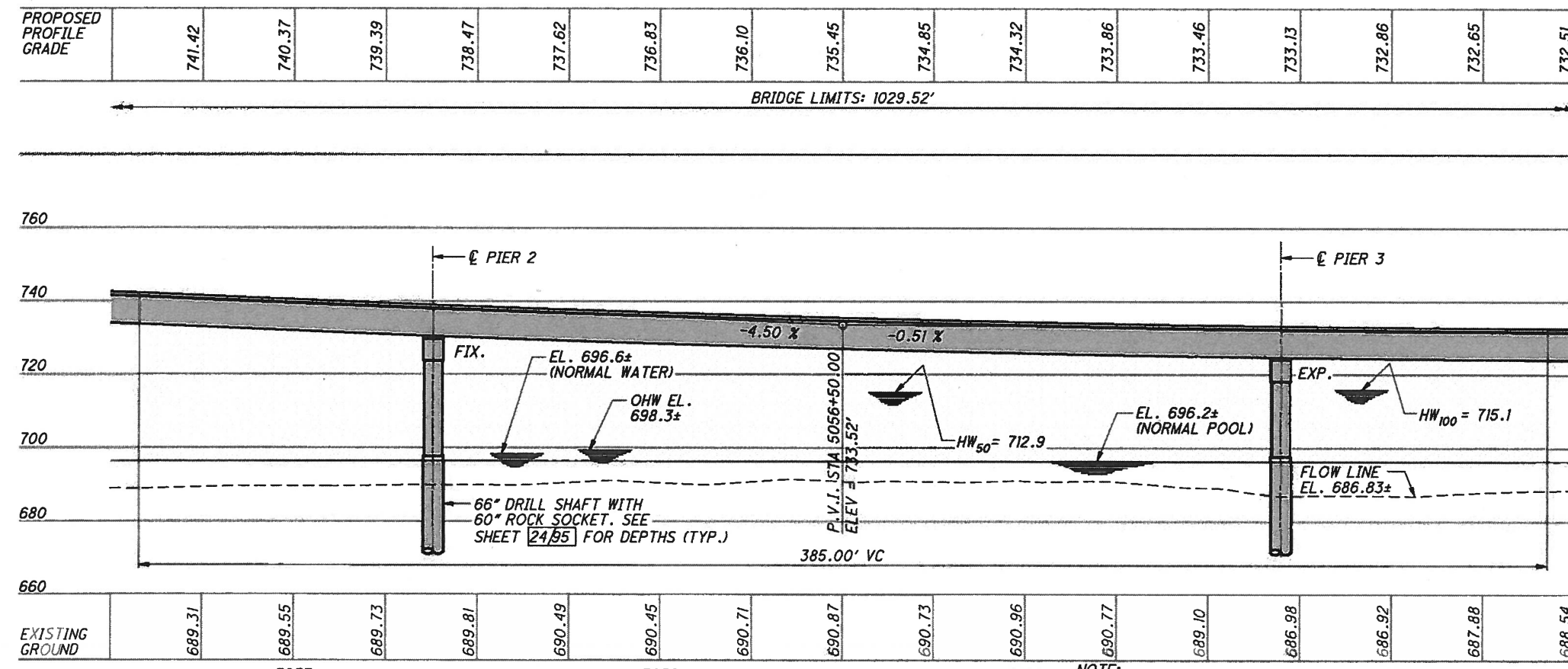


**HORIZONTAL CURVE DATA**

- 15 **CONST. RAMP C5**  
 P.I. Sta. 5047+05.72  
 $\Delta = 28^\circ 46' 35''$  (LT)  
 $D_c = 2^\circ 30' 00''$   
 $R = 2,291.83'$   
 $T = 587.94'$   
 $L = 1,151.06'$   
 $E = 74.21'$   
 $C = 1,139.00'$   
 C.B. = N  $75^\circ 08' 21''$  E  
 $e_{max} = 0.04$   
 P.C. = Sta. 5041+17.78  
 P.T. = Sta. 5052+68.84  
 D.S. = 50 MPH
- 16 **CONST. RAMP C5**  
 P.I. Sta. 5065+40.48  
 $\Delta = 18^\circ 32' 33''$  (RT)  
 $D_c = 2^\circ 00' 00''$   
 $R = 2,864.79'$   
 $T = 467.65'$   
 $L = 927.12'$   
 $E = 37.92'$   
 $C = 923.08'$   
 C.B. = N  $70^\circ 01' 20''$  E  
 $e_{max} = 0.035$   
 P.C. Sta. 5060+72.83  
 P.T. Sta. 5069+99.95  
 D.S. = 50 MPH
- 24 **CONST. RAMP A5**  
 P.I. Sta. 5015+13.15  
 $\Delta = 60^\circ 32' 16''$  (RT)  
 $D_c = 11^\circ 20' 00''$   
 $R = 505.55'$   
 $T = 295.05'$   
 $L = 534.16'$   
 $E = 79.80'$   
 $C = 509.66'$   
 C.B. = N  $24^\circ 52' 00''$  E  
 $e_{max} = 0.060$   
 P.C. Sta. 5012+18.10  
 P.C.C. Sta. 5017+52.25  
 D.S. = 40 MPH  
 HORZ. SSD = 259'  
 (NDC = 305')
- 25 **CONST. RAMP A5**  
 P.I. Sta. 5018+19.35  
 $\Delta = 4^\circ 01' 28''$  (RT)  
 $D_c = 3^\circ 00' 00''$   
 $R = 1,909.86'$   
 $T = 67.10'$   
 $L = 134.14'$   
 $E = 1.18'$   
 $C = 134.12'$   
 C.B. = N  $57^\circ 08' 52''$  E  
 $e_1 = 0.06$   
 $e_2 = N.C.$   
 P.C.C. Sta. 5017+52.25  
 P.T. Sta. 5018+86.40  
 D.S. = 45 MPH
- 26 **CONST. FUTURE RAMP B5**  
 P.I. Sta. 5013+32.82  
 $\Delta = 101^\circ 32' 19''$  (LT)  
 $D_c = 7^\circ 10' 00''$   
 $R = 799.48'$   
 $T = 980.06'$   
 $L = 1,417.52'$   
 $E = 465.31'$   
 $V = 45$  MPH  
 $C = 1,239.00'$   
 $e_{max} = 0.058$   
 P.C. Sta. 5003+52.76  
 P.C.C. Sta. 5017+70.28  
 D.S. = 45 MPH
- 27 **CONST. FUTURE RAMP B5**  
 P.I. Sta. 5018+45.35  
 $\Delta = 6^\circ 00' 00''$  (LT)  
 $D_c = 4^\circ 00' 00''$   
 $R = 1,432.39'$   
 $T = 75.07'$   
 $L = 150.00'$   
 $E = 1.97'$   
 $V = 45$  MPH  
 $C = 149.93'$   
 C.B. = N  $65^\circ 23' 15''$  E  
 $e_1 = 0.058$   
 $e_2 = N.C.$   
 P.C.C. Sta. 5017+70.28  
 P.T. Sta. 5019+20.28  
 D.S. = 50 MPH



NOTE: ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG B RAMP C5 UNLESS NOTED OTHERWISE.

\* = MEASURED ALONG THE REFERENCE TANGENT

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DESIGN AGENCY: **GPD GROUP**  
 1881 Woodmont Drive, Suite 100, Columbus, Ohio 43235 614.278.0291  
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 DRAWN: RPR  
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 CHECKED: TJW

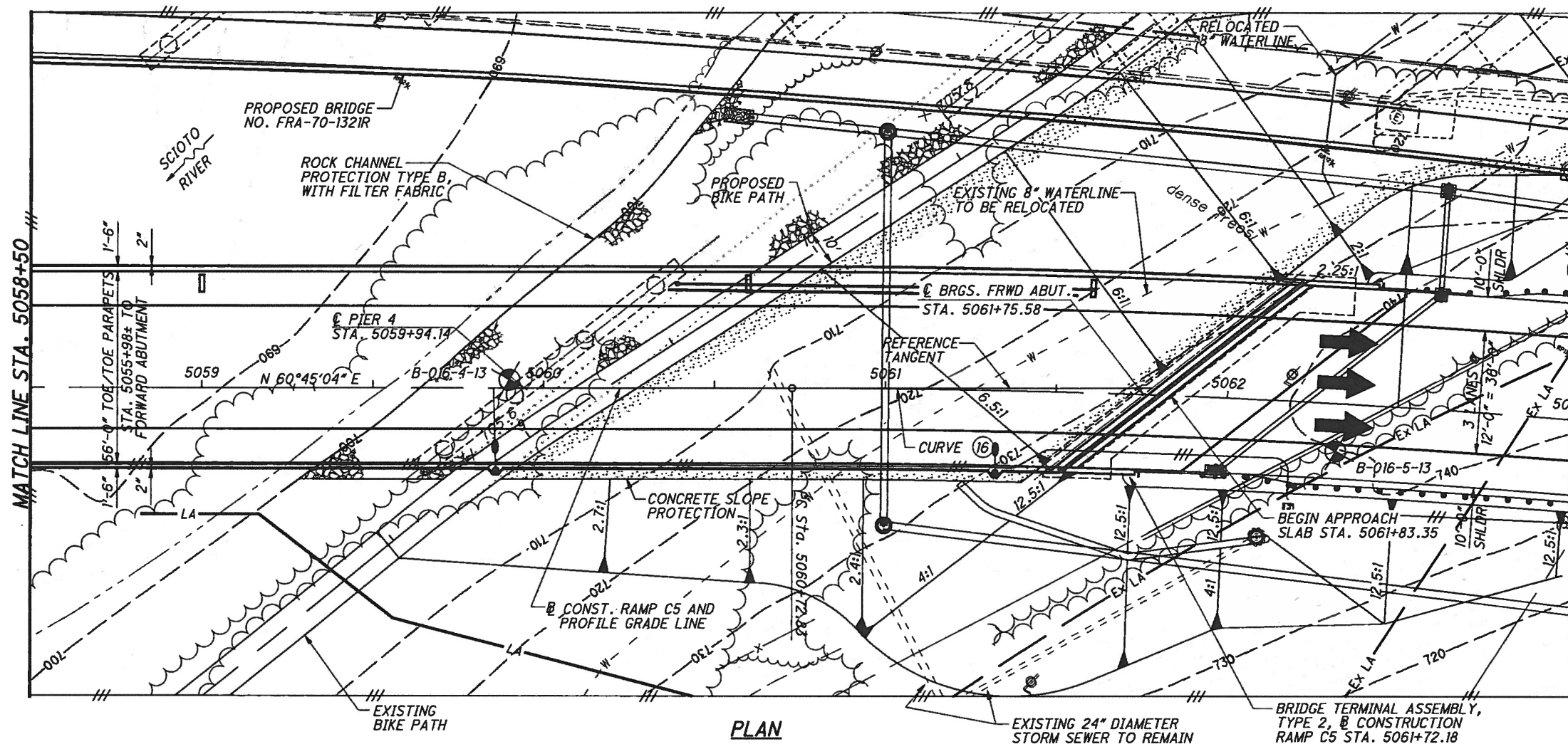
FRANKLIN COUNTY  
 STA. 5051+53.83  
 STA. 5061+83.35

**SITE PLAN - 2**  
 BRIDGE NO. FRA-70-1321A  
 RAMP A5/B5/C5 OVER THE SCIOTO RIVER

**FRA-70-12.68**  
**PID No. 77372**

2 / 95

758  
 1351

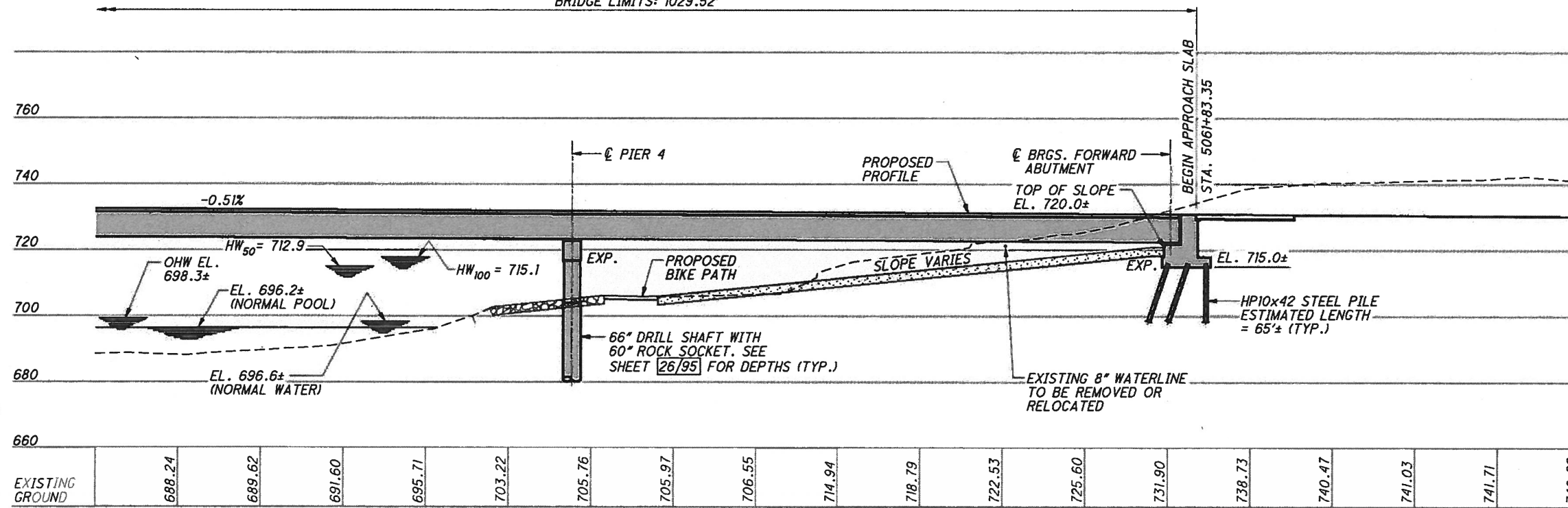


BRIDGE TERMINAL ASSEMBLY, TYPE 2, B CONSTRUCTION RAMP C5 STA. 5062+40.38

SOIL BORING TABLE (NEW BORINGS)	
BORING NO.	APPROX. TOP OF BEDROCK ELEVATION
B-015-7-13	651.3±
B-015-8-13	652.2±
B-015-9-13	652.2±
B-016-3-13	643.8±
B-016-4-13	659.5±
B-016-5-13	655.2±

PROPOSED PROFILE GRADE	732.39	732.26	732.13	732.01	731.88	731.75	731.63	731.50	731.37	731.25	731.12	731.00	730.87	730.74	730.62	730.49	730.36	730.24
------------------------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

BRIDGE LIMITS: 1029.52'



EXISTING GROUND	688.24	689.62	691.60	695.71	703.22	705.76	705.97	706.55	714.94	718.79	722.53	725.60	731.90	738.73	740.47	741.03	741.71	740.92
-----------------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

PROFILE ALONG C CONST. RAMP C5

NOTE: ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG B RAMP C5 UNLESS NOTED OTHERWISE. \* = MEASURED ALONG THE REFERENCE TANGENT

NOTE: FOR CURVE DATA SEE SHT. 2/95

LOW GIRDER ELEVATION		
LOCATION	ELEVATION	
STA. 5061+51 RIGHT FASCIA	721.78±	

DESIGN AGENCY: **GPD GROUP**  
 1801 Wilmetts Drive, Suite 100, California, CA 94313 614.318.0751  
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FRANKLIN COUNTY  
 STA. 5051+53.83  
 STA. 5061+83.35

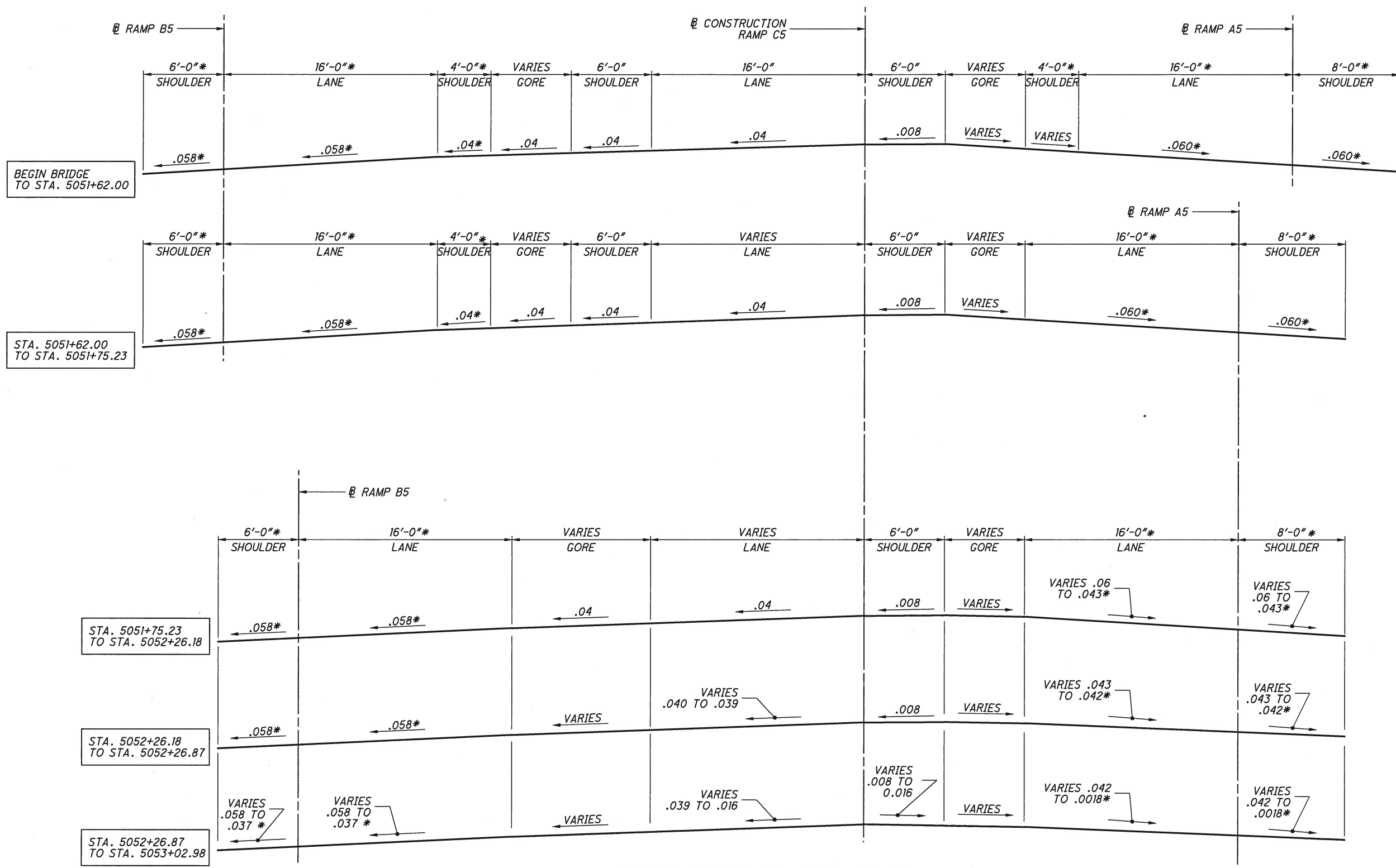
**SITE PLAN - 3**  
 BRIDGE NO. FRA-70-1321A  
 RAMP A5/B5/C5 OVER THE SCIOTO RIVER

**FRA-70-12.68**  
 PID No. 77372

3/95

759  
1351

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**SUPERELEVATION TRANSITION DIAGRAM**

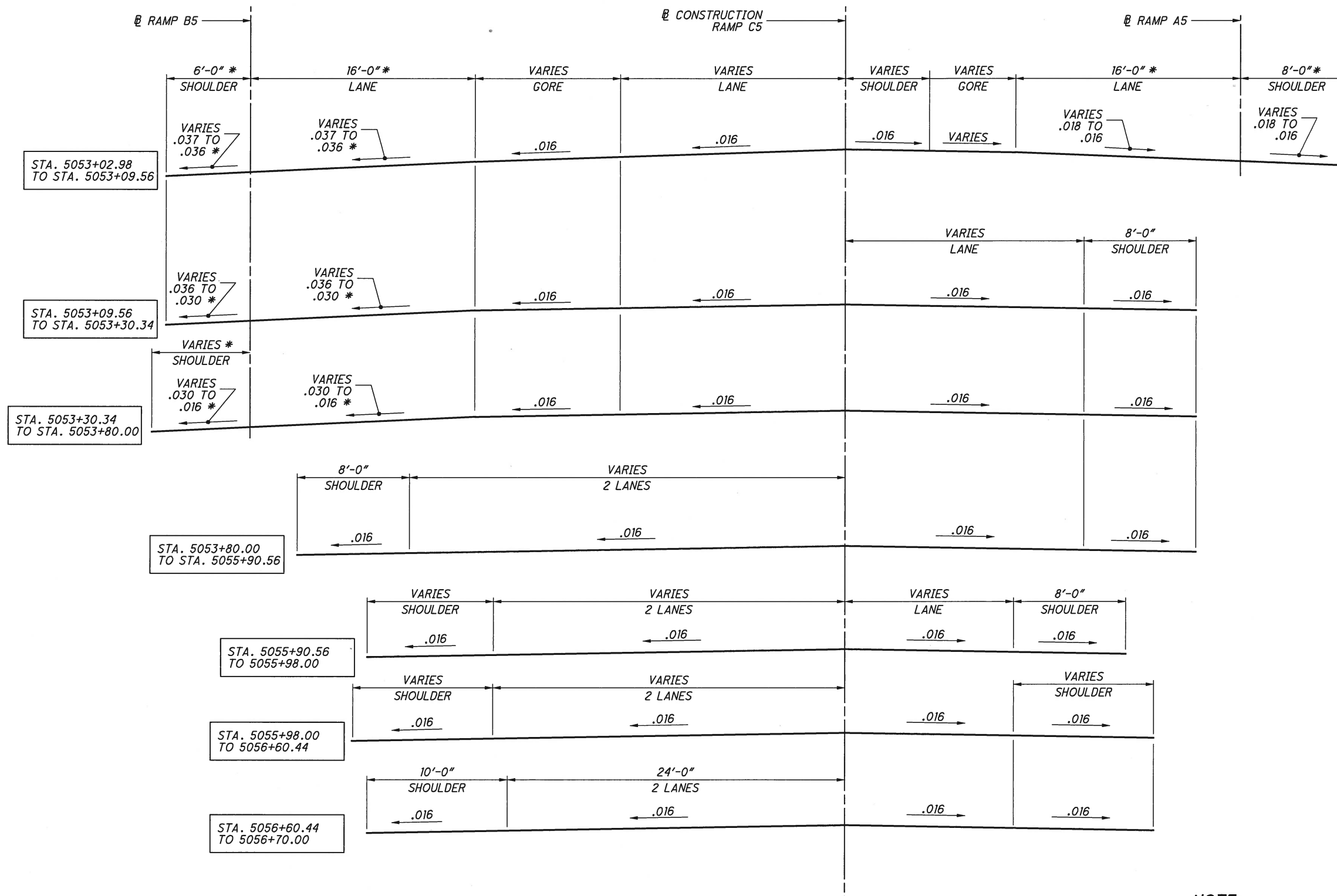
**NOTE:**

1. SUPERELEVATION TRANSITION DIAGRAM IS SHOWN FROM TOE OF PARAPET TO TOE OF PARAPET.

**LEGEND:**

\* = MEASURED NORMAL TO RAMP B5 UP TO STA. 5053+80.44. (LEFT OF CONSTRUCTION RAMP C5)  
MEASURE NORMAL TO RAMP A5 UP TO STA. 5053+08.04. (RIGHT OF CONSTRUCTION RAMP C5)

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**SUPERELEVATION TRANSITION DIAGRAM**

**NOTE:**

1. SUPERELEVATION TRANSITION DIAGRAM IS SHOWN FROM TOE OF PARAPET TO TOE OF PARAPET.

**LEGEND:**

\* = MEASURED NORMAL TO RAMP B5 UP TO STA. 5053+80.44. (LEFT OF CONSTRUCTION RAMP C5)  
 MEASURE NORMAL TO RAMP A5 UP TO STA. 5053+08.04. (RIGHT OF CONSTRUCTION RAMP C5)

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**BURGESS & NIPLE**  
 Engineers ■ Architects ■ Planners

DATE 4/29/14  
 REVIEWED JCS  
 STRUCTURE FILE NUMBER XXXXXX

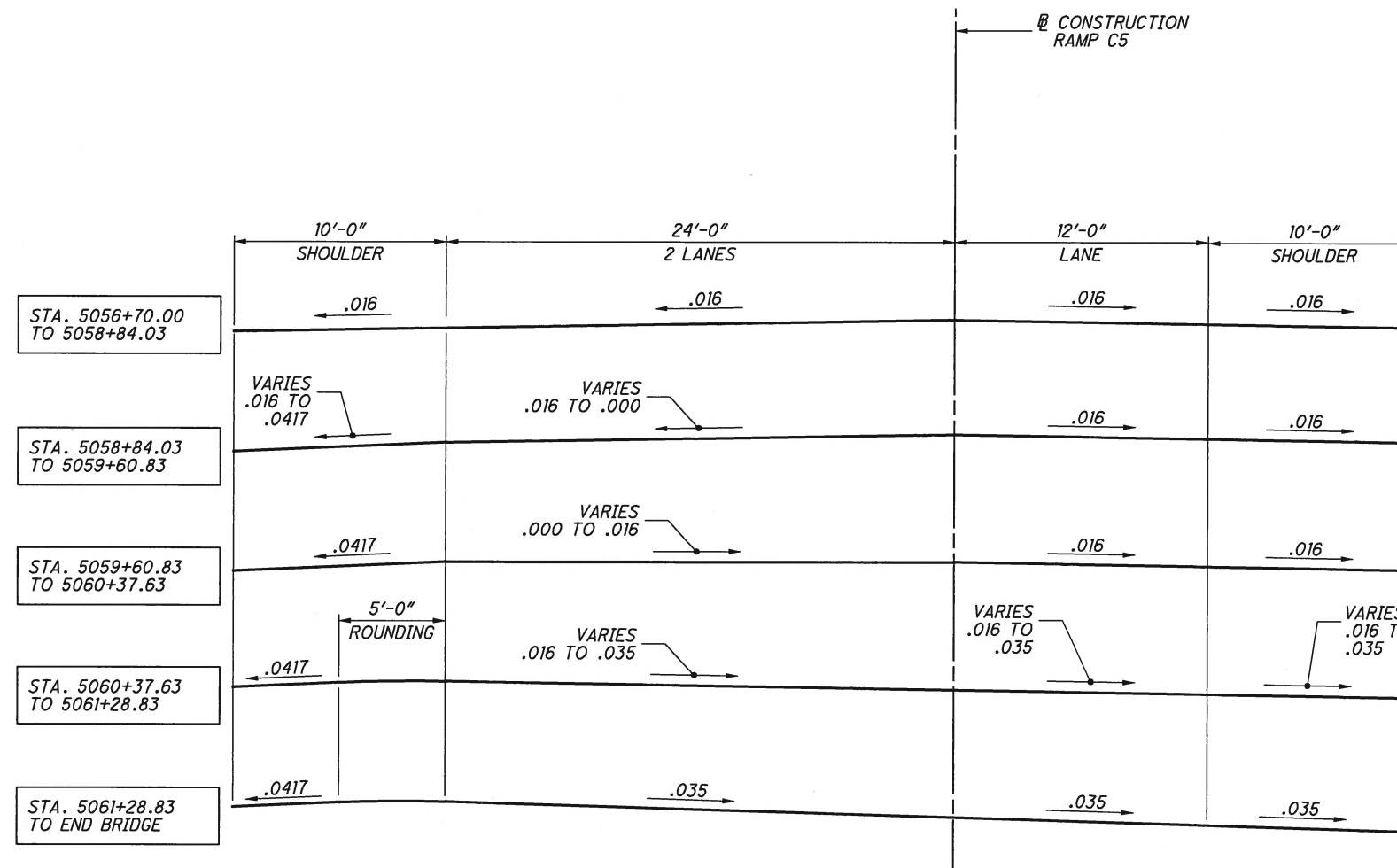
DRAWN JHL  
 CHECKED CAS

**SUPERELEVATION TRANSITION DIAGRAM - 2**  
 BRIDGE NO. FRA-70-1321A  
 RAMP A5/B5/C5 OVER THE SCIOTO RIVER

FRA-70-12.68  
 PID No. 77372

7/13





**SUPERELEVATION TRANSITION DIAGRAM**

**NOTE:**

- SUPERELEVATION TRANSITION DIAGRAM IS SHOWN FROM TOE OF PARAPET TO TOE OF PARAPET.

**LEGEND:**

- \* = MEASURED NORMAL TO RAMP B5 UP TO STA. 5053+80.44. (LEFT OF CONSTRUCTION RAMP C5)
- MEASURE NORMAL TO RAMP A5 UP TO STA. 5053+08.04. (RIGHT OF CONSTRUCTION RAMP C5)

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STRUCTURE FILE NUMBER: XXXXXXX

DRAWN: JHL  
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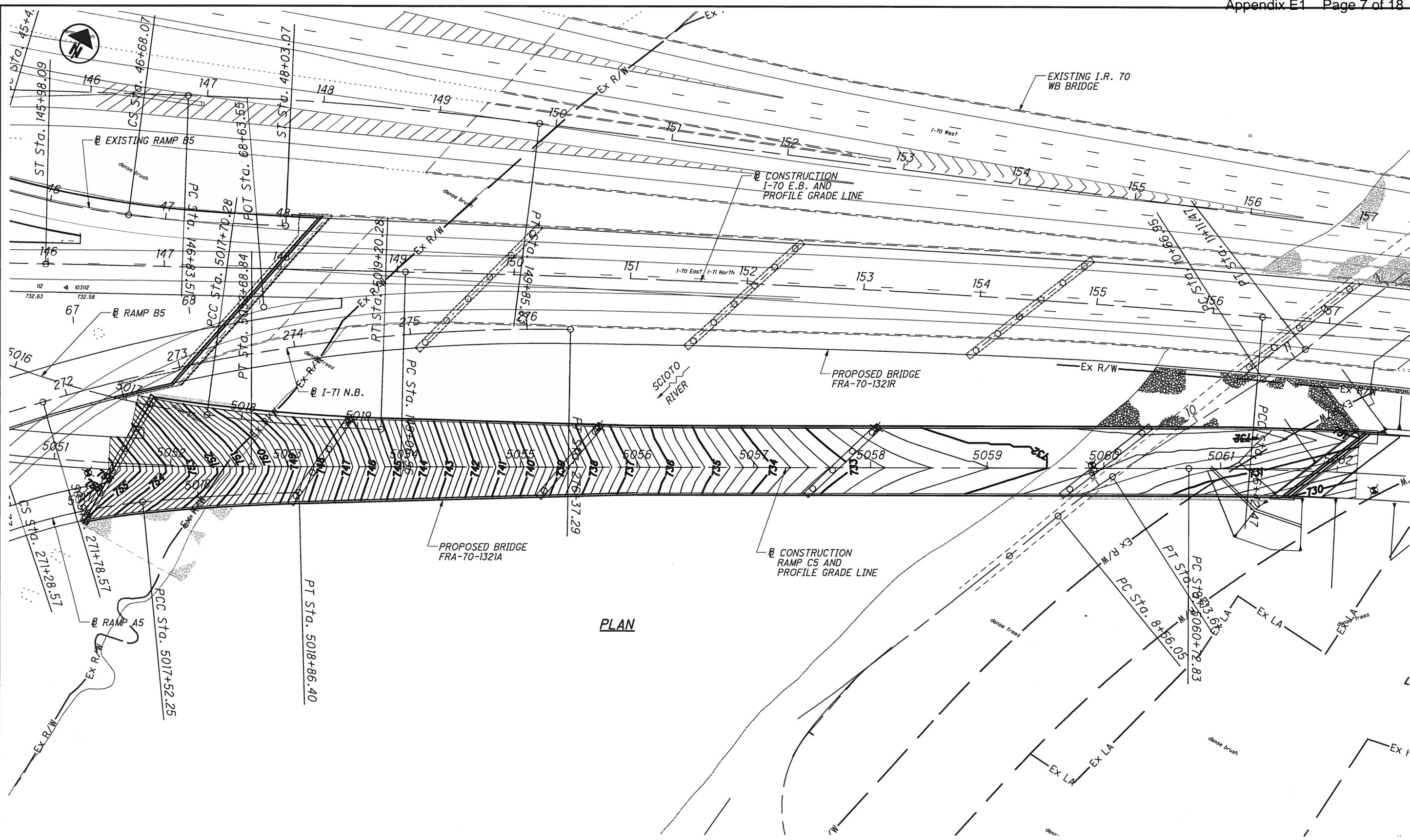
**SUPERELEVATION TRANSITION DIAGRAM - 3**  
BRIDGE NO. FRA-70-1321A  
RAMP A5/B5/C5 OVER THE SCIOTO RIVER

FRA-70-12.68  
PID No. 77372

8 / 13



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PLAN

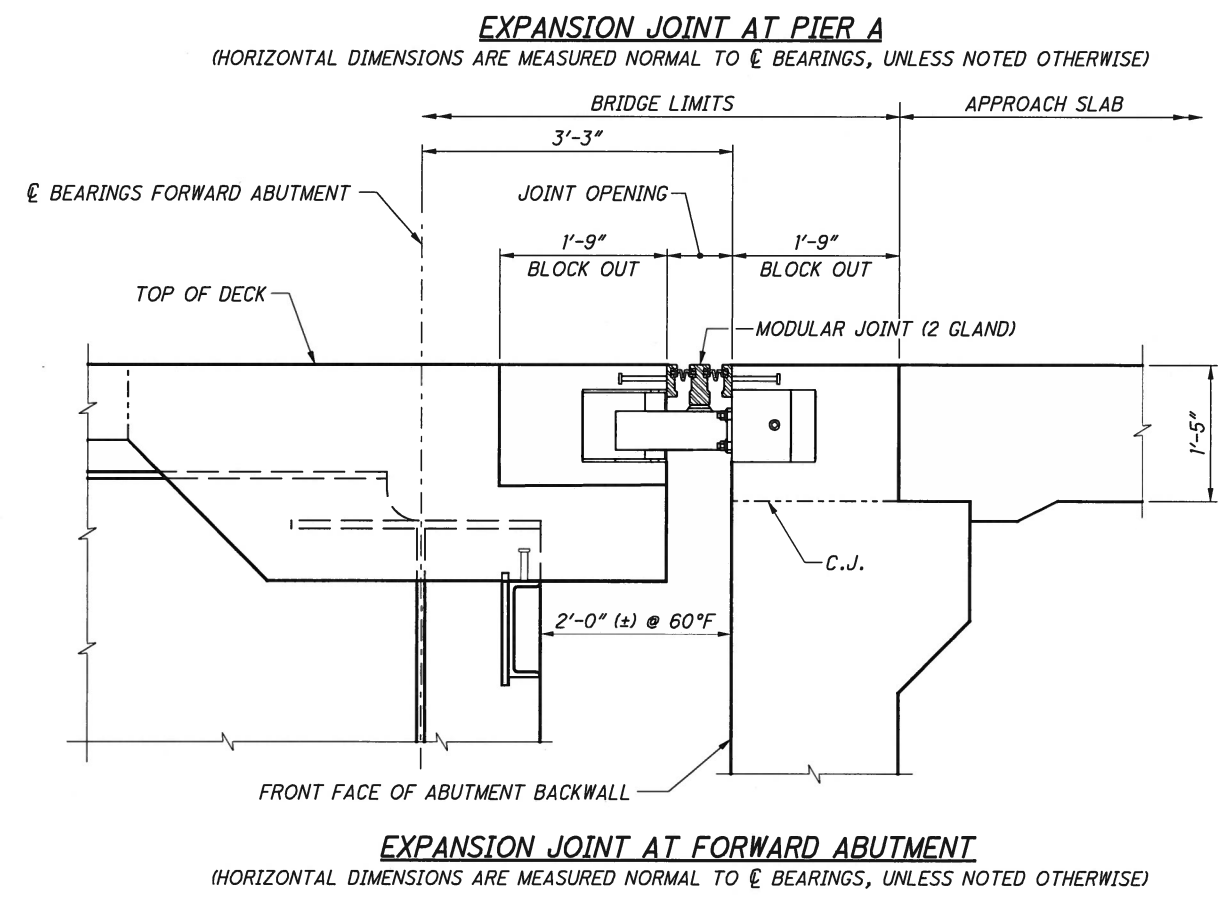
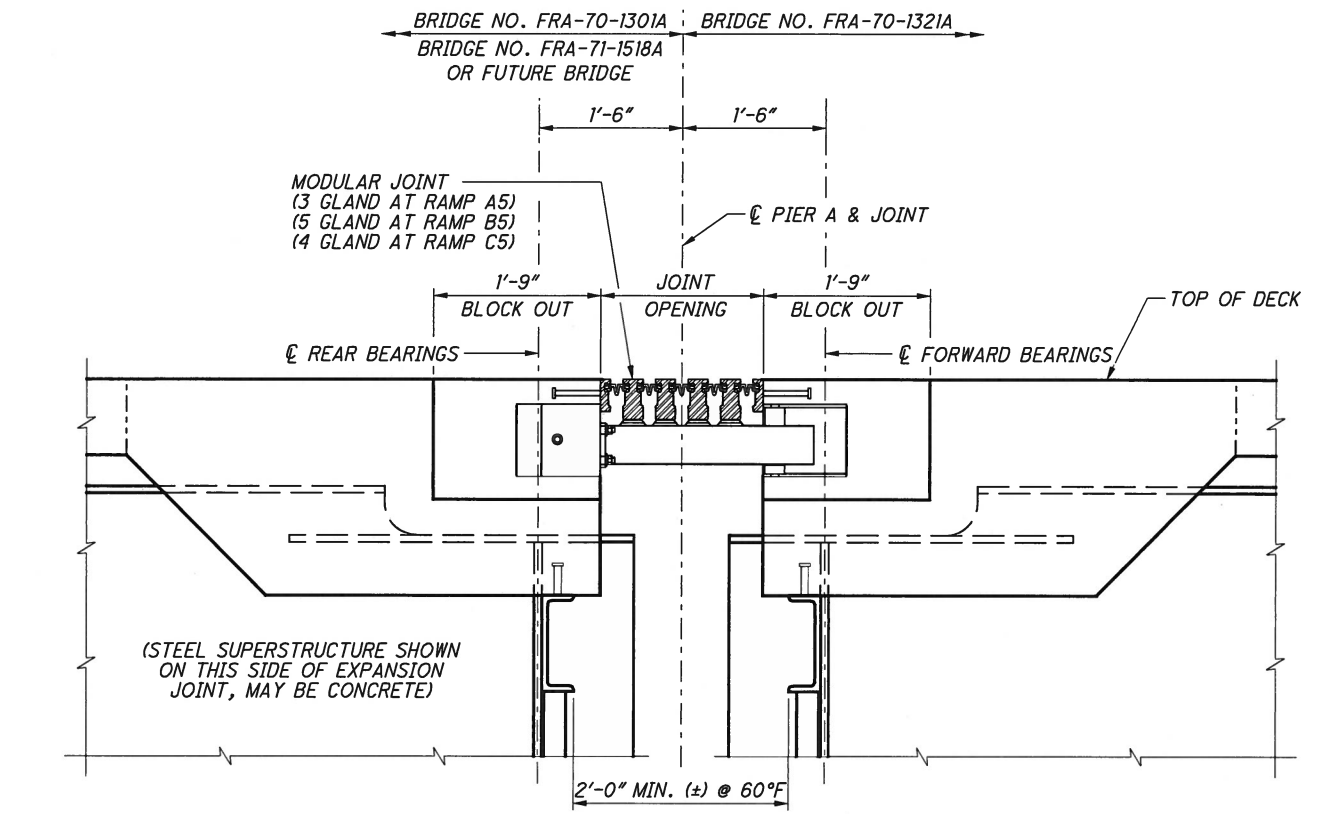
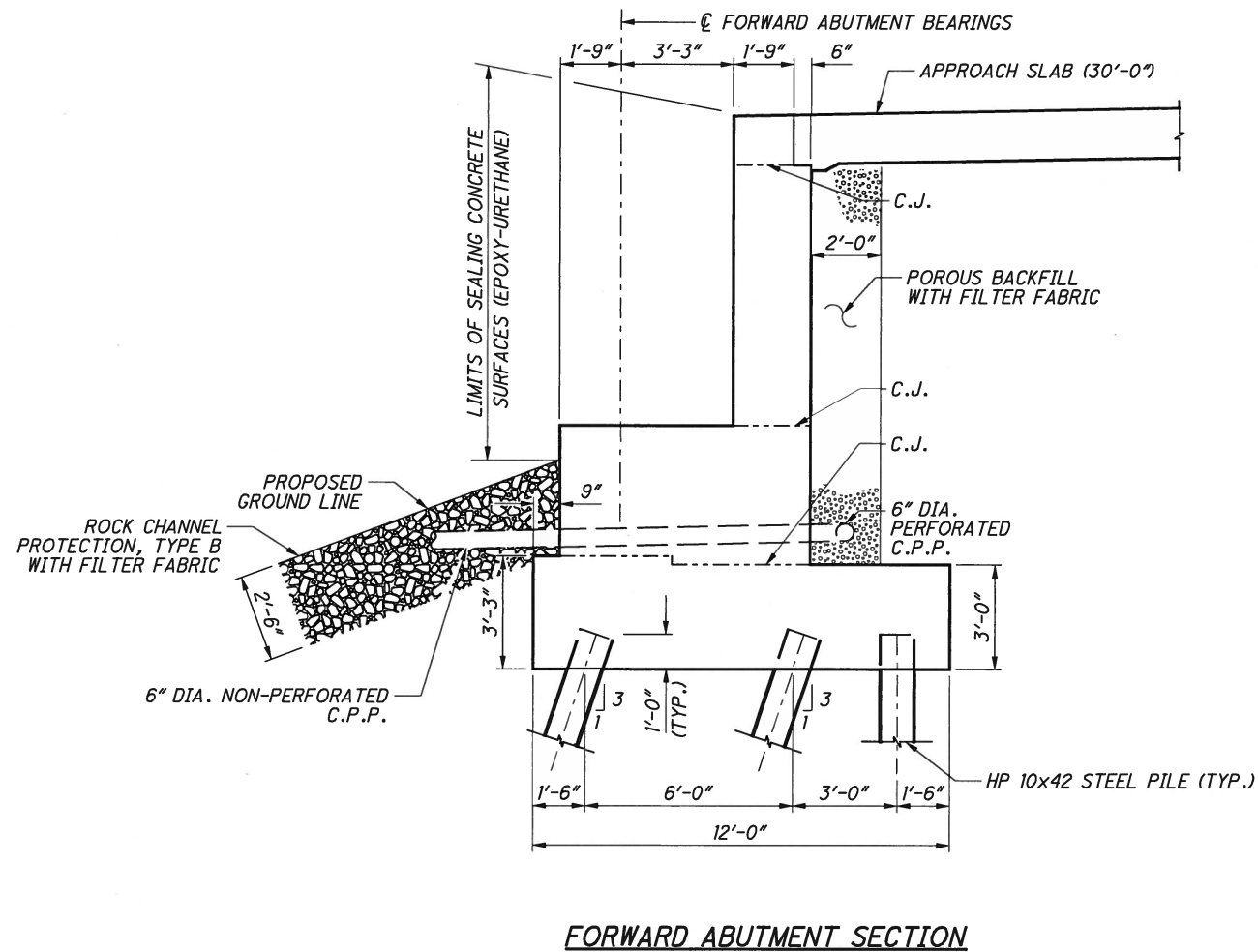
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DATE	4/29/14
REVIEWED	JCS
STRUCTURE FILE NUMBER	XXXXXX
DRAWN	AAA
REVISION	
DESIGNED	CAS
CHECKED	JHL

**DECK CONTOURS**  
BRIDGE NO. FRA-70-1321A  
RAMP A5/B5/C5 OVER THE SCIOTO RIVER

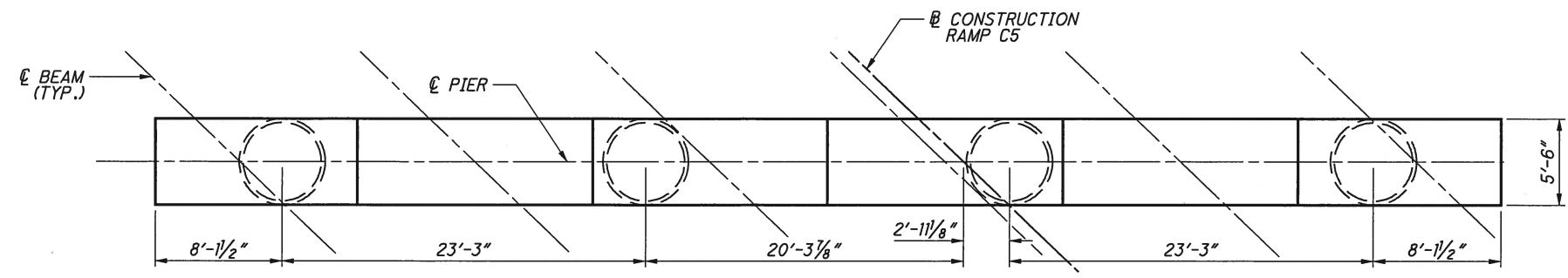
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PID No. 77372

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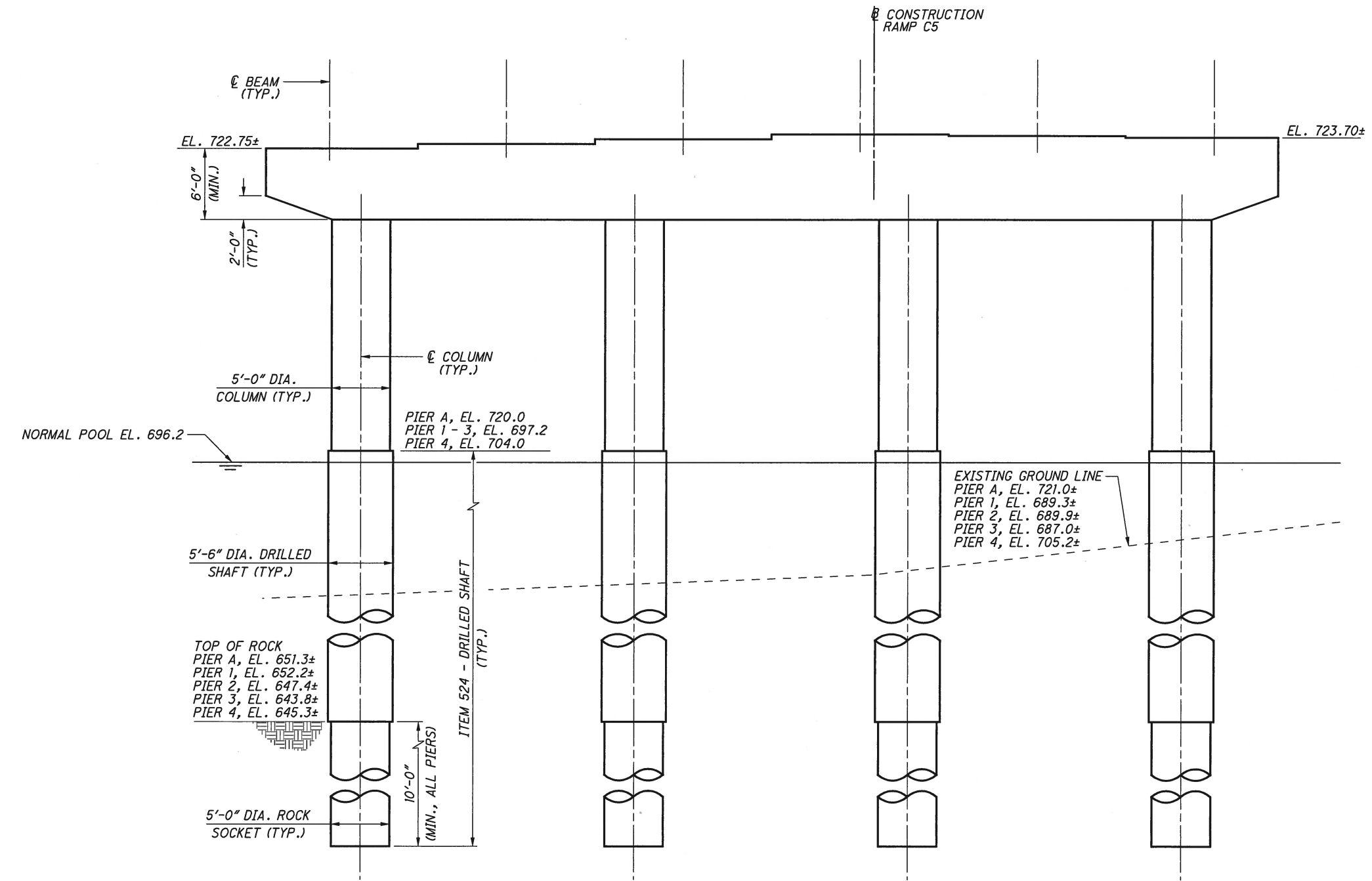


<b>BURGESS &amp; NIPLE</b> Engineers ■ Architects ■ Planners	
DATE	4/29/14
REVIEWED	JCS
DRAWN	JMK
DESIGNED	JMK
CHECKED	RMK/JHL
REVISOR	RMK/JHL
STRUCTURE FILE NUMBER	XXXXXX
<b>FORWARD ABUTMENT AND EXPANSION JOINT DETAILS</b>	
BRIDGE NO. FRA-70-1321A	
RAMP A5/B5/C5 OVER THE SCIOTO RIVER	
FRA-70-12.68	PID No. 77372
10	13





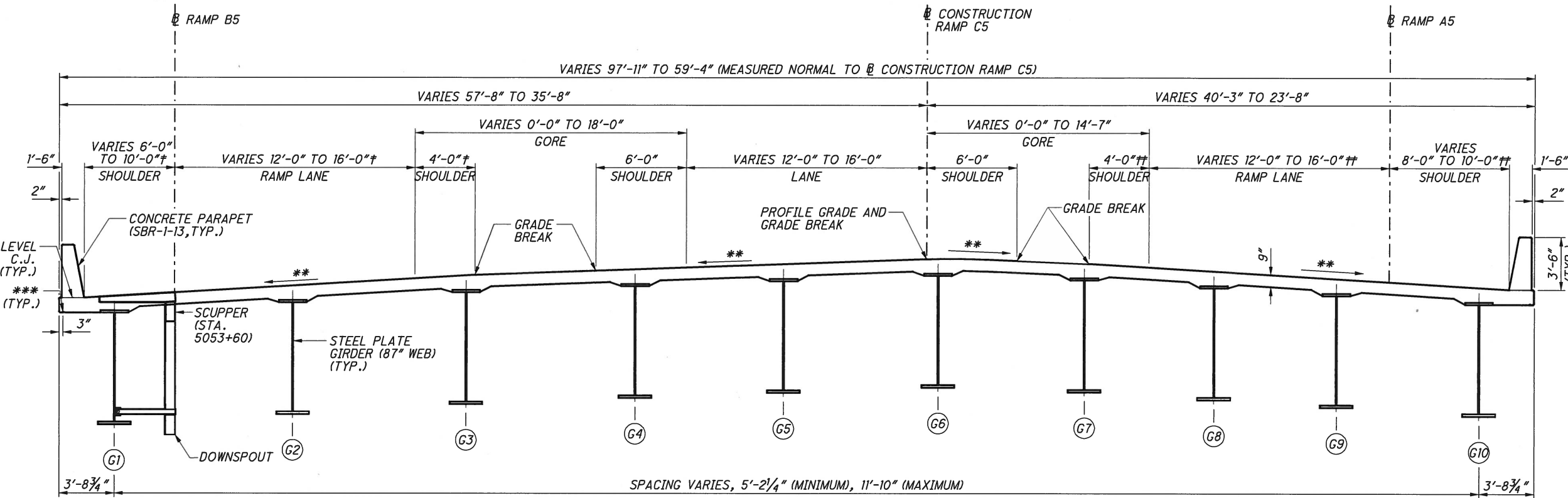
**PIER PLAN**



**PIER ELEVATION**  
PIER 3 SHOWN, OTHER PIERS SIMILAR

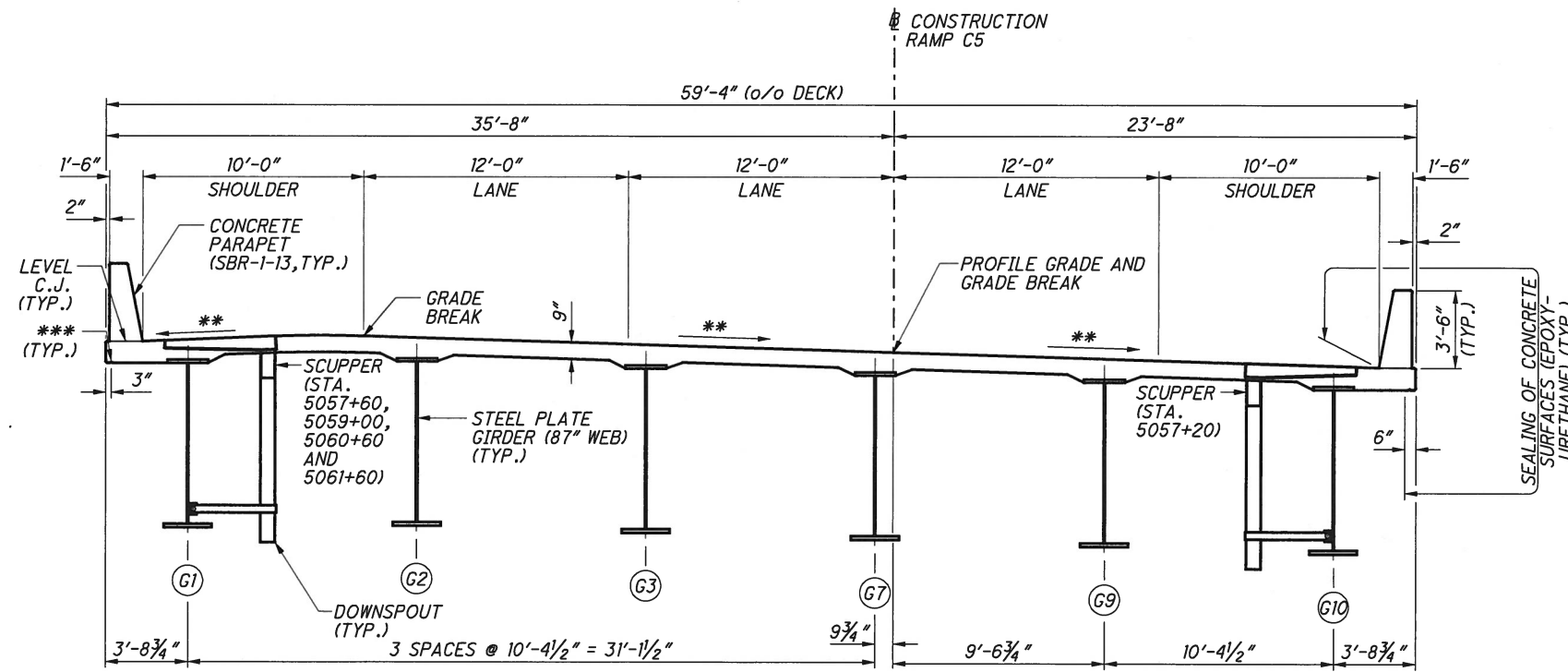
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<b>BURGESS &amp; NIPLE</b> Engineers ■ Architects ■ Planners		DATE 4/29/14
		REVIEWED JCS
DRAWN JMK	CHECKED RMK/JHL	STRUCTURE FILE NUMBER XXXXXXX
<b>PIER PLAN AND ELEVATION</b> BRIDGE NO. FRA-70-1321A RAMP A5/B5/C5 OVER THE SCIOTO RIVER		
FRA-70-12.68 PID No. 77372	11 / 13	



**TRANSVERSE SECTION PIER A TO STATION 5055+98±**

TRAFFIC ARRANGEMENT AND GIRDERS ARE SHOWN AS THEY APPEAR AT THE REAR END OF THE BRIDGE. INSIDE SHOULDERS, GORES AND PARTIAL LENGTH GIRDERS G4, G5, G6, & G8 END PRIOR TO STATION 5055+98±



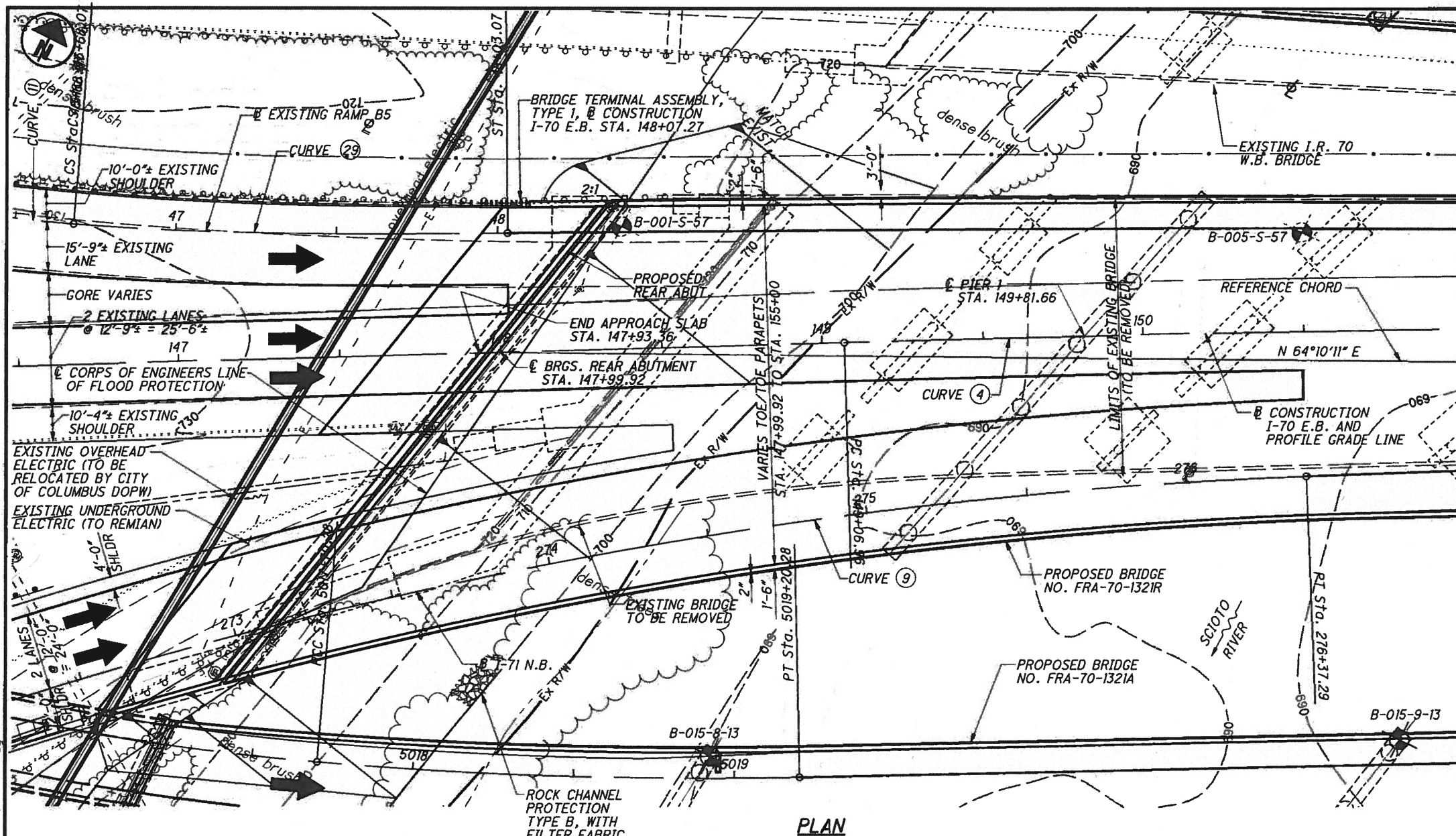
**TRANSVERSE SECTION STATION 5055+98± TO FORWARD ABUTMENT**

**LEGEND:**

- # = MEASURED NORMAL TO RAMP B5
- ## = MEASURED NORMAL TO RAMP A5
- \*\* = CROSS SLOPE VARIES, SEE SUPERELEVATION TRANSITION DIAGRAM FOR DETAILS
- \*\*\* = 1/2" HALF ROUND DRIP GROOVE
- C.J. = CONSTRUCTION JOINT
- G = GIRDER DESIGNATION

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<b>BURGESS &amp; NIPLE</b> Engineers ■ Architects ■ Planners	
DATE 4/29/14	STRUCTURE FILE NUMBER XXXXXX
REVIEWED JCS	DESIGNED JMK
DRAWN JMK	CHECKED JHL
<b>TRANSVERSE SECTIONS</b>	
BRIDGE NO. FRA-70-1321A	
RAMP A5/B5/C5 OVER THE SCIOTO RIVER	
FRA-70-12.68	PID No. 77372
12	13



PLAN

BENCHMARK DATA			
BM #1 STA.	, ELEV.	, OFFSET	,
BM #2 STA.	, ELEV.	, OFFSET	,
BM #3 STA.	, ELEV.	, OFFSET	,
BM #4 STA.	, ELEV.	, OFFSET	,

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

**NOTES**  
 EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.  
 SEE SHEET 5 / 11 FOR GEOMETRIC LAYOUT.

**DESIGN TRAFFIC:**  
 2015 ADT = 67,330    2015 ADTT = 7070  
 2035 ADT = 96,300    2035 ADTT = 10,112  
 DIRECTIONAL DISTRIBUTION = 100%

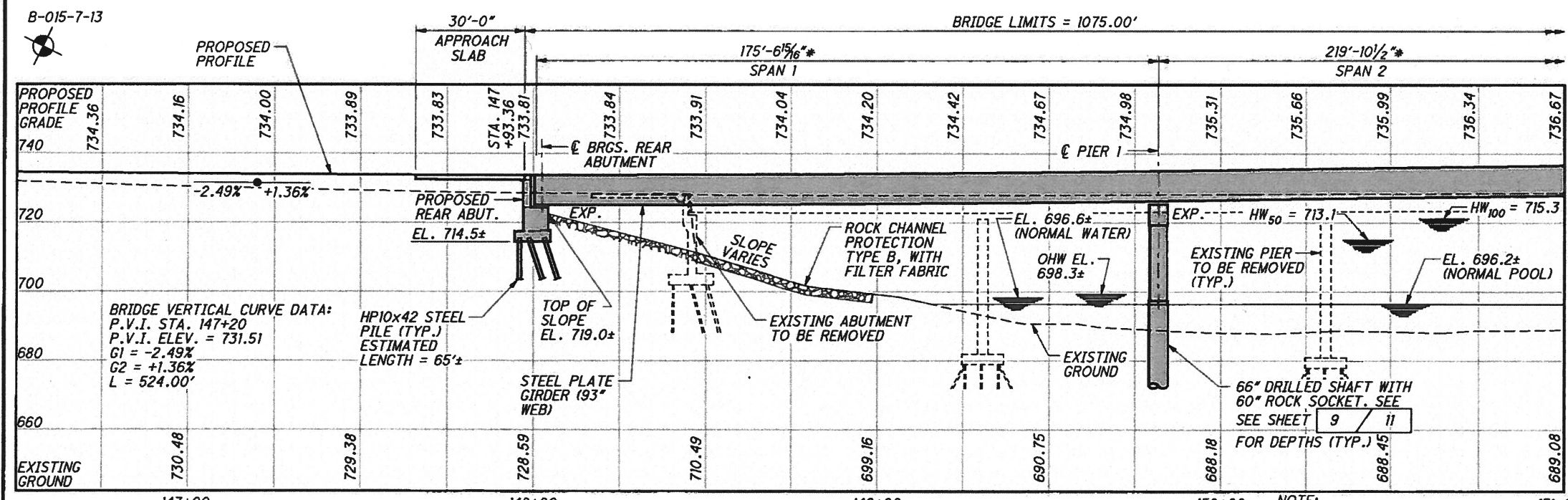
**LEGEND**  
 ● HISTORIC SOIL BORING LOCATION  
 ● SOIL BORING LOCATION  
 (SEE SHEET 3 / 11 FOR SOIL BORING TABLE.)

ABUT. = ABUTMENT  
 BRGS. = BEARINGS  
 EXP. = EXPANSION  
 \* = MEASURED ALONG THE REFERENCE CHORD

**HYDRAULIC DATA**  
 DRAINAGE AREA = 1629± SQ. MILES  
 Q (100) = 75,000 CFS    V (100) = 5.10 FT/S  
 Q (50) = 62,100 CFS    V (50) = 4.46 FT/S  
 STRUCTURE CLEARS THE 50-YEAR DESIGN HW BY X.XX FEET.

**HORIZONTAL CURVE DATA**  
 SEE SHEET 2 / 11

LOW GIRDER ELEVATION	
LOCATION	ELEVATION
STA. 147+22 RIGHT FASCIA	721.33±



ELEVATION ALONG PROFILE GRADE

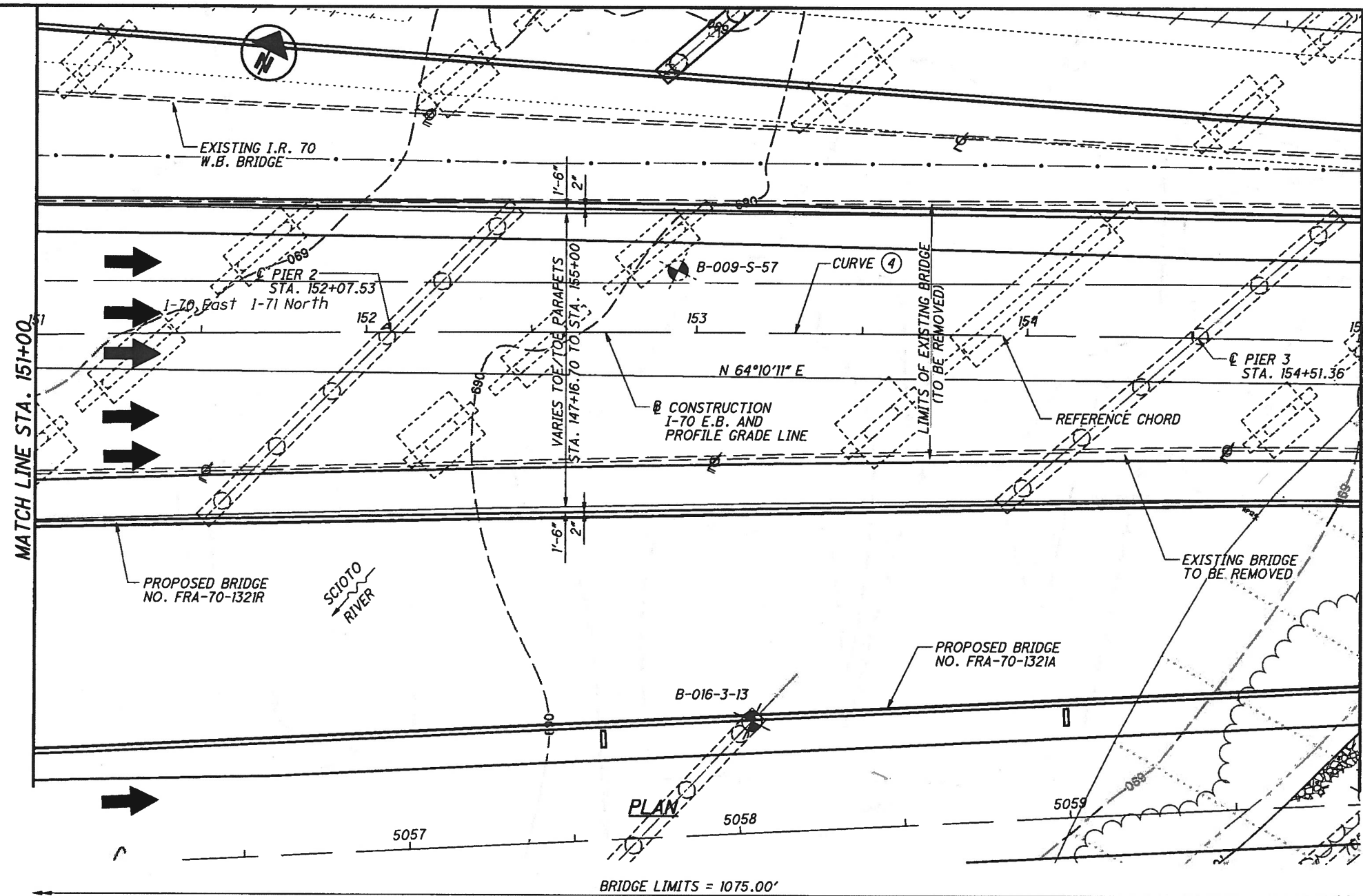
**EXISTING STRUCTURE**  
 TYPE: NINE SPAN CONTINUOUS WELDED PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES  
 SPANS: 84'-4 1/8"±, 99'-3 3/8"±, 108'-2 3/8"±, 119'-0"±, 128'-0"±, 119'-0"±, 111'-0"±, 102'-0"± and 90'-0"± CENTERLINE TO CENTERLINE OF BEARINGS MEASURED ALONG EXISTING REFERENCE TANGENT AND ITS EXTENSION.  
 ROADWAY WIDTH: VARIES F/F SAFETY CURB  
 LIVE LOAD: CF2000 OHIO 1951 SPECIFICATIONS (1958) HS-20 AND ALTERNATE MILITARY LOAD (1974, 2008 & 2011)  
 SKEW: VARIES  
 APPROACH SLABS: 25' LONG  
 ALIGNMENT: 0°28' CURVE RIGHT AND 1°30' CURVE RIGHT  
 WEARING SURFACE: ASPHALT  
 SUPERELEVATION: VARIES  
 STRUCTURAL FILE NUMBER: 2504448  
 DATE BUILT: 1958 (REHABILITATED 1974, 2008 & 2011)  
 DISPOSITION: TO BE REMOVED

**NOTE:**  
 ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG I-70 E.B. UNLESS NOTED OTHERWISE.

**DESIGN AGENCY** GPD GROUP  
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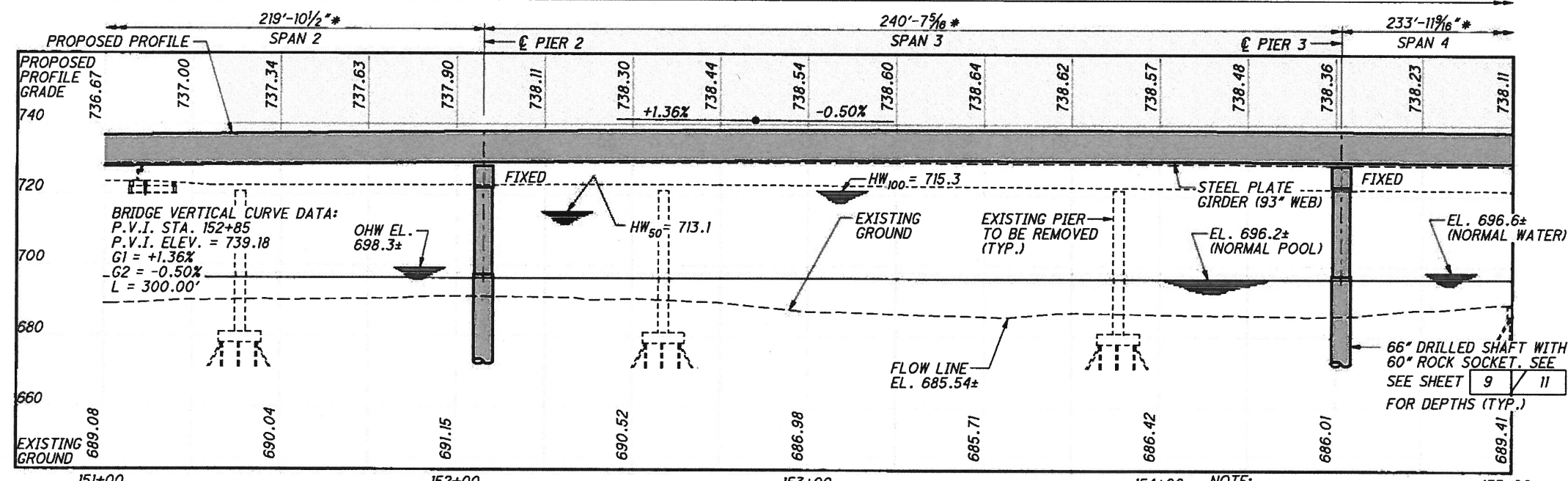
DATE	10-16-14
REVIEWED	TJW
STRUCTURE FILE NUMBER	2510016
DRAWN	RPR
CHECKED	DJC
DESIGNED	DGN
FRANKLIN COUNTY	STA. 147+93.36
	STA. 158+68.36
<b>SITE PLAN - 1</b>	
BRIDGE NO.	FRA-70-1321R
	I-70 E.B. OVER THE SCIOTO RIVER
<b>FRA-70-12.68</b>	
<b>PID No. 77372</b>	
1 / 3	

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PROPOSED STRUCTURE	
TYPE: FIVE SPAN CONTINUOUS WELDED PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES	
SPANS: 175'-6 5/8", 219'-10 1/2", 240'-7 3/8", 233'-11 9/16" AND 190'-11 1/8" C/C BEARINGS, MEASURED ALONG THE REFERENCE CHORD	
ROADWAY: VARIES TOE/TOE PARAPET	
LOADING: HL-93 AND 60 PSF FUTURE WEARING SURFACE	
SKEW: VARIES	
APPROACH SLABS: 30' LONG (AS-1-81)	
ALIGNMENT: TANGENT, 0°28'00" RIGHT CURVE AND 1°30'00" RIGHT CURVE	
WEARING SURFACE: 1" MONOLITHIC CONCRETE	
SUPERELEVATION: VARIES	
COORDINATES: LATITUDE 39°57'07" N LONGITUDE 83°00'46" W	

HORIZONTAL CURVE DATA	
<p>4 @ CONST. I-70 E.B. P.I. Sta. 152+74.83 Δ = 3° 25' 57" (RT) Dc = 0° 28' 00" R = 12,277.67' T = 367.87' L = 735.51' E = 5.51' C = 735.40' C.B. = N 63° 39' 01" E P.C. Sta. 149+06.96 P.C.C. Sta. 156+42.47 e<sub>max</sub> = N.C. D.S. = 60 MPH</p>	<p>9 @ CONST. I-71 N.B. P.I. Sta. 274+09.66 Δ = 17° 12' 07" (RT) Dc = 3° 45' 00" R = 1,527.89' T = 231.10' L = 458.72' E = 17.38' C = 457.00' C.B. = N 52° 51' 08" E P.C. Sta. 271+78.57 P.T. Sta. 276+37.29 e<sub>max</sub> = 0.056 D.S. = 55 MPH</p>
<p>5 @ CONST. I-70 E.B. P.I. Sta. 167+27.31 Δ = 31° 42' 37" (RT) Dc = 1° 30' 00" R = 3,819.72' T = 1,084.84' L = 2,114.01' E = 151.07' C = 2,087.14' C.B. = N 81° 13' 18" E P.C.C. Sta. 156+42.47 P.T. Sta. 177+56.48 e<sub>max</sub> = 0.037 D.S. = 60 MPH</p>	<p>11 @ CONST. RAMP B5 P.I. Sta. 46+05.71 Δ = 9° 19' 54" (LT) Dc = 75° 08' 55" R = 767.49' T = 62.64' L = 125.00' E = 2.55' C = 124.86' C.B. = N 72° 48' 34" E P.C.C. Sta. 45+43.07 C.S. Sta. 46+68.07 e<sub>max</sub> = 0.059 D.S. = 45 MPH</p>



ELEVATION ALONG PROFILE GRADE

NOTE: ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG I-70 E.B. UNLESS NOTED OTHERWISE. \* = MEASURED ALONG THE REFERENCE CHORD

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 1801 Waterman Drive, Suite 100, Columbus, Ohio 43215 614.238.0791  
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DATE: 10-16-14  
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DRAWN: RPR  
 CHECKED: DJC

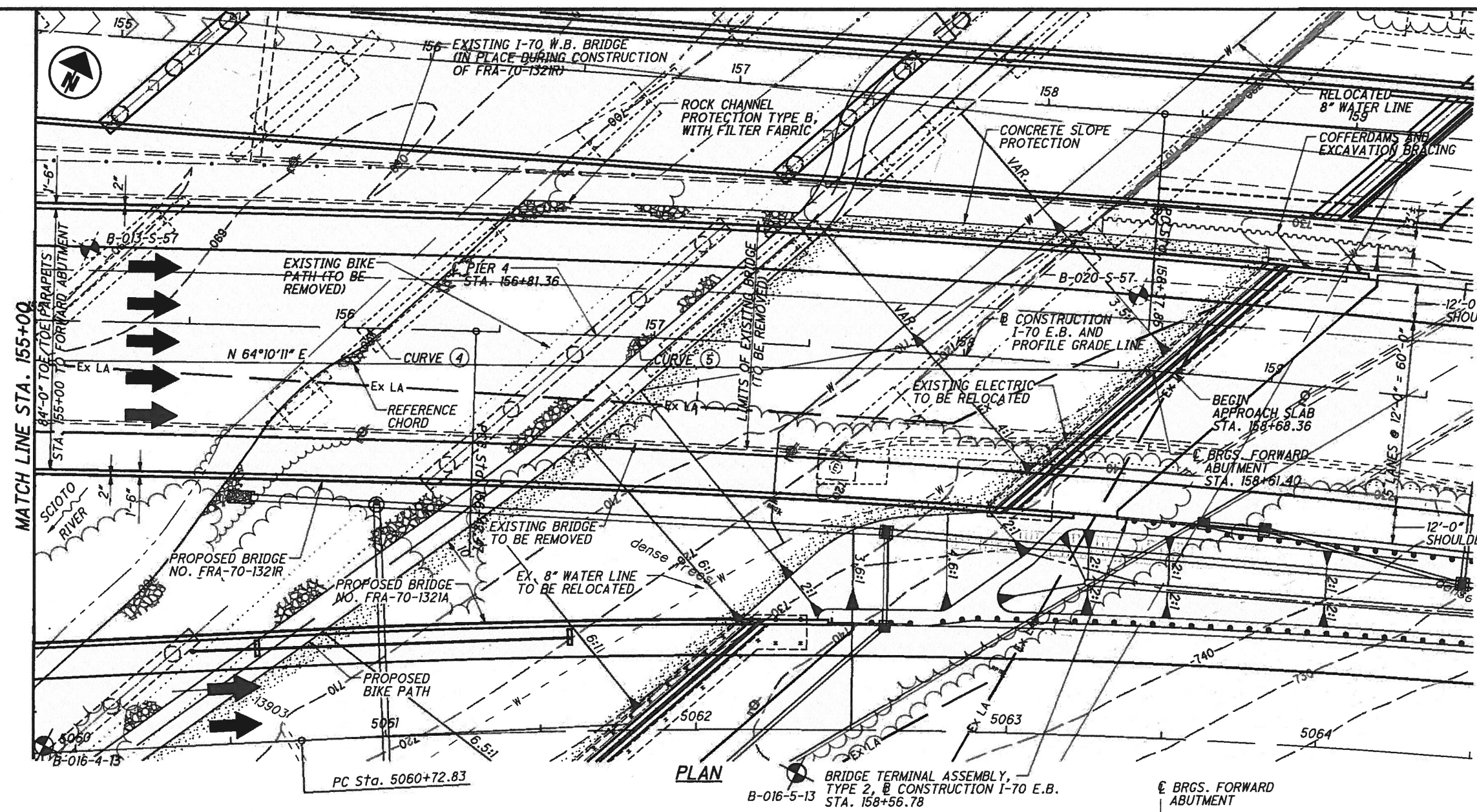
DESIGNED: DGN  
 CHECKED: DJC

FRANKLIN COUNTY  
 STA. 147+93.36  
 STA. 158+68.36

SITE PLAN - 2  
 BRIDGE NO. FRA-70-1321R  
 I-70 E.B. OVER THE SCIO TO RIVER

FRA-70-12.68  
 PID No. 77372

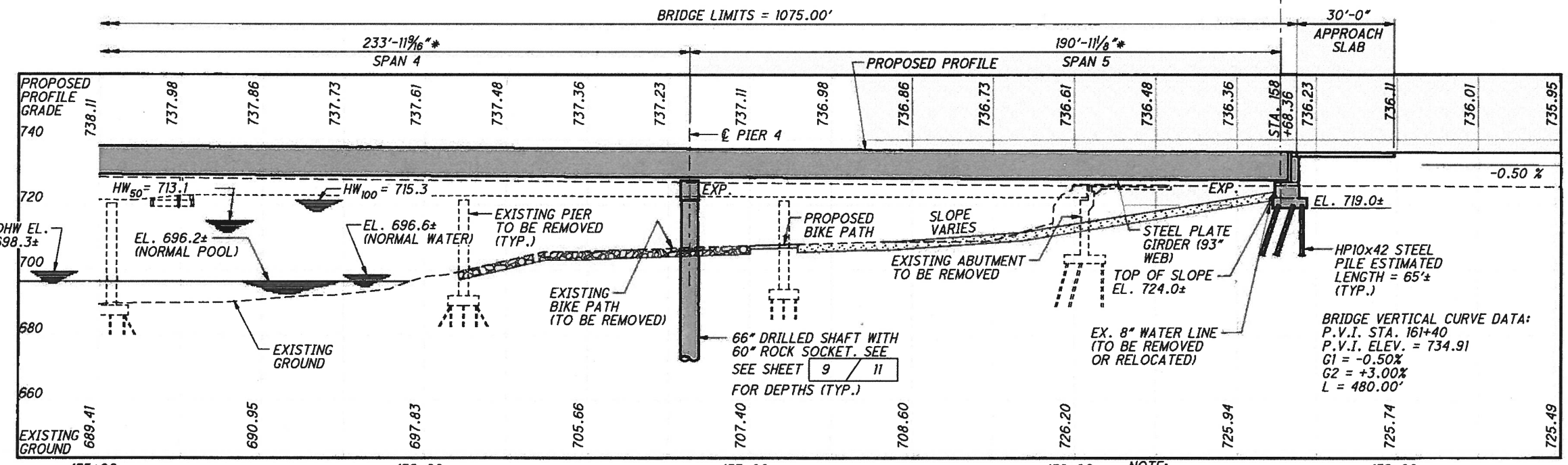
2 / 3



SOIL BORING TABLE

BORING NO.	TYPE	APPROX. TOP OF BEDROCK ELEVATION
B-001-S-57	HISTORIC	N.E.
B-005-S-57	HISTORIC	652.7±
B-009-S-57	HISTORIC	651.4±
B-013-S-57	HISTORIC	660.9±
B-020-S-57	HISTORIC	N.E.
B-015-7-13	NEW	651.3±
B-015-8-13	NEW	652.2±
B-015-9-13	NEW	652.2±
B-016-3-13	NEW	643.8±
B-016-4-13	NEW	659.5±
B-016-5-13	NEW	655.2±

N.E. = NOT ENCOUNTERED



ELEVATION ALONG PROFILE GRADE

NOTE: ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG @ I-70 E.B. UNLESS NOTED OTHERWISE. \* = MEASURED ALONG THE REFERENCE CHORD

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**SITE PLAN - 3**

BRIDGE NO. FRA-70-1321R  
I-70 E.B. OVER THE SCIOTO RIVER

**FRA-70-12.68**  
PID No. 77372

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DESIGN AGENCY  
**GPD GROUP**  
Civil, P.E., Richard, James & DeWitt, Inc.  
1801 Westwood Drive, Suite 100, Columbus, Ohio 43212 614.210.9751  
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10-16-14

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TJW

STRUCTURE FILE NUMBER  
2510016

DRAWN  
RPR

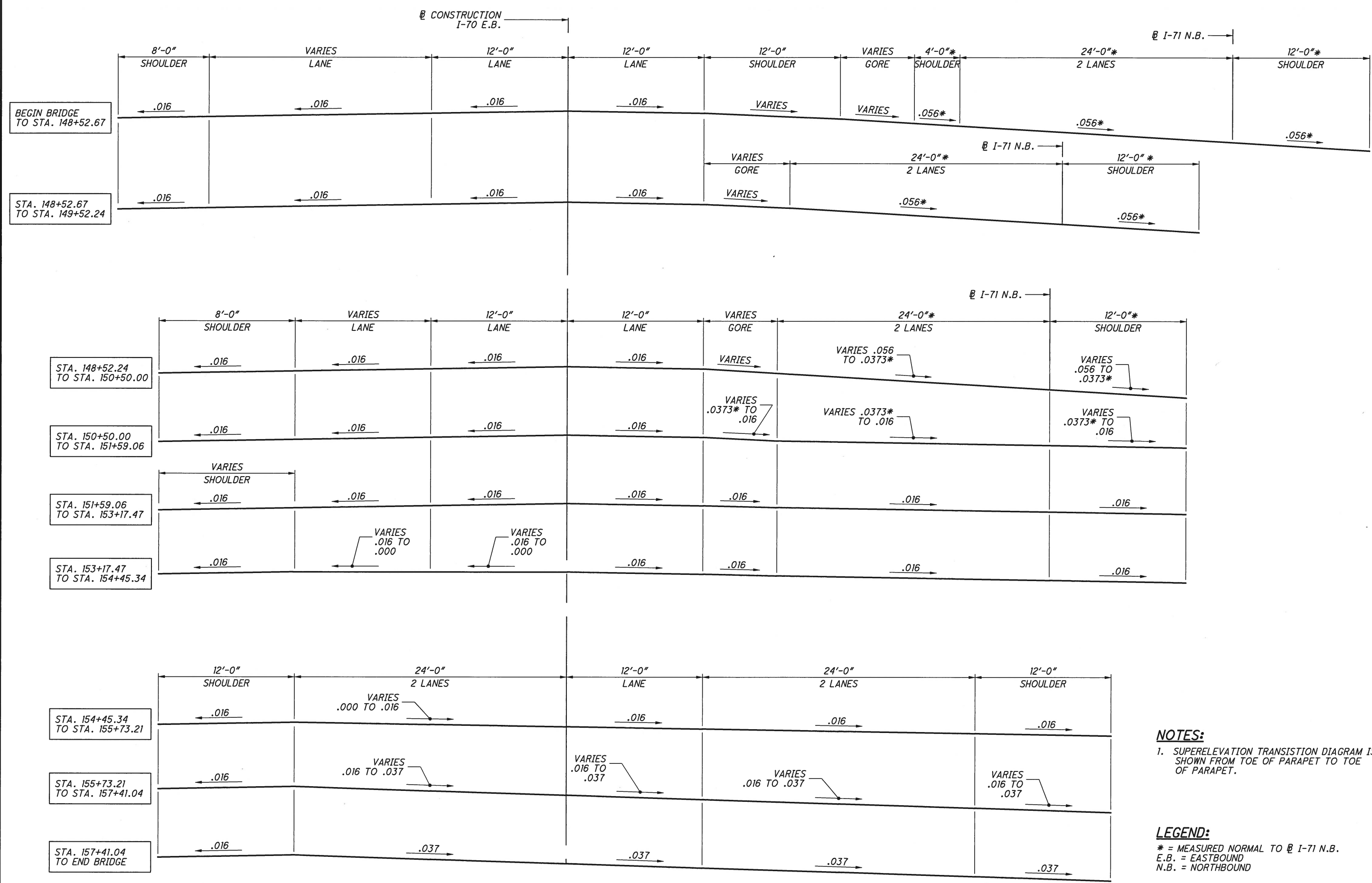
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CHECKED  
DJC

FRANKLIN COUNTY  
STA. 147+93.36  
STA. 158+68.36



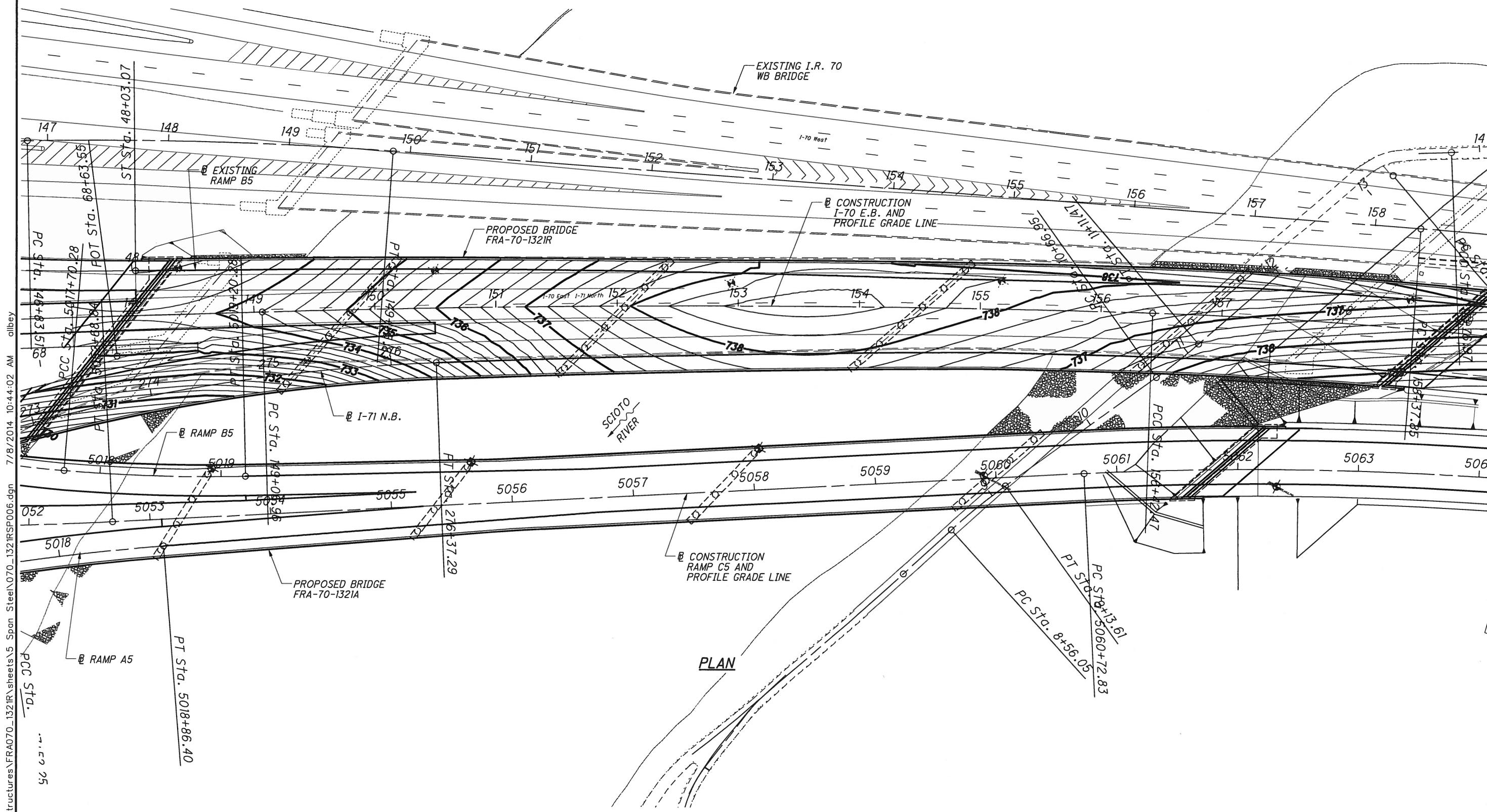
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**NOTES:**  
1. SUPERELEVATION TRANSITION DIAGRAM IS SHOWN FROM TOE OF PARAPET TO TOE OF PARAPET.

**LEGEND:**  
\* = MEASURED NORMAL TO @ I-71 N.B.  
E.B. = EASTBOUND  
N.B. = NORTHBOUND

**SUPERELEVATION TRANSITION DIAGRAM**



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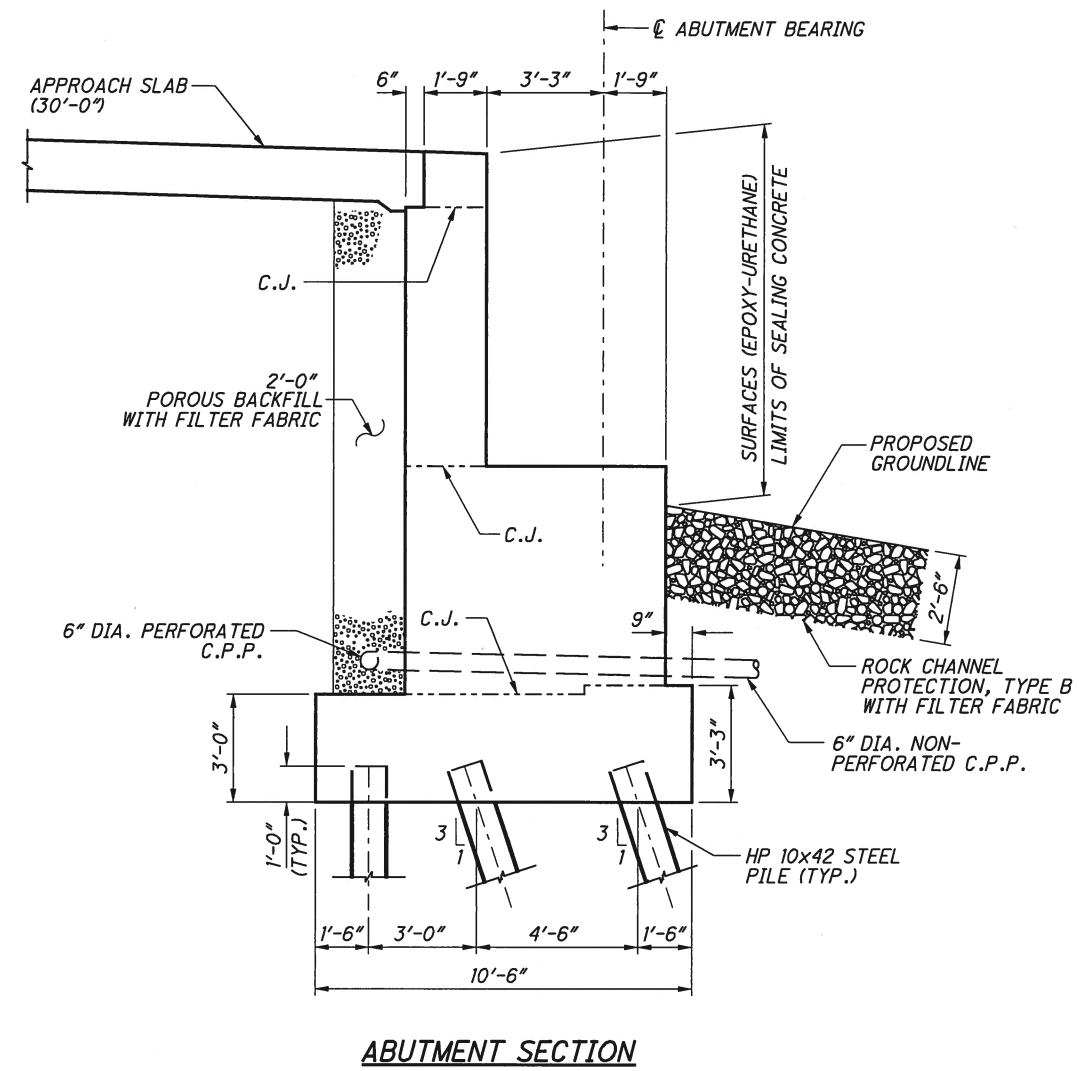
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Engineers ■ Architects ■ Planners

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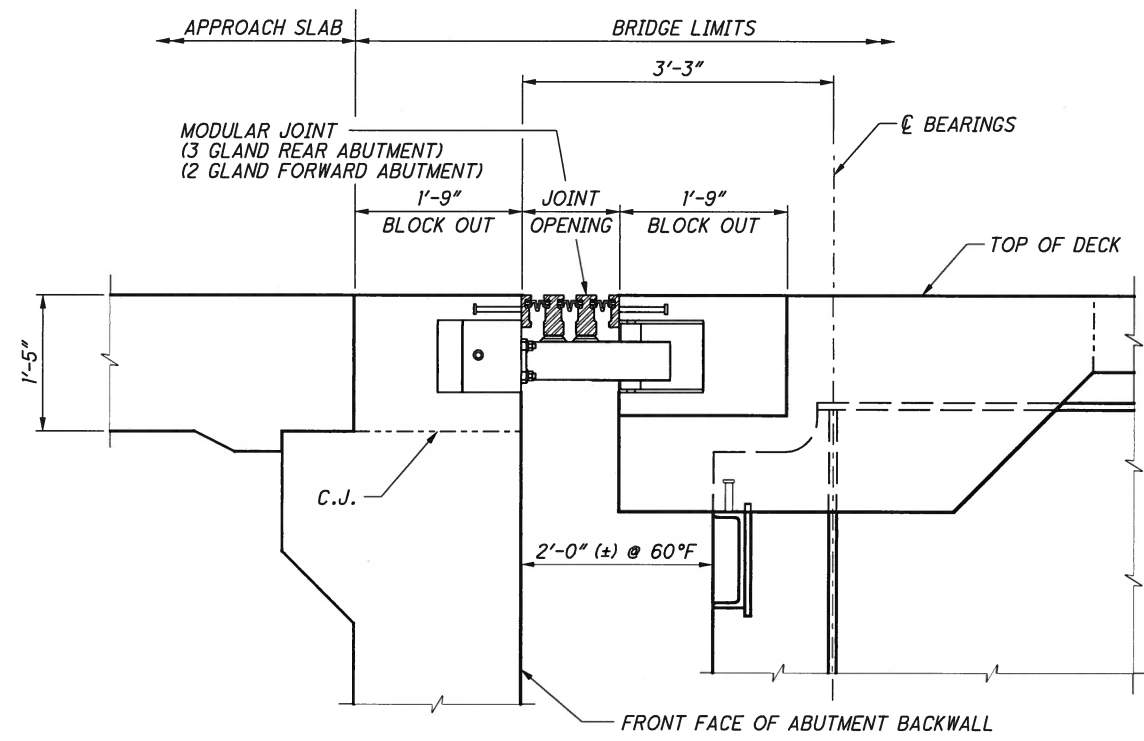
**DECK CONTOURS**  
BRIDGE NO. FRA-70-1321R  
I-70 E.B. OVER THE SCIOTO RIVER

**FRA-70-12.68**  
PID No. 77372

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**ABUTMENT SECTION**



**EXPANSION JOINT AT ABUTMENTS**

(HORIZONTAL DIMENSIONS ARE MEASURED NORMAL TO  $\bar{C}$  BEARINGS, UNLESS NOTED OTHERWISE)  
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR WITH 2 GLANDS)

**BURGESS & NIPLE**  
Engineers ■ Architects ■ Planners

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DESIGNED	JMK
CHECKED	RMK/JHL
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REVISOR	
STRUCTURE FILE NUMBER	XXXXXX

**ABUTMENT AND EXPANSION JOINT DETAILS**  
BRIDGE NO. FRA-70-132IR  
I-70 E.B. OVER THE SCIOTO RIVER

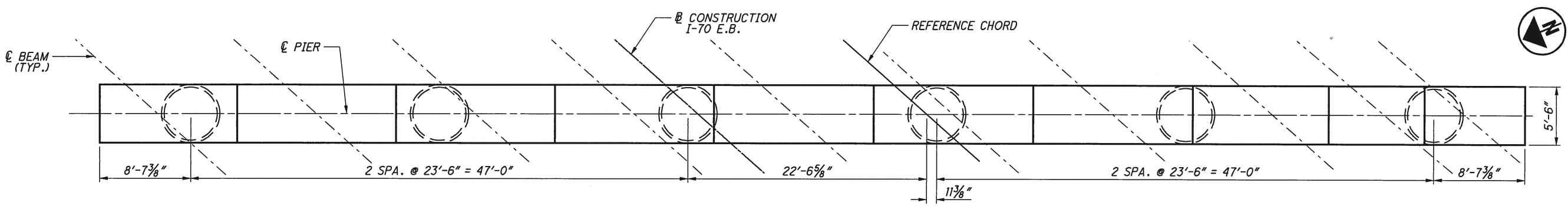
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PID No. 77372



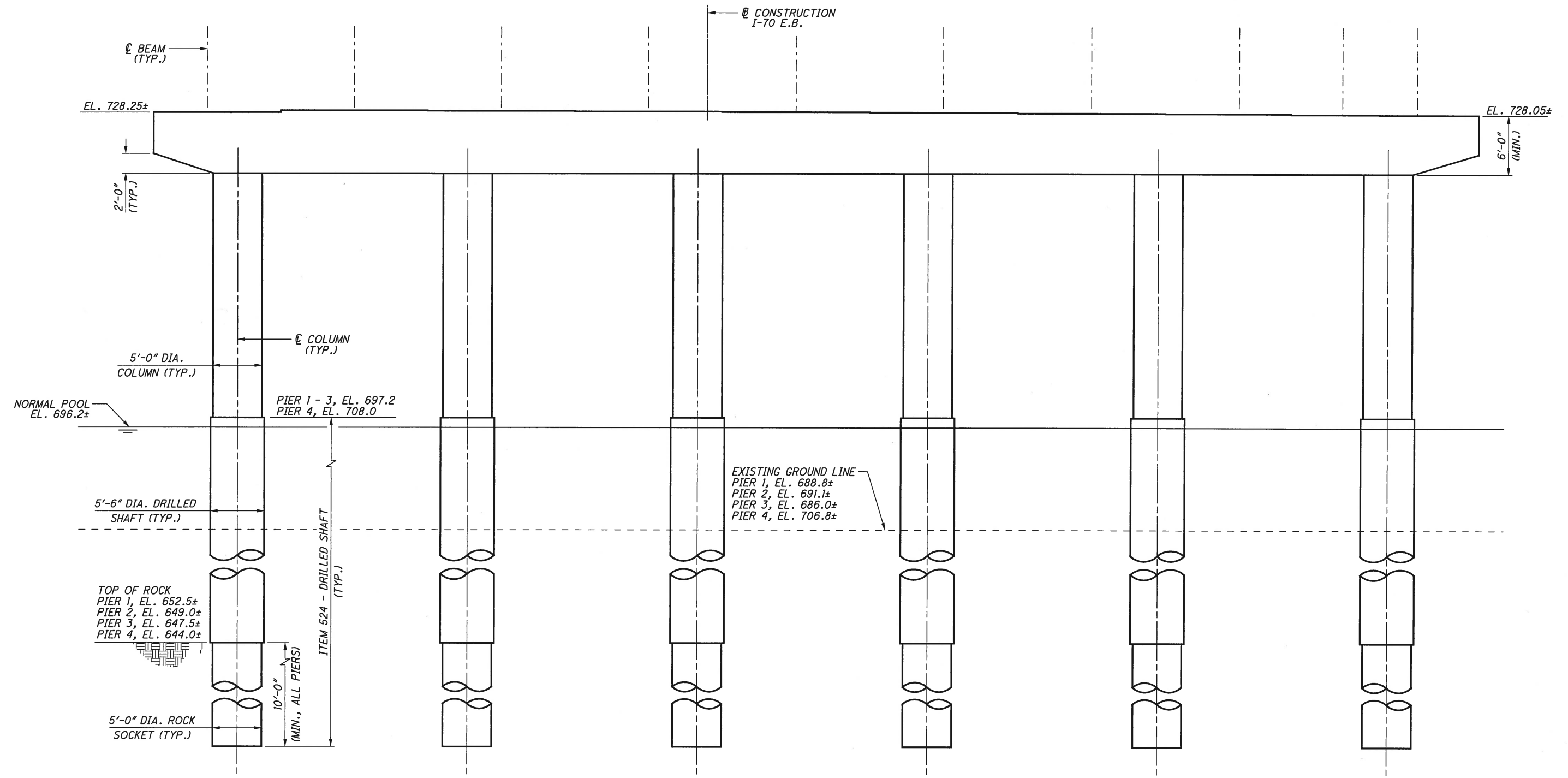
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STRUCTURE FILE NUMBER	XXXXXX
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REVISOR	
DESIGNED	JMK
CHECKED	RMK/JHL

**PIER PLAN AND ELEVATION**  
BRIDGE NO. FRA-70-1321R  
I-70 E.B. OVER THE SCIOTO RIVER

FRA-70-12.68  
PID No. 77372

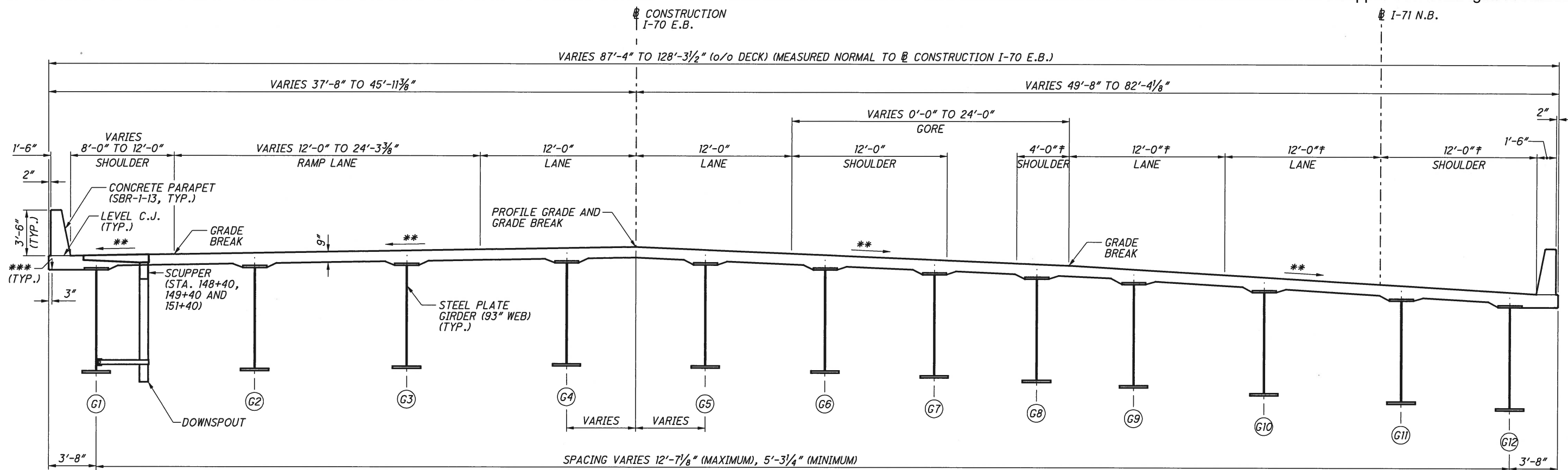


**PIER PLAN**



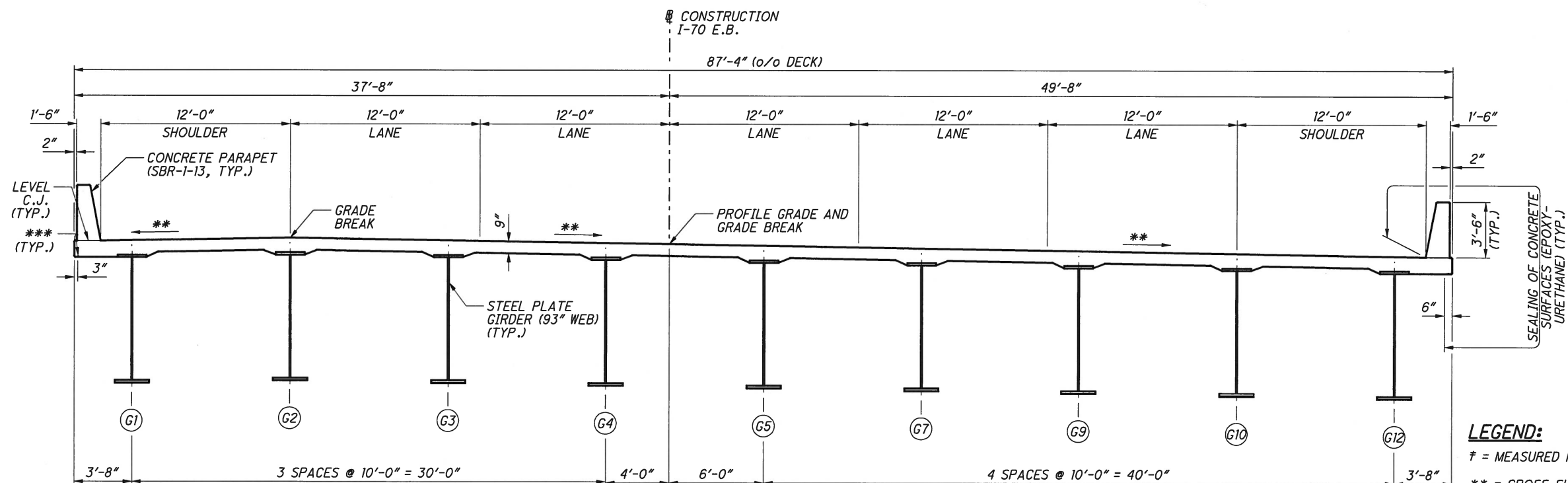
**PIER ELEVATION**  
(PIER 3 SHOWN, OTHER PIERS SIMILAR)

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**TRANSVERSE SECTION REAR ABUTMENT TO STATION 155+00**

GIRDERS ARE SHOWN AS THEY APPEAR AT THE REAR END OF THE BRIDGE  
PARTIAL LENGTH GIRDERS G6, G8, & G11 END PRIOR TO STATION 155+00



**TRANSVERSE SECTION STATION 155+00 TO FORWARD ABUTMENT**

**LEGEND:**

- ‡ = MEASURED NORMAL TO I-71 N.B.
- \*\* = CROSS SLOPE VARIES, SEE SUPERELEVATION TRANSITION DIAGRAM FOR DETAILS
- \*\*\* = 1/2" HALF ROUND DRIP GROOVE
- C.J. = CONSTRUCTION JOINT
- MAX. = MAXIMUM
- (G) = GIRDER DESIGNATION

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CHECKED: JHL

DESIGNED: JMK

**TRANSVERSE SECTIONS**  
BRIDGE NO. FRA-70-132IR  
I-70 E.B. OVER THE SCIOTO RIVER

FRA-70-12.68  
PID No. 77372

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