEGEND:
(BX) - PROPOSED BEAM DESIGNATION

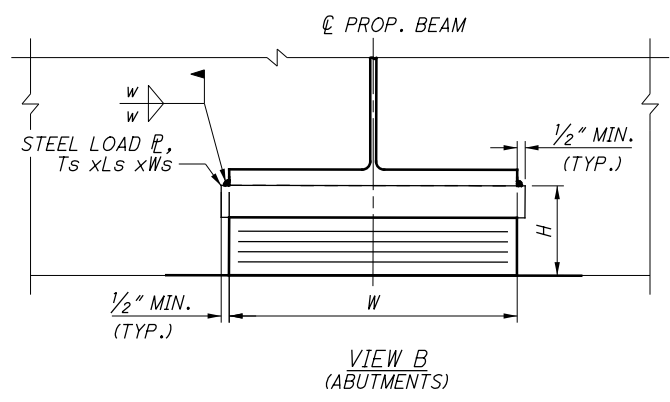
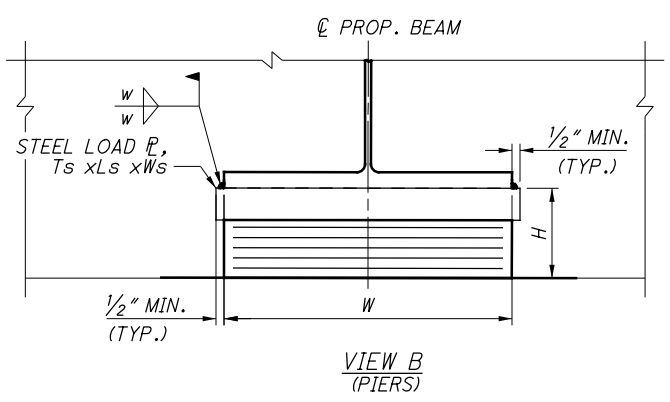
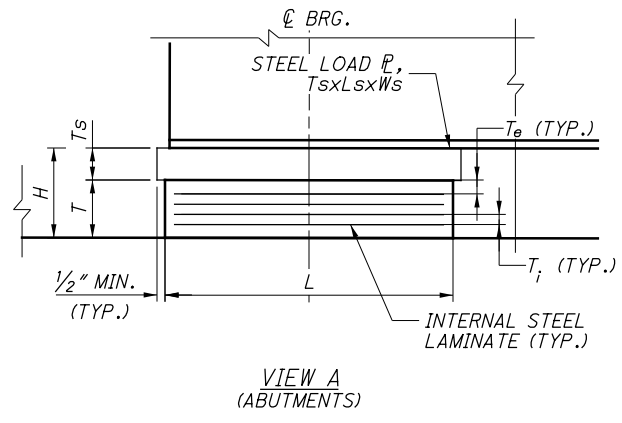
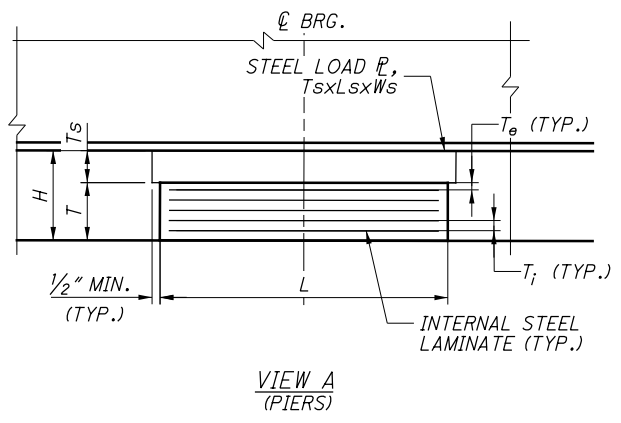
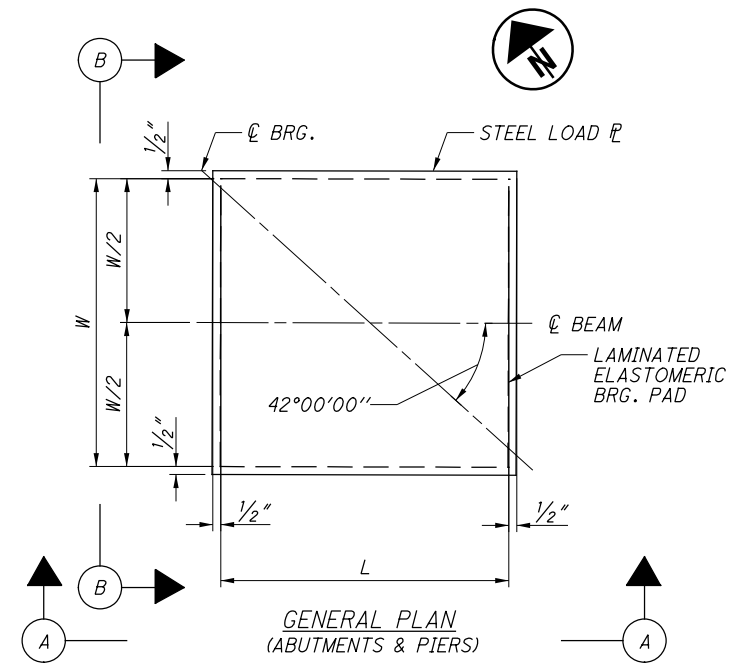
- NOTES:
- SEE SHEET 10/26 OF THE SUBSTRUCTURE PLANS FOR SECTIONS A & B.
 - MIN LAP #8 BARS: 4'-11"
 - SEE SHEETS 8/26 AND 9/26 OF THE SUBSTRUCTURE PLANS FOR ABUTMENT DETAILS.
 - SEE SHEET 20/41 FOR REINFORCING SCHEDULE.
 - S802 BARS HAVE MECHANICAL CONNECTORS. S803 BARS CONNECT TO S802 BARS (MECHANICALLY CONNECTED BAR LENGTHS MEASURED TO PHASE CONSTRUCTION LINE).

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

DESIGNED PPA	CHECKED NCM	DRAWN CSW	REVIEWED JEP	DATE 11/2013	DESIGN AGENCY BARR & PREVOST 2800 CORPORATE EXCHANGE DR., STE 240 COLUMBUS, OH 43231 (614) 714-0270 FAX (614) 714-0323
DIAPHRAGM DETAILS				STRUCTURE FILE NUMBER 2513293	
BRIDGE NO. FRA-270-5412 L					
OVER SCIOTO BIG RUN					
FRA-270-52.72					
PID No. 92610					
14 / 41					

LAMINATED ELASTOMERIC BEARING DETAILS														
SUBSTRUCTURE UNIT	TYPE	BEARING DIMENSIONS							STEEL LOAD PLATE			SERVICE REACTIONS (KIP)		
		L	W	T _e	T _i	N	T	H	T _s	L _s	W _s	DL	LL (MAX.)	DESIGN
R.A. & F.A.	EXP.	13"	14"	3/8"	1/2"	4	2 1/2"	4"	1 1/2"	14"	15"	45.0	70.5	115.5
PIERS 1 & 2	EXP.	16"	19"	3/8"	1/2"	5	3"	5"	2"	17"	20"	150.0	85.0	235.0

TABLE DEFINITIONS:
t_i = THICKNESS OF INTERNAL LAYER
t_e = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING
N = NUMBER OF STEEL LAMINATES



- NOTES:
- INTERNAL STEEL LAMINATE THICKNESS = 0.0747 INCH (14 GAGE).
 - THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION 1, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
 - EACH BEARING ASSEMBLY SHALL BE SHOP MARKED WITH THE FOLLOWING INFORMATION: TOP, FORWARD STATION DIRECTION, AND LOCATION (REAR ABUTMENT, PIER NUMBER, FORWARD ABUTMENT).
 - THE STEEL LOAD PLATE SHALL BE ASTM A709 GRADE 50 STRUCTURAL STEEL AND SHALL BE CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE PERFORMED IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 514. THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

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BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

ELASTOMERIC BEARING DETAILS
 BRIDGE NO. FRA-270-5412 L
 OVER SCIOTO BIG RUN

FRA-270-52.72
 PID No. 92610

DESIGN AGENCY
 BARR & PREVOST
 2800 CORPORATE EXCHANGE DR., STE 240
 COLUMBUS, OH 43231
 (614) 714-0270 FAX (614) 714-0323

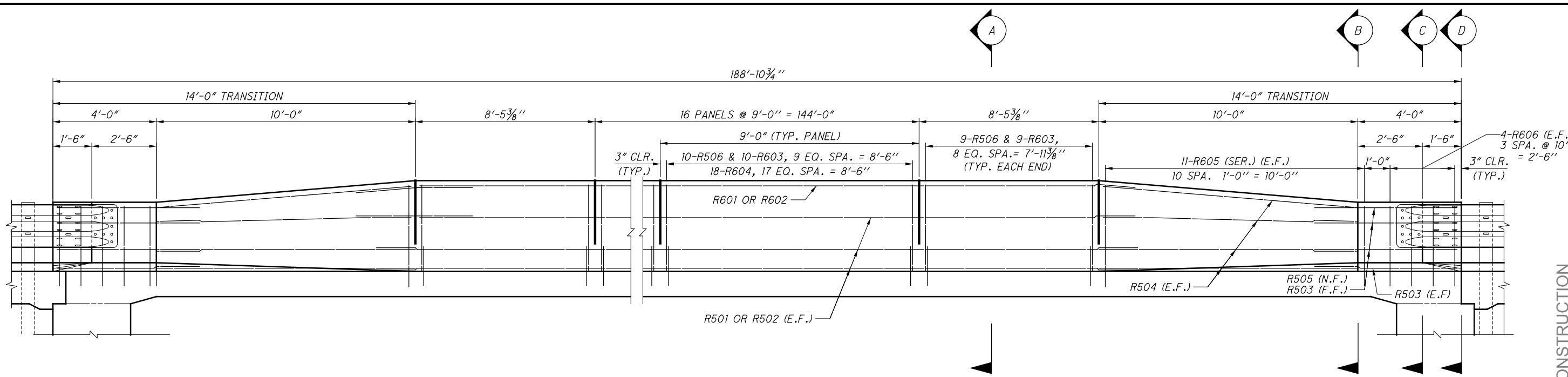
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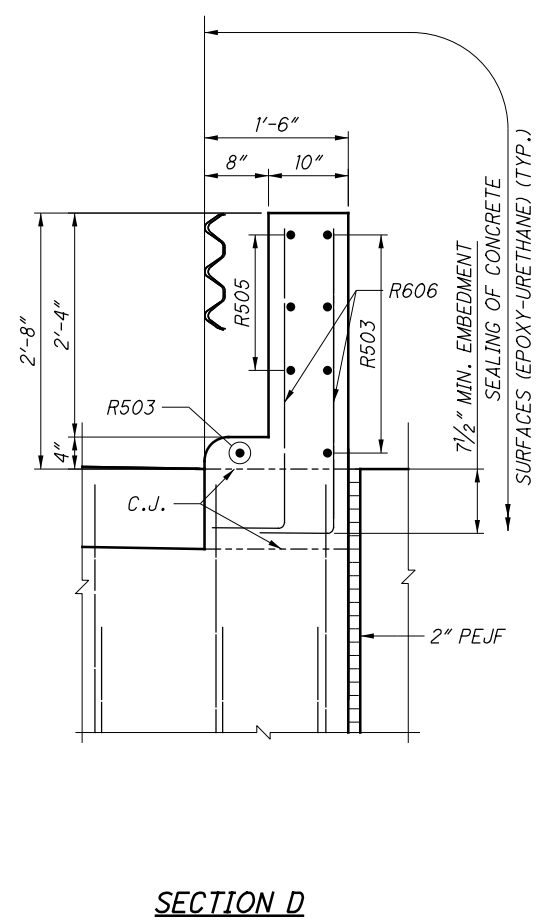
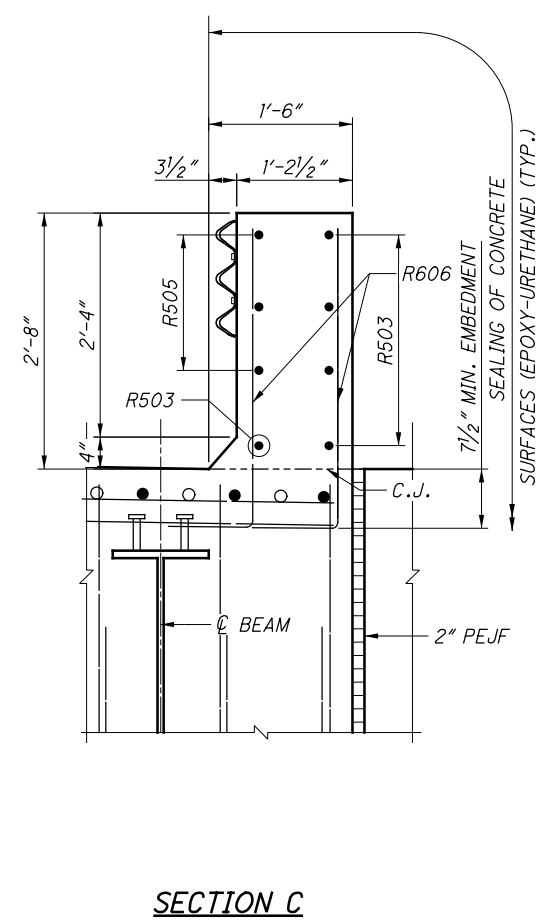
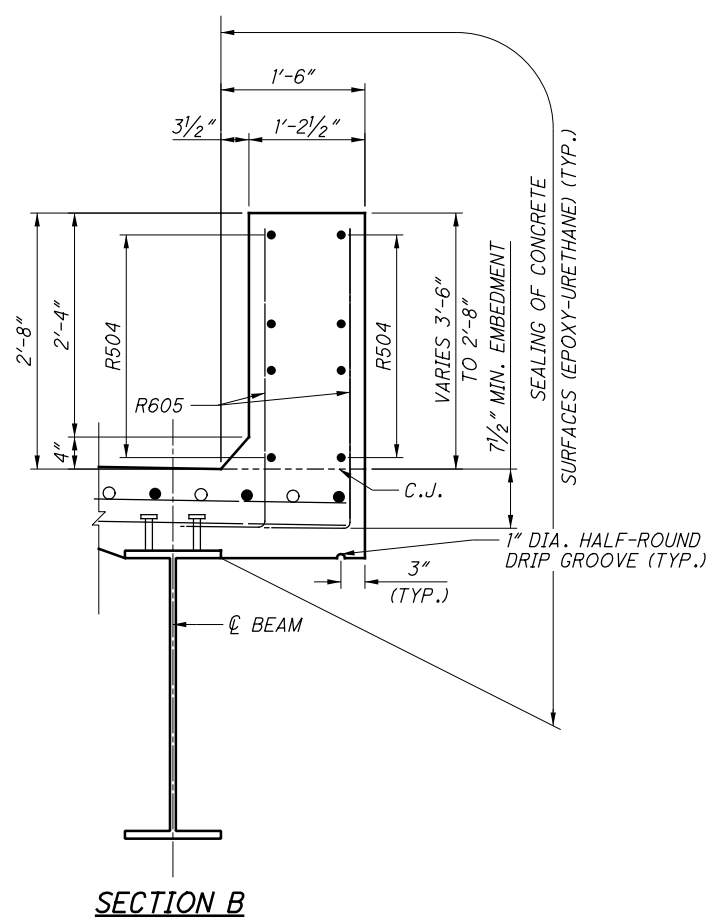
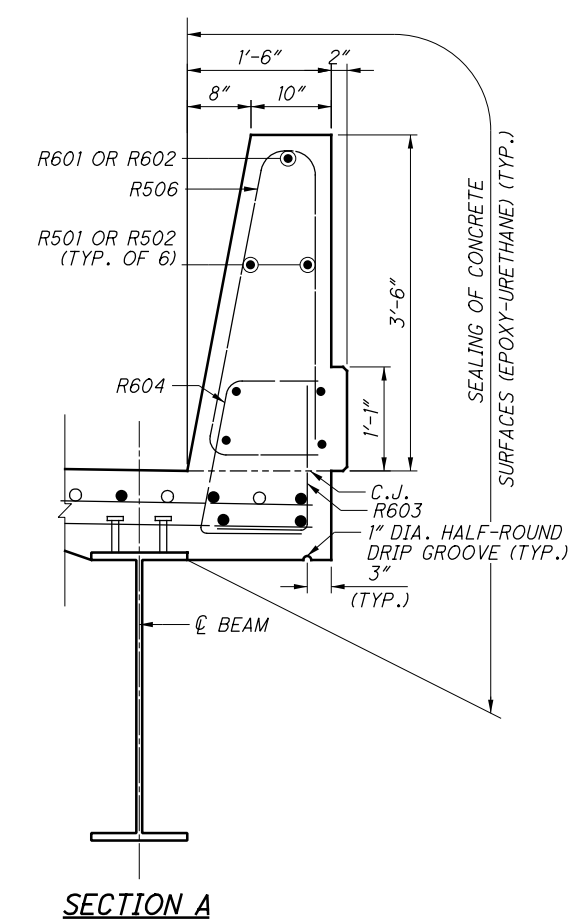
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PARAPET REINFORCING DETAIL

- NOTES:**
1. FOR NOTES AND ADDITIONAL DETAILS SEE STANDARD DRAWING SBR-1-99.
 2. MINIMUM LAP LENGTHS:
#5 BARS 2'-5"
#6 BARS 4'-1"
 3. SEE SHEETS 20/41 FOR REINFORCING TABLE.
 4. SEE SHEET 17/41 FOR MEDIAN PARAPET DETAILS.



BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

OUTER PARAPET DETAILS

DESIGNED BY PPA
CHECKED BY NCM

DRAWN BY CSW
REVISED

REVIEWED BY JEP
DATE 11/2013

STRUCTURE FILE NUMBER 2513293

DESIGN AGENCY BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

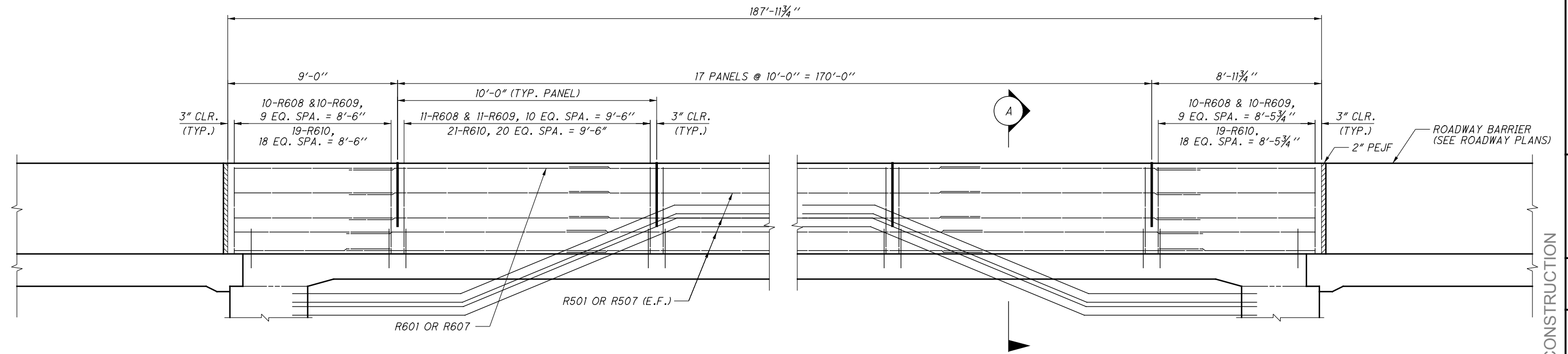
BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

FRA-270-52.72

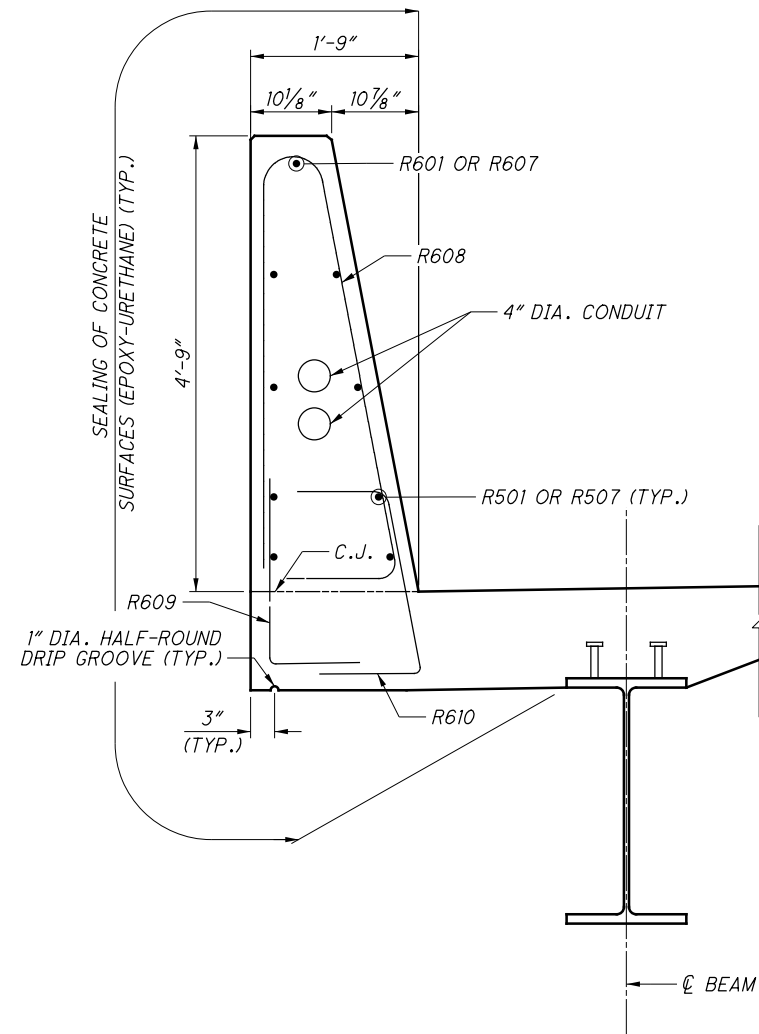
PID No. 92610



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PARAPET REINFORCING DETAIL



SECTION A

(DECK BARS NOT SHOWN FOR CLAIRITY)

NOTES:

1. MINIMUM LAP LENGTHS:
#5 BARS 2'-5"
#6 BARS 4'-1"
2. SEE SHEET 20/41 FOR REINFORCING TABLE.
3. SEE SHEET 16/41 FOR OUTER PARAPET DETAILS.
4. SEE STD. DWG. HL-30.32 FOR ADDITIONAL DETAILS.

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

MEDIAN PARAPET DETAILS

BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

FRA-270-52.72

PID No. 92610

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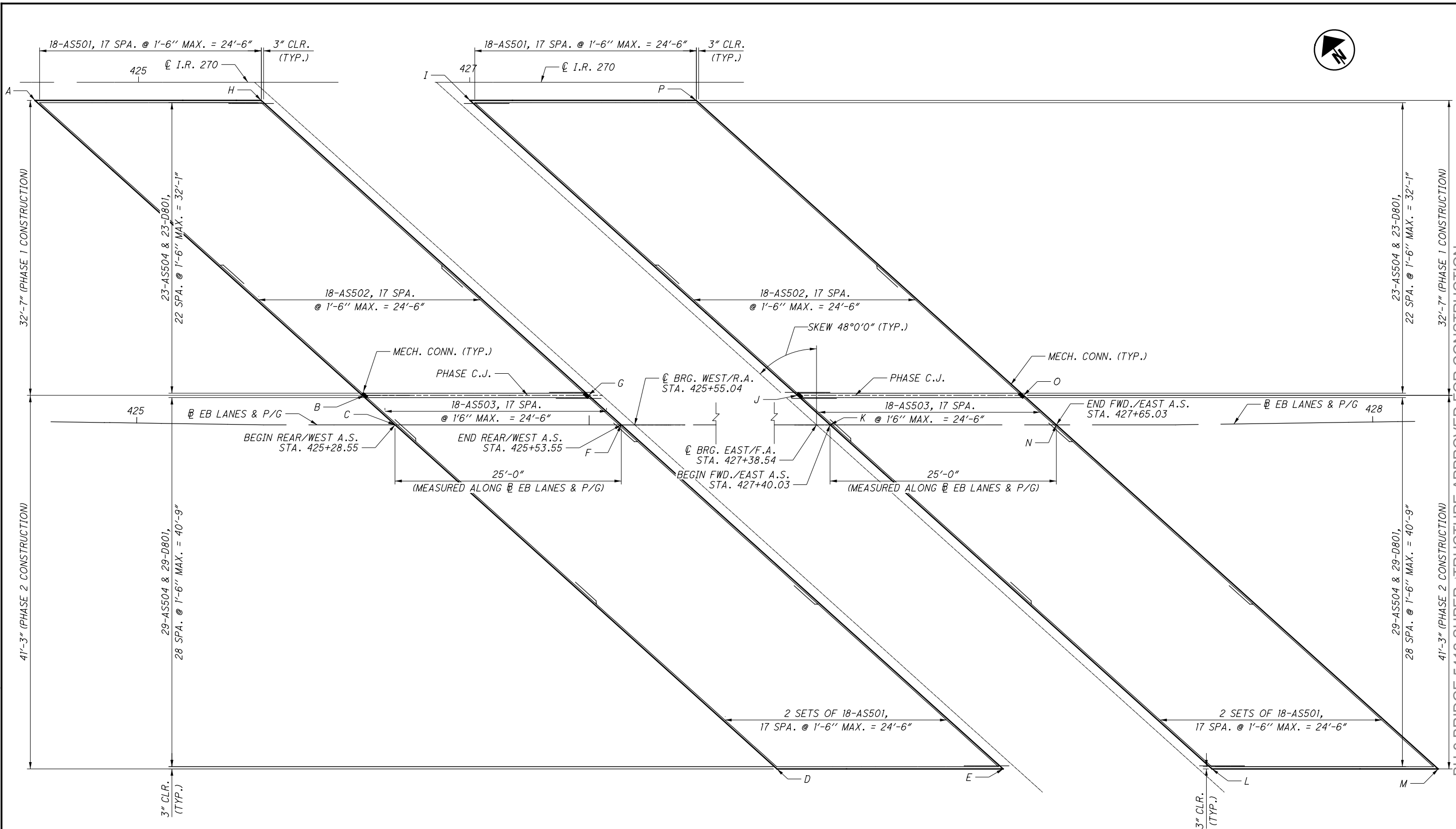


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COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

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STRUCTURE FILE NUMBER
2513293

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REVISED NCM

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REAR APPROACH SLAB LOCATION			
STATION	OFFSET	ELEVATION	
A	424+88.24	35.47' LT.	703.72
B	425+24.94	3.25' LT.	704.14
C	425+28.55	0.00'	704.19
D	425+70.75	38.00' RT.	703.47
E	425+95.75	38.00' RT.	703.41
F	425+53.55	0.00'	704.12
G	425+49.94	3.25' LT.	704.08
H	425+13.24	35.83' LT.	703.65

FORWARD APPROACH SLAB LOCATION			
STATION	OFFSET	ELEVATION	
I	427+00.24	35.83' LT.	703.18
J	427+36.42	3.25' LT.	703.61
K	427+40.03	0.00'	703.66
L	427+81.69	38.05' RT.	702.92
M	428+06.69	38.41' RT.	702.81
N	427+65.03	0.00'	703.59
O	427+61.42	3.25' LT.	703.55
P	427+25.24	35.83' LT.	703.12

(* STATIONS AND OFFSETS TAKEN FROM EB LANES & P/G

REAR/WEST APPROACH SLAB TOP REINFORCING PLAN

FORWARD/EAST APPROACH SLAB TOP REINFORCING PLAN

NOTES:

- SEE STD. DWG. AS-1-81 FOR ADDITIONAL DETAILS NOT SHOWN.
- SEE SHEET 19/41 FOR BOTTOM APPROACH SLAB STEEL.
- LAP LENGTHS: #5 = 2'-5"
- SEE SHEET 20/41 FOR REINFORCING SCHEDULE.
- AS502 BARS HAVE MECHANICAL CONNECTORS. AS502 CONNECT TO AS503 BARS (MECHANICALLY CONNECTED BAR LENGTHS MEASURED TO PHASE CONSTRUCTION LINE).

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

APPROACH SLAB TOP REINFORCING

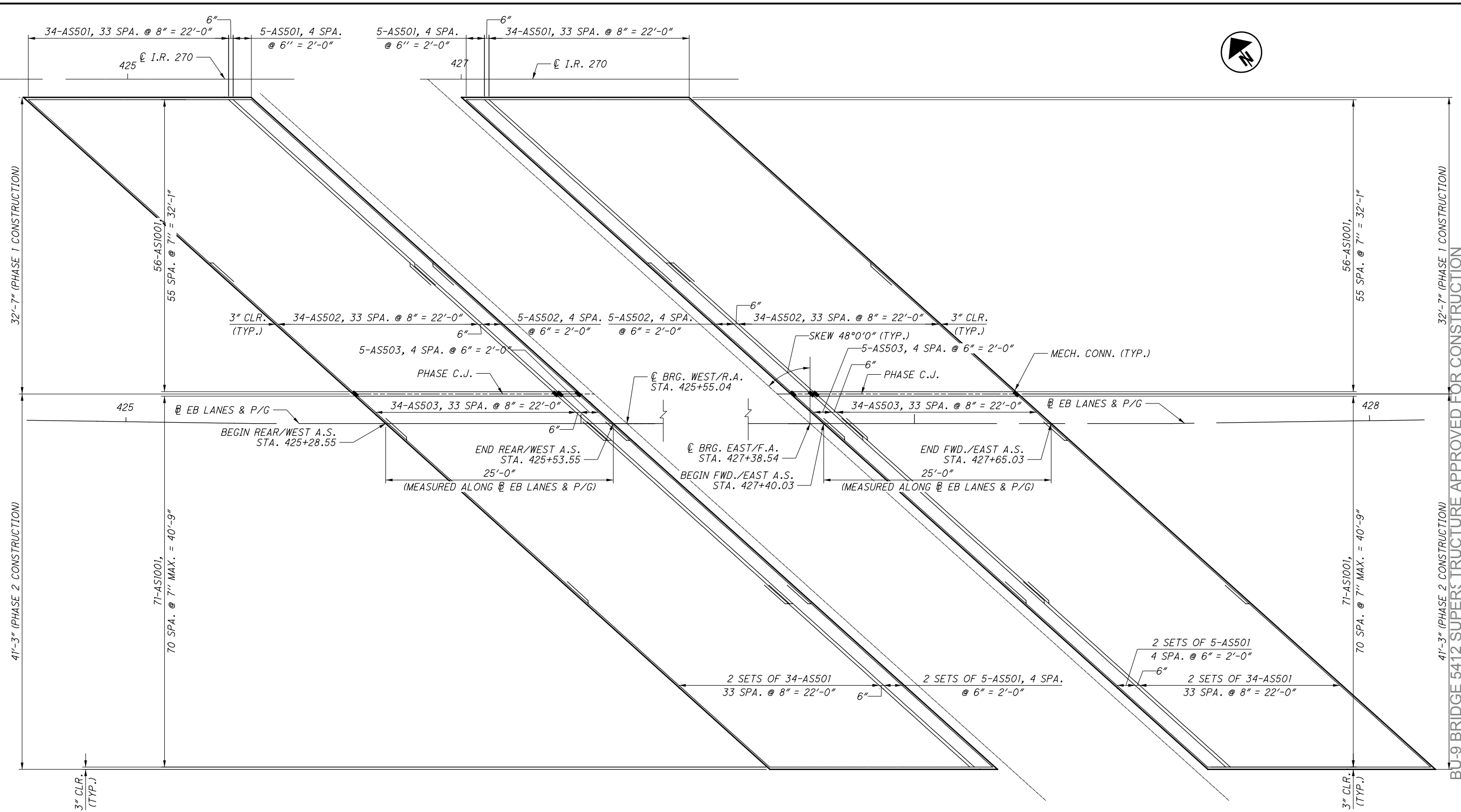
BRIDGE NO. FRA-270-5412 L
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

DESIGN AGENCY
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2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
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DESIGNED	RTF	CHECKED	PPA
DRAWN	CSW	REVISED	
REVIEWED	JEP	STRUCTURE FILE NUMBER	2513293
DATE	11/2013		

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REAR/WEST APPROACH SLAB BOTTOM REINFORCING PLAN

FORWARD/EAST APPROACH SLAB BOTTOM REINFORCING PLAN

- NOTES:**
1. SEE STD. DWG. AS-1-81 FOR ADDITIONAL DETAILS NOT SHOWN.
 2. SEE SHEET 18/41 FOR TOP APPROACH SLAB STEEL.
 3. LAP LENGTHS: #5 = 2'-5"
 4. SEE SHEET 20/41 FOR REINFORCING SCHEDULE.
 5. AS502 BARS HAVE MECHANICAL CONNECTORS. AS502 CONNECT TO AS503 BARS (MECHANICALLY CONNECTED BAR LENGTHS MEASURED TO PHASE CONSTRUCTION LINE).

DESIGNED		CHECKED		DESIGN AGENCY	
RTF		PPA		BARR & PREVOST	
DRAWN		REVISED		2800 CORPORATE EXCHANGE DR., STE 240	
CSW		STRUCTURE FILE NUMBER		COLUMBUS, OH 43231	
JEP		2513293		(614) 714-0270 FAX (614) 714-0323	
DATE		11/2013			
REVIEWED					

FRA-270-52.72
PID No. 92610

BRIDGE NO. FRA-270-5412 L
 OVER SCIOTO BIG RUN

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

APPROACH SLAB BOTTOM REINFORCING

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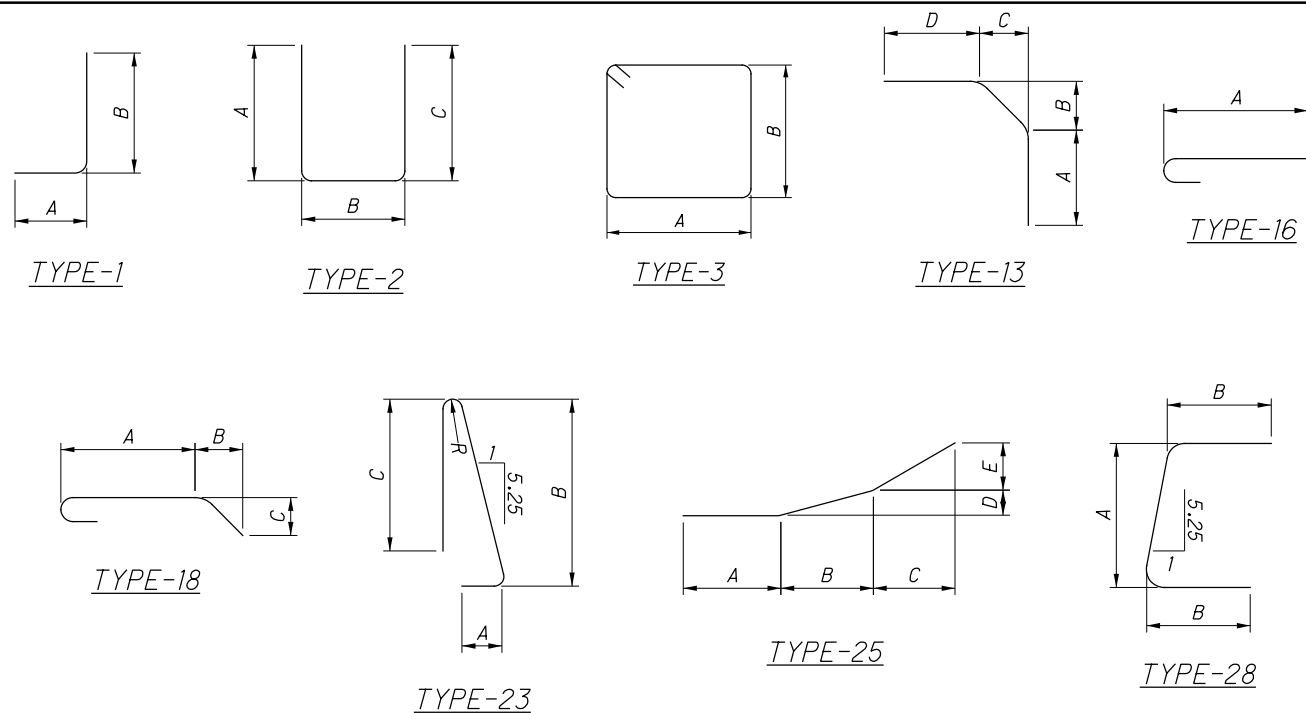
APPROACH SLAB (FOR INFORMATION ONLY)									
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS				
					A	B	C	D	INC.
AS501	342	30'-0"	10701	ST.					
AS502	114	20'-9"	2467	ST.					
AS503	114	6'-2"	733	ST.					
AS504	104	24'-6"	2658	ST.					
AS1001	254	25'-11"	28326	16	24'-6"				
D801	104	7'-10"	2175	18	5'-7"	1'-0"	1'-0"		
SUBTOTAL =			47060						

DIAPHRAGMS									
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS				
					A	B	C	INC.	
S530	234	11'-8"	2847	3	2'-6"	3'-0"			
S531	234	7'-11"	1932	2	3'-2"	1'-10"	3'-2"		
S801	28	31'-0"	2318	ST.					
S802	28	25'-2"	1881	ST.					
S803	28	5'-2"	386	ST.					
S804	28	34'-11"	2610	ST.					
S805	28	33'-5"	2498	ST.					
SUBTOTAL =			14472						

RAILING												
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS							
					A	B	C	D	E	R	INC	
R501	78	30'-0"	2441	ST.								
R502	6	27'-11"	175	ST.								
R503	10	6'-2"	64	ST.								
R504	16	10'-0"	167	ST.								
R505	6	5'-7"	35	25	1'-8"	2'-5"	1'-5"	1 1/2"	5"			
R506	178	7'-5"	1377	23	1'-1"	3'-2"	3'-0"			2 1/4"		
R507	8	22'-0"	184	ST.								
R601	13	30'-0"	586	ST.								
R602	1	13'-7"	20	ST.								
R603	178	3'-0"	802	1	1'-1"	2'-1"						
R604	322	5'-2"	2499	28	3'-2"	1'-1"						
	4	3'-10"				2'-11"						
R605	SER OF	TO	281	1	1'-1"	TO						1"
	11	4'-8"				3'-9"						
R606	16	3'-11"	94	1	1'-1"	3'-0"						
R607	1	6'-1"	9	ST.								
R608	207	10'-3"	3187	23	1'-4"	4'-5"	4'-3"					
R609	207	3'-11"	1218	1	1'-1"	3'-0"						
R610	395	5'-8"	3362	28	2'-2"	1'-4"						
SUBTOTAL =			16501									

SUPERSTRUCTURE (DECK)						
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS	
					A	INC.
S401	570	30'-0"	11423	ST.		
S402	95	17'-7"	1116	ST.		
S501	858	30'-0"	26847	ST.		
S502	87	25'-1"	2276	ST.		
S503	300	34'-10"	10899	16	34'-3"	
	1	3'-4"			2'-9"	
S504	SER OF	TO	1463	16	TO	5 1/8"
	74	34'-7"			34'-0"	
	2	1'-10"			1'-3"	
S505	SER OF	TO	24	16	TO	3"
	5	2'-10"			2'-3"	
S506	2	27'-11"	58	16	27'-4"	
	2	2'-9"				
S507	SER OF	TO	2836	ST.		5 1/8"
	74	34'-0"				
	2	1'-2"				
S508	SER OF	TO	10	ST.		5"
	3	2'-0"				
S509	4	27'-7"	115	ST.		
S510	304	30'-7"	9697	16	30'-0"	
S511	580	15'-8"	9477	ST.		
S512	752	3'-2"	2484	ST.		
	2	9'-10"				
S513	SER OF	TO	366	ST.		5"
	14	15'-3"				
	1	3'-3"			2'-8"	
S514	SER OF	TO	1641	16	TO	5 1/8"
	79	36'-7"			36'-0"	
S515	6	33'-4"	209	ST.		
S516	2	33'-11"	71	16	33'-4"	
	2	8'-10"				
S517	SER OF	TO	402	ST,		5 1/8"
	16	15'-3"				
S518	8	34'-10"	291	16	34'-3"	
	2	3'-10"				
S519	SER OF	TO	2997	ST,		5 1/8"
	74	35'-0"				
	2	8"				
S520	SER OF	TO	28	ST,		5"
	7	3'-2"				
S521	300	34'-3"	10717	ST.		
S522	2	27'-4"	57	ST.		
S523	8	34'-3"	286	ST.		
	1	2'-9"				
S524	SER OF	TO	1418	ST.		5 1/8"
	74	34'-0"				
	2	1'-3"				
S525	SER OF	TO	18	ST.		3"
	5	2'-3"				
	1	2'-8"				
S526	SER OF	TO	1593	ST.		5 1/8"
	79	36'-0"				
S601	184	35'-0"	9673	ST.		
SUBTOTAL =			108492			

BAR BENDING DIAGRAMS



LEGEND:

* - MECHANICAL CONNECTOR

** - CONNECTS TO MECH. CONNECTOR

NOTES:

- THE BAR SIZE NUMBER IS SPECIFIED AS THE FIRST DIGIT FOLLOWING THE LETTER ON THE PLANS IN THE BAR MARK COLUMN. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. ALL REINFORCING STEEL IS TO BE EPOXY COATED. "ST" INDICATES STRAIGHT BARS. "SER. OF" INDICATES A SERIES BAR. "R" INDICATES INNER RADIUS. "INC" INDICATES A LENGTH INCREMENT FOR A SERIES BAR. THE LETTER(S) PRECEDING THE FIRST DIGIT IS SPECIFIED AS FOLLOWS:

S: BARS IN THE SUPERSTRUCTURE (DECK OR DIAPHRAGM)
 R: BARS IN THE PARAPET
 AS: BARS IN THE APPROACH SLAB

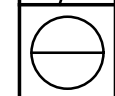
- S527 THRU S529 ARE NOT USED.

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

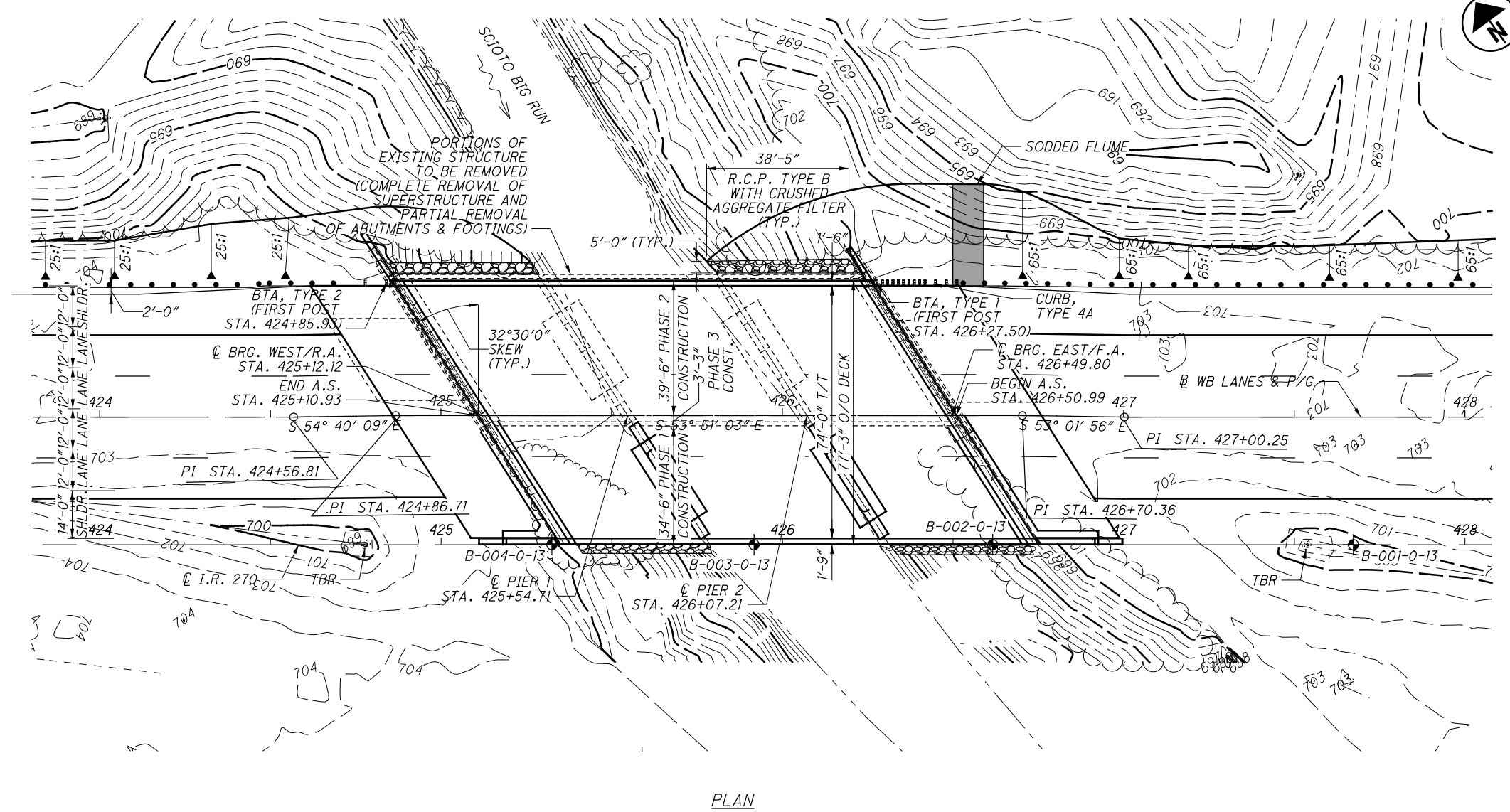
REINFORCING SCHEDULE

BRIDGE NO. FRA-270-5412 L
 OVER SCIOTO BIG RUN

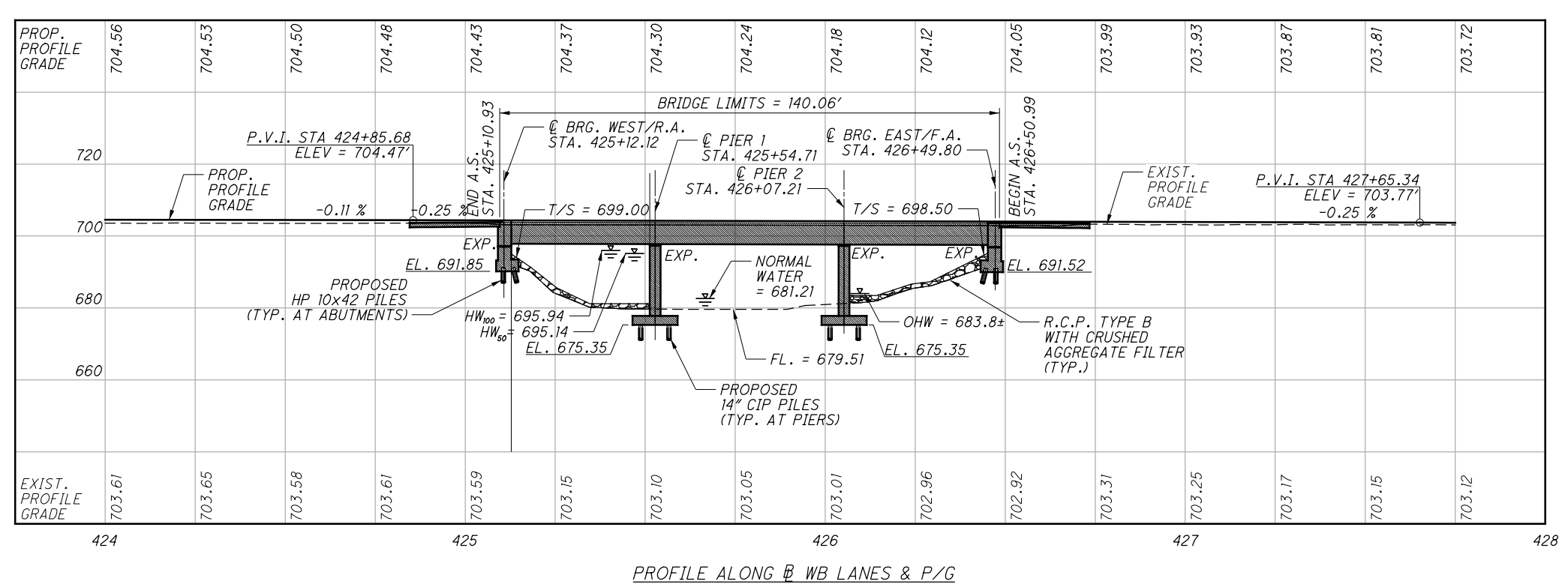
FRA-270-52.72
 PID No. 92610



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PLAN



PROFILE ALONG WB LANES & P/G

BENCHMARK DATA			
BM #1 STA. 498+64.23	ELEV. 696.27	OFFSET 433.17' RT.	
BM #2 STA. 499+11.46	ELEV. 694.52	OFFSET 85.07' RT.	
BM #3 STA. 499+23.96	ELEV. 696.90	OFFSET 208.14' LT.	
BM #4 STA. 499+33.39	ELEV. 696.29	OFFSET 63.28' LT.	

* - ALL OFFSETS OFF @ I.R. 270

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. LEFT BRIDGE NOT SHOWN FOR CLARITY.

DESIGN TRAFFIC:
 2012 ADT = 83,310 2012 ADTT = 15,829
 2032 ADT = 109,160 2032 ADTT = 20,741
 DIRECTIONAL DISTRIBUTION = 53%

LEGEND

◆ BORING LOCATION

ESTIMATED PILE LENGTHS:
 ABUTMENTS: 40'-0"
 PIERS 1 & 2: 25'-0"

HYDRAULIC DATA

DRAINAGE AREA = 25.1 SQ. MILES
 Q (50) = 3870 CFS V (50) = 2.81 FT/S
 Q (100) = 4440 CFS V (100) = 2.98 FT/S
 STRUCTURE CLEARS THE 50 YEAR
 DESIGN HW BY 4.43 FEET.

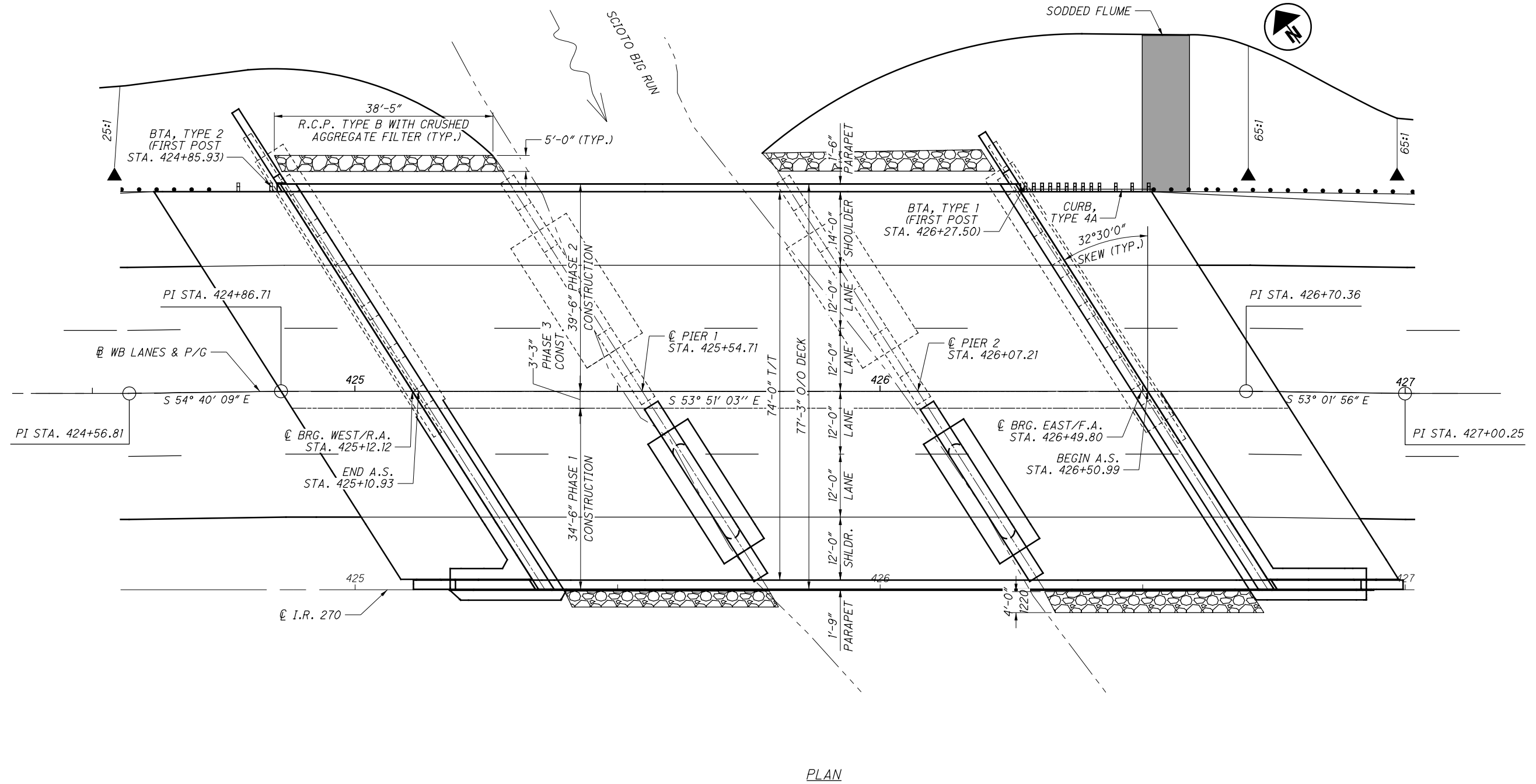
EXISTING STRUCTURE	
TYPE:	3 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS:	42'-0", 52'-6", 42'-0" @ BRG. TO @ BRG.
ROADWAY:	42'-0" F/F OF PARAPETS
LOADING:	CF- 2000 (1957)
SKEW:	32°30'00" R.F.
APPROACH SLABS:	25'-0" LONG (AS-1-54)
WEARING SURFACE:	1" MONOLITHIC CONCRETE
ALIGNMENT:	TANGENT
CROWN:	3/16" PER FOOT
STRUCTURE FILE NUMBER:	2513269
DATE BUILT:	1962
DISPOSITION:	TO BE REHABILITATED

PROPOSED STRUCTURE	
PROPOSED WORK:	REHABILITATE SUPERSTRUCTURE AND SUBSTRUCTURE, WIDEN PIER & ABUTMENT SUBSTRUCTURE AND CHANGE ABUTMENTS TO SEMI-INTEGRAL
TYPE:	3 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SEMI-INTEGRAL ABUTMENTS
SPANS:	42'-7 1/8", 52'-6", 42'-7 1/8" @ BRG. TO @ BRG.
ROADWAY:	74'-0" TOE/TOE PARAPET
LOADING:	HS20 CASE I AND ALTERNATE MILITARY
SKEW:	32°30'00" R.F.
FWS LOADING:	60 PSF
APPROACH SLABS:	25'-0" LONG (AS-1-81)
WEARING SURFACE:	1" MONOLITHIC CONCRETE
ALIGNMENT:	TANGENT
CROWN:	0.016 FT/FT
COORDINATES:	LATITUDE N 39°53'13" LONGITUDE W 83°01'45"

BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

DESIGN AGENCY BARR & PREVOST 2800 CORPORATE EXCHANGE DR., STE 240 COLUMBUS, OH 43231 (614) 714-0270 FAX (614) 714-0323	DATE 10/2013	DESIGNED PPA	DRAWN PPA	REVIEWED NCM
FRANKLIN COUNTY STA. 425+10.93 STA. 426+50.99	STRUCTURE FILE NUMBER 2513269	CHECKED JEP	REVISED	
SITE PLAN				
BRIDGE NO. FRA-270-5412 R OVER SCIOTO BIG RUN				
FRA-270-52.72				
PID No. 92610				
21 / 41				

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PLAN

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

GENERAL PLAN

BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72

PID No. 92610

DESIGNED
PPA

CHECKED
NCM

DRAWN
CSW

REVISED

REVIEWED
JEP

STRUCTURE FILE NUMBER
2513269

DATE
11/2013

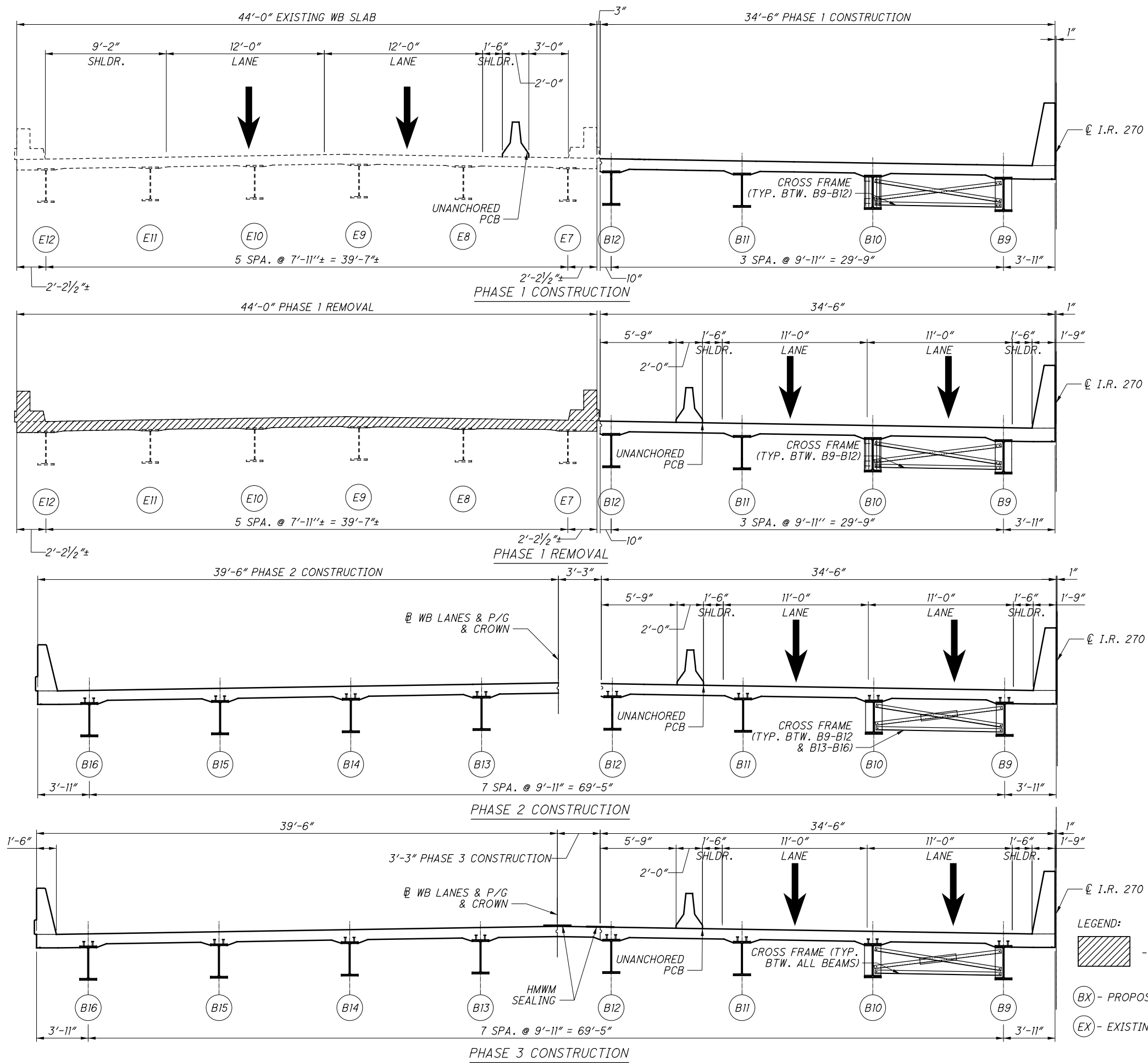
DESIGN AGENCY
BARR & PREVOST

2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

NOTES:

1. SEE SHEET 21/41 FOR SITE PLAN.

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CONSTRUCTION SEQUENCE:

PHASE 1 CONSTRUCTION:

SET UNANCHORED PCB 3'-0" OFF EXISTING TOE OF PARAPET. CONSTRUCT NEW BEAMS 9-12 ON PROPOSED SEMI-INTEGRAL ABUTMENT AND NEW PIERS, INSTALL CROSSFRAMES BETWEEN BEAMS 9-12, POUR DECK AND RAILING TO LIMITS SHOWN IN THE DIAGRAM WHILE MAINTAINING 2 - 12'-0" LANES OF WESTBOUND TRAFFIC ON THE EXISTING STRUCTURE.

PHASE 1 REMOVAL:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED PORTION OF WESTBOUND BRIDGE WITH 2 - 11'-0" LANES AND UNANCHORED BARRIER 5'-9" OFF PHASE 1 LIMITS. REMOVE EXISTING WESTBOUND BEAMS 7-12 DECK AND PORTIONS OF SUBSTRUCTURE.

PHASE 2 CONSTRUCTION:

CONSTRUCT NEW BEAMS 13-16 ON PROPOSED SEMI-INTEGRAL ABUTMENT, INSTALL CROSSFRAMES BETWEEN BEAMS 13-16 AND POUR DECK AND RAILING TO LIMITS SHOWN IN THE DIAGRAM WHILE MAINTAINING THE 2 - 11'-0" LANES OF WESTBOUND TRAFFIC ON THE NEWLY CONSTRUCTED PORTION OF THE WB BRIDGE.

PHASE 3 CONSTRUCTION:

AFTER THE BRIDGE DECK IS CURED, CONSTRUCT THE 3'-3" CLOSURE POUR AND SEAL PHASE CONSTRUCTION JOINTS WITH 2'-0" HMMW RESIN, CENTERED ON EACH JOINT AND CONSTRUCT CROSSFRAME BETWEEN BEAMS 12 AND 13 BEFORE OPENING TO TRAFFIC. REMOVE UNANCHORED BARRIER INSTALLED DURING PHASE 1 REMOVAL BEFORE OPENING TO TRAFFIC. SEE SHEET 28/41, TRANSVERSE SECTION, FOR FINAL LAYOUT.

- LEGEND:**
- PORTION OF EXISTING STRUCTURE TO BE REMOVED
 - PROPOSED BEAM NUMBER
 - EXISTING BEAM NUMBER

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

PHASE CONSTRUCTION DETAILS

BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

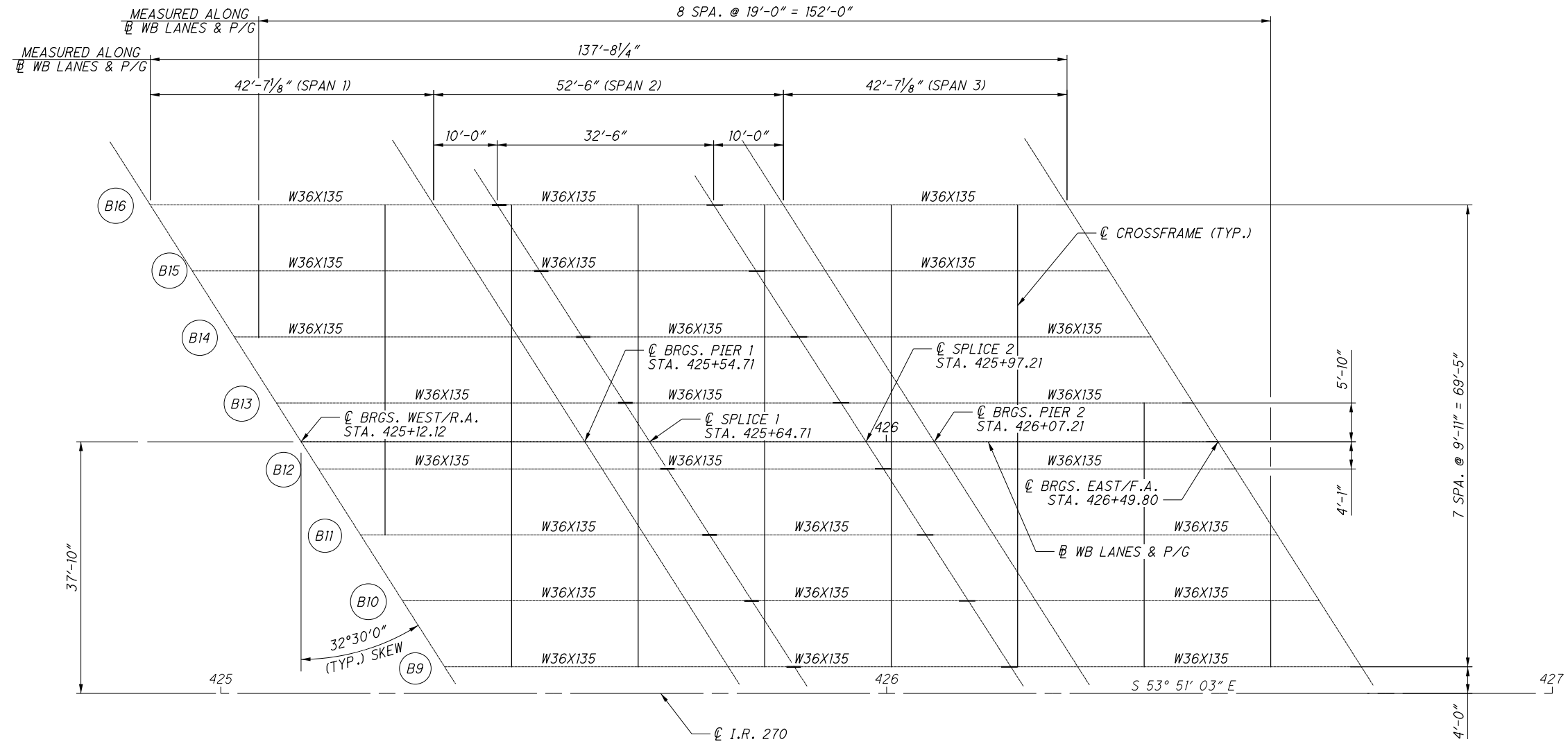
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2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

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JEP 11/2013
STRUCTURE FILE NUMBER
2513269

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FRAMING PLAN

LEGEND:

(BX) PROPOSED BEAM DESIGNATION



BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

FRAMING PLAN

BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72

PID No. 92610

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DESIGNED
JWE

DRAWN
RTF

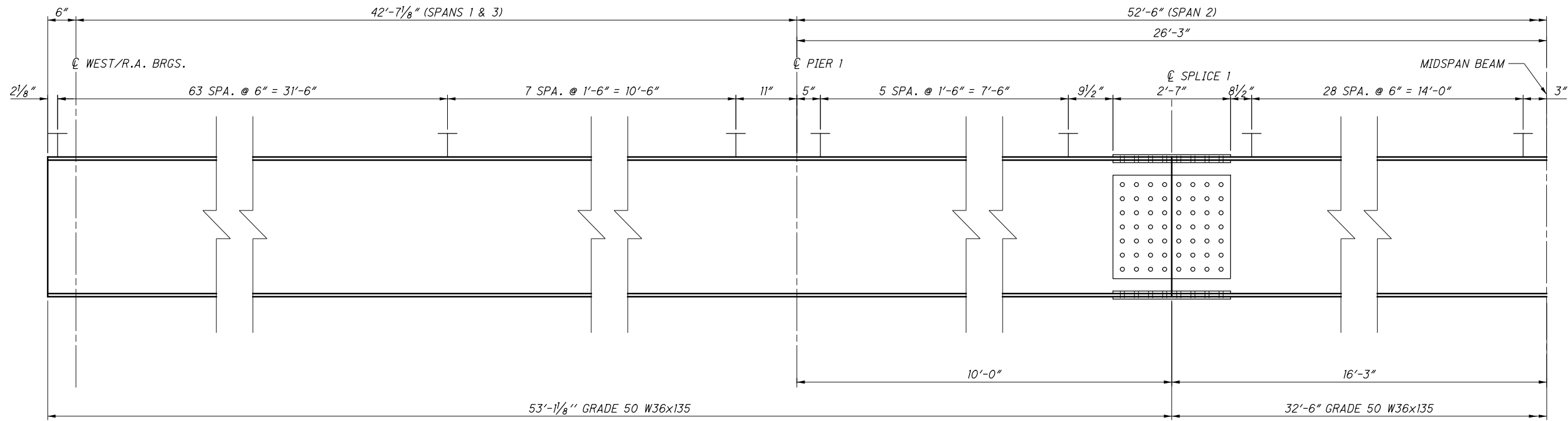
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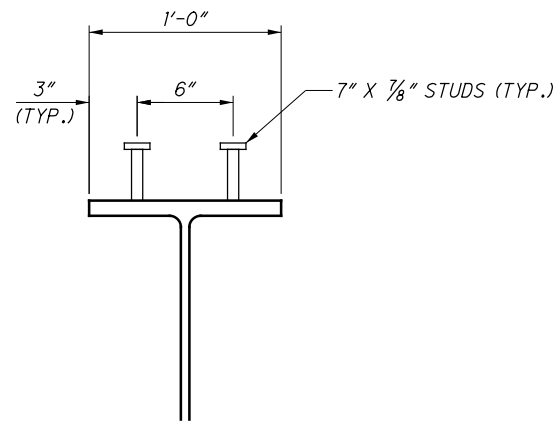
STRUCTURE FILE NUMBER
2513269

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TYPICAL BEAM ELEVATION
(MIRRORED ABOUT MIDSPAN BEAM)



SHEAR STUD DETAIL

NOTES:
1. SEE SHEET 26/41 FOR FIELD SPLICE DETAILS.

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

SUPERSTRUCTURE DETAILS
BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

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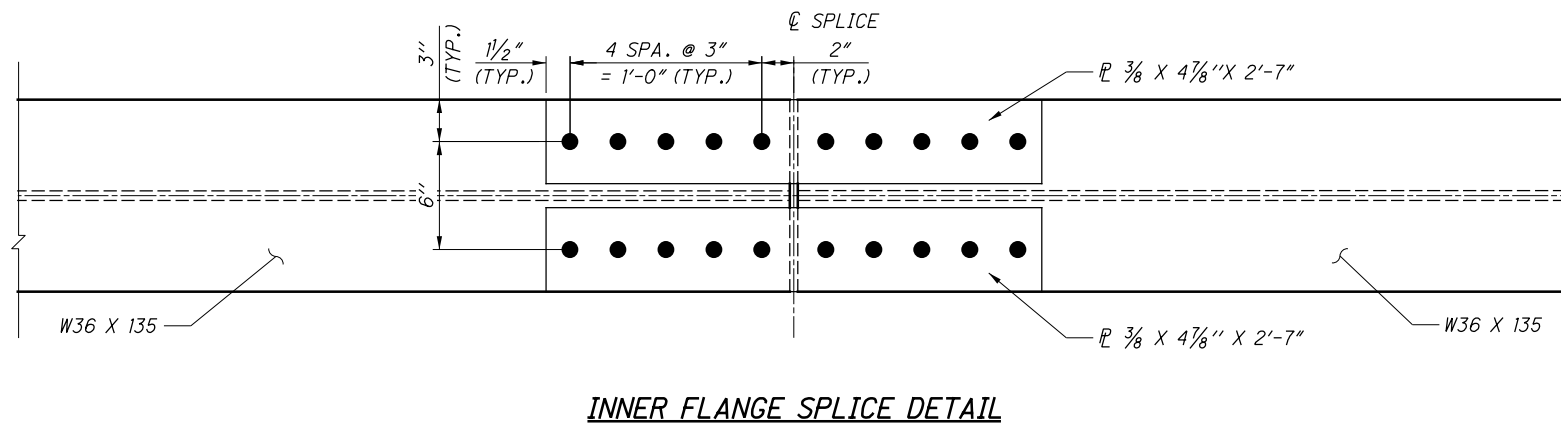
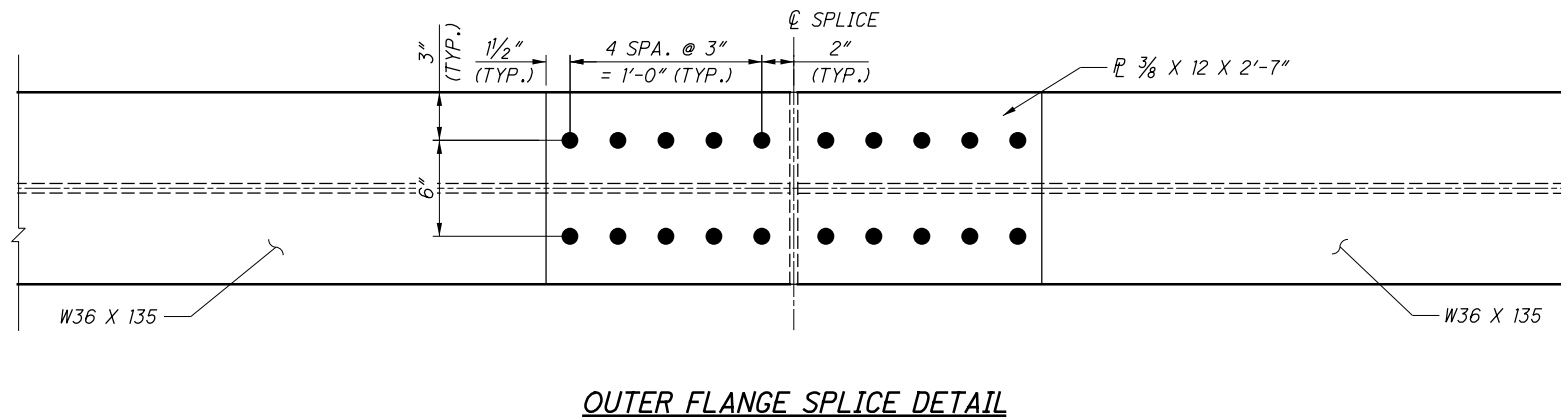
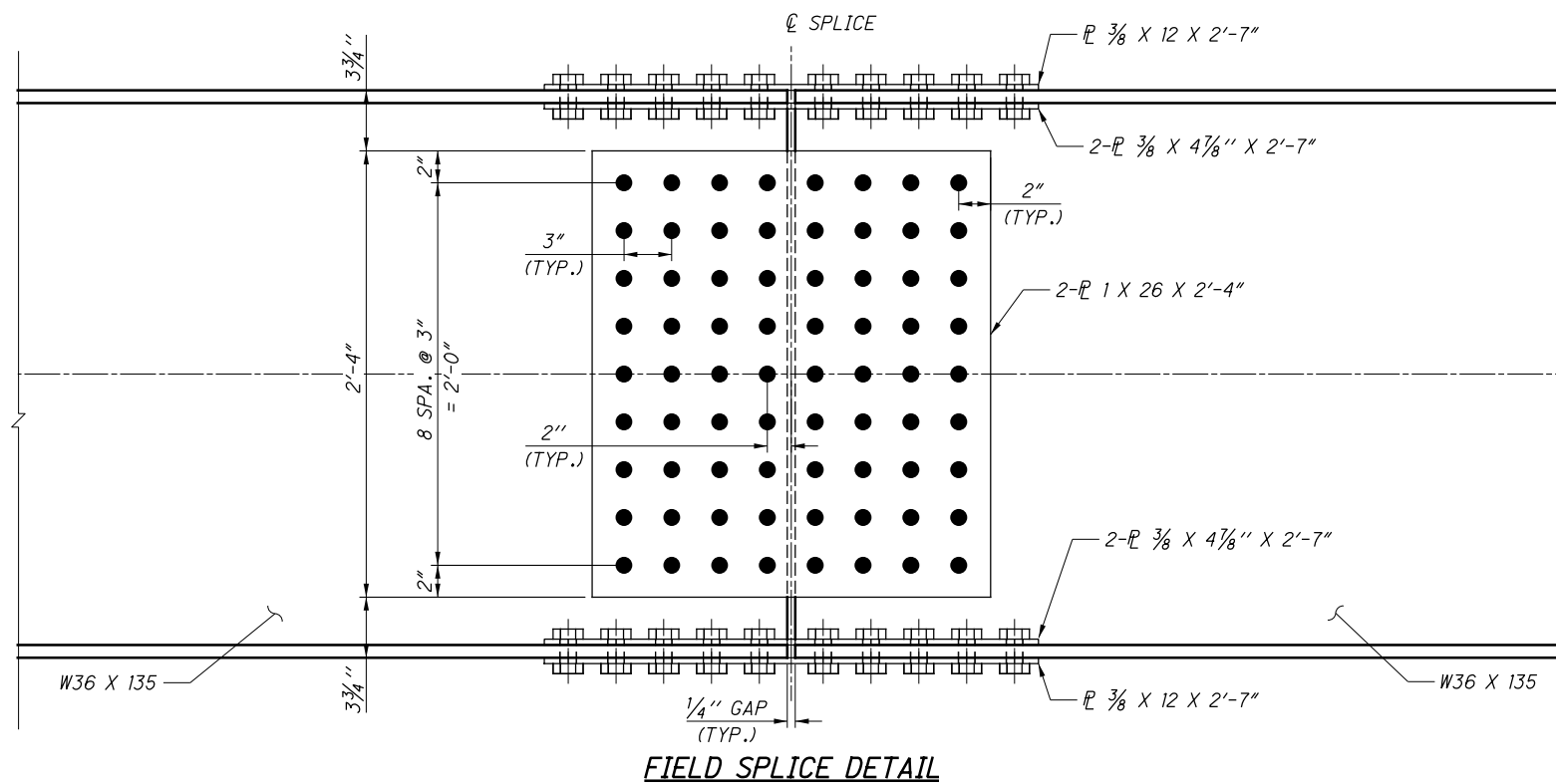
DESIGN AGENCY
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(614) 714-0270 FAX (614) 714-0323

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DATE
11/2013

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JWE/RTF
STRUCTURE FILE NUMBER
2513269

REVISED
REVISER



NOTES:

1. ALL MATERIAL IN FIELD SPLICES SHALL BE "CVN." FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01. ALL PLATES SHALL BE ASTM A709 GRADE 50W UNLESS OTHERWISE NOTED.
2. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER A325 TYPE III UNLESS OTHERWISE NOTED.

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

FIELD SPLICE DETAILS
BRIDGE. NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

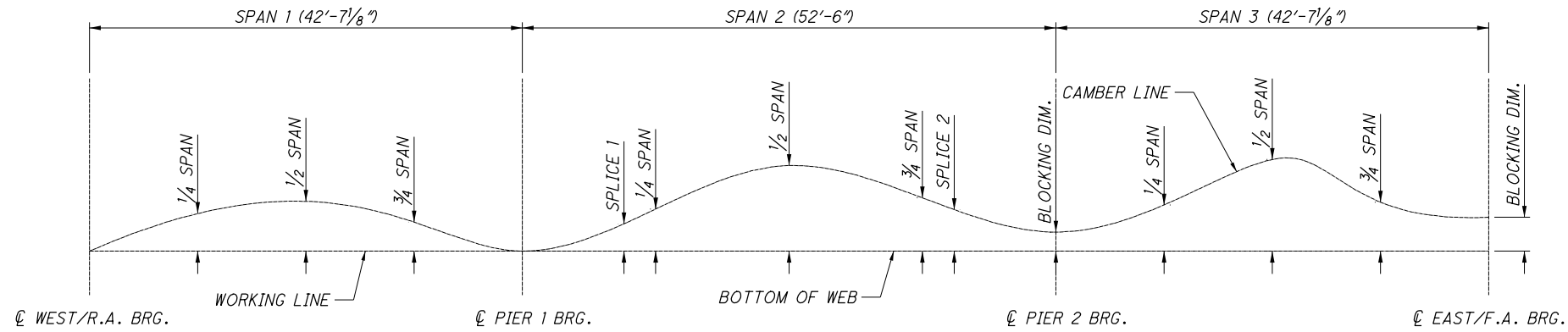
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DESIGNED	RTF	CHECKED	JAD
DRAWN	RTF	REVISED	
REVIEWED	NCM	STRUCTURE FILE NUMBER	2513269
DATE	11/2013		

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
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CAMBER & BLOCKING DIAGRAM

BEAMS 9 & 16 (EXTERIOR) - DEFLECTION & CAMBER															
	CL R.A. BRG.	SPAN 1			CL PIER 1 BRG.	SPAN 2					CL PIER 2 BRG.	SPAN 3			CL F.A. BRG.
		1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
DEFLECTION DUE TO WEIGHT OF STEEL	0"	0"	0"	0"	0"	0"	0"	1/16 "	0"	0"	0"	0"	0"	0"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	0"	1/8 "	3/16 "	1/16 "	0"	1/8 "	1/8 "	3/16 "	1/8 "	1/8 "	0"	1/16 "	3/16 "	1/8 "	0"
TOTAL REQUIRED SHOP CAMBER	0"	1/8 "	3/16 "	1/16 "	0"	1/8 "	1/8 "	1/4 "	1/8 "	1/8 "	0"	1/16 "	3/16 "	1/8 "	0"

BEAMS 10 & 15 (INTERIOR) - DEFLECTION & CAMBER															
	CL R.A. BRG.	SPAN 1			CL PIER 1 BRG.	SPAN 2					CL PIER 2 BRG.	SPAN 3			CL F.A. BRG.
		1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
DEFLECTION DUE TO WEIGHT OF STEEL	0"	0"	0"	0"	0"	0"	0"	1/16 "	0"	0"	0"	0"	0"	0"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	0"	1/8 "	3/16 "	1/16 "	0"	1/8 "	1/8 "	3/16 "	1/8 "	1/8 "	0"	1/16 "	3/16 "	1/8 "	0"
TOTAL REQUIRED SHOP CAMBER	0"	1/8 "	3/16 "	1/16 "	0"	1/8 "	1/8 "	1/4 "	1/8 "	1/8 "	0"	1/16 "	3/16 "	1/8 "	0"

BEAMS 9 & 16 (EXTERIOR) BLOCKING DIAGRAM															
	CL R.A. BRG. BLOCKING DIM.	SPAN 1			CL PIER 1 BRG. BLOCKING DIM.	SPAN 2					CL PIER 2 BRG. BLOCKING DIM.	SPAN 3			CL F.A. BRG. BLOCKING DIM.
		1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
OFFSET FROM WORKING LINE	0"	1/8 "	3/16 "	1/16 "	0"	1/8 "	1/8 "	1/4 "	1/8 "	1/8 "	0"	1/16 "	3/16 "	1/8 "	0"

BEAMS 10 THRU 15 (INTERIOR) BLOCKING DIAGRAM															
	CL R.A. BRG. BLOCKING DIM.	SPAN 1			CL PIER 1 BRG. BLOCKING DIM.	SPAN 2					CL PIER 2 BRG. BLOCKING DIM.	SPAN 3			CL F.A. BRG. BLOCKING DIM.
		1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
OFFSET FROM WORKING LINE	0"	1/8 "	3/16 "	1/16 "	0"	1/8 "	1/8 "	1/4 "	1/8 "	1/8 "	0"	1/16 "	3/16 "	1/8 "	0"

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

SUPERSTRUCTURE DETAILS - CAMBER & BLOCKING DIAGRAM

BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA - 270-52.72
PID No. 92610

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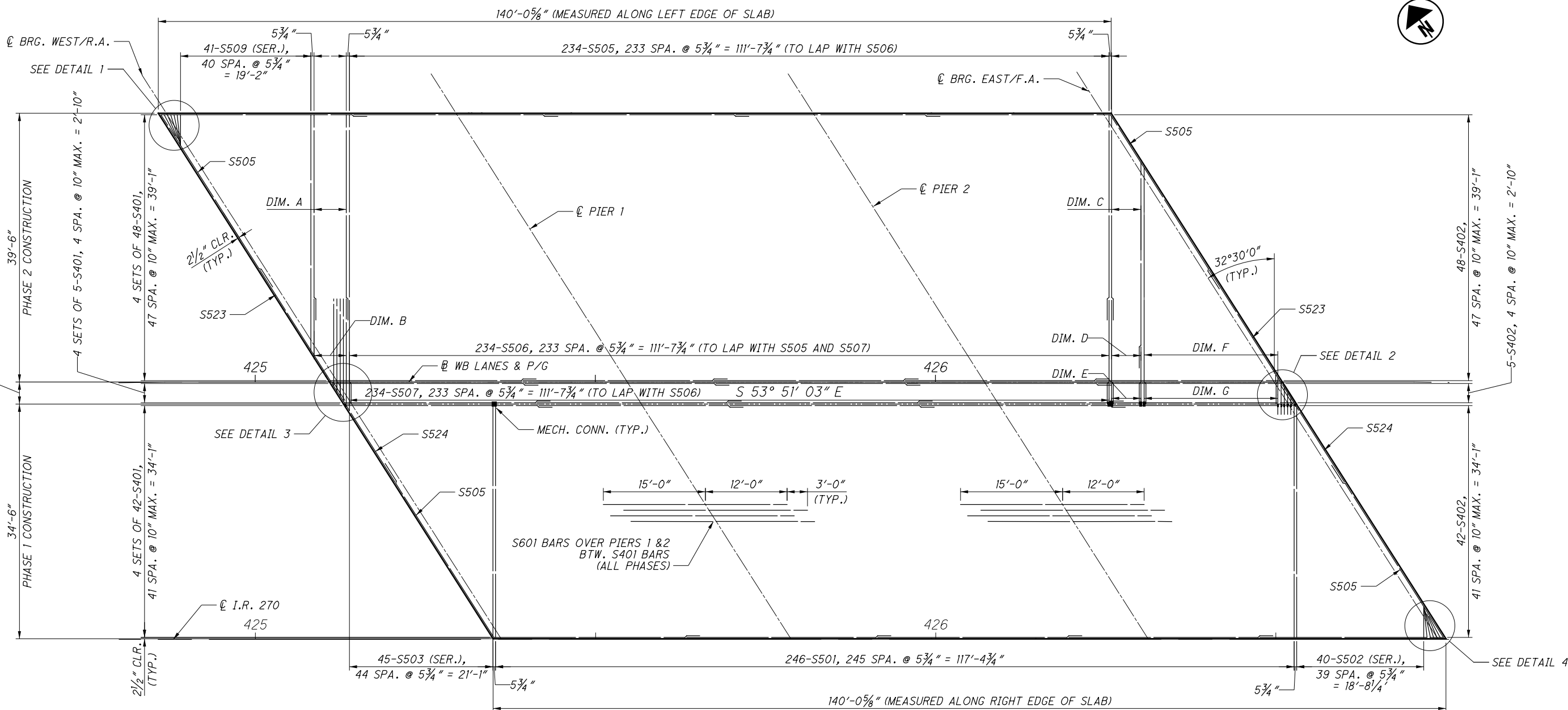


DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

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PPA
CHECKED
JEP

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2513269
REVISED

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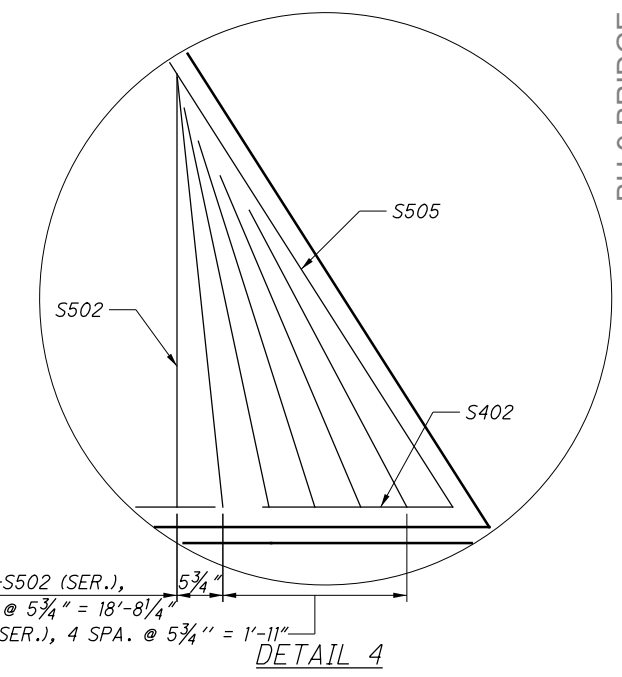
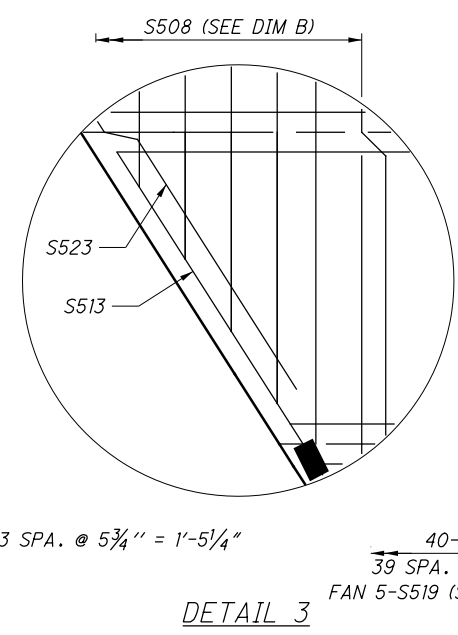
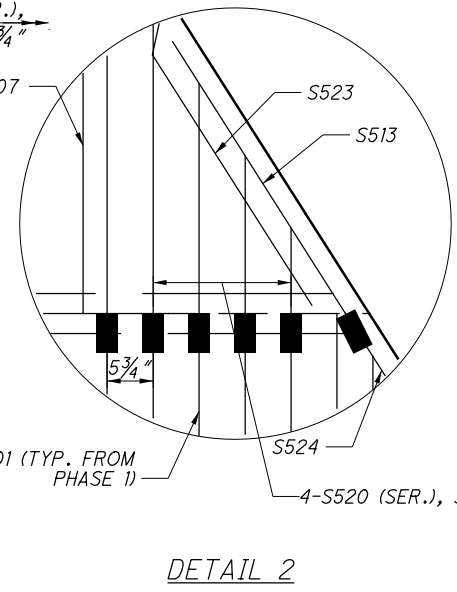
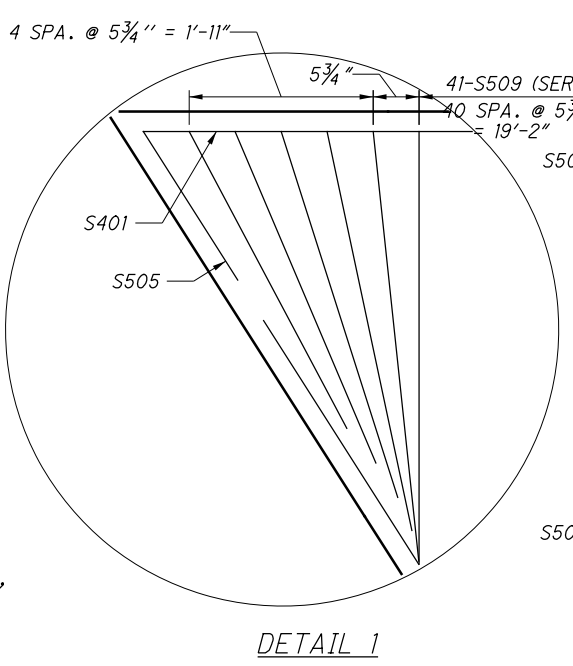


DECK PLAN - TOP REINFORCING STEEL

TABLE 1 - TABLE OF DIMENSIONS

DIM. A	11-S505, 10 SPA. @ 5 3/4" = 4'-9 1/2" (TO LAP WITH S508)
DIM. B	11-S508 (SER.), 10 SPA. @ 5 3/4" = 4'-9 1/2" (TO LAP WITH S505)
DIM. C	10-S510, 9 SPA. @ 5 3/4" = 4'-3 3/4" (TO LAP WITH S511)
DIM. D	10-S511 (SER.), 9 SPA. @ 5 3/4" = 4'-3 3/4" (TO LAP WITH S510 & S507)
DIM. E	10-S507, 9 SPA. @ 5 3/4" = 4'-3 3/4" (TO LAP WITH S511)
DIM. F	42-S512 (SER.), 41 SPA. @ 5 3/4" = 19'-7 3/4" (TO LAP WITH S507)
DIM. G	42-S507, 41 SPA. @ 5 3/4" = 19'-7 3/4" (TO LAP WITH S512)

- NOTES:**
1. MINIMUM LAP LENGTHS: #4 BAR = 1'-11" #5 BAR = 3'-2"
 2. SEE SHEET 30/41 FOR BOTTOM REINFORCING STEEL LAYOUT.
 3. SEE SHEET 28/41 FOR TRANSVERSE SECTION.
 4. SEE SHEET 41/41 FOR REINFORCING SCHEDULE.
 5. S501, S503, S514 AND S524 BARS HAVE MECHANICAL CONNECTORS. S507, S513, S520, AND S523 CONNECT TO THESE BARS. (MECHANICALLY CONNECTED BAR LENGTHS MEASURED TO PHASE CONSTRUCTION LINE)



BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

DECK PLAN TOP REINFORCING
BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

29 / 41

DESIGN AGENCY
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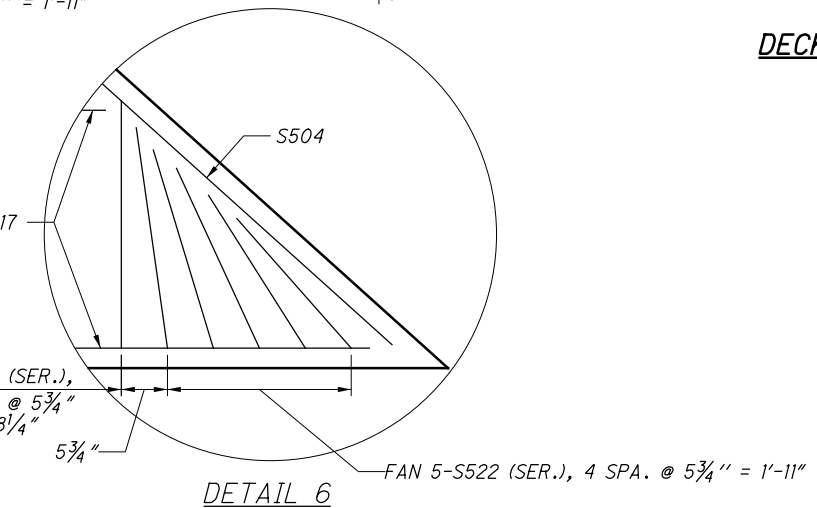
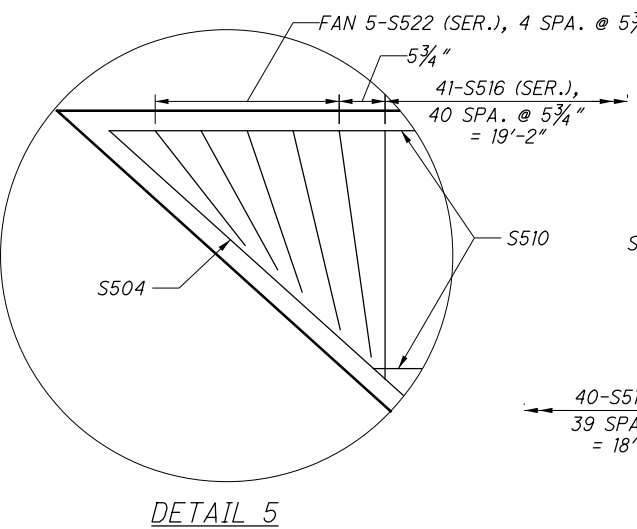
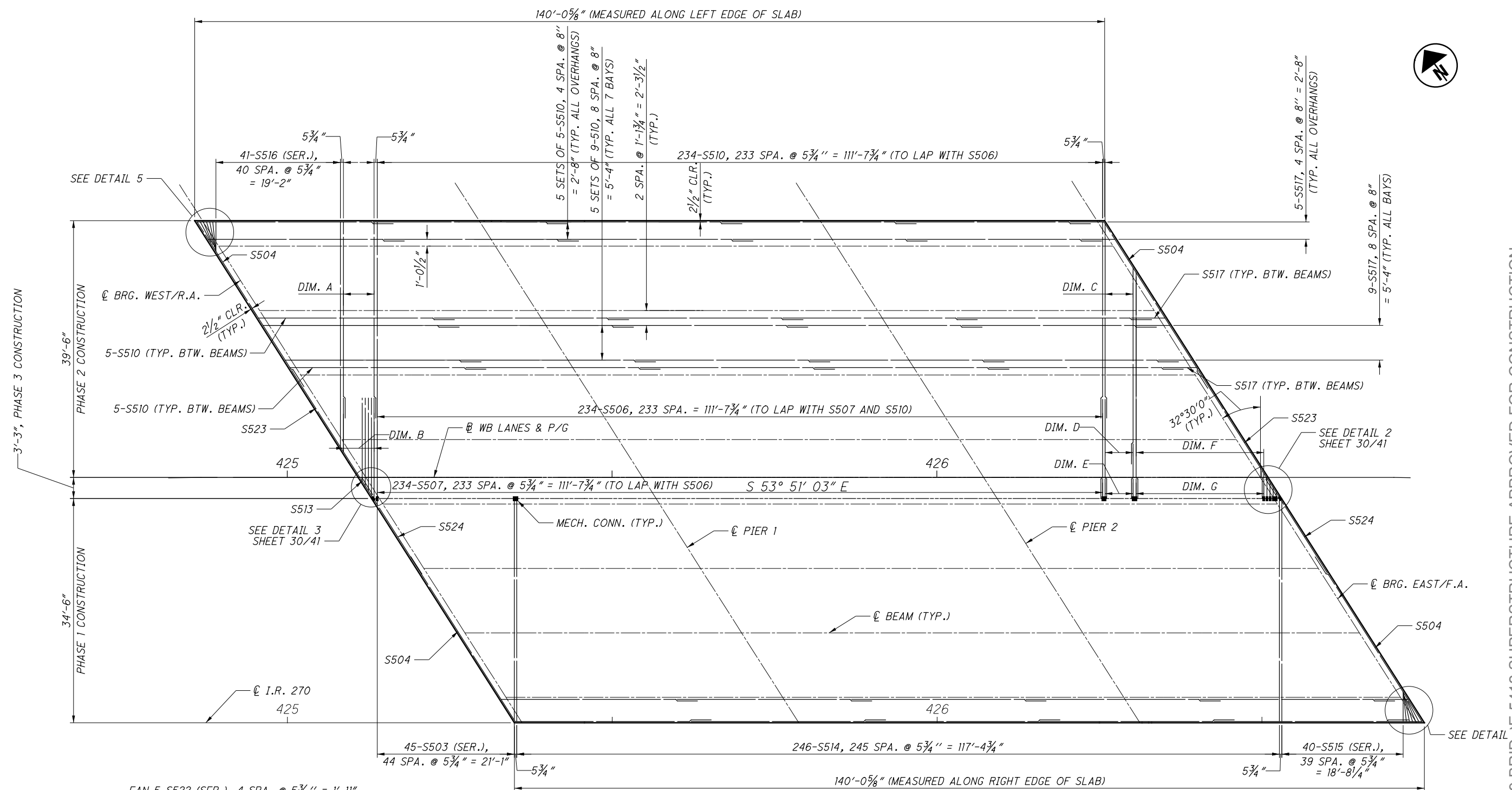
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DECK PLAN - BOTTOM REINFORCING STEEL

TABLE 1 - TABLE OF DIMENSIONS

DIM. A	11-S510, 10 SPA. @ 5 3/4" = 4'-9 1/2" (TO LAP WITH S508)
DIM. B	11-S508 (SER.), 10 SPA. @ 5 3/4" = 4'-9 1/2" (TO LAP WITH S505)
DIM. C	10-S510, 9 SPA. @ 5 3/4" = 4'-3 3/4" (TO LAP WITH S511)
DIM. D	10-S511 (SER.), 9 SPA. @ 5 3/4" = 4'-3 3/4" (TO LAP WITH S510 & S507)
DIM. E	10-S507, 9 SPA. @ 5 3/4" = 4'-3 3/4" (TO LAP WITH S511)
DIM. F	42-S512 (SER.), 41 SPA. @ 5 3/4" = 19'-7 3/4" (TO LAP WITH S507)
DIM. G	42-S507, 41 SPA. @ 5 3/4" = 19'-7 3/4" (TO LAP WITH S512)

- NOTES:**
1. MINIMUM LAP LENGTHS: #5 BAR = 3'-2"
 2. SEE SHEET 29/41 FOR TOP REINFORCING STEEL LAYOUT.
 3. SEE SHEET 28/41 FOR TRANSVERSE SECTION.
 4. SEE SHEET 41/41 FOR REINFORCING SCHEDULE.
 5. S501, S503, S514 AND S524 BARS HAVE MECHANICAL CONNECTORS. S507, S513, S520, AND S523 CONNECT TO THESE BARS. (MECHANICALLY CONNECTED BAR LENGTHS MEASURED TO PHASE CONSTRUCTION LINE)

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

DECK PLAN BOTTOM REINFORCING
 BRIDGE NO. FRA-270-5412 R
 OVER SCIOTO BIG RUN

FRA-270-52.72
 PID No. 92610

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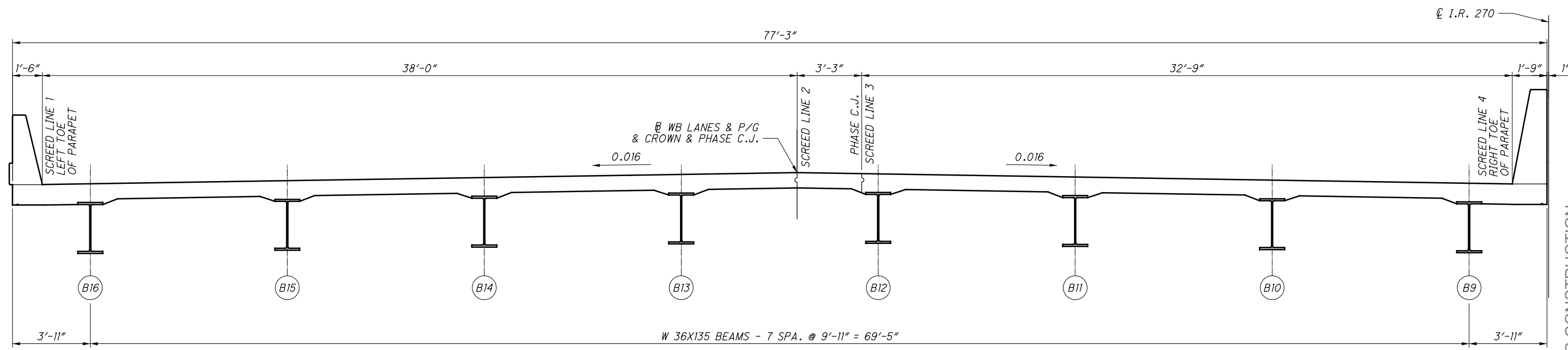
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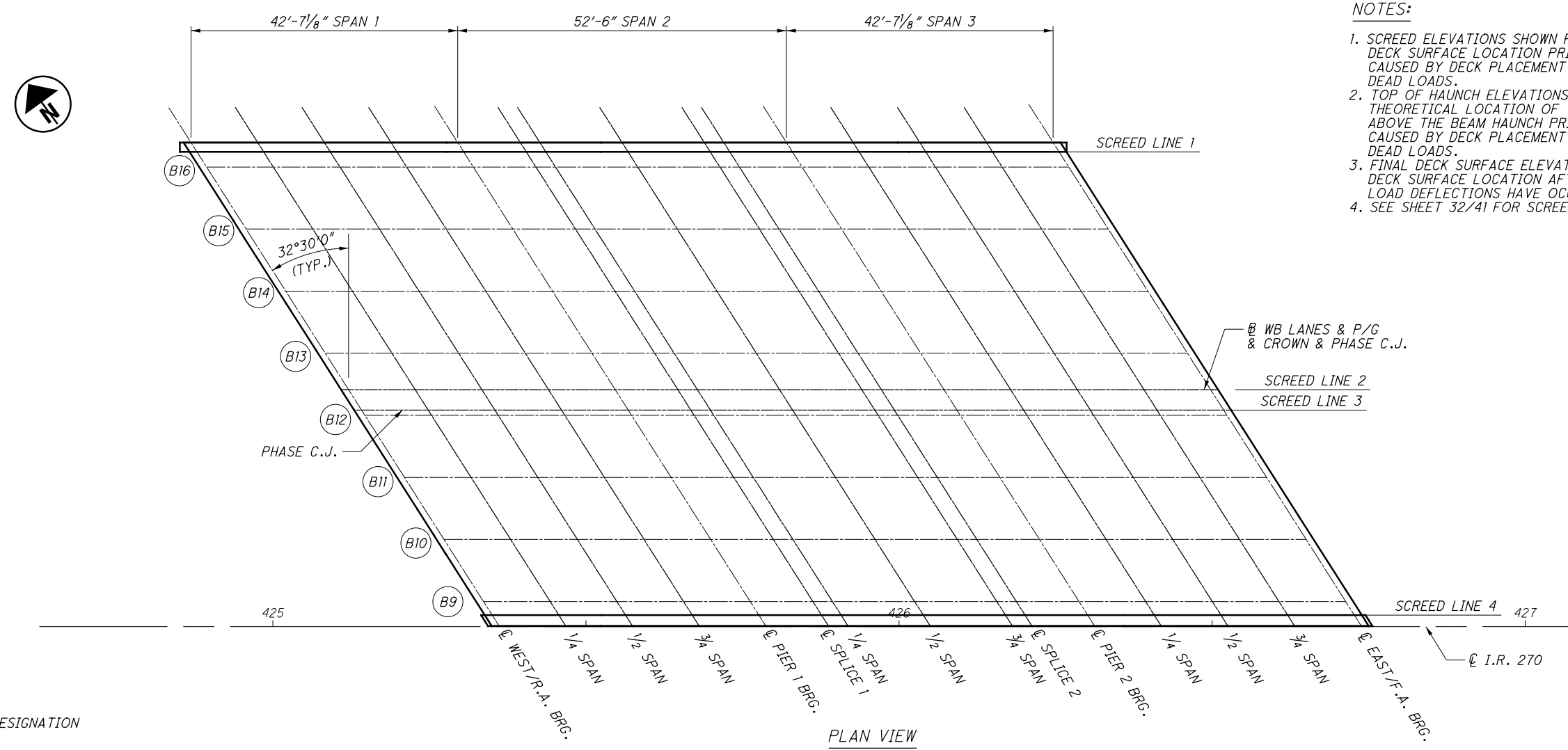
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TRANSVERSE SECTION



PLAN VIEW

NOTES:

1. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. SEE SHEET 32/41 FOR SCREED TABLES.

LEGEND:

(BX) PROPOSED BEAM DESIGNATION

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

SCREED, TOP OF HAUNCH & FINAL DECK ELEVATIONS

FRA-270-52.72
PID No. 92610

31/41

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RIGHT BRIDGE SCREED & FINAL DECK ELEVATION TABLE

SCREED LINE	DESCRIPTION	C R.A. BRGS.	SPAN 1			C BRGS. PIER 1	SPAN 2					C BRGS. PIER 2	SPAN 3			C F.A. BRGS.
			1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
LEFT TOE OF PARAPET	STATION	424+87.91	424+98.56	425+09.21	425+19.85	425+30.50	425+40.50	425+43.63	425+56.75	425+69.88	425+73.00	425+83.00	425+93.65	426+04.30	426+14.94	426+25.59
	FINAL DECK EL.	703.86	703.83	703.80	703.78	703.75	703.72	703.72	703.68	703.65	703.64	703.62	703.59	703.57	703.54	703.51
	SCREED EL.	703.86	703.84	703.82	703.78	703.75	703.73	703.73	703.70	703.66	703.65	703.62	703.60	703.58	703.55	703.51
WB LANES & P/G & CROWN & PHASE C.J. 1	STATION	425+12.12	425+22.77	425+33.42	425+44.06	425+54.71	425+64.71	425+67.84	425+80.96	425+94.09	425+97.21	426+07.21	426+17.86	426+28.51	426+39.15	426+49.80
	FINAL DECK EL.	704.40	704.38	704.35	704.32	704.30	704.27	704.26	704.23	704.20	704.19	704.17	704.14	704.11	704.09	704.06
	SCREED EL.	704.40	704.39	704.37	704.33	704.30	704.28	704.27	704.25	704.21	704.20	704.17	704.15	704.13	704.10	704.06
PHASE C.J. 2	STATION	425+14.19	425+24.84	425+35.49	425+46.13	425+56.78	425+66.78	425+69.91	425+83.03	425+96.16	425+99.28	426+09.28	426+19.93	426+30.58	426+41.22	426+51.87
	FINAL DECK EL.	704.33	704.30	704.28	704.25	704.22	704.20	704.19	704.16	704.13	704.12	704.09	704.07	704.04	704.01	703.99
	SCREED EL.	704.33	704.32	704.29	704.26	704.22	704.21	704.20	704.18	704.14	704.13	704.09	704.07	704.06	704.03	703.99
RIGHT TOE OF PARAPET	STATION	425+35.05	425+45.70	425+56.35	425+66.99	425+77.64	425+87.64	425+90.77	426+03.89	426+17.02	426+20.14	426+30.14	426+40.79	426+51.44	426+62.09	426+73.25
	FINAL DECK EL.	703.77	703.74	703.72	703.69	703.66	703.64	703.63	703.60	703.57	703.56	703.53	703.51	703.48	703.45	703.43
	SCREED EL.	703.77	703.76	703.73	703.70	703.66	703.65	703.64	703.62	703.58	703.57	703.53	703.51	703.49	703.46	703.43

RIGHT BRIDGE TOP OF HAUNCH & FINAL DECK ELEVATION TABLE

LOCATION	DESCRIPTION	C R.A. BRGS.	SPAN 1			C BRGS. PIER 1	SPAN 2					C BRGS. PIER 2	SPAN 3			C F.A. BRGS.
			1/4 SPAN	1/2 SPAN	3/4 SPAN		SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	SPLICE 2		1/4 SPAN	1/2 SPAN	3/4 SPAN	
BEAM 9	STATION	425+33.67	425+44.32	425+54.97	425+65.61	425+76.26	425+86.26	425+89.39	426+02.51	426+15.64	426+18.76	426+28.76	426+39.41	426+50.06	426+60.71	426+71.84
	FINAL DECK EL.	703.81	703.78	703.76	703.73	703.70	703.68	703.67	703.64	703.60	703.60	703.57	703.54	703.52	703.49	703.46
	TOP HAUNCH	703.06	703.04	703.02	702.99	702.95	702.93	702.93	702.90	702.86	702.85	702.82	702.80	702.78	702.75	702.71
BEAM 10	STATION	425+27.35	425+38.00	425+48.65	425+59.30	425+69.95	425+79.95	425+83.08	425+96.20	426+09.33	426+12.45	426+22.45	426+33.10	426+43.75	426+54.39	426+65.04
	FINAL DECK EL.	703.98	703.96	703.93	703.90	703.88	703.85	703.84	703.81	703.78	703.77	703.75	703.72	703.69	703.67	703.64
	TOP HAUNCH	703.23	703.22	703.20	703.16	703.13	703.11	703.10	703.08	703.04	703.03	703.00	702.98	702.96	702.93	702.89
BEAM 11	STATION	425+21.04	425+31.69	425+42.34	425+52.98	425+63.63	425+73.63	425+76.76	425+89.88	426+03.01	426+06.13	426+16.13	426+26.78	426+37.43	426+48.07	426+58.72
	FINAL DECK EL.	704.16	704.13	704.10	704.08	704.05	704.03	704.02	703.99	703.95	703.94	703.92	703.89	703.87	703.84	703.81
	TOP HAUNCH	703.41	703.39	703.37	703.33	703.30	703.28	703.28	703.25	703.21	703.20	703.17	703.15	703.13	703.10	703.06
BEAM 12	STATION	425+14.72	425+25.37	425+36.02	425+46.66	425+57.31	425+67.31	425+70.44	425+83.56	425+96.69	425+99.81	426+09.81	426+20.46	426+31.11	426+41.75	426+52.40
	FINAL DECK EL.	704.33	704.31	704.28	704.25	704.23	704.20	704.19	704.16	704.13	704.12	704.09	704.07	704.04	704.01	703.99
	TOP HAUNCH	703.58	703.57	703.54	703.51	703.48	703.46	703.45	703.43	703.39	703.38	703.34	703.32	703.31	703.28	703.24
BEAM 13	STATION	425+08.40	425+19.05	425+29.70	425+40.34	425+50.99	425+60.99	425+64.12	425+77.24	425+90.37	425+93.49	426+03.49	426+14.14	426+24.79	426+35.44	426+46.09
	FINAL DECK EL.	704.32	704.29	704.27	704.24	704.21	704.19	704.18	704.15	704.12	704.11	704.08	704.06	704.03	704.00	703.98
	TOP HAUNCH	703.57	703.56	703.53	703.50	703.46	703.45	703.44	703.42	703.38	703.37	703.33	703.31	703.29	703.27	703.23
BEAM 14	STATION	425+02.08	425+12.73	425+23.38	425+34.03	425+44.68	425+54.68	425+57.81	425+70.93	425+84.06	425+87.18	425+97.18	426+07.83	426+18.48	426+29.12	426+39.77
	FINAL DECK EL.	704.18	704.15	704.12	704.10	704.07	704.05	704.04	704.00	703.97	703.96	703.94	703.91	703.89	703.86	703.83
	TOP HAUNCH	703.43	703.41	703.39	703.35	703.32	703.30	703.30	703.27	703.23	703.22	703.19	703.17	703.15	703.12	703.08
BEAM 15	STATION	424+95.76	425+06.41	425+17.06	425+27.71	425+38.36	425+48.36	425+51.49	425+64.61	425+77.74	425+80.86	425+90.86	426+01.51	426+12.16	426+22.80	426+33.45
	FINAL DECK EL.	704.03	704.01	703.98	703.95	703.93	703.90	703.89	703.86	703.83	703.82	703.80	703.77	703.74	703.72	703.69
	TOP HAUNCH	703.28	703.27	703.25	703.21	703.18	703.16	703.16	703.13	703.09	703.08	703.05	703.03	703.01	702.98	702.94
BEAM 16	STATION	424+89.45	425+00.10	425+10.75	425+21.39	425+32.04	425+42.04	425+45.17	425+58.29	425+71.42	425+74.54	425+84.54	425+95.19	426+05.84	426+16.48	426+27.13
	FINAL DECK EL.	703.89	703.86	703.84	703.81	703.78	703.76	703.75	703.72	703.69	703.68	703.65	703.63	703.60	703.57	703.55
	TOP HAUNCH	703.14	703.13	703.10	703.07	703.03	703.02	703.01	702.99	702.95	702.94	702.90	702.88	702.86	702.84	702.80

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

SCREED, TOP OF HAUNCH & FINAL DECK ELEVATIONS

BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72

PID No. 92610

32/41



DESIGN AGENCY
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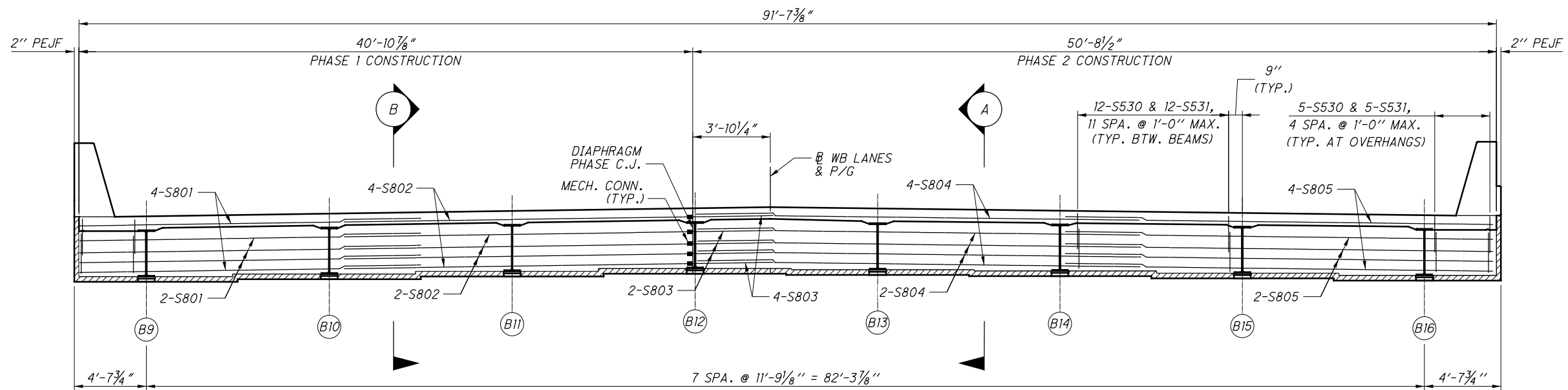
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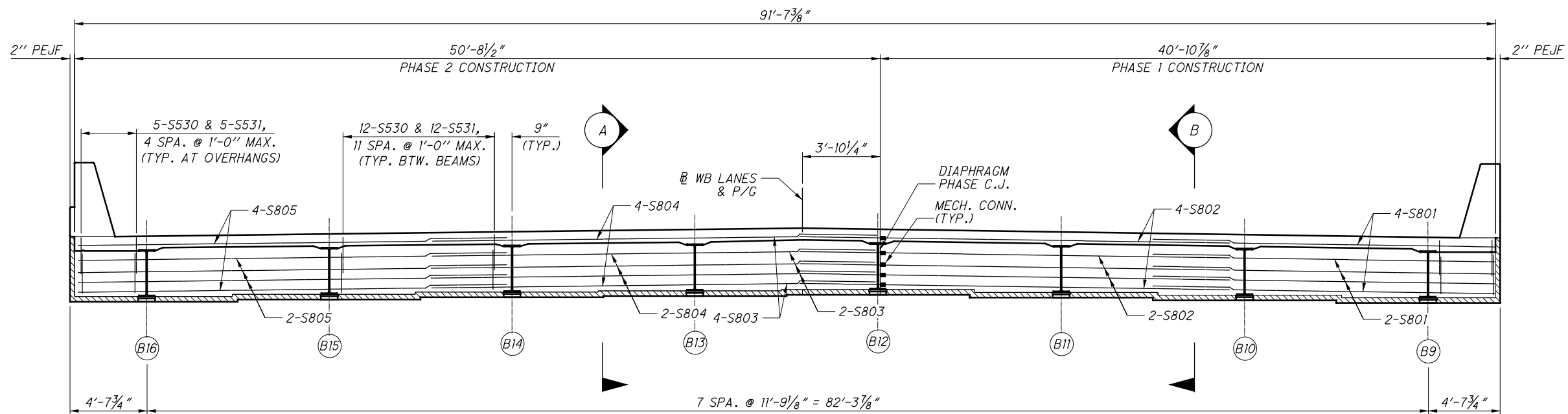
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REAR/WEST DIAPHRAGM ELEVATION
(DIMENSIONS MEASURED ALONG C. BRG. WEST/R.A.)
(NEOPRENE SHEETING NOT SHOWN FOR CLARITY)



FORWARD/EAST DIAPHRAGM ELEVATION
(DIMENSIONS MEASURED ALONG C. BRG. EAST/F.A.)
(NEOPRENE SHEETING NOT SHOWN FOR CLARITY)

LEGEND:

(BX) - PROPOSED BEAM DESIGNATION

NOTES:

1. SEE SHEET 22/26 OF THE SUBSTRUCTURE PLANS FOR SECTIONS A & B.
2. MIN LAP #8 BARS: 4'-11"
3. SEE SHEETS 20/26 AND 21/26 OF THE SUBSTRUCTURE PLANS FOR ABUTMENT DETAILS.
4. SEE SHEET 41/41 FOR REINFORCING SCHEDULE.
5. S802 BARS HAVE MECHANICAL CONNECTORS. S803 BARS CONNECT TO S802 BARS (MECHANICALLY CONNECTED BAR LENGTHS MEASURED TO PHASE CONSTRUCTION LINE).

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BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

DIAPHRAGM DETAILS
BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72
PID No. 92610

33 / 41

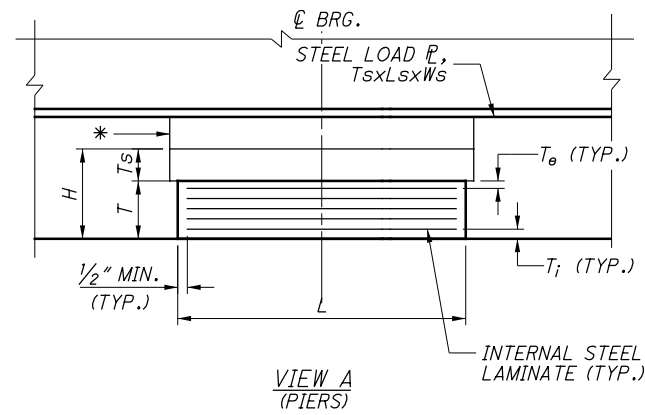
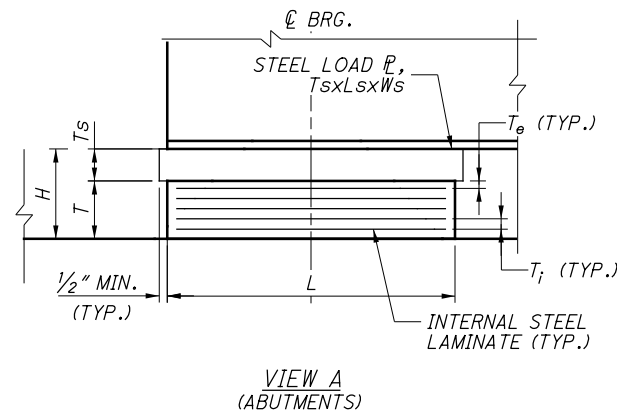
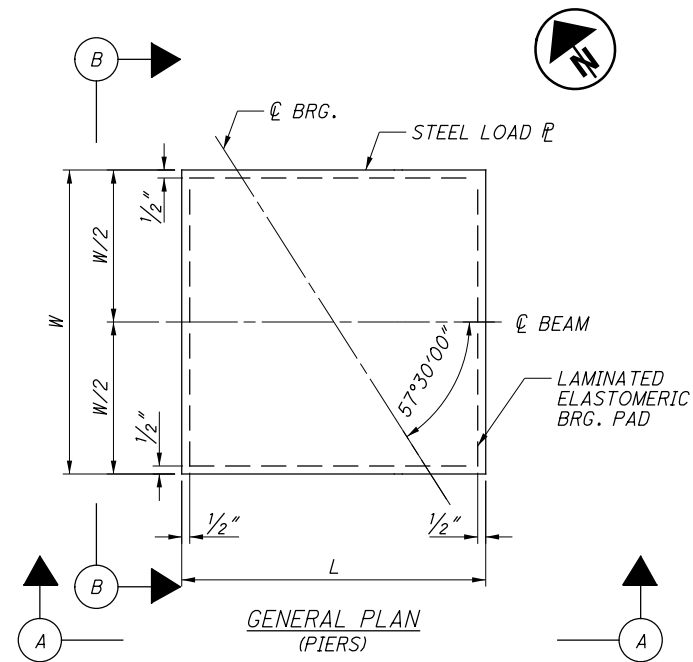
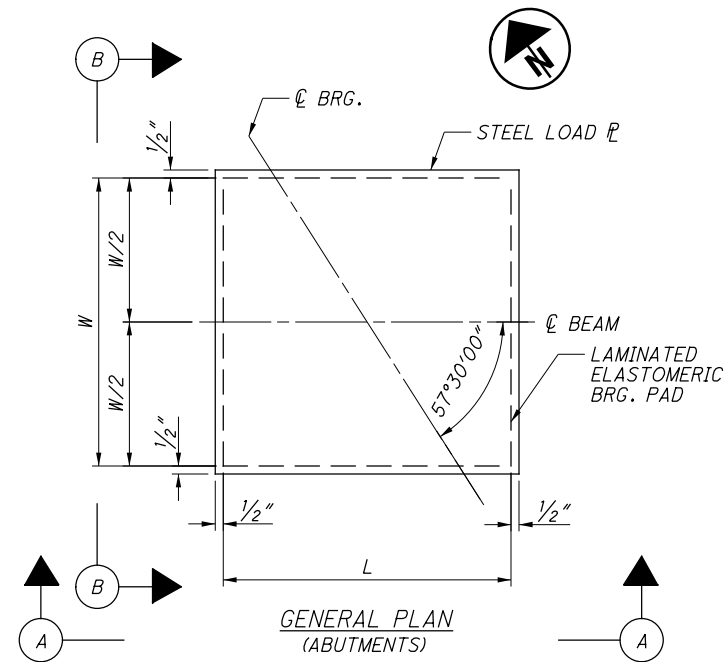
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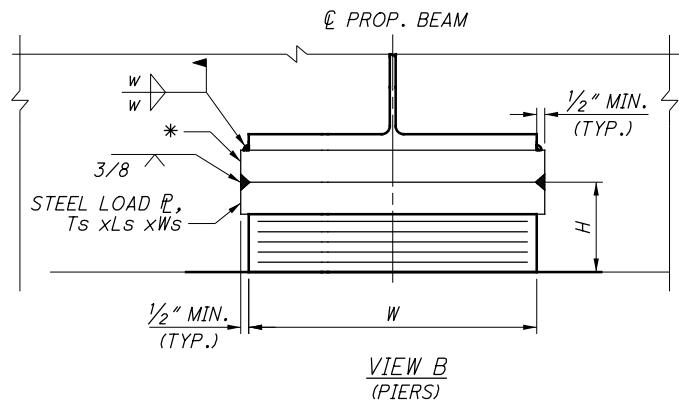
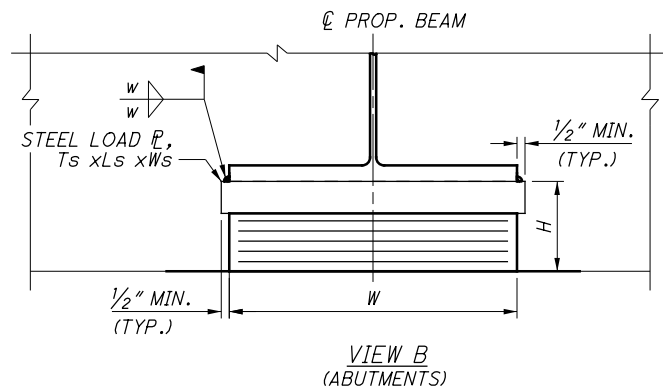
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* - 1/2" SHIM PLATE AT BEAM 13 (PIER 1)
2" SHIM PLATE AT BEAM 13 (PIER 2)



* - 1/2" SHIM PLATE AT BEAM 13 (PIER 1)
2" SHIM PLATE AT BEAM 13 (PIER 2)

NOTES:

- INTERNAL STEEL LAMINATE THICKNESS = 0.0747 INCH (14 GAGE).
- THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION 1, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
- EACH BEARING ASSEMBLY SHALL BE SHOP MARKED WITH THE FOLLOWING INFORMATION: TOP, FORWARD STATION DIRECTION, AND LOCATION (REAR ABUTMENT, PIER NUMBER, FORWARD ABUTMENT).
- THE STEEL LOAD PLATE SHALL BE ASTM A709 GRADE 50 STRUCTURAL STEEL AND SHALL BE CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE PERFORMED IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 514. THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

TABLE DEFINITIONS:

- ti = THICKNESS OF INTERNAL LAYER
- te = THICKNESS OF EXTERNAL LAYER
- T = TOTAL THICKNESS OF ELASTOMERIC BEARING
- N = NUMBER OF STEEL LAMINATES

SUBSTRUCTURE UNIT	TYPE	BEARING DIMENSIONS							STEEL LOAD PLATE			SERVICE REACTIONS (KIP)		
		L	W	Te	Ti	N	T	H	Ts	Ls	Ws	DL	LL (MAX.)	DESIGN
R.A. & F.A.	EXP.	12"	14"	3/8"	1/2"	4	2 1/2"	4"	1 1/2"	13"	15"	35.0	67.0	102.0
PIERS 1 & 2	EXP.	15"	17"	3/8"	1/2"	4	2 1/2"	4"	1 1/2"	16"	18"	112.0	80.0	192.0

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

ELASTOMERIC BEARING & SHIM PLATE DETAILS

BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72

PID No. 92610

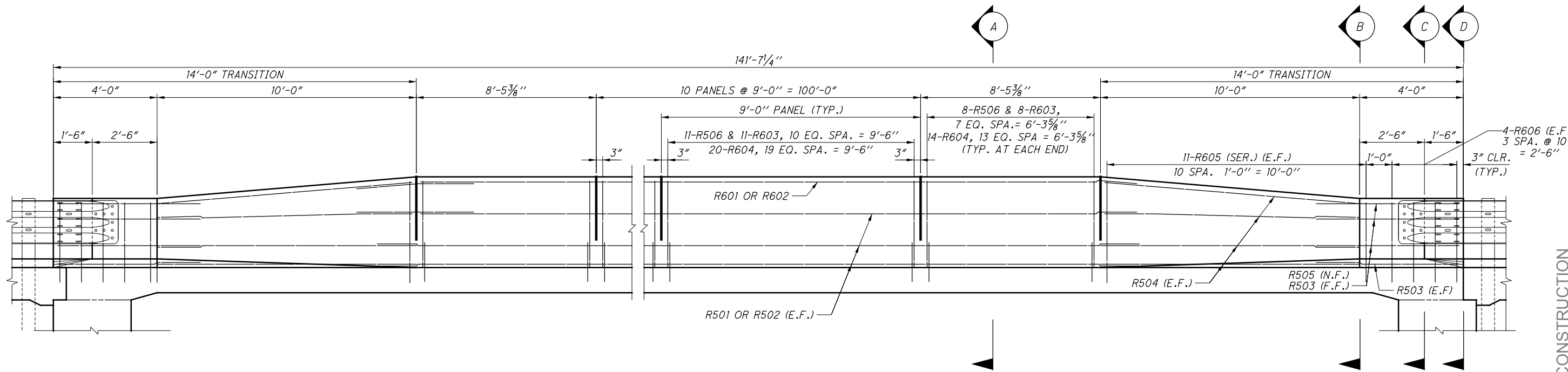
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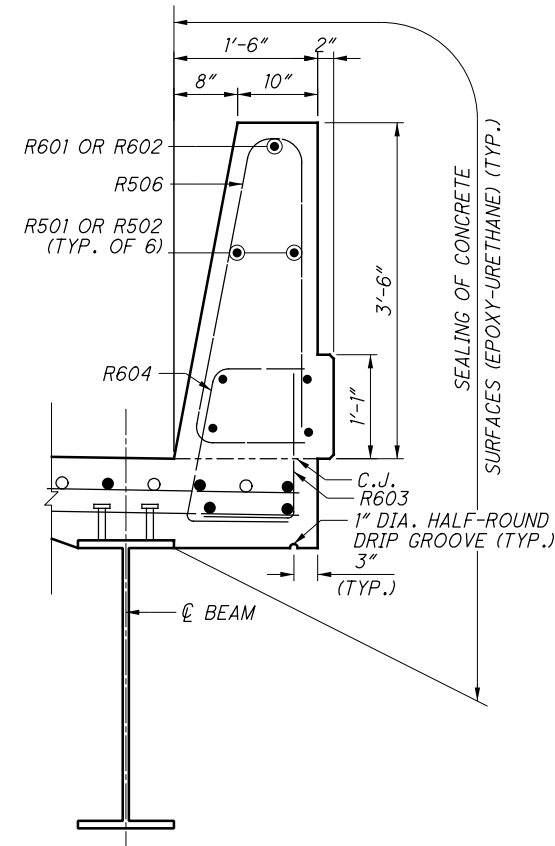
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DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

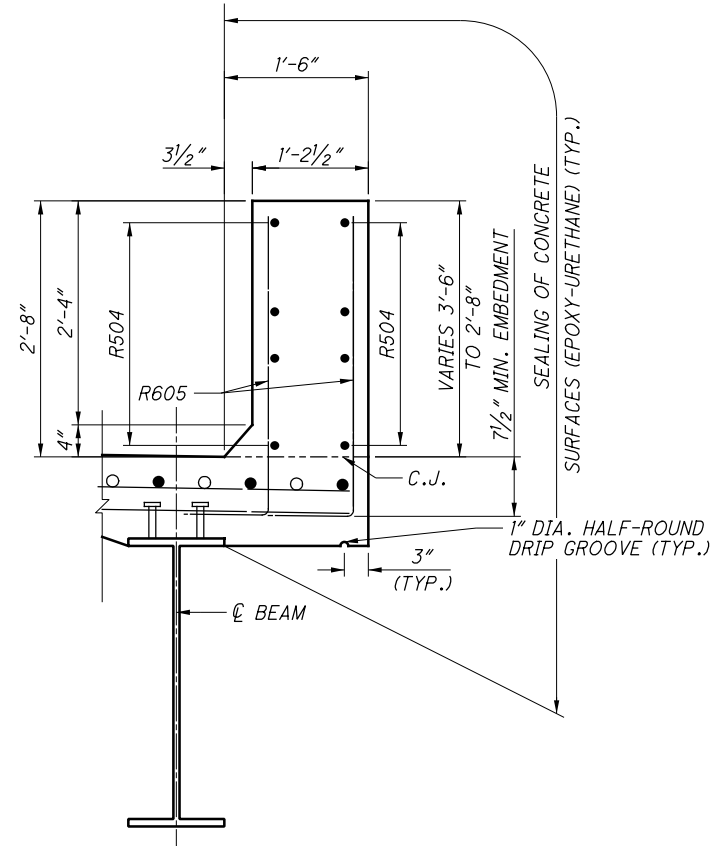


PARAPET REINFORCING DETAIL

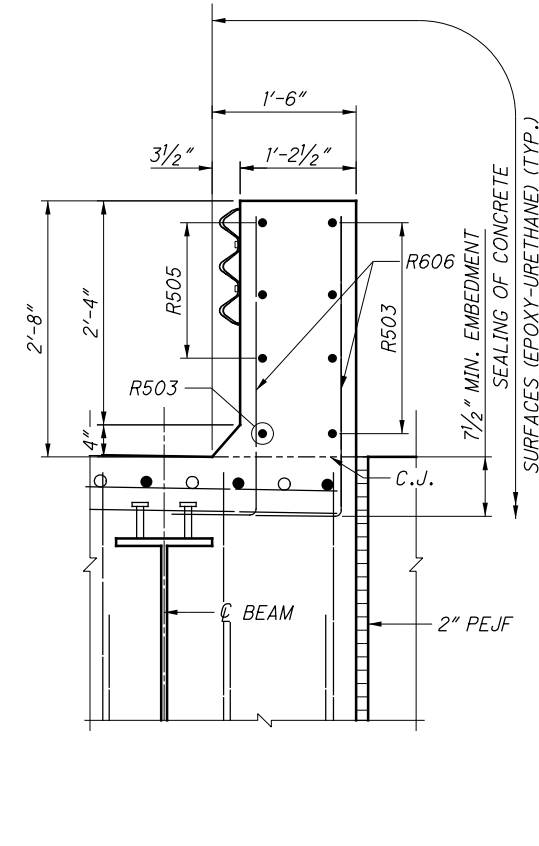
- NOTES:**
1. FOR NOTES AND ADDITIONAL DETAILS SEE STANDARD DRAWING SBR-1-99.
 2. MINIMUM LAP LENGTHS:
#5 BARS 2'-5"
#6 BARS 4'-1"
 3. SEE SHEETS 41/41 FOR REINFORCING TABLE.
 4. SEE SHEET 36/41 FOR MEDIAN PARAPET DETAILS.



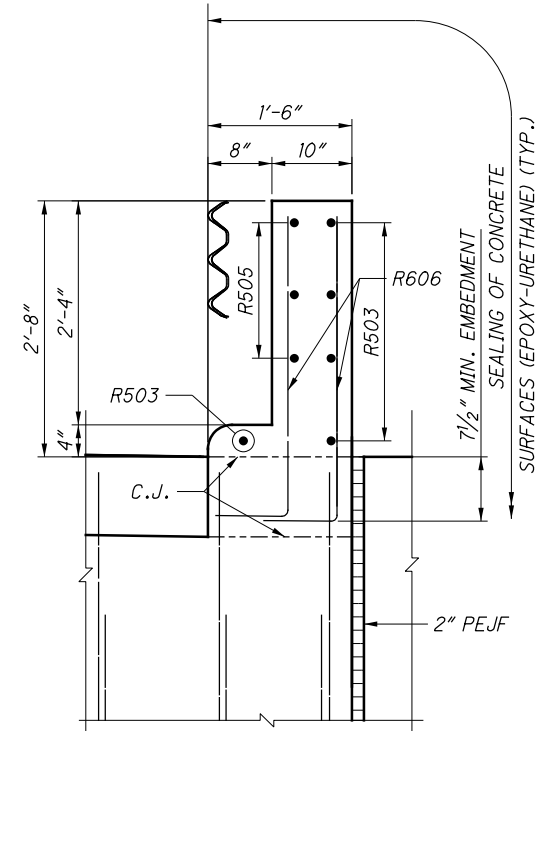
SECTION A



SECTION B



SECTION C



SECTION D

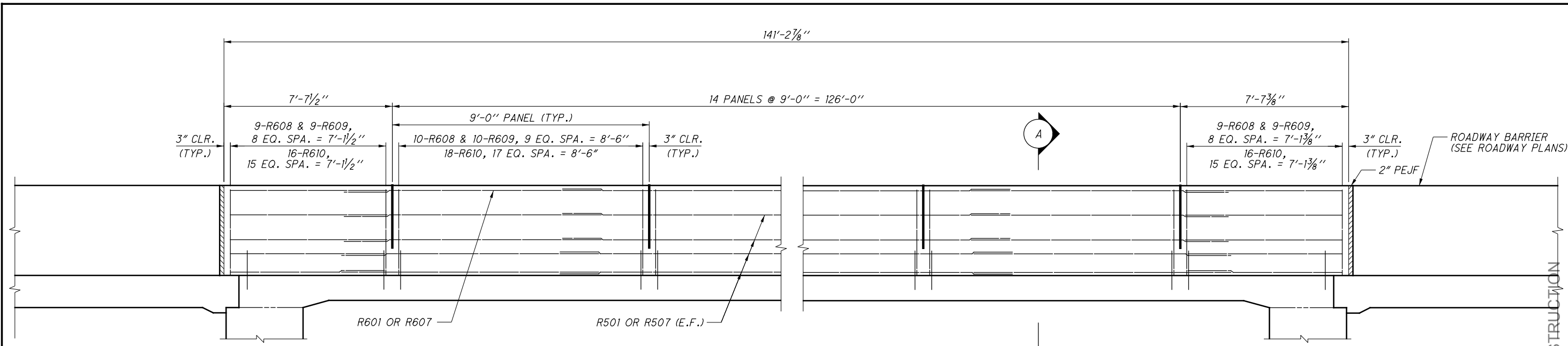
BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

OUTER PARAPET DETAILS
BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

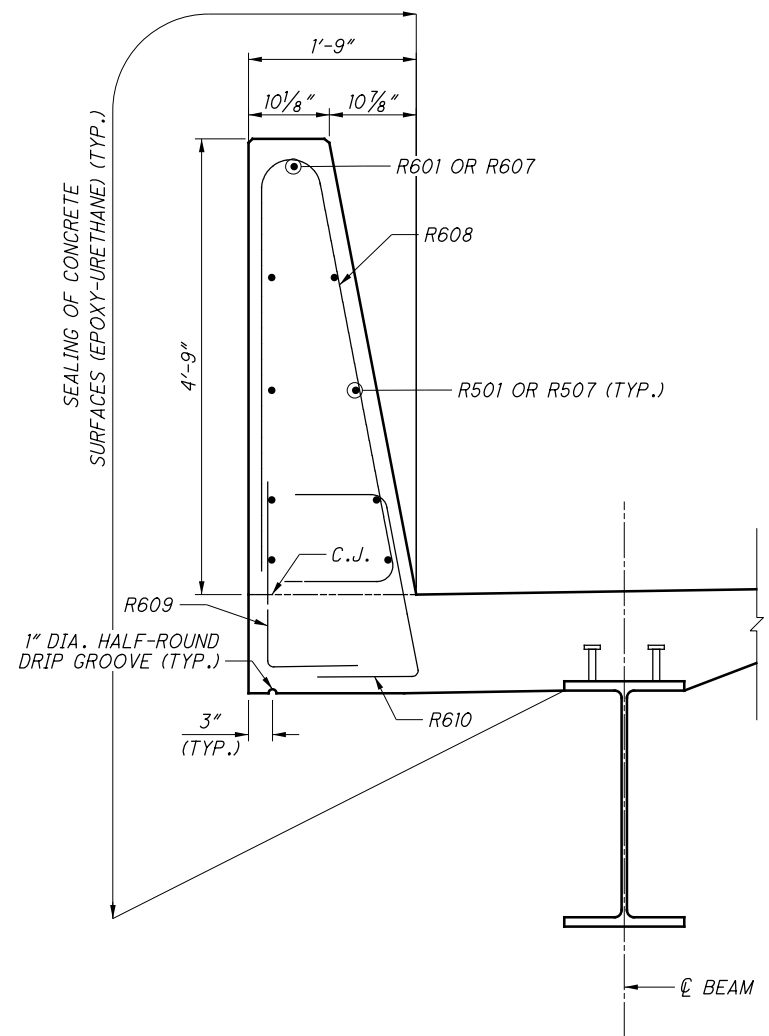
FRA-270-52.72
PID No. 92610

DESIGNED	PPA	CHECKED	NCM
DRAWN	CSW	REVISED	
REVIEWED	JEP	STRUCTURE FILE NUMBER	2513269
DATE	11/2013		

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PARAPET REINFORCING DETAIL



SECTION A

(DECK BARS NOT SHOWN FOR CLAIRTY)

NOTES:

1. MINIMUM LAP LENGTHS:
#5 BARS 2'-5"
#6 BARS 4'-1"
2. SEE SHEETS 41/41 FOR REINFORCING TABLE.
3. SEE SHEET 35/41 FOR OUTER PARAPET DETAILS.

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

MEDIAN PARAPET DETAILS
BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

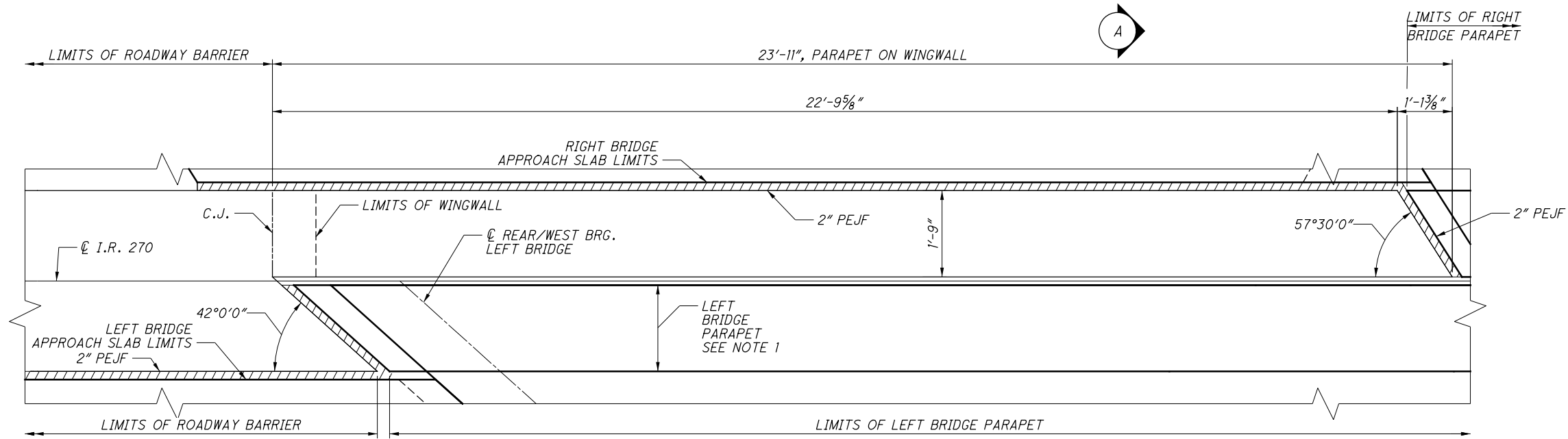
FRA-270-52.72
PID No. 92610

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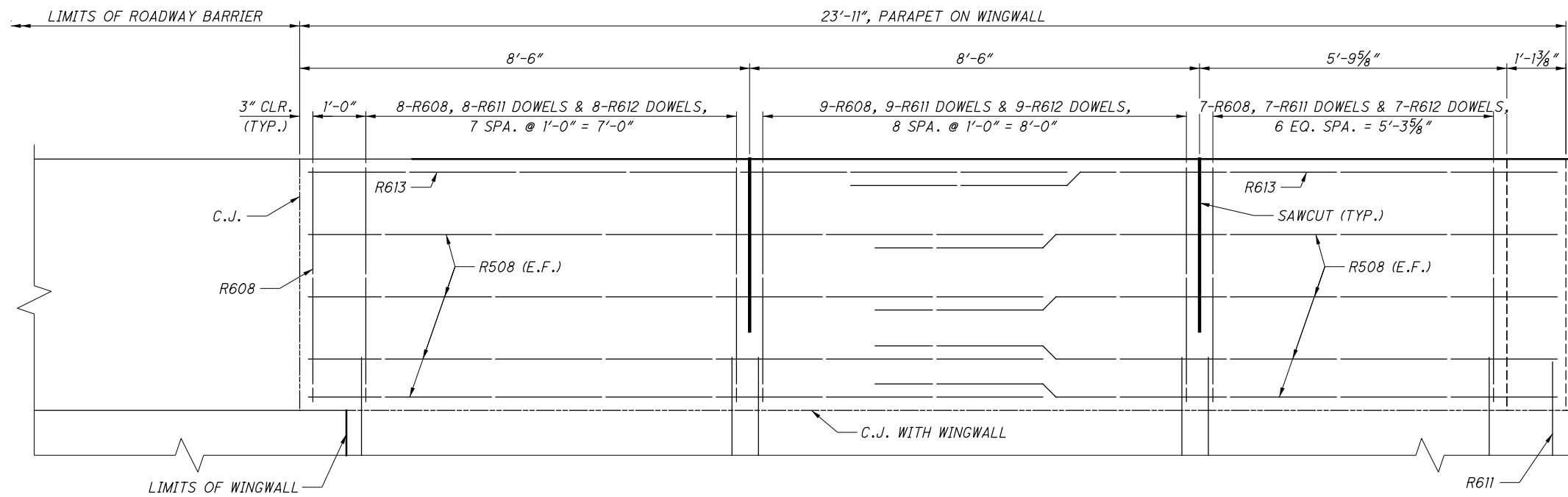
DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

DESIGNED	PPA	CHECKED	NCM
DRAWN	CSW	REVISED	
REVIEWED	JEP	STRUCTURE FILE NUMBER	2513269
DATE	11/2013		

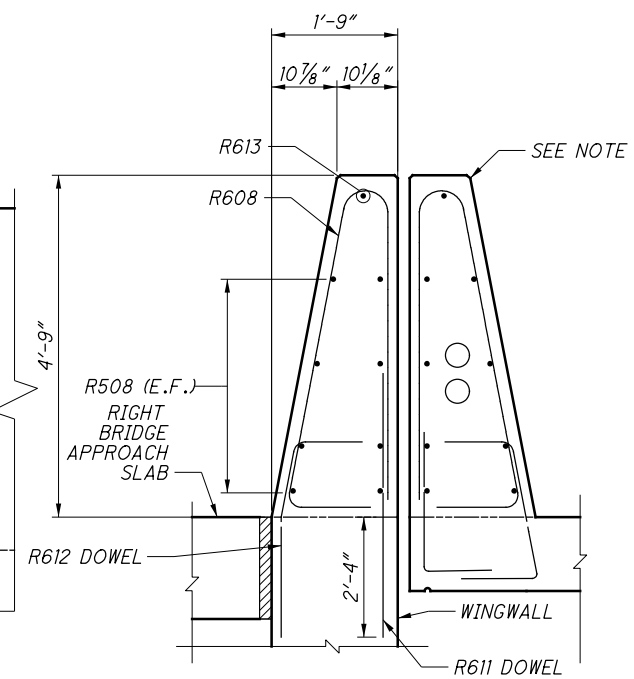
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REAR APPROACH PARAPET PLAN



REAR APPROACH PARAPET ELEVATION
(LEFT BRIDGE PARAPET NOT SHOWN FOR CLARITY)



SECTION A

NOTES:

- SEE SHEET 17/41 FOR LEFT BRIDGE MEDIAN PARAPET AND SHEET 36/41 FOR RIGHT BRIDGE MEDIAN PARAPET.
- MINIMUM LAP LENGTH:
#5 = 2'-5"
#6 = 4'-1"

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

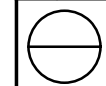
MISCELLANEOUS PARAPET DETAILS

BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

FRA-270-52.72

PID No. 92610

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DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

DATE
11/2013

DESIGNED
JAD

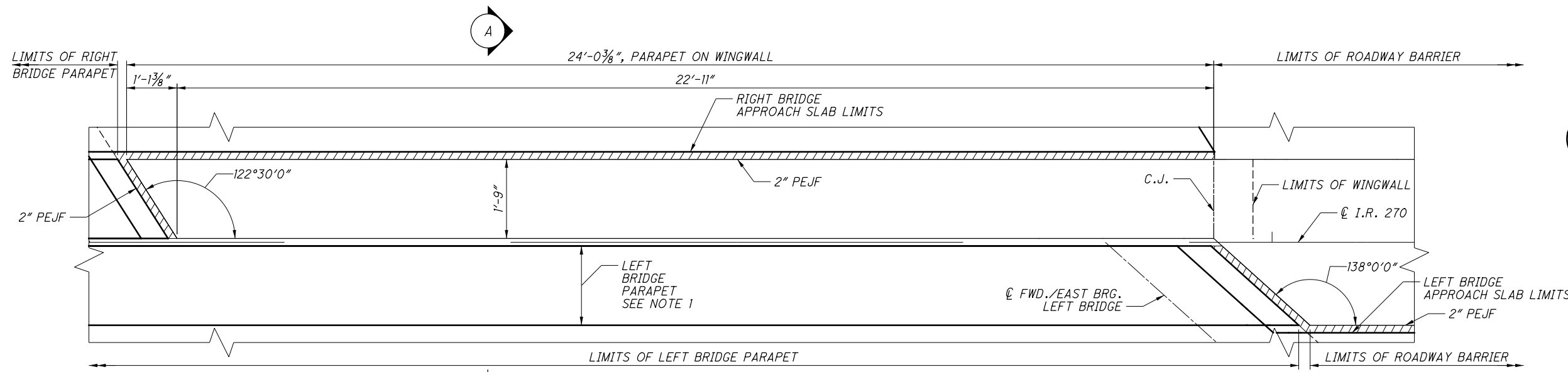
DRAWN
CSW

REVIEWED
JEP

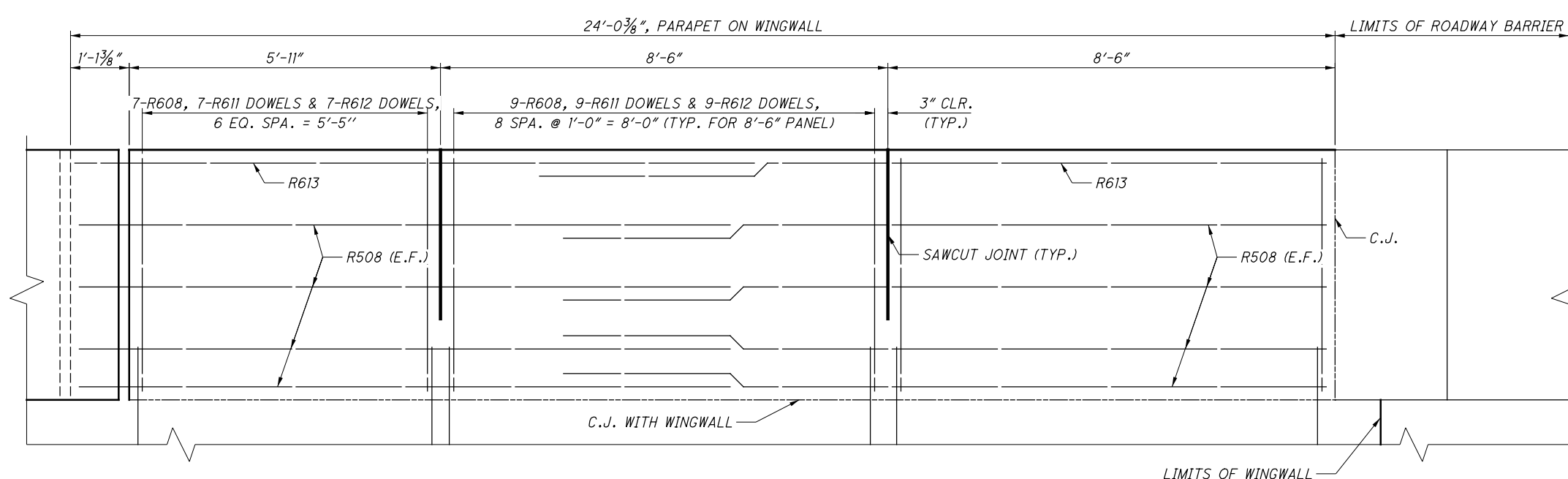
STRUCTURE FILE NUMBER
2513269

CHECKED
PPA

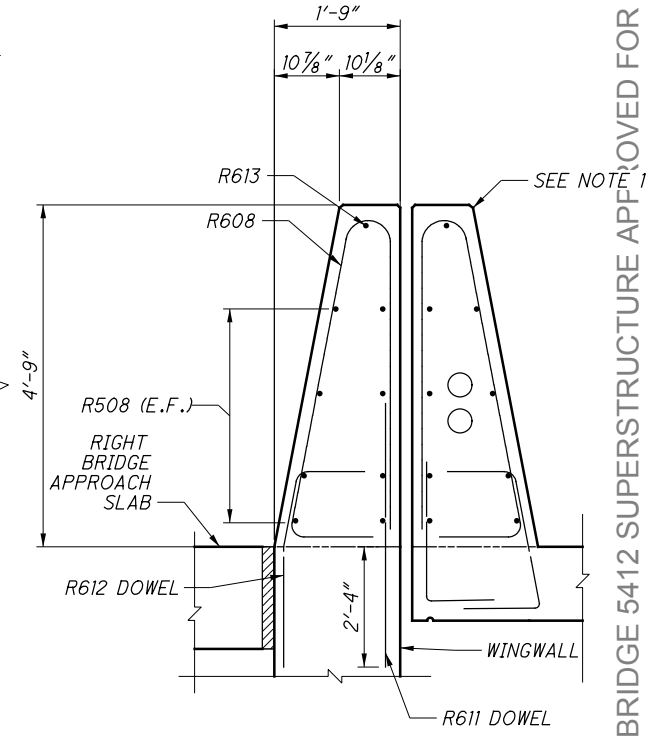
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FORWARD APPROACH PARAPET PLAN



FORWARD APPROACH PARAPET ELEVATION
(LEFT BRIDGE PARAPET NOT SHOWN FOR CLARITY)



SECTION A

- NOTES:**
- SEE SHEET 17/41 FOR LEFT BRIDGE MEDIAN PARAPET AND SHEET 36/41 FOR RIGHT BRIDGE MEDIAN PARAPET.
 - MINIMUM LAP LENGTH:
#5 = 2'-5"
#6 = 4'-1"

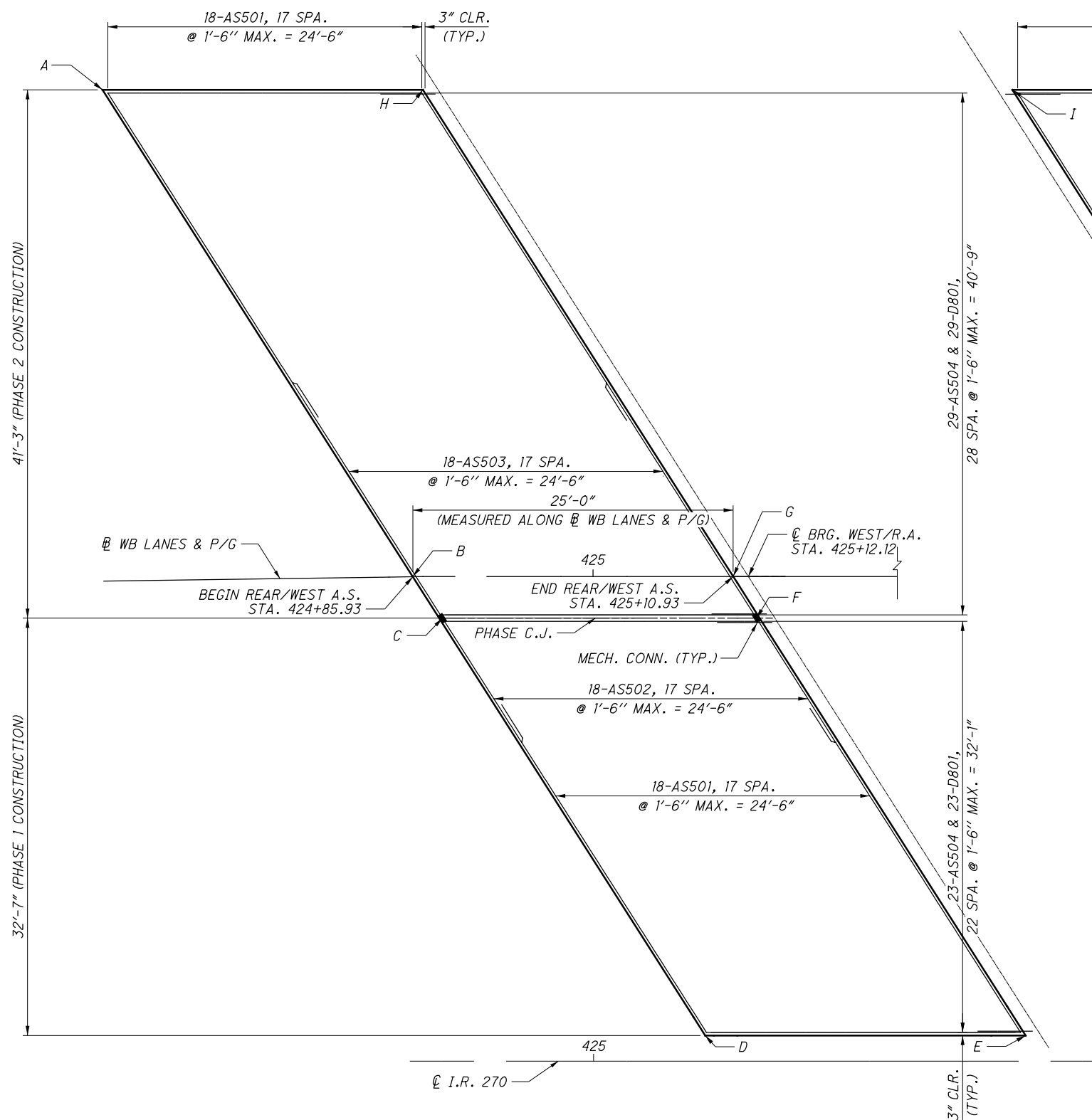
BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION
MISCELLANEOUS PARAPET DETAILS
 BRIDGE NO. FRA-270-5412 R
 OVER SCIOTO BIG RUN

DESIGNED JAD	CHECKED PPA	DRAWN CSW	REVISED
REVIEWED JEP	DATE 11/2013	STRUCTURE FILE NUMBER 2513269	DESIGN AGENCY BARR & PREVOUST 2800 CORPORATE EXCHANGE DR., STE 240 COLUMBUS, OH 43231 (614) 714-0270 FAX (614) 714-0323

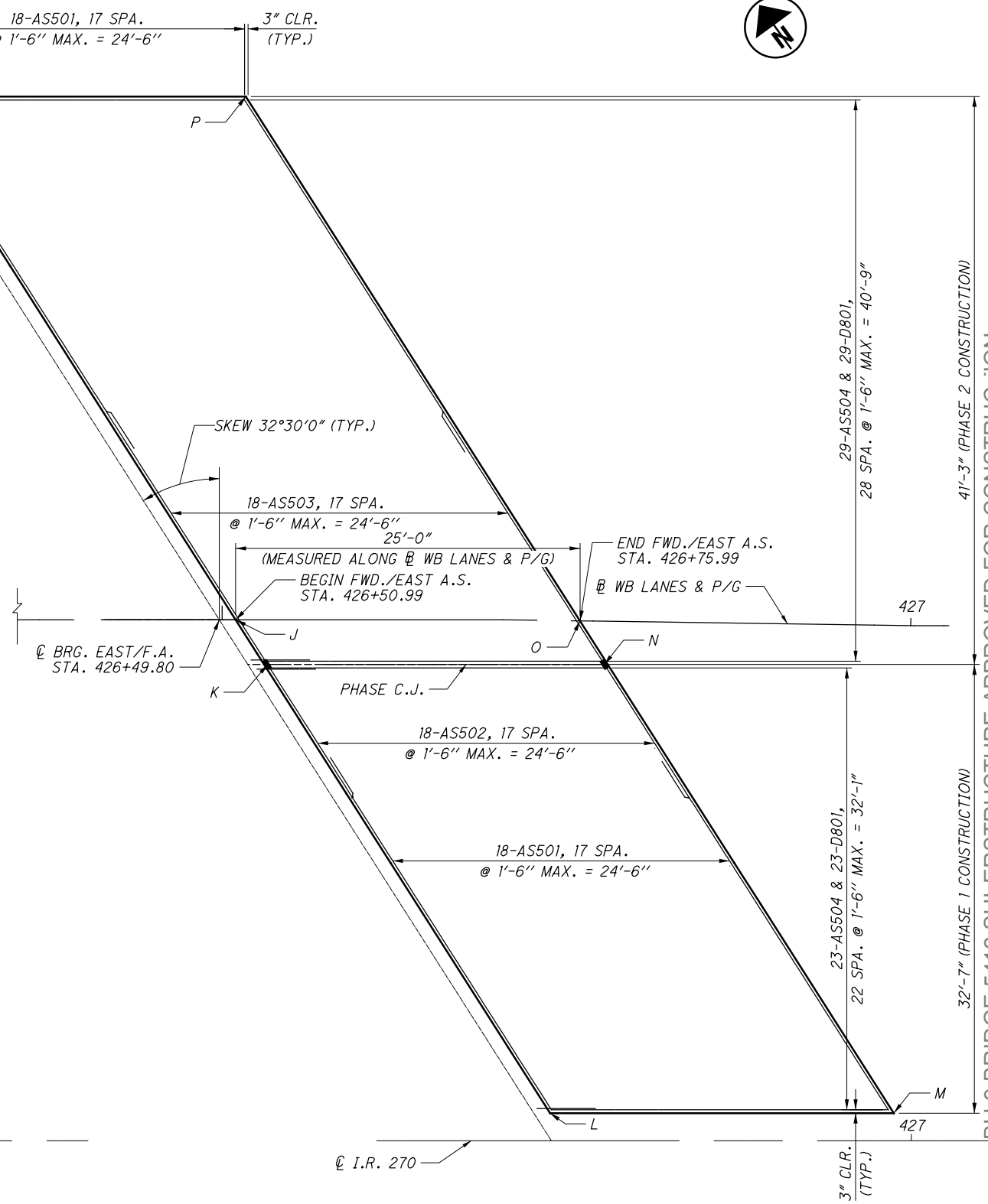
FRA-270-52.72
PID No. 92610

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REAR/WEST APPROACH SLAB TOP REINFORCING PLAN



FORWARD/EAST APPROACH SLAB TOP REINFORCING PLAN

REAR APPROACH SLAB LOCATION			
	STATION	OFFSET	ELEVATION
A	424+62.26	38.35' LT.	703.87
B	424+85.93	0.00'	704.41
C	424+87.99	3.25' RT.	704.35
D	425+08.75	35.83' RT.	703.78
E	425+33.76	35.83' RT.	703.72
F	425+13.00	3.25' RT.	704.29
G	425+10.93	0.00'	704.35
H	424+86.72	38.00' LT.	703.80

FORWARD APPROACH SLAB LOCATION			
	STATION	OFFSET	ELEVATION
I	426+26.78	38.00' LT.	703.45
J	426+50.99	0.00'	704.00
K	426+53.06	3.25' RT.	703.94
L	426+74.33	35.78' RT.	703.37
M	426+99.28	35.42' RT.	703.31
N	426+78.05	3.14' RT.	703.88
O	426+75.99	0.00'	703.94
P	426+51.73	38.00' LT.	703.39

(* STATIONS AND OFFSETS TAKEN FROM WB LANES & P/G

- NOTES:
- SEE STD. DWG. AS-1-81 FOR ADDITIONAL DETAILS NOT SHOWN.
 - SEE SHEET 40/41 FOR BOTTOM APPROACH SLAB STEEL.
 - LAP LENGTHS: #5 = 2'-5"
 - SEE SHEET 41/41 FOR REINFORCING SCHEDULE.
 - AS502 BARS HAVE MECHANICAL CONNECTORS. AS502 CONNECT TO AS503 BARS (MECHANICALLY CONNECTED BAR LENGTHS MEASURED TO PHASE CONSTRUCTION LINE).

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0323

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JEP

DATE
11/2013

BRIDGE NO. FRA-270-5412 R
OVER SCIOTO BIG RUN

STRUCTURE FILE NUMBER
2513269

FRA-270-52.72

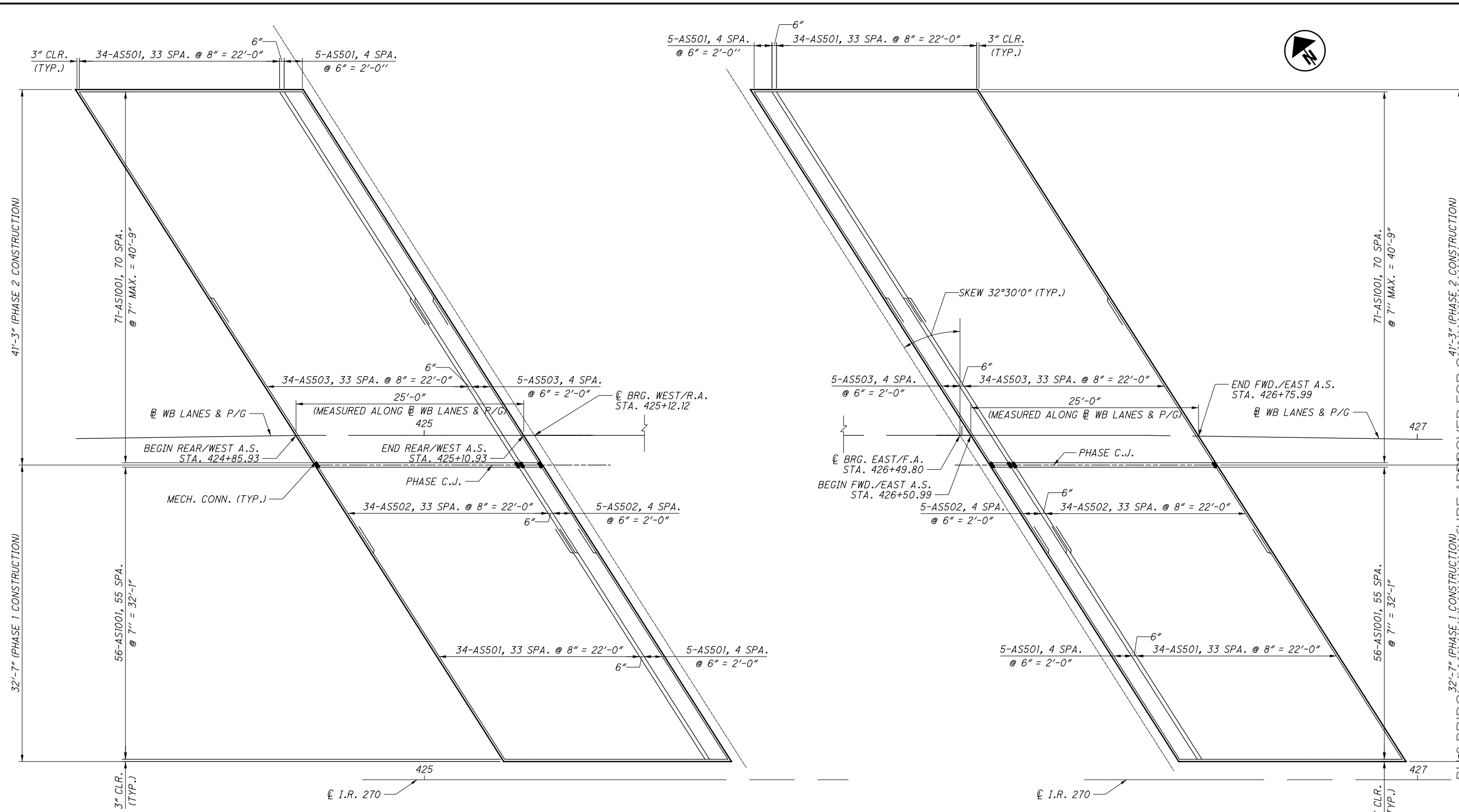
PID No. 92610

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

APPROACH SLAB TOP REINFORCING

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REAR/WEST APPROACH SLAB BOTTOM REINFORCING PLAN

FORWARD/EAST APPROACH SLAB BOTTOM REINFORCING PLAN

- NOTES:**
1. SEE STD. DWG. AS-1-81 FOR ADDITIONAL DETAILS NOT SHOWN.
 2. SEE SHEET 39/41 FOR TOP APPROACH SLAB STEEL.
 3. LAP LENGTHS: #5 = 2'-5"
 4. SEE SHEET 41/41 FOR REINFORCING SCHEDULE.
 5. AS502 BARS HAVE MECHANICAL CONNECTORS. AS502 CONNECT TO AS503 BARS (MECHANICALLY CONNECTED BAR LENGTHS MEASURED TO PHASE CONSTRUCTION LINE).

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION
 APPROACH SLAB BOTTOM REINFORCING
 BRIDGE NO. FRA-270-5412 R
 OVER SCIOTO BIG RUN

DESIGNED	RTF	CHECKED	PPA
DRAWN	CSW	REVISED	
REVIEWED	JEP	STRUCTURE FILE NUMBER	2513269
DATE	11/2013		

DESIGN AGENCY
 BARR & PREYOST
 2800 CORPORATE EXCHANGE DR., STE 240
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FRA-270-52.72
PID No. 92610

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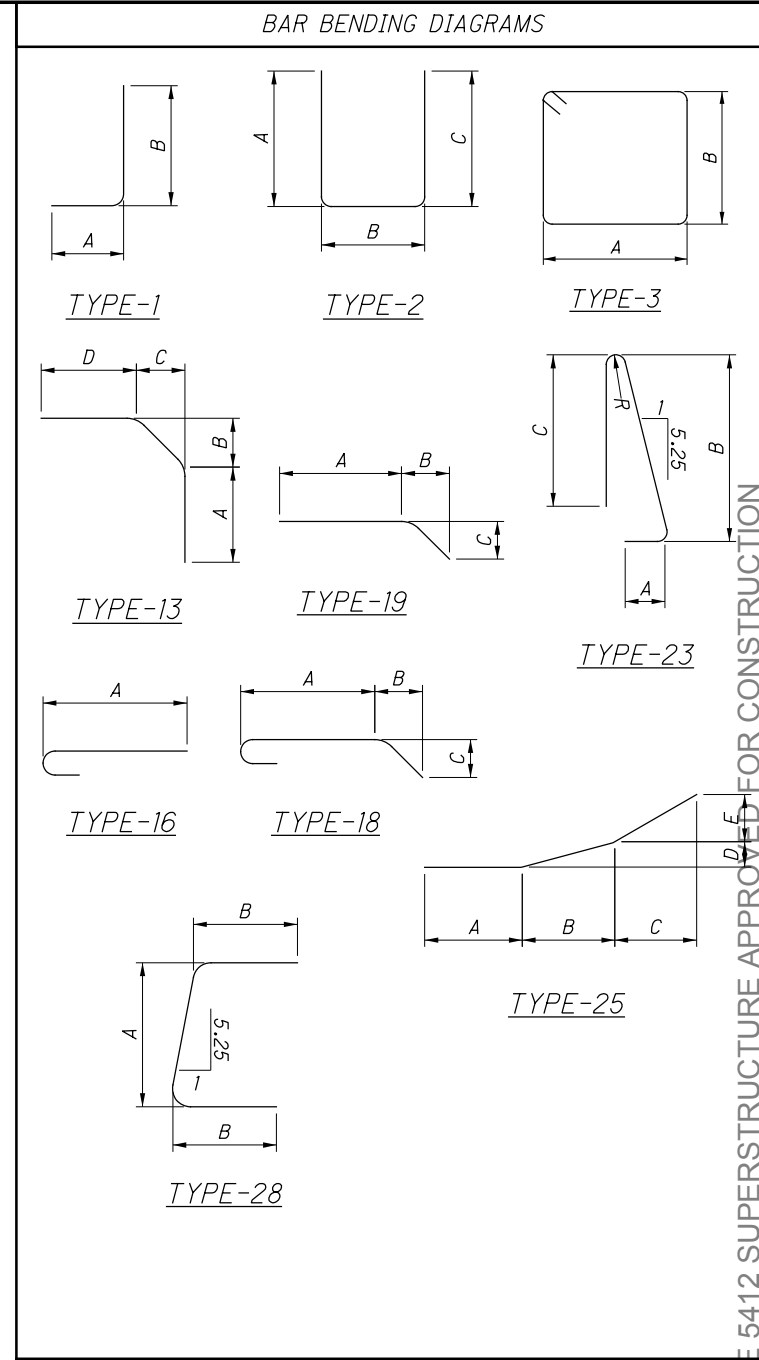
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SUPERSTRUCTURE (DECK)						
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS	
					A	INC.
S401	380	30'-0"	7615	ST.		
S402	95	27'-4"	1735	ST.		
* S501	246	34'-11"	8959	16	34'-4"	
	1	5'-2"			4'-7"	
S502	SER. OF	TO	826	16	TO	9"
	40	34'-5"			33'-10"	
	2	1'-7"				
* S503	SER. OF	TO	1697	ST.		9"
	45	34'-7"				
S504	4	30'-0"	125	ST.		
S505	249	30'-7"	7943	16	30'-0"	
S506	468	12'-6"	6102	ST.		
** S507	572	3'-2"	1889	ST.		
	2	9'-6"				
S508	SER. OF	TO	299	ST.		8 1/2"
	11	16'-7"				
	1	5'-2"			4'-7"	
S509	SER. OF	TO	862	16	TO	9"
	41	35'-2"			34'-7"	
S510	700	30'-0"	21903	ST.		
	2	9'-1"				
S511	SER. OF	TO	262	ST.		9 3/8"
	10	16'-1"				
	2	4'-5"				
S512	SER. OF	TO	1734	ST.		9"
	42	35'-2"				
** S513	4	3'-9"	16	ST.		
* S514	246	34'-4"	8809	ST.		
	1	4'-7"				
S515	SER. OF	TO	801	ST.		9"
	40	33'-10"				
	1	4'-7"				
S516	SER. OF	TO	837	ST.		9"
	41	34'-7"				
S517	87	5'-5"	492	ST.		
	2	4'-1"			3'-6"	
S519	SER. OF	TO	48	16	TO	3"
	5	5'-1"			4'-6"	
	2	10"				
** S520	SER. OF	TO	15	ST.		8"
	4	2'-10"				
	2	3'-6"				
S522	SER. OF	TO	42	ST.		3"
	5	4'-6"				
** S523	4	22'-11"	96	ST.		
* S524	4	13'-10"	58	ST.		
S601	184	25'-0"	6909	ST.		
SUBTOTAL =			80074			

RAILING											
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
R501	56	30'-0"	1752	ST.							
R502	6	8'-2"	51	ST.							
R503	10	6'-2"	64	ST.							
R504	16	10'-0"	167	ST.							
R505	6	5'-7"	35	25	1'-8"	2'-5"	1'-5"	1 1/2"	5"		
R506	126	7'-5"	975	23	1'-1"	3'-2"	3'-0"			2 1/4"	
R507	8	30'-5"	254	ST.							
R508	32	13'-1"	437	ST.							
R601	9	30'-0"	406	ST.							
R602	1	18'-1"	27	ST.							
R603	126	3'-0"	568	1	1'-1"	2'-1"					
R604	228	5'-2"	1769	28	3'-2"	1'-1"					
	4	3'-10"				2'-11"					
R605	SER OF	TO	281	1	1'-1"	TO					1"
	11	4'-8"				3'-9"					
R606	16	3'-11"	94	1	1'-1"	3'-0"					
R607	1	11'-2"	17	ST.							
R608	208	10'-3"	3202	23	1'-4"	4'-5"	4'-3"			3"	
R609	158	3'-11"	929	1	1'-1"	3'-0"					
R610	284	5'-8"	2417	28	2'-2"	1'-4"					
R611	50	4'-1"	307	ST.							
R612	49	3'-11"	288	13	1'-9"	10 1/2"	2"	1'-4"			
R613	4	13'-11"	84	ST.							
SUBTOTAL =			14124								

DIAPHRAGMS										
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					
					A	B	C	D	E	INC.
S530	188	11'-8"	2288	3	2'-6"	3'-0"				
S531	188	7'-11"	1552	2	3'-2"	1'-10"	3'-2"			
S801	28	21'-4"	1595	ST.						
* S802	28	24'-2"	1807	ST.						
** S803	28	5'-2"	386	ST.						
S804	28	28'-11"	2162	ST.						
S805	28	27'-3"	2037	ST.						
SUBTOTAL =			11827							

APPROACH SLAB (FOR INFORMATION ONLY)										
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					
					A	B	C	D	INC.	
* AS501	228	30'-0"	7134	ST.						
** AS502	114	10'-9"	1278	ST.						
** AS503	114	21'-1"	2507	ST.						
** AS504	104	24'-6"	2658	ST.						
AS1001	254	25'-11"	28326	16	24'-6"					
D801	104	6'-8"	1851	18	4'-5"	1'-0"	1'-0"			
SUBTOTAL =			43754							



LEGEND:

* - MECHANICAL CONNECTOR

** - CONNECTS TO MECH. CONNECTOR

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED AS THE FIRST DIGIT FOLLOWING THE LETTER ON THE PLANS IN THE BAR MARK COLUMN. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. ALL REINFORCING STEEL IS TO BE EPOXY COATED. "ST" INDICATES STRAIGHT BARS. "SER. OF" INDICATES A SERIES BAR. "R" INDICATES INNER RADIUS. "INC" INDICATES A LENGTH INCREMENT FOR A SERIES BAR. THE LETTER(S) PRECEDING THE FIRST DIGIT IS SPECIFIED AS FOLLOWS:

S: BARS IN THE SUPERSTRUCTURE (DECK OR DIAPHRAGM)
 R: BARS IN THE PARAPET
 AS: BARS IN THE APPROACH SLAB

2. S518, S521 AND S525 THRU S529 ARE NOT USED.

BU-9 BRIDGE 5412 SUPERSTRUCTURE APPROVED FOR CONSTRUCTION

DESIGNED PPA	CHECKED NCM	DRAWN RTF	REVIEWED JEP	DATE 11/2013	DESIGN AGENCY BARR & PREVOST 2800 CORPORATE EXCHANGE DR., STE 240 COLUMBUS, OH 43231 (614) 714-0270 FAX (614) 714-0323
STRUCTURE FILE NUMBER 2513269					
REINFORCING SCHEDULE BRIDGE NO. FRA-270-5412 R OVER SCIOTO BIG RUN					
FRA-270-52.72 PID No. 92610					
41 / 41					